PROGRAM COMPOSITION for ISFD ATEC Series 6

MAIN PROGRAM :

3304MA00.ASM ('TH-ISF-MAIN')

Test module :

3304T110.ASM ('TH-ISF-T1OPER01' OPERATOR TESTS)
3304T210.ASM ('TH-ISF-T1OPTI02' OPTICAL TESTS)
3304T310.ASM ('TH-ISF-T1ATTI03' ATTITUDE TESTS)
3304T410.ASM ('TH-ISF-T1ALTI04' ALTITUDE TESTS)

Multi-sections utility module :

3304NK00.ASM ('TH-ISF-NKUTIL')

Class module :

3304C110.ASM ('TH-ISF-C1DCSU01' DC POWER 28VDC)
3304C210.ASM ('TH-ISF-C1ACSU02' AC POWER 5VAC)
3304C310.ASM ('TH-ISF-C1DSIC03' DSI GND/OPEN)
3304C410.ASM ('TH-ISF-C1INLI04' INSULATION AND LIGHTNING PROTECTION)
3304C510.ASM ('TH-ISF-C1M42905' A429 ACQUISITION)
3304C610.ASM ('TH-ISF-C1G42906' A429 TRANSMISSION)
3304C710.ASM ('TH-ISF-C1R42207' RS422)
3304C810.ASM ('TH-ISF-C1PRES08' PRESSURE GENERATION)
3304C910.ASM ('TH-ISF-C1R23T09' TWO AXIS TABLE RS232 COMMAND)
3304CA10.ASM ('TH-ISF-C1R23P10' OPTICAL BENCH RS232 COMMAND)
3304CB10.ASM ('TH-ISF-C1TIME11' TIMERS READING)

Multi-classes utility module :

3304GK00.ASM ('TH-ISF-GKSIGNAL')

Library module :

3304UUT0.ASM ('TH-ISF-UUT')

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```
000010 BEGIN, ATLAS PROGRAM 'TH-ISF-MAIN'                          $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******           M A I N    P R O G R A M                   ******
 ******                                                      ******
 ******                                                      ******
 ****** MANUFACTURER     : THALES AVIONICS                    ******
 ******                                                      ******
 ****** PART NUMBER      : C16221KA01                         ******
 ******                 : C16221LA01                         ******
 ******                 : C16221LA02                         ******
 ******                                                      ******
 ****** LINK FILE NAME   : 3304LK00.LD                        ******
 ******                                                      ******
 ****** COMPANY          : THALES AVIONICS VENDOME            ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN MAIN MODULE  ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                  $
C
 ******************************************************************
 *                                                                *
 *                          I N D E X                             *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN, ATLAS PROGRAM                             *
 *                                                                *
 *      000105   INCLUDE ATLAS MODULE                             *
 *      000305   EXTEND ATLAS                                     *
 *                                                                *
 *      002005   REQUIRE GLOBAL SENSORS                           *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      011005   DECLARE CONSTANT                                 *
```


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```
*      014005   DECLARE MODULE SPECIFIC VARIABLES                 *
*                                                                 *
*      022505   IDENTIFY GLOBAL EVENT INDICATOR                   *
*                                                                 *
*                                                                 *
*      050005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )   *
*      052505   DEFINE EXTERNAL PROCEDURES ( USER1 LIBRARY    )   *
*      055005   DEFINE EXTERNAL PROCEDURES ( USER2 LIBRARY    )   *
*                                                                 *
*      098999   END OF PREAMBLE                                   *
*-----------------------------------------------------------------*
*      099005   INITIAL RUN SECTION                               *
*                                                                 *
*      100000   "ENTRY-POINT" : E110000 " OPERATOR TESTS "        *
*                               E120000 " OPTICAL TESTS "         *
*                               E130000 " ATTITUDE TESTS "        *
*                               E140000 " ALTITUDE TESTS "        *
*                                                                 *
*      999999   TERMINATE ATLAS PROGRAM                           *
*                                                                 *
*******************************************************************

*******************************************************************
*******************************************************************
*****                                                         *****
*****           GENERAL INFORMATION AND TEST CONDITIONS       *****
*****                                                         *****
*******************************************************************
*******************************************************************

*******************************************************************
******                                                       ******
******    IN THIS SECTION, THE USER WILL INCLUDE:            ******
******        - ALL CRITICAL INFORMATION FOR CLARIFICATION   ******
******        - TEST RESTRICTIONS                            ******
******        - OPERATOR INSTRUCTIONS                        ******
******                                                       ******
*******************************************************************

*******************************************************************
*******************************************************************
******                                                       ******
******        S T A R T   O F   P R O G R A M                ******
******                                                       ******
******              P R E A M B L E                          ******
******                                                       ******
*******************************************************************
*******************************************************************

*******************************************************************
*******************************************************************
*******************************************************************
******                                                       ******
******          S M A R T   R E Q U I R E M E N T S          ******
```


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```
******                                                          ******
******    THE FOLLOWING ATLAS MODULES MUST BE INCLUDED IN       ******
******                                                          ******
******    THE TEST PROGRAM BY AN INCLUDE STATEMENT :            ******
******                                                          ******
******                  AS-LIB-STD                              ******
******                  TH-ISF-UUT                              ******
******                  AS-LIB-USR1                             ******
******                  AS-LIB-USR2                             ******
******                                                          ******
*******************************************************************
*******************************************************************
*******************************************************************

===================================================================
=                                                                 =
=      I N C L U D E      A T L A S     M O D U L E S            =
=                                                                 =
===================================================================
                                                                  $
C-----------------------------------------------------------------$
C       INCLUDE  ATLAS LIBRARIES AND COMMON MODULES               $

 000105 INCLUDE, ATLAS MODULE 'AS-LIB-STD'                        $
        INCLUDE, ATLAS MODULE 'TH-ISF-UUT'                        $
        INCLUDE, ATLAS MODULE 'AS-LIB-USR1'                       $
        INCLUDE, ATLAS MODULE 'AS-LIB-USR2'                       $
        INCLUDE, NON-ATLAS MODULE 'DECODE'                        $
        INCLUDE, NON-ATLAS MODULE 'GRAPH'                         $
C-----------------------------------------------------------------$
C       INCLUDE SPECIFIC TEST PROGRAM ENTRY POINTS                $

 000125 INCLUDE, ATLAS MODULE 'TH-ISF-T1OPER01'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-T1OPTI02'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-T1ATTI03'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-T1ALTI04'                   $
C-----------------------------------------------------------------$
C       INCLUDE SPECIFIC TEST PROGRAM NON SIGNAL MODULES          $

 000150 INCLUDE, ATLAS MODULE 'TH-ISF-NKUTIL'                     $
C-----------------------------------------------------------------$
C       INCLUDE SPECIFIC TEST PROGRAM SIGNAL MODULES              $

 000175 INCLUDE, ATLAS MODULE 'TH-ISF-C1DCSU01'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-C1ACSU02'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-C1DISC03'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-C1INLI04'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-C1M42905'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-C1G42906'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-C1R42207'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-C1PRES08'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-C1R23T09'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-C1R23P10'                   $
        INCLUDE, ATLAS MODULE 'TH-ISF-C1TIME11'                   $
```


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```
        INCLUDE, ATLAS MODULE 'TH-ISF-GKSIGNAL'                   $
C-----------------------------------------------------------------$
C       INCLUDE SPECIFIC TEST PROGRAM NON SIGNAL MODULES           $
        INCLUDE, NON-ATLAS MODULE 'AS-IES-MODULE-C'                $
C ***************************************************************** $
C *                                                               * $
C *        EXTEND STATEMENTS                                      * $
C *                                                               * $
C ***************************************************************** $

 000305 EXTEND, ATLAS MODIFIERS FOR IMPEDANCE,
                'AUTORANGE' MODIFIER-DESCRIPTOR 'ON' 'OFF',
                USAGE R,
                SPEC 'AT6-DMM.DS'                                  $

 000310 EXTEND, ATLAS MODIFIERS FOR IMPEDANCE,
                'OFFSET-COMPENSATION'
                MODIFIER-DESCRIPTOR 'ON' 'OFF',
                USAGE R,
                SPEC 'AT6-DMM.DS'                                  $
C ***************************************************************** $
C *                                                               * $
C *        REQUIRE STATEMENTS                                     * $
C *                                                               * $
C ***************************************************************** $
C ================================================================= $
C =                                                               = $
C =                   GLOBAL  REQUIRE STATEMENTS                  = $
C =                                                               = $
C ================================================================= $

 002005 REQUIRE, 'MEAS-VDC', GLOBAL, SENSOR(VOLTAGE), DC SIGNAL,
          CONTROL,
            SAMPLE-WIDTH RANGE 0.01 MSEC TO 2000 MSEC CONTINUOUS,
            AUTORANGE ON OFF,
          CAPABILITY,
            VOLTAGE RANGE -300V TO 300V BY 0.001V,
        CNX HI LO                                                  $
 002007 REQUIRE, 'MEAS-RES', GLOBAL, SENSOR(RES), IMPEDANCE,
          CONTROL,
            SAMPLE-WIDTH RANGE 0.01 MSEC TO 2000 MSEC CONTINUOUS,
            AUTORANGE ON OFF,
            OFFSET-COMPENSATION ON OFF,
          CAPABILITY,
            RES RANGE 0.0 OHM TO 30000000 OHM BY 0.1 OHM,
          CNX HI LO                                                $
 002009 REQUIRE, 'MEAS-RES4', GLOBAL, SENSOR(RES), IMPEDANCE,
          CONTROL,
            SAMPLE-WIDTH RANGE 0.01 MSEC TO 2000 MSEC CONTINUOUS,
            AUTORANGE ON OFF,
            OFFSET-COMPENSATION ON OFF,
          CAPABILITY,
            RES RANGE 0 OHM TO 100 OHM,
```


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```
         CNX HI LO
         REF HI LO                                                $
C       4 WIRES RESISTOR MEASUREMENT.
 ----------------------------------------------------------------$
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                    D  E  C  L  A  R  E                       **
 **                                                              **
 ******************************************************************
 ******************************************************************

 ==================================================================
 =                                                                =
 =               D E C L A R A T I O N     O F                    =
 =                                                                =
 =                      T  Y  P  E  S                             =
 =                                                                =
 ==================================================================
                                                                  $

 010005 DECLARE, TYPE, 'COMP-RESULT' IS ENUMERATION(
                   'TOO-LOW', 'NORMAL', 'TOO-HIGH'
                   )                                              $
C       RESULT OF A DIGITAL COMPARISON
 ----------------------------------------------------------------$

 010100 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION(
                   'ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN'
                   )                                              $

 010150 DECLARE, TYPE, 'PROG-TYPE-ENUM' IS ENUMERATION(
                   'UUT', 'UUTEXT1', 'UUTEXT2', 'UUTEXT3',
                   'UUTEXT4'
                   )                                              $
C       LIST OF POSSIBLE TYPE OF PROGRAM
 ----------------------------------------------------------------$

 010199 DECLARE, TYPE, 'REF-STRINGS-ENUM' IS ENUMERATION(
                   'VENDOR', 'MANUFACTURER',
                   'TEST-PROG-REF', 'RELEASE',
                   'SPECIF-CABLE', 'TEST-OBRM-1', 'TEST-OBRM-2',
                   'TEST-OBRM-3', 'TEST-OBRM-4', 'TEST-OBRM-5',
                   'TEST-OBRM-6', 'TRAY', 'SPECIF-TOOL-1',
                   'SPECIF-TOOL-2', 'SPECIF-TOOL-3',
                   'SPECIF-TOOL-4', 'SPECIF-TOOL-5',
                   'SPECIF-TOOL-6'
                   )                                              $
C       TO FILL UP THE IDENTIFICATION FRAME OF THE PROGRAM
 ----------------------------------------------------------------$

        DECLARE, TYPE, 'TPSDIR-REC' IS RECORD OF [
                   'PATHNAME' IS STRING(64) OF CHAR ;
```


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```
                    'TPSNAME' IS STRING(15) OF CHAR ;
                    'TUAPATH' IS STRING(64) OF CHAR ;
                    'SELECTED-PN' IS STRING(15) OF CHAR ;
                    'ARRAY-PN' IS ARRAY(1 THRU 6) OF
                        STRING(15) OF CHAR
                    ]                                                $
C       FILE INFOTPSD.WW RECORD FORMAT
 ----------------------------------------------------------------$

 010215 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                     $
C       State of device
 ----------------------------------------------------------------$

 010217 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                    'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                    'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                    'UUT12', 'NO-UUT'
                    )                                                $
C       Mnemonic of all UUT
 ----------------------------------------------------------------$

 010219 DECLARE, TYPE, 'T-TOLE' IS ENUMERATION(
                    'UL', 'LL'
                    )                                                $
C       Mnemonic of all UUT
 ----------------------------------------------------------------$

 010221 DECLARE, TYPE, 'T-FRAME' IS ENUMERATION(
                    'FR-173-174-EQ-0', 'FR-173-174-NE-0',
                    'FR-312-320-EQ-0', 'FR-312-320-NE-0', 'NO-FRAME'
                    )                                                $
C       Indicator to know the frame to send
 ----------------------------------------------------------------$

 010224 DECLARE, TYPE, 'T-DISCIN-MNEMO' IS ENUMERATION(
                    'DISC-X', 'DISC-h', 'DISC-a', 'DISC-b', 'DISC-c',
                    'DISC-d', 'DISC-e', 'DISC-k', 'DISC-m', 'DISC-n',
                    'DISC-p', 'DISC-q', 'DISC-r', 'DISC-s', 'DISC-f',
                        'DISC-Y', 'DISC-Z')                          $
C       Mnemonic of discrete inputs class
 ----------------------------------------------------------------$

 010225 DECLARE, TYPE, 'T-PARA-MNEMO' IS ENUMERATION(
                    'PARA-D', 'PARA-E', 'PARA-i', 'PARA-j', 'PARA-A',
                     'PARA-W', 'PARA-U', 'PARA-V', 'PARA-S',
                    'PARA-T', 'PARA-B', 'PARA-C', 'PARA-M', 'PARA-N',
                     'PARA-R', 'PARA-P', 'PARA-b', 'PARA-c',
                    'PARA-d', 'PARA-e', 'PARA-k', 'PARA-m', 'PARA-p',
                     'PARA-r', 'PARA-s', 'PARA-q', 'PARA-Z',
                    'PARA-f', 'PARA-g'
                    )                                                $
C       Mnemonic of lightning pins
 ----------------------------------------------------------------$
```


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```
 010227 DECLARE, TYPE, 'T-M429-MNEMO' IS ENUMERATION(
                    'INERTIE', 'CMC'
                    )                                                $
C       Mnemonic of arinc measurement pins
 ----------------------------------------------------------------$

 010229 DECLARE, TYPE, 'T-G429-MNEMO' IS ENUMERATION(
                    'BUS1', 'BUS2', 'BUS3'
                    )                                                $
C       Mnemonic of arinc generation pins
 ----------------------------------------------------------------$

 010231 DECLARE, TYPE, 'T-422-CNX' IS CONNECTION(
                    J1-L, J2-L, J3-L, J4-L, J5-L, J6-L, J7-L, J8-L,
                    J9-L, J10-L, J11-L, J12-L, J1-K, J2-K, J3-K,
                    J4-K, J5-K, J6-K, J7-K, J8-K, J9-K, J10-K, J11-K,
                     J12-K, J1-J, J2-J, J3-J, J4-J, J5-J, J6-J, J7-J,
                     J8-J, J9-J, J10-J, J11-J, J12-J, J1-H, J2-H,
                    J3-H, J4-H, J5-H, J6-H, J7-H, J8-H, J9-H, J10-H,
                    J11-H, J12-H
                    )                                                $
C       Connections of RS422 class
 ----------------------------------------------------------------$

 010233 DECLARE, TYPE, 'T-PRES-MNEMO' IS ENUMERATION(
                    'PRES-PS', 'PRES-PT'
                    )                                                $
C       Mnemonic of pressure inputs class
 ----------------------------------------------------------------$
C
 ================================================================
 =                                                              =
 =                 D E C L A R A T I O N     O F                =
 =                                                              =
 =                      C O N S T A N T S                       =
 =                                                              =
 ================================================================
                                                                  $
 011005 DECLARE, CONSTANT, 'RUN-HIT' IS 0                         $
C       RANK OF THE 'TE-SMART-COMM' PARAMETER
 ----------------------------------------------------------------$

 011015 DECLARE, CONSTANT, 'VERIF-COMP' IS 1                      $
C       RANK OF THE 'TE-SMART-COMM' PARAMETER
 ----------------------------------------------------------------$

 011025 DECLARE, CONSTANT, 'END-SELECT' IS 2                      $
C       RANK OF THE 'TE-SMART-COMM' PARAMETER
 ----------------------------------------------------------------$

 011045 DECLARE, CONSTANT, 'TERM-HIT' IS 3                        $
C       RANK OF THE 'TE-SMART-COMM' PARAMETER
 ----------------------------------------------------------------$
```

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```
 011055 DECLARE, CONSTANT, 'ABORT-HIT' IS 4                        $
C       RANK OF THE 'TE-SMART-COMM' PARAMETER
 ------------------------------------------------------------------$

 011065 DECLARE, CONSTANT, 'UUT-DOWN-HIT' IS 5                     $
C       RANK OF THE 'TE-SMART-COMM' PARAMETER
 ------------------------------------------------------------------$

 011075 DECLARE, CONSTANT, 'CUR-USER-IND' IS 0                     $
C       RANK OF THE 'TE-CHAR-COMM' PARAMETER
 ------------------------------------------------------------------$

 011085 DECLARE, CONSTANT, 'TOT-USER-IND' IS 1                     $
C       RANK OF THE 'TE-CHAR-COMM' PARAMETER
 ------------------------------------------------------------------$

 011095 DECLARE, CONSTANT, 'CUR-MOD-IND' IS 2                      $
C       RANK OF THE 'TE-CHAR-COMM' PARAMETER
 ------------------------------------------------------------------$

 011105 DECLARE, CONSTANT, 'VERIF-MOD-IND' IS 3                    $
C       RANK OF THE 'TE-CHAR-COMM' PARAMETER
 ------------------------------------------------------------------$

 011115 DECLARE, CONSTANT, 'CUR-STAT-IND' IS 4                     $
C       RANK OF THE 'TE-CHAR-COMM' PARAMETER
 ------------------------------------------------------------------$

 011125 DECLARE, CONSTANT, 'VERIF-STAT-IND' IS 5                   $
C       RANK OF THE 'TE-CHAR-COMM' PARAMETER
 ------------------------------------------------------------------$

 011199 DECLARE, CONSTANT, 'STOP-FAIL-IND' IS 0                    $
C       RANK OF THE 'TE-BOOL-COMM' PARAMETER
 ------------------------------------------------------------------$

 011215 DECLARE, CONSTANT, 'ACTIVE' IS C'1'                        $
 011217 DECLARE, CONSTANT, 'INACTIVE' IS C'0'                      $
 011219 DECLARE, CONSTANT, 'ALL-OPEN' IS C'X'                      $
 011221 DECLARE, CONSTANT, 'ADJUSTED' IS C'A'                      $
 011223 DECLARE, CONSTANT, 'NOT-ADJUSTED' IS C'N'                  $
 011225 DECLARE, CONSTANT, 'OUT-OF-ORDER' IS C'H'                  $
 011227 DECLARE, CONSTANT, 'CONNECT' IS C'C'                       $
 011229 DECLARE, CONSTANT, 'DISCONNECT' IS C'D'                    $
C

 ==================================================================
 =                                                                =
 =        D E C L A R A T I O N     O F    L O C A L             =
 =                                                                =
 =           S P E C I F I C    V A R I A B L E S                 =
 =                                                                =
 ==================================================================
                                                                  $
```


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```
 014005 DECLARE, VARIABLE, 'EMPTY-LINE' IS STRING(80) OF CHAR
        INITIAL =  C''                                          $
C       TO OUTPUT AN EMPTY LINE
 ---------------------------------------------------------------$

 014665 DECLARE, VARIABLE, 'SCCS-LIB' IS STRING(80) OF CHAR$
 C'"@(#) FRAME: MAIN.AS    CL311T311 VERSION 3.1.1  DATED : 04/10/05"'$
C       TO KNOW THE SOURCES FILES LINKED TO MAKE A BINARY FILE
 ---------------------------------------------------------------$

 014999 DECLARE, VARIABLE, 'INDEX' IS DECIMAL                    $
C       LOOP COUNTER
 ---------------------------------------------------------------$

        DECLARE, VARIABLE, 'TPSDIR-PATH' IS STRING(64) OF CHAR     $

        DECLARE, VARIABLE, 'TMP-DATA' IS STRING(500) OF CHAR       $
C       USED FOR PRODUCTION CONDITION                              $
C--------------------------------------------------------------$

        DECLARE, VARIABLE, 'TMP' IS STRING(80) OF CHAR             $
C       USED FOR PRODUCTION CONDITION                              $
C--------------------------------------------------------------$

        DECLARE, VARIABLE, 'FILE-MD' IS FILE OF TEXT               $
C       CONTAINS PROGRAM INFORMATIONS                              $
C--------------------------------------------------------------$

        DECLARE, VARIABLE, 'FILE-TOL' IS FILE OF TEXT              $
C       CONTAINS DECIMAL TOLERANCES                                $
C--------------------------------------------------------------$

        DECLARE, VARIABLE, 'FILE-CS100' IS FILE OF TEXT            $
C       CONTAINS DECIMAL TOLERANCES                                $
C--------------------------------------------------------------$

        DECLARE, VARIABLE, 'FILE-XY' IS FILE OF TEXT               $
C       CONTAINS DECIMAL TOLERANCES                                $
C--------------------------------------------------------------$

        DECLARE, VARIABLE, 'CNT' IS INTEGER                        $
C       COUNTER                                                    $
C--------------------------------------------------------------$
C
 ==============================================================
 =                                                            =
 =             D E C L A R A T I O N     O F                  =
 =                                                            =
 =       G L O B A L    T . E .   C O M M U N I C A T I O N   =
 =                                                            =
 =                     V A R I A B L E S                      =
 =                                                            =
 ==============================================================
                                                              $
```


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```
 017005 DECLARE, GLOBAL, VARIABLE,
                'STOP-ON-FAIL'              IS BOOLEAN            $
C       STOP ON FAIL MODE CURRENTLY SELECTED
 ----------------------------------------------------------------$

 017045 DECLARE, GLOBAL, VARIABLE,
                'CURRENT-USER'              IS STRING (16) OF CHAR $
C       CONTAINS HIGHEST MODE USED DURING THE CURRENT SELECTION
 ----------------------------------------------------------------$

 017085 DECLARE, GLOBAL, VARIABLE,
                'TOTAL-USER'                IS STRING (16) OF CHAR $
C       CONTAINS HIGHEST MODE USED DURING THE CURRENT TPS SESSION
 ----------------------------------------------------------------$

 017125 DECLARE, GLOBAL, VARIABLE,
                'CUR-MODULE'                IS STRING (16) OF CHAR $
C       NAME OF MODULE CONTAINING PROCEDURE  CURRENTLY BEING EXECUTED
 ----------------------------------------------------------------$

 017165 DECLARE, GLOBAL, VARIABLE,
                'VERIF-MODULE'              IS STRING (16) OF CHAR $
C       NAME OF MODULE THAT CONTAINED THE COMPARE  STATEMENT
 ----------------------------------------------------------------$

 017205 DECLARE, GLOBAL, VARIABLE,
                'CUR-STAT-NO'               IS STRING (9) OF CHAR  $
C       LABEL OF CURRENT STATEMENT BEING  EXECUTED
 ----------------------------------------------------------------$

 017245 DECLARE, GLOBAL, VARIABLE,
                'VERIF-STAT-NO'             IS STRING (9) OF CHAR  $
C       LABEL OF LAST STATEMENT THAT CALLED
        THE 'OUT-FAIL-CHECK' PROCEDURE
 ----------------------------------------------------------------$
C
 ================================================================
 =                                                              =
 =             D E C L A R A T I O N     O F                    =
 =                                                              =
 =    G L O B A L  S M A R T  E V E N T  I N D I C A T O R S   =
 =                                                              =
 ================================================================
                                                                $
 017285 DECLARE, GLOBAL, VARIABLE,
                'END-SELECT-EVT'            IS BOOLEAN            $
C       END OF SELECTION HAS BEEN REACHED
 ----------------------------------------------------------------$

 017325 DECLARE, GLOBAL, VARIABLE,
                'RUN-EVT'                   IS BOOLEAN            $
C       RUN HAS BEEN ACTIVATED
 ----------------------------------------------------------------$
```


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```
 017365 DECLARE, GLOBAL, VARIABLE,
                'VERIF-COMP-EVT'            IS BOOLEAN            $
C       A VERIFY OR COMPARE STATEMENT HAS BEEN ENCOUNTERED
 ------------------------------------------------------------------$

 017405 DECLARE, GLOBAL, VARIABLE,
                'TERM-EVT'                  IS BOOLEAN            $
C       TERMINATE HAS BEEN ACTIVATED
 ------------------------------------------------------------------$

 017445 DECLARE, GLOBAL, VARIABLE,
                'ABORT-EVT'                 IS BOOLEAN            $
C       ABORT HAS BEEN ACTIVATED
 ------------------------------------------------------------------$

 017485 DECLARE, GLOBAL, VARIABLE,
                'UUT-DOWN-EVT'              IS BOOLEAN            $
C       UUT POWER HAS BEEN TURNED DOWN
 ------------------------------------------------------------------$
C
 ==================================================================
 =                                                                =
 =             D E C L A R A T I O N     O F                      =
 =                                                                =
 =      G L O B A L    T . E . - T P S    B U I L T - I N        =
 =                                                                =
 =                      V A R I A B L E S                         =
 =                                                                =
 ==================================================================
                                                                  $
 017525 DECLARE, GLOBAL, VARIABLE,
                'CNX-STRING'               IS STRING (256) OF CHAR $
C       LIST OF CONNECTIONS RELATED TO THE MEASURE TESTS
 ------------------------------------------------------------------$

 017565 DECLARE, GLOBAL, VARIABLE,
                'START-EP'                  IS STRING (80) OF CHAR $
C       STARTING ENTRY POINT OF SELECTION
 ------------------------------------------------------------------$

 017605 DECLARE, GLOBAL, VARIABLE,
                'STOP-EP'                   IS STRING (80) OF CHAR $
C       ENDING ENTRY POINT OF SELECTION
 ------------------------------------------------------------------$

 017645 DECLARE, GLOBAL, VARIABLE,
                'COMPLETE'                  IS BOOLEAN            $
C       AT TRUE IF A COMPLETE UUT TEST WAS EXECUTED
 ------------------------------------------------------------------$

 017685 DECLARE, GLOBAL, VARIABLE,
                'CUR-ONE-MIC'               IS BOOLEAN            $
C       MIC MODE SELECTED AT LEAST ONCE IN CURRENT SELECTION
 ------------------------------------------------------------------$
```

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```
 017725 DECLARE, GLOBAL, VARIABLE,
                'TOT-ONE-MIC'              IS BOOLEAN            $
C       STOP MODE SELECTED AT LEAST ONCE IN CURRENT TPS SESSION
 ----------------------------------------------------------------$

 017765 DECLARE, GLOBAL, VARIABLE,
                'CUR-ONE-STOP'             IS BOOLEAN            $
C       STOP MODE SELECTED AT LEAST ONCE IN CURRENT SELECTION
 ----------------------------------------------------------------$

 017805 DECLARE, GLOBAL, VARIABLE,
                'CUR-ONE-LOOP'             IS BOOLEAN            $
C       LOOP MODE SELECTED AT LEAST ONCE IN CURRENT SELECTION
 ----------------------------------------------------------------$

 017845 DECLARE, GLOBAL, VARIABLE,
                'TOT-ONE-LOOP'             IS BOOLEAN            $
C       LOOP MODE SELECTED AT LEAST ONCE IN CURRENT TPS SESSION
 ----------------------------------------------------------------$

 017885 DECLARE, GLOBAL, VARIABLE,
                'TOT-ONE-STOP'             IS BOOLEAN            $
C       STOP MODE SELECTED AT LEAST ONCE IN CURRENT TPS SESSION
 ----------------------------------------------------------------$

 017925 DECLARE, GLOBAL, VARIABLE,
                'CUR-ONE-PAUSE'            IS BOOLEAN            $
C       PAUSE MODE SELECTED AT LEAST ONCE IN CURRENT SELECTION
 ----------------------------------------------------------------$

 017965 DECLARE, GLOBAL, VARIABLE,
                'TOT-ONE-PAUSE'            IS BOOLEAN            $
C       PAUSE MODE SELECTED AT LEAST ONCE IN CURRENT TPS SESSION
 ----------------------------------------------------------------$
C
 ================================================================
 =                                                              =
 =               D E C L A R A T I O N     O F                  =
 =                                                              =
 =         G L O B A L    S T A N D A R D     T E S T           =
 =                                                              =
 =         P R O G R A M     S E T   V A R I A B L E S          =
 =                                                              =
 ================================================================
                                                                $
 018005 DECLARE, GLOBAL, VARIABLE,
                'CURRENT-NB-RES'           IS INTEGER            $
C       TOTAL RESULTS IN CURRENT SELECTION
 ----------------------------------------------------------------$

 018010 DECLARE, GLOBAL, VARIABLE,
                'TOTAL-NB-RES'             IS INTEGER            $
C       TOTAL RESULTS IN CURRENT TPS SESSION
```


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```
 ----------------------------------------------------------------$

 018015 DECLARE, GLOBAL, VARIABLE,
                'CURRENT-NB-FAIL'          IS INTEGER            $
C       TOTAL NUMBER OF FABUS1 NOTED DURING THE CURRENT SELECTION
 ----------------------------------------------------------------$

 018020 DECLARE, GLOBAL, VARIABLE,
                'TOTAL-NB-FAIL'            IS INTEGER            $
C       TOTAL NUMBER OF FABUS1 NOTED DURING THE CURRENT TPS SESSION
 ----------------------------------------------------------------$

 018025 DECLARE, GLOBAL, VARIABLE,
                'TOT-POWER-TIME'           IS INTEGER            $
C       POWER-UP DURATION   IN SECONDS
 ----------------------------------------------------------------$

 018030 DECLARE, GLOBAL, VARIABLE,
                'START-POWER-TIME'         IS INTEGER            $
C       POWER START TIME IN SECONDS
 ----------------------------------------------------------------$

 018035 DECLARE, GLOBAL, VARIABLE,
                'STOP-POWER-TIME'          IS INTEGER            $
C       POWER-DOWN TIME IN SECONDS
 ----------------------------------------------------------------$

 018040 DECLARE, GLOBAL, VARIABLE,
                'STOP-TEST-TIME'           IS INTEGER            $
C       TEST STOP TIME IN SECONDS
 ----------------------------------------------------------------$
 018045 DECLARE, GLOBAL, VARIABLE, 'STOP-EP-TIME' IS INTEGER      $
C       TEST STOP TIME IN SECONDS
 ----------------------------------------------------------------$

 018050 DECLARE, GLOBAL, VARIABLE,
                'START-TIME'               IS INTEGER            $
C       START TIME IN SECONDS (FOR AN ENTRY-POINT)
 ----------------------------------------------------------------$

 018055 DECLARE, GLOBAL, VARIABLE, 'START-EP-TIME' IS INTEGER     $
C       START TIME IN SECONDS (FOR AN ENTRY-POINT)
 ----------------------------------------------------------------$

 018060 DECLARE, GLOBAL, VARIABLE,
                'FAIL'           IS BOOLEAN  INITIAL = FALSE     $
C       SET TO TRUE IF ERROR (NON-FATAL) DETECTED IN LAST
        TEST(NOGO AT TRUE)
 ----------------------------------------------------------------$

 018065 DECLARE, GLOBAL, VARIABLE,
                'FATAL'          IS BOOLEAN  INITIAL = FALSE     $
C       AT TRUE IF FATAL ERROR DETECTED IN LAST TEST
 ----------------------------------------------------------------$
```


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```
 018070 DECLARE, GLOBAL, VARIABLE,
                 'POWER-ON'        IS BOOLEAN  INITIAL = FALSE      $
C       UUT POWER STATUS INDICATOR
 ----------------------------------------------------------------$

 018075 DECLARE, GLOBAL, VARIABLE,
                 'ONE-FAIL'        IS BOOLEAN  INITIAL = FALSE      $
C       AT LEAST ONE FAIL DETECTED IN A MULTI RESULT TEST
 ----------------------------------------------------------------$

 018080 DECLARE, GLOBAL, VARIABLE,
                 'LIST-CNX'        IS BOOLEAN  INITIAL = FALSE      $
C       OUTPUTS LIST OF CONNECTIONS IF 'LIST-CNX' IS TRUE
 ----------------------------------------------------------------$

 018085 DECLARE, GLOBAL, VARIABLE,
                 'REPLACE-CNX'     IS BOOLEAN  INITIAL = FALSE      $
C       REPLACE LIST OF MEASUREMENT CONNECTIONS BY ANOTHER ONE
        IF 'REPLACE-CNX' IS TRUE
 ----------------------------------------------------------------$

 018090 DECLARE, GLOBAL, VARIABLE,
                 'CONTINUE'        IS BOOLEAN  INITIAL = FALSE      $
C       REMAINS AT TRUE SO LONG AS TEST NOT YET OVER
        (MULTI-RESULT TEST)
 ----------------------------------------------------------------$

 018095 DECLARE, GLOBAL, VARIABLE,
                 'PART-NUMBER'               IS STRING (20) OF CHAR $
C       REPRESENTS THE PART NUMBER SELECTED BY TEST EXECUTIVE IF ANY
 ----------------------------------------------------------------$

 018105 DECLARE, GLOBAL, VARIABLE,
                 'AMD-NUMBER'                IS STRING (60) OF CHAR $
C       CONTAINS THE AMD-NUMBER OF THE UUT
 ----------------------------------------------------------------$

 018110 DECLARE, GLOBAL, VARIABLE,
                 'SERIAL-NUMBER'             IS STRING (20) OF CHAR $
C       CONTAINS THE SIMPLIFIED SERIAL-NUMBER OF THE UUT
 ----------------------------------------------------------------$

 018115 DECLARE, GLOBAL, VARIABLE, 'S-N' IS STRING(20) OF CHAR      $
C       CONTAINS THE ENTERED SERIAL-NUMBER OF THE UUT
 ----------------------------------------------------------------$

 018120 DECLARE, GLOBAL, VARIABLE,
                 'OPERATOR-NAME'             IS STRING (15) OF CHAR $
C       CONTAINS THE NAME OF THE OPERATOR
 ----------------------------------------------------------------$

 018125 DECLARE, GLOBAL, VARIABLE,
                 'DATE'                      IS STRING (8) OF CHAR  $
```


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```
C       CURRENT DATE IN ASCII FORMAT
 ----------------------------------------------------------------$

 018130 DECLARE, GLOBAL, VARIABLE,
                 'TIME'                      IS STRING (8) OF CHAR  $
C       CURRENT TIME IN ASCII FORMAT
 ----------------------------------------------------------------$

 018135 DECLARE, GLOBAL, VARIABLE,
                 'TEST-TIME'                 IS STRING (8) OF CHAR  $
C       TOTAL TEST TIME DURATION IN ASCII FORMAT
 ----------------------------------------------------------------$

 018140 DECLARE, GLOBAL, VARIABLE, 'EP-TIME' IS STRING(8) OF CHAR   $
C       TOTAL EP TIME DURATION IN ASCII FORMAT
 ----------------------------------------------------------------$

 018145 DECLARE, GLOBAL, VARIABLE,
                 'POWER-TIME'                IS STRING (8) OF CHAR  $
C       TOTAL POWER UP TIME IN ASCII FORMAT
 ----------------------------------------------------------------$

 018150 DECLARE, GLOBAL, VARIABLE,
                 'FIRST-FAIL' IS STRING (26) OF CHAR INITIAL = C''  $
C       STATEMENT NUMBER AND MODULE OF FIRST FAILURE OCCURENCE
 ----------------------------------------------------------------$

 018155 DECLARE, GLOBAL, VARIABLE,
                 'LAST-FAIL'  IS STRING (26) OF CHAR INITIAL = C''  $
C       STATEMENT NUMBER AND MODULE OF LAST ENCOUNTERED FAILURE
 ----------------------------------------------------------------$

 018160 DECLARE, GLOBAL, VARIABLE,
                 'DIAG-STRING'             IS STRING (2400) OF CHAR $
C       THE DIAGNOSIS DISPLAYED IN CASE OF FAILURE
 ----------------------------------------------------------------$

 018165 DECLARE, GLOBAL, VARIABLE,
                 'CMM-STRING'                IS STRING (12) OF CHAR $
C       THE NUMBER OF THE TEST IN THE CMM
 ----------------------------------------------------------------$

 018170 DECLARE, GLOBAL, VARIABLE,
                 'OUTPUT-TYP'                IS STRING (3) OF CHAR  $
C       TYPE OF OUTPUT. EITHER BINARY BITS (BNR) OR HEX DIGITS (HEX)
 ----------------------------------------------------------------$

 018175 DECLARE, GLOBAL, VARIABLE,
                 'TYP-EVAL-BIT'              IS STRING (2) OF CHAR  $
C       TYPE OF STRING OF BIT COMPARE TEST
 ----------------------------------------------------------------$

 018180 DECLARE, GLOBAL, VARIABLE,
                 'BIT-TEST-RES'              IS 'COMP-RESULT'       $
```


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```
C       THREE STATE VARIABLE THAT INDICATES THE RESULT OF A BIT
        OF STRING TEST
 ----------------------------------------------------------------$

 018185 DECLARE, GLOBAL, VARIABLE,
                'OP-CHOICE'                IS STRING (12) OF CHAR $
C       THE OPERATOR ANSWER
 ----------------------------------------------------------------$

 018190 DECLARE, GLOBAL, VARIABLE,
                'DIAG-PROX'       IS BOOLEAN  INITIAL = TRUE      $
C       SET AT TRUE TO ALLOW TESTS OF PROXIMITY
 ----------------------------------------------------------------$

 018195 DECLARE, GLOBAL, VARIABLE,
                'PCT-PROX'        IS DECIMAL INITIAL = 0.1        $
C       TO CALCULATE LIMITS OF PROXIMITY
 ----------------------------------------------------------------$
C---------------------------------------------------------------$
C  THE FOLLOWING TWO VARIABLES HAVE TO BE MODIFIED TO SUIT THE UUT
         PART NUMBERS THAT CAN BE TESTED BY THE PROGRAM  &&&       $

 018205 DECLARE, GLOBAL, VARIABLE, 'TABL-UUT-PN' IS ARRAY(1 THRU 20)
               OF STRING(20) OF CHAR
        INITIAL =
               (20 OF C'')                                        $
C       CONTAINS THE SEVERAL UUT PART NUMBERS
 ----------------------------------------------------------------$

 018210 DECLARE, GLOBAL, VARIABLE, 'NUMB-UUT' IS INTEGER           $
C       CONTAINS THE NUMBER OF PART NUMBERS
 ----------------------------------------------------------------$
 018214 DECLARE, GLOBAL, VARIABLE,
                'TABL-UUT-SPEC'          IS ARRAY (1 THRU 20) OF
                                           STRING (40) OF CHAR
                                         INITIAL = (20 OF C'')     $
C       CONTAINS THE SEVERAL TEST SPECIFICATIONS REFERENCES
 ----------------------------------------------------------------$

 018216 DECLARE, GLOBAL, VARIABLE,
               'NUMB-SPEC'               IS INTEGER                $
C       CONTAINS THE NUMBER OF TEST SPECIFICATIONS
 ----------------------------------------------------------------$

 018218 DECLARE, GLOBAL, VARIABLE,
                'TABL-UUT-ISSUE'         IS ARRAY (1 THRU 20) OF
                                           STRING (40) OF CHAR
                                         INITIAL = (20 OF C'')     $
C       CONTAINS THE SEVERAL TEST SPECIFICATIONS ISSUES
 ----------------------------------------------------------------$
C       CONTAINS THE TUA NUMBER
 ----------------------------------------------------------------$
 018225 DECLARE, GLOBAL, VARIABLE, 'TABL-TUA-PN' IS ARRAY(1 THRU 10)
               OF STRING(20) OF CHAR
```


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```
        INITIAL =  (10 OF C'')                                  $
C       CONTAINS THE SEVERAL TUA PART NUMBERS
 ----------------------------------------------------------------$

 018230 DECLARE, GLOBAL, VARIABLE, 'NUMB-TUA' IS INTEGER         $
C       CONTAINS THE NUMBER OF TUA PART NUMBERS
 ----------------------------------------------------------------$

 018235 DECLARE, GLOBAL, VARIABLE,
                 'ESA'                       IS BOOLEAN
                 INITIAL = FALSE                                 $
C       ESA = TRUE : ESA AND ESA CABLE NECESSARY ELSE ESA = FALSE
 ----------------------------------------------------------------$
C---------------------------------------------------------------$
C  THE FOLLOWING  VARIABLES HAVE TO BE MODIFIED TO SUIT THE PROGRAM
                 AND TO FILL UP THE HEADER USER                  $

 018240 DECLARE, GLOBAL, VARIABLE,
                 'REF-STRINGS'
                 IS ARRAY ('VENDOR' THRU 'SPECIF-TOOL-6')
                 OF STRING (40) OF CHAR                          $
C       TO FILL UP THE IDENTIFICATION FRAME OF THE PROGRAM
 ----------------------------------------------------------------$
C---------------------------------------------------------------$
C  THE FOLLOWING  VARIABLES HAVE TO BE MODIFIED TO SUIT THE PROGRAM
                 AND TO FILL UP THE HEADER USER                  $

 018245 DECLARE, GLOBAL, VARIABLE,
                 'PROGRAM-TITLE-1'           IS STRING (74) OF CHAR
                 INITIAL = C'               '                    $
C       THE TITLE OF THE PROGRAM (UUT NAME)
 ----------------------------------------------------------------$

 018250 DECLARE, GLOBAL, VARIABLE,
                 'PROGRAM-TITLE-2'           IS STRING (74) OF CHAR
                 INITIAL = C'               '                    $
C       THE TITLE OF THE PROGRAM (ABBREVIATED UUT NAME)
 ----------------------------------------------------------------$

 018255 DECLARE, GLOBAL, VARIABLE, 'PROG-TYPE' IS 'PROG-TYPE-ENUM'  $
C       FIVE STATE VARIABLE THAT INDICATES THE TYPE OF THE PROGRAM
        (UUT, UUTEXT1, ... UUTEXT4)
 ----------------------------------------------------------------$

 018260 DECLARE, GLOBAL, VARIABLE,
                 'EXTENDED-FORMAT'     IS BOOLEAN  INITIAL = FALSE  $
C       OUTPUT THE "627" RESULT STRING WITH 17 CHARACTERS
        IF 'EXTENDED-FORMAT' IS TRUE
 ----------------------------------------------------------------$

 018265 DECLARE, GLOBAL, VARIABLE,
                 'REF-STRINGS-1'     IS ARRAY (1 THRU 25) OF
                                     STRING (80) OF CHAR         $
C       CONTAINS MISCELLANEOUS INFORMATIONS ON PROGRAM
```


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```
       COMPLETES 'REF-STRINGS' INFORMATIONS
 ----------------------------------------------------------------$

 018270 DECLARE, GLOBAL, VARIABLE, 'BEEP-ON-STOP' IS BOOLEAN
        INITIAL =  TRUE                                          $
C       ALLOWS THE PROGRAMMER TO ENABLE OR DISABLE THE AUDIBLE
        ALARM WHEN THE TEST PROGRAM IS STOPPED
 ----------------------------------------------------------------$

 018275 DECLARE, GLOBAL, VARIABLE, 'TITLE-TO-BAD' IS BOOLEAN
        INITIAL =  TRUE                                          $
C       TITLE-TO-BAD IS SET TO TRUE TO PERMIT THE 'TITLE' PROCEDURE
        TO OUTPUT ENTRY-POINT INFORMATION TO THE BAD RESULTS FILE
 ----------------------------------------------------------------$

 018276 DECLARE, GLOBAL, VARIABLE,
                'G-DEBUG'                IS BOOLEAN               $
C       CONTAINS THE CURRENT STATE OF DEBUG-MODE ENVIRONMENT VAR.
 ----------------------------------------------------------------$

 018277 DECLARE, GLOBAL, VARIABLE,
                'ATENAME'                IS STRING (80) OF CHAR   $
C       CONTAINS THE NAME OF THE TEST STATION
 ----------------------------------------------------------------$

 018278 DECLARE, GLOBAL, VARIABLE,
                'G-OS-TYPE'              IS STRING (20) OF CHAR   $
C       CONTAINS THE YPE OF OPERATING SYSTEM ( SunOS or Windows_NT )
 ----------------------------------------------------------------$
C
 ================================================================
 =                                                              =
 =               D E C L A R A T I O N     O F                  =
 =                                                              =
 =            E X T E R N A L   V A R I A B L E S               =
 =                                                              =
 ================================================================
                                                                $
        DECLARE, EXTERNAL, VARIABLE,
                'TPSDIR'                 IS 'TPSDIR-REC'          $
C       CONTAINS INFORMATIONS OF FILE INFOTPSD.WW
 ----------------------------------------------------------------$

        DECLARE, EXTERNAL, VARIABLE,
                'FD'                     IS FILE OF 'TPSDIR-REC' $
C
 ================================================================
 =                                                              =
 =        D E C L A R A T I O N     O F    G L O B A L          =
 =                                                              =
 =      P R O G R A M    S P E C I F I C    V A R I A B L E S   =
 =                                                              =
 ================================================================
                                                                $
```


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```
 018280 DECLARE, GLOBAL, VARIABLE,
                'CRT'                      IS FILE OF TEXT       $
C        PERIPHERAL DEVICE
 ----------------------------------------------------------------$

 018285 DECLARE, GLOBAL, VARIABLE,
                'DISK'                     IS FILE OF TEXT       $
C        PERIPHERAL DEVICE
 ----------------------------------------------------------------$

 018290 DECLARE, GLOBAL, VARIABLE,
                'KB'                       IS FILE OF TEXT       $
C        PERIPHERAL DEVICE
 ----------------------------------------------------------------$

 018295 DECLARE, GLOBAL, VARIABLE,
                'NDISK'                    IS FILE OF TEXT       $
C        PERIPHERAL DEVICE
 ----------------------------------------------------------------$
C ================================================================ $
C =                                                              = $
C =          DECLARE GLOBAL VARIABLE STATEMENTS ( PROGRAM )      = $
C =                                                              = $
C ================================================================ $

 018305 DECLARE, GLOBAL, VARIABLE, 'G-ALIM28-TABL' IS ARRAY('UUT1'
               THRU 'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(12) OF CHAR ;
                       'STATE' IS 'T-SIGNAL-STATE' ;
                       'HI' IS CONNECTION(
                           J1-D, J2-D, J3-D, J4-D, J5-D, J6-D, J7-D,
                            J8-D, J9-D, J10-D, J11-D, J12-D
                           ) ;
                       'LO' IS CONNECTION(
                           J1-E, J2-E, J3-E, J4-E, J5-E, J6-E, J7-E,
                            J8-E, J9-E, J10-E, J11-E, J12-E
                           )
                       ]
        INITIAL =
 (
     (C'ALIM28-UUT1',  'INACTIVE', CONNECTION J1-D,  CONNECTION J1-E),
     (C'ALIM28-UUT2',  'INACTIVE', CONNECTION J2-D,  CONNECTION J2-E),
     (C'ALIM28-UUT3',  'INACTIVE', CONNECTION J3-D,  CONNECTION J3-E),
     (C'ALIM28-UUT4',  'INACTIVE', CONNECTION J4-D,  CONNECTION J4-E),
     (C'ALIM28-UUT5',  'INACTIVE', CONNECTION J5-D,  CONNECTION J5-E),
     (C'ALIM28-UUT6',  'INACTIVE', CONNECTION J6-D,  CONNECTION J6-E),
     (C'ALIM28-UUT7',  'INACTIVE', CONNECTION J7-D,  CONNECTION J7-E),
     (C'ALIM28-UUT8',  'INACTIVE', CONNECTION J8-D,  CONNECTION J8-E),
     (C'ALIM28-UUT9',  'INACTIVE', CONNECTION J9-D,  CONNECTION J9-E),
     (C'ALIM28-UUT10', 'INACTIVE', CONNECTION J10-D, CONNECTION J10-E),
     (C'ALIM28-UUT11', 'INACTIVE', CONNECTION J11-D, CONNECTION J11-E),
     (C'ALIM28-UUT12', 'INACTIVE', CONNECTION J12-D, CONNECTION J12-E))$
C        General informations about alim-28V class signals
```


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```
 ----------------------------------------------------------------$

 018307 DECLARE, GLOBAL, VARIABLE, 'G-ALIM5-TABL' IS ARRAY('UUT1'
               THRU 'UUT4') OF
                   RECORD OF [
                       'NAME' IS STRING(12) OF CHAR ;
                       'STATE' IS 'T-SIGNAL-STATE' ;
                       'HI' IS CONNECTION(
                           J1-j, J2-j, J3-j, J4-j
                           ) ;
                       'LO' IS CONNECTION(
                           J1-i, J2-i, J3-i, J4-i
                           )
                       ]
        INITIAL =
 (
     (C'ALIM5-UUT1',  'INACTIVE', CONNECTION J1-j,  CONNECTION J1-i),
     (C'ALIM5-UUT2',  'INACTIVE', CONNECTION J2-j,  CONNECTION J2-i),
     (C'ALIM5-UUT3',  'INACTIVE', CONNECTION J3-j,  CONNECTION J3-i),
     (C'ALIM5-UUT4',  'INACTIVE', CONNECTION J4-j,  CONNECTION J4-i))$
C       General informations about alim-5V class signals
 ----------------------------------------------------------------$

 018309 DECLARE, GLOBAL, VARIABLE, 'G-OLD-BUS1P1-FR' IS 'T-FRAME'    $
C       Memorisation of state of BUS1 frame on post 1
 ----------------------------------------------------------------$

 018311 DECLARE, GLOBAL, VARIABLE, 'G-OLD-BUS2P1-FR' IS 'T-FRAME'    $
C       Memorisation of state of BUS2 frame on post 1
 ----------------------------------------------------------------$

 018313 DECLARE, GLOBAL, VARIABLE, 'G-OLD-BUS3P1-FR' IS 'T-FRAME'    $
C       Memorisation of state of BUS3 frame on post 1
 ----------------------------------------------------------------$

 018315 DECLARE, GLOBAL, VARIABLE, 'G-ALIM28-STATE' IS
               'T-SIGNAL-STATE'                                    $
C       State of 28VDC-SUP device
 ----------------------------------------------------------------$

 018317 DECLARE, GLOBAL, VARIABLE, 'G-ALIM5-STATE' IS 'T-SIGNAL-STATE'$
C       State of 5VAC-SUP device
 ----------------------------------------------------------------$

 018321 DECLARE, GLOBAL, VARIABLE, 'G-BUS1P1-STATE' IS 'T-SIGNAL-STATE'$
C       State of G-BUS1-P1 device
 ----------------------------------------------------------------$

 018323 DECLARE, GLOBAL, VARIABLE, 'G-BUS1P2P3-STATE' IS
               'T-SIGNAL-STATE'                                    $
C       State of G-BUS1-P2-P3 device
 ----------------------------------------------------------------$

 018325 DECLARE, GLOBAL, VARIABLE, 'G-BUS2P1-STATE' IS 'T-SIGNAL-STATE'$
```


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```
C       State of G-BUS2-P1 device
 ----------------------------------------------------------------$

 018327 DECLARE, GLOBAL, VARIABLE, 'G-BUS3P1-STATE' IS 'T-SIGNAL-STATE'$
C       State of G-BUS3-P1 device
 ----------------------------------------------------------------$

 018329 DECLARE, GLOBAL, VARIABLE, 'G-BUS2-3-P2P3-STATE' IS
                'T-SIGNAL-STATE'                                $
C       State of G-BUS2-3-P2-P3 device
 ----------------------------------------------------------------$

 018331 DECLARE, GLOBAL, VARIABLE, 'G-PHOTO-STATE' IS 'T-SIGNAL-STATE'$
C       State of RS232-PHOTO device
 ----------------------------------------------------------------$

 018333 DECLARE, GLOBAL, VARIABLE, 'G-TABLE-STATE' IS 'T-SIGNAL-STATE'$
C       State of RS232-TABLE device
 ----------------------------------------------------------------$

 018335 DECLARE, GLOBAL, VARIABLE, 'G-GROUND-STATE' IS
                'T-SIGNAL-STATE'                                $
C       State of GROUND device
 ----------------------------------------------------------------$

 018337 DECLARE, GLOBAL, VARIABLE, 'G-LIGHT-P-STATE' IS
                'T-SIGNAL-STATE'                                $
C       State of LIGHNING-POS device
 ----------------------------------------------------------------$

 018339 DECLARE, GLOBAL, VARIABLE, 'G-LIGHT-N-STATE' IS
                'T-SIGNAL-STATE'                                $
C       State of LIGHNING-NEG device
 ----------------------------------------------------------------$

 018340 DECLARE, GLOBAL, VARIABLE, 'G-PHOTO-OK' IS BOOLEAN       $
C       Indicates if a problem has occured
 ----------------------------------------------------------------$

 018341 DECLARE, GLOBAL, VARIABLE, 'G-OLD-RES' IS DECIMAL        $
C       Memorize old value of resistor applied with LIGHTNING device
 ----------------------------------------------------------------$

 018342 DECLARE, GLOBAL, VARIABLE, 'G-OLD-VOLT' IS DECIMAL       $
C       Memorize old value of voltage applied with LIGHTNING device
 ----------------------------------------------------------------$

 018343 DECLARE, GLOBAL, VARIABLE, 'G-MNEMO-ADJ' IS BOOLEAN      $
C       Memorize if the lightning adjustment has been done
 ----------------------------------------------------------------$

 018345 DECLARE, GLOBAL, VARIABLE, 'G-OLD-PULSE' IS DECIMAL      $
C       Memorize old value of pulse applied with LIGHTNING device
 ----------------------------------------------------------------$
```


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```
 018347 DECLARE, GLOBAL, VARIABLE, 'G-TABLE-OK' IS BOOLEAN         $
C       Indicates if a problem has occured
 ----------------------------------------------------------------$

 018349 DECLARE, GLOBAL, VARIABLE, 'G-CUSTOMER' IS STRING(80) OF CHAR$
C       Indicates the choice of test :
C       airlines or production
 ----------------------------------------------------------------$

 018351 DECLARE, GLOBAL, VARIABLE, 'G-TEST' IS STRING(10) OF CHAR   $
C       Indicates the choice of test : manual or automatic (for lamps,
C       photometer and table)
 ----------------------------------------------------------------$

 018353 DECLARE, GLOBAL, VARIABLE, 'G-MAINT-FILE' IS FILE OF
               STRING(8) OF BIT                                    $
C       File which contains the serial number of UUT
 ----------------------------------------------------------------$

 018355 DECLARE, GLOBAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
                       'EDIT-RESULT' IS BOOLEAN ;
                       'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                       'PART-NUMB' IS STRING(20) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                            J8-G, J9-G, J10-G, J11-G, J12-G
                           ) ;
                       'LO' IS CONNECTION(
                           J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                            J8-t, J9-t, J10-t, J11-t, J12-t
                           )
                       ]
       INITIAL =
 (
(C'1',  FALSE, FALSE, C'', C'', CONNECTION J1-G,  CONNECTION J1-t),
(C'2',  FALSE, FALSE, C'', C'', CONNECTION J2-G,  CONNECTION J2-t),
(C'3',  FALSE, FALSE, C'', C'', CONNECTION J3-G,  CONNECTION J3-t),
(C'4',  FALSE, FALSE, C'', C'', CONNECTION J4-G,  CONNECTION J4-t),
(C'5',  FALSE, FALSE, C'', C'', CONNECTION J5-G,  CONNECTION J5-t),
(C'6',  FALSE, FALSE, C'', C'', CONNECTION J6-G,  CONNECTION J6-t),
(C'7',  FALSE, FALSE, C'', C'', CONNECTION J7-G,  CONNECTION J7-t),
(C'8',  FALSE, FALSE, C'', C'', CONNECTION J8-G,  CONNECTION J8-t),
(C'9',  FALSE, FALSE, C'', C'', CONNECTION J9-G,  CONNECTION J9-t),
(C'10', FALSE, FALSE, C'', C'', CONNECTION J10-G, CONNECTION J10-t),
(C'11', FALSE, FALSE, C'', C'', CONNECTION J11-G, CONNECTION J11-t),
(C'12', FALSE, FALSE, C'', C'', CONNECTION J12-G, CONNECTION J12-t))$
C       Informations about all UUT
 ----------------------------------------------------------------$
```


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```
 018357 DECLARE, GLOBAL, VARIABLE, 'G-POSITION' IS ARRAY('UUT1' THRU
                'UUT4') OF
                    RECORD OF [
                        'TRANSL-0X' IS STRING(3) OF CHAR ;
                        'TRANSL-0Y' IS STRING(3) OF CHAR
                        ]
        INITIAL =
 (
                (C'49',  C'-48'),
                (C'-44', C'-48'),
                (C'-42', C'53'),
                (C'46',  C'53'))                                    $
CC       Informations of translation about UUT1 thru UUT4
 ----------------------------------------------------------------$

 018360 DECLARE, GLOBAL, VARIABLE, 'G-DISCIN-TABL' IS ARRAY('UUT1'
                THRU 'UUT12','DISC-X' THRU 'DISC-Z') OF
                    RECORD OF [
                        'NAME' IS STRING(12) OF CHAR ;
                        'STATE' IS 'T-SIGNAL-STATE' ;
                        'GROUND' IS 'T-SIGNAL-STATE' ;
                        'HI' IS CONNECTION(
                      J1-X, J1-h, J1-a, J1-b, J1-c, J1-d, J1-e,
                            J1-k, J1-m, J1-n, J1-p, J1-q, J1-r, J1-s,
                            J1-f, J1-Y, J1-Z,
                           J2-X, J2-h, J2-a, J2-b, J2-c, J2-d, J2-e,
                            J2-k, J2-m, J2-n, J2-p, J2-q, J2-r, J2-s,
                            J2-f, J2-Y, J2-Z,
                           J3-X, J3-h, J3-a, J3-b, J3-c, J3-d, J3-e,
                            J3-k, J3-m, J3-n, J3-p, J3-q, J3-r, J3-s,
                            J3-f, J3-Y, J3-Z,
                      J4-X, J4-h, J4-a, J4-b, J4-c, J4-d, J4-e,
                            J4-k, J4-m, J4-n, J4-p, J4-q, J4-r, J4-s,
                                  J4-f, J4-Y, J4-Z,
                      J5-X, J5-h, J5-a, J5-b, J5-c, J5-d, J5-e,
                            J5-k, J5-m, J5-n, J5-p, J5-q, J5-r, J5-s,
                            J5-f, J5-Y, J5-Z,
                           J6-X, J6-h, J6-a, J6-b, J6-c, J6-d, J6-e,
                            J6-k, J6-m, J6-n, J6-p, J6-q, J6-r, J6-s,
                            J6-f, J6-Y, J6-Z,
                     J7-X, J7-h, J7-a, J7-b, J7-c, J7-d, J7-e,
                            J7-k, J7-m, J7-n, J7-p, J7-q, J7-r, J7-s,
                            J7-f, J7-Y, J7-Z,
                           J8-X, J8-h, J8-a, J8-b, J8-c, J8-d, J8-e,
                            J8-k, J8-m, J8-n, J8-p, J8-q, J8-r, J8-s,
                            J8-f, J8-Y, J8-Z,
                           J9-X, J9-h, J9-a, J9-b, J9-c, J9-d, J9-e,
                            J9-k, J9-m, J9-n, J9-p, J9-q, J9-r, J9-s,
                            J9-f, J9-Y, J9-Z,
                     J10-X, J10-h, J10-a, J10-b, J10-c, J10-d, J10-e,
                            J10-k, J10-m, J10-n, J10-p, J10-q, J10-r, J10-s,
                            J10-f, J10-Y, J10-Z,
                           J11-X, J11-h, J11-a, J11-b, J11-c, J11-d, J11-e,
                            J11-k, J11-m, J11-n, J11-p, J11-q, J11-r, J11-s,
```


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```
                    J11-f, J11-Y, J11-Z,
              J12-X, J12-h, J12-a, J12-b, J12-c, J12-d, J12-e,
                    J12-k, J12-m, J12-n, J12-p, J12-q, J12-r, J12-s,
                    J12-f, J12-Y, J12-Z )
                 ]
      INITIAL =
(
            ( (C'DISC-X-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-X),
              (C'DISC-h-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-h),
              (C'DISC-a-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-a),
              (C'DISC-b-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-b),
              (C'DISC-c-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-c),
              (C'DISC-d-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-d),
              (C'DISC-e-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-e),
              (C'DISC-k-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-k),
              (C'DISC-m-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-m),
              (C'DISC-n-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-n),
              (C'DISC-p-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-p),
              (C'DISC-q-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-q),
              (C'DISC-r-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-r),
              (C'DISC-s-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-s),
              (C'DISC-f-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-f),
              (C'DISC-Y-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-Y),
              (C'DISC-Z-UUT1', 'INACTIVE', 'INACTIVE', CONNECTION J1-Z)
            ) ,
            ( (C'DISC-X-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-X),
              (C'DISC-h-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-h),
              (C'DISC-a-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-a),
              (C'DISC-b-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-b),
              (C'DISC-c-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-c),
              (C'DISC-d-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-d),
              (C'DISC-e-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-e),
              (C'DISC-k-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-k),
              (C'DISC-m-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-m),
              (C'DISC-n-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-n),
              (C'DISC-p-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-p),
              (C'DISC-q-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-q),
              (C'DISC-r-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-r),
              (C'DISC-s-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-s),
              (C'DISC-f-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-f),
              (C'DISC-Y-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-Y),
              (C'DISC-Z-UUT2', 'INACTIVE', 'INACTIVE', CONNECTION J2-Z)
            ) ,
            ( (C'DISC-X-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-X),
              (C'DISC-h-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-h),
              (C'DISC-a-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-a),
              (C'DISC-b-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-b),
              (C'DISC-c-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-c),
              (C'DISC-d-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-d),
              (C'DISC-e-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-e),
              (C'DISC-k-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-k),
              (C'DISC-m-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-m),
              (C'DISC-n-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-n),
              (C'DISC-p-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-p),
```


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```
  (C'DISC-q-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-q),
  (C'DISC-r-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-r),
  (C'DISC-s-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-s),
  (C'DISC-f-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-f),
  (C'DISC-Y-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-Y),
  (C'DISC-Z-UUT3', 'INACTIVE', 'INACTIVE', CONNECTION J3-Z)
) ,
( (C'DISC-X-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-X),
  (C'DISC-h-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-h),
  (C'DISC-a-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-a),
  (C'DISC-b-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-b),
  (C'DISC-c-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-c),
  (C'DISC-d-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-d),
  (C'DISC-e-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-e),
  (C'DISC-k-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-k),
  (C'DISC-m-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-m),
  (C'DISC-n-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-n),
  (C'DISC-p-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-p),
  (C'DISC-q-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-q),
  (C'DISC-r-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-r),
  (C'DISC-s-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-s),
  (C'DISC-f-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-f),
  (C'DISC-Y-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-Y),
  (C'DISC-Z-UUT4', 'INACTIVE', 'INACTIVE', CONNECTION J4-Z)
) ,
( (C'DISC-X-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-X),
  (C'DISC-h-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-h),
  (C'DISC-a-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-a),
  (C'DISC-b-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-b),
  (C'DISC-c-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-c),
  (C'DISC-d-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-d),
  (C'DISC-e-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-e),
  (C'DISC-k-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-k),
  (C'DISC-m-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-m),
  (C'DISC-n-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-n),
  (C'DISC-p-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-p),
  (C'DISC-q-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-q),
  (C'DISC-r-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-r),
  (C'DISC-s-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-s),
  (C'DISC-f-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-f),
  (C'DISC-Y-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-Y),
  (C'DISC-Z-UUT5', 'INACTIVE', 'INACTIVE', CONNECTION J5-Z)
) ,
( (C'DISC-X-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-X),
  (C'DISC-h-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-h),
  (C'DISC-a-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-a),
  (C'DISC-b-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-b),
  (C'DISC-c-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-c),
  (C'DISC-d-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-d),
  (C'DISC-e-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-e),
  (C'DISC-k-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-k),
  (C'DISC-m-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-m),
  (C'DISC-n-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-n),
  (C'DISC-p-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-p),
```


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```
  (C'DISC-q-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-q),
  (C'DISC-r-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-r),
  (C'DISC-s-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-s),
  (C'DISC-f-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-f),
  (C'DISC-Y-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-Y),
  (C'DISC-Z-UUT6', 'INACTIVE', 'INACTIVE', CONNECTION J6-Z)
) ,
( (C'DISC-X-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-X),
  (C'DISC-h-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-h),
  (C'DISC-a-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-a),
  (C'DISC-b-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-b),
  (C'DISC-c-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-c),
  (C'DISC-d-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-d),
  (C'DISC-e-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-e),
  (C'DISC-k-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-k),
  (C'DISC-m-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-m),
  (C'DISC-n-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-n),
  (C'DISC-p-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-p),
  (C'DISC-q-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-q),
  (C'DISC-r-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-r),
  (C'DISC-s-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-s),
  (C'DISC-f-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-f),
  (C'DISC-Y-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-Y),
  (C'DISC-Z-UUT7', 'INACTIVE', 'INACTIVE', CONNECTION J7-Z)
) ,
( (C'DISC-X-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-X),
  (C'DISC-h-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-h),
  (C'DISC-a-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-a),
  (C'DISC-b-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-b),
  (C'DISC-c-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-c),
  (C'DISC-d-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-d),
  (C'DISC-e-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-e),
  (C'DISC-k-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-k),
  (C'DISC-m-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-m),
  (C'DISC-n-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-n),
  (C'DISC-p-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-p),
  (C'DISC-q-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-q),
  (C'DISC-r-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-r),
  (C'DISC-s-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-s),
  (C'DISC-f-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-f),
  (C'DISC-Y-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-Y),
  (C'DISC-Z-UUT8', 'INACTIVE', 'INACTIVE', CONNECTION J8-Z)
) ,
( (C'DISC-X-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-X),
  (C'DISC-h-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-h),
  (C'DISC-a-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-a),
  (C'DISC-b-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-b),
  (C'DISC-c-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-c),
  (C'DISC-d-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-d),
  (C'DISC-e-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-e),
  (C'DISC-k-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-k),
  (C'DISC-m-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-m),
  (C'DISC-n-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-n),
  (C'DISC-p-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-p),
```


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```
  (C'DISC-q-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-q),
  (C'DISC-r-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-r),
  (C'DISC-s-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-s),
  (C'DISC-f-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-f),
  (C'DISC-Y-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-Y),
  (C'DISC-Z-UUT9', 'INACTIVE', 'INACTIVE', CONNECTION J9-Z)
) ,
( (C'DISC-X-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-X),
  (C'DISC-h-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-h),
  (C'DISC-a-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-a),
  (C'DISC-b-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-b),
  (C'DISC-c-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-c),
  (C'DISC-d-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-d),
  (C'DISC-e-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-e),
  (C'DISC-k-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-k),
  (C'DISC-m-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-m),
  (C'DISC-n-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-n),
  (C'DISC-p-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-p),
  (C'DISC-q-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-q),
  (C'DISC-r-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-r),
  (C'DISC-s-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-s),
  (C'DISC-f-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-f),
  (C'DISC-Y-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-Y),
  (C'DISC-Z-UUT10', 'INACTIVE', 'INACTIVE', CONNECTION J10-Z)
) ,
( (C'DISC-X-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-X),
  (C'DISC-h-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-h),
  (C'DISC-a-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-a),
  (C'DISC-b-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-b),
  (C'DISC-c-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-c),
  (C'DISC-d-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-d),
  (C'DISC-e-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-e),
  (C'DISC-k-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-k),
  (C'DISC-m-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-m),
  (C'DISC-n-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-n),
  (C'DISC-p-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-p),
  (C'DISC-q-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-q),
  (C'DISC-r-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-r),
  (C'DISC-s-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-s),
  (C'DISC-f-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-f),
  (C'DISC-Y-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-Y),
  (C'DISC-Z-UUT11', 'INACTIVE', 'INACTIVE', CONNECTION J11-Z)
) ,
( (C'DISC-X-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-X),
  (C'DISC-h-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-h),
  (C'DISC-a-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-a),
  (C'DISC-b-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-b),
  (C'DISC-c-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-c),
  (C'DISC-d-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-d),
  (C'DISC-e-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-e),
  (C'DISC-k-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-k),
  (C'DISC-m-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-m),
  (C'DISC-n-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-n),
  (C'DISC-p-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-p),
```


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```
                  (C'DISC-q-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-q),
                  (C'DISC-r-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-r),
                  (C'DISC-s-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-s),
                  (C'DISC-f-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-f),
                  (C'DISC-Y-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-Y),
                  (C'DISC-Z-UUT12', 'INACTIVE', 'INACTIVE', CONNECTION J12-Z)
                ) )                                                    $
C       General informations about discrete inputs class signals
 ------------------------------------------------------------------$

 018361 DECLARE, GLOBAL, VARIABLE, 'G-DISCOUT-STATE' IS ARRAY('UUT1'
                THRU 'UUT12') OF
                    'T-SIGNAL-STATE'
        INITIAL =  (12 OF 'INACTIVE')                                  $
C       General informations about discrete output UUT signal
 ------------------------------------------------------------------$

 018363 DECLARE, GLOBAL, VARIABLE, 'G-INSU-TABL' IS ARRAY('UUT1' THRU
                'UUT4') OF
                    RECORD OF [
                        'NAME' IS STRING(10) OF CHAR ;
                        'HI1' IS CONNECTION(
                            J1-D, J2-D, J3-D, J4-D
                            ) ;
                        'HI2' IS CONNECTION(
                            J1-E, J2-E, J3-E, J4-E
                            ) ;
                        'LO' IS CONNECTION(
                            J1-t, J2-t, J3-t, J4-t
                            )
                        ]
        INITIAL =
 (
   (C'INSU-UUT1', CONNECTION J1-D, CONNECTION J1-E, CONNECTION J1-t),
   (C'INSU-UUT2', CONNECTION J2-D, CONNECTION J2-E, CONNECTION J2-t),
   (C'INSU-UUT3', CONNECTION J3-D, CONNECTION J3-E, CONNECTION J3-t),
   (C'INSU-UUT4', CONNECTION J4-D, CONNECTION J4-E, CONNECTION J4-t))$
C       General informations about each insulation UUT signal
 ------------------------------------------------------------------$

 018364 DECLARE, GLOBAL, VARIABLE, 'G-BON-FONCT-TABL' IS ARRAY('UUT1' THRU
                'UUT4') OF
                    RECORD OF [
                        'NAME' IS STRING(15) OF CHAR ;
                        'LO' IS CONNECTION(
                            J1-F, J2-F, J3-F, J4-F
                            )
                        ]
        INITIAL =
 (
   (C'BON-FONCT-UUT1', CONNECTION J1-F),
   (C'BON-FONCT-UUT2', CONNECTION J2-F),
   (C'BON-FONCT-UUT3', CONNECTION J3-F),
   (C'BON-FONCT-UUT4', CONNECTION J4-F))$
```


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```
C       General informations about each BON-FONCT UUT signal
 ----------------------------------------------------------------$

 018365 DECLARE, GLOBAL, VARIABLE, 'G-PARA-TABL' IS ARRAY('UUT1' THRU
                'UUT4','PARA-D' THRU 'PARA-g') OF
                    RECORD OF [
                        'NAME' IS STRING(10) OF CHAR ;
                        'HI' IS CONNECTION(
                            J1-D, J1-E, J1-i, J1-j, J1-A, J1-W, J1-U,
                             J1-V, J1-S, J1-T, J1-B, J1-C, J1-M,
                            J1-N, J1-R, J1-P, J1-b, J1-c, J1-d, J1-e,
                             J1-k, J1-m, J1-p, J1-r, J1-s, J1-q,
                            J1-Z, J1-f, J1-g, J2-D, J2-E, J2-i, J2-j,
                             J2-A, J2-W, J2-U, J2-V, J2-S, J2-T,
                            J2-B, J2-C, J2-M, J2-N, J2-R, J2-P, J2-b,
                             J2-c, J2-d, J2-e, J2-k, J2-m, J2-p,
                            J2-r, J2-s, J2-q, J2-Z, J2-f, J2-g, J3-D,
                             J3-E, J3-i, J3-j, J3-A, J3-W, J3-U,
                            J3-V, J3-S, J3-T, J3-B, J3-C, J3-M, J3-N,
                             J3-R, J3-P, J3-b, J3-c, J3-d, J3-e,
                            J3-k, J3-m, J3-p, J3-r, J3-s, J3-q, J3-Z,
                             J3-f, J3-g, J4-D, J4-E, J4-i, J4-j,
                            J4-A, J4-W, J4-U, J4-V, J4-S, J4-T, J4-B,
                             J4-C, J4-M, J4-N, J4-R, J4-P, J4-b,
                            J4-c, J4-d, J4-e, J4-k, J4-m, J4-p, J4-r,
                             J4-s, J4-q, J4-Z, J4-f, J4-g
                            ) ;
                        'LO' IS CONNECTION(
                            J1-G, J2-G, J3-G, J4-G
                            ) ;
                        'RES' IS INTEGER ;
                        'PULSE' IS INTEGER ;
                        'DELAY' IS INTEGER ;
                        'VOLT' IS INTEGER
                        ]
        INITIAL =
 (
                ( (C'PARA-J1D', CONNECTION J1-D, CONNECTION J1-G,    140,  60,  55, 250),
                  (C'PARA-J1E', CONNECTION J1-E, CONNECTION J1-G,    140,  60,  55, 250),
                  (C'PARA-J1i', CONNECTION J1-i, CONNECTION J1-G,   2500, 127, 122, 250),
                  (C'PARA-J1j', CONNECTION J1-j, CONNECTION J1-G,   2500, 127, 122, 250),
                  (C'PARA-J1A', CONNECTION J1-A, CONNECTION J1-G,   2500,  60,  55, 250),
                  (C'PARA-J1W', CONNECTION J1-W, CONNECTION J1-G,   2500,  60,  55, 250),
                  (C'PARA-J1U', CONNECTION J1-U, CONNECTION J1-G,   2500,  60,  55, 250),
                  (C'PARA-J1V', CONNECTION J1-V, CONNECTION J1-G,   2500,  60,  55, 250),
                  (C'PARA-J1S', CONNECTION J1-S, CONNECTION J1-G,   2500,  60,  55, 250),
                  (C'PARA-J1T', CONNECTION J1-T, CONNECTION J1-G,   2500,  60,  55, 250),
                  (C'PARA-J1B', CONNECTION J1-B, CONNECTION J1-G,   2500, 127, 122, 250),
                  (C'PARA-J1C', CONNECTION J1-C, CONNECTION J1-G,   2500, 127, 122, 250),
                  (C'PARA-J1M', CONNECTION J1-M, CONNECTION J1-G,    250,  60,  55, 250),
                  (C'PARA-J1N', CONNECTION J1-N, CONNECTION J1-G,    250,  60,  55, 250),
                  (C'PARA-J1R', CONNECTION J1-R, CONNECTION J1-G,    250,  60,  55, 250),
                  (C'PARA-J1P', CONNECTION J1-P, CONNECTION J1-G,    250,  60,  55, 250),
                  (C'PARA-J1b', CONNECTION J1-b, CONNECTION J1-G,   2500,  60,  55, 250),
```


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```
  (C'PARA-J1c', CONNECTION J1-c, CONNECTION J1-G,   2500,  60,  55, 250),
  (C'PARA-J1d', CONNECTION J1-d, CONNECTION J1-G,   2500,  60,  55, 250),
  (C'PARA-J1e', CONNECTION J1-e, CONNECTION J1-G,   2500,  60,  55, 250),
  (C'PARA-J1k', CONNECTION J1-k, CONNECTION J1-G,   2500,  60,  55, 250),
  (C'PARA-J1m', CONNECTION J1-m, CONNECTION J1-G,   2500,  60,  55, 250),
  (C'PARA-J1p', CONNECTION J1-p, CONNECTION J1-G,   2500,  60,  55, 250),
  (C'PARA-J1r', CONNECTION J1-r, CONNECTION J1-G,   2500,  60,  55, 250),
  (C'PARA-J1s', CONNECTION J1-s, CONNECTION J1-G,   2500,  60,  55, 250),
  (C'PARA-J1q', CONNECTION J1-q, CONNECTION J1-G,   2500,  60,  55, 250),
  (C'PARA-J1Z', CONNECTION J1-Z, CONNECTION J1-G,   2500,  60,  55, 250),
  (C'PARA-J1f', CONNECTION J1-f, CONNECTION J1-G,   2500,  60,  55, 250),
  (C'PARA-J1g', CONNECTION J1-g, CONNECTION J1-G,   2500,  60,  55, 250)
) ,
( (C'PARA-J2D', CONNECTION J2-D, CONNECTION J2-G,    140,  60,  55, 250),
  (C'PARA-J2E', CONNECTION J2-E, CONNECTION J2-G,    140,  60,  55, 250),
  (C'PARA-J2i', CONNECTION J2-i, CONNECTION J2-G,   2500, 127, 122, 250),
  (C'PARA-J2j', CONNECTION J2-j, CONNECTION J2-G,   2500, 127, 122, 250),
  (C'PARA-J2A', CONNECTION J2-A, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2W', CONNECTION J2-W, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2U', CONNECTION J2-U, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2V', CONNECTION J2-V, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2S', CONNECTION J2-S, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2T', CONNECTION J2-T, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2B', CONNECTION J2-B, CONNECTION J2-G,   2500, 127, 122, 250),
  (C'PARA-J2C', CONNECTION J2-C, CONNECTION J2-G,   2500, 127, 122, 250),
  (C'PARA-J2M', CONNECTION J2-M, CONNECTION J2-G,    250,  60,  55, 250),
  (C'PARA-J2N', CONNECTION J2-N, CONNECTION J2-G,    250,  60,  55, 250),
  (C'PARA-J2R', CONNECTION J2-R, CONNECTION J2-G,    250,  60,  55, 250),
  (C'PARA-J2P', CONNECTION J2-P, CONNECTION J2-G,    250,  60,  55, 250),
  (C'PARA-J2b', CONNECTION J2-b, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2c', CONNECTION J2-c, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2d', CONNECTION J2-d, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2e', CONNECTION J2-e, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2k', CONNECTION J2-k, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2m', CONNECTION J2-m, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2p', CONNECTION J2-p, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2r', CONNECTION J2-r, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2s', CONNECTION J2-s, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2q', CONNECTION J2-q, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2Z', CONNECTION J2-Z, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2f', CONNECTION J2-f, CONNECTION J2-G,   2500,  60,  55, 250),
  (C'PARA-J2g', CONNECTION J2-g, CONNECTION J2-G,   2500,  60,  55, 250)
) ,
( (C'PARA-J3D', CONNECTION J3-D, CONNECTION J3-G,    140,  60,  55, 250),
  (C'PARA-J3E', CONNECTION J3-E, CONNECTION J3-G,    140,  60,  55, 250),
  (C'PARA-J3i', CONNECTION J3-i, CONNECTION J3-G,   2500, 127, 122, 250),
  (C'PARA-J3j', CONNECTION J3-j, CONNECTION J3-G,   2500, 127, 122, 250),
  (C'PARA-J3A', CONNECTION J3-A, CONNECTION J3-G,   2500,  60,  55, 250),
  (C'PARA-J3W', CONNECTION J3-W, CONNECTION J3-G,   2500,  60,  55, 250),
  (C'PARA-J3U', CONNECTION J3-U, CONNECTION J3-G,   2500,  60,  55, 250),
  (C'PARA-J3V', CONNECTION J3-V, CONNECTION J3-G,   2500,  60,  55, 250),
  (C'PARA-J3S', CONNECTION J3-S, CONNECTION J3-G,   2500,  60,  55, 250),
  (C'PARA-J3T', CONNECTION J3-T, CONNECTION J3-G,   2500,  60,  55, 250),
  (C'PARA-J3B', CONNECTION J3-B, CONNECTION J3-G,   2500, 127, 122, 250),
```


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```
                 (C'PARA-J3C', CONNECTION J3-C, CONNECTION J3-G,   2500, 127, 122, 250),
                 (C'PARA-J3M', CONNECTION J3-M, CONNECTION J3-G,    250,  60,  55, 250),
                 (C'PARA-J3N', CONNECTION J3-N, CONNECTION J3-G,    250,  60,  55, 250),
                 (C'PARA-J3R', CONNECTION J3-R, CONNECTION J3-G,    250,  60,  55, 250),
                 (C'PARA-J3P', CONNECTION J3-P, CONNECTION J3-G,    250,  60,  55, 250),
                 (C'PARA-J3b', CONNECTION J3-b, CONNECTION J3-G,   2500,  60,  55, 250),
                 (C'PARA-J3c', CONNECTION J3-c, CONNECTION J3-G,   2500,  60,  55, 250),
                 (C'PARA-J3d', CONNECTION J3-d, CONNECTION J3-G,   2500,  60,  55, 250),
                 (C'PARA-J3e', CONNECTION J3-e, CONNECTION J3-G,   2500,  60,  55, 250),
                 (C'PARA-J3k', CONNECTION J3-k, CONNECTION J3-G,   2500,  60,  55, 250),
                 (C'PARA-J3m', CONNECTION J3-m, CONNECTION J3-G,   2500,  60,  55, 250),
                 (C'PARA-J3p', CONNECTION J3-p, CONNECTION J3-G,   2500,  60,  55, 250),
                 (C'PARA-J3r', CONNECTION J3-r, CONNECTION J3-G,   2500,  60,  55, 250),
                 (C'PARA-J3s', CONNECTION J3-s, CONNECTION J3-G,   2500,  60,  55, 250),
                 (C'PARA-J3q', CONNECTION J3-q, CONNECTION J3-G,   2500,  60,  55, 250),
                 (C'PARA-J3Z', CONNECTION J3-Z, CONNECTION J3-G,   2500,  60,  55, 250),
                 (C'PARA-J3f', CONNECTION J3-f, CONNECTION J3-G,   2500,  60,  55, 250),
                 (C'PARA-J3g', CONNECTION J3-g, CONNECTION J3-G,   2500,  60,  55, 250)
                ) ,
                ( (C'PARA-J4D', CONNECTION J4-D, CONNECTION J4-G,    140,  60,  55, 250),
                 (C'PARA-J4E', CONNECTION J4-E, CONNECTION J4-G,    140,  60,  55, 250),
                 (C'PARA-J4i', CONNECTION J4-i, CONNECTION J4-G,   2500, 127, 122, 250),
                 (C'PARA-J4j', CONNECTION J4-j, CONNECTION J4-G,   2500, 127, 122, 250),
                 (C'PARA-J4A', CONNECTION J4-A, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4W', CONNECTION J4-W, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4U', CONNECTION J4-U, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4V', CONNECTION J4-V, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4S', CONNECTION J4-S, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4T', CONNECTION J4-T, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4B', CONNECTION J4-B, CONNECTION J4-G,   2500, 127, 122, 250),
                 (C'PARA-J4C', CONNECTION J4-C, CONNECTION J4-G,   2500, 127, 122, 250),
                 (C'PARA-J4M', CONNECTION J4-M, CONNECTION J4-G,    250,  60,  55, 250),
                 (C'PARA-J4N', CONNECTION J4-N, CONNECTION J4-G,    250,  60,  55, 250),
                 (C'PARA-J4R', CONNECTION J4-R, CONNECTION J4-G,    250,  60,  55, 250),
                 (C'PARA-J4P', CONNECTION J4-P, CONNECTION J4-G,    250,  60,  55, 250),
                 (C'PARA-J4b', CONNECTION J4-b, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4c', CONNECTION J4-c, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4d', CONNECTION J4-d, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4e', CONNECTION J4-e, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4k', CONNECTION J4-k, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4m', CONNECTION J4-m, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4p', CONNECTION J4-p, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4r', CONNECTION J4-r, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4s', CONNECTION J4-s, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4q', CONNECTION J4-q, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4Z', CONNECTION J4-Z, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4f', CONNECTION J4-f, CONNECTION J4-G,   2500,  60,  55, 250),
                 (C'PARA-J4g', CONNECTION J4-g, CONNECTION J4-G,   2500,  60,  55, 250)
                ) )                                                 $
C       General informations about each lightning UUT signal
 ------------------------------------------------------------------$

 018367 DECLARE, GLOBAL, VARIABLE, 'G-M429-TABL' IS ARRAY('UUT1' THRU
                'UUT12','INERTIE' THRU 'CMC') OF
```


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```
                    RECORD OF [
                        'NAME' IS STRING(14) OF CHAR ;
                        'HI' IS CONNECTION(
                            J1-R, J2-R, J3-R, J4-R, J5-R, J6-R, J7-R,
                             J8-R, J9-R, J10-R, J11-R, J12-R, J1-N,
                            J2-N, J3-N, J4-N, J5-N, J6-N, J7-N, J8-N,
                             J9-N, J10-N, J11-N, J12-N
                            ) ;
                        'COMPL' IS CONNECTION(
                            J1-P, J2-P, J3-P, J4-P, J5-P, J6-P, J7-P,
                             J8-P, J9-P, J10-P, J11-P, J12-P, J1-M,
                            J2-M, J3-M, J4-M, J5-M, J6-M, J7-M, J8-M,
                             J9-M, J10-M, J11-M, J12-M
                            ) ;
                        'DEVICE' IS ENUMERATION(
                            'INERTIE-A', 'CMC-A', 'INERTIE-B',
                            'CMC-B', 'INERTIE-C', 'CMC-C',
                            'INERTIE-D', 'CMC-D'
                            )
                        ]
      INITIAL =
(
  ( (C'INERTIE-UUT1',  CONNECTION J1-R,  CONNECTION J1-P,  'INERTIE-A'),
    (C'CMC-UUT1',      CONNECTION J1-N,  CONNECTION J1-M,  'CMC-A')
  ) ,
  ( (C'INERTIE-UUT2',  CONNECTION J2-R,  CONNECTION J2-P,  'INERTIE-B'),
    (C'CMC-UUT2',      CONNECTION J2-N,  CONNECTION J2-M,  'CMC-B')
  ) ,
  ( (C'INERTIE-UUT3',  CONNECTION J3-R,  CONNECTION J3-P,  'INERTIE-C'),
    (C'CMC-UUT3',      CONNECTION J3-N,  CONNECTION J3-M,  'CMC-C')
  ) ,
  ( (C'INERTIE-UUT4',  CONNECTION J4-R,  CONNECTION J4-P,  'INERTIE-D'),
    (C'CMC-UUT4',      CONNECTION J4-N,  CONNECTION J4-M,  'CMC-D')
  ) ,
  ( (C'INERTIE-UUT5',  CONNECTION J5-R,  CONNECTION J5-P,  'INERTIE-A'),
    (C'CMC-UUT5',      CONNECTION J5-N,  CONNECTION J5-M,  'CMC-A')
  ) ,
  ( (C'INERTIE-UUT6',  CONNECTION J6-R,  CONNECTION J6-P,  'INERTIE-B'),
    (C'CMC-UUT6',      CONNECTION J6-N,  CONNECTION J6-M,  'CMC-B')
  ) ,
  ( (C'INERTIE-UUT7',  CONNECTION J7-R,  CONNECTION J7-P,  'INERTIE-C'),
    (C'CMC-UUT7',      CONNECTION J7-N,  CONNECTION J7-M,  'CMC-C')
  ) ,
  ( (C'INERTIE-UUT8',  CONNECTION J8-R,  CONNECTION J8-P,  'INERTIE-D'),
    (C'CMC-UUT8',      CONNECTION J8-N,  CONNECTION J8-M,  'CMC-D')
  ) ,
  ( (C'INERTIE-UUT9',  CONNECTION J9-R,  CONNECTION J9-P,  'INERTIE-A'),
    (C'CMC-UUT9',      CONNECTION J9-N,  CONNECTION J9-M,  'CMC-A')
  ) ,
  ( (C'INERTIE-UUT10', CONNECTION J10-R, CONNECTION J10-P, 'INERTIE-B'),
    (C'CMC-UUT10',     CONNECTION J10-N, CONNECTION J10-M, 'CMC-B')
  ) ,
  ( (C'INERTIE-UUT11', CONNECTION J11-R, CONNECTION J11-P, 'INERTIE-C'),
    (C'CMC-UUT11',     CONNECTION J11-N, CONNECTION J11-M, 'CMC-C')
```


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```
   ) ,
   ( (C'INERTIE-UUT12', CONNECTION J12-R, CONNECTION J12-P, 'INERTIE-D'),
     (C'CMC-UUT12',     CONNECTION J12-N, CONNECTION J12-M, 'CMC-D')
   ) )                                                                $
C       General informations about each arinc measurement UUT signal
 ------------------------------------------------------------------$

 018369 DECLARE, GLOBAL, VARIABLE, 'G-G429-TABL' IS ARRAY('UUT1' THRU
                'UUT12','BUS1' THRU 'BUS3') OF
                    RECORD OF [
                        'NAME' IS STRING(14) OF CHAR ;
                        'HI' IS CONNECTION(
                            J1-A, J2-A, J3-A, J4-A, J5-A, J6-A, J7-A,
                             J8-A, J9-A, J10-A, J11-A, J12-A, J1-V,
                            J2-V, J3-V, J4-V, J5-V, J6-V, J7-V, J8-V,
                             J9-V, J10-V, J11-V, J12-V, J1-T, J2-T,
                            J3-T, J4-T, J5-T, J6-T, J7-T, J8-T, J9-T,
                             J10-T, J11-T, J12-T
                            ) ;
                        'COMPL' IS CONNECTION(
                            J1-W, J2-W, J3-W, J4-W, J5-W, J6-W, J7-W,
                             J8-W, J9-W, J10-W, J11-W, J12-W, J1-U,
                            J2-U, J3-U, J4-U, J5-U, J6-U, J7-U, J8-U,
                             J9-U, J10-U, J11-U, J12-U, J1-S, J2-S,
                            J3-S, J4-S, J5-S, J6-S, J7-S, J8-S, J9-S,
                             J10-S, J11-S, J12-S
                            ) ;
                        'STATE' IS 'T-SIGNAL-STATE' ;
                        'DEVICE' IS ENUMERATION(
                            'BUS1-P1', 'BUS2-P1', 'BUS3-P1',
                            'BUS1-P2-P3', 'BUS2-3-P2-P3'
                            )
                        ]
        INITIAL =
 (
(
(C'BUS1-UUT1',  CONNECTION J1-A,  CONNECTION J1-W,  'DISCONNECT', 'BUS1-P1'),
(C'BUS2-UUT1',  CONNECTION J1-V,  CONNECTION J1-U,  'DISCONNECT', 'BUS2-P1'),
(C'BUS3-UUT1',  CONNECTION J1-T,  CONNECTION J1-S,  'DISCONNECT', 'BUS3-P1')
) ,
(
(C'BUS1-UUT2',  CONNECTION J2-A,  CONNECTION J2-W,  'DISCONNECT', 'BUS1-P1'),
(C'BUS2-UUT2',  CONNECTION J2-V,  CONNECTION J2-U,  'DISCONNECT', 'BUS2-P1'),
(C'BUS3-UUT2',  CONNECTION J2-T,  CONNECTION J2-S,  'DISCONNECT', 'BUS3-P1')
) ,
(
(C'BUS1-UUT3',  CONNECTION J3-A,  CONNECTION J3-W,  'DISCONNECT', 'BUS1-P1'),
(C'BUS2-UUT3',  CONNECTION J3-V,  CONNECTION J3-U,  'DISCONNECT', 'BUS2-P1'),
(C'BUS3-UUT3',  CONNECTION J3-T,  CONNECTION J3-S,  'DISCONNECT', 'BUS3-P1')
) ,
(
(C'BUS1-UUT4',  CONNECTION J4-A,  CONNECTION J4-W,  'DISCONNECT', 'BUS1-P1'),
(C'BUS2-UUT4',  CONNECTION J4-V,  CONNECTION J4-U,  'DISCONNECT', 'BUS2-P1'),
(C'BUS3-UUT4',  CONNECTION J4-T,  CONNECTION J4-S,  'DISCONNECT', 'BUS3-P1')
```


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```
) ,
(
(C'BUS1-UUT5',  CONNECTION J5-A,  CONNECTION J5-W,  'DISCONNECT', 'BUS1-P2-P3'),
(C'BUS2-UUT5',  CONNECTION J5-V,  CONNECTION J5-U,  'DISCONNECT', 'BUS2-3-P2-P3'),
(C'BUS3-UUT5',  CONNECTION J5-T,  CONNECTION J5-S,  'DISCONNECT', 'BUS2-3-P2-P3')
) ,
(
(C'BUS1-UUT6',  CONNECTION J6-A,  CONNECTION J6-W,  'DISCONNECT', 'BUS1-P2-P3'),
(C'BUS2-UUT6',  CONNECTION J6-V,  CONNECTION J6-U,  'DISCONNECT', 'BUS2-3-P2-P3'),
(C'BUS3-UUT6',  CONNECTION J6-T,  CONNECTION J6-S,  'DISCONNECT', 'BUS2-3-P2-P3')
) ,
(
(C'BUS1-UUT7',  CONNECTION J7-A,  CONNECTION J7-W,  'DISCONNECT', 'BUS1-P2-P3'),
(C'BUS2-UUT7',  CONNECTION J7-V,  CONNECTION J7-U,  'DISCONNECT', 'BUS2-3-P2-P3'),
(C'BUS3-UUT7',  CONNECTION J7-T,  CONNECTION J7-S,  'DISCONNECT', 'BUS2-3-P2-P3')
) ,
(
(C'BUS1-UUT8',  CONNECTION J8-A,  CONNECTION J8-W,  'DISCONNECT', 'BUS1-P2-P3'),
(C'BUS2-UUT8',  CONNECTION J8-V,  CONNECTION J8-U,  'DISCONNECT', 'BUS2-3-P2-P3'),
(C'BUS3-UUT8',  CONNECTION J8-T,  CONNECTION J8-S,  'DISCONNECT', 'BUS2-3-P2-P3')
) ,
(
(C'BUS1-UUT9',  CONNECTION J9-A,  CONNECTION J9-W,  'DISCONNECT', 'BUS1-P2-P3'),
(C'BUS2-UUT9',  CONNECTION J9-V,  CONNECTION J9-U,  'DISCONNECT', 'BUS2-3-P2-P3'),
(C'BUS3-UUT9',  CONNECTION J9-T,  CONNECTION J9-S,  'DISCONNECT', 'BUS2-3-P2-P3')
) ,
(
(C'BUS1-UUT10', CONNECTION J10-A, CONNECTION J10-W, 'DISCONNECT', 'BUS1-P2-P3'),
(C'BUS2-UUT10', CONNECTION J10-V, CONNECTION J10-U, 'DISCONNECT', 'BUS2-3-P2-P3'),
(C'BUS3-UUT10', CONNECTION J10-T, CONNECTION J10-S, 'DISCONNECT', 'BUS2-3-P2-P3')
) ,
(
(C'BUS1-UUT11', CONNECTION J11-A, CONNECTION J11-W, 'DISCONNECT', 'BUS1-P2-P3'),
(C'BUS2-UUT11', CONNECTION J11-V, CONNECTION J11-U, 'DISCONNECT', 'BUS2-3-P2-P3'),
(C'BUS3-UUT11', CONNECTION J11-T, CONNECTION J11-S, 'DISCONNECT', 'BUS2-3-P2-P3')
) ,
(
(C'BUS1-UUT12', CONNECTION J12-A, CONNECTION J12-W, 'DISCONNECT', 'BUS1-P2-P3'),
(C'BUS2-UUT12', CONNECTION J12-V, CONNECTION J12-U, 'DISCONNECT', 'BUS2-3-P2-P3'),
(C'BUS3-UUT12', CONNECTION J12-T, CONNECTION J12-S, 'DISCONNECT', 'BUS2-3-P2-P3')
) )                                                                 $
C       General informations about each arinc generation UUT signal
 ----------------------------------------------------------------$

 018371 DECLARE, GLOBAL, VARIABLE, 'G-422-TABL' IS ARRAY('UUT1' THRU
                'UUT12') OF
                    RECORD OF [
                        'NAME' IS STRING(12) OF CHAR ;
                        'HI-SEND' IS CONNECTION(
                            J1-L, J2-L, J3-L, J4-L, J5-L, J6-L, J7-L,
                             J8-L, J9-L, J10-L, J11-L, J12-L
                            ) ;
                        'LO-SEND' IS CONNECTION(
                            J1-K, J2-K, J3-K, J4-K, J5-K, J6-K, J7-K,
```


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```
                        J8-K, J9-K, J10-K, J11-K, J12-K
                       ) ;
                    'HI-RCVE' IS CONNECTION(
                       J1-J, J2-J, J3-J, J4-J, J5-J, J6-J, J7-J,
                        J8-J, J9-J, J10-J, J11-J, J12-J
                       ) ;
                    'LO-RCVE' IS CONNECTION(
                       J1-H, J2-H, J3-H, J4-H, J5-H, J6-H, J7-H,
                        J8-H, J9-H, J10-H, J11-H, J12-H
                       ) ;
                    'STATE' IS 'T-SIGNAL-STATE' ;
                    'DEVICE' IS ENUMERATION(
                       'R422-A', 'R422-B'
                       )
                    ]
        INITIAL =
 (
(C'RS422-UUT1',  CONNECTION J1-L,  CONNECTION J1-K,
                 CONNECTION J1-J,  CONNECTION J1-H,  'INACTIVE', 'R422-A'),
(C'RS422-UUT2',  CONNECTION J2-L,  CONNECTION J2-K,
                 CONNECTION J2-J,  CONNECTION J2-H,  'INACTIVE', 'R422-B'),
(C'RS422-UUT3',  CONNECTION J3-L,  CONNECTION J3-K,
                 CONNECTION J3-J,  CONNECTION J3-H,  'INACTIVE', 'R422-A'),
(C'RS422-UUT4',  CONNECTION J4-L,  CONNECTION J4-K,
                 CONNECTION J4-J,  CONNECTION J4-H,  'INACTIVE', 'R422-B'),
(C'RS422-UUT5',  CONNECTION J5-L,  CONNECTION J5-K,
                 CONNECTION J5-J,  CONNECTION J5-H,  'INACTIVE', 'R422-A'),
(C'RS422-UUT6',  CONNECTION J6-L,  CONNECTION J6-K,
                 CONNECTION J6-J,  CONNECTION J6-H,  'INACTIVE', 'R422-B'),
(C'RS422-UUT7',  CONNECTION J7-L,  CONNECTION J7-K,
                 CONNECTION J7-J,  CONNECTION J7-H,  'INACTIVE', 'R422-A'),
(C'RS422-UUT8',  CONNECTION J8-L,  CONNECTION J8-K,
                 CONNECTION J8-J,  CONNECTION J8-H,  'INACTIVE', 'R422-B'),
(C'RS422-UUT9',  CONNECTION J9-L,  CONNECTION J9-K,
                 CONNECTION J9-J,  CONNECTION J9-H,  'INACTIVE', 'R422-A'),
(C'RS422-UUT10', CONNECTION J10-L, CONNECTION J10-K,
                 CONNECTION J10-J, CONNECTION J10-H, 'INACTIVE','R422-B'),
(C'RS422-UUT11', CONNECTION J11-L, CONNECTION J11-K,
                 CONNECTION J11-J, CONNECTION J11-H, 'INACTIVE','R422-A'),
(C'RS422-UUT12', CONNECTION J12-L, CONNECTION J12-K,
                 CONNECTION J12-J, CONNECTION J12-H, 'INACTIVE','R422-B'))$
C       General informations about each RS422 UUT signal
 ----------------------------------------------------------------$

 018373 DECLARE, GLOBAL, VARIABLE, 'G-PRES-TABL' IS ARRAY('UUT9' THRU
                'UUT12','PRES-PS' THRU 'PRES-PT') OF
                   RECORD OF [
                       'NAME' IS STRING(12) OF CHAR ;
                       'STATE' IS 'T-SIGNAL-STATE' ;
                       'HI' IS CONNECTION(
                          P15-3, P15-2, P15-1, P15-20, P15-17,
                          P15-18, P15-19, P15-37
                          )
                       ]
```


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```
        INITIAL =
 (
                ( (C'PRESPS-UUT9',  'ACTIVE', CONNECTION P15-3),
                  (C'PRESPT-UUT9',  'ACTIVE', CONNECTION P15-17)
                ) ,
                ( (C'PRESPS-UUT10', 'ACTIVE', CONNECTION P15-2),
                  (C'PRESPT-UUT10', 'ACTIVE', CONNECTION P15-18)
                ) ,
                ( (C'PRESPS-UUT11', 'ACTIVE', CONNECTION P15-1),
                  (C'PRESPT-UUT11', 'ACTIVE', CONNECTION P15-19)
                ) ,
                ( (C'PRESPS-UUT12', 'ACTIVE', CONNECTION P15-20),
                  (C'PRESPT-UUT12', 'ACTIVE', CONNECTION P15-37)
                ) )                                                $
C       General informations about pressure inputs class
 -----------------------------------------------------------------$

 018375 DECLARE, GLOBAL, VARIABLE, 'G-PRES-ATMO' IS DECIMAL
        INITIAL =  1013.25                                         $
C       Memorization of atmospheric pressure
 -----------------------------------------------------------------$

 018377 DECLARE, GLOBAL, VARIABLE, 'G-PRES-PS-VAL' IS DECIMAL       $
C       Memorization of PS pressure to apply
 -----------------------------------------------------------------$

 018379 DECLARE, GLOBAL, VARIABLE, 'G-PRES-PT-VAL' IS DECIMAL       $
C       Memorization of PT pressure to apply
 -----------------------------------------------------------------$

 018381 DECLARE, GLOBAL, VARIABLE, 'G-PSMBAR-STATE' IS
                'T-SIGNAL-STATE'                                   $
C       State of GENE-PS-MBAR device
 -----------------------------------------------------------------$

 018383 DECLARE, GLOBAL, VARIABLE, 'G-PTMBAR-STATE' IS
                'T-SIGNAL-STATE'                                   $
C       State of GENE-PT-MBAR device
 -----------------------------------------------------------------$

 018385 DECLARE, GLOBAL, VARIABLE, 'G-PSALT-STATE' IS 'T-SIGNAL-STATE'$
C       State of GENE-PS-ALT device
 -----------------------------------------------------------------$

 018387 DECLARE, GLOBAL, VARIABLE, 'G-PTIAS-STATE' IS 'T-SIGNAL-STATE'$
C       State of GENE-PT-IAS device
 -----------------------------------------------------------------$

 018389 DECLARE, GLOBAL, VARIABLE, 'G-AVERAGE' IS DECIMAL           $
C       Average measurement .
 -----------------------------------------------------------------$

 018391 DECLARE, GLOBAL, VARIABLE, 'G-NOISE' IS DECIMAL             $
C       Noise measurement .
```


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```
 ----------------------------------------------------------------$

 018393 DECLARE, GLOBAL, VARIABLE, 'G-ERROR' IS INTEGER            $
C       Error management .
 ----------------------------------------------------------------$

 018395 DECLARE, GLOBAL, VARIABLE, 'G-AVERAGE-324' IS ARRAY('UUT1'
                THRU 'UUT12') OF
                    DECIMAL                                        $
C       Memorization of average pitch for test 4.5.2.4.
 ----------------------------------------------------------------$

 018397 DECLARE, GLOBAL, VARIABLE, 'G-AVERAGE-325' IS ARRAY('UUT1'
                THRU 'UUT12') OF
                    DECIMAL                                        $
C       Memorization of average roll for test 4.5.2.4.
 ----------------------------------------------------------------$

 018399 DECLARE, GLOBAL, VARIABLE, 'G-TIME1-MEM' IS DECIMAL        $
C       Memorization of clock1 time .
 ----------------------------------------------------------------$

 018401 DECLARE, GLOBAL, VARIABLE, 'G-TIME2-MEM' IS DECIMAL        $
C       Memorization of clock2 time .
 ----------------------------------------------------------------$

 018403 DECLARE, GLOBAL, VARIABLE, 'G-TIME3-MEM' IS DECIMAL        $
C       Memorization of clock3 time .
 ----------------------------------------------------------------$

 018405 DECLARE, GLOBAL, VARIABLE, 'G-VALUE' IS DECIMAL            $
C       Returned value by UTIL-DISPLAY : luminosity, weight...
 ----------------------------------------------------------------$

 018406 DECLARE, GLOBAL, VARIABLE, 'COORDONNEE-X' IS DECIMAL       $
C       Returned value by R23P-PHOTO-CMD : chrominance x...
 ----------------------------------------------------------------$

 018407 DECLARE, GLOBAL, VARIABLE, 'COORDONNEE-Y' IS DECIMAL       $
C       Returned value by R23P-PHOTO-CMD : chrominance x...
 ----------------------------------------------------------------$

 018409 DECLARE, GLOBAL, VARIABLE, 'G-UUT1' IS 'T-ALL-UUT'         $
C       Value of 'UUT1'
 ----------------------------------------------------------------$

 018410 DECLARE, GLOBAL, VARIABLE, 'G-UUT2' IS 'T-ALL-UUT'         $
C       Value of 'UUT2'
 ----------------------------------------------------------------$

 018411 DECLARE, GLOBAL, VARIABLE, 'G-UUT3' IS 'T-ALL-UUT'         $
C       Value of 'UUT3'
 ----------------------------------------------------------------$
```

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```
 018413 DECLARE, GLOBAL, VARIABLE, 'G-UUT4' IS 'T-ALL-UUT'         $
C       Value of 'UUT4'
 ----------------------------------------------------------------$

 018415 DECLARE, GLOBAL, VARIABLE, 'G-UUT5' IS 'T-ALL-UUT'         $
C       Value of 'UUT5'
 ----------------------------------------------------------------$

 018417 DECLARE, GLOBAL, VARIABLE, 'G-UUT6' IS 'T-ALL-UUT'         $
C       Value of 'UUT6'
 ----------------------------------------------------------------$

 018419 DECLARE, GLOBAL, VARIABLE, 'G-UUT7' IS 'T-ALL-UUT'         $
C       Value of 'UUT7'
 ----------------------------------------------------------------$

 018421 DECLARE, GLOBAL, VARIABLE, 'G-UUT8' IS 'T-ALL-UUT'         $
C       Value of 'UUT8'
 ----------------------------------------------------------------$

 018423 DECLARE, GLOBAL, VARIABLE, 'G-UUT9' IS 'T-ALL-UUT'         $
C       Value of 'UUT9'
 ----------------------------------------------------------------$

 018425 DECLARE, GLOBAL, VARIABLE, 'G-UUT10' IS 'T-ALL-UUT'        $
C       Value of 'UUT10'
 ----------------------------------------------------------------$

 018427 DECLARE, GLOBAL, VARIABLE, 'G-UUT11' IS 'T-ALL-UUT'        $
C       Value of 'UUT11'
 ----------------------------------------------------------------$

 018429 DECLARE, GLOBAL, VARIABLE, 'G-UUT12' IS 'T-ALL-UUT'        $
C       Value of 'UUT12'
 ----------------------------------------------------------------$

 018431 DECLARE, GLOBAL, VARIABLE, 'G-PRESSURE' IS BOOLEAN
        INITIAL =  FALSE                                           $
C       Indicates if the pressure has been applied
 ----------------------------------------------------------------$

 018433 DECLARE, GLOBAL, VARIABLE, 'G-END-STAB' IS BOOLEAN         $
C       Indicates if the stability test has been accomplished
 ----------------------------------------------------------------$

 018435 DECLARE, GLOBAL, VARIABLE, 'G-TIME2-INIT' IS DECIMAL       $
C       Indicates the initial time of CLOCK2
 ----------------------------------------------------------------$

 018437 DECLARE, GLOBAL, VARIABLE, 'G-TIME2-READ' IS DECIMAL       $
C       Indicates the read time of CLOCK2
 ----------------------------------------------------------------$

 018439 DECLARE, GLOBAL, VARIABLE, 'G-TIME3-INIT' IS DECIMAL       $
```


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```
C       Indicates the initial time of CLOCK3
 ----------------------------------------------------------------$

 018441 DECLARE, GLOBAL, VARIABLE, 'G-TIME3-READ' IS DECIMAL       $
C       Indicates the read time of CLOCK3
 ----------------------------------------------------------------$

 018443 DECLARE, GLOBAL, VARIABLE, 'G-TOLE-TABL' IS ARRAY(1 THRU 300,
                'UL' THRU 'LL') OF
                    DECIMAL
        INITIAL =  (300 OF 0, 300 OF 0)                            $
C       Tolerances table
 ----------------------------------------------------------------$

 018445 DECLARE, GLOBAL, VARIABLE, 'G-ARINC-DATA' IS ARRAY(1 THRU
                21600) OF
                    STRING(32) OF BIT                              $
C       Arinc measurement
 ----------------------------------------------------------------$

 018447 DECLARE, GLOBAL, VARIABLE, 'G-ARINC-DATA1' IS ARRAY(1 THRU
                7200) OF
                    STRING(32) OF BIT                              $
C       Arinc measurement
 ----------------------------------------------------------------$

 018449 DECLARE, GLOBAL, VARIABLE, 'G-RX-DATA' IS ARRAY(1 THRU 10000)
                OF
                    STRING(8) OF BIT
        INITIAL =  (10000 OF X'FF')                                $
C       Contains the frame received
 ----------------------------------------------------------------$

 018451 DECLARE, GLOBAL, VARIABLE, 'G-NB-CAR' IS INTEGER           $
C       Contains the number of words received.
 ----------------------------------------------------------------$

 018453 DECLARE, GLOBAL, VARIABLE, 'G-REPAIR' IS BOOLEAN
        INITIAL =  FALSE                                           $
C       Indicates if repair mode is used
 ----------------------------------------------------------------$

 018455 DECLARE, GLOBAL, VARIABLE, 'G-INSIDE-MBAR' IS BOOLEAN
        INITIAL =  FALSE                                           $
C       Indicates if the program is in 'PRES-APP-MBAR' subroutine
 ----------------------------------------------------------------$

 018457 DECLARE, GLOBAL, VARIABLE, 'G-INSIDE-ALTIAS' IS BOOLEAN
        INITIAL =  FALSE                                           $
C       Indicates if the program is in 'PRES-APP-ALTIAS' subroutine
 ----------------------------------------------------------------$

 018459 DECLARE, GLOBAL, VARIABLE, 'G-INIT' IS BOOLEAN
        INITIAL =  FALSE                                           $
```

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```
C       Indicates if repair mode is used
 ----------------------------------------------------------------$

 018461 DECLARE, GLOBAL, VARIABLE, 'G-DISPLAY' IS BOOLEAN
        INITIAL =  TRUE                                          $
C       Indicates if message is displayed on CRT and DISK
 ----------------------------------------------------------------$

 018462 DECLARE, GLOBAL, VARIABLE, 'COEF-CS100-BLANC' IS DECIMAL
        INITIAL =  1                                             $
C       Applied to value return by photometric module
 ----------------------------------------------------------------$

 018463 DECLARE, GLOBAL, VARIABLE, 'COEF-CS100-BLEU' IS DECIMAL
        INITIAL =  1                                             $
C       Applied to value return by photometric module
 ----------------------------------------------------------------$

 018464 DECLARE, GLOBAL, VARIABLE, 'COEF-CS100-VERT' IS DECIMAL
        INITIAL =  1                                             $
C       Applied to value return by photometric module
 ----------------------------------------------------------------$

 018465 DECLARE, GLOBAL, VARIABLE, 'COEF-CS100-ROUGE' IS DECIMAL
        INITIAL =  1                                             $
C       Applied to value return by photometric module
 ----------------------------------------------------------------$

 018467 DECLARE, GLOBAL, VARIABLE, 'POWER-PHOTO-STATE' IS BOOLEAN
        INITIAL =  FALSE                                         $
C       Indicates if optical bench is powered on
 ----------------------------------------------------------------$

 018469 DECLARE, GLOBAL, VARIABLE, 'POWER-TABLE-STATE' IS BOOLEAN
        INITIAL =  FALSE                                         $
C       Indicates if one axis table is powered on
 ----------------------------------------------------------------$
C
 ****************************************************************
 ****************************************************************
 **                                                            **
 **                I  D  E  N  T  I  F  Y                      **
 **                                                            **
 ****************************************************************
 ****************************************************************

 ================================================================
 =                                                              =
 =            I D E N T I F Y     G L O B A L                   =
 =                                                              =
 =            E V E N T     I N D I C A T O R                   =
 =                                                              =
 ================================================================
                                                                $
```


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```
C-----------------------------------------------------------------$
C       GLOBAL SMART EVENT INDICATORS USED FOR ENABLE
        ESCAPE TO PROCEDURES                                     $

 022505 IDENTIFY, GLOBAL, EVENT INDICATOR
                 'END-SELECT-EVT' AS SET BY SMART-EVENT          $
C       END OF SELECTION HAS BEEN REACHED
 -----------------------------------------------------------------$

 022605 IDENTIFY, GLOBAL, EVENT INDICATOR
                 'RUN-EVT' AS SET BY SMART-EVENT                 $
C       RUN HAS BEEN ACTIVATED
 -----------------------------------------------------------------$

 022705 IDENTIFY, GLOBAL, EVENT INDICATOR
                 'VERIF-COMP-EVT' AS SET BY SMART-EVENT          $
C       A VERIFY OR COMPARE STATEMENT HAS BEEN ENCOUNTERED
 -----------------------------------------------------------------$

 022805 IDENTIFY, GLOBAL, EVENT INDICATOR
                 'TERM-EVT' AS SET BY SMART-EVENT                $
C       TERMINATE HAS BEEN ACTIVATED
 -----------------------------------------------------------------$

 022905 IDENTIFY, GLOBAL, EVENT INDICATOR
                 'ABORT-EVT' AS SET BY SMART-EVENT               $
C       ABORT HAS BEEN ACTIVATED
 -----------------------------------------------------------------$

 022999 IDENTIFY, GLOBAL, EVENT INDICATOR
                 'UUT-DOWN-EVT' AS SET BY SMART-EVENT            $
C       UUT POWER HAS BEEN TURNED DOWN
 -----------------------------------------------------------------$
C

 ******************************************************************
 ******************************************************************
 **                                                              **
 **                    D  E  F  I  N  E                          **
 **                                                              **
 ******************************************************************
 ******************************************************************

 ==================================================================
 =                                                                =
 =      D E F I N E   E X T E R N A L   P R O C E D U R E S       =
 =                                                                =
 =              S T A N D A R D   L I B R A R Y                   =
 =                                                                =
 ==================================================================

 ******************************************************************
 ***                                                            ***
 ***              C O M M U N I C A T I O N                     ***
```


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```
 ***                                                                ***
 ********************************************************************

 |-----------------------------------------------------------------|
 |   External procedure that notifies the test executive about the |
 |   location of the built-in and test executive communication     |
 |   variables. It also indicates to the test executive which      |
 |   procedures should be activated by the occurence of each event |
 |                                                                 |
 |-----------------------------------------------------------------|
 |                                                                  $
 050005 DEFINE, 'COMMUNICATION', EXTERNAL, PROCEDURE                $
        END, 'COMMUNICATION'                                        $
C|                                                                  |
 |-----------------------------------------------------------------|

 ********************************************************************
 ***                                                                ***
 ***                    R E A D - D A T E                           ***
 ***                                                                ***
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Reads the time and date using the predefined function date and |
 |  outputs them as ascii string of characters                     |
 |                                                                 |
 |  Param-out  : .time         resultant string of characters that |
 |                             represents the time                 |
 |                                                                 |
 |               .date         resultant string of characters that |
 |                             represents the date                 |
 |                                                                 |
 |-----------------------------------------------------------------|
 |                                                                  $
 050055 DEFINE, 'READ-DATE', EXTERNAL, PROCEDURE
                RESULT ('.DATE' IS STRING (8) OF CHAR,
                '.TIME' IS STRING (8) OF CHAR )                     $
        END, 'READ-DATE'                                            $
C|                                                                  |
 |-----------------------------------------------------------------|

 ********************************************************************
 ***                                                                ***
 ***                    C A L C - T I M E                           ***
 ***                                                                ***
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Converts time in ascii-string form to time in seconds (integer |
 |  form                                                           |
 |                                                                 |
 |  Param-in   : .time          contains the time in ascii form    |
 |                                                                 |
 |  Param-out  : .time-in-sec   the time in seconds after conversion|
```


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```
 |                          to integer form                    |
 |                                                             |
 |-------------------------------------------------------------|
 |                                                            $
 050105 DEFINE, 'CALC-TIME', EXTERNAL, PROCEDURE
              ('.TIME'       IS STRING (8) OF CHAR)
              RESULT('.TIME-IN-SEC' IS INTEGER )             $
       END, 'CALC-TIME'                                      $
C|                                                            |
 |-------------------------------------------------------------|

 ===============================================================
 =                                                             =
 =      D E F I N E   E X T E R N A L   P R O C E D U R E S    =
 =                                                             =
 =                U S E R 1    L I B R A R Y                   =
 =                                                             =
 ===============================================================

 ***************************************************************
 ***                                                         ***
 ***                 O P E R A T O R - I D                   ***
 ***                                                         ***
 ***************************************************************

 |-------------------------------------------------------------|
 |   External procedure that asks the operator to enter part and |
 |   serial numbers. Also asks for operator name and stops program |
 |   if part-number does not correspond to preprogrammed versions |
 |                                                             |
 |-------------------------------------------------------------|
 |                                                            $
 052505 DEFINE, 'OPERATOR-ID', EXTERNAL, PROCEDURE             $
       END, 'OPERATOR-ID'                                     $
C|                                                            |
 |-------------------------------------------------------------|

 ***************************************************************
 ***                                                         ***
 ***                   H E A D E R - U S E R                 ***
 ***                                                         ***
 ***************************************************************

 |-------------------------------------------------------------|
 |   External procedure that outputs the test program identification|
 |   information in specific user format                       |
 |                                                             |
 |-------------------------------------------------------------|
 |                                                            $
 052555 DEFINE, 'HEADER-USER', EXTERNAL, PROCEDURE             $
       END, 'HEADER-USER'                                     $
C|                                                            |
 |-------------------------------------------------------------|
```


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```
 ******************************************************************
 ***                                                            ***
 ***              P R I N T - E N T R Y P T                     ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |   External procedure that outputs to both the all-result and bad |
 |   result files on disk, a list of all the entry-points         |
 |                                                                |
 |----------------------------------------------------------------|
 |                                                                $
 052605 DEFINE, 'PRINT-ENTRYPT', EXTERNAL, PROCEDURE
               ('.NB-OF-EP'        IS INTEGER)                    $
        END, 'PRINT-ENTRYPT'                                      $
C|                                                                |
 |----------------------------------------------------------------|

 ******************************************************************
 ***                                                            ***
 ***                B E G I N - E P                             ***
 ***                                                            ***
 ******************************************************************
                                                                  $
C+----------------------------------------------------------------+
 |  Called from the MAIN, at the beginning of each new entry-point  |
 |  to display the title of this e.p. to the screen, all-result and |
 |  the bad-result files on disk.                                   |
 |                                                                  |
 |  Param-in    : .n-ep        is the rank of the entry point  which|
 |                             will be used to get the entry point  |
 |                             title to be displayed                |
 |                                                                  |
C+----------------------------------------------------------------+
 |                                                                  $
 052655 DEFINE, 'BEGIN-EP', EXTERNAL, PROCEDURE
               ('.N-EP'      IS  INTEGER)                         $
        END, 'BEGIN-EP'                                           $
C|                                                                |
 +----------------------------------------------------------------+

 ******************************************************************
 ***                                                            ***
 ***                    E N D - E P                             ***
 ***                                                            ***
 ******************************************************************
                                                                  $
C+----------------------------------------------------------------+
 |  Called from the MAIN, at the end of each entry point to display |
 |  the end e.p. header to the screen, all-result and bad result    |
 |  files on disk.                                                  |
 |                                                                  |
 |  Param-in    : .n-ep        is the rank of the entry point  which|
 |                             will be used to get the entry point  |
```


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```
 |                          string to be displayed                |
 |                                                                |
 |----------------------------------------------------------------|
 |                                                                $
 052705 DEFINE, 'END-EP', EXTERNAL, PROCEDURE
               ('.N-EP'      IS  INTEGER)                         $
        END, 'END-EP'                                             $
C|                                                                |
 +----------------------------------------------------------------+

 ******************************************************************
 ***                                                            ***
 ***                       W R I T E                            ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Outputs data to all attached devices (screen, all-results and |
 |  bad-result files on disk, printer etc..)                      |
 |                                                                |
 |  Param-in   : .periph        attached device to which data should|
 |                              be output                         |
 |               .message       information to be output (sentence |
 |----------------------------------------------------------------|
 |                                                                $
 052755 DEFINE, 'WRITE', EXTERNAL, PROCEDURE
               ('.PERIPH'                 IS 'PERIPH-DEVICES',
               '.MESSAGE'                 IS STRING (80) OF CHAR) $
        END, 'WRITE'                                              $
C|                                                                |
 +----------------------------------------------------------------+
C
 ******************************************************************
 ***                                                            ***
 ***                     G E T - T P S D I R                    ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Used to know the path of the file actually executed.          |
 |                                                                |
 |  Param-out   : .tpsdir-path   contains the path                |
 |----------------------------------------------------------------|
 |                                                                $
        DEFINE, 'GET-TPSDIR', EXTERNAL, PROCEDURE
               RESULT('.TPSDIR-PATH'  IS STRING (64) OF CHAR)     $
        END, 'GET-TPSDIR'                                         $
C|                                                                |
 +----------------------------------------------------------------+

 ==================================================================
 =                                                                =
 =      D E F I N E   E X T E R N A L   P R O C E D U R E S       =
 =                                                                =
```


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```
=                U S E R 2    L I B R A R Y                  =
=                                                            =
==============================================================

**************************************************************
***                                                        ***
***                  C O M P - U L L L                     ***
***                                                        ***
**************************************************************

|------------------------------------------------------------|
|  Compares a hexadecimal word between two limits of the same type |
|                                                            |
|  Calls proc : comp-xt-xe                   (user2 library) |
|               bit-fail-check               (user1 library) |
|                                                            |
|  Param-in   : .word         word to be compared            |
|               .ul           upper limit of the compare test |
|               .ll           lower limit of the compare test |
|               .typ-of-bit   type of the string of bit data |
|                             ('bnr', 'b2c')                 |
|               .out-type     type of output to be displayed on |
|                             peripheral devices (binary or hex) |
|                                                            |
|  Store-in   : bit-test-res  global store that indicates the |
|                             result of a compare test       |
|                                                            |
|               typ-eval-bit  indicates type of string of bit |
|                             evaluation. is set to 'ul' at end |
|                             of test                        |
|                                                            |
|               output-typ    indicates type of output   either |
|                             binary bits or hex digits      |
|                                                            |
|------------------------------------------------------------|
|                                                          $
 055005 DEFINE, 'COMP-ULLL', EXTERNAL, PROCEDURE
               ('.CUR-STAT-NO'       IS STRING (9)  OF CHAR,
               '.CUR-MODULE'         IS STRING (16) OF CHAR,
               '.WORD', '.UL', '.LL' IS STRING (32) OF BIT,
               '.TYP-OF-BIT'         IS DIG-CLASS,
               '.OUT-TYPE'           IS STRING (3)  OF CHAR )     $
       END, 'COMP-ULLL'                                          $
C|                                                             |
 |------------------------------------------------------------|

**************************************************************
***                                                        ***
***                   C O M P - 1 L M T                    ***
***                                                        ***
**************************************************************

|------------------------------------------------------------|
|   Compares a hexadecimal word to a nominal or limit hexadecimal |
```


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```
|   value of the same type                                          |
|                                                                   |
|  Calls proc : comp-xt-xe                (user2 library)           |
|               bit-fail-check            (user1 library)           |
|                                                                   |
|  Param-in   : .typ-of-bit   type of the string of bit data        |
|                             ('bnr', 'b2c')                        |
|                                                                   |
|               .word         word to be compared                   |
|                                                                   |
|               .typ-eval-bit type of string of bit compare test    |
|                                                                   |
|               .lmtbit       nominal or limit value to be used     |
|                                                                   |
|               .out-type     type of output to be displayed on     |
|                             peripheral devices (bin or hex)       |
|                                                                   |
|  Store-in   : typ-eval-bit  global store used by bit-fail-check   |
|                             and indicates type of string of bit   |
|                             evaluation. set to '.typ-eval-bit'    |
|                             at end of test                        |
|                                                                   |
|               output-typ    global store used by bit-fail-check   |
|                             indicates type of output - either     |
|                             binary bits or hex digits             |
|                                                                   |
|-------------------------------------------------------------------|
|                                                                  $
 055055 DEFINE, 'COMP-1LMT', EXTERNAL, PROCEDURE
               ('.CUR-STAT-NO'     IS STRING (9)  OF CHAR,
               '.CUR-MODULE'       IS STRING (16) OF CHAR,
               '.TYP-OF-BIT'       IS DIG-CLASS,
               '.WORD'             IS STRING (32) OF BIT,
               '.TYP-EVAL-BIT'     IS STRING (2)  OF CHAR,
               '.LMTBIT'           IS STRING (32) OF BIT,
               '.OUT-TYPE'         IS STRING (3)  OF CHAR )       $
       END, 'COMP-1LMT'                                            $
C|                                                                 |
 +-----------------------------------------------------------------+

 ===================================================================
 =                                                                 =
 =      D E F I N E   E X T E R N A L   P R O C E D U R E S        =
 =                                                                 =
 =              T E S T - E X E C U T I V E                        =
 =                                                                 =
 ===================================================================

 *******************************************************************
 ***                                                             ***
 ***                  F O R M A T - B I T                        ***
 ***                                                             ***
 *******************************************************************
```


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```
 |-----------------------------------------------------------------|
 |  Notifies the test executive of the new default output format for|
 |  all digital test result displays                                |
 |                                                                  |
 |-----------------------------------------------------------------|
 |                                                                 $
 055105 DEFINE, 'FORMAT-BIT', EXTERNAL, PROCEDURE
               ('.FORM-STRING' IS STRING (6) OF CHAR)             $
        END, 'FORMAT-BIT'                                         $
C|                                                                 |
 |-----------------------------------------------------------------|

 ******************************************************************
 ***                                                            ***
 ***                   F O R M A T - D E C                      ***
 ***                                                            ***
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Notifies the test executive of the new default output format for|
 |  all analog test result displays                                 |
 |                                                                  |
 |-----------------------------------------------------------------|
 |                                                                 $
 055155 DEFINE, 'FORMAT-DEC', EXTERNAL, PROCEDURE
               ('.FORM-STRING' IS STRING (6) OF CHAR)             $
        END, 'FORMAT-DEC'                                         $
C|                                                                 |
 |-----------------------------------------------------------------|

 ******************************************************************
 ***                                                            ***
 ***                         S T O P                            ***
 ***                                                            ***
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Permits the test program set to pass over control to the test   |
 |  executive which then adjusts "run", "cont", "term" (and other)  |
 |  authorisations depending on the fail or fatal conditions        |
 |                                                                  |
 |-----------------------------------------------------------------|
 |                                                                 $
 055205 DEFINE, 'STOP', EXTERNAL, PROCEDURE
               ('.FAIL', '.FATAL'  IS BOOLEAN )                   $
        END, 'STOP'                                               $
C|                                                                 |
 |-----------------------------------------------------------------|

 ******************************************************************
 ***                                                            ***
 ***                     T P S - Q U E S T I O N                ***
 ***                                                            ***
 ******************************************************************
```


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```
 |-----------------------------------------------------------------|
 |                                                                 |
 |-----------------------------------------------------------------|
 |                                                                 $
 055207 DEFINE, 'TPS-QUESTION', EXTERNAL, PROCEDURE
               ('.MESSAGE' IS STRING(75) OF CHAR)
               RESULT ('.YES' IS BOOLEAN)                          $
        END, 'TPS-QUESTION'                                        $
C|                                                                 |
 |-----------------------------------------------------------------|

 ******************************************************************
 ***                                                            ***
 ***                  T P S - W A R N I N G                     ***
 ***                                                            ***
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Displays a caution or special attention message to the operator |
 |  in the test executive input window at the bottom of the screen  |
 |                                                                 |
 |  Param-in    : .message     message to be displayed             |
 |                                                                 |
 |-----------------------------------------------------------------|
 |                                                                 $
 055255 DEFINE, 'TPS-WARNING', EXTERNAL, PROCEDURE
               ('.MESSAGE'                IS STRING (60) OF CHAR) $
        END, 'TPS-WARNING'                                         $
C|                                                                 |
 |-----------------------------------------------------------------|
 |                                                                 $
C ***************************************************************** $
C * PROCEDURE :                  'ENV'                           * $
C ***************************************************************** $
C                                                                  $
C   PURPOSE   : Used to execute a shell command.                   $
C                                                                  $
C ------------------------------------------------------------- $
C   Param-in  : command      shell command                         $
C                                                                  $
C  Param-out  : status       shell command execution status.       $
C                            status equal at 0 if correct execution $
C                                                                  $
C ------------------------------------------------------------- $
C - LOCATION  :  EXTERNAL NON-ATLAS MODULE : EXT1NA25            - $
C ------------------------------------------------------------- $
 055260 DEFINE, 'ENV', EXTERNAL,  PROCEDURE
               ('COMMAND' IS STRING ( 160 ) OF CHAR)
               RESULT ('STATUS' IS INTEGER)                        $
        END, 'ENV'                                                 $
C
 ==================================================================
 =                                                                =
```


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```
=      D E F I N E   E X T E R N A L   P R O C E D U R E S      =
=                                                               =
=              T E S T   E N T R Y   P O I N T S                =
=                                                               =
=================================================================

*****************************************************************
*****************************************************************
***                                                           ***
***                                                           ***
***                E N T R Y - P O I N T    1                 ***
***                                                           ***
***                                                           ***
***                O P E R A T O R   T E S T S                ***
***                --------------------------                 ***
***                                                           ***
***                                                           ***
*****************************************************************
*****************************************************************

 |-------------------------------------------------------------|
 |                                                              $
       DEFINE,  'EXEC-T1OPER01', EXTERNAL, PROCEDURE            $
       END, 'EXEC-T1OPER01'                                     $
C|                                                              |
 |-------------------------------------------------------------|

*****************************************************************
*****************************************************************
***                                                           ***
***                                                           ***
***                E N T R Y - P O I N T    2                 ***
***                                                           ***
***                                                           ***
***                O P T I Q U E   T E S T S                  ***
***                -------------------------                  ***
***                                                           ***
***                                                           ***
*****************************************************************
*****************************************************************

 |-------------------------------------------------------------|
 |                                                              $
       DEFINE,  'EXEC-T1OPTI02', EXTERNAL, PROCEDURE            $
       END, 'EXEC-T1OPTI02'                                     $
C|                                                              |
 |-------------------------------------------------------------|

*****************************************************************
*****************************************************************
***                                                           ***
***                                                           ***
***                E N T R Y - P O I N T    3                 ***
***                                                           ***
```


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```
 ***                                                          ***
 ***                A T T I T U D E   T E S T S               ***
 ***                --------------------------                ***
 ***                                                          ***
 ***                                                          ***
 ****************************************************************
 ****************************************************************

 |------------------------------------------------------------|
 |                                                            $
       DEFINE,  'EXEC-T1ATTI03', EXTERNAL, PROCEDURE            $
       END, 'EXEC-T1ATTI03'                                     $
C|                                                             |
 |------------------------------------------------------------|

 ****************************************************************
 ****************************************************************
 ***                                                          ***
 ***                                                          ***
 ***                E N T R Y - P O I N T    4                ***
 ***                                                          ***
 ***                                                          ***
 ***                A L T I T U D E   T E S T S               ***
 ***                --------------------------                ***
 ***                                                          ***
 ***                                                          ***
 ****************************************************************
 ****************************************************************

 |------------------------------------------------------------|
 |                                                            $
       DEFINE,  'EXEC-T1ALTI04', EXTERNAL, PROCEDURE            $
       END, 'EXEC-T1ALTI04'                                     $
C|                                                             |
 |------------------------------------------------------------|
C ****************************************************************
  ****************************************************************
  ***                                                          ***
  ***                                                          ***
  ***  R E P A I R   M O D E   E X T E R N A L   P R O C E D U R E S ***
  ***                                                          ***
  ***                                                          ***
  ***                                                          ***
  ****************************************************************
  ****************************************************************

  +------------------------------------------------------------+
  |                                                            |
  |   The following external defines are not used in this module.   |
  |   However it is necessary to list them for execution            |
  |   of the TPS with a software interface troubleshooting tool.    |
  |                                                            |
  +------------------------------------------------------------+
                                                               $
```


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```
DEFINE,  'OPER-T01A', EXTERNAL, PROCEDURE                $
END, 'OPER-T01A'                                         $

DEFINE,  'OPER-T02A', EXTERNAL, PROCEDURE                $
END, 'OPER-T02A'                                         $

DEFINE,  'OPER-T03A', EXTERNAL, PROCEDURE                $
END, 'OPER-T03A'                                         $

DEFINE,  'OPER-T04A', EXTERNAL, PROCEDURE                $
END, 'OPER-T04A'                                         $

DEFINE,  'OPER-T05A', EXTERNAL, PROCEDURE                $
END, 'OPER-T05A'                                         $

DEFINE,  'OPER-T06A', EXTERNAL, PROCEDURE                $
END, 'OPER-T06A'                                         $

DEFINE,  'OPER-T07A', EXTERNAL, PROCEDURE                $
END, 'OPER-T07A'                                         $

DEFINE,  'OPER-T08A', EXTERNAL, PROCEDURE                $
END, 'OPER-T08A'                                         $

DEFINE,  'OPER-T09A', EXTERNAL, PROCEDURE                $
END, 'OPER-T09A'                                         $

DEFINE,  'OPER-T10A', EXTERNAL, PROCEDURE                $
END, 'OPER-T10A'                                         $

DEFINE,  'OPER-T11A', EXTERNAL, PROCEDURE                $
END, 'OPER-T11A'                                         $

DEFINE,  'OPER-T12A', EXTERNAL, PROCEDURE                $
END, 'OPER-T12A'                                         $

DEFINE,  'OPER-T13A', EXTERNAL, PROCEDURE                $
END, 'OPER-T13A'                                         $

DEFINE,  'OPER-T14A', EXTERNAL, PROCEDURE                $
END, 'OPER-T14A'                                         $

DEFINE,  'OPER-T15A', EXTERNAL, PROCEDURE                $
END, 'OPER-T15A'                                         $

DEFINE,  'INIT-T1OPER01', EXTERNAL, PROCEDURE            $
END, 'INIT-T1OPER01'                                     $

DEFINE,  'END-T1OPER01', EXTERNAL, PROCEDURE             $
END, 'END-T1OPER01'                                      $

DEFINE,  'OPTI-T01A', EXTERNAL, PROCEDURE                $
END, 'OPTI-T01A'                                         $
```


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```
DEFINE,  'OPTI-T02A', EXTERNAL, PROCEDURE                    $
END, 'OPTI-T02A'                                             $

DEFINE,  'OPTI-T03A', EXTERNAL, PROCEDURE                    $
END, 'OPTI-T03A'                                             $

DEFINE,  'OPTI-T04A', EXTERNAL, PROCEDURE                    $
END, 'OPTI-T04A'                                             $

DEFINE,  'OPTI-T05A', EXTERNAL, PROCEDURE                    $
END, 'OPTI-T05A'                                             $

DEFINE,  'OPTI-T06A', EXTERNAL, PROCEDURE                    $
END, 'OPTI-T06A'                                             $

DEFINE,  'OPTI-T07A', EXTERNAL, PROCEDURE                    $
END, 'OPTI-T07A'                                             $

DEFINE,  'OPTI-T08A', EXTERNAL, PROCEDURE                    $
END, 'OPTI-T08A'                                             $

DEFINE,  'INIT-T1OPTI02', EXTERNAL, PROCEDURE                $
END, 'INIT-T1OPTI02'                                         $

DEFINE,  'END-T1OPTI02', EXTERNAL, PROCEDURE                 $
END, 'END-T1OPTI02'                                          $

DEFINE,  'ATTI-LAB351', EXTERNAL, PROCEDURE                  $
END, 'ATTI-LAB351'                                           $

DEFINE,  'ATTI-10SEC', EXTERNAL, PROCEDURE                   $
END, 'ATTI-10SEC'                                            $

DEFINE,  'ATTI-1MN-INIT', EXTERNAL, PROCEDURE                $
END, 'ATTI-1MN-INIT'                                         $

DEFINE,  'ATTI-1MN', EXTERNAL, PROCEDURE
        (
        'STRING-CMM' IS STRING (12) OF CHAR,
        'PITCH-UL' IS DECIMAL,
        'PITCH-LL' IS DECIMAL,
        'ROLL-UL' IS DECIMAL,
        'ROLL-LL' IS DECIMAL,
        'EDITION-NOISE' IS INTEGER )
                                                             $
END, 'ATTI-1MN'                                              $

DEFINE,  'ATTI-DELAY', EXTERNAL, PROCEDURE
        ('TIME' IS DECIMAL )                                 $

END, 'ATTI-DELAY'                                            $

DEFINE,  'ATTI-REMOVE', EXTERNAL, PROCEDURE                  $
```

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```
END, 'ATTI-REMOVE'                                          $

DEFINE,  'ATTI-REM-TABLE', EXTERNAL, PROCEDURE              $
END, 'ATTI-REM-TABLE'                                       $

DEFINE,  'ATTI-DISCONNECT', EXTERNAL, PROCEDURE             $
END, 'ATTI-DISCONNECT'                                      $

DEFINE,  'ATTI-ACTION1', EXTERNAL, PROCEDURE                $
END, 'ATTI-ACTION1'                                         $

DEFINE,  'ATTI-ACTION2', EXTERNAL, PROCEDURE                $
END, 'ATTI-ACTION2'                                         $

DEFINE,  'ATTI-ACTION3', EXTERNAL, PROCEDURE                $
END, 'ATTI-ACTION3'                                         $

DEFINE,  'ATTI-ACTION4', EXTERNAL, PROCEDURE                $
END, 'ATTI-ACTION4'                                         $

DEFINE,  'ATTI-ROTATE', EXTERNAL, PROCEDURE                 $
END, 'ATTI-ROTATE'                                          $

DEFINE,  'ATTI-ACTION5', EXTERNAL, PROCEDURE                $
END, 'ATTI-ACTION5'                                         $

DEFINE,  'ATTI-ACTION6', EXTERNAL, PROCEDURE                $
END, 'ATTI-ACTION6'                                         $

DEFINE,  'ATTI-ACTION7', EXTERNAL, PROCEDURE                $
END, 'ATTI-ACTION7'                                         $

DEFINE,  'ATTI-ACTION8', EXTERNAL, PROCEDURE                $
END, 'ATTI-ACTION8'                                         $

DEFINE,  'ATTI-ACTION9', EXTERNAL, PROCEDURE                $
END, 'ATTI-ACTION9'                                         $

DEFINE,  'ATTI-ACTION10', EXTERNAL, PROCEDURE               $
END, 'ATTI-ACTION10'                                        $

DEFINE,  'ATTI-ACTION11', EXTERNAL, PROCEDURE               $
END, 'ATTI-ACTION11'                                        $

DEFINE,  'ATTI-ACTION12', EXTERNAL, PROCEDURE               $
END, 'ATTI-ACTION12'                                        $

DEFINE,  'ATTI-ACTION13', EXTERNAL, PROCEDURE               $
END, 'ATTI-ACTION13'                                        $

DEFINE,  'ATTI-ACTION14', EXTERNAL, PROCEDURE               $
END, 'ATTI-ACTION14'                                        $

DEFINE,  'ATTI-ACTION15', EXTERNAL, PROCEDURE               $
```


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```
END, 'ATTI-ACTION15'                                    $

DEFINE,  'ATTI-ACTION16', EXTERNAL, PROCEDURE           $
END, 'ATTI-ACTION16'                                    $

DEFINE,  'ATTI-INIT-CLK3', EXTERNAL, PROCEDURE          $
END, 'ATTI-INIT-CLK3'                                   $

DEFINE,  'ATTI-WAIT-CLK3', EXTERNAL, PROCEDURE
        ('TIME' IS DECIMAL )                            $
END, 'ATTI-WAIT-CLK3'                                   $

DEFINE,  'ATTI-T01A', EXTERNAL, PROCEDURE               $
END, 'ATTI-T01A'                                        $

DEFINE,  'ATTI-T02A', EXTERNAL, PROCEDURE               $
END, 'ATTI-T02A'                                        $

DEFINE,  'ATTI-T03A', EXTERNAL, PROCEDURE               $
END, 'ATTI-T03A'                                        $

DEFINE,  'INIT-T1ATTI03', EXTERNAL, PROCEDURE           $
END, 'INIT-T1ATTI03'                                    $

DEFINE,  'END-T1ATTI03', EXTERNAL, PROCEDURE            $
END, 'END-T1ATTI03'                                     $

DEFINE,  'ALTI-LEAK', EXTERNAL, PROCEDURE               $
END, 'ALTI-LEAK'                                        $

DEFINE,  'ALTI-DELAY', EXTERNAL, PROCEDURE
        ('TIME' IS DECIMAL )                            $
END, 'ALTI-DELAY'                                       $

DEFINE,  'ALTI-STAB-INIT', EXTERNAL, PROCEDURE          $
END, 'ALTI-STAB-INIT'                                   $

DEFINE,  'ALTI-ACTION1', EXTERNAL, PROCEDURE            $
END, 'ALTI-ACTION1'                                     $

DEFINE,  'ALTI-ALTI-INIT', EXTERNAL, PROCEDURE
        ('ALTITUDE' IS DECIMAL)                         $

END, 'ALTI-ALTI-INIT'                                   $

DEFINE,  'ALTI-ALTI-END', EXTERNAL, PROCEDURE
        ('TOL-HI' IS DECIMAL,
         'TOL-LO' IS DECIMAL)                           $
END, 'ALTI-ALTI-END'                                    $

DEFINE,  'ALTI-ANEMO-INIT', EXTERNAL, PROCEDURE
        ('SPEED' IS DECIMAL)                            $
END, 'ALTI-ANEMO-INIT'                                  $
```


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```
DEFINE,  'ALTI-ANEMO-END', EXTERNAL, PROCEDURE
        ('TOL-HI' IS DECIMAL,
         'TOL-LO' IS DECIMAL)                          $
END, 'ALTI-ANEMO-END'                                  $

DEFINE,  'ALTI-ACTION2', EXTERNAL, PROCEDURE           $
END, 'ALTI-ACTION2'                                    $

DEFINE,  'ALTI-ACTION3', EXTERNAL, PROCEDURE           $
END, 'ALTI-ACTION3'                                    $

DEFINE,  'ALTI-WAIT-1H30', EXTERNAL, PROCEDURE         $
END, 'ALTI-WAIT-1H30'                                  $

DEFINE,  'ALTI-STAB-END', EXTERNAL, PROCEDURE          $
END, 'ALTI-STAB-END'                                   $

DEFINE,  'ALTI-FIN-VERIF', EXTERNAL, PROCEDURE         $
END, 'ALTI-FIN-VERIF'                                  $

DEFINE,  'ALTI-VERIF-1H30', EXTERNAL, PROCEDURE        $
END, 'ALTI-VERIF-1H30'                                 $

DEFINE,  'ALTI-INIT-CLK2', EXTERNAL, PROCEDURE         $
END, 'ALTI-INIT-CLK2'                                  $

DEFINE,  'ALTI-WAIT-CLK2', EXTERNAL, PROCEDURE
        ('TIME' IS DECIMAL )                           $
END, 'ALTI-WAIT-CLK2'                                  $

DEFINE,  'ALTI-T01A', EXTERNAL, PROCEDURE              $
END, 'ALTI-T01A'                                       $

DEFINE,  'ALTI-T02A', EXTERNAL, PROCEDURE              $
END, 'ALTI-T02A'                                       $

DEFINE,  'ALTI-T03A', EXTERNAL, PROCEDURE              $
END, 'ALTI-T03A'                                       $

DEFINE,  'ALTI-T04A', EXTERNAL, PROCEDURE              $
END, 'ALTI-T04A'                                       $

DEFINE,  'ALTI-T05A', EXTERNAL, PROCEDURE              $
END, 'ALTI-T05A'                                       $

DEFINE,  'ALTI-T06A', EXTERNAL, PROCEDURE              $
END, 'ALTI-T06A'                                       $

DEFINE,  'ALTI-T07A', EXTERNAL, PROCEDURE              $
END, 'ALTI-T07A'                                       $

DEFINE,  'INIT-T1ALTI04', EXTERNAL, PROCEDURE          $
END, 'INIT-T1ALTI04'                                   $
```


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```
        DEFINE,  'END-T1ALTI04', EXTERNAL, PROCEDURE                $
        END, 'END-T1ALTI04'                                         $

        DEFINE,  'PRES-MEASURE', EXTERNAL, PROCEDURE
               ('GENE' IS 'T-PRES-MNEMO')
                RESULT ('RESULT' IS DECIMAL)                        $
        END, 'PRES-MEASURE'                                         $
C
 ==================================================================
 =                                                                =
 =              D E F I N E   P R O C E D U R E S                 =
 =                                                                =
 ==================================================================

 ******************************************************************
 ***                                                            ***
 ***             I D E N T I F Y  - P R O D U C T               ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |   Initialization of strings to be displayed in the header-user,  |
 |   and reference strings of program and cable .                  |
 |   The following references : Test program reference, release and |
 |   TUA reference are get from product.info file if the variable   |
 |   PRODUCT-INFO=YES in .MD file or initialized in this procedure  |
 |   if the variable PRODUCT-INFO=NO in .MD file                   |
 |----------------------------------------------------------------|
 |                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***              I D E N T I F Y - P R O D U C T               ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                 $
 076005 DEFINE, 'IDENTIFY-PRODUCT', PROCEDURE                    $

        DECLARE, VARIABLE, 'INDEX' IS INTEGER                    $
        CALCULATE, 'PROGRAM-TITLE-1' =
                   C'INTEGRATED STANDBY FLIGHT DISPLAY'          $
        CALCULATE, 'PROGRAM-TITLE-2' =
                   C'( I S F D )'                                $
C-----------------------------------------------------------------$
C       INITIALIZATION OF THE TYPE OF THE PROGRAM
        (UUT, UUTEXT1, UUTEXT2, UUTEXT3, UUTEXT4)                $
```


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```
        CALCULATE, 'PROG-TYPE' = 'UUT'                          $
C-------------------------------------------------------------$
C       INITIALIZATION OF REFERENCE STRINGS                     $
        CALCULATE, 'REF-STRINGS' ('VENDOR') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('MANUFACTURER') =
                   C'THALES AVIONICS'                           $
C-------------------------------------------------------------$
C       INITIALIZATION OF PROGRAM REFERENCE STRINGS             $

        CALCULATE, 'REF-STRINGS' ('TEST-PROG-REF') =
                   C'G3304AAA'                                  $
        CALCULATE, 'REF-STRINGS' ('RELEASE') =
                   C'04'                                        $
C-------------------------------------------------------------$
C       INITIALIZATION OF CABLE REFERENCE STRINGS               $

        CALCULATE, 'REF-STRINGS' ('SPECIF-CABLE') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('TEST-OBRM-1') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('TEST-OBRM-2') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('TEST-OBRM-3') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('TEST-OBRM-4') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('TEST-OBRM-5') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('TEST-OBRM-6') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('TRAY') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('SPECIF-TOOL-1') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('SPECIF-TOOL-2') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('SPECIF-TOOL-3') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('SPECIF-TOOL-4') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('SPECIF-TOOL-5') =
                   C''                                          $
        CALCULATE, 'REF-STRINGS' ('SPECIF-TOOL-6') =
                   C''                                          $
C-------------------------------------------------------------$
C       INITIALIZATION OF MISCELLANEOUS INFORMATION             $

        IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN               $
          CALCULATE, 'REF-STRINGS-1'(1) =
          C'*      CABLES                 :  ' &
          C'L6MZQZ1Z0H50103                            *'      $
          CALCULATE, 'REF-STRINGS-1'(2) =
          C'*                             :  ' &
```


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```
          C'L6MZQZ1Z0H50201                              *'          $
          CALCULATE, 'REF-STRINGS-1'(3) =
          C'*                              :  ' &
          C'L6MZQZ1Z0H50301                              *'          $
          CALCULATE, 'REF-STRINGS-1'(4) =
          C'*      LIGHTING TEST EQUIPMENT :  ' &
          C'D16623BA or equivalent                       *'          $
          CALCULATE, 'REF-STRINGS-1'(5) =
          C'*      PRESSURE GENERATOR      :  ' &
          C'D16598BA or equivalent                       *'          $
          CALCULATE, 'REF-STRINGS-1'(6) =
          C'*      PRESSURE SWITCHING RACK :  ' &
          C'D16699AA or equivalent (optional)            *'          $
          CALCULATE, 'REF-STRINGS-1'(7) =
          C'*      PRESSURE PIPES          :  ' &
          C'F1401289 or equivalent                       *'          $
          CALCULATE, 'REF-STRINGS-1'(8) =
          C'*                              :  ' &
          C'F1401290 or equivalent                       *'          $
          CALCULATE, 'REF-STRINGS-1'(9) =
          C'*      THREE AXIS TABLE        :  ' &
          C'WUILFERT TRI20-PV  or equivalent             *'          $
        ELSE IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                   $
          CALCULATE, 'REF-STRINGS-1'(1) =
          C'*      CABLE                   :  ' &
          C'L6MZQZ2Z0H50102 or L6MZQZ1Z0H50103           *'          $
          CALCULATE, 'REF-STRINGS-1'(2) =
          C'*      PRESSURE PIPES          :  ' &
          C'3955-00000-1005-00                           *'          $
          CALCULATE, 'REF-STRINGS-1'(3) =
          C'*                              :  ' &
          C'3955-00000-1006-00                           *'          $
          CALCULATE, 'REF-STRINGS-1'(4) = C''                          $
          CALCULATE, 'REF-STRINGS-1'(5) = C''                          $
          CALCULATE, 'REF-STRINGS-1'(6) = C''                          $
          CALCULATE, 'REF-STRINGS-1'(7) = C''                          $
          CALCULATE, 'REF-STRINGS-1'(8) = C''                          $
          IF, ('G-TEST' EQ C'TABLE-AUTO'), THEN                      $
            CALCULATE, 'REF-STRINGS-1'(7) =
            C'*      3 AXIS TABLE            :  ' &
            C'WUILFERT TRI20-PV or equivalent              *'        $
            CALCULATE, 'REF-STRINGS-1'(8) = C''                      $
          END, IF                                                    $
          CALCULATE, 'REF-STRINGS-1'(9) = C''                        $
        END, IF                                                      $
C-----------------------------------------------------------------$
C       INITIALIZATION OF TABL-UUT-PN, TABL-UUT-SPEC AND             $
C       TABL-UUT-ISSUE REFERENCE STRINGS                             $

        END, IF                                                      $
C-----------------------------------------------------------------$
C       CALCULATE THE NUMBER OF UUT PART-NUMBERS                     $
C-----------------------------------------------------------------$
        CALCULATE, 'INDEX' = 1                                       $
```


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```
        CALCULATE, 'NUMB-UUT' = 0                                $

        WHILE, ('INDEX' LE 20), THEN                             $
          IF, 'TABL-UUT-PN'('INDEX') NE C'', THEN                $
            CALCULATE, 'NUMB-UUT' = 'NUMB-UUT' + 1               $
          END, IF                                                $
          CALCULATE, 'INDEX' = 'INDEX' + 1                       $
        END, WHILE                                               $
C-----------------------------------------------------------------$
C       CALCULATE THE NUMBER OF UUT SPECIFICATIONS               $
C-----------------------------------------------------------------$
        CALCULATE, 'INDEX' = 1                                   $
        CALCULATE, 'NUMB-SPEC' = 0                               $

        WHILE, ('INDEX' LE 20), THEN                             $
          IF, 'TABL-UUT-SPEC'('INDEX') NE C'', THEN              $
              CALCULATE, 'NUMB-SPEC' = 'NUMB-SPEC' + 1           $
          END, IF                                                $
          CALCULATE, 'INDEX' = 'INDEX' + 1                       $
        END, WHILE                                               $

 076099 END, 'IDENTIFY-PRODUCT'                                  $
C|                                                               |
 |-----------------------------------------------------------------|
                                                                 $
C ***************************************************************$
C ***************************************************************$
C ***                                                         *** $
C ***    PROCEDURE  :            RECUP-OS                     *** $
C ***                                                         *** $
C ***************************************************************$
C ***************************************************************$
C                                                                $
C   PURPOSE  :  Gets operating system identification if RECUP-INFO  $
C               is not called by HEADER-USER                     $
C               field : PRODUCT-INFO = NO in .MD file            $
C                                                                $
C ---------------------------------------------------------------$
C   Param-in  : - none -                                         $
C                                                                $
C   Param-out : - none -                                         $
C                                                                $
C ---------------------------------------------------------------$
C   Procedure :  write                   (user1 standard library)  $
C                string-format           (user1 standard library)  $
C                                                                $

 076105 DEFINE, 'RECUP-OS', PROCEDURE                            $
C ---------------------------------------------------------------$
C       Declaration of local variables                         - $
C ---------------------------------------------------------------$

 076107  DECLARE, VARIABLE,
               'FILE'                 IS FILE OF TEXT            $
```


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```
        DECLARE, VARIABLE,
                 '.STATUS'             IS INTEGER                 $

        DECLARE, VARIABLE,
                 'COMMAND'             IS STRING ( 160 ) OF CHAR   $

 076110 PERFORM, 'GET-TPSDIR' RESULT ('TPSDIR-PATH')               $
C-----------------------------------------------------------------$
C       Get the Operating system name                              $
C-----------------------------------------------------------------$
        CALCULATE, 'COMMAND' =
                   C'cd ' & 'TPSDIR-PATH' &
                   C';uname > OS_NAME.TMP'                         $
        PERFORM, 'ENV'('COMMAND') RESULT('.STATUS')                $
        ENABLE, INPUT FROM 'TPSDIR-PATH' & C'OS_NAME.TMP',
                                                   VIA 'FILE'      $
        INPUT, TEXT FROM 'FILE', INTO 'G-OS-TYPE'                  $
        DISABLE, 'FILE'                                            $
        IF, 'G-OS-TYPE' EQ C'Windows_NT', THEN                     $
          CALCULATE, 'COMMAND' =
            C'rm ' & 'TPSDIR-PATH' & C'OS_NAME.TMP'                $
        ELSE                                                       $
          CALCULATE, 'COMMAND' =
            C'/bin/rm ' & 'TPSDIR-PATH' & C'OS-NAME.TMP'           $
        END, IF                                                    $
        PERFORM, 'ENV'('COMMAND') RESULT('.STATUS')                $

 076199 END, 'RECUP-OS'                                            $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ==================================================================
 =                                                                =
 =      D E F I N E    G L O B A L    P R O C E D U R E S         =
 =                                                                =
 ==================================================================

 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******                                                      ******
 ******       S T A R T   O F   T H E   M A I N              ******
 ******                                                      ******
 ******      P R O C E D U R A L   S T R U C T U R E         ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                   $
 099005 COMMENCE, MAIN PROCEDURE                                   $
```


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```
C-----------------------------------------------------------------$
C       INITIALIZE PERIPHERAL DEVICES TO BE REFERENCED BY THE TPS   $

        ENABLE, OUTPUT TO NEW C'RESULT_FILE', VIA 'DISK'            $
        ENABLE, OUTPUT TO NEW C'ERROR_FILE',  VIA 'NDISK'           $
        ENABLE, OUTPUT TO NEW C'SCREEN',      VIA 'CRT'             $
        ENABLE, INPUT FROM    C'KEYBOARD',    VIA 'KB'              $
C-----------------------------------------------------------------$
C       DISPLAY A PROGRAM INITIALIZATION MESSAGE                    $

        OUTPUT, TEXT,   FROM 'EMPTY-LINE'                           $
        OUTPUT, TEXT,   FROM 'EMPTY-LINE'                           $
        OUTPUT, TEXT,   FROM
                C'---------------------------------------',
                C'---------------------------------------'          $
        OUTPUT, TEXT,   FROM
                C'          INITIALIZING THE TEST PROGRAM.',
                C' PLEASE BE PATIENT ...'                           $
        OUTPUT, TEXT,   FROM
                C'---------------------------------------',
                C'---------------------------------------'          $
        OUTPUT, TEXT,   FROM 'EMPTY-LINE'                           $
C-----------------------------------------------------------------$
C       INITIALIZE THE STOP-WATCH AND RECORD THE TEST START TIME    $

        PERFORM, 'READ-DATE' RESULT ('DATE', 'TIME')                $
        PERFORM, 'CALC-TIME'('TIME') RESULT ('START-TIME')          $
C-----------------------------------------------------------------$
C       INITIALIZE GLOBAL TEST EXECUTIVE-TPS BUILT-IN VARIABLES     $

        PERFORM, 'COMMUNICATION'                                    $
C-----------------------------------------------------------------$
C       ACQUIRE 'TYPE-CUSTOMER' DATA IN 3304LK00.MD FILE            $

        PERFORM, 'GET-TPSDIR' RESULT ('TPSDIR-PATH')                $
        ENABLE, INPUT FROM 'TPSDIR-PATH' & C'INFOTPSD.WW', VIA 'FD' $
        INPUT, FROM 'FD' 1, INTO 'TPSDIR'                           $
        DISABLE, 'FD'                                               $

        ENABLE, INPUT FROM 'TPSDIR'.'PATHNAME' & C'/3304LK00.MD',
                VIA 'FILE-MD'                                       $

 099067 WHILE, NOT (EOF ('FILE-MD')) ,THEN                          $
          INPUT, TEXT FROM 'FILE-MD', INTO 'TMP-DATA'               $
 099069   IF, LOCN(C'=','TMP-DATA') NE 0, THEN                      $
            CALCULATE, 'TMP' =
            COPY('TMP-DATA', 1, (LOCN(C'=','TMP-DATA')-1))          $
          ELSE IF,'TMP-DATA' EQ C'END-OF-FILE', THEN                $
            LEAVE,WHILE                                             $
          ELSE                                                      $
            CALCULATE, 'TMP' = C''                                  $
          END, IF                                                   $

 099071   IF, 'TMP' EQ C'TYPE-CUSTOMER', THEN                       $
```


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```
          CALCULATE, 'G-CUSTOMER' =
          COPY('TMP-DATA', (LOCN(C'=','TMP-DATA')+1), 80)        $
        ELSE IF, 'TMP' EQ C'TYPE-TEST', THEN                     $
          CALCULATE, 'G-TEST' =
          COPY('TMP-DATA', (LOCN(C'=','TMP-DATA')+1), 80)        $
        END, IF                                                  $
      END, WHILE                                                 $

      DISABLE, 'FILE-MD'                                         $

      ENABLE, INPUT FROM 'TPSDIR'.'PATHNAME' & C'/3304TOLE.FX',
              VIA 'FILE-TOL'                                     $

      CALCULATE, 'CNT' = 1                                       $

099073 WHILE, NOT (EOF ('FILE-TOL')) ,THEN                       $

        INPUT, TEXT FROM 'FILE-TOL', INTO 'TMP-DATA'             $

099075  IF, LOCN(C'#','TMP-DATA') EQ 0, THEN                     $

          IF, NOT (EOF ('FILE-TOL')), THEN                       $
            INPUT, TEXT FROM 'FILE-TOL',
                   INTO 'G-TOLE-TABL'('CNT', 'UL')               $

            INPUT, TEXT FROM 'FILE-TOL',
                   INTO 'G-TOLE-TABL'('CNT', 'LL')               $

            CALCULATE, 'CNT' = 'CNT' + 1                         $
          END, IF                                                $

        END, IF                                                  $

      END, WHILE                                                 $

099077 DISABLE, 'FILE-TOL'                                       $
C-----------------------------------------------------------------$
C     ACQUIRE OF COEFFICIENT CS100 VALUES IN :                   $
C           \user\extend\COEF_LUM_CS100.FX FILE                  $

099078 IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
          ('G-TEST' EQ C'AUTOMATIC'), THEN                       $
        ENABLE, INPUT FROM C'/user/extend/COEF_LUM_CS100.FX',
                VIA 'FILE-CS100'                                 $

099080  WHILE, NOT (EOF ('FILE-CS100')) ,THEN                    $

          INPUT, TEXT FROM 'FILE-CS100', INTO 'TMP-DATA'         $

099081    IF, LOCN(C'#','TMP-DATA') EQ 0, THEN                   $

            IF, NOT (EOF ('FILE-CS100')), THEN                   $
              INPUT, TEXT FROM 'FILE-CS100',
                     INTO 'COEF-CS100-BLANC'                     $
```


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```
                INPUT, TEXT FROM 'FILE-CS100',
                       INTO 'COEF-CS100-BLEU'                    $

                INPUT, TEXT FROM 'FILE-CS100',
                       INTO 'COEF-CS100-VERT'                    $

                INPUT, TEXT FROM 'FILE-CS100',
                       INTO 'COEF-CS100-ROUGE'                   $

              END, IF                                            $

            END, IF                                              $

          END, WHILE                                             $

 099082   DISABLE, 'FILE-CS100'                                  $

        END, IF                                                  $
C-----------------------------------------------------------------$
C       ACQUIRE X Y POSITIONS OF INSTRUMENTS FOR LUM MEASURES :  $
C              \user\extend\TRANS_XY_BOEING.FX FILE              $

 099085 IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
            ('G-TEST' EQ C'AUTOMATIC'), THEN                     $
          ENABLE, INPUT FROM C'/user/extend/TRANS_XY_BOEING.FX',
                  VIA 'FILE-XY'                                  $

 099086   WHILE, NOT (EOF ('FILE-XY')) ,THEN                     $

            INPUT, TEXT FROM 'FILE-XY', INTO 'TMP-DATA'          $

 099087     IF, LOCN(C'#','TMP-DATA') EQ 0, THEN                 $

              IF, NOT (EOF ('FILE-XY')), THEN                    $

                INPUT, TEXT FROM 'FILE-XY',
                       INTO 'G-POSITION'('UUT1').'TRANSL-0X'     $
                INPUT, TEXT FROM 'FILE-XY',
                       INTO 'G-POSITION'('UUT1').'TRANSL-0Y'     $

                INPUT, TEXT FROM 'FILE-XY',
                       INTO 'G-POSITION'('UUT2').'TRANSL-0X'     $
                INPUT, TEXT FROM 'FILE-XY',
                       INTO 'G-POSITION'('UUT2').'TRANSL-0Y'     $

                INPUT, TEXT FROM 'FILE-XY',
                       INTO 'G-POSITION'('UUT3').'TRANSL-0X'     $
                INPUT, TEXT FROM 'FILE-XY',
                       INTO 'G-POSITION'('UUT3').'TRANSL-0Y'     $

                INPUT, TEXT FROM 'FILE-XY',
                       INTO 'G-POSITION'('UUT4').'TRANSL-0X'     $
                INPUT, TEXT FROM 'FILE-XY',
```


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```
                    INTO 'G-POSITION'('UUT4').'TRANSL-0Y'        $

              END, IF                                            $

            END, IF                                              $

          END, WHILE                                             $

 099090   DISABLE, 'FILE-XY'                                     $

        END, IF                                                  $
C-----------------------------------------------------------------$

        PERFORM, 'PRES-MEASURE' ('PRES-PS')
                                RESULT ('G-PRES-ATMO')           $
C-----------------------------------------------------------------$
C       INITIALIZATION OF STRINGS TO BE DISPLAYED IN THE HEADER-USER
        OF PROGRAM AND CABLE REFERENCE                           $

        PERFORM, 'IDENTIFY-PRODUCT'                              $
C ---------------------------------------------------------------- $
C -    Output program header to disk files and to screen         - $
C ---------------------------------------------------------------- $

 099140 PERFORM, 'RECUP-OS'                                      $

 099145 PERFORM, 'HEADER-USER'                                   $

 099146 IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $
C       OUTPUT PROGRAM HEADER TO DISK FILES AND TO SCREEN        $
        PERFORM, 'WRITE' ('ALL', C'')                            $

        PERFORM, 'WRITE' ('ALL', C'                             '&
                                          C'SPECIFIC TOOLS :')$
        PERFORM, 'WRITE' ('ALL', C'                             '&
                                          C'================')$
        PERFORM, 'WRITE' ('ALL', C'')                            $
        PERFORM, 'WRITE' ('ALL',C' *************************'&
            C'*****************************************************')$
        PERFORM, 'WRITE' ('ALL',C' *          ITEM          '&
            C'*QUANTITY*    REFERENCE    * RECOMMENDED SUPPLIER  *')$
        PERFORM, 'WRITE' ('ALL',C' *************************'&
            C'*****************************************************')$
        PERFORM, 'WRITE' ('ALL',C' *                       '&
            C'*        *              *                     *')$
        PERFORM, 'WRITE' ('ALL',C' * 3 AXIS TABLE          '&
            C'*   1    * B-1586.02-A    * WUILFERT             *')$
        PERFORM, 'WRITE' ('ALL',C' * 3 AXIS TABLE LEG      '&
            C'*   1    * B-1205.02-A    * WUILFERT             *')$
        PERFORM, 'WRITE' ('ALL',C' * LIGHTING TEST EQUIPMENT'&
            C'*   1    * B-1017.02-A    * WUILFERT             *')$
        PERFORM, 'WRITE' ('ALL',C' * LUMINANCE METER       '&
            C'*   1    * LS-100/LS-110  * MINOLTA OR           *')$
        PERFORM, 'WRITE' ('ALL',C' * LUMINANCE METER       '&
```


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```
            C'*   1    * CS-100         * MINOLTA                *')$
        PERFORM, 'WRITE' ('ALL',C' * LENS                   '&
            C'*   1    * 135           * MINOLTA                *')$
        PERFORM, 'WRITE' ('ALL',C' *                        '&
            C'*        *               *                        *')$
        PERFORM, 'WRITE' ('ALL',C' ************************'&
            C'*****************************************************')$
        PERFORM, 'WRITE' ('ALL', C'')                                $
 099148 END, IF                                                      $
C-------------------------------------------------------------------$
C       ACQUIRE OPERATOR IDENTIFICATION AND OTHER
        NECESSARY UUT RELATED DATA .                                 $

        IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                        $
          CALCULATE, 'S-N' = C'NOT USED'                             $
        END, IF                                                      $

        PERFORM, 'OPERATOR-ID'                                       $
C-------------------------------------------------------------------$

        PERFORM, 'WRITE'('ALL',
                C'E N V I R O N M E N T   S P E C I F I C   ' &
                C'V A R I A B L E S   ( .M D   F I L E )')           $
        PERFORM, 'WRITE'('ALL', C' ')                                $
        PERFORM, 'WRITE'('ALL', C'                 TYPE-CUSTOMER :'
            & C'  '         &  'G-CUSTOMER' )                        $
        PERFORM, 'WRITE'('ALL', C'                 TYPE-TEST     :'
            & C'  '         &  'G-TEST' )                            $
        PERFORM, 'WRITE'('ALL', C' ')                                $
        PERFORM, 'WRITE'('ALL',
                       C'*************************************' &
                       C'*************************************')$
        PERFORM, 'WRITE'('ALL', C' ')                                $
        PERFORM, 'WRITE'('ALL', C' ')                                $
C-------------------------------------------------------------------$
C       OUTPUT THE LIST OF AVAILABLE ENTRY POINTS IN THE TPS
        (TOTAL OF 4)                                                 $

        PERFORM, 'PRINT-ENTRYPT'(4)                                  $
C-------------------------------------------------------------------$
C      CHOOSE DEFAULT OUTPUT FORMATS FOR STRING OF BIT AND DECIMALS $
C        ----    10-DIGIT FLOATING POINT FORMAT FOR DECIMALS   ---- $

        PERFORM, 'FORMAT-DEC'(C'F10.3')                              $
C        ----   10-DIGIT HEXADECIMAL FORMAT FOR STRING OF BITS ---- $

        PERFORM, 'FORMAT-BIT'(C'H10')                                $
C-------------------------------------------------------------------$
C       END OF INITIAL RUN SECTION. PROGRAM STOPS AND HANDS OVER
        CONTROL TO THE TEST EXECUTIVE MAIN MENU.                     $

        PERFORM, 'TPS-WARNING'
        (C'HIT <RUN> TO CONTINUE OR SELECT NEW ENTRY-POINT')         $
```


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```
        OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'     $

        PERFORM, 'STOP'('FAIL', 'FATAL')                            $
C-----------------------------------------------------------------
        BEGINNING  OF  FIRST  ENTRY POINT                           $

E110000 BEGIN, BLOCK, '1: OPERATOR TESTS'                           $
        PERFORM, 'BEGIN-EP' (1)                                     $
        PERFORM, 'EXEC-T1OPER01'                                    $
        PERFORM, 'END-EP' (1)                                       $
        END,   BLOCK, '1: OPERATOR TESTS'                           $
C-----------------------------------------------------------------
        BEGINNING  OF  SECOND  ENTRY POINT                          $

E120000 BEGIN, BLOCK, '2: OPTICAL TESTS'                            $
        PERFORM, 'BEGIN-EP' (2)                                     $
        PERFORM, 'EXEC-T1OPTI02'                                    $
        PERFORM, 'END-EP' (2)                                       $
        END,   BLOCK, '2: OPTICAL TESTS'                            $
C-----------------------------------------------------------------
        BEGINNING  OF  THIRD  ENTRY POINT                           $

E130000 BEGIN, BLOCK, '3: ATTITUDE TESTS'                           $
        PERFORM, 'BEGIN-EP' (3)                                     $
        PERFORM, 'EXEC-T1ATTI03'                                    $
        PERFORM, 'END-EP' (3)                                       $
        END,   BLOCK, '3: ATTITUDE TESTS'                           $
C-----------------------------------------------------------------
        BEGINNING  OF  FOURTH  ENTRY POINT                          $

E140000 BEGIN, BLOCK, '4: ALTITUDE TESTS'                           $
        PERFORM, 'BEGIN-EP' (4)                                     $
        PERFORM, 'EXEC-T1ALTI04'                                    $
        PERFORM, 'END-EP' (4)                                       $
        END,   BLOCK, '4: ALTITUDE TESTS'                           $
C
 ******************************************************************
 ********                                                ********
 ********                                                ********
 ********      E N D   O F   M A I N   P R O G R A M     ********
 ********                                                ********
 ********                                                ********
 ******************************************************************
                                                                    $

 999999 TERMINATE, ATLAS PROGRAM 'TH-ISF-MAIN'                      $
```


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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-T1OPER01'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             T E S T      M O D U L E                 ******
 ******                                                      ******
 ******                     Chapter 1                        ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000205   DECLARE CONSTANT                                 *
 *      000305   DECLARE EXTERNAL VARIABLES ( LIBRARY )           *
 *      000405   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *                                                                *
 *      001005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )  *
 *      002005   DEFINE EXTERNAL PROCEDURES ( PROGRAMME )         *
 *                                                                *
 *      010000   DEFINE LOCAL PROCEDURES                          *
 *                                                                *
 *      990005   DEFINE GLOBAL PROCEDURES                         *
 *                                                                *
 *      999999   TERMINATE ATLAS MODULE                           *
```


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```
 *                                                                  *
 ********************************************************************
C                                                                    $
C
 ********************************************************************
 ********************************************************************
 **                                                                **
 **                    D  E  C  L  A  R  E                         **
 **                                                                **
 ********************************************************************
 ********************************************************************
C                                                                    $
C
 ********************************************************************
 **                                                                **
 **    D E C L A R A T I O N     O F      C O N S T A N T S        **
 **                                                                **
 ********************************************************************
                                                                     $
C
 ********************************************************************
 **                                                                **
 **    D E C L A R A T I O N     O F      T  Y  P  E  S            **
 **                                                                **
 ********************************************************************
                                                                     $
 000205 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                                 $
C       Mnemonic of all UUT
 -------------------------------------------------------------------$

 000207 DECLARE, TYPE, 'T-TOLE' IS ENUMERATION(
                   'UL', 'LL'
                   )                                                 $
C       Mnemonic of all UUT
 -------------------------------------------------------------------$

 000209 DECLARE, TYPE, 'T-PARA-MNEMO' IS ENUMERATION(
                   'PARA-D', 'PARA-E', 'PARA-i', 'PARA-j', 'PARA-A',
                    'PARA-W', 'PARA-U', 'PARA-V', 'PARA-S',
                   'PARA-T', 'PARA-B', 'PARA-C', 'PARA-M', 'PARA-N',
                    'PARA-R', 'PARA-P', 'PARA-b', 'PARA-c',
                   'PARA-d', 'PARA-e', 'PARA-k', 'PARA-m', 'PARA-p',
                    'PARA-r', 'PARA-s', 'PARA-q', 'PARA-Z',
                   'PARA-f', 'PARA-g'
                   )                                                 $
C       Mnemonic of lightning pins
 -------------------------------------------------------------------$

 000211 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                      $
C       State of device
```


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```
 ----------------------------------------------------------------$

 000213 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION(
                   'ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN'
                   )                                             $
 000215 DECLARE, TYPE, 'T-FRAME' IS ENUMERATION(
                   'FR-173-174-EQ-0', 'FR-173-174-NE-0',
                   'FR-312-320-EQ-0', 'FR-312-320-NE-0', 'NO-FRAME'
                   )                                             $
C       Indicator to know the frame to send
 ----------------------------------------------------------------$

 000217 DECLARE, TYPE, 'T-DISCIN-MNEMO' IS ENUMERATION(
                   'DISC-X', 'DISC-h', 'DISC-a', 'DISC-b', 'DISC-c',
                   'DISC-d', 'DISC-e', 'DISC-k', 'DISC-m', 'DISC-n',
                   'DISC-p', 'DISC-q', 'DISC-r', 'DISC-s', 'DISC-f',
                   'DISC-Y','DISC-Z')                            $
C       Mnemonic of discrete inputs class
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **              D E C L A R A T I O N     O F                 **
 **                                                            **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C       **
 **                                                            **
 **                     V A R I A B L E S                      **
 **                                                            **
 ****************************************************************
                                                                $
 000305 DECLARE, EXTERNAL, VARIABLE, 'CMM-STRING' IS STRING(12) OF
               CHAR                                             $
 000307 DECLARE, EXTERNAL, VARIABLE, 'POWER-ON' IS BOOLEAN      $
 000309 DECLARE, EXTERNAL, VARIABLE, 'OP-CHOICE' IS STRING(12) OF
               CHAR                                             $
 000311 DECLARE, EXTERNAL, VARIABLE, 'CUR-STAT-NO' IS STRING(9) OF
               CHAR                                             $
 000313 DECLARE, EXTERNAL, VARIABLE, 'CUR-MODULE' IS STRING(16) OF
               CHAR                                             $
 000319 DECLARE, EXTERNAL, VARIABLE, 'LIST-CNX' IS BOOLEAN      $
 000321 DECLARE, EXTERNAL, VARIABLE, 'STOP-EP' IS STRING(80) OF CHAR
                                                                $
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F   E X T E R N A L      **
 **                                                            **
 **     P R O G R A M    S P E C I F I C    V A R I A B L E S  **
 **                                                            **
 ****************************************************************
                                                                $
 000405 DECLARE, EXTERNAL, VARIABLE, 'G-REPAIR' IS BOOLEAN      $
C       Indicates if repair mode is used
 ----------------------------------------------------------------$
```


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```
 000407 DECLARE, EXTERNAL, VARIABLE, 'G-INIT' IS BOOLEAN           $
C       Indicates if repair mode is used
 ----------------------------------------------------------------$

 000409 DECLARE, EXTERNAL, VARIABLE, 'G-CUSTOMER' IS STRING(80) OF
                CHAR                                               $
C       Indicates the choice of test :
C       airlines or production
 ----------------------------------------------------------------$

 000411 DECLARE, EXTERNAL, VARIABLE, 'G-UUT1' IS 'T-ALL-UUT'       $
C       Value of 'UUT1'
 ----------------------------------------------------------------$

 000413 DECLARE, EXTERNAL, VARIABLE, 'G-UUT4' IS 'T-ALL-UUT'       $
C       Value of 'UUT4'
 ----------------------------------------------------------------$

 000415 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
                'UUT12') OF
                    RECORD OF [
                        'NAME' IS STRING(2) OF CHAR ;
                        'PRESENCE' IS BOOLEAN ;
                        'EDIT-RESULT' IS BOOLEAN ;
                        'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                        'PART-NUMB' IS STRING(20) OF CHAR ;
                        'HI' IS CONNECTION(
                            J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                             J8-G, J9-G, J10-G, J11-G, J12-G
                            ) ;
                        'LO' IS CONNECTION(
                            J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                             J8-t, J9-t, J10-t, J11-t, J12-t
                            )
                        ]                                          $
C       Informations about all UUT
 ----------------------------------------------------------------$

 000417 DECLARE, EXTERNAL, VARIABLE, 'G-TOLE-TABL' IS ARRAY(1 THRU
                300,'UL' THRU 'LL') OF
                    DECIMAL                                        $
C       Tolerances table
 ----------------------------------------------------------------$

 000418 DECLARE, EXTERNAL, VARIABLE, 'G-MNEMO-ADJ' IS BOOLEAN      $
C       Memorize if the lightning adjustment has been done
 ----------------------------------------------------------------$

 000419 DECLARE, EXTERNAL, VARIABLE, 'G-UUT2' IS 'T-ALL-UUT'       $
C       Value of 'UUT2'
 ----------------------------------------------------------------$

 000421 DECLARE, EXTERNAL, VARIABLE, 'G-UUT3' IS 'T-ALL-UUT'       $
```


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```
C       Value of 'UUT3'
 -----------------------------------------------------------------$

 000423 DECLARE, EXTERNAL, VARIABLE, 'G-422-TABL' IS ARRAY('UUT1'
                THRU 'UUT12') OF
                    RECORD OF [
                        'NAME' IS STRING(12) OF CHAR ;
                        'HI-SEND' IS CONNECTION(
                            J1-L, J2-L, J3-L, J4-L, J5-L, J6-L, J7-L,
                             J8-L, J9-L, J10-L, J11-L, J12-L
                            ) ;
                        'LO-SEND' IS CONNECTION(
                            J1-K, J2-K, J3-K, J4-K, J5-K, J6-K, J7-K,
                             J8-K, J9-K, J10-K, J11-K, J12-K
                            ) ;
                        'HI-RCVE' IS CONNECTION(
                            J1-J, J2-J, J3-J, J4-J, J5-J, J6-J, J7-J,
                             J8-J, J9-J, J10-J, J11-J, J12-J
                            ) ;
                        'LO-RCVE' IS CONNECTION(
                            J1-H, J2-H, J3-H, J4-H, J5-H, J6-H, J7-H,
                             J8-H, J9-H, J10-H, J11-H, J12-H
                            ) ;
                        'STATE' IS 'T-SIGNAL-STATE' ;
                        'DEVICE' IS ENUMERATION(
                            'R422-A', 'R422-B'
                            )
                        ]                                          $
C       General informations about each RS422 UUT signal
 -----------------------------------------------------------------$

 000425 DECLARE, EXTERNAL, VARIABLE, 'G-RX-DATA' IS ARRAY(1 THRU
                10000) OF
                    STRING(8) OF BIT                               $
C       Contains the frame received
 -----------------------------------------------------------------$

 000427 DECLARE, EXTERNAL, VARIABLE, 'G-NB-CAR' IS INTEGER         $
C       Contains the number of words received.
 -----------------------------------------------------------------$

 000487 DECLARE, EXTERNAL, VARIABLE, 'G-VALUE' IS DECIMAL          $
C       Returned value by UTIL-DISPLAY : luminosity, weight...
 -----------------------------------------------------------------$

 000488 DECLARE, EXTERNAL, VARIABLE, 'VALUE-UNIT' IS STRING(6) OF
                CHAR                                               $

 000489 DECLARE, EXTERNAL, VARIABLE, 'G-TEST' IS STRING(10) OF CHAR $
C       Indicates the choice of test : manual or automatic (for lamps,
C       photometer and table)
 -----------------------------------------------------------------$
C
 *****************************************************************
```


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```
 **                                                            **
 **      D E C L A R A T I O N    O F    L O C A L             **
 **                                                            **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S      **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **         I D E N T I F Y     E X T E R N A L                **
 **                                                            **
 **          E V E N T   B A S E D    E V E N T                 **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **         I D E N T I F Y    E X T E R N A L                 **
 **                                                            **
 **           E V E N T    I N D I C A T O R                   **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **         I D E N T I F Y    E V E N T                       **
 **                                                            **
 **           B A S E D    E V E N T                           **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **     I D E N T F Y    E V E N T    I N D I C A T O R         **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 ****************************************************************
 **                                                            **
 **                  D  E  F  I  N  E                          **
 **                                                            **
 ****************************************************************
 ****************************************************************
C                                                              $
C
 ****************************************************************
 **                                                            **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S     **
```


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```
 **                                                              **
 **              S T A N D A R D   L I B R A R Y                 **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    I N I T - P R O G                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001005 DEFINE, 'INIT-PROG', EXTERNAL, PROCEDURE                  $

        END, 'INIT-PROG'                                          $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    R E S E T - U U T                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001007 DEFINE, 'RESET-UUT', EXTERNAL, PROCEDURE                  $

        END, 'RESET-UUT'                                          $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                   T E S T - T I T L E                      ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************
```


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```
 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |  Param-in  : .TEST-NAME                                     |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 001009 DEFINE, 'TEST-TITLE', EXTERNAL, PROCEDURE (
                   '.TEST-NAME' IS STRING(50) OF CHAR
               )                                               $

        END, 'TEST-TITLE'                                      $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***               I N I T - P O W E R - T I M E              ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 001011 DEFINE, 'INIT-POWER-TIME', EXTERNAL, PROCEDURE         $

        END, 'INIT-POWER-TIME'                                 $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                         W R I T E                        ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |  Param-in  : .PERIPH                                        |
 |                                                             |
 |              .MESSAGE                                       |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 001013 DEFINE, 'WRITE', EXTERNAL, PROCEDURE (
```


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```
                    '.PERIPH' IS 'PERIPH-DEVICES',
                    '.MESSAGE' IS STRING(80) OF CHAR
                )                                                   $

        END, 'WRITE'                                                $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  C O M P - O P - M E A S                     ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |                                                                  |
 |                                                                  |
 |  Param-in  : .CUR-STAT-NO                                        |
 |                                                                  |
 |              .CUR-MODULE                                         |
 |                                                                  |
 |              .OP-MEAS-STRING                                     |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 001015 DEFINE, 'COMP-OP-MEAS', EXTERNAL, PROCEDURE (
                    '.CUR-STAT-NO' IS STRING(9) OF CHAR,
                    '.CUR-MODULE' IS STRING(16) OF CHAR,
                    '.OP-MEAS-STRING' IS STRING(16) OF CHAR
                )                                                   $

        END, 'COMP-OP-MEAS'                                         $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 **                                                                **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S        **
 **                                                                **
 **             S P E C I F I C   P R O G R A M                    **
 **                                                                **
 ********************************************************************
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                D I S C - I N - C O N F I G                   ***
 ***                                                              ***
 ********************************************************************
```


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```
 ******************************************************************

 |----------------------------------------------------------------|
 |  Put UUT1 or UUT2 ..... or UUT12 in ANNEXE x ATP configuration . |
 |                                                                |
 |  Param-in  : ANNEXE  Initialisation chosen                     |
 |                                                                |
 |              UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002005 DEFINE, 'DISC-IN-CONFIG', EXTERNAL, PROCEDURE (
                    'ANNEXE' IS ENUMERATION(
                        'OPEN-ALL', 'OPEN-GROUND', 'ANNEXE-4',
                        'ANNEXE-5', 'ANNEXE-6'),
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'DISC-IN-CONFIG'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                I N L I - I N S U - C O N N                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Applies short between J1-D/J1-E or J2-D/J2-E or J3-D/J3-E or  |
 |  J4-D/J4-E .                                                   |
 |                                                                |
 |  Param-in  : UUT  Signal to be connected (UUT1, UUT2, UUT3  or |
 |                   UUT4)                                        |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002007 DEFINE, 'INLI-INSU-CONN', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'INLI-INSU-CONN'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                I N L I - I N S U - M E A S                 ***
 ***                                                            ***
```


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```
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Measures insulation on UUT.                                   |
 |                                                                |
 |  Param-in  : UUT  Signal to be measured                        |
 |                                                                |
 |  Param-out : RESULT  Result of measurement.                    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002009 DEFINE, 'INLI-INSU-MEAS', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )
               RESULT (
                   'RESULT' IS DECIMAL
               )                                                  $

       END, 'INLI-INSU-MEAS'                                      $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                I N L I - I N S U - D I S C                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Removes short between J1-D/J1-E or J2-D/J2-E or J3-D/J3-E or  |
 |  J4-D/J4-E .                                                   |
 |                                                                |
 |  Param-in  : UUT  Signal to be disconnected (UUT1, UUT2 or UUT3) |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002011 DEFINE, 'INLI-INSU-DISC', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                  $

       END, 'INLI-INSU-DISC'                                      $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 I N L I - P A R A - A D J                  ***
 ***                                                            ***
```


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```
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Adjusts lightning protection with UUT disconnected, resistor    |
 |  limitation of 10 Kohm.                                          |
 |  (available for Jx-i and Jx-j)                                   |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                   $
 002012 DEFINE, 'INLI-PARA-ADJ', EXTERNAL, PROCEDURE               $

        END, 'INLI-PARA-ADJ'                                       $
C|                                                                  |
 |------------------------------------------------------------------|
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                I N L I - P A R A - M E A S                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Measures lightning protection on UUT with pulse +/-250V .       |
 |                                                                  |
 |  Param-in  : SIGNAL  Signal to be measured                       |
 |                                                                  |
 |              UUT  Uut concerned                                  |
 |                                                                  |
 |              PULSE  Positive or negative pulse to apply          |
 |                                                                  |
 |  Param-out : RESULT  Result of measurement.                      |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                   $
 002013 DEFINE, 'INLI-PARA-MEAS', EXTERNAL, PROCEDURE (
                    'SIGNAL' IS 'T-PARA-MNEMO',
                    'UUT' IS 'T-ALL-UUT',
                    'PULSE' IS ENUMERATION(
                        '+250V', '-250V'
                        )
                )
                RESULT (
                    'RESULT' IS DECIMAL
                )                                                  $

        END, 'INLI-PARA-MEAS'                                      $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
```


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```
 ******************************************************************
 ***                                                            ***
 ***              I N L I - P A R A - R E S E T                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Reset lightning protection from UUT .                         |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |              PULSE  Positive or negative pulse to apply        |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002015 DEFINE, 'INLI-PARA-RESET', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'PULSE' IS ENUMERATION(
                       '+250V', '-250V'
                       )
               )                                                  $

       END, 'INLI-PARA-RESET'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 U T I L - D I S P L A Y                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Management of edition formular                                |
 |                                                                |
 |  Param-in  : P-TEXT-1  First line to edit                      |
 |                                                                |
 |              P-TEXT-2  Second line to edit                     |
 |                                                                |
 |              P-TEXT-3  Third line to edit                      |
 |                                                                |
 |              P-TEXT-4  Fourth line to edit                     |
 |                                                                |
 |              P-TEXT-5  Fifth line to edit                      |
 |                                                                |
 |              P-TEXT-6  Sixth line to edit                      |
 |                                                                |
 |              P-TEXT-7  Seventh line to edit                    |
 |                                                                |
 |              P-TEXT-8  Eighth line to edit                     |
```


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```
 |                                                                |
 |             P-TEXT-9  Ninth line to edit                       |
 |                                                                |
 |             P-TEXT-10  tenth line to edit                      |
 |                                                                |
 |             P-TEXT-11  eleventh line to edit                   |
 |                                                                |
 |             P-TEXT-12  twelfth line to edit                    |
 |                                                                |
 |             P-CHOICE  Indicator to know if a result, a wait-man |
 |                       or an input is needed                    |
 |                                                                |
 |             P-IMAGE  Image to display if necessary             |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002017 DEFINE, 'UTIL-DISPLAY', EXTERNAL, PROCEDURE (
                   'P-TEXT-1' IS STRING(80) OF CHAR,
                   'P-TEXT-2' IS STRING(80) OF CHAR,
                   'P-TEXT-3' IS STRING(80) OF CHAR,
                   'P-TEXT-4' IS STRING(80) OF CHAR,
                   'P-TEXT-5' IS STRING(80) OF CHAR,
                   'P-TEXT-6' IS STRING(80) OF CHAR,
                   'P-TEXT-7' IS STRING(80) OF CHAR,
                   'P-TEXT-8' IS STRING(80) OF CHAR,
                   'P-TEXT-9' IS STRING(80) OF CHAR,
                   'P-TEXT-10' IS STRING(80) OF CHAR,
                   'P-TEXT-11' IS STRING(80) OF CHAR,
                   'P-TEXT-12' IS STRING(80) OF CHAR,
                   'P-CHOICE' IS STRING(6) OF CHAR,
                   'P-IMAGE' IS STRING(8) OF CHAR
                )                                                 $

        END, 'UTIL-DISPLAY'                                       $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                D C S U - A P P L Y - M O D                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Application and adjustment of 28VDC-SUP.                      |
 |                                                                |
 |  Param-in  : VOLTAGE  Voltage to program                       |
 |                                                                |
 |             UUT  Signal concerned                              |
 |                                                                |
 |             CURRENT  Current to program                        |
```


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```
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002019 DEFINE, 'DCSU-APPLY-MOD', EXTERNAL, PROCEDURE (
                    'VOLTAGE' IS DECIMAL,
                    'UUT' IS 'T-ALL-UUT',
                    'CURRENT' IS ENUMERATION(
                        '2A', '5A', '25A'
                        )
                )                                                 $

        END, 'DCSU-APPLY-MOD'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  D I S C - I N - C O N N                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Connection of DISC-X or DISC-h .....                          |
 |  or DISC-Z of UUT1 or UUT2 ..... or UUT12 to EARTH .           |
 |                                                                |
 |  Param-in  : SIGNAL  Signal to be connected                    |
 |                                                                |
 |              UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002021 DEFINE, 'DISC-IN-CONN', EXTERNAL, PROCEDURE (
                    'SIGNAL' IS 'T-DISCIN-MNEMO',
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'DISC-IN-CONN'                                       $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  G 4 2 9 - P R E P - B U S 1               ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                            |
```


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```
 |                                                                |
 |  Param-in  : UUT  Prepares BUS1 arinc device with frame to     |
 |                   transmit                                     |
 |                                                                |
 |              FRAME  Frame to transmit :                        |
 |                     - if FR-173-174-EQ-0 :                     |
 |                     word1 = X'600000', word2 = X'600000' - if  |
 |                     FR-173-174-NE-0 :                          |
 |                     word1 = X'631A00', word2 = X'61C000'       |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002023 DEFINE, 'G429-PREP-BUS1', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'FRAME' IS 'T-FRAME'
                )                                                 $

        END, 'G429-PREP-BUS1'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 G 4 2 9 - C O N N - B U S 2                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Arinc signal to connect                      |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002025 DEFINE, 'G429-CONN-BUS1', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'G429-CONN-BUS1'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 G 4 2 9 - P R E P - B U S 2                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************
```


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```
 |-------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                         |
 |                                                             |
 |  Param-in  : UUT  Prepares BUS2 arinc device with frame to  |
 |                   transmit                                  |
 |                                                             |
 |              FRAME  Frame to transmit :                     |
 |                     - if FR-312-320-EQ-0 :                  |
 |                     word1 = X'600000', word2 = X'600000', word3 =|
 |                     X'600000' - if FR-312-320-NE-0 :        |
 |                     word1 = X'600000', word2 = X'62AAA0', word3 =|
 |                     X'62AAA0'                               |
 | REM : non utilisM-i                                           |
 |-------------------------------------------------------------|
                                                               $
 002027 DEFINE, 'G429-PREP-BUS2', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'FRAME' IS 'T-FRAME'
                )                                              $

        END, 'G429-PREP-BUS2'                                  $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                G 4 2 9 - C O N N - B U S 2               ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  Connects arinc generation to UUT .                         |
 |                                                             |
 |  Param-in  : UUT  Arinc signal to connect                   |
 |                                                             |
 | REM : non utilisM-i                                           |
 |-------------------------------------------------------------|
                                                               $
 002029 DEFINE, 'G429-CONN-BUS2', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                              $

        END, 'G429-CONN-BUS2'                                  $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                G 4 2 9 - P R E P - B U S 3               ***
```


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```
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                             |
 |                                                                 |
 |  Param-in  : UUT  Prepares BUS3 arinc device with frame to     |
 |                   transmit                                      |
 |                                                                 |
 |              FRAME  Frame to transmit :                         |
 |                     - if FR-312-320-EQ-0 :                      |
 |                     word1 = X'600000', word2 = X'600000', word3 =|
 |                     X'600000' - if FR-312-320-NE-0 :            |
 |                     word1 = X'600000', word2 = X'62AAA0', word3 =|
 |                     X'62AAA0'                                   |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002031 DEFINE, 'G429-PREP-BUS3', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'FRAME' IS 'T-FRAME'
                )                                                  $

        END, 'G429-PREP-BUS3'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                                ***
 ***                 G 4 2 9 - C O N N - B U S 3                    ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                             |
 |                                                                 |
 |  Param-in  : UUT  Arinc signal to connect                       |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002033 DEFINE, 'G429-CONN-BUS3', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                  $

        END, 'G429-CONN-BUS3'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
```


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```
 ******************************************************************
 ***                                                            ***
 ***                  D C S U - C O N N E C T                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Connection of 28VDC-SUP on UUT-1 to UUT-12 .                  |
 |                                                                |
 |  Param-in  : UUT  Signal to be connected                       |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002035 DEFINE, 'DCSU-CONNECT', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'DCSU-CONNECT'                                       $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                D C S U - D I S C O N N E C T               ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Disconnection of 28VDC-SUP from UUT-1 to UUT-12 .             |
 |                                                                |
 |  Param-in  : UUT  Signal to be disconnected                    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002037 DEFINE, 'DCSU-DISCONNECT', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'DCSU-DISCONNECT'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 R 4 2 2 - S C O M P L C M D                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************
```


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```
 |-----------------------------------------------------------------|
 |  Send a cmd on IES-RS422A or IES-RS422B                         |
 |                                                                 |
 |  Param-in  : UUT  RS422 signal to prepare                       |
 |                                                                 |
 |              P-CMD  Cmd to send                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                  $
 002039 DEFINE, 'R422-SCOMPLCMD', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-CMD' IS CHAR
                )                                                 $

        END, 'R422-SCOMPLCMD'                                     $
C|                                                                |
 |-----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 4 2 2 - S A V E - F I L E                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Saving of memory fault page into file : Test 4.1               |
 |                                                                 |
 |  Param-in  : UUT  UUT concerned                                 |
 |                                                                 |
 |              P-TAB  Tab to save                                 |
 |                                                                 |
 |              NB-ELTS  Number of elements to save                |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                  $
 002041 DEFINE, 'R422-SAVE-FILE', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-TAB' IS ARRAY(1 THRU 10000) OF
                        STRING(8) OF BIT,
                    'NB-ELTS' IS INTEGER
                )                                                 $

        END, 'R422-SAVE-FILE'                                     $
C|                                                                |
 |-----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
```


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```
 ***                  U T I L - R E M O V E                  ***
 ***                                                         ***
 ***************************************************************
 ***************************************************************

 |-------------------------------------------------------------|
 |  Remove UUT-1, UUT-2, ....or UUT-12 .                       |
 |                                                             |
 |  Param-in  : ABANDON-UUT  If true, test is abandonned on 'UUT'  |
 |                                                             |
 |              UUT  Signal to be connected                    |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 002043 DEFINE, 'UTIL-REMOVE', EXTERNAL, PROCEDURE (
                    'ABANDON-UUT' IS BOOLEAN,
                    'UUT' IS 'T-ALL-UUT'
                )                                              $

        END, 'UTIL-REMOVE'                                     $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ***************************************************************
 ***************************************************************
 ***                                                         ***
 ***                R 2 3 P - P H O T O - R E M              ***
 ***                                                         ***
 ***************************************************************
 ***************************************************************

 |-------------------------------------------------------------|
 |  Remove RS232-PHOTO                                         |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 002050 DEFINE, 'R23P-PHOTO-REM', EXTERNAL, PROCEDURE          $

        END, 'R23P-PHOTO-REM'                                  $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ***************************************************************
 ***************************************************************
 ***                                                         ***
 ***               R 2 3 P - P H O T O - C M D 2             ***
 ***                                                         ***
 ***************************************************************
 ***************************************************************

 |-------------------------------------------------------------|
 |  Send cmd on IES-RS232-PHOTO                                |
```


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```
 |                                                                |
 |  Param-in  : P-CMD  Send a command but no reply is expected    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002051 DEFINE, 'R23P-PHOTO-CMD2', EXTERNAL, PROCEDURE (
                    'P-CMD' IS STRING(20) OF CHAR
                )                                                 $

        END, 'R23P-PHOTO-CMD2'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                R 2 3 P - P H O T O - C M D                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Send a cmd on IES-RS232-PHOTO                                 |
 |                                                                |
 |  Param-in  : P-CMD  Cmd to send                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002052 DEFINE, 'R23P-PHOTO-CMD', EXTERNAL, PROCEDURE (
                    'P-CMD' IS STRING(20) OF CHAR
                )                                                 $

        END, 'R23P-PHOTO-CMD'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               R 2 3 P - P H O T O - W A I T                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Wait for end of movement of optical module                    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002053 DEFINE, 'R23P-PHOTO-WAIT', EXTERNAL, PROCEDURE            $

        END, 'R23P-PHOTO-WAIT'                                    $
```


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```
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***               T I M E - R E S E T - C L K 6                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Resets the clock 6 .                                            |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002055 DEFINE, 'TIME-RESET-CLK6', EXTERNAL, PROCEDURE              $

        END, 'TIME-RESET-CLK6'                                      $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                T I M E - R E A D - C L K 6                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Reads a time .                                                  |
 |                                                                  |
 |  Param-out : TIME  Time reading                                  |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002057 DEFINE, 'TIME-READ-CLK6', EXTERNAL, PROCEDURE
               RESULT (
                   'TIME' IS DECIMAL
               )                                                    $

        END, 'TIME-READ-CLK6'                                       $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                     D C S U - C O N S O                      ***
 ***                                                              ***
```


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```
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Measures power consuption of UUT.                              |
 |                                                                 |
 |  Param-in  : UUT  Signal to be connected                        |
 |                                                                 |
 |  Param-out : CURRENT  Result of measurement.                    |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002059 DEFINE, 'DCSU-CONSO', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )
                RESULT (
                    'CURRENT' IS DECIMAL
                )                                                  $

        END, 'DCSU-CONSO'                                          $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                M E A S - B O N - F O N C T                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Measures level of discret BON-FONCT of UUT.                    |
 |                                                                 |
 |  Param-in  : UUT  Signal to be measured                         |
 |                                                                 |
 |  Param-out : VOLTAGE  Result of measurement.                    |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002060 DEFINE, 'MEAS-BON-FONCT', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )
                RESULT (
                    'DISC-VALUE' IS DECIMAL
                )                                                  $

        END, 'MEAS-BON-FONCT'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
```


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```
 ******************************************************************
 ***                                                            ***
 ***                D I S C - I N - D I S C O N                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Disconnection of DISC-X or DISC-h ..... or DISC-Z of UUT1     |
 |  or UUT2..... or UUT12 from EARTH .                            |
 |                                                                |
 |  Param-in  : SIGNAL  Signal to be disconnected                 |
 |                                                                |
 |              UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                 $
 002061 DEFINE, 'DISC-IN-DISCON', EXTERNAL, PROCEDURE (
                    'SIGNAL' IS 'T-DISCIN-MNEMO',
                    'UUT' IS 'T-ALL-UUT'
                )                                                $

        END, 'DISC-IN-DISCON'                                    $
C|                                                               |
 |----------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                A C S U - A P P L Y - M O D                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Application and adjustment of 5VAC-SUP.                       |
 |                                                                |
 |  Param-in  : VOLTAGE  Voltage to program                       |
 |                                                                |
 |----------------------------------------------------------------|
                                                                 $
 002063 DEFINE, 'ACSU-APPLY-MOD', EXTERNAL, PROCEDURE (
                    'VOLTAGE' IS DECIMAL
                )                                                $

        END, 'ACSU-APPLY-MOD'                                    $
C|                                                               |
 |----------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
```


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```
 ***                  A C S U - C O N N E C T                  ***
 ***                                                           ***
 *****************************************************************
 *****************************************************************

 |-------------------------------------------------------------|
 |  Connection of 5VAC-SUP on UUT1 to UUT4 .                   |
 |                                                             |
 |  Param-in  : UUT  Signal to be connected                    |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 002065 DEFINE, 'ACSU-CONNECT', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                              $

        END, 'ACSU-CONNECT'                                    $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 *****************************************************************
 *****************************************************************
 ***                                                           ***
 ***                A C S U - D I S C O N N E C T              ***
 ***                                                           ***
 *****************************************************************
 *****************************************************************

 |-------------------------------------------------------------|
 |  Disconnection of 5VAC-SUP from UUT1 to UUT4 .              |
 |                                                             |
 |  Param-in  : UUT  Signal to be disconnected                 |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 002067 DEFINE, 'ACSU-DISCONNECT', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                              $

        END, 'ACSU-DISCONNECT'                                 $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 *****************************************************************
 *****************************************************************
 ***                                                           ***
 ***                    A C S U - R E M O V E                  ***
 ***                                                           ***
 *****************************************************************
 *****************************************************************

 |-------------------------------------------------------------|
```


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```
 |  Removal of 5VAC-SUP from UUT1 to UUT4 .                        |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002069 DEFINE, 'ACSU-REMOVE', EXTERNAL, PROCEDURE                 $

        END, 'ACSU-REMOVE'                                         $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 **                                                              **
 **          D E F I N E   L O C A L   P R O C E D U R E         **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **         D E F I N E   G L O B A L   P R O C E D U R E        **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                I N I T - T 1 O P E R 0 1                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Initialization of SECTION                                      |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 010001 DEFINE, 'INIT-T1OPER01', GLOBAL, PROCEDURE                 $

        IF, ('G-REPAIR' EQ TRUE)   AND
            ('G-INIT'   EQ FALSE), THEN                            $
          PERFORM, 'INIT-PROG'                                     $
          CALCULATE, 'G-INIT' = TRUE                               $
        END, IF                                                    $

        END, 'INIT-T1OPER01'                                       $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
```


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```
 ***                 E N D - T 1 O P E R 0 1                  ***
 ***                                                          ***
 ****************************************************************
 ****************************************************************

 |-------------------------------------------------------------|
 |  End of SECTION                                             |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 010051 DEFINE, 'END-T1OPER01', GLOBAL, PROCEDURE              $

        IF, ('G-REPAIR' EQ TRUE)  AND
            ('G-INIT'   EQ TRUE), THEN                         $
          PERFORM, 'RESET-UUT'                                 $
          CALCULATE, 'G-INIT' = FALSE                          $
        END, IF                                                $

        END, 'END-T1OPER01'                                    $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ****************************************************************
 ****************************************************************
 ***                                                          ***
 ***                    O P E R - T 0 1 A                     ***
 ***                                                          ***
 ****************************************************************
 ****************************************************************

 |-------------------------------------------------------------|
 |  This test checks the aspect of instrument.                 |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 011100 DEFINE, 'OPER-T01A', GLOBAL, PROCEDURE                 $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                $

        IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN              $

 011110   FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN            $

            IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN        $

              CALCULATE, 'CMM-STRING' =
              C'3.1~' & 'G-UUT'('UUT').'NAME'                  $

              IF, ('G-TEST' EQ C'AUTOMATIC'), THEN             $

                PERFORM, 'UTIL-DISPLAY'
                 (C'OUVRIR LA PORTE DU MODULE PHOTOMETRIE.',
                  C'', C'', C'', C'', C'',
```


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```
                C'', C'', C'', C'',C'', C'',
                C'WAIT', C'')                                   $

            END, IF                                             $

            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY ON THE INSTRUMENT ' &
              'G-UUT'('UUT').'NAME' & C' :',
             C'THAT ALL THE INSCRIPTIONS ON THE BEZEL ARE CORRECT,',
             C'THAT THE INSTRUMENT IS COMPLET,',
             C'THAT THE SEALS HAVE BEEN APPLIED,',
             C'THAT THE POWER SUPPLY AND PRESSURE CONNECTORS ARE '&
             C'FITTED WITH THEIR PROTECTIONS,',
             C'THAT NO DEFECT IS VISIBLE TO THE NAKE EYE,',
             C'THAT THE SEALS ARE IN GOOD CONDITIONS',
             C'THAT THE IDENTIFICATION PLATES COMPLY WITH PLAN REF : ',
             C' J17759AB FOR KA01, J33041AA FOR LA01, ' &
             C'J33041AB FOR LA02 ',
             C'', C'', C'',
             C'RESULT', C'ANNEXX')                              $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'ANNEXX')            $

           END, IF                                              $

          END, FOR                                              $

        END, IF                                                 $

 011199 END, 'OPER-T01A'                                        $
C|                                                              |
 |---------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P E R - T 0 2 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  This test checks the dimensions and weight of instrument.    |
 |                                                               |
 |---------------------------------------------------------------|
                                                                $
 011200 DEFINE, 'OPER-T02A', GLOBAL, PROCEDURE                  $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                 $

        IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN               $
```


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```
 011210   FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                $

           IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

             CALCULATE, 'CMM-STRING' =
             C'3.2~' & 'G-UUT'('UUT').'NAME'                      $

             PERFORM, 'UTIL-DISPLAY'
             (C'VERIFY ON INSTRUMENT ' &
               'G-UUT'('UUT').'NAME' & C' :',
              C'FOR EACH DIMENSION MENTIONED as to be checked ON ' &
              C'THE PLAN :',
              C' J17759AB FOR KA01, J33041AA FOR LA01, ' &
              C'J33041AB FOR LA02 ',
              C'CHECK THAT THE VALUE MEASURED ON THE INSTRUMENT',
              C'DOES NOT EXCEED THE PLAN VALUE',
              C'', C'', C'', C'', C'', C'', C'',
              C'RESULT', C'')                                     $

             PERFORM, 'COMP-OP-MEAS'
             ('CUR-STAT-NO', 'CUR-MODULE', C'ANNEX1')             $

           END, IF                                                $

          END, FOR                                                $
C--------ACQUISITION DU POIDS-------------------------------------$

 011215   FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                $

           IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

             CALCULATE, 'CMM-STRING' =
             C'3.2~' & 'G-UUT'('UUT').'NAME'                      $

             PERFORM, 'UTIL-DISPLAY'
             (C'ENTRER LE POIDS DE L`INSTRUMENT ' &
               'G-UUT'('UUT').'NAME' & C' :',
              C'',
              C'(Enter the value in gramms)',
              C'',C'',C'',C'',C'',C'',C'',C'', C'',
              C'INPUT', C'')                                      $

             CALCULATE, 'VALUE-UNIT' = C'g'                       $
             CALCULATE, 'LIST-CNX' = FALSE                        $
             COMPARE, 'G-VALUE', LE 'G-TOLE-TABL'(115, 'UL')      $
             CALCULATE, 'LIST-CNX' = TRUE                         $

           END, IF                                                $

          END, FOR                                                $

        END, IF                                                   $

 011299 END, 'OPER-T02A'                                          $
```


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```
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                     O P E R - T 0 3A                         ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  This test checks acquires and verify the value of continuity    |
 |------------------------------------------------------------------|
                                                                    $
 011300 DEFINE, 'OPER-T03A', GLOBAL, PROCEDURE                      $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                     $

        IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN                   $

 011310   FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

            IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

              CALCULATE, 'CMM-STRING' =
              C'3.3~' & 'G-UUT'('UUT').'NAME'                       $

              PERFORM, 'UTIL-DISPLAY'
              (C'USING A 10A CURRENT MEASURE THE METALLIZATION '&
               C'RESISTANCE :',
               C'ON THE INSTRUMENT '&
                'G-UUT'('UUT').'NAME' & C' :',
               C'BETWEEN :',
               C'ANY POINT ON THE BODY OF CONNECTOR J1',
               C'AND',
               C'ANY POINT OF THE FRAME ON THE BEZEL',
               C'cf. plan in Appnedix 2',
               C'',
               C'ENTER THE VALUE IN mOhm',
               C'', C'', C'',
               C'INPUT', C'')                                       $

              CALCULATE, 'VALUE-UNIT' = C'mOhm'                     $
              CALCULATE, 'LIST-CNX' = FALSE                         $
              COMPARE, 'G-VALUE', LE 'G-TOLE-TABL'(116, 'UL')       $
              CALCULATE, 'LIST-CNX' = TRUE                          $

            END, IF                                                 $

          END, FOR                                                  $

        END, IF                                                     $
```


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```
 011399 END, 'OPER-T03A'                                          $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P E R - T 0 4 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  This test checks INSULATION of UUT .                           |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 011400 DEFINE, 'OPER-T04A', GLOBAL, PROCEDURE                     $

        DECLARE, VARIABLE, 'RESULT' IS DECIMAL                     $
        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                      $
          PERFORM, 'TEST-TITLE' (C'INSULATION')                    $
        END, IF                                                    $

 011410 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $
              CALCULATE, 'CMM-STRING' = C'3.4'                     $
            ELSE                                                   $
              CALCULATE, 'CMM-STRING' =
              C'3.4~' & 'G-UUT'('UUT').'NAME'                      $
            END, IF                                                $

            PERFORM, 'DISC-IN-CONFIG' ('OPEN-GROUND', 'UUT')       $
C           Connection of Jx-D to Jx-E                             $
            PERFORM, 'INLI-INSU-CONN' ('UUT')                      $
C           Insulation between Jx-D/E and Jx-t                     $
            PERFORM, 'INLI-INSU-MEAS' ('UUT') RESULT ('RESULT')    $
C           Disconnection of Jx-D from Jx-E                        $
            PERFORM, 'INLI-INSU-DISC' ('UUT')                      $

            COMPARE, 'RESULT', GT 'G-TOLE-TABL'(1, 'UL') MOHM      $

          END, IF                                                  $

        END, FOR                                                   $

 011499 END, 'OPER-T04A'                                           $
C|                                                                 |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P E R - T 0 5 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  This test checks TRANSORBS of UUT .                            |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 011500 DEFINE, 'OPER-T05A', GLOBAL, PROCEDURE                     $

        DECLARE, VARIABLE, 'RESULT' IS DECIMAL                     $
        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
        DECLARE, VARIABLE, 'CMM-STRING-SAVE' IS STRING(12) OF CHAR  $
        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                      $
          PERFORM, 'TEST-TITLE' (C'LIGHTNING PROTECTION TEST')     $
        END, IF                                                    $

        FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

            IF, 'G-MNEMO-ADJ' EQ FALSE, THEN                       $
              PERFORM, 'INLI-PARA-ADJ'                             $
              CALCULATE, 'G-MNEMO-ADJ' = TRUE                      $
            END, IF                                                $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $
              CALCULATE, 'CMM-STRING' = C'3.5'                     $
              CALCULATE, 'CMM-STRING-SAVE' = C'3.5'                $
            ELSE                                                   $
              CALCULATE, 'CMM-STRING' =
              C'3.5~' & 'G-UUT'('UUT').'NAME'                      $
              CALCULATE, 'CMM-STRING-SAVE' =
              C'3.5~' & 'G-UUT'('UUT').'NAME'                      $
            END, IF                                                $
C           +250V lightning test on Jx-D
            ----------------------------                           $
 011501     PERFORM, 'INLI-PARA-MEAS' ('PARA-D', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-D'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(2, 'UL') V
                               LL 'G-TOLE-TABL'(2, 'LL') V         $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
```


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```
C           +250V lightning test on Jx-E
            ----------------------------                          $
 011502     PERFORM, 'INLI-PARA-MEAS' ('PARA-E', 'UUT', '+250V')
                      RESULT ('RESULT')                           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-E'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(3, 'UL') V
                               LL 'G-TOLE-TABL'(3, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           +250V lightning test on Jx-i
            ----------------------------                          $
 011503     PERFORM, 'INLI-PARA-MEAS' ('PARA-i', 'UUT', '+250V')
                      RESULT ('RESULT')                           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-i'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(4, 'UL') V
                               LL 'G-TOLE-TABL'(4, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           +250V lightning test on Jx-j
            ----------------------------                          $
 011504     PERFORM, 'INLI-PARA-MEAS' ('PARA-j', 'UUT', '+250V')
                      RESULT ('RESULT')                           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-j'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(5, 'UL') V
                               LL 'G-TOLE-TABL'(5, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           +250V lightning test on Jx-A
            ----------------------------                          $
 011505     PERFORM, 'INLI-PARA-MEAS' ('PARA-A', 'UUT', '+250V')
                      RESULT ('RESULT')                           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-A'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(6, 'UL') V
                               LL 'G-TOLE-TABL'(6, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           +250V lightning test on Jx-W
            ----------------------------                          $
 011506     PERFORM, 'INLI-PARA-MEAS' ('PARA-W', 'UUT', '+250V')
                      RESULT ('RESULT')                           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-W'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(7, 'UL') V
                               LL 'G-TOLE-TABL'(7, 'LL') V        $
```


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```
            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-U
            ----------------------------                           $
 011507     PERFORM, 'INLI-PARA-MEAS' ('PARA-U', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-U'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(8, 'UL') V
                               LL 'G-TOLE-TABL'(8, 'LL') V         $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-V
            ----------------------------                           $
 011508     PERFORM, 'INLI-PARA-MEAS' ('PARA-V', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-V'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(9, 'UL') V
                               LL 'G-TOLE-TABL'(9, 'LL') V         $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-S
            ----------------------------                           $
 011509     PERFORM, 'INLI-PARA-MEAS' ('PARA-S', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-S'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(10, 'UL') V
                               LL 'G-TOLE-TABL'(10, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-T
            ----------------------------                           $
 011510     PERFORM, 'INLI-PARA-MEAS' ('PARA-T', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-T'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(11, 'UL') V
                               LL 'G-TOLE-TABL'(11, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-B
            ----------------------------                           $
 011511     PERFORM, 'INLI-PARA-MEAS' ('PARA-B', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-B'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(12, 'UL') V
                               LL 'G-TOLE-TABL'(12, 'LL') V        $
```


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```
            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-C
            ----------------------------                           $
 011512     PERFORM, 'INLI-PARA-MEAS' ('PARA-C', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-C'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(13, 'UL') V
                               LL 'G-TOLE-TABL'(13, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-M
            ----------------------------                           $
 011513     PERFORM, 'INLI-PARA-MEAS' ('PARA-M', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-M'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(14, 'UL') V
                               LL 'G-TOLE-TABL'(14, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-N
            ----------------------------                           $
 011514     PERFORM, 'INLI-PARA-MEAS' ('PARA-N', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-N'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(15, 'UL') V
                               LL 'G-TOLE-TABL'(15, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-R
            ----------------------------                           $
 011515     PERFORM, 'INLI-PARA-MEAS' ('PARA-R', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-R'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(16, 'UL') V
                               LL 'G-TOLE-TABL'(16, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-P
            ----------------------------                           $
 011516     PERFORM, 'INLI-PARA-MEAS' ('PARA-P', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-P'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(17, 'UL') V
```


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```
                          LL 'G-TOLE-TABL'(17, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'        $
C           +250V lightning test on Jx-b
            ----------------------------                       $
 011517     PERFORM, 'INLI-PARA-MEAS' ('PARA-b', 'UUT', '+250V')
                      RESULT ('RESULT')                        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-b' $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(18, 'UL') V
                          LL 'G-TOLE-TABL'(18, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'        $
C           +250V lightning test on Jx-c
            ----------------------------                       $
 011518     PERFORM, 'INLI-PARA-MEAS' ('PARA-c', 'UUT', '+250V')
                      RESULT ('RESULT')                        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-c' $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(19, 'UL') V
                          LL 'G-TOLE-TABL'(19, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'        $
C           +250V lightning test on Jx-d
            ----------------------------                       $
 011519     PERFORM, 'INLI-PARA-MEAS' ('PARA-d', 'UUT', '+250V')
                      RESULT ('RESULT')                        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-d' $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(20, 'UL') V
                          LL 'G-TOLE-TABL'(20, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'        $
C           +250V lightning test on Jx-e
            ----------------------------                       $
 011520     PERFORM, 'INLI-PARA-MEAS' ('PARA-e', 'UUT', '+250V')
                      RESULT ('RESULT')                        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-e' $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(21, 'UL') V
                          LL 'G-TOLE-TABL'(21, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'        $
C           +250V lightning test on Jx-k
            ----------------------------                       $
 011521     PERFORM, 'INLI-PARA-MEAS' ('PARA-k', 'UUT', '+250V')
                      RESULT ('RESULT')                        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-k' $
```


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```
            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(22, 'UL') V
                               LL 'G-TOLE-TABL'(22, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-m
            ----------------------------                           $
 011522     PERFORM, 'INLI-PARA-MEAS' ('PARA-m', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-m'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(23, 'UL') V
                               LL 'G-TOLE-TABL'(23, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-p
            ----------------------------                           $
 011523     PERFORM, 'INLI-PARA-MEAS' ('PARA-p', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-p'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(24, 'UL') V
                               LL 'G-TOLE-TABL'(24, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-r
            ----------------------------                           $
 011524     PERFORM, 'INLI-PARA-MEAS' ('PARA-r', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-r'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(25, 'UL') V
                               LL 'G-TOLE-TABL'(25, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-s
            ----------------------------                           $
 011525     PERFORM, 'INLI-PARA-MEAS' ('PARA-s', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-s'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(26, 'UL') V
                               LL 'G-TOLE-TABL'(26, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           +250V lightning test on Jx-g
            ----------------------------                           $
 011526     PERFORM, 'INLI-PARA-MEAS' ('PARA-g', 'UUT', '+250V')
                      RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-g'     $
```


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```
            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(30, 'UL') V
                               LL 'G-TOLE-TABL'(30, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $

            PERFORM, 'INLI-PARA-RESET'('UUT', '+250V')             $
C           -250V lightning test on Jx-i
            ----------------------------                           $
 011533     PERFORM, 'INLI-PARA-MEAS' ('PARA-i', 'UUT', '-250V')
                     RESULT ('RESULT')                             $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-i'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(31, 'UL') V
                               LL 'G-TOLE-TABL'(31, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           -250V lightning test on Jx-j
            ----------------------------                           $
 011534     PERFORM, 'INLI-PARA-MEAS' ('PARA-j', 'UUT', '-250V')
                     RESULT ('RESULT')                             $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-j'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(32, 'UL') V
                               LL 'G-TOLE-TABL'(32, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           -250V lightning test on Jx-A
            ----------------------------                           $
 011535     PERFORM, 'INLI-PARA-MEAS' ('PARA-A', 'UUT', '-250V')
                     RESULT ('RESULT')                             $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-A'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(33, 'UL') V
                               LL 'G-TOLE-TABL'(33, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           -250V lightning test on Jx-W
            ----------------------------                           $
 011536     PERFORM, 'INLI-PARA-MEAS' ('PARA-W', 'UUT', '-250V')
                     RESULT ('RESULT')                             $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-W'     $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(34, 'UL') V
                               LL 'G-TOLE-TABL'(34, 'LL') V        $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C           -250V lightning test on Jx-U
            ----------------------------                           $
 011537     PERFORM, 'INLI-PARA-MEAS' ('PARA-U', 'UUT', '-250V')
```


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```
                    RESULT ('RESULT')                          $

          CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-U'     $

          COMPARE, 'RESULT', UL 'G-TOLE-TABL'(35, 'UL') V
                             LL 'G-TOLE-TABL'(35, 'LL') V        $

          CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C         -250V lightning test on Jx-V
          ----------------------------                           $
 011538   PERFORM, 'INLI-PARA-MEAS' ('PARA-V', 'UUT', '-250V')
                    RESULT ('RESULT')                          $

          CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-V'     $

          COMPARE, 'RESULT', UL 'G-TOLE-TABL'(36, 'UL') V
                             LL 'G-TOLE-TABL'(36, 'LL') V        $

          CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C         -250V lightning test on Jx-S
          ----------------------------                           $
 011539   PERFORM, 'INLI-PARA-MEAS' ('PARA-S', 'UUT', '-250V')
                    RESULT ('RESULT')                          $

          CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-S'     $

          COMPARE, 'RESULT', UL 'G-TOLE-TABL'(37, 'UL') V
                             LL 'G-TOLE-TABL'(37, 'LL') V        $

          CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C         -250V lightning test on Jx-T
          ----------------------------                           $
 011540   PERFORM, 'INLI-PARA-MEAS' ('PARA-T', 'UUT', '-250V')
                    RESULT ('RESULT')                          $

          CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-T'     $

          COMPARE, 'RESULT', UL 'G-TOLE-TABL'(38, 'UL') V
                             LL 'G-TOLE-TABL'(38, 'LL') V        $

          CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C         -250V lightning test on Jx-B
          ----------------------------                           $
 011541   PERFORM, 'INLI-PARA-MEAS' ('PARA-B', 'UUT', '-250V')
                    RESULT ('RESULT')                          $

          CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-B'     $

          COMPARE, 'RESULT', UL 'G-TOLE-TABL'(39, 'UL') V
                             LL 'G-TOLE-TABL'(39, 'LL') V        $

          CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'            $
C         -250V lightning test on Jx-C
          ----------------------------                           $
```


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```
 011542     PERFORM, 'INLI-PARA-MEAS' ('PARA-C', 'UUT', '-250V')
                     RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-C'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(40, 'UL') V
                               LL 'G-TOLE-TABL'(40, 'LL') V       $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           -250V lightning test on Jx-M
            ----------------------------                          $
 011543     PERFORM, 'INLI-PARA-MEAS' ('PARA-M', 'UUT', '-250V')
                     RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-M'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(41, 'UL') V
                               LL 'G-TOLE-TABL'(41, 'LL') V       $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           -250V lightning test on Jx-N
            ----------------------------                          $
 011544     PERFORM, 'INLI-PARA-MEAS' ('PARA-N', 'UUT', '-250V')
                     RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-N'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(42, 'UL') V
                               LL 'G-TOLE-TABL'(42, 'LL') V       $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           -250V lightning test on Jx-R
            ----------------------------                          $
 011545     PERFORM, 'INLI-PARA-MEAS' ('PARA-R', 'UUT', '-250V')
                     RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-R'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(43, 'UL') V
                               LL 'G-TOLE-TABL'(43, 'LL') V       $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           -250V lightning test on Jx-P
            ----------------------------                          $
 011546     PERFORM, 'INLI-PARA-MEAS' ('PARA-P', 'UUT', '-250V')
                     RESULT ('RESULT')                            $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-P'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(44, 'UL') V
                               LL 'G-TOLE-TABL'(44, 'LL') V       $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           -250V lightning test on Jx-b
```

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```
            ----------------------------                          $
 011547     PERFORM, 'INLI-PARA-MEAS' ('PARA-b', 'UUT', '-250V')
                      RESULT ('RESULT')                           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-b'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(45, 'UL') V
                               LL 'G-TOLE-TABL'(45, 'LL') V       $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           -250V lightning test on Jx-c
            ----------------------------                          $
 011548     PERFORM, 'INLI-PARA-MEAS' ('PARA-c', 'UUT', '-250V')
                      RESULT ('RESULT')                           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-c'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(46, 'UL') V
                               LL 'G-TOLE-TABL'(46, 'LL') V       $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           -250V lightning test on Jx-d
            ----------------------------                          $
 011549     PERFORM, 'INLI-PARA-MEAS' ('PARA-d', 'UUT', '-250V')
                      RESULT ('RESULT')                           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-d'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(47, 'UL') V
                               LL 'G-TOLE-TABL'(47, 'LL') V       $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           -250V lightning test on Jx-e
            ----------------------------                          $
 011550     PERFORM, 'INLI-PARA-MEAS' ('PARA-e', 'UUT', '-250V')
                      RESULT ('RESULT')                           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-e'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(48, 'UL') V
                               LL 'G-TOLE-TABL'(48, 'LL') V       $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
C           -250V lightning test on Jx-k
            ----------------------------                          $
 011551     PERFORM, 'INLI-PARA-MEAS' ('PARA-k', 'UUT', '-250V')
                      RESULT ('RESULT')                           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-k'    $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(49, 'UL') V
                               LL 'G-TOLE-TABL'(49, 'LL') V       $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'           $
```


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```
C           -250V lightning test on Jx-m
            ----------------------------                              $
 011552     PERFORM, 'INLI-PARA-MEAS' ('PARA-m', 'UUT', '-250V')
                      RESULT ('RESULT')                               $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-m'        $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(50, 'UL') V
                               LL 'G-TOLE-TABL'(50, 'LL') V           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'               $
C           -250V lightning test on Jx-p
            ----------------------------                              $
 011553     PERFORM, 'INLI-PARA-MEAS' ('PARA-p', 'UUT', '-250V')
                      RESULT ('RESULT')                               $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-p'        $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(51, 'UL') V
                               LL 'G-TOLE-TABL'(51, 'LL') V           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'               $
C           -250V lightning test on Jx-r
            ----------------------------                              $
 011554     PERFORM, 'INLI-PARA-MEAS' ('PARA-r', 'UUT', '-250V')
                      RESULT ('RESULT')                               $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-r'        $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(52, 'UL') V
                               LL 'G-TOLE-TABL'(52, 'LL') V           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'               $
C           -250V lightning test on Jx-s
            ----------------------------                              $
 011555     PERFORM, 'INLI-PARA-MEAS' ('PARA-s', 'UUT', '-250V')
                      RESULT ('RESULT')                               $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING' & C' PIN-s'        $

            COMPARE, 'RESULT', UL 'G-TOLE-TABL'(53, 'UL') V
                               LL 'G-TOLE-TABL'(53, 'LL') V           $

            CALCULATE, 'CMM-STRING' = 'CMM-STRING-SAVE'               $

            PERFORM, 'INLI-PARA-RESET'('UUT', '-250V')                $

          END, IF                                                     $

        END, FOR                                                      $

 011599 END, 'OPER-T05A'                                              $
C|                                                                    |
 |--------------------------------------------------------------------|
```


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```
                                                                    $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P E R - T 0 6 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This test checks MEMORY FAULT IN NORMAL POSITION of UUT .     |
 |                                                                |
 |----------------------------------------------------------------|
                                                                    $
 011600 DEFINE, 'OPER-T06A', GLOBAL, PROCEDURE                      $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                     $
        DECLARE, VARIABLE, 'LOOP' IS INTEGER                        $
        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                       $
          PERFORM, 'TEST-TITLE'(C'NORMAL OPERATING POSITION &' &
                                C' FAILURE MEMORY CONTROL')         $
        END, IF                                                     $

 011610 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                   $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

            IF, 'POWER-ON' EQ FALSE, THEN                           $
              CALCULATE, 'POWER-ON' = TRUE                          $
              PERFORM, 'INIT-POWER-TIME'                            $
            END, IF                                                 $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                   $
              CALCULATE, 'CMM-STRING' = C'4.1'                      $
            ELSE                                                    $
              CALCULATE, 'CMM-STRING' =
              C'4.1~' & 'G-UUT'('UUT').'NAME'                       $
            END, IF                                                 $

            PERFORM, 'DCSU-APPLY-MOD' (28, 'NO-UUT', '25A')         $

            PERFORM, 'DISC-IN-CONN' ('DISC-X', 'UUT')               $
            PERFORM, 'DISC-IN-CONN' ('DISC-a', 'UUT')               $

            PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')     $
            PERFORM, 'G429-CONN-BUS1'('UUT')                        $

            PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')     $
            PERFORM, 'G429-CONN-BUS3'('UUT')                        $

            WAIT FOR, TIME 1 SEC                                    $

            PERFORM, 'DCSU-CONNECT' ('UUT')                         $
```


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```
            WAIT FOR, TIME 10 SEC                                $

            CALCULATE, 'LOOP' = 0                                $
            CALCULATE, 'OP-CHOICE' = C'FAIL'                     $

            WHILE, ('LOOP' NE 2) AND
                   ('OP-CHOICE' NE C'PASS'), THEN                 $

              IF, 'LOOP' NE 0, THEN                              $
                PERFORM, 'DCSU-DISCONNECT' ('UUT')               $
                WAIT FOR, TIME 2 SEC                             $
                PERFORM, 'DCSU-CONNECT'    ('UUT')               $
                WAIT FOR, TIME 9 SEC                             $
              END, IF                                            $

              PERFORM, 'R422-SCOMPLCMD' ('UUT', C'S')            $

              CALCULATE, 'LOOP' = 'LOOP' + 1                     $

            END, WHILE                                           $
C           If problem with RS422                                $
            IF, 'OP-CHOICE' EQ C'FAIL', THEN                     $

 011621       PERFORM, 'WRITE' ('ALL', C'')                      $
              IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN            $
                PERFORM, 'WRITE' ('ALL',
                     C'   0~' & 'G-UUT'('UUT').'NAME')           $
              END, IF                                            $
C             Ouput an error message                             $
              PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
              'G-422-TABL'('UUT').'NAME' &
               C' COMMAND EXECUTION.')                           $
C           Save memory fault in external file                   $
            ELSE IF, 'OP-CHOICE' EQ C'PASS', THEN                $
              PERFORM, 'R422-SAVE-FILE'
                      ('UUT', 'G-RX-DATA', 'G-NB-CAR')           $
            END, IF                                              $

            PERFORM, 'UTIL-REMOVE' (FALSE, 'UUT')                $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'MEMORY FAULT')       $

          END, IF                                                $

        END, FOR                                                 $

 011699 END, 'OPER-T06A'                                         $
C|                                                               |
 |-----------------------------------------------------------------|
                                                                 $
C
 ********************************************************************
```


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```
*******************************************************************
***                                                             ***
***                    O P E R - T 0 7 A                        ***
***                                                             ***
*******************************************************************
*******************************************************************

|-----------------------------------------------------------------|
|  This test checks CONSUMPTION of UUT and                        |
|  the discret BON-FONCT                                          |
|-----------------------------------------------------------------|
                                                                  $
011700 DEFINE, 'OPER-T07A', GLOBAL, PROCEDURE                     $

       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
       DECLARE, VARIABLE, 'TIME' IS DECIMAL                       $
       DECLARE, VARIABLE, 'TIME-START' IS ARRAY('UUT1' THRU 'UUT12')
               OF DECIMAL                                         $
       DECLARE, VARIABLE, 'RESULT' IS DECIMAL                     $
       IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                      $
         PERFORM, 'TEST-TITLE'(C'POWER CONSUMPTION AND '&
                               C'VALIDITY OUTPUT DISCRETE')       $
       END, IF                                                    $

       IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN           $

         IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $

           PERFORM, 'UTIL-DISPLAY'
            (C'EXPOSE THE INSTRUMENT IN AN AVERAGE LIGHT ' &
            C'ILLUMINATION',
            C'BETWEEN 300 TO 600 LUX.',
            C'', C'', C'', C'', C'',
            C'', C'', C'', C'', C'',
            C'WAIT', C''
                   )                                              $

         ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN             $

           IF, 'G-TEST' NE C'AUTOMATIC', THEN                     $

             PERFORM, 'UTIL-DISPLAY'
             (C'EXPOSE ALL THE INSTRUMENTS OF < POSTE 1 >',
              C'IN AN AVERAGE LIGHT ILLUMINATION' &
              C'BETWEEN 300 TO 600 LUX.',
              C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
              C'WAIT', C''
                   )                                              $

           ELSE IF, 'G-TEST' EQ C'AUTOMATIC', THEN                $
```


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```
            PERFORM, 'R23P-PHOTO-CMD' (C'<LLow>')                $

          END, IF                                                $

        END, IF                                                  $

      END, IF                                                    $

011710 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

          PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')    $
          PERFORM, 'G429-CONN-BUS1'('UUT')                       $

          PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')    $
          PERFORM, 'G429-CONN-BUS3'('UUT')                       $

          WAIT FOR, TIME 1 SEC                                   $

        END, IF                                                  $

      END, FOR                                                   $

      PERFORM, 'TIME-RESET-CLK6'                                 $

011720 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

          PERFORM, 'DCSU-CONNECT' ('UUT')                        $

          PERFORM, 'TIME-READ-CLK6'
                   RESULT ('TIME-START'('UUT'))                  $

          WAIT FOR, TIME 10 SEC                                  $

        END, IF                                                  $

      END, FOR                                                   $

011730 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

          IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $
            CALCULATE, 'CMM-STRING' = C'4.2'                     $
          ELSE                                                   $
            CALCULATE, 'CMM-STRING' =
            C'4.2~' & 'G-UUT'('UUT').'NAME'                      $
          END, IF                                                $

          PERFORM, 'TIME-READ-CLK6' RESULT ('TIME')              $
```


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```
          IF, ('TIME' - 'TIME-START'('UUT')) LT 60, THEN         $
            WAIT FOR,
            TIME (60 - ('TIME' - 'TIME-START'('UUT'))) SEC       $
          END, IF                                                $

          PERFORM, 'DCSU-CONSO' ('UUT') RESULT ('RESULT')        $

          COMPARE, 'RESULT', LE 'G-TOLE-TABL'(57, 'UL') A        $

 011740   PERFORM, 'MEAS-BON-FONCT' ('UUT') RESULT ('RESULT')    $

          COMPARE, 'RESULT', LE 'G-TOLE-TABL'(118, 'UL') V       $

          PERFORM, 'UTIL-REMOVE' (FALSE, 'UUT')                  $

        END, IF                                                  $

      END, FOR                                                   $

 011799 END, 'OPER-T07A'                                         $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P E R - T 0 8 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  This test checks OPERATIONAL CONFIGURATION of UUT .          |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 011800 DEFINE, 'OPER-T08A', GLOBAL, PROCEDURE                   $

      DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
      DECLARE, VARIABLE, 'TIME' IS DECIMAL                       $
      DECLARE, VARIABLE, 'TIME-START' IS ARRAY('UUT1' THRU 'UUT12')
              OF DECIMAL                                         $
      IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                      $
        PERFORM, 'TEST-TITLE'(C'OPERATIONAL CONFIGURATION')      $
      END, IF                                                    $

 011810 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

          PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')    $
          PERFORM, 'G429-CONN-BUS1'('UUT')                       $
```


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```
            PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')     $
            PERFORM, 'G429-CONN-BUS3'('UUT')                        $

            WAIT FOR, TIME 1 SEC                                    $

          END, IF                                                   $

        END, FOR                                                    $

        PERFORM, 'TIME-RESET-CLK6'                                  $

 011820 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                   $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

            PERFORM, 'DCSU-CONNECT' ('UUT')                         $

            WAIT FOR, TIME 1 SEC                                    $

            PERFORM, 'TIME-READ-CLK6'
                     RESULT ('TIME-START'('UUT'))                   $
C|                                                                  |
 |--------------------INIT PHASE 1 ---------------------------------|
                                                                    $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                   $

              CALCULATE, 'CMM-STRING' = C'4.3.1'                    $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY THAT ON THE INSTRUMENT THE PAGE DISPLAYED',
               C'CORRESPONDS TO ANNEX 8 (Init Phase 1) '&
               C'CONFIGURATION (SEE PHOTO)',
               C'',
               C'REMARK : ANSWER AS SOON AS THE PAGE IS DISPLAYED',
               C'',
               C'', C'', C'', C'', C'', C'', C'',
               C'RESULT', C'ANNEX8_1')                              $

            ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN          $

              CALCULATE, 'CMM-STRING' =
              C'4.3.1~' & 'G-UUT'('UUT').'NAME'                     $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY THAT ON INSTRUMENT ' &
               'G-UUT'('UUT').'NAME' & C' :',
               C'THE PAGE DISPLAYEDE CORRESPONDS TO ' &
               C'CONFIGURATION ANNEX 8 (Init Phase 1)',
               C'(SEE PHOTO) .',
               C'',
               C'REMARK : ANSWER AS SOON AS THE PAGE IS DISPLAYED',
               C'--------',
               C'',
```


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```
              C'',
              C'', C'', C'', C'',
              C'RESULT', C'ANNEX8_1')                          $

            END, IF                                            $

 011830     PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'ANNEX8_1')         $
C  |--------------------INIT PHASE 2 -------------------------------|
                                                               $

            PERFORM, 'TIME-READ-CLK6' RESULT ('TIME')          $

            IF, ('TIME' - 'TIME-START'('UUT')) LT 15, THEN     $
              WAIT FOR,
              TIME (15 - ('TIME' - 'TIME-START'('UUT'))) SEC   $
            END, IF                                            $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN              $

              CALCULATE, 'CMM-STRING' = C'4.3.1'               $

              PERFORM, 'UTIL-DISPLAY'
                (C'VERIFY THAT ON THE INSTRUMENT, THE PAGE DISPLAYED',
                 C'CORRESPONDS TO ANNEX 8 (Init Phase 2) '&
                 C'CONFIGURATION (SEE PHOTO)',
                 C'',
                 C'REMARKS : a/ DO NOT TAKE INTO ACCOUNT ' &
                 C'DISPLAYED VALUES .',
                 C'-------   b/ WHEN THIS WINDOW IS DISPLAYED ' &
                 C'THE PAGE ANNEX8 MUST BE DISPLAYED',
                 C'',
                 C'',
                 C'', C'', C'', C'', C'',
                 C'RESULT', C'ANNEX8_2')                       $

            ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN     $

              CALCULATE, 'CMM-STRING' =
              C'4.3.1~' & 'G-UUT'('UUT').'NAME'                $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON INSTRUMENT ' &
                'G-UUT'('UUT').'NAME' & C' :',
               C'THE PAGE DISPLAYED CORRESPONS TO ' &
               C'CONFIGURATION ANNEX 8 (Init Phase 2)',
               C'(VOIR PHOTO) .',
               C'',
               C'REMARKS : a/ DO NOT TAKE INTO ACCOUNT ' &
               C'DISPLAYED VALUES .',
               C'-------   b/ WHEN THIS WINDOW IS DISPLAYED ' &
               C'THE PAGE ANNEX8 MUST BE DISPLAYED',
               C'', C'', C'', C'', C'', C'',
               C'RESULT', C'ANNEX8_2')                         $
```


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```
          END, IF                                                $

 011835     PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'ANNEX8_2')           $

         END, IF                                                 $

       END, FOR                                                  $
C |-------------------INIT PHASE  --------------------------------|
                                                                 $

 011840 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

           PERFORM, 'TIME-READ-CLK6' RESULT ('TIME')             $

           IF, ('TIME' - 'TIME-START'('UUT')) LT 100, THEN       $
             WAIT FOR,
             TIME (100 - ('TIME' - 'TIME-START'('UUT'))) SEC     $
           END, IF                                               $

           IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                 $

             CALCULATE, 'CMM-STRING' = C'4.3.1'                  $

             PERFORM, 'UTIL-DISPLAY'
               (C'VERIFY THAT ON THE INSTRUMENT THE PAGE DISPLAYED',
               C'CORRESPONDS TO ONE OF ANNEX 7 CONFIGURATIONS '&
               C'(SEE PHOTO)',
               C'',
               C'EXCEPT FOR : ',
               C'   - THE BAROMETRIC PRESSURE UNIT WHICH MIGHT BE '&
               C'HPA (for hPa) OR ',
               C'     IN (for inHg) DEPENDING OF THE INSTRUMENT '&
               C'CONFIGURATION WHEN IT WAS',
               C'     LAST TURNED-OFF',
               C'   - THE GLIDE AND LOCALIZE FLAG POSITION (IF '&
               C'VISIBLE)',
               C'   - THE NUMERIC VALUES',
               C'', C'', C'',
               C'RESULT', C'ANNEX7')                             $

           ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN        $

             CALCULATE, 'CMM-STRING' =
             C'4.3.1~' & 'G-UUT'('UUT').'NAME'                   $

             PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON INSTRUMENT ' &
                'G-UUT'('UUT').'NAME' & C' :',
               C'THE PAGE DISPLAYED CORRESPONDS TO ' &
               C'ONE OF ANNEX 7 CONFIGURATIONS',
```


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```
              C'(SEE PHOTO).',
              C'',
              C'EXCEPT FOR : ',
              C'   - THE BAROMETRIC PRESSURE UNIT WHICH MIGHT BE '&
              C'HPA (for hPa) OR ',
              C'     IN (for inHg) DEPENDING OF THE INSTRUMENT '&
              C'CONFIGURATION WHEN IT WAS',
              C'     LAST TURNED-OFF',
              C'   - THE GLIDE AND LOCALIZE FLAG POSITION (IF '&
              C'VISIBLE)',
              C'   - THE NUMERIC VALUES',
              C'', C'',
              C'RESULT', C'ANNEX7')                              $

            END, IF                                              $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'ANNEX7')             $

          END, IF                                                $

        END, FOR                                                 $
C |-------------------- CONTROLE ASPECT ----------------------------|
                                                                 $

 011845 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                $

              CALCULATE, 'CMM-STRING' = C'4.3.1'                 $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON THE INSTRUMENT :',
               C'1- THE BEZEL DOES NOT PRESENT ANY DEFECTS ' &
               C'REPRESENTING',
               C'   A HINDRANCE TO ITS USE.',
               C'2- THE VISIBILITY AND LEGIBILITY OF THE ' &
               C'MARKINGS AND',
               C'   INSCRIPTIONS ARE GOOD .',
               C'', C'', C'', C'', C'', C'', C'',
               C'RESULT', C'')                                   $

            ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN       $

              CALCULATE, 'CMM-STRING' =
              C'4.3.1~' & 'G-UUT'('UUT').'NAME'                  $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON INSTRUMENT ' &
                'G-UUT'('UUT').'NAME' & C' :',
               C'1- THE BEZEL DOES NOT PRESENT ANY DEFECTS ' &
               C'REPRESENTING',
```


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```
              C'   A HINDRANCE TO ITS USE.',
              C'2- THE VISIBILITY AND LEGIBILITY OF THE ' &
              C'MARKINGS AND',
              C'   INSCRIPTIONS ARE GOOD .',
              C'', C'', C'', C'', C'', C'', C'',
              C'RESULT', C'')                                    $

            END, IF                                              $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'GENERAL ASPECT')     $

          END, IF                                                $

        END, FOR                                                 $

 011899 END, 'OPER-T08A'                                         $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P E R - T 0 9 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |            This test checks Push-button/knob .                |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 011900 DEFINE, 'OPER-T09A', GLOBAL, PROCEDURE                   $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                  $
        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $
          PERFORM, 'TEST-TITLE'(C'PUSH-BUTTON/KNOB')             $
        END, IF                                                  $
C |------------------- + AND - PUSH-BUTTONS ----------------------|
                                                                 $
 011910 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                $

              CALCULATE, 'CMM-STRING' = C'4.3.2'                 $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON THE INSTRUMENT :',
               C'1- PRESS ONCE PUSHBUTTON < + > INCREASES THE ' &
               C'BRIGHTNESS.',
```

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```
              C'2- PRESS ONCE PUSHBUTTON < - > DECREASES THE ' &
              C'BRIGHTNESS.',
              C'', C'', C'', C'', C'', C'', C'', C'', C'',
              C'RESULT', C''
                   )                                          $

            ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN    $

              CALCULATE, 'CMM-STRING' =
              C'4.3.2~' & 'G-UUT'('UUT').'NAME'                $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON INSTRUMENT ' &
                'G-UUT'('UUT').'NAME' & C' :',
              C'1- PRESS ONCE PUSHBUTTON < + > INCREASES THE ' &
              C'BRIGHTNESS.',
              C'2- PRESS ONCE PUSHBUTTON < - > DECREASES THE ' &
              C'BRIGHTNESS.',
              C'', C'', C'', C'', C'', C'', C'', C'', C'',
              C'RESULT', C''
                   )                                          $
            END, IF                                           $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'BUTTONS <+> <->')  $

          END, IF                                             $

        END, FOR                                              $
C |--------------------- APP PUSH-BUTTON -------------------------|
                                                              $
 011915 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN             $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN         $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN             $

              CALCULATE, 'CMM-STRING' = C'4.3.2'              $

              PERFORM, 'UTIL-DISPLAY'
                (C'VERIFY ON THE INSTRUMENT :',
                C'',
                C'THAT PRESSING THE PUSH-BUTTON <APP> ONCE '&
                C'SWITCHES BETWEEN THE ',
                C'FOLLOWING DISPLAYS :',
                C'  - no ILS (APPENDIX 7 Operational presentation 1)',
                C'  - APP (APPENDIX 7 Operational presentation 2)',
                C'  - BCRS (APPENDIX 7 Operational presentation 3)',
                C'',
                C'SEE PHOTO',
                C'', C'', C'',
                C'RESULT', C'ANNEX7')                         $

            ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN    $
```


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```
              CALCULATE, 'CMM-STRING' =
              C'4.3.1~' & 'G-UUT'('UUT').'NAME'                    $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON INSTRUMENT ' &
                'G-UUT'('UUT').'NAME' & C' :',
               C'',
               C'THAT PRESSING THE PUSH-BUTTON <APP> ONCE '&
               C'SWITCHES BETWEEN THE ',
               C'FOLLOWING DISPLAYS :',
               C'  - no ILS (APPENDIX 7 Operational presentation 1)',
               C'  - APP (APPENDIX 7 Operational presentation 2)',
               C'  - BCRS (APPENDIX 7 Operational presentation 3)',
               C'',
               C'SEE PHOTO',
               C'', C'', C'',
               C'RESULT', C'ANNEX7')                               $
            END, IF                                                $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'BUTTON <APP>')         $

          END, IF                                                  $

        END, FOR                                                   $
C |--------------------- HP/IN PUSH-BUTTON ------------------------|
                                                                   $
 011920 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $

              CALCULATE, 'CMM-STRING' = C'4.3.2'                   $

              PERFORM, 'UTIL-DISPLAY'
                (C'VERIFY ON THE INSTRUMENT :',
                C'',
                C'THAT PRESSING THE PUSH-BUTTON <HP/IN> ONCE '&
                C'SWITCHES THE ',
                C'BAROMETRIC PRESSURE UNIT BETWEEN HPA (for hPa) AND'&
                C' IN (for inHg)',
                C'REMARK :',
                C' - THE PRESSURE MUST NOT BE IN `STD` MODE',
                C'   PRESS ON < BARO > KNOB-BUTTON IF NECESSARY',
                C'',
                C'',
                C'', C'', C'',
                C'RESULT', C'')                                    $

            ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN         $

              CALCULATE, 'CMM-STRING' =
```


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```
            C'4.3.1~' & 'G-UUT'('UUT').'NAME'                    $

            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY ON INSTRUMENT ' &
              'G-UUT'('UUT').'NAME' & C' :',
             C'',
             C'THAT PRESSING THE PUSH-BUTTON <HP/IN> ONCE '&
             C'SWITCHES THE ',
             C'BAROMETRIC PRESSURE UNIT BETWEEN HPA (for hPa) AND'&
             C' IN (for inHg)',
             C'REMARK :',
             C' - THE PRESSURE MUST NOT BE IN `STD` MODE',
             C'   PRESS ON < BARO > KNOB-BUTTON IF NECESSARY',
             C'',
             C'',
             C'', C'', C'',
             C'RESULT', C'')                                     $
           END, IF                                               $

           PERFORM, 'COMP-OP-MEAS'
           ('CUR-STAT-NO', 'CUR-MODULE', C'BUTTON <HP/IN>')      $

         END, IF                                                 $

       END, FOR                                                  $
C |---------------------- BARO KNOB-BUTTON -------------------------|
                                                                 $

 011925 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

           IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                 $

            CALCULATE, 'CMM-STRING' = C'4.3.2'                   $

            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY ON THE INSTRUMENT :',
             C'1- ROTATE < BARO > KNOB AROUND 1/4 TURN CLOCKWISE',
             C'   INCREASES THE BAROMETRIC PRESSURE.',
             C'2- ROTATE < BARO > KNOB AROUND 1/4 TURN' &
             C' ANTI-CLOCKWISE',
             C'   DECREASES THE BAROMETRIC PRESSURE .',
             C'3- PRESS < BARO > KNOB CAUSES THE BAROMETRIC ' &
             C'SETTING',
             C'   TO CHANGE FROM AJUSTABLE BAROMETRIC TO "STD".',
             C'', C'', C'', C'', C'',
             C'RESULT', C'')                                     $

           ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN        $

            CALCULATE, 'CMM-STRING' =
            C'4.3.2~' & 'G-UUT'('UUT').'NAME'                    $
```


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```
            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY ON INSTRUMENT :' &
             'G-UUT'('UUT').'NAME' & C' :',
             C'1- ROTATE < BARO > KNOB AROUND 1/4 TURN CLOCKWISE',
             C'   INCREASES THE BAROMETRIC PRESSURE.',
             C'2- ROTATE < BARO > KNOB AROUND 1/4 TURN' &
             C' ANTI-CLOCKWISE',
             C'   DECREASES THE BAROMETRIC PRESSURE .',
             C'3- PRESS < BARO > KNOB CAUSES THE BAROMETRIC ' &
             C'SETTING',
             C'   TO CHANGE FROM AJUSTABLE BAROMETRIC TO "STD".',
             C'', C'', C'', C'', C'',
             C'RESULT', C'')                                    $
          END, IF                                               $

          PERFORM, 'COMP-OP-MEAS'
          ('CUR-STAT-NO', 'CUR-MODULE', C'BUTTON <BARO>')       $

        END, IF                                                 $

      END, FOR                                                  $
C |---------------------- RST PUSH-BUTTON -------------------------|
                                                                  $

 011930 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

          IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $

            CALCULATE, 'CMM-STRING' = C'4.3.2'                   $

            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY ON THE INSTRUMENT :',
             C'AFTER < RST > BUTTON IS PRESSED FOR 2 SEC THE ' &
             C'MESSAGE',
             C'"ATT10s" IS DISPLAYED (SEE PHOTO ANNEX 11).',
             C'',
             C'REMARK : DO NOT TAKE INTO ACCOUNT DISPLAYED ' &
             C'VALUES.',
             C'------',
             C'', C'', C'', C'', C'', C'',
             C'RESULT', C'ANNEX11')                              $

          ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN         $

            CALCULATE, 'CMM-STRING' =
            C'4.3.2~' & 'G-UUT'('UUT').'NAME'                    $

            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY ON INSTRUMENT ' &
             'G-UUT'('UUT').'NAME' & C' :',
             C'AFTER < RST > BUTTON IS PRESSED FOR 2 SEC THE ' &
             C'MESSAGE',
```


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```
              C'"ATT10s" IS DISPLAYED (SEE PHOTO ANNEX 11).',
              C'',
              C'REMARK : DO NOT TAKE INTO ACCOUNT DISPLAYED ' &
              C'VALUES.',
              C'------',
              C'', C'', C'', C'', C'', C'',
              C'RESULT', C'ANNEX11'
                   )                                          $
            END, IF                                           $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'BUTTON <RST>')    $

          END, IF                                             $

        END, FOR                                              $

 011999 END, 'OPER-T09A'                                      $
C|                                                            |
 |-------------------------------------------------------------|
                                                              $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                    O P E R - T 1 0 A                     ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  This test checks TEST function of UUT .                    |
 |                                                             |
 |-------------------------------------------------------------|
                                                              $
 012000 DEFINE, 'OPER-T10A', GLOBAL, PROCEDURE                $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'               $
        DECLARE, VARIABLE, 'TIME' IS DECIMAL                  $
        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                 $
          PERFORM, 'TEST-TITLE'(C'"TEST" FUNCTION TESTS')     $
        END, IF                                               $

        IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN       $

          WAIT FOR, TIME 10 SEC                               $

 012010   IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                $

            CALCULATE, 'CMM-STRING' = C'4.3.3'                $
```


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```
          PERFORM, 'UTIL-DISPLAY'
          (C'VERIFY ON THE INSTRUMENT :',
           C'PRESS SIMULTANEOUSLY < HP/IN > AND < APP > BUTTONS',
           C'FOR 2 SECONDS, THEN THE PAGE DESCRIBED IN ANNEX 9',
           C'CONFIGURATION IS DISPLAYED (SEE PHOTO).',
           C'', C'', C'', C'', C'', C'', C'', C'',
           C'RESULT', C'ANNEX9')                                $

          ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN        $

            PERFORM, 'UTIL-DISPLAY'(
            C'PRESS SIMULTANEOUSLY < HP/IN > AND < APP > BUTTONS',
            C'OF ALL INSTRUMENTS OFU < POSTE 1 > FORT ' &
            C'2 SEC.',
            C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C'')                                       $
         END, IF                                                $

       END, IF                                                  $

       FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

          IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                 $

            CALCULATE, 'CMM-STRING' =
            C'4.3.3~' & 'G-UUT'('UUT').'NAME'                   $

012015      PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY ON INSTRUMENT ' &
             'G-UUT'('UUT').'NAME' & C' :',
             C'THE PAGE DISPLAYED CORRESPONDS TO THE CONFIGURATION ' &
             C'ANNEX 9',
             C'(SEE PHOTO) .',
             C'', C'', C'', C'', C'', C'', C'', C'', C'',
             C'RESULT', C'ANNEX9'
                  )                                             $
          END, IF                                               $

012017    PERFORM, 'COMP-OP-MEAS'
          ('CUR-STAT-NO', 'CUR-MODULE', C'ANNEX9')              $

         END, IF                                                $

       END, FOR                                                 $

       IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN          $

012020   IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                   $
```


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```
          CALCULATE, 'CMM-STRING' = C'4.3.3'                    $

          PERFORM, 'UTIL-DISPLAY'
          (C'VERIFY ON THE INSTRUMENT :',
           C'PRESS < + > BUTTON , THEN THE PAGE DESCRIBED',
           C'IN ANNEX 12 CONFIGURATION IS DISPLAYED ' &
           C'(SEE PHOTO).',
           C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'RESULT', C'ANNEX12'
                 )                                              $

        ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN          $

          PERFORM, 'UTIL-DISPLAY'
          (C'PRESS < + > BUTTON OF ALL ' &
           C'INSTRUMENTS OF < POSTE 1 >.',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'WAIT', C''
                 )                                              $
        END, IF                                                 $

      END, IF                                                   $

      FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

          IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                 $

            CALCULATE, 'CMM-STRING' =
            C'4.3.3~' & 'G-UUT'('UUT').'NAME'                   $

012022      PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY ON INSTRUMENT ' &
             'G-UUT'('UUT').'NAME' & C' :',
             C'THE PAGE DISPLAYED CORRESPONDS TO ' &
             C'CONFIGURATION ANNEX 12',
             C'(SEE PHOTO).',
             C'', C'', C'', C'', C'', C'', C'', C'', C'',
             C'RESULT', C'ANNEX12'
                 )                                              $
          END, IF                                               $

012025    PERFORM, 'COMP-OP-MEAS'
          ('CUR-STAT-NO', 'CUR-MODULE', C'ANNEX12')             $

        END, IF                                                 $

      END, FOR                                                  $

      IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN           $
```


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```
012027   IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $

           PERFORM, 'UTIL-DISPLAY'
           (C'PRESS < + > BUTTON ON THE INSTRUMENT.',
            C'', C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                  )                                               $

         ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN            $

           PERFORM, 'UTIL-DISPLAY'
           (C'PRESS < + > BUTTON OF ALL ' &
            C'INSTRUMENTS OF < POSTE 1 >.',
            C'', C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                  )                                               $
         END, IF                                                  $

       END, IF                                                    $

       IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN            $

         WAIT FOR, TIME 10 SEC                                    $

         PERFORM, 'TIME-RESET-CLK6'                               $

       END, IF                                                    $

       FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

012030     IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $

             CALCULATE, 'CMM-STRING' = C'4.3.3'                   $

             PERFORM, 'UTIL-DISPLAY'
             (C'VERIFY THAT PAGE "TEST IN PROGRESS 110S" IS ' &
              C'DISPLAYED ON',
              C'THE INSTRUMENT .',
              C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
              C'RESULT', C''
                  )                                               $

         ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN            $

             CALCULATE, 'CMM-STRING' =
             C'4.3.3~' & 'G-UUT'('UUT').'NAME'                    $

             PERFORM, 'UTIL-DISPLAY'
```


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```
          (C'VERIFY THAT PAGE "TEST IN PROGRESS 110S" IS ' &
           C'DISPLAYED ON',
           C' INSTRUMENT ' & 'G-UUT'('UUT').'NAME' & C' .',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'RESULT', C''
                )                                            $
        END, IF                                              $

        PERFORM, 'COMP-OP-MEAS'
        ('CUR-STAT-NO', 'CUR-MODULE', C'PAGE 110S')          $

      END, IF                                                $

    END, FOR                                                 $

    IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
        ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
        ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
        ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN         $

      PERFORM, 'TIME-READ-CLK6' RESULT ('TIME')              $

      IF, 'TIME' LT 110, THEN                                $
        WAIT FOR, TIME (110 - 'TIME') SEC                    $
      END, IF                                                $

    END, IF                                                  $

    FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                $

      IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

012040    IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN              $

          CALCULATE, 'CMM-STRING' = C'4.3.3'                 $

          PERFORM, 'UTIL-DISPLAY'
          (C'VERIFY THAT PAGE "TEST OK" IS ' &
           C'DISPLAYED ON THE INSTRUMENT.',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'RESULT', C''
                )                                            $

      ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN         $

          CALCULATE, 'CMM-STRING' =
          C'4.3.3~' & 'G-UUT'('UUT').'NAME'                  $

          PERFORM, 'UTIL-DISPLAY'
          (C'VERIFY THAT THE PAGE "TEST OK" IS DISPLAYED ' &
           C'ON INSTRUMENT ' & 'G-UUT'('UUT').'NAME' &
           C' .',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'RESULT', C''
```


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```
                )                                                $
            END, IF                                              $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'PAGE TEST OK')       $

          END, IF                                                $

        END, FOR                                                 $

        IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN          $

012045    IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $

            CALCULATE, 'CMM-STRING' = C'4.3.3'                   $

            PERFORM, 'UTIL-DISPLAY'
            (C'PRESS 3 TIMES < RST > BUTTON OF THE INSTRUMENT',
             C'THEN, VERIFY THAT THE PAGE DESCRIBED IN ANNEX 7 ',
             C' CONFIGURATION IS DISPLAYED',
             C' (SEE PHOTO)',
             C'',
             C'REMARKS : DO NOT TAKE INTO ACCOUNT DISPLAYED ' &
             C'VALUES .',
             C'', C'', C'', C'', C'', C'',
             C'RESULT', C'ANNEX7'
                )                                                $

          ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN         $

            PERFORM, 'UTIL-DISPLAY'
            (C'PRESS 3 TIMES < RST > BUTTON OF ALL INSTRUMENTS'  &
             C'OF < POSTE 1 > .',
             C'', C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
             C'WAIT', C''
                )                                                $
          END, IF                                                $

        END, IF                                                  $

        FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

012050      IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                $

              CALCULATE, 'CMM-STRING' =
              C'4.3.3~' & 'G-UUT'('UUT').'NAME'                  $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON INSTRUMENT ' &
```

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```
            'G-UUT'('UUT').'NAME' & C' :',
            C'THE DISPLAYED PAGE CORRESPONDS TO THE ' &
            C'CONFIGURATION ANNEX 7',
            C'(SEE PHOTO).',
            C'',
            C'REMARKS : DO NOT TAKE INTO ACCOUNT DISPLAYED ' &
            C'VALUES .',
            C'', C'',C'', C'', C'', C'', C'',
            C'RESULT', C'ANNEX7'
                 )                                          $
          END, IF                                           $

012055    PERFORM, 'COMP-OP-MEAS'
          ('CUR-STAT-NO', 'CUR-MODULE', C'ANNEX7')          $

        END, IF                                             $

      END, FOR                                              $

      FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN             $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN         $

          PERFORM, 'DISC-IN-CONN' ('DISC-q', 'UUT')         $
          WAIT FOR, TIME 1 SEC                              $
          PERFORM, 'DISC-IN-DISCON' ('DISC-q', 'UUT')       $

        END, IF                                             $

      END, FOR                                              $

      IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN       $

        WAIT FOR, TIME 10 SEC                               $

        PERFORM, 'TIME-RESET-CLK6'                          $

      END, IF                                               $

      FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN             $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN         $

012060    IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN             $

            CALCULATE, 'CMM-STRING' = C'4.3.3'              $

            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY THAT PAGE "TEST IN PROGRESS 110S" IS ' &
             C'DISPLAYED ON',
             C'THE INSTRUMENT .',
```


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```
            C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'RESULT', C''
                 )                                          $

        ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN      $

            CALCULATE, 'CMM-STRING' =
            C'4.3.3~' & 'G-UUT'('UUT').'NAME'               $

            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY THAT THE PAGE "TEST IN PROGRESS 110S" IS ' &
             C'DISPLAYED ON',
             C'INSTRUMENT ' & 'G-UUT'('UUT').'NAME' & C' .',
             C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
             C'RESULT', C''
                 )                                          $
          END, IF                                           $

          PERFORM, 'COMP-OP-MEAS'
          ('CUR-STAT-NO', 'CUR-MODULE', C'PAGE 110S')       $

        END, IF                                             $

      END, FOR                                              $

      IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN       $

        PERFORM, 'TIME-READ-CLK6' RESULT ('TIME')           $

        IF, 'TIME' LT 110, THEN                             $
          WAIT FOR, TIME (110 - 'TIME') SEC                 $
        END, IF                                             $

      END, IF                                               $

      FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN             $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN         $

012070    IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN             $

            CALCULATE, 'CMM-STRING' = C'4.3.3'              $

            PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY THAT ON THE INSTRUMENT, THE PAGE DISPLAYED',
              C'CORRESPONDS TO ANNEX 7 CONFIGURATION (SEE PHOTO)',
              C'',
              C'EXCEPT FOR : ',
              C'   - THE BAROMETRIC PRESSURE UNIT WHICH MIGHT BE '&
              C'HPA (for hPa) OR ',
              C'     IN (for inHg) DEPENDING OF THE INSTRUMENT '&
```


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```
              C'CONFIGURATION WHEN IT WAS',
              C'     LAST TURNED-OFF',
              C'   - THE GLIDE AND LOCALIZE FLAG POSITION (IF '&
              C'VISIBLE)',
              C'   - THE NUMERIC VALUES',
              C'', C'', C'',
              C'RESULT', C'ANNEX7')                              $

          ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN         $

              CALCULATE, 'CMM-STRING' =
              C'4.3.3~' & 'G-UUT'('UUT').'NAME'                  $

              PERFORM, 'UTIL-DISPLAY'
                (C'VERIFY ON INSTRUMENT ' &
                'G-UUT'('UUT').'NAME' & C' :',
                C'THE DISPLAYED PAGE CORRESPONDS TO THE ' &
                C'CONFIGURATION ANNEX 7',
                C'(SEE PHOTO).',
                C'',
                C'EXCEPT FOR : ',
                C'   - THE BAROMETRIC PRESSURE UNIT WHICH MIGHT BE '&
                C'HPA (for hPa) OR ',
                C'     IN (for inHg) DEPENDING OF THE INSTRUMENT '&
                C'CONFIGURATION WHEN IT WAS',
                C'     LAST TURNED-OFF',
                C'   - THE GLIDE AND LOCALIZE FLAG POSITION (IF '&
                C'VISIBLE)',
                C'   - THE NUMERIC VALUES',
                C'', C'',
                C'RESULT', C'ANNEX7')                            $
            END, IF                                              $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'ANNEX7')             $

          END, IF                                                $

        END, FOR                                                 $

 012099 END, 'OPER-T10A'                                         $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P E R - T 1 1 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
```


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```
|  This test checks HEADING function of UUT .                        |
|                                                                    |
|--------------------------------------------------------------------|
                                                                     $
012100 DEFINE, 'OPER-T11A', GLOBAL, PROCEDURE                        $

       DECLARE, VARIABLE, 'TIME' IS DECIMAL                          $
       DECLARE, VARIABLE, 'TIME-START' IS ARRAY('UUT1' THRU 'UUT12')
               OF DECIMAL                                            $
       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                       $
       IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                         $
         PERFORM, 'TEST-TITLE'(C'"HEADING" FUNCTION TESTS')          $
       END, IF                                                       $

       FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                     $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                 $

012105     PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')       $
           PERFORM, 'G429-CONN-BUS1'('UUT')                          $

           PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-NE-0')       $
           PERFORM, 'G429-CONN-BUS3'('UUT')                          $

         END, IF                                                     $

       END, FOR                                                      $

       FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                     $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                 $

012120     IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                     $

             CALCULATE, 'CMM-STRING' = C'4.3.4'                      $

             PERFORM, 'UTIL-DISPLAY'
             (C'VERIFY ON THE INSTRUMENT THAT THE HEADING ' &
              C'DISPLAYED IS 30 DEGREES.',
              C'', C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
              C'RESULT', C'')                                        $

         ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN              $

             CALCULATE, 'CMM-STRING' =
             C'4.3.4~' & 'G-UUT'('UUT').'NAME'                       $

             PERFORM, 'UTIL-DISPLAY'
             (C'VERIFY ON INSTRUMENT ' &
              'G-UUT'('UUT').'NAME' & C' :',
              C'THE DISPLAYED HEADING IS 30 DEGREES.',
              C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
              C'RESULT', C'')                                        $
           END, IF                                                   $
```


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```
          PERFORM, 'COMP-OP-MEAS'
          ('CUR-STAT-NO', 'CUR-MODULE', C'HEADING 30 DEG.')       $

        END, IF                                                   $

      END, FOR                                                    $

      FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                   $
        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $
          PERFORM, 'DCSU-DISCONNECT' ('UUT')                      $
          WAIT FOR, TIME 2 SEC                                    $
          PERFORM, 'DISC-IN-CONN' ('DISC-m', 'UUT')               $
          PERFORM, 'DISC-IN-CONN' ('DISC-k', 'UUT')               $
        END, IF                                                   $
      END, FOR                                                    $

      PERFORM, 'TIME-RESET-CLK6'                                  $

012125 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          PERFORM, 'DCSU-CONNECT' ('UUT')                         $

          PERFORM, 'TIME-READ-CLK6'
                   RESULT ('TIME-START'('UUT'))                   $

          WAIT FOR, TIME 10 SEC                                   $

        END, IF                                                   $

      END, FOR                                                    $

      FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                   $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          PERFORM, 'TIME-READ-CLK6' RESULT ('TIME')               $

         IF, ('TIME' - 'TIME-START'('UUT')) LT 100, THEN          $
           WAIT FOR,
           TIME (100 - ('TIME' - 'TIME-START'('UUT'))) SEC        $
         END, IF                                                  $

012130     IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $

            CALCULATE, 'CMM-STRING' = C'4.3.4'                    $

            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY ON THE INSTRUMENT THAT NO HEADING ' &
             C'DATA IS DISPLAYED.',
             C'', C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
             C'RESULT', C''
```


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```
                )                                                $

          ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN         $

              CALCULATE, 'CMM-STRING' =
              C'4.3.4~' & 'G-UUT'('UUT').'NAME'                  $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON INSTRUMENT ' &
               'G-UUT'('UUT').'NAME' & C' :',
               C'THAT NO HEADING DATA IS DISPLAYED',
               C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'RESULT', C''
                    )                                            $
            END, IF                                              $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'NO HEADING DATA')    $

          END, IF                                                $

        END, FOR                                                 $

        FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                $
          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $
            PERFORM, 'DCSU-DISCONNECT' ('UUT')                   $
            WAIT FOR, TIME 2 SEC                                 $
            PERFORM, 'DISC-IN-DISCON' ('DISC-m', 'UUT')          $
            PERFORM, 'DISC-IN-DISCON' ('DISC-k', 'UUT')          $
          END, IF                                                $
        END, FOR                                                 $

 012199 END, 'OPER-T11A'                                         $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P E R - T 1 2 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  This test checks ILS function of UUT .                       |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 012200 DEFINE, 'OPER-T12A', GLOBAL, PROCEDURE                   $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                  $
        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $
```


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```
        PERFORM, 'TEST-TITLE'(C'"ILS" FUNCTION TEST')            $
      END, IF                                                    $

      FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

012210    PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-NE-0')    $
          PERFORM, 'G429-CONN-BUS1'('UUT')                       $

          PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')    $
          PERFORM, 'G429-CONN-BUS3'('UUT')                       $

        END, IF                                                  $

      END, FOR                                                   $

012215 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

          PERFORM, 'DCSU-CONNECT' ('UUT')                        $

          WAIT FOR, TIME 10 SEC                                  $

        END, IF                                                  $

      END, FOR                                                   $

      IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN           $

        WAIT FOR, TIME 100 SEC                                   $

        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $

          CALCULATE, 'CMM-STRING' = C'4.3.5'                     $

          PERFORM, 'UTIL-DISPLAY'
          (C'PRESS < APP > BUTTON ON THE INSTRUMENT AND VERIFY :',
           C'THE IMAGE DISPLAYED CORRESPONDS TO THE PHOTO.',
           C'',
           C'REMARK : TAKE INTO ACCOUNT ONLY ZONES NOTIFIED :',
           C'------   1/ `APP` IS DISPLAYED IN THE UPPER ' &
           C'LEFT CORNER.',
           C'         2/ NO FLAG VISIBLE.',
           C'         3/ HORIZONTAL  LINE (LOCALIZER)   = +1',
           C'            (1st MARK RIGHT FROM THE CENTER.)',
           C'         4/ VERTICAL    LINE (GLIDE SLOPE) = -1',
           C'            (1st MARK DOWN  FROM THE CENTER.)',
           C'', C'',
           C'RESULT', C'ANNEX7_2'
```


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```
                )                                                $

        ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN           $

012220    PERFORM, 'UTIL-DISPLAY'
          (C'PRESS < APP > BUTTON OF ALL ' &
           C'INSTRUMENTS OF < POSTE 1 > .',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'WAIT', C''
                )                                                $
        END, IF                                                  $

      END, IF                                                    $

      FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

012225    IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                  $

            CALCULATE, 'CMM-STRING' =
            C'4.3.5~' & 'G-UUT'('UUT').'NAME'                    $

            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY ON INSTRUMENT ' &
             'G-UUT'('UUT').'NAME' & C' :',
             C'THE IMAGE DISPLAYED CORRESPONDS TO THE PHOTO.',
             C'',
             C'REMARK : TAKE INTO ACCOUNT ONLY ZONES NOTIFIED :',
             C'------   1/ `APP` IS DISPLAYED IN THE UPPER ' &
             C'LEFT CORNER.',
             C'         2/ NO FLAG VISIBLE.',
             C'         3/ HORIZONTAL  LINE (LOCALIZER)   = +1',
             C'            (1st MARK RIGHT FROM THE CENTER.)',
             C'         4/ VERTICAL    LINE (GLIDE SLOPE) = -1',
             C'            (1st MARK DOWN  FROM THE CENTER.)',
             C'', C'',
             C'RESULT', C'ANNEX7_2')                             $
          END, IF                                                $

012230    PERFORM, 'COMP-OP-MEAS'
          ('CUR-STAT-NO', 'CUR-MODULE', C'ILS APP')              $

        END, IF                                                  $

      END, FOR                                                   $

      IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN           $

012235   IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                   $
```


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```
          CALCULATE, 'CMM-STRING' = C'4.3.5'                    $

          PERFORM, 'UTIL-DISPLAY'
          (C'PRESS < APP > BUTTON ON THE INSTRUMENT AND VERIFY :',
           C'THE IMAGE DISPLAYED CORRESPOND TO THE PHOTO.',
           C'',
           C'REMARK : TAKE INTO ACCOUNT ONLY ZONES NOTIFIED :',
           C'------   1/ `BCRS` IS DISPLAYED IN THE UPPER ' &
               C'LEFT CORNER.',
           C'         2/ NO FLAG VISIBLE.',
           C'         3/ HORIZONTAL  LINE (LOCALIZER)   = -1',
           C'            (1st MARK LEFT FROM THE CENTER.)',
           C'',
           C'',
           C'', C'',
           C'RESULT', C'ANNEX7_3')                              $

        ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN          $

012240    PERFORM, 'UTIL-DISPLAY'
          (C'PRESS < APP > BUTTON OF ALL ' &
           C'INSTRUMENTS OF < POSTE 1 > .',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'WAIT', C''
                 )                                              $
        END, IF                                                 $

      END, IF                                                   $

      FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

012245    IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                 $

            CALCULATE, 'CMM-STRING' =
            C'4.3.5~' & 'G-UUT'('UUT').'NAME'                   $

            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY ON INSTRUMENT ' &
             'G-UUT'('UUT').'NAME' & C' :',
             C'THE IMAGE DISPLAYED CORRESPOND TO THE PHOTO.',
             C'',
             C'REMARK : TAKE INTO ACCOUNT ONLY ZONES NOTIFIED :',
             C'------   1/ `BCRS` IS DISPLAYED IN THE UPPER ' &
             C'LEFT CORNER.',
             C'         2/ NO FLAG VISIBLE.',
             C'         3/ HORIZONTAL  LINE (LOCALIZER)   = -1',
             C'            (1st MARK LEFT FROM THE CENTER.)',
             C'',
             C'',
             C'', C'',
             C'RESULT', C'ANNEX7_3')                            $
          END, IF                                               $
```


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```
012250     PERFORM, 'COMP-OP-MEAS'
           ('CUR-STAT-NO', 'CUR-MODULE', C'ILS BCRS')              $

         END, IF                                                   $

       END, FOR                                                    $

       IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN            $

         IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                     $

           CALCULATE, 'CMM-STRING' = C'4.3.5'                      $

           PERFORM, 'UTIL-DISPLAY'
           (C'PRESS < APP > BUTTON ON THE INSTRUMENT AND VERIFY :',
            C'THE "LOCALIZER" AND "GLIDESLOPE" DATA ARE',
            C'NO LONGER DISPLAYED .',
            C'',
            C'',
            C'',
            C'', C'', C'', C'', C'', C'',
            C'RESULT', C'ANNEX7_1'
                  )                                                $

         ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN            $

012255     PERFORM, 'UTIL-DISPLAY'
           (C'PRESS < APP > BUTTON OF ALL ' &
            C'INSTRUMENTS OF < POSTE 1 > .',
            C'', C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                  )                                                $
         END, IF                                                   $

       END, IF                                                     $

       FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                   $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

012260     IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                   $

             CALCULATE, 'CMM-STRING' =
             C'4.3.5~' & 'G-UUT'('UUT').'NAME'                     $

             PERFORM, 'UTIL-DISPLAY'
             (C'VERIFY ON INSTRUMENT ' &
              'G-UUT'('UUT').'NAME' & C' :',
              C'THE "LOCALIZER" AND "GLIDESLOPE" DATA ARE',
              C'NO LONGER DISPLAYED .',
```

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```
            C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'RESULT', C'ANNEX7_1'
                 )                                          $
          END, IF                                           $

 012265     PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'NO ILS')        $

         END, IF                                            $

       END, FOR                                             $

 012299 END, 'OPER-T12A'                                    $
C|                                                          |
 |-----------------------------------------------------------|
                                                            $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                    O P E R - T 1 3 A                     ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------|
 |  This test checks BEZEL LIGHTING of UUT .                 |
 |                                                           |
 |-----------------------------------------------------------|
                                                            $
 012300 DEFINE, 'OPER-T13A', GLOBAL, PROCEDURE              $

       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'              $

       IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                $
         PERFORM, 'TEST-TITLE' (C'BEZEL LIGHTING CHECK')    $
       END, IF                                              $

       IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN     $

         PERFORM, 'ACSU-APPLY-MOD' (0)                      $

       END, IF                                              $

 012310 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN           $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN        $

           PERFORM, 'ACSU-CONNECT'('UUT')                   $

         END, IF                                            $
```


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```
        END, FOR                                                $

        IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN         $

          IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                 $

            PERFORM, 'UTIL-DISPLAY'
            (C'MASK THE PHOTO CELL OF UUT IN ORDER TO',
             C'SIMULATE THE <NIGHT CONDITIONS>.',
             C'', C'', C'', C'',
             C'', C'', C'', C'', C'', C'',
             C'WAIT', C''
                  )                                             $
          ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN          $

            IF, 'G-TEST' NE C'AUTOMATIC', THEN                  $

              PERFORM, 'UTIL-DISPLAY'
              (C'MASK THE PHOTOCELL OF ALL INSTRUMENTS ',
               C'OF < POSTE 1 >.',
               C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'WAIT', C''
                    )                                           $

            ELSE IF, 'G-TEST' EQ C'AUTOMATIC', THEN             $

               PERFORM, 'R23P-PHOTO-CMD' (C'<LOf>')             $

            END, IF                                             $

          END, IF                                               $

          PERFORM, 'ACSU-APPLY-MOD' (5)                         $

        END, IF                                                 $

012320  FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN           $

012325      IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN               $

              CALCULATE, 'CMM-STRING' = C'4.3.6'                $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON UUT :',
               C'1- HOMOGENEITY OF PUSHBUTTONS BRIGHTNESS.',
               C'2- NO LUMINOSITY LEAK IS VISIBLE.',
               C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'RESULT', C''
```

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```
                )                                                $

          ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN         $

              CALCULATE, 'CMM-STRING' =
              C'4.3.6~' & 'G-UUT'('UUT').'NAME'                  $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON INSTRUMENT ' &
               'G-UUT'('UUT').'NAME' & C' :',
               C'1- HOMOGENEITY OF PUSHBUTTONS BRIGHTNESS.',
               C'2- NO LUMINOSITY LEAK IS VISIBLE.',
               C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'RESULT', C''
                    )                                            $
            END, IF                                              $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'LIGHTING CHECK')     $

            PERFORM, 'ACSU-DISCONNECT'('UUT')                    $

          END, IF                                                $

        END, FOR                                                 $

        IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN         $

          PERFORM, 'ACSU-REMOVE'                                 $

        END, IF                                                  $

 012399 END, 'OPER-T13A'                                         $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P E R - T 1 4 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  This test checks the OPTIONS of UUT .                        |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 012400 DEFINE, 'OPER-T14A', GLOBAL, PROCEDURE                   $
```


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```
        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
        DECLARE, VARIABLE, 'TIME' IS DECIMAL                       $
        DECLARE, VARIABLE, 'TIME-START' IS ARRAY('UUT1' THRU 'UUT12')
                OF DECIMAL                                         $
        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                      $
          PERFORM, 'TEST-TITLE'(C'OPTIONS TEST')                   $
        END, IF                                                    $

        FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $
          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $
            PERFORM, 'DCSU-DISCONNECT' ('UUT')                     $
            WAIT FOR, TIME 2 SEC                                   $
          END, IF                                                  $
        END, FOR                                                   $

012405 IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN            $

          IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $

            PERFORM, 'UTIL-DISPLAY'
            (C'EXPOSE THE INSTRUMENT IN AN AVERAGE LIGHT ' &
             C'ILLUMINATION',
             C'BETWEEN 300 TO 600 LUX.',
             C'', C'', C'', C'', C'',
             C'', C'', C'', C'', C'',
             C'WAIT', C''
                   )                                               $

          ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN             $

            IF, 'G-TEST' NE C'AUTOMATIC', THEN                     $

              PERFORM, 'UTIL-DISPLAY'
              (C'EXPOSE ALL THE INSTRUMENTS OF < POSTE 1 >',
               C'IN AN AVERAGE LIGHT ILLUMINATION' &
               C'BETWEEN 300 TO 600 LUX.',
               C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'WAIT', C''
                    )                                              $

            ELSE IF, 'G-TEST' EQ C'AUTOMATIC', THEN                $

               PERFORM, 'R23P-PHOTO-CMD' (C'<LLow>')               $

            END, IF                                                $

          END, IF                                                  $

        END, IF                                                    $
```


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```
012410 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

           PERFORM, 'DISC-IN-DISCON' ('DISC-m', 'UUT')            $
           PERFORM, 'DISC-IN-CONN' ('DISC-p', 'UUT')              $
           PERFORM, 'DISC-IN-CONN' ('DISC-Z', 'UUT')              $
           PERFORM, 'DISC-IN-CONN' ('DISC-s', 'UUT')              $
           PERFORM, 'DISC-IN-CONN' ('DISC-k', 'UUT')              $

           PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')    $
           PERFORM, 'G429-CONN-BUS1'('UUT')                       $

           PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')    $
           PERFORM, 'G429-CONN-BUS3'('UUT')                       $

           WAIT FOR, TIME 1 SEC                                   $

         END, IF                                                  $

       END, FOR                                                   $

       PERFORM, 'TIME-RESET-CLK6'                                 $

012420 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

           PERFORM, 'DCSU-CONNECT' ('UUT')                        $

           WAIT FOR, TIME 10 SEC                                  $

           PERFORM, 'TIME-READ-CLK6'
                    RESULT ('TIME-START'('UUT'))                  $

         END, IF                                                  $

       END, FOR                                                   $

       FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

           PERFORM, 'TIME-READ-CLK6' RESULT ('TIME')              $

           IF, ('TIME' - 'TIME-START'('UUT')) LT 100, THEN        $
             WAIT FOR,
             TIME (100 - ('TIME' - 'TIME-START'('UUT'))) SEC      $
           END, IF                                                $

012430     IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $

             CALCULATE, 'CMM-STRING' = C'4.3.7'                   $
```


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```
      PERFORM, 'UTIL-DISPLAY'
      (C'VERIFY ON THE INSTRUMENT:',
       C'THE IMAGE DESCRIBED IN CONFIGURATION ANNEX 10 IS' &
       C' DISPLAYED',
       C'(SEE PHOTO).',
       C'',
       C'REMARK : DO NOT TAKE INTO ACCOUNT DISPLAYED VALUES.',
       C'------',
       C'', C'', C'', C'', C'', C'',
       C'RESULT', C'ANNEX10'
            )                                              $

  ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN           $

      CALCULATE, 'CMM-STRING' =
      C'4.3.7~' & 'G-UUT'('UUT').'NAME'                    $

      PERFORM, 'UTIL-DISPLAY'
      (C'VERIFY ON INSTRUMENT ' &
       'G-UUT'('UUT').'NAME' & C' :',
       C'THE IMAGE DESCRIBED IN CONFIGURATION ANNEX 10 IS' &
       C' DISPLAYED',
       C'(SEE PHOTO).',
       C'',
       C'REMARK : DO NOT TAKE INTO ACCOUNT DISPLAYED VALUES.',
       C'------',
       C'', C'', C'', C'', C'', C'',
       C'RESULT', C'ANNEX10'
            )                                              $
    END, IF                                                $

    PERFORM, 'COMP-OP-MEAS'
    ('CUR-STAT-NO', 'CUR-MODULE', C'ANNEX10')              $

    PERFORM, 'UTIL-REMOVE' (FALSE, 'UUT')                  $

  END, IF                                                  $

END, FOR                                                   $

IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
    ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
    ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
    ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN           $

  IF,   ('G-CUSTOMER' EQ C'PRODUCTION')    AND
          ('STOP-EP'   EQ C'1: OPERATOR TESTS'), THEN      $

     IF, 'G-TEST' NE C'MANUAL', THEN                       $

       PERFORM, 'UTIL-DISPLAY'
       (C'CLOSE THE DOOR OF THE PHOTOMETRIC MODULE',
        C'', C'', C'', C'',
        C'', C'', C'', C'', C'', C'', C'',
```


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```
              C'WAIT', C'')                                    $

             PERFORM, 'R23P-PHOTO-CMD' (C'<MEn>')              $
             WAIT FOR, TIME 30 SEC                             $
             PERFORM, 'R23P-PHOTO-REM'                         $
           END, IF                                             $

         END, IF                                               $

       END, IF                                                 $

 012499 END, 'OPER-T14A'                                       $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C                                                              $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                    O P E R - T 1 5 A                     ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  This part removes the optical test bench .                 |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 012500 DEFINE, 'OPER-T15A', GLOBAL, PROCEDURE                 $

       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                 $

       IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN          $

         IF,   ('G-CUSTOMER' EQ C'PRODUCTION')    AND
                 ('STOP-EP'   EQ C'1: OPERATOR TESTS'), THEN    $

           IF, 'G-TEST' NE C'MANUAL', THEN                     $

             PERFORM, 'UTIL-DISPLAY'
             (C'CLOSE THE DOOR OF THE PHOTOMETRIC MODULE',
              C'', C'', C'', C'',
              C'', C'', C'', C'', C'', C'', C'',
              C'WAIT', C'')                                    $

             PERFORM, 'R23P-PHOTO-CMD' (C'<MEn>')              $
             WAIT FOR, TIME 30 SEC                             $
             PERFORM, 'R23P-PHOTO-REM'                         $
           END, IF                                             $
```


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```
          END, IF                                                $

        END, IF                                                  $

 012599 END, 'OPER-T15A'                                         $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                E X E C - T 1 O P E R 0 1                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Run tests of chapter                                         |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 999905 DEFINE, 'EXEC-T1OPER01', GLOBAL, PROCEDURE               $

 999910 PERFORM, 'INIT-T1OPER01'                                 $

 999911 PERFORM, 'OPER-T01A'                                     $

        PERFORM, 'OPER-T02A'                                     $

        PERFORM, 'OPER-T03A'                                     $

        PERFORM, 'OPER-T04A'                                     $

        PERFORM, 'OPER-T05A'                                     $

        PERFORM, 'OPER-T06A'                                     $

        PERFORM, 'OPER-T07A'                                     $

        PERFORM, 'OPER-T08A'                                     $

        PERFORM, 'OPER-T09A'                                     $

        PERFORM, 'OPER-T10A'                                     $

        PERFORM, 'OPER-T11A'                                     $

        PERFORM, 'OPER-T12A'                                     $

        PERFORM, 'OPER-T13A'                                     $

        PERFORM, 'OPER-T14A'                                     $
```

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```
       PERFORM, 'OPER-T15A'                                    $

 999990 PERFORM, 'END-T1OPER01'                                $

       END, 'EXEC-T1OPER01'                                    $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 *****                                                        *****
 *****                                                        *****
 *****              E N D    O F    M O D U L E               *****
 *****                                                        *****
 *****                                                        *****
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                               $
 999999 TERMINATE, ATLAS MODULE 'TH-ISF-T1OPER01'              $
```


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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-T1OPTI02'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                ( I. S. F. D. )                       ******
 ******                                                      ******
 ******                                                      ******
 ******            T E S T     M O D U L E                   ******
 ******                                                      ******
 ******                                                      ******
 ******                    Chapter 2                         ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000205   DECLARE CONSTANT                                 *
 *      000305   DECLARE EXTERNAL VARIABLES ( LIBRARY )           *
 *      000405   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *      000505   DECLARE MODULE SPECIFIC VARIABLES                *
 *                                                                *
 *      001005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )  *
 *      002005   DEFINE EXTERNAL PROCEDURES ( PROGRAMME )         *
 *                                                                *
 *      990005   DEFINE GLOBAL PROCEDURES                         *
 *                                                                *
 *      999999   TERMINATE ATLAS MODULE                           *
```


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```
 *                                                                  *
 ********************************************************************
C                                                                    $
C
 ********************************************************************
 ********************************************************************
 **                                                                **
 **                    D  E  C  L  A  R  E                         **
 **                                                                **
 ********************************************************************
 ********************************************************************
C                                                                    $
C
 ********************************************************************
 **                                                                **
 **    D E C L A R A T I O N     O F      C O N S T A N T S        **
 **                                                                **
 ********************************************************************
                                                                     $
C
 ********************************************************************
 **                                                                **
 **    D E C L A R A T I O N     O F      T  Y  P  E  S            **
 **                                                                **
 ********************************************************************
                                                                     $
 000205 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                                 $
C       Mnemonic of all UUT
 -------------------------------------------------------------------$

 000207 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                      $
C       State of device
 -------------------------------------------------------------------$

 000209 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION(
                   'ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN'
                   )                                                 $
 000211 DECLARE, TYPE, 'T-FRAME' IS ENUMERATION(
                   'FR-173-174-EQ-0', 'FR-173-174-NE-0',
                   'FR-312-320-EQ-0', 'FR-312-320-NE-0', 'NO-FRAME'
                   )                                                 $
C       Indicator to know the frame to send
 -------------------------------------------------------------------$

 000213 DECLARE, TYPE, 'T-DISCIN-MNEMO' IS ENUMERATION(
                   'DISC-X', 'DISC-h', 'DISC-a', 'DISC-b', 'DISC-c',
                   'DISC-d', 'DISC-e', 'DISC-k', 'DISC-m', 'DISC-n',
                   'DISC-p', 'DISC-q', 'DISC-r', 'DISC-s', 'DISC-f',
                   'DISC-Y','DISC-Z')                                $
C       Mnemonic of discrete inputs class
```


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```
 ----------------------------------------------------------------$

 000215 DECLARE, TYPE, 'T-TOLE' IS ENUMERATION(
                   'UL', 'LL'
                   )                                             $
C       Mnemonic of all UUT
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **              D E C L A R A T I O N     O F                 **
 **                                                            **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C       **
 **                                                            **
 **                     V A R I A B L E S                      **
 **                                                            **
 ****************************************************************
                                                                $
 000305 DECLARE, EXTERNAL, VARIABLE, 'POWER-ON' IS BOOLEAN      $
 000307 DECLARE, EXTERNAL, VARIABLE, 'CMM-STRING' IS STRING(12) OF
               CHAR                                             $
 000309 DECLARE, EXTERNAL, VARIABLE, 'OP-CHOICE' IS STRING(12) OF
               CHAR                                             $
 000311 DECLARE, EXTERNAL, VARIABLE, 'CUR-STAT-NO' IS STRING(9) OF
               CHAR                                             $
 000313 DECLARE, EXTERNAL, VARIABLE, 'CUR-MODULE' IS STRING(16) OF
               CHAR                                             $
 000315 DECLARE, EXTERNAL, VARIABLE, 'CRT' IS FILE OF TEXT      $
 000317 DECLARE, EXTERNAL, VARIABLE, 'DISK' IS FILE OF TEXT     $
 000319 DECLARE, EXTERNAL, VARIABLE, 'LIST-CNX' IS BOOLEAN      $
 000321 DECLARE, EXTERNAL, VARIABLE, 'STOP-EP' IS STRING(80) OF CHAR
                                                                $
 000323 DECLARE, EXTERNAL, VARIABLE, 'START-EP' IS STRING(80) OF CHAR
                                                                $
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F   E X T E R N A L      **
 **                                                            **
 **     P R O G R A M   S P E C I F I C   V A R I A B L E S    **
 **                                                            **
 ****************************************************************
                                                                $
 000405 DECLARE, EXTERNAL, VARIABLE, 'G-REPAIR' IS BOOLEAN      $
C       Indicates if repair mode is used
 ----------------------------------------------------------------$

 000407 DECLARE, EXTERNAL, VARIABLE, 'G-INIT' IS BOOLEAN        $
C       Indicates if repair mode is used
 ----------------------------------------------------------------$

 000409 DECLARE, EXTERNAL, VARIABLE, 'G-CUSTOMER' IS STRING(80) OF
               CHAR                                             $
C       Indicates the choice of test :
```


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```
C       airlines or production
 ----------------------------------------------------------------$

 000411 DECLARE, EXTERNAL, VARIABLE, 'G-UUT1' IS 'T-ALL-UUT'       $
C       Value of 'UUT1'
 ----------------------------------------------------------------$

 000413 DECLARE, EXTERNAL, VARIABLE, 'G-UUT4' IS 'T-ALL-UUT'       $
C       Value of 'UUT4'
 ----------------------------------------------------------------$

 000415 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
                'UUT12') OF
                    RECORD OF [
                        'NAME' IS STRING(2) OF CHAR ;
                        'PRESENCE' IS BOOLEAN ;
                        'EDIT-RESULT' IS BOOLEAN ;
                        'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                        'PART-NUMB' IS STRING(20) OF CHAR ;
                        'HI' IS CONNECTION(
                            J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                             J8-G, J9-G, J10-G, J11-G, J12-G
                            ) ;
                        'LO' IS CONNECTION(
                            J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                             J8-t, J9-t, J10-t, J11-t, J12-t
                            )
                        ]                                          $
C       Informations about all UUT
 ----------------------------------------------------------------$

 000417 DECLARE, EXTERNAL, VARIABLE, 'G-422-TABL' IS ARRAY('UUT1'
                THRU 'UUT12') OF
                    RECORD OF [
                        'NAME' IS STRING(12) OF CHAR ;
                        'HI-SEND' IS CONNECTION(
                            J1-L, J2-L, J3-L, J4-L, J5-L, J6-L, J7-L,
                             J8-L, J9-L, J10-L, J11-L, J12-L
                            ) ;
                        'LO-SEND' IS CONNECTION(
                            J1-K, J2-K, J3-K, J4-K, J5-K, J6-K, J7-K,
                             J8-K, J9-K, J10-K, J11-K, J12-K
                            ) ;
                        'HI-RCVE' IS CONNECTION(
                            J1-J, J2-J, J3-J, J4-J, J5-J, J6-J, J7-J,
                             J8-J, J9-J, J10-J, J11-J, J12-J
                            ) ;
                        'LO-RCVE' IS CONNECTION(
                            J1-H, J2-H, J3-H, J4-H, J5-H, J6-H, J7-H,
                             J8-H, J9-H, J10-H, J11-H, J12-H
                            ) ;
                        'STATE' IS 'T-SIGNAL-STATE' ;
                        'DEVICE' IS ENUMERATION(
                            'R422-A', 'R422-B'
```


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```
                        )
                    ]                                          $
C       General informations about each RS422 UUT signal
 ----------------------------------------------------------------$

 000419 DECLARE, EXTERNAL, VARIABLE, 'G-RX-DATA' IS ARRAY(1 THRU
               10000) OF
                   STRING(8) OF BIT                            $
C       Contains the frame received
 ----------------------------------------------------------------$

 000421 DECLARE, EXTERNAL, VARIABLE, 'G-NB-CAR' IS INTEGER     $
C       Contains the number of words received.
 ----------------------------------------------------------------$

 000423 DECLARE, EXTERNAL, VARIABLE, 'G-DISPLAY' IS BOOLEAN    $
C       Indicates if message is displayed on CRT and DISK
 ----------------------------------------------------------------$

 000425 DECLARE, EXTERNAL, VARIABLE, 'G-UUT2' IS 'T-ALL-UUT'   $
C       Value of 'UUT2'
 ----------------------------------------------------------------$

 000427 DECLARE, EXTERNAL, VARIABLE, 'G-UUT3' IS 'T-ALL-UUT'   $
C       Value of 'UUT3'
 ----------------------------------------------------------------$

 000429 DECLARE, EXTERNAL, VARIABLE, 'G-TEST' IS STRING(10) OF CHAR $
C       Indicates the choice of test : manual or automatic (for lamps,
C       photometer and table)
 ----------------------------------------------------------------$

 000431 DECLARE, EXTERNAL, VARIABLE, 'VALUE-UNIT' IS STRING(6) OF
               CHAR                                            $
 000433 DECLARE, EXTERNAL, VARIABLE, 'G-POSITION' IS ARRAY('UUT1'
               THRU 'UUT4') OF
                   RECORD OF [
                       'TRANSL-0X' IS STRING(3) OF CHAR ;
                       'TRANSL-0Y' IS STRING(3) OF CHAR
                       ]                                       $
C       Informations of translation about UUT1 thru UUT4
 ----------------------------------------------------------------$

 000435 DECLARE, EXTERNAL, VARIABLE, 'G-VALUE' IS DECIMAL      $
C       Value of luminosity .
 ----------------------------------------------------------------$

 000436 DECLARE, EXTERNAL, VARIABLE, 'COORDONNEE-X' IS DECIMAL $
C       Value of x chromaticity .
 ----------------------------------------------------------------$

 000437 DECLARE, EXTERNAL, VARIABLE, 'COORDONNEE-Y' IS DECIMAL $
C       Value of y chromaticity .
 ----------------------------------------------------------------$
```


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```
 000438 DECLARE, EXTERNAL, VARIABLE, 'G-TOLE-TABL' IS ARRAY(1 THRU
               300,'UL' THRU 'LL') OF
                   DECIMAL                                          $
C       Tolerances table
 ----------------------------------------------------------------$

 000439 DECLARE, EXTERNAL, VARIABLE, 'COEF-CS100-BLANC' IS DECIMAL  $
C       Applied to value return by photometric module
 ----------------------------------------------------------------$

 000440 DECLARE, EXTERNAL, VARIABLE, 'COEF-CS100-BLEU' IS DECIMAL   $
C       Applied to value return by photometric module
 ----------------------------------------------------------------$

 000441 DECLARE, EXTERNAL, VARIABLE, 'COEF-CS100-VERT' IS DECIMAL   $
C       Applied to value return by photometric module
 ----------------------------------------------------------------$

 000442 DECLARE, EXTERNAL, VARIABLE, 'COEF-CS100-ROUGE' IS DECIMAL  $
C       Applied to value return by photometric module
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F    L O C A L           **
 **                                                            **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S      **
 **                                                            **
 ****************************************************************
                                                                 $

 000507 DECLARE, VARIABLE, 'S-TAB' IS ARRAY(1 THRU 10000) OF
                   STRING(8) OF BIT                              $
 000509 DECLARE, VARIABLE, 'S-INDEX' IS INTEGER                  $
C
 ****************************************************************
 **                                                            **
 **          I D E N T I F Y      E X T E R N A L               **
 **                                                            **
 **           E V E N T   B A S E D    E V E N T               **
 **                                                            **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                            **
 **          I D E N T I F Y     E X T E R N A L                **
 **                                                            **
 **            E V E N T    I N D I C A T O R                  **
 **                                                            **
 ****************************************************************
                                                                 $
C
```


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```
 ****************************************************************
 **                                                            **
 **         I D E N T I F Y    E V E N T                       **
 **                                                            **
 **           B A S E D    E V E N T                          **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **     I D E N T F Y   E V E N T   I N D I C A T O R          **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 ****************************************************************
 **                                                            **
 **                  D  E  F  I  N  E                          **
 **                                                            **
 ****************************************************************
 ****************************************************************
C                                                               $
C
 ****************************************************************
 **                                                            **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S      **
 **                                                            **
 **            S T A N D A R D  L I B R A R Y                  **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 ****************************************************************
 ***                                                          ***
 ***                   I N I T - P R O G                      ***
 ***                                                          ***
 ****************************************************************
 ****************************************************************

 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |-------------------------------------------------------------|
                                                                $
 001005 DEFINE, 'INIT-PROG', EXTERNAL, PROCEDURE                $

        END, 'INIT-PROG'                                        $
C|                                                              |
 |-------------------------------------------------------------|
                                                                $
C
```


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```
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                    R E S E T - U U T                         ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |                                                                  |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 001007 DEFINE, 'RESET-UUT', EXTERNAL, PROCEDURE                    $

        END, 'RESET-UUT'                                            $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                    T E S T - T I T L E                       ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |                                                                  |
 |                                                                  |
 |  Param-in  : .TEST-NAME                                          |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 001009 DEFINE, 'TEST-TITLE', EXTERNAL, PROCEDURE (
                    '.TEST-NAME' IS STRING(50) OF CHAR
                )                                                   $

        END, 'TEST-TITLE'                                           $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                I N I T - P O W E R - T I M E                 ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |                                                                  |
```


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```
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001011 DEFINE, 'INIT-POWER-TIME', EXTERNAL, PROCEDURE            $

        END, 'INIT-POWER-TIME'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                        W R I T E                           ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : .PERIPH                                           |
 |                                                                |
 |              .MESSAGE                                          |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001013 DEFINE, 'WRITE', EXTERNAL, PROCEDURE (
                   '.PERIPH' IS 'PERIPH-DEVICES',
                   '.MESSAGE' IS STRING(80) OF CHAR
               )                                                  $

        END, 'WRITE'                                              $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  C O M P - O P - M E A S                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : .CUR-STAT-NO                                      |
 |                                                                |
 |              .CUR-MODULE                                       |
 |                                                                |
 |              .OP-MEAS-STRING                                   |
 |                                                                |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
 001015 DEFINE, 'COMP-OP-MEAS', EXTERNAL, PROCEDURE (
                   '.CUR-STAT-NO' IS STRING(9) OF CHAR,
                   '.CUR-MODULE' IS STRING(16) OF CHAR,
                   '.OP-MEAS-STRING' IS STRING(16) OF CHAR
               )                                                   $

        END, 'COMP-OP-MEAS'                                        $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S      **
 **                                                              **
 **             S P E C I F I C   P R O G R A M                  **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                D I S C - I N - C O N F I G                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Put UUT1 or UUT2 ..... or UUT12 in ANNEXE x ATP configuration . |
 |                                                                 |
 |  Param-in  : ANNEXE  Initialisation chosen                      |
 |                                                                 |
 |              UUT  Uut concerned                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002005 DEFINE, 'DISC-IN-CONFIG', EXTERNAL, PROCEDURE (
                   'ANNEXE' IS ENUMERATION(
                       'OPEN-ALL', 'OPEN-GROUND', 'ANNEXE-4',
                       'ANNEXE-5', 'ANNEXE-6'),
                   'UUT' IS 'T-ALL-UUT'
               )                                                   $

        END, 'DISC-IN-CONFIG'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
```


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```
 ***                  D I S C - I N - C O N N                  ***
 ***                                                           ***
 *****************************************************************
 *****************************************************************

 |-------------------------------------------------------------|
 |  Connection of DISC-X or DISC-h .....                       |
 |  or DISC-Z of UUT1 or UUT2 ..... or UUT12 to EARTH .        |
 |                                                             |
 |  Param-in  : SIGNAL  Signal to be connected                 |
 |                                                             |
 |              UUT  Uut concerned                             |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 002007 DEFINE, 'DISC-IN-CONN', EXTERNAL, PROCEDURE (
                   'SIGNAL' IS 'T-DISCIN-MNEMO',
                   'UUT' IS 'T-ALL-UUT'
               )                                               $

       END, 'DISC-IN-CONN'                                     $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 *****************************************************************
 *****************************************************************
 ***                                                           ***
 ***                 G 4 2 9 - P R E P - B U S 1               ***
 ***                                                           ***
 *****************************************************************
 *****************************************************************

 |-------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                         |
 |                                                             |
 |  Param-in  : UUT  Prepares BUS1 arinc device with frame to  |
 |                   transmit                                  |
 |                                                             |
 |              FRAME  Frame to transmit :                     |
 |                     - if FR-173-174-EQ-0 :                  |
 |                     word1 = X'600000', word2 = X'600000' - if |
 |                     FR-173-174-NE-0 :                       |
 |                     word1 = X'631A00', word2 = X'61C000'    |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 002011 DEFINE, 'G429-PREP-BUS1', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'FRAME' IS 'T-FRAME')                       $

       END, 'G429-PREP-BUS1'                                   $
C|                                                             |
 |-------------------------------------------------------------|
```


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```
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - C O N N - B U S 2                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Arinc signal to connect                      |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002013 DEFINE, 'G429-CONN-BUS1', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT')                          $

        END, 'G429-CONN-BUS1'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - P R E P - B U S 2                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Prepares BUS2 arinc device with frame to     |
 |                   transmit                                     |
 |                                                                |
 |              FRAME  Frame to transmit :                        |
 |                     - if FR-312-320-EQ-0 :                     |
 |                     word1 = X'600000', word2 = X'600000', word3 =|
 |                     X'600000' - if FR-312-320-NE-0 :           |
 |                     word1 = X'600000', word2 = X'62AAA0', word3 =|
 |                     X'62AAA0'                                  |
 | REM : non utilisM-i                                              |
 |----------------------------------------------------------------|
                                                                  $
 002015 DEFINE, 'G429-PREP-BUS2', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'FRAME' IS 'T-FRAME')                          $

        END, 'G429-PREP-BUS2'                                     $
C|                                                                |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                G 4 2 9 - C O N N - B U S 2                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                             |
 |                                                                 |
 |  Param-in  : UUT  Arinc signal to connect                       |
 |                                                                 |
 | REM : non utilisM-i                                               |
 |-----------------------------------------------------------------|
                                                                   $
 002017 DEFINE, 'G429-CONN-BUS2', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                   $

        END, 'G429-CONN-BUS2'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                G 4 2 9 - P R E P - B U S 3                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                             |
 |                                                                 |
 |  Param-in  : UUT  Prepares BUS3 arinc device with frame to      |
 |                   transmit                                      |
 |                                                                 |
 |              FRAME  Frame to transmit :                         |
 |                     - if FR-312-320-EQ-0 :                      |
 |                     word1 = X'600000', word2 = X'600000', word3 =|
 |                     X'600000' - if FR-312-320-NE-0 :            |
 |                     word1 = X'600000', word2 = X'62AAA0', word3 =|
 |                     X'62AAA0'                                   |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002019 DEFINE, 'G429-PREP-BUS3', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'FRAME' IS 'T-FRAME'
```

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```
               )                                                $

        END, 'G429-PREP-BUS3'                                   $
C|                                                              |
 |---------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - C O N N - B U S 3                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Connects arinc generation to UUT .                           |
 |                                                               |
 |  Param-in  : UUT  Arinc signal to connect                     |
 |                                                               |
 |---------------------------------------------------------------|
                                                                $
 002021 DEFINE, 'G429-CONN-BUS3', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
               )                                                $

        END, 'G429-CONN-BUS3'                                   $
C|                                                              |
 |---------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  D C S U - C O N N E C T                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Connection of 28VDC-SUP on UUT-1 to UUT-12 .                 |
 |                                                               |
 |  Param-in  : UUT  Signal to be connected                      |
 |                                                               |
 |---------------------------------------------------------------|
                                                                $
 002023 DEFINE, 'DCSU-CONNECT', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
               )                                                $

        END, 'DCSU-CONNECT'                                     $
C|                                                              |
 |---------------------------------------------------------------|
                                                                $
```


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```
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                D C S U - D I S C O N N E C T               ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Disconnection of 28VDC-SUP from UUT-1 to UUT-12 .             |
 |                                                                |
 |  Param-in  : UUT  Signal to be disconnected                    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002025 DEFINE, 'DCSU-DISCONNECT', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
               )                                                  $

        END, 'DCSU-DISCONNECT'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 R 4 2 2 - S C O M P L C M D                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Send a cmd on IES-RS422A or IES-RS422B                        |
 |                                                                |
 |  Param-in  : UUT  RS422 signal to prepare                      |
 |                                                                |
 |              P-CMD  Cmd to send                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002027 DEFINE, 'R422-SCOMPLCMD', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-CMD' IS CHAR
               )                                                  $

        END, 'R422-SCOMPLCMD'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
```


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```
 ***                                                                ***
 ***                R 4 2 2 - P A G E 1 - C O M P                   ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Retrieves maintenance page 1                                    |
 |                                                                  |
 |  Param-in  : UUT  UUT concerned                                  |
 |                                                                  |
 |              P-TAB  Tab to convert                               |
 |                                                                  |
 |              NB-ELTS  Number of elements to convert              |
 |                                                                  |
 |  Param-out : HOURS  Functioning time                             |
 |                                                                  |
 |              PAGE1  Indicates if "PAGE 1 is correctly displayed" |
 |                                                                  |
 |              AUTOTEST  Indicates if "OK" chain is founded in Page|
 |                        1                                         |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002029 DEFINE, 'R422-PAGE1-COMP', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-TAB' IS ARRAY(1 THRU 10000) OF
                        STRING(8) OF BIT,
                    'NB-ELTS' IS INTEGER
                )
                RESULT (
                    'HOURS' IS STRING(8) OF CHAR,
                    'PAGE1' IS STRING(12) OF CHAR,
                    'AUTOTEST' IS STRING(12) OF CHAR
                )                                                   $

        END, 'R422-PAGE1-COMP'                                      $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                                ***
 ***                R 4 2 2 - P A G E 2 - C O M P                   ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Retrieves maintenance page 2                                    |
 |                                                                  |
 |  Param-in  : UUT  UUT concerned                                  |
 |                                                                  |
```


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```
 |              P-TAB  Tab to convert                                |
 |                                                                   |
 |              NB-ELTS  Number of elements to convert               |
 |                                                                   |
 |  Param-out : PAGE2  Indicates if "PAGE 2 is correctly displayed" |
 |                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
 002031 DEFINE, 'R422-PAGE2-COMP', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-TAB' IS ARRAY(1 THRU 10000) OF
                        STRING(8) OF BIT,
                    'NB-ELTS' IS INTEGER)
                     RESULT ('PAGE2' IS STRING(12) OF CHAR
                )                                                    $

        END, 'R422-PAGE2-COMP'                                       $
C|                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 4 2 2 - P A G E - D I S P L                 ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-------------------------------------------------------------------|
 |  Conversion of hexa to ascii                                      |
 |                                                                   |
 |  Param-in  : UUT  UUT concerned                                   |
 |                                                                   |
 |              P-TAB  Tab to convert                                |
 |                                                                   |
 |              NB-ELTS  Number of elements to convert               |
 |                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
 002033 DEFINE, 'R422-PAGE-DISPL', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-TAB' IS ARRAY(1 THRU 10000) OF
                        STRING(8) OF BIT,
                    'NB-ELTS' IS INTEGER
                )                                                    $

        END, 'R422-PAGE-DISPL'                                       $
C|                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
C
 ********************************************************************
 ********************************************************************
```


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```
***                                                                  ***
***                  U T I L - D I S P L A Y                         ***
***                                                                  ***
**********************************************************************
**********************************************************************

|-------------------------------------------------------------------|
|  Management of edition formular                                   |
|                                                                   |
|  Param-in  : P-TEXT-1  First line to edit                         |
|                                                                   |
|              P-TEXT-2  Second line to edit                        |
|                                                                   |
|              P-TEXT-3  Third line to edit                         |
|                                                                   |
|              P-TEXT-4  Fourth line to edit                        |
|                                                                   |
|              P-TEXT-5  Fifth line to edit                         |
|                                                                   |
|              P-TEXT-6  Sixth line to edit                         |
|                                                                   |
|              P-TEXT-7  Seventh line to edit                       |
|                                                                   |
|              P-TEXT-8  Eighth line to edit                        |
|                                                                   |
|              P-TEXT-9  Ninth line to edit                         |
|                                                                   |
|              P-TEXT-10  tenth line to edit                        |
|                                                                   |
|              P-TEXT-11  eleventh line to edit                     |
|                                                                   |
|              P-TEXT-12  twelfth line to edit                      |
|                                                                   |
|              P-CHOICE  Indicator to know if a result, a wait-man  |
|                        or an input is needed                      |
|                                                                   |
|              P-IMAGE  Image to display if necessary               |
|                                                                   |
|-------------------------------------------------------------------|
                                                                    $
002035 DEFINE, 'UTIL-DISPLAY', EXTERNAL, PROCEDURE (
                   'P-TEXT-1' IS STRING(80) OF CHAR,
                   'P-TEXT-2' IS STRING(80) OF CHAR,
                   'P-TEXT-3' IS STRING(80) OF CHAR,
                   'P-TEXT-4' IS STRING(80) OF CHAR,
                   'P-TEXT-5' IS STRING(80) OF CHAR,
                   'P-TEXT-6' IS STRING(80) OF CHAR,
                   'P-TEXT-7' IS STRING(80) OF CHAR,
                   'P-TEXT-8' IS STRING(80) OF CHAR,
                   'P-TEXT-9' IS STRING(80) OF CHAR,
                   'P-TEXT-10' IS STRING(80) OF CHAR,
                   'P-TEXT-11' IS STRING(80) OF CHAR,
                   'P-TEXT-12' IS STRING(80) OF CHAR,
                   'P-CHOICE' IS STRING(6) OF CHAR,
```


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```
                    'P-IMAGE' IS STRING(8) OF CHAR
                )                                                       $

        END, 'UTIL-DISPLAY'                                             $
C|                                                                      |
 |----------------------------------------------------------------------|
                                                                        $
C
 ***********************************************************************
 ***********************************************************************
 ***                                                                 ***
 ***                 R 4 2 2 - S S I M P L C M D                     ***
 ***                                                                 ***
 ***********************************************************************
 ***********************************************************************

 |---------------------------------------------------------------------|
 |  Send a cmd on IES-RS422A or IES-RS422B                             |
 |                                                                     |
 |  Param-in  : UUT  RS422 signal to prepare                           |
 |                                                                     |
 |              P-CMD1  First cmd to send                              |
 |                                                                     |
 |              P-CMD2  Second cmd to send                             |
 |                                                                     |
 |              P-DEL  Delay between the two commands                  |
 |                                                                     |
 |  Param-out : RESULT  Result of transmission                         |
 |                                                                     |
 |---------------------------------------------------------------------|
                                                                        $
 002037 DEFINE, 'R422-SSIMPLCMD', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-CMD1' IS CHAR,
                    'P-CMD2' IS CHAR,
                    'P-DEL' IS INTEGER
                )
                RESULT (
                    'RESULT' IS STRING(4) OF CHAR
                )                                                       $

        END, 'R422-SSIMPLCMD'                                           $
C|                                                                      |
 |----------------------------------------------------------------------|
                                                                        $
C
 ***********************************************************************
 ***********************************************************************
 ***                                                                 ***
 ***                R 2 3 P - P H O T O - C M D 2                    ***
 ***                                                                 ***
 ***********************************************************************
 ***********************************************************************
```


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```
 |-----------------------------------------------------------------|
 |  Send cmd on IES-RS232-PHOTO                                    |
 |                                                                 |
 |  Param-in  : P-CMD  Send a command but no reply is expected     |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002039 DEFINE, 'R23P-PHOTO-CMD2', EXTERNAL, PROCEDURE (
                    'P-CMD' IS STRING(20) OF CHAR
                )                                                  $

        END, 'R23P-PHOTO-CMD2'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 2 3 P - P H O T O - C M D                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Send a cmd on IES-RS232-PHOTO                                  |
 |                                                                 |
 |  Param-in  : P-CMD  Cmd to send                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002041 DEFINE, 'R23P-PHOTO-CMD', EXTERNAL, PROCEDURE (
                    'P-CMD' IS STRING(20) OF CHAR
                )                                                  $

        END, 'R23P-PHOTO-CMD'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***               R 2 3 P - P H O T O - W A I T                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Wait for end of movement of optical module                     |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002043 DEFINE, 'R23P-PHOTO-WAIT', EXTERNAL, PROCEDURE             $
```


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```
       END, 'R23P-PHOTO-WAIT'                                   $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               T I M E - R E S E T - C L K 6                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |------------------------------------------------------------|
 |  Resets the clock 6 .                                      |
 |                                                            |
 |------------------------------------------------------------|
                                                                $
 002045 DEFINE, 'TIME-RESET-CLK6', EXTERNAL, PROCEDURE          $

       END, 'TIME-RESET-CLK6'                                   $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                T I M E - R E A D - C L K 6                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |------------------------------------------------------------|
 |  Reads a time .                                            |
 |                                                            |
 |  Param-out : TIME  Time reading                            |
 |                                                            |
 |------------------------------------------------------------|
                                                                $
 002047 DEFINE, 'TIME-READ-CLK6', EXTERNAL, PROCEDURE
               RESULT (
                   'TIME' IS DECIMAL
               )                                                $

       END, 'TIME-READ-CLK6'                                    $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
```


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```
 ***                  U T I L - R E M O V E                  ***
 ***                                                         ***
 ***************************************************************
 ***************************************************************

 |-------------------------------------------------------------|
 |  Remove UUT-1, UUT-2, ....or UUT-12 .                       |
 |                                                             |
 |  Param-in  : ABANDON-UUT  If true, test is abandonned on 'UUT'  |
 |                                                             |
 |              UUT  Signal to be connected                    |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 002049 DEFINE, 'UTIL-REMOVE', EXTERNAL, PROCEDURE (
                   'ABANDON-UUT' IS BOOLEAN,
                   'UUT' IS 'T-ALL-UUT'
               )                                               $

        END, 'UTIL-REMOVE'                                     $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ***************************************************************
 ***************************************************************
 ***                                                         ***
 ***                R 2 3 P - P H O T O - R E M              ***
 ***                                                         ***
 ***************************************************************
 ***************************************************************

 |-------------------------------------------------------------|
 |  Remove RS232-PHOTO                                         |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 002051 DEFINE, 'R23P-PHOTO-REM', EXTERNAL, PROCEDURE          $

        END, 'R23P-PHOTO-REM'                                  $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ***************************************************************
 **                                                           **
 **          D E F I N E   L O C A L   P R O C E D U R E      **
 **                                                           **
 ***************************************************************
                                                               $
C
 ***************************************************************
 **                                                           **
 **         D E F I N E   G L O B A L   P R O C E D U R E     **
```


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```
 **                                                                 **
 ********************************************************************
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 I N I T - T 1 O P T I 0 2                    ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Initialization of SECTION                                       |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 020001 DEFINE, 'INIT-T1OPTI02', GLOBAL, PROCEDURE                  $

        IF, ('G-REPAIR' EQ TRUE)   AND
            ('G-INIT'   EQ FALSE), THEN                             $
          PERFORM, 'INIT-PROG'                                      $
          CALCULATE, 'G-INIT' = TRUE                                $
        END, IF                                                     $

        END, 'INIT-T1OPTI02'                                        $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  E N D - T 1 O P T I 0 2                     ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  End of SECTION                                                  |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 020051 DEFINE, 'END-T1OPTI02', GLOBAL, PROCEDURE                   $

        IF, ('G-REPAIR' EQ TRUE)  AND
            ('G-INIT'   EQ TRUE), THEN                              $
          PERFORM, 'RESET-UUT'                                      $
          CALCULATE, 'G-INIT' = FALSE                               $
        END, IF                                                     $

        END, 'END-T1OPTI02'                                         $
C|                                                                  |
 |------------------------------------------------------------------|
```


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```
                                                                    $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P T I - T 0 1 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This test checks the DISPLAY of SELFTESTS RESULT of UUT .     |
 |                                                                |
 |----------------------------------------------------------------|
                                                                    $
 020500 DEFINE, 'OPTI-T01A', GLOBAL, PROCEDURE                      $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                     $
        DECLARE, VARIABLE, 'HOURS' IS STRING(8) OF CHAR             $
        DECLARE, VARIABLE, 'PAGE1' IS STRING(12) OF CHAR            $
        DECLARE, VARIABLE, 'PAGE2' IS STRING(12) OF CHAR            $
        DECLARE, VARIABLE, 'AUTOTEST' IS STRING(12) OF CHAR         $
        DECLARE, VARIABLE, 'LOOP' IS INTEGER                        $
        DECLARE, VARIABLE, 'RESULT' IS STRING(4) OF CHAR            $
        DECLARE, VARIABLE, 'G-DATA' IS ARRAY(1 THRU 10000)
                  OF STRING(8) OF BIT
                      INITIAL =  (10000 OF X'FF')                   $
C       Contains the corrected frame received                       $
        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                       $
          PERFORM, 'TEST-TITLE' (C'DISPLAY OF SELFTESTS RESULT')    $
        END, IF                                                     $

        IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
          ('START-EP' NE C'1: OPERATOR TESTS'), THEN                $

          IF,  ('G-TEST' EQ C'AUTOMATIC'), THEN                     $

            PERFORM, 'R23P-PHOTO-CMD' (C'<LLow>')                   $

            PERFORM, 'UTIL-DISPLAY'
             (C'OPEN THE DOOR OF THE PHOTOMETRIC MODULE.',
              C'', C'', C'', C'', C'',
              C'', C'', C'', C'',C'', C'',
              C'WAIT', C'')                                         $

          ELSE                                                      $
            PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY THAT ALL INSTRUMENTS OF POSTE<1> ARE',
               C'IN AN AVERAGE LIGHT ILLUMINATION '&
               C' BETWEEN 300 TO 600 Lux',
               C'', C'', C'', C'', C'',
               C'', C'', C'', C'', C'',
               C'WAIT', C''
                    )                                               $
```


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```
          END, IF                                                $

        ELSE IF, ('G-CUSTOMER' EQ C'AIRLINES') AND
                 ('START-EP' EQ C'1: OPERATOR TESTS'), THEN      $
            PERFORM, 'UTIL-DISPLAY'
              (C'INSTALL THE INSTRUMENT ON' &
               C' THE <LIGHTING TEST EQUIPMENT> :',
               C' - WITHOUT THE <LUMINANCE METER> AND THE <TUBE>',
               C' - CONNECT THE <LIGHT SOURCE ADAPTER>',
               C' - SELECT THE <POSITION 3> TO LIGHT ON ',
               C'   THE INSTRUMENT <PHOTOELECTRIC CELL>',
               C' ',
               C'OR',
               C' ',
               C'VERIFY THAT INSTRUMENT IS IN AN AVERAGE LIGHT',
               C'  ILLUMINATION BETWEEN 300 TO 600 Lux',
               C'', C'',
               C'WAIT', C''
                  )                                            $
        END, IF                                                $

020510  FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN               $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN          $

            IF, 'POWER-ON' EQ FALSE, THEN                      $
              CALCULATE, 'POWER-ON' = TRUE                     $
              PERFORM, 'INIT-POWER-TIME'                       $
            END, IF                                            $

            PERFORM, 'DISC-IN-CONN' ('DISC-X', 'UUT')          $
            PERFORM, 'DISC-IN-CONN' ('DISC-a', 'UUT')          $

            PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')  $
            PERFORM, 'G429-CONN-BUS1'('UUT')                   $

            PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')  $
            PERFORM, 'G429-CONN-BUS3'('UUT')                   $

            WAIT FOR, TIME 2 SEC                               $

            PERFORM, 'DCSU-CONNECT' ('UUT')                    $

          END, IF                                              $

        END, FOR                                               $

        IF, 'G-UUT'('G-UUT1').'PRESENCE' EQ TRUE OR
            'G-UUT'('G-UUT2').'PRESENCE' EQ TRUE OR
            'G-UUT'('G-UUT3').'PRESENCE' EQ TRUE OR
            'G-UUT'('G-UUT4').'PRESENCE' EQ TRUE, THEN         $
          WAIT FOR, TIME 10 SEC                                $
        END, IF                                                $
```


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```
 020520 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $
              CALCULATE, 'CMM-STRING' = C'4.3.8'                   $
            ELSE                                                   $
              CALCULATE, 'CMM-STRING' =
              C'4.3.8~' & 'G-UUT'('UUT').'NAME'                    $
            END, IF                                                $

            CALCULATE, 'LOOP' = 0                                  $
            CALCULATE, 'OP-CHOICE' = C'FAIL'                       $

            WHILE, ('LOOP' NE 2) AND
                   ('OP-CHOICE' NE C'PASS'), THEN                  $

              IF, 'LOOP' NE 0, THEN                                $
                PERFORM, 'DCSU-DISCONNECT' ('UUT')                 $
                WAIT FOR, TIME 2 SEC                               $
                PERFORM, 'DCSU-CONNECT'    ('UUT')                 $
                WAIT FOR, TIME 9 SEC                               $
              END, IF                                              $

              PERFORM, 'R422-SCOMPLCMD' ('UUT', C'T')              $

              CALCULATE, 'LOOP' = 'LOOP' + 1                       $

            END, WHILE                                             $
C           If problem with RS422                                  $
            IF, 'OP-CHOICE' EQ C'FAIL', THEN                       $

 020521       PERFORM, 'WRITE' ('ALL', C'')                        $
              IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN              $
                PERFORM, 'WRITE' ('ALL',
                     C'   0~' & 'G-UUT'('UUT').'NAME')             $
              END, IF                                              $
C             Ouput an error message                               $
              PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
              'G-422-TABL'('UUT').'NAME' &
               C' COMMAND EXECUTION.')                             $

            END, IF                                                $
C           Verify page 1                                          $
 020525     PERFORM, 'R422-PAGE1-COMP'
                     ('UUT', 'G-RX-DATA', 'G-NB-CAR')
                      RESULT ('HOURS', 'PAGE1', 'AUTOTEST')        $
C           Verify page1 display                                   $
            CALCULATE, 'OP-CHOICE' = 'PAGE1'                       $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'RS422 PAGE 1')         $
C           Verify autotests results                               $
            CALCULATE, 'OP-CHOICE' = 'AUTOTEST'                    $
```


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```
 020526     PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'AUTOTEST')              $

            OUTPUT, TEXT TO 'CRT',  FROM C''                        $
            OUTPUT, TEXT TO 'DISK', FROM C''                        $
C           Display page 1 on screen                                $

            FOR, 'LOOP' = 1 THRU 84, THEN                           $
                  CALCULATE, 'G-DATA'('LOOP') = 'G-RX-DATA'('LOOP') $
                END, FOR                                            $
            FOR, 'LOOP' = 85 THRU ('G-NB-CAR'-10), THEN             $
                  CALCULATE, 'G-DATA'('LOOP') =
                             'G-RX-DATA'('LOOP'+10)                 $
            END, FOR                                                $

            CALCULATE, 'G-NB-CAR' = 'G-NB-CAR'-10                   $
            PERFORM, 'R422-PAGE-DISPL'
                     ('UUT', 'G-DATA', 'G-NB-CAR')                  $

 020530     IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                   $
              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY :',
               C'THE DISPLAYED PAGE 1 ON THE INSTRUMENT CORRESPONDS '&
               C'TO PAGE 1 ',
               C'DISPLAYED ON THE SCREEN PC STATION',
               C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'RESULT', C''
                    )                                               $

        ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN              $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON INSTRUMENT ' &
               'G-UUT'('UUT').'NAME' & C' :',
               C'THE DISPLAYED PAGE 1 ON UUT, CORRESPONDS TO THE '&
               C'PAGE 1 DISPLAYED ',
               C'ON THE SCREEN PC STATION.',
               C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'RESULT', C''
                    )                                               $
            END, IF                                                 $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'PAGE 1 ON SCREEN')      $

          END, IF                                                   $

        END, FOR                                                    $
C ---------------  Verify page 2 ---------------------------        $

 020535 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                   $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $
```


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```
C ---------------  affichage page 2 -----------------------      $

            CALCULATE, 'LOOP' = 0                                 $
            CALCULATE, 'RESULT' = C'FAIL'                         $

            WHILE, ('LOOP' NE 2) AND
                   ('RESULT' NE C'PASS'), THEN                    $

              IF, 'LOOP' NE 0, THEN                               $
                CALCULATE, 'G-DISPLAY' = FALSE                    $
                PERFORM, 'DCSU-DISCONNECT' ('UUT')                $
                WAIT FOR, TIME 2 SEC                              $
                PERFORM, 'DCSU-CONNECT'    ('UUT')                $
                WAIT FOR, TIME 9 SEC                              $
              END, IF                                             $
C             Page 2                                              $
              PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                       RESULT ('RESULT')                          $

              WAIT FOR, TIME 3 SEC                                $
C             If problem with RS422                               $
              IF, ('RESULT' EQ C'FAIL'), THEN                     $

                IF, 'LOOP' NE 0, THEN                             $

 020537           PERFORM, 'WRITE' ('ALL', C'')                   $
                  IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN         $
                    PERFORM, 'WRITE' ('ALL',
                         C'   0~' & 'G-UUT'('UUT').'NAME')        $
                  END, IF                                         $
C                 Ouput an error message                          $
                  PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
                  'G-422-TABL'('UUT').'NAME' &
                  C' COMMAND EXECUTION.')                         $

                END, IF                                           $

              END, IF                                             $

              CALCULATE, 'LOOP' = 'LOOP' + 1                      $

            END, WHILE                                            $
C ---------------  acqisition page 2 ----------------------      $

            CALCULATE, 'LOOP' = 0                                 $
            CALCULATE, 'OP-CHOICE' = C'FAIL'                      $

            WHILE, ('LOOP' NE 2) AND
                   ('OP-CHOICE' NE C'PASS'), THEN                 $

              IF, 'LOOP' NE 0, THEN                               $
                PERFORM, 'DCSU-DISCONNECT' ('UUT')                $
                WAIT FOR, TIME 2 SEC                              $
                PERFORM, 'DCSU-CONNECT'    ('UUT')                $
```


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```
                WAIT FOR, TIME 9 SEC                              $
              END, IF                                             $

              PERFORM, 'R422-SCOMPLCMD' ('UUT', C'T')             $

              CALCULATE, 'LOOP' = 'LOOP' + 1                      $

            END, WHILE                                            $
C           If problem with RS422                                 $
            IF, 'OP-CHOICE' EQ C'FAIL', THEN                      $

 020538       PERFORM, 'WRITE' ('ALL', C'')                       $
              IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN             $
                PERFORM, 'WRITE' ('ALL',
                     C'   0~' & 'G-UUT'('UUT').'NAME')            $
              END, IF                                             $
C             Ouput an error message                              $
              PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
              'G-422-TABL'('UUT').'NAME' &
               C' COMMAND EXECUTION.')                            $

             END, IF                                              $
C           Verify page 2                                         $
 020540     PERFORM, 'R422-PAGE2-COMP'
                     ('UUT', 'G-RX-DATA', 'G-NB-CAR')
                      RESULT ('PAGE2')                            $
C           Verify page2 display                                  $
            CALCULATE, 'OP-CHOICE' = 'PAGE2'                      $

            PERFORM, 'COMP-OP-MEAS'
             ('CUR-STAT-NO', 'CUR-MODULE', C'RS422 PAGE 2')       $

            OUTPUT, TEXT TO 'CRT',  FROM C''                     $
            OUTPUT, TEXT TO 'DISK', FROM C''                     $
C           Display page 2 on screen                              $
            PERFORM, 'R422-PAGE-DISPL'
                  ('UUT', 'G-RX-DATA', 'G-NB-CAR')                $

 020545     IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                 $
              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY :',
               C'THE PAGE 2 DISPLAYED ON THE INSTRUMENT CORRESPONDS '&
               C'TO PAGE 2 ',
               C'DISPLAYED ON THE SCREEN PC STATION.',
               C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'RESULT', C'')                                    $

            ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN          $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON INSTRUMENT ' &
              'G-UUT'('UUT').'NAME' & C' :',
               C'THE DISPLAYED PAGE 2 ON UUT, CORRESPONDS TO THE '&
               C'PAGE 2 DISPLAYED ',
```


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```
              C'ON THE SCREEN PC STATION.',
              C'', C'', C'', C'', C'', C'', C'', C'', C'',
              C'RESULT', C'')                                  $
            END, IF                                            $

          CALCULATE, 'G-DISPLAY' = TRUE                        $

          PERFORM, 'COMP-OP-MEAS'
           ('CUR-STAT-NO', 'CUR-MODULE', C'PAGE 2 ON SCREEN')  $

        END, IF                                                $

      END, FOR                                                 $

 020599 END, 'OPTI-T01A'                                       $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                    O P T I - T 0 2 A                     ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  This test checks the DISPLAY of PAGE 3 DISPLAY MAINTENANCE.|
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 020600 DEFINE, 'OPTI-T02A', GLOBAL, PROCEDURE                 $

        DECLARE, VARIABLE, 'RESULT' IS STRING(4) OF CHAR       $
        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                $
        DECLARE, VARIABLE, 'LOOP' IS INTEGER                   $

        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $
          PERFORM, 'TEST-TITLE' (C'LUMINANCE MEASUREMENT PAGE') $
        END, IF                                                $

 020605 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN              $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN          $

            CALCULATE, 'LOOP' = 0                              $
            CALCULATE, 'OP-CHOICE' = C'NO'                     $

            WHILE, ('LOOP' NE 2) AND
                   ('OP-CHOICE' NE C'YES'), THEN               $

              IF, 'LOOP' NE 0, THEN                            $
                CALCULATE, 'G-DISPLAY' = FALSE                 $
```


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```
                PERFORM, 'DCSU-DISCONNECT' ('UUT')                $
                WAIT FOR, TIME 2 SEC                              $
                PERFORM, 'DCSU-CONNECT'    ('UUT')                $
                WAIT FOR, TIME 9 SEC                              $
C             Page 2                                              $
                  PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 500)
                        RESULT ('RESULT')                         $

                WAIT FOR, TIME 1 SEC                              $
              END, IF                                             $
C             Page 3                                              $
              IF, (('RESULT' EQ C'PASS') AND ('LOOP' NE 0)) OR
                (('OP-CHOICE' EQ C'NO') AND ('LOOP' EQ 0)) , THEN $
                PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 500)
                          RESULT ('RESULT')                       $
              END, IF                                             $

              WAIT FOR, TIME 1 SEC                                $
C             If problem with RS422                               $
              IF, 'RESULT' EQ C'FAIL', THEN                       $

                IF, 'LOOP' NE 0, THEN                             $

 020610           PERFORM, 'WRITE' ('ALL', C'')                   $
                  IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN         $
                    PERFORM, 'WRITE' ('ALL',
                        C'   0~' & 'G-UUT'('UUT').'NAME')         $
                  END, IF                                         $
C                 Ouput an error message                          $
                  PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
                  'G-422-TABL'('UUT').'NAME' &
                   C' COMMAND EXECUTION.')                        $

                END, IF                                           $

              END, IF                                             $

 020620       IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN               $

                CALCULATE, 'CMM-STRING' = C'4.3.9'                $

                PERFORM, 'UTIL-DISPLAY'
                (C'VERIFY THAT ON THE INSTRUMENT, THE DISPLAYED PAGE',
                 C'CORRESPONDS TO PAGE 3 (SEE PHOTO).',
                 C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
                 C'RESULT', C'PAGE3')                             $

              ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN        $

                CALCULATE, 'CMM-STRING' =
                C'4.3.9~' & 'G-UUT'('UUT').'NAME'                 $

                PERFORM, 'UTIL-DISPLAY'
                (C'VERIFY ON INSTRUMENT ' &
```


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```
                'G-UUT'('UUT').'NAME' & C' :',
                C'THE DISPLAYED PAGE CORRESPONDS TO ' &
                C'PAGE 3 (SEE PHOTO).',
                C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
                C'RESULT', C'PAGE3')                              $

              END, IF                                             $

              CALCULATE, 'LOOP' = 'LOOP' + 1                      $

            END, WHILE                                            $

          CALCULATE, 'G-DISPLAY' = TRUE                           $

          PERFORM, 'COMP-OP-MEAS'
          ('CUR-STAT-NO', 'CUR-MODULE', C'PAGE 3')                $

        END, IF                                                   $

      END, FOR                                                    $

 020699 END, 'OPTI-T02A'                                          $
C|                                                                |
 |----------------------------------------------------------------|
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                    O P T I - T 0 3 A                         ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |----------------------------------------------------------------|
 |  This test checks the DISPLAY of Contrast measurement page.    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 020700 DEFINE, 'OPTI-T03A', GLOBAL, PROCEDURE                    $

        DECLARE, VARIABLE, 'RESULT' IS STRING(4) OF CHAR          $
        DECLARE, VARIABLE, 'RESULT-SAVE' IS STRING(4) OF CHAR     $
        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                   $
        DECLARE, VARIABLE, 'LOOP' IS INTEGER                      $

        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                     $
          PERFORM, 'TEST-TITLE' (C'CONTRAST MEASUREMENT PAGE')    $
        END, IF                                                   $

 020705 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

            CALCULATE, 'LOOP' = 0                                 $
```


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```
            CALCULATE, 'RESULT' = C'FAIL'                          $

            WHILE, ('LOOP' NE 2) AND
                   ('RESULT' NE C'PASS'), THEN                     $

              IF, 'LOOP' NE 0, THEN                                $
                CALCULATE, 'G-DISPLAY' = FALSE                     $
                PERFORM, 'DCSU-DISCONNECT' ('UUT')                 $
                WAIT FOR, TIME 2 SEC                               $
                PERFORM, 'DCSU-CONNECT'    ('UUT')                 $
                WAIT FOR, TIME 9 SEC                               $
C             Page 2                                               $
                PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 500)
                          RESULT ('RESULT')                        $
                WAIT FOR, TIME 1 SEC                               $
C             Page 3                                               $
                IF, 'RESULT' EQ C'PASS', THEN                      $
                  PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 500)
                            RESULT ('RESULT')                      $
                END, IF                                            $

                WAIT FOR, TIME 1 SEC                               $
              END, IF                                              $
C             Page 4                                               $
              IF, (('RESULT' EQ C'PASS') AND ('LOOP' NE 0)) OR
                (('RESULT' EQ C'FAIL') AND ('LOOP' EQ 0)), THEN    $
                PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 500)
                        RESULT ('RESULT')                          $
              END, IF                                              $

              WAIT FOR, TIME 1 SEC                                 $
C             If problem with RS422                                $
              IF, ('RESULT' EQ C'FAIL'), THEN                      $

                IF, 'LOOP' NE 0, THEN                              $

 020710           PERFORM, 'WRITE' ('ALL', C'')                    $
                  IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN          $
                    PERFORM, 'WRITE' ('ALL',
                       C'   0~' & 'G-UUT'('UUT').'NAME')           $
                  END, IF                                          $
C                 Ouput an error message                           $
                  PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
                  'G-422-TABL'('UUT').'NAME' &
                   C' COMMAND EXECUTION.')                         $

                END, IF                                            $

              END, IF                                              $

              CALCULATE, 'LOOP' = 'LOOP' + 1                       $

            END, WHILE                                             $
```


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```
          IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $

            CALCULATE, 'CMM-STRING' = C'4.3.10'                  $

            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY THAT ON THE INSTRUMENT, THE DISPLAYED PAGE',
             C'CORRESPONDS TO PAGE 4 (SEE PHOTO).',
             C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
             C'RESULT', C'PAGE4')                                $

           ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN          $

            CALCULATE, 'CMM-STRING' =
            C'4.3.10~' & 'G-UUT'('UUT').'NAME'                   $

            PERFORM, 'UTIL-DISPLAY'
            (C'VERIFY ON INSTRUMENT ' &
             'G-UUT'('UUT').'NAME' & C' :',
             C'THE DISPLAYED PAGE CORRESPONDS TO THE ' &
             C'PAGE 4 (SEE PHOTO).',
             C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
             C'RESULT', C'PAGE4')                                $

           END, IF                                               $

           CALCULATE, 'G-DISPLAY' = TRUE                         $

           PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'PAGE 4')             $

         END, IF                                                 $

       END, FOR                                                  $

 020799 END, 'OPTI-T03A'                                         $
C|                                                               |
 |----------------------------------------------------------------|
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P T I - T 0 4 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This test checks the DISPLAY of checksum maintenance page.    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 020800 DEFINE, 'OPTI-T04A', GLOBAL, PROCEDURE                   $

       DECLARE, VARIABLE, 'RESULT' IS STRING(4) OF CHAR           $
```


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```
        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
        DECLARE, VARIABLE, 'LOOP' IS INTEGER                       $
        DECLARE, VARIABLE, 'NUM-IMAGE' IS INTEGER                  $
        DECLARE, VARIABLE, 'INDEX-IMAGE' IS ARRAY (1 THRU 2) OF
                STRING(6) OF CHAR
            INITIAL =
                (C'PAGE5', C'P_LA02')                              $

        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                      $
          PERFORM, 'TEST-TITLE' (C'CHECKSUM MAINTENANCE PAGE')     $
        END, IF                                                    $

 020805 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                  $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

            CALCULATE, 'LOOP' = 0                                  $
            CALCULATE, 'RESULT' = C'FAIL'                          $

            WHILE, ('LOOP' NE 2)           AND
                   ('RESULT' NE C'PASS'), THEN                     $

              IF, 'LOOP' NE 0, THEN                                $
                CALCULATE, 'G-DISPLAY' = FALSE                     $
                PERFORM, 'DCSU-DISCONNECT' ('UUT')                 $
                WAIT FOR, TIME 2 SEC                               $
                PERFORM, 'DCSU-CONNECT'    ('UUT')                 $
                WAIT FOR, TIME 9 SEC                               $
C             Page 2                                               $
                PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                          RESULT ('RESULT')                        $
                WAIT FOR, TIME 1 SEC                               $
C             Page 3                                               $
                IF, 'RESULT' EQ C'PASS', THEN                      $
                  PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                            RESULT ('RESULT')                      $
                END, IF                                            $
C             Page 4                                               $
                IF, 'RESULT' EQ C'PASS', THEN                      $
                  PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                            RESULT ('RESULT')                      $
                END, IF                                            $

                WAIT FOR, TIME 1 SEC                               $
              END, IF                                              $
C             Page 5                                               $
              IF, (('RESULT' EQ C'PASS') AND ('LOOP' NE 0)) OR
                (('RESULT' EQ C'FAIL') AND ('LOOP' EQ 0)), THEN    $
                PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                          RESULT ('RESULT')                        $
              END, IF                                              $

              WAIT FOR, TIME 1 SEC                                 $
C             If problem with RS422                                $
```


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```
              IF, ('RESULT' EQ C'FAIL'), THEN                      $

                IF, 'LOOP' NE 0, THEN                              $

 020810           PERFORM, 'WRITE' ('ALL', C'')                    $
                  IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN          $
                    PERFORM, 'WRITE' ('ALL',
                        C'   0~' & 'G-UUT'('UUT').'NAME')          $
                  END, IF                                          $
C                 Ouput an error message                           $
                  PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
                  'G-422-TABL'('UUT').'NAME' &
                   C' COMMAND EXECUTION.')                         $

                END, IF                                            $

              END, IF                                              $

              CALCULATE, 'LOOP' = 'LOOP' + 1                       $

            END, WHILE                                             $

            CALCULATE, 'NUM-IMAGE' = 1                             $

            IF, ('G-UUT'('UUT').'PART-NUMB') EQ C'C16221LA02', THEN $

              CALCULATE, 'NUM-IMAGE' = 2                           $

            END, IF                                                $

 020820     IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $

              CALCULATE, 'CMM-STRING' = C'4.3.11'                  $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY THAT ON THE INSTRUMENT, THE DISPLAYED PAGE',
               C'CORRESPONDS TO PAGE 5 (SEE PHOTO).',
               C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'RESULT', 'INDEX-IMAGE'('NUM-IMAGE')
                                 )                                 $

            ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN           $

              CALCULATE, 'CMM-STRING' =
              C'4.3.11~' & 'G-UUT'('UUT').'NAME'                   $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON INSTRUMENT ' &
               'G-UUT'('UUT').'NAME' & C' :',
               C'THE DISPLAYED PAGE CORRESPONDS TO THE ' &
               C'PAGE 5 (SEE PHOTO).',
               C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'RESULT', 'INDEX-IMAGE'('NUM-IMAGE')
                                 )                                 $
```


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```
           END, IF                                                $

           CALCULATE, 'G-DISPLAY' = TRUE                          $

           PERFORM, 'COMP-OP-MEAS'
           ('CUR-STAT-NO', 'CUR-MODULE', C'PAGE 5')               $

         END, IF                                                  $

       END, FOR                                                   $

 020899 END, 'OPTI-T04A'                                          $
C|                                                                |
 |----------------------------------------------------------------|
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P T I - T 0 5 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This test checks the DISPLAY of colors maintenance pages.     |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 020900 DEFINE, 'OPTI-T05A', GLOBAL, PROCEDURE                    $

       DECLARE, VARIABLE, 'RESULT' IS STRING(4) OF CHAR           $
       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
       DECLARE, VARIABLE, 'LOOP' IS INTEGER                       $
       DECLARE, VARIABLE, 'NUM-IMAGE' IS INTEGER                  $
       DECLARE, VARIABLE, 'INDEX-IMAGE' IS ARRAY (1 THRU 7) OF
               STRING(6) OF CHAR
           INITIAL =
               (C'PAGE6B', C'PAGE6C', C'PAGE6D', C'PAGE6E',
                C'PAGE6F', C'PAGE6G', C'PAGE6H')                  $

       IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                      $
         PERFORM, 'TEST-TITLE' (C'COLORS MAINTENANCE PAGES')      $
       END, IF                                                    $

 020905 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

           CALCULATE, 'LOOP' = 0                                  $
           CALCULATE, 'RESULT' = C'FAIL'                          $

           WHILE, ('LOOP' NE 2)           AND
                  ('RESULT' NE C'PASS'), THEN                     $
```


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```
              IF, 'LOOP' NE 0, THEN                                $
                PERFORM, 'DCSU-DISCONNECT' ('UUT')                 $
                WAIT FOR, TIME 2 SEC                               $
                PERFORM, 'DCSU-CONNECT'    ('UUT')                 $
                WAIT FOR, TIME 9 SEC                               $
C             Page 2                                               $
                PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                          RESULT ('RESULT')                        $
                WAIT FOR, TIME 1 SEC                               $
C             Page 3                                               $
                IF, 'RESULT' EQ C'PASS', THEN                      $
                  PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                            RESULT ('RESULT')                      $
                END, IF                                            $
C             Page 4                                               $
                IF, 'RESULT' EQ C'PASS', THEN                      $
                  PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                            RESULT ('RESULT')                      $
                END, IF                                            $
C             Page 5                                               $
                IF, 'RESULT' EQ C'PASS', THEN                      $
                  PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                            RESULT ('RESULT')                      $
                END, IF                                            $

                WAIT FOR, TIME 1 SEC                               $
              END, IF                                              $
C             Page 6a                                              $
              IF, (('RESULT' EQ C'PASS') AND ('LOOP' NE 0)) OR
                (('RESULT' EQ C'FAIL') AND ('LOOP' EQ 0)),  THEN   $
                PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                        RESULT ('RESULT')                          $
              END, IF                                              $

              WAIT FOR, TIME 1 SEC                                 $
C             If problem with RS422                                $
              IF, ('RESULT' EQ C'FAIL'), THEN                      $

 020906         PERFORM, 'WRITE' ('ALL', C'')                      $
                IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN            $
                   PERFORM, 'WRITE' ('ALL',
                            C'   0~' & 'G-UUT'('UUT').'NAME')      $
                END, IF                                            $
C               Ouput an error message                             $
                PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
                         'G-422-TABL'('UUT').'NAME' &
                         C' COMMAND EXECUTION.')                   $

              END, IF                                              $

              CALCULATE, 'LOOP' = 'LOOP' + 1                       $

            END, WHILE                                             $
```


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```
 020907     IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $

              CALCULATE, 'CMM-STRING' = C'4.3.12'                  $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY THAT ON THE INSTRUMENT, THE DISPLAYED PAGE ',
               C'CORRESPONDS TO PAGE 6a (SEE PHOTO).',
               C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'RESULT', C'PAGE6A')                               $

            ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN           $

              CALCULATE, 'CMM-STRING' =
              C'4.3.12~' & 'G-UUT'('UUT').'NAME'                   $

              PERFORM, 'UTIL-DISPLAY'
              (C'VERIFY ON INSTRUMENT ' &
               'G-UUT'('UUT').'NAME' & C' :',
               C'THE DISPLAYED PAGE CORRESPONDS TO THE ' &
               C'PAGE 6 (SEE PHOTO).',
               C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'RESULT', C'PAGE6A')                               $

            END, IF                                                $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'PAGE 6a')              $
C --------------- Pages 6b M-` 6h --------------------------------   $

 020910     FOR, 'NUM-IMAGE' = 1 THRU 7, THEN                      $

              CALCULATE, 'LOOP' = 0                                $
              CALCULATE, 'RESULT' = C'FAIL'                        $

              WHILE, ('LOOP' NE 2)            AND
                     ('RESULT' NE C'PASS'), THEN                   $

                  PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                           RESULT ('RESULT')                       $

                WAIT FOR, TIME 2 SEC                               $

                CALCULATE, 'LOOP' = 'LOOP' + 1                     $

              END, WHILE                                           $
C             If problem with RS422                                $
              IF, ('RESULT' EQ C'FAIL'), THEN                      $

 020915         PERFORM, 'WRITE' ('ALL', C'')                      $
                IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN            $
                  PERFORM, 'WRITE' ('ALL',
                           C'   0~' & 'G-UUT'('UUT').'NAME')       $
                END, IF                                            $
```


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```
C               Ouput an error message                              $
                PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
                         'G-422-TABL'('UUT').'NAME' &
                          C' COMMAND EXECUTION.')                   $

              END, IF                                               $

 020920       IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                 $

                CALCULATE, 'CMM-STRING' = C'4.3.12'                 $

                PERFORM, 'UTIL-DISPLAY'
                (C'VERIFY THAT ON THE INSTRUMENT, THE DISPLAYED PAGE ',
                 C'CORRESPONDS TO '& 'INDEX-IMAGE'('NUM-IMAGE')&
                 C'(SEE PHOTO).',
                 C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
                 C'RESULT', 'INDEX-IMAGE'('NUM-IMAGE'))             $

              ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN          $

                CALCULATE, 'CMM-STRING' =
                C'4.3.12~' & 'G-UUT'('UUT').'NAME'                  $

                PERFORM, 'UTIL-DISPLAY'
                (C'VERIFY ON INSTRUMENT ' &
                 'G-UUT'('UUT').'NAME' & C' :',
                 C'THE DISPLAYED PAGE CORRESPONDS TO THE ' &
                 'INDEX-IMAGE'('NUM-IMAGE')&
                 C'(SEE PHOTO).',
                 C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
                 C'RESULT', 'INDEX-IMAGE'('NUM-IMAGE'))             $

              END, IF                                               $

              PERFORM, 'COMP-OP-MEAS'
              ('CUR-STAT-NO', 'CUR-MODULE',
                    'INDEX-IMAGE'('NUM-IMAGE'))                     $

            END, FOR                                                $

            PERFORM, 'UTIL-REMOVE' (FALSE, 'UUT')                   $

          END, IF                                                   $

        END, FOR                                                    $

 020999 END, 'OPTI-T05A'                                            $
C|                                                                  |
 |------------------------------------------------------------------|
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                      O P T I - T 0 6 A                       ***
```


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```
***                                                                  ***
**********************************************************************
**********************************************************************

|-------------------------------------------------------------------|
|  This test checks the BRIGHTNESS IN NIGHT CONDITIONS of UUT .     |
|                                                                   |
|-------------------------------------------------------------------|
                                                                    $
021000 DEFINE, 'OPTI-T06A', GLOBAL, PROCEDURE                       $

       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                      $
       DECLARE, VARIABLE, 'TIME' IS DECIMAL                         $
       DECLARE, VARIABLE, 'LOOP' IS INTEGER                         $
       DECLARE, VARIABLE, 'RESULT' IS STRING(4) OF CHAR             $
       DECLARE, VARIABLE, 'TIME-START' IS ARRAY('UUT1' THRU 'UUT12')
               OF DECIMAL                                           $
       IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                        $
         PERFORM, 'TEST-TITLE' (C'BRIGHTNESS IN NIGHT CONDITIONS') $
       END, IF                                                      $

021010 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                    $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $

           IF, 'POWER-ON' EQ FALSE, THEN                            $
             CALCULATE, 'POWER-ON' = TRUE                           $
             PERFORM, 'INIT-POWER-TIME'                             $
           END, IF                                                  $

           PERFORM, 'DISC-IN-CONN' ('DISC-X', 'UUT')                $
           PERFORM, 'DISC-IN-CONN' ('DISC-a', 'UUT')                $

           PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')      $
           PERFORM, 'G429-CONN-BUS1'('UUT')                         $

           PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')      $
           PERFORM, 'G429-CONN-BUS3'('UUT')                         $

           WAIT FOR, TIME 1 SEC                                     $

           PERFORM, 'DCSU-CONNECT'    ('UUT')                       $

           WAIT FOR, TIME 9 SEC                                     $

           CALCULATE, 'LOOP' = 0                                    $
           CALCULATE, 'RESULT' = C'FAIL'                            $

           WHILE, ('LOOP' NE 2)           AND
                  ('RESULT' NE C'PASS'), THEN                       $

             IF, 'LOOP' NE 0, THEN                                  $
               PERFORM, 'DCSU-DISCONNECT' ('UUT')                   $
               WAIT FOR, TIME 2 SEC                                 $
```


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```
                PERFORM, 'DCSU-CONNECT'    ('UUT')                 $
                WAIT FOR, TIME 9 SEC                               $
              END, IF                                              $
C             Page 2                                               $
              PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                        RESULT ('RESULT')                          $
              WAIT FOR, TIME 2 SEC                                 $
C             Page 3                                               $
              IF, 'RESULT' EQ C'PASS', THEN                        $
                PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                          RESULT ('RESULT')                        $
              END, IF                                              $
              WAIT FOR, TIME 2 SEC                                 $

              CALCULATE, 'LOOP' = 'LOOP' + 1                       $

            END, WHILE                                             $
C           If problem with RS422                                  $
            IF, ('RESULT' EQ C'FAIL'), THEN                        $

 021016       PERFORM, 'WRITE' ('ALL', C'')                        $
              IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN              $
                 PERFORM, 'WRITE' ('ALL',
                          C'   0~' & 'G-UUT('UUT').'NAME')         $
              END, IF                                              $
C             Ouput an error message                               $
              PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
                       'G-422-TABL('UUT').'NAME' &
                       C' COMMAND EXECUTION.')                     $

            END, IF                                                $

          END, IF                                                  $

        END, FOR                                                   $

        IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN           $

          IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $
            PERFORM, 'UTIL-DISPLAY'
            (C'SELECT THE <POSITION 0> ON THE <LIGHT SOURCE ADAPTER>',
             C'IN ORDER TO SIMULATE THE <NIGHT CONDITIONS>.',
             C' ',
             C'OR',
             C' ',
             C'MASK THE PHOTO CELL OF UUT',
             C'', C'', C'', C'', C'', C'',
             C'WAIT', C''
                  )                                                $
          ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN             $
```


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```
            IF, 'G-TEST' NE C'AUTOMATIC', THEN                    $

              PERFORM, 'UTIL-DISPLAY'
              (C'MASK THE PHOTOCELL OF ALL INSTRUMENTS ',
               C'OF < POSTE 1 >.',
               C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
               C'WAIT', C''
                    )                                             $

             ELSE IF, 'G-TEST' EQ C'AUTOMATIC', THEN              $

               PERFORM, 'R23P-PHOTO-CMD' (C'<LOf>')               $

             END, IF                                              $

          END, IF                                                 $

          PERFORM, 'TIME-RESET-CLK6'                              $

        END, IF                                                   $

 021020 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

            CALCULATE, 'LOOP' = 0                                 $
            CALCULATE, 'RESULT' = C'FAIL'                         $

 021021     WHILE, ('LOOP' NE 2)          AND
                   ('RESULT' NE C'PASS'), THEN                    $

              PERFORM, 'R422-SSIMPLCMD' ('UUT', C'C', C'D', 6000)
                        RESULT ('RESULT')                         $
C             If problem with RS422                               $
              IF, 'RESULT' EQ C'FAIL', THEN                       $

                IF, 'LOOP' NE 0, THEN                             $

 021022           PERFORM, 'WRITE' ('ALL', C'')                   $
                  IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN         $
                    PERFORM, 'WRITE' ('ALL',
                         C'   0~' & 'G-UUT'('UUT').'NAME')        $
                  END, IF                                         $
C                 Ouput an error message                          $
                  PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
                  'G-422-TABL'('UUT').'NAME' &
                   C' COMMAND EXECUTION.')                        $

                END, IF                                           $

              END, IF                                             $

              PERFORM, 'TIME-READ-CLK6'
                     RESULT ('TIME-START'('UUT'))                 $
```


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```
            CALCULATE, 'LOOP' = 'LOOP' + 1                      $

          END, WHILE                                            $

        END, IF                                                 $

      END, FOR                                                  $

      IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN           $

        IF, 'G-TEST' EQ C'AUTOMATIC', THEN                      $

          PERFORM, 'UTIL-DISPLAY'
            (C'CLOSE THE DOOR OF THE PHOTOMETRIC MODULE',
             C'', C'', C'', C'',
             C'', C'', C'', C'', C'', C'', C'',
             C'WAIT', C'')                                      $
C         Rotation of photometer
          (0, 0)   :    0   is rotation right/left of UUT
                        0   is rotation top/bottom of UUT       $
          PERFORM, 'R23P-PHOTO-CMD' (C'<IRo 0 0>')              $
          WAIT FOR, TIME 5 SEC                                  $
          PERFORM, 'R23P-PHOTO-WAIT'                            $

        END, IF                                                 $

      END, IF                                                   $

 021025 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN               $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

          CALCULATE, 'VALUE-UNIT' = C'fL'                       $

          PERFORM, 'TIME-READ-CLK6' RESULT ('TIME')             $

          IF, ('TIME' - 'TIME-START'('UUT')) LT 180, THEN       $
            WAIT FOR,
            TIME (180 - ('TIME' - 'TIME-START'('UUT'))) SEC     $
          END, IF                                               $

 021027   IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                 $

            CALCULATE, 'CMM-STRING' = C'4.4.1'                  $

            PERFORM, 'UTIL-DISPLAY'
            (C'1- PUT THE PHOTOMETER STRAIGHT-ON TO ' &
             C'THE MATRIX',
             C'2- INITIATE THE MEASUREMENT .',
             C'3- ENTER THE MEASURED VALUE (in fL).',
```


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```
              C'REMARK : THE BRIGHTNESS SHALL BE MEASURED IN THE',
              C'------   CENTER OF THE WHITE SQUARE ON PAGE 3 .',
              C'', C'', C'', C'', C'', C'', C'',
              C'INPUT', C''
                   )                                          $

            ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN        $

              CALCULATE, 'CMM-STRING' =
              C'4.4.1~' & 'G-UUT'('UUT').'NAME'                 $

              IF, 'G-TEST' NE C'AUTOMATIC', THEN                $

                PERFORM, 'UTIL-DISPLAY'
                (C'POSITION OF PHOTOMETER ON INSTRUMENT ' &
                 'G-UUT'('UUT').'NAME' & C' :',
                 C'1- PUT THE PHOTOMETER STRAIGHT-ON TO ' &
                 C'THE MATRIX',
                 C'2- INITIATE THE MEASUREMENT .',
                 C'3- ENTER THE MEASURED VALUE (in fL).',
                 C'REMARK : THE BRIGHTNESS SHALL BE MEASURED IN THE',
                 C'------   CENTER OF THE WHITE SQUARE ON PAGE 3 .',
                 C'', C'', C'', C'', C'', C'',
                 C'INPUT', C'')                               $

              ELSE IF, ('G-TEST' EQ C'AUTOMATIC'), THEN         $
C               Translation of photometer                       $
                PERFORM, 'R23P-PHOTO-CMD'
                (C'<ITr ' & 'G-POSITION'('UUT').'TRANSL-0X' & C' ' &
                'G-POSITION'('UUT').'TRANSL-0Y' & C'>')         $
                PERFORM, 'R23P-PHOTO-WAIT'                      $
C               Starting of measurement                         $
                PERFORM, 'R23P-PHOTO-CMD' (C'<PMe>')            $

                WAIT FOR, TIME 6 SEC                            $
C               Retrieving of measurement                       $
                PERFORM, 'R23P-PHOTO-CMD' (C'<PVd>')            $

                CALCULATE, 'G-VALUE'='G-VALUE' * 'COEF-CS100-BLANC' $

              END, IF                                           $

            END, IF                                             $

            CALCULATE, 'VALUE-UNIT' = C'fL'                     $
            CALCULATE, 'LIST-CNX' = FALSE                       $

 021030     COMPARE, 'G-VALUE', UL 'G-TOLE-TABL'(58, 'UL')
                                   LL 'G-TOLE-TABL'(58, 'LL')       $

            CALCULATE, 'LIST-CNX' = TRUE                        $

          END, IF                                               $
```


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```
       END, FOR                                                 $

 021099 END, 'OPTI-T06A'                                        $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P T I - T 0 7 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  This test checks the FULL SUNLIGHT BRIGHTNESS of UUT .      |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 021100 DEFINE, 'OPTI-T07A', GLOBAL, PROCEDURE                  $

       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                  $
       DECLARE, VARIABLE, 'TIME' IS DECIMAL                     $
       DECLARE, VARIABLE, 'LOOP' IS INTEGER                     $
       DECLARE, VARIABLE, 'RESULT' IS STRING(4) OF CHAR         $
       DECLARE, VARIABLE, 'TIME-START' IS ARRAY('UUT1' THRU 'UUT12')
              OF DECIMAL                                        $
       IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $
         PERFORM, 'TEST-TITLE' (C'FULL SUNLIGHT BRIGHTNESS')    $
       END, IF                                                  $

       IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN         $

 021110   IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                 $
          PERFORM, 'UTIL-DISPLAY'
          (C'SIMULATE FULL SUNLIGHT BRIGHTNESS CONDITIONS BY' &
           C' LIGHTING',
           C'THE INSTRUMENT PHOTOCELL WITH A MINIMUM 5000 LUX ' &
           C'LIGHT .',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'WAIT', C''
                 )                                              $
          ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN          $

          IF, 'G-TEST' NE C'AUTOMATIC', THEN                    $

            PERFORM, 'UTIL-DISPLAY'
            (C'SIMULATE LIGHT FULL SUN BRIGHTNESS CONDITIONS BY' &
             C' LIGHTING',
             C'ALL INSTRUMENTS OF < POSTE 1 > WITH AN ILLUMINATION ',
```


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```
              C'GREATER THAN 5000 LUX.',
              C'', C'', C'', C'', C'', C'', C'', C'', C'',
              C'WAIT', C''
                   )                                          $
            ELSE IF, ('G-TEST' EQ C'AUTOMATIC'), THEN         $
C             Lamp of photometer switching on                 $
              PERFORM, 'R23P-PHOTO-CMD' (C'<LOn>')            $

            END, IF                                           $

          END, IF                                             $

          PERFORM, 'TIME-RESET-CLK6'                          $

        END, IF                                               $

 021115 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN             $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN         $

            CALCULATE, 'LOOP' = 0                             $
            CALCULATE, 'RESULT' = C'FAIL'                     $

 021120     WHILE, ('LOOP' NE 2)         AND
                   ('RESULT' NE C'PASS'), THEN                $

              PERFORM, 'R422-SSIMPLCMD' ('UUT', C'E', C'F', 6000)
                       RESULT ('RESULT')                      $
C             If problem with RS422                           $
              IF, 'RESULT' EQ C'FAIL', THEN                   $

                IF, 'LOOP' NE 0, THEN                         $

 021125           PERFORM, 'WRITE' ('ALL', C'')                $
                  IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN     $
                    PERFORM, 'WRITE' ('ALL',
                         C'   0~' & 'G-UUT'('UUT').'NAME')    $
                  END, IF                                     $
C                 Ouput an error message                      $
                  PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
                  'G-422-TABL'('UUT').'NAME' &
                   C' COMMAND EXECUTION.')                    $

                END, IF                                       $

              END, IF                                         $

              PERFORM, 'TIME-READ-CLK6'
                     RESULT ('TIME-START'('UUT'))             $

              CALCULATE, 'LOOP' = 'LOOP' + 1                  $

            END, WHILE                                        $
```


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```
          END, IF                                                $

        END, FOR                                                 $

 021127 FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

            CALCULATE, 'VALUE-UNIT' = C'fL'                      $

            PERFORM, 'TIME-READ-CLK6' RESULT ('TIME')            $

            IF, ('TIME' - 'TIME-START'('UUT')) LT 180, THEN      $
              WAIT FOR,
              TIME (180 - ('TIME' - 'TIME-START'('UUT'))) SEC    $
            END, IF                                              $

 021130     IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                $

              CALCULATE, 'CMM-STRING' = C'4.4.2'                 $

              PERFORM, 'UTIL-DISPLAY'
              (C'1- PUT THE PHOTOMETER STRAIGHT-ON TO ' &
               C'THE MATRIX',
               C'2- INITIATE THE MEASUREMENT .',
               C'3- ENTER THE MEASURED VALUE (in fL).',
               C'REMARK : THE BRIGHTNESS SHALL BE MEASURED IN THE',
               C'------   CENTER OF THE WHITE SQUARE ON PAGE 3.',
               C'', C'', C'', C'', C'', C'', C'',
               C'INPUT', C'')                                    $

            ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN         $

              CALCULATE, 'CMM-STRING' =
              C'4.4.2~' & 'G-UUT'('UUT').'NAME'                  $

              IF, 'G-TEST' NE C'AUTOMATIC', THEN                 $

                PERFORM, 'UTIL-DISPLAY'
                (C'POSITION OF PHOTOMETER ON INSTRUMENT ' &
                 'G-UUT'('UUT').'NAME' & C' :',
                C'1- PUT THE PHOTOMETER STRAIGHT-ON TO ' &
                C'THE MATRIX',
                C'2- INITIATE THE MEASUREMENT .',
                C'3- ENTER THE MEASURED VALUE (in fL).',
                C'REMARK : THE BRIGHTNESS SHALL BE MEASURED IN THE',
                C'------   CENTER OF THE WHITE SQUARE ON PAGE 3.',
                C'', C'', C'', C'', C'', C'',
                C'INPUT', C'')                                   $

              ELSE IF, ('G-TEST' EQ C'AUTOMATIC'), THEN          $
C               Translation of photometer                        $
                PERFORM, 'R23P-PHOTO-CMD'
                (C'<ITr ' & 'G-POSITION'('UUT').'TRANSL-0X' & C' ' &
```


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```
                'G-POSITION'('UUT').'TRANSL-0Y' & C'>')            $
                PERFORM, 'R23P-PHOTO-WAIT'                         $
C               Starting of measurement                            $
                PERFORM, 'R23P-PHOTO-CMD' (C'<PMe>')               $

                WAIT FOR, TIME 6 SEC                               $
C               Retrieving of measurement                          $
                PERFORM, 'R23P-PHOTO-CMD' (C'<PVd>')               $

                CALCULATE, 'G-VALUE'='G-VALUE' * 'COEF-CS100-BLANC' $

              END, IF                                              $

            END, IF                                                $

            CALCULATE, 'VALUE-UNIT' = C'fL'                        $
            CALCULATE, 'LIST-CNX' = FALSE                          $
 021135     COMPARE, 'G-VALUE', UL 'G-TOLE-TABL'(59, 'UL')
                                   LL 'G-TOLE-TABL'(59, 'LL')          $
            CALCULATE, 'LIST-CNX' = TRUE                           $

          END, IF                                                  $

        END, FOR                                                   $

 021199 END, 'OPTI-T07A'                                           $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    O P T I - T 0 8 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  This test checks the Ground and Sky color coordinates .        |
 |  Test par prM-ilM-ivement : 1/20                                   |
 |-----------------------------------------------------------------|
                                                                   $
 021200 DEFINE, 'OPTI-T08A', GLOBAL, PROCEDURE                     $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
        DECLARE, VARIABLE, 'COORDONNEE-u' IS DECIMAL               $
        DECLARE, VARIABLE, 'COORDONNEE-v' IS DECIMAL               $
        DECLARE, VARIABLE, 'LOOP' IS INTEGER                       $
        DECLARE, VARIABLE, 'RESULT' IS STRING(4) OF CHAR           $
        DECLARE, VARIABLE, 'PRELEVEMENT' IS ARRAY ('UUT1' THRU 'UUT4')
                                      OF BOOLEAN                   $

        IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN                    $
```

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```
C|----------------------- SM-ilection page 6a -----------------------|
 |--------------------- ground color coordinates -----------------|
                                                                    $

          FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

            IF, ('G-UUT'('UUT').'PRESENCE' EQ TRUE) , THEN          $

              CALCULATE, 'LOOP' = 0                                 $
              CALCULATE, 'RESULT' = C'PASS'                         $

 021210       WHILE, ('LOOP' NE 3)          AND
                     ('RESULT' EQ C'PASS'), THEN                    $

                PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                                                RESULT ('RESULT')  $
C               If problem with RS422                               $
                IF, 'RESULT' EQ C'FAIL', THEN                       $

 021212           PERFORM, 'WRITE' ('ALL', C'')                     $
                   IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN          $
                     PERFORM, 'WRITE' ('ALL',
                              C'   0~' & 'G-UUT'('UUT').'NAME')     $
                   END, IF                                          $
C                  Ouput an error message                           $
                   PERFORM, 'WRITE' ('ALL', C'WARNING : '&
                        C'ERROR WITH ' &  'G-422-TABL'('UUT').'NAME' &
                    C' COMMAND EXECUTION.')                         $

                END, IF                                             $

                CALCULATE, 'LOOP' = 'LOOP' + 1                      $

              END, WHILE                                            $

              CALCULATE, 'CMM-STRING' =
                  C'4.4.3~' & 'G-UUT'('UUT').'NAME'                 $

              IF, 'G-TEST' NE C'AUTOMATIC', THEN                    $

                PERFORM, 'UTIL-DISPLAY'
                 (C'POSITION OF PHOTOMETER ON INSTRUMENT ' &
                   'G-UUT'('UUT').'NAME' & C' :',
                   C'1- PUT THE PHOTOMETER STRAIGHT-ON TO ' &
                   C'THE MATRIX',
                   C'2- INITIATE THE MEASUREMENT .',
                   C'3- ENTER THE MEASURED VALUE : X.',
                   C'',
                   C'REMARK : COORDINATES SHALL BE MEASURED IN THE',
                   C'------   CENTER OF THE COLORED RECTANGLE'&
                   C'------   ON PAGE 6a.',
                   C'', C'', C'', C'', C'',
                   C'INPUT', C'')                                   $
```


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```
                CALCULATE, 'COORDONNEE-X' = 'G-VALUE'              $

                PERFORM, 'UTIL-DISPLAY'
                  (C'',
                  C'',
                  C'',
                  C'ENTER THE MEASURED VALUE : Y.',
                  C'',
                  C'',
                  C'', C'', C'', C'', C'', C'',
                  C'INPUT', C'')                                   $

                CALCULATE, 'COORDONNEE-Y' = 'G-VALUE'              $

               ELSE IF, ('G-TEST' EQ C'AUTOMATIC'), THEN           $
C               Translation of photometer                          $
                PERFORM, 'R23P-PHOTO-CMD'
                (C'<ITr ' & 'G-POSITION'('UUT').'TRANSL-0X' & C' ' &
                'G-POSITION'('UUT').'TRANSL-0Y' & C'>')            $
                PERFORM, 'R23P-PHOTO-WAIT'                         $
C               Starting of measurement                            $
                PERFORM, 'R23P-PHOTO-CMD' (C'<PMe>')               $

                WAIT FOR, TIME 6 SEC                               $
C               Retrieving of measurement                          $
                PERFORM, 'R23P-PHOTO-CMD' (C'<PVd>')               $

               END, IF                                             $

               CALCULATE, 'LIST-CNX' = FALSE                       $

               CALCULATE, 'COORDONNEE-u' = (4*'COORDONNEE-X')/
                    ((-2*'COORDONNEE-X') + (12*'COORDONNEE-Y')+3)  $

               CALCULATE, 'COORDONNEE-v' = (9*'COORDONNEE-Y')/
                    ((-2*'COORDONNEE-X') + (12*'COORDONNEE-Y')+3)  $

               CALCULATE, 'VALUE-UNIT' = C''                       $
 021220        COMPARE, 'COORDONNEE-u',
                                     UL 'G-TOLE-TABL'(119, 'UL')
                                        LL 'G-TOLE-TABL'(119, 'LL')   $

               CALCULATE, 'VALUE-UNIT' = C''                       $
 021225        COMPARE, 'COORDONNEE-v',
                                     UL 'G-TOLE-TABL'(120, 'UL')
                                        LL 'G-TOLE-TABL'(120, 'LL')   $
               CALCULATE, 'LIST-CNX' = TRUE                        $
C|----------------------- SM-ilection page 6b -----------------------|
 |---------------------- sky color coordinates --------------------|
                                                                    $

               CALCULATE, 'LOOP' = 0                               $
               CALCULATE, 'RESULT' = C'FAIL'                       $
```


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```
 021230       WHILE, ('LOOP' NE 3)          AND
                    ('RESULT' NE C'PASS'), THEN                   $

                PERFORM, 'R422-SSIMPLCMD' ('UUT', C'A', C'B', 50)
                                                 RESULT ('RESULT')  $
C               If problem with RS422                             $
                IF, 'RESULT' EQ C'FAIL', THEN                     $

 021232           PERFORM, 'WRITE' ('ALL', C'')                   $
                   IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN        $
                     PERFORM, 'WRITE' ('ALL',
                             C'   0~' & 'G-UUT'('UUT').'NAME')     $
                   END, IF                                        $
C                  Ouput an error message                         $
                   PERFORM, 'WRITE' ('ALL', C'WARNING : '&
                        C'ERROR WITH ' &  'G-422-TABL'('UUT').'NAME' &
                    C' COMMAND EXECUTION.')                       $

                END, IF                                           $

                CALCULATE, 'LOOP' = 'LOOP' + 1                    $

              END, WHILE                                          $
C|-------------------------------------------------------------|
                                                                  $

              IF, 'G-TEST' NE C'AUTOMATIC', THEN                  $

                PERFORM, 'UTIL-DISPLAY'
                 (C'',
                  C'INITIATE THE MEASUREMENT.',
                  C'',
                  C'',
                  C'ENTER THE MEASURED VALUE : X.',
                  C'',
                  C'',
                  C'', C'', C'', C'', C'',
                  C'INPUT', C'')                                  $

                CALCULATE, 'COORDONNEE-X' = 'G-VALUE'             $

                PERFORM, 'UTIL-DISPLAY'
                  (C'',
                   C'',
                   C'',
                   C'ENTER THE MEASURED VALUE : Y.',
                   C'',
                   C'',
                   C'', C'', C'', C'', C'', C'',
                   C'INPUT', C'')                                 $

                CALCULATE, 'COORDONNEE-Y' = 'G-VALUE'             $

              ELSE IF, 'G-TEST' EQ C'AUTOMATIC', THEN             $
```


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```
C               Starting of measurement                          $
                PERFORM, 'R23P-PHOTO-CMD' (C'<PMe>')             $

                WAIT FOR, TIME 6 SEC                             $
C               Retrieving of measurement                        $
                PERFORM, 'R23P-PHOTO-CMD' (C'<PVd>')             $

              END, IF                                            $

              CALCULATE, 'LIST-CNX' = FALSE                      $

              CALCULATE, 'COORDONNEE-u' = (4*'COORDONNEE-X')/
                 ((-2*'COORDONNEE-X') + (12*'COORDONNEE-Y')+3)   $

              CALCULATE, 'COORDONNEE-v' = (9*'COORDONNEE-Y')/
                 ((-2*'COORDONNEE-X') + (12*'COORDONNEE-Y')+3)   $

              CALCULATE, 'VALUE-UNIT' = C''                      $
021240        COMPARE, 'COORDONNEE-u',
                                    UL 'G-TOLE-TABL'(121, 'UL')
                                       LL 'G-TOLE-TABL'(121, 'LL')   $

              CALCULATE, 'VALUE-UNIT' = C''                      $
              COMPARE, 'COORDONNEE-v',
                                    UL 'G-TOLE-TABL'(122, 'UL')
                                       LL 'G-TOLE-TABL'(122, 'LL')   $
              CALCULATE, 'LIST-CNX' = TRUE                       $

             END, IF                                             $

          END, FOR                                               $

        END, IF                                                  $

        IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN         $

021245    FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN              $

            IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN          $

              PERFORM, 'UTIL-REMOVE' (FALSE, 'UUT')              $

            END, IF                                              $

          END, FOR                                               $

          IF, ('G-CUSTOMER' EQ C'AIRLINES') OR
              (('G-CUSTOMER' EQ C'PRODUCTION') AND
               ('G-TEST' NE C'AUTOMATIC')), THEN                 $

            PERFORM, 'UTIL-DISPLAY'
```


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```
                (C'SWITCH OFF <LIGHT SOURCE> .',
                C'', C'', C'', C'',
                C'', C'', C'', C'', C'', C'', C'',
                C'WAIT', C''
                    )                                          $

          ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
                    ('G-TEST' EQ C'AUTOMATIC'), THEN           $
C           Lamp of photometer switching off                   $
            PERFORM, 'R23P-PHOTO-CMD' (C'<LOf>')               $

            PERFORM, 'R23P-PHOTO-CMD' (C'<MEn>')               $

            WAIT FOR, TIME 40 SEC                              $

          END, IF                                              $

          IF, ('G-TEST' EQ C'TABLE-AUTO') OR
                    ('G-TEST' EQ C'AUTOMATIC'), THEN           $

            IF,  ('STOP-EP' NE C'2: OPTICAL TESTS'), THEN      $
C             Table 2 axes  program selected                   $
              PERFORM, 'R23P-PHOTO-CMD2' (C'<WUe>')            $
              WAIT FOR, TIME 5 SEC                             $

            END, IF                                            $

            PERFORM, 'R23P-PHOTO-REM'                          $

          END, IF                                              $

        END, IF                                                $

 021299 END, 'OPTI-T08A'                                       $
C|                                                             |
 |-------------------------------------------------------------|
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                E X E C - T 1 O P T I 0 2                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  Run tests of chapter                                       |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 999905 DEFINE, 'EXEC-T1OPTI02', GLOBAL, PROCEDURE             $

 999910 PERFORM, 'INIT-T1OPTI02'                               $
```


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```
 999911 PERFORM, 'OPTI-T01A'                                        $

 999912 PERFORM, 'OPTI-T02A'                                        $

 999913 PERFORM, 'OPTI-T03A'                                        $

 999914 PERFORM, 'OPTI-T04A'                                        $

 999915 PERFORM, 'OPTI-T05A'                                        $

 999916 PERFORM, 'OPTI-T06A'                                        $

 999917 PERFORM, 'OPTI-T07A'                                        $

 999918 PERFORM, 'OPTI-T08A'                                        $

 999990 PERFORM, 'END-T1OPTI02'                                     $

        END, 'EXEC-T1OPTI02'                                        $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ********************************************************************
 *****                                                          *****
 *****                                                          *****
 *****              E N D    O F    M O D U L E                 *****
 *****                                                          *****
 *****                                                          *****
 ********************************************************************
 ********************************************************************
 ********************************************************************
                                                                    $
 999999 TERMINATE, ATLAS MODULE 'TH-ISF-T1OPTI02'                   $
```


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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-T1ATTI03'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             T E S T      M O D U L E                 ******
 ******                                                      ******
 ******                     Chapter 3                        ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000205   DECLARE CONSTANT                                 *
 *      000305   DECLARE EXTERNAL VARIABLES ( LIBRARY )           *
 *      000405   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *                                                                *
 *      001005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )  *
 *      002005   DEFINE EXTERNAL PROCEDURES ( PROGRAMME )         *
 *                                                                *
 *      990005   DEFINE GLOBAL PROCEDURES                         *
 *                                                                *
 *      999999   TERMINATE ATLAS MODULE                           *
 *                                                                *
 ******************************************************************
```

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```
C                                                                $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                    D  E  C  L  A  R  E                       **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                $
C
 ******************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F      C O N S T A N T S      **
 **                                                              **
 ******************************************************************
                                                                 $
C
 ******************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F      T  Y  P  E  S          **
 **                                                              **
 ******************************************************************
                                                                 $
 000205 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                             $
C       Mnemonic of all UUT
 -----------------------------------------------------------------$

 000207 DECLARE, TYPE, 'T-FRAME' IS ENUMERATION(
                   'FR-173-174-EQ-0', 'FR-173-174-NE-0',
                   'FR-312-320-EQ-0', 'FR-312-320-NE-0', 'NO-FRAME'
                   )                                             $
C       Indicator to know the frame to send
 -----------------------------------------------------------------$

 000209 DECLARE, TYPE, 'T-TOLE' IS ENUMERATION(
                   'UL', 'LL'
                   )                                             $
C       Mnemonic of all UUT
 -----------------------------------------------------------------$

 000211 DECLARE, TYPE, 'T-DISCIN-MNEMO' IS ENUMERATION(
                   'DISC-X', 'DISC-h', 'DISC-a', 'DISC-b', 'DISC-c',
                   'DISC-d', 'DISC-e', 'DISC-k', 'DISC-m', 'DISC-n',
                   'DISC-p', 'DISC-q', 'DISC-r', 'DISC-s', 'DISC-f',
                   'DISC-Y','DISC-Z')                            $
C       Mnemonic of discrete inputs class
 -----------------------------------------------------------------$
C
 ******************************************************************
```


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```
 **                                                                **
 **              D E C L A R A T I O N     O F                    **
 **                                                                **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C          **
 **                                                                **
 **                     V A R I A B L E S                          **
 **                                                                **
 ******************************************************************
                                                                   $
 000305 DECLARE, EXTERNAL, VARIABLE, 'CMM-STRING' IS STRING(12) OF
               CHAR                                                $
 000307 DECLARE, EXTERNAL, VARIABLE, 'CUR-STAT-NO' IS STRING(9) OF
               CHAR                                                $
 000309 DECLARE, EXTERNAL, VARIABLE, 'CUR-MODULE' IS STRING(16) OF
               CHAR                                                $
 000311 DECLARE, EXTERNAL, VARIABLE, 'OP-CHOICE' IS STRING(12) OF
               CHAR                                                $
 000313 DECLARE, EXTERNAL, VARIABLE, 'POWER-ON' IS BOOLEAN         $
 000323 DECLARE, EXTERNAL, VARIABLE, 'START-EP' IS STRING(80) OF CHAR
                                                                   $
C
 ******************************************************************
 **                                                                **
 **       D E C L A R A T I O N     O F   E X T E R N A L          **
 **                                                                **
 **     P R O G R A M   S P E C I F I C   V A R I A B L E S        **
 **                                                                **
 ******************************************************************
                                                                   $
 000405 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
                       'EDIT-RESULT' IS BOOLEAN ;
                       'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                       'PART-NUMB' IS STRING(20) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                            J8-G, J9-G, J10-G, J11-G, J12-G
                           ) ;
                       'LO' IS CONNECTION(
                           J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                            J8-t, J9-t, J10-t, J11-t, J12-t
                           )
                       ]                                           $
C       Informations about all UUT
 ------------------------------------------------------------------$

 000407 DECLARE, EXTERNAL, VARIABLE, 'G-UUT5' IS 'T-ALL-UUT'       $
C       Value of 'UUT5'
 ------------------------------------------------------------------$

 000409 DECLARE, EXTERNAL, VARIABLE, 'G-UUT6' IS 'T-ALL-UUT'       $
```

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```
C       Value of 'UUT6'
 ----------------------------------------------------------------$

 000411 DECLARE, EXTERNAL, VARIABLE, 'G-UUT7' IS 'T-ALL-UUT'       $
C       Value of 'UUT7'
 ----------------------------------------------------------------$

 000413 DECLARE, EXTERNAL, VARIABLE, 'G-UUT8' IS 'T-ALL-UUT'       $
C       Value of 'UUT8'
 ----------------------------------------------------------------$

 000415 DECLARE, EXTERNAL, VARIABLE, 'G-CUSTOMER' IS STRING(80) OF
                CHAR                                               $
C       Indicates the choice of test :
C       airlines or production
 ----------------------------------------------------------------$

 000417 DECLARE, EXTERNAL, VARIABLE, 'G-TEST' IS STRING(10) OF CHAR $
C       Indicates the choice of test : manual or automatic (for lamps,
C       photometer and table)
 ----------------------------------------------------------------$

 000419 DECLARE, EXTERNAL, VARIABLE, 'G-TOLE-TABL' IS ARRAY(1 THRU
                300,'UL' THRU 'LL') OF
                    DECIMAL                                        $
C       Tolerances table
 ----------------------------------------------------------------$

 000421 DECLARE, EXTERNAL, VARIABLE, 'G-ARINC-DATA' IS ARRAY(1 THRU
                21600) OF
                    STRING(32) OF BIT                              $
C       Arinc measurement
 ----------------------------------------------------------------$

 000423 DECLARE, EXTERNAL, VARIABLE, 'G-AVERAGE' IS DECIMAL        $
C       Average measurement .
 ----------------------------------------------------------------$

 000425 DECLARE, EXTERNAL, VARIABLE, 'G-NOISE' IS DECIMAL          $
C       Noise measurement .
 ----------------------------------------------------------------$

 000427 DECLARE, EXTERNAL, VARIABLE, 'G-ERROR' IS INTEGER          $
C       Error management .
 ----------------------------------------------------------------$

 000429 DECLARE, EXTERNAL, VARIABLE, 'G-ARINC-DATA1' IS ARRAY(1 THRU
                7200) OF
                    STRING(32) OF BIT                              $
C       Arinc measurement
 ----------------------------------------------------------------$

 000431 DECLARE, EXTERNAL, VARIABLE, 'G-TIME3-INIT' IS DECIMAL     $
C       Indicates the initial time of CLOCK3
```


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```
 ----------------------------------------------------------------$

 000433 DECLARE, EXTERNAL, VARIABLE, 'G-REPAIR' IS BOOLEAN         $
C       Indicates if repair mode is used
 ----------------------------------------------------------------$

 000435 DECLARE, EXTERNAL, VARIABLE, 'G-INIT' IS BOOLEAN           $
C       Indicates if repair mode is used
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F    L O C A L           **
 **                                                            **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S      **
 **                                                            **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                            **
 **          I D E N T I F Y      E X T E R N A L               **
 **                                                            **
 **           E V E N T   B A S E D    E V E N T                **
 **                                                            **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                            **
 **          I D E N T I F Y     E X T E R N A L                **
 **                                                            **
 **            E V E N T     I N D I C A T O R                  **
 **                                                            **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                            **
 **          I D E N T I F Y     E V E N T                      **
 **                                                            **
 **            B A S E D     E V E N T                          **
 **                                                            **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                            **
 **     I D E N T F Y    E V E N T    I N D I C A T O R         **
 **                                                            **
 ****************************************************************
                                                                 $
C
 ****************************************************************
```


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```
 ******************************************************************
 **                                                              **
 **                    D  E  F  I  N  E                          **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S      **
 **                                                              **
 **              S T A N D A R D   L I B R A R Y                 **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  C O M P - O P - M E A S                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : .CUR-STAT-NO                                      |
 |                                                                |
 |              .CUR-MODULE                                       |
 |                                                                |
 |              .OP-MEAS-STRING                                   |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001005 DEFINE, 'COMP-OP-MEAS', EXTERNAL, PROCEDURE (
                   '.CUR-STAT-NO' IS STRING(9) OF CHAR,
                   '.CUR-MODULE' IS STRING(16) OF CHAR,
                   '.OP-MEAS-STRING' IS STRING(16) OF CHAR
                )                                                 $

        END, 'COMP-OP-MEAS'                                       $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                I N I T - P O W E R - T I M E               ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************
```


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```
 |-----------------------------------------------------------------|
 |                                                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 001007 DEFINE, 'INIT-POWER-TIME', EXTERNAL, PROCEDURE             $

        END, 'INIT-POWER-TIME'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                    I N I T - P R O G                         ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |                                                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 001009 DEFINE, 'INIT-PROG', EXTERNAL, PROCEDURE                   $

        END, 'INIT-PROG'                                           $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                    R E S E T - U U T                         ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |                                                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 001010 DEFINE, 'RESET-UUT', EXTERNAL, PROCEDURE                   $

        END, 'RESET-UUT'                                           $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
```


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```
 ******************************************************************
 ***                                                            ***
 ***                    C O M M E N T                           ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Called from any modules by the programmer to display information|
 | to the operator. This comment is displayed from the 8th column.  |
 |                                                                |
 |  Param-in    : .message     string to be displayed             |
 |                                                                |
 |  Calls proc :                                                  |
 |                                                                |
 |----------------------------------------------------------------|
 |                                                              $
 001011 DEFINE, 'COMMENT', EXTERNAL, PROCEDURE
               ('.MESSAGE'   IS STRING (50) OF CHAR)            $
        END, 'COMMENT'                                          $
C|                                                               |
 |                                                               |
 |---------------------------------------------------------------|
                                                              $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    C O M M E N T - A I R L I N E S         ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Called from any modules by the programmer to display information|
 | to the operator. This comment is displayed from the 8th column.  |
 | This PROCEDURE is used only for AIRLINES mode with TABLE-AUTO.   |
 |                                                                |
 |  Param-in    : .message     string to be displayed             |
 |                                                                |
 |  Calls proc :  COMMENT                                         |
 |                                                                |
 |----------------------------------------------------------------|
 |                                                              $
 001012 DEFINE, 'COMMENT-AIRLINES', GLOBAL, PROCEDURE
               ('MESSAGE'   IS STRING (50) OF CHAR)             $

        IF, ('G-CUSTOMER' EQ C'AIRLINES') AND
            ('G-TEST' EQ C'TABLE-AUTO'), THEN                   $

          PERFORM, 'COMMENT'('MESSAGE')                         $

        END, IF                                                 $
```


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```
        END, 'COMMENT-AIRLINES'                                  $
C|                                                               |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    T E S T - T I T L E                     ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |                                                               |
 |                                                               |
 |  Param-in  : .TEST-NAME                                       |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 001013 DEFINE, 'TEST-TITLE', EXTERNAL, PROCEDURE (
                   '.TEST-NAME' IS STRING(50) OF CHAR
                )                                                $

        END, 'TEST-TITLE'                                        $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S      **
 **                                                              **
 **              S P E C I F I C   P R O G R A M                 **
 **                                                              **
 ******************************************************************
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  U T I L - D I S P L A Y                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Management of edition formular                               |
 |                                                               |
 |  Param-in  : P-TEXT-1  First line to edit                     |
 |                                                               |
 |              P-TEXT-2  Second line to edit                    |
 |                                                               |
```


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```
 |              P-TEXT-3  Third line to edit                        |
 |                                                                  |
 |              P-TEXT-4  Fourth line to edit                       |
 |                                                                  |
 |              P-TEXT-5  Fifth line to edit                        |
 |                                                                  |
 |              P-TEXT-6  Sixth line to edit                        |
 |                                                                  |
 |              P-TEXT-7  Seventh line to edit                      |
 |                                                                  |
 |              P-TEXT-8  Eighth line to edit                       |
 |                                                                  |
 |              P-TEXT-9  Ninth line to edit                        |
 |                                                                  |
 |              P-TEXT-10  tenth line to edit                       |
 |                                                                  |
 |              P-TEXT-11  eleventh line to edit                    |
 |                                                                  |
 |              P-TEXT-12  twelfth line to edit                     |
 |                                                                  |
 |              P-CHOICE  Indicator to know if a result, a wait-man |
 |                        or an input is needed                     |
 |                                                                  |
 |              P-IMAGE  Image to display if necessary              |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002005 DEFINE, 'UTIL-DISPLAY', EXTERNAL, PROCEDURE (
                   'P-TEXT-1' IS STRING(80) OF CHAR,
                   'P-TEXT-2' IS STRING(80) OF CHAR,
                   'P-TEXT-3' IS STRING(80) OF CHAR,
                   'P-TEXT-4' IS STRING(80) OF CHAR,
                   'P-TEXT-5' IS STRING(80) OF CHAR,
                   'P-TEXT-6' IS STRING(80) OF CHAR,
                   'P-TEXT-7' IS STRING(80) OF CHAR,
                   'P-TEXT-8' IS STRING(80) OF CHAR,
                   'P-TEXT-9' IS STRING(80) OF CHAR,
                   'P-TEXT-10' IS STRING(80) OF CHAR,
                   'P-TEXT-11' IS STRING(80) OF CHAR,
                   'P-TEXT-12' IS STRING(80) OF CHAR,
                   'P-CHOICE' IS STRING(6) OF CHAR,
                   'P-IMAGE' IS STRING(8) OF CHAR
               )                                                    $

       END, 'UTIL-DISPLAY'                                          $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***              R 2 3 T - T A B L E - C M D 2                   ***
 ***                                                              ***
```


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```
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Send cmd on IES-RS232-TABLE                                   |
 |                                                                |
 |  Param-in  : P-CMD  Send a command but no reply is expected    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002007 DEFINE, 'R23T-TABLE-CMD2', EXTERNAL, PROCEDURE (
                    'P-CMD' IS STRING(20) OF CHAR
               )                                                  $

        END, 'R23T-TABLE-CMD2'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                R 2 3 T - T A B L E - C M D                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Send a cmd on IES-RS232-TABLE                                 |
 |                                                                |
 |  Param-in  : P-CMD  Cmd to send                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002009 DEFINE, 'R23T-TABLE-CMD', EXTERNAL, PROCEDURE (
                    'P-CMD' IS STRING(20) OF CHAR
               )                                                  $

        END, 'R23T-TABLE-CMD'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               R 2 3 T - T A B L E - W A I T                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Wait for end of movement of table                             |
 |                                                                |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
 002011 DEFINE, 'R23T-TABLE-WAIT', EXTERNAL, PROCEDURE             $

        END, 'R23T-TABLE-WAIT'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***          I N I T - T A B L E - A T T I T U D E               ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 | Initialisation of the three axis table                          |
 |                                                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002012 DEFINE, 'INIT-TABLE-ATTITUDE', EXTERNAL, PROCEDURE         $

        END, 'INIT-TABLE-ATTITUDE'                                 $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***               T I M E - R E S E T - C L K 6                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Resets the clock 6 .                                           |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002013 DEFINE, 'TIME-RESET-CLK6', EXTERNAL, PROCEDURE             $

        END, 'TIME-RESET-CLK6'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                D I S C - I N - C O N F I G                   ***
```


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```
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Put UUT1 or UUT2 ..... or UUT12 in ANNEXE x ATP configuration . |
 |                                                                 |
 |  Param-in  : ANNEXE  Initialisation chosen                      |
 |                                                                 |
 |              UUT  Uut concerned                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                  $
 002014 DEFINE, 'DISC-IN-CONFIG', EXTERNAL, PROCEDURE (
                   'ANNEXE' IS ENUMERATION(
                       'OPEN-ALL', 'OPEN-GROUND', 'ANNEXE-4',
                       'ANNEXE-5', 'ANNEXE-6'),
                   'UUT' IS 'T-ALL-UUT'
               )                                                  $

       END, 'DISC-IN-CONFIG'                                      $
C|                                                                |
 |-----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 G 4 2 9 - P R E P - B U S 1                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                             |
 |                                                                 |
 |  Param-in  : UUT  Prepares BUS1 arinc device with frame to      |
 |                   transmit                                      |
 |                                                                 |
 |              FRAME  Frame to transmit :                         |
 |                     - if FR-173-174-EQ-0 :                      |
 |                     word1 = X'600000', word2 = X'600000' - if   |
 |                     FR-173-174-NE-0 :                           |
 |                     word1 = X'631A00', word2 = X'61C000'        |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                  $
 002016 DEFINE, 'G429-PREP-BUS1', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'FRAME' IS 'T-FRAME')                          $

       END, 'G429-PREP-BUS1'                                      $
C|                                                                |
 |-----------------------------------------------------------------|
```


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```
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - C O N N - B U S 2                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Arinc signal to connect                      |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002017 DEFINE, 'G429-CONN-BUS1', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT')                          $

        END, 'G429-CONN-BUS1'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - P R E P - B U S 2                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Prepares BUS2 arinc device with frame to     |
 |                   transmit                                     |
 |                                                                |
 |              FRAME  Frame to transmit :                        |
 |                     - if FR-312-320-EQ-0 :                     |
 |                     word1 = X'600000', word2 = X'600000', word3 =|
 |                     X'600000' - if FR-312-320-NE-0 :           |
 |                     word1 = X'600000', word2 = X'62AAA0', word3 =|
 |                     X'62AAA0'                                  |
 | REM : non utilisM-i                                              |
 |----------------------------------------------------------------|
                                                                  $
 002019 DEFINE, 'G429-PREP-BUS2', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'FRAME' IS 'T-FRAME')                          $

        END, 'G429-PREP-BUS2'                                     $
C|                                                                |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                G 4 2 9 - C O N N - B U S 2                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                             |
 |                                                                 |
 |  Param-in  : UUT  Arinc signal to connect                       |
 |                                                                 |
 | REM : non utilisM-i                                               |
 |-----------------------------------------------------------------|
                                                                   $
 002021 DEFINE, 'G429-CONN-BUS2', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT')                           $

        END, 'G429-CONN-BUS2'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                G 4 2 9 - P R E P - B U S 3                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                             |
 |                                                                 |
 |  Param-in  : UUT  Prepares BUS3 arinc device with frame to      |
 |                   transmit                                      |
 |                                                                 |
 |              FRAME  Frame to transmit :                         |
 |                     - if FR-312-320-EQ-0 :                      |
 |                     word1 = X'600000', word2 = X'600000', word3 =|
 |                     X'600000' - if FR-312-320-NE-0 :            |
 |                     word1 = X'600000', word2 = X'62AAA0', word3 =|
 |                     X'62AAA0'                                   |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002023 DEFINE, 'G429-PREP-BUS3', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'FRAME' IS 'T-FRAME')                           $
```


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```
       END, 'G429-PREP-BUS3'                                    $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - C O N N - B U S 3                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  Connects arinc generation to UUT .                          |
 |                                                              |
 |  Param-in  : UUT  Arinc signal to connect                    |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 002025 DEFINE, 'G429-CONN-BUS3', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT')                        $

       END, 'G429-CONN-BUS3'                                    $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T P - 3 5 1                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  Prepares arinc measurement with datation (label 351) on UUT .   |
 |                                                              |
 |  Param-in  : UUT  Uut concerned                              |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 002027 DEFINE, 'M429-INRTP-351', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                $

       END, 'M429-INRTP-351'                                    $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
```


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```
 ***                                                                ***
 ***                  D C S U - C O N N E C T                       ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Connection of 28VDC-SUP on UUT-1 to UUT-12 .                   |
 |                                                                 |
 |  Param-in  : UUT  Signal to be connected                        |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002029 DEFINE, 'DCSU-CONNECT', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                   $

        END, 'DCSU-CONNECT'                                        $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                                ***
 ***                M 4 2 9 - I N R T A - 3 5 1                     ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Starts arinc measurement with datation (label 351) on UUT .    |
 |                                                                 |
 |  Param-in  : UUT  Uut concerned                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002031 DEFINE, 'M429-INRTA-351', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                   $

        END, 'M429-INRTA-351'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                                ***
 ***                M 4 2 9 - I N R T F - 3 5 1                     ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************
```

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```
 |-----------------------------------------------------------------|
 |  Retrieves arinc measurement signal with datation from UUT .     |
 |                                                                  |
 |  Param-in  : UUT  Uut concerned                                  |
 |                                                                  |
 |  Param-out : TIME  Time of initialization                        |
 |                                                                  |
 |-----------------------------------------------------------------|
                                                                   $
 002033 DEFINE, 'M429-INRTF-351', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )
                RESULT (
                    'TIME' IS DECIMAL
                )                                                  $

        END, 'M429-INRTF-351'                                      $
C|                                                                  |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                M 4 2 9 - I N R T R M - 3 5 1                 ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Removes arinc measurement signal from UUT .                     |
 |                                                                  |
 |  Param-in  : UUT  Uut concerned                                  |
 |                                                                  |
 |-----------------------------------------------------------------|
                                                                   $
 002036  DEFINE, 'M429-INRTRM-351', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                  $

        END, 'M429-INRTRM-351'                                     $
C|                                                                  |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 M 4 2 9 - I N R T P - 1 0 S                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
```


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```
 |  Prepares 10 sec arinc measurement on UUT .                        |
 |                                                                    |
 |  Param-in  : UUT  Uut concerned                                    |
 |                                                                    |
 |--------------------------------------------------------------------|
                                                                      $
 002037 DEFINE, 'M429-INRTP-10S', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                      $

        END, 'M429-INRTP-10S'                                         $
C|                                                                    |
 |--------------------------------------------------------------------|
                                                                      $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 M 4 2 9 - I N R T - A R M                    ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |--------------------------------------------------------------------|
 |  Starts arinc measurement signal on UUT .                          |
 |                                                                    |
 |  Param-in  : UUT  Uut concerned                                    |
 |                                                                    |
 |--------------------------------------------------------------------|
                                                                      $
 002039 DEFINE, 'M429-INRT-ARM', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                      $

        END, 'M429-INRT-ARM'                                          $
C|                                                                    |
 |--------------------------------------------------------------------|
                                                                      $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                M 4 2 9 - I N R T F - 1 0 S                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |--------------------------------------------------------------------|
 |  Retrieves 10 sec arinc measurement from UUT .                     |
 |                                                                    |
 |  Param-in  : UUT  Uut concerned                                    |
 |                                                                    |
 |--------------------------------------------------------------------|
                                                                      $
```


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```
 002041 DEFINE, 'M429-INRTF-10S', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                $

        END, 'M429-INRTF-10S'                                    $
C|                                                               |
 |----------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***          M 4 2 9 - - A L L - L A B E L S                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Retrieves all labels arinc measurement from UUT .             |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                 $
 002044 DEFINE, 'M429-ALL-LABELS', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'LABEL' IS ARRAY (1 THRU 6) OF INTEGER
                 )                                               $

        END, 'M429-ALL-LABELS'                                   $
C|                                                               |
 |----------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                     C - A V E R A G E                      ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : LABEL                                             |
 |                                                                |
 |              MEAS-ARRAY                                        |
 |                                                                |
 |  Param-out : AVERAGE                                           |
 |                                                                |
 |              NOISE                                             |
 |                                                                |
 |              ERROR                                             |
```


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```
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002045 DEFINE, 'C-AVERAGE', EXTERNAL, PROCEDURE (
                    'LABEL' IS INTEGER,
                    'MEAS-ARRAY' IS ARRAY(1 THRU 21600) OF
                        STRING(32) OF BIT
               )
               RESULT (
                    'AVERAGE' IS DECIMAL,
                    'NOISE' IS DECIMAL,
                    'ERROR' IS INTEGER
               )                                                  $

       END, 'C-AVERAGE'                                           $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 M 4 2 9 - I N R T - R E M                  ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Removes arinc signal from UUT .                               |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002046 DEFINE, 'M429-INRT-REM', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
               )                                                  $

       END, 'M429-INRT-REM'                                       $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 M 4 2 9 - I N R T P - 3 M N                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Prepares 3 mn arinc measurement signal on UUT .               |
 |                                                                |
```


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```
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002047 DEFINE, 'M429-INRTP-3MN', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'M429-INRTP-3MN'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T F - 3 M N                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Retrieves 3 mn arinc measurement on UUT .                     |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002049 DEFINE, 'M429-INRTF-3MN', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'M429-INRTF-3MN'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  U T I L - R E M O V E                     ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Remove UUT-1, UUT-2, ....or UUT-12 .                          |
 |                                                                |
 |  Param-in  : ABANDON-UUT  If true, test is abandonned on 'UUT'  |
 |                                                                |
 |              UUT  Signal to be connected                       |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
```


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```
 002051 DEFINE, 'UTIL-REMOVE', EXTERNAL, PROCEDURE (
                    'ABANDON-UUT' IS BOOLEAN,
                    'UUT' IS 'T-ALL-UUT'
                )                                                $

        END, 'UTIL-REMOVE'                                       $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                R 2 3 T - T A B L E - R E M                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Remove RS232-TABLE                                           |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 002053 DEFINE, 'R23T-TABLE-REM', EXTERNAL, PROCEDURE            $

        END, 'R23T-TABLE-REM'                                    $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               D C S U - D I S C O N N E C T                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Disconnection of 28VDC-SUP from UUT-1 to UUT-12 .            |
 |                                                               |
 |  Param-in  : UUT  Signal to be disconnected                   |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 002055 DEFINE, 'DCSU-DISCONNECT', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                $

        END, 'DCSU-DISCONNECT'                                   $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
```


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```
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                M 4 2 9 - I N R T P - 1 M N                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Prepares 1 mn arinc measurement signal on UUT .                 |
 |                                                                  |
 |  Param-in  : UUT  Uut concerned                                  |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002057 DEFINE, 'M429-INRTP-1MN', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                    $

        END, 'M429-INRTP-1MN'                                       $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                M 4 2 9 - I N R T F - 1 M N                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Retrieves 1 mn arinc measurement on UUT .                       |
 |                                                                  |
 |  Param-in  : UUT  Uut concerned                                  |
 |                                                                  |
 |     DATA stored in `GDATA1`                                      |
 |------------------------------------------------------------------|
                                                                    $
 002059 DEFINE, 'M429-INRTF-1MN', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                    $

        END, 'M429-INRTF-1MN'                                       $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                M 4 2 9 - I N R T F 2 - 1 M N                 ***
 ***                                                              ***
```


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```
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Retrieves 1 mn arinc measurement on UUT .                     |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |     DATA stored in `GDATA`                                     |
 |----------------------------------------------------------------|
                                                                  $
 002060 DEFINE, 'M429-INRTF2-1MN', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'M429-INRTF2-1MN'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                   C - S T A B I L I T Y                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : LABEL                                             |
 |                                                                |
 |              MEAS-ARRAY                                        |
 |                                                                |
 |  Param-out : RESULT                                            |
 |                                                                |
 |              ERROR                                             |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002061 DEFINE, 'C-STABILITY', EXTERNAL, PROCEDURE (
                    'LABEL' IS INTEGER,
                    'MEAS-ARRAY' IS ARRAY(1 THRU 7200) OF
                        STRING(32) OF BIT
                )
                RESULT (
                    'RESULT' IS STRING(12) OF CHAR,
                    'ERROR' IS INTEGER
                )                                                 $

        END, 'C-STABILITY'                                        $
C|                                                                |
 |----------------------------------------------------------------|
```


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```
                                                                    $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  D I S C - I N - C O N N                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Connection of DISC-X or DISC-h .....                          |
 |  or DISC-Z of UUT1 or UUT2 ..... or UUT12 to EARTH .           |
 |                                                                |
 |  Param-in  : SIGNAL  Signal to be connected                    |
 |                                                                |
 |              UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                    $
 002063 DEFINE, 'DISC-IN-CONN', EXTERNAL, PROCEDURE (
                   'SIGNAL' IS 'T-DISCIN-MNEMO',
                   'UUT' IS 'T-ALL-UUT'
                )                                                   $

        END, 'DISC-IN-CONN'                                         $
C|                                                                  |
 |----------------------------------------------------------------|
                                                                    $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 D I S C - I N - D I S C O N                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Disconnection of DISC-X or DISC-h ..... or DISC-Z of UUT1     |
 |  or UUT2 ..... or UUT12 from EARTH .                           |
 |                                                                |
 |  Param-in  : SIGNAL  Signal to be disconnected                 |
 |                                                                |
 |              UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                    $
 002065 DEFINE, 'DISC-IN-DISCON', EXTERNAL, PROCEDURE (
                   'SIGNAL' IS 'T-DISCIN-MNEMO',
                   'UUT' IS 'T-ALL-UUT'
                )                                                   $

        END, 'DISC-IN-DISCON'                                       $
```


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```
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***              T I M E - R E S E T - C L K 3                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Resets the clock 3 .                                          |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002067 DEFINE, 'TIME-RESET-CLK3', EXTERNAL, PROCEDURE            $

        END, 'TIME-RESET-CLK3'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               T I M E - R E A D - C L K 3                  ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Reads a time .                                                |
 |                                                                |
 |  Param-out : TIME  Time reading                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002069 DEFINE, 'TIME-READ-CLK3', EXTERNAL, PROCEDURE
               RESULT (
                   'TIME' IS DECIMAL
               )                                                  $

        END, 'TIME-READ-CLK3'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          D E F I N E   L O C A L   P R O C E D U R E         **
 **                                                              **
 ******************************************************************
```


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```
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         D E F I N E   G L O B A L   P R O C E D U R E        **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  A T T I - L A B 3 5 1                     ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This procedure is used for the INITIALIZATION FLAG TEST of UUT .|
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 030100 DEFINE, 'ATTI-LAB351', GLOBAL, PROCEDURE                  $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                   $
        DECLARE, VARIABLE, 'TIME-RESULT' IS DECIMAL               $
        DECLARE, VARIABLE, 'LABEL-1' IS ARRAY(1 THRU 6) OF
                   INTEGER
        INITIAL =  (324, 325, 327, 326, 330, 331)                 $
        DECLARE, VARIABLE, 'LABEL-2' IS ARRAY(1 THRU 6) OF
                   INTEGER
        INITIAL =  (332, 352, 353, 155, 157, 160  )               $
        DECLARE, VARIABLE, 'LABEL-3' IS ARRAY(1 THRU 6) OF
                   INTEGER
        INITIAL =  (353, 155, 157, 160, 161, 351  )               $
C       Arinc labels array
 -----------------------------------------------------------------$
 030101 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN           $

          IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                   $

            IF, 'G-TEST' EQ C'MANUAL', THEN                       $

              PERFORM, 'UTIL-DISPLAY'
              (C'1- INSTALL THE INSTRUMENT ON THE TEST SUPPORT ' &
               C'DESIGNED FOR',
               C'   0 DEGREE TILT ANGLE PANEL, WITH AN ACCURACY ' &
               C'OF 0.1 DEGREE IN ',
               C'   ROLL AND PITCH .',
               C'2- INSTALL THE ASSEMBLY ON A Z-AXIS TABLE .' &
               C'',
```


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```
            C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                 )                                          $

          ELSE IF, ('G-TEST' EQ C'TABLE-AUTO') AND
                   ('START-EP' NE C'3: ATTITUDE TESTS') , THEN    $

            PERFORM, 'UTIL-DISPLAY'
            (C'1- INSTALL THE INSTRUMENT ON THE THREE AXIS TABLE '&
             C'SUPPORT',
             C'',
             C'2- VERIFY THAT THE THREE AXIS TABLE MODULE IS READY',
             C'',
             C'', C'', C'', C'', C'', C'', C'', C'',
             C'WAIT', C''
                 )                                          $

            PERFORM, 'INIT-TABLE-ATTITUDE'                  $

          END, IF                                           $

          PERFORM, 'TIME-RESET-CLK6'                        $

        END, IF                                             $

        CALCULATE, 'CMM-STRING' = C''                       $

        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN               $
          PERFORM, 'UTIL-DISPLAY'
          (C'VERIFY THAT THE INSTRUMENT IS AT ROOM TEMPERATURE ' &
           C'+-3 DEGREES .',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'RESULT', C''
                 )                                          $
        ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN        $

030102    PERFORM, 'UTIL-DISPLAY'
          (C'VERIFY THAT INSTRUMENTS OF < POSTE 2 > ARE AT',
           C'ROOM TEMPERATURE +-3 DEGRES.',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'RESULT', C''
                 )                                          $

        END, IF                                             $

      END, IF                                               $

030105 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN            $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN         $

          IF, ('G-CUSTOMER' EQ C'AIRLINES'), THEN           $
            IF, ('G-TEST' EQ C'MANUAL'), THEN               $
              CALCULATE, 'CMM-STRING' = C'4.5.2'            $
```


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```
            ELSE IF, ('G-TEST' EQ C'TABLE-AUTO'), THEN          $
              CALCULATE, 'CMM-STRING' = C'4.5.1'                $
            END, IF                                             $
          ELSE                                                  $
            CALCULATE, 'CMM-STRING' =
            C'4.5.1~' & 'G-UUT'('UUT').'NAME'                   $
          END, IF                                               $

          PERFORM, 'COMP-OP-MEAS'
          ('CUR-STAT-NO', 'CUR-MODULE', C'TEMPERATURE')         $

        END, IF                                                 $

      END, FOR                                                  $

030110 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

          PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')   $
          PERFORM, 'G429-CONN-BUS1'('UUT')                      $

          PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')   $
          PERFORM, 'G429-CONN-BUS3'('UUT')                      $

          PERFORM, 'M429-INRTP-351' ('UUT')                     $

        END, IF                                                 $

      END, FOR                                                  $

030120 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

          WAIT FOR, TIME 1 SEC                                  $

          PERFORM, 'DCSU-CONNECT' ('UUT')                       $

          PERFORM, 'M429-INRTA-351' ('UUT')                     $

          WAIT FOR, TIME 10 SEC                                 $

        END, IF                                                 $

      END, FOR                                                  $

030130 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

          IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                 $
            IF, ('G-TEST' EQ C'MANUAL'), THEN                   $
              CALCULATE, 'CMM-STRING' = C'4.5.2.1'              $
```


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```
              ELSE                                                $
                CALCULATE, 'CMM-STRING' = C'4.5.1.1'              $
              END, IF                                             $
            ELSE                                                  $
              CALCULATE, 'CMM-STRING' =
              C'4.5.1.1~' & 'G-UUT'('UUT').'NAME'                 $
            END, IF                                               $
C|                                                                |
 |-------- acquisition initialization time : label 351 -------------|
                                                                  $
            PERFORM, 'M429-INRTF-351' ('UUT')
                     RESULT ('TIME-RESULT')                       $

            PERFORM, 'M429-INRTRM-351' ('UUT')                    $
C|                                                                |
 |----------- check if all labels are transmitted ------------------|
                                                                  $

            PERFORM, 'M429-ALL-LABELS' ('UUT', 'LABEL-1')         $

            IF, 'OP-CHOICE' EQ C'PASS', THEN                      $

               PERFORM, 'M429-ALL-LABELS' ('UUT', 'LABEL-2')      $

            END, IF                                               $

            IF, 'OP-CHOICE' EQ C'PASS', THEN                      $

               PERFORM, 'M429-ALL-LABELS' ('UUT', 'LABEL-3')      $

            END, IF                                               $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'ALL LABELS')          $

            COMPARE, 'TIME-RESULT', LE 'G-TOLE-TABL'(60, 'UL') SEC  $

          END, IF                                                 $

        END, FOR                                                  $

 030199 END, 'ATTI-LAB351'                                        $
C|                                                                |
 |-----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  A T T I - 1 0 S E C                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************
```


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```
|-----------------------------------------------------------------|
|  This procedure is used for the HORIZON LINE MOVEMENTS of UUT .  |
|                                                                 |
|-----------------------------------------------------------------|
                                                                  $
 030201 DEFINE, 'ATTI-10SEC', GLOBAL, PROCEDURE                   $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                   $

 030206 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                 $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

            PERFORM, 'M429-INRTP-10S' ('UUT')                     $

            PERFORM, 'M429-INRT-ARM' ('UUT')                      $

          END, IF                                                 $

        END, FOR                                                  $

 030208 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                 $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                 $
              IF, 'G-TEST' EQ C'MANUAL', THEN                     $
                CALCULATE, 'CMM-STRING' = C'4.5.2.2'              $
              ELSE                                                $
                CALCULATE, 'CMM-STRING' = C'4.5.1.2.1'            $
              END, IF                                             $
            ELSE                                                  $
              CALCULATE, 'CMM-STRING' =
              C'4.5.1.2.1~' & 'G-UUT'('UUT').'NAME'               $
            END, IF                                               $

            PERFORM, 'M429-INRTF-10S' ('UUT')                     $

 030210     IF, NOT MAX-TIME, THEN                                $

              PERFORM, 'C-AVERAGE' (157, 'G-ARINC-DATA')
                       RESULT ('G-AVERAGE', 'G-NOISE', 'G-ERROR')  $
C             Numb. of elements received must be superior than 280  $
              IF, 'G-ERROR' LT 280, THEN                          $
                CALCULATE, 'G-AVERAGE' = 9999                     $
              END, IF                                             $

            END, IF                                               $

            COMPARE, 'G-AVERAGE',
                     LT 'G-TOLE-TABL'(112, 'UL') DEG/SEC          $

 030212     IF, NOT MAX-TIME, THEN                                $
```


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```
              PERFORM, 'C-AVERAGE' (160, 'G-ARINC-DATA')
                       RESULT ('G-AVERAGE', 'G-NOISE', 'G-ERROR')  $
C             Numb. of elements received must be superior than 280  $
              IF, 'G-ERROR' LT 280, THEN                            $
                CALCULATE, 'G-AVERAGE' = 9999                       $
              END, IF                                               $

            END, IF                                                 $

            COMPARE, 'G-AVERAGE',
                     LT 'G-TOLE-TABL'(113, 'UL') DEG/SEC            $

 030214     IF, NOT MAX-TIME, THEN                                 $

              PERFORM, 'C-AVERAGE' (161, 'G-ARINC-DATA')
                       RESULT ('G-AVERAGE', 'G-NOISE', 'G-ERROR')  $
C             Numb. of elements received must be superior than 280  $
              IF, 'G-ERROR' LT 280, THEN                            $
                CALCULATE, 'G-AVERAGE' = 9999                       $
              END, IF                                               $

            END, IF                                                 $

            COMPARE, 'G-AVERAGE',
                     LT 'G-TOLE-TABL'(114, 'UL') DEG/SEC            $

            PERFORM, 'M429-INRT-REM' ('UUT')                        $

          END, IF                                                   $

        END, FOR                                                    $

 030299 END, 'ATTI-10SEC'                                           $
C|                                                                  |
 |-----------------------------------------------------------------|
                                                                    $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                A T T I - 1 M N - I N I T                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS and for  |
 |  PINS PROGRAMMATION TESTS of UUT .                              |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                    $
 030310 DEFINE, 'ATTI-1MN-INIT', GLOBAL, PROCEDURE                  $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                     $
```


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```
 030312 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                  $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

            PERFORM, 'M429-INRTP-1MN' ('UUT')                      $

            PERFORM, 'M429-INRT-ARM' ('UUT')                       $

          END, IF                                                  $

        END, FOR                                                   $

 030319 END, 'ATTI-1MN-INIT'                                       $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                      A T T I - 1 M N                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS and for  |
 |  PINS PROGRAMMATION TESTS of UUT .                              |
 |                                                                 |
 |  Param-in  : STRING-CMM  Cmm-string to edit                     |
 |                                                                 |
 |              PITCH-UL  High tolerance value of average pitch    |
 |                                                                 |
 |              PITCH-LL  Low tolerance value of average pitch     |
 |                                                                 |
 |              ROLL-UL  High tolerance value of average roll      |
 |                                                                 |
 |              ROLL-LL  Low tolerance value of average roll       |
 |                                                                 |
 |              EDITION-NOISE  Indicates if noise must be checked  |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 030331 DEFINE, 'ATTI-1MN', GLOBAL, PROCEDURE (
                   'STRING-CMM' IS STRING(12) OF CHAR,
                   'PITCH-UL' IS DECIMAL,
                   'PITCH-LL' IS DECIMAL,
                   'ROLL-UL' IS DECIMAL,
                   'ROLL-LL' IS DECIMAL,
                   'EDITION-NOISE' IS INTEGER
               )                                                   $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
```


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```
 030334 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                  $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $
              CALCULATE, 'CMM-STRING' = 'STRING-CMM'               $
            ELSE                                                   $
              CALCULATE, 'CMM-STRING' =
              'STRING-CMM' & C'~' & 'G-UUT'('UUT').'NAME'          $
            END, IF                                                $

 030335     PERFORM, 'M429-INRTF2-1MN' ('UUT')                     $

            IF, NOT MAX-TIME, THEN                                 $

              PERFORM, 'C-AVERAGE' (324, 'G-ARINC-DATA')
                       RESULT ('G-AVERAGE', 'G-NOISE', 'G-ERROR')  $
C             Numb. of elements received must be superior than 3500 $
              IF, 'G-ERROR' LT 3500, THEN                          $
                CALCULATE, 'G-AVERAGE' = 9999                      $
                CALCULATE, 'G-NOISE'   = 9999                      $
              END, IF                                              $

            END, IF                                                $

            COMPARE, 'G-AVERAGE',
                     UL 'PITCH-UL' DEG LL 'PITCH-LL' DEG           $

            IF, 'EDITION-NOISE' EQ 1, THEN                         $
              COMPARE, 'G-NOISE', LT 'G-TOLE-TABL'(62, 'UL') DEG   $
            END, IF                                                $

 030338     IF, NOT MAX-TIME, THEN                                 $

              PERFORM, 'C-AVERAGE' (325, 'G-ARINC-DATA')
                       RESULT ('G-AVERAGE', 'G-NOISE', 'G-ERROR')  $
C             Numb. of elements received must be superior than 3500 $
              IF, 'G-ERROR' LT 3500, THEN                          $
                CALCULATE, 'G-AVERAGE' = 9999                      $
                CALCULATE, 'G-NOISE'   = 9999                      $
              END, IF                                              $

            END, IF                                                $

            COMPARE, 'G-AVERAGE',
                     UL 'ROLL-UL' DEG LL 'ROLL-LL' DEG             $

            IF, 'EDITION-NOISE' EQ 1, THEN                         $
              COMPARE, 'G-NOISE', LT 'G-TOLE-TABL'(64, 'UL') DEG   $
            END, IF                                                $

            PERFORM, 'M429-INRT-REM' ('UUT')                       $
```


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```
          END, IF                                                $

        END, FOR                                                 $

 030339 END, 'ATTI-1MN'                                          $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                    A T T I - D E L A Y                   ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS and for |
 |  PINS PROGRAMMATION TESTS of UUT .                            |
 |                                                               |
 |  Param-in  : TIME  Value of delay                             |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 030401 DEFINE, 'ATTI-DELAY', GLOBAL, PROCEDURE (
                   'TIME' IS DECIMAL
               )                                                 $

        IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN          $

          WAIT FOR, TIME 'TIME' SEC                              $

        END, IF                                                  $

 030499 END, 'ATTI-DELAY'                                        $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                  A T T I - R E M O V E                   ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS and for |
 |  PINS PROGRAMMATION TESTS of UUT .                            |
```


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```
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 030501 DEFINE, 'ATTI-REMOVE', GLOBAL, PROCEDURE                    $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                     $

 030505 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                   $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

            PERFORM, 'DCSU-DISCONNECT' ('UUT')                      $

          END, IF                                                   $

        END, FOR                                                    $

 030510 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                   $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

            PERFORM, 'UTIL-REMOVE' (FALSE, 'UUT')                   $

          END, IF                                                   $

        END, FOR                                                    $

 030519 END, 'ATTI-REMOVE'                                          $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                A T T I - R E M - T A B L E                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS and for   |
 |  PINS PROGRAMMATION TESTS of UUT .                               |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 030531 DEFINE, 'ATTI-REM-TABLE', GLOBAL, PROCEDURE                 $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                     $
        IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN            $
```

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```
 030546   IF, (('G-CUSTOMER' EQ C'PRODUCTION')AND
               ('G-TEST' NE C'MANUAL')) OR
              (('G-CUSTOMER' EQ C'AIRLINES')AND
               ('G-TEST' EQ C'TABLE-AUTO')), THEN                  $
C           Table is powered off                                   $
            PERFORM, 'R23T-TABLE-CMD' (C'<MEn>')                   $
            WAIT FOR, TIME 20 SEC                                  $

            PERFORM, 'R23T-TABLE-REM'                              $

          END, IF                                                  $

        END, IF                                                    $

 030599 END, 'ATTI-REM-TABLE'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***               A T T I - D I S C O N N E C T                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for PINS PROGRAMMATION TESTS of UUT .    |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 030601 DEFINE, 'ATTI-DISCONNECT', GLOBAL, PROCEDURE               $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
 030645 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                  $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

            PERFORM, 'DCSU-DISCONNECT'('UUT')                      $

            WAIT FOR, TIME 2 SEC                                   $

          END, IF                                                  $

        END, FOR                                                   $

 030699 END, 'ATTI-DISCONNECT'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
```


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```
 ***                                                              ***
 ***                  A T T I - A C T I O N 1                     ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT   |
 |  for the AIRLINES mode                                          |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 030701 DEFINE, 'ATTI-ACTION1', GLOBAL, PROCEDURE                  $

 030712 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN            $

         IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                     $
           PERFORM, 'UTIL-DISPLAY'
           (C'SET THE INSTRUMENT PITCH ANGLE TO 20 DEGREES ' &
            C'NOSE UP, (CLIMB).',
            C'',
            C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                  )                                                $

         END, IF                                                   $

       END, IF                                                     $

 030799 END, 'ATTI-ACTION1'                                        $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  A T T I - A C T I O N 2                     ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT   |
 |  for the AIRLINES mode                                          |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 030801 DEFINE, 'ATTI-ACTION2', GLOBAL, PROCEDURE                  $

 030818 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
```


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```
          ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN           $

        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $
          PERFORM, 'UTIL-DISPLAY'
          (C'SET THE INSTRUMENT PITCH ANGLE TO -20 DEGREES ' &
           C'NOSE DOWN, (DESCENT).',
           C'',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'WAIT', C''
                 )                                               $

        END, IF                                                  $

      END, IF                                                    $

 030899 END, 'ATTI-ACTION2'                                      $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ********************************************************************
 ********************************************************************
 ***                                                            ***
 ***                A T T I - A C T I O N 3                     ***
 ***                                                            ***
 ********************************************************************
 ********************************************************************

 |---------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT  |
 |  for the AIRLINES mode                                         |
 |                                                                |
 |---------------------------------------------------------------|
                                                                 $
 030901 DEFINE, 'ATTI-ACTION3', GLOBAL, PROCEDURE                $

 030924 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN           $

        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $
          PERFORM, 'UTIL-DISPLAY'
          (C'FACING THE INSTRUMENT, ROTATE IT 20 DEGREES ' &
           C'CLOCKWISE',
           C'AROUND ITS AXIS IN ORDER TO SET ITS ROLL TO ' &
           C'20 DEGREES,',
           C'WITHOUT VARYING THE PITCH ANGLE .',
           C'',
           C'', C'', C'', C'', C'', C'', C'', C'',
           C'WAIT', C''
                 )                                               $
```


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```
         END, IF                                                $

       END, IF                                                  $

 030999 END, 'ATTI-ACTION3'                                     $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 A T T I - A C T I O N 4                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT |
 |  for the AIRLINES mode                                       |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 031001 DEFINE, 'ATTI-ACTION4', GLOBAL, PROCEDURE               $

 031005 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN          $

         IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $
           PERFORM, 'UTIL-DISPLAY'
           (C'FACING THE INSTRUMENT, ROTATE IT 20 DEGREES ' &
            C'COUNTER CLOCKWISE',
            C'AROUND ITS AXIS IN ORDER TO SET ITS ROLL TO ' &
            C'-20 DEGREES,',
            C'WITHOUT VARYING THE PITCH ANGLE .',
            C'',
            C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                  )                                             $

         END, IF                                                $

       END, IF                                                  $

 031009 END, 'ATTI-ACTION4'                                     $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
```


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```
***                                                                  ***
***                    A T T I - R O T A T E                         ***
***                                                                  ***
*********************************************************************
*********************************************************************

|-----------------------------------------------------------------|
|  This procedure is used for the HORIZON LINE MOVEMENTS of UUT    |
|  for the AIRLINES mode                                            |
|                                                                   |
|-----------------------------------------------------------------|
                                                                   $
031011 DEFINE, 'ATTI-ROTATE', GLOBAL, PROCEDURE                    $

       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                     $

031031 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                   $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

           PERFORM, 'M429-INRTP-1MN' ('UUT')                       $

         END, IF                                                   $

       END, FOR                                                    $

031036 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN            $

         IF, ('G-CUSTOMER' EQ C'AIRLINES'), THEN                   $
           PERFORM, 'UTIL-DISPLAY'
           (C'WARNING : ROTATE CLOCKWISE THE <3 AXIS TABLE> ',
            C'BETWEEN <90> DEGREES AND <180> DEGREES',
            C'AROUND <Z-AXIS>, WITH AN ANGULAR RATE BETWEEN :',
            C'<10> DEGREES/SEC AND <95> DEGREES/SEC .',
            C'1- CLICK ON < OK > TO START THE TEST .',
            C'2- AFTER CLICKING ON < OK >, ' &
            C'ROTATE THE <3 AXIS TABLE> .',
            C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                   )                                               $
         ELSE IF, (('G-CUSTOMER' EQ C'PRODUCTION') AND
                   ('G-TEST' EQ C'MANUAL')), THEN                  $
           PERFORM, 'UTIL-DISPLAY'
           (C'WARNING : TABLE MUST ROTATE FROM 90 TO 180 DEGREES ' &
            C'THE MOST QUICKLY',
            C'-------   AS POSSIBLE, SO :',
            C'1- CLICK ON < OK > TO START THE TEST .',
            C'2- AFTER CLICKING ON < OK >, QUICKLY ROTATE BY 90 ',
            C'   DEGREES CLOCKWISE',
            C'   THE THREE AXIS TABLE (ROTATION RATE = 10 SEC. MAX).',
            C'', C'', C'', C'', C'', C'',
```


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```
            C'WAIT', C''
                  )                                                $

          END, IF                                                  $

        END, IF                                                    $

 031131 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                  $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

            PERFORM, 'M429-INRT-ARM' ('UUT')                       $

          END, IF                                                  $

        END, FOR                                                   $

 031140 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                  $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $
              CALCULATE, 'CMM-STRING' = C'4.5.2.2'                 $
            ELSE                                                   $
              CALCULATE, 'CMM-STRING' =
              C'4.5.1.2~' & 'G-UUT'('UUT').'NAME'                  $
            END, IF                                                $

 031145     PERFORM, 'M429-INRTF-1MN' ('UUT')                      $

 031147     IF, NOT MAX-TIME, THEN                                 $

              PERFORM, 'C-STABILITY' (324, 'G-ARINC-DATA1')
                       RESULT ('OP-CHOICE', 'G-ERROR')             $
C             Numb. of elements received must be superior than 3500 $
              IF, 'G-ERROR' LT 3500, THEN                          $
                CALCULATE, 'OP-CHOICE' = C'IMPOSSIBLE'             $
              END, IF                                              $

            END, IF                                                $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'PITCH/ROTATION')       $

 031150     IF, NOT MAX-TIME, THEN                                 $

              PERFORM, 'C-STABILITY' (325, 'G-ARINC-DATA1')
                       RESULT ('OP-CHOICE', 'G-ERROR')             $
C             Numb. of elements received must be superior than 3500 $
              IF, 'G-ERROR' LT 3500, THEN                          $
                CALCULATE, 'OP-CHOICE' = C'IMPOSSIBLE'             $
              END, IF                                              $

            END, IF                                                $
```


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```
            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'ROLL/ROTATION')        $

            PERFORM, 'M429-INRT-REM' ('UUT')                       $

          END, IF                                                  $

        END, FOR                                                   $

 031199 END, 'ATTI-ROTATE'                                         $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  A T T I - A C T I O N 5                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT   |
 |  for the AIRLINES mode                                          |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 031201 DEFINE, 'ATTI-ACTION5', GLOBAL, PROCEDURE                  $

 031262 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN           $

          IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $
            PERFORM, 'UTIL-DISPLAY'
            (C'SET THE INSTRUMENT ROLL ANGLE TO 0 DEGREE .',
             C'',
             C'', C'', C'', C'', C'', C'', C'', C'', C'',
             C'WAIT', C''
                   )                                               $

          END, IF                                                  $

        END, IF                                                    $

 031299 END, 'ATTI-ACTION5'                                        $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
```


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```
 ******************************************************************
 ***                                                            ***
 ***                  A T T I - A C T I O N 6                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT  |
 |  for the AIRLINES mode                                         |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 031301 DEFINE, 'ATTI-ACTION6', GLOBAL, PROCEDURE                 $

 031370 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN           $

         IF, ('G-CUSTOMER' EQ C'AIRLINES') AND
             ('G-TEST' EQ C'MANUAL'), THEN                        $
           PERFORM, 'UTIL-DISPLAY'
           (C'SET THE INSTRUMENT PITCH ANGLE TO 0 DEGREE .',
            C'',
            C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                  )                                               $

         END, IF                                                  $

       END, IF                                                    $

 031399 END, 'ATTI-ACTION6'                                       $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  A T T I - A C T I O N 7                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This procedure is used for PINS PROGRAMMATION TESTS of UUT .  |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 031401 DEFINE, 'ATTI-ACTION7', GLOBAL, PROCEDURE                 $

       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
```


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```
031410 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN           $

        IF, ('G-CUSTOMER' EQ C'AIRLINES') AND
            ('G-TEST' EQ C'MANUAL'), THEN                       $
          PERFORM, 'UTIL-DISPLAY'
          (C'SET THE INSTRUMENT PITCH ANGLE TO -16 DEGREES ' &
           C'NOSE DOWN (DESCENT).',
           C'',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'WAIT', C''
                 )                                              $

        ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
                 ('G-TEST' EQ C'MANUAL'), THEN                  $

          PERFORM, 'UTIL-DISPLAY'
          (C'SET PITCH ANGLE OF INSTRUMENTS OF < POSTE 2 >',
           C'TO -16 DEGREES, NOSE DOWN, FOR 5 DEG/SEC.',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'WAIT', C''
                )                                               $

        END, IF                                                 $

        IF, (('G-CUSTOMER' EQ C'AIRLINES') AND
            ('G-TEST' EQ C'TABLE-AUTO')) OR
            (('G-CUSTOMER' EQ C'PRODUCTION') AND
            ('G-TEST' NE C'MANUAL')), THEN                      $

          PERFORM, 'R23T-TABLE-CMD' (C'<DP -16 0>')             $
          PERFORM, 'R23T-TABLE-WAIT'                            $

        END, IF                                                 $

      END, IF                                                   $

031415 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN                $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

          PERFORM, 'DISC-IN-CONFIG'('ANNEXE-5', 'UUT')          $

          PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')   $
          PERFORM, 'G429-CONN-BUS1'('UUT')                      $

          PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')   $
          PERFORM, 'G429-CONN-BUS3'('UUT')                      $

        END, IF                                                 $
```


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```
       END, FOR                                                $

 031420 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN              $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN           $

           WAIT FOR, TIME 1 SEC                                $

           PERFORM, 'DCSU-CONNECT'('UUT')                      $

           WAIT FOR, TIME 10 SEC                               $

         END, IF                                               $

       END, FOR                                                $

 031499 END, 'ATTI-ACTION7'                                    $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                 A T T I - A C T I O N 8                  ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  This procedure is used for PINS PROGRAMMATION TESTS of UUT .    |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 031501 DEFINE, 'ATTI-ACTION8', GLOBAL, PROCEDURE              $

       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                 $

 031530 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN        $

         IF, ('G-CUSTOMER' EQ C'AIRLINES') AND
             ('G-TEST' EQ C'MANUAL'), THEN                     $
           PERFORM, 'UTIL-DISPLAY'
           (C'SET THE INSTRUMENT PITCH ANGLE TO -15 DEGREES ' &
            C'NOSE DOWN (DESCENT).',
            C'',
            C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                  )                                            $

         ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
```


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```
                ('G-TEST' EQ C'MANUAL'), THEN                   $

          PERFORM, 'UTIL-DISPLAY'
          (C'SET PITCH ANGLE OF INSTRUMENTS OF < POSTE 2 >',
           C'TO -15 DEGREES, NOSE DOWN, FOR 5 DEG/SEC.',
           C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
           C'WAIT', C''
                )                                               $

        END, IF                                                 $

        IF, (('G-CUSTOMER' EQ C'AIRLINES') AND
            ('G-TEST' EQ C'TABLE-AUTO')) OR
            (('G-CUSTOMER' EQ C'PRODUCTION') AND
            ('G-TEST' NE C'MANUAL')), THEN                      $

          PERFORM, 'R23T-TABLE-CMD' (C'<DP -15 0>')             $
          PERFORM, 'R23T-TABLE-WAIT'                            $

        END, IF                                                 $

      END, IF                                                   $

 031535 FOR, 'UUT' = 'G-UUT5' THRU 'G-UUT8', THEN               $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

          PERFORM, 'DISC-IN-CONN'   ('DISC-b', 'UUT')           $
          PERFORM, 'DISC-IN-CONN'   ('DISC-d', 'UUT')           $
          PERFORM, 'DISC-IN-DISCON' ('DISC-c', 'UUT')           $
          PERFORM, 'DISC-IN-DISCON' ('DISC-e', 'UUT')           $

          WAIT FOR, TIME 1 SEC                                  $

          PERFORM, 'DCSU-CONNECT'('UUT')                        $

          WAIT FOR, TIME 1 SEC                                  $

        END, IF                                                 $

      END, FOR                                                  $

 031540 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN         $

          WAIT FOR, TIME 9 SEC                                  $

        END, IF                                                 $

 031599 END, 'ATTI-ACTION8'                                     $
C|                                                              |
 |--------------------------------------------------------------|
```


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                                                                  $
C
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 ******************************************************************
 ***                                                            ***
 ***                 A T T I - A C T I O N 9                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT .  |
 |  for the production mode                                       |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 031600 DEFINE, 'ATTI-ACTION9', GLOBAL, PROCEDURE                 $

 031602 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN           $

         IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
             ('G-TEST' EQ C'MANUAL'), THEN                        $

            PERFORM, 'UTIL-DISPLAY'
             (C'SET PITCH ANGLE OF INSTRUMENTS OF < POSTE 2 >',
              C'TO 20 DEGREES, NOSE UP, FOR 5 DEG/SEC.',
              C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
              C'WAIT', C''
                  )                                               $
         ELSE IF, (('G-CUSTOMER' EQ C'PRODUCTION') OR
                   ('G-CUSTOMER' EQ C'AIRLINES')) AND
                    ('G-TEST' NE C'MANUAL'), THEN                 $

           PERFORM, 'R23T-TABLE-CMD' (C'<VI 5 5>')                $
           PERFORM, 'R23T-TABLE-CMD' (C'<DP 20 0>')               $
           PERFORM, 'R23T-TABLE-WAIT'                             $

         END, IF                                                  $

        END, IF                                                   $

 031699 END, 'ATTI-ACTION9'                                       $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
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 ******************************************************************
 ***                                                            ***
 ***                 A T T I - A C T I O N 1 0                  ***
 ***                                                            ***
```


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```
 ******************************************************************
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 |----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT  |
 |  for the production mode                                       |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 031700 DEFINE, 'ATTI-ACTION10', GLOBAL, PROCEDURE                $

 031708 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN           $

         IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
             ('G-TEST' EQ C'MANUAL'), THEN                        $

           PERFORM, 'UTIL-DISPLAY'
           (C'SET PITCH ANGLE OF INSTRUMENTS OF < POSTE 2 >',
            C'TO -20 DEGREES, NOSE DOWN, FOR 5 DEG/SEC.',
            C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                  )                                               $
         ELSE IF, (('G-CUSTOMER' EQ C'PRODUCTION') OR
                   ('G-CUSTOMER' EQ C'AIRLINES')) AND
                    ('G-TEST' NE C'MANUAL'), THEN                 $

           PERFORM, 'R23T-TABLE-CMD' (C'<DP -20 0>')              $
           PERFORM, 'R23T-TABLE-WAIT'                             $

         END, IF                                                  $

       END, IF                                                    $

 031799 END, 'ATTI-ACTION10'                                      $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 A T T I - A C T I O N 1 1                  ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT .|
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
```


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```
 031800 DEFINE, 'ATTI-ACTION11', GLOBAL, PROCEDURE                $

 031804 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN           $

         IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
             ('G-TEST' EQ C'MANUAL'), THEN                       $

             PERFORM, 'UTIL-DISPLAY'
             (C'SET PITCH ANGLE OF INSTRUMENTS OF < POSTE 2 >',
              C'TO 0 DEGREES, FOR 5 DEG/SEC.',
              C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
              C'WAIT', C''
                  )                                              $
         ELSE IF, (('G-CUSTOMER' EQ C'PRODUCTION') OR
                   ('G-CUSTOMER' EQ C'AIRLINES')) AND
                    ('G-TEST' NE C'MANUAL'), THEN                 $

           PERFORM, 'R23T-TABLE-CMD' (C'<DP 0 0>')               $
           PERFORM, 'R23T-TABLE-WAIT'                            $

         END, IF                                                 $

       END, IF                                                   $

 031899 END, 'ATTI-ACTION11'                                     $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 A T T I - A C T I O N 1 2                  ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT |
 |  for the production mode                                      |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 031900 DEFINE, 'ATTI-ACTION12', GLOBAL, PROCEDURE                $

 031908 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN           $

         IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
```


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```
            ('G-TEST' EQ C'MANUAL'), THEN                        $

            PERFORM, 'UTIL-DISPLAY'
            (C'SET INSTRUMENTS OF < POSTE 2 > TO 20 DEGREES ',
             C'ROLL CLOCKWISE, FOR 5 DEG/SEC.',
             C'(FACING THE INSTRUMENTS)',
             C'', C'', C'', C'', C'', C'', C'', C'', C'',
             C'WAIT', C''
                 )                                               $
         ELSE IF, (('G-CUSTOMER' EQ C'PRODUCTION') OR
                   ('G-CUSTOMER' EQ C'AIRLINES')) AND
                    ('G-TEST' NE C'MANUAL'), THEN                $

           PERFORM, 'R23T-TABLE-CMD' (C'<DP 0 20>')              $
           PERFORM, 'R23T-TABLE-WAIT'                            $

         END, IF                                                 $

       END, IF                                                   $

 031999 END, 'ATTI-ACTION12'                                     $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 A T T I - A C T I O N 1 3                  ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT  |
 |  for the production mode                                      |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 032000 DEFINE, 'ATTI-ACTION13', GLOBAL, PROCEDURE               $

 032008 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN          $

         IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
             ('G-TEST' EQ C'MANUAL'), THEN                       $

           PERFORM, 'UTIL-DISPLAY'
             (C'SET INSTRUMENTS OF < POSTE 2 > TO -20 DEGREES ',
              C'ROLL COUNTER CLOCKWISE, FOR 5 DEG/SEC.',
              C'(FACING THE INSTRUMENTS)',
              C'', C'', C'', C'', C'', C'', C'', C'', C'',
```


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```
            C'WAIT', C''
                 )                                                  $
         ELSE IF, (('G-CUSTOMER' EQ C'PRODUCTION') OR
                   ('G-CUSTOMER' EQ C'AIRLINES')) AND
                    ('G-TEST' NE C'MANUAL'), THEN                   $

           PERFORM, 'R23T-TABLE-CMD' (C'<DP 0 -20>')                $
           PERFORM, 'R23T-TABLE-WAIT'                               $

         END, IF                                                    $

       END, IF                                                      $

 032099 END, 'ATTI-ACTION13'                                        $
C|                                                                  |
 |-----------------------------------------------------------------|
                                                                    $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 A T T I - A C T I O N  1 4                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT .  |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                    $
 032100 DEFINE, 'ATTI-ACTION14', GLOBAL, PROCEDURE                  $

 032104 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN            $

         IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
             ('G-TEST' EQ C'MANUAL'), THEN                          $

           PERFORM, 'UTIL-DISPLAY'
           (C'COME BACK THE INSTRUMENTS OF < POSTE 2 > TO 0',
            C'DEGREES ROLL, FOR 5 DEG/SEC.',
            C'',
            C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                 )                                                  $
         ELSE IF, (('G-CUSTOMER' EQ C'PRODUCTION') OR
                   ('G-CUSTOMER' EQ C'AIRLINES')) AND
                    ('G-TEST' NE C'MANUAL'), THEN                   $

           PERFORM, 'R23T-TABLE-CMD' (C'<DP 0 0>')                  $
           PERFORM, 'R23T-TABLE-WAIT'                               $
```


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```
          END, IF                                                $

        END, IF                                                  $

 032199 END, 'ATTI-ACTION14'                                     $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 A T T I - A C T I O N  1 5                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT .  |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 032200 DEFINE, 'ATTI-ACTION15', GLOBAL, PROCEDURE               $

 032204 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN          $

          IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
              ('G-TEST' EQ C'MANUAL'), THEN                      $

            PERFORM, 'UTIL-DISPLAY'
            (C'SET INSTRUMENTS OF < POSTE 2 > :',
             C'   TO 5 DEGREES PITCH, NOSE UP, FOR 20 DEG/SEC.',
             C'   TO 5 DEGREES ROLL, CLOCKWISE, FOR 20 DEG/SEC.',
             C'(THE TWO ACTIONS ON PITCH AND ROLL WILL BE',
             C' APPLIED SIMULTANEOUSELY)',
             C'', C'', C'', C'', C'', C'', C'',
             C'WAIT', C''
                   )                                             $
          ELSE IF, (('G-CUSTOMER' EQ C'PRODUCTION') OR
                    ('G-CUSTOMER' EQ C'AIRLINES')) AND
                     ('G-TEST' NE C'MANUAL'), THEN               $

            PERFORM, 'R23T-TABLE-CMD' (C'<VI 20 20>')            $
            PERFORM, 'R23T-TABLE-CMD' (C'<DP 5 5>')              $
            PERFORM, 'R23T-TABLE-WAIT'                           $

          END, IF                                                $

        END, IF                                                  $
```


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```
 032299 END, 'ATTI-ACTION15'                                        $
C|                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  A T T I - A C T I O N  1 6                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-------------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE MOVEMENTS of UUT .   |
 |                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
 032300 DEFINE, 'ATTI-ACTION16', GLOBAL, PROCEDURE                   $

 032304 IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN             $

          IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
              ('G-TEST' EQ C'MANUAL'), THEN                          $

            PERFORM, 'UTIL-DISPLAY'
            (C'COME BACK THE INSTRUMENTS OF < POSTE 2 > :',
             C'   TO 0 DEGREES PITCH, FOR 5 DEG/SEC.',
             C'   TO 0 DEGREES ROLL, FOR 5 DEG/SEC.',
             C'',
             C'', C'', C'', C'', C'', C'', C'', C'',
             C'WAIT', C''
                    )                                                $
          ELSE IF, (('G-CUSTOMER' EQ C'PRODUCTION') OR
                    ('G-CUSTOMER' EQ C'AIRLINES')) AND
                     ('G-TEST' NE C'MANUAL'), THEN                   $

            PERFORM, 'R23T-TABLE-CMD' (C'<VI 5 5>')                  $
            PERFORM, 'R23T-TABLE-CMD' (C'<DP 0 0>')                  $
            PERFORM, 'R23T-TABLE-WAIT'                               $

          END, IF                                                    $

        END, IF                                                      $

 032399 END, 'ATTI-ACTION16'                                         $
C|                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
C
 ********************************************************************
```


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```
 ******************************************************************
 ***                                                            ***
 ***                A T T I - I N I T - C L K 3                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This procedure is only used for scenario .                    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 032401 DEFINE, 'ATTI-INIT-CLK3', GLOBAL, PROCEDURE               $

        PERFORM, 'TIME-RESET-CLK3'                                $

        PERFORM, 'TIME-READ-CLK3' RESULT ('G-TIME3-INIT')         $

 032409 END, 'ATTI-INIT-CLK3'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                A T T I - W A I T - C L K 3                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This procedure is only used for scenario .                    |
 |                                                                |
 |  Param-in  : TIME  Time to wait                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 032410 DEFINE, 'ATTI-WAIT-CLK3', GLOBAL, PROCEDURE (
                   'TIME' IS DECIMAL
                )                                                 $

        DECLARE, VARIABLE, 'RESULT-TIME3' IS DECIMAL              $
        IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN          $

          PERFORM, 'TIME-READ-CLK3' RESULT ('RESULT-TIME3')       $

          CALCULATE, 'RESULT-TIME3' =
                     'RESULT-TIME3' - 'G-TIME3-INIT'              $

          IF, 'RESULT-TIME3' LT 'TIME', THEN                      $
```


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```
          WAIT FOR, TIME ('TIME' - 'RESULT-TIME3') SEC          $
        END, IF                                                 $

      END, IF                                                   $

 032419 END, 'ATTI-WAIT-CLK3'                                   $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                I N I T - T 1 A T T I 0 3                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  Initialization of SECTION                                   |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 032421 DEFINE, 'INIT-T1ATTI03', GLOBAL, PROCEDURE              $

      IF, 'POWER-ON' EQ FALSE, THEN                             $
        CALCULATE, 'POWER-ON' = TRUE                            $
        PERFORM, 'INIT-POWER-TIME'                              $
      END, IF                                                   $

      IF, ('G-REPAIR' EQ TRUE)   AND
          ('G-INIT'   EQ FALSE), THEN                           $

        PERFORM, 'INIT-PROG'                                    $
        CALCULATE, 'G-INIT' = TRUE                              $

      END, IF                                                   $

      END, 'INIT-T1ATTI03'                                      $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  E N D - T 1 A T T I 0 3                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  End of SECTION                                              |
 |                                                              |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
 032431 DEFINE, 'END-T1ATTI03', GLOBAL, PROCEDURE                  $

        IF, ('G-REPAIR' EQ TRUE)  AND
            ('G-INIT'   EQ TRUE), THEN                             $
          PERFORM, 'RESET-UUT'                                     $
          CALCULATE, 'G-INIT' = FALSE                              $
        END, IF                                                    $

        END, 'END-T1ATTI03'                                        $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                     A T T I - T 0 1 A                        ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  This test checks the INITIALIZATION FLAG TEST of UUT .         |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 032500 DEFINE, 'ATTI-T01A', GLOBAL, PROCEDURE                     $

 032511 IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                      $
          PERFORM, 'TEST-TITLE'(C'INITIALIZATION FLAG TEST')       $
        END, IF                                                    $

        PERFORM, 'ATTI-LAB351'                                     $

 032599 END, 'ATTI-T01A'                                           $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                     A T T I - T 0 2 A                        ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  This test checks the HORIZON LINE MOVEMENTS TEST of UUT .      |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
```


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```
 032600 DEFINE, 'ATTI-T02A', GLOBAL, PROCEDURE                        $

 032612 IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                         $
          PERFORM, 'TEST-TITLE'(C'HORIZON LINE MOVEMENTS TEST')       $
        END, IF                                                       $

        IF, ('G-CUSTOMER' EQ C'AIRLINES') AND
            ('G-TEST' EQ C'MANUAL'), THEN                             $
C         PROCEDURE 2 OF ATP
          ------------------------------------------                  $
C         Test 4.5.2.2 Pitch = 0 Deg. / Roll = 0 Deg.
          ------------------------------------------                  $
          PERFORM, 'ATTI-1MN-INIT'                                    $
          PERFORM, 'ATTI-1MN' (C'4.5.2.2',
             'G-TOLE-TABL'(61, 'UL'), 'G-TOLE-TABL'(61, 'LL'),
             'G-TOLE-TABL'(63, 'UL'), 'G-TOLE-TABL'(63, 'LL'), 1)     $
          PERFORM, 'ATTI-10SEC'                                       $
C         Test 4.5.2.2 Pitch = 20 Deg. / Roll = 0 Deg.
          ------------------------------------------                  $
          PERFORM, 'COMMENT'(C'20 DEG PITCH AND 0 DEG ROLL')          $
          PERFORM, 'ATTI-ACTION1'                                     $
          PERFORM, 'ATTI-DELAY'  (180)                                $
          PERFORM, 'ATTI-1MN-INIT'                                    $
          PERFORM, 'ATTI-1MN' (C'4.5.2.2',
             'G-TOLE-TABL'(65, 'UL'), 'G-TOLE-TABL'(65, 'LL'),
             'G-TOLE-TABL'(66, 'UL'), 'G-TOLE-TABL'(66, 'LL'), 0)     $
C         Test 4.5.2.2 Pitch = -20 Deg. / Roll = 0 Deg.
          -------------------------------------------                 $
          PERFORM, 'COMMENT'(C'-20 DEG PITCH AND 0 DEG ROLL')         $
          PERFORM, 'ATTI-ACTION2'                                     $
          PERFORM, 'ATTI-DELAY'  (180)                                $
          PERFORM, 'ATTI-1MN-INIT'                                    $
          PERFORM, 'ATTI-1MN' (C'4.5.2.2',
             'G-TOLE-TABL'(67, 'UL'), 'G-TOLE-TABL'(67, 'LL'),
             'G-TOLE-TABL'(68, 'UL'), 'G-TOLE-TABL'(68, 'LL'), 0)     $
C         Test 4.5.2.2 Pitch = -20 Deg. / Roll = 20 Deg.
          --------------------------------------------                $
          PERFORM, 'COMMENT'(C'-20 DEG PITCH AND 20 DEG ROLL')        $
          PERFORM, 'ATTI-ACTION3'                                     $
          PERFORM, 'ATTI-DELAY'  (180)                                $
          PERFORM, 'ATTI-1MN-INIT'                                    $
          PERFORM, 'ATTI-1MN' (C'4.5.2.2',
            'G-TOLE-TABL'(69, 'UL'), 'G-TOLE-TABL'(69, 'LL'),
             'G-TOLE-TABL'(70, 'UL'), 'G-TOLE-TABL'(70, 'LL'), 0)     $
C         Test 4.5.2.2 Pitch = -20 Deg. / Roll = -20 Deg.
          ---------------------------------------------               $
          PERFORM, 'COMMENT'(C'-20 DEG PITCH AND -20 DEG ROLL')       $
          PERFORM, 'ATTI-ACTION4'                                     $
          PERFORM, 'ATTI-DELAY'  (180)                                $
          PERFORM, 'ATTI-1MN-INIT'                                    $
          PERFORM, 'ATTI-1MN' (C'4.5.2.2',
             'G-TOLE-TABL'(71, 'UL'), 'G-TOLE-TABL'(71, 'LL'),
             'G-TOLE-TABL'(72, 'UL'), 'G-TOLE-TABL'(72, 'LL'), 0)     $
C         Test 4.5.2.2 Pitch = -20 Deg. / Roll = -20 Deg. + Rotation
```


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```
          ------------------------------------------------------$
          PERFORM, 'COMMENT'(C'90 DEG ROTATION')                 $
          PERFORM, 'ATTI-ROTATE'                                 $
          PERFORM, 'ATTI-DELAY'  (180)                           $
          PERFORM, 'ATTI-1MN-INIT'                               $
          PERFORM, 'ATTI-1MN' (C'4.5.2.2',
             'G-TOLE-TABL'(73, 'UL'), 'G-TOLE-TABL'(73, 'LL'),
             'G-TOLE-TABL'(74, 'UL'), 'G-TOLE-TABL'(74, 'LL'), 0)   $
C         Test 4.5.2.2 Pitch = -20 Deg. / Roll = 0 Deg.
          ---------------------------------------------          $
          PERFORM, 'COMMENT'(C'-20 DEG PITCH AND 0 DEG ROLL')    $
          PERFORM, 'ATTI-ACTION5'                                $
          PERFORM, 'ATTI-DELAY'  (180)                           $
          PERFORM, 'ATTI-1MN-INIT'                               $
          PERFORM, 'ATTI-1MN' (C'4.5.2.2',
             'G-TOLE-TABL'(75, 'UL'), 'G-TOLE-TABL'(75, 'LL'),
             'G-TOLE-TABL'(76, 'UL'), 'G-TOLE-TABL'(76, 'LL'), 0)   $
C         Test 4.5.2.2 Pitch = 0 Deg. / Roll = 0 Deg.
          ------------------------------------------          $
          PERFORM, 'COMMENT'(C' 0 DEG PITCH AND 0 DEG ROLL')     $
          PERFORM, 'ATTI-ACTION6'                                $
          PERFORM, 'ATTI-DELAY'  (180)                           $
          PERFORM, 'ATTI-1MN-INIT'                               $
          PERFORM, 'ATTI-1MN' (C'4.5.2.2',
             'G-TOLE-TABL'(77, 'UL'), 'G-TOLE-TABL'(77, 'LL'),
             'G-TOLE-TABL'(78, 'UL'), 'G-TOLE-TABL'(78, 'LL'), 0)   $

        ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION') OR
                (('G-CUSTOMER' EQ C'AIRLINES') AND
                 ('G-TEST' EQ C'TABLE-AUTO')), THEN              $
C         PROCEDURE 1 OF ATP: MODE PRODUCTION
          ----------------------------------                     $
C         Test 4.5.1.2.1 Pitch = 0 Deg. / Roll = 0 Deg.
          ---------------------------------------------          $
          PERFORM, 'ATTI-1MN-INIT'                               $
          PERFORM, 'ATTI-1MN' (C'4.5.1.2.1',
             'G-TOLE-TABL'(61, 'UL'), 'G-TOLE-TABL'(61, 'LL'),
             'G-TOLE-TABL'(63, 'UL'), 'G-TOLE-TABL'(63, 'LL'), 1)   $
          PERFORM, 'ATTI-10SEC'                                  $
C         Test 4.5.1.2.2 Pitch = 20 Deg. / Roll = 0 Deg.
          ----------------------------------------------         $
          PERFORM, 'COMMENT-AIRLINES'
                            (C'20 DEG PITCH AND 0 DEG ROLL')     $
          PERFORM, 'ATTI-ACTION9'                                $
          PERFORM, 'ATTI-DELAY' (60)                             $
          PERFORM, 'ATTI-1MN-INIT'                               $
          PERFORM, 'ATTI-1MN' (C'4.5.1.2.2',
             'G-TOLE-TABL'(65, 'UL'), 'G-TOLE-TABL'(65, 'LL'),
             'G-TOLE-TABL'(66, 'UL'), 'G-TOLE-TABL'(66, 'LL'), 0)   $
C         Test 4.5.1.2.3 Pitch = -20 Deg. / Roll = 0 Deg.
          -----------------------------------------------        $
          PERFORM, 'COMMENT-AIRLINES'
                            (C'-20 DEG PITCH AND 0 DEG ROLL')    $
          PERFORM, 'ATTI-ACTION10'                               $
```


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```
          PERFORM, 'ATTI-DELAY'  (60)                              $
          PERFORM, 'ATTI-1MN-INIT'                                 $
          PERFORM, 'ATTI-1MN' (C'4.5.1.2.3',
             'G-TOLE-TABL'(67, 'UL'), 'G-TOLE-TABL'(67, 'LL'),
             'G-TOLE-TABL'(68, 'UL'), 'G-TOLE-TABL'(68, 'LL'), 0)   $
C         Test 4.5.1.2.4 Pitch = 0 Deg. / Roll = 0 Deg.
          ----------------------------------------------           $
          PERFORM, 'COMMENT-AIRLINES'
                           (C'0 DEG PITCH AND 0 DEG ROLL')         $
          PERFORM, 'ATTI-ACTION11'                                 $
          PERFORM, 'ATTI-DELAY'  (60)                              $
          PERFORM, 'ATTI-1MN-INIT'                                 $
          PERFORM, 'ATTI-1MN' (C'4.5.1.2.4',
             'G-TOLE-TABL'(61, 'UL'), 'G-TOLE-TABL'(61, 'LL'),
             'G-TOLE-TABL'(63, 'UL'), 'G-TOLE-TABL'(63, 'LL'), 0)   $
C         Test 4.5.1.2.5 Pitch = 0 Deg. / Roll = 20 Deg.
          -----------------------------------------------          $
          PERFORM, 'COMMENT-AIRLINES'
                           (C'0 DEG PITCH AND 20 DEG ROLL')        $
          PERFORM, 'ATTI-ACTION12'                                 $
          PERFORM, 'ATTI-DELAY'  (60)                              $
          PERFORM, 'ATTI-1MN-INIT'                                 $
          PERFORM, 'ATTI-1MN' (C'4.5.1.2.5',
             'G-TOLE-TABL'(61, 'UL'), 'G-TOLE-TABL'(61, 'LL'),
             'G-TOLE-TABL'(70, 'UL'), 'G-TOLE-TABL'(70, 'LL'), 0)   $
C         Test 4.5.1.2.6 Pitch = 0 Deg. / Roll = -20 Deg.
          ----------------------------------------------           $
          PERFORM, 'COMMENT-AIRLINES'
                           (C'0 DEG PITCH AND -20 DEG ROLL')       $
          PERFORM, 'ATTI-ACTION13'                                 $
          PERFORM, 'ATTI-DELAY'  (60)                              $
          PERFORM, 'ATTI-1MN-INIT'                                 $
          PERFORM, 'ATTI-1MN' (C'4.5.1.2.6',
             'G-TOLE-TABL'(61, 'UL'), 'G-TOLE-TABL'(61, 'LL'),
             'G-TOLE-TABL'(72, 'UL'), 'G-TOLE-TABL'(72, 'LL'), 0)   $
C         Test 4.5.1.2.7 Pitch = 0 Deg. / Roll = 0 Deg.
          ---------------------------------------------            $
          PERFORM, 'COMMENT-AIRLINES'
                           (C'0 DEG PITCH AND 0 DEG ROLL')         $
          PERFORM, 'ATTI-ACTION14'                                 $
          PERFORM, 'ATTI-DELAY'  (60)                              $
          PERFORM, 'ATTI-1MN-INIT'                                 $
          PERFORM, 'ATTI-1MN' (C'4.5.1.2.7',
             'G-TOLE-TABL'(61, 'UL'), 'G-TOLE-TABL'(61, 'LL'),
             'G-TOLE-TABL'(63, 'UL'), 'G-TOLE-TABL'(63, 'LL'), 0)   $
C         Test 4.5.1.2.8 Pitch = 5 Deg. / Roll = 5 Deg.
          ---------------------------------------------            $
          PERFORM, 'COMMENT-AIRLINES'
                           (C'5 DEG PITCH AND 5 DEG ROLL')         $
          PERFORM, 'ATTI-ACTION15'                                 $
          PERFORM, 'ATTI-DELAY'  (60)                              $
          PERFORM, 'ATTI-1MN-INIT'                                 $
          PERFORM, 'ATTI-1MN' (C'4.5.1.2.8',
             'G-TOLE-TABL'(123, 'UL'), 'G-TOLE-TABL'(123, 'LL'),
```


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```
            'G-TOLE-TABL'(123, 'UL'), 'G-TOLE-TABL'(123, 'LL'), 0) $
C         Test 4.5.1.2.9 Pitch = 0 Deg. / Roll = 0 Deg.
          -------------------------------------------             $
          PERFORM, 'COMMENT-AIRLINES'
                           (C'0 DEG PITCH AND 0 DEG ROLL')        $
          PERFORM, 'ATTI-ACTION16'                                $
          PERFORM, 'ATTI-DELAY'  (60)                             $
          PERFORM, 'ATTI-1MN-INIT'                                $
          PERFORM, 'ATTI-1MN' (C'4.5.1.2.9',
            'G-TOLE-TABL'(61, 'UL'), 'G-TOLE-TABL'(61, 'LL'),
            'G-TOLE-TABL'(63, 'UL'), 'G-TOLE-TABL'(63, 'LL'), 0)   $

        END, IF                                                   $

        PERFORM, 'ATTI-REMOVE'                                    $

 032699 END, 'ATTI-T02A'                                          $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    A T T I - T 0 3 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This test checks the PINS PROGRAMMATION TEST in of UUT .      |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 032700 DEFINE, 'ATTI-T03A', GLOBAL, PROCEDURE                    $

        DECLARE, VARIABLE, 'STRING-CMM' IS STRING(7) OF CHAR       $

 032713 IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                     $
          PERFORM, 'TEST-TITLE'(C'PINS PROGRAMMATION')            $
          CALCULATE, 'STRING-CMM' = C'4.5.2.3'                    $
          IF, 'G-TEST' EQ C'TABLE-AUTO', THEN                     $
            CALCULATE, 'STRING-CMM' = C'4.5.1.3'                  $
          END, IF                                                 $
        ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN              $
           CALCULATE, 'STRING-CMM' = C'4.5.1.3'                   $
        END, IF                                                   $
C       Test 4.5.2.3 Support = 16 Deg.
        ------------------------------                            $
        PERFORM, 'ATTI-ACTION7'                                   $
        PERFORM, 'ATTI-DELAY'  (90)                               $
        PERFORM, 'ATTI-1MN-INIT'                                  $
        PERFORM, 'ATTI-1MN' ('STRING-CMM',
           'G-TOLE-TABL'(79, 'UL'), 'G-TOLE-TABL'(79, 'LL'),
```


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```
          'G-TOLE-TABL'(80, 'UL'), 'G-TOLE-TABL'(80, 'LL'), 0)     $
       PERFORM, 'ATTI-DISCONNECT'                                  $
C      Test 4.5.2.3 Support = 15 Deg.
       -----------------------------                               $
       PERFORM, 'ATTI-ACTION8'                                     $
       PERFORM, 'ATTI-DELAY'  (90)                                 $
       PERFORM, 'ATTI-1MN-INIT'                                    $
       PERFORM, 'ATTI-1MN' ('STRING-CMM',
          'G-TOLE-TABL'(81, 'UL'), 'G-TOLE-TABL'(81, 'LL'),
          'G-TOLE-TABL'(82, 'UL'), 'G-TOLE-TABL'(82, 'LL'), 0)     $
       PERFORM, 'ATTI-REMOVE'                                      $
       PERFORM, 'ATTI-REM-TABLE'                                   $
       PERFORM, 'ATTI-ACTION6'                                     $

 032799 END, 'ATTI-T03A'                                           $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                E X E C - T 1 A T T I 0 3                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Run tests of chapter                                           |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 999905 DEFINE, 'EXEC-T1ATTI03', GLOBAL, PROCEDURE                 $

 999910 PERFORM, 'INIT-T1ATTI03'                                   $

        PERFORM, 'ATTI-T01A'                                       $

        PERFORM, 'ATTI-T02A'                                       $

        PERFORM, 'ATTI-T03A'                                       $

 999990 PERFORM, 'END-T1ATTI03'                                    $

        END, 'EXEC-T1ATTI03'                                       $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 *****                                                        *****
 *****                                                        *****
```


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```
*****              E N D    O F    M O D U L E            *****
*****                                                      *****
*****                                                      *****
*****************************************************************
*****************************************************************
*****************************************************************
                                                              $
999999 TERMINATE, ATLAS MODULE 'TH-ISF-T1ATTI03'              $
```


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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-T1ALTI04'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                ( I. S. F. D. )                       ******
 ******                                                      ******
 ******                                                      ******
 ******            T E S T     M O D U L E                   ******
 ******                                                      ******
 ******                                                      ******
 ******                    Chapter 4                         ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000205   DECLARE CONSTANT                                 *
 *      000305   DECLARE EXTERNAL VARIABLES ( LIBRARY )           *
 *      000405   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *      000505   DECLARE MODULE SPECIFIC VARIABLES                *
 *                                                                *
 *      001005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )  *
 *      002005   DEFINE EXTERNAL PROCEDURES ( PROGRAMME )         *
 *                                                                *
 *      990005   DEFINE GLOBAL PROCEDURES                         *
 *                                                                *
 *      999999   TERMINATE ATLAS MODULE                           *
```

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```
 *                                                                  *
 ********************************************************************
C                                                                    $
C
 ********************************************************************
 ********************************************************************
 **                                                                **
 **                    D  E  C  L  A  R  E                         **
 **                                                                **
 ********************************************************************
 ********************************************************************
C                                                                    $
C
 ********************************************************************
 **                                                                **
 **    D E C L A R A T I O N     O F      C O N S T A N T S        **
 **                                                                **
 ********************************************************************
                                                                     $
C
 ********************************************************************
 **                                                                **
 **    D E C L A R A T I O N     O F      T  Y  P  E  S            **
 **                                                                **
 ********************************************************************
                                                                     $
 000205 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                                 $
C       Mnemonic of all UUT
 -------------------------------------------------------------------$

 000207 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION(
                   'ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN'
                   )                                                 $
 000209 DECLARE, TYPE, 'T-PRES-MNEMO' IS ENUMERATION(
                   'PRES-PS', 'PRES-PT'
                   )                                                 $
C       Mnemonic of pressure inputs class
 -------------------------------------------------------------------$

 000211 DECLARE, TYPE, 'T-TOLE' IS ENUMERATION(
                   'UL', 'LL'
                   )                                                 $
C       Mnemonic of all UUT
 -------------------------------------------------------------------$

 000213 DECLARE, TYPE, 'T-FRAME' IS ENUMERATION(
                   'FR-173-174-EQ-0', 'FR-173-174-NE-0',
                   'FR-312-320-EQ-0', 'FR-312-320-NE-0', 'NO-FRAME'
                   )                                                 $
C       Indicator to know the frame to send
```


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```
 ----------------------------------------------------------------$

 000215 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                   $
C       State of device
 ----------------------------------------------------------------$

 000217 DECLARE, TYPE, 'T-DISCIN-MNEMO' IS ENUMERATION(
                   'DISC-X', 'DISC-h', 'DISC-a', 'DISC-b', 'DISC-c',
                   'DISC-d', 'DISC-e', 'DISC-k', 'DISC-m', 'DISC-n',
                   'DISC-p', 'DISC-q', 'DISC-r', 'DISC-s', 'DISC-f',
                   'DISC-Y','DISC-Z')                             $
C       Mnemonic of discrete inputs class
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **              D E C L A R A T I O N     O F                 **
 **                                                            **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C       **
 **                                                            **
 **                    V A R I A B L E S                       **
 **                                                            **
 ****************************************************************
                                                                $
 000305 DECLARE, EXTERNAL, VARIABLE, 'CMM-STRING' IS STRING(12) OF
               CHAR                                             $
 000307 DECLARE, EXTERNAL, VARIABLE, 'REPLACE-CNX' IS BOOLEAN     $
 000309 DECLARE, EXTERNAL, VARIABLE, 'CNX-STRING' IS STRING(256) OF
               CHAR                                             $
 000311 DECLARE, EXTERNAL, VARIABLE, 'OP-CHOICE' IS STRING(12) OF
               CHAR                                             $
 000313 DECLARE, EXTERNAL, VARIABLE, 'CRT' IS FILE OF TEXT        $
 000315 DECLARE, EXTERNAL, VARIABLE, 'DISK' IS FILE OF TEXT       $
 000317 DECLARE, EXTERNAL, VARIABLE, 'CUR-STAT-NO' IS STRING(9) OF
               CHAR                                             $
 000319 DECLARE, EXTERNAL, VARIABLE, 'CUR-MODULE' IS STRING(16) OF
               CHAR                                             $
 000321 DECLARE, EXTERNAL, VARIABLE, 'START-EP' IS STRING(80) OF CHAR
                                                                $
 000323 DECLARE, EXTERNAL, VARIABLE, 'POWER-ON' IS BOOLEAN        $
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F   E X T E R N A L      **
 **                                                            **
 **     P R O G R A M   S P E C I F I C   V A R I A B L E S    **
 **                                                            **
 ****************************************************************
                                                                $
 000405 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
```


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```
                        'EDIT-RESULT' IS BOOLEAN ;
                        'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                        'PART-NUMB' IS STRING(20) OF CHAR ;
                        'HI' IS CONNECTION(
                            J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                             J8-G, J9-G, J10-G, J11-G, J12-G
                            ) ;
                        'LO' IS CONNECTION(
                            J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                             J8-t, J9-t, J10-t, J11-t, J12-t
                            )
                        ]                                          $
C       Informations about all UUT
 ----------------------------------------------------------------$

 000407 DECLARE, EXTERNAL, VARIABLE, 'G-UUT9' IS 'T-ALL-UUT'       $
C       Value of 'UUT9'
 ----------------------------------------------------------------$

 000409 DECLARE, EXTERNAL, VARIABLE, 'G-UUT10' IS 'T-ALL-UUT'      $
C       Value of 'UUT10'
 ----------------------------------------------------------------$

 000411 DECLARE, EXTERNAL, VARIABLE, 'G-UUT11' IS 'T-ALL-UUT'      $
C       Value of 'UUT11'
 ----------------------------------------------------------------$

 000413 DECLARE, EXTERNAL, VARIABLE, 'G-UUT12' IS 'T-ALL-UUT'      $
C       Value of 'UUT12'
 ----------------------------------------------------------------$

 000415 DECLARE, EXTERNAL, VARIABLE, 'G-CUSTOMER' IS STRING(80) OF
                CHAR                                               $
C       Indicates the choice of test :
C       airlines or production
 ----------------------------------------------------------------$

 000417 DECLARE, EXTERNAL, VARIABLE, 'G-TOLE-TABL' IS ARRAY(1 THRU
                300,'UL' THRU 'LL') OF
                    DECIMAL                                        $
C       Tolerances table
 ----------------------------------------------------------------$

 000419 DECLARE, EXTERNAL, VARIABLE, 'G-PRES-ATMO' IS DECIMAL      $
C       Memorization of atmospheric pressure
 ----------------------------------------------------------------$

 000421 DECLARE, EXTERNAL, VARIABLE, 'G-TIME1-MEM' IS DECIMAL      $
C       Memorization of clock1 time .
 ----------------------------------------------------------------$

 000423 DECLARE, EXTERNAL, VARIABLE, 'G-ARINC-DATA' IS ARRAY(1 THRU
                21600) OF
                    STRING(32) OF BIT                              $
```


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```
C       Arinc measurement
 -----------------------------------------------------------------$

 000425 DECLARE, EXTERNAL, VARIABLE, 'G-AVERAGE-324' IS ARRAY('UUT1'
                THRU 'UUT12') OF
                    DECIMAL                                       $
C       Memorization of average pitch for test 4.5.2.4.
 -----------------------------------------------------------------$

 000427 DECLARE, EXTERNAL, VARIABLE, 'G-NOISE' IS DECIMAL          $
C       Noise measurement .
 -----------------------------------------------------------------$

 000429 DECLARE, EXTERNAL, VARIABLE, 'G-ERROR' IS INTEGER          $
C       Error management .
 -----------------------------------------------------------------$

 000431 DECLARE, EXTERNAL, VARIABLE, 'G-AVERAGE-325' IS ARRAY('UUT1'
                THRU 'UUT12') OF
                    DECIMAL                                       $
C       Memorization of average roll for test 4.5.2.4.
 -----------------------------------------------------------------$

 000433 DECLARE, EXTERNAL, VARIABLE, 'G-END-STAB' IS BOOLEAN       $
C       Indicates if the stability test has been accomplished
 -----------------------------------------------------------------$

 000435 DECLARE, EXTERNAL, VARIABLE, 'G-AVERAGE' IS DECIMAL        $
C       Average measurement .
 -----------------------------------------------------------------$

 000437 DECLARE, EXTERNAL, VARIABLE, 'G-422-TABL' IS ARRAY('UUT1'
                THRU 'UUT12') OF
                    RECORD OF [
                        'NAME' IS STRING(12) OF CHAR ;
                        'HI-SEND' IS CONNECTION(
                            J1-L, J2-L, J3-L, J4-L, J5-L, J6-L, J7-L,
                             J8-L, J9-L, J10-L, J11-L, J12-L
                            ) ;
                        'LO-SEND' IS CONNECTION(
                            J1-K, J2-K, J3-K, J4-K, J5-K, J6-K, J7-K,
                             J8-K, J9-K, J10-K, J11-K, J12-K
                            ) ;
                        'HI-RCVE' IS CONNECTION(
                            J1-J, J2-J, J3-J, J4-J, J5-J, J6-J, J7-J,
                             J8-J, J9-J, J10-J, J11-J, J12-J
                            ) ;
                        'LO-RCVE' IS CONNECTION(
                            J1-H, J2-H, J3-H, J4-H, J5-H, J6-H, J7-H,
                             J8-H, J9-H, J10-H, J11-H, J12-H
                            ) ;
                        'STATE' IS 'T-SIGNAL-STATE' ;
                        'DEVICE' IS ENUMERATION(
                            'R422-A', 'R422-B'
```


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```
                        )
                      ]                                          $
C       General informations about each RS422 UUT signal
 ----------------------------------------------------------------$

 000439 DECLARE, EXTERNAL, VARIABLE, 'G-RX-DATA' IS ARRAY(1 THRU
               10000) OF
                   STRING(8) OF BIT                              $
C       Contains the frame received
 ----------------------------------------------------------------$

 000441 DECLARE, EXTERNAL, VARIABLE, 'G-NB-CAR' IS INTEGER         $
C       Contains the number of words received.
 ----------------------------------------------------------------$

 000443 DECLARE, EXTERNAL, VARIABLE, 'G-TIME2-INIT' IS DECIMAL     $
C       Indicates the initial time of CLOCK2
 ----------------------------------------------------------------$

 000445 DECLARE, EXTERNAL, VARIABLE, 'G-REPAIR' IS BOOLEAN         $
C       Indicates if repair mode is used
 ----------------------------------------------------------------$

 000447 DECLARE, EXTERNAL, VARIABLE, 'G-INIT' IS BOOLEAN           $
C       Indicates if repair mode is used
 ----------------------------------------------------------------$

 000449 DECLARE, EXTERNAL, VARIABLE, 'G-TEST' IS STRING(10) OF CHAR $
C       Indicates the choice of test : manual or automatic (for lamps,
C       photometer and table)
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F    L O C A L           **
 **                                                            **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S     **
 **                                                            **
 ****************************************************************
                                                                $

 000507 DECLARE, VARIABLE, 'S-MESURE-PS1' IS DECIMAL              $
 000509 DECLARE, VARIABLE, 'S-MESURE-PS2' IS DECIMAL              $
 000511 DECLARE, VARIABLE, 'S-MESURE-PT1' IS DECIMAL              $
 000513 DECLARE, VARIABLE, 'S-MESURE-PT2' IS DECIMAL              $
 000515 DECLARE, VARIABLE, 'RESULT-PS' IS DECIMAL                 $
 000517 DECLARE, VARIABLE, 'RESULT-PT' IS DECIMAL                 $
C
 ****************************************************************
 **                                                            **
 **          I D E N T I F Y     E X T E R N A L               **
 **                                                            **
 **           E V E N T   B A S E D    E V E N T               **
 **                                                            **
```


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```
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**         I D E N T I F Y    E X T E R N A L                  **
**                                                             **
**           E V E N T    I N D I C A T O R                    **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**         I D E N T I F Y    E V E N T                        **
**                                                             **
**           B A S E D    E V E N T                            **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**     I D E N T F Y   E V E N T   I N D I C A T O R           **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
*****************************************************************
**                                                             **
**                  D  E  F  I  N  E                           **
**                                                             **
*****************************************************************
*****************************************************************
C                                                             $
C
*****************************************************************
**                                                             **
**     D E F I N E  E X T E R N A L  P R O C E D U R E S       **
**                                                             **
**            S T A N D A R D   L I B R A R Y                  **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
*****************************************************************
***                                                           ***
***                      W R I T E                            ***
***                                                           ***
*****************************************************************
*****************************************************************
```


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```
 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |  Param-in  : .PERIPH                                        |
 |                                                             |
 |              .MESSAGE                                       |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 001005 DEFINE, 'WRITE', EXTERNAL, PROCEDURE (
                   '.PERIPH' IS 'PERIPH-DEVICES',
                   '.MESSAGE' IS STRING(80) OF CHAR
                )                                              $

        END, 'WRITE'                                           $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                 C O M P - O P - M E A S                  ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |  Param-in  : .CUR-STAT-NO                                   |
 |                                                             |
 |              .CUR-MODULE                                    |
 |                                                             |
 |              .OP-MEAS-STRING                                |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 001007 DEFINE, 'COMP-OP-MEAS', EXTERNAL, PROCEDURE (
                   '.CUR-STAT-NO' IS STRING(9) OF CHAR,
                   '.CUR-MODULE' IS STRING(16) OF CHAR,
                   '.OP-MEAS-STRING' IS STRING(16) OF CHAR
                )                                              $

        END, 'COMP-OP-MEAS'                                    $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***               I N I T - P O W E R - T I M E              ***
 ***                                                          ***
```


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```
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001009 DEFINE, 'INIT-POWER-TIME', EXTERNAL, PROCEDURE            $

        END, 'INIT-POWER-TIME'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    I N I T - P R O G                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001011 DEFINE, 'INIT-PROG', EXTERNAL, PROCEDURE                  $

        END, 'INIT-PROG'                                          $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    R E S E T - U U T                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001013 DEFINE, 'RESET-UUT', EXTERNAL, PROCEDURE                  $

        END, 'RESET-UUT'                                          $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
```


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```
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    T E S T - T I T L E                     ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : .TEST-NAME                                        |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001015 DEFINE, 'TEST-TITLE', EXTERNAL, PROCEDURE (
                   '.TEST-NAME' IS STRING(50) OF CHAR
               )                                                  $

       END, 'TEST-TITLE'                                          $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S      **
 **                                                              **
 **             S P E C I F I C   P R O G R A M                  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  U T I L - D I S P L A Y                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Management of edition formular                                |
 |                                                                |
 |  Param-in  : P-TEXT-1  First line to edit                      |
 |                                                                |
 |              P-TEXT-2  Second line to edit                     |
 |                                                                |
 |              P-TEXT-3  Third line to edit                      |
 |                                                                |
 |              P-TEXT-4  Fourth line to edit                     |
 |                                                                |
 |              P-TEXT-5  Fifth line to edit                      |
```


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```
 |                                                                  |
 |              P-TEXT-6  Sixth line to edit                        |
 |                                                                  |
 |              P-TEXT-7  Seventh line to edit                      |
 |                                                                  |
 |              P-TEXT-8  Eighth line to edit                       |
 |                                                                  |
 |              P-TEXT-9  Ninth line to edit                        |
 |                                                                  |
 |              P-TEXT-10  tenth line to edit                       |
 |                                                                  |
 |              P-TEXT-11  eleventh line to edit                    |
 |                                                                  |
 |              P-TEXT-12  twelfth line to edit                     |
 |                                                                  |
 |              P-CHOICE  Indicator to know if a result, a wait-man |
 |                        or an input is needed                     |
 |                                                                  |
 |              P-IMAGE  Image to display if necessary              |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002005 DEFINE, 'UTIL-DISPLAY', EXTERNAL, PROCEDURE (
                    'P-TEXT-1' IS STRING(80) OF CHAR,
                    'P-TEXT-2' IS STRING(80) OF CHAR,
                    'P-TEXT-3' IS STRING(80) OF CHAR,
                    'P-TEXT-4' IS STRING(80) OF CHAR,
                    'P-TEXT-5' IS STRING(80) OF CHAR,
                    'P-TEXT-6' IS STRING(80) OF CHAR,
                    'P-TEXT-7' IS STRING(80) OF CHAR,
                    'P-TEXT-8' IS STRING(80) OF CHAR,
                    'P-TEXT-9' IS STRING(80) OF CHAR,
                    'P-TEXT-10' IS STRING(80) OF CHAR,
                    'P-TEXT-11' IS STRING(80) OF CHAR,
                    'P-TEXT-12' IS STRING(80) OF CHAR,
                    'P-CHOICE' IS STRING(6) OF CHAR,
                    'P-IMAGE' IS STRING(8) OF CHAR
                )                                                   $

        END, 'UTIL-DISPLAY'                                         $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                P R E S - C O N N - P R O D                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Connection of electrovannes on UUT9, UUT10, UUT11 or UUT12.     |
```


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```
 |                                                                  |
 |  Param-in  : SIGNAL  Device to connect                           |
 |                                                                  |
 |              UUT  Uut concerned                                  |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002007 DEFINE, 'PRES-CONN-PROD', EXTERNAL, PROCEDURE (
                    'SIGNAL' IS 'T-PRES-MNEMO',
                    'UUT' IS 'T-ALL-UUT'
                )                                                   $

        END, 'PRES-CONN-PROD'                                       $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 P R E S - A P P - M B A R                    ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Application of GENE-PS-MBAR and GENE-PT-MBAR.                   |
 |                                                                  |
 |  Param-in  : PRES-PS-VALUE  Static pressure to program           |
 |                                                                  |
 |              PRES-PS-RATE  Rate variation of PS                  |
 |                                                                  |
 |              PRES-PT-VALUE  Total pressure to program            |
 |                                                                  |
 |              PRES-PT-RATE  Rate variation of PT                  |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002009 DEFINE, 'PRES-APP-MBAR', EXTERNAL, PROCEDURE (
                    'PRES-PS-VALUE' IS DECIMAL,
                    'PRES-PS-RATE' IS DECIMAL,
                    'PRES-PT-VALUE' IS DECIMAL,
                    'PRES-PT-RATE' IS DECIMAL
                )                                                   $

        END, 'PRES-APP-MBAR'                                        $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                     P R E S - C L O S E                      ***
```


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```
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Closing of GENE-PS-MBAR or GENE-PT-MBAR valves .                |
 |                                                                  |
 |  Param-in  : GENE  Device to close                               |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002011 DEFINE, 'PRES-CLOSE', EXTERNAL, PROCEDURE (
                    'GENE' IS 'T-PRES-MNEMO'
                )                                                   $

        END, 'PRES-CLOSE'                                           $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                                ***
 ***                  P R E S - M E A S U R E                       ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  MEAS-PS or MEAS-PT measurement .                                |
 |                                                                  |
 |  Param-in  : GENE  Device to measure                             |
 |                                                                  |
 |  Param-out : RESULT  Pressure measurement                        |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002013 DEFINE, 'PRES-MEASURE', EXTERNAL, PROCEDURE (
                    'GENE' IS 'T-PRES-MNEMO'
                )
                RESULT (
                    'RESULT' IS DECIMAL
                )                                                   $

        END, 'PRES-MEASURE'                                         $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                                ***
 ***                  P R E S - R E M - M B A R                     ***
 ***                                                                ***
```


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```
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Removal of GENE-PS-MBAR and GENE-PT-MBAR.                     |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002015 DEFINE, 'PRES-REM-MBAR', EXTERNAL, PROCEDURE              $

        END, 'PRES-REM-MBAR'                                      $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                   U T I L - R E M O V E                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Remove UUT-1, UUT-2, ....or UUT-12 .                          |
 |                                                                |
 |  Param-in  : ABANDON-UUT  If true, test is abandonned on 'UUT'  |
 |                                                                |
 |              UUT  Signal to be connected                       |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002017 DEFINE, 'UTIL-REMOVE', EXTERNAL, PROCEDURE (
                    'ABANDON-UUT' IS BOOLEAN,
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'UTIL-REMOVE'                                        $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 P R E S - D I S C - P R O D                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Disconnection of electrovannes from UUT9, UUT10, UUT11 or UUT12.|
 |                                                                |
 |  Param-in  : SIGNAL  Device to disconnect                      |
```


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```
 |                                                                |
 |              UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002019 DEFINE, 'PRES-DISC-PROD', EXTERNAL, PROCEDURE (
                    'SIGNAL' IS 'T-PRES-MNEMO',
                    'UUT' IS 'T-ALL-UUT'
               )                                                  $

        END, 'PRES-DISC-PROD'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                P R E S - A P P - A L T I A S                 ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |----------------------------------------------------------------|
 |  Application of GENE-PS-ALT and GENE-PT-IAS.                   |
 |                                                                |
 |  Param-in  : ALTITUDE  Altitude to program                     |
 |                                                                |
 |              ALTI-RATE  Rate variation of altitude             |
 |                                                                |
 |              AIRSPEED  Airspeed to program                     |
 |                                                                |
 |              AIRSPEED-RATE  Rate variation of speed            |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002021 DEFINE, 'PRES-APP-ALTIAS', EXTERNAL, PROCEDURE (
                    'ALTITUDE' IS DECIMAL,
                    'ALTI-RATE' IS DECIMAL,
                    'AIRSPEED' IS DECIMAL,
                    'AIRSPEED-RATE' IS DECIMAL
               )                                                  $

        END, 'PRES-APP-ALTIAS'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 D I S C - I N - C O N F I G                  ***
 ***                                                              ***
 ********************************************************************
```


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```
 ******************************************************************

 |----------------------------------------------------------------|
 |  Put UUT1 or UUT2 ..... or UUT12 in ANNEXE x ATP configuration . |
 |                                                                |
 |  Param-in  : ANNEXE  Initialisation chosen                     |
 |                                                                |
 |              UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002023 DEFINE, 'DISC-IN-CONFIG', EXTERNAL, PROCEDURE (
                    'ANNEXE' IS ENUMERATION(
                        'OPEN-ALL', 'OPEN-GROUND', 'ANNEXE-4',
                        'ANNEXE-5', 'ANNEXE-6'),
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'DISC-IN-CONFIG'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 G 4 2 9 - P R E P - B U S 1                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Prepares BUS1 arinc device with frame to     |
 |                   transmit                                     |
 |                                                                |
 |              FRAME  Frame to transmit :                        |
 |                     - if FR-173-174-EQ-0 :                     |
 |                     word1 = X'600000', word2 = X'600000' - if  |
 |                     FR-173-174-NE-0 :                          |
 |                     word1 = X'631A00', word2 = X'61C000'       |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002025 DEFINE, 'G429-PREP-BUS1', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'FRAME' IS 'T-FRAME')                         $

        END, 'G429-PREP-BUS1'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
```


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```
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 G 4 2 9 - C O N N - B U S 2                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Arinc signal to connect                      |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002027 DEFINE, 'G429-CONN-BUS1', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT')                                                  $

        END, 'G429-CONN-BUS1'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 G 4 2 9 - P R E P - B U S 2                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Prepares BUS2 arinc device with frame to     |
 |                   transmit                                     |
 |                                                                |
 |              FRAME  Frame to transmit :                        |
 |                     - if FR-312-320-EQ-0 :                     |
 |                     word1 = X'600000', word2 = X'600000', word3 =|
 |                     X'600000' - if FR-312-320-NE-0 :           |
 |                     word1 = X'600000', word2 = X'62AAA0', word3 =|
 |                     X'62AAA0'                                  |
 | REM : non utilisM-i                                              |
 |----------------------------------------------------------------|
                                                                  $
 002029 DEFINE, 'G429-PREP-BUS2', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'FRAME' IS 'T-FRAME')                          $

        END, 'G429-PREP-BUS2'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
```


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```
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - C O N N - B U S 2                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Arinc signal to connect                      |
 |                                                                |
 | REM : non utilisM-i                                              |
 |----------------------------------------------------------------|
                                                                  $
 002031 DEFINE, 'G429-CONN-BUS2', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT')                          $

        END, 'G429-CONN-BUS2'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - P R E P - B U S 3                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Prepares BUS3 arinc device with frame to     |
 |                   transmit                                     |
 |                                                                |
 |              FRAME  Frame to transmit :                        |
 |                     - if FR-312-320-EQ-0 :                     |
 |                     word1 = X'600000', word2 = X'600000', word3 =|
 |                     X'600000' - if FR-312-320-NE-0 :           |
 |                     word1 = X'600000', word2 = X'62AAA0', word3 =|
 |                     X'62AAA0'                                  |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002033 DEFINE, 'G429-PREP-BUS3', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'FRAME' IS 'T-FRAME')                          $

        END, 'G429-PREP-BUS3'                                     $
C|                                                                |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                G 4 2 9 - C O N N - B U S 3                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                             |
 |                                                                 |
 |  Param-in  : UUT  Arinc signal to connect                       |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002035 DEFINE, 'G429-CONN-BUS3', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT')                           $

        END, 'G429-CONN-BUS3'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***               T I M E - R E S E T - C L K 6                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Resets the clock 6 .                                           |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002037 DEFINE, 'TIME-RESET-CLK6', EXTERNAL, PROCEDURE             $

        END, 'TIME-RESET-CLK6'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  D C S U - C O N N E C T                     ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************
```

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```
 |-------------------------------------------------------------|
 |  Connection of 28VDC-SUP on UUT-1 to UUT-12 .               |
 |                                                             |
 |  Param-in  : UUT  Signal to be connected                    |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 002039 DEFINE, 'DCSU-CONNECT', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                              $

        END, 'DCSU-CONNECT'                                    $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                T I M E - R E A D - C L K 6               ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  Reads a time .                                             |
 |                                                             |
 |  Param-out : TIME  Time reading                             |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 002041 DEFINE, 'TIME-READ-CLK6', EXTERNAL, PROCEDURE
                RESULT (
                    'TIME' IS DECIMAL
                )                                              $

        END, 'TIME-READ-CLK6'                                  $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                M 4 2 9 - I N R T P - 3 M N               ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  Prepares 3 mn arinc measurement signal on UUT .            |
 |                                                             |
 |  Param-in  : UUT  Uut concerned                             |
 |                                                             |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
 002043 DEFINE, 'M429-INRTP-3MN', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
               )                                                   $

        END, 'M429-INRTP-3MN'                                      $
C|                                                                  |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                M 4 2 9 - I N R T P - 1 M N                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Prepares 1 mn arinc measurement signal on UUT .                |
 |                                                                 |
 |  Param-in  : UUT  Uut concerned                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002044 DEFINE, 'M429-INRTP-1MN', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
               )                                                   $

        END, 'M429-INRTP-1MN'                                      $
C|                                                                  |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 M 4 2 9 - I N R T - A R M                    ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Starts arinc measurement signal on UUT .                       |
 |                                                                 |
 |  Param-in  : UUT  Uut concerned                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002045 DEFINE, 'M429-INRT-ARM', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
               )                                                   $
```


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```
       END, 'M429-INRT-ARM'                                        $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***               T I M E - R E S E T - C L K 1                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Resets the clock 1 .                                            |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002047 DEFINE, 'TIME-RESET-CLK1', EXTERNAL, PROCEDURE              $

       END, 'TIME-RESET-CLK1'                                       $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                T I M E - R E A D - C L K 1                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Reads a time .                                                  |
 |                                                                  |
 |  Param-out : TIME  Time reading                                  |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002049 DEFINE, 'TIME-READ-CLK1', EXTERNAL, PROCEDURE
               RESULT (
                   'TIME' IS DECIMAL
               )                                                    $

       END, 'TIME-READ-CLK1'                                        $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                M 4 2 9 - I N R T F - 3 M N                   ***
```


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```
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Retrieves 3 mn arinc measurement on UUT .                      |
 |                                                                 |
 |  Param-in  : UUT  Uut concerned                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002051 DEFINE, 'M429-INRTF-3MN', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                  $

        END, 'M429-INRTF-3MN'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                M 4 2 9 - I N R T F 2 - 1 M N                 ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Retrieves 1 mn arinc measurement on UUT .                      |
 |                                                                 |
 |  Param-in  : UUT  Uut concerned                                 |
 |                                                                 |
 |     DATA stored in `GDATA`                                      |
 |-----------------------------------------------------------------|
                                                                   $
 002052 DEFINE, 'M429-INRTF2-1MN', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                  $

        END, 'M429-INRTF2-1MN'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                    C - A V E R A G E                         ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
```


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```
 |                                                                |
 |                                                                |
 |  Param-in  : LABEL                                             |
 |                                                                |
 |              MEAS-ARRAY                                        |
 |                                                                |
 |  Param-out : AVERAGE                                           |
 |                                                                |
 |              NOISE                                             |
 |                                                                |
 |              ERROR                                             |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002053 DEFINE, 'C-AVERAGE', EXTERNAL, PROCEDURE (
                    'LABEL' IS INTEGER,
                    'MEAS-ARRAY' IS ARRAY(1 THRU 21600) OF
                        STRING(32) OF BIT
                )
                RESULT (
                    'AVERAGE' IS DECIMAL,
                    'NOISE' IS DECIMAL,
                    'ERROR' IS INTEGER
                )                                                 $

        END, 'C-AVERAGE'                                          $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 M 4 2 9 - I N R T - R E M                  ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Removes arinc signal from UUT .                               |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002055 DEFINE, 'M429-INRT-REM', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'M429-INRT-REM'                                      $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
```


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```
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    M 4 2 9 - C M C M                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Measures arinc signal on UUT .                                |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |              LABEL  Arinc label to measure                     |
 |                                                                |
 |  Param-out : RESULT-DEC  Result of measurement                 |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002057 DEFINE, 'M429-CMCM', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'LABEL' IS INTEGER
                )
                RESULT (
                    'RESULT-DEC' IS DECIMAL
                )                                                 $

        END, 'M429-CMCM'                                          $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  D I S C - I N - C O N N                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Connection of DISC-X or DISC-h .....                          |
 |  or DISC-Z of UUT1 or UUT2 ..... or UUT12 to EARTH .           |
 |                                                                |
 |  Param-in  : SIGNAL  Signal to be connected                    |
 |                                                                |
 |              UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002059 DEFINE, 'DISC-IN-CONN', EXTERNAL, PROCEDURE (
                    'SIGNAL' IS 'T-DISCIN-MNEMO',
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $
```


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```
        END, 'DISC-IN-CONN'                                          $
C|                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                D C S U - D I S C O N N E C T                 ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Disconnection of 28VDC-SUP from UUT-1 to UUT-12 .              |
 |                                                                 |
 |  Param-in  : UUT  Signal to be disconnected                     |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                     $
 002061 DEFINE, 'DCSU-DISCONNECT', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                    $

        END, 'DCSU-DISCONNECT'                                       $
C|                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 R 4 2 2 - S C O M P L C M D                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Send a cmd on IES-RS422A or IES-RS422B                         |
 |                                                                 |
 |  Param-in  : UUT  RS422 signal to prepare                       |
 |                                                                 |
 |              P-CMD  Cmd to send                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                     $
 002063 DEFINE, 'R422-SCOMPLCMD', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-CMD' IS CHAR
                )                                                    $

        END, 'R422-SCOMPLCMD'                                        $
C|                                                                   |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 4 2 2 - P A G E 1 - C O M P                 ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Retrieves maintenance page 1                                   |
 |                                                                 |
 |  Param-in  : UUT  UUT concerned                                 |
 |                                                                 |
 |              P-TAB  Tab to convert                              |
 |                                                                 |
 |              NB-ELTS  Number of elements to convert             |
 |                                                                 |
 |  Param-out : HOURS  Functioning time                            |
 |                                                                 |
 |              PAGE1  Indicates if "PAGE 1 is correctly displayed" |
 |                                                                 |
 |              AUTOTEST  Indicates if "OK" chain is founded in Page|
 |                        1                                        |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002065 DEFINE, 'R422-PAGE1-COMP', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-TAB' IS ARRAY(1 THRU 10000) OF
                        STRING(8) OF BIT,
                    'NB-ELTS' IS INTEGER
                )
                RESULT (
                    'HOURS' IS STRING(8) OF CHAR,
                    'PAGE1' IS STRING(12) OF CHAR,
                    'AUTOTEST' IS STRING(12) OF CHAR
                )                                                  $

        END, 'R422-PAGE1-COMP'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 R 4 2 2 - C O M P - F I L E                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************
```

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```
 |-----------------------------------------------------------------|
 |  Compare result of memory fault page (test 5) with file saved in |
 |  test 4.1                                                       |
 |                                                                 |
 |  Param-in  : UUT  UUT concerned                                 |
 |                                                                 |
 |              P-TAB-CHAP5  Tab to compare                        |
 |                                                                 |
 |              NB-ELTS  Number of elements to compare             |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002067 DEFINE, 'R422-COMP-FILE', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'P-TAB-CHAP5' IS ARRAY(1 THRU 10000) OF
                      STRING(8) OF BIT,
                   'NB-ELTS' IS INTEGER
                )                                                  $

        END, 'R422-COMP-FILE'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***               T I M E - R E S E T - C L K 2                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Resets the clock 2 .                                           |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002069 DEFINE, 'TIME-RESET-CLK2', EXTERNAL, PROCEDURE             $

        END, 'TIME-RESET-CLK2'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                T I M E - R E A D - C L K 2                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Reads a time .                                                 |
```


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```
 |                                                                |
 |  Param-out : TIME  Time reading                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002071 DEFINE, 'TIME-READ-CLK2', EXTERNAL, PROCEDURE
               RESULT (
                   'TIME' IS DECIMAL
               )                                                  $

        END, 'TIME-READ-CLK2'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          D E F I N E   L O C A L   P R O C E D U R E         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         D E F I N E   G L O B A L   P R O C E D U R E        **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    A L T I - L E A K                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This procedure is used for the LEAKAGE ON THE STATIC AND PITOT |
 |  PORTS of UUT .                                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 040101 DEFINE, 'ALTI-LEAK', GLOBAL, PROCEDURE                    $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                   $

        IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
            ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN          $

          IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                   $
```


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```
          IF, ('START-EP' EQ C'4: ALTITUDE TESTS'), THEN         $

            PERFORM, 'UTIL-DISPLAY'
            (C'CONNECT PRESSURE PIPES < PS > AND < PT > BETWEEN THE ',
             C'INSTRUMENT AND THE < OSU > < PS > AND < PT > PORTS.',
             C'', C'', C'', C'', C'', C'',C'', C'', C'', C'',
             C'WAIT', C''
                  )                                              $
          ELSE                                                   $

            PERFORM, 'UTIL-DISPLAY'
            (C'INSTALL, IF NECESSARY, THE INSTRUMENT ON ITS SUPPORT ',
             C' DESIGNED FOR 0 DEGREE TILT ANGLE PANEL',
             C' WITH AN ACCURACY OF <0.1> DEGREE IN ROLL AND PITCH.',
             C' ',
             C'CONNECT PRESSURE PIPES < PS > AND < PT > BETWEEN THE ',
             C'INSTRUMENT AND THE < OSU > < PS > AND < PT > PORTS.',
             C'', C'', C'',C'', C'', C'',
             C'WAIT', C''
                  )                                              $
          END, IF                                                $

        ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN             $

040102    PERFORM, 'UTIL-DISPLAY'
          (C'1- INSTALL THE INSTRUMENTS OF < POSTE 3 > ON THE ',
           C'   TEST SUPPORT WITH A 0 DEGREE INSTRUMENT PANEL ' &
           C'TILT ANGLE,',
           C'   WITH AN ACCURACY OF 0.1 DEGREE ROLL AND PITCH.',
           C'2- INSTALL THIS ASSEMBLY ON A HORIZONTAL TABLE ',
           C'   WITH AN ACCURACY OF 0.1 DEGRE.',
           C'3- CONNECT TUBES < PS > AND < PT > ON THE INSTRUMENTS ',
           C'OF < POSTE 3 >. ',
           C'', C'', C'', C'', C'',
           C'WAIT', C''
                  )                                              $
        END, IF                                                  $

      END, IF                                                    $

040106 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN                $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

          PERFORM, 'PRES-CONN-PROD'('PRES-PS', 'UUT')            $
          PERFORM, 'PRES-CONN-PROD'('PRES-PT', 'UUT')            $

          PERFORM, 'PRES-APP-MBAR' (500, 166, 542, 16.65)        $

          PERFORM, 'PRES-CLOSE'('PRES-PS')                       $
          PERFORM, 'PRES-CLOSE'('PRES-PT')                       $

          WAIT FOR, TIME 60 SEC                                  $
```


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```
 040108     PERFORM, 'PRES-MEASURE'('PRES-PS')
                     RESULT ('S-MESURE-PS1')                    $

            PERFORM, 'PRES-MEASURE'('PRES-PT')
                     RESULT ('S-MESURE-PT1')                    $
C           If the first measurement is not ok                  $
            IF, NOT ('S-MESURE-PS1' GE 480 ), THEN              $
              CALCULATE, 'S-MESURE-PS1' = 500                   $
            END, IF                                             $
            IF, NOT ('S-MESURE-PT1' GE 522), THEN               $
              CALCULATE, 'S-MESURE-PT1' = 542                   $
            END, IF                                             $

            WAIT FOR, TIME 60 SEC                               $

            PERFORM, 'PRES-MEASURE'('PRES-PS')
                     RESULT ('S-MESURE-PS2')                    $

            PERFORM, 'PRES-MEASURE'('PRES-PT')
                     RESULT ('S-MESURE-PT2')                    $

            CALCULATE, 'S-MESURE-PS2' =
                       'S-MESURE-PS2' - 'S-MESURE-PS1'          $

            CALCULATE, 'S-MESURE-PT2' =
                       'S-MESURE-PT2' - 'S-MESURE-PT1'          $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN               $
              CALCULATE, 'CMM-STRING' = C'4.6.1'                $
            ELSE                                                $
              CALCULATE, 'CMM-STRING' =
              C'4.6.1~' & 'G-UUT'('UUT').'NAME'                 $
            END, IF                                             $

            CALCULATE, 'REPLACE-CNX' = TRUE                     $

            CALCULATE, 'CNX-STRING' = C'CNX VIA PS'             $
 040110     COMPARE, 'S-MESURE-PS2',
                     LT 'G-TOLE-TABL'(83, 'UL') MBAR            $

            CALCULATE, 'CNX-STRING' = C'CNX VIA PT'             $
            COMPARE, 'S-MESURE-PT2',
                     LT 'G-TOLE-TABL'(84, 'UL') MBAR            $

            CALCULATE, 'REPLACE-CNX' = FALSE                    $

            PERFORM, 'PRES-MEASURE' ('PRES-PS') RESULT ('RESULT-PS')$
            PERFORM, 'PRES-MEASURE' ('PRES-PT') RESULT ('RESULT-PT')$

            PERFORM, 'PRES-REM-MBAR'                            $

            WHILE, ((NOT( 'RESULT-PS' UL ( 'G-PRES-ATMO' + 50 )
                                      LL ( 'G-PRES-ATMO' - 50 )))
                OR  (NOT( 'RESULT-PT' UL ( 'G-PRES-ATMO' + 50 )
```

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```
                                LL ( 'G-PRES-ATMO' - 50 )))
              OR  (ABS( 'RESULT-PT' - 'RESULT-PS' ) GT 10 )) , THEN
                                                                 $
            PERFORM, 'PRES-MEASURE' ('PRES-PS')
                     RESULT ('RESULT-PS')                        $
            PERFORM, 'PRES-MEASURE' ('PRES-PT')
                     RESULT ('RESULT-PT')                        $

          END, WHILE                                             $

 040115   IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                  $
C           If the second measurement is not ok                  $
            IF, NOT ( ('S-MESURE-PS2' LT 1.7)    AND
                     ('S-MESURE-PT2' LT 1.7) ), THEN             $

              PERFORM, 'WRITE' ('ALL', C'')                      $
              PERFORM, 'WRITE' ('ALL',
                     C'   0~' & 'G-UUT'('UUT').'NAME')           $

              PERFORM, 'WRITE' ('ALL',
                 C'   PROBLEM OF LEAKAGE ON INSTRUMENT ' &
                 C' CONNECTED TO < J' & 'G-UUT'('UUT').'NAME' &
                 C' > .')                                        $
              PERFORM, 'WRITE' ('ALL', C'')                      $

              PERFORM, 'UTIL-REMOVE' (TRUE, 'UUT')               $

            END, IF                                              $

          END, IF                                                $

          PERFORM, 'PRES-DISC-PROD'('PRES-PS', 'UUT')            $
          PERFORM, 'PRES-DISC-PROD'('PRES-PT', 'UUT')            $

        END, IF                                                  $

      END, FOR                                                   $
C 040120 IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
C          ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
C          ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
C          ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN          $
C        PERFORM, 'PRES-APP-ALTIAS' (0, 83.3, 40, 2.05)          $
C        WAIT FOR, TIME 25 SEC                                   $
C      END, IF                                                   $

 040199 END, 'ALTI-LEAK'                                         $
C|                                                               |
 |-----------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                    A L T I - D E L A Y                   ***
```


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```
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for the ACCURACY ALTITUDE and ANEMOMETER |
 |  TESTS of UUT .                                                 |
 |                                                                 |
 |  Param-in  : TIME  Value of delay                               |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 040201 DEFINE, 'ALTI-DELAY', GLOBAL, PROCEDURE (
                   'TIME' IS DECIMAL
               )                                                   $

        IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
            ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN          $

          WAIT FOR, TIME 'TIME' SEC                                $

        END, IF                                                    $

 040299 END, 'ALTI-DELAY'                                          $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                                ***
 ***                A L T I - S T A B - I N I T                     ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE CHECKING WHEN      |
 |  STABILIZED (init) of UUT .                                     |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 040301 DEFINE, 'ALTI-STAB-INIT', GLOBAL, PROCEDURE                $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
        DECLARE, VARIABLE, 'NOISE' IS DECIMAL                      $
        DECLARE, VARIABLE, 'TIME' IS DECIMAL                       $
        DECLARE, VARIABLE, 'TIME-START' IS ARRAY('UUT1' THRU 'UUT12')
                OF
                   DECIMAL                                         $
 040302 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN                 $
```


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```
        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

          PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')    $
          PERFORM, 'G429-CONN-BUS1'('UUT')                       $

          PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')    $
          PERFORM, 'G429-CONN-BUS3'('UUT')                       $

          WAIT FOR, TIME 1 SEC                                   $

        END, IF                                                  $

      END, FOR                                                   $

      PERFORM, 'TIME-RESET-CLK6'                                 $

040304 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN                $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

          PERFORM, 'DCSU-CONNECT' ('UUT')                        $

          WAIT FOR, TIME 10 SEC                                  $

          PERFORM, 'TIME-READ-CLK6'
                   RESULT ('TIME-START'('UUT'))                  $

          PERFORM, 'M429-INRTP-1MN' ('UUT')                      $

        END, IF                                                  $

      END, FOR                                                   $

040306 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN                $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

          PERFORM, 'TIME-READ-CLK6' RESULT ('TIME')              $

          IF, ('TIME' - 'TIME-START'('UUT')) LT 100, THEN        $
            WAIT FOR,
            TIME (100 - ('TIME' - 'TIME-START'('UUT'))) SEC      $
          END, IF                                                $

          PERFORM, 'M429-INRT-ARM' ('UUT')                       $

        END, IF                                                  $

      END, FOR                                                   $

      IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
          ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN          $
```


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```
          PERFORM, 'TIME-RESET-CLK1'                                $

          PERFORM, 'TIME-READ-CLK1' RESULT ('G-TIME1-MEM')          $

        END, IF                                                     $

 040328 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN                  $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

            PERFORM, 'M429-INRTF2-1MN' ('UUT')                      $

            IF, ('G-CUSTOMER' EQ C'AIRLINES') AND
                ('G-TEST' EQ C'MANUAL'), THEN                       $
              CALCULATE, 'CMM-STRING' = C'4.5.2.4'                  $
            ELSE IF, ('G-CUSTOMER' EQ C'AIRLINES') AND
                ('G-TEST' EQ C'TABLE-AUTO'), THEN                   $
              CALCULATE, 'CMM-STRING' = C'4.5.1.4'                  $
            ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN            $
              CALCULATE, 'CMM-STRING' =
              C'4.5.1.4~' & 'G-UUT'('UUT').'NAME'                   $
            END, IF                                                 $

 040330     IF, NOT MAX-TIME, THEN                                  $

              PERFORM, 'C-AVERAGE' (324, 'G-ARINC-DATA')
                       RESULT ('G-AVERAGE-324'('UUT'),
                               'G-NOISE', 'G-ERROR')                $
C             Numb. of elements received must be superior than 3500 $
              IF, 'G-ERROR' LT 3500, THEN                           $
                CALCULATE, 'G-AVERAGE-324'('UUT') = 9999            $
              END, IF                                               $

            END, IF                                                 $

            COMPARE, 'G-AVERAGE-324'('UUT'),
                     UL 'G-TOLE-TABL'(61, 'UL') DEG
                     LL 'G-TOLE-TABL'(61, 'LL') DEG                 $

 040332     IF, NOT MAX-TIME, THEN                                  $

              PERFORM, 'C-AVERAGE' (325, 'G-ARINC-DATA')
                       RESULT ('G-AVERAGE-325'('UUT'),
                               'G-NOISE', 'G-ERROR')                $
C             Numb. of elements received must be superior than 3500 $
              IF, 'G-ERROR' LT 3500, THEN                           $
                CALCULATE, 'G-AVERAGE-325'('UUT') = 9999            $
              END, IF                                               $

            END, IF                                                 $

            COMPARE, 'G-AVERAGE-325'('UUT'),
                     UL 'G-TOLE-TABL'(63, 'UL') DEG
```


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```
                    LL 'G-TOLE-TABL'(63, 'LL') DEG                $

           PERFORM, 'M429-INRT-REM' ('UUT')                       $

         END, IF                                                  $

       END, FOR                                                   $

       CALCULATE, 'G-END-STAB' = FALSE                            $

 040399 END, 'ALTI-STAB-INIT'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 A L T I - A C T I O N 1                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This procedure is used for the ACCURACY ALTITUDE TESTS of UUT . |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 040401 DEFINE, 'ALTI-ACTION1', GLOBAL, PROCEDURE                 $

       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
 040402 IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
           ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN           $

         IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $
           PERFORM, 'UTIL-DISPLAY'
           (C'PRESS < BARO > BUTTON OF THE INSTRUMENT IN ORDER ',
            C'TO HAVE : barometric pressure = standard pressure.',
            C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                  )                                               $
         ELSE                                                     $
           PERFORM, 'UTIL-DISPLAY'
           (C'APPUYER SUR LE BOUTON < BARO > DE TOUS LES ' &
            C'INSTRUMENTS',
            C'DU < POSTE 3 > afin d`afficher la pression standard.',
            C'',
            C'', C'', C'', C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                  )                                               $
         END, IF                                                  $
```


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```
       END, IF                                                  $

 040406 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN              $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

           PERFORM, 'PRES-CONN-PROD'('PRES-PS', 'UUT')          $
           PERFORM, 'PRES-CONN-PROD'('PRES-PT', 'UUT')          $

         END, IF                                                $

       END, FOR                                                 $

 040499 END, 'ALTI-ACTION1'                                     $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                A L T I - A L T I - I N I T                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  This procedure is used for the ACCURACY ALTITUDE TESTS of UUT . |
 |                                                              |
 |  Param-in  : ALTITUDE  Nominal value of altitude             |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 040501 DEFINE, 'ALTI-ALTI-INIT', GLOBAL, PROCEDURE (
                   'ALTITUDE' IS DECIMAL
               )                                                $

 040508 IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
           ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN         $

         PERFORM, 'PRES-APP-ALTIAS' ('ALTITUDE', 83.3, 200, 2.05)  $

       END, IF                                                  $

 040509 END, 'ALTI-ALTI-INIT'                                   $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
```


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```
***                A L T I - M A C H - I N I T                ***
***                                                           ***
*****************************************************************
*****************************************************************

|-------------------------------------------------------------|
|  This procedure is used for the display test MACH of UUT .  |
|                                                             |
|  Param-in  : ALTITUDE  Nominal value of altitude            |
|                                                             |
|-------------------------------------------------------------|
                                                              $
040510 DEFINE, 'ALTI-MACH-INIT', GLOBAL, PROCEDURE (
                 'ALTITUDE' IS DECIMAL
              )                                               $
       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                $

040515 IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
           ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN       $

040520   FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN           $

           IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN        $

             PERFORM, 'PRES-CONN-PROD'('PRES-PS', 'UUT')      $
             PERFORM, 'PRES-CONN-PROD'('PRES-PT', 'UUT')      $

             PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')   $
             PERFORM, 'G429-CONN-BUS1'('UUT')                 $

             PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')   $
             PERFORM, 'G429-CONN-BUS3'('UUT')                 $

             PERFORM, 'DISC-IN-CONN' ('DISC-m', 'UUT')        $
             PERFORM, 'DISC-IN-CONN' ('DISC-k', 'UUT')        $

             WAIT FOR, TIME 3 SEC                             $

             PERFORM, 'DCSU-CONNECT' ('UUT')                  $

           END, IF                                            $

         END, FOR                                             $

         WAIT FOR, TIME 100 SEC                               $

         PERFORM, 'PRES-APP-MBAR' (1013, 20, 1250, 16.65)     $

       END, IF                                                $

 040599 END, 'ALTI-MACH-INIT'                                 $
C|                                                            |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                A L T I - A L T I - E N D                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for the ACCURACY ALTITUDE TESTS of UUT . |
 |                                                                 |
 |  Param-in  : TOL-HI  High value of tolerance                    |
 |                                                                 |
 |              TOL-LO  Low value of tolerance                     |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 040601 DEFINE, 'ALTI-ALTI-END', GLOBAL, PROCEDURE (
                   'TOL-HI' IS DECIMAL,
                   'TOL-LO' IS DECIMAL
               )                                                   $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
        DECLARE, VARIABLE, 'RESULT' IS DECIMAL                     $
 040610 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN                 $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $
              CALCULATE, 'CMM-STRING' = C'4.6.2.1'                 $
            ELSE                                                   $
              CALCULATE, 'CMM-STRING' =
              C'4.6.2.1~' & 'G-UUT'('UUT').'NAME'                  $
            END, IF                                                $

            PERFORM, 'M429-CMCM' ('UUT', 203) RESULT ('RESULT')    $

            COMPARE, 'RESULT', UL 'TOL-HI' FT LL 'TOL-LO' FT       $

          END, IF                                                  $

        END, FOR                                                   $

 040699 END, 'ALTI-ALTI-END'                                       $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
```


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```
 ***              A L T I - A N E M O - I N I T              ***
 ***                                                         ***
 ***********************************************************
 ***********************************************************

 |-------------------------------------------------------------|
 |  This procedure is used for the ACCURACY ANEMOMETER TESTS of UUT |
 |  .                                                          |
 |                                                             |
 |  Param-in  : SPEED  Nominal value of speed                  |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 040701 DEFINE, 'ALTI-ANEMO-INIT', GLOBAL, PROCEDURE (
                   'SPEED' IS DECIMAL
               )                                               $

 040708 IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
           ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN          $

         PERFORM, 'PRES-APP-ALTIAS' (10000, 83.3, 'SPEED', 2.05)   $

       END, IF                                                 $

 040799 END, 'ALTI-ANEMO-INIT'                                 $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ***********************************************************
 ***********************************************************
 ***                                                         ***
 ***               A L T I - A N E M O - E N D               ***
 ***                                                         ***
 ***********************************************************
 ***********************************************************

 |-------------------------------------------------------------|
 |  This procedure is used for the ACCURACY ANEMOMETER TESTS of UUT |
 |  .                                                          |
 |                                                             |
 |  Param-in  : TOL-HI  High value of tolerance                |
 |                                                             |
 |              TOL-LO  Low value of tolerance                 |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 040801 DEFINE, 'ALTI-ANEMO-END', GLOBAL, PROCEDURE (
                   'TOL-HI' IS DECIMAL,
                   'TOL-LO' IS DECIMAL
               )                                               $
```


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```
       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
       DECLARE, VARIABLE, 'RESULT' IS DECIMAL                     $
 040810 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN                $

         IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

           IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                  $
             CALCULATE, 'CMM-STRING' = C'4.6.2.2'                 $
           ELSE                                                   $
             CALCULATE, 'CMM-STRING' =
             C'4.6.2.2~' & 'G-UUT'('UUT').'NAME'                  $
           END, IF                                                $

           PERFORM, 'M429-CMCM' ('UUT', 206) RESULT ('RESULT')    $

           COMPARE, 'RESULT', UL 'TOL-HI' KT LL 'TOL-LO' KT       $

         END, IF                                                  $

       END, FOR                                                   $

 040899 END, 'ALTI-ANEMO-END'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 A L T I - A C T I O N 2                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This procedure is used for the ACCURACY ANEMOMETER TESTS of UUT |
 |  .                                                             |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 040901 DEFINE, 'ALTI-ACTION2', GLOBAL, PROCEDURE                 $

       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
 040912 IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
           ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN           $

         PERFORM, 'PRES-APP-ALTIAS' (0, 83.3, 40, 2.05)           $

       END, IF                                                    $

 040929 END, 'ALTI-ACTION2'                                       $
C|                                                                |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 A L T I - A C T I O N 3                      ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for the ACCURACY ANEMOMETER TESTS of UUT |
 |  .                                                              |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 040931 DEFINE, 'ALTI-ACTION3', GLOBAL, PROCEDURE                  $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
 040974 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN                 $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

            PERFORM, 'PRES-DISC-PROD'('PRES-PS', 'UUT')            $
            PERFORM, 'PRES-DISC-PROD'('PRES-PT', 'UUT')            $

          END, IF                                                  $

        END, FOR                                                   $

 040999 END, 'ALTI-ACTION3'                                        $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                A L T I - W A I T - 1 H 3 0                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE CHECKING WHEN      |
 |  STABILIZED (end) of UUT .                                      |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 041001 DEFINE, 'ALTI-WAIT-1H30', GLOBAL, PROCEDURE                $

        DECLARE, VARIABLE, 'RESULT-TIME1' IS DECIMAL               $
        IF, 'G-END-STAB' EQ FALSE, THEN                            $
```


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```
 041004   IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
              ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
              ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
              ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN        $

            PERFORM, 'TIME-READ-CLK1' RESULT ('RESULT-TIME1')      $

            CALCULATE, 'RESULT-TIME1' =
                       'RESULT-TIME1' - 'G-TIME1-MEM'              $

            IF, 'RESULT-TIME1' LT 5400, THEN                       $
              WAIT FOR, TIME (5400 - 'RESULT-TIME1') SEC           $
            END, IF                                                $

          END, IF                                                  $

        END, IF                                                    $

 041099 END, 'ALTI-WAIT-1H30'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                A L T I - S T A B - E N D                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  This procedure is used for the HORIZON LINE CHECKING WHEN      |
 |  STABILIZED (end) of UUT .                                      |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 041101 DEFINE, 'ALTI-STAB-END', GLOBAL, PROCEDURE                 $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
        IF, 'G-END-STAB' EQ FALSE, THEN                            $

 041116   FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN               $

            IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

              PERFORM, 'M429-INRTP-1MN' ('UUT')                    $

              PERFORM, 'M429-INRT-ARM' ('UUT')                     $

            END, IF                                                $

          END, FOR                                                 $
```


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```
 041118   FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN              $

            IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN           $

              IF, ('G-CUSTOMER' EQ C'AIRLINES') AND
                  ('G-TEST' EQ C'MANUAL'), THEN                   $
                CALCULATE, 'CMM-STRING' = C'4.5.2.4'              $
              ELSE IF, ('G-CUSTOMER' EQ C'AIRLINES') AND
                  ('G-TEST' EQ C'TABLE-AUTO'), THEN               $
                CALCULATE, 'CMM-STRING' = C'4.5.1.4'              $
              ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN        $
                CALCULATE, 'CMM-STRING' =
                C'4.5.1.4~' & 'G-UUT'('UUT').'NAME'               $
              END, IF                                             $

              PERFORM, 'M429-INRTF2-1MN' ('UUT')                  $

 041120       IF, NOT MAX-TIME, THEN                              $

                PERFORM, 'C-AVERAGE' (324, 'G-ARINC-DATA')
                         RESULT ('G-AVERAGE',
                                 'G-NOISE', 'G-ERROR')            $
C               Numb. of elements received must be superior than
                3500                                              $
                IF, 'G-ERROR' LT 3500, THEN                       $
                  CALCULATE, 'G-AVERAGE' = 9999                   $
                END, IF                                           $

              END, IF                                             $

            COMPARE, 'G-AVERAGE',
                     UL 'G-TOLE-TABL'(61, 'UL') DEG
                     LL 'G-TOLE-TABL'(61, 'LL') DEG               $

 041122       IF, NOT MAX-TIME, THEN                              $

                PERFORM, 'C-AVERAGE' (325, 'G-ARINC-DATA')
                         RESULT ('G-AVERAGE',
                                 'G-NOISE', 'G-ERROR')            $
C               Numb. of elements received must be superior than
                3500                                              $
                IF, 'G-ERROR' LT 3500, THEN                      $
                  CALCULATE, 'G-AVERAGE' = 9999                   $
                END, IF                                           $

              END, IF                                             $

            COMPARE, 'G-AVERAGE',
                     UL 'G-TOLE-TABL'(63, 'UL') DEG
                     LL 'G-TOLE-TABL'(63, 'LL') DEG               $

              PERFORM, 'M429-INRT-REM' ('UUT')                    $
```


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```
          END, IF                                                $

        END, FOR                                                 $

        CALCULATE, 'G-END-STAB' = TRUE                           $

      END, IF                                                    $

 041199 END, 'ALTI-STAB-END'                                     $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                A L T I - F I N - V E R I F                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  This procedure is used for the FINAL OPERATIONAL VERIFICATION of|
 |  UUT .                                                        |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 041201 DEFINE, 'ALTI-FIN-VERIF', GLOBAL, PROCEDURE              $

      DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
      DECLARE, VARIABLE, 'HOURS' IS STRING(8) OF CHAR            $
      DECLARE, VARIABLE, 'PAGE1' IS STRING(12) OF CHAR           $
      DECLARE, VARIABLE, 'AUTOTEST' IS STRING(12) OF CHAR        $
      DECLARE, VARIABLE, 'LOOP' IS INTEGER                       $

 041203 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN               $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

          PERFORM, 'UTIL-REMOVE' (FALSE, 'UUT')                  $

        END, IF                                                  $

      END, FOR                                                   $

 041205 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN               $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

          PERFORM, 'DISC-IN-CONN' ('DISC-X', 'UUT')              $
          PERFORM, 'DISC-IN-CONN' ('DISC-a', 'UUT')              $

          PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')    $
          PERFORM, 'G429-CONN-BUS1'('UUT')                       $
```


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```
            PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')     $
            PERFORM, 'G429-CONN-BUS3'('UUT')                        $

          END, IF                                                   $

        END, FOR                                                    $

 041207 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN                  $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                   $
              CALCULATE, 'CMM-STRING' = C'5'                        $
            ELSE                                                    $
              CALCULATE, 'CMM-STRING' =
              C'5~' & 'G-UUT'('UUT').'NAME'                         $
            END, IF                                                 $

            WAIT FOR, TIME 1 SEC                                    $

            PERFORM, 'DCSU-CONNECT' ('UUT')                         $
            WAIT FOR, TIME 10 SEC                                   $

            CALCULATE, 'LOOP' = 0                                   $
            CALCULATE, 'OP-CHOICE' = C'FAIL'                        $

            WHILE, ('LOOP' NE 2) AND
                   ('OP-CHOICE' NE C'PASS'), THEN                   $

              IF, 'LOOP' NE 0, THEN                                 $
                PERFORM, 'DCSU-DISCONNECT' ('UUT')                  $
                WAIT FOR, TIME 2 SEC                                $
                PERFORM, 'DCSU-CONNECT'    ('UUT')                  $
                WAIT FOR, TIME 9 SEC                                $
              END, IF                                               $

              PERFORM, 'R422-SCOMPLCMD' ('UUT', C'T')               $

              CALCULATE, 'LOOP' = 'LOOP' + 1                        $

            END, WHILE                                              $
C           If problem with RS422                                   $
            IF, 'OP-CHOICE' EQ C'FAIL', THEN                        $

 041209       PERFORM, 'WRITE' ('ALL', C'')                         $
              IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN               $
                PERFORM, 'WRITE' ('ALL',
                     C'   0~' & 'G-UUT'('UUT').'NAME')              $
              END, IF                                               $
C             Ouput an error message                                $
              PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
              'G-422-TABL'('UUT').'NAME' &
               C' COMMAND EXECUTION.')                              $
```


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```
            END, IF                                                $

            OUTPUT, TEXT TO 'CRT',  FROM C''                        $
            OUTPUT, TEXT TO 'DISK', FROM C''                       $
C           Verify page 1                                          $
 041210     PERFORM, 'R422-PAGE1-COMP'
                     ('UUT', 'G-RX-DATA', 'G-NB-CAR')
                      RESULT ('HOURS', 'PAGE1', 'AUTOTEST')        $
C           Verify page1 display                                   $
            CALCULATE, 'OP-CHOICE' = 'PAGE1'                       $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'RS422 PAGE 1')         $
C           Verify autotests results                               $
            CALCULATE, 'OP-CHOICE' = 'AUTOTEST'                    $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'AUTOTESTS')            $

            OUTPUT, TEXT TO 'CRT',  FROM C''                       $
            OUTPUT, TEXT TO 'DISK', FROM C''                       $

 041211     IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN                $
              PERFORM, 'WRITE' ('ALL',
                       C'   C~' & 'G-UUT'('UUT').'NAME')           $
              PERFORM, 'WRITE' ('ALL',
                       COPY('CUR-STAT-NO', 1, 6) & C' ' &
                       COPY('CUR-MODULE',  8, 8) &
                       C' 5           HOUR COUNTER :   ' & 'HOURS')$

            ELSE IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN             $

              PERFORM, 'WRITE' ('ALL',
                       COPY('CUR-STAT-NO', 1, 6) & C' ' &
                       COPY('CUR-MODULE',  8, 8) &
                       C' 5           HOUR COUNTER :   ' & 'HOURS')$

            END, IF                                                $

            OUTPUT, TEXT TO 'CRT',  FROM C''                       $
            OUTPUT, TEXT TO 'DISK', FROM C''                       $

            CALCULATE, 'LOOP' = 0                                  $
            CALCULATE, 'OP-CHOICE' = C'FAIL'                       $

            WHILE, ('LOOP' NE 2) AND
                   ('OP-CHOICE' NE C'PASS'), THEN                  $

              IF, 'LOOP' NE 0, THEN                                $
                PERFORM, 'DCSU-DISCONNECT' ('UUT')                 $
                WAIT FOR, TIME 2 SEC                               $
                PERFORM, 'DCSU-CONNECT'    ('UUT')                 $
                WAIT FOR, TIME 9 SEC                               $
```


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```
              END, IF                                          $

              PERFORM, 'R422-SCOMPLCMD' ('UUT', C'S')          $

              CALCULATE, 'LOOP' = 'LOOP' + 1                   $

            END, WHILE                                         $
C           If problem with RS422                              $
            IF, 'OP-CHOICE' EQ C'FAIL', THEN                   $

 041215       PERFORM, 'WRITE' ('ALL', C'')                    $
              IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN          $
                PERFORM, 'WRITE' ('ALL',
                     C'   0~' & 'G-UUT'('UUT').'NAME')         $
              END, IF                                          $
C             Ouput an error message                           $
              PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
              'G-422-TABL'('UUT').'NAME' &
               C' COMMAND EXECUTION.')                         $

            END, IF                                            $

            IF, 'G-NB-CAR' NE 5838, THEN                       $
              CALCULATE, 'OP-CHOICE' = C'FAIL'                 $
            END, IF                                            $

            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'MEMORY FAULT')     $

 041217     IF,   ('G-CUSTOMER' EQ C'PRODUCTION'       )    OR
                ( ('G-CUSTOMER' EQ C'AIRLINES'         )    AND
                  ('START-EP'   EQ C'1: OPERATOR TESTS') ), THEN   $
C             Compare actual memory fault with memory fault
              of test 4.1                                      $
              PERFORM, 'R422-COMP-FILE'
                    ('UUT', 'G-RX-DATA', 'G-NB-CAR')           $

              PERFORM, 'COMP-OP-MEAS'
              ('CUR-STAT-NO', 'CUR-MODULE', C'COMP. MEM. FAULT')   $

            ELSE                                               $

              PERFORM, 'WRITE' ('ALL', C' ')                   $
              PERFORM, 'WRITE'( 'ALL',
              C'       ######################################')  $
              PERFORM, 'WRITE'('ALL',
              C'       #                                    #')  $
              PERFORM, 'WRITE'('ALL',
              C'       # WARNING : FAILURE CODE TEST IS ONLY #')  $
              PERFORM, 'WRITE'('ALL',
              C'       # -------   PERFORMED IN A COMPLETE   #')  $
              PERFORM, 'WRITE'('ALL',
              C'       #           TEST SESSION .           #')  $
              PERFORM, 'WRITE'('ALL',
```


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```
            C'       #                                  #')   $
            PERFORM, 'WRITE'('ALL',
            C'       ######################################')   $
            PERFORM, 'WRITE' ('ALL', C' ')                     $

          END, IF                                              $

        END, IF                                                $

      END, FOR                                                 $

 041219 END, 'ALTI-FIN-VERIF'                                  $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***              A L T I - V E R I F - 1 H 3 0               ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  This procedure is only used for scenario .                 |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 041241 DEFINE, 'ALTI-VERIF-1H30', GLOBAL, PROCEDURE           $

      DECLARE, VARIABLE, 'RESULT-TIME1' IS DECIMAL             $
      IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
          ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN         $

        PERFORM, 'TIME-READ-CLK1' RESULT ('RESULT-TIME1')      $

        CALCULATE, 'RESULT-TIME1' =
                   'RESULT-TIME1' - 'G-TIME1-MEM'              $

        IF, 'RESULT-TIME1' GT 5400, THEN                       $
          PERFORM, 'ALTI-STAB-END'                             $
        END, IF                                                $

      END, IF                                                  $

 041299 END, 'ALTI-VERIF-1H30'                                 $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
```


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```
 ******************************************************************
 ***                                                            ***
 ***                A L T I - I N I T - C L K 2                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This procedure is only used for scenario .                    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 041301 DEFINE, 'ALTI-INIT-CLK2', GLOBAL, PROCEDURE               $

        PERFORM, 'TIME-RESET-CLK2'                                $

        PERFORM, 'TIME-READ-CLK2' RESULT ('G-TIME2-INIT')         $

 041319 END, 'ALTI-INIT-CLK2'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                A L T I - W A I T - C L K 2                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This procedure is only used for scenario .                    |
 |                                                                |
 |  Param-in  : TIME  Time to wait                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 041331 DEFINE, 'ALTI-WAIT-CLK2', GLOBAL, PROCEDURE (
                   'TIME' IS DECIMAL
                )                                                 $

        DECLARE, VARIABLE, 'RESULT-TIME2' IS DECIMAL              $
        IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
            ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN          $

          PERFORM, 'TIME-READ-CLK2' RESULT ('RESULT-TIME2')       $

          CALCULATE, 'RESULT-TIME2' =
                     'RESULT-TIME2' - 'G-TIME2-INIT'              $

          IF, 'RESULT-TIME2' LT 'TIME', THEN                      $
```


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```
          WAIT FOR, TIME ('TIME' - 'RESULT-TIME2') SEC          $
        END, IF                                                 $

      END, IF                                                   $

 041335 END, 'ALTI-WAIT-CLK2'                                   $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                I N I T - T 1 A L T I 0 4                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  Initialization of SECTION                                   |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 042001 DEFINE, 'INIT-T1ALTI04', GLOBAL, PROCEDURE              $

      IF, 'POWER-ON' EQ FALSE, THEN                             $
        CALCULATE, 'POWER-ON' = TRUE                            $
        PERFORM, 'INIT-POWER-TIME'                              $
      END, IF                                                   $

      IF, ('G-REPAIR' EQ TRUE)   AND
          ('G-INIT'   EQ FALSE), THEN                           $
        PERFORM, 'INIT-PROG'                                    $
        CALCULATE, 'G-INIT' = TRUE                              $
      END, IF                                                   $

      END, 'INIT-T1ALTI04'                                      $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 E N D - T 1 A L T I 0 4                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  End of SECTION                                              |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
```


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```
 042051 DEFINE, 'END-T1ALTI04', GLOBAL, PROCEDURE                  $

        IF, ('G-REPAIR' EQ TRUE)  AND
            ('G-INIT'   EQ TRUE), THEN                             $
          PERFORM, 'RESET-UUT'                                     $
          CALCULATE, 'G-INIT' = FALSE                              $
        END, IF                                                    $

        END, 'END-T1ALTI04'                                        $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                     A L T I - T 0 1 A                        ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  This test checks the LEAKAGE ON THE STATIC AND PITOT PORTS of   |
 |  UUT .                                                           |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 042100 DEFINE, 'ALTI-T01A', GLOBAL, PROCEDURE                     $

        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                      $
          PERFORM, 'TEST-TITLE'
          (C'LEAKAGE ON THE STATIC AND PITOT PORTS')               $
        END, IF                                                    $

 042111 PERFORM, 'ALTI-LEAK'                                       $

 042199 END, 'ALTI-T01A'                                           $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                     A L T I - T 0 2 A                        ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  This test checks the Mach number display test .                 |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
```


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```
 042200 DEFINE, 'ALTI-T02A', GLOBAL, PROCEDURE                    $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                   $

        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                     $
          PERFORM, 'TEST-TITLE' (C'MACH NUMBER DISPLAY TEST')     $
        END, IF                                                   $
C       Test 4.6.1.2    :    PS = 0 Ft / PT = 360 kts
        ------------------------------------------------          $

        PERFORM, 'ALTI-MACH-INIT' (0)                             $

        IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE) OR
            ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN          $

 042205   FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN              $

            IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN           $

              IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN               $

                CALCULATE, 'CMM-STRING' = C'4.6.1.2'              $

                PERFORM, 'UTIL-DISPLAY'
                (C'VERIFY ON THE INSTRUMENT THAT :',
                 C'',
                 C' THE MACH NUMBER IS DISPLAYED AT THE LOWER'&
                 C' LEFT CORNER ',
                 C'',
                 C'',
                 C'', C'', C'', C'', C'', C'', C'',
                 C'RESULT', C'')                                  $

              ELSE IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN        $

                CALCULATE, 'CMM-STRING' =
                C'4.6.1.1~' & 'G-UUT'('UUT').'NAME'               $

                PERFORM, 'UTIL-DISPLAY'
                (C'VERIFY THAT ON INSTRUMENT ' &
                 'G-UUT'('UUT').'NAME' & C' :',
                 C'',
                 C' THE MACH NUMBER IS DISPLAYED AT THE LOWER'&
                 C' LEFT CORNER ',
                 C'',
                 C'',
                 C'',
                 C'', C'', C'', C'', C'', C'',
                 C'RESULT', C'')                                  $

              END, IF                                             $
```


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```
            PERFORM, 'COMP-OP-MEAS'
            ('CUR-STAT-NO', 'CUR-MODULE', C'TEST MACH')          $

          END, IF                                                $

        END, FOR                                                 $

        PERFORM, 'PRES-APP-MBAR' (1013, 20, 1013, 16.65)         $
        PERFORM, 'ALTI-DELAY' (60)                               $
        PERFORM, 'ALTI-ACTION3'                                  $
        WAIT FOR, TIME 10 SEC                                    $

 042210 FOR, 'UUT' = 'G-UUT9' THRU 'G-UUT12', THEN               $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

            PERFORM, 'UTIL-REMOVE' (FALSE, 'UUT')                $

          END, IF                                                $

        END, FOR                                                 $

        WAIT FOR, TIME 10 SEC                                    $

        PERFORM, 'ALTI-ACTION2'                                  $

      END, IF                                                    $

 042299 END, 'ALTI-T02A'                                         $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                    A L T I - T 0 3 A                         ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  This test memorized the HORIZON LINE CHECKING WHEN STABILIZED  |
 |  (init) of UUT .                                                |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                  $
 042300 DEFINE, 'ALTI-T03A', GLOBAL, PROCEDURE                   $

 042310 IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                    $
        PERFORM, 'TEST-TITLE'
        (C'HORIZON LINE CHECKING WHEN STABILIZED : START')       $
      END, IF                                                    $

 042312 PERFORM, 'ALTI-STAB-INIT'                                $

 042399 END, 'ALTI-T03A'                                         $
```


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```
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    A L T I - T 0 4 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This test checks the ACCURACY ALTITUDE TESTS of UUT .         |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 042400 DEFINE, 'ALTI-T04A', GLOBAL, PROCEDURE                    $

        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                     $
          PERFORM, 'TEST-TITLE' (C'ACCURACY ALTITUDE TESTS')      $
        END, IF                                                   $

        PERFORM, 'ALTI-ACTION1'                                   $
C       Test 4.6.2.1     :    PS = -2000 Ft / PT = 200 kts
        ------------------------------------------------          $
        PERFORM, 'ALTI-ALTI-INIT' (-2000)                         $
        PERFORM, 'ALTI-DELAY' (60)                                $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(85, 'UL'), 'G-TOLE-TABL'(85, 'LL'))      $
C       Test 4.6.2.1     :    PS = 0 Ft / PT = 200 kts
        ---------------------------------------------             $
        PERFORM, 'ALTI-ALTI-INIT' (0)                             $
        PERFORM, 'ALTI-DELAY' (60)                                $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(86, 'UL'), 'G-TOLE-TABL'(86, 'LL'))      $
C       Test 4.6.2.1     :    PS = 1000 Ft / PT = 200 kts
        -------------------------------------------------         $
 042412 PERFORM, 'ALTI-ALTI-INIT' (1000)                          $
        PERFORM, 'ALTI-DELAY' (50)                                $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(87, 'UL'), 'G-TOLE-TABL'(87, 'LL'))      $
C       Test 4.6.2.1     :    PS = 2000 Ft / PT = 200 kts
        -------------------------------------------------         $
        PERFORM, 'ALTI-ALTI-INIT' (2000)                          $
        PERFORM, 'ALTI-DELAY' (50)                                $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(88, 'UL'), 'G-TOLE-TABL'(88, 'LL'))      $
C       Test 4.6.2.1     :    PS = 6000 Ft / PT = 200 kts
        -------------------------------------------------         $
        PERFORM, 'ALTI-ALTI-INIT' (6000)                          $
        PERFORM, 'ALTI-DELAY' (90)                                $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(89, 'UL'), 'G-TOLE-TABL'(89, 'LL'))      $
```


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```
C       Test 4.6.2.1     :    PS = 10000 Ft / PT = 200 kts
        ------------------------------------------------         $
 042413 PERFORM, 'ALTI-ALTI-INIT' (10000)                         $
        PERFORM, 'ALTI-DELAY' (90)                                $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(90, 'UL'), 'G-TOLE-TABL'(90, 'LL'))      $
C       Test 4.6.2.1     :    PS = 20000 Ft / PT = 200 kts
        ------------------------------------------------         $
        PERFORM, 'ALTI-ALTI-INIT' (20000)                         $
        PERFORM, 'ALTI-DELAY' (160)                               $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(91, 'UL'), 'G-TOLE-TABL'(91, 'LL'))      $
C       Test 4.6.2.1     :    PS = 30000 Ft / PT = 200 kts
        ------------------------------------------------         $
        PERFORM, 'ALTI-ALTI-INIT' (30000)                         $
        PERFORM, 'ALTI-DELAY' (160)                               $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(92, 'UL'), 'G-TOLE-TABL'(92, 'LL'))      $
C       Test 4.6.2.1     :    PS = 40000 Ft / PT = 200 kts
        ------------------------------------------------         $
 042414 PERFORM, 'ALTI-ALTI-INIT' (40000)                         $
        PERFORM, 'ALTI-DELAY' (160)                               $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(93, 'UL'), 'G-TOLE-TABL'(93, 'LL'))      $
C       Test 4.6.2.1     :    PS = 50000 Ft / PT = 200 kts
        ------------------------------------------------         $
        PERFORM, 'ALTI-ALTI-INIT' (50000)                         $
        PERFORM, 'ALTI-DELAY' (260)                               $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(94, 'UL'), 'G-TOLE-TABL'(94, 'LL'))      $
C       Test 4.6.2.1     :    PS = 30000 Ft / PT = 200 kts
        ------------------------------------------------         $
        PERFORM, 'ALTI-ALTI-INIT' (30000)                         $
        PERFORM, 'ALTI-DELAY' (280)                               $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(95, 'UL'), 'G-TOLE-TABL'(95, 'LL'))      $
C       Test 4.6.2.1     :    PS = 10000 Ft / PT = 200 kts
        ------------------------------------------------         $
 042415 PERFORM, 'ALTI-ALTI-INIT' (10000)                         $
        PERFORM, 'ALTI-DELAY' (280)                               $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(96, 'UL'), 'G-TOLE-TABL'(96, 'LL'))      $
C       Test 4.6.2.1     :    PS = 2000 Ft / PT = 200 kts
        ------------------------------------------------         $
        PERFORM, 'ALTI-ALTI-INIT' (2000)                          $
        PERFORM, 'ALTI-DELAY' (140)                               $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(97, 'UL'), 'G-TOLE-TABL'(97, 'LL'))      $
C       Test 4.6.2.1     :    PS = 0 Ft / PT = 200 kts
        ---------------------------------------------            $
        PERFORM, 'ALTI-ALTI-INIT' (0)                             $
        PERFORM, 'ALTI-DELAY' (70)                                $
        PERFORM, 'ALTI-ALTI-END'
          ('G-TOLE-TABL'(98, 'UL'), 'G-TOLE-TABL'(98, 'LL'))      $
```


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```
 042499 END, 'ALTI-T04A'                                          $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    A L T I - T 0 5 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  This test checks the ACCURACY ANEMOMETER TESTS of UUT .        |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                  $
 042500 DEFINE, 'ALTI-T05A', GLOBAL, PROCEDURE                    $

        IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                     $
          PERFORM, 'TEST-TITLE' (C'ACCURACY ANEMOMETER TESTS')    $
        END, IF                                                   $
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 40 kts
        ------------------------------------------------          $
        PERFORM, 'ALTI-ANEMO-INIT' (40)                           $
        PERFORM, 'ALTI-DELAY' (150)                               $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(99, 'UL'), 'G-TOLE-TABL'(99, 'LL'))      $
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 70 kts
        ------------------------------------------------          $
 042516 PERFORM, 'ALTI-ANEMO-INIT' (70)                           $
        PERFORM, 'ALTI-DELAY' (40)                                $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(100, 'UL'), 'G-TOLE-TABL'(100, 'LL'))    $
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 100 kts
        ------------------------------------------------          $
        PERFORM, 'ALTI-ANEMO-INIT' (100)                          $
        PERFORM, 'ALTI-DELAY' (40)                                $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(101, 'UL'), 'G-TOLE-TABL'(101, 'LL'))    $
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 140 kts
        ------------------------------------------------          $
        PERFORM, 'ALTI-ANEMO-INIT' (140)                          $
        PERFORM, 'ALTI-DELAY' (40)                                $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(102, 'UL'), 'G-TOLE-TABL'(102, 'LL'))    $
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 180 kts
        ------------------------------------------------          $
        PERFORM, 'ALTI-ANEMO-INIT' (180)                          $
        PERFORM, 'ALTI-DELAY' (40)                                $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(103, 'UL'), 'G-TOLE-TABL'(103, 'LL'))    $
```


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```
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 200 kts
        ------------------------------------------------          $
 042517 PERFORM, 'ALTI-ANEMO-INIT' (200)                          $
        PERFORM, 'ALTI-DELAY' (40)                                $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(104, 'UL'), 'G-TOLE-TABL'(104, 'LL'))     $
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 300 kts
        ------------------------------------------------          $
        PERFORM, 'ALTI-ANEMO-INIT' (300)                          $
        PERFORM, 'ALTI-DELAY' (60)                                $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(105, 'UL'), 'G-TOLE-TABL'(105, 'LL'))     $
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 350 kts
        ------------------------------------------------          $
        PERFORM, 'ALTI-ANEMO-INIT' (350)                          $
        PERFORM, 'ALTI-DELAY' (50)                                $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(106, 'UL'), 'G-TOLE-TABL'(106, 'LL'))     $
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 400 kts
        ------------------------------------------------          $
        PERFORM, 'ALTI-ANEMO-INIT' (400)                          $
        PERFORM, 'ALTI-DELAY' (50)                                $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(107, 'UL'), 'G-TOLE-TABL'(107, 'LL'))     $
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 520 kts
        ------------------------------------------------          $
 042518 PERFORM, 'ALTI-ANEMO-INIT' (520)                          $
        PERFORM, 'ALTI-DELAY' (160)                               $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(108, 'UL'), 'G-TOLE-TABL'(108, 'LL'))     $
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 300 kts
        ------------------------------------------------          $
        PERFORM, 'ALTI-ANEMO-INIT' (300)                          $
        PERFORM, 'ALTI-DELAY' (90)                                $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(109, 'UL'), 'G-TOLE-TABL'(109, 'LL'))     $
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 140 kts
        ------------------------------------------------          $
        PERFORM, 'ALTI-ANEMO-INIT' (140)                          $
        PERFORM, 'ALTI-DELAY' (70)                                $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(110, 'UL'), 'G-TOLE-TABL'(110, 'LL'))     $
C       Test 4.6.2.2     :    PS = 10000 Ft / PT = 40 kts
        ------------------------------------------------          $
        PERFORM, 'ALTI-ANEMO-INIT' (40)                           $
        PERFORM, 'ALTI-DELAY' (60)                                $
        PERFORM, 'ALTI-ANEMO-END'
          ('G-TOLE-TABL'(111, 'UL'), 'G-TOLE-TABL'(111, 'LL'))     $

        PERFORM, 'ALTI-ACTION2'                                   $
        PERFORM, 'ALTI-DELAY' (130)                               $
        PERFORM, 'ALTI-ACTION3'                                   $

 042599 END, 'ALTI-T05A'                                          $
```


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```
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    A L T I - T 0 6 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This test checks the HORIZON LINE CHECKING WHEN STABILIZED (end)|
 |  of UUT .                                                      |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 042600 DEFINE, 'ALTI-T06A', GLOBAL, PROCEDURE                    $

 042620 IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                     $
          PERFORM, 'TEST-TITLE'
          (C'HORIZON LINE CHECKING WHEN STABILIZED : END')        $
        END, IF                                                   $

        PERFORM, 'ALTI-WAIT-1H30'                                 $
        PERFORM, 'ALTI-STAB-END'                                  $

 042699 END, 'ALTI-T06A'                                          $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    A L T I - T 0 7 A                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  This test checks the FINAL OPERATIONAL VERIFICATION of UUT .  |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 042700 DEFINE, 'ALTI-T07A', GLOBAL, PROCEDURE                    $

 042730 IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                     $
          PERFORM, 'TEST-TITLE'
          (C'FINAL OPERATIONAL VERIFICATION')                     $
        END, IF                                                   $

        PERFORM, 'ALTI-FIN-VERIF'                                 $
```

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```
 042799 END, 'ALTI-T07A'                                          $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                E X E C - T 1 A L T I 0 4                     ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Run tests of chapter                                           |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 999905 DEFINE, 'EXEC-T1ALTI04', GLOBAL, PROCEDURE                 $

 999910 PERFORM, 'INIT-T1ALTI04'                                   $

        PERFORM, 'ALTI-T01A'                                       $

        PERFORM, 'ALTI-T02A'                                       $

        PERFORM, 'ALTI-T03A'                                       $

        PERFORM, 'ALTI-T04A'                                       $

        PERFORM, 'ALTI-T05A'                                       $

        PERFORM, 'ALTI-T06A'                                       $

        PERFORM, 'ALTI-T07A'                                       $

 999990 PERFORM, 'END-T1ALTI04'                                    $

        END, 'EXEC-T1ALTI04'                                       $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ********************************************************************
 *****                                                          *****
 *****                                                          *****
 *****              E N D    O F    M O D U L E                 *****
 *****                                                          *****
 *****                                                          *****
 ********************************************************************
 ********************************************************************
```


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```
*****************************************************************
                                                               $
999999 TERMINATE, ATLAS MODULE 'TH-ISF-T1ALTI04'               $
```

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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-NKUTIL'                          $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******      I N T E R - S E C T I O N   M O D U L E         ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                  $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000105   DECLARE TYPE                                     *
 *      000205   DECLARE CONSTANT                                 *
 *      000305   DECLARE EXTERNAL VARIABLES ( LIBRARY )           *
 *      000405   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *      000505   DECLARE MODULE SPECIFIC VARIABLES                *
 *                                                                *
 *      001005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )  *
 *      002005   DEFINE EXTERNAL PROCEDURES ( PROGRAMME )         *
 *                                                                *
 *      990005   DEFINE GLOBAL PROCEDURES                         *
 *                                                                *
 *      999999   TERMINATE ATLAS MODULE                           *
```


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```
 *                                                                  *
 ********************************************************************
C                                                                    $
C
 ********************************************************************
 ********************************************************************
 **                                                                **
 **                    D  E  C  L  A  R  E                         **
 **                                                                **
 ********************************************************************
 ********************************************************************
C                                                                    $
C
 ********************************************************************
 **                                                                **
 **    D E C L A R A T I O N     O F      C O N S T A N T S        **
 **                                                                **
 ********************************************************************
                                                                     $
 000105 DECLARE, CONSTANT, 'INACTIVE' IS C'0'                        $
 000107 DECLARE, CONSTANT, 'DISCONNECT' IS C'D'                      $
 000109 DECLARE, CONSTANT, 'ACTIVE' IS C'1'                          $
C
 ********************************************************************
 **                                                                **
 **    D E C L A R A T I O N     O F      T  Y  P  E  S            **
 **                                                                **
 ********************************************************************
                                                                     $
 000205 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                                 $
C       Mnemonic of all UUT
 -------------------------------------------------------------------$

 000207 DECLARE, TYPE, 'T-FRAME' IS ENUMERATION(
                   'FR-173-174-EQ-0', 'FR-173-174-NE-0',
                   'FR-312-320-EQ-0', 'FR-312-320-NE-0', 'NO-FRAME'
                   )                                                 $
C       Indicator to know the frame to send
 -------------------------------------------------------------------$

 000209 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                      $
C       State of device
 -------------------------------------------------------------------$

 000211 DECLARE, TYPE, 'T-G429-MNEMO' IS ENUMERATION(
                   'BUS1', 'BUS2', 'BUS3'
                   )                                                 $
C       Mnemonic of arinc generation pins
 -------------------------------------------------------------------$
```


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```
 000213 DECLARE, TYPE, 'T-DISCIN-MNEMO' IS ENUMERATION(
                    'DISC-X', 'DISC-h', 'DISC-a', 'DISC-b', 'DISC-c',
                    'DISC-d', 'DISC-e', 'DISC-k', 'DISC-m', 'DISC-n',
                    'DISC-p', 'DISC-q', 'DISC-r', 'DISC-s', 'DISC-f',
                    'DISC-Y','DISC-Z')                              $
C       Mnemonic of discrete inputs class
 ----------------------------------------------------------------$

 000215 DECLARE, TYPE, 'T-PRES-MNEMO' IS ENUMERATION(
                    'PRES-PS', 'PRES-PT'
                    )                                               $
C       Mnemonic of pressure inputs class
 ----------------------------------------------------------------$

 000217 DECLARE, TYPE, 'TPSDIR-REC' IS RECORD OF [
                    'PATHNAME' IS STRING(64) OF CHAR ;
                    'TPSNAME' IS STRING(15) OF CHAR ;
                    'TUAPATH' IS STRING(64) OF CHAR ;
                    'SELECTED-PN' IS STRING(15) OF CHAR ;
                    'ARRAY-PN' IS ARRAY(1 THRU 6) OF
                        STRING(15) OF CHAR
                    ]                                               $
 000219 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION(
                    'ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN'
                    )                                               $
C
 ****************************************************************
 **                                                            **
 **              D E C L A R A T I O N     O F                 **
 **                                                            **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C       **
 **                                                            **
 **                    V A R I A B L E S                       **
 **                                                            **
 ****************************************************************
                                                                 $
 000305 DECLARE, EXTERNAL, VARIABLE, 'POWER-ON' IS BOOLEAN       $
 000307 DECLARE, EXTERNAL, VARIABLE, 'OP-CHOICE' IS STRING(12) OF
               CHAR                                              $
 000309 DECLARE, EXTERNAL, VARIABLE, 'TPSDIR' IS 'TPSDIR-REC'    $
 000311 DECLARE, EXTERNAL, VARIABLE, 'CRT' IS FILE OF TEXT       $
 000313 DECLARE, EXTERNAL, VARIABLE, 'DISK' IS FILE OF TEXT      $
 000315 DECLARE, EXTERNAL, VARIABLE, 'CMM-STRING' IS STRING(12) OF
               CHAR                                              $
 000323 DECLARE, EXTERNAL, VARIABLE, 'START-EP' IS STRING(80)
                                                       OF CHAR   $
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F   E X T E R N A L      **
 **                                                            **
 **     P R O G R A M   S P E C I F I C   V A R I A B L E S    **
 **                                                            **
 ****************************************************************
```


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```
                                                                    $
 000405 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
                       'EDIT-RESULT' IS BOOLEAN ;
                       'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                       'PART-NUMB' IS STRING(20) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                            J8-G, J9-G, J10-G, J11-G, J12-G
                           ) ;
                       'LO' IS CONNECTION(
                           J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                            J8-t, J9-t, J10-t, J11-t, J12-t
                           )
                       ]                                            $
C       Informations about all UUT
 ------------------------------------------------------------------$

 000407 DECLARE, EXTERNAL, VARIABLE, 'G-DISCOUT-STATE' IS
               ARRAY('UUT1' THRU 'UUT12') OF
                   'T-SIGNAL-STATE'                                 $
C       General informations about discrete output UUT signal
 ------------------------------------------------------------------$

 000409 DECLARE, EXTERNAL, VARIABLE, 'G-G429-TABL' IS ARRAY('UUT1'
               THRU 'UUT12','BUS1' THRU 'BUS3') OF
                   RECORD OF [
                       'NAME' IS STRING(14) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-A, J2-A, J3-A, J4-A, J5-A, J6-A, J7-A,
                            J8-A, J9-A, J10-A, J11-A, J12-A, J1-V,
                           J2-V, J3-V, J4-V, J5-V, J6-V, J7-V, J8-V,
                            J9-V, J10-V, J11-V, J12-V, J1-T, J2-T,
                           J3-T, J4-T, J5-T, J6-T, J7-T, J8-T, J9-T,
                            J10-T, J11-T, J12-T
                           ) ;
                       'COMPL' IS CONNECTION(
                           J1-W, J2-W, J3-W, J4-W, J5-W, J6-W, J7-W,
                            J8-W, J9-W, J10-W, J11-W, J12-W, J1-U,
                           J2-U, J3-U, J4-U, J5-U, J6-U, J7-U, J8-U,
                            J9-U, J10-U, J11-U, J12-U, J1-S, J2-S,
                           J3-S, J4-S, J5-S, J6-S, J7-S, J8-S, J9-S,
                            J10-S, J11-S, J12-S
                           ) ;
                       'STATE' IS 'T-SIGNAL-STATE' ;
                       'DEVICE' IS ENUMERATION(
                           'BUS1-P1', 'BUS2-P1', 'BUS3-P1',
                           'BUS1-P2-P3', 'BUS2-3-P2-P3'
                           )
                       ]                                            $
C       General informations about each arinc generation UUT signal
```


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 ----------------------------------------------------------------$

 000411 DECLARE, EXTERNAL, VARIABLE, 'G-ALIM28-TABL' IS ARRAY('UUT1'
                THRU 'UUT12') OF
                    RECORD OF [
                        'NAME' IS STRING(12) OF CHAR ;
                        'STATE' IS 'T-SIGNAL-STATE' ;
                        'HI' IS CONNECTION(
                            J1-D, J2-D, J3-D, J4-D, J5-D, J6-D, J7-D,
                             J8-D, J9-D, J10-D, J11-D, J12-D
                            ) ;
                        'LO' IS CONNECTION(
                            J1-E, J2-E, J3-E, J4-E, J5-E, J6-E, J7-E,
                             J8-E, J9-E, J10-E, J11-E, J12-E
                            )
                        ]                                           $
C       General informations about alim-28V class signals
 ----------------------------------------------------------------$

 000413 DECLARE, EXTERNAL, VARIABLE, 'G-422-TABL' IS ARRAY('UUT1'
                THRU 'UUT12') OF
                    RECORD OF [
                        'NAME' IS STRING(12) OF CHAR ;
                        'HI-SEND' IS CONNECTION(
                            J1-L, J2-L, J3-L, J4-L, J5-L, J6-L, J7-L,
                             J8-L, J9-L, J10-L, J11-L, J12-L
                            ) ;
                        'LO-SEND' IS CONNECTION(
                            J1-K, J2-K, J3-K, J4-K, J5-K, J6-K, J7-K,
                             J8-K, J9-K, J10-K, J11-K, J12-K
                            ) ;
                        'HI-RCVE' IS CONNECTION(
                            J1-J, J2-J, J3-J, J4-J, J5-J, J6-J, J7-J,
                             J8-J, J9-J, J10-J, J11-J, J12-J
                            ) ;
                        'LO-RCVE' IS CONNECTION(
                            J1-H, J2-H, J3-H, J4-H, J5-H, J6-H, J7-H,
                             J8-H, J9-H, J10-H, J11-H, J12-H
                            ) ;
                        'STATE' IS 'T-SIGNAL-STATE' ;
                        'DEVICE' IS ENUMERATION(
                            'R422-A', 'R422-B'
                            )
                        ]                                           $
C       General informations about each RS422 UUT signal
 ----------------------------------------------------------------$

 000415 DECLARE, EXTERNAL, VARIABLE, 'G-DISCIN-TABL' IS ARRAY('UUT1'
                THRU 'UUT12','DISC-X' THRU 'DISC-Z') OF
                    RECORD OF [
                        'NAME' IS STRING(12) OF CHAR ;
                        'STATE' IS 'T-SIGNAL-STATE' ;
                        'GROUND' IS 'T-SIGNAL-STATE' ;
                        'HI' IS CONNECTION(
```


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```
                        J1-X, J1-h, J1-a, J1-b, J1-c, J1-d, J1-e,
                         J1-k, J1-m, J1-n, J1-p, J1-q, J1-r, J1-s,
                         J1-f, J1-Y, J1-Z,
                        J2-X, J2-h, J2-a, J2-b, J2-c, J2-d, J2-e,
                         J2-k, J2-m, J2-n, J2-p, J2-q, J2-r, J2-s,
                         J2-f, J2-Y, J2-Z,
                        J3-X, J3-h, J3-a, J3-b, J3-c, J3-d, J3-e,
                         J3-k, J3-m, J3-n, J3-p, J3-q, J3-r, J3-s,
                         J3-f, J3-Y, J3-Z,
                        J4-X, J4-h, J4-a, J4-b, J4-c, J4-d, J4-e,
                         J4-k, J4-m, J4-n, J4-p, J4-q, J4-r, J4-s,
                         J4-f, J4-Y, J4-Z,
                        J5-X, J5-h, J5-a, J5-b, J5-c, J5-d, J5-e,
                         J5-k, J5-m, J5-n, J5-p, J5-q, J5-r, J5-s,
                         J5-f, J5-Y, J5-Z,
                        J6-X, J6-h, J6-a, J6-b, J6-c, J6-d, J6-e,
                         J6-k, J6-m, J6-n, J6-p, J6-q, J6-r, J6-s,
                         J6-f, J6-Y, J6-Z,
                        J7-X, J7-h, J7-a, J7-b, J7-c, J7-d, J7-e,
                         J7-k, J7-m, J7-n, J7-p, J7-q, J7-r, J7-s,
                         J7-f, J7-Y, J7-Z,
                        J8-X, J8-h, J8-a, J8-b, J8-c, J8-d, J8-e,
                         J8-k, J8-m, J8-n, J8-p, J8-q, J8-r, J8-s,
                         J8-f, J8-Y, J8-Z,
                        J9-X, J9-h, J9-a, J9-b, J9-c, J9-d, J9-e,
                         J9-k, J9-m, J9-n, J9-p, J9-q, J9-r, J9-s,
                         J9-f, J9-Y, J9-Z,
                        J10-X, J10-h, J10-a, J10-b, J10-c, J10-d,
                         J10-e, J10-k, J10-m, J10-n, J10-p, J10-q,
                         J10-r, J10-s, J10-f, J10-Y, J10-Z,
                        J11-X, J11-h, J11-a, J11-b, J11-c, J11-d,
                         J11-e, J11-k, J11-m, J11-n, J11-p, J11-q,
                         J11-r, J11-s, J11-f, J11-Y, J11-Z,
                        J12-X, J12-h, J12-a, J12-b, J12-c, J12-d,
                         J12-e, J12-k, J12-m, J12-n, J12-p, J12-q,
                         J12-r, J12-s, J12-f, J12-Y, J12-Z )
                    ]                                           $
C       General informations about discrete inputs class signals
 ----------------------------------------------------------------$

 000417 DECLARE, EXTERNAL, VARIABLE, 'G-ALIM5-TABL' IS ARRAY('UUT1'
               THRU 'UUT4') OF
                   RECORD OF [
                       'NAME' IS STRING(12) OF CHAR ;
                       'STATE' IS 'T-SIGNAL-STATE' ;
                       'HI' IS CONNECTION(
                           J1-j, J2-j, J3-j, J4-j
                           ) ;
                       'LO' IS CONNECTION(
                           J1-i, J2-i, J3-i, J4-i
                           )
                       ]                                        $
C       General informations about alim-5V class signals
 ----------------------------------------------------------------$
```


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```
 000419 DECLARE, EXTERNAL, VARIABLE, 'G-PRES-TABL' IS ARRAY('UUT9'
               THRU 'UUT12','PRES-PS' THRU 'PRES-PT') OF
                   RECORD OF [
                       'NAME' IS STRING(12) OF CHAR ;
                       'STATE' IS 'T-SIGNAL-STATE' ;
                       'HI' IS CONNECTION(
                           P15-3, P15-2, P15-1, P15-20, P15-17,
                           P15-18, P15-19, P15-37
                           )
                       ]                                          $
C       General informations about pressure inputs class
 -----------------------------------------------------------------$

 000421 DECLARE, EXTERNAL, VARIABLE, 'G-ALIM28-STATE' IS
               'T-SIGNAL-STATE'                                   $
C       State of 28VDC-SUP device
 -----------------------------------------------------------------$

 000423 DECLARE, EXTERNAL, VARIABLE, 'G-ALIM5-STATE' IS
               'T-SIGNAL-STATE'                                   $
C       State of 5VAC-SUP device
 -----------------------------------------------------------------$

 000427 DECLARE, EXTERNAL, VARIABLE, 'G-BUS1P1-STATE' IS
               'T-SIGNAL-STATE'                                   $
C       State of G-BUS1-P1 device
 -----------------------------------------------------------------$

 000429 DECLARE, EXTERNAL, VARIABLE, 'G-BUS1P2P3-STATE' IS
               'T-SIGNAL-STATE'                                   $
C       State of G-BUS1-P2-P3 device
 -----------------------------------------------------------------$

 000431 DECLARE, EXTERNAL, VARIABLE, 'G-BUS2P1-STATE' IS
               'T-SIGNAL-STATE'                                   $
C       State of G-BUS2-P1 device
 -----------------------------------------------------------------$

 000433 DECLARE, EXTERNAL, VARIABLE, 'G-BUS3P1-STATE' IS
               'T-SIGNAL-STATE'                                   $
C       State of G-BUS3-P1 device
 -----------------------------------------------------------------$

 000435 DECLARE, EXTERNAL, VARIABLE, 'G-BUS2-3-P2P3-STATE' IS
               'T-SIGNAL-STATE'                                   $
C       State of G-BUS2-3-P2-P3 device
 -----------------------------------------------------------------$

 000437 DECLARE, EXTERNAL, VARIABLE, 'G-PHOTO-STATE' IS
               'T-SIGNAL-STATE'                                   $
C       State of RS232-PHOTO device
 -----------------------------------------------------------------$
```

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```
 000439 DECLARE, EXTERNAL, VARIABLE, 'G-TABLE-STATE' IS
                'T-SIGNAL-STATE'                                    $
C       State of RS232-TABLE device
 ------------------------------------------------------------------$

 000441 DECLARE, EXTERNAL, VARIABLE, 'G-OLD-BUS1P1-FR' IS 'T-FRAME'  $
C       Memorisation of state of BUS1 frame on post 1
 ------------------------------------------------------------------$

 000443 DECLARE, EXTERNAL, VARIABLE, 'G-OLD-BUS2P1-FR' IS 'T-FRAME'  $
C       Memorisation of state of BUS2 frame on post 1
 ------------------------------------------------------------------$

 000445 DECLARE, EXTERNAL, VARIABLE, 'G-OLD-BUS3P1-FR' IS 'T-FRAME'  $
C       Memorisation of state of BUS3 frame on post 1
 ------------------------------------------------------------------$

 000447 DECLARE, EXTERNAL, VARIABLE, 'G-GROUND-STATE' IS
                'T-SIGNAL-STATE'                                    $
C       State of GROUND device
 ------------------------------------------------------------------$

 000449 DECLARE, EXTERNAL, VARIABLE, 'G-PSMBAR-STATE' IS
                'T-SIGNAL-STATE'                                    $
C       State of GENE-PS-MBAR device
 ------------------------------------------------------------------$

 000451 DECLARE, EXTERNAL, VARIABLE, 'G-PTMBAR-STATE' IS
                'T-SIGNAL-STATE'                                    $
C       State of GENE-PT-MBAR device
 ------------------------------------------------------------------$

 000453 DECLARE, EXTERNAL, VARIABLE, 'G-PSALT-STATE' IS
                'T-SIGNAL-STATE'                                    $
C       State of GENE-PS-ALT device
 ------------------------------------------------------------------$

 000455 DECLARE, EXTERNAL, VARIABLE, 'G-PTIAS-STATE' IS
                'T-SIGNAL-STATE'                                    $
C       State of GENE-PT-IAS device
 ------------------------------------------------------------------$

 000457 DECLARE, EXTERNAL, VARIABLE, 'G-LIGHT-P-STATE' IS
                'T-SIGNAL-STATE'                                    $
C       State of LIGHNING-POS device
 ------------------------------------------------------------------$

 000459 DECLARE, EXTERNAL, VARIABLE, 'G-LIGHT-N-STATE' IS
                'T-SIGNAL-STATE'                                    $
C       State of LIGHNING-NEG device
 ------------------------------------------------------------------$

 000461 DECLARE, EXTERNAL, VARIABLE, 'G-OLD-RES' IS DECIMAL          $
C       Memorize old value of resistor applied with LIGHTNING device
```


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```
 ----------------------------------------------------------------$

 000463 DECLARE, EXTERNAL, VARIABLE, 'G-OLD-PULSE' IS DECIMAL      $
C       Memorize old value of pulse applied with LIGHTNING device
 ----------------------------------------------------------------$

 000465 DECLARE, EXTERNAL, VARIABLE, 'G-PRESSURE' IS BOOLEAN       $
C       Indicates if the pressure has been applied
 ----------------------------------------------------------------$

 000467 DECLARE, EXTERNAL, VARIABLE, 'G-PRES-PS-VAL' IS DECIMAL    $
C       Memorization of PS pressure to apply
 ----------------------------------------------------------------$

 000469 DECLARE, EXTERNAL, VARIABLE, 'G-PRES-PT-VAL' IS DECIMAL    $
C       Memorization of PT pressure to apply
 ----------------------------------------------------------------$

 000471 DECLARE, EXTERNAL, VARIABLE, 'G-PHOTO-OK' IS BOOLEAN       $
C       Indicates if a problem has occured
 ----------------------------------------------------------------$

 000473 DECLARE, EXTERNAL, VARIABLE, 'G-TABLE-OK' IS BOOLEAN       $
C       Indicates if a problem has occured
 ----------------------------------------------------------------$

 000475 DECLARE, EXTERNAL, VARIABLE, 'G-INSIDE-MBAR' IS BOOLEAN    $
C       Indicates if the program is in 'PRES-APP-MBAR' subroutine
 ----------------------------------------------------------------$

 000477 DECLARE, EXTERNAL, VARIABLE, 'G-INSIDE-ALTIAS' IS BOOLEAN  $
C       Indicates if the program is in 'PRES-APP-ALTIAS' subroutine
 ----------------------------------------------------------------$

 000479 DECLARE, EXTERNAL, VARIABLE, 'G-DISPLAY' IS BOOLEAN        $
C       Indicates if message is displayed on CRT and DISK
 ----------------------------------------------------------------$

 000481 DECLARE, EXTERNAL, VARIABLE, 'G-CUSTOMER' IS STRING(80) OF
                CHAR                                               $
C       Indicates the choice of test :
C       airlines or production
 ----------------------------------------------------------------$

 000482 DECLARE, EXTERNAL, VARIABLE, 'G-TEST' IS STRING(10) OF CHAR $
C       Indicates the choice of test : manual or automatic (for lamps,
C       photometer and table)
 ----------------------------------------------------------------$

 000483 DECLARE, EXTERNAL, VARIABLE, 'G-RX-DATA' IS ARRAY(1 THRU
                10000) OF
                    STRING(8) OF BIT                               $
C       Contains the frame received
 ----------------------------------------------------------------$
```


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```
 000485 DECLARE, EXTERNAL, VARIABLE, 'G-NB-CAR' IS INTEGER         $
C       Contains the number of words received.
 ------------------------------------------------------------------$

 000487 DECLARE, EXTERNAL, VARIABLE, 'G-VALUE' IS DECIMAL          $
C       Returned value by UTIL-DISPLAY : luminosity, weight...
 ------------------------------------------------------------------$

 000488 DECLARE, EXTERNAL, VARIABLE, 'G-UUT1' IS 'T-ALL-UUT'       $
C       Value of 'UUT1'
 ------------------------------------------------------------------$

 000489 DECLARE, EXTERNAL, VARIABLE, 'G-UUT2' IS 'T-ALL-UUT'       $
C       Value of 'UUT2'
 ------------------------------------------------------------------$

 000490 DECLARE, EXTERNAL, VARIABLE, 'G-UUT3' IS 'T-ALL-UUT'       $
C       Value of 'UUT3'
 ------------------------------------------------------------------$

 000491 DECLARE, EXTERNAL, VARIABLE, 'G-UUT4' IS 'T-ALL-UUT'       $
C       Value of 'UUT4'
 ------------------------------------------------------------------$

 000492 DECLARE, EXTERNAL, VARIABLE, 'G-UUT5' IS 'T-ALL-UUT'       $
C       Value of 'UUT5'
 ------------------------------------------------------------------$

 000493 DECLARE, EXTERNAL, VARIABLE, 'G-UUT6' IS 'T-ALL-UUT'       $
C       Value of 'UUT6'
 ------------------------------------------------------------------$

 000494 DECLARE, EXTERNAL, VARIABLE, 'G-UUT7' IS 'T-ALL-UUT'       $
C       Value of 'UUT7'
 ------------------------------------------------------------------$

 000495 DECLARE, EXTERNAL, VARIABLE, 'G-UUT8' IS 'T-ALL-UUT'       $
C       Value of 'UUT8'
 ------------------------------------------------------------------$
C
 ******************************************************************
 **                                                              **
 **       D E C L A R A T I O N     O F    L O C A L             **
 **                                                              **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S        **
 **                                                              **
 ******************************************************************
                                                                  $

 000507 DECLARE, VARIABLE, 'S-TAB' IS ARRAY(1 THRU 10000) OF
                   STRING(8) OF BIT                               $
 000509 DECLARE, VARIABLE, 'S-INDEX' IS INTEGER                   $
 000511 DECLARE, VARIABLE, 'S-NOGO' IS BOOLEAN                    $
```


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```
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y     E X T E R N A L                  **
 **                                                              **
 **          E V E N T   B A S E D   E V E N T                   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y    E X T E R N A L                   **
 **                                                              **
 **           E V E N T    I N D I C A T O R                     **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y    E V E N T                         **
 **                                                              **
 **           B A S E D    E V E N T                             **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     I D E N T F Y   E V E N T   I N D I C A T O R            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                  D E F I N E                                 **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S        **
 **                                                              **
 **            S T A N D A R D  L I B R A R Y                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
```


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```
 ******************************************************************
 ***                                                            ***
 ***              I N I T - P O W E R - T I M E                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001005 DEFINE, 'INIT-POWER-TIME', EXTERNAL, PROCEDURE            $

        END, 'INIT-POWER-TIME'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                        W R I T E                           ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : .PERIPH                                           |
 |                                                                |
 |              .MESSAGE                                          |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001007 DEFINE, 'WRITE', EXTERNAL, PROCEDURE (
                   '.PERIPH' IS 'PERIPH-DEVICES',
                   '.MESSAGE' IS STRING(80) OF CHAR
               )                                                  $

        END, 'WRITE'                                              $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***              H A L T - P O W E R - T I M E                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************
```


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```
 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |-------------------------------------------------------------|
                                                              $
 001009 DEFINE, 'HALT-POWER-TIME', EXTERNAL, PROCEDURE        $

        END, 'HALT-POWER-TIME'                                $
C|                                                             |
 |-------------------------------------------------------------|
                                                              $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                 I M A G E - C R E A T E                  ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |  Param-in  : TITLE                                          |
 |                                                             |
 |              FILE-NAME                                      |
 |                                                             |
 |  Param-out : GF-STATUS                                      |
 |                                                             |
 |              IMAGE-ID                                       |
 |                                                             |
 |-------------------------------------------------------------|
                                                              $
 001011 DEFINE, 'IMAGE-CREATE', EXTERNAL, PROCEDURE (
                    'TITLE' IS STRING(40) OF CHAR,
                    'FILE-NAME' IS STRING(80) OF CHAR
                )
                RESULT (
                    'GF-STATUS' IS INTEGER,
                    'IMAGE-ID' IS INTEGER
                )                                             $

        END, 'IMAGE-CREATE'                                   $
C|                                                             |
 |-------------------------------------------------------------|
                                                              $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                 D I S P - T P S - E R R                  ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************
```


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```
 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |  Param-in  : .MESSAGE                                       |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 001013 DEFINE, 'DISP-TPS-ERR', EXTERNAL, PROCEDURE (
                    '.MESSAGE' IS STRING(65) OF CHAR
                )                                              $

        END, 'DISP-TPS-ERR'                                    $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                    I M A G E - S H O W                   ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |  Param-in  : IMAGE-ID                                       |
 |                                                             |
 |              OK                                             |
 |                                                             |
 |              MESSAGE                                        |
 |                                                             |
 |              X                                              |
 |                                                             |
 |              Y                                              |
 |                                                             |
 |              HEIGHT                                         |
 |                                                             |
 |              WIDTH                                          |
 |                                                             |
 |  Param-out : GF-STATUS                                      |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 001015 DEFINE, 'IMAGE-SHOW', EXTERNAL, PROCEDURE (
                    'IMAGE-ID' IS INTEGER,
                    'OK' IS BOOLEAN,
                    'MESSAGE' IS STRING(256) OF CHAR,
                    'X' IS INTEGER,
                    'Y' IS INTEGER,
                    'HEIGHT' IS INTEGER,
                    'WIDTH' IS INTEGER
```


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```
                )
                RESULT (
                    'GF-STATUS' IS INTEGER
                )                                                   $

        END, 'IMAGE-SHOW'                                           $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***              S X - S C R O L W - C R E A T E                 ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |                                                                  |
 |                                                                  |
 |  Param-in  : WINDOW-TITLE                                        |
 |                                                                  |
 |  Param-out : SX-STATUS                                           |
 |                                                                  |
 |              WINDOW-HANDLE                                       |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 001017 DEFINE, 'SX-SCROLW-CREATE', EXTERNAL, PROCEDURE (
                    'WINDOW-TITLE' IS STRING(20) OF CHAR
                )
                RESULT (
                    'SX-STATUS' IS INTEGER,
                    'WINDOW-HANDLE' IS INTEGER
                )                                                   $

        END, 'SX-SCROLW-CREATE'                                     $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                S X - S C R O L W - T E X T                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |                                                                  |
 |                                                                  |
 |  Param-in  : WINDOW-HANDLE                                       |
```


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```
 |                                                                |
 |             TEXT                                               |
 |                                                                |
 |  Param-out : SX-STATUS                                         |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001019 DEFINE, 'SX-SCROLW-TEXT', EXTERNAL, PROCEDURE (
                   'WINDOW-HANDLE' IS INTEGER,
                   'TEXT' IS STRING(80) OF CHAR
               )
               RESULT (
                   'SX-STATUS' IS INTEGER
               )                                                  $

       END, 'SX-SCROLW-TEXT'                                      $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                      W A I T - M A N                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : .MESSAGE                                          |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001021 DEFINE, 'WAIT-MAN', EXTERNAL, PROCEDURE (
                   '.MESSAGE' IS STRING(75) OF CHAR
               )                                                  $

       END, 'WAIT-MAN'                                            $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  O P - R E Q U E S T E D                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
```


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```
 |                                                                |
 |  Param-in  : .MESSAGE                                          |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001023 DEFINE, 'OP-REQUESTED', EXTERNAL, PROCEDURE (
                    '.MESSAGE' IS STRING(75) OF CHAR
               )                                                  $

        END, 'OP-REQUESTED'                                       $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***              S X - S C R O L W - D E L E T E                 ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : WINDOW-HANDLE                                     |
 |                                                                |
 |  Param-out : SX-STATUS                                         |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001025 DEFINE, 'SX-SCROLW-DELETE', EXTERNAL, PROCEDURE (
                    'WINDOW-HANDLE' IS INTEGER
               )
               RESULT (
                    'SX-STATUS' IS INTEGER
               )                                                  $

        END, 'SX-SCROLW-DELETE'                                   $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  I M A G E - D E L E T E                     ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
```


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```
 |  Param-in  : IMAGE-ID                                          |
 |                                                                |
 |  Param-out : GF-STATUS                                         |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 001027 DEFINE, 'IMAGE-DELETE', EXTERNAL, PROCEDURE (
                   'IMAGE-ID' IS INTEGER
               )
               RESULT (
                   'GF-STATUS' IS INTEGER
               )                                                  $

        END, 'IMAGE-DELETE'                                       $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S      **
 **                                                              **
 **             S P E C I F I C   P R O G R A M                  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               D C S U - D I S C O N N E C T                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Disconnection of 28VDC-SUP from UUT-1 to UUT-12 .             |
 |                                                                |
 |  Param-in  : UUT  Signal to be disconnected                    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002005 DEFINE, 'DCSU-DISCONNECT', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                  $

        END, 'DCSU-DISCONNECT'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
```


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```
 ***              A C S U - D I S C O N N E C T              ***
 ***                                                         ***
 ***************************************************************
 ***************************************************************

 |-------------------------------------------------------------|
 |  Disconnection of 5VAC-SUP from UUT1 to UUT4 .              |
 |                                                             |
 |  Param-in  : UUT  Signal to be disconnected                 |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 002007 DEFINE, 'ACSU-DISCONNECT', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                               $

       END, 'ACSU-DISCONNECT'                                  $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ***************************************************************
 ***************************************************************
 ***                                                         ***
 ***                 G 4 2 9 - D I S C - B U S 1...          ***
 ***                                                         ***
 ***************************************************************
 ***************************************************************

 |-------------------------------------------------------------|
 |  Disconnects arinc generation from UUT .                    |
 |                                                             |
 |  Param-in  : UUT  Arinc signal to discconnect(BUS1 channel) |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 002009 DEFINE, 'G429-DISC-BUS1', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                               $

       END, 'G429-DISC-BUS1'                                   $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ***************************************************************
 ***************************************************************
 ***                                                         ***
 ***                G 4 2 9 - D I S C - A D I 1              ***
 ***                                                         ***
 ***************************************************************
 ***************************************************************

 |-------------------------------------------------------------|
```


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```
 |  Disconnects arinc generation to UUT .                          |
 |                                                                 |
 |  Param-in  : UUT  Arinc signal to disconnect(BUS2 channel)      |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002011 DEFINE, 'G429-DISC-BUS2', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                  $

        END, 'G429-DISC-BUS2'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                G 4 2 9 - D I S C - B U S 3                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Disconnects arinc generation to UUT .                          |
 |                                                                 |
 |  Param-in  : UUT  Arinc signal to disconnect(BUS3 channel)      |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002013 DEFINE, 'G429-DISC-BUS3', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                  $

        END, 'G429-DISC-BUS3'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  R 4 2 2 - R E M O V E                       ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Remove IES-RS422A or IES-RS422B                                |
 |                                                                 |
 |  Param-in  : UUT  RS422 signal to prepare                       |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
```


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```
 002015 DEFINE, 'R422-REMOVE', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                $

        END, 'R422-REMOVE'                                       $
C|                                                               |
 |----------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                P R E S - D I S C - P R O D                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Disconnection of electrovannes from UUT9, UUT10, UUT11 or UUT12.|
 |                                                                |
 |  Param-in  : SIGNAL  Device to disconnect                      |
 |                                                                |
 |              UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                 $
 002017 DEFINE, 'PRES-DISC-PROD', EXTERNAL, PROCEDURE (
                    'SIGNAL' IS 'T-PRES-MNEMO',
                    'UUT' IS 'T-ALL-UUT'
                )                                                $

        END, 'PRES-DISC-PROD'                                    $
C|                                                               |
 |----------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                D I S C - I N - C O N F I G                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Put UUT1 or UUT2 ..... or UUT12 in ANNEXE x ATP configuration . |
 |                                                                |
 |  Param-in  : ANNEXE  Initialisation chosen                     |
 |                                                                |
 |              UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                 $
 002019 DEFINE, 'DISC-IN-CONFIG', EXTERNAL, PROCEDURE (
```

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```
                    'ANNEXE' IS ENUMERATION(
                        'OPEN-ALL', 'OPEN-GROUND', 'ANNEXE-4',
                        'ANNEXE-5', 'ANNEXE-6'),
                    'UUT' IS 'T-ALL-UUT'
                )                                                $

        END, 'DISC-IN-CONFIG'                                    $
C|                                                               |
 |-----------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                D C S U - A P P L Y - M O D                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Application and adjustment of 28VDC-SUP.                       |
 |                                                                 |
 |  Param-in  : VOLTAGE  Voltage to program                        |
 |                                                                 |
 |              UUT  Signal concerned                              |
 |                                                                 |
 |              CURRENT  Current to program                        |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                 $
 002021 DEFINE, 'DCSU-APPLY-MOD', EXTERNAL, PROCEDURE (
                    'VOLTAGE' IS DECIMAL,
                    'UUT' IS 'T-ALL-UUT',
                    'CURRENT' IS ENUMERATION(
                        '2A', '5A', '25A'
                        )
                )                                                $

        END, 'DCSU-APPLY-MOD'                                    $
C|                                                               |
 |-----------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  D I S C - I N - C O N N                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Connection of DISC-X or DISC-h .....                           |
 |  or DISC-Z of UUT1 or UUT2 ..... or UUT12 to EARTH .            |
```


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```
 |                                                                  |
 |  Param-in  : SIGNAL  Signal to be connected                      |
 |                                                                  |
 |              UUT  Uut concerned                                  |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002023 DEFINE, 'DISC-IN-CONN', EXTERNAL, PROCEDURE (
                    'SIGNAL' IS 'T-DISCIN-MNEMO',
                    'UUT' IS 'T-ALL-UUT'
               )                                                    $

        END, 'DISC-IN-CONN'                                         $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 G 4 2 9 - P R E P - B U S 1                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                              |
 |                                                                  |
 |  Param-in  : UUT  Prepares BUS1 arinc device with frame to       |
 |                   transmit                                       |
 |                                                                  |
 |              FRAME  Frame to transmit :                          |
 |                     - if FR-173-174-EQ-0 :                       |
 |                     word1 = X'600000', word2 = X'600000' - if    |
 |                     FR-173-174-NE-0 :                            |
 |                     word1 = X'631A00', word2 = X'61C000'         |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 002025 DEFINE, 'G429-PREP-BUS1', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'FRAME' IS 'T-FRAME'
               )                                                    $

        END, 'G429-PREP-BUS1'                                       $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 G 4 2 9 - C O N N - B U S 2                  ***
 ***                                                              ***
```


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```
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Arinc signal to connect                      |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002026 DEFINE, 'G429-CONN-BUS1', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT')                          $

        END, 'G429-CONN-BUS1'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - P R E P - B U S 2                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Prepares BUS2 arinc device with frame to     |
 |                   transmit                                     |
 |                                                                |
 |              FRAME  Frame to transmit :                        |
 |                     - if FR-312-320-EQ-0 :                     |
 |                     word1 = X'600000', word2 = X'600000', word3 =|
 |                     X'600000' - if FR-312-320-NE-0 :           |
 |                     word1 = X'600000', word2 = X'62AAA0', word3 =|
 |                     X'62AAA0'                                  |
 | REM : non utilisM-i                                              |
 |----------------------------------------------------------------|
                                                                  $
 002027 DEFINE, 'G429-PREP-BUS2', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'FRAME' IS 'T-FRAME')                          $

        END, 'G429-PREP-BUS2'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - C O N N - B U S 2                 ***
```


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```
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                             |
 |                                                                 |
 |  Param-in  : UUT  Arinc signal to connect                       |
 |                                                                 |
 | REM : non utilisM-i                                               |
 |-----------------------------------------------------------------|
                                                                   $

 002029 DEFINE, 'G429-CONN-BUS2', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                   $

        END, 'G429-CONN-BUS2'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                                ***
 ***                 G 4 2 9 - P R E P - B U S 3                    ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                             |
 |                                                                 |
 |  Param-in  : UUT  Prepares BUS3 arinc device with frame to      |
 |                   transmit                                      |
 |                                                                 |
 |              FRAME  Frame to transmit :                         |
 |                     - if FR-312-320-EQ-0 :                      |
 |                     word1 = X'600000', word2 = X'600000', word3 =|
 |                     X'600000' - if FR-312-320-NE-0 :            |
 |                     word1 = X'600000', word2 = X'62AAA0', word3 =|
 |                     X'62AAA0'                                   |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002031 DEFINE, 'G429-PREP-BUS3', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'FRAME' IS 'T-FRAME')                           $

        END, 'G429-PREP-BUS3'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
```


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```
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                G 4 2 9 - C O N N - B U S 3                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                             |
 |                                                                 |
 |  Param-in  : UUT  Arinc signal to connect                       |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002033 DEFINE, 'G429-CONN-BUS3', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
               )                                                   $

        END, 'G429-CONN-BUS3'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  D C S U - C O N N E C T                     ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Connection of 28VDC-SUP on UUT-1 to UUT-12 .                   |
 |                                                                 |
 |  Param-in  : UUT  Signal to be connected                        |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002037 DEFINE, 'DCSU-CONNECT', EXTERNAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
               )                                                   $

        END, 'DCSU-CONNECT'                                        $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 4 2 2 - S C O M P L C M D                   ***
 ***                                                              ***
 ********************************************************************
```


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```
 ******************************************************************

 |----------------------------------------------------------------|
 |  Send a cmd on IES-RS422A or IES-RS422B                        |
 |                                                                |
 |  Param-in  : UUT  RS422 signal to prepare                      |
 |                                                                |
 |              P-CMD  Cmd to send                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002039 DEFINE, 'R422-SCOMPLCMD', EXTERNAL, PROCEDURE(
                    'UUT' IS 'T-ALL-UUT',
                    'P-CMD' IS CHAR
               )                                                  $

        END, 'R422-SCOMPLCMD'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               R 2 3 P - P H O T O - W A I T                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Wait for end of movement of optical module                    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002043 DEFINE, 'R23P-PHOTO-WAIT', EXTERNAL, PROCEDURE            $

        END, 'R23P-PHOTO-WAIT'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               R 2 3 P - P H O T O - C M D 2                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Send cmd on IES-RS232-PHOTO                                   |
 |                                                                |
 |  Param-in  : P-CMD  Send a command but no reply is expected    |
 |                                                                |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
 002045 DEFINE, 'R23P-PHOTO-CMD2', EXTERNAL, PROCEDURE (
                   'P-CMD' IS STRING(20) OF CHAR
               )                                                   $

        END, 'R23P-PHOTO-CMD2'                                     $
C|                                                                  |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 2 3 P - P H O T O - C M D                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Send a cmd on IES-RS232-PHOTO                                  |
 |                                                                 |
 |  Param-in  : P-CMD  Cmd to send                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002047 DEFINE, 'R23P-PHOTO-CMD', EXTERNAL, PROCEDURE (
                   'P-CMD' IS STRING(20) OF CHAR
               )                                                   $

        END, 'R23P-PHOTO-CMD'                                      $
C|                                                                  |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 2 3 P - P H O T O - R E M                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Remove RS232-PHOTO                                             |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002048 DEFINE, 'R23P-PHOTO-REM', EXTERNAL, PROCEDURE              $

        END, 'R23P-PHOTO-REM'                                      $
C|                                                                  |
 |-----------------------------------------------------------------|
                                                                   $
```


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```
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***          I N I T - T A B L E - A T T I T U D E               ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 | Initialisation of the three axis table                          |
 |                                                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002049 DEFINE, 'INIT-TABLE-ATTITUDE', EXTERNAL, PROCEDURE         $

        END, 'INIT-TABLE-ATTITUDE'                                 $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 R 4 2 2 - R E C U P - S N                    ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Conversion of hexa to ascii                                    |
 |                                                                 |
 |  Param-in  : UUT  UUT concerned                                 |
 |                                                                 |
 |              P-TAB  Tab to convert                              |
 |                                                                 |
 |              NB-ELTS  Number of elements to convert             |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002050 DEFINE, 'R422-RECUP-SN', EXTERNAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'P-TAB' IS ARRAY(1 THRU 10000) OF
                       STRING(8) OF BIT,
                   'NB-ELTS' IS INTEGER
                )                                                  $

        END, 'R422-RECUP-SN'                                       $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
```


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```
 ******************************************************************
 ***                                                            ***
 ***              R 2 3 T - T A B L E - C M D 2                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Send cmd on IES-RS232-TABLE                                   |
 |                                                                |
 |  Param-in  : P-CMD  Send a command but no reply is expected    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002054 DEFINE, 'R23T-TABLE-CMD2', EXTERNAL, PROCEDURE (
                   'P-CMD' IS STRING(20) OF CHAR
               )                                                  $

        END, 'R23T-TABLE-CMD2'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               R 2 3 T - T A B L E - C M D                  ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Send a cmd on IES-RS232-TABLE                                 |
 |                                                                |
 |  Param-in  : P-CMD  Cmd to send                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 002055 DEFINE, 'R23T-TABLE-CMD', EXTERNAL, PROCEDURE (
                   'P-CMD' IS STRING(20) OF CHAR
               )                                                  $

        END, 'R23T-TABLE-CMD'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***              R 2 3 T - T A B L E - W A I T                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************
```


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```
 |-----------------------------------------------------------------|
 |  Wait for end of movement of table                              |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002056 DEFINE, 'R23T-TABLE-WAIT', EXTERNAL, PROCEDURE             $

        END, 'R23T-TABLE-WAIT'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 2 3 T - T A B L E - R E M                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Remove RS232-TABLE                                             |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 002057 DEFINE, 'R23T-TABLE-REM', EXTERNAL, PROCEDURE              $

        END, 'R23T-TABLE-REM'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 **                                                                **
 **          D E F I N E   L O C A L   P R O C E D U R E           **
 **                                                                **
 ********************************************************************
                                                                    $
C
 ********************************************************************
 **                                                                **
 **         D E F I N E   G L O B A L   P R O C E D U R E          **
 **                                                                **
 ********************************************************************
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                U T I L - R E S E T - V A R                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************
```


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```
|-----------------------------------------------------------------|
|  Reset all global variable                                      |
|                                                                 |
|-----------------------------------------------------------------|
                                                                 $
004305 DEFINE, 'UTIL-RESET-VAR', GLOBAL, PROCEDURE               $

       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                   $
004310 FOR, 'UUT' = 'UUT1' THRU 'UUT12', THEN                    $

         CALCULATE, 'G-UUT'('UUT').'SERIAL-NUMB'  = C''          $

         CALCULATE, 'G-DISCOUT-STATE'('UUT') = 'INACTIVE'        $

         CALCULATE,
         'G-G429-TABL'('UUT', 'BUS1').'STATE' = 'DISCONNECT'       $

         CALCULATE,
         'G-G429-TABL'('UUT', 'BUS2').'STATE' = 'DISCONNECT'    $

         CALCULATE,
         'G-G429-TABL'('UUT', 'BUS3').'STATE' = 'DISCONNECT'    $

         CALCULATE,
         'G-ALIM28-TABL'('UUT').'STATE' = 'INACTIVE'             $

         CALCULATE, 'G-422-TABL'('UUT').'STATE'  = 'INACTIVE'    $

         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-X').'STATE'  = 'INACTIVE'   $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-h').'STATE'  = 'INACTIVE'   $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-a').'STATE'  = 'INACTIVE'   $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-b').'STATE'  = 'INACTIVE'   $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-c').'STATE'  = 'INACTIVE'   $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-d').'STATE'  = 'INACTIVE'   $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-e').'STATE'  = 'INACTIVE'   $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-k').'STATE'  = 'INACTIVE'   $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-m').'STATE'  = 'INACTIVE'   $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-n').'STATE'  = 'INACTIVE'   $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-p').'STATE' = 'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-q').'STATE' = 'INACTIVE'    $
         CALCULATE,
```


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```
         'G-DISCIN-TABL'('UUT', 'DISC-r').'STATE' = 'INACTIVE'     $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-s').'STATE' = 'INACTIVE'     $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-f').'STATE' = 'INACTIVE'     $
004320   CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-Z').'STATE' = 'INACTIVE'     $

       END, FOR                                                    $

004325 FOR, 'UUT' = 'UUT1' THRU 'UUT4', THEN                       $

         CALCULATE,
         'G-ALIM5-TABL'('UUT').'STATE' = 'INACTIVE'                $

         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-X').'GROUND' =  'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-h').'GROUND' =  'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-a').'GROUND' =  'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-b').'GROUND' =  'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-c').'GROUND' =  'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-d').'GROUND' =  'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-e').'GROUND' =  'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-k').'GROUND' =  'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-m').'GROUND' =  'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-n').'GROUND' =  'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-p').'GROUND' = 'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-q').'GROUND' = 'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-r').'GROUND' = 'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-s').'GROUND' = 'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-f').'GROUND' = 'INACTIVE'    $
         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-Z').'GROUND' = 'INACTIVE'    $

       END, FOR                                                    $

004330 FOR, 'UUT' = 'UUT5' THRU 'UUT12', THEN                      $

         CALCULATE,
         'G-DISCIN-TABL'('UUT', 'DISC-X').'GROUND' =  'INACTIVE'   $
```

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```
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-h').'GROUND' =  'INACTIVE'   $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-a').'GROUND' =  'INACTIVE'   $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-b').'GROUND' =  'INACTIVE'   $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-c').'GROUND' =  'INACTIVE'   $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-d').'GROUND' =  'INACTIVE'   $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-e').'GROUND' =  'INACTIVE'   $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-k').'GROUND' =  'INACTIVE'   $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-m').'GROUND' =  'INACTIVE'   $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-n').'GROUND' =  'INACTIVE'   $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-p').'GROUND' = 'INACTIVE'    $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-q').'GROUND' = 'INACTIVE'    $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-r').'GROUND' = 'INACTIVE'    $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-s').'GROUND' = 'INACTIVE'    $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-f').'GROUND' = 'INACTIVE'    $
  CALCULATE,
  'G-DISCIN-TABL'('UUT', 'DISC-Z').'GROUND' = 'INACTIVE'    $

END, FOR                                                    $

CALCULATE,
'G-PRES-TABL'('UUT9',  'PRES-PS').'STATE' = 'INACTIVE'      $
CALCULATE,
'G-PRES-TABL'('UUT10', 'PRES-PS').'STATE' = 'INACTIVE'      $
CALCULATE,
'G-PRES-TABL'('UUT11', 'PRES-PS').'STATE' = 'INACTIVE'      $
CALCULATE,
'G-PRES-TABL'('UUT12', 'PRES-PS').'STATE' = 'INACTIVE'      $
CALCULATE,
'G-PRES-TABL'('UUT9',  'PRES-PT').'STATE' = 'INACTIVE'      $
CALCULATE,
'G-PRES-TABL'('UUT10', 'PRES-PT').'STATE' = 'INACTIVE'      $
CALCULATE,
'G-PRES-TABL'('UUT11', 'PRES-PT').'STATE' = 'INACTIVE'      $
CALCULATE,
'G-PRES-TABL'('UUT12', 'PRES-PT').'STATE' = 'INACTIVE'      $

CALCULATE, 'G-ALIM28-STATE' = 'INACTIVE'                    $
CALCULATE, 'G-ALIM5-STATE'  = 'INACTIVE'                    $

CALCULATE, 'G-BUS1P1-STATE'    = 'INACTIVE'                 $
```


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```
        CALCULATE, 'G-BUS1P2P3-STATE'  = 'INACTIVE'                $
        CALCULATE, 'G-BUS2P1-STATE'    = 'INACTIVE'                $
        CALCULATE, 'G-BUS3P1-STATE'    = 'INACTIVE'                $
        CALCULATE, 'G-BUS2-3-P2P3-STATE' = 'INACTIVE'              $

        CALCULATE, 'G-PHOTO-STATE'   = 'INACTIVE'                  $
        CALCULATE, 'G-TABLE-STATE'   = 'INACTIVE'                  $

        CALCULATE, 'G-OLD-BUS1P1-FR' = 'NO-FRAME'                  $
        CALCULATE, 'G-OLD-BUS2P1-FR' = 'NO-FRAME'                  $
        CALCULATE, 'G-OLD-BUS3P1-FR' = 'NO-FRAME'                  $

        CALCULATE, 'G-GROUND-STATE' = 'INACTIVE'                   $

        CALCULATE, 'G-PSMBAR-STATE' = 'INACTIVE'                   $
        CALCULATE, 'G-PTMBAR-STATE' = 'INACTIVE'                   $
        CALCULATE, 'G-PSALT-STATE'  = 'INACTIVE'                   $
        CALCULATE, 'G-PTIAS-STATE'  = 'INACTIVE'                   $

        CALCULATE, 'G-LIGHT-P-STATE' = 'INACTIVE'                  $
        CALCULATE, 'G-LIGHT-N-STATE' = 'INACTIVE'                  $

        CALCULATE, 'G-OLD-RES'   = 0                               $
        CALCULATE, 'G-OLD-PULSE' = 0                               $

        CALCULATE, 'G-PRESSURE'    = FALSE                         $
        CALCULATE, 'G-PRES-PS-VAL' = 1013.25                       $
        CALCULATE, 'G-PRES-PT-VAL' = 1013.25                       $

        CALCULATE, 'G-PHOTO-OK' = TRUE                             $
        CALCULATE, 'G-TABLE-OK' = TRUE                             $

        CALCULATE, 'G-INSIDE-MBAR'   = FALSE                       $
        CALCULATE, 'G-INSIDE-ALTIAS' = FALSE                       $
        CALCULATE, 'G-DISPLAY' = TRUE                              $

 004399 END, 'UTIL-RESET-VAR'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  U T I L - R E M O V E                       ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Remove UUT-1, UUT-2, ....or UUT-12 .                           |
 |                                                                 |
 |  Param-in  : ABANDON-UUT  If true, test is abandonned on 'UUT'  |
 |                                                                 |
```


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```
 |             UUT  Signal to be connected                        |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 004405 DEFINE, 'UTIL-REMOVE', GLOBAL, PROCEDURE (
                    'ABANDON-UUT' IS BOOLEAN,
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        PERFORM, 'DCSU-DISCONNECT' ('UUT')                        $

        WAIT FOR, TIME 2 SEC                                      $

        IF, ('UUT' EQ 'UUT1')  OR
            ('UUT' EQ 'UUT2')  OR
            ('UUT' EQ 'UUT3')  OR
            ('UUT' EQ 'UUT4'), THEN                               $
          PERFORM, 'ACSU-DISCONNECT' ('UUT')                      $
        END, IF                                                   $

        PERFORM, 'G429-DISC-BUS1'('UUT')                          $
        PERFORM, 'G429-DISC-BUS2'('UUT')                          $
        PERFORM, 'G429-DISC-BUS3'('UUT')                          $

        PERFORM, 'R422-REMOVE' ('UUT')                            $

        IF, ('UUT' EQ 'UUT9')   OR
            ('UUT' EQ 'UUT10')  OR
            ('UUT' EQ 'UUT11')  OR
            ('UUT' EQ 'UUT12'), THEN                              $
          PERFORM, 'PRES-DISC-PROD'('PRES-PS', 'UUT')             $
          PERFORM, 'PRES-DISC-PROD'('PRES-PT', 'UUT')             $
        END, IF                                                   $

        PERFORM, 'DISC-IN-CONFIG' ('OPEN-ALL', 'UUT')             $

        IF, 'ABANDON-UUT' EQ TRUE, THEN                           $
          CALCULATE, 'G-UUT'('UUT').'PRESENCE' = FALSE            $
        END, IF                                                   $

 004499 END, 'UTIL-REMOVE'                                        $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 U T I L - D I S P L A Y                      ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |----------------------------------------------------------------|
```


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```
|  Management of edition formular                                  |
|                                                                  |
|  Param-in  : P-TEXT-1  First line to edit                        |
|                                                                  |
|              P-TEXT-2  Second line to edit                       |
|                                                                  |
|              P-TEXT-3  Third line to edit                        |
|                                                                  |
|              P-TEXT-4  Fourth line to edit                       |
|                                                                  |
|              P-TEXT-5  Fifth line to edit                        |
|                                                                  |
|              P-TEXT-6  Sixth line to edit                        |
|                                                                  |
|              P-TEXT-7  Seventh line to edit                      |
|                                                                  |
|              P-TEXT-8  Eighth line to edit                       |
|                                                                  |
|              P-TEXT-9  Ninth line to edit                        |
|                                                                  |
|              P-TEXT-10  tenth line to edit                       |
|                                                                  |
|              P-TEXT-11  eleventh line to edit                    |
|                                                                  |
|              P-TEXT-12  twelfth line to edit                     |
|                                                                  |
|              P-CHOICE  Indicator to know if a result, a wait-man |
|                        or an input is needed                     |
|                                                                  |
|              P-IMAGE  Image to display if necessary              |
|                                                                  |
|------------------------------------------------------------------|
                                                                   $
 004500 DEFINE, 'UTIL-DISPLAY', GLOBAL, PROCEDURE (
                   'P-TEXT-1' IS STRING(80) OF CHAR,
                   'P-TEXT-2' IS STRING(80) OF CHAR,
                   'P-TEXT-3' IS STRING(80) OF CHAR,
                   'P-TEXT-4' IS STRING(80) OF CHAR,
                   'P-TEXT-5' IS STRING(80) OF CHAR,
                   'P-TEXT-6' IS STRING(80) OF CHAR,
                   'P-TEXT-7' IS STRING(80) OF CHAR,
                   'P-TEXT-8' IS STRING(80) OF CHAR,
                   'P-TEXT-9' IS STRING(80) OF CHAR,
                   'P-TEXT-10' IS STRING(80) OF CHAR,
                   'P-TEXT-11' IS STRING(80) OF CHAR,
                   'P-TEXT-12' IS STRING(80) OF CHAR,
                   'P-CHOICE' IS STRING(6) OF CHAR,
                   'P-IMAGE' IS STRING(8) OF CHAR
               )                                                   $

       DECLARE, VARIABLE, 'TEXT' IS ARRAY(1 THRU 12) OF
                   STRING(80) OF CHAR                              $
C      Text to display
 -----------------------------------------------------------------$
```


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```
        DECLARE, VARIABLE, 'STATUS' IS INTEGER                    $
C       Status of image loading
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'WIND-HANDLE' IS INTEGER               $
C       Number of open window
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'INDEX' IS INTEGER                     $
C       Index
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'PATH-INFO' IS STRING(80) OF CHAR      $
C       Path of image file
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'IMAGE-NUMBER' IS INTEGER              $
C       Number of window open
 ----------------------------------------------------------------$

        CALCULATE, 'PATH-INFO' = 'TPSDIR'.'PATHNAME'              $

        CALCULATE, 'TEXT'(1)  = 'P-TEXT-1'                        $
        CALCULATE, 'TEXT'(2)  = 'P-TEXT-2'                        $
        CALCULATE, 'TEXT'(3)  = 'P-TEXT-3'                        $
        CALCULATE, 'TEXT'(4)  = 'P-TEXT-4'                        $
        CALCULATE, 'TEXT'(5)  = 'P-TEXT-5'                        $
        CALCULATE, 'TEXT'(6)  = 'P-TEXT-6'                        $
        CALCULATE, 'TEXT'(7)  = 'P-TEXT-7'                        $
        CALCULATE, 'TEXT'(8)  = 'P-TEXT-8'                        $
        CALCULATE, 'TEXT'(9)  = 'P-TEXT-9'                        $
        CALCULATE, 'TEXT'(10) = 'P-TEXT-10'                       $
        CALCULATE, 'TEXT'(11) = 'P-TEXT-11'                       $
        CALCULATE, 'TEXT'(12) = 'P-TEXT-12'                       $
C       If image must be displayed                                $
        IF, 'P-IMAGE' NE C'', THEN                                $
C          PERFORM, 'IMAGE-CREATE' ('P-IMAGE' & C' CONFIGURATION',
C                   'PATH-INFO' & C'/' &  'P-IMAGE' & C'.xwd')
C                    RESULT ('STATUS', 'IMAGE-NUMBER')            $
          PERFORM, 'IMAGE-CREATE' ('P-IMAGE' & C' CONFIGURATION',
                   'PATH-INFO' & C'/IMAGES/' &  'P-IMAGE' & C'.xwd')
                    RESULT ('STATUS', 'IMAGE-NUMBER')             $

          IF, 'STATUS' EQ -1, THEN                                $
            PERFORM, 'DISP-TPS-ERR'
                (C' IMAGE NOT FOUND - Image not loaded')          $
          END, IF                                                 $

          PERFORM, 'IMAGE-SHOW'('IMAGE-NUMBER', FALSE,
                    C'', 1, 1, 535, 548)
                    RESULT ('STATUS')                             $

          IF, 'STATUS' EQ -1, THEN                                $
```


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```
          PERFORM, 'DISP-TPS-ERR'
                   (C' IMAGE NOT DISPLAYED ')                    $
        END, IF                                                  $

      END, IF                                                    $

004550 PERFORM, 'SX-SCROLW-CREATE' (C'OPERATOR MESSAGE')
               RESULT ('STATUS', 'WIND-HANDLE')                  $

      IF, 'STATUS' EQ -1, THEN                                   $
        PERFORM, 'DISP-TPS-ERR'
                 (C'ERROR - WINDOW MESSAGE NOT DISPLAYED')       $
      END, IF                                                    $

      FOR , 'INDEX' = 1 THRU 12, THEN                            $
        IF, 'TEXT' ('INDEX') NE C'', THEN                        $
          PERFORM, 'SX-SCROLW-TEXT' ('WIND-HANDLE',
                   'TEXT'('INDEX')) RESULT ('STATUS')            $
        END, IF                                                  $
      END, FOR                                                   $

004555 IF, 'STATUS' EQ -1, THEN                                  $
        PERFORM, 'DISP-TPS-ERR'
                 (C'ERROR - MESSAGE NOT DISPLAYED')              $
      END, IF                                                    $

      IF, 'P-CHOICE' EQ C'WAIT', THEN                            $

        PERFORM, 'WAIT-MAN' (C'PRESS < OK > TO CONTINUE')        $

      ELSE IF, 'P-CHOICE' EQ C'INPUT', THEN                      $

        INPUT, TEXT, INTO 'G-VALUE'                              $

      ELSE IF, ('P-CHOICE' EQ C'RESULT') OR
          ('P-CHOICE' EQ C'IN-Y-N'), THEN                        $

        IF, ('P-CHOICE' EQ C'RESULT'), THEN                      $
          PERFORM, 'OP-REQUESTED' (C'IS THIS TEST OK')           $
        ELSE IF, ('P-CHOICE' EQ C'IN-Y-N'), THEN                 $
          PERFORM, 'OP-REQUESTED' (C'EXECUTE THIS TEST ?')       $
        END, IF                                                  $

        IF, 'G-DISPLAY' EQ TRUE, THEN                            $

004557    IF, 'OP-CHOICE' EQ C'YES', THEN                        $

            OUTPUT, TEXT TO 'CRT',  FROM (C'')                   $
            OUTPUT, TEXT TO 'DISK', FROM (C'')                   $
            FOR , 'INDEX' = 1 THRU 12, THEN                      $
              IF, 'TEXT' ('INDEX') NE C'', THEN                  $
                IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
                    ('INDEX'      EQ 1),           THEN          $
                  OUTPUT, TEXT TO 'CRT', FROM
```


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```
                (C'       ' & 'CMM-STRING')                    $
                OUTPUT, TEXT TO 'DISK', FROM
                (C'       ' & 'CMM-STRING')                    $
              END, IF                                          $
              OUTPUT, TEXT TO 'CRT', FROM
              (C'       ' & 'TEXT' ('INDEX'))                  $
              OUTPUT, TEXT TO 'DISK', FROM
              (C'       ' & 'TEXT' ('INDEX'))                  $
            END, IF                                            $
          END, FOR                                             $
          OUTPUT, TEXT TO 'CRT',  FROM (C'')                   $
          OUTPUT, TEXT TO 'DISK', FROM (C'')                   $

        ELSE                                                   $

          PERFORM, 'WRITE' ('ALL', C'')                        $
          FOR , 'INDEX' = 1 THRU 12, THEN                      $
            IF, 'TEXT' ('INDEX') NE C'', THEN                  $
              IF, ('G-CUSTOMER' EQ C'PRODUCTION') AND
                  ('INDEX'      EQ 1),           THEN          $
                PERFORM, 'WRITE' ('ALL',
                         C'       ' & 'CMM-STRING')            $
              END, IF                                          $
              PERFORM, 'WRITE' ('ALL',
                         C'       ' & 'TEXT' ('INDEX') )       $
            END, IF                                            $
          END, FOR                                             $
          PERFORM, 'WRITE' ('ALL', C'')                        $

        END, IF                                                $

      END, IF                                                  $

    END, IF                                                    $

    PERFORM, 'SX-SCROLW-DELETE' ('WIND-HANDLE')
             RESULT ('STATUS')                                 $

004560 IF, 'STATUS' EQ -1, THEN                                $
      PERFORM, 'DISP-TPS-ERR'
      (C'ERROR - MESSAGE WINDOW DISPLAYED' &
       C' NOT REMOVED')                                        $
    END, IF                                                    $
C   If image must be removed                                   $
    IF, 'P-IMAGE' NE C'', THEN                                 $

      PERFORM, 'IMAGE-DELETE'
              ('IMAGE-NUMBER') RESULT ('STATUS' )              $

      IF, 'STATUS' EQ -1, THEN                                 $
        PERFORM, 'DISP-TPS-ERR'
                (C'ERROR - Image not desactivate')             $
      END, IF                                                  $
```


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```
       END, IF                                                  $

 004599 END, 'UTIL-DISPLAY'                                     $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                U T I L - C H E C K - U U T                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  - Powers on phometric module                                |
 |  - Powers all UUTS present to know if there is a problem with one|
 |  of them .                                                   |
 |  - Recovers all PN and SN UUTS presents .                    |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 004605 DEFINE, 'UTIL-CHECK-UUT', GLOBAL, PROCEDURE             $

       DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                  $
       DECLARE, VARIABLE, 'LOOP' IS INTEGER                     $
       CALCULATE, 'POWER-ON' = TRUE                             $
       PERFORM, 'INIT-POWER-TIME'                               $

       IF, ('G-UUT'('G-UUT1').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT2').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT3').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('G-UUT4').'PRESENCE' EQ TRUE), THEN          $

         IF, ('G-CUSTOMER' EQ C'AIRLINES'), THEN                $

           IF, ('START-EP' EQ C'2: OPTICAL TESTS'), THEN        $
             PERFORM, 'UTIL-DISPLAY'
             (C'INSTALL THE INSTRUMENT ON' &
              C' THE <LIGHTING TEST EQUIPMENT> :',
              C' - WITHOUT THE <LUMINANCE METER> AND THE <TUBE>',
              C' - CONNECT THE <LIGHT SOURCE ADAPTER>',
              C' - SELECT THE <POSITION 3> TO LIGHT ON ',
              C'   THE INSTRUMENT <PHOTOELECTRIC CELL>',
              C' ',
              C'OR',
              C' ',
              C'INSTALL THE INSTRUMENT ON ITS SUPPORT WITH',
              C'   ROLL AND PITCH SET TO 0 DEGREE +/- 0.1',
              C'EXPOSE THE INSTRUMENT IN AN AVERAGE LIGHT',
              C'  ILLUMINATION BETWEEN 300 TO 600 Lux',
              C'WAIT', C''
                 )                                              $
```


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```
  ELSE IF, ('START-EP' EQ C'1: OPERATOR TESTS') OR
           ('START-EP' EQ C'4: ALTITUDE TESTS') OR
           (('START-EP' EQ C'3: ATTITUDE TESTS')AND
           ('G-TEST' EQ C'MANUAL')) , THEN                $

    PERFORM, 'UTIL-DISPLAY'
    (C'INSTALL THE INSTRUMENT ON THE <3 AXIS TABLE>',
     C'   POSITION :' ,
     C'   <0> DEGREE TILT ANGLE PANEL, WITH AN ACCURACY ',
     C'   OF <0.1> DEGREE IN ROLL AND PITCH.',
     C' ',
     C'OR',
     C' ',
     C'INSTALL THE INSTRUMENT ON ITS SUPPORT ' &
     C'DESIGNED FOR',
     C'   0 DEGREE TILT ANGLE PANEL, WITH AN ACCURACY ' &
     C'OF <0.1> DEGREE',
     C'   IN ROLL AND PITCH.',
     C'', C'',
     C'WAIT', C''
          )                                             $

  ELSE IF, ('START-EP' EQ C'3: ATTITUDE TESTS')AND
           ('G-TEST' EQ C'TABLE-AUTO') , THEN            $

    PERFORM, 'R23P-PHOTO-CMD2' (C'<WUe>')                $
    PERFORM, 'R23P-PHOTO-REM'                            $
    WAIT FOR, TIME 3 SEC                                 $

    PERFORM, 'UTIL-DISPLAY'
     (C'1- INSTALL THE INSTRUMENT ON THE THREE AXIS TABLE '&
      C'SUPPORT',
      C' ',
      C'2- VERIFY THAT THE THREE AXIS TABLE MODULE IS READY',
      C' ',
      C'', C'', C'', C'', C'', C'', C'', C'',
      C'WAIT', C''
            )                                            $

    PERFORM, 'INIT-TABLE-ATTITUDE'                       $

  END, IF                                                $

ELSE IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN           $

  IF, ('G-TEST' NE C'AUTOMATIC'), THEN                   $

    PERFORM, 'UTIL-DISPLAY'
    (C'INSTALL THE INSTRUMENTS ON THEIR TEST SUPPORT ' &
     C'DESIGNED FOR :',
     C'   0 DEGREE TILT ANGLE PANEL, WITH AN ACCURACY ' &
     C'OF <0.1> DEGREE',
     C'   IN  ROLL AND PITCH.',
```


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```
            C'',
            C'',
            C'', C'', C'', C'', C'', C'', C'',
            C'WAIT', C''
                 )                                          $

          ELSE IF, ('G-TEST' EQ C'AUTOMATIC'), THEN          $

            PERFORM, 'R23T-TABLE-CMD2' (C'<MBe>')            $
            WAIT FOR, TIME 3 SEC                             $

            PERFORM, 'R23T-TABLE-REM'                        $

            PERFORM, 'UTIL-DISPLAY'
             (C'1- INSTALL THE INSTRUMENTS OF < POSTE 1 > ON THEIR ' &
              C'SUPPORT.',
              C'2- VERIFY THAT THE PHOTOMETRIC MODULE IS READY, AND',
              C'   THAT THE SOFTWARE, ON PC, IS LOADED AND ',
              C'   THAT <RS SLAVE> IS SELECTED',
              C'3- CLOSE THE DOOR OF THE PHOTOMETRIC MODULE',
              C'', C'', C'', C'', C'', C'', C'',
              C'WAIT', C'')                                  $

            PERFORM, 'R23P-PHOTO-CMD' (C'<MRe>')             $
            WAIT FOR, TIME 5 SEC                             $
            PERFORM, 'R23P-PHOTO-WAIT'                       $
C           Lamp of photometer switching off                 $
            PERFORM, 'R23P-PHOTO-CMD' (C'<LOf>')             $
            WAIT FOR, TIME 3 SEC                             $
C           Rotation of photometer
            (0, 0)  :   0   is rotation right/left of UUT
                        0  is rotation top/bottom of UUT     $
C           PERFORM, 'R23P-PHOTO-CMD' (C'<IRo 0 0>')         $
C           PERFORM, 'R23P-PHOTO-WAIT'                       $
            PERFORM, 'R23P-PHOTO-REM'                        $

          END, IF                                            $

        END, IF                                              $

      END, IF                                                $

      IF, ('G-UUT'('G-UUT5').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT6').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT7').'PRESENCE' EQ TRUE) OR
          ('G-UUT'('G-UUT8').'PRESENCE' EQ TRUE), THEN       $

        IF, ('G-CUSTOMER' EQ C'PRODUCTION'), THEN            $

            IF, 'G-TEST' EQ C'MANUAL', THEN                  $

            PERFORM, 'UTIL-DISPLAY'
             (C'1- INSTALL THE INSTRUMENTS OF < POSTE 2 > ON THEIR ' &
              C'SUPPORT .',
```


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```
                C'2- ADJUST THE ROLL AND PITCH SUPPORT TO 0 '&
                C'DEGRE +/- 0.1.',
                C'',
                C'', C'', C'', C'', C'', C'', C'', C'', C'',
                C'WAIT', C''
                    )                                          $

              ELSE IF, 'G-TEST' NE C'MANUAL', THEN             $

                PERFORM, 'R23T-TABLE-CMD2' (C'<WUe>')          $
                WAIT FOR, TIME 3 SEC                           $

                PERFORM, 'UTIL-DISPLAY'
                (C'1- INSTALL THE INSTRUMENTS OF < POSTE 2 > ON THEIR ' &
                 C'SUPPORT.',
                 C'2- VERIFY THAT THE THREE AXIS TABLE MODULE IS READY',
                 C'3- VERIFY THAT THE THREE AXIS TABLE COMMAND',
                 C'   SOFTWARE PAGE IS DISPLAYED ON THE PC SCREEN.',
                 C'',
                 C'', C'', C'', C'', C'', C'', C'',
                 C'WAIT', C'')                                 $

                PERFORM, 'R23T-TABLE-CMD' (C'<MRe>')           $
                WAIT FOR, TIME 5 SEC                           $
                PERFORM, 'R23T-TABLE-WAIT'                     $
C               Selection of rate of moving table              $
                PERFORM, 'R23T-TABLE-CMD' (C'<VI 20 20>')      $
C               Table for a pitch and roll angle of 0M-0         $
                PERFORM, 'R23T-TABLE-CMD' (C'<DP 0 0>')        $
                PERFORM, 'R23T-TABLE-WAIT'                     $
                PERFORM, 'R23T-TABLE-REM'                      $

              END, IF                                          $

            END, IF                                            $

          END, IF                                              $

          FOR, 'UUT' = 'UUT1' THRU 'UUT12', THEN               $
C           If the foolproofing of 'UUT' indicates that 'UUT'
            is present                                         $
            IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN        $

              PERFORM, 'DCSU-APPLY-MOD' (28, 'NO-UUT', '5A')   $

              PERFORM, 'DISC-IN-CONFIG'('ANNEXE-4', 'UUT')     $

              PERFORM, 'DISC-IN-CONN' ('DISC-X', 'UUT')        $
              PERFORM, 'DISC-IN-CONN' ('DISC-a', 'UUT')        $

              PERFORM, 'G429-PREP-BUS1'('UUT', 'FR-173-174-EQ-0')  $
              PERFORM, 'G429-CONN-BUS1'('UUT')                 $

 004610       PERFORM, 'G429-PREP-BUS3'('UUT', 'FR-312-320-EQ-0')  $
```


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```
            PERFORM, 'G429-CONN-BUS3'('UUT')                        $

            WAIT FOR, TIME 1 SEC                                    $

            PERFORM, 'DCSU-CONNECT' ('UUT')                         $

            WAIT FOR, TIME 8 SEC                                    $
C           Powers 'UUT' . If there is a problem, removes 'UUT' and
            abandons test on it (only for production)               $
            IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN                 $
              PERFORM, 'DCSU-APPLY-MOD' (28, 'UUT', '2A')           $
            ELSE                                                    $
              PERFORM, 'DCSU-APPLY-MOD' (28, 'NO-UUT', '2A')        $
            END, IF                                                 $

            WAIT FOR, TIME 2 SEC                                    $
C           If the adjustment of 28vdc-sup is correct               $
            IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

              PERFORM, 'DCSU-APPLY-MOD' (28, 'NO-UUT', '5A')        $

 004612       CALCULATE, 'LOOP' = 0                                 $
              CALCULATE, 'OP-CHOICE' = C'FAIL'                      $

              WHILE, ('LOOP' NE 2) AND
                     ('OP-CHOICE' NE C'PASS'), THEN                 $

                IF, 'LOOP' NE 0, THEN                               $
                  PERFORM, 'DCSU-DISCONNECT' ('UUT')                $
                  WAIT FOR, TIME 2 SEC                              $
                  PERFORM, 'DCSU-CONNECT'    ('UUT')                $
                  WAIT FOR, TIME 9 SEC                              $
                END, IF                                             $

                PERFORM, 'R422-SCOMPLCMD' ('UUT', C'T')             $

                CALCULATE, 'LOOP' = 'LOOP' + 1                      $

              END, WHILE                                            $
C             If problem with RS422                                 $
              IF, 'OP-CHOICE' EQ C'FAIL', THEN                      $

 004614         PERFORM, 'WRITE' ('ALL', C'')                       $
                IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN             $
                  PERFORM, 'WRITE' ('ALL',
                       C'   0~' & 'G-UUT'('UUT').'NAME')            $
                END, IF                                             $
C               Ouput an error message                              $
                PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
                'G-422-TABL'('UUT').'NAME' &
                 C' COMMAND EXECUTION.')                            $

              END, IF                                               $
C             Recovers SN in 'G-UUT'('UUT').'SERIAL-NUMB' .
```


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```
              If there is a problem, removes 'UUT' and abandons
              test on it .                                        $
              PERFORM, 'R422-RECUP-SN'
                      ('UUT', 'G-RX-DATA', 'G-NB-CAR')            $
C             Removes UUT before tests                            $
              PERFORM, 'DCSU-DISCONNECT' ('UUT')                  $

            END, IF                                               $

          END, IF                                                 $

        END, FOR                                                  $

        FOR, 'UUT' = 'UUT1' THRU 'UUT4', THEN                     $
C         If the foolproofing of 'UUT' indicates that 'UUT'
          is present                                              $
          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $
              PERFORM, 'UTIL-REMOVE' (FALSE, 'UUT')               $
              PERFORM, 'DISC-IN-CONFIG' ('OPEN-GROUND', 'UUT')    $
          END, IF                                                 $

        END, FOR                                                  $

        FOR, 'UUT' = 'UUT5' THRU 'UUT12', THEN                    $
C         If the foolproofing of 'UUT' indicates that 'UUT'
          is present                                              $
          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $
              PERFORM, 'UTIL-REMOVE' (FALSE, 'UUT')               $
          END, IF                                                 $

        END, FOR                                                  $

 004620 PERFORM, 'DCSU-APPLY-MOD' (28, 'NO-UUT', '25A')           $

        CALCULATE, 'POWER-ON' = FALSE                             $
        PERFORM, 'HALT-POWER-TIME'                                $

 004699 END, 'UTIL-CHECK-UUT'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ********************************************************************
 *****                                                          *****
 *****                                                          *****
 *****              E N D    O F    M O D U L E                 *****
 *****                                                          *****
 *****                                                          *****
 ********************************************************************
 ********************************************************************
 ********************************************************************
                                                                  $
```


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```
999999 TERMINATE, ATLAS MODULE 'TH-ISF-NKUTIL'                    $
```

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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-C1DCSU01'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             C L A S S     M O D U L E                ******
 ******                                                      ******
 ******              DC POWER APPLIED ON UUT .               ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN MAIN MODULE  ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000105   EXTEND ATLAS                                     *
 *                                                                *
 *      002005   REQUIRE EXTERNAL SENSORS                         *
 *                                                                *
 *      005505   REQUIRE SOURCES                                  *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      011005   DECLARE CONSTANT                                 *
 *      012005   DECLARE EXTERNAL VARIABLES  (LIBRARY )           *
 *      013005   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *      014005   DECLARE MODULE SPECIFIC VARIABLES                *
 *                                                                *
 *      032005   DEFINE DRAWING                                   *
 *                                                                *
 *                                                                *
```


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```
 *      050005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )    *
 *                                                                  *
 *      060005   DEFINE EXTERNAL PROCEDURES ( PROGRAMME )           *
 *                                                                  *
 *      080005   DEFINE GLOBAL SIGNAL SPECIFIC PROCEDURES           *
 *                                                                  *
 *      999999   TERMINATE ATLAS MODULE                             *
 *                                                                  *
 ********************************************************************
                                                                    $
C
 ********************************************************************
 **                                                                **
 **      E X T E N D     A T L A S     S T A T E M E N T S       **
 **                                                                **
 ********************************************************************
                                                                    $
 000105 EXTEND, ATLAS CONNECTIONS FOR WAVEFORM,
               CNX 'SENSE-HI' 'SENSE-LO',
               SPEC 'DPS RESOURCE DESCRIPTION'                      $

 000107 EXTEND, ATLAS MODIFIERS FOR WAVEFORM,
               'DELAYED-EXEC' MODIFIER-DESCRIPTOR 'ON' 'OFF',
               USAGE S,
               SPEC 'DPS RESOURCE DESCRIPTION'                      $

 000109 EXTEND, ATLAS MODIFIERS FOR IMPEDANCE,
               'AUTORANGE' MODIFIER-DESCRIPTOR 'ON' 'OFF',
               USAGE R,
               SPEC 'AT6-DMM.DS'                                    $

 000111 EXTEND, ATLAS MODIFIERS FOR IMPEDANCE,
               'OFFSET-COMPENSATION'
               MODIFIER-DESCRIPTOR 'ON' 'OFF',
               USAGE R,
               SPEC 'AT6-DMM.DS'                                    $
C
 ********************************************************************
 ********************************************************************
 **                                                                **
 **            R E Q U I R E     S T A T E M E N T S              **
 **                                                                **
 ********************************************************************
 ********************************************************************
C                                                                   $
C
 ********************************************************************
 **                                                                **
 **       R E Q U I R E   E X T E R N A L   L O A D S              **
 **                                                                **
 ********************************************************************
                                                                    $
C
 ********************************************************************
```


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```
 **                                                              **
 **       R E Q U I R E   E X T E R N A L   S O U R C E S        **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E   E X T E R N A L   S E N S O R S        **
 **                                                              **
 ******************************************************************
                                                                  $
 002005 REQUIRE, 'MEAS-RES4', EXTERNAL, SENSOR(RES), IMPEDANCE,
         CONTROL,
           SAMPLE-WIDTH RANGE 0.01 MSEC TO 2000 MSEC CONTINUOUS,
           AUTORANGE ON OFF,
           OFFSET-COMPENSATION ON OFF,
         CAPABILITY,
           RES RANGE 0 OHM TO 100 OHM,
         CNX HI LO
         REF HI LO                                                $
C       4 WIRES RESISTOR MEASUREMENT.
 -----------------------------------------------------------------$

 002007 REQUIRE, 'MEAS-VDC', EXTERNAL, SENSOR(VOLTAGE), DC SIGNAL,
         CONTROL,
           SAMPLE-WIDTH RANGE 0.01 MSEC TO 2000 MSEC CONTINUOUS,
           AUTORANGE ON OFF,
         CAPABILITY,
           VOLTAGE RANGE -300V TO 300V BY 0.001V,
       CNX HI LO                                                  $
C
 ******************************************************************
 **                                                              **
 **        R E Q U I R E   E X T E R N A L   S H O R T S         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **        R E Q U I R E   E X T E R N A L   S H O R T S         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **            E X T E R N A L     T I M E R S                   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
```


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```
 **                                                              **
 ** R E Q U I R E   E X T E R N A L   E V E N T   M O N I T O R S **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    L O A D S               **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S O U R C E S           **
 **                                                              **
 ******************************************************************
                                                                  $
 005505 REQUIRE, '28VDC-SUP', SOURCE, WAVEFORM,
                CONTROL,
                  DELAYED-EXEC ON OFF,
                  SAMPLE RANGE 0V TO 36V BY 0.01 V,
                  SAMPLE-TIME RANGE 0 MSEC TO 500 MSEC BY 1 MSEC,
                LIMIT,
                  CURRENT MAX 25A,
                CNX HI LO  SENSE-HI SENSE-LO                      $
C       DC POWER 28VDC.
 ------------------------------------------------------------------$
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     S E N S O R S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     C O M M O N S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S H O R T S             **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    T I M E R S             **
```


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```
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **   R E Q U I R E   L O C A L   E V E N T   M O N I T O R S   **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 ****************************************************************
 **                                                              **
 **                    D  E  C  L  A  R  E                       **
 **                                                              **
 ****************************************************************
 ****************************************************************
C                                                                $
C
 ****************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F      T  Y  P  E  S          **
 **                                                              **
 ****************************************************************
                                                                 $
 010005 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION(
                   'ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN'
                   )                                             $
 010007 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                  $
C       State of device
 ---------------------------------------------------------------$

 010009 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                             $
C       Mnemonic of all UUT
 ---------------------------------------------------------------$

 010015 DECLARE, TYPE, 'T-DCSU-PIN' IS CONNECTION (J1-Dr, J1-Er,
                J2-Dr, J2-Er, J3-Dr, J3-Er, J4-Dr, J4-Er,
                OUTPUT-28HI, OUTPUT-28LO)                        $
C       List of "DCSU" class pins for UUT POSTE 1 28 VDC adjust
        and other POSTE
                                                                 $
C
 ****************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F      C O N S T A N T S      **
 **                                                              **
 ****************************************************************
                                                                 $
```


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```
 011005 DECLARE, CONSTANT, 'INACTIVE' IS C'0'                    $
 011007 DECLARE, CONSTANT, 'NOT-ADJUSTED' IS C'N'                $
 011009 DECLARE, CONSTANT, 'OUT-OF-ORDER' IS C'H'                $
 011011 DECLARE, CONSTANT, 'ACTIVE' IS C'1'                      $
C
 ****************************************************************
 **                                                            **
 **              D E C L A R A T I O N     O F                 **
 **                                                            **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C       **
 **                                                            **
 **                    V A R I A B L E S                       **
 **                                                            **
 ****************************************************************
                                                                 $
 012005 DECLARE, EXTERNAL, VARIABLE, 'DISK' IS FILE OF TEXT      $
 012007 DECLARE, EXTERNAL, VARIABLE, 'CRT' IS FILE OF TEXT       $
 012009 DECLARE, EXTERNAL, VARIABLE, 'NDISK' IS FILE OF TEXT     $
 012011 DECLARE, EXTERNAL, VARIABLE, 'FATAL' IS BOOLEAN          $
 012013 DECLARE, EXTERNAL, VARIABLE, 'POWER-ON' IS BOOLEAN       $
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F   E X T E R N A L      **
 **                                                            **
 **     P R O G R A M    S P E C I F I C    V A R I A B L E S   **
 **                                                            **
 ****************************************************************
                                                                 $
 013005 DECLARE, EXTERNAL, VARIABLE, 'G-ALIM28-STATE' IS
               'T-SIGNAL-STATE'                                  $
C       State of 28VDC-SUP device
 ---------------------------------------------------------------$

 013007 DECLARE, EXTERNAL, VARIABLE, 'G-CUSTOMER' IS STRING(80) OF
               CHAR                                              $
C       Indicates the choice of test :
C       airlines or production
 ---------------------------------------------------------------$

 013009 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
                       'EDIT-RESULT' IS BOOLEAN ;
                       'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                       'PART-NUMB' IS STRING(20) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                            J8-G, J9-G, J10-G, J11-G, J12-G
                           ) ;
                       'LO' IS CONNECTION(
                           J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
```


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```
                         J8-t, J9-t, J10-t, J11-t, J12-t
                        )
                    ]                                          $
C       Informations about all UUT
 ----------------------------------------------------------------$

 013011 DECLARE, EXTERNAL, VARIABLE, 'G-ALIM28-TABL' IS ARRAY('UUT1'
               THRU 'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(12) OF CHAR ;
                       'STATE' IS 'T-SIGNAL-STATE' ;
                       'HI' IS CONNECTION(
                           J1-D, J2-D, J3-D, J4-D, J5-D, J6-D, J7-D,
                            J8-D, J9-D, J10-D, J11-D, J12-D
                           ) ;
                       'LO' IS CONNECTION(
                           J1-E, J2-E, J3-E, J4-E, J5-E, J6-E, J7-E,
                            J8-E, J9-E, J10-E, J11-E, J12-E
                           )
                       ]                                       $
C       General informations about alim-28V class signals
 ----------------------------------------------------------------$

 013012 DECLARE, EXTERNAL, VARIABLE, 'G-BON-FONCT-TABL' IS ARRAY('UUT1'
                    THRU 'UUT4') OF
                   RECORD OF [
                       'NAME' IS STRING(15) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-F, J2-F, J3-F, J4-F
                           )
                       ]                                       $
C       General informations about each BON-FONCT UUT signal
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F    L O C A L           **
 **                                                            **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S     **
 **                                                            **
 ****************************************************************
                                                                $
 014007 DECLARE, VARIABLE, 'S-MESURE-R5' IS DECIMAL             $
C       R5 resistor value
 ----------------------------------------------------------------$

 014009 DECLARE, VARIABLE, 'S-VOLT-PRG' IS DECIMAL              $
C       PROGRAMMED VALUE on 28VDC-SUP DEVICE
 ----------------------------------------------------------------$
C
 ****************************************************************
 ****************************************************************
 **                                                            **
 **           E S T A B L I S H    P R O T O C O L             **
```


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```
 **                                                              **
 ****************************************************************
 ****************************************************************
C                                                                 $
C
 ****************************************************************
 ****************************************************************
 **                                                              **
 **                I D E N T I F Y                               **
 **                                                              **
 ****************************************************************
 ****************************************************************
C                                                                 $
C
 ****************************************************************
 **                                                              **
 **      I D E N T I F Y   E X T E R N A L   T I M E R           **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **          I D E N T I F Y     E X T E R N A L                 **
 **                                                              **
 **           T I M E   B A S E D   E V E N T                    **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **         S I G N A L   B A S E D   E V E N T                  **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y     E X T E R N A L                  **
 **                                                              **
 **          E V E N T   B A S E D   E V E N T                   **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **             E V E N T   I N T E R V A L                      **
 **                                                              **
```


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```
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**         I D E N T I F Y    E X T E R N A L                  **
**                                                             **
**           E V E N T    I N D I C A T O R                   **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**            I D E N T I F Y    T I M E R                    **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**         I D E N T I F Y    T I M E                          **
**                                                             **
**           B A S E D    E V E N T                           **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**         I D E N T I F Y    S I G N A L                      **
**                                                             **
**           B A S E D    E V E N T                           **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**         I D E N T I F Y    E V E N T                        **
**                                                             **
**           B A S E D    E V E N T                           **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**     I D E N T F Y   E V E N T   I N T E R N A L             **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
```


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```
 **                                                              **
 **     I D E N T F Y   E V E N T   I N D I C A T O R            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                  D E F I N E                                 **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **            D E F I N E    E X C H A N G E                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E   D R A W I N G                      **
 **                                                              **
 ******************************************************************
                                                                  $
 032005 DEFINE, 'R-CONSO', DRAWING, R5,
              TERMINALS R5-A R5-B
                                                                  $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E    S I G N A L                       **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 ** D E F I N E    D I G I T A L   C O N F I G U R A T I O N     **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S        **
 **                                                              **
 **             S T A N D A R D   L I B R A R Y                  **
 **                                                              **
 ******************************************************************
                                                                  $
```


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```
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                        W R I T E                           ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |  Param-in  : .PERIPH                                        |
 |                                                             |
 |              .MESSAGE                                       |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 050005 DEFINE, 'WRITE', EXTERNAL, PROCEDURE (
                    '.PERIPH' IS 'PERIPH-DEVICES',
                    '.MESSAGE' IS STRING(80) OF CHAR
               )                                               $

        END, 'WRITE'                                           $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    I N I T - F A I L                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 050007 DEFINE, 'INIT-FAIL', EXTERNAL, PROCEDURE               $

        END, 'INIT-FAIL'                                       $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                      B I P - B I P                         ***
 ***                                                            ***
 ******************************************************************
```


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```
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : P.MESSAGE                                         |
 |                                                                |
 |              P.TIME                                            |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 050009 DEFINE, 'BIP-BIP', EXTERNAL, PROCEDURE (
                    'P.MESSAGE' IS STRING(60) OF CHAR,
                    'P.TIME' IS DECIMAL
                )                                                 $

        END, 'BIP-BIP'                                            $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  T P S - Q U E S T I O N                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : .MESSAGE                                          |
 |                                                                |
 |  Param-out : .YES                                              |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 050011 DEFINE, 'TPS-QUESTION', EXTERNAL, PROCEDURE (
                    '.MESSAGE' IS STRING(75) OF CHAR
                )
                RESULT (
                    '.YES' IS BOOLEAN
                )                                                 $

        END, 'TPS-QUESTION'                                       $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                   T P S - W A R N I N G                    ***
```


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```
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |                                                                  |
 |                                                                  |
 |  Param-in  : .MESSAGE                                            |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 050013 DEFINE, 'TPS-WARNING', EXTERNAL, PROCEDURE (
                   '.MESSAGE' IS STRING(60) OF CHAR
               )                                                    $

        END, 'TPS-WARNING'                                          $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                      U U T - D O W N                         ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |                                                                  |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 050015 DEFINE, 'UUT-DOWN', EXTERNAL, PROCEDURE                     $

        END, 'UUT-DOWN'                                             $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                    E D I T - A B O R T                       ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |                                                                  |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 050017 DEFINE, 'EDIT-ABORT', EXTERNAL, PROCEDURE                   $
```

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```
        END, 'EDIT-ABORT'                                          $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                          S T O P                             ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |                                                                  |
 |                                                                  |
 |  Param-in  : .FAIL                                               |
 |                                                                  |
 |              .FATAL                                              |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 050019 DEFINE, 'STOP', EXTERNAL, PROCEDURE (
                   '.FAIL' IS BOOLEAN,
                   '.FATAL' IS BOOLEAN
               )                                                    $

        END, 'STOP'                                                 $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 **                                                                **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S        **
 **                                                                **
 **             S P E C I F I C   P R O G R A M                    **
 **                                                                **
 ********************************************************************
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 S I G N - O F S T - A D J                    ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Taking in account measured value and programmed value this      |
 |  procedure determines the new voltage to apply . The calculation |
 |  compensates offset error for power supply needing an offset     |
```


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```
 |  compensation                                                  |
 |                                                                |
 |  Param-in  : V-MESUREE  Measured value                         |
 |                                                                |
 |              V-NOMINAL  Value to obtain                        |
 |                                                                |
 |              TOL-HI  Upper limit for the value to obtain       |
 |                                                                |
 |              TOL-LO  Lower limit for the value to obtain       |
 |                                                                |
 |              PROG-MIN  Programming lower limit                 |
 |                                                                |
 |              PROG-MAX  Programming upper limit                 |
 |                                                                |
 |  Param-out : V-PROGRAMMEE  Programmed value                    |
 |                                                                |
 |              DEVICE-STATE  State of power supply to adjust     |
 |                                                                |
 |              NB-AJU  Loop counter of adjustment                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 060005 DEFINE, 'SIGN-OFST-ADJ', EXTERNAL, PROCEDURE (
                    'V-MESUREE' IS DECIMAL,
                    'V-NOMINAL' IS DECIMAL,
                    'TOL-HI' IS DECIMAL,
                    'TOL-LO' IS DECIMAL,
                    'PROG-MIN' IS DECIMAL,
                    'PROG-MAX' IS DECIMAL
                )
                RESULT (
                    'V-PROGRAMMEE' IS DECIMAL,
                    'DEVICE-STATE' IS 'T-SIGNAL-STATE',
                    'NB-AJU' IS INTEGER
                )                                                 $

        END, 'SIGN-OFST-ADJ'                                      $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                   U T I L - R E M O V E                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Remove UUT-1, UUT-2, ....or UUT-12 .                          |
 |                                                                |
 |  Param-in  : ABANDON-UUT  If true, test is abandonned on 'UUT' |
 |                                                                |
```


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```
 |             UUT  Signal to be connected                        |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 060007 DEFINE, 'UTIL-REMOVE', EXTERNAL, PROCEDURE (
                    'ABANDON-UUT' IS BOOLEAN,
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        END, 'UTIL-REMOVE'                                        $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          D E F I N E   L O C A L   P R O C E D U R E         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         D E F I N E   G L O B A L   P R O C E D U R E        **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                D C S U - A P P L Y - M O D                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Application and adjustment of 28VDC-SUP.                      |
 |                                                                |
 |  Param-in  : VOLTAGE  Voltage to program                       |
 |                                                                |
 |              UUT  Signal concerned                             |
 |                                                                |
 |              CURRENT  Current to program                       |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080005 DEFINE, 'DCSU-APPLY-MOD', GLOBAL, PROCEDURE (
                    'VOLTAGE' IS DECIMAL,
                    'UUT' IS 'T-ALL-UUT',
                    'CURRENT' IS ENUMERATION(
                        '2A', '5A', '25A'
                        )
                )                                                 $
```


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```
        DECLARE, VARIABLE, 'NB-ADJ' IS INTEGER  INITIAL = 10       $
        DECLARE, VARIABLE, 'MEASURE' IS DECIMAL                    $
        DECLARE, VARIABLE, '28VDC-HI-MEAS' IS 'T-DCSU-PIN'         $
        DECLARE, VARIABLE, '28VDC-LO-MEAS' IS 'T-DCSU-PIN'         $
        DECLARE, VARIABLE, 'TEST-OK' IS BOOLEAN  INITIAL = FALSE    $

        DECLARE, VARIABLE, 'L-TAB-VOLT' IS ARRAY(1 THRU 4) OF
                 DECIMAL                                           $
C       Array of 28VDC-SUP power nominal value
                                                                   $
        DECLARE, VARIABLE, 'L-TAB-TIME' IS ARRAY(1 THRU 4) OF
                 DECIMAL INITIAL = (0, 0.1, 0.1, 0.1)              $
C       Array of 28VDC-SUP nul microcut value
                                                                   $
C       Set S-VOLT-PRG to VOLTAGE                                  $
        CALCULATE, 'S-VOLT-PRG' = 'VOLTAGE'                        $
        CALCULATE, 'L-TAB-VOLT'(1) = 'S-VOLT-PRG'                  $
        CALCULATE, 'L-TAB-VOLT'(2) = 'S-VOLT-PRG'                  $
        CALCULATE, 'L-TAB-VOLT'(3) = 'S-VOLT-PRG'                  $
        CALCULATE, 'L-TAB-VOLT'(4) = 'S-VOLT-PRG'                  $
C       If 28VDC-SUP is off                                        $
 080010 IF, 'G-ALIM28-STATE' EQ 'INACTIVE', THEN                   $
C         R5 measurement                                           $
          MEASURE, (RES INTO 'S-MESURE-R5'),
                   IMPEDANCE USING 'MEAS-RES4',
                   RES RANGE 0 OHM TO 1 OHM,
                   OFFSET-COMPENSATION ON,
                   AUTORANGE OFF,
                   SAMPLE-WIDTH 200 MSEC,
                   CNX HI R5-A     LO R5-B
                   REF HI R5-A-REF LO R5-B-REF                     $
C         Application of voltage and current                       $
          IF, 'CURRENT' EQ '2A', THEN                              $
            APPLY, WAVEFORM USING '28VDC-SUP',
                   SAMPLE 'L-TAB-VOLT'(1 THRU 4) RANGE 0V TO 36 V,
                   SAMPLE-TIME 'L-TAB-TIME'(1 THRU 4)
                               RANGE 0 MSEC TO 500 MSEC,
                   CURRENT MAX 2A,
                   DELAYED-EXEC OFF,
                   CNX HI R5-A
                       LO OUTPUT-28LO
                   SENSE-HI R5-A
                   SENSE-LO OUTPUT-28LO                            $

          ELSE IF, 'CURRENT' EQ '5A', THEN                         $
            APPLY, WAVEFORM USING '28VDC-SUP',
                   SAMPLE 'L-TAB-VOLT'(1 THRU 4) RANGE 0V TO 36 V,
                   SAMPLE-TIME 'L-TAB-TIME'(1 THRU 4)
                               RANGE 0 MSEC TO 500 MSEC,
                   CURRENT MAX 5A,
                   DELAYED-EXEC OFF,
                   CNX HI R5-A
                       LO OUTPUT-28LO
```

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```
                SENSE-HI R5-A
                SENSE-LO OUTPUT-28LO                          $

          ELSE IF, 'CURRENT' EQ '25A', THEN                   $
            APPLY, WAVEFORM USING '28VDC-SUP',
                   SAMPLE 'L-TAB-VOLT'(1 THRU 4) RANGE 0V TO 36 V,
                   SAMPLE-TIME 'L-TAB-TIME'(1 THRU 4)
                               RANGE 0 MSEC TO 500 MSEC,
                   CURRENT MAX 25A,
                   DELAYED-EXEC OFF,
                   CNX HI R5-A
                       LO OUTPUT-28LO
                   SENSE-HI R5-A
                   SENSE-LO OUTPUT-28LO                       $

          END, IF                                             $

 080020 END, IF                                               $
C-------------------------------------------------------------$
C       CALCULATES POINTS TO MEASURE '28VDC-SUP' VOLTAGE      $
        IF, 'UUT' EQ 'UUT1', THEN                             $
          CALCULATE, '28VDC-HI-MEAS' = CONNECTION J1-Dr       $
          CALCULATE, '28VDC-LO-MEAS' = CONNECTION J1-Er       $
        ELSE IF, 'UUT' EQ 'UUT2', THEN                        $
          CALCULATE, '28VDC-HI-MEAS' = CONNECTION J2-Dr       $
          CALCULATE, '28VDC-LO-MEAS' = CONNECTION J2-Er       $
        ELSE IF, 'UUT' EQ 'UUT3', THEN                        $
          CALCULATE, '28VDC-HI-MEAS' = CONNECTION J3-Dr       $
          CALCULATE, '28VDC-LO-MEAS' = CONNECTION J3-Er       $
        ELSE IF, 'UUT' EQ 'UUT4', THEN                        $
          CALCULATE, '28VDC-HI-MEAS' = CONNECTION J4-Dr       $
          CALCULATE, '28VDC-LO-MEAS' = CONNECTION J4-Er       $
        ELSE                                                  $
          CALCULATE, '28VDC-HI-MEAS' = CONNECTION OUTPUT-28HI $
          CALCULATE, '28VDC-LO-MEAS' = CONNECTION OUTPUT-28LO $
        END, IF                                               $

        SETUP, (VOLTAGE), DC SIGNAL USING 'MEAS-VDC',
               SAMPLE-WIDTH 200 MSEC,
               AUTORANGE ON,
               VOLTAGE RANGE -40V TO 40V                      $

        CONNECT, (VOLTAGE), DC SIGNAL USING 'MEAS-VDC',
                 CNX HI '28VDC-HI-MEAS' LO '28VDC-LO-MEAS'    $

        CALCULATE, 'G-ALIM28-STATE' = 'NOT-ADJUSTED'          $
C       While 28VDC-SUP is not adjusted                       $
 080025 WHILE, 'G-ALIM28-STATE' EQ 'NOT-ADJUSTED', THEN       $
C         Modifying of voltage and current                    $
          IF, 'CURRENT' EQ '2A', THEN                         $
            CHANGE, WAVEFORM USING '28VDC-SUP',
                 SAMPLE 'L-TAB-VOLT'(1 THRU 4) RANGE 0V TO 36 V,
                 SAMPLE-TIME 'L-TAB-TIME'(1 THRU 4)
                             RANGE 0 MSEC TO 500 MSEC,
```


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```
                CURRENT MAX 2A,
                DELAYED-EXEC OFF,
                CNX HI R5-A
                    LO OUTPUT-28LO
                SENSE-HI R5-A
                SENSE-LO OUTPUT-28LO                              $
          ELSE IF, 'CURRENT' EQ '5A', THEN                        $
            CHANGE, WAVEFORM USING '28VDC-SUP',
                SAMPLE 'L-TAB-VOLT'(1 THRU 4) RANGE 0V TO 36 V,
                SAMPLE-TIME 'L-TAB-TIME'(1 THRU 4)
                            RANGE 0 MSEC TO 500 MSEC,
                CURRENT MAX 5A,
                DELAYED-EXEC OFF,
                CNX HI R5-A
                    LO OUTPUT-28LO
                SENSE-HI R5-A
                SENSE-LO OUTPUT-28LO                              $
          ELSE IF, 'CURRENT' EQ '25A', THEN                       $
            CHANGE, WAVEFORM USING '28VDC-SUP',
                SAMPLE 'L-TAB-VOLT'(1 THRU 4) RANGE 0V TO 36 V,
                SAMPLE-TIME 'L-TAB-TIME'(1 THRU 4)
                            RANGE 0 MSEC TO 500 MSEC,
                CURRENT MAX 25A,
                DELAYED-EXEC OFF,
                CNX HI R5-A
                    LO OUTPUT-28LO
                SENSE-HI R5-A
                SENSE-LO OUTPUT-28LO                              $
          END, IF                                                 $

          WAIT FOR, TIME 2 SEC                                    $
C         Voltage measurement                                     $
 080027   READ, (VOLTAGE INTO 'MEASURE'),
                DC SIGNAL USING 'MEAS-VDC',
                SAMPLE-WIDTH 200 MSEC,
                AUTORANGE ON,
                VOLTAGE RANGE -40V TO 40V,
                CNX HI '28VDC-HI-MEAS' LO '28VDC-LO-MEAS'         $
C         Calculation of state and new voltage to apply to 28VDC-SUP$
          PERFORM, 'SIGN-OFST-ADJ' ('MEASURE', 'VOLTAGE',
                   ('VOLTAGE' + 0.1), ('VOLTAGE' - 0.1),
                   ('VOLTAGE' - 3),   ('VOLTAGE' + 3))
                   RESULT ('S-VOLT-PRG', 'G-ALIM28-STATE',
                           'NB-ADJ')                              $

          CALCULATE, 'L-TAB-VOLT'(1) = 'S-VOLT-PRG'               $
          CALCULATE, 'L-TAB-VOLT'(2) = 'S-VOLT-PRG'               $
          CALCULATE, 'L-TAB-VOLT'(3) = 'S-VOLT-PRG'               $
          CALCULATE, 'L-TAB-VOLT'(4) = 'S-VOLT-PRG'               $
        END, WHILE                                                $

        REMOVE, (VOLTAGE), DC SIGNAL USING 'MEAS-VDC',
                SAMPLE-WIDTH 200 MSEC,
                AUTORANGE ON,
```

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```
                VOLTAGE RANGE -40V TO 40V,
                CNX HI '28VDC-HI-MEAS' LO '28VDC-LO-MEAS'          $
C       If 28VDC-SUP cannot be programmed                          $
        IF, 'G-ALIM28-STATE' EQ 'OUT-OF-ORDER', THEN               $
C         Problem with adjustment with no UUT plugged              $
          IF, 'UUT' EQ 'NO-UUT', THEN                              $
C           Output and error message                               $
 080030     PERFORM, 'WRITE'('ALL',
                C'*************************************'
                & C'*****************************************')    $
            PERFORM, 'WRITE' ('ALL',
                C'*                     IMPOSSIBLE  TO '
                & C'ADJUST 28VDC-SUP                       *')     $

            CALCULATE, NOGO = TRUE                                 $
            OUTPUT, TEXT TO 'DISK', FROM
                C'*                    PROGRAMMED VOLTA',
                C'GE  ==>     ','VOLTAGE':6:3, C'           ',
                C'           *'                                    $
            OUTPUT, TEXT TO 'DISK', FROM
                C'*                    MEASURED VOLTAGE',
                C'    ==>     ','MEASURE':6:3, C'           ',
                C'           *'                                    $
            OUTPUT, TEXT TO 'CRT', FROM
                C'*                    PROGRAMMED VOLTA',
                C'GE  ==>     ','VOLTAGE':6:3, C'           ',
                C'           *'                                    $
            OUTPUT, TEXT TO 'CRT', FROM
                C'*                    MEASURED VOLTAGE',
                C'    ==>     ','MEASURE':6:3, C'           ',
                C'           *'                                    $
            OUTPUT, TEXT TO 'NDISK', FROM
                C'*                    PROGRAMMED VOLTA',
                C'GE  ==>     ','VOLTAGE':6:3, C'           ',
                C'           *'                                    $
            OUTPUT, TEXT TO 'NDISK', FROM
                C'*                    MEASURED VOLTAGE',
                C'    ==>     ','MEASURE':6:3, C'           ',
                C'           *'                                    $
            CALCULATE, NOGO = FALSE                                $

            PERFORM, 'WRITE'('ALL',
                C'****************************************'
                & C'****************************************')    $
C           If FATAL = FALSE, then power-down the UUT and stop the
            program                                                $
            IF, NOT 'FATAL', THEN                                  $
              PERFORM, 'INIT-FAIL'                                 $
            END, IF                                                $
C         Problem with adjustment on UUT                           $
          ELSE                                                     $

            PERFORM, 'WRITE' ('ALL', C'')                          $
```


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```
            IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN                $
              PERFORM, 'WRITE' ('ALL',
                      C'   0~' & 'G-UUT'('UUT').'NAME')            $
            END, IF                                                $

            PERFORM, 'WRITE' ('ALL',
               C'   PROBLEM WITH ADJUSTMENT OF 28VDC-SUP ON PLUG ' &
               C'< J' & 'G-UUT'('UUT').'NAME' & C' > .')           $
            PERFORM, 'WRITE' ('ALL', C'')                          $
            PERFORM, 'BIP-BIP'
              (C'PROBLEM WITH ADJUSTMENT OF 28VDC-SUP ON PLUG < J' &
              'G-UUT'('UUT').'NAME' & C' >', 1)                    $

            PERFORM, 'TPS-QUESTION'
              (C'WRONG ADJUSTMENT OF 28VDC ON PLUG < J' &
              'G-UUT'('UUT').'NAME' & C' > .' &
              C' DO YOU WANT TO CONTINUE TEST ?')
                      RESULT ('TEST-OK')                           $

            IF, 'TEST-OK', THEN                                    $
              PERFORM, 'TPS-WARNING' (C'')                         $
              PERFORM, 'UTIL-REMOVE' (TRUE, 'UUT')                 $
            ELSE                                                   $
              CALCULATE, 'POWER-ON' = TRUE                         $
              PERFORM, 'UUT-DOWN'                                  $
              PERFORM, 'EDIT-ABORT'                                $
              PERFORM, 'STOP'(TRUE, TRUE)                          $
            END, IF                                                $

          END,IF                                                   $

        END, IF                                                    $

        END, 'DCSU-APPLY-MOD'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    D C S U - C O N S O                     ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Measures power consuption of UUT.                              |
 |                                                                 |
 |  Param-in  : UUT  Signal to be connected                        |
 |                                                                 |
 |  Param-out : CURRENT  Result of measurement.                    |
 |                                                                 |
 |-----------------------------------------------------------------|
```


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```
                                                                $
 080105 DEFINE, 'DCSU-CONSO', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )
                RESULT (
                    'CURRENT' IS DECIMAL
                )                                               $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $
C         R-CONSO drawing connection on UUT                     $
          APPLY, 'R-CONSO',
                  CNX *R5-B 'G-ALIM28-TABL'('UUT').'HI'         $

          DISCONNECT, WAVEFORM USING '28VDC-SUP',
                      CNX HI 'G-ALIM28-TABL'('UUT').'HI'        $
C         Measurement of current on R5                          $
          MEASURE, (VOLTAGE),
                 DC SIGNAL USING 'MEAS-VDC',
                 SAMPLE-WIDTH 20 MSEC,
                 AUTORANGE ON,
                 VOLTAGE RANGE -30V TO 30V,
                 CNX HI R5-A  LO R5-B                           $

          IF, 'S-MESURE-R5' EQ 0.0, THEN                        $
            CALCULATE, 'CURRENT' = 9E99                         $
          ELSE                                                  $
            CALCULATE, 'CURRENT' = 'MEASUREMENT' / 'S-MESURE-R5'  $
          END, IF                                               $

          CONNECT, WAVEFORM USING '28VDC-SUP',
                   CNX HI 'G-ALIM28-TABL'('UUT').'HI'           $
C         R-CONSO drawing disconnection from UUT                $
          REMOVE, 'R-CONSO',
                  CNX *R5-B 'G-ALIM28-TABL'('UUT').'HI'         $

        END, IF                                                 $

        END, 'DCSU-CONSO'                                       $
C|                                                              |
 |---------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 D C S U - C O N N E C T                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Connection of 28VDC-SUP on UUT-1 to UUT-12 .                 |
 |                                                               |
 |  Param-in  : UUT  Signal to be connected                      |
```


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```
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080205 DEFINE, 'DCSU-CONNECT', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                  $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          IF, 'G-ALIM28-TABL'('UUT').'STATE' EQ 'INACTIVE', THEN   $
C           Connection of '28VDC-SUP' on UUT pins if disconnected  $
            CONNECT, WAVEFORM USING '28VDC-SUP',
                     CNX HI 'G-ALIM28-TABL'('UUT').'HI'
                         LO 'G-ALIM28-TABL'('UUT').'LO'           $

            CALCULATE, 'G-ALIM28-TABL'('UUT').'STATE' = 'ACTIVE'   $

          END, IF                                                 $

        END, IF                                                   $

        END, 'DCSU-CONNECT'                                       $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               D C S U - D I S C O N N E C T                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Disconnection of 28VDC-SUP from UUT-1 to UUT-12 .             |
 |                                                                |
 |  Param-in  : UUT  Signal to be disconnected                    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080305 DEFINE, 'DCSU-DISCONNECT', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                  $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          IF, 'G-ALIM28-TABL'('UUT').'STATE' EQ 'ACTIVE', THEN     $
C           Disconnection of '28VDC-SUP' from UUT pins if connected $
            DISCONNECT, WAVEFORM USING '28VDC-SUP',
                     CNX HI 'G-ALIM28-TABL'('UUT').'HI'
                         LO 'G-ALIM28-TABL'('UUT').'LO'           $

            CALCULATE, 'G-ALIM28-TABL'('UUT').'STATE' = 'INACTIVE'  $
```

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```
          END, IF                                                $

        END, IF                                                  $

        END, 'DCSU-DISCONNECT'                                   $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               M E A S - B O N - F O N C T                  ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Measures level of discret BON-FONCT of UUT.                  |
 |                                                               |
 |  Param-in  : UUT  Signal to be measured                       |
 |                                                               |
 |  Param-out : VOLTAGE  Result of measurement.                  |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 080405 DEFINE, 'MEAS-BON-FONCT', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
                )
                RESULT (
                   'DISC-VALUE' IS DECIMAL
                )                                                $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $
C         Measurement of voltage on Jx-F                         $
          MEASURE, (VOLTAGE),
                 DC SIGNAL USING 'MEAS-VDC',
                 SAMPLE-WIDTH 20 MSEC,
                 AUTORANGE ON,
                 VOLTAGE RANGE -30V TO 30V,
                 CNX HI 'G-BON-FONCT-TABL'('UUT').'HI' LO EARTH     $

          CALCULATE, 'DISC-VALUE' = -('MEASUREMENT')             $

        END, IF                                                  $

        END, 'MEAS-BON-FONCT'                                    $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
```


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```
*******************************************************************
*****                                                         *****
*****                                                         *****
*****              E N D    O F    M O D U L E                *****
*****                                                         *****
*****                                                         *****
*******************************************************************
*******************************************************************
*******************************************************************
                                                                  $
999999 TERMINATE, ATLAS MODULE 'TH-ISF-C1DCSU01'                  $
```

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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-C1ACSU02'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             C L A S S     M O D U L E                ******
 ******                                                      ******
 ******              AC POWER APPLIED ON UUT .               ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $

 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000105   EXTEND ATLAS                                     *
 *                                                                *
 *      005505   REQUIRE SOURCES                                  *
 *      006005   REQUIRE SENSORS                                  *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      011005   DECLARE CONSTANT                                 *
 *      012005   DECLARE EXTERNAL VARIABLES  (LIBRARY )           *
 *      013005   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *                                                                *
 *                                                                *
```


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```
 *      050005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )    *
 *                                                                  *
 *      060005   DEFINE EXTERNAL PROCEDURES ( PROGRAMME )           *
 *                                                                  *
 *      080005   DEFINE GLOBAL SIGNAL SPECIFIC PROCEDURES           *
 *                                                                  *
 *      999999   TERMINATE ATLAS MODULE                             *
 *                                                                  *
 ********************************************************************
C                                                                   $
C
 ********************************************************************
 **                                                                **
 **      E X T E N D     A T L A S     S T A T E M E N T S       **
 **                                                                **
 ********************************************************************
                                                                    $
 000105 EXTEND, ATLAS MODIFIERS FOR IMPEDANCE,
               'AUTORANGE' MODIFIER-DESCRIPTOR 'ON' 'OFF',
               USAGE R,
               SPEC 'AT6-DMM.DS'                                    $
C
 ********************************************************************
 ********************************************************************
 **                                                                **
 **            R E Q U I R E     S T A T E M E N T S               **
 **                                                                **
 ********************************************************************
 ********************************************************************
C                                                                   $
C
 ********************************************************************
 **                                                                **
 **       R E Q U I R E   E X T E R N A L   L O A D S              **
 **                                                                **
 ********************************************************************
                                                                    $
C
 ********************************************************************
 **                                                                **
 **       R E Q U I R E  E X T E R N A L  S O U R C E S            **
 **                                                                **
 ********************************************************************
                                                                    $
C
 ********************************************************************
 **                                                                **
 **       R E Q U I R E  E X T E R N A L  S E N S O R S            **
 **                                                                **
 ********************************************************************
                                                                    $
C
 ********************************************************************
 **                                                                **
```


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```
 **        R E Q U I R E   E X T E R N A L   S H O R T S        **
 **                                                             **
 *****************************************************************
                                                                 $
C
 *****************************************************************
 **                                                             **
 **        R E Q U I R E   E X T E R N A L   S H O R T S        **
 **                                                             **
 *****************************************************************
                                                                 $
C
 *****************************************************************
 **                                                             **
 **            E X T E R N A L     T I M E R S                  **
 **                                                             **
 *****************************************************************
                                                                 $
C
 *****************************************************************
 **                                                             **
 ** R E Q U I R E   E X T E R N A L   E V E N T   M O N I T O R S **
 **                                                             **
 *****************************************************************
                                                                 $
C
 *****************************************************************
 **                                                             **
 **       R E Q U I R E     L O C A L     L O A D S              **
 **                                                             **
 *****************************************************************
                                                                 $
C
 *****************************************************************
 **                                                             **
 **       R E Q U I R E     L O C A L     S O U R C E S          **
 **                                                             **
 *****************************************************************
                                                                 $
 005505 REQUIRE, '5VAC-SUP', SOURCE, AC SIGNAL,
                CONTROL,
                FREQ RANGE 300HZ TO 3500HZ BY 2HZ,
                VOLTAGE RANGE 0 V TO 10 V BY 0.1 V,
                LIMIT,
                CURRENT MAX 5.77A,
                CNX HI LO                                        $
C       AC POWER 5VAC.
 -----------------------------------------------------------------$
C
 *****************************************************************
 **                                                             **
 **       R E Q U I R E     L O C A L      S E N S O R S         **
 **                                                             **
 *****************************************************************
```


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```
                                                                  $
 006005 REQUIRE, 'MEAS-VAC', SENSOR(VOLTAGE), AC SIGNAL,
                CONTROL,
                  AUTORANGE ON OFF,
                CAPABILITY,
                  DC-OFFSET RANGE -300V TO 300V BY 0.001V,
                  VOLTAGE RANGE 0V TO 300V BY 0.001V,
                  FREQ RANGE 20.0 HZ TO 1000000.0 HZ BY 0.1 HZ,
                CNX HI LO                                         $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     C O M M O N S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S H O R T S             **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    T I M E R S             **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **   R E Q U I R E   L O C A L   E V E N T   M O N I T O R S    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                   D  E  C  L  A  R  E                        **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F      T  Y  P  E  S           **
 **                                                              **
 ******************************************************************
                                                                  $
 010005 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION(
```


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```
                    'ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN'
                    )                                                $
 010007 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                      $
C       State of device
 ----------------------------------------------------------------$

 010009 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                    'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                    'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                    'UUT12', 'NO-UUT'
                    )                                                $
C       Mnemonic of all UUT
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **    D E C L A R A T I O N     O F      C O N S T A N T S    **
 **                                                            **
 ****************************************************************
                                                                  $
 011005 DECLARE, CONSTANT, 'INACTIVE' IS C'0'                     $
 011007 DECLARE, CONSTANT, 'NOT-ADJUSTED' IS C'N'                 $
 011009 DECLARE, CONSTANT, 'OUT-OF-ORDER' IS C'H'                 $
 011011 DECLARE, CONSTANT, 'ACTIVE' IS C'1'                       $
C
 ****************************************************************
 **                                                            **
 **              D E C L A R A T I O N     O F                 **
 **                                                            **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C       **
 **                                                            **
 **                    V A R I A B L E S                       **
 **                                                            **
 ****************************************************************
                                                                  $
 012005 DECLARE, EXTERNAL, VARIABLE, 'DISK' IS FILE OF TEXT       $
 012007 DECLARE, EXTERNAL, VARIABLE, 'CRT' IS FILE OF TEXT        $
 012009 DECLARE, EXTERNAL, VARIABLE, 'NDISK' IS FILE OF TEXT      $
 012011 DECLARE, EXTERNAL, VARIABLE, 'FATAL' IS BOOLEAN           $
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F   E X T E R N A L      **
 **                                                            **
 **     P R O G R A M    S P E C I F I C    V A R I A B L E S   **
 **                                                            **
 ****************************************************************
                                                                  $
 013005 DECLARE, EXTERNAL, VARIABLE, 'G-ALIM5-STATE' IS
               'T-SIGNAL-STATE'                                   $
C       State of 5VAC-SUP device
 ----------------------------------------------------------------$

 013007 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
```


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```
                'UUT12') OF
                    RECORD OF [
                        'NAME' IS STRING(2) OF CHAR ;
                        'PRESENCE' IS BOOLEAN ;
                        'EDIT-RESULT' IS BOOLEAN ;
                        'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                        'PART-NUMB' IS STRING(20) OF CHAR ;
                        'HI' IS CONNECTION(
                            J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                             J8-G, J9-G, J10-G, J11-G, J12-G
                            ) ;
                        'LO' IS CONNECTION(
                            J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                             J8-t, J9-t, J10-t, J11-t, J12-t
                            )
                        ]                                          $
C       Informations about all UUT
 ----------------------------------------------------------------$

 013009 DECLARE, EXTERNAL, VARIABLE, 'G-ALIM5-TABL' IS ARRAY('UUT1'
                THRU 'UUT4') OF
                    RECORD OF [
                        'NAME' IS STRING(12) OF CHAR ;
                        'STATE' IS 'T-SIGNAL-STATE' ;
                        'HI' IS CONNECTION(
                            J1-j, J2-j, J3-j, J4-j
                            ) ;
                        'LO' IS CONNECTION(
                            J1-i, J2-i, J3-i, J4-i
                            )
                        ]                                          $
C       General informations about alim-5V class signals
 ----------------------------------------------------------------$
C
 ******************************************************************
 **                                                              **
 **       D E C L A R A T I O N     O F    L O C A L             **
 **                                                              **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S       **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **           E S T A B L I S H    P R O T O C O L               **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 ******************************************************************
```


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```
 **                                                              **
 **                I D E N T I F Y                               **
 **                                                              **
 ****************************************************************
 ****************************************************************
C                                                                 $
C
 ****************************************************************
 **                                                              **
 **      I D E N T I F Y   E X T E R N A L   T I M E R           **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **          I D E N T I F Y     E X T E R N A L                 **
 **                                                              **
 **           T I M E   B A S E D   E V E N T                    **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **         S I G N A L   B A S E D   E V E N T                  **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y     E X T E R N A L                  **
 **                                                              **
 **          E V E N T   B A S E D   E V E N T                   **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **             E V E N T   I N T E R V A L                      **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y    E X T E R N A L                   **
 **                                                              **
```

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```
 **          E V E N T    I N D I C A T O R              **
 **                                                      **
 ************************************************************
                                                          $
C
 ************************************************************
 **                                                      **
 **           I D E N T I F Y    T I M E R                **
 **                                                      **
 ************************************************************
                                                          $
C
 ************************************************************
 **                                                      **
 **        I D E N T I F Y    T I M E                    **
 **                                                      **
 **          B A S E D    E V E N T                      **
 **                                                      **
 ************************************************************
                                                          $
C
 ************************************************************
 **                                                      **
 **        I D E N T I F Y    S I G N A L                **
 **                                                      **
 **          B A S E D    E V E N T                      **
 **                                                      **
 ************************************************************
                                                          $
C
 ************************************************************
 **                                                      **
 **        I D E N T I F Y    E V E N T                  **
 **                                                      **
 **          B A S E D    E V E N T                      **
 **                                                      **
 ************************************************************
                                                          $
C
 ************************************************************
 **                                                      **
 **    I D E N T F Y   E V E N T   I N T E R N A L       **
 **                                                      **
 ************************************************************
                                                          $
C
 ************************************************************
 **                                                      **
 **    I D E N T F Y   E V E N T   I N D I C A T O R     **
 **                                                      **
 ************************************************************
                                                          $
C
 ************************************************************
```


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```
 ******************************************************************
 **                                                              **
 **                  D E F I N E                                 **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **            D E F I N E    E X C H A N G E                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E   D R A W I N G                      **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E    S I G N A L                       **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 ** D E F I N E    D I G I T A L   C O N F I G U R A T I O N     **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **    D E F I N E  E X T E R N A L  P R O C E D U R E S         **
 **                                                              **
 **             S T A N D A R D   L I B R A R Y                  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                      W R I T E                             ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
```


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```
 |                                                                |
 |                                                                |
 |  Param-in  : .PERIPH                                           |
 |                                                                |
 |              .MESSAGE                                          |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 050005 DEFINE, 'WRITE', EXTERNAL, PROCEDURE (
                   '.PERIPH' IS 'PERIPH-DEVICES',
                   '.MESSAGE' IS STRING(80) OF CHAR
                )                                                 $

        END, 'WRITE'                                              $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    I N I T - F A I L                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 050007 DEFINE, 'INIT-FAIL', EXTERNAL, PROCEDURE                  $

        END, 'INIT-FAIL'                                          $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S      **
 **                                                              **
 **             S P E C I F I C   P R O G R A M                  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                S I G N - O F S T - A D J                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************
```


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```
 |-----------------------------------------------------------------|
 |  Taking in account measured value and programmed value this     |
 |  procedure determines the new voltage to apply . The calculation |
 |  compensates offset error for power supply needing an offset    |
 |  compensation                                                   |
 |                                                                 |
 |  Param-in  : V-MESUREE  Measured value                          |
 |                                                                 |
 |              V-NOMINAL  Value to obtain                         |
 |                                                                 |
 |              TOL-HI  Upper limit for the value to obtain        |
 |                                                                 |
 |              TOL-LO  Lower limit for the value to obtain        |
 |                                                                 |
 |              PROG-MIN  Programming lower limit                  |
 |                                                                 |
 |              PROG-MAX  Programming upper limit                  |
 |                                                                 |
 |  Param-out : V-PROGRAMMEE  Programmed value                     |
 |                                                                 |
 |              DEVICE-STATE  State of power supply to adjust      |
 |                                                                 |
 |              NB-AJU  Loop counter of adjustment                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                  $
 060005 DEFINE, 'SIGN-OFST-ADJ', EXTERNAL, PROCEDURE (
                   'V-MESUREE' IS DECIMAL,
                   'V-NOMINAL' IS DECIMAL,
                   'TOL-HI' IS DECIMAL,
                   'TOL-LO' IS DECIMAL,
                   'PROG-MIN' IS DECIMAL,
                   'PROG-MAX' IS DECIMAL
               )
               RESULT (
                   'V-PROGRAMMEE' IS DECIMAL,
                   'DEVICE-STATE' IS 'T-SIGNAL-STATE',
                   'NB-AJU' IS INTEGER
               )                                                  $

       END, 'SIGN-OFST-ADJ'                                       $
C|                                                                |
 |-----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          D E F I N E   L O C A L   P R O C E D U R E         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
```


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```
 **                                                                **
 **         D E F I N E   G L O B A L   P R O C E D U R E          **
 **                                                                **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                A C S U - A P P L Y - M O D                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Application and adjustment of 5VAC-SUP.                       |
 |                                                                |
 |  Param-in  : VOLTAGE  Voltage to program                       |
 |                                                                |
 |----------------------------------------------------------------|
                                                                   $
 080005 DEFINE, 'ACSU-APPLY-MOD', GLOBAL, PROCEDURE (
                    'VOLTAGE' IS DECIMAL
                )                                                  $

        DECLARE, VARIABLE, 'NB-ADJ' IS INTEGER
        INITIAL =  10                                              $
C       Number of adjustments
 -----------------------------------------------------------------$

        DECLARE, VARIABLE, 'NEW-PROG' IS DECIMAL                   $
C       Value to program
 -----------------------------------------------------------------$

        DECLARE, VARIABLE, 'MEASURE' IS DECIMAL                    $
C       Measured voltage
 -----------------------------------------------------------------$

        CALCULATE, 'NEW-PROG' = 'VOLTAGE'                          $
C       If 5VAC-SUP is off                                         $
 080010 IF, 'G-ALIM5-STATE' EQ 'INACTIVE', THEN                    $
C         Application of voltage                                   $
          APPLY, AC SIGNAL USING '5VAC-SUP',
                 VOLTAGE 'NEW-PROG' RANGE 0V TO 10 V,
                 FREQ 400 HZ,
                 CURRENT MAX 5.77A,
                 CNX HI OUTPUT-5HI
                     LO OUTPUT-5LO                                 $

 080020 END, IF                                                    $

        SETUP, (VOLTAGE), AC SIGNAL USING 'MEAS-VAC',
                   AUTORANGE ON,
                   VOLTAGE RANGE 0V TO 300V,
```


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```
                 FREQ MAX 1000 HZ                                $

        CONNECT, (VOLTAGE), AC SIGNAL USING 'MEAS-VAC',
                CNX HI OUTPUT-5HI LO OUTPUT-5LO                  $

        CALCULATE, 'G-ALIM5-STATE' = 'NOT-ADJUSTED'              $

        IF, 'VOLTAGE' GT 0, THEN                                 $
C         While 5VAC-SUP is not adjusted                         $
 080025   WHILE, 'G-ALIM5-STATE' EQ 'NOT-ADJUSTED', THEN         $
C           Modifying of voltage                                 $
            CHANGE, AC SIGNAL USING '5VAC-SUP',
                   VOLTAGE 'NEW-PROG' RANGE 0V TO 10 V,
                   FREQ 400 HZ,
                   CURRENT MAX 5.77A,
                   CNX HI OUTPUT-5HI
                       LO OUTPUT-5LO                             $
C           Voltage measurement                                  $
            READ, (VOLTAGE INTO 'MEASURE'),
                  AC SIGNAL USING 'MEAS-VAC',
                  AUTORANGE ON,
                  VOLTAGE RANGE 0V TO 300V,
                  FREQ MAX 1000 HZ,
                  CNX HI OUTPUT-5HI LO OUTPUT-5LO                $
C           Calculation of state and new voltage to apply
            to 5VAC-SUP                                          $
            IF, 'VOLTAGE' GE 2, THEN                             $
              PERFORM, 'SIGN-OFST-ADJ' ('MEASURE', 'VOLTAGE',
                       ('VOLTAGE' + 0.1), ('VOLTAGE' - 0.1),
                       ('VOLTAGE' - 2),   ('VOLTAGE' + 2))
                       RESULT ('NEW-PROG', 'G-ALIM5-STATE',
                                                 'NB-ADJ') $
              ELSE                                               $
              PERFORM, 'SIGN-OFST-ADJ' ('MEASURE', 'VOLTAGE',
                       ('VOLTAGE' + 0.15), ('VOLTAGE' - 0.15),
                       0,   ('VOLTAGE' + 2))
                       RESULT ('NEW-PROG', 'G-ALIM5-STATE',
                                                 'NB-ADJ') $
            END, IF                                              $

          END, WHILE                                             $

        ELSE IF, 'VOLTAGE' EQ 0, THEN                            $
C         Voltage measurement                                    $
          READ, (VOLTAGE INTO 'MEASURE'),
                AC SIGNAL USING 'MEAS-VAC',
                AUTORANGE ON,
                VOLTAGE RANGE 0V TO 300V,
                FREQ MAX 1000 HZ,
                CNX HI OUTPUT-5HI LO OUTPUT-5LO                  $

        END, IF                                                  $

        REMOVE, (VOLTAGE),
```


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```
                AC SIGNAL USING 'MEAS-VAC',
                CNX HI OUTPUT-5HI LO OUTPUT-5LO                    $
C       If 5VAC-SUP cannot be programmed                           $
        IF, ('G-ALIM5-STATE' EQ 'OUT-OF-ORDER') OR
            (('VOLTAGE' EQ 0) AND ('MEASURE' GE 4.5)) , THEN       $
C         Output and error message                                 $
 080070   PERFORM, 'WRITE'('ALL',
                 C'*************************************'
                & C'*************************************')       $
          PERFORM, 'WRITE' ('ALL',
                 C'*                      IMPOSSIBLE  TO '
                & C'ADJUST 5VAC-SUP                        *')     $

          CALCULATE, NOGO = TRUE                                   $
          OUTPUT, TEXT TO 'DISK', FROM
                 C'*                     PROGRAMMED VOLTA',
                 C'GE  ==>     ','VOLTAGE':6:3, C'           ',
                 C'           *'                                  $
          OUTPUT, TEXT TO 'DISK', FROM
                 C'*                     MEASURED VOLTAGE',
                 C'    ==>     ','MEASURE':6:3, C'           ',
                 C'           *'                                  $
          OUTPUT, TEXT TO 'CRT', FROM
                 C'*                     PROGRAMMED VOLTA',
                 C'GE  ==>     ','VOLTAGE':6:3, C'           ',
                 C'           *'                                  $
          OUTPUT, TEXT TO 'CRT', FROM
                 C'*                     MEASURED VOLTAGE',
                 C'    ==>     ','MEASURE':6:3, C'           ',
                 C'           *'                                  $
          OUTPUT, TEXT TO 'NDISK', FROM
                 C'*                     PROGRAMMED VOLTA',
                 C'GE  ==>     ','VOLTAGE':6:3, C'           ',
                 C'           *'                                  $
          OUTPUT, TEXT TO 'NDISK', FROM
                 C'*                     MEASURED VOLTAGE',
                 C'    ==>     ','MEASURE':6:3, C'           ',
                 C'           *'                                  $
          CALCULATE, NOGO = FALSE                                  $

          PERFORM, 'WRITE'('ALL',
                 C'*************************************'
                & C'*************************************')       $
C         If FATAL = FALSE, then power-down the UUT and stop the
          program                                                  $
          IF, NOT 'FATAL', THEN                                    $
            PERFORM, 'INIT-FAIL'                                   $
          END, IF                                                  $

        END,IF                                                     $

 080099 END, 'ACSU-APPLY-MOD'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
```


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```
                                                                    $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  A C S U - C O N N E C T                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Connection of 5VAC-SUP on UUT1 to UUT4 .                      |
 |                                                                |
 |  Param-in  : UUT  Signal to be connected                       |
 |                                                                |
 |----------------------------------------------------------------|
                                                                    $
 080105 DEFINE, 'ACSU-CONNECT', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                    $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                 $

          IF, 'G-ALIM5-TABL'('UUT').'STATE' EQ 'INACTIVE', THEN     $
C           Connection of '5VAC-SUP' on UUT pins if disconnected    $
            CONNECT, AC SIGNAL USING '5VAC-SUP',
                     CNX HI 'G-ALIM5-TABL'('UUT').'HI'
                         LO 'G-ALIM5-TABL'('UUT').'LO'              $

            CALCULATE, 'G-ALIM5-TABL'('UUT').'STATE' = 'ACTIVE'     $

          END, IF                                                   $

        END, IF                                                     $

        END, 'ACSU-CONNECT'                                         $
C|                                                                  |
 |----------------------------------------------------------------|
                                                                    $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               A C S U - D I S C O N N E C T                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Disconnection of 5VAC-SUP from UUT1 to UUT4 .                 |
 |                                                                |
 |  Param-in  : UUT  Signal to be disconnected                    |
 |                                                                |
 |----------------------------------------------------------------|
```


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```
                                                                    $
 080205 DEFINE, 'ACSU-DISCONNECT', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                   $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                 $

          IF, 'G-ALIM5-TABL'('UUT').'STATE' EQ 'ACTIVE', THEN       $
C           Disconnection of '5VAC-SUP' on UUT pins if connected    $
            DISCONNECT, AC SIGNAL USING '5VAC-SUP',
                        CNX HI 'G-ALIM5-TABL'('UUT').'HI'
                            LO 'G-ALIM5-TABL'('UUT').'LO'           $

            CALCULATE, 'G-ALIM5-TABL'('UUT').'STATE' = 'INACTIVE'   $

          END, IF                                                   $

        END, IF                                                     $

        END, 'ACSU-DISCONNECT'                                      $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  A C S U - R E M O V E                       ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Removal of 5VAC-SUP from UUT1 to UUT4 .                         |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 080305 DEFINE, 'ACSU-REMOVE', GLOBAL, PROCEDURE                    $

 080310 IF, 'G-ALIM5-STATE' NE 'INACTIVE', THEN                     $
C         Removal of '5VAC-SUP' from UUT pins                       $
          REMOVE, AC SIGNAL USING '5VAC-SUP',
                 CNX HI OUTPUT-5HI
                     LO J1-i J2-i J3-i J4-i                         $

          CALCULATE, 'G-ALIM5-STATE' = 'INACTIVE'                   $

        END, IF                                                     $

        END, 'ACSU-REMOVE'                                          $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
```


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```
*******************************************************************
*******************************************************************
*******************************************************************
*****                                                         *****
*****                                                         *****
*****              E N D    O F    M O D U L E                *****
*****                                                         *****
*****                                                         *****
*******************************************************************
*******************************************************************
*******************************************************************
                                                                  $
999999 TERMINATE, ATLAS MODULE 'TH-ISF-C1ACSU02'                  $
```

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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-C1DISC03'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******            F L I G H T   D I S P L A Y               ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             C L A S S     M O D U L E                ******
 ******                                                      ******
 ******            DISCRETE INPUTS AND OUTPUTS.              ******
  ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000105   EXTEND ATLAS                                     *
 *                                                                *
 *      002005   REQUIRE EXTERNAL SENSORS                         *
 *                                                                *
 *      005505   REQUIRE SOURCES                                  *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      011005   DECLARE CONSTANT                                 *
 *      012005   DECLARE EXTERNAL VARIABLES  (LIBRARY )           *
 *      013005   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *                                                                *
 *                                                                *
```

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```
 *      050005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )    *
 *                                                                  *
 *      060005   DEFINE EXTERNAL PROCEDURES ( PROGRAMME )           *
 *                                                                  *
 *      080005   DEFINE GLOBAL SIGNAL SPECIFIC PROCEDURES           *
 *                                                                  *
 *      999999   TERMINATE ATLAS MODULE                             *
 *                                                                  *
 ********************************************************************
                                                                    $
C
 ********************************************************************
 **                                                                **
 **      E X T E N D     A T L A S     S T A T E M E N T S        **
 **                                                                **
 ********************************************************************
                                                                    $
 000105 EXTEND, ATLAS MODIFIERS FOR IMPEDANCE,
               'AUTORANGE' MODIFIER-DESCRIPTOR 'ON' 'OFF',
               USAGE R,
               SPEC 'AT6-DMM.DS'                                    $
C
 ********************************************************************
 ********************************************************************
 **                                                                **
 **            R E Q U I R E     S T A T E M E N T S               **
 **                                                                **
 ********************************************************************
 ********************************************************************
C                                                                   $
C
 ********************************************************************
 **                                                                **
 **       R E Q U I R E   E X T E R N A L   L O A D S              **
 **                                                                **
 ********************************************************************
                                                                    $
C
 ********************************************************************
 **                                                                **
 **       R E Q U I R E  E X T E R N A L  S O U R C E S            **
 **                                                                **
 ********************************************************************
                                                                    $
C
 ********************************************************************
 **                                                                **
 **       R E Q U I R E  E X T E R N A L  S E N S O R S            **
 **                                                                **
 ********************************************************************
                                                                    $
 002005 REQUIRE, 'MEAS-VDC', EXTERNAL, SENSOR(VOLTAGE), DC SIGNAL,
         CONTROL,
           SAMPLE-WIDTH RANGE 0.01 MSEC TO 2000 MSEC CONTINUOUS,
```


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```
          AUTORANGE ON OFF,
        CAPABILITY,
          VOLTAGE RANGE -300V TO 300V BY 0.001V,
       CNX HI LO                                                $
C
 ******************************************************************
 **                                                              **
 **        R E Q U I R E   E X T E R N A L   S H O R T S         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **        R E Q U I R E   E X T E R N A L   S H O R T S         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **            E X T E R N A L     T I M E R S                   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 ** R E Q U I R E   E X T E R N A L   E V E N T   M O N I T O R S **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     L O A D S               **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     S O U R C E S           **
 **                                                              **
 ******************************************************************
                                                                  $
 005507 REQUIRE, 'SH-EARTH', SOURCE, EARTH, CNX                   $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L      S E N S O R S          **
 **                                                              **
 ******************************************************************
                                                                  $
```


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```
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     C O M M O N S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S H O R T S             **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    T I M E R S             **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **   R E Q U I R E   L O C A L   E V E N T   M O N I T O R S    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                    D  E  C  L  A  R  E                       **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F      T  Y  P  E  S           **
 **                                                              **
 ******************************************************************
                                                                  $
 010005 DECLARE, TYPE, 'T-DISCIN-MNEMO' IS ENUMERATION(
                   'DISC-X', 'DISC-h', 'DISC-a', 'DISC-b', 'DISC-c',
                   'DISC-d', 'DISC-e', 'DISC-k', 'DISC-m', 'DISC-n',
                   'DISC-p', 'DISC-q', 'DISC-r', 'DISC-s', 'DISC-f',
                       'DISC-Y', 'DISC-Z')                          $
C       Mnemonic of discrete inputs class
 -----------------------------------------------------------------$

 010007 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                   $
C       State of device
```


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```
 ----------------------------------------------------------------$

 010009 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                             $
C       Mnemonic of all UUT
 ----------------------------------------------------------------$

 010011 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION(
                   'ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN'
                   )                                             $
C
 ****************************************************************
 **                                                            **
 **    D E C L A R A T I O N     O F      C O N S T A N T S    **
 **                                                            **
 ****************************************************************
                                                                $
 011005 DECLARE, CONSTANT, 'INACTIVE' IS C'0'                   $
 011007 DECLARE, CONSTANT, 'ACTIVE' IS C'1'                     $
 011009 DECLARE, CONSTANT, 'NOT-ADJUSTED' IS C'N'               $
 011011 DECLARE, CONSTANT, 'OUT-OF-ORDER' IS C'H'               $
C
 ****************************************************************
 **                                                            **
 **              D E C L A R A T I O N     O F                 **
 **                                                            **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C       **
 **                                                            **
 **                    V A R I A B L E S                       **
 **                                                            **
 ****************************************************************
                                                                $
 012005 DECLARE, EXTERNAL, VARIABLE, 'DISK' IS FILE OF TEXT     $
 012007 DECLARE, EXTERNAL, VARIABLE, 'CRT' IS FILE OF TEXT      $
 012009 DECLARE, EXTERNAL, VARIABLE, 'NDISK' IS FILE OF TEXT    $
 012011 DECLARE, EXTERNAL, VARIABLE, 'FATAL' IS BOOLEAN         $
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F   E X T E R N A L      **
 **                                                            **
 **     P R O G R A M   S P E C I F I C   V A R I A B L E S    **
 **                                                            **
 ****************************************************************
                                                                $
 013005 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
                       'EDIT-RESULT' IS BOOLEAN ;
```


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```
                    'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                    'PART-NUMB' IS STRING(20) OF CHAR ;
                    'HI' IS CONNECTION(
                        J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                         J8-G, J9-G, J10-G, J11-G, J12-G
                        ) ;
                    'LO' IS CONNECTION(
                        J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                         J8-t, J9-t, J10-t, J11-t, J12-t
                        )
                    ]                                          $
C       Informations about all UUT
 ----------------------------------------------------------------$

 013007 DECLARE, EXTERNAL, VARIABLE, 'G-DISCIN-TABL' IS ARRAY('UUT1'
               THRU 'UUT12','DISC-X' THRU 'DISC-Z') OF
                   RECORD OF [
                    'NAME' IS STRING(12) OF CHAR ;
                    'STATE' IS 'T-SIGNAL-STATE' ;
                    'GROUND' IS 'T-SIGNAL-STATE' ;
                    'HI' IS CONNECTION(
                        J1-X, J1-h, J1-a, J1-b, J1-c, J1-d, J1-e,
                         J1-k, J1-m, J1-n, J1-p, J1-q, J1-r, J1-s,
                         J1-f, J1-Y, J1-Z,
                        J2-X, J2-h, J2-a, J2-b, J2-c, J2-d, J2-e,
                         J2-k, J2-m, J2-n, J2-p, J2-q, J2-r, J2-s,
                         J2-f, J2-Y, J2-Z,
                        J3-X, J3-h, J3-a, J3-b, J3-c, J3-d, J3-e,
                         J3-k, J3-m, J3-n, J3-p, J3-q, J3-r, J3-s,
                         J3-f, J3-Y, J3-Z,
                        J4-X, J4-h, J4-a, J4-b, J4-c, J4-d, J4-e,
                         J4-k, J4-m, J4-n, J4-p, J4-q, J4-r, J4-s,
                         J4-f, J4-Y, J4-Z,
                        J5-X, J5-h, J5-a, J5-b, J5-c, J5-d, J5-e,
                         J5-k, J5-m, J5-n, J5-p, J5-q, J5-r, J5-s,
                         J5-f, J5-Y, J5-Z,
                        J6-X, J6-h, J6-a, J6-b, J6-c, J6-d, J6-e,
                         J6-k, J6-m, J6-n, J6-p, J6-q, J6-r, J6-s,
                         J6-f, J6-Y, J6-Z,
                        J7-X, J7-h, J7-a, J7-b, J7-c, J7-d, J7-e,
                         J7-k, J7-m, J7-n, J7-p, J7-q, J7-r, J7-s,
                         J7-f, J7-Y, J7-Z,
                        J8-X, J8-h, J8-a, J8-b, J8-c, J8-d, J8-e,
                         J8-k, J8-m, J8-n, J8-p, J8-q, J8-r, J8-s,
                         J8-f, J8-Y, J8-Z,
                        J9-X, J9-h, J9-a, J9-b, J9-c, J9-d, J9-e,
                         J9-k, J9-m, J9-n, J9-p, J9-q, J9-r, J9-s,
                         J9-f, J9-Y, J9-Z,
                        J10-X, J10-h, J10-a, J10-b, J10-c, J10-d,
                         J10-e, J10-k, J10-m, J10-n, J10-p, J10-q,
                         J10-r, J10-s, J10-f, J10-Y, J10-Z,
                        J11-X, J11-h, J11-a, J11-b, J11-c, J11-d,
                         J11-e, J11-k, J11-m, J11-n, J11-p, J11-q,
                         J11-r, J11-s, J11-f, J11-Y, J11-Z,
```


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```
                          J12-X, J12-h, J12-a, J12-b, J12-c, J12-d,
                           J12-e, J12-k, J12-m, J12-n, J12-p, J12-q,
                           J12-r, J12-s, J12-f, J12-Y, J12-Z )
                              ]                                   $
C       General informations about discrete inputs class signals
 -----------------------------------------------------------------$

 013009 DECLARE, EXTERNAL, VARIABLE, 'G-GROUND-STATE' IS
               'T-SIGNAL-STATE'                                   $
C       State of GROUND device
 -----------------------------------------------------------------$

 013013 DECLARE, EXTERNAL, VARIABLE, 'G-DISCOUT-STATE' IS
               ARRAY('UUT1' THRU 'UUT12') OF
                   'T-SIGNAL-STATE'                               $
C       General informations about discrete output UUT signal
 -----------------------------------------------------------------$
C
 ******************************************************************
 **                                                              **
 **       D E C L A R A T I O N     O F    L O C A L             **
 **                                                              **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S       **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **           E S T A B L I S H    P R O T O C O L              **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                 I  D  E  N  T  I  F  Y                       **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **      I D E N T I F Y   E X T E R N A L   T I M E R           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
```


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```
 **          I D E N T I F Y     E X T E R N A L            **
 **                                                         **
 **           T I M E   B A S E D   E V E N T               **
 **                                                         **
 ***************************************************************
                                                              $
C
 ***************************************************************
 **                                                         **
 **          I D E N T I F Y    E X T E R N A L              **
 **                                                         **
 **         S I G N A L   B A S E D   E V E N T             **
 **                                                         **
 ***************************************************************
                                                              $
C
 ***************************************************************
 **                                                         **
 **         I D E N T I F Y     E X T E R N A L             **
 **                                                         **
 **          E V E N T   B A S E D   E V E N T              **
 **                                                         **
 ***************************************************************
                                                              $
C
 ***************************************************************
 **                                                         **
 **          I D E N T I F Y    E X T E R N A L              **
 **                                                         **
 **             E V E N T   I N T E R V A L                 **
 **                                                         **
 ***************************************************************
                                                              $
C
 ***************************************************************
 **                                                         **
 **         I D E N T I F Y    E X T E R N A L              **
 **                                                         **
 **           E V E N T    I N D I C A T O R                **
 **                                                         **
 ***************************************************************
                                                              $
C
 ***************************************************************
 **                                                         **
 **            I D E N T I F Y    T I M E R                 **
 **                                                         **
 ***************************************************************
                                                              $
C
 ***************************************************************
 **                                                         **
 **         I D E N T I F Y    T I M E                      **
 **                                                         **
```


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```
 **          B A S E D    E V E N T                    **
 **                                                     **
 *******************************************************
                                                        $
C
 *******************************************************
 **                                                     **
 **        I D E N T I F Y    S I G N A L                **
 **                                                     **
 **          B A S E D    E V E N T                    **
 **                                                     **
 *******************************************************
                                                        $
C
 *******************************************************
 **                                                     **
 **        I D E N T I F Y    E V E N T                  **
 **                                                     **
 **          B A S E D    E V E N T                    **
 **                                                     **
 *******************************************************
                                                        $
C
 *******************************************************
 **                                                     **
 **    I D E N T F Y   E V E N T   I N T E R N A L      **
 **                                                     **
 *******************************************************
                                                        $
C
 *******************************************************
 **                                                     **
 **    I D E N T F Y   E V E N T   I N D I C A T O R    **
 **                                                     **
 *******************************************************
                                                        $
C
 *******************************************************
 *******************************************************
 **                                                     **
 **                 D E F I N E                         **
 **                                                     **
 *******************************************************
 *******************************************************
C                                                       $
C
 *******************************************************
 **                                                     **
 **           D E F I N E    E X C H A N G E            **
 **                                                     **
 *******************************************************
                                                        $
C
 *******************************************************
```


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```
 **                                                              **
 **             D E F I N E    D R A W I N G                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E     S I G N A L                     **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **  D E F I N E     D I G I T A L    C O N F I G U R A T I O N  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S        **
 **                                                              **
 **             S T A N D A R D   L I B R A R Y                  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                       W R I T E                            ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : .PERIPH                                           |
 |                                                                |
 |              .MESSAGE                                          |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 050005 DEFINE, 'WRITE', EXTERNAL, PROCEDURE (
                   '.PERIPH' IS 'PERIPH-DEVICES',
                   '.MESSAGE' IS STRING(80) OF CHAR
               )                                                  $

       END, 'WRITE'                                               $
C|                                                                |
 |----------------------------------------------------------------|
```


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```
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    I N I T - F A I L                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 050007 DEFINE, 'INIT-FAIL', EXTERNAL, PROCEDURE                  $

        END, 'INIT-FAIL'                                          $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S      **
 **                                                              **
 **             S P E C I F I C   P R O G R A M                  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 S I G N - O F S T - A D J                  ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Taking in account measured value and programmed value this    |
 |  procedure determines the new voltage to apply . The calculation |
 |  compensates offset error for power supply needing an offset   |
 |  compensation                                                  |
 |                                                                |
 |  Param-in  : V-MESUREE  Measured value                         |
 |                                                                |
 |              V-NOMINAL  Value to obtain                        |
 |                                                                |
 |              TOL-HI  Upper limit for the value to obtain       |
 |                                                                |
 |              TOL-LO  Lower limit for the value to obtain       |
 |                                                                |
 |              PROG-MIN  Programming lower limit                 |
```


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```
 |                                                                |
 |              PROG-MAX  Programming upper limit                 |
 |                                                                |
 |  Param-out : V-PROGRAMMEE  Programmed value                    |
 |                                                                |
 |              DEVICE-STATE  State of power supply to adjust     |
 |                                                                |
 |              NB-AJU  Loop counter of adjustment                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 060005 DEFINE, 'SIGN-OFST-ADJ', EXTERNAL, PROCEDURE (
                    'V-MESUREE' IS DECIMAL,
                    'V-NOMINAL' IS DECIMAL,
                    'TOL-HI' IS DECIMAL,
                    'TOL-LO' IS DECIMAL,
                    'PROG-MIN' IS DECIMAL,
                    'PROG-MAX' IS DECIMAL
               )
               RESULT (
                    'V-PROGRAMMEE' IS DECIMAL,
                    'DEVICE-STATE' IS 'T-SIGNAL-STATE',
                    'NB-AJU' IS INTEGER
               )                                                  $

        END, 'SIGN-OFST-ADJ'                                      $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          D E F I N E   L O C A L   P R O C E D U R E         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         D E F I N E   G L O B A L   P R O C E D U R E        **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  D I S C - I N - C O N N                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Connection of DISC-X or DISC-h .....                          |
```


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```
 |  or DISC-Z of UUT1 or UUT2 ..... or UUT12 to EARTH .            |
 |                                                                 |
 |  Param-in  : SIGNAL  Signal to be connected                     |
 |                                                                 |
 |              UUT  Uut concerned                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080005 DEFINE, 'DISC-IN-CONN', GLOBAL, PROCEDURE (
                    'SIGNAL' IS 'T-DISCIN-MNEMO',
                    'UUT' IS 'T-ALL-UUT'
                )                                                  $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $
C         If 'SIGNAL' is not permanently connected to GROUND       $
          IF,
          'G-DISCIN-TABL'('UUT', 'SIGNAL').'GROUND' EQ 'INACTIVE',
                                                          THEN     $

            IF, 'G-GROUND-STATE' EQ 'INACTIVE', THEN               $

              APPLY, EARTH USING 'SH-EARTH',
                     CNX GROUND                                    $

              CALCULATE, 'G-GROUND-STATE' = 'ACTIVE'               $

            END, IF                                                $

          END, IF                                                  $
C         ---------------------------------------------------------$
C         Connexion of 'SH-EARTH' on UUT pins if disconnected
C         ---------------------------------------------------------$

          IF, 'G-DISCIN-TABL'('UUT', 'SIGNAL').'STATE' EQ 'INACTIVE',
                                                             THEN $
            APPLY, EARTH USING 'SH-EARTH',
                   CNX 'G-DISCIN-TABL'('UUT', 'SIGNAL').'HI'       $

          END, IF                                                  $

          CALCULATE,
          'G-DISCIN-TABL'('UUT','SIGNAL').'STATE' = 'ACTIVE'       $

        END, IF                                                    $

        END, 'DISC-IN-CONN'                                        $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                D I S C - I N - D I S C O N                 ***
```


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```
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Disconnection of DISC-X or DISC-h ... or DISC-Z of UUT1 or UUT2 |
 |  ..... or UUT12 from EARTH .                                    |
 |                                                                 |
 |  Param-in  : SIGNAL  Signal to be disconnected                  |
 |                                                                 |
 |              UUT  Uut concerned                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080105 DEFINE, 'DISC-IN-DISCON', GLOBAL, PROCEDURE (
                    'SIGNAL' IS 'T-DISCIN-MNEMO',
                    'UUT' IS 'T-ALL-UUT'
                )                                                  $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $
C       -----------------------------------------------------------$
C         Disconnexion of 'SH-EARTH' on UUT pins if connected
C       -----------------------------------------------------------$

          IF, 'G-DISCIN-TABL'('UUT', 'SIGNAL').'STATE' EQ 'ACTIVE',
                                                            THEN   $
            REMOVE, EARTH USING 'SH-EARTH',
                   CNX 'G-DISCIN-TABL'('UUT', 'SIGNAL').'HI'       $

          END, IF                                                  $

          CALCULATE,
          'G-DISCIN-TABL'('UUT','SIGNAL').'STATE' = 'INACTIVE'     $

        END, IF                                                    $

        END, 'DISC-IN-DISCON'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                                ***
 ***                D I S C - I N - C O N F I G                     ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Put UUT1 or UUT2 ..... or UUT12 in ANNEXE x ATP configuration . |
 |                                                                 |
 |  Param-in  : ANNEXE  Initialisation chosen                      |
 |                                                                 |
```


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```
 |             UUT  Uut concerned                                |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 080155 DEFINE, 'DISC-IN-CONFIG', GLOBAL, PROCEDURE (
                   'ANNEXE' IS ENUMERATION(
                       'OPEN-ALL', 'OPEN-GROUND', 'ANNEXE-4',
                       'ANNEXE-5', 'ANNEXE-6'),
                   'UUT' IS 'T-ALL-UUT'
               )                                                 $

        DECLARE, VARIABLE, 'SIGNAL' IS 'T-DISCIN-MNEMO'          $
        FOR, 'SIGNAL' = 'DISC-X' THRU 'DISC-Z', THEN             $
          PERFORM, 'DISC-IN-DISCON' ('SIGNAL', 'UUT')            $
        END, FOR                                                 $

        IF, 'ANNEXE' EQ 'OPEN-GROUND', THEN                      $
          IF, 'G-GROUND-STATE' EQ 'ACTIVE', THEN                 $

            REMOVE, EARTH USING 'SH-EARTH',
                    CNX GROUND                                   $

            CALCULATE, 'G-GROUND-STATE' = 'INACTIVE'             $

          END, IF                                                $
        END, IF                                                  $

        IF, 'ANNEXE' EQ 'ANNEXE-4', THEN                         $
        END, IF                                                  $

        IF, 'ANNEXE' EQ 'ANNEXE-5', THEN                         $
          PERFORM, 'DISC-IN-CONN' ('DISC-c', 'UUT')              $
          PERFORM, 'DISC-IN-CONN' ('DISC-e', 'UUT')              $
        END, IF                                                  $

        IF, 'ANNEXE' EQ 'ANNEXE-6', THEN                         $
        END, IF                                                  $
      END, 'DISC-IN-CONFIG'                                      $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 *****                                                        *****
 *****                                                        *****
 *****              E N D    O F    M O D U L E               *****
 *****                                                        *****
 *****                                                        *****
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
```


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```
999999 TERMINATE, ATLAS MODULE 'TH-ISF-C1DISC03'                $
```


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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-C1INLI04'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             C L A S S     M O D U L E                ******
 ******                                                      ******
 ******             INSULATION AND LIGHTNING.                ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000105   EXTEND ATLAS                                     *
 *                                                                *
 *      005505   REQUIRE SOURCES                                  *
 *      006005   REQUIRE SENSORS                                  *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      011005   DECLARE CONSTANT                                 *
 *      013005   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *                                                                *
 *                                                                *
 *      080005   DEFINE GLOBAL SIGNAL SPECIFIC PROCEDURES         *
 *                                                                *
```


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```
 *      999999   TERMINATE ATLAS MODULE                          *
 *                                                               *
 *****************************************************************
C                                                                $
C
 *****************************************************************
 **                                                             **
 **      E X T E N D     A T L A S     S T A T E M E N T S     **
 **                                                             **
 *****************************************************************
                                                                 $
 000105 EXTEND, ATLAS NOUNS 'LIGHTNING-ARRESTER',
            FOR VERBS SETUP CHANGE CONNECT DISCONNECT ARM FETCH
                      RESET MEASURE READ REMOVE,
            SPEC 'ISM/LA RESOURCE PROGRAMMING MANUAL'            $

 000107 EXTEND, ATLAS MODIFIERS FOR IMPEDANCE,
            'MEASUREMENT-DELAY' MOD-VALUE R MOD-DIM
                  SEC MSEC USEC, USAGE R,
            SPEC 'ISM/LA TEST RESOURCE REQUIREMENTS'             $

 000109 EXTEND, ATLAS MODIFIERS FOR IMPEDANCE,
            'AUTORANGE' MODIFIER-DESCRIPTOR 'ON' 'OFF',
            USAGE R,
            SPEC 'ISM/LA TEST RESOURCE REQUIREMENTS'             $

 000111 EXTEND, ATLAS MODIFIERS FOR IMPEDANCE,
            'LP-FILTER' MODIFIER-DESCRIPTOR 'ON' 'OFF',
            USAGE R,
            SPEC 'ISM/LA TEST RESOURCE REQUIREMENTS'             $

 000113 EXTEND, ATLAS MODIFIERS FOR LIGHTNING-ARRESTER,
            REF-VOLT,       USAGE R,
            SPEC 'ISM/LA RESOURCE PROGRAMMING MANUAL'            $

 000115 EXTEND, ATLAS MODIFIERS FOR LIGHTNING-ARRESTER,
            TEST-EQUIP-RES, USAGE R,
            PULSE-WIDTH,    USAGE R,
            VOLTAGE,        USAGE R,
            SPEC 'ISM/LA RESOURCE PROGRAMMING MANUAL'            $

 000117 EXTEND, ATLAS CONNECTIONS FOR LIGHTNING-ARRESTER,
            CNX 'SENSE-HI',
            SPEC 'ISM/LA RESOURCE PROGRAMMING MANUAL'            $
C
 *****************************************************************
 *****************************************************************
 **                                                             **
 **            R E Q U I R E     S T A T E M E N T S            **
 **                                                             **
 *****************************************************************
 *****************************************************************
C                                                                $
C
```


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```
 ******************************************************************
 **                                                              **
 **      R E Q U I R E   E X T E R N A L   L O A D S             **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **      R E Q U I R E  E X T E R N A L  S O U R C E S           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **      R E Q U I R E  E X T E R N A L  S E N S O R S           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **        R E Q U I R E  E X T E R N A L  S H O R T S           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **        R E Q U I R E  E X T E R N A L  S H O R T S           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **           E X T E R N A L    T I M E R S                     **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 ** R E Q U I R E  E X T E R N A L  E V E N T  M O N I T O R S   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **      R E Q U I R E    L O C A L   L O A D S                  **
 **                                                              **
 ******************************************************************
```


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```
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S O U R C E S           **
 **                                                              **
 ******************************************************************
                                                                  $
 005505 REQUIRE, 'SH-INSU', SOURCE, SHORT, CNX                    $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     S E N S O R S          **
 **                                                              **
 ******************************************************************
                                                                  $
 006005 REQUIRE, 'MES-ISOL', SENSOR (RES),IMPEDANCE,
           CONTROL,
             REF-VOLT RANGE 40 V TO 250 V BY 0.125 V,
             MEASUREMENT-DELAY RANGE 0.6 SEC TO 2 SEC BY 0.01 SEC,
             AUTORANGE ON,
             LP-FILTER ON,
            CAPABILITY,
             RES RANGE 1 MOHM TO 1000 MOHM,
            CNX HI LO                                             $
 006007 REQUIRE, 'LIGHTNING-POS', SENSOR (VOLTAGE),
             LIGHTNING-ARRESTER,
           CONTROL,
             REF-VOLT RANGE 40 V TO 450 V BY 0.125 V,
             MEASUREMENT-DELAY RANGE 10 USEC TO 255 USEC BY 1 USEC,
             TEST-EQUIP-RES RANGE 50 OHM TO 5160 OHM BY 10 OHM,
             PULSE-WIDTH RANGE 8 USEC TO 127 USEC BY 1 USEC,
            CAPABILITY,
             VOLTAGE RANGE -512 V TO 512 V,
            CNX HI LO SENSE-HI                                    $
 006009 REQUIRE, 'LIGHTNING-NEG', SENSOR (VOLTAGE),
             LIGHTNING-ARRESTER,
           CONTROL,
             REF-VOLT RANGE -450 V TO -40 V BY 0.125 V,
             MEASUREMENT-DELAY RANGE 10 USEC TO 255 USEC BY 1 USEC,
             TEST-EQUIP-RES RANGE 50 OHM TO 5160 OHM BY 10 OHM,
             PULSE-WIDTH RANGE 8 USEC TO 127 USEC BY 1 USEC,
            CAPABILITY,
             VOLTAGE RANGE -512 V TO 512 V,
            CNX HI LO SENSE-HI                                    $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     C O M M O N S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
```


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```
 **                                                              **
 **       R E Q U I R E     L O C A L    S H O R T S             **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    T I M E R S             **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **   R E Q U I R E   L O C A L   E V E N T   M O N I T O R S    **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 ****************************************************************
 **                                                              **
 **                    D  E  C  L  A  R  E                       **
 **                                                              **
 ****************************************************************
 ****************************************************************
C                                                                 $
C
 ****************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F      T  Y  P  E  S           **
 **                                                              **
 ****************************************************************
                                                                  $
 010005 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                              $
C       Mnemonic of all UUT
 ---------------------------------------------------------------$

 010007 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                   $
C       State of device
 ---------------------------------------------------------------$

 010009 DECLARE, TYPE, 'T-PARA-MNEMO' IS ENUMERATION(
                   'PARA-D', 'PARA-E', 'PARA-i', 'PARA-j', 'PARA-A',
                    'PARA-W', 'PARA-U', 'PARA-V', 'PARA-S',
                   'PARA-T', 'PARA-B', 'PARA-C', 'PARA-M', 'PARA-N',
                    'PARA-R', 'PARA-P', 'PARA-b', 'PARA-c',
                   'PARA-d', 'PARA-e', 'PARA-k', 'PARA-m', 'PARA-p',
                    'PARA-r', 'PARA-s', 'PARA-q', 'PARA-Z',
```


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```
                    'PARA-f', 'PARA-g'
                    )                                                $
C       Mnemonic of lightning pins
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **    D E C L A R A T I O N     O F      C O N S T A N T S    **
 **                                                            **
 ****************************************************************
                                                                  $
 011005 DECLARE, CONSTANT, 'INACTIVE' IS C'0'                     $
 011007 DECLARE, CONSTANT, 'ACTIVE' IS C'1'                       $
C
 ****************************************************************
 **                                                            **
 **              D E C L A R A T I O N     O F                 **
 **                                                            **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C       **
 **                                                            **
 **                    V A R I A B L E S                       **
 **                                                            **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F   E X T E R N A L      **
 **                                                            **
 **     P R O G R A M    S P E C I F I C    V A R I A B L E S   **
 **                                                            **
 ****************************************************************
                                                                  $
 013005 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
                       'EDIT-RESULT' IS BOOLEAN ;
                       'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                       'PART-NUMB' IS STRING(20) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                            J8-G, J9-G, J10-G, J11-G, J12-G
                           ) ;
                       'LO' IS CONNECTION(
                           J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                            J8-t, J9-t, J10-t, J11-t, J12-t
                           )
                      ]                                           $
C       Informations about all UUT
 ----------------------------------------------------------------$

 013007 DECLARE, EXTERNAL, VARIABLE, 'G-INSU-TABL' IS ARRAY('UUT1'
```


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```
                THRU 'UUT4') OF
                    RECORD OF [
                        'NAME' IS STRING(10) OF CHAR ;
                        'HI1' IS CONNECTION(
                            J1-D, J2-D, J3-D, J4-D
                            ) ;
                        'HI2' IS CONNECTION(
                            J1-E, J2-E, J3-E, J4-E
                            ) ;
                        'LO' IS CONNECTION(
                            J1-t, J2-t, J3-t, J4-t
                            )
                        ]                                          $
C       General informations about each insulation UUT signal
 ----------------------------------------------------------------$

 013009 DECLARE, EXTERNAL, VARIABLE, 'G-PARA-TABL' IS ARRAY('UUT1'
                THRU 'UUT4','PARA-D' THRU 'PARA-g') OF
                    RECORD OF [
                        'NAME' IS STRING(10) OF CHAR ;
                        'HI' IS CONNECTION(
                            J1-D, J1-E, J1-i, J1-j, J1-A, J1-W, J1-U,
                             J1-V, J1-S, J1-T, J1-B, J1-C, J1-M,
                            J1-N, J1-R, J1-P, J1-b, J1-c, J1-d, J1-e,
                             J1-k, J1-m, J1-p, J1-r, J1-s, J1-q,
                            J1-Z, J1-f, J1-g, J2-D, J2-E, J2-i, J2-j,
                             J2-A, J2-W, J2-U, J2-V, J2-S, J2-T,
                            J2-B, J2-C, J2-M, J2-N, J2-R, J2-P, J2-b,
                             J2-c, J2-d, J2-e, J2-k, J2-m, J2-p,
                            J2-r, J2-s, J2-q, J2-Z, J2-f, J2-g, J3-D,
                             J3-E, J3-i, J3-j, J3-A, J3-W, J3-U,
                            J3-V, J3-S, J3-T, J3-B, J3-C, J3-M, J3-N,
                             J3-R, J3-P, J3-b, J3-c, J3-d, J3-e,
                            J3-k, J3-m, J3-p, J3-r, J3-s, J3-q, J3-Z,
                             J3-f, J3-g, J4-D, J4-E, J4-i, J4-j,
                            J4-A, J4-W, J4-U, J4-V, J4-S, J4-T, J4-B,
                             J4-C, J4-M, J4-N, J4-R, J4-P, J4-b,
                            J4-c, J4-d, J4-e, J4-k, J4-m, J4-p, J4-r,
                             J4-s, J4-q, J4-Z, J4-f, J4-g
                            ) ;
                        'LO' IS CONNECTION(
                            J1-G, J2-G, J3-G, J4-G
                            ) ;
                        'RES' IS INTEGER ;
                        'PULSE' IS INTEGER ;
                        'DELAY' IS INTEGER ;
                        'VOLT' IS INTEGER
                        ]                                          $
C       General informations about each lightning UUT signal
 ----------------------------------------------------------------$

 013011 DECLARE, EXTERNAL, VARIABLE, 'G-LIGHT-P-STATE' IS
                'T-SIGNAL-STATE'                                   $
C       State of LIGHNING-POS device
```


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```
 ----------------------------------------------------------------$

 013013 DECLARE, EXTERNAL, VARIABLE, 'G-LIGHT-N-STATE' IS
                'T-SIGNAL-STATE'                                 $
C       State of LIGHNING-NEG device
 ----------------------------------------------------------------$

 013015 DECLARE, EXTERNAL, VARIABLE, 'G-OLD-RES' IS DECIMAL       $
C       Memorize old value of resistor applied with LIGHTNING device
 ----------------------------------------------------------------$

 013017 DECLARE, EXTERNAL, VARIABLE, 'G-OLD-PULSE' IS DECIMAL     $
C       Memorize old value of pulse applied with LIGHTNING device
 ----------------------------------------------------------------$

 013019 DECLARE, EXTERNAL, VARIABLE, 'G-OLD-VOLT' IS DECIMAL      $
C       Memorize old value of voltage applied with LIGHTNING device
 ----------------------------------------------------------------$

 013021 DECLARE, EXTERNAL, VARIABLE, 'G-UUT1' IS 'T-ALL-UUT'      $
C       Value of 'UUT1'
 ----------------------------------------------------------------$

 013023 DECLARE, EXTERNAL, VARIABLE, 'G-UUT4' IS 'T-ALL-UUT'      $
C       Value of 'UUT4'
 ----------------------------------------------------------------$
 013025 DECLARE, EXTERNAL, VARIABLE,
                'CRT'                      IS FILE OF TEXT       $
C        PERIPHERAL DEVICE
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F    L O C A L           **
 **                                                            **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S      **
 **                                                            **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 ****************************************************************
 **                                                            **
 **           E S T A B L I S H    P R O T O C O L             **
 **                                                            **
 ****************************************************************
 ****************************************************************
C                                                                $
C
 ****************************************************************
 ****************************************************************
 **                                                            **
 **                I  D  E  N  T  I  F  Y                      **
 **                                                            **
```


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```
*****************************************************************
*****************************************************************
C                                                               $
C
*****************************************************************
**                                                             **
**      I D E N T I F Y   E X T E R N A L   T I M E R          **
**                                                             **
*****************************************************************
                                                                $
C
*****************************************************************
**                                                             **
**          I D E N T I F Y     E X T E R N A L                **
**                                                             **
**           T I M E   B A S E D   E V E N T                   **
**                                                             **
*****************************************************************
                                                                $
C
*****************************************************************
**                                                             **
**          I D E N T I F Y    E X T E R N A L                 **
**                                                             **
**         S I G N A L   B A S E D   E V E N T                 **
**                                                             **
*****************************************************************
                                                                $
C
*****************************************************************
**                                                             **
**         I D E N T I F Y     E X T E R N A L                 **
**                                                             **
**          E V E N T   B A S E D   E V E N T                  **
**                                                             **
*****************************************************************
                                                                $
C
*****************************************************************
**                                                             **
**          I D E N T I F Y    E X T E R N A L                 **
**                                                             **
**             E V E N T   I N T E R V A L                     **
**                                                             **
*****************************************************************
                                                                $
C
*****************************************************************
**                                                             **
**         I D E N T I F Y    E X T E R N A L                  **
**                                                             **
**           E V E N T    I N D I C A T O R                    **
**                                                             **
*****************************************************************
```

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```
                                                                $
C
 ******************************************************************
 **                                                              **
 **            I D E N T I F Y     T I M E R                     **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y     T I M E                          **
 **                                                              **
 **           B A S E D     E V E N T                            **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y     S I G N A L                      **
 **                                                              **
 **           B A S E D     E V E N T                            **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y     E V E N T                        **
 **                                                              **
 **           B A S E D     E V E N T                            **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **     I D E N T F Y    E V E N T    I N T E R N A L            **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **     I D E N T F Y    E V E N T    I N D I C A T O R          **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                   D  E  F  I  N  E                           **
```


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```
 **                                                              **
 ****************************************************************
 ****************************************************************
C                                                                 $
C
 ****************************************************************
 **                                                              **
 **            D E F I N E     E X C H A N G E                   **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **             D E F I N E    D R A W I N G                    **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **             D E F I N E     S I G N A L                      **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **  D E F I N E     D I G I T A L    C O N F I G U R A T I O N  **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S        **
 **                                                              **
 **             S T A N D A R D   L I B R A R Y                  **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S        **
 **                                                              **
 **             S P E C I F I C   P R O G R A M                  **
 **                                                              **
 ****************************************************************
                                                                  $
C
 ****************************************************************
 **                                                              **
 **          D E F I N E  L O C A L  P R O C E D U R E           **
```


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```
 **                                                                **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                                **
 **         D E F I N E   G L O B A L   P R O C E D U R E          **
 **                                                                **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                I N L I - I N S U - M E A S                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Measures insulation on UUT.                                   |
 |                                                                |
 |  Param-in  : UUT  Signal to be measured                        |
 |                                                                |
 |  Param-out : RESULT  Result of measurement.                    |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080005 DEFINE, 'INLI-INSU-MEAS', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
                )
                RESULT (
                   'RESULT' IS DECIMAL
                )                                                 $

        DECLARE, VARIABLE, 'CNT' IS INTEGER                       $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $
C         Insulation measurement between UUT pins                 $

          FOR, 'CNT' = 1 THRU 15, THEN                            $

            MEASURE, (RES INTO 'RESULT'), IMPEDANCE USING 'MES-ISOL',
                   REF-VOLT 40V,
                   RES RANGE 1 MOHM TO 1000 MOHM,
                   MEASUREMENT-DELAY 2 SEC,
                   AUTORANGE ON,
                   CNX HI 'G-INSU-TABL'('UUT').'HI1'
                       LO 'G-INSU-TABL'('UUT').'LO'               $

          END, FOR                                                $

        END, IF                                                   $
```


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```
        END, 'INLI-INSU-MEAS'                                   $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                I N L I - I N S U - C O N N                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  Applies short between J1-D/J1-E or J2-D/J2-E or J3-D/J3-E or    |
 |  J4-D/J4-E .                                                 |
 |                                                              |
 |  Param-in  : UUT  Signal to be connected (UUT1, UUT2, UUT3  or   |
 |                   UUT4)                                      |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 080105 DEFINE, 'INLI-INSU-CONN', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                               $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $
C         Application of short                                  $
C          APPLY, SHORT USING 'SH-INSU',
                CNX 'G-INSU-TABL'('UUT').'HI1'
                    'G-INSU-TABL'('UUT').'HI2'                  $

        END, IF                                                 $

        END, 'INLI-INSU-CONN'                                   $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                I N L I - I N S U - D I S C                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  Removes short between J1-D/J1-E or J2-D/J2-E or J3-D/J3-E or    |
 |  J4-D/J4-E .                                                 |
 |                                                              |
 |  Param-in  : UUT  Signal to be disconnected (UUT1, UUT2 or UUT3) |
 |                                                              |
 |--------------------------------------------------------------|
```


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```
                                                                $
 080205 DEFINE, 'INLI-INSU-DISC', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                               $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $
C         Removal of short                                      $
C          REMOVE, SHORT USING 'SH-INSU',
                 CNX 'G-INSU-TABL'('UUT').'HI1'
                     'G-INSU-TABL'('UUT').'HI2'                 $

        END, IF                                                 $

        END, 'INLI-INSU-DISC'                                   $
C|                                                              |
 |---------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                I N L I - P A R A - M E A S                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Measures lightning protection on UUT with pulse +/-250V .     |
 |                                                                |
 |  Param-in  : SIGNAL  Signal to be measured                     |
 |                                                                |
 |              UUT  Uut concerned                                |
 |                                                                |
 |              PULSE  Positive or negative pulse to apply        |
 |                                                                |
 |  Param-out : RESULT  Result of measurement.                    |
 |                                                                |
 |---------------------------------------------------------------|
                                                                $
 080305 DEFINE, 'INLI-PARA-MEAS', GLOBAL, PROCEDURE (
                    'SIGNAL' IS 'T-PARA-MNEMO',
                    'UUT' IS 'T-ALL-UUT',
                    'PULSE' IS ENUMERATION(
                        '+250V', '-250V'
                        )
                )
                RESULT (
                    'RESULT' IS DECIMAL
                )                                               $

        DECLARE, VARIABLE, 'CNT' IS INTEGER                     $
        DECLARE, VARIABLE, 'TOT' IS INTEGER                     $
        DECLARE, VARIABLE, 'L-RES' IS INTEGER                   $
        DECLARE, VARIABLE, 'L-DELAY' IS INTEGER                 $
```


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```
        DECLARE, VARIABLE, 'L-PULSE' IS INTEGER                    $
        DECLARE, VARIABLE, 'L-VOLT' IS INTEGER                     $
        CALCULATE, 'TOT' = 5                                       $

        CALCULATE,
             'L-DELAY' = 'G-PARA-TABL'('UUT', 'SIGNAL').'DELAY'    $
        CALCULATE,
             'L-PULSE' = 'G-PARA-TABL'('UUT', 'SIGNAL').'PULSE'    $
        CALCULATE,
             'L-RES'   = 'G-PARA-TABL'('UUT', 'SIGNAL').'RES'      $
       CALCULATE,
             'L-VOLT'  = 'G-PARA-TABL'('UUT', 'SIGNAL').'VOLT'     $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $
C         Lightning protection measurement between UUT pins        $

          IF, 'PULSE' EQ '+250V', THEN                             $

            IF, 'G-LIGHT-P-STATE' EQ 'INACTIVE', THEN              $

              IF, 'G-LIGHT-N-STATE' EQ 'ACTIVE', THEN              $

                RESET, (VOLTAGE),
                  LIGHTNING-ARRESTER USING 'LIGHTNING-NEG',
                  TEST-EQUIP-RES 'G-OLD-RES'
                  RANGE 50 OHM TO 5160 OHM,
                  VOLTAGE RANGE -512V TO 512V                      $

                CALCULATE, 'G-LIGHT-N-STATE' = 'INACTIVE'          $

              END, IF                                              $

              SETUP, (VOLTAGE),
                  LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                  REF-VOLT 'L-VOLT' RANGE 40 V TO 450 V,
                  MEASUREMENT-DELAY 'L-DELAY'
                  RANGE 10 USEC TO 255 USEC,
                  TEST-EQUIP-RES 'L-RES'
                  RANGE 50 OHM TO 5160 OHM,
                  PULSE-WIDTH 'L-PULSE'
                  RANGE 8 USEC TO 127 USEC,
                  VOLTAGE RANGE -512V TO 512V,
                  CNX HI 'G-PARA-TABL'('UUT', 'SIGNAL').'HI'
                      LO 'G-PARA-TABL'('UUT', 'SIGNAL').'LO'
                  SENSE-HI PULSE-MEAS                              $

              CALCULATE, 'G-LIGHT-P-STATE' = 'ACTIVE'              $

 080310     ELSE IF, ('L-RES'   NE 'G-OLD-RES')   OR
                     ('L-PULSE' NE 'G-OLD-PULSE') OR
                     ('L-VOLT'  NE 'G-OLD-VOLT'), THEN             $

              RESET, (VOLTAGE),
                  LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
```


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```
            TEST-EQUIP-RES 'G-OLD-RES'
            RANGE 50 OHM TO 5160 OHM,
            VOLTAGE RANGE -512V TO 512V                        $

          SETUP, (VOLTAGE),
            LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
            REF-VOLT 'L-VOLT' RANGE 40 V TO 450 V,
            MEASUREMENT-DELAY 'L-DELAY'
            RANGE 10 USEC TO 255 USEC,
            TEST-EQUIP-RES 'L-RES'
            RANGE 50 OHM TO 5160 OHM,
            PULSE-WIDTH 'L-PULSE'
            RANGE 8 USEC TO 127 USEC,
            VOLTAGE RANGE -512V TO 512V,
            CNX HI 'G-PARA-TABL'('UUT', 'SIGNAL').'HI'
                LO 'G-PARA-TABL'('UUT', 'SIGNAL').'LO'
            SENSE-HI PULSE-MEAS                                $

        END, IF                                                $

        CONNECT, (VOLTAGE),
            LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
            CNX HI 'G-PARA-TABL'('UUT', 'SIGNAL').'HI'
                LO 'G-PARA-TABL'('UUT', 'SIGNAL').'LO'
            SENSE-HI PULSE-MEAS                                $

        FOR, 'CNT' = 1 THRU 'TOT', THEN                        $
          READ, (VOLTAGE INTO 'RESULT'),
            LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
            CNX HI 'G-PARA-TABL'('UUT', 'SIGNAL').'HI'
                LO 'G-PARA-TABL'('UUT', 'SIGNAL').'LO'
            SENSE-HI PULSE-MEAS                                $
        END, FOR                                               $

        DISCONNECT, (VOLTAGE),
            LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
            CNX HI 'G-PARA-TABL'('UUT', 'SIGNAL').'HI'
                LO 'G-PARA-TABL'('UUT', 'SIGNAL').'LO'
            SENSE-HI PULSE-MEAS                                $

080315  ELSE                                                   $

        IF, 'G-LIGHT-N-STATE' EQ 'INACTIVE', THEN              $

          IF, 'G-LIGHT-P-STATE' EQ 'ACTIVE', THEN              $

            RESET, (VOLTAGE),
              LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
              TEST-EQUIP-RES 'G-OLD-RES'
              RANGE 50 OHM TO 5160 OHM,
              VOLTAGE RANGE -512V TO 512V                      $

            CALCULATE, 'G-LIGHT-P-STATE' = 'INACTIVE'          $
```


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```
            END, IF                                          $

            SETUP, (VOLTAGE),
                LIGHTNING-ARRESTER USING 'LIGHTNING-NEG',
                REF-VOLT -'L-VOLT' RANGE -450 V TO -40 V,
                MEASUREMENT-DELAY 'L-DELAY'
                RANGE 10 USEC TO 255 USEC,
                TEST-EQUIP-RES 'L-RES'
                RANGE 50 OHM TO 5160 OHM,
                PULSE-WIDTH 'L-PULSE'
                RANGE 8 USEC TO 127 USEC,
                VOLTAGE RANGE -512V TO 512V,
                CNX HI 'G-PARA-TABL'('UUT', 'SIGNAL').'HI'
                    LO 'G-PARA-TABL'('UUT', 'SIGNAL').'LO'
                SENSE-HI PULSE-MEAS                          $

            CALCULATE, 'G-LIGHT-N-STATE' = 'ACTIVE'          $

080320      ELSE IF, ('L-RES'   NE 'G-OLD-RES')   OR
                     ('L-PULSE' NE 'G-OLD-PULSE') OR
                     ('L-VOLT'  NE 'G-OLD-VOLT'), THEN       $

            RESET, (VOLTAGE),
                LIGHTNING-ARRESTER USING 'LIGHTNING-NEG',
                TEST-EQUIP-RES 'G-OLD-RES'
                RANGE 50 OHM TO 5160 OHM,
                VOLTAGE RANGE -512V TO 512V                  $

            SETUP, (VOLTAGE),
                LIGHTNING-ARRESTER USING 'LIGHTNING-NEG',
                REF-VOLT -'L-VOLT' RANGE -450 V TO -40 V,
                MEASUREMENT-DELAY 'L-DELAY'
                RANGE 10 USEC TO 255 USEC,
                TEST-EQUIP-RES 'L-RES'
                RANGE 50 OHM TO 5160 OHM,
                PULSE-WIDTH 'L-PULSE'
                RANGE 8 USEC TO 127 USEC,
                VOLTAGE RANGE -512V TO 512V,
                CNX HI 'G-PARA-TABL'('UUT', 'SIGNAL').'HI'
                    LO 'G-PARA-TABL'('UUT', 'SIGNAL').'LO'
                SENSE-HI PULSE-MEAS                          $

            END, IF                                          $

            CONNECT, (VOLTAGE),
                  LIGHTNING-ARRESTER USING 'LIGHTNING-NEG',
                  CNX HI 'G-PARA-TABL'('UUT', 'SIGNAL').'HI'
                      LO 'G-PARA-TABL'('UUT', 'SIGNAL').'LO'
                  SENSE-HI PULSE-MEAS                        $

            FOR, 'CNT' = 1 THRU 'TOT', THEN                  $
              READ, (VOLTAGE INTO 'RESULT'),
                LIGHTNING-ARRESTER USING 'LIGHTNING-NEG',
                CNX HI 'G-PARA-TABL'('UUT', 'SIGNAL').'HI'
```


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```
                LO 'G-PARA-TABL'('UUT', 'SIGNAL').'LO'
            SENSE-HI PULSE-MEAS                                $
        END, FOR                                               $

        DISCONNECT, (VOLTAGE),
              LIGHTNING-ARRESTER USING 'LIGHTNING-NEG',
              CNX HI 'G-PARA-TABL'('UUT', 'SIGNAL').'HI'
                  LO 'G-PARA-TABL'('UUT', 'SIGNAL').'LO'
              SENSE-HI PULSE-MEAS                              $

      END, IF                                                  $

 080325   CALCULATE, 'G-OLD-RES'   = 'L-RES'                   $

      CALCULATE, 'G-OLD-PULSE' = 'L-PULSE'                     $

      CALCULATE, 'G-OLD-VOLT'  = 'L-VOLT'                      $

    END, IF                                                    $

    END, 'INLI-PARA-MEAS'                                      $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***              I N L I - P A R A - R E S E T                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  Reset lightning protection from UUT .                      |
 |                                                             |
 |  Param-in  : UUT  Uut concerned                             |
 |                                                             |
 |              PULSE  Positive or negative pulse to apply     |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 080335 DEFINE, 'INLI-PARA-RESET', GLOBAL, PROCEDURE (
                  'UUT' IS 'T-ALL-UUT',
                  'PULSE' IS ENUMERATION(
                      '+250V', '-250V'
                      )
              )                                                $

    IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $

      IF, 'PULSE' EQ '+250V', THEN                             $

        RESET, (VOLTAGE),
```


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```
                LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                TEST-EQUIP-RES 'G-OLD-RES'
                RANGE 50 OHM TO 5160 OHM,
                VOLTAGE RANGE -512V TO 512V                        $

            CALCULATE, 'G-LIGHT-P-STATE' = 'INACTIVE'              $

          ELSE                                                     $

            RESET, (VOLTAGE),
                LIGHTNING-ARRESTER USING 'LIGHTNING-NEG',
                TEST-EQUIP-RES 'G-OLD-RES'
                RANGE 50 OHM TO 5160 OHM,
                VOLTAGE RANGE -512V TO 512V                        $

            CALCULATE, 'G-LIGHT-N-STATE' = 'INACTIVE'              $

          END, IF                                                  $

          CALCULATE, 'G-OLD-RES'   = 0                             $
          CALCULATE, 'G-OLD-PULSE' = 0                             $
          CALCULATE, 'G-OLD-VOLT'  = 0                             $

        END, IF                                                    $

        END, 'INLI-PARA-RESET'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                I N L I - P A R A - A D J                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Adjusts lightning protection with UUT disconnected, resistor   |
 |  limitation of 10 Kohm.                                         |
 |  (available for Jx-i and Jx-j)                                  |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080405 DEFINE, 'INLI-PARA-ADJ', GLOBAL, PROCEDURE                 $

        DECLARE, VARIABLE, 'CNT' IS INTEGER                        $
        DECLARE, VARIABLE, 'CNT1' IS INTEGER
        INITIAL =  0                                               $
        DECLARE, VARIABLE, 'CNT2' IS INTEGER
        INITIAL =  0                                               $
        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                    $
        DECLARE, VARIABLE, 'TOT' IS INTEGER                        $
```

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```
        DECLARE, VARIABLE, 'VOLT' IS INTEGER                      $
        DECLARE, VARIABLE, 'RESULT' IS DECIMAL                    $
        DECLARE, VARIABLE, 'SIGNAL' IS 'T-PARA-MNEMO'             $
        DECLARE, VARIABLE, 'CURRENT-PART-NUMBER' IS STRING(20) OF
                                    CHAR                          $

       WHILE, NOT ('RESULT' UL 255 LL 248) AND
                  ('CNT2' LE 5), THEN                             $
          CALCULATE, 'TOT' = 2                                    $
          CALCULATE, 'VOLT'  = 330                                $
          CALCULATE, 'CNT2' = 'CNT2' + 1                          $

 080408   SETUP, (VOLTAGE),
                    LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                    REF-VOLT 40 V,
                    MEASUREMENT-DELAY 122 USEC,
                    TEST-EQUIP-RES 5000 OHM,
                    PULSE-WIDTH 127 USEC,
                    VOLTAGE RANGE -512V TO 512V,
                    CNX HI ADJ LO J1-G
                    SENSE-HI PULSE-MEAS                           $

          CALCULATE, 'G-LIGHT-P-STATE' = 'ACTIVE'                 $

          CONNECT, (VOLTAGE),
                    LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                    CNX HI ADJ LO J1-G
                    SENSE-HI PULSE-MEAS                           $

 080410   FOR, 'CNT' = 1 THRU 'TOT', THEN                         $
            READ, (VOLTAGE INTO 'RESULT'),
                    LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                    CNX HI ADJ LO J1-G
                    SENSE-HI PULSE-MEAS                           $
          END, FOR                                                $

          CHANGE, (VOLTAGE),
                  LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                  REF-VOLT 'VOLT' RANGE 40 V TO 450 V,
                  CNX HI ADJ LO J1-G
                  SENSE-HI PULSE-MEAS                             $
 080412   FOR, 'CNT' = 1 THRU 'TOT', THEN                         $
            READ, (VOLTAGE INTO 'RESULT'),
                    LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                    CNX HI ADJ LO J1-G
                    SENSE-HI PULSE-MEAS                           $
          END, FOR                                                $
C         Adjustment of lightning with no UUT connected           $
          IF, NOT ('RESULT' UL 255 LL 248), THEN                  $

            CALCULATE, 'VOLT' = 'VOLT' + (250 - 'RESULT')         $

            IF, 'VOLT' UL 330 LL 240, THEN                        $
```


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```
080416      WHILE, ('VOLT' LE 330) AND
                   ('CNT1' LE 15 ), THEN                        $

              CHANGE, (VOLTAGE),
                  LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                  REF-VOLT 40 V,
                  CNX HI ADJ LO J1-G
                  SENSE-HI PULSE-MEAS                           $
              READ, (VOLTAGE INTO 'RESULT'),
                  LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                  CNX HI ADJ LO J1-G
                  SENSE-HI PULSE-MEAS                           $

              CALCULATE, 'CNT1' = 'CNT1' + 1                    $
              CHANGE, (VOLTAGE),
                  LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                  REF-VOLT 'VOLT' RANGE 40 V TO 450 V,
                  CNX HI ADJ LO J1-G
                  SENSE-HI PULSE-MEAS                           $

              FOR, 'CNT' = 1 THRU 'TOT', THEN                   $
                READ, (VOLTAGE INTO 'RESULT'),
                  LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                  CNX HI ADJ LO J1-G
                  SENSE-HI PULSE-MEAS                           $
              END, FOR                                          $

              IF, 'RESULT' UL 255 LL 248, THEN                  $
                LEAVE, WHILE                                    $
              ELSE IF, 'RESULT' GT 255, THEN                    $
                CALCULATE, 'VOLT' = 'VOLT' - 1                  $
              ELSE IF, 'RESULT' LT 250, THEN                    $
                CALCULATE, 'VOLT' = 'VOLT' + 1                  $
              END, IF                                           $
              WAIT FOR, TIME 100 MSEC                           $

            END, WHILE                                          $

          END, IF                                               $

        END, IF                                                 $

080420  DISCONNECT, (VOLTAGE),
                  LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                  CNX HI ADJ LO J1-G
                  SENSE-HI PULSE-MEAS                           $

080430  RESET, (VOLTAGE),
                  LIGHTNING-ARRESTER USING 'LIGHTNING-POS',
                  TEST-EQUIP-RES 5000 OHM,
                  VOLTAGE RANGE -512V TO 512V                   $

      END, WHILE                                                $
```

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```
        IF, NOT ('VOLT' UL 330 LL 240), THEN                      $

          CALCULATE, 'VOLT' = 250                                 $

        END, IF                                                   $

        FOR, 'UUT' = 'G-UUT1' THRU 'G-UUT4', THEN                 $

          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

 080435     CALCULATE,
                'G-PARA-TABL'('UUT', 'PARA-i').'VOLT' = 'VOLT'    $
            CALCULATE,
                'G-PARA-TABL'('UUT', 'PARA-j').'VOLT' = 'VOLT'    $

          END, IF                                                 $

        END, FOR                                                  $

        CALCULATE, 'G-LIGHT-P-STATE' = 'INACTIVE'                 $

        END, 'INLI-PARA-ADJ'                                      $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ********************************************************************
 *****                                                          *****
 *****                                                          *****
 *****              E N D    O F    M O D U L E                 *****
 *****                                                          *****
 *****                                                          *****
 ********************************************************************
 ********************************************************************
 ********************************************************************
                                                                  $
 999999 TERMINATE, ATLAS MODULE 'TH-ISF-C1INLI04'                 $
```


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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-C1M42905'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             C L A S S     M O D U L E                ******
 ******                                                      ******
 ******             ARINC MEASUREMENT ON UUT.                ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000105   EXTEND ATLAS                                     *
 *                                                                *
 *      006005   REQUIRE SENSORS                                  *
 *      007505   REQUIRE TIMER                                    *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      012005   DECLARE EXTERNAL VARIABLES  (LIBRARY )           *
 *      013005   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *      014005   DECLARE MODULE SPECIFIC VARIABLES                *
 *                                                                *
 *      025005   IDENTIFY TIMER                                   *
 *                                                                *
```


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```
 *                                                                  *
 *      050005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )    *
 *                                                                  *
 *      999999   TERMINATE ATLAS MODULE                             *
 *                                                                  *
 ********************************************************************
C                                                                   $
C
 ********************************************************************
 **                                                                **
 **      E X T E N D     A T L A S     S T A T E M E N T S        **
 **                                                                **
 ********************************************************************
                                                                    $

 000105 EXTEND, ATLAS NOUNS 'ARINC-429',
         FOR VERBS APPLY SETUP CONNECT DISCONNECT
           CHANGE INITIATE ARM FETCH RESET REMOVE,
         SPEC 'ARINC 429 SPECIFICATION AND DEVICE MODEL'            $

 000107 EXTEND, ATLAS MODIFIERS FOR ARINC-429,
              BIT-RATE       ,    USAGE SR,
              WORD-LENGTH    ,    USAGE SR,
              WORD-GAP       ,    USAGE SR,
              'WORD-NBR'          MOD-VALUE I MOD-DIM NONE,
                                  USAGE SR,
              TIME           ,    USAGE SR,
              SPEC 'A429 RESOURCE DESCRIPTION'                      $

 000109 EXTEND, ATLAS MODIFIERS FOR ARINC-429,
              RISE-TIME     ,     USAGE SR,
              FALL-TIME     ,     USAGE SR,
              'DATA-WD'           MOD-ARRAY AB MOD-DIM NONE,
                                  USAGE SRM,
              'ERROR-WORD'        MOD-ARRAY AB MOD-DIM NONE,
                                  USAGE SRM,
              'TRANSMIT-MODE'     MOD-VALUE I MOD-DIM NONE,
                                  USAGE S,
              'CIRCULATE-MODE'    MOD-VALUE I MOD-DIM NONE,
                                  USAGE SR,
              'TRANSMIT-INTERVAL' MOD-ARRAY RA MOD-DIM SEC
                                  MSEC, USAGE S,
              'NB-WORD'           MOD-VALUE I  MOD-DIM NONE,
                                  USAGE SR,
              'LABEL-WD'          MOD-ARRAY IA MOD-DIM NONE,
                                  USAGE SRM,
              'DELAY-WD'          MOD-ARRAY IA MOD-DIM NONE,
                                  USAGE SR,
              'TIME-WD'           MOD-ARRAY IA MOD-DIM NONE,
                                  USAGE SRM,
              'TIME-RESOLUTION'   MOD-VALUE R MOD-DIM SEC
                                  MSEC USEC, USAGE R,
              'TIME-STAMP'        MOD-ARRAY RA MOD-DIM SEC,
                                  USAGE RM,
```


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```
                'REVERSE-LABEL'     MODIFIER-DESCRIPTOR 'ON' 'OFF',
                                    USAGE R,
                'SLOPE-TIME'        MOD-VALUE R MOD-DIM SEC
                                    MSEC USEC, USAGE SRM,
                'PARITY-MODE'       MODIFIER-DESCRIPTOR
                                    'ODD' 'EVEN' 'UND' 'NO-ONE',
                                    USAGE SR,
                'RECEIVE-MODE'      MOD-VALUE I MOD-DIM NONE,
                                    USAGE R,
                'BURST-REP'         MOD-VALUE I MOD-DIM NONE,
                                    USAGE SR,
                'LABEL'             MOD-VALUE I MOD-DIM NONE,
                                    USAGE SR,
                'LABEL-ONE'         MOD-VALUE I MOD-DIM NONE,
                                    USAGE SR,
                'LABEL-TWO'         MOD-VALUE I MOD-DIM NONE,
                                    USAGE SR,
                'DISPLAY-WARNING'   MODIFIER-DESCRIPTOR 'ON' 'OFF',
                                    USAGE R,
                ZERO-AMPLITUDE ,    USAGE SRM,
                ONE-AMPLITUDE  ,    USAGE SRM,
                QUIES-AMPLITUDE,    USAGE SRM,
                BIT-RATE       ,    USAGE SRM,
                SPEC 'A429 RESOURCE DESCRIPTION'                    $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **           R E Q U I R E     S T A T E M E N T S              **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E   E X T E R N A L   L O A D S            **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E  E X T E R N A L  S O U R C E S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E  E X T E R N A L  S E N S O R S          **
 **                                                              **
 ******************************************************************
                                                                   $
```


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```
C
 ******************************************************************
 **                                                              **
 **        R E Q U I R E   E X T E R N A L   S H O R T S         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **        R E Q U I R E   E X T E R N A L   S H O R T S         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **            E X T E R N A L     T I M E R S                   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 ** R E Q U I R E   E X T E R N A L   E V E N T   M O N I T O R S **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    L O A D S                **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S O U R C E S            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     S E N S O R S           **
 **                                                              **
 ******************************************************************
                                                                  $

 006005 REQUIRE, 'R-INERT-DAT-A', SENSOR
           (ERROR-WORD, TIME-STAMP, DATA-WD),
           ARINC-429,
         CONTROL,
```


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```
          BIT-RATE RANGE 90000 BITS/SEC TO 108000 BITS/SEC
                   BY 100 BITS/SEC,
          WORD-NBR RANGE 1 TO 20000 BY 1,
          LABEL-WD RANGE 0 TO 377 BY 1,
          WORD-LENGTH 32 BITS,
          RECEIVE-MODE RANGE 1 TO 4 BY 1,
          TIME-RESOLUTION 0.01 MSEC 0.1 MSEC 1 MSEC 10MSEC 100MSEC,
          REVERSE-LABEL ON OFF,
          DISPLAY-WARNING ON OFF,
        CAPABILITY,
          ERROR-WORD,
          DATA-WD,
          TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC
          BY 0.000004 SEC,
          CNX  HI  COMPL LO                                        $

006007 REQUIRE, 'R-INERT-DAT-B', SENSOR
          (ERROR-WORD, TIME-STAMP, DATA-WD),
          ARINC-429,
        CONTROL,
          BIT-RATE RANGE 90000 BITS/SEC TO 108000 BITS/SEC
                   BY 100 BITS/SEC,
          WORD-NBR RANGE 1 TO 20000 BY 1,
          LABEL-WD RANGE 0 TO 377 BY 1,
          WORD-LENGTH 32 BITS,
          RECEIVE-MODE RANGE 1 TO 4 BY 1,
          TIME-RESOLUTION 0.01 MSEC 0.1 MSEC 1 MSEC 10MSEC 100MSEC,
          REVERSE-LABEL ON OFF,
          DISPLAY-WARNING ON OFF,
        CAPABILITY,
          ERROR-WORD,
          DATA-WD,
          TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC
          BY 0.000004 SEC,
          CNX  HI  COMPL LO                                        $

006009 REQUIRE, 'R-INERT-DAT-C', SENSOR
          (ERROR-WORD, TIME-STAMP, DATA-WD),
          ARINC-429,
        CONTROL,
          BIT-RATE RANGE 90000 BITS/SEC TO 108000 BITS/SEC
                   BY 100 BITS/SEC,
          WORD-NBR RANGE 1 TO 20000 BY 1,
          LABEL-WD RANGE 0 TO 377 BY 1,
          WORD-LENGTH 32 BITS,
          RECEIVE-MODE RANGE 1 TO 4 BY 1,
          TIME-RESOLUTION 0.01 MSEC 0.1 MSEC 1 MSEC 10MSEC 100MSEC,
          REVERSE-LABEL ON OFF,
          DISPLAY-WARNING ON OFF,
        CAPABILITY,
          ERROR-WORD,
          DATA-WD,
          TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC
          BY 0.000004 SEC,
```

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```
          CNX  HI  COMPL LO                                        $

006011 REQUIRE, 'R-INERT-DAT-D', SENSOR
          (ERROR-WORD, TIME-STAMP, DATA-WD),
          ARINC-429,
        CONTROL,
          BIT-RATE RANGE 90000 BITS/SEC TO 108000 BITS/SEC
                   BY 100 BITS/SEC,
          WORD-NBR RANGE 1 TO 20000 BY 1,
          LABEL-WD RANGE 0 TO 377 BY 1,
          WORD-LENGTH 32 BITS,
          RECEIVE-MODE RANGE 1 TO 4 BY 1,
          TIME-RESOLUTION 0.01 MSEC 0.1 MSEC 1 MSEC 10MSEC 100MSEC,
          REVERSE-LABEL ON OFF,
          DISPLAY-WARNING ON OFF,
        CAPABILITY,
          ERROR-WORD,
          DATA-WD,
          TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC
          BY 0.000004 SEC,
          CNX  HI  COMPL LO                                        $

006013 REQUIRE, 'R-INERTIE-A', SENSOR (DATA-WD), ARINC-429,
        CONTROL,
          BIT-RATE RANGE 90000 BITS/SEC TO 108000 BITS/SEC
                   BY 100 BITS/SEC,
          WORD-NBR RANGE 1 TO 32000 BY 1,
          LABEL-WD RANGE 0 TO 377 BY 1,
          WORD-LENGTH 32 BITS,
          RECEIVE-MODE RANGE 1 TO 4 BY 1,
          TIME-RESOLUTION 0.01 MSEC 0.1 MSEC 1 MSEC 10MSEC 100MSEC,
          REVERSE-LABEL ON OFF,
          DISPLAY-WARNING ON OFF,
        CAPABILITY,
          DATA-WD,
          CNX  HI  COMPL LO                                        $

006015 REQUIRE, 'R-INERTIE-B', SENSOR (DATA-WD), ARINC-429,
        CONTROL,
          BIT-RATE RANGE 90000 BITS/SEC TO 108000 BITS/SEC
                   BY 100 BITS/SEC,
          WORD-NBR RANGE 1 TO 32000 BY 1,
          LABEL-WD RANGE 0 TO 377 BY 1,
          WORD-LENGTH 32 BITS,
          RECEIVE-MODE RANGE 1 TO 4 BY 1,
          TIME-RESOLUTION 0.01 MSEC 0.1 MSEC 1 MSEC 10MSEC 100MSEC,
          REVERSE-LABEL ON OFF,
          DISPLAY-WARNING ON OFF,
        CAPABILITY,
          DATA-WD,
          CNX  HI  COMPL LO                                        $

006017 REQUIRE, 'R-INERTIE-C', SENSOR (DATA-WD), ARINC-429,
        CONTROL,
```


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```
          BIT-RATE RANGE 90000 BITS/SEC TO 108000 BITS/SEC
                   BY 100 BITS/SEC,
          WORD-NBR RANGE 1 TO 32000 BY 1,
          LABEL-WD RANGE 0 TO 377 BY 1,
          WORD-LENGTH 32 BITS,
          RECEIVE-MODE RANGE 1 TO 4 BY 1,
          TIME-RESOLUTION 0.01 MSEC 0.1 MSEC 1 MSEC 10MSEC 100MSEC,
          REVERSE-LABEL ON OFF,
          DISPLAY-WARNING ON OFF,
        CAPABILITY,
          DATA-WD,
          CNX  HI  COMPL LO                                        $

006019 REQUIRE, 'R-INERTIE-D', SENSOR (DATA-WD), ARINC-429,
        CONTROL,
          BIT-RATE RANGE 90000 BITS/SEC TO 108000 BITS/SEC
                   BY 100 BITS/SEC,
          WORD-NBR RANGE 1 TO 32000 BY 1,
          LABEL-WD RANGE 0 TO 377 BY 1,
          WORD-LENGTH 32 BITS,
          RECEIVE-MODE RANGE 1 TO 4 BY 1,
          TIME-RESOLUTION 0.01 MSEC 0.1 MSEC 1 MSEC 10MSEC 100MSEC,
          REVERSE-LABEL ON OFF,
          DISPLAY-WARNING ON OFF,
        CAPABILITY,
          DATA-WD,
          CNX  HI  COMPL LO                                        $

006021 REQUIRE, 'R-CMC-A', SENSOR (DATA-WD), ARINC-429,
        CONTROL,
          BIT-RATE RANGE 12000 BITS/SEC TO 14500 BITS/SEC
                   BY 100 BITS/SEC,
          WORD-NBR RANGE 1 TO 20000 BY 1,
          LABEL-WD RANGE 0 TO 377 BY 1,
          WORD-LENGTH 32 BITS,
          RECEIVE-MODE RANGE 1 TO 4 BY 1,
          TIME-RESOLUTION 0.01 MSEC 0.1 MSEC 1 MSEC
                          10MSEC 100MSEC,
          REVERSE-LABEL ON OFF,
          DISPLAY-WARNING ON OFF,
        CAPABILITY,
          DATA-WD,
          CNX  HI  COMPL LO                                        $

006023 REQUIRE, 'R-CMC-B', SENSOR (DATA-WD), ARINC-429,
        CONTROL,
          BIT-RATE RANGE 12000 BITS/SEC TO 14500 BITS/SEC
                   BY 100 BITS/SEC,
          WORD-NBR RANGE 1 TO 20000 BY 1,
          LABEL-WD RANGE 0 TO 377 BY 1,
          WORD-LENGTH 32 BITS,
          RECEIVE-MODE RANGE 1 TO 4 BY 1,
          TIME-RESOLUTION 0.01 MSEC 0.1 MSEC 1 MSEC
                          10MSEC 100MSEC,
```

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```
          REVERSE-LABEL ON OFF,
          DISPLAY-WARNING ON OFF,
        CAPABILITY,
          DATA-WD,
          CNX  HI  COMPL LO                                        $

 006025 REQUIRE, 'R-CMC-C', SENSOR (DATA-WD), ARINC-429,
        CONTROL,
          BIT-RATE RANGE 12000 BITS/SEC TO 14500 BITS/SEC
                   BY 100 BITS/SEC,
          WORD-NBR RANGE 1 TO 20000 BY 1,
          LABEL-WD RANGE 0 TO 377 BY 1,
          WORD-LENGTH 32 BITS,
          RECEIVE-MODE RANGE 1 TO 4 BY 1,
          TIME-RESOLUTION 0.01 MSEC 0.1 MSEC 1 MSEC
                          10MSEC 100MSEC,
          REVERSE-LABEL ON OFF,
          DISPLAY-WARNING ON OFF,
        CAPABILITY,
          DATA-WD,
          CNX  HI  COMPL LO                                        $

 006027 REQUIRE, 'R-CMC-D', SENSOR (DATA-WD), ARINC-429,
        CONTROL,
          BIT-RATE RANGE 12000 BITS/SEC TO 14500 BITS/SEC
                   BY 100 BITS/SEC,
          WORD-NBR RANGE 1 TO 20000 BY 1,
          LABEL-WD RANGE 0 TO 377 BY 1,
          WORD-LENGTH 32 BITS,
          RECEIVE-MODE RANGE 1 TO 4 BY 1,
          TIME-RESOLUTION 0.01 MSEC 0.1 MSEC 1 MSEC
                          10MSEC 100MSEC,
          REVERSE-LABEL ON OFF,
          DISPLAY-WARNING ON OFF,
        CAPABILITY,
          DATA-WD,
          CNX  HI  COMPL LO                                        $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     C O M M O N S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S H O R T S             **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
```


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```
 **       R E Q U I R E     L O C A L    T I M E R S          **
 **                                                            **
 ****************************************************************
                                                                $
 007505 REQUIRE, 'TIME-MEAS4', TIMER, TIME INTERVAL,
                CAPABILITY,
                  TIME MAX 10000 SEC                            $
C
 ****************************************************************
 **                                                            **
 **   R E Q U I R E   L O C A L  E V E N T  M O N I T O R S    **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 ****************************************************************
 **                                                            **
 **                    D  E  C  L  A  R  E                     **
 **                                                            **
 ****************************************************************
 ****************************************************************
C                                                               $
C
 ****************************************************************
 **                                                            **
 **    D E C L A R A T I O N     O F      T  Y  P  E  S         **
 **                                                            **
 ****************************************************************
                                                                $
 010005 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                  'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                  'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                  'UUT12', 'NO-UUT'
                  )                                             $
C ------------------------------------------------------------  $
C       Mnemonic of all UUT                                     $
C ------------------------------------------------------------  $

 010007 DECLARE, TYPE, 'T-M429-MNEMO' IS ENUMERATION(
                  'INERTIE', 'CMC'
                  )                                             $
C ------------------------------------------------------------  $
C       Mnemonic of arinc measurement pins                      $
C ------------------------------------------------------------  $

 010009 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION
                ('ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN')   $
C
 ****************************************************************
 **                                                            **
 **    D E C L A R A T I O N     O F      C O N S T A N T S     **
 **                                                            **
 ****************************************************************
```


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```
                                                                $
C
 ****************************************************************
 **                                                            **
 **              D E C L A R A T I O N     O F                 **
 **                                                            **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C       **
 **                                                            **
 **                    V A R I A B L E S                       **
 **                                                            **
 ****************************************************************
                                                                $
 012005 DECLARE, EXTERNAL, VARIABLE, 'OP-CHOICE' IS STRING(12) OF
              CHAR                                              $
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F   E X T E R N A L      **
 **                                                            **
 **     P R O G R A M   S P E C I F I C   V A R I A B L E S    **
 **                                                            **
 ****************************************************************
                                                                $
 013005 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
                       'EDIT-RESULT' IS BOOLEAN ;
                       'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                       'PART-NUMB' IS STRING(20) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                            J8-G, J9-G, J10-G, J11-G, J12-G
                           ) ;
                       'LO' IS CONNECTION(
                           J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                            J8-t, J9-t, J10-t, J11-t, J12-t
                           )
                       ]                                          $
C ------------------------------------------------------------- $
C       Informations about all UUT                               $
C ------------------------------------------------------------- $

 013007 DECLARE, EXTERNAL, VARIABLE, 'G-M429-TABL' IS ARRAY('UUT1'
               THRU 'UUT12','INERTIE' THRU 'CMC') OF
                   RECORD OF [
                       'NAME' IS STRING(14) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-R, J2-R, J3-R, J4-R, J5-R, J6-R, J7-R,
                            J8-R, J9-R, J10-R, J11-R, J12-R, J1-N,
                           J2-N, J3-N, J4-N, J5-N, J6-N, J7-N, J8-N,
                            J9-N, J10-N, J11-N, J12-N
                           ) ;
```


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```
                        'COMPL' IS CONNECTION(
                            J1-P, J2-P, J3-P, J4-P, J5-P, J6-P, J7-P,
                             J8-P, J9-P, J10-P, J11-P, J12-P, J1-M,
                            J2-M, J3-M, J4-M, J5-M, J6-M, J7-M, J8-M,
                             J9-M, J10-M, J11-M, J12-M
                            ) ;
                        'DEVICE' IS ENUMERATION(
                            'INERTIE-A', 'CMC-A', 'INERTIE-B',
                            'CMC-B', 'INERTIE-C', 'CMC-C',
                            'INERTIE-D', 'CMC-D'
                            )
                        ]                                                $
C ---------------------------------------------------------------------  $
C       General informations about each arinc measurement UUT signal    $
C ---------------------------------------------------------------------  $

 013009 DECLARE, EXTERNAL, VARIABLE, 'G-CUSTOMER' IS STRING(80) OF
                CHAR                                                     $
C ---------------------------------------------------------------------  $
C       Indicates the choice of test :                                  $
C       airlines or production                                          $
C ---------------------------------------------------------------------  $

 013011 DECLARE, EXTERNAL, VARIABLE, 'G-ARINC-DATA' IS ARRAY(1 THRU
                21600) OF
                    STRING(32) OF BIT                                    $
C ---------------------------------------------------------------------  $
C       Arinc measurement                                               $
C ---------------------------------------------------------------------  $

 013013 DECLARE, EXTERNAL, VARIABLE, 'G-AVERAGE' IS DECIMAL              $
C ---------------------------------------------------------------------  $
C       Average measurement .                                           $
C ---------------------------------------------------------------------  $

 013015 DECLARE, EXTERNAL, VARIABLE, 'G-NOISE' IS DECIMAL                $
C ---------------------------------------------------------------------  $
C       Noise measurement .                                             $
C ---------------------------------------------------------------------  $

 013017 DECLARE, EXTERNAL, VARIABLE, 'G-ARINC-DATA1' IS ARRAY(1 THRU
                7200) OF
                    STRING(32) OF BIT                                    $
C ---------------------------------------------------------------------  $
C       Arinc measurement                                               $
C ---------------------------------------------------------------------  $
C
 ********************************************************************
 **                                                                **
 **       D E C L A R A T I O N     O F    L O C A L               **
 **                                                                **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S         **
 **                                                                **
 ********************************************************************
```


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```
 014005 DECLARE, VARIABLE, 'S-DATA' IS ARRAY(1 THRU 1500) OF
                   STRING(32) OF BIT
        INITIAL =  (1500 OF X'00000000')                          $
C ---------------------------------------------------------------  $
C       Data measurement                                          $
C ---------------------------------------------------------------  $

 014007 DECLARE, VARIABLE, 'S-ERROR-TAB' IS ARRAY(1 THRU 1500) OF
                   STRING(8) OF BIT                               $
C ---------------------------------------------------------------  $
C       Error measurement                                         $
C ---------------------------------------------------------------  $

 014009 DECLARE, VARIABLE, 'S-TIME-TAB' IS ARRAY(1 THRU 1500) OF
                   DECIMAL                                        $
C ---------------------------------------------------------------  $
C       Time measurement                                          $
C ---------------------------------------------------------------  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **           E S T A B L I S H    P R O T O C O L              **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                I  D  E  N  T  I  F  Y                        **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                  $
C
 ******************************************************************
 **                                                              **
 **      I D E N T I F Y   E X T E R N A L   T I M E R           **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **           I D E N T I F Y     E X T E R N A L                **
 **                                                              **
 **            T I M E   B A S E D    E V E N T                  **
 **                                                              **
 ******************************************************************
                                                                   $
C
```


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```
*****************************************************************
**                                                             **
**          I D E N T I F Y    E X T E R N A L                 **
**                                                             **
**         S I G N A L   B A S E D   E V E N T                 **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**         I D E N T I F Y    E X T E R N A L                  **
**                                                             **
**          E V E N T   B A S E D   E V E N T                  **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**          I D E N T I F Y    E X T E R N A L                 **
**                                                             **
**             E V E N T   I N T E R V A L                     **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**         I D E N T I F Y    E X T E R N A L                  **
**                                                             **
**           E V E N T    I N D I C A T O R                    **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**            I D E N T I F Y    T I M E R                     **
**                                                             **
*****************************************************************
                                                              $
025005 IDENTIFY, TIMER 'CLOCK4' TIME INTERVAL USING 'TIME-MEAS4',
                TIME RANGE 1 SEC TO 10000 SEC
                                                                 $
C
*****************************************************************
**                                                             **
**         I D E N T I F Y    T I M E                          **
**                                                             **
**           B A S E D    E V E N T                            **
**                                                             **
*****************************************************************
                                                              $
```

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```
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y     S I G N A L                      **
 **                                                              **
 **           B A S E D     E V E N T                            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y     E V E N T                        **
 **                                                              **
 **           B A S E D     E V E N T                            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     I D E N T F Y    E V E N T    I N T E R N A L            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     I D E N T F Y    E V E N T    I N D I C A T O R          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                   D  E  F  I  N  E                           **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **            D E F I N E     E X C H A N G E                   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E    D R A W I N G                     **
 **                                                              **
 ******************************************************************
```


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```
                                                                  $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E     S I G N A L                      **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **  D E F I N E     D I G I T A L    C O N F I G U R A T I O N  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S        **
 **                                                              **
 **             S T A N D A R D   L I B R A R Y                  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 ** PROCEDURE :           'WRITE'                                **
 ******************************************************************
 **                                                              **
 ** PURPOSE : External procedure that outputs data to all attached **
 **           devices (screen, all-results and bad-result files on **
 **           disk, printer etc..)                               **
 **                                                              **
 **--------------------------------------------------------------**
 ** Param-in: .periph      attached device to which data should be **
 **                        output                                **
 **           .message     information to be output (sentence )   **
 **--------------------------------------------------------------**
 ** LOCATION: USER1 STANDARD LIBRARY MODULE                      **
 **                                                              **
 ******************************************************************

 050005 DEFINE, 'WRITE', EXTERNAL, PROCEDURE (
                   '.PERIPH' IS 'PERIPH-DEVICES',
                   '.MESSAGE' IS STRING(80) OF CHAR
               )                                                  $
       END, 'WRITE'                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  P R E P - O P - M E A S                   ***
 ***                                                            ***
```


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```
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : .STR-A                                            |
 |                                                                |
 |              .STR-1                                            |
 |                                                                |
 |              .STR-B                                            |
 |                                                                |
 |              .STR-2                                            |
 |                                                                |
 |              .STR-C                                            |
 |                                                                |
 |              .STR-3                                            |
 |                                                                |
 |              .STR-D                                            |
 |                                                                |
 |              .STR-4                                            |
 |                                                                |
 |              .STR-E                                            |
 |                                                                |
 |              .STR-5                                            |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 050007 DEFINE, 'PREP-OP-MEAS', EXTERNAL, PROCEDURE (
                   '.STR-A' IS STRING(12) OF CHAR,
                   '.STR-1' IS STRING(4) OF CHAR,
                   '.STR-B' IS STRING(12) OF CHAR,
                   '.STR-2' IS STRING(4) OF CHAR,
                   '.STR-C' IS STRING(12) OF CHAR,
                   '.STR-3' IS STRING(4) OF CHAR,
                   '.STR-D' IS STRING(12) OF CHAR,
                   '.STR-4' IS STRING(4) OF CHAR,
                   '.STR-E' IS STRING(12) OF CHAR,
                   '.STR-5' IS STRING(4) OF CHAR
               )                                                  $

       END, 'PREP-OP-MEAS'                                        $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S      **
 **                                                              **
 **             S P E C I F I C   P R O G R A M                  **
 **                                                              **
 ******************************************************************
                                                                  $
```


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```
C
 ******************************************************************
 **                                                              **
 **          D E F I N E   L O C A L   P R O C E D U R E         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         D E F I N E   G L O B A L   P R O C E D U R E        **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T P - 3 5 1                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Prepares arinc measurement with datation (label 351) on UUT .  |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080105 DEFINE, 'M429-INRTP-351', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
               )                                                  $

        DECLARE, VARIABLE, 'LAB' IS ARRAY(1 THRU 1) OF
                   INTEGER
        INITIAL =  351                                            $
C       Arinc labels array
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'TIME' IS DECIMAL                      $
        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          RESET, TIMER 'CLOCK4'                                   $
          READ, (TIME INTO 'TIME'), TIMER 'CLOCK4'                $
C         Arinc preparation of measurement on label 351           $
          IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                            THEN  $
 080110     SETUP, (ERROR-WORD, TIME-STAMP, DATA-WD),
                 ARINC-429 USING 'R-INERT-DAT-A',
                 BIT-RATE 100000 BITS/SEC,
                 WORD-LENGTH 32 BITS,
                 RECEIVE-MODE 1,
```

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```
                WORD-NBR 1500,
                TIME-RESOLUTION 1 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
                TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC,
                ERROR-WORD,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 110 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

080115     CONNECT, (ERROR-WORD, TIME-STAMP, DATA-WD),
                ARINC-429 USING 'R-INERT-DAT-A',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

           ELSE IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                         THEN    $
080120     SETUP, (ERROR-WORD, TIME-STAMP, DATA-WD),
                ARINC-429 USING 'R-INERT-DAT-B',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 1500,
                TIME-RESOLUTION 1 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
                TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC,
                ERROR-WORD,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 110 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

080125     CONNECT, (ERROR-WORD, TIME-STAMP, DATA-WD),
                ARINC-429 USING 'R-INERT-DAT-B',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

           ELSE IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                         THEN    $
080130     SETUP, (ERROR-WORD, TIME-STAMP, DATA-WD),
                ARINC-429 USING 'R-INERT-DAT-C',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
```


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```
                WORD-NBR 1500,
                TIME-RESOLUTION 1 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
                TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC,
                ERROR-WORD,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 110 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $

 080135     CONNECT, (ERROR-WORD, TIME-STAMP, DATA-WD),
                ARINC-429 USING 'R-INERT-DAT-C',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $

          ELSE IF,
          'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                          THEN    $
 080140     SETUP, (ERROR-WORD, TIME-STAMP, DATA-WD),
                ARINC-429 USING 'R-INERT-DAT-D',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 1500,
                TIME-RESOLUTION 1 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
                TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC,
                ERROR-WORD,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 110 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $

 080145     CONNECT, (ERROR-WORD, TIME-STAMP, DATA-WD),
                ARINC-429 USING 'R-INERT-DAT-D',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $

          END, IF                                                $

        END, IF                                                  $

        END, 'M429-INRTP-351'                                    $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
```


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```
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T A - 3 5 1                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Starts arinc measurement with datation (label 351) on UUT .   |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080155 DEFINE, 'M429-INRTA-351', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                  $

        DECLARE, VARIABLE, 'LAB' IS ARRAY(1 THRU 1) OF
                   INTEGER
        INITIAL =  351                                            $
C       Arinc labels array
 ----------------------------------------------------------------$

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                          THEN  $
 080160     ARM,     (ERROR-WORD, TIME-STAMP, DATA-WD),
                 ARINC-429 USING 'R-INERT-DAT-A',
                 CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                     COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                     LO    EARTH                                  $

          ELSE IF,
          'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                            THEN  $
 080165     ARM,     (ERROR-WORD, TIME-STAMP, DATA-WD),
                 ARINC-429 USING 'R-INERT-DAT-B',
                 CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                     COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                     LO    EARTH                                  $

          ELSE IF,
          'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                            THEN  $
 080170     ARM,     (ERROR-WORD, TIME-STAMP, DATA-WD),
                 ARINC-429 USING 'R-INERT-DAT-C',
                 CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                     COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                     LO    EARTH                                  $
```


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```
          ELSE IF,
          'G-M429-TABL('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                        THEN    $
 080175     ARM,     (ERROR-WORD, TIME-STAMP, DATA-WD),
                 ARINC-429 USING 'R-INERT-DAT-D',
                 CNX HI    'G-M429-TABL('UUT', 'INERTIE').'HI'
                     COMPL 'G-M429-TABL('UUT', 'INERTIE').'COMPL'
                     LO    EARTH                                 $

          END, IF                                                 $

        END, IF                                                   $

        END, 'M429-INRTA-351'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T F - 3 5 1                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Retrieves arinc measurement signal with datation from UUT .   |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |  Param-out : TIME  Time of initialization                      |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080185 DEFINE, 'M429-INRTF-351', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )
                RESULT (
                    'TIME' IS DECIMAL
                )                                                 $

        DECLARE, VARIABLE, 'CNT' IS INTEGER                       $
C       Counter
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'LAB' IS ARRAY(1 THRU 1) OF
                    INTEGER
        INITIAL =  351                                            $
C       Arinc labels array
 ----------------------------------------------------------------$

        IF, 'G-UUT('UUT').'PRESENCE' EQ TRUE, THEN                $
```


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```
         CALCULATE, 'TIME' = 0                                    $

         IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                            THEN  $
080186     FETCH, (ERROR-WORD INTO 'S-ERROR-TAB'(1 THRU 1500),
                   TIME-STAMP INTO 'S-TIME-TAB'(1 THRU 1500),
                   DATA-WD INTO 'S-DATA'(1 THRU 1500)),
                   ARINC-429 USING 'R-INERT-DAT-A',
                   WORD-NBR 1500,
                   TIME-RESOLUTION 1 MSEC,
                   LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
                   TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC,
                   ERROR-WORD,
                   DATA-WD,
                   DISPLAY-WARNING OFF,
                   MAX-TIME 110 SEC,
                   CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                       COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                       LO    EARTH                                $

         ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                            THEN  $
080187     FETCH, (ERROR-WORD INTO 'S-ERROR-TAB'(1 THRU 1500),
                   TIME-STAMP INTO 'S-TIME-TAB'(1 THRU 1500),
                   DATA-WD INTO 'S-DATA'(1 THRU 1500)),
                   ARINC-429 USING 'R-INERT-DAT-B',
                   WORD-NBR 1500,
                   TIME-RESOLUTION 1 MSEC,
                   LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
                   TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC,
                   ERROR-WORD,
                   DATA-WD,
                   DISPLAY-WARNING OFF,
                   MAX-TIME 110 SEC,
                   CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                       COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                       LO    EARTH                                $

         ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                            THEN  $
080188     FETCH, (ERROR-WORD INTO 'S-ERROR-TAB'(1 THRU 1500),
                   TIME-STAMP INTO 'S-TIME-TAB'(1 THRU 1500),
                   DATA-WD INTO 'S-DATA'(1 THRU 1500)),
                   ARINC-429 USING 'R-INERT-DAT-C',
                   WORD-NBR 1500,
                   TIME-RESOLUTION 1 MSEC,
                   LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
                   TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC,
                   ERROR-WORD,
                   DATA-WD,
```


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```
                DISPLAY-WARNING OFF,
                MAX-TIME 110 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                $

        ELSE IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                          THEN  $
080189    FETCH, (ERROR-WORD INTO 'S-ERROR-TAB'(1 THRU 1500),
                TIME-STAMP INTO 'S-TIME-TAB'(1 THRU 1500),
                DATA-WD INTO 'S-DATA'(1 THRU 1500)),
                ARINC-429 USING 'R-INERT-DAT-D',
                WORD-NBR 1500,
                TIME-RESOLUTION 1 MSEC,
                LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
                TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC,
                ERROR-WORD,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 110 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                $

        END, IF                                                $

        IF, MAX-TIME, THEN                                     $

          PERFORM, 'WRITE' ('ALL', C'')                        $

          IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN              $
            PERFORM, 'WRITE' ('ALL',
                C'   0~' & 'G-UUT'('UUT').'NAME')              $
          END, IF                                              $

          PERFORM, 'WRITE' ('ALL',
            C'MAXTIME REACHED ON ARINC CHANNEL ' &
            'G-M429-TABL'('UUT', 'INERTIE').'NAME' &
            C' WORDS MEASUREMENT')                             $

        ELSE                                                   $

          FOR, 'CNT' = 2 THRU 1500, THEN                       $
            IF, COPY('S-DATA'('CNT'), 14, 1) EQ B'1', THEN     $
              CALCULATE, 'TIME' =
                         'S-TIME-TAB'('CNT') - 'S-TIME-TAB'(1) $
              LEAVE, FOR                                       $
            END, IF                                            $
          END, FOR                                             $

        END, IF                                                $

      END, IF                                                  $
```


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```
       END, 'M429-INRTF-351'                                    $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               M 4 2 9 - I N R T R M - 3 5 1                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  Removes arinc measurement signal from UUT .                 |
 |                                                              |
 |  Param-in  : UUT  Uut concerned                              |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 080190 DEFINE, 'M429-INRTRM-351', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                $

       IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

         IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                          THEN  $
 080191    REMOVE, (ERROR-WORD, TIME-STAMP, DATA-WD),
                ARINC-429 USING 'R-INERT-DAT-A',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

         ELSE IF,
         'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                        THEN    $
 080192    REMOVE, (ERROR-WORD, TIME-STAMP, DATA-WD),
                ARINC-429 USING 'R-INERT-DAT-B',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

         ELSE IF,
         'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                        THEN    $
 080193    REMOVE, (ERROR-WORD, TIME-STAMP, DATA-WD),
                ARINC-429 USING 'R-INERT-DAT-C',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $
```


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```
         ELSE IF,
         'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                          THEN    $
 080195     REMOVE, (ERROR-WORD, TIME-STAMP, DATA-WD),
                 ARINC-429 USING 'R-INERT-DAT-D',
                 CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                     COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                     LO    EARTH                                 $

         END, IF                                                 $

       END, IF                                                   $

 080199 END, 'M429-INRTRM-351'                                   $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T P - 1 0 S                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Prepares 10 sec arinc measurement on UUT .                   |
 |                                                               |
 |  Param-in  : UUT  Uut concerned                               |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 080205 DEFINE, 'M429-INRTP-10S', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                 $

       DECLARE, VARIABLE, 'LAB' IS ARRAY(1 THRU 3) OF
                   INTEGER
       INITIAL =  (157, 160, 161)                                $
C      Arinc labels array
 ----------------------------------------------------------------$

       IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $
C        arinc preparation of measurement on label 157,160 and 161 $
         IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                            THEN  $
 080210     SETUP, (DATA-WD),
                 ARINC-429 USING 'R-INERTIE-A',
                 BIT-RATE 100000 BITS/SEC,
                 WORD-LENGTH 32 BITS,
                 RECEIVE-MODE 1,
                 WORD-NBR 900,
```

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```
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 3) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 15 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

080212     CONNECT, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-A',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

           ELSE IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                        THEN    $
080214     SETUP, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-B',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 900,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 3) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 15 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

080216     CONNECT, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-B',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

           ELSE IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                        THEN    $
080220     SETUP, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-C',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 900,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 3) RANGE 1 TO 377,
                DATA-WD,
```


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```
                DISPLAY-WARNING OFF,
                MAX-TIME 15 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $

 080222     CONNECT, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-C',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $

          ELSE IF,
          'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                          THEN    $
 080224     SETUP, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-D',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 900,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 3) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 15 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $

 080226     CONNECT, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-D',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $

          END, IF                                                $

        END, IF                                                  $

        END, 'M429-INRTP-10S'                                    $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T F - 1 0 S                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************
```


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```
 |-----------------------------------------------------------------|
 |  Retrieves 10 sec arinc measurement from UUT .                  |
 |                                                                 |
 |  Param-in  : UUT  Uut concerned                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080255 DEFINE, 'M429-INRTF-10S', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                  $

        DECLARE, VARIABLE, 'LAB' IS ARRAY(1 THRU 3) OF
                    INTEGER
        INITIAL =  (157, 160, 161)                                 $
C       Arinc labels array
 -----------------------------------------------------------------$

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $
C-----------------------------------------------------------------$
C         arinc measurement on label 157, 160 or 161
          during 10 sec                                            $
          IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                            THEN  $
 080260     FETCH,   (DATA-WD INTO 'G-ARINC-DATA'(1 THRU 900)),
                  ARINC-429 USING 'R-INERTIE-A',
                  WORD-NBR 900,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 3) RANGE 1 TO 377,
                  DATA-WD,
                  DISPLAY-WARNING OFF,
                  MAX-TIME 15 SEC,
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                      LO    EARTH                                  $

          ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                            THEN  $
 080265     FETCH,   (DATA-WD INTO 'G-ARINC-DATA'(1 THRU 900)),
                  ARINC-429 USING 'R-INERTIE-B',
                  WORD-NBR 900,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 3) RANGE 1 TO 377,
                  DATA-WD,
                  DISPLAY-WARNING OFF,
                  MAX-TIME 15 SEC,
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                      LO    EARTH                                  $

          ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                            THEN  $
```


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```
080270     FETCH,   (DATA-WD INTO 'G-ARINC-DATA'(1 THRU 900)),
                ARINC-429 USING 'R-INERTIE-C',
                WORD-NBR 900,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 3) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 15 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                $

           ELSE IF,
             'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                          THEN  $
080275     FETCH,   (DATA-WD INTO 'G-ARINC-DATA'(1 THRU 900)),
                ARINC-429 USING 'R-INERTIE-D',
                WORD-NBR 900,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 3) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 15 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                $

           END, IF                                             $

           IF, NOT MAX-TIME, THEN                              $
C            FOR, 'CNT' = 1 THRU 300, THEN                     $
C              CALCULATE, 'RESULT' = COPY ('DATA'('CNT'), 15, 15)    $
C              CALCULATE, 'RESULT-DEC' = 'RESULT-DEC' +
                    ( DEC(B2C, 'RESULT', 15) * 0.0001220703125 ) $
C            END, FOR                                          $
C            CALCULATE, 'RESULT-DEC' = ABS( 'RESULT-DEC' / 300 )     $

           ELSE                                                $

             PERFORM, 'WRITE' ('ALL', C'')                     $

             IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN           $
               PERFORM, 'WRITE' ('ALL',
                   C'   0~' & 'G-UUT'('UUT').'NAME')           $
             END, IF                                           $

             PERFORM, 'WRITE' ('ALL',
               C'MAXTIME REACHED ON ARINC CHANNEL ' &
               'G-M429-TABL'('UUT', 'INERTIE').'NAME' &
               C' WORDS MEASUREMENT')                          $

           END, IF                                             $

         END, IF                                               $
```


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```
       END, 'M429-INRTF-10S'                                    $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T P - 3 M N                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  Prepares 3 mn arinc measurement signal on UUT .              |
 |                                                               |
 |  Param-in  : UUT  Uut concerned                               |
 |                                                               |
 |--------------------------------------------------------------|
                                                                $
 080285 DEFINE, 'M429-INRTP-3MN', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                $

       DECLARE, VARIABLE, 'LAB' IS ARRAY(1 THRU 2) OF
                   INTEGER
       INITIAL =  (324, 325)                                    $
C      Arinc labels array
 ----------------------------------------------------------------$

       IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $
C        3 mn arinc preparation of meas. on 324 and 325 labels  $
         IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                            THEN $
 080290    SETUP, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-A',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 21600,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 190 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

 080295    CONNECT, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-A',
```


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```
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $

           ELSE IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                          THEN    $
080300       SETUP, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-B',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 21600,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 190 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $

080310       CONNECT, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-B',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $

           ELSE IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                          THEN    $
080315       SETUP, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-C',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 21600,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 190 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $

080320       CONNECT, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-C',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                  $
```


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```
         ELSE IF,
         'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                          THEN    $
 080325     SETUP, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-D',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 21600,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 190 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                   $

 080327     CONNECT, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-D',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                   $

         END, IF                                                  $

       END, IF                                                    $

       END, 'M429-INRTP-3MN'                                      $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T F - 3 M N                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Retrieves 3 mn arinc measurement on UUT .                     |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080355 DEFINE, 'M429-INRTF-3MN', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                  $

       DECLARE, VARIABLE, 'LAB' IS ARRAY(1 THRU 2) OF
```


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```
                    INTEGER
        INITIAL =  (324, 325)                                    $
C       Arinc labels array
 ----------------------------------------------------------------$

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          PERFORM, 'PREP-OP-MEAS'(C'PASS', C'GO', C'FAIL', C'NOGO',
          C'IMPOSSIBLE', C'NOGO', C'', C'', C'', C'')             $
C----------------------------------------------------------------$
C         3 mn arinc measurement on 324 and 325 labels            $
          IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                            THEN  $
 080360     FETCH,   (DATA-WD INTO 'G-ARINC-DATA'(1 THRU 21600)),
                  ARINC-429 USING 'R-INERTIE-A',
                  WORD-NBR 21600,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                  DATA-WD,
                  DISPLAY-WARNING OFF,
                  MAX-TIME 190 SEC,
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                      LO    EARTH                                 $

          ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                            THEN  $
 080365     FETCH,   (DATA-WD INTO 'G-ARINC-DATA'(1 THRU 21600)),
                  ARINC-429 USING 'R-INERTIE-B',
                  WORD-NBR 21600,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                  DATA-WD,
                  DISPLAY-WARNING OFF,
                  MAX-TIME 190 SEC,
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                      LO    EARTH                                 $

          ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                            THEN  $
 080370     FETCH,   (DATA-WD INTO 'G-ARINC-DATA'(1 THRU 21600)),
                  ARINC-429 USING 'R-INERTIE-C',
                  WORD-NBR 21600,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                  DATA-WD,
                  DISPLAY-WARNING OFF,
                  MAX-TIME 190 SEC,
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
```


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```
                    LO    EARTH                                $

        ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                          THEN  $
 080375     FETCH,   (DATA-WD INTO 'G-ARINC-DATA'(1 THRU 21600)),
                  ARINC-429 USING 'R-INERTIE-D',
                  WORD-NBR 21600,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                  DATA-WD,
                  DISPLAY-WARNING OFF,
                  MAX-TIME 190 SEC,
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                      LO    EARTH                              $

          END, IF                                              $

          IF, MAX-TIME, THEN                                   $

            PERFORM, 'WRITE' ('ALL', C'')                      $

            IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN            $
              PERFORM, 'WRITE' ('ALL',
                  C'   0~' & 'G-UUT'('UUT').'NAME')            $
            END, IF                                            $

            PERFORM, 'WRITE' ('ALL',
              C'MAXTIME REACHED ON ARINC CHANNEL ' &
              'G-M429-TABL'('UUT', 'INERTIE').'NAME' &
              C' WORDS MEASUREMENT')                           $

            CALCULATE, 'OP-CHOICE' = C'IMPOSSIBLE'             $

            CALCULATE, 'G-AVERAGE' = 9999                      $
            CALCULATE, 'G-NOISE'   = 9999                      $

          END, IF                                              $

        END, IF                                                $

        END, 'M429-INRTF-3MN'                                  $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T P - 1 M N                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************
```


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```
 |-----------------------------------------------------------------|
 |  Prepares 1 mn arinc measurement signal on UUT .                |
 |                                                                 |
 |  Param-in  : UUT  Uut concerned                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080385 DEFINE, 'M429-INRTP-1MN', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                   $

        DECLARE, VARIABLE, 'LAB' IS ARRAY(1 THRU 2) OF
                   INTEGER
        INITIAL =  (324, 325)                                      $
C       Arinc labels array
 -----------------------------------------------------------------$

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $
C         1 mn arinc preparation of meas. on 324 and 325 labels    $
          IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                            THEN  $
 080390     SETUP, (DATA-WD),
                 ARINC-429 USING 'R-INERTIE-A',
                 BIT-RATE 100000 BITS/SEC,
                 WORD-LENGTH 32 BITS,
                 RECEIVE-MODE 1,
                 WORD-NBR 7200,
                 TIME-RESOLUTION 100 MSEC,
                 REVERSE-LABEL ON,
                 LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                 DATA-WD,
                 DISPLAY-WARNING OFF,
                 MAX-TIME 70 SEC,
                 CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                     COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                     LO    EARTH                                   $

 080395     CONNECT, (DATA-WD),
                 ARINC-429 USING 'R-INERTIE-A',
                 CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                     COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                     LO    EARTH                                   $

          ELSE IF,
          'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                            THEN   $
 080400     SETUP, (DATA-WD),
                 ARINC-429 USING 'R-INERTIE-B',
                 BIT-RATE 100000 BITS/SEC,
                 WORD-LENGTH 32 BITS,
                 RECEIVE-MODE 1,
                 WORD-NBR 7200,
```


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```
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 70 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

080410     CONNECT, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-B',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

           ELSE IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                        THEN    $
080415     SETUP, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-C',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 7200,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 70 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

080420     CONNECT, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-C',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

           ELSE IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                        THEN    $
080425     SETUP, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-D',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 7200,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                DATA-WD,
```


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```
                DISPLAY-WARNING OFF,
                MAX-TIME 70 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                   $

 080427     CONNECT, (DATA-WD),
                ARINC-429 USING 'R-INERTIE-D',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                   $

          END, IF                                                 $

        END, IF                                                   $

        END, 'M429-INRTP-1MN'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T F - 1 M N                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Retrieves 1 mn arinc measurement on UUT .                     |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 | DATA acquisition stored in `GDATA1`                            |
 |----------------------------------------------------------------|
                                                                  $
 080455 DEFINE, 'M429-INRTF-1MN', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                                 $

        DECLARE, VARIABLE, 'LAB' IS ARRAY(1 THRU 2) OF
                   INTEGER
        INITIAL =  (324, 325)                                     $
C       Arinc labels array
 ----------------------------------------------------------------$

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          PERFORM, 'PREP-OP-MEAS'(C'PASS', C'GO', C'FAIL', C'NOGO',
          C'IMPOSSIBLE', C'NOGO', C'', C'', C'', C'')             $
C----------------------------------------------------------------$
C         1 mn arinc measurement on 324 and 325 labels            $
          IF,
```


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```
          'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                          THEN  $
080460    FETCH,   (DATA-WD INTO 'G-ARINC-DATA1'(1 THRU 7200)),
                ARINC-429 USING 'R-INERTIE-A',
                WORD-NBR 7200,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 70 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

        ELSE IF,
          'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                          THEN  $
080465    FETCH,   (DATA-WD INTO 'G-ARINC-DATA1'(1 THRU 7200)),
                ARINC-429 USING 'R-INERTIE-B',
                WORD-NBR 7200,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 70 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

        ELSE IF,
          'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                          THEN  $
080470    FETCH,   (DATA-WD INTO 'G-ARINC-DATA1'(1 THRU 7200)),
                ARINC-429 USING 'R-INERTIE-C',
                WORD-NBR 7200,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 70 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

        ELSE IF,
          'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                          THEN  $
080475    FETCH,   (DATA-WD INTO 'G-ARINC-DATA1'(1 THRU 7200)),
                ARINC-429 USING 'R-INERTIE-D',
                WORD-NBR 7200,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
```


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```
                MAX-TIME 70 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                $

          END, IF                                              $

          IF, MAX-TIME, THEN                                   $

            PERFORM, 'WRITE' ('ALL', C'')                      $

            IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN            $
              PERFORM, 'WRITE' ('ALL',
                  C'   0~' & 'G-UUT'('UUT').'NAME')            $
            END, IF                                            $

            PERFORM, 'WRITE' ('ALL',
              C'MAXTIME REACHED ON ARINC CHANNEL ' &
              'G-M429-TABL'('UUT', 'INERTIE').'NAME' &
              C' WORDS MEASUREMENT')                           $

            CALCULATE, 'OP-CHOICE' = C'IMPOSSIBLE'             $

            CALCULATE, 'G-AVERAGE' = 9999                      $
            CALCULATE, 'G-NOISE'   = 9999                      $

          END, IF                                              $

        END, IF                                                $

        END, 'M429-INRTF-1MN'                                  $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T F 2 - 1 M N               ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  Retrieves 1 mn arinc measurement on UUT .                  |
 |                                                             |
 |  Param-in  : UUT  Uut concerned                             |
 |                                                             |
 | DATA acquisition stored in `GDATA`                          |
 |-------------------------------------------------------------|
                                                               $
 080480 DEFINE, 'M429-INRTF2-1MN', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )                                              $
```


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```
        DECLARE, VARIABLE, 'LAB' IS ARRAY(1 THRU 2) OF
                   INTEGER
        INITIAL =  (324, 325)                                   $
C       Arinc labels array
 ----------------------------------------------------------------$

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          PERFORM, 'PREP-OP-MEAS'(C'PASS', C'GO', C'FAIL', C'NOGO',
          C'IMPOSSIBLE', C'NOGO', C'', C'', C'', C'')             $
C----------------------------------------------------------------$
C         1 mn arinc measurement on 324 and 325 labels            $
          IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                            THEN  $
 080485     FETCH,   (DATA-WD INTO 'G-ARINC-DATA'(1 THRU 7200)),
                  ARINC-429 USING 'R-INERTIE-A',
                  WORD-NBR 7200,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                  DATA-WD,
                  DISPLAY-WARNING OFF,
                  MAX-TIME 70 SEC,
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                      LO    EARTH                               $

          ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                            THEN  $
 080486     FETCH,   (DATA-WD INTO 'G-ARINC-DATA'(1 THRU 7200)),
                  ARINC-429 USING 'R-INERTIE-B',
                  WORD-NBR 7200,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                  DATA-WD,
                  DISPLAY-WARNING OFF,
                  MAX-TIME 70 SEC,
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                      LO    EARTH                               $

          ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                            THEN  $
 080487     FETCH,   (DATA-WD INTO 'G-ARINC-DATA'(1 THRU 7200)),
                  ARINC-429 USING 'R-INERTIE-C',
                  WORD-NBR 7200,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                  DATA-WD,
                  DISPLAY-WARNING OFF,
                  MAX-TIME 70 SEC,
```


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```
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                $

          ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                          THEN  $
 080488     FETCH,   (DATA-WD INTO 'G-ARINC-DATA'(1 THRU 7200)),
                ARINC-429 USING 'R-INERTIE-D',
                WORD-NBR 7200,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 2) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 70 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                $

          END, IF                                              $

          IF, MAX-TIME, THEN                                   $

            PERFORM, 'WRITE' ('ALL', C'')                      $

            IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN            $
              PERFORM, 'WRITE' ('ALL',
                  C'   0~' & 'G-UUT'('UUT').'NAME')            $
            END, IF                                            $

            PERFORM, 'WRITE' ('ALL',
              C'MAXTIME REACHED ON ARINC CHANNEL ' &
              'G-M429-TABL'('UUT', 'INERTIE').'NAME' &
              C' WORDS MEASUREMENT')                           $

            CALCULATE, 'OP-CHOICE' = C'IMPOSSIBLE'             $

            CALCULATE, 'G-AVERAGE' = 9999                      $
            CALCULATE, 'G-NOISE'   = 9999                      $

          END, IF                                              $

        END, IF                                                $

        END, 'M429-INRTF2-1MN'                                 $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - I N R T - A R M                   ***
 ***                                                            ***
```


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```
*******************************************************************
*******************************************************************

|-----------------------------------------------------------------|
|  Starts arinc measurement signal on UUT .                       |
|                                                                 |
|  Param-in  : UUT  Uut concerned                                 |
|                                                                 |
|-----------------------------------------------------------------|
                                                                  $
080501 DEFINE, 'M429-INRT-ARM', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                  $

       IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $

         IF,
           'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                          THEN  $
080505     ARM,     (DATA-WD),
                ARINC-429 USING 'R-INERTIE-A',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                   $

         ELSE IF,
         'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                          THEN    $
080510     ARM,     (DATA-WD),
                ARINC-429 USING 'R-INERTIE-B',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                   $

         ELSE IF,
         'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                          THEN    $
080515     ARM,     (DATA-WD),
                ARINC-429 USING 'R-INERTIE-C',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                   $

         ELSE IF,
         'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                          THEN    $
080520     ARM,     (DATA-WD),
                ARINC-429 USING 'R-INERTIE-D',
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                   $

         END, IF                                                  $
```


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```
       END, IF                                                  $

 080529 END, 'M429-INRT-ARM'                                    $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 M 4 2 9 - I N R T - R E M                  ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  Removes arinc signal from UUT .                             |
 |                                                              |
 |  Param-in  : UUT  Uut concerned                              |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 080907 DEFINE, 'M429-INRT-REM', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                $

       IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN              $

 080909   IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                          THEN  $
            REMOVE, (DATA-WD),
                  ARINC-429 USING 'R-INERTIE-A',
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                      LO    EARTH                               $

          ELSE IF,
          'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
                                                        THEN    $
            REMOVE, (DATA-WD),
                  ARINC-429 USING 'R-INERTIE-B',
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                      LO    EARTH                               $

          ELSE IF,
          'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                        THEN    $
            REMOVE, (DATA-WD),
                  ARINC-429 USING 'R-INERTIE-C',
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                      LO    EARTH                               $
```


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```
          ELSE IF,
          'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                          THEN    $
            REMOVE, (DATA-WD),
                  ARINC-429 USING 'R-INERTIE-D',
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                      LO    EARTH                                 $
          END, IF                                                 $

        END, IF                                                   $

        END, 'M429-INRT-REM'                                      $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    M 4 2 9 - C M C M                       ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Measures arinc signal on UUT .                                |
 |                                                                |
 |  Param-in  : UUT  Uut concerned                                |
 |                                                                |
 |              LABEL  Arinc label to measure                     |
 |                                                                |
 |  Param-out : RESULT-DEC  Result of measurement                 |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 081415 DEFINE, 'M429-CMCM', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'LABEL' IS INTEGER
                )
                RESULT (
                    'RESULT-DEC' IS DECIMAL
                )                                                 $

        DECLARE, VARIABLE, 'LAB' IS ARRAY(1 THRU 1) OF
                    INTEGER                                       $
C       Arinc labels array
 ------------------------------------------------------------------$

        DECLARE, VARIABLE, 'DATA' IS ARRAY(1 THRU 1) OF
                    STRING(32) OF BIT                             $
C       Store 1 data
 ------------------------------------------------------------------$
```


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```
        DECLARE, VARIABLE, 'RESULT' IS STRING(32) OF BIT           $
C       Part of 1 data
 ----------------------------------------------------------------$

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $

          CALCULATE, 'LAB'(1) = 'LABEL'                            $
C         arinc measurement on label 203 or 206                    $
 081420   IF, 'G-M429-TABL'('UUT', 'CMC').'DEVICE' EQ 'CMC-A', THEN $
 081425     MEASURE, (DATA-WD INTO 'DATA' (1 THRU 1)),
                  ARINC-429 USING 'R-CMC-A',
                  BIT-RATE 12500 BITS/SEC,
                  WORD-LENGTH 32 BITS,
                  RECEIVE-MODE 1,
                  WORD-NBR 1,
                  TIME-RESOLUTION 100 MSEC,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
                  DATA-WD,
                  DISPLAY-WARNING OFF,
                  MAX-TIME 2 SEC,
                  CNX HI    'G-M429-TABL'('UUT', 'CMC').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'CMC').'COMPL'
                      LO    EARTH                                $

          ELSE IF, 'G-M429-TABL'('UUT', 'CMC').'DEVICE' EQ 'CMC-B',
                                                            THEN $
 081430     MEASURE, (DATA-WD INTO 'DATA' (1 THRU 1)),
                  ARINC-429 USING 'R-CMC-B',
                  BIT-RATE 12500 BITS/SEC,
                  WORD-LENGTH 32 BITS,
                  RECEIVE-MODE 1,
                  WORD-NBR 1,
                  TIME-RESOLUTION 100 MSEC,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
                  DATA-WD,
                  DISPLAY-WARNING OFF,
                  MAX-TIME 2 SEC,
                  CNX HI    'G-M429-TABL'('UUT', 'CMC').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'CMC').'COMPL'
                      LO    EARTH                                $

          ELSE IF, 'G-M429-TABL'('UUT', 'CMC').'DEVICE' EQ 'CMC-C',
                                                            THEN $
 081435     MEASURE, (DATA-WD INTO 'DATA' (1 THRU 1)),
                  ARINC-429 USING 'R-CMC-C',
                  BIT-RATE 12500 BITS/SEC,
                  WORD-LENGTH 32 BITS,
                  RECEIVE-MODE 1,
                  WORD-NBR 1,
                  TIME-RESOLUTION 100 MSEC,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
```

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```
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 2 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'CMC').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'CMC').'COMPL'
                    LO    EARTH                                $

        ELSE IF, 'G-M429-TABL'('UUT', 'CMC').'DEVICE' EQ 'CMC-D',
                                                          THEN $
081440    MEASURE, (DATA-WD INTO 'DATA' (1 THRU 1)),
                ARINC-429 USING 'R-CMC-D',
                BIT-RATE 12500 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 1,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 2 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'CMC').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'CMC').'COMPL'
                    LO    EARTH                                $

        END, IF                                                $

        IF, MAX-TIME, THEN                                     $
          PERFORM, 'WRITE' ('ALL', C'')                        $

          IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN              $
            PERFORM, 'WRITE' ('ALL',
                C'   0~' & 'G-UUT'('UUT').'NAME')              $
          END, IF                                              $

          PERFORM, 'WRITE' ('ALL',
            C'MAXTIME REACHED ON ARINC CHANNEL ' &
            'G-M429-TABL'('UUT', 'CMC').'NAME' &
            C' WORDS MEASUREMENT')                             $
          CALCULATE, 'RESULT-DEC' = 99999                      $
        ELSE                                                   $

          IF, 'LABEL' EQ 203, THEN                             $
            CALCULATE, 'RESULT' = COPY ('DATA'(1), 12, 18)     $
            CALCULATE, 'RESULT-DEC' =
                        DEC(B2C, 'RESULT', 18)                 $
          ELSE IF, 'LABEL' EQ 206, THEN                        $
            CALCULATE, 'RESULT' = COPY ('DATA'(1), 15, 15)     $
            CALCULATE, 'RESULT-DEC' =
                        DEC(B2C, 'RESULT', 15) * 0.0625        $
          END, IF                                              $
        END, IF                                                $

      END, IF                                                  $
```


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```
       END, 'M429-CMCM'                                          $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                M 4 2 9 - A L L  - L A B E L S              ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Retrieves arinc measurement signal from UUT .                |
 |                                                               |
 |  Param-in  : UUT  Uut concerned                               |
 |                                                               |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 081600 DEFINE, 'M429-ALL-LABELS', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'LAB' IS ARRAY (1 THRU 6) OF INTEGER
               )                                                 $

       IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

         IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-A',
                                                            THEN  $
 081605     MEASURE, (ERROR-WORD INTO 'S-ERROR-TAB'(1 THRU 6),
                  TIME-STAMP INTO 'S-TIME-TAB'(1 THRU 6),
                  DATA-WD INTO 'S-DATA'(1 THRU 6)),
                  ARINC-429 USING 'R-INERT-DAT-A',
                  BIT-RATE 100000 BITS/SEC,
                  WORD-LENGTH 32 BITS,
                  RECEIVE-MODE 1,
                  WORD-NBR 6,
                  TIME-RESOLUTION 100 MSEC,
                  REVERSE-LABEL ON,
                  LABEL-WD 'LAB' (1 THRU 6) RANGE 1 TO 377,
                  TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC,
                  ERROR-WORD,
                  DATA-WD,
                  DISPLAY-WARNING OFF,
                  MAX-TIME 10 SEC,
                  CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                      COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                      LO    EARTH                                $

         ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-B',
```


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```
                                                        THEN  $
081610     MEASURE, (ERROR-WORD INTO 'S-ERROR-TAB'(1 THRU 6),
                TIME-STAMP INTO 'S-TIME-TAB'(1 THRU 6),
                DATA-WD INTO 'S-DATA'(1 THRU 6)),
                ARINC-429 USING 'R-INERT-DAT-B',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 6,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 6) RANGE 1 TO 377,
                TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC,
                ERROR-WORD,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 10 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                $

         ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-C',
                                                        THEN  $
081615     MEASURE, (ERROR-WORD INTO 'S-ERROR-TAB'(1 THRU 6),
                TIME-STAMP INTO 'S-TIME-TAB'(1 THRU 6),
                DATA-WD INTO 'S-DATA'(1 THRU 6)),
                ARINC-429 USING 'R-INERT-DAT-C',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
                WORD-NBR 6,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 6) RANGE 1 TO 377,
                TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC,
                ERROR-WORD,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 10 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                $

         ELSE IF,
            'G-M429-TABL'('UUT', 'INERTIE').'DEVICE' EQ 'INERTIE-D',
                                                        THEN  $
081620     MEASURE, (ERROR-WORD INTO 'S-ERROR-TAB'(1 THRU 6),
                TIME-STAMP INTO 'S-TIME-TAB'(1 THRU 6),
                DATA-WD INTO 'S-DATA'(1 THRU 6)),
                ARINC-429 USING 'R-INERT-DAT-D',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                RECEIVE-MODE 1,
```


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```
                WORD-NBR 6,
                TIME-RESOLUTION 100 MSEC,
                REVERSE-LABEL ON,
                LABEL-WD 'LAB' (1 THRU 1) RANGE 1 TO 377,
                TIME-STAMP RANGE 0.000004 SEC TO 17180 SEC,
                ERROR-WORD,
                DATA-WD,
                DISPLAY-WARNING OFF,
                MAX-TIME 10 SEC,
                CNX HI    'G-M429-TABL'('UUT', 'INERTIE').'HI'
                    COMPL 'G-M429-TABL'('UUT', 'INERTIE').'COMPL'
                    LO    EARTH                                 $

          END, IF                                               $

          PERFORM, 'PREP-OP-MEAS'(C'PASS', C'GO', C'FAIL', C'NOGO',
             C'', C'', C'', C'', C'', C'')                      $

          CALCULATE, 'OP-CHOICE' = C'PASS'                      $

          IF, MAX-TIME, THEN                                    $

            PERFORM, 'WRITE' ('ALL', C'')                       $

            IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN             $
              PERFORM, 'WRITE' ('ALL',
                  C'   0~' & 'G-UUT'('UUT').'NAME')             $
            END, IF                                             $

            PERFORM, 'WRITE' ('ALL',
              C'MAXTIME REACHED ON ARINC CHANNEL ' &
              'G-M429-TABL'('UUT', 'INERTIE').'NAME' &
              C' WORDS MEASUREMENT')                            $

            CALCULATE, 'OP-CHOICE' = C'FAIL'                    $

          END, IF                                               $

        END, IF                                                 $

        END, 'M429-ALL-LABELS'                                  $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 *****                                                        *****
 *****                                                        *****
 *****              E N D    O F    M O D U L E               *****
 *****                                                        *****
 *****                                                        *****
 ******************************************************************
```


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```
*******************************************************************
*******************************************************************
                                                                  $
999999 TERMINATE, ATLAS MODULE 'TH-ISF-C1M42905'                  $
```


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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-C1G42906'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             C L A S S     M O D U L E                ******
 ******                                                      ******
 ******              ARINC GENERATION ON UUT.                ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000105   EXTEND ATLAS                                     *
 *                                                                *
 *      005505   REQUIRE SOURCES                                  *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      011005   DECLARE CONSTANT                                 *
 *      013005   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *                                                                *
 *                                                                *
 *      080005   DEFINE GLOBAL SIGNAL SPECIFIC PROCEDURES         *
 *                                                                *
```


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```
 *      999999   TERMINATE ATLAS MODULE                          *
 *                                                               *
 *****************************************************************
C                                                                $
C
 *****************************************************************
 **                                                             **
 **      E X T E N D     A T L A S     S T A T E M E N T S     **
 **                                                             **
 *****************************************************************
                                                                 $
 000105 EXTEND, ATLAS NOUNS 'ARINC-429',
         FOR VERBS APPLY SETUP CONNECT DISCONNECT
           CHANGE INITIATE ARM FETCH RESET REMOVE,
         SPEC 'ARINC 429 SPECIFICATION AND DEVICE MODEL'          $

 000107 EXTEND, ATLAS MODIFIERS FOR ARINC-429,
              BIT-RATE       ,    USAGE SR,
              WORD-LENGTH    ,    USAGE SR,
              WORD-GAP       ,    USAGE SR,
              'WORD-NBR'          MOD-VALUE I MOD-DIM NONE,
                                  USAGE SR,
              TIME           ,    USAGE SR,
              SPEC 'A429 RESOURCE DESCRIPTION'                   $

 000109 EXTEND, ATLAS MODIFIERS FOR ARINC-429,
              RISE-TIME     ,     USAGE SR,
              FALL-TIME     ,     USAGE SR,
              'DATA-WD'           MOD-ARRAY AB MOD-DIM NONE,
                                  USAGE SRM,
              'ERROR-WORD'        MOD-ARRAY AB MOD-DIM NONE,
                                  USAGE SRM,
              'TRANSMIT-MODE'     MOD-VALUE I MOD-DIM NONE,
                                  USAGE S,
              'CIRCULATE-MODE'    MOD-VALUE I MOD-DIM NONE,
                                  USAGE SR,
              'TRANSMIT-INTERVAL' MOD-ARRAY RA MOD-DIM SEC
                                  MSEC, USAGE S,
              'NB-WORD'           MOD-VALUE I  MOD-DIM NONE,
                                  USAGE SR,
              'LABEL-WD'          MOD-ARRAY IA MOD-DIM NONE,
                                  USAGE SRM,
              'DELAY-WD'          MOD-ARRAY IA MOD-DIM NONE,
                                  USAGE SR,
              'TIME-WD'           MOD-ARRAY IA MOD-DIM NONE,
                                  USAGE SRM,
              'TIME-RESOLUTION'   MOD-VALUE R MOD-DIM SEC
                                  MSEC USEC, USAGE R,
              'REVERSE-LABEL'     MODIFIER-DESCRIPTOR 'ON' 'OFF',
                                  USAGE R,
              'SLOPE-TIME'        MOD-VALUE R MOD-DIM SEC
                                  MSEC USEC, USAGE SRM,
              'PARITY-MODE'       MODIFIER-DESCRIPTOR
                                  'ODD' 'EVEN' 'UND' 'NO-ONE',
```


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```
                                USAGE SR,
              'RECEIVE-MODE'    MOD-VALUE I MOD-DIM NONE,
                                USAGE R,
              'BURST-REP'       MOD-VALUE I MOD-DIM NONE,
                                USAGE SR,
              'LABEL'           MOD-VALUE I MOD-DIM NONE,
                                USAGE SR,
              'LABEL-ONE'       MOD-VALUE I MOD-DIM NONE,
                                USAGE SR,
              'LABEL-TWO'       MOD-VALUE I MOD-DIM NONE,
                                USAGE SR,
              'DISPLAY-WARNING' MODIFIER-DESCRIPTOR 'ON' 'OFF',
                                USAGE R,
              'DELAYED-EXEC'    MODIFIER-DESCRIPTOR 'ON' 'OFF',
                                USAGE S,
              ZERO-AMPLITUDE ,  USAGE SRM,
              ONE-AMPLITUDE  ,  USAGE SRM,
              QUIES-AMPLITUDE,  USAGE SRM,
              BIT-RATE       ,  USAGE SRM,
              SPEC 'A429 RESOURCE DESCRIPTION'                $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **           R E Q U I R E     S T A T E M E N T S              **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E   E X T E R N A L   L O A D S            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E  E X T E R N A L  S O U R C E S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E  E X T E R N A L  S E N S O R S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         R E Q U I R E  E X T E R N A L  S H O R T S          **
```


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```
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **         R E Q U I R E   E X T E R N A L   S H O R T S        **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **             E X T E R N A L     T I M E R S                  **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 ** R E Q U I R E   E X T E R N A L   E V E N T   M O N I T O R S **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    L O A D S                **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S O U R C E S            **
 **                                                              **
 ****************************************************************
                                                                 $
 005505 REQUIRE, 'G-BUS1-P1', SOURCE, ARINC-429,
         CONTROL,
           VOLTAGE-ONE 10V,
           VOLTAGE-ZERO -10V,
           VOLTAGE-QUIES 0V,
           RISE-TIME 1.5 USEC,
           FALL-TIME 1.5 USEC,
           BIT-RATE 12500 BITS/SEC,
           WORD-NBR RANGE 1 TO 64 BY 1,
           WORD-LENGTH 32 BITS,
           DELAYED-EXEC ON OFF,
           PARITY-MODE  ODD,
           TRANSMIT-MODE RANGE 1 TO 2 BY 1,
           CIRCULATE-MODE RANGE 0 TO 1 BY 1,
           TRANSMIT-INTERVAL RANGE 0 MSEC TO 4095 MSEC BY 1 MSEC,
           DATA-WD,
```


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```
          ERROR-WORD,
          LABEL-WD RANGE 1 TO 377 BY 1,
          CNX  HI  COMPL LO                                    $
005507 REQUIRE, 'G-BUS1-P2-P3', SOURCE, ARINC-429,
        CONTROL,
          VOLTAGE-ONE 10V,
          VOLTAGE-ZERO -10V,
          VOLTAGE-QUIES 0V,
          RISE-TIME 1.5 USEC,
          FALL-TIME 1.5 USEC,
          BIT-RATE 12500 BITS/SEC,
          WORD-NBR RANGE 1 TO 64 BY 1,
          WORD-LENGTH 32 BITS,
          DELAYED-EXEC ON OFF,
          PARITY-MODE  ODD,
          TRANSMIT-MODE RANGE 1 TO 2 BY 1,
          CIRCULATE-MODE RANGE 0 TO 1 BY 1,
          TRANSMIT-INTERVAL RANGE 0 MSEC TO 4095 MSEC BY 1 MSEC,
          DATA-WD,
          ERROR-WORD,
          LABEL-WD RANGE 1 TO 377 BY 1,
          CNX  HI  COMPL LO                                    $
005509 REQUIRE, 'G-BUS2-P1', SOURCE, ARINC-429,
        CONTROL,
          VOLTAGE-ONE 10V,
          VOLTAGE-ZERO -10V,
          VOLTAGE-QUIES 0V,
          RISE-TIME 10.5 USEC,
          FALL-TIME 10.5 USEC,
          BIT-RATE 100000 BITS/SEC,
          WORD-NBR RANGE 1 TO 64 BY 1,
          WORD-LENGTH 32 BITS,
          DELAYED-EXEC ON OFF,
          PARITY-MODE  ODD,
          TRANSMIT-MODE RANGE 1 TO 2 BY 1,
          CIRCULATE-MODE RANGE 0 TO 1 BY 1,
          TRANSMIT-INTERVAL RANGE 0 MSEC TO 4095 MSEC BY 1 MSEC,
          DATA-WD,
          ERROR-WORD,
          LABEL-WD RANGE 1 TO 377 BY 1,
          CNX  HI  COMPL LO                                    $
005511 REQUIRE, 'G-BUS3-P1', SOURCE, ARINC-429,
        CONTROL,
          VOLTAGE-ONE 10V,
          VOLTAGE-ZERO -10V,
          VOLTAGE-QUIES 0V,
          RISE-TIME 10.5 USEC,
          FALL-TIME 10.5 USEC,
          BIT-RATE 100000 BITS/SEC,
          WORD-NBR RANGE 1 TO 64 BY 1,
          WORD-LENGTH 32 BITS,
          DELAYED-EXEC ON OFF,
          PARITY-MODE  ODD,
          TRANSMIT-MODE RANGE 1 TO 2 BY 1,
```

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```
          CIRCULATE-MODE RANGE 0 TO 1 BY 1,
          TRANSMIT-INTERVAL RANGE 0 MSEC TO 4095 MSEC BY 1 MSEC,
          DATA-WD,
          ERROR-WORD,
          LABEL-WD RANGE 1 TO 377 BY 1,
          CNX  HI  COMPL LO                                  $
 005513 REQUIRE, 'G-BUS2-3-P2-P3', SOURCE, ARINC-429,
         CONTROL,
          VOLTAGE-ONE 10V,
          VOLTAGE-ZERO -10V,
          VOLTAGE-QUIES 0V,
          RISE-TIME 10.5 USEC,
          FALL-TIME 10.5 USEC,
          BIT-RATE 100000 BITS/SEC,
          WORD-NBR RANGE 1 TO 64 BY 1,
          WORD-LENGTH 32 BITS,
          DELAYED-EXEC ON OFF,
          PARITY-MODE  ODD,
          TRANSMIT-MODE RANGE 1 TO 2 BY 1,
          CIRCULATE-MODE RANGE 0 TO 1 BY 1,
          TRANSMIT-INTERVAL RANGE 0 MSEC TO 4095 MSEC BY 1 MSEC,
          DATA-WD,
          ERROR-WORD,
          LABEL-WD RANGE 1 TO 377 BY 1,
          CNX  HI  COMPL LO                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     S E N S O R S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     C O M M O N S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S H O R T S             **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    T I M E R S             **
 **                                                              **
 ******************************************************************
                                                                  $
C
```


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```
 ******************************************************************
 **                                                              **
 **   R E Q U I R E   L O C A L   E V E N T   M O N I T O R S    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                    D  E  C  L  A  R  E                       **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F      T  Y  P  E  S           **
 **                                                              **
 ******************************************************************
                                                                  $
 010005 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                   $
C       State of device
 -----------------------------------------------------------------$

 010007 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                              $
C       Mnemonic of all UUT
 -----------------------------------------------------------------$

 010009 DECLARE, TYPE, 'T-FRAME' IS ENUMERATION(
                   'FR-173-174-EQ-0', 'FR-173-174-NE-0',
                   'FR-312-320-EQ-0', 'FR-312-320-NE-0', 'NO-FRAME'
                   )                                              $
C       Indicator to know the frame to send
 -----------------------------------------------------------------$

 010011 DECLARE, TYPE, 'T-G429-MNEMO' IS ENUMERATION(
                   'BUS1', 'BUS2', 'BUS3'
                   )                                              $
C       Mnemonic of arinc generation pins
 -----------------------------------------------------------------$
C
 ******************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F      C O N S T A N T S      **
 **                                                              **
 ******************************************************************
                                                                  $
 011005 DECLARE, CONSTANT, 'INACTIVE' IS C'0'                     $
```


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```
 011007 DECLARE, CONSTANT, 'ACTIVE' IS C'1'                          $
 011009 DECLARE, CONSTANT, 'DISCONNECT' IS C'D'                      $
 011011 DECLARE, CONSTANT, 'CONNECT' IS C'C'                         $
C
 ******************************************************************
 **                                                              **
 **              D E C L A R A T I O N     O F                   **
 **                                                              **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C         **
 **                                                              **
 **                    V A R I A B L E S                         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       D E C L A R A T I O N     O F   E X T E R N A L        **
 **                                                              **
 **     P R O G R A M   S P E C I F I C   V A R I A B L E S      **
 **                                                              **
 ******************************************************************
                                                                  $
 013005 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
                       'EDIT-RESULT' IS BOOLEAN ;
                       'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                       'PART-NUMB' IS STRING(20) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                            J8-G, J9-G, J10-G, J11-G, J12-G
                           ) ;
                       'LO' IS CONNECTION(
                           J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                            J8-t, J9-t, J10-t, J11-t, J12-t
                           )
                       ]                                          $
C       Informations about all UUT
 ------------------------------------------------------------------$

 013007 DECLARE, EXTERNAL, VARIABLE, 'G-G429-TABL' IS ARRAY('UUT1'
               THRU 'UUT12','BUS1' THRU 'BUS3') OF
                   RECORD OF [
                       'NAME' IS STRING(14) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-A, J2-A, J3-A, J4-A, J5-A, J6-A, J7-A,
                            J8-A, J9-A, J10-A, J11-A, J12-A, J1-V,
                           J2-V, J3-V, J4-V, J5-V, J6-V, J7-V, J8-V,
                            J9-V, J10-V, J11-V, J12-V, J1-T, J2-T,
                           J3-T, J4-T, J5-T, J6-T, J7-T, J8-T, J9-T,
                            J10-T, J11-T, J12-T
```


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```
                        ) ;
                    'COMPL' IS CONNECTION(
                        J1-W, J2-W, J3-W, J4-W, J5-W, J6-W, J7-W,
                         J8-W, J9-W, J10-W, J11-W, J12-W, J1-U,
                        J2-U, J3-U, J4-U, J5-U, J6-U, J7-U, J8-U,
                         J9-U, J10-U, J11-U, J12-U, J1-S, J2-S,
                        J3-S, J4-S, J5-S, J6-S, J7-S, J8-S, J9-S,
                         J10-S, J11-S, J12-S
                        ) ;
                    'STATE' IS 'T-SIGNAL-STATE' ;
                    'DEVICE' IS ENUMERATION(
                        'BUS1-P1', 'BUS2-P1', 'BUS3-P1',
                        'BUS1-P2-P3', 'BUS2-3-P2-P3'
                        )
                    ]                                          $
C       General informations about each arinc generation UUT signal
 ----------------------------------------------------------------$

 013009 DECLARE, EXTERNAL, VARIABLE, 'G-OLD-BUS1P1-FR' IS 'T-FRAME'  $
C       Memorisation of state of BUS1 frame on post 1
 ----------------------------------------------------------------$

 013011 DECLARE, EXTERNAL, VARIABLE, 'G-BUS1P1-STATE' IS
                'T-SIGNAL-STATE'                               $
C       State of G-BUS1-P1 device
 ----------------------------------------------------------------$

 013013 DECLARE, EXTERNAL, VARIABLE, 'G-BUS1P2P3-STATE' IS
                'T-SIGNAL-STATE'                               $
C       State of G-BUS1-P2-P3 device
 ----------------------------------------------------------------$

 013015 DECLARE, EXTERNAL, VARIABLE, 'G-OLD-BUS2P1-FR' IS 'T-FRAME'  $
C       Memorisation of state of BUS2 frame on post 1
 ----------------------------------------------------------------$

 013017 DECLARE, EXTERNAL, VARIABLE, 'G-BUS2P1-STATE' IS
                'T-SIGNAL-STATE'                               $
C       State of G-BUS2-P1 device
 ----------------------------------------------------------------$

 013019 DECLARE, EXTERNAL, VARIABLE, 'G-BUS2-3-P2P3-STATE' IS
                'T-SIGNAL-STATE'                               $
C       State of G-BUS2-3-P2-P3 device
 ----------------------------------------------------------------$

 013021 DECLARE, EXTERNAL, VARIABLE, 'G-OLD-BUS3P1-FR' IS 'T-FRAME'  $
C       Memorisation of state of BUS2 frame on post 1
 ----------------------------------------------------------------$

 013023 DECLARE, EXTERNAL, VARIABLE, 'G-BUS3P1-STATE' IS
                'T-SIGNAL-STATE'                               $
C       State of G-BUS3-P1 device
 ----------------------------------------------------------------$
```

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```
C
 ******************************************************************
 **                                                              **
 **      D E C L A R A T I O N    O F    L O C A L               **
 **                                                              **
 **    M O D U L E   S P E C I F I C   V A R I A B L E S         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **          E S T A B L I S H   P R O T O C O L                 **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **               I  D  E  N  T  I  F  Y                         **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **      I D E N T I F Y   E X T E R N A L   T I M E R           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y     E X T E R N A L                 **
 **                                                              **
 **           T I M E   B A S E D   E V E N T                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **         S I G N A L   B A S E D   E V E N T                  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
```


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```
 **                                                            **
 **         I D E N T I F Y     E X T E R N A L                **
 **                                                            **
 **          E V E N T   B A S E D   E V E N T                 **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **          I D E N T I F Y    E X T E R N A L                 **
 **                                                            **
 **             E V E N T   I N T E R V A L                    **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **         I D E N T I F Y    E X T E R N A L                 **
 **                                                            **
 **           E V E N T    I N D I C A T O R                   **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **            I D E N T I F Y    T I M E R                    **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **         I D E N T I F Y    T I M E                         **
 **                                                            **
 **           B A S E D    E V E N T                           **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **         I D E N T I F Y    S I G N A L                     **
 **                                                            **
 **           B A S E D    E V E N T                           **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **         I D E N T I F Y    E V E N T                       **
```


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```
 **                                                            **
 **          B A S E D    E V E N T                            **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **     I D E N T F Y   E V E N T   I N T E R N A L            **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **     I D E N T F Y   E V E N T   I N D I C A T O R          **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 ****************************************************************
 **                                                            **
 **                 D E F I N E                                **
 **                                                            **
 ****************************************************************
 ****************************************************************
C                                                              $
C
 ****************************************************************
 **                                                            **
 **           D E F I N E    E X C H A N G E                   **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **            D E F I N E   D R A W I N G                     **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **            D E F I N E    S I G N A L                      **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 ** D E F I N E    D I G I T A L   C O N F I G U R A T I O N   **
 **                                                            **
```


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```
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**     D E F I N E   E X T E R N A L   P R O C E D U R E S     **
**                                                             **
**            S T A N D A R D   L I B R A R Y                  **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**     D E F I N E   E X T E R N A L   P R O C E D U R E S     **
**                                                             **
**            S P E C I F I C   P R O G R A M                  **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**         D E F I N E   L O C A L   P R O C E D U R E         **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
**                                                             **
**        D E F I N E   G L O B A L   P R O C E D U R E        **
**                                                             **
*****************************************************************
                                                              $
C
*****************************************************************
*****************************************************************
***                                                           ***
***                G 4 2 9 - P R E P - B U S 1                ***
***                                                           ***
*****************************************************************
*****************************************************************

 |-------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                         |
 |                                                             |
 |  Param-in  : UUT  Prepares BUS1 arinc device with frame to  |
 |                   transmit                                  |
 |                                                             |
 |              FRAME  Frame to transmit :                     |
 |                     - if FR-173-174-EQ-0 :                  |
 |                     word1 = X'600000', word2 = X'600000' - if |
 |                     FR-173-174-NE-0 :                       |
 |                     word1 = X'631A00', word2 = X'61C000'    |
```


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```
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080005 DEFINE, 'G429-PREP-BUS1', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'FRAME' IS 'T-FRAME'
               )                                                  $

        DECLARE, VARIABLE, 'ERROR' IS ARRAY(1 THRU 2) OF
                   STRING(8) OF BIT
        INITIAL =   (2 OF X'00')                                  $
C       Error to program
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'DATA' IS ARRAY(1 THRU 2) OF
                   STRING(32) OF BIT                              $
C       Frame to send
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'INTER' IS ARRAY(1 THRU 2) OF
                   DECIMAL
        INITIAL =  (0, 28)                                        $
C       Intervals between words
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'LABEL' IS ARRAY(1 THRU 2) OF
                   INTEGER
        INITIAL =  (173, 174)                                     $
C       Labels of the words to transmit
 ----------------------------------------------------------------$

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          IF, 'FRAME' EQ 'FR-173-174-EQ-0', THEN                  $
            CALCULATE, 'DATA'(1) = X'600000'                      $
            CALCULATE, 'DATA'(2) = X'600000'                      $
          ELSE                                                    $
            CALCULATE, 'DATA'(1) = X'631A00'                      $
            CALCULATE, 'DATA'(2) = X'61C000'                      $
          END, IF                                                 $
C         Post 1                                                  $
          IF, 'G-G429-TABL'('UUT', 'BUS1').'DEVICE' EQ 'BUS1-P1',
                                                          THEN    $
            IF, 'FRAME' NE 'G-OLD-BUS1P1-FR', THEN                $

              CALCULATE, 'G-OLD-BUS1P1-FR' = 'FRAME'              $

              IF, 'G-BUS1P1-STATE' EQ 'INACTIVE', THEN            $

 080010         SETUP, ARINC-429 USING 'G-BUS1-P1',
                   BIT-RATE 12500 BITS/SEC,
                   WORD-LENGTH 32 BITS,
                   DELAYED-EXEC OFF,
                   PARITY-MODE  ODD,
```


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```
                WORD-NBR 2,
                TRANSMIT-MODE 1,
                CIRCULATE-MODE 1,
                TRANSMIT-INTERVAL 'INTER' (1 THRU 2)
                RANGE 0 MSEC TO 4095 MSEC,
                DATA-WD 'DATA' (1 THRU 2),
                LABEL-WD 'LABEL' (1 THRU 2) RANGE 1 TO 377,
                ERROR-WORD 'ERROR' (1 THRU 2),
                CNX HI    ARINC-HI
                    COMPL ARINC-COMPL
                    LO    EARTH                                $

             CALCULATE, 'G-BUS1P1-STATE' = 'ACTIVE'            $

            ELSE                                               $

             RESET, ARINC-429 USING 'G-BUS1-P1',
                CNX HI    ARINC-HI
                    COMPL ARINC-COMPL
                    LO    EARTH                                $

 080015      SETUP, ARINC-429 USING 'G-BUS1-P1',
                BIT-RATE 12500 BITS/SEC,
                WORD-LENGTH 32 BITS,
                DELAYED-EXEC OFF,
                PARITY-MODE  ODD,
                WORD-NBR 2,
                TRANSMIT-MODE 1,
                CIRCULATE-MODE 1,
                TRANSMIT-INTERVAL 'INTER' (1 THRU 2)
                RANGE 0 MSEC TO 4095 MSEC,
                DATA-WD 'DATA' (1 THRU 2),
                LABEL-WD 'LABEL' (1 THRU 2) RANGE 1 TO 377,
                ERROR-WORD 'ERROR' (1 THRU 2),
                CNX HI    ARINC-HI
                    COMPL ARINC-COMPL
                    LO    EARTH                                $

 080020     END, IF                                            $

          END, IF                                              $
C       Post 2 or post 3                                       $
        ELSE                                                   $

          IF, 'G-BUS1P2P3-STATE' EQ 'INACTIVE', THEN           $

 080025     SETUP, ARINC-429 USING 'G-BUS1-P2-P3',
                BIT-RATE 12500 BITS/SEC,
                WORD-LENGTH 32 BITS,
                DELAYED-EXEC OFF,
                PARITY-MODE  ODD,
                WORD-NBR 2,
                TRANSMIT-MODE 1,
                CIRCULATE-MODE 1,
```


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```
                TRANSMIT-INTERVAL 'INTER' (1 THRU 2)
                RANGE 0 MSEC TO 4095 MSEC,
                DATA-WD 'DATA' (1 THRU 2),
                LABEL-WD 'LABEL' (1 THRU 2) RANGE 1 TO 377,
                ERROR-WORD 'ERROR' (1 THRU 2),
                CNX HI    ARINC-HI
                    COMPL ARINC-COMPL
                    LO    EARTH                                $

            CALCULATE, 'G-BUS1P2P3-STATE' = 'ACTIVE'            $

 080040     END, IF                                            $

 080045   END, IF                                              $

          WAIT FOR, TIME 1 SEC                                 $

        END, IF                                                $

        END, 'G429-PREP-BUS1'                                  $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 G 4 2 9 - C O N N - B U S 1                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  Connects arinc generation to UUT .                         |
 |                                                             |
 |  Param-in  : UUT  Arinc signal to connect (BUS1)            |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 080055 DEFINE, 'G429-CONN-BUS1', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                               $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

          IF, 'G-G429-TABL'('UUT', 'BUS1').'STATE' EQ 'DISCONNECT',
                                                          THEN $

            IF, 'G-G429-TABL'('UUT', 'BUS1').'DEVICE' EQ 'BUS1-P1',
                                                         THEN  $

 080060       CONNECT, ARINC-429 USING 'G-BUS1-P1',
                  CNX HI    'G-G429-TABL'('UUT', 'BUS1').'HI'
                      COMPL 'G-G429-TABL'('UUT', 'BUS1').'COMPL'
```


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```
                    LO    EARTH                                $

          ELSE IF,
         'G-G429-TABL'('UUT', 'BUS1').'DEVICE' EQ 'BUS1-P2-P3',
                                                     THEN      $

 080065      CONNECT, ARINC-429 USING 'G-BUS1-P2-P3',
                 CNX HI    'G-G429-TABL'('UUT', 'BUS1').'HI'
                     COMPL 'G-G429-TABL'('UUT', 'BUS1').'COMPL'
                     LO    EARTH                                $

 080070     END, IF                                            $

            CALCULATE,
            'G-G429-TABL'('UUT', 'BUS1').'STATE' = 'CONNECT'    $

 080075   END, IF                                              $

        END, IF                                                $

        END, 'G429-CONN-BUS1'                                  $
C|                                                              |
 |---------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - D I S C - B U S 1                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Disconnects arinc generation from UUT .                      |
 |                                                               |
 |  Param-in  : UUT  Arinc signal to discconnect(BUS1)       |
 |                                                               |
 |---------------------------------------------------------------|
                                                               $
 080085 DEFINE, 'G429-DISC-BUS1', GLOBAL, PROCEDURE (
                  'UUT' IS 'T-ALL-UUT'
               )                                               $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

          IF, 'G-G429-TABL'('UUT', 'BUS1').'STATE' EQ 'CONNECT',
                                                     THEN      $

            IF, 'G-G429-TABL'('UUT', 'BUS1').'DEVICE' EQ 'BUS1-P1',
                                                       THEN    $

 080090      DISCONNECT, ARINC-429 USING 'G-BUS1-P1',
                 CNX HI    'G-G429-TABL'('UUT', 'BUS1').'HI'
```


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```
                    COMPL 'G-G429-TABL'('UUT', 'BUS1').'COMPL'
                    LO    EARTH                                $

          ELSE IF,
          'G-G429-TABL'('UUT', 'BUS1').'DEVICE' EQ 'BUS1-P2-P3',
                                                     THEN      $

 080095       DISCONNECT, ARINC-429 USING 'G-BUS1-P2-P3',
                   CNX HI    'G-G429-TABL'('UUT', 'BUS1').'HI'
                    COMPL 'G-G429-TABL'('UUT', 'BUS1').'COMPL'
                    LO    EARTH                                $

 080101     END, IF                                            $

          CALCULATE,
          'G-G429-TABL'('UUT', 'BUS1').'STATE' = 'DISCONNECT'    $

 080105   END, IF                                              $

       END, IF                                                 $

       END, 'G429-DISC-BUS1'                                   $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - P R E P - B U S 2                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                         |
 |                                                             |
 |  Param-in  : UUT  Prepares BUS2 arinc device with frame to  |
 |                   transmit                                  |
 |                                                             |
 |              FRAME  Frame to transmit :                     |
 |                     - if FR-312-320-EQ-0 :                  |
 |                     word1 = X'600002', word2 = X'600002', word3 =|
 |                     X'600002' - if FR-312-320-NE-0 :        |
 |                     word1 = X'600002', word2 = X'62AAA2', word3 =|
 |                     X'62AAA2'                               |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 080145 DEFINE, 'G429-PREP-BUS2', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'FRAME' IS 'T-FRAME'
                )                                              $
```


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```
        DECLARE, VARIABLE, 'ERROR' IS ARRAY(1 THRU 3) OF
                   STRING(8) OF BIT
        INITIAL =   (3 OF X'00')                                $
C       Error to program
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'DATA' IS ARRAY(1 THRU 3) OF
                   STRING(32) OF BIT                            $
C       Frame to send
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'INTER' IS ARRAY(1 THRU 3) OF
                   DECIMAL
        INITIAL =  (16.3, 0, 16.3)                              $
C       Intervals between words
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'LABEL' IS ARRAY(1 THRU 3) OF
                   INTEGER
        INITIAL =  (312, 320, 320)                              $
C       Labels of the words to transmit
 ----------------------------------------------------------------$

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

          IF, 'FRAME' EQ 'FR-312-320-EQ-0', THEN                $
            CALCULATE, 'DATA'(1) = X'600002'                    $
            CALCULATE, 'DATA'(2) = X'600002'                    $
            CALCULATE, 'DATA'(3) = X'600002'                    $
          ELSE                                                  $
            CALCULATE, 'DATA'(1) = X'600002'                    $
            CALCULATE, 'DATA'(2) = X'62AAA2'                    $
            CALCULATE, 'DATA'(3) = X'62AAA2'                    $
          END, IF                                               $
C         Post 1                                                $
          IF, 'G-G429-TABL'('UUT', 'BUS2').'DEVICE' EQ 'BUS2-P1',
                                                            THEN $
            IF, 'FRAME' NE 'G-OLD-BUS2P1-FR', THEN              $

              CALCULATE, 'G-OLD-BUS2P1-FR' = 'FRAME'            $

              IF, 'G-BUS2P1-STATE' EQ 'INACTIVE', THEN          $

 080150         SETUP, ARINC-429 USING 'G-BUS2-P1',
                   BIT-RATE 100000 BITS/SEC,
                   WORD-LENGTH 32 BITS,
                   DELAYED-EXEC OFF,
                   PARITY-MODE  ODD,
                   WORD-NBR 3,
                   TRANSMIT-MODE 1,
                   CIRCULATE-MODE 1,
                   TRANSMIT-INTERVAL 'INTER' (1 THRU 3)
                   RANGE 0 MSEC TO 4095 MSEC,
                   DATA-WD 'DATA' (1 THRU 3),
```

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```
                LABEL-WD 'LABEL' (1 THRU 3) RANGE 1 TO 377,
                ERROR-WORD 'ERROR' (1 THRU 3),
                CNX HI    ARINC-HI
                    COMPL ARINC-COMPL
                    LO    EARTH                                $

              CALCULATE, 'G-BUS2P1-STATE' = 'ACTIVE'           $

            ELSE                                               $

              RESET, ARINC-429 USING 'G-BUS2-P1',
               CNX HI    ARINC-HI
                   COMPL ARINC-COMPL
                   LO    EARTH                                 $

 080155       SETUP, ARINC-429 USING 'G-BUS2-P1',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                DELAYED-EXEC OFF,
                PARITY-MODE  ODD,
                WORD-NBR 3,
                TRANSMIT-MODE 1,
                CIRCULATE-MODE 1,
                TRANSMIT-INTERVAL 'INTER' (1 THRU 3)
                RANGE 0 MSEC TO 4095 MSEC,
                DATA-WD 'DATA' (1 THRU 3),
                LABEL-WD 'LABEL' (1 THRU 3) RANGE 1 TO 377,
                ERROR-WORD 'ERROR' (1 THRU 3),
                CNX HI    ARINC-HI
                    COMPL ARINC-COMPL
                    LO    EARTH                                 $

 080160       END, IF                                           $

            END, IF                                            $
C         Post 2 or post 3                                     $
          ELSE                                                 $

            IF, 'G-BUS2-3-P2P3-STATE' EQ 'INACTIVE', THEN      $

 080165       SETUP, ARINC-429 USING 'G-BUS2-3-P2-P3',
                BIT-RATE 100000 BITS/SEC,
                WORD-LENGTH 32 BITS,
                DELAYED-EXEC OFF,
                PARITY-MODE  ODD,
                WORD-NBR 3,
                TRANSMIT-MODE 1,
                CIRCULATE-MODE 1,
                TRANSMIT-INTERVAL 'INTER' (1 THRU 3)
                RANGE 0 MSEC TO 4095 MSEC,
                DATA-WD 'DATA' (1 THRU 3),
                LABEL-WD 'LABEL' (1 THRU 3) RANGE 1 TO 377,
                ERROR-WORD 'ERROR' (1 THRU 3),
                CNX HI    ARINC-HI
```


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```
                    COMPL ARINC-COMPL
                    LO    EARTH                                $

            CALCULATE, 'G-BUS2-3-P2P3-STATE' = 'ACTIVE'        $

 080180     END, IF                                            $

 080185   END, IF                                              $

          WAIT FOR, TIME 1 SEC                                 $

        END, IF                                                $

        END, 'G429-PREP-BUS2'                                  $
C|                                                             |
 |---------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                G 4 2 9 - C O N N - B U S 2               ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Connects arinc generation to UUT .                           |
 |                                                               |
 |  Param-in  : UUT  Arinc signal to connect(BUS2)               |
 |                                                               |
 |---------------------------------------------------------------|
                                                               $
 080195 DEFINE, 'G429-CONN-BUS2', GLOBAL, PROCEDURE (
                  'UUT' IS 'T-ALL-UUT'
              )                                                $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

          IF, 'G-G429-TABL'('UUT', 'BUS2').'STATE' EQ 'DISCONNECT',
                                                          THEN $

            IF,
            'G-G429-TABL'('UUT', 'BUS2').'DEVICE' EQ 'BUS2-P1',
                                                        THEN   $

 080200       CONNECT, ARINC-429 USING 'G-BUS2-P1',
                  CNX HI    'G-G429-TABL'('UUT', 'BUS2').'HI'
                      COMPL 'G-G429-TABL'('UUT', 'BUS2').'COMPL'
                      LO    EARTH                              $

            ELSE IF,
            'G-G429-TABL'('UUT', 'BUS2').'DEVICE' EQ 'BUS2-3-P2-P3',
                                                          THEN  $
```


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```
 080205       CONNECT, ARINC-429 USING 'G-BUS2-3-P2-P3',
                   CNX HI    'G-G429-TABL'('UUT', 'BUS2').'HI'
                       COMPL 'G-G429-TABL'('UUT', 'BUS2').'COMPL'
                       LO    EARTH                                $

 080210     END, IF                                               $

            CALCULATE,
            'G-G429-TABL'('UUT', 'BUS2').'STATE' = 'CONNECT'      $

 080215   END, IF                                                 $

        END, IF                                                   $

        END, 'G429-CONN-BUS2'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - D I S C - B U S 2                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Disconnects arinc generation to UUT .                         |
 |                                                                |
 |  Param-in  : UUT  Arinc signal to disconnect(bus2)             |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080225 DEFINE, 'G429-DISC-BUS2', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                  $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          IF, 'G-G429-TABL'('UUT', 'BUS2').'STATE' EQ 'CONNECT',
                                                          THEN    $

            IF,
            'G-G429-TABL'('UUT', 'BUS2').'DEVICE' EQ 'BUS2-P1',
                                                           THEN   $

 080230       DISCONNECT, ARINC-429 USING 'G-BUS2-P1',
                   CNX HI    'G-G429-TABL'('UUT', 'BUS2').'HI'
                       COMPL 'G-G429-TABL'('UUT', 'BUS2').'COMPL'
                       LO    EARTH                                $

            ELSE IF,
```


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```
          'G-G429-TABL'('UUT', 'BUS2').'DEVICE' EQ 'BUS2-3-P2-P3',
                                                          THEN  $

 080235       DISCONNECT, ARINC-429 USING 'G-BUS2-3-P2-P3',
                   CNX HI    'G-G429-TABL'('UUT', 'BUS2').'HI'
                       COMPL 'G-G429-TABL'('UUT', 'BUS2').'COMPL'
                       LO    EARTH                                $

 080240     END, IF                                               $

            CALCULATE,
            'G-G429-TABL'('UUT', 'BUS2').'STATE' = 'DISCONNECT'    $

 080245   END, IF                                                 $

        END, IF                                                   $

        END, 'G429-DISC-BUS2'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                G 4 2 9 - P R E P - B U S 3                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Prepares arinc generation on UUT .                            |
 |                                                                |
 |  Param-in  : UUT  Prepares BUS3 arinc device with frame to     |
 |                   transmit                                     |
 |                                                                |
 |              FRAME  Frame to transmit :                        |
 |                     - if FR-312-320-EQ-0 :                     |
 |                     word1 = X'600002', word2 = X'600002', word3 =|
 |                     X'600002' - if FR-312-320-NE-0 :           |
 |                     word1 = X'600002', word2 = X'62AAA2', word3 =|
 |                     X'62AAA2'                                  |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080345 DEFINE, 'G429-PREP-BUS3', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'FRAME' IS 'T-FRAME'
               )                                                  $

        DECLARE, VARIABLE, 'ERROR' IS ARRAY(1 THRU 3) OF
                   STRING(8) OF BIT
        INITIAL =   (3 OF X'00')                                  $
C       Error to program
```


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```
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'DATA' IS ARRAY(1 THRU 3) OF
                   STRING(32) OF BIT                            $
C       Frame to send
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'INTER' IS ARRAY(1 THRU 3) OF
                   DECIMAL
        INITIAL =  (16.3, 0, 16.3)                              $
C       Intervals between words
 ----------------------------------------------------------------$

        DECLARE, VARIABLE, 'LABEL' IS ARRAY(1 THRU 3) OF
                   INTEGER
        INITIAL =  (312, 320, 320)                              $
C       Labels of the words to transmit
 ----------------------------------------------------------------$

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

          IF, 'FRAME' EQ 'FR-312-320-EQ-0', THEN                $
            CALCULATE, 'DATA'(1) = X'600002'                    $
            CALCULATE, 'DATA'(2) = X'600002'                    $
            CALCULATE, 'DATA'(3) = X'600002'                    $
          ELSE                                                  $
            CALCULATE, 'DATA'(1) = X'600002'                    $
            CALCULATE, 'DATA'(2) = X'62AAA2'                    $
            CALCULATE, 'DATA'(3) = X'62AAA2'                    $
          END, IF                                               $
C         Post 1                                                $
          IF, 'G-G429-TABL'('UUT', 'BUS3').'DEVICE' EQ 'BUS3-P1',
                                                            THEN $
            IF, 'FRAME' NE 'G-OLD-BUS3P1-FR', THEN              $

              CALCULATE, 'G-OLD-BUS3P1-FR' = 'FRAME'            $

              IF, 'G-BUS3P1-STATE' EQ 'INACTIVE', THEN          $

 080350         SETUP, ARINC-429 USING 'G-BUS3-P1',
                   BIT-RATE 100000 BITS/SEC,
                   WORD-LENGTH 32 BITS,
                   DELAYED-EXEC OFF,
                   PARITY-MODE  ODD,
                   WORD-NBR 3,
                   TRANSMIT-MODE 1,
                   CIRCULATE-MODE 1,
                   TRANSMIT-INTERVAL 'INTER' (1 THRU 3)
                   RANGE 0 MSEC TO 4095 MSEC,
                   DATA-WD 'DATA' (1 THRU 3),
                   LABEL-WD 'LABEL' (1 THRU 3) RANGE 1 TO 377,
                   ERROR-WORD 'ERROR' (1 THRU 3),
                   CNX HI    ARINC-HI
                       COMPL ARINC-COMPL
```


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```
                    LO    EARTH                                $

              CALCULATE, 'G-BUS3P1-STATE' = 'ACTIVE'           $

            ELSE                                               $

              RESET, ARINC-429 USING 'G-BUS3-P1',
               CNX HI    ARINC-HI
                   COMPL ARINC-COMPL
                   LO    EARTH                                $

 080355       SETUP, ARINC-429 USING 'G-BUS3-P1',
                 BIT-RATE 100000 BITS/SEC,
                 WORD-LENGTH 32 BITS,
                 DELAYED-EXEC OFF,
                 PARITY-MODE  ODD,
                 WORD-NBR 3,
                 TRANSMIT-MODE 1,
                 CIRCULATE-MODE 1,
                 TRANSMIT-INTERVAL 'INTER' (1 THRU 3)
                 RANGE 0 MSEC TO 4095 MSEC,
                 DATA-WD 'DATA' (1 THRU 3),
                 LABEL-WD 'LABEL' (1 THRU 3) RANGE 1 TO 377,
                 ERROR-WORD 'ERROR' (1 THRU 3),
                 CNX HI    ARINC-HI
                     COMPL ARINC-COMPL
                     LO    EARTH                              $

 080360       END, IF                                          $

            END, IF                                            $
C         Post 2 or post 3                                     $
          ELSE                                                 $

            IF, 'G-BUS2-3-P2P3-STATE' EQ 'INACTIVE', THEN      $

 080365       SETUP, ARINC-429 USING 'G-BUS2-3-P2-P3',
                 BIT-RATE 100000 BITS/SEC,
                 WORD-LENGTH 32 BITS,
                 DELAYED-EXEC OFF,
                 PARITY-MODE  ODD,
                 WORD-NBR 3,
                 TRANSMIT-MODE 1,
                 CIRCULATE-MODE 1,
                 TRANSMIT-INTERVAL 'INTER' (1 THRU 3)
                 RANGE 0 MSEC TO 4095 MSEC,
                 DATA-WD 'DATA' (1 THRU 3),
                 LABEL-WD 'LABEL' (1 THRU 3) RANGE 1 TO 377,
                 ERROR-WORD 'ERROR' (1 THRU 3),
                 CNX HI    ARINC-HI
                     COMPL ARINC-COMPL
                     LO    EARTH                              $

              CALCULATE, 'G-BUS2-3-P2P3-STATE' = 'ACTIVE'      $
```


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```
 080380     END, IF                                                $

 080385   END, IF                                                  $

          WAIT FOR, TIME 1 SEC                                     $

        END, IF                                                    $

        END, 'G429-PREP-BUS3'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                G 4 2 9 - C O N N - B U S 3                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Connects arinc generation to UUT .                             |
 |                                                                 |
 |  Param-in  : UUT  Arinc signal to connect(BUS3 channel)         |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080395 DEFINE, 'G429-CONN-BUS3', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                   $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $

          IF, 'G-G429-TABL'('UUT', 'BUS3').'STATE' EQ 'DISCONNECT',
                                                              THEN $

           IF,
           'G-G429-TABL'('UUT', 'BUS3').'DEVICE' EQ 'BUS3-P1',
                                                             THEN  $

 080400       CONNECT, ARINC-429 USING 'G-BUS3-P1',
                  CNX HI    'G-G429-TABL'('UUT', 'BUS3').'HI'
                      COMPL 'G-G429-TABL'('UUT', 'BUS3').'COMPL'
                      LO    EARTH                                  $

           ELSE IF,
           'G-G429-TABL'('UUT', 'BUS3').'DEVICE' EQ 'BUS2-3-P2-P3',
                                                              THEN $

 080405       CONNECT, ARINC-429 USING 'G-BUS2-3-P2-P3',
                  CNX HI    'G-G429-TABL'('UUT', 'BUS3').'HI'
                      COMPL 'G-G429-TABL'('UUT', 'BUS3').'COMPL'
```


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```
                    LO    EARTH                                $

 080410     END, IF                                            $

            CALCULATE,
            'G-G429-TABL'('UUT', 'BUS3').'STATE' = 'CONNECT'   $

 080415   END, IF                                              $

        END, IF                                                $

        END, 'G429-CONN-BUS3'                                  $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                G 4 2 9 - D I S C - B U S 3               ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  Disconnects arinc generation to UUT .                      |
 |                                                             |
 |  Param-in  : UUT  Arinc signal to disconnect(BUS3 channel)  |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 080425 DEFINE, 'G429-DISC-BUS3', GLOBAL, PROCEDURE (
                  'UUT' IS 'T-ALL-UUT'
               )                                               $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

          IF, 'G-G429-TABL'('UUT', 'BUS3').'STATE' EQ 'CONNECT',
                                                        THEN   $

            IF,
            'G-G429-TABL'('UUT', 'BUS3').'DEVICE' EQ 'BUS3-P1',
                                                          THEN $

 080430       DISCONNECT, ARINC-429 USING 'G-BUS3-P1',
                   CNX HI    'G-G429-TABL'('UUT', 'BUS3').'HI'
                       COMPL 'G-G429-TABL'('UUT', 'BUS3').'COMPL'
                       LO    EARTH                               $

            ELSE IF,
            'G-G429-TABL'('UUT', 'BUS3').'DEVICE' EQ 'BUS2-3-P2-P3',
                                                            THEN $

 080435       DISCONNECT, ARINC-429 USING 'G-BUS2-3-P2-P3',
```


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```
                 CNX HI    'G-G429-TABL'('UUT', 'BUS3').'HI'
                     COMPL 'G-G429-TABL'('UUT', 'BUS3').'COMPL'
                     LO    EARTH                                $

 080440     END, IF                                             $

            CALCULATE,
            'G-G429-TABL'('UUT', 'BUS3').'STATE' = 'DISCONNECT'  $

 080445   END, IF                                               $

        END, IF                                                 $

        END, 'G429-DISC-BUS3'                                   $
C|                                                              |
 |---------------------------------------------------------------|
                                                                $
C
 ********************************************************************
 ********************************************************************
 ********************************************************************
 *****                                                        *****
 *****                                                        *****
 *****              E N D    O F    M O D U L E               *****
 *****                                                        *****
 *****                                                        *****
 ********************************************************************
 ********************************************************************
 ********************************************************************
                                                                $
 999999 TERMINATE, ATLAS MODULE 'TH-ISF-C1G42906'               $
```


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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-C1R42207'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******            F L I G H T   D I S P L A Y               ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             C L A S S     M O D U L E                ******
 ******                                                      ******
 ******            DIALOG USING PROTOCOL RS422 .             ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000105   EXTEND ATLAS                                     *
 *                                                                *
 *      007505   REQUIRE TIMER                                    *
 *      008005   REQUIRE EVENT MONITOR                            *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      011005   DECLARE CONSTANT                                 *
 *      012005   DECLARE EXTERNAL VARIABLES  (LIBRARY )           *
 *      013005   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *      014005   DECLARE MODULE SPECIFIC VARIABLES                *
 *                                                                *
 *      015005   ESTABLISH PROTOCOL                               *
```


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```
 *                                                                 *
 *      025005   IDENTIFY TIMER                                   *
 *      026005   IDENTIFY SIGNAL BASED EVENT                      *
 *                                                                 *
 *      031005   DEFINE EXCHANGE                                  *
 *                                                                 *
 *                                                                 *
 *      050005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )   *
 *                                                                 *
 *      060005   DEFINE EXTERNAL PROCEDURES ( PROGRAMME )          *
 *                                                                 *
 *      080005   DEFINE GLOBAL SIGNAL SPECIFIC PROCEDURES          *
 *                                                                 *
 *      999999   TERMINATE ATLAS MODULE                            *
 *                                                                 *
 *******************************************************************
C                                                                  $
C
 *******************************************************************
 **                                                               **
 **      E X T E N D     A T L A S     S T A T E M E N T S        **
 **                                                               **
 *******************************************************************
                                                                   $
 000105 EXTEND, ATLAS NOUNS 'RS-422',
         FOR VERBS SETUP CONNECT CHANGE ARM FETCH
                   DISCONNECT RESET APPLY REMOVE
                   INITIATE READ MEASURE,
         SPEC 'GPDS RS/IO RESOURCE PROGRAMMING MANUAL'             $
C                                                                  $
C                                                                  $
 000107 EXTEND, ATLAS MODIFIERS FOR RS-422,
         BIT-RATE,           USAGE SR,
         WORD-LENGTH,        USAGE SR,
         'STOP-BIT-LENGTH'   MOD-VALUE R MOD-DIM NONE, USAGE SR,
         'DSR-DTR'           MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'XON-XOFF'          MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'AUTO-ECHO'         MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'FRAME-SIZE'        MOD-VALUE I MOD-DIM 'WORDS', USAGE SR,
         'DATA-TRANSFER'     MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'PARITY-VALUE'      MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'PARITY-MODE'       MODIFIER-DESCRIPTOR
                             'ODD' 'EVEN' 'UND' 'MARK' 'SPACE',
                             USAGE SR,
         'DATA-WD'           MOD-ARRAY AB MOD-DIM NONE,
                             USAGE SRM,
         'NB-WORD'           MOD-VALUE I MOD-DIM NONE,
                             USAGE SR,
         'WORD-NBR'          MOD-VALUE I MOD-DIM NONE,
                             USAGE R,
         'DISPLAY-WARNING'   MODIFIER-DESCRIPTOR 'ON' 'OFF',
                             USAGE R,
         'WRITE-STATUS'      MOD-VALUE I MOD-DIM NONE,
                             USAGE RM,
```


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```
         'TTLTRG-LINE'       MOD-VALUE I MOD-DIM NONE,
                             USAGE SR,
         'BIT-MASK'          MOD-VALUE SB MOD-DIM NONE,
                             USAGE SRM,
         'VALUE'             MOD-VALUE SB MOD-DIM NONE,
                             USAGE SRM,
         'CONSECUTIVE-EVENT' MODIFIER-DESCRIPTOR 'ON' 'OFF',
                             USAGE SR,
         SPEC 'GPDS RS/IO RESOURCE PROGRAMMING MANUAL'            $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **           R E Q U I R E     S T A T E M E N T S              **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E   E X T E R N A L   L O A D S            **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E  E X T E R N A L  S O U R C E S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E  E X T E R N A L  S E N S O R S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **         R E Q U I R E  E X T E R N A L  S H O R T S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **         R E Q U I R E  E X T E R N A L  S H O R T S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
```


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```
 ******************************************************************
 **                                                              **
 **            E X T E R N A L     T I M E R S                   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 ** R E Q U I R E   E X T E R N A L   E V E N T   M O N I T O R S **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    L O A D S                **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S O U R C E S            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     S E N S O R S           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     C O M M O N S           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S H O R T S              **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    T I M E R S              **
 **                                                              **
 ******************************************************************
```


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```
                                                                    $
 007505 REQUIRE, 'TIME-MEAS5', TIMER, TIME INTERVAL,
                 CAPABILITY,
                   TIME MAX 10000 SEC                               $
 007507 REQUIRE, 'DOEX-TIMERA', TIMER, TIME INTERVAL,
                CAPABILITY,
                  TIME RANGE 0 MSEC TO 500000 MSEC                  $
 007509 REQUIRE, 'DOEX-TIMERB', TIMER, TIME INTERVAL,
                CAPABILITY,
                  TIME RANGE 0 MSEC TO 500000 MSEC                  $
C
 ******************************************************************
 **                                                              **
 **    R E Q U I R E   L O C A L  E V E N T  M O N I T O R S     **
 **                                                              **
 ******************************************************************
                                                                    $
 008005 REQUIRE, 'WORD-CHA', EVENT MONITOR (VALUE), RS-422,
          CONTROL,
            BIT-RATE 115200 BITS/SEC,
            WORD-LENGTH 8 BITS,
            STOP-BIT-LENGTH 1 BITS,
            PARITY-MODE UND,
            BIT-MASK,
          CAPABILITY,
            VALUE,
          CNX HI COMPL LO                                           $
 008007 REQUIRE, 'WORD-CHB', EVENT MONITOR (VALUE), RS-422,
          CONTROL,
            BIT-RATE 115200 BITS/SEC,
            WORD-LENGTH 8 BITS,
            STOP-BIT-LENGTH 1 BITS,
            PARITY-MODE UND,
            BIT-MASK,
          CAPABILITY,
            VALUE,
          CNX HI COMPL LO                                           $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                    D  E  C  L  A  R  E                       **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                   $
C
 ******************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F     T  Y  P  E  S            **
 **                                                              **
 ******************************************************************
                                                                    $
 010005 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                     $
```


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```
C                                                                $
C ---------------------------------------------------------------  $
C       State of device                                          $
C ---------------------------------------------------------------  $
C                                                                $
 010007 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                             $
C                                                                $
C ---------------------------------------------------------------  $
C       Mnemonic of all UUT                                      $
C ---------------------------------------------------------------  $
C                                                                $
 010009 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION
                ('ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN')     $
 010011 DECLARE, TYPE, 'TPSDIR-REC' IS RECORD OF [
                   'PATHNAME' IS STRING(64) OF CHAR ;
                   'TPSNAME' IS STRING(15) OF CHAR ;
                   'TUAPATH' IS STRING(64) OF CHAR ;
                   'SELECTED-PN' IS STRING(15) OF CHAR ;
                   'ARRAY-PN' IS ARRAY(1 THRU 6) OF
                       STRING(15) OF CHAR
                   ]                                             $
 010013 DECLARE, TYPE, 'T-422-CNX' IS CONNECTION(
                   J1-L, J2-L, J3-L, J4-L, J5-L, J6-L, J7-L, J8-L,
                   J9-L, J10-L, J11-L, J12-L, J1-K, J2-K, J3-K,
                   J4-K, J5-K, J6-K, J7-K, J8-K, J9-K, J10-K, J11-K,
                    J12-K, J1-J, J2-J, J3-J, J4-J, J5-J, J6-J, J7-J,
                    J8-J, J9-J, J10-J, J11-J, J12-J, J1-H, J2-H,
                   J3-H, J4-H, J5-H, J6-H, J7-H, J8-H, J9-H, J10-H,
                   J11-H, J12-H
                   )                                             $
C       Connections of RS422 class
 ----------------------------------------------------------------$
C
 ******************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F      C O N S T A N T S      **
 **                                                              **
 ******************************************************************
                                                                  $
 011005 DECLARE, CONSTANT, 'INACTIVE' IS C'0'                     $
 011007 DECLARE, CONSTANT, 'ACTIVE' IS C'1'                       $
C
 ******************************************************************
 **                                                              **
 **              D E C L A R A T I O N     O F                   **
 **                                                              **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C         **
 **                                                              **
 **                    V A R I A B L E S                         **
 **                                                              **
```


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```
 ******************************************************************
                                                                  $
 012005 DECLARE, EXTERNAL, VARIABLE, 'OP-CHOICE' IS STRING(12) OF
               CHAR                                               $
 012007 DECLARE, EXTERNAL, VARIABLE, 'CRT' IS FILE OF TEXT        $
 012009 DECLARE, EXTERNAL, VARIABLE, 'PART-NUMBER' IS STRING(20) OF
               CHAR                                               $
 012011 DECLARE, EXTERNAL, VARIABLE, 'POWER-ON' IS BOOLEAN        $
 012013 DECLARE, EXTERNAL, VARIABLE, 'SERIAL-NUMBER' IS STRING(20) OF
               CHAR                                               $
 012015 DECLARE, EXTERNAL, VARIABLE, 'TPSDIR' IS 'TPSDIR-REC'     $
C
 ******************************************************************
 **                                                              **
 **       D E C L A R A T I O N     O F   E X T E R N A L        **
 **                                                              **
 **     P R O G R A M    S P E C I F I C    V A R I A B L E S    **
 **                                                              **
 ******************************************************************
                                                                  $
 013005 DECLARE, EXTERNAL, VARIABLE, 'G-RX-DATA' IS ARRAY(1 THRU
               10000) OF
                   STRING(8) OF BIT                               $
C       Contains the frame received
 -----------------------------------------------------------------$

 013007 DECLARE, EXTERNAL, VARIABLE, 'G-NB-CAR' IS INTEGER        $
C       Contains the number of words received.
 -----------------------------------------------------------------$

 013009 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
                       'EDIT-RESULT' IS BOOLEAN ;
                       'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                       'PART-NUMB' IS STRING(20) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                            J8-G, J9-G, J10-G, J11-G, J12-G
                           ) ;
                       'LO' IS CONNECTION(
                           J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                            J8-t, J9-t, J10-t, J11-t, J12-t
                           )
                       ]                                          $
C       Informations about all UUT
 -----------------------------------------------------------------$

 013011 DECLARE, EXTERNAL, VARIABLE, 'G-422-TABL' IS ARRAY('UUT1'
               THRU 'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(12) OF CHAR ;
```

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```
                        'HI-SEND' IS CONNECTION(
                            J1-L, J2-L, J3-L, J4-L, J5-L, J6-L, J7-L,
                             J8-L, J9-L, J10-L, J11-L, J12-L
                            ) ;
                        'LO-SEND' IS CONNECTION(
                            J1-K, J2-K, J3-K, J4-K, J5-K, J6-K, J7-K,
                             J8-K, J9-K, J10-K, J11-K, J12-K
                            ) ;
                        'HI-RCVE' IS CONNECTION(
                            J1-J, J2-J, J3-J, J4-J, J5-J, J6-J, J7-J,
                             J8-J, J9-J, J10-J, J11-J, J12-J
                            ) ;
                        'LO-RCVE' IS CONNECTION(
                            J1-H, J2-H, J3-H, J4-H, J5-H, J6-H, J7-H,
                             J8-H, J9-H, J10-H, J11-H, J12-H
                            ) ;
                        'STATE' IS 'T-SIGNAL-STATE' ;
                        'DEVICE' IS ENUMERATION(
                            'R422-A', 'R422-B'
                            )
                        ]                                          $
C       General informations about each RS422 UUT signal
 ----------------------------------------------------------------$

 013013 DECLARE, EXTERNAL, VARIABLE, 'G-CUSTOMER' IS STRING(80) OF
               CHAR                                                $
C       Indicates the choice of test :
C       airlines or production
 ----------------------------------------------------------------$

 013015 DECLARE, EXTERNAL, VARIABLE, 'G-MAINT-FILE' IS FILE OF
               STRING(8) OF BIT                                    $
C       File which contains the serial number of UUT
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F    L O C A L            **
 **                                                            **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S      **
 **                                                            **
 ****************************************************************
                                                                 $

 014007 DECLARE, VARIABLE, 'S-PATH-AND-FILE' IS STRING(80) OF CHAR  $
 014009 DECLARE, VARIABLE, 'S-RX-NB' IS INTEGER                     $
C       Number of words to receive
 ----------------------------------------------------------------$

 014011 DECLARE, VARIABLE, 'S-CNX-HIA' IS CONNECTION(
                   J1-J, J2-J, J3-J, J4-J, J5-J, J6-J, J7-J, J8-J,
                   J9-J, J10-J, J11-J, J12-J
                   )                                             $
 014013 DECLARE, VARIABLE, 'S-CNX-LOA' IS CONNECTION(
```


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```
                  J1-H, J2-H, J3-H, J4-H, J5-H, J6-H, J7-H, J8-H,
                  J9-H, J10-H, J11-H, J12-H
                  )                                                $
 014015 DECLARE, VARIABLE, 'S-CNX-HIB' IS CONNECTION(
                  J1-J, J2-J, J3-J, J4-J, J5-J, J6-J, J7-J, J8-J,
                  J9-J, J10-J, J11-J, J12-J
                  )                                                $
 014017 DECLARE, VARIABLE, 'S-CNX-LOB' IS CONNECTION(
                  J1-H, J2-H, J3-H, J4-H, J5-H, J6-H, J7-H, J8-H,
                  J9-H, J10-H, J11-H, J12-H
                  )                                                $
 014019 DECLARE, VARIABLE, 'S-TX-CMD' IS ARRAY(1 THRU 1) OF
                  STRING(8) OF BIT                                 $
 014021 DECLARE, VARIABLE, 'S-TX-ACK' IS ARRAY(1 THRU 1) OF
                  STRING(8) OF BIT
       INITIAL =  X'06'                                            $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **           E S T A B L I S H    P R O T O C O L               **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
 015005 ESTABLISH, BUS-PROTOCOL 'TX-RS422A',
          SPEC 'AT6-GPDS-RMO',
          TEST-EQUIP-ROLE MASTER,
          BUS-MODE CON-RT,
                 TALKER   TEST-EQUIP,
                 DATA     ( STRING(8) OF BIT ),
          BUS-PARAMETER
             UPDATABLE PROTOCOL BIT-RATE
                       RANGE 10 BITS/SEC TO 115200 BITS/SEC ,
             UPDATABLE PROTOCOL WORD-LENGTH
                       RANGE 5 BITS TO 8 BITS BY 1 BITS,
             UPDATABLE PROTOCOL PARITY-VALUE
                       RANGE 1 TO 5 BY 1 ,
             UPDATABLE PROTOCOL STOP-BIT-LENGTH
                       RANGE 1 BITS TO 2 BITS BY 1 BITS,
             UPDATABLE PROTOCOL XON-XOFF
                       RANGE 0 TO 1 BY 1,
             UPDATABLE PROTOCOL-EXCHANGE FRAME-SIZE
                       RANGE 0 WORDS TO 65535 WORDS BY 1 WORDS,
          STANDARD BUS ,
       CNX HI COMPL LO
                                                                  $
 015007 ESTABLISH, BUS-PROTOCOL 'RX-RS422A',
          SPEC 'AT6-GPDS-RMO',
          TEST-EQUIP-ROLE MASTER,
          BUS-MODE RT-CON,
                 LISTENER   TEST-EQUIP,
                 DATA     ( STRING(8) OF BIT ),
                 STATUS   ( INTEGER ),
```

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```
         BUS-PARAMETER
            UPDATABLE PROTOCOL BIT-RATE
                      RANGE 10 BITS/SEC TO 115200 BITS/SEC ,
            UPDATABLE PROTOCOL WORD-LENGTH
                      RANGE 5 BITS TO 8 BITS BY 1 BITS ,
            UPDATABLE PROTOCOL PARITY-VALUE
                      RANGE 1 TO 5 BY 1 ,
            UPDATABLE PROTOCOL STOP-BIT-LENGTH
                      RANGE 1 BITS TO 2 BITS BY 1 BITS ,
            UPDATABLE PROTOCOL XON-XOFF
                      RANGE 0 TO 1 BY 1,
            UPDATABLE PROTOCOL-EXCHANGE FRAME-SIZE
                      RANGE 0 WORDS TO 65535 WORDS BY 1 WORDS,
          STANDARD BUS ,
       CNX HI COMPL LO
                                                                  $
015009 ESTABLISH, BUS-PROTOCOL 'TX-RS422B',
         SPEC 'AT6-GPDS-RMO',
         TEST-EQUIP-ROLE MASTER,
         BUS-MODE CON-RT,
                TALKER   TEST-EQUIP,
                DATA     ( STRING(8) OF BIT ),
         BUS-PARAMETER
            UPDATABLE PROTOCOL BIT-RATE
                      RANGE 10 BITS/SEC TO 115200 BITS/SEC ,
            UPDATABLE PROTOCOL WORD-LENGTH
                      RANGE 5 BITS TO 8 BITS BY 1 BITS,
            UPDATABLE PROTOCOL PARITY-VALUE
                      RANGE 1 TO 5 BY 1 ,
            UPDATABLE PROTOCOL STOP-BIT-LENGTH
                      RANGE 1 BITS TO 2 BITS BY 1 BITS,
            UPDATABLE PROTOCOL XON-XOFF
                      RANGE 0 TO 1 BY 1,
            UPDATABLE PROTOCOL-EXCHANGE FRAME-SIZE
                      RANGE 0 WORDS TO 65535 WORDS BY 1 WORDS,
         STANDARD BUS ,
       CNX HI COMPL LO
                                                                  $
015011 ESTABLISH, BUS-PROTOCOL 'RX-RS422B',
         SPEC 'AT6-GPDS-RMO',
         TEST-EQUIP-ROLE MASTER,
         BUS-MODE RT-CON,
                LISTENER   TEST-EQUIP,
                DATA     ( STRING(8) OF BIT ),
                STATUS   ( INTEGER ),
         BUS-PARAMETER
            UPDATABLE PROTOCOL BIT-RATE
                      RANGE 10 BITS/SEC TO 115200 BITS/SEC ,
            UPDATABLE PROTOCOL WORD-LENGTH
                      RANGE 5 BITS TO 8 BITS BY 1 BITS ,
            UPDATABLE PROTOCOL PARITY-VALUE
                      RANGE 1 TO 5 BY 1 ,
            UPDATABLE PROTOCOL STOP-BIT-LENGTH
                      RANGE 1 BITS TO 2 BITS BY 1 BITS ,
```


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```
            UPDATABLE PROTOCOL XON-XOFF
                      RANGE 0 TO 1 BY 1,
            UPDATABLE PROTOCOL-EXCHANGE FRAME-SIZE
                      RANGE 0 WORDS TO 65535 WORDS BY 1 WORDS,
        STANDARD BUS ,
       CNX HI COMPL LO
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                I  D  E  N  T  I  F  Y                        **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **      I D E N T I F Y   E X T E R N A L   T I M E R           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y     E X T E R N A L                 **
 **                                                              **
 **           T I M E   B A S E D   E V E N T                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **         S I G N A L   B A S E D   E V E N T                  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y    E X T E R N A L                   **
 **                                                              **
 **          E V E N T   B A S E D   E V E N T                   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
```

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```
 **                                                              **
 **              E V E N T   I N T E R V A L                     **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **            E V E N T    I N D I C A T O R                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **             I D E N T I F Y    T I M E R                     **
 **                                                              **
 ******************************************************************
                                                                  $
 025005 IDENTIFY, TIMER 'CLOCK5' TIME INTERVAL USING 'TIME-MEAS5',
                  TIME RANGE 1 SEC TO 10000 SEC
                                                                  $
 025007 IDENTIFY, TIMER 'CLOCKA' TIME INTERVAL USING 'DOEX-TIMERA',
                  TIME RANGE 0 MSEC TO 50000 MSEC
                                                                  $
 025009 IDENTIFY, TIMER 'CLOCKB' TIME INTERVAL USING 'DOEX-TIMERB',
                  TIME RANGE 0 MSEC TO 50000 MSEC
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y    T I M E                          **
 **                                                              **
 **            B A S E D    E V E N T                            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y    S I G N A L                      **
 **                                                              **
 **            B A S E D    E V E N T                            **
 **                                                              **
 ******************************************************************
                                                                  $
 026005 IDENTIFY, EVENT 'EVT-CMDA'
                  AS RS-422 USING 'WORD-CHA',
                  VALUE EQ 'S-TX-CMD'(1),
                  BIT-RATE 115200 BITS/SEC,
                  WORD-LENGTH 8 BITS,
                  PARITY-MODE UND,
```


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```
                STOP-BIT-LENGTH 1 BITS,
                BIT-MASK        X'FF',
                CNX HI 'S-CNX-HIA' COMPL 'S-CNX-LOA' LO EARTH
                                                                $
026007 IDENTIFY, EVENT 'EVT-CMDB'
                AS RS-422 USING 'WORD-CHB',
                VALUE EQ 'S-TX-CMD'(1),
                BIT-RATE 115200 BITS/SEC,
                WORD-LENGTH 8 BITS,
                PARITY-MODE UND,
                STOP-BIT-LENGTH 1 BITS,
                BIT-MASK        X'FF',
                CNX HI 'S-CNX-HIB' COMPL 'S-CNX-LOB' LO EARTH
                                                                $
026009 IDENTIFY, EVENT 'EVT-EOTA'
                AS RS-422 USING 'WORD-CHA',
                VALUE EQ X'04',
                BIT-RATE 115200 BITS/SEC,
                WORD-LENGTH 8 BITS,
                PARITY-MODE UND,
                STOP-BIT-LENGTH 1 BITS,
                BIT-MASK        X'FF',
                CNX HI 'S-CNX-HIA' COMPL 'S-CNX-LOA' LO EARTH
                                                                $
026011 IDENTIFY, EVENT 'EVT-EOTB'
                AS RS-422 USING 'WORD-CHB',
                VALUE EQ X'04',
                BIT-RATE 115200 BITS/SEC,
                WORD-LENGTH 8 BITS,
                PARITY-MODE UND,
                STOP-BIT-LENGTH 1 BITS,
                BIT-MASK        X'FF',
                CNX HI 'S-CNX-HIB' COMPL 'S-CNX-LOB' LO EARTH
                                                                $
026013 IDENTIFY, EVENT 'EVT-ACKA'
                AS RS-422 USING 'WORD-CHA',
                VALUE EQ X'06',
                BIT-RATE 115200 BITS/SEC,
                WORD-LENGTH 8 BITS,
                PARITY-MODE UND,
                STOP-BIT-LENGTH 1 BITS,
                BIT-MASK        X'FF',
                CNX HI 'S-CNX-HIA' COMPL 'S-CNX-LOA' LO EARTH
                                                                $
026015 IDENTIFY, EVENT 'EVT-ACKB'
                AS RS-422 USING 'WORD-CHB',
                VALUE EQ X'06',
                BIT-RATE 115200 BITS/SEC,
                WORD-LENGTH 8 BITS,
                PARITY-MODE UND,
                STOP-BIT-LENGTH 1 BITS,
                BIT-MASK        X'FF',
                CNX HI 'S-CNX-HIB' COMPL 'S-CNX-LOB' LO EARTH
                                                                $
```


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```
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y     E V E N T                        **
 **                                                              **
 **           B A S E D     E V E N T                            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     I D E N T F Y    E V E N T    I N T E R N A L            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     I D E N T F Y    E V E N T    I N D I C A T O R          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                   D  E  F  I  N  E                           **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E     E X C H A N G E                  **
 **                                                              **
 ******************************************************************
                                                                  $
 031005 DEFINE, 'IES-RS422A', EXCHANGE-CONFIGURATION
               'TX-RS422A', 'RX-RS422A'
                                                                  $
 031007 DEFINE, 'IES-RS422B', EXCHANGE-CONFIGURATION
               'TX-RS422B', 'RX-RS422B'
                                                                  $
 031009 DEFINE, 'TX-CMDA', EXCHANGE, PROTOCOL 'TX-RS422A',
               BUS-MODE      CON-RT,
               TALKER        TEST-EQUIP,
               DATA          'S-TX-CMD'(1 THRU 1),
               BUS-PARAMETER FRAME-SIZE 1 WORDS
                                                                  $
 031011 DEFINE, 'TX-CMDB', EXCHANGE, PROTOCOL 'TX-RS422B',
               BUS-MODE      CON-RT,
               TALKER        TEST-EQUIP,
```


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```
              DATA          'S-TX-CMD'(1 THRU 1),
              BUS-PARAMETER FRAME-SIZE 1 WORDS
                                                                  $
 031013 DEFINE, 'RX-DATAA', EXCHANGE, PROTOCOL 'RX-RS422A',
              BUS-MODE      RT-CON,
              LISTENER      TEST-EQUIP,
              DATA          'G-RX-DATA'(1 THRU 'S-RX-NB'),
              STATUS        'G-NB-CAR',
              BUS-PARAMETER FRAME-SIZE 10000 WORDS
                                                                  $
 031015 DEFINE, 'RX-DATAB', EXCHANGE, PROTOCOL 'RX-RS422B',
              BUS-MODE      RT-CON,
              LISTENER      TEST-EQUIP,
              DATA          'G-RX-DATA'(1 THRU 'S-RX-NB'),
              STATUS        'G-NB-CAR',
              BUS-PARAMETER FRAME-SIZE 10000 WORDS
                                                                  $
 031017 DEFINE, 'TX-ACKA', EXCHANGE, PROTOCOL 'TX-RS422A',
              BUS-MODE      CON-RT,
              TALKER        TEST-EQUIP,
              DATA          'S-TX-ACK'(1 THRU 1),
              BUS-PARAMETER FRAME-SIZE 1 WORDS
                                                                  $
 031019 DEFINE, 'TX-ACKB', EXCHANGE, PROTOCOL 'TX-RS422B',
              BUS-MODE      CON-RT,
              TALKER        TEST-EQUIP,
              DATA          'S-TX-ACK'(1 THRU 1),
              BUS-PARAMETER FRAME-SIZE 1 WORDS
                                                                  $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E    D R A W I N G                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E     S I G N A L                     **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **  D E F I N E    D I G I T A L    C O N F I G U R A T I O N   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S        **
```


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```
 **                                                                **
 **              S T A N D A R D   L I B R A R Y                   **
 **                                                                **
 ********************************************************************
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  P R E P - O P - M E A S                     ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |                                                                  |
 |                                                                  |
 |  Param-in  : .STR-A                                              |
 |                                                                  |
 |              .STR-1                                              |
 |                                                                  |
 |              .STR-B                                              |
 |                                                                  |
 |              .STR-2                                              |
 |                                                                  |
 |              .STR-C                                              |
 |                                                                  |
 |              .STR-3                                              |
 |                                                                  |
 |              .STR-D                                              |
 |                                                                  |
 |              .STR-4                                              |
 |                                                                  |
 |              .STR-E                                              |
 |                                                                  |
 |              .STR-5                                              |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 050005 DEFINE, 'PREP-OP-MEAS', EXTERNAL, PROCEDURE (
                   '.STR-A' IS STRING(12) OF CHAR,
                   '.STR-1' IS STRING(4) OF CHAR,
                   '.STR-B' IS STRING(12) OF CHAR,
                   '.STR-2' IS STRING(4) OF CHAR,
                   '.STR-C' IS STRING(12) OF CHAR,
                   '.STR-3' IS STRING(4) OF CHAR,
                   '.STR-D' IS STRING(12) OF CHAR,
                   '.STR-4' IS STRING(4) OF CHAR,
                   '.STR-E' IS STRING(12) OF CHAR,
                   '.STR-5' IS STRING(4) OF CHAR
               )                                                    $

       END, 'PREP-OP-MEAS'                                          $
C|                                                                  |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                        W R I T E                             ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |                                                                 |
 |                                                                 |
 |  Param-in  : .PERIPH                                            |
 |                                                                 |
 |              .MESSAGE                                           |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 050007 DEFINE, 'WRITE', EXTERNAL, PROCEDURE (
                   '.PERIPH' IS 'PERIPH-DEVICES',
                   '.MESSAGE' IS STRING(80) OF CHAR
               )                                                   $

        END, 'WRITE'                                               $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  C L E A R - S C R E E N                     ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |                                                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 050009 DEFINE, 'CLEAR-SCREEN', EXTERNAL, PROCEDURE                $

        END, 'CLEAR-SCREEN'                                        $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                      B I P - B I P                           ***
```


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```
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |                                                                 |
 |                                                                 |
 |  Param-in  : P.MESSAGE                                          |
 |                                                                 |
 |              P.TIME                                             |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 050011 DEFINE, 'BIP-BIP', EXTERNAL, PROCEDURE (
                   'P.MESSAGE' IS STRING(60) OF CHAR,
                   'P.TIME' IS DECIMAL
               )                                                   $

        END, 'BIP-BIP'                                             $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                                ***
 ***                  T P S - Q U E S T I O N                       ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |                                                                 |
 |                                                                 |
 |  Param-in  : .MESSAGE                                           |
 |                                                                 |
 |  Param-out : .YES                                               |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 050013 DEFINE, 'TPS-QUESTION', EXTERNAL, PROCEDURE (
                   '.MESSAGE' IS STRING(75) OF CHAR
               )
               RESULT (
                   '.YES' IS BOOLEAN
               )                                                   $

        END, 'TPS-QUESTION'                                        $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
```


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```
 ***                                                              ***
 ***                    T P S - W A R N I N G                     ***
 ***                                                              ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : .MESSAGE                                          |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 050015 DEFINE, 'TPS-WARNING', EXTERNAL, PROCEDURE (
                   '.MESSAGE' IS STRING(60) OF CHAR
               )                                                  $

        END, 'TPS-WARNING'                                        $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                              ***
 ***                       U U T - D O W N                        ***
 ***                                                              ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 050017 DEFINE, 'UUT-DOWN', EXTERNAL, PROCEDURE                   $

        END, 'UUT-DOWN'                                           $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                              ***
 ***                      E D I T - A B O R T                     ***
 ***                                                              ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |----------------------------------------------------------------|
```


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```
                                                                  $
 050019 DEFINE, 'EDIT-ABORT', EXTERNAL, PROCEDURE                 $

        END, 'EDIT-ABORT'                                         $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                          S T O P                             ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : .FAIL                                             |
 |                                                                |
 |              .FATAL                                            |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 050021 DEFINE, 'STOP', EXTERNAL, PROCEDURE (
                    '.FAIL' IS BOOLEAN,
                    '.FATAL' IS BOOLEAN
                )                                                 $

        END, 'STOP'                                               $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 **                                                                **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S       **
 **                                                                **
 **              S P E C I F I C   P R O G R A M                   **
 **                                                                **
 ********************************************************************
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                  U T I L - R E M O V E                       ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |----------------------------------------------------------------|
 |  Remove UUT-1, UUT-2, ....or UUT-12 .                          |
```


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```
 |                                                                |
 |  Param-in  : ABANDON-UUT  If true, test is abandonned on 'UUT'  |
 |                                                                |
 |              UUT  Signal to be connected                       |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 060005 DEFINE, 'UTIL-REMOVE', EXTERNAL, PROCEDURE (
                    'ABANDON-UUT' IS BOOLEAN,
                    'UUT' IS 'T-ALL-UUT'
               )                                                  $

        END, 'UTIL-REMOVE'                                        $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          D E F I N E   L O C A L   P R O C E D U R E         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         D E F I N E   G L O B A L   P R O C E D U R E        **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                     R 4 2 2 - I N I T                      ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Initialize IES-RS422A or IES-RS422B                           |
 |                                                                |
 |  Param-in  : UUT  RS422 signal to prepare                      |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080001 DEFINE, 'R422-INIT', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
               )                                                  $

        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          CALCULATE, 'S-RX-NB' = 10000                            $
```


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```
          IF, 'G-422-TABL'('UUT').'STATE' EQ 'INACTIVE', THEN      $
C           Initialize IES-RS422A or IES-RS422B                    $
            IF, 'G-422-TABL'('UUT').'DEVICE' EQ 'R422-A', THEN     $

 080010       ENABLE, EXCHANGE-CONFIGURATION USING 'IES-RS422A',
                  PROTOCOL 'TX-RS422A',
                       BUS-PARAMETER
                       BIT-RATE 115200 BITS/SEC,
                       WORD-LENGTH  8 BITS,
                       STOP-BIT-LENGTH 1 BITS,
                       PARITY-VALUE 3,
                       XON-XOFF 0,
                       CNX HI    'G-422-TABL'('UUT').'HI-SEND'
                           COMPL 'G-422-TABL'('UUT').'LO-SEND'
                           LO     EARTH,
                  PROTOCOL 'RX-RS422A',
                       BUS-PARAMETER
                       BIT-RATE 115200 BITS/SEC,
                       WORD-LENGTH  8 BITS,
                       STOP-BIT-LENGTH 1 BITS,
                       PARITY-VALUE 3,
                       XON-XOFF 0,
                       CNX HI    'G-422-TABL'('UUT').'HI-RCVE'
                           COMPL 'G-422-TABL'('UUT').'LO-RCVE'
                           LO     EARTH                           $

 080015       CONNECT, EXCHANGE-CONFIGURATION USING 'IES-RS422A',
                   PROTOCOL 'TX-RS422A',
                       CNX HI    'G-422-TABL'('UUT').'HI-SEND'
                           COMPL 'G-422-TABL'('UUT').'LO-SEND'
                           LO     EARTH,
                   PROTOCOL 'RX-RS422A',
                       CNX HI    'G-422-TABL'('UUT').'HI-RCVE'
                           COMPL 'G-422-TABL'('UUT').'LO-RCVE'
                           LO     EARTH
                                                                  $

              SETUP, EVENT 'EVT-CMDA', 'EVT-EOTA', 'EVT-ACKA'      $

            ELSE IF, 'G-422-TABL'('UUT').'DEVICE' EQ 'R422-B', THEN $

 080020       ENABLE, EXCHANGE-CONFIGURATION USING 'IES-RS422B',
                  PROTOCOL 'TX-RS422B',
                       BUS-PARAMETER
                       BIT-RATE 115200 BITS/SEC,
                       WORD-LENGTH  8 BITS,
                       STOP-BIT-LENGTH 1 BITS,
                       PARITY-VALUE 3,
                       XON-XOFF 0,
                       CNX HI    'G-422-TABL'('UUT').'HI-SEND'
                           COMPL 'G-422-TABL'('UUT').'LO-SEND'
                           LO     EARTH,
                  PROTOCOL 'RX-RS422B',
                       BUS-PARAMETER
```


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```
                    BIT-RATE 115200 BITS/SEC,
                    WORD-LENGTH  8 BITS,
                    STOP-BIT-LENGTH 1 BITS,
                    PARITY-VALUE 3,
                    XON-XOFF 0,
                    CNX HI    'G-422-TABL'('UUT').'HI-RCVE'
                        COMPL 'G-422-TABL'('UUT').'LO-RCVE'
                        LO     EARTH                          $

 080025       CONNECT, EXCHANGE-CONFIGURATION USING 'IES-RS422B',
                  PROTOCOL 'TX-RS422B',
                    CNX HI    'G-422-TABL'('UUT').'HI-SEND'
                        COMPL 'G-422-TABL'('UUT').'LO-SEND'
                        LO     EARTH,
                  PROTOCOL 'RX-RS422B',
                    CNX HI    'G-422-TABL'('UUT').'HI-RCVE'
                        COMPL 'G-422-TABL'('UUT').'LO-RCVE'
                        LO     EARTH
                                                              $

              SETUP, EVENT 'EVT-CMDB', 'EVT-EOTB', 'EVT-ACKB'      $

            END, IF                                           $

            CALCULATE, 'G-422-TABL'('UUT').'STATE' = 'ACTIVE'     $

          END, IF                                             $

        END, IF                                               $

 080049 END, 'R422-INIT'                                      $
C|                                                            |
 |------------------------------------------------------------|
                                                              $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***                  R 4 2 2 - R E M O V E                   ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |------------------------------------------------------------|
 |  Remove IES-RS422A or IES-RS422B                           |
 |                                                            |
 |  Param-in  : UUT  RS422 signal to prepare                  |
 |                                                            |
 |------------------------------------------------------------|
                                                              $
 080051 DEFINE, 'R422-REMOVE', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
               )                                              $
```


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```
        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $

          IF, 'G-422-TABL'('UUT').'STATE' EQ 'ACTIVE', THEN        $
C           Remove IES-RS422A or IES-RS422B                        $
            IF, 'G-422-TABL'('UUT').'DEVICE' EQ 'R422-A', THEN     $

 080055       DISCONNECT, EXCHANGE-CONFIGURATION USING 'IES-RS422A',
                     PROTOCOL 'TX-RS422A',
                       CNX HI    'G-422-TABL'('UUT').'HI-SEND'
                           COMPL 'G-422-TABL'('UUT').'LO-SEND'
                           LO     EARTH,
                     PROTOCOL 'RX-RS422A',
                       CNX HI    'G-422-TABL'('UUT').'HI-RCVE'
                           COMPL 'G-422-TABL'('UUT').'LO-RCVE'
                           LO     EARTH
                                                                  $

 080060       DISABLE, EXCHANGE-CONFIGURATION USING 'IES-RS422A'    $

              REMOVE, EVENT 'EVT-CMDA', 'EVT-EOTA', 'EVT-ACKA'      $

            ELSE IF, 'G-422-TABL'('UUT').'DEVICE' EQ 'R422-B', THEN $

 080065       DISCONNECT, EXCHANGE-CONFIGURATION USING 'IES-RS422B',
                     PROTOCOL 'TX-RS422B',
                       CNX HI    'G-422-TABL'('UUT').'HI-SEND'
                           COMPL 'G-422-TABL'('UUT').'LO-SEND'
                           LO     EARTH,
                     PROTOCOL 'RX-RS422B',
                       CNX HI    'G-422-TABL'('UUT').'HI-RCVE'
                           COMPL 'G-422-TABL'('UUT').'LO-RCVE'
                           LO     EARTH
                                                                  $

 080070       DISABLE, EXCHANGE-CONFIGURATION USING 'IES-RS422B'    $

              REMOVE, EVENT 'EVT-CMDB', 'EVT-EOTB', 'EVT-ACKB'      $

            END, IF                                               $

            CALCULATE, 'G-422-TABL'('UUT').'STATE' = 'INACTIVE'     $

          END, IF                                                 $

        END, IF                                                   $

 080099 END, 'R422-REMOVE'                                        $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
```


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```
***                R 4 2 2 - S S I M P L C M D                ***
***                                                           ***
*****************************************************************
*****************************************************************

|-------------------------------------------------------------|
|  Send a cmd on IES-RS422A or IES-RS422B                     |
|                                                             |
|  Param-in  : UUT  RS422 signal to prepare                   |
|                                                             |
|              P-CMD1  First cmd to send                      |
|                                                             |
|              P-CMD2  Second cmd to send                     |
|                                                             |
|              P-DEL  Delay between the two commands          |
|                                                             |
|  Param-out : RESULT  Result of transmission                 |
|                                                             |
|-------------------------------------------------------------|
                                                              $
080201 DEFINE, 'R422-SSIMPLCMD', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'P-CMD1' IS CHAR,
                   'P-CMD2' IS CHAR,
                   'P-DEL' IS INTEGER
               )
               RESULT (
                   'RESULT' IS STRING(4) OF CHAR
               )                                              $

       DECLARE, VARIABLE, 'TIME' IS DECIMAL
       INITIAL =  0                                           $
       DECLARE, VARIABLE, 'FIRST-TIME' IS BOOLEAN             $
       IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN            $

         CALCULATE, 'RESULT' = C'PASS'                        $
C        If Channel is RS422-A                                $
         IF, 'G-422-TABL'('UUT').'DEVICE' EQ 'R422-A', THEN   $
C          Put the ascii command on 8 bits                    $
           CALCULATE, 'S-TX-CMD'(1) =
                       BITS(ASCII7, 'P-CMD1') OR B'00000000'  $

           CALCULATE, 'S-CNX-HIA' =
                      'G-422-TABL'('UUT').'HI-RCVE'           $

           CALCULATE, 'S-CNX-LOA' =
                      'G-422-TABL'('UUT').'LO-RCVE'           $

           PERFORM, 'R422-INIT' ('UUT')                       $
           WAIT FOR, TIME 200 MSEC                            $

           RESET, TIMER 'CLOCK5'                              $
           READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'           $
```

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```
            ENABLE, EVENT 'EVT-CMDA'                                $
C           Do Exchange on channel RS422-A                          $
 080215     DO, EXCHANGE USING 'IES-RS422A',
                TEST-EQUIP-ROLE MASTER,
                (STARTING WHEN 'CLOCKA' 0 MSEC,
                 WITH PRIORITY 1,
                 UNTIL EVENT 'EVT-CMDA',
                 EXCHANGE 'RX-DATAA', AND
                 STARTING WHEN 'CLOCKA' 0 MSEC,
                 WITH PRIORITY 2,
                 EVERY 3.5 MSEC,
                 UNTIL EVENT 'EVT-CMDA',
                 EXCHANGE 'TX-CMDA',),
               PROCEED                                              $

            CALCULATE, 'G-RX-DATA'(1) = X'FF'                       $
            CALCULATE, 'G-NB-CAR' = 1                               $
            CALCULATE, 'FIRST-TIME' = TRUE                          $

            WHILE, ('TIME' LT 30) AND ('G-RX-DATA'('G-NB-CAR')
                                       NE 'S-TX-CMD'(1)), THEN      $

              IF, 'FIRST-TIME' EQ FALSE, THEN                       $
                CALCULATE, 'G-NB-CAR' = 'G-NB-CAR' + 1              $
              ELSE                                                  $
                CALCULATE, 'FIRST-TIME' = FALSE                     $
              END, IF                                               $

 080220       FETCH, 'RX-DATAA', EXCHANGE USING 'IES-RS422A'
                 LISTENER TEST-EQUIP,
                 DATA   'G-RX-DATA'('G-NB-CAR' THRU 'G-NB-CAR'),,
                 MAX-TIME 10 SEC                                    $

              READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'              $

            END, WHILE                                              $
C           If no string or bad string received                     $
            IF, (MAX-TIME EQ TRUE)          OR
                ('G-RX-DATA'('G-NB-CAR') NE 'S-TX-CMD'(1)), THEN    $

              CALCULATE, 'RESULT' = C'FAIL'                         $

              DISABLE, EVENT 'EVT-CMDA'                             $

              PERFORM, 'R422-REMOVE' ('UUT')                        $

              LEAVE, 'R422-SSIMPLCMD'                               $

            END, IF                                                 $

            WAIT FOR, TIME 'P-DEL' MSEC                             $
C           Put the ascii command on 8 bits                         $
            CALCULATE, 'S-TX-CMD'(1) =
                       BITS(ASCII7, 'P-CMD2') OR B'00000000'        $
```


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```
            PERFORM, 'R422-REMOVE' ('UUT')                          $
            WAIT FOR, TIME 200 MSEC                                 $

            PERFORM, 'R422-INIT' ('UUT')                            $
            WAIT FOR, TIME 200 MSEC                                 $

            RESET, TIMER 'CLOCK5'                                   $
            READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'                $

            ENABLE, EVENT 'EVT-CMDA'                                $
C           Do Exchange on channel RS422-A                          $
 080225     DO, EXCHANGE USING 'IES-RS422A',
                TEST-EQUIP-ROLE MASTER,
                (STARTING WHEN 'CLOCKA' 0 MSEC,
                 WITH PRIORITY 1,
                 UNTIL EVENT 'EVT-CMDA',
                 EXCHANGE 'RX-DATAA', AND
                 STARTING WHEN 'CLOCKA' 0 MSEC,
                 WITH PRIORITY 2,
                 EVERY 3.5 MSEC,
                 UNTIL EVENT 'EVT-CMDA',
                 EXCHANGE 'TX-CMDA',),
               PROCEED                                              $

            CALCULATE, 'G-RX-DATA'(1) = X'FF'                       $
            CALCULATE, 'G-NB-CAR' = 1                               $
            CALCULATE, 'FIRST-TIME' = TRUE                          $

            WHILE, ('TIME' LT 30) AND ('G-RX-DATA'('G-NB-CAR')
                                       NE 'S-TX-CMD'(1)), THEN      $

              IF, 'FIRST-TIME' EQ FALSE, THEN                       $
                CALCULATE, 'G-NB-CAR' = 'G-NB-CAR' + 1              $
              ELSE                                                  $
                CALCULATE, 'FIRST-TIME' = FALSE                     $
              END, IF                                               $

 080230       FETCH, 'RX-DATAA', EXCHANGE USING 'IES-RS422A'
                 LISTENER TEST-EQUIP,
                 DATA   'G-RX-DATA'('G-NB-CAR' THRU 'G-NB-CAR'),,
                 MAX-TIME 10 SEC                                    $

              READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'              $

            END, WHILE                                              $
C           If no string or bad string received                     $
            IF, (MAX-TIME EQ TRUE)          OR
                ('G-RX-DATA'('G-NB-CAR') NE 'S-TX-CMD'(1)), THEN    $

              CALCULATE, 'RESULT' = C'FAIL'                         $

              DISABLE, EVENT 'EVT-CMDA'                             $
```


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```
              PERFORM, 'R422-REMOVE' ('UUT')                        $

              LEAVE, 'R422-SSIMPLCMD'                               $

            END, IF                                                 $
C         Else if Channel is RS422-B                                $
 080232   ELSE IF, 'G-422-TABL'('UUT').'DEVICE' EQ 'R422-B', THEN   $
C           Put the ascii command on 8 bits                         $
            CALCULATE, 'S-TX-CMD'(1) =
                        BITS(ASCII7, 'P-CMD1') OR B'00000000'       $

            CALCULATE, 'S-CNX-HIB' =
                       'G-422-TABL'('UUT').'HI-RCVE'                $

            CALCULATE, 'S-CNX-LOB' =
                       'G-422-TABL'('UUT').'LO-RCVE'                $

            PERFORM, 'R422-INIT' ('UUT')                            $
            WAIT FOR, TIME 200 MSEC                                 $

            RESET, TIMER 'CLOCK5'                                   $
            READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'                $

            ENABLE, EVENT 'EVT-CMDB'                                $
C           Do Exchange on channel RS422-B                          $
 080245     DO, EXCHANGE USING 'IES-RS422B',
                TEST-EQUIP-ROLE MASTER,
                (STARTING WHEN 'CLOCKB' 0 MSEC,
                 WITH PRIORITY 1,
                 UNTIL EVENT 'EVT-CMDB',
                 EXCHANGE 'RX-DATAB', AND
                 STARTING WHEN 'CLOCKB' 0 MSEC,
                 WITH PRIORITY 2,
                 EVERY 3.5 MSEC,
                 UNTIL EVENT 'EVT-CMDB',
                 EXCHANGE 'TX-CMDB',),
               PROCEED                                              $

            CALCULATE, 'G-RX-DATA'(1) = X'FF'                       $
            CALCULATE, 'G-NB-CAR' = 1                               $
            CALCULATE, 'FIRST-TIME' = TRUE                          $

            WHILE, ('TIME' LT 30) AND ('G-RX-DATA'('G-NB-CAR')
                                       NE 'S-TX-CMD'(1)), THEN      $

              IF, 'FIRST-TIME' EQ FALSE, THEN                       $
                CALCULATE, 'G-NB-CAR' = 'G-NB-CAR' + 1              $
              ELSE                                                  $
                CALCULATE, 'FIRST-TIME' = FALSE                     $
              END, IF                                               $

 080250       FETCH, 'RX-DATAB', EXCHANGE USING 'IES-RS422B'
                 LISTENER TEST-EQUIP,
                 DATA   'G-RX-DATA'('G-NB-CAR' THRU 'G-NB-CAR'),,
```


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```
                MAX-TIME 10 SEC                                  $

              READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'           $

            END, WHILE                                           $
C           If no string or bad string received                  $
            IF, (MAX-TIME EQ TRUE)          OR
                ('G-RX-DATA'('G-NB-CAR') NE 'S-TX-CMD'(1)), THEN  $

              CALCULATE, 'RESULT' = C'FAIL'                      $

              DISABLE, EVENT 'EVT-CMDB'                          $

              PERFORM, 'R422-REMOVE' ('UUT')                     $

              LEAVE, 'R422-SSIMPLCMD'                            $

            END, IF                                              $

            WAIT FOR, TIME 'P-DEL' MSEC                          $
C           Put the ascii command on 8 bits                      $
            CALCULATE, 'S-TX-CMD'(1) =
                       BITS(ASCII7, 'P-CMD2') OR B'00000000'     $

            PERFORM, 'R422-REMOVE' ('UUT')                       $
            WAIT FOR, TIME 200 MSEC                              $

            PERFORM, 'R422-INIT' ('UUT')                         $
            WAIT FOR, TIME 200 MSEC                              $

            RESET, TIMER 'CLOCK5'                                $
            READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'             $

            ENABLE, EVENT 'EVT-CMDB'                             $
C           Do Exchange on channel RS422-B                       $
 080255     DO, EXCHANGE USING 'IES-RS422B',
                TEST-EQUIP-ROLE MASTER,
                (STARTING WHEN 'CLOCKB' 0 MSEC,
                 WITH PRIORITY 1,
                 UNTIL EVENT 'EVT-CMDB',
                 EXCHANGE 'RX-DATAB', AND
                 STARTING WHEN 'CLOCKB' 0 MSEC,
                 WITH PRIORITY 2,
                 EVERY 3.5 MSEC,
                 UNTIL EVENT 'EVT-CMDB',
                 EXCHANGE 'TX-CMDB',),
               PROCEED                                           $

            CALCULATE, 'G-RX-DATA'(1) = X'FF'                    $
            CALCULATE, 'G-NB-CAR' = 1                            $
            CALCULATE, 'FIRST-TIME' = TRUE                       $

            WHILE, ('TIME' LT 30) AND ('G-RX-DATA'('G-NB-CAR')
                                   NE 'S-TX-CMD'(1)), THEN       $
```


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```
              IF, 'FIRST-TIME' EQ FALSE, THEN                      $
                CALCULATE, 'G-NB-CAR' = 'G-NB-CAR' + 1             $
              ELSE                                                 $
                CALCULATE, 'FIRST-TIME' = FALSE                    $
              END, IF                                              $

 080257       FETCH, 'RX-DATAB', EXCHANGE USING 'IES-RS422B'
                 LISTENER TEST-EQUIP,
                 DATA   'G-RX-DATA'('G-NB-CAR' THRU 'G-NB-CAR'),,
                 MAX-TIME 10 SEC                                   $

              READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'             $

            END, WHILE                                             $
C           If no string or bad string received                    $
            IF, (MAX-TIME EQ TRUE)          OR
                ('G-RX-DATA'('G-NB-CAR') NE 'S-TX-CMD'(1)), THEN   $

              CALCULATE, 'RESULT' = C'FAIL'                        $

              DISABLE, EVENT 'EVT-CMDB'                            $

              PERFORM, 'R422-REMOVE' ('UUT')                       $

              LEAVE, 'R422-SSIMPLCMD'                              $

            END, IF                                                $
C         End if                                                   $
          END, IF                                                  $

          PERFORM, 'R422-REMOVE' ('UUT')                           $

        END, IF                                                    $

 080259 END, 'R422-SSIMPLCMD'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 4 2 2 - S C O M P L C M D                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Send a cmd on IES-RS422A or IES-RS422B                         |
 |                                                                 |
 |  Param-in  : UUT  RS422 signal to prepare                       |
 |                                                                 |
 |              P-CMD  Cmd to send                                 |
```


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```
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080301 DEFINE, 'R422-SCOMPLCMD', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'P-CMD' IS CHAR
               )                                                  $

        DECLARE, VARIABLE, 'CNT' IS INTEGER                       $
        DECLARE, VARIABLE, 'LOOP' IS INTEGER
        INITIAL =  0                                              $
        DECLARE, VARIABLE, 'TIME' IS DECIMAL
        INITIAL =  0                                              $
        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          CALCULATE, 'G-NB-CAR' = 1                               $

          PERFORM, 'PREP-OP-MEAS'(C'PASS', C'GO', C'FAIL', C'NOGO',
          C'', C'', C'', C'', C'', C'')                           $

          CALCULATE, 'OP-CHOICE' = C'PASS'                        $
C         If Channel is RS422-A                                   $
          IF, 'G-422-TABL'('UUT').'DEVICE' EQ 'R422-A', THEN      $
C           Put the ascii command on 8 bits                       $
            CALCULATE, 'S-TX-CMD'(1) =
                        BITS(ASCII7, 'P-CMD') OR B'00000000'      $

            CALCULATE, 'S-CNX-HIA' =
                       'G-422-TABL'('UUT').'HI-RCVE'              $

            CALCULATE, 'S-CNX-LOA' =
                       'G-422-TABL'('UUT').'LO-RCVE'              $

            RESET, TIMER 'CLOCK5'                                 $
            READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'              $

            CALCULATE, 'G-RX-DATA'(1) = X'05'                     $

            WHILE, ( 'TIME' LT 20) AND
                   (('G-RX-DATA'(1) EQ X'05') OR
                    ('G-RX-DATA'(1) EQ 'S-TX-CMD'(1))), THEN      $

              IF, 'LOOP' NE 0, THEN                               $
                DISABLE, EVENT 'EVT-CMDA', 'EVT-EOTA', 'EVT-ACKA' $
                PERFORM, 'R422-REMOVE' ('UUT')                    $
                WAIT FOR, TIME 200 MSEC                           $
              END, IF                                             $

              CALCULATE, 'LOOP' = 'LOOP' + 1                      $

              PERFORM, 'R422-INIT' ('UUT')                        $
              WAIT FOR, TIME 200 MSEC                             $

              ENABLE, EVENT 'EVT-CMDA', 'EVT-EOTA', 'EVT-ACKA'    $
```


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```
C            Do Exchange on channel RS422-A                        $
 080307      DO, EXCHANGE USING 'IES-RS422A',
               TEST-EQUIP-ROLE MASTER,
              (STARTING WHEN 'CLOCKA' 0 MSEC,
               WITH PRIORITY 1,
               EVERY 10 MSEC,
               UNTIL EVENT 'EVT-CMDA',
               EXCHANGE 'TX-CMDA',) THEN
              (STARTING WHEN 'CLOCKA' 0 MSEC,
               WITH PRIORITY 2,
               UNTIL EVENT 'EVT-EOTA',
               EXCHANGE 'RX-DATAA',) THEN
              (STARTING WHEN 'CLOCKA' 0 MSEC,
               WITH PRIORITY 3,
               EVERY 3 MSEC,
               UNTIL EVENT 'EVT-ACKA',
               EXCHANGE 'TX-ACKA',),
              PROCEED                                              $

 080310      FETCH, 'RX-DATAA', EXCHANGE USING 'IES-RS422A'
                LISTENER TEST-EQUIP,
                DATA   'G-RX-DATA'(1 THRU 1),,
                MAX-TIME 10 SEC                                    $

             READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'              $

            END, WHILE                                             $
C           If no string or bad string received                    $
            IF, (MAX-TIME EQ TRUE)        OR
                ('G-RX-DATA'(1) EQ X'05') OR
                ('G-RX-DATA'(1) EQ 'S-TX-CMD'(1)), THEN            $

             CALCULATE, 'OP-CHOICE' = C'FAIL'                      $

             DISABLE, EVENT 'EVT-CMDA', 'EVT-EOTA', 'EVT-ACKA'     $
             PERFORM, 'R422-REMOVE' ('UUT')                        $

             LEAVE, 'R422-SCOMPLCMD'                               $

            END, IF                                                $

 080314     WHILE, ('TIME' LT 120) AND
                   ('G-RX-DATA'('G-NB-CAR') NE X'05') AND
                   ('G-RX-DATA'('G-NB-CAR') NE X'04'), THEN        $

             FETCH, 'RX-DATAA', EXCHANGE USING 'IES-RS422A'
                LISTENER TEST-EQUIP,
                DATA     'G-RX-DATA'(1 THRU 1),
                STATUS   'G-NB-CAR',,
                MAX-TIME 60 SEC                                    $

 080315      FETCH, 'RX-DATAA', EXCHANGE USING 'IES-RS422A'
                LISTENER TEST-EQUIP,
                DATA   'G-RX-DATA'(1 THRU 'G-NB-CAR'),,
```


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```
                MAX-TIME 60 SEC                                $

              READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'         $

            END, WHILE                                         $

            DISABLE, EVENT 'EVT-CMDA', 'EVT-EOTA', 'EVT-ACKA'  $
C           If no string or bad string received                $
            IF, (MAX-TIME EQ TRUE)          OR
                ( ('G-RX-DATA'('G-NB-CAR') NE X'05') AND
                  ('G-RX-DATA'('G-NB-CAR') NE X'04') ), THEN   $

              CALCULATE, 'G-NB-CAR' = 1                        $

              CALCULATE, 'OP-CHOICE' = C'FAIL'                 $

              PERFORM, 'R422-REMOVE' ('UUT')                   $

              LEAVE, 'R422-SCOMPLCMD'                          $

            ELSE                                               $

              CALCULATE, 'CNT' = 'G-NB-CAR'                    $
              WHILE, ('G-RX-DATA' ('CNT') EQ X'05') AND
                     ('CNT' NE 1),                 THEN        $
                CALCULATE, 'CNT' = 'CNT' - 1                   $
              END, WHILE                                       $

              CALCULATE, 'G-NB-CAR' = 'CNT' - 1                $
C           End if                                             $
            END, IF                                            $
C         Else if Channel is RS422-B                           $
 080320   ELSE IF, 'G-422-TABL'('UUT').'DEVICE' EQ 'R422-B', THEN  $
C           Put the ascii command on 8 bits                    $
            CALCULATE, 'S-TX-CMD'(1) =
                        BITS(ASCII7, 'P-CMD') OR B'00000000'   $

            CALCULATE, 'S-CNX-HIB' =
                       'G-422-TABL'('UUT').'HI-RCVE'           $

            CALCULATE, 'S-CNX-LOB' =
                       'G-422-TABL'('UUT').'LO-RCVE'           $

            RESET, TIMER 'CLOCK5'                              $
            READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'           $

            CALCULATE, 'G-RX-DATA'(1) = X'05'                  $

            WHILE, ( 'TIME' LT 20) AND
                   (('G-RX-DATA'(1) EQ X'05') OR
                    ('G-RX-DATA'(1) EQ 'S-TX-CMD'(1))), THEN   $

              IF, 'LOOP' NE 0, THEN                            $
                DISABLE, EVENT 'EVT-CMDB', 'EVT-EOTB', 'EVT-ACKB'  $
```


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```
                PERFORM, 'R422-REMOVE' ('UUT')                    $
                WAIT FOR, TIME 200 MSEC                           $
              END, IF                                             $

              CALCULATE, 'LOOP' = 'LOOP' + 1                      $

              PERFORM, 'R422-INIT' ('UUT')                        $
              WAIT FOR, TIME 200 MSEC                             $

              ENABLE, EVENT 'EVT-CMDB', 'EVT-EOTB', 'EVT-ACKB'    $
C             Do Exchange on channel RS422-B                      $
 080327       DO, EXCHANGE USING 'IES-RS422B',
                TEST-EQUIP-ROLE MASTER,
               (STARTING WHEN 'CLOCKB' 0 MSEC,
                WITH PRIORITY 1,
                EVERY 10 MSEC,
                UNTIL EVENT 'EVT-CMDB',
                EXCHANGE 'TX-CMDB',) THEN
               (STARTING WHEN 'CLOCKB' 0 MSEC,
                WITH PRIORITY 2,
                UNTIL EVENT 'EVT-EOTB',
                EXCHANGE 'RX-DATAB',) THEN
               (STARTING WHEN 'CLOCKB' 0 MSEC,
                WITH PRIORITY 3,
                EVERY 10 MSEC,
                UNTIL EVENT 'EVT-ACKB',
                EXCHANGE 'TX-ACKB',),
               PROCEED                                            $

 080330       FETCH, 'RX-DATAB', EXCHANGE USING 'IES-RS422B'
                 LISTENER TEST-EQUIP,
                 DATA   'G-RX-DATA'(1 THRU 1),,
                 MAX-TIME 10 SEC                                  $

              READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'            $

            END, WHILE                                            $
C           If no string or bad string received                   $
            IF, (MAX-TIME EQ TRUE)        OR
                ('G-RX-DATA'(1) EQ X'05') OR
                ('G-RX-DATA'(1) EQ 'S-TX-CMD'(1)), THEN           $

              CALCULATE, 'OP-CHOICE' = C'FAIL'                    $

             DISABLE, EVENT 'EVT-CMDB', 'EVT-EOTB', 'EVT-ACKB'    $
             PERFORM, 'R422-REMOVE' ('UUT')                       $

              LEAVE, 'R422-SCOMPLCMD'                             $

            END, IF                                               $

 080334     WHILE, ('TIME' LT 120) AND
                   ('G-RX-DATA'('G-NB-CAR') NE X'05') AND
                   ('G-RX-DATA'('G-NB-CAR') NE X'04'), THEN        $
```


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```
              FETCH, 'RX-DATAB', EXCHANGE USING 'IES-RS422B'
                 LISTENER TEST-EQUIP,
                 DATA     'G-RX-DATA'(1 THRU 1),
                 STATUS   'G-NB-CAR',,
                 MAX-TIME 60 SEC                                $

 080335       FETCH, 'RX-DATAB', EXCHANGE USING 'IES-RS422B'
                 LISTENER TEST-EQUIP,
                 DATA   'G-RX-DATA'(1 THRU 'G-NB-CAR'),,
                 MAX-TIME 60 SEC                                $

              READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'          $

            END, WHILE                                          $

            DISABLE, EVENT 'EVT-CMDB', 'EVT-EOTB', 'EVT-ACKB'   $
C           If no string or bad string received                 $
            IF, (MAX-TIME EQ TRUE)          OR
                ( ('G-RX-DATA'('G-NB-CAR') NE X'05') AND
                  ('G-RX-DATA'('G-NB-CAR') NE X'04') ), THEN    $

              CALCULATE, 'G-NB-CAR' = 1                         $

              CALCULATE, 'OP-CHOICE' = C'FAIL'                  $

              PERFORM, 'R422-REMOVE' ('UUT')                    $

              LEAVE, 'R422-SCOMPLCMD'                           $

            ELSE                                                $

              CALCULATE, 'CNT' = 'G-NB-CAR'                     $
              WHILE, ('G-RX-DATA' ('CNT') EQ X'05') AND
                     ('CNT' NE 1),                 THEN         $
                CALCULATE, 'CNT' = 'CNT' - 1                    $
              END, WHILE                                        $

              CALCULATE, 'G-NB-CAR' = 'CNT' - 1                 $
C           End if                                              $
            END, IF                                             $
C         End if                                                $
          END, IF                                               $

 080338   IF, 'OP-CHOICE' NE C'PASS', THEN                      $
            CALCULATE, 'G-NB-CAR' = 0                           $
          END, IF                                               $

          PERFORM, 'R422-REMOVE' ('UUT')                        $

        END, IF                                                 $

 080339 END, 'R422-SCOMPLCMD'                                   $
C|                                                              |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                     R 4 2 2 - S A C K                        ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Send a cmd on IES-RS422A or IES-RS422B                         |
 |                                                                 |
 |  Param-in  : UUT  RS422 signal to prepare                       |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080341 DEFINE, 'R422-SACK', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT'
               )                                                   $

        DECLARE, VARIABLE, 'CNT' IS INTEGER                        $
        DECLARE, VARIABLE, 'FIRST-TIME' IS BOOLEAN                 $
        DECLARE, VARIABLE, 'TIME' IS DECIMAL
        INITIAL =  0                                               $
        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $
C         If Channel is RS422-A                                    $
          IF, 'G-422-TABL'('UUT').'DEVICE' EQ 'R422-A', THEN       $

            CALCULATE, 'S-CNX-HIA' =
                       'G-422-TABL'('UUT').'HI-RCVE'               $

            CALCULATE, 'S-CNX-LOA' =
                       'G-422-TABL'('UUT').'LO-RCVE'               $

            RESET, TIMER 'CLOCK5'                                  $
            READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'               $

            PERFORM, 'R422-INIT' ('UUT')                           $
            WAIT FOR, TIME 200 MSEC                                $

            ENABLE, EVENT 'EVT-CMDA', 'EVT-EOTA', 'EVT-ACKA'       $
C           Do Exchange on channel RS422-A                         $
 080345     DO, EXCHANGE USING 'IES-RS422A',
                TEST-EQUIP-ROLE MASTER,
                (STARTING WHEN 'CLOCKA' 0 MSEC,
                 WITH PRIORITY 1,
                 UNTIL EVENT 'EVT-ACKA',
                 EXCHANGE 'RX-DATAA', AND
                 STARTING WHEN 'CLOCKA' 0 MSEC,
                 WITH PRIORITY 2,
                 EVERY 10 MSEC,
                 UNTIL EVENT 'EVT-ACKA',
```


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```
                EXCHANGE 'TX-ACKA',),
               PROCEED                                          $

            CALCULATE, 'G-RX-DATA'(1) = X'FF'                   $
            CALCULATE, 'G-NB-CAR' = 1                           $
            CALCULATE, 'FIRST-TIME' = TRUE                      $

 080352     WHILE, ('TIME' LT 30) AND
                   ('G-RX-DATA'('G-NB-CAR') NE X'06'), THEN     $

              IF, 'FIRST-TIME' EQ FALSE, THEN                   $
                CALCULATE, 'G-NB-CAR' = 'G-NB-CAR' + 1          $
              ELSE                                              $
                CALCULATE, 'FIRST-TIME' = FALSE                 $
              END, IF                                           $

 080354       FETCH, 'RX-DATAA', EXCHANGE USING 'IES-RS422A'
                LISTENER TEST-EQUIP,
                DATA   'G-RX-DATA'('G-NB-CAR' THRU 'G-NB-CAR'),,
                MAX-TIME 10 SEC                                 $

              READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'          $

            END, WHILE                                          $

            DISABLE, EVENT 'EVT-CMDA', 'EVT-EOTA', 'EVT-ACKA'   $
C           If no string or bad string received                 $
            IF, (MAX-TIME EQ TRUE)          OR
                ('G-RX-DATA'('G-NB-CAR') NE X'06'), THEN        $

              PERFORM, 'WRITE' ('ALL', C'')                     $

              IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN           $
                PERFORM, 'WRITE' ('ALL',
                     C'   0~' & 'G-UUT'('UUT').'NAME')          $
              END, IF                                           $
C             Ouput an error message                            $
 080356       PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
                'G-422-TABL'('UUT').'NAME' &
                 C' COMMAND EXECUTION.')                        $

              PERFORM, 'R422-REMOVE' ('UUT')                    $

              LEAVE, 'R422-SACK'                                $
C           End if                                              $
            END, IF                                             $
C         Else if Channel is RS422-B                            $
 080360   ELSE IF, 'G-422-TABL'('UUT').'DEVICE' EQ 'R422-B', THEN   $

            CALCULATE, 'S-CNX-HIB' =
                       'G-422-TABL'('UUT').'HI-RCVE'            $

            CALCULATE, 'S-CNX-LOB' =
                       'G-422-TABL'('UUT').'LO-RCVE'            $
```


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```
            RESET, TIMER 'CLOCK5'                                $
            READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'             $

            PERFORM, 'R422-INIT' ('UUT')                         $
            WAIT FOR, TIME 200 MSEC                              $

            ENABLE, EVENT 'EVT-CMDB', 'EVT-EOTB', 'EVT-ACKB'     $
C           Do Exchange on channel RS422-B                       $
 080365     DO, EXCHANGE USING 'IES-RS422B',
                TEST-EQUIP-ROLE MASTER,
                (STARTING WHEN 'CLOCKB' 0 MSEC,
                 WITH PRIORITY 1,
                 UNTIL EVENT 'EVT-ACKB',
                 EXCHANGE 'RX-DATAB', AND
                 STARTING WHEN 'CLOCKB' 0 MSEC,
                 WITH PRIORITY 2,
                 EVERY 10 MSEC,
                 UNTIL EVENT 'EVT-ACKB',
                 EXCHANGE 'TX-ACKB',),
               PROCEED                                           $

            CALCULATE, 'G-RX-DATA'(1) = X'FF'                    $
            CALCULATE, 'G-NB-CAR' = 1                            $
            CALCULATE, 'FIRST-TIME' = TRUE                       $

 080372     WHILE, ('TIME' LT 30) AND
                   ('G-RX-DATA'('G-NB-CAR') NE X'06'), THEN       $

              IF, 'FIRST-TIME' EQ FALSE, THEN                    $
                CALCULATE, 'G-NB-CAR' = 'G-NB-CAR' + 1           $
              ELSE                                               $
                CALCULATE, 'FIRST-TIME' = FALSE                  $
              END, IF                                            $

 080374       FETCH, 'RX-DATAB', EXCHANGE USING 'IES-RS422B'
                 LISTENER TEST-EQUIP,
                 DATA   'G-RX-DATA'('G-NB-CAR' THRU 'G-NB-CAR'),,
                 MAX-TIME 10 SEC                                 $

              READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'           $

            END, WHILE                                           $

            DISABLE, EVENT 'EVT-CMDB', 'EVT-EOTB', 'EVT-ACKB'    $
C           If no string or bad string received                  $
            IF, (MAX-TIME EQ TRUE)          OR
                ('G-RX-DATA'('G-NB-CAR') NE X'06'), THEN         $

              PERFORM, 'WRITE' ('ALL', C'')                      $

              IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN            $
                PERFORM, 'WRITE' ('ALL',
                    C'   0~' & 'G-UUT'('UUT').'NAME')            $
```


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```
             END, IF                                          $
C            Ouput an error message                           $
 080376      PERFORM, 'WRITE' ('ALL', C'WARNING : ERROR WITH ' &
               'G-422-TABL'('UUT').'NAME' &
                C' COMMAND EXECUTION.')                       $

             PERFORM, 'R422-REMOVE' ('UUT')                   $

             LEAVE, 'R422-SACK'                               $
C          End if                                             $
           END, IF                                            $
C        End if                                               $
         END, IF                                              $

         PERFORM, 'R422-REMOVE' ('UUT')                       $

       END, IF                                                $

 080399 END, 'R422-SACK'                                      $
C|                                                            |
 |-------------------------------------------------------------|
                                                              $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***              R 4 2 2 - P A G E - D I S P L               ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  Conversion of hexa to ascii                                |
 |                                                             |
 |  Param-in  : UUT  UUT concerned                             |
 |                                                             |
 |              P-TAB  Tab to convert                          |
 |                                                             |
 |              NB-ELTS  Number of elements to convert         |
 |                                                             |
 |-------------------------------------------------------------|
                                                              $
 080401 DEFINE, 'R422-PAGE-DISPL', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-TAB' IS ARRAY(1 THRU 10000) OF
                        STRING(8) OF BIT,
                    'NB-ELTS' IS INTEGER
               )                                              $

       DECLARE, VARIABLE, 'TAB-LINE' IS ARRAY(1 THRU 15) OF
                    STRING(34) OF CHAR
       INITIAL =
 (
                C'|                                |',
```


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```
            C'|                              |',
            C'|                              |',
            C'|                              |',
            C'|                              |',
            C'|                              |',
            C'|                              |',
            C'|                              |',
            C'|                              |',
            C'|                              |',
            C'|                              |',
            C'|                              |',
            C'|                              |',
            C'|                              |',
            C'|                              |',
            C'|                              |' )          $
      DECLARE, VARIABLE, 'CNT' IS INTEGER                   $
      DECLARE, VARIABLE, 'INDEX' IS INTEGER                 $
      DECLARE, VARIABLE, 'TABUL' IS INTEGER                 $
      DECLARE, VARIABLE, 'TREATMENT' IS STRING(4) OF CHAR
      INITIAL =  C'PASS'                                    $
      IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN           $

080415  CALCULATE, 'INDEX' = 1                              $
        CALCULATE, 'TABUL' = 5                              $

        IF, 'NB-ELTS' GT 1, THEN                            $

          FOR, 'CNT' = 1 THRU 'NB-ELTS', THEN               $

            IF, 'P-TAB'('CNT') EQ X'0A', THEN               $
              CALCULATE, 'CNT' = 'CNT' + 1                  $
              CALCULATE, 'INDEX' = 'INDEX' + 1              $
              CALCULATE, 'TABUL' = 5                        $
            ELSE IF,'P-TAB'('CNT') NE X'05', THEN           $
              IF, 'P-TAB'('CNT') EQ X'09', THEN             $
                CALCULATE, 'TABUL' = 'TABUL' + 10           $
              ELSE                                          $
                CALCULATE, 'TAB-LINE' ('INDEX', 'TABUL') =
                            CHAR(ASCII7, 'P-TAB'('CNT'))    $
                CALCULATE, 'TABUL' = 'TABUL' + 1            $
              END, IF                                       $
            END, IF                                         $

          END, FOR                                          $

        ELSE                                                $

          CALCULATE, 'TREATMENT' = C'FAIL'                  $

        END, IF                                             $

        PERFORM, 'CLEAR-SCREEN'                             $

        IF, 'G-CUSTOMER' NE C'AIRLINES', THEN               $
          OUTPUT, TEXT TO 'CRT',FROM (
```


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```
                C'PAGE CORRESPONDANT A L`ECRAN DE UUT' &
                'G-UUT'('UUT').'NAME')                          $
          ELSE                                                  $
            OUTPUT, TEXT TO 'CRT',FROM (
                C'PAGE CORRESPONDING TO UUT SCREEN')            $
          END, IF                                               $

          OUTPUT, TEXT TO 'CRT',FROM (
                C'')                                            $
          OUTPUT, TEXT TO 'CRT',FROM (
                C'---------------------------------')           $

 080420   IF, 'TREATMENT' EQ C'FAIL', THEN                      $

            IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN               $
              CALCULATE, 'TAB-LINE' (2) =
                        C'|           ERROR  :           |'    $
              CALCULATE, 'TAB-LINE' (3) =
                        C'|    NO   PAGE   TO   DISPLAY    |'   $
            ELSE                                                $
              CALCULATE, 'TAB-LINE' (2) =
                        C'|           ERREUR :           |'    $
              CALCULATE, 'TAB-LINE' (3) =
                        C'|   PAS  DE  PAGE  A  AFFICHER   |'   $
            END, IF                                             $

          END, IF                                               $

          FOR, 'INDEX' = 1 THRU 15, THEN                        $

            OUTPUT, TEXT TO 'CRT', FROM ('TAB-LINE' ('INDEX'))  $

          END, FOR                                              $

          OUTPUT, TEXT TO 'CRT',FROM (
                C'---------------------------------')           $

          OUTPUT, TEXT TO 'CRT',FROM (C'')                      $
          OUTPUT, TEXT TO 'CRT',FROM (C'')                      $
          OUTPUT, TEXT TO 'CRT',FROM (C'')                      $
          OUTPUT, TEXT TO 'CRT',FROM (C'')                      $

        END, IF                                                 $

 080429 END, 'R422-PAGE-DISPL'                                  $
C|                                                              |
 |-------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***              R 4 2 2 - P A G E 1 - C O M P                 ***
 ***                                                            ***
```


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```
*******************************************************************
*******************************************************************

|-----------------------------------------------------------------|
|  Retrieves maintenance page 1                                   |
|                                                                 |
|  Param-in  : UUT  UUT concerned                                 |
|                                                                 |
|              P-TAB  Tab to convert                              |
|                                                                 |
|              NB-ELTS  Number of elements to convert             |
|                                                                 |
|  Param-out : HOURS  Functioning time                            |
|                                                                 |
|              PAGE1  Indicates if "PAGE 1 is correctly displayed" |
|                                                                 |
|              AUTOTEST  Indicates if "OK" chain is founded in Page|
|                        1                                        |
|                                                                 |
|-----------------------------------------------------------------|
                                                                  $
 080431 DEFINE, 'R422-PAGE1-COMP', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-TAB' IS ARRAY(1 THRU 10000) OF
                        STRING(8) OF BIT,
                    'NB-ELTS' IS INTEGER
                )
                RESULT (
                    'HOURS' IS STRING(8) OF CHAR,
                    'PAGE1' IS STRING(12) OF CHAR,
                    'AUTOTEST' IS STRING(12) OF CHAR
                )                                                 $

        DECLARE, VARIABLE, 'INDEX' IS INTEGER
        INITIAL =  1                                              $
        DECLARE, VARIABLE, 'STRING' IS STRING(10) OF CHAR
        INITIAL =  C''                                            $
        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

 080433   PERFORM, 'PREP-OP-MEAS'(C'PASS', C'GO', C'FAIL', C'NOGO',
          C'IMPOSSIBLE', C'NOGO', C'', C'', C'', C'')             $
C         PAGE1 indicates that page 1 is correctly displayed      $
          CALCULATE, 'PAGE1'  = C'FAIL'                           $
C         AUTOTEST indicates that autotests results is OK         $
          CALCULATE, 'AUTOTEST' = C'FAIL'                         $

          CALCULATE, 'HOURS' = C''                                $

 080435   IF, 'NB-ELTS' GT 130, THEN                              $
C           Searching for chain "Page 1"                          $
            WHILE, NOT(('P-TAB'('INDEX')    EQ X'50') AND
                       ('P-TAB'('INDEX'+1)  EQ X'61') AND
                       ('P-TAB'('INDEX'+2)  EQ X'67') AND
                       ('P-TAB'('INDEX'+3)  EQ X'65') AND
```


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```
                    ('P-TAB'('INDEX'+4)  EQ X'20') AND
                    ('P-TAB'('INDEX'+5)  EQ X'31'))AND
                    ('INDEX' NE 'NB-ELTS'), THEN                $

              CALCULATE, 'INDEX' = 'INDEX' + 1                  $

            END, WHILE                                          $

 080437     IF, 'INDEX' EQ 'NB-ELTS', THEN                      $
              LEAVE, 'R422-PAGE1-COMP'                          $
            END, IF                                             $

            CALCULATE, 'INDEX' = 'INDEX' + 6                    $
C           Searching for chain "P/N : C16221KA01 ou C16221LA01
                                          ou C16221LA02"        $
            WHILE, NOT( ('P-TAB'('INDEX')    EQ X'50') AND
                        ('P-TAB'('INDEX'+1)  EQ X'2F') AND
                        ('P-TAB'('INDEX'+2)  EQ X'4E') AND
                        ('P-TAB'('INDEX'+3)  EQ X'3A') AND
                        ('P-TAB'('INDEX'+4)  EQ X'20') AND
                        ('P-TAB'('INDEX'+5)  EQ X'43') AND
                        ('P-TAB'('INDEX'+6)  EQ X'31') AND
                        ('P-TAB'('INDEX'+7)  EQ X'36') AND
                        ('P-TAB'('INDEX'+8)  EQ X'32') AND
                        ('P-TAB'('INDEX'+9)  EQ X'32') AND
                        ('P-TAB'('INDEX'+10) EQ X'31') AND

                        ((('P-TAB'('INDEX'+11) EQ X'4B') AND
                        ('P-TAB'('INDEX'+12) EQ X'41') AND
                        ('P-TAB'('INDEX'+13) EQ X'30') AND
                        ('P-TAB'('INDEX'+14) EQ X'31')) OR

                        (('P-TAB'('INDEX'+11) EQ X'4C') AND
                        ('P-TAB'('INDEX'+12) EQ X'41') AND
                        ('P-TAB'('INDEX'+13) EQ X'30') AND
                        ('P-TAB'('INDEX'+14) EQ X'31')) OR

                        (('P-TAB'('INDEX'+11) EQ X'4C') AND
                        ('P-TAB'('INDEX'+12) EQ X'41') AND
                        ('P-TAB'('INDEX'+13) EQ X'30') AND
                        ('P-TAB'('INDEX'+14) EQ X'32')))) AND
                        ('INDEX' NE 'NB-ELTS'), THEN            $

              CALCULATE, 'INDEX' = 'INDEX' + 1                  $

            END, WHILE                                          $

 080439     IF, 'INDEX' EQ 'NB-ELTS', THEN                      $
              LEAVE, 'R422-PAGE1-COMP'                          $
            END, IF                                             $

            CALCULATE, 'INDEX' = 'INDEX' + 15                   $
C           Searching for chain "S/N : C16221"                  $
            WHILE, NOT(('P-TAB'('INDEX')    EQ X'53') AND
```


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```
                    ('P-TAB'('INDEX'+1)  EQ X'2F') AND
                    ('P-TAB'('INDEX'+2)  EQ X'4E') AND
                    ('P-TAB'('INDEX'+3)  EQ X'3A') AND
                    ('P-TAB'('INDEX'+4)  EQ X'20') AND
                    ('P-TAB'('INDEX'+5)  EQ X'43') AND
                    ('P-TAB'('INDEX'+6)  EQ X'31') AND
                    ('P-TAB'('INDEX'+7)  EQ X'36') AND
                    ('P-TAB'('INDEX'+8)  EQ X'32') AND
                    ('P-TAB'('INDEX'+9)  EQ X'32') AND
                    ('P-TAB'('INDEX'+10) EQ X'31'))AND
                    ('INDEX' NE 'NB-ELTS'), THEN                $

              CALCULATE, 'INDEX' = 'INDEX' + 1                  $

            END, WHILE                                          $

 080441     IF, 'INDEX' EQ 'NB-ELTS', THEN                      $
              LEAVE, 'R422-PAGE1-COMP'                          $
            END, IF                                             $

            CALCULATE, 'INDEX' = 'INDEX' + 11                   $
C           Searching for chain "A/C CONFIG: 00 DEG"            $
            WHILE, NOT(('P-TAB'('INDEX')    EQ X'41') AND
                    ('P-TAB'('INDEX'+1)  EQ X'2F') AND
                    ('P-TAB'('INDEX'+2)  EQ X'43') AND
                    ('P-TAB'('INDEX'+3)  EQ X'20') AND
                    ('P-TAB'('INDEX'+4)  EQ X'43') AND
                    ('P-TAB'('INDEX'+5)  EQ X'4F') AND
                    ('P-TAB'('INDEX'+6)  EQ X'4E') AND
                    ('P-TAB'('INDEX'+7)  EQ X'46') AND
                    ('P-TAB'('INDEX'+8)  EQ X'49') AND
                    ('P-TAB'('INDEX'+9)  EQ X'47') AND
                    ('P-TAB'('INDEX'+10) EQ X'3A') AND
                    ('P-TAB'('INDEX'+11) EQ X'20') AND
                    ('P-TAB'('INDEX'+12) EQ X'30') AND
                    ('P-TAB'('INDEX'+13) EQ X'30') AND
                    ('P-TAB'('INDEX'+14) EQ X'20') AND
                    ('P-TAB'('INDEX'+15) EQ X'44') AND
                    ('P-TAB'('INDEX'+16) EQ X'45') AND
                    ('P-TAB'('INDEX'+17) EQ X'47'))AND
                    ('INDEX' NE 'NB-ELTS'), THEN                $

              CALCULATE, 'INDEX' = 'INDEX' + 1                  $

            END, WHILE                                          $

 080443     IF, 'INDEX' EQ 'NB-ELTS', THEN                      $
              LEAVE, 'R422-PAGE1-COMP'                          $
            END, IF                                             $

            CALCULATE, 'INDEX' = 'INDEX' + 18                   $
C           Searching for chain "APP HDG"                       $
            WHILE, NOT(('P-TAB'('INDEX')    EQ X'41') AND
                    ('P-TAB'('INDEX'+1)  EQ X'50') AND
```


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```
                    ('P-TAB'('INDEX'+2)  EQ X'50') AND
                    ('P-TAB'('INDEX'+3)  EQ X'20') AND
                    ('P-TAB'('INDEX'+4)  EQ X'48') AND
                    ('P-TAB'('INDEX'+5)  EQ X'44') AND
                    ('P-TAB'('INDEX'+6)  EQ X'47')) AND
                    ('INDEX' NE 'NB-ELTS'), THEN                $

              CALCULATE, 'INDEX' = 'INDEX' + 1                  $

            END, WHILE                                          $

 080445     IF, 'INDEX' EQ 'NB-ELTS', THEN                      $
              LEAVE, 'R422-PAGE1-COMP'                          $
            END, IF                                             $

            CALCULATE, 'INDEX' = 'INDEX' + 7                    $
C           Searching for chain "BCRS"                          $
            WHILE, NOT(('P-TAB'('INDEX')    EQ X'42') AND
                    ('P-TAB'('INDEX'+1)  EQ X'43') AND
                    ('P-TAB'('INDEX'+2)  EQ X'52') AND
                    ('P-TAB'('INDEX'+3)  EQ X'53')) AND
                    ('INDEX' NE 'NB-ELTS'), THEN                $

              CALCULATE, 'INDEX' = 'INDEX' + 1                  $

            END, WHILE                                          $

 080446     IF, 'INDEX' EQ 'NB-ELTS', THEN                      $
              LEAVE, 'R422-PAGE1-COMP'                          $
            END, IF                                             $

            CALCULATE, 'INDEX' = 'INDEX' + 4                    $
C           Searching for chain "FUNCT TIME : "                 $
            WHILE, NOT(('P-TAB'('INDEX')    EQ X'46') AND
                    ('P-TAB'('INDEX'+1)  EQ X'55') AND
                    ('P-TAB'('INDEX'+2)  EQ X'4E') AND
                    ('P-TAB'('INDEX'+3)  EQ X'43') AND
                    ('P-TAB'('INDEX'+4)  EQ X'54') AND
                    ('P-TAB'('INDEX'+5)  EQ X'20') AND
                    ('P-TAB'('INDEX'+6)  EQ X'54') AND
                    ('P-TAB'('INDEX'+7)  EQ X'49') AND
                    ('P-TAB'('INDEX'+8)  EQ X'4D') AND
                    ('P-TAB'('INDEX'+9)  EQ X'45') AND
                    ('P-TAB'('INDEX'+10) EQ X'3A') AND
                    ('P-TAB'('INDEX'+11) EQ X'20'))AND
                    ('INDEX' NE 'NB-ELTS'), THEN                $

              CALCULATE, 'INDEX' = 'INDEX' + 1                  $

            END, WHILE                                          $

 080447     IF, 'INDEX' EQ 'NB-ELTS', THEN                      $
              LEAVE, 'R422-PAGE1-COMP'                          $
            END, IF                                             $
```

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```
            CALCULATE, 'INDEX' = 'INDEX' + 12                      $
C           Retrieving hours                                       $
            WHILE, ('P-TAB'('INDEX') NE X'0D') AND
                   ('P-TAB'('INDEX') NE X'20') AND
                   ('P-TAB'('INDEX') NE X'0A') AND
                   ('INDEX' NE 'NB-ELTS'), THEN                    $

              CALCULATE, 'HOURS' = 'HOURS' &
                         CHAR(ASCII7, 'P-TAB'('INDEX'))            $

              CALCULATE, 'INDEX' = 'INDEX' + 1                     $

            END, WHILE                                             $

            IF, 'INDEX' EQ 'NB-ELTS', THEN                         $
              CALCULATE, 'HOURS' = C''                             $
              LEAVE, 'R422-PAGE1-COMP'                             $
            END, IF                                                $
C           Searching for "ISFD CHECK:" chain )                    $
 080449     WHILE, NOT(('P-TAB'('INDEX')    EQ X'49')  AND
                       ('P-TAB'('INDEX'+1)  EQ X'53')  AND
                       ('P-TAB'('INDEX'+2)  EQ X'46')  AND
                       ('P-TAB'('INDEX'+3)  EQ X'44')  AND
                       ('P-TAB'('INDEX'+4)  EQ X'20')  AND
                       ('P-TAB'('INDEX'+5)  EQ X'43')  AND
                       ('P-TAB'('INDEX'+6)  EQ X'48')  AND
                       ('P-TAB'('INDEX'+7)  EQ X'45')  AND
                       ('P-TAB'('INDEX'+8)  EQ X'43')  AND
                       ('P-TAB'('INDEX'+9)  EQ X'4B')  AND
                       ('P-TAB'('INDEX'+10) EQ X'3A')  AND
                       ('P-TAB'('INDEX'+11) EQ X'20')) AND
                       ('INDEX' NE 'NB-ELTS'), THEN                $

                 CALCULATE, 'INDEX' = 'INDEX' + 1                  $

            END, WHILE                                             $

            IF, 'INDEX' EQ 'NB-ELTS', THEN                         $
              LEAVE, 'R422-PAGE1-COMP'                             $
            END, IF                                                $
C           Page 1 is OK                                           $
            CALCULATE, 'PAGE1' = C'PASS'                           $

            CALCULATE, 'INDEX' = 'INDEX' + 12                      $
C           Retrieving "OK" chain                                  $
 080451     WHILE, ('P-TAB'('INDEX') NE X'0D') AND
                   ('P-TAB'('INDEX') NE X'0A') AND
                   ('INDEX' NE 'NB-ELTS'), THEN                    $

              IF, 'P-TAB'('INDEX') NE X'20', THEN                  $
                CALCULATE, 'STRING' = 'STRING' &
                           CHAR(ASCII7, 'P-TAB'('INDEX'))          $
              END, IF                                              $
```


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```
              CALCULATE, 'INDEX' = 'INDEX' + 1                    $

            END, WHILE                                            $
C           Autotests results is "OK"                             $
            IF, 'STRING' EQ C'OK', THEN                           $
              CALCULATE, 'AUTOTEST' = C'PASS'                     $
            END, IF                                               $

          END, IF                                                 $

        END, IF                                                   $

 080459 END, 'R422-PAGE1-COMP'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 R 4 2 2 - R E C U P - S N                  ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Conversion of hexa to ascii                                   |
 |                                                                |
 |  Param-in  : UUT  UUT concerned                                |
 |                                                                |
 |              P-TAB  Tab to convert                             |
 |                                                                |
 |              NB-ELTS  Number of elements to convert            |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080501 DEFINE, 'R422-RECUP-SN', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'P-TAB' IS ARRAY(1 THRU 10000) OF
                       STRING(8) OF BIT,
                   'NB-ELTS' IS INTEGER
                )                                                 $

        DECLARE, VARIABLE, 'CNT' IS INTEGER                       $
        DECLARE, VARIABLE, 'TEST-OK' IS BOOLEAN
        INITIAL =  FALSE                                          $
        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN               $

          CALCULATE, 'G-UUT'('UUT').'SERIAL-NUMB' = C''           $
          CALCULATE, 'G-UUT'('UUT').'PART-NUMB'   = C''           $

 080505   CALCULATE, 'CNT' = 1                                    $
```

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```
          IF, 'NB-ELTS' GT 1, THEN                                $
C           Extraction of part-number                             $
 080507     WHILE, ('P-TAB'('CNT') NE X'3A') AND
                  ('CNT' NE 'NB-ELTS'), THEN                      $
              CALCULATE, 'CNT' = 'CNT' + 1                        $

            END, WHILE                                            $

            IF, ('P-TAB'('CNT') EQ X'3A') AND
                ('CNT' NE 'NB-ELTS'), THEN                        $

              CALCULATE, 'CNT' = 'CNT' + 2                        $

              WHILE, ('P-TAB'('CNT') NE X'0D') AND
                     ('P-TAB'('CNT') NE X'20') AND
                     ('P-TAB'('CNT') NE X'0A') AND
                     ('CNT' NE 'NB-ELTS'), THEN                   $

                CALCULATE, 'G-UUT'('UUT').'PART-NUMB' =
                           'G-UUT'('UUT').'PART-NUMB' &
                            CHAR(ASCII7, 'P-TAB'('CNT'))          $

                CALCULATE, 'CNT' = 'CNT' + 1                      $

              END, WHILE                                          $

            END, IF                                               $
C           Extraction of serial-number                           $
 080510     IF, ( ('P-TAB'('CNT') EQ X'0D') OR
                 ('P-TAB'('CNT') EQ X'20') OR
                 ('P-TAB'('CNT') EQ X'0A') ) AND
                ('CNT' NE 'NB-ELTS'), THEN                        $

              WHILE, ('P-TAB'('CNT') NE X'3A') AND
                     ('CNT' NE 'NB-ELTS'), THEN                   $
                CALCULATE, 'CNT' = 'CNT' + 1                      $

              END, WHILE                                          $

              IF, ('P-TAB'('CNT') EQ X'3A') AND
                  ('CNT' NE 'NB-ELTS'), THEN                      $

                CALCULATE, 'CNT' = 'CNT' + 2                      $

                WHILE, ('P-TAB'('CNT') NE X'0D') AND
                       ('P-TAB'('CNT') NE X'20') AND
                       ('P-TAB'('CNT') NE X'0A') AND
                       ('CNT' NE 'NB-ELTS'), THEN                 $

                  CALCULATE, 'G-UUT'('UUT').'SERIAL-NUMB' =
                             'G-UUT'('UUT').'SERIAL-NUMB' &
                              CHAR(ASCII7, 'P-TAB'('CNT'))        $

                  CALCULATE, 'CNT' = 'CNT' + 1                    $
```


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```
                END, WHILE                                          $

              END, IF                                               $

            END, IF                                                 $

          END, IF                                                   $

 080515   IF, 'G-UUT'('UUT').'PART-NUMB' NE 'PART-NUMBER', THEN     $

            PERFORM, 'WRITE' ('ALL', C'')                           $
            PERFORM, 'WRITE' ('ALL',
               C'   PROBLEM WITH UUT PN ON PLUG < J' &
              'G-UUT'('UUT').'NAME' & C' > .')                      $
            PERFORM, 'BIP-BIP'
              (C'PROBLEM WITH UUT PN ON PLUG < J' &
              'G-UUT'('UUT').'NAME' & C' >', 1)                     $
            PERFORM, 'TPS-QUESTION'
              (C'PROBLEM WITH UUT PN ON PLUG      < J' &
              'G-UUT'('UUT').'NAME' & C' > .' &
              C' DO YOU WANT TO CONTINUE TEST ?')
                      RESULT ('TEST-OK')                            $
C           If the program is for production                        $
            IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                   $
              IF, 'TEST-OK', THEN                                   $
                PERFORM, 'WRITE' ('ALL',
                C'   OPERATOR CHOICE : CONTINUE ON THE OTHERS UUT') $
                PERFORM, 'WRITE' ('ALL', C'')                       $
                PERFORM, 'TPS-WARNING' (C'')                        $
                PERFORM, 'UTIL-REMOVE' (TRUE, 'UUT')                $
              ELSE                                                  $
                CALCULATE, 'POWER-ON' = TRUE                        $
                PERFORM, 'UUT-DOWN'                                 $
                PERFORM, 'EDIT-ABORT'                               $
                PERFORM, 'STOP'(TRUE, TRUE)                         $
              END, IF                                               $
C           Else if the program is for airlines                     $
            ELSE                                                    $
              IF, 'TEST-OK', THEN                                   $
                PERFORM, 'WRITE' ('ALL',
                C'   OPERATOR CHOICE : CONTINUE')                   $
                PERFORM, 'WRITE' ('ALL', C'')                       $
                PERFORM, 'TPS-WARNING' (C'')                        $
              ELSE                                                  $
                CALCULATE, 'POWER-ON' = TRUE                        $
                PERFORM, 'UUT-DOWN'                                 $
                PERFORM, 'EDIT-ABORT'                               $
                PERFORM, 'STOP'(TRUE, TRUE)                         $
              END, IF                                               $
            END, IF                                                 $

          ELSE                                                      $
C           If the program is for production                        $
```


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```
            IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                  $
              OUTPUT, TEXT TO 'CRT', FROM C''                      $
              OUTPUT, TEXT TO 'CRT', FROM
                 C'- PART   NUMBER OF UUT ON PLUG < J',
                'G-UUT'('UUT').'NAME', C' > : ',
                'G-UUT'('UUT').'PART-NUMB'                         $
            END, IF                                                $

          END, IF                                                  $

 080520   IF, 'G-UUT'('UUT').'SERIAL-NUMB' EQ C'', THEN            $

            PERFORM, 'WRITE' ('ALL', C'')                          $
            PERFORM, 'WRITE' ('ALL',
               C'   PROBLEM WITH UUT SN ON PLUG < J' &
              'G-UUT'('UUT').'NAME' & C' > .')                     $
            PERFORM, 'BIP-BIP'
              (C'PROBLEM WITH UUT SN ON PLUG < J' &
              'G-UUT'('UUT').'NAME' & C' >', 1)                    $
            PERFORM, 'TPS-QUESTION'
              (C'PROBLEM WITH UUT SN ON PLUG      < J' &
              'G-UUT'('UUT').'NAME' & C' > .' &
              C' DO YOU WANT TO CONTINUE TEST ?')
                      RESULT ('TEST-OK')                           $
C           If the program is for production                       $
            IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                  $
              IF, 'TEST-OK', THEN                                  $
                PERFORM, 'WRITE' ('ALL',
                C'   OPERATOR CHOICE : CONTINUE ON THE OTHERS UUT') $
                PERFORM, 'WRITE' ('ALL', C'')                      $
                PERFORM, 'TPS-WARNING' (C'')                       $
                PERFORM, 'UTIL-REMOVE' (TRUE, 'UUT')               $
              ELSE                                                 $
                CALCULATE, 'POWER-ON' = TRUE                       $
                PERFORM, 'UUT-DOWN'                                $
                PERFORM, 'EDIT-ABORT'                              $
                PERFORM, 'STOP'(TRUE, TRUE)                        $
              END, IF                                              $
C           Else if the program is for airlines                    $
            ELSE                                                   $
              IF, 'TEST-OK', THEN                                  $
                PERFORM, 'WRITE' ('ALL',
                C'   OPERATOR CHOICE : CONTINUE')                  $
                CALCULATE,
                'G-UUT'('UUT').'SERIAL-NUMB' = 'SERIAL-NUMBER'     $
                PERFORM, 'WRITE' ('ALL', C'')                      $
                PERFORM, 'TPS-WARNING' (C'')                       $
              ELSE                                                 $
                CALCULATE, 'POWER-ON' = TRUE                       $
                PERFORM, 'UUT-DOWN'                                $
                PERFORM, 'EDIT-ABORT'                              $
                PERFORM, 'STOP'(TRUE, TRUE)                        $
              END, IF                                              $
            END, IF                                                $
```


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```
          ELSE                                                  $
C           If the program is for production                    $
            IF, 'G-CUSTOMER' NE C'AIRLINES', THEN               $
              OUTPUT, TEXT TO 'CRT', FROM
                 C'- SERIAL NUMBER OF UUT ON PLUG < J',
                'G-UUT'('UUT').'NAME', C' > : ',
                'G-UUT'('UUT').'SERIAL-NUMB'                    $
              OUTPUT, TEXT TO 'CRT', FROM C''                   $
            END, IF                                             $

          END, IF                                               $

        END, IF                                                 $

 080549 END, 'R422-RECUP-SN'                                    $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                R 4 2 2 - S A V E - F I L E                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  Saving of memory fault page into file : Test 4.1            |
 |                                                              |
 |  Param-in  : UUT  UUT concerned                              |
 |                                                              |
 |              P-TAB  Tab to save                              |
 |                                                              |
 |              NB-ELTS  Number of elements to save             |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 080551 DEFINE, 'R422-SAVE-FILE', GLOBAL, PROCEDURE (
                   'UUT' IS 'T-ALL-UUT',
                   'P-TAB' IS ARRAY(1 THRU 10000) OF
                      STRING(8) OF BIT,
                   'NB-ELTS' IS INTEGER
               )                                                $

        DECLARE, VARIABLE, 'INDIC' IS BOOLEAN                   $
        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN             $

          CALCULATE, 'S-PATH-AND-FILE' =
                     'TPSDIR'.'PATHNAME' & C'/' &
                     'G-UUT'('UUT').'SERIAL-NUMB'               $
C         To know if file already exits                         $
 080555   CREATE, 'S-PATH-AND-FILE', STATUS 'INDIC'              $
```


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```
C         If file exists, it is deleted                          $
          IF, 'INDIC' EQ FALSE, THEN                             $
            DELETE, 'S-PATH-AND-FILE'                            $
            CREATE, 'S-PATH-AND-FILE'                            $
          END, IF                                                $

          IF, 'NB-ELTS' EQ 5838, THEN                            $
            ENABLE, I-O NEW 'S-PATH-AND-FILE', VIA 'G-MAINT-FILE'  $

            OUTPUT, TO 'G-MAINT-FILE'1,
                    FROM 'P-TAB'(1 THRU 'NB-ELTS')               $

            DISABLE, 'G-MAINT-FILE'                              $
          ELSE                                                   $
            CALCULATE, 'OP-CHOICE' = C'FAIL'                     $
          END, IF                                                $

        END, IF                                                  $

 080569 END, 'R422-SAVE-FILE'                                    $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                R 4 2 2 - L A S T - F A I L                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Decodes last failure of bite and number of power-up relative to |
 |  it .                                                         |
 |  Ignores failures coded 000000000000                          |
 |                                                               |
 |  Param-in  : TAB  Tab of measurement                          |
 |                                                               |
 |  Param-out : LAST-FAIL  Last failure                          |
 |                                                               |
 |              NB-POWER-UP  Number of power-up corresponding to |
 |                           failure                             |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 080571 DEFINE, 'R422-LAST-FAIL', GLOBAL, PROCEDURE (
                    'TAB' IS ARRAY(1 THRU 10000) OF
                        STRING(8) OF BIT
                )
                RESULT (
                    'LAST-FAIL' IS STRING(12) OF CHAR,
                    'NB-POWER-UP' IS INTEGER
                )                                                $
```


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```
        DECLARE, VARIABLE, 'STRING' IS STRING(8) OF CHAR          $
        DECLARE, VARIABLE, 'CNT' IS INTEGER                       $
        DECLARE, VARIABLE, 'INDEX' IS INTEGER                     $
        DECLARE, VARIABLE, 'INT' IS INTEGER                       $
 080575 FOR, 'INDEX' = 1 THRU 5838 BY 146, THEN                   $
C         CPU (word 3) and 16 last bits of GSM (word 4)
          ---------------------------------------------           $
          CALCULATE, 'LAST-FAIL' = C''                            $
 080577   FOR, 'CNT' = 25 THRU 18 BY -1, THEN                     $

            CALCULATE, 'LAST-FAIL' = 'LAST-FAIL' &
                       CHAR(ASCII7, 'TAB'('INDEX' + 'CNT'))       $
          END, FOR                                                $

 080580   FOR, 'CNT' = 30 THRU 27 BY -1, THEN                     $

            CALCULATE, 'LAST-FAIL' = 'LAST-FAIL' &
                       CHAR(ASCII7, 'TAB'('INDEX' + 'CNT'))       $
          END, FOR                                                $

          CALCULATE, 'NB-POWER-UP' = 0                            $
          CALCULATE, 'INT' = 0                                    $

          IF, ('LAST-FAIL' NE C'000000000000') , THEN             $
C           Number of power-up to decode (word 2)
            ------------------------------------                  $
            CALCULATE, 'STRING' = C''                             $
            FOR, 'CNT' = 16 THRU 9 BY -1, THEN                    $
              CALCULATE, 'STRING' = 'STRING' &
                         CHAR(ASCII7, 'TAB'('INDEX' + 'CNT'))     $
            END, FOR                                              $
C           Power-up from char to integer                         $

 080582     FOR, 'CNT' = 1 THRU 8, THEN                           $
              IF, 'STRING'('CNT') EQ C'0', THEN                   $
                CALCULATE, 'INT' = 0                              $
              ELSE IF, 'STRING'('CNT') EQ C'1', THEN              $
                CALCULATE, 'INT' = 1                              $
              ELSE IF, 'STRING'('CNT') EQ C'2', THEN              $
                CALCULATE, 'INT' = 2                              $
              ELSE IF, 'STRING'('CNT') EQ C'3', THEN              $
                CALCULATE, 'INT' = 3                              $
              ELSE IF, 'STRING'('CNT') EQ C'4', THEN              $
                CALCULATE, 'INT' = 4                              $
              ELSE IF, 'STRING'('CNT') EQ C'5', THEN              $
                CALCULATE, 'INT' = 5                              $
              ELSE IF, 'STRING'('CNT') EQ C'6', THEN              $
                CALCULATE, 'INT' = 6                              $
              ELSE IF, 'STRING'('CNT') EQ C'7', THEN              $
                CALCULATE, 'INT' = 7                              $
              ELSE IF, 'STRING'('CNT') EQ C'8', THEN              $
                CALCULATE, 'INT' = 8                              $
              ELSE IF, 'STRING'('CNT') EQ C'9', THEN              $
```

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```
              CALCULATE, 'INT' = 9                                $
            ELSE IF, 'STRING'('CNT') EQ C'A', THEN                $
              CALCULATE, 'INT' = 10                               $
            ELSE IF, 'STRING'('CNT') EQ C'B', THEN                $
              CALCULATE, 'INT' = 11                               $
            ELSE IF, 'STRING'('CNT') EQ C'C', THEN                $
              CALCULATE, 'INT' = 12                               $
            ELSE IF, 'STRING'('CNT') EQ C'D', THEN                $
              CALCULATE, 'INT' = 13                               $
            ELSE IF, 'STRING'('CNT') EQ C'E', THEN                $
              CALCULATE, 'INT' = 14                               $
            ELSE IF, 'STRING'('CNT') EQ C'F', THEN                $
              CALCULATE, 'INT' = 15                               $
            END, IF                                               $
 080585     CALCULATE, 'NB-POWER-UP' =
                       'NB-POWER-UP' + ((16**(8 - 'CNT')) * 'INT')$

          END, FOR                                                $

          LEAVE, 'R422-LAST-FAIL'                                 $

        END, IF                                                   $

      END, FOR                                                    $

 080599 END, 'R422-LAST-FAIL'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                R 4 2 2 - C O M P - F I L E                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Compare result of memory fault page (test 5) with file saved in |
 |  test 4.1                                                      |
 |                                                                |
 |  Param-in  : UUT  UUT concerned                                |
 |                                                                |
 |              P-TAB-CHAP5  Tab to compare                       |
 |                                                                |
 |              NB-ELTS  Number of elements to compare            |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080601 DEFINE, 'R422-COMP-FILE', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-TAB-CHAP5' IS ARRAY(1 THRU 10000) OF
                        STRING(8) OF BIT,
```


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```
                 'NB-ELTS' IS INTEGER
              )                                                $

        DECLARE, VARIABLE, 'INDIC' IS BOOLEAN                  $
        DECLARE, VARIABLE, 'CNT' IS INTEGER                    $
        DECLARE, VARIABLE, 'L-TAB-CHAP4.1' IS ARRAY(1 THRU 10000) OF
                   STRING(8) OF BIT
        INITIAL =  (10000 OF X'00')                            $
        DECLARE, VARIABLE, 'LAST-FAIL-4.1' IS STRING(12) OF CHAR    $
        DECLARE, VARIABLE, 'LAST-FAIL-5' IS STRING(12) OF CHAR      $
        DECLARE, VARIABLE, 'NB-POWER-UP-4.1' IS INTEGER            $
        DECLARE, VARIABLE, 'NB-POWER-UP-5' IS INTEGER              $
        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $

 080605   PERFORM, 'PREP-OP-MEAS'(C'PASS', C'GO', C'FAIL', C'NOGO',
          C'IMPOSSIBLE', C'NOGO', C'', C'', C'', C'')              $

          CALCULATE, 'OP-CHOICE' = C'PASS'                         $

          CALCULATE, 'S-PATH-AND-FILE' =
                     'TPSDIR'.'PATHNAME' & C'/' &
                     'G-UUT'('UUT').'SERIAL-NUMB'                  $
C         To know if file of chap 4.1 exits                        $
 080610   CREATE, 'S-PATH-AND-FILE', STATUS 'INDIC'                $
C         If file exists, it is OK                                 $
          IF, 'INDIC' EQ FALSE, THEN                               $

            ENABLE, INPUT FROM 'S-PATH-AND-FILE', VIA 'G-MAINT-FILE'$

            CALCULATE, 'CNT' = SIZE ('G-MAINT-FILE')               $

            IF, ('CNT' EQ 'NB-ELTS') AND
                ('CNT' EQ 5838), THEN                              $

              INPUT, FROM 'G-MAINT-FILE'1,
                     INTO 'L-TAB-CHAP4.1'(1 THRU 'CNT')            $

 080615       PERFORM, 'R422-LAST-FAIL'('L-TAB-CHAP4.1')
                       RESULT ('LAST-FAIL-4.1', 'NB-POWER-UP-4.1') $

              PERFORM, 'R422-LAST-FAIL'('P-TAB-CHAP5')
                       RESULT ('LAST-FAIL-5', 'NB-POWER-UP-5')     $

              IF, 'NB-POWER-UP-5' GT 'NB-POWER-UP-4.1', THEN       $
                CALCULATE, 'OP-CHOICE' = C'FAIL'                   $
              ELSE IF, ('NB-POWER-UP-5' EQ 'NB-POWER-UP-4.1') AND
                       ('LAST-FAIL-4.1' NE 'LAST-FAIL-5')     AND
                       ('LAST-FAIL-5' NE C'000000000000') ,   THEN  $
                CALCULATE, 'OP-CHOICE' = C'FAIL'                   $
              END, IF                                              $

            ELSE                                                   $
              CALCULATE, 'OP-CHOICE' = C'FAIL'                     $
            END, IF                                                $
```


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```
C         If file does not exist                                  $
          ELSE                                                    $

            DELETE, 'S-PATH-AND-FILE'                             $
            CALCULATE, 'OP-CHOICE' = C'IMPOSSIBLE'                $

          END, IF                                                 $

          DISABLE, 'G-MAINT-FILE'                                 $

        END, IF                                                   $

 080619 END, 'R422-COMP-FILE'                                     $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 4 2 2 - P A G E 2 - C O M P                 ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Retrieves maintenance page 2                                   |
 |                                                                 |
 |  Param-in  : UUT  UUT concerned                                 |
 |                                                                 |
 |              P-TAB  Tab to convert                              |
 |                                                                 |
 |              NB-ELTS  Number of elements to convert             |
 |                                                                 |
 |  Param-out : PAGE2  Indicates if "PAGE 2 is correctly displayed" |
 |                                                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $

 080700 DEFINE, 'R422-PAGE2-COMP', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT',
                    'P-TAB' IS ARRAY(1 THRU 10000) OF
                        STRING(8) OF BIT,
                    'NB-ELTS' IS INTEGER
                )
                RESULT (
                    'PAGE2' IS STRING(12) OF CHAR
                )                                                  $

        DECLARE, VARIABLE, 'INDEX' IS INTEGER
        INITIAL =  1                                               $
        DECLARE, VARIABLE, 'STRING' IS STRING(10) OF CHAR
        INITIAL =  C''                                             $
        IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN                $

 080710   PERFORM, 'PREP-OP-MEAS'(C'PASS', C'GO', C'FAIL', C'NOGO',
```


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```
          C'IMPOSSIBLE', C'NOGO', C'', C'', C'', C'')              $
C         PAGE2 indicates that page 2 is correctly displayed       $
          CALCULATE, 'PAGE2'  = C'FAIL'                            $

 080720   IF, 'NB-ELTS' GT 130, THEN                               $
C           Searching for chain "Page 2"                           $
            WHILE, NOT(('P-TAB('INDEX')    EQ X'50') AND
                       ('P-TAB('INDEX'+1)  EQ X'61') AND
                       ('P-TAB('INDEX'+2)  EQ X'67') AND
                       ('P-TAB('INDEX'+3)  EQ X'65') AND
                       ('P-TAB('INDEX'+4)  EQ X'20') AND
                       ('P-TAB('INDEX'+5)  EQ X'32'))AND
                       ('INDEX' NE 'NB-ELTS'), THEN               $

              CALCULATE, 'INDEX' = 'INDEX' + 1                    $

            END, WHILE                                            $

 080725     IF, 'INDEX' EQ 'NB-ELTS', THEN                        $
              LEAVE, 'R422-PAGE2-COMP'                            $
            END, IF                                               $

            CALCULATE, 'INDEX' = 'INDEX' + 6                      $
C           Searching for chain "HOURS"    $
            WHILE, NOT(('P-TAB('INDEX')    EQ X'48') AND
                       ('P-TAB('INDEX'+1)  EQ X'4F') AND
                       ('P-TAB('INDEX'+2)  EQ X'55') AND
                       ('P-TAB('INDEX'+3)  EQ X'52') AND
                       ('P-TAB('INDEX'+4)  EQ X'53')) AND
                       ('INDEX' NE 'NB-ELTS'), THEN               $

              CALCULATE, 'INDEX' = 'INDEX' + 1                    $

            END, WHILE                                            $

 080730     IF, 'INDEX' EQ 'NB-ELTS', THEN                        $
              LEAVE, 'R422-PAGE2-COMP'                            $
            END, IF                                               $

            CALCULATE, 'INDEX' = 'INDEX' + 5                      $
C           Searching for chain "FAILURE CODE"                    $
            WHILE, NOT(('P-TAB('INDEX')    EQ X'46') AND
                       ('P-TAB('INDEX'+1)  EQ X'41') AND
                       ('P-TAB('INDEX'+2)  EQ X'49') AND
                       ('P-TAB('INDEX'+3)  EQ X'4C') AND
                       ('P-TAB('INDEX'+4)  EQ X'55') AND
                       ('P-TAB('INDEX'+5)  EQ X'52') AND
                       ('P-TAB('INDEX'+6)  EQ X'45') AND
                       ('P-TAB('INDEX'+7)  EQ X'20') AND
                       ('P-TAB('INDEX'+8)  EQ X'43') AND
                       ('P-TAB('INDEX'+9)  EQ X'4F') AND
                       ('P-TAB('INDEX'+10) EQ X'44') AND
                       ('P-TAB('INDEX'+11) EQ X'45'))AND
                       ('INDEX' NE 'NB-ELTS'), THEN               $
```


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```
             CALCULATE, 'INDEX' = 'INDEX' + 1                    $

           END, WHILE                                            $

 080735    IF, 'INDEX' EQ 'NB-ELTS', THEN                        $
             LEAVE, 'R422-PAGE2-COMP'                            $
           END, IF                                               $
C          Page 2 is OK                                          $
           CALCULATE, 'PAGE2' = C'PASS'                          $

         END, IF                                                 $

       END, IF                                                   $

 080799 END, 'R422-PAGE2-COMP'                                   $
C|                                                               |
 |---------------------------------------------------------------|
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ********************************************************************
 ********************************************************************
 ********************************************************************
 *****                                                        *****
 *****                                                        *****
 *****              E N D    O F    M O D U L E               *****
 *****                                                        *****
 *****                                                        *****
 ********************************************************************
 ********************************************************************
 ********************************************************************
                                                                 $
 999999 TERMINATE, ATLAS MODULE 'TH-ISF-C1R42207'                $
```


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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-C1PRES08'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             C L A S S     M O D U L E                ******
 ******                                                      ******
 ******             PRESSURE APPLIED ON UUT .                ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000105   EXTEND ATLAS                                     *
 *                                                                *
 *      005505   REQUIRE SOURCES                                  *
 *      006005   REQUIRE SENSORS                                  *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      011005   DECLARE CONSTANT                                 *
 *      013005   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *                                                                *
 *                                                                *
 *      080005   DEFINE GLOBAL SIGNAL SPECIFIC PROCEDURES         *
 *                                                                *
```


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```
 *      999999   TERMINATE ATLAS MODULE                          *
 *                                                               *
 *****************************************************************
C                                                                $
C
 *****************************************************************
 **                                                             **
 **      E X T E N D     A T L A S     S T A T E M E N T S     **
 **                                                             **
 *****************************************************************
                                                                 $
 000105  EXTEND, ATLAS NOUNS 'MANOMETRIC',
          FOR VERBS SETUP CHANGE APPLY REMOVE MEASURE,
          SPEC 'LLPG TEST RESOURCE REQUIREMENTS'                 $

 000107  EXTEND, ATLAS MODIFIERS FOR MANOMETRIC,
          'IAS'           MOD-VALUE R  MOD-DIM KM/H KT,
                          USAGE SRM,
          'IAS-RATE'      MOD-VALUE R  MOD-DIM M/S2,
                          USAGE SRM,
          'ALT'           MOD-VALUE R  MOD-DIM M FT,
                          USAGE SRM,
          'ALT-RATE'      MOD-VALUE R  MOD-DIM M/SEC FT/SEC,
                          USAGE SR,
          'FLIGHT-DOMAIN' MOD-VALUE I  MOD-DIM NONE,
                          USAGE SR,
          'TOTAL-PRESS-A' MOD-VALUE R  MOD-DIM MBAR INHG,
                          USAGE SRM,
          'STATIC-PRESS-A' MOD-VALUE R  MOD-DIM INHG,
                          USAGE SRM,
          'SLEW-RATE'     MOD-VALUE R  MOD-DIM 'MB/SEC' 'INHG/SEC',
                          USAGE SR,
          'CLOSE-VALVE'   MODIFIER-DESCRIPTOR 'ON' 'OFF' ,
                          USAGE SR,
          SPEC 'LLPG TEST RESOURCE REQUIREMENTS'                 $

 000109  EXTEND, ATLAS MODIFIERS FOR MANOMETRIC,
          'WAIT-MODE'     MODIFIER-DESCRIPTOR ON OFF,
                          USAGE SR ,
          SPEC 'LLPG TEST RESOURCE REQUIREMENTS'                 $
C
 *****************************************************************
 *****************************************************************
 **                                                             **
 **           R E Q U I R E     S T A T E M E N T S             **
 **                                                             **
 *****************************************************************
 *****************************************************************
C                                                                $
C
 *****************************************************************
 **                                                             **
 **       R E Q U I R E   E X T E R N A L   L O A D S           **
 **                                                             **
```


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```
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
**      R E Q U I R E   E X T E R N A L   S O U R C E S        **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
**      R E Q U I R E   E X T E R N A L   S E N S O R S        **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
**        R E Q U I R E   E X T E R N A L   S H O R T S        **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
**        R E Q U I R E   E X T E R N A L   S H O R T S        **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
**            E X T E R N A L     T I M E R S                  **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
** R E Q U I R E   E X T E R N A L   E V E N T   M O N I T O R S **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
**      R E Q U I R E     L O C A L     L O A D S                **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
```


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```
 **       R E Q U I R E     L O C A L    S O U R C E S        **
 **                                                           **
 ***************************************************************
                                                              $
 005505 REQUIRE, 'SH24V-ELECTRO', SOURCE, SHORT, CNX          $
 005507 REQUIRE, 'GENE-PT-IAS', SOURCE, MANOMETRIC,
         CONTROL,
         IAS RANGE 32KT TO 1000KT BY 0.1KT,
         IAS-RATE RANGE 0M/S2 TO 4.625M/S2 BY 0.005 M/S2,
         WAIT-MODE ON OFF,
         TIME RANGE 1 SEC TO 999 SEC BY 1 SEC,
         CLOSE-VALVE ON OFF,
         CNX VIA                                              $
 005509 REQUIRE, 'GENE-PT-MBAR', SOURCE, MANOMETRIC,
         CONTROL,
         TOTAL-PRESS-A RANGE 16.3MBAR TO 3500 MBAR BY 0.01 MBAR,
         SLEW-RATE RANGE 0 MB/SEC TO 16.65 MB/SEC BY 0.016 MB/SEC,
         WAIT-MODE ON OFF,
         TIME RANGE 1 SEC TO 999 SEC BY 1 SEC,
         CLOSE-VALVE ON OFF,
         CNX VIA                                              $
 005511 REQUIRE, 'GENE-PS-ALT', SOURCE, MANOMETRIC,
         CONTROL,
         ALT RANGE -2000 FT TO 90000 FT BY 1 FT,
         ALT-RATE RANGE 0 FT/SEC TO 1666.5 FT/SEC BY 0.166 FT/SEC,
         WAIT-MODE ON OFF,
         TIME RANGE 1 SEC TO 999 SEC BY 1 SEC,
         CLOSE-VALVE ON OFF,
         CNX VIA                                              $
 005513 REQUIRE, 'GENE-PS-MBAR', SOURCE, MANOMETRIC,
         CONTROL,
         STATIC-PRESS-A RANGE 10.6MBAR TO 1354.6MBAR BY 0.01MBAR,
         ALT-RATE RANGE 0 M/SEC TO 1666.5 M/SEC BY 0.166 M/SEC,
         WAIT-MODE ON OFF,
         TIME RANGE 1 SEC TO 999 SEC BY 1 SEC,
         CLOSE-VALVE ON OFF,
         CNX VIA                                              $
C
 ***************************************************************
 **                                                           **
 **       R E Q U I R E     L O C A L     S E N S O R S       **
 **                                                           **
 ***************************************************************
                                                              $
 006005 REQUIRE, 'MEAS-PT', SENSOR(TOTAL-PRESS-A), MANOMETRIC,
         CAPABILITY,
         TOTAL-PRESS-A RANGE 16.3MBAR TO 3500 MBAR
         ERRLMT +-0.1 MBAR,
         CNX VIA                                              $
 006007 REQUIRE, 'MEAS-PS', SENSOR(STATIC-PRESS-A), MANOMETRIC,
         CAPABILITY,
         STATIC-PRESS-A RANGE 10.6MBAR TO 1354.6MBAR
         ERRLMT +-0.1MBAR,
         CNX VIA                                              $
```


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```
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     C O M M O N S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S H O R T S             **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    T I M E R S             **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **   R E Q U I R E   L O C A L   E V E N T   M O N I T O R S    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                    D  E  C  L  A  R  E                       **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F      T  Y  P  E  S           **
 **                                                              **
 ******************************************************************
                                                                  $
 010005 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                   $
C       State of device
 -----------------------------------------------------------------$

 010007 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                              $
C       Mnemonic of all UUT
```


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```
 ----------------------------------------------------------------$

 010009 DECLARE, TYPE, 'T-PRES-MNEMO' IS ENUMERATION(
                   'PRES-PS', 'PRES-PT'
                   )                                             $
C       Mnemonic of pressure inputs class
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **    D E C L A R A T I O N     O F      C O N S T A N T S    **
 **                                                            **
 ****************************************************************
                                                                $
 011005 DECLARE, CONSTANT, 'ACTIVE' IS C'1'                     $
 011007 DECLARE, CONSTANT, 'INACTIVE' IS C'0'                   $
C
 ****************************************************************
 **                                                            **
 **              D E C L A R A T I O N     O F                 **
 **                                                            **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C       **
 **                                                            **
 **                    V A R I A B L E S                       **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F   E X T E R N A L      **
 **                                                            **
 **     P R O G R A M   S P E C I F I C   V A R I A B L E S    **
 **                                                            **
 ****************************************************************
                                                                $
 013005 DECLARE, EXTERNAL, VARIABLE, 'G-INSIDE-MBAR' IS BOOLEAN    $
C       Indicates if the program is in 'PRES-APP-MBAR' subroutine
 ----------------------------------------------------------------$

 013007 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
                       'EDIT-RESULT' IS BOOLEAN ;
                       'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                       'PART-NUMB' IS STRING(20) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                            J8-G, J9-G, J10-G, J11-G, J12-G
                           ) ;
                       'LO' IS CONNECTION(
                           J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
```


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```
                          J8-t, J9-t, J10-t, J11-t, J12-t
                         )
                      ]                                          $
C       Informations about all UUT
 ----------------------------------------------------------------$

 013009 DECLARE, EXTERNAL, VARIABLE, 'G-UUT9' IS 'T-ALL-UUT'       $
C       Value of 'UUT9'
 ----------------------------------------------------------------$

 013011 DECLARE, EXTERNAL, VARIABLE, 'G-UUT10' IS 'T-ALL-UUT'      $
C       Value of 'UUT10'
 ----------------------------------------------------------------$

 013013 DECLARE, EXTERNAL, VARIABLE, 'G-UUT11' IS 'T-ALL-UUT'      $
C       Value of 'UUT11'
 ----------------------------------------------------------------$

 013015 DECLARE, EXTERNAL, VARIABLE, 'G-UUT12' IS 'T-ALL-UUT'      $
C       Value of 'UUT12'
 ----------------------------------------------------------------$

 013017 DECLARE, EXTERNAL, VARIABLE, 'G-PRESSURE' IS BOOLEAN       $
C       Indicates if the pressure has been applied
 ----------------------------------------------------------------$

 013019 DECLARE, EXTERNAL, VARIABLE, 'G-PSALT-STATE' IS
                'T-SIGNAL-STATE'                                   $
C       State of GENE-PS-ALT device
 ----------------------------------------------------------------$

 013021 DECLARE, EXTERNAL, VARIABLE, 'G-PTIAS-STATE' IS
                'T-SIGNAL-STATE'                                   $
C       State of GENE-PT-IAS device
 ----------------------------------------------------------------$

 013023 DECLARE, EXTERNAL, VARIABLE, 'G-PSMBAR-STATE' IS
                'T-SIGNAL-STATE'                                   $
C       State of GENE-PS-MBAR device
 ----------------------------------------------------------------$

 013025 DECLARE, EXTERNAL, VARIABLE, 'G-PTMBAR-STATE' IS
                'T-SIGNAL-STATE'                                   $
C       State of GENE-PT-MBAR device
 ----------------------------------------------------------------$

 013027 DECLARE, EXTERNAL, VARIABLE, 'G-INSIDE-ALTIAS' IS BOOLEAN   $
C       Indicates if the program is in 'PRES-APP-ALTIAS' subroutine
 ----------------------------------------------------------------$

 013029 DECLARE, EXTERNAL, VARIABLE, 'G-PRES-PS-VAL' IS DECIMAL     $
C       Memorization of PS pressure to apply
 ----------------------------------------------------------------$
```

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```
 013031 DECLARE, EXTERNAL, VARIABLE, 'G-PRES-PT-VAL' IS DECIMAL     $
C       Memorization of PT pressure to apply
 ----------------------------------------------------------------$

 013033 DECLARE, EXTERNAL, VARIABLE, 'G-PRES-TABL' IS ARRAY('UUT9'
               THRU 'UUT12','PRES-PS' THRU 'PRES-PT') OF
                   RECORD OF [
                       'NAME' IS STRING(12) OF CHAR ;
                       'STATE' IS 'T-SIGNAL-STATE' ;
                       'HI' IS CONNECTION(
                           P15-3, P15-2, P15-1, P15-20, P15-17,
                           P15-18, P15-19, P15-37
                           )
                       ]                                            $
C       General informations about pressure inputs class
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F    L O C A L           **
 **                                                            **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S      **
 **                                                            **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 ****************************************************************
 **                                                            **
 **           E S T A B L I S H    P R O T O C O L             **
 **                                                            **
 ****************************************************************
 ****************************************************************
C                                                                $
C
 ****************************************************************
 ****************************************************************
 **                                                            **
 **                I  D  E  N  T  I  F  Y                      **
 **                                                            **
 ****************************************************************
 ****************************************************************
C                                                                $
C
 ****************************************************************
 **                                                            **
 **      I D E N T I F Y   E X T E R N A L   T I M E R         **
 **                                                            **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                            **
 **           I D E N T I F Y     E X T E R N A L              **
```


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```
 **                                                              **
 **          T I M E   B A S E D   E V E N T                     **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y    E X T E R N A L                   **
 **                                                              **
 **        S I G N A L   B A S E D   E V E N T                   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **        I D E N T I F Y    E X T E R N A L                    **
 **                                                              **
 **         E V E N T   B A S E D   E V E N T                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y    E X T E R N A L                   **
 **                                                              **
 **            E V E N T   I N T E R V A L                       **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **        I D E N T I F Y    E X T E R N A L                    **
 **                                                              **
 **          E V E N T    I N D I C A T O R                      **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **           I D E N T I F Y    T I M E R                       **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **        I D E N T I F Y    T I M E                            **
 **                                                              **
 **          B A S E D    E V E N T                              **
```


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```
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y    S I G N A L                      **
 **                                                              **
 **           B A S E D    E V E N T                            **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y    E V E N T                        **
 **                                                              **
 **           B A S E D    E V E N T                            **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **     I D E N T F Y   E V E N T   I N T E R N A L              **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **     I D E N T F Y   E V E N T   I N D I C A T O R            **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 ****************************************************************
 **                                                              **
 **                  D  E  F  I  N  E                            **
 **                                                              **
 ****************************************************************
 ****************************************************************
C                                                                $
C
 ****************************************************************
 **                                                              **
 **            D E F I N E    E X C H A N G E                    **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
```


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```
 **            D E F I N E   D R A W I N G                **
 **                                                       **
 ***********************************************************
                                                          $
C
 ***********************************************************
 **                                                       **
 **            D E F I N E    S I G N A L                 **
 **                                                       **
 ***********************************************************
                                                          $
C
 ***********************************************************
 **                                                       **
 ** D E F I N E    D I G I T A L   C O N F I G U R A T I O N **
 **                                                       **
 ***********************************************************
                                                          $
C
 ***********************************************************
 **                                                       **
 **    D E F I N E  E X T E R N A L  P R O C E D U R E S  **
 **                                                       **
 **            S T A N D A R D   L I B R A R Y            **
 **                                                       **
 ***********************************************************
                                                          $
C
 ***********************************************************
 **                                                       **
 **    D E F I N E  E X T E R N A L  P R O C E D U R E S  **
 **                                                       **
 **            S P E C I F I C   P R O G R A M            **
 **                                                       **
 ***********************************************************
                                                          $
C
 ***********************************************************
 **                                                       **
 **         D E F I N E  L O C A L  P R O C E D U R E     **
 **                                                       **
 ***********************************************************
                                                          $
C
 ***********************************************************
 **                                                       **
 **        D E F I N E  G L O B A L  P R O C E D U R E    **
 **                                                       **
 ***********************************************************
                                                          $
C
 ***********************************************************
 ***********************************************************
 ***                                                     ***
```


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```
***                P R E S - A P P - M B A R                 ***
***                                                          ***
*****************************************************************
*****************************************************************

|-------------------------------------------------------------|
|  Application of GENE-PS-MBAR and GENE-PT-MBAR.              |
|                                                             |
|  Param-in  : PRES-PS-VALUE  Static pressure to program      |
|                                                             |
|              PRES-PS-RATE  Rate variation of PS             |
|                                                             |
|              PRES-PT-VALUE  Total pressure to program       |
|                                                             |
|              PRES-PT-RATE  Rate variation of PT             |
|                                                             |
|-------------------------------------------------------------|
                                                             $
080005 DEFINE, 'PRES-APP-MBAR', GLOBAL, PROCEDURE (
                  'PRES-PS-VALUE' IS DECIMAL,
                  'PRES-PS-RATE' IS DECIMAL,
                  'PRES-PT-VALUE' IS DECIMAL,
                  'PRES-PT-RATE' IS DECIMAL
              )                                              $

       CALCULATE, 'G-INSIDE-MBAR' = TRUE                     $

       IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE)  OR
           ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE)  OR
           ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE)  OR
           ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN      $

         CALCULATE, 'G-PRESSURE' = TRUE                      $

080007   IF, 'G-PSALT-STATE' EQ 'ACTIVE', THEN               $

             REMOVE, MANOMETRIC USING 'GENE-PS-ALT',
                     CNX VIA PS                              $
             CALCULATE, 'G-PSALT-STATE' = 'INACTIVE'         $

         END, IF                                             $

080008   IF, 'G-PTIAS-STATE' EQ 'ACTIVE', THEN               $

             REMOVE, MANOMETRIC USING 'GENE-PT-IAS',
                     CNX VIA PT                              $
             CALCULATE, 'G-PTIAS-STATE' = 'INACTIVE'         $

         END, IF                                             $

080010   IF, 'G-PSMBAR-STATE' EQ 'INACTIVE', THEN            $

           APPLY, MANOMETRIC USING 'GENE-PS-MBAR',
                STATIC-PRESS-A 'PRES-PS-VALUE'
```


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```
              RANGE 10.6MBAR TO 1354.6MBAR,
              WAIT-MODE ON,
              ALT-RATE 'PRES-PS-RATE'
              RANGE 0 M/SEC TO 1666.5 M/SEC,
              CLOSE-VALVE OFF,
              TIME 300 SEC,
              CNX VIA PS                                    $

          CALCULATE, 'G-PSMBAR-STATE' = 'ACTIVE'            $

        ELSE                                                $

          CHANGE, MANOMETRIC USING 'GENE-PS-MBAR',
                STATIC-PRESS-A 'PRES-PS-VALUE'
                RANGE 10.6MBAR TO 1354.6MBAR,
                WAIT-MODE ON,
                ALT-RATE 'PRES-PS-RATE'
                RANGE 0 M/SEC TO 1666.5 M/SEC,
                TIME 300 SEC,
                CNX VIA PS                                  $

        END, IF                                             $

080020  IF, 'G-PTMBAR-STATE' EQ 'INACTIVE', THEN             $

          APPLY, MANOMETRIC USING 'GENE-PT-MBAR',
              TOTAL-PRESS-A 'PRES-PT-VALUE'
              RANGE 16.3MBAR TO 3500 MBAR,
              WAIT-MODE ON,
              SLEW-RATE 'PRES-PT-RATE'
              RANGE 0 MB/SEC TO 16.65 MB/SEC,
              CLOSE-VALVE OFF,
              TIME 300 SEC,
              CNX VIA PT                                    $

          CALCULATE, 'G-PTMBAR-STATE' = 'ACTIVE'            $

        ELSE                                                $

          CHANGE, MANOMETRIC USING 'GENE-PT-MBAR',
                TOTAL-PRESS-A 'PRES-PT-VALUE'
                RANGE 16.3MBAR TO 3500 MBAR,
                WAIT-MODE ON,
                SLEW-RATE 'PRES-PT-RATE'
                RANGE 0 MB/SEC TO 16.65 MB/SEC,
                TIME 300 SEC,
                CNX VIA PT                                  $

        END, IF                                             $

      END, IF                                               $

      CALCULATE, 'G-INSIDE-MBAR' = FALSE                    $
```


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```
        END, 'PRES-APP-MBAR'                                    $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***              P R E S - A P P - A L T I A S                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  Application of GENE-PS-ALT and GENE-PT-IAS.                 |
 |                                                              |
 |  Param-in  : ALTITUDE  Altitude to program                   |
 |                                                              |
 |              ALTI-RATE  Rate variation of altitude           |
 |                                                              |
 |              AIRSPEED  Airspeed to program                   |
 |                                                              |
 |              AIRSPEED-RATE  Rate variation of speed          |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 080025 DEFINE, 'PRES-APP-ALTIAS', GLOBAL, PROCEDURE (
                   'ALTITUDE' IS DECIMAL,
                   'ALTI-RATE' IS DECIMAL,
                   'AIRSPEED' IS DECIMAL,
                   'AIRSPEED-RATE' IS DECIMAL
               )                                                $

        CALCULATE, 'G-INSIDE-ALTIAS' = TRUE                     $

        IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE)  OR
            ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE)  OR
            ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE)  OR
            ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN        $

          CALCULATE, 'G-PRESSURE' = TRUE                        $

 080027   IF, 'G-PSMBAR-STATE' EQ 'ACTIVE', THEN                $

              REMOVE, MANOMETRIC USING 'GENE-PS-MBAR',
                      CNX VIA PS                                $
              CALCULATE, 'G-PSMBAR-STATE' = 'INACTIVE'          $

          END, IF                                               $

 080030   IF, 'G-PTMBAR-STATE' EQ 'ACTIVE', THEN                $

              REMOVE, MANOMETRIC USING 'GENE-PT-MBAR',
                      CNX VIA PT                                $
```


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```
            CALCULATE, 'G-PTMBAR-STATE' = 'INACTIVE'              $

          END, IF                                                 $

080040    IF, 'G-PTIAS-STATE' EQ 'INACTIVE', THEN                 $

            APPLY, MANOMETRIC USING 'GENE-PT-IAS',
                 IAS 'AIRSPEED'
                 RANGE 32KT TO 1000KT,
                 WAIT-MODE OFF,
                 IAS-RATE 'AIRSPEED-RATE' RANGE 0M/S2 TO 4.625M/S2,
                 CLOSE-VALVE OFF,
                 TIME 300 SEC,
                 CNX VIA PT                                       $

            CALCULATE, 'G-PTIAS-STATE' = 'ACTIVE'                 $

          ELSE                                                    $

            CHANGE, MANOMETRIC USING 'GENE-PT-IAS',
                 IAS 'AIRSPEED'
                 RANGE 32KT TO 1000KT,
                 WAIT-MODE OFF,
                 IAS-RATE 'AIRSPEED-RATE' RANGE 0M/S2 TO 4.625M/S2,
                 TIME 300 SEC,
                 CNX VIA PT                                       $

          END, IF                                                 $

080045    IF, 'G-PSALT-STATE' EQ 'INACTIVE', THEN                 $

            APPLY, MANOMETRIC USING 'GENE-PS-ALT',
                ALT 'ALTITUDE'
                RANGE -2000 FT TO 90000 FT,
                WAIT-MODE OFF,
                ALT-RATE 'ALTI-RATE' RANGE 0 FT/SEC TO 1666.5 FT/SEC,
                CLOSE-VALVE OFF,
                TIME 300 SEC,
                CNX VIA PS                                        $

            CALCULATE, 'G-PSALT-STATE' = 'ACTIVE'                 $

          ELSE                                                    $

            CHANGE, MANOMETRIC USING 'GENE-PS-ALT',
                ALT 'ALTITUDE'
                RANGE -2000 FT TO 90000 FT,
                WAIT-MODE OFF,
                ALT-RATE 'ALTI-RATE' RANGE 0 FT/SEC TO 1666.5 FT/SEC,
                TIME 300 SEC,
                CNX VIA PS                                        $

          END, IF                                                 $
```


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```
        END, IF                                                 $

        CALCULATE, 'G-INSIDE-ALTIAS' = FALSE                    $

        END, 'PRES-APP-ALTIAS'                                  $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 P R E S - R E M - M B A R                  ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |  Removal of GENE-PS-MBAR and GENE-PT-MBAR.                   |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 080105 DEFINE, 'PRES-REM-MBAR', GLOBAL, PROCEDURE              $

        IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE)  OR
            ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE)  OR
            ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE)  OR
            ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN       $

          IF, 'G-PSMBAR-STATE' EQ 'ACTIVE', THEN                $
            REMOVE, MANOMETRIC USING 'GENE-PS-MBAR',
                    CNX VIA PS                                  $
            CALCULATE, 'G-PSMBAR-STATE' = 'INACTIVE'            $
            CALCULATE, 'G-PRES-PS-VAL' = 1013.25                $
          END, IF                                               $

          IF, 'G-PTMBAR-STATE' EQ 'ACTIVE', THEN                $
            REMOVE, MANOMETRIC USING 'GENE-PT-MBAR',
                    CNX VIA PT                                  $
            CALCULATE, 'G-PTMBAR-STATE' = 'INACTIVE'            $
            CALCULATE, 'G-PRES-PT-VAL' = 1013.25                $
          END, IF                                               $

          CALCULATE, 'G-PRESSURE' = FALSE                       $

        END, IF                                                 $

        END, 'PRES-REM-MBAR'                                    $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
```


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```
 ***                                                                ***
 ***              P R E S - R E M - A L T I A S                     ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Removal of GENE-PS-ALT and GENE-PT-IAS.                        |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080155 DEFINE, 'PRES-REM-ALTIAS', GLOBAL, PROCEDURE               $

        IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE)  OR
            ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE)  OR
            ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE)  OR
            ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN          $

          IF, 'G-PSALT-STATE' EQ 'ACTIVE', THEN                    $
            REMOVE, MANOMETRIC USING 'GENE-PS-ALT',
                    CNX VIA PS                                     $
            CALCULATE, 'G-PSALT-STATE' = 'INACTIVE'                $
            CALCULATE, 'G-PRES-PS-VAL' = 1013.25                   $
          END, IF                                                  $

          IF, 'G-PTIAS-STATE' EQ 'ACTIVE', THEN                    $
            REMOVE, MANOMETRIC USING 'GENE-PT-IAS',
                    CNX VIA PT                                     $
            CALCULATE, 'G-PTIAS-STATE' = 'INACTIVE'                $
            CALCULATE, 'G-PRES-PT-VAL' = 1013.25                   $
          END, IF                                                  $

          CALCULATE, 'G-PRESSURE' = FALSE                          $

        END, IF                                                    $

        END, 'PRES-REM-ALTIAS'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                                ***
 ***                    P R E S - C L O S E                         ***
 ***                                                                ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Closing of GENE-PS-MBAR or GENE-PT-MBAR valves .               |
 |                                                                 |
 |  Param-in  : GENE  Device to close                              |
 |                                                                 |
```


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```
 |-------------------------------------------------------------|
                                                               $
 080205 DEFINE, 'PRES-CLOSE', GLOBAL, PROCEDURE (
                   'GENE' IS 'T-PRES-MNEMO'
               )                                               $

        IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE)  OR
            ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE)  OR
            ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE)  OR
            ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN          $

          IF, 'GENE' EQ 'PRES-PS', THEN                         $
            CHANGE, MANOMETRIC USING 'GENE-PS-MBAR',
                    WAIT-MODE ON,
                    CLOSE-VALVE ON,
                    CNX VIA PS                                  $
          ELSE                                                  $
            CHANGE, MANOMETRIC USING 'GENE-PT-MBAR',
                    WAIT-MODE ON,
                    CLOSE-VALVE ON,
                    CNX VIA PT                                  $
          END, IF                                               $

        END, IF                                                 $

        END, 'PRES-CLOSE'                                       $
C|                                                              |
 |-------------------------------------------------------------|
                                                               $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                P R E S - D I S C - P R O D                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-------------------------------------------------------------|
 |  Disconnection of electrovannes from UUT9, UUT10, UUT11 or UUT12.|
 |                                                              |
 |  Param-in  : SIGNAL  Device to disconnect                    |
 |                                                              |
 |              UUT  Uut concerned                              |
 |                                                              |
 |-------------------------------------------------------------|
                                                               $
 080505 DEFINE, 'PRES-DISC-PROD', GLOBAL, PROCEDURE (
                   'SIGNAL' IS 'T-PRES-MNEMO',
                   'UUT' IS 'T-ALL-UUT'
               )                                               $
        DECLARE, VARIABLE, 'NUM-UUT' IS 'T-ALL-UUT'             $

        CALCULATE, 'NUM-UUT' = 'UUT'                            $
```


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```
        IF, ('NUM-UUT' EQ 'UUT1')  OR ('NUM-UUT' EQ 'UUT9')  OR
            ('NUM-UUT' EQ 'UUT10') OR ('NUM-UUT' EQ 'UUT11') OR
            ('NUM-UUT' EQ 'UUT12'), THEN                         $

          IF, 'G-UUT'('NUM-UUT').'PRESENCE' EQ TRUE, THEN        $

            IF, 'NUM-UUT' EQ 'UUT1', THEN                        $
C             used for airlines mode ------------------------------$
              CALCULATE, 'NUM-UUT' = 'UUT9'                      $
            END, IF                                              $

            IF, 'G-PRES-TABL'('NUM-UUT', 'SIGNAL').'STATE' EQ
                                                 'ACTIVE', THEN  $

              REMOVE, SHORT USING 'SH24V-ELECTRO',
                      CNX 'G-PRES-TABL'('NUM-UUT', 'SIGNAL').'HI'  $

              CALCULATE,
              'G-PRES-TABL'('NUM-UUT', 'SIGNAL').'STATE' =
                                                   'INACTIVE'    $

            END, IF                                              $

          END, IF                                                $

        END, IF                                                  $

        END, 'PRES-DISC-PROD'                                    $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                P R E S - C O N N - P R O D                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Connection of electrovannes on UUT9, UUT10, UUT11 or UUT12.  |
 |                                                               |
 |  Param-in  : SIGNAL  Device to connect                        |
 |                                                               |
 |              UUT  Uut concerned                               |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 080605 DEFINE, 'PRES-CONN-PROD', GLOBAL, PROCEDURE (
                    'SIGNAL' IS 'T-PRES-MNEMO',
                    'UUT' IS 'T-ALL-UUT'
                )                                                $
```


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```
        DECLARE, VARIABLE, 'NUM-UUT' IS 'T-ALL-UUT'                $

        CALCULATE, 'NUM-UUT' = 'UUT'                               $

        IF, ('NUM-UUT' EQ 'UUT1')  OR ('NUM-UUT' EQ 'UUT9')  OR
            ('NUM-UUT' EQ 'UUT10') OR ('NUM-UUT' EQ 'UUT11') OR
            ('NUM-UUT' EQ 'UUT12'), THEN                           $

          IF, 'G-UUT'('NUM-UUT').'PRESENCE' EQ TRUE, THEN          $

            IF, 'NUM-UUT' EQ 'UUT1', THEN                          $
C------------used for airlines mode ------------------------------$
              CALCULATE, 'NUM-UUT' = 'UUT9'                        $
            END, IF                                                $

            IF, 'G-PRES-TABL'('NUM-UUT', 'SIGNAL').'STATE' EQ
                                                 'INACTIVE', THEN $

              APPLY, SHORT USING 'SH24V-ELECTRO',
                     CNX 'G-PRES-TABL'('NUM-UUT', 'SIGNAL').'HI'   $

              CALCULATE,
              'G-PRES-TABL'('NUM-UUT', 'SIGNAL').'STATE' = 'ACTIVE' $

            END, IF                                                $

          END, IF                                                  $

        END, IF                                                    $

        END, 'PRES-CONN-PROD'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 P R E S - M E A S U R E                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  MEAS-PS or MEAS-PT measurement .                               |
 |                                                                 |
 |  Param-in  : GENE  Device to measure                            |
 |                                                                 |
 |  Param-out : RESULT  Pressure measurement                       |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080705 DEFINE, 'PRES-MEASURE', GLOBAL, PROCEDURE (
                   'GENE' IS 'T-PRES-MNEMO'
```


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```
                )
                RESULT (
                    'RESULT' IS DECIMAL
                )                                                $

        IF, ('G-UUT'('G-UUT9').'PRESENCE'  EQ TRUE)  OR
            ('G-UUT'('G-UUT10').'PRESENCE' EQ TRUE)  OR
            ('G-UUT'('G-UUT11').'PRESENCE' EQ TRUE)  OR
            ('G-UUT'('G-UUT12').'PRESENCE' EQ TRUE), THEN         $

          IF, 'GENE' EQ 'PRES-PS', THEN                          $
            MEASURE, (STATIC-PRESS-A INTO 'RESULT'),
                     MANOMETRIC USING 'MEAS-PS',
                     STATIC-PRESS-A RANGE 10.6MBAR TO 1354.6MBAR,
                     CNX VIA PS                                  $
          ELSE                                                   $
            MEASURE, (TOTAL-PRESS-A INTO 'RESULT'),
                     MANOMETRIC USING 'MEAS-PT',
                     TOTAL-PRESS-A RANGE 16.3MBAR TO 3500MBAR,
                     CNX VIA PT                                  $
          END, IF                                                $

        END, IF                                                  $

        END, 'PRES-MEASURE'                                      $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 *****                                                        *****
 *****                                                        *****
 *****              E N D    O F    M O D U L E               *****
 *****                                                        *****
 *****                                                        *****
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
 999999 TERMINATE, ATLAS MODULE 'TH-ISF-C1PRES08'                $
```

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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-C1R23T09'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******            F L I G H T   D I S P L A Y               ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             C L A S S     M O D U L E                ******
 ******                                                      ******
 ******            DIALOG USING PROTOCOL RS232 .             ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000105   EXTEND ATLAS                                     *
 *                                                                *
 *      007505   REQUIRE TIMER                                    *
 *      008005   REQUIRE EVENT MONITOR                            *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      011005   DECLARE CONSTANT                                 *
 *      013005   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *      014005   DECLARE MODULE SPECIFIC VARIABLES                *
 *                                                                *
 *      015005   ESTABLISH PROTOCOL                               *
 *                                                                *
```


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```
 *      025005   IDENTIFY TIMER                                  *
 *      026005   IDENTIFY SIGNAL BASED EVENT                     *
 *                                                               *
 *      031005   DEFINE EXCHANGE                                 *
 *                                                               *
 *                                                               *
 *      050005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )  *
 *                                                               *
 *      999999   TERMINATE ATLAS MODULE                          *
 *                                                               *
 *****************************************************************
C                                                                $
C
 *****************************************************************
 **                                                             **
 **      E X T E N D     A T L A S     S T A T E M E N T S      **
 **                                                             **
 *****************************************************************
                                                                 $
 000105 EXTEND, ATLAS NOUNS 'RS-232',
         FOR VERBS SETUP CONNECT CHANGE ARM FETCH
                   DISCONNECT RESET APPLY REMOVE
                   INITIATE READ MEASURE,
         SPEC 'GPDS RS/IO RESOURCE PROGRAMMING MANUAL'           $

 000107 EXTEND, ATLAS MODIFIERS FOR RS-232,
         BIT-RATE,           USAGE SR,
         WORD-LENGTH,        USAGE SR,
         'STOP-BIT-LENGTH'   MOD-VALUE R MOD-DIM NONE, USAGE SR,
         'DSR-DTR'           MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'XON-XOFF'          MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'AUTO-ECHO'         MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'FRAME-SIZE'        MOD-VALUE I MOD-DIM 'WORDS', USAGE SR,
         'DATA-TRANSFER'     MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'PARITY-VALUE'      MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'PARITY-MODE'       MODIFIER-DESCRIPTOR
                             'ODD' 'EVEN' 'UND' 'MARK' 'SPACE',
                             USAGE SR,
         'DATA-WD'           MOD-ARRAY AB MOD-DIM NONE,
                             USAGE SRM,
         'NB-WORD'           MOD-VALUE I MOD-DIM NONE,
                             USAGE SR,
         'WORD-NBR'          MOD-VALUE I MOD-DIM NONE,
                             USAGE R,
         'DISPLAY-WARNING'   MODIFIER-DESCRIPTOR 'ON' 'OFF',
                             USAGE R,
         'WRITE-STATUS'      MOD-VALUE I MOD-DIM NONE,
                             USAGE RM,
         'TTLTRG-LINE'       MOD-VALUE I MOD-DIM NONE,
                             USAGE SR,
         'BIT-MASK'          MOD-VALUE SB MOD-DIM NONE,
                             USAGE SRM,
         'VALUE'             MOD-VALUE SB MOD-DIM NONE,
                             USAGE SRM,
```


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```
         'CONSECUTIVE-EVENT' MODIFIER-DESCRIPTOR 'ON' 'OFF',
                             USAGE SR,
         SPEC 'GPDS RS/IO RESOURCE PROGRAMMING MANUAL'            $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **           R E Q U I R E     S T A T E M E N T S              **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E   E X T E R N A L   L O A D S            **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E  E X T E R N A L  S O U R C E S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E  E X T E R N A L  S E N S O R S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **         R E Q U I R E  E X T E R N A L  S H O R T S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **         R E Q U I R E  E X T E R N A L  S H O R T S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **             E X T E R N A L     T I M E R S                  **
 **                                                              **
 ******************************************************************
                                                                   $
```


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```
C
 ******************************************************************
 **                                                              **
 ** R E Q U I R E   E X T E R N A L   E V E N T   M O N I T O R S **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    L O A D S               **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S O U R C E S           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     S E N S O R S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L     C O M M O N S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    S H O R T S             **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E     L O C A L    T I M E R S             **
 **                                                              **
 ******************************************************************
                                                                  $
 007505 REQUIRE, 'TIME-MEAS5', TIMER, TIME INTERVAL,
                 CAPABILITY,
                   TIME MAX 10000 SEC                             $
 007507 REQUIRE, 'DOEX-TIM-TABLE', TIMER, TIME INTERVAL,
                CAPABILITY,
```


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```
                  TIME RANGE 0 MSEC TO 500000 MSEC                $
C
 ******************************************************************
 **                                                              **
 **    R E Q U I R E   L O C A L   E V E N T   M O N I T O R S   **
 **                                                              **
 ******************************************************************
                                                                  $
 008005 REQUIRE, 'WORD-TABLE', EVENT MONITOR (VALUE), RS-232,
          CONTROL,
            BIT-RATE 9600 BITS/SEC,
            WORD-LENGTH 8 BITS,
            STOP-BIT-LENGTH 1 BITS,
            PARITY-MODE UND,
            BIT-MASK,
          CAPABILITY,
            VALUE,
          CNX HI LO                                               $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                     D  E  C  L  A  R  E                      **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **     D E C L A R A T I O N     O F      T  Y  P  E  S         **
 **                                                              **
 ******************************************************************
                                                                  $
 010005 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                   $
C       State of device
 -----------------------------------------------------------------$

 010007 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                              $
C       Mnemonic of all UUT
 -----------------------------------------------------------------$

 010009 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION(
                   'ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN'
                   )                                              $
C
 ******************************************************************
 **                                                              **
 **     D E C L A R A T I O N     O F      C O N S T A N T S     **
 **                                                              **
```


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```
 ******************************************************************
                                                                  $
 011005 DECLARE, CONSTANT, 'ACTIVE' IS C'1'                       $
 011007 DECLARE, CONSTANT, 'INACTIVE' IS C'0'                     $
C
 ******************************************************************
 **                                                              **
 **              D E C L A R A T I O N     O F                   **
 **                                                              **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C         **
 **                                                              **
 **                    V A R I A B L E S                         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       D E C L A R A T I O N     O F   E X T E R N A L         **
 **                                                              **
 **     P R O G R A M   S P E C I F I C   V A R I A B L E S       **
 **                                                              **
 ******************************************************************
                                                                  $
 013005 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
                       'EDIT-RESULT' IS BOOLEAN ;
                       'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                       'PART-NUMB' IS STRING(20) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                            J8-G, J9-G, J10-G, J11-G, J12-G
                           ) ;
                       'LO' IS CONNECTION(
                           J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                            J8-t, J9-t, J10-t, J11-t, J12-t
                           )
                       ]                                          $
C       Informations about all UUT
 -----------------------------------------------------------------$

 013007 DECLARE, EXTERNAL, VARIABLE, 'G-TABLE-STATE' IS
               'T-SIGNAL-STATE'                                   $
C       State of RS232-TABLE device
 -----------------------------------------------------------------$

 013009 DECLARE, EXTERNAL, VARIABLE, 'G-TABLE-OK' IS BOOLEAN       $
C       Indicates if a problem has occured
 -----------------------------------------------------------------$
C
 ******************************************************************
```


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```
 **                                                                **
 **       D E C L A R A T I O N     O F    L O C A L               **
 **                                                                **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S         **
 **                                                                **
 ******************************************************************
                                                                   $

 014007 DECLARE, VARIABLE, 'S-TX-TABLE' IS ARRAY(1 THRU 100) OF
                   STRING(8) OF BIT
        INITIAL =  (100 OF X'00')                                  $
C       Contains the frame to send
 ------------------------------------------------------------------$

 014009 DECLARE, VARIABLE, 'S-RX-TABLE' IS ARRAY(1 THRU 200) OF
                   STRING(8) OF BIT
        INITIAL =  (200 OF X'FF')                                  $
C       Contains the frame received
 ------------------------------------------------------------------$

 014011 DECLARE, VARIABLE, 'S-WAIT-TABLE-OK' IS ARRAY(1 THRU 20) OF
                   STRING(8) OF BIT                                $
C       Contains the frame to compare
 ------------------------------------------------------------------$

 014013 DECLARE, VARIABLE, 'S-WAIT-TABLE-2' IS ARRAY(1 THRU 20) OF
                   STRING(8) OF BIT                                $
C       Contains the frame to compare
 ------------------------------------------------------------------$

 014015 DECLARE, VARIABLE, 'S-NB-CAR-TABLE' IS INTEGER             $
C       Contains the number of words received.
 ------------------------------------------------------------------$

 014017 DECLARE, VARIABLE, 'S-TX-NB-TABLE' IS INTEGER              $
C       Number of words to send
 ------------------------------------------------------------------$

 014019 DECLARE, VARIABLE, 'S-RX-NB-TABLE' IS INTEGER              $
C       Number of words to receive
 ------------------------------------------------------------------$
C
 ******************************************************************
 ******************************************************************
 **                                                                **
 **           E S T A B L I S H    P R O T O C O L                 **
 **                                                                **
 ******************************************************************
 ******************************************************************
C                                                                  $
 015005 ESTABLISH, BUS-PROTOCOL 'TX-RS232-TABLE',
           SPEC 'AT6-GPDS-RMO',
           TEST-EQUIP-ROLE MASTER,
           BUS-MODE CON-RT,
```

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```
                TALKER   TEST-EQUIP,
                DATA     ( STRING(8) OF BIT ),
         BUS-PARAMETER
            UPDATABLE PROTOCOL BIT-RATE
                      RANGE 10 BITS/SEC TO 40000 BITS/SEC ,
            UPDATABLE PROTOCOL WORD-LENGTH
                      RANGE 5 BITS TO 8 BITS BY 1 BITS,
            UPDATABLE PROTOCOL PARITY-VALUE
                      RANGE 1 TO 5 BY 1 ,
            UPDATABLE PROTOCOL STOP-BIT-LENGTH
                      RANGE 1 BITS TO 2 BITS BY 1 BITS,
            UPDATABLE PROTOCOL XON-XOFF
                      RANGE 0 TO 1 BY 1,
            UPDATABLE PROTOCOL-EXCHANGE FRAME-SIZE
                      RANGE 0 WORDS TO 65535 WORDS BY 1 WORDS,
         STANDARD BUS ,
       CNX HI LO
                                                                  $
 015007 ESTABLISH, BUS-PROTOCOL 'RX-RS232-TABLE',
         SPEC 'AT6-GPDS-RMO',
         TEST-EQUIP-ROLE MASTER,
         BUS-MODE RT-CON,
                LISTENER   TEST-EQUIP,
                DATA     ( STRING(8) OF BIT ),
                STATUS   ( INTEGER ),
         BUS-PARAMETER
            UPDATABLE PROTOCOL BIT-RATE
                      RANGE 10 BITS/SEC TO 40000 BITS/SEC ,
            UPDATABLE PROTOCOL WORD-LENGTH
                      RANGE 5 BITS TO 8 BITS BY 1 BITS ,
            UPDATABLE PROTOCOL PARITY-VALUE
                      RANGE 1 TO 5 BY 1 ,
            UPDATABLE PROTOCOL STOP-BIT-LENGTH
                      RANGE 1 BITS TO 2 BITS BY 1 BITS ,
            UPDATABLE PROTOCOL XON-XOFF
                      RANGE 0 TO 1 BY 1,
            UPDATABLE PROTOCOL-EXCHANGE FRAME-SIZE
                      RANGE 0 WORDS TO 65535 WORDS BY 1 WORDS,
        STANDARD BUS ,
       CNX HI LO
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                I  D  E  N  T  I  F  Y                        **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **      I D E N T I F Y   E X T E R N A L   T I M E R           **
```


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```
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **          I D E N T I F Y     E X T E R N A L                 **
 **                                                              **
 **           T I M E   B A S E D   E V E N T                    **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **         S I G N A L   B A S E D   E V E N T                  **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y     E X T E R N A L                  **
 **                                                              **
 **          E V E N T   B A S E D   E V E N T                   **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **             E V E N T   I N T E R V A L                      **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y    E X T E R N A L                   **
 **                                                              **
 **           E V E N T    I N D I C A T O R                     **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **            I D E N T I F Y    T I M E R                      **
 **                                                              **
 ****************************************************************
```

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```
                                                                $
 025005 IDENTIFY, TIMER 'CLOCK5' TIME INTERVAL USING 'TIME-MEAS5',
                  TIME RANGE 1 SEC TO 10000 SEC
                                                                $
 025007 IDENTIFY, TIMER 'CLOCK-TABLE' TIME INTERVAL
                  USING 'DOEX-TIM-TABLE',
                  TIME RANGE 0 MSEC TO 50000 MSEC
                                                                $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y     T I M E                         **
 **                                                              **
 **            B A S E D     E V E N T                           **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y     S I G N A L                     **
 **                                                              **
 **            B A S E D     E V E N T                           **
 **                                                              **
 ******************************************************************
                                                                $
 026005 IDENTIFY, EVENT 'EVT-TABLE'
                  AS RS-232 USING 'WORD-TABLE',
                  VALUE EQ X'3E',
                  BIT-RATE 9600 BITS/SEC,
                  WORD-LENGTH 8 BITS,
                  PARITY-MODE UND,
                  STOP-BIT-LENGTH 1 BITS,
                  BIT-MASK       X'FF',
                  CNX HI P14-2 LO P14-5
                                                                $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y     E V E N T                       **
 **                                                              **
 **            B A S E D     E V E N T                           **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **     I D E N T F Y    E V E N T    I N T E R N A L            **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
```


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```
 **                                                              **
 **     I D E N T F Y    E V E N T    I N D I C A T O R          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                    D  E  F  I  N  E                          **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E     E X C H A N G E                  **
 **                                                              **
 ******************************************************************
                                                                  $
 031005 DEFINE, 'IES-RS232-TABLE', EXCHANGE-CONFIGURATION
               'TX-RS232-TABLE', 'RX-RS232-TABLE'
                                                                  $
 031007 DEFINE, 'RX-TABLE', EXCHANGE, PROTOCOL 'RX-RS232-TABLE',
               BUS-MODE      RT-CON,
               LISTENER      TEST-EQUIP,
               DATA          'S-RX-TABLE'(1 THRU 'S-RX-NB-TABLE'),
               STATUS        'S-NB-CAR-TABLE',
               BUS-PARAMETER FRAME-SIZE 200 WORDS
                                                                  $
 031009 DEFINE, 'TX-TABLE', EXCHANGE, PROTOCOL 'TX-RS232-TABLE',
               BUS-MODE      CON-RT,
               TALKER        TEST-EQUIP,
               DATA          'S-TX-TABLE'(1 THRU 'S-TX-NB-TABLE'),
               BUS-PARAMETER FRAME-SIZE 100 WORDS
                                                                  $
C
 ******************************************************************
 **                                                              **
 **              D E F I N E    D R A W I N G                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **              D E F I N E     S I G N A L                     **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
```


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```
 **  D E F I N E    D I G I T A L   C O N F I G U R A T I O N  **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S      **
 **                                                            **
 **            S T A N D A R D   L I B R A R Y                 **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 ****************************************************************
 ***                                                        ***
 ***                      W R I T E                         ***
 ***                                                        ***
 ****************************************************************
 ****************************************************************

 |-------------------------------------------------------------|
 |                                                             |
 |                                                             |
 |  Param-in  : .PERIPH                                        |
 |                                                             |
 |              .MESSAGE                                       |
 |                                                             |
 |-------------------------------------------------------------|
                                                               $
 050005 DEFINE, 'WRITE', EXTERNAL, PROCEDURE (
                   '.PERIPH' IS 'PERIPH-DEVICES',
                   '.MESSAGE' IS STRING(80) OF CHAR
               )                                               $

       END, 'WRITE'                                            $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
C
 ****************************************************************
 **                                                            **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S      **
 **                                                            **
 **            S P E C I F I C   P R O G R A M                 **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **         D E F I N E  L O C A L  P R O C E D U R E          **
 **                                                            **
```


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```
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         D E F I N E   G L O B A L   P R O C E D U R E        **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***              R 2 3 T - T A B L E - I N I T                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Initialize RS232-TABLE                                        |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080301 DEFINE, 'R23T-TABLE-INIT', GLOBAL, PROCEDURE              $

 080310 CONNECT, EXCHANGE-CONFIGURATION USING 'IES-RS232-TABLE',
                 PROTOCOL 'TX-RS232-TABLE',
                     CNX HI P14-3 LO P14-5,
                 PROTOCOL 'RX-RS232-TABLE',
                     CNX HI P14-2 LO P14-5
                                                                  $

 080315 ENABLE, EXCHANGE-CONFIGURATION USING 'IES-RS232-TABLE',
                PROTOCOL 'TX-RS232-TABLE',
                     BUS-PARAMETER
                     BIT-RATE 9600 BITS/SEC,
                     WORD-LENGTH  8 BITS,
                     STOP-BIT-LENGTH 1 BITS,
                     PARITY-VALUE 3,
                     XON-XOFF 0,
                     CNX HI P14-3 LO P14-5,
                PROTOCOL 'RX-RS232-TABLE',
                     BUS-PARAMETER
                     BIT-RATE 9600 BITS/SEC,
                     WORD-LENGTH  8 BITS,
                     STOP-BIT-LENGTH 1 BITS,
                     PARITY-VALUE 3,
                     XON-XOFF 0,
                     CNX HI P14-2 LO P14-5
                                                                  $

        SETUP,  EVENT 'EVT-TABLE'                                 $
        CALCULATE, 'G-TABLE-STATE' = 'ACTIVE'                     $
```


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```
 080349 END, 'R23T-TABLE-INIT'                                    $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 2 3 T - T A B L E - R E M                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Remove RS232-TABLE                                             |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080351 DEFINE, 'R23T-TABLE-REM', GLOBAL, PROCEDURE                $
C       Remove RS232-TABLE                                         $
        IF, 'G-TABLE-STATE' EQ 'ACTIVE', THEN                      $

 080355   DISABLE, EXCHANGE-CONFIGURATION USING 'IES-RS232-TABLE'   $

 080360   DISCONNECT,
                EXCHANGE-CONFIGURATION USING 'IES-RS232-TABLE',
                PROTOCOL 'TX-RS232-TABLE',
                    CNX HI P14-3 LO P14-5,
                PROTOCOL 'RX-RS232-TABLE',
                    CNX HI P14-2 LO P14-5
                                                                   $

          REMOVE,  EVENT 'EVT-TABLE'                               $
          CALCULATE, 'G-TABLE-STATE' = 'INACTIVE'                  $

        END, IF                                                    $

 080399 END, 'R23T-TABLE-REM'                                      $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 2 3 T - T A B L E - C M D                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Send a cmd on IES-RS232-TABLE                                  |
 |                                                                 |
 |  Param-in  : P-CMD  Cmd to send                                 |
```


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```
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080401 DEFINE, 'R23T-TABLE-CMD', GLOBAL, PROCEDURE (
                   'P-CMD' IS STRING(20) OF CHAR
               )                                                  $

        DECLARE, VARIABLE, 'CNT' IS INTEGER                       $
        DECLARE, VARIABLE, 'RESULT' IS DECIMAL                    $
        DECLARE, VARIABLE, 'STRING' IS STRING(20) OF CHAR         $
        DECLARE, VARIABLE, 'ERROR' IS BOOLEAN                     $
        DECLARE, VARIABLE, 'TIME' IS DECIMAL
        INITIAL =  0                                              $
        DECLARE, VARIABLE, 'LOOP-ERROR' IS INTEGER
        INITIAL =  0                                              $
        IF, ('G-UUT'('UUT1').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT5').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT6').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT7').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT8').'PRESENCE' EQ TRUE), THEN            $

          CALCULATE, 'MEASUREMENT' = 9999                         $
C         IF, 'G-TABLE-OK', THEN                                  $

            IF, 'P-CMD' EQ C'<MBe>', THEN                         $
              PERFORM, 'WRITE'
              ('ALL', C'ATTENTION : LA COMMANDE <MBe> DOIT ETRE ' &
              C'UTILISEE  AVEC "R23T-TABLE-CMD2"')                $
              LEAVE, 'R23T-TABLE-CMD'                             $
            END, IF                                               $

 080405     CALCULATE, 'S-TX-NB-TABLE' = LEN('P-CMD')             $

            FOR, 'CNT' = 1 THRU 30, THEN                          $
              CALCULATE, 'S-RX-TABLE'('CNT') = X'FF'              $
            END, FOR                                              $

            FOR, 'CNT' = 1 THRU 'S-TX-NB-TABLE', THEN             $
              CALCULATE, 'S-TX-TABLE'('CNT') =
                       BITS(ASCII7, 'P-CMD'('CNT'))               $
            END, FOR                                              $

            IF, 'G-TABLE-STATE' EQ 'INACTIVE', THEN               $
              PERFORM, 'R23T-TABLE-INIT'                          $
            ELSE                                                  $
 080410       UPDATE, 'TX-TABLE', EXCHANGE USING 'IES-RS232-TABLE',
                     TALKER TEST-EQUIP,
                     DATA 'S-TX-TABLE'(1 THRU 'S-TX-NB-TABLE')    $
              WAIT FOR, TIME 200 MSEC                             $
            END, IF                                               $

            ENABLE, EVENT 'EVT-TABLE'                             $
C           Do Exchange on RS232-TABLE                            $
 080420     DO, EXCHANGE USING 'IES-RS232-TABLE',
```


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```
                 TEST-EQUIP-ROLE MASTER,
                (STARTING WHEN 'CLOCK-TABLE' 0 MSEC,
                 WITH PRIORITY 1,
                 EXCHANGE 'TX-TABLE',) THEN
                (STARTING WHEN 'CLOCK-TABLE' 1 MSEC,
                 WITH PRIORITY 2,
                 UNTIL EVENT 'EVT-TABLE',
                 EXCHANGE 'RX-TABLE',),
                PROCEED                                          $

            RESET, TIMER 'CLOCK5'                                $
            READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'             $

            CALCULATE, 'S-NB-CAR-TABLE' = 1                      $

            WHILE, ('TIME' LT 30)               AND
                   ('S-RX-TABLE'('S-NB-CAR-TABLE') NE X'3E'), THEN  $

 080425       FETCH, 'RX-TABLE', EXCHANGE USING 'IES-RS232-TABLE'
               LISTENER TEST-EQUIP,
               DATA     'S-RX-TABLE'(1 THRU 1),
               STATUS   'S-NB-CAR-TABLE',,
               MAX-TIME 60 SEC                                   $

 080430       FETCH, 'RX-TABLE', EXCHANGE USING 'IES-RS232-TABLE'
                 LISTENER TEST-EQUIP,
                 DATA 'S-RX-TABLE'(1 THRU 'S-NB-CAR-TABLE')      $

              READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'           $

            END, WHILE                                           $

            DISABLE, EVENT 'EVT-TABLE'                           $
C           If no string or bad string received                  $
 080435     IF, (MAX-TIME EQ TRUE)          OR
                ('S-RX-TABLE'('S-NB-CAR-TABLE') NE X'3E'), THEN   $

              PERFORM, 'WRITE' ('ALL', C'')                      $

              CALCULATE, 'G-TABLE-OK' = FALSE                    $
C             Ouput an error message                             $
              PERFORM, 'WRITE' ('ALL', C'ATTENTION : ERREUR AVEC ' &
                C'L`EXECUTION DE LA COMMANDE RS232 ' & 'P-CMD')  $
C           Else                                                 $
            ELSE                                                 $
C             Reception treatment                                $
C-------------------------------------------------------------- $
              FOR, 'CNT' = 2 THRU 'S-NB-CAR-TABLE', THEN         $
                CALCULATE, 'S-WAIT-TABLE-OK' ('CNT') = X'FF'     $
              END, FOR                                           $

              CALCULATE, 'S-WAIT-TABLE-OK' (1) = X'3C'           $
C             <MRe> COMMAND                                      $
C             -------------                                      $
```


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```
080440       IF, 'P-CMD' EQ C'<MRe>', THEN                          $
               CALCULATE, 'S-WAIT-TABLE-OK' (2) = X'4D'             $
               CALCULATE, 'S-WAIT-TABLE-OK' (3) = X'52'             $
               CALCULATE, 'S-WAIT-TABLE-OK' (4) = X'65'             $
               CALCULATE, 'S-WAIT-TABLE-OK' (5) = X'20'             $
               CALCULATE, 'S-WAIT-TABLE-OK' (6) = X'30'             $
               CALCULATE, 'S-WAIT-TABLE-OK' (7) = X'30'             $
               CALCULATE, 'S-WAIT-TABLE-OK' (8) = X'3E'             $
C              Command already set                                  $
               CALCULATE, 'S-WAIT-TABLE-2' (7) = X'34'              $

               FOR, 'CNT' = 1 THRU 8, THEN                          $
                 IF,
                 'S-RX-TABLE'('CNT') NE 'S-WAIT-TABLE-OK' ('CNT'),
                                                          THEN      $
                   IF,
                   'S-RX-TABLE'('CNT') NE 'S-WAIT-TABLE-2' (7),
                                                            THEN    $
                     CALCULATE, 'LOOP-ERROR' = 'LOOP-ERROR' + 1     $
                     CALCULATE, 'G-TABLE-OK' = FALSE                $

                   END, IF                                          $

                 END, IF                                            $

               END, FOR                                             $

080445         IF, 'LOOP-ERROR' EQ 1, THEN                          $

                 IF, 'S-RX-TABLE'(7) EQ X'32', THEN                 $
                   PERFORM, 'WRITE'
                   ('ALL', C'ATTENTION : PROBLEME ALIM OU ' &
                   C'SECURITE (COMMANDE RS232 <MRe>)')              $

                 ELSE IF, 'S-RX-TABLE'(7) EQ X'38', THEN            $
                   PERFORM, 'WRITE'
                   ('ALL', C'ATTENTION : ERREUR INCLINOMETRE ' &
                   C'ROULIS (COMMANDE RS232 <MRe>)')                $

                 ELSE IF, 'S-RX-TABLE'(6) EQ X'38', THEN            $
                   PERFORM, 'WRITE'
                   ('ALL', C'ATTENTION : ERREUR INCLINOMETRE ' &
                   C'TANGAGE (COMMANDE RS232 <MRe>)')               $

                 ELSE                                               $
                   PERFORM, 'WRITE'
                   ('ALL', C'ATTENTION : PROBLEME ' &
                   C'AVEC COMMANDE RS232 <MRe>')                    $

                 END, IF                                            $

080450         ELSE IF, 'LOOP-ERROR' GT 1, THEN                     $
                 PERFORM, 'WRITE'
                 ('ALL', C'ATTENTION : PROBLEME ' &
```

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```
                C'AVEC COMMANDE RS232 <MRe>')                    $

              END, IF                                            $

            END, IF                                              $
C           <MEn> COMMAND                                        $
C           -------------                                        $
 080455     IF, 'P-CMD' EQ C'<MEn>', THEN                        $
              CALCULATE, 'S-WAIT-TABLE-OK' (2) = X'4D'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (3) = X'45'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (4) = X'6E'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (5) = X'20'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (6) = X'30'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (7) = X'30'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (8) = X'3E'           $
C             Command already set                                $
              CALCULATE, 'S-WAIT-TABLE-2' (7) = X'34'            $

              FOR, 'CNT' = 1 THRU 8, THEN                        $
                IF,
                'S-RX-TABLE'('CNT') NE 'S-WAIT-TABLE-OK' ('CNT'),
                                                        THEN   $
                  IF,
                  'S-RX-TABLE'('CNT') NE 'S-WAIT-TABLE-2' (7),
                                                          THEN $
                    CALCULATE, 'LOOP-ERROR' = 'LOOP-ERROR' + 1   $
                    CALCULATE, 'G-TABLE-OK' = FALSE              $

                  END, IF                                        $

                END, IF                                          $

              END, FOR                                           $

 080460       IF, 'LOOP-ERROR' EQ 1, THEN                        $

                IF, 'S-RX-TABLE'(7) EQ X'32', THEN               $
                  PERFORM, 'WRITE'
                  ('ALL', C'ATTENTION : PROBLEME ALIM OU ' &
                  C'SECURITE (COMMANDE RS232 <MEn>)')            $

                ELSE IF, 'S-RX-TABLE'(6) EQ X'34', THEN          $
                  PERFORM, 'WRITE'
                  ('ALL', C'ATTENTION : SYSTEME EN MOUVEMENT ' &
                  C'(COMMANDE RS232 <MEn>)')                     $

                ELSE                                             $
                  PERFORM, 'WRITE'
                  ('ALL', C'ATTENTION : PROBLEME ' &
                  C'AVEC COMMANDE RS232 <MEn>')                  $

                END, IF                                          $

 080465       ELSE IF, 'LOOP-ERROR' GT 1, THEN                   $
```


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```
                PERFORM, 'WRITE'
                ('ALL', C'ATTENTION : PROBLEME ' &
                C'AVEC COMMANDE RS232 <MEn>')                    $

              END, IF                                            $

            END, IF                                              $
C           <ST> COMMAND                                         $
C           -------------                                        $
 080485     IF, 'P-CMD' EQ C'<ST>', THEN                         $
              CALCULATE, 'S-WAIT-TABLE-OK' (2) = X'53'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (3) = X'54'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (4) = X'20'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (5) = X'30'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (6) = X'30'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (7) = X'3E'           $

              FOR, 'CNT' = 1 THRU 7, THEN                        $
                IF,
                'S-RX-TABLE'('CNT') NE 'S-WAIT-TABLE-OK' ('CNT'),
                                                        THEN     $
                  CALCULATE, 'LOOP-ERROR' = 'LOOP-ERROR' + 1     $
                  CALCULATE, 'G-TABLE-OK' = FALSE                $

                END, IF                                          $
              END, FOR                                           $

 080490       IF, 'LOOP-ERROR' GE 1, THEN                        $

                PERFORM, 'WRITE'
                ('ALL', C'ATTENTION : PROBLEME ' &
                C'AVEC COMMANDE RS232 <ST>')                     $

              END, IF                                            $

            END, IF                                              $
C           <DP X Y> COMMAND                                     $
C           ----------------                                     $
 080495     IF, COPY ('P-CMD', 1, 3) EQ C'<DP', THEN             $
              CALCULATE, 'S-WAIT-TABLE-OK' (2) = X'44'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (3) = X'50'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (4) = X'20'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (5) = X'30'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (6) = X'30'           $
              CALCULATE, 'S-WAIT-TABLE-OK' (7) = X'3E'           $

              FOR, 'CNT' = 1 THRU 7, THEN                        $
                IF,
                'S-RX-TABLE'('CNT') NE 'S-WAIT-TABLE-OK' ('CNT'),
                                                        THEN     $
                  CALCULATE, 'LOOP-ERROR' = 'LOOP-ERROR' + 1     $
                  CALCULATE, 'G-TABLE-OK' = FALSE                $

                END, IF                                          $
```


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```
                END, FOR                                        $

 080505         IF, 'LOOP-ERROR' EQ 1, THEN                     $

                  IF, 'S-RX-TABLE'(5) EQ X'31', THEN            $
                    PERFORM, 'WRITE'
                    ('ALL', C'ATTENTION : VALEUR HORS PLAGE ' &
                    C'(COMMANDE RS232 <DP X Y>)')               $

                  ELSE                                          $
                    PERFORM, 'WRITE'
                    ('ALL', C'ATTENTION : PROBLEME ' &
                    C'AVEC COMMANDE RS232 <DP X Y>')            $

                  END, IF                                       $

                ELSE IF, 'LOOP-ERROR' GT 1, THEN                $
                  PERFORM, 'WRITE'
                  ('ALL', C'ATTENTION : PROBLEME ' &
                  C'AVEC COMMANDE RS232 <DP X Y>')              $

                END, IF                                         $

               END, IF                                          $
C              <DR X> COMMAND                                   $
C              --------------                                   $
 080510        IF, COPY ('P-CMD', 1, 3) EQ C'<DR', THEN         $
                CALCULATE, 'S-WAIT-TABLE-OK' (2) = X'44'        $
                CALCULATE, 'S-WAIT-TABLE-OK' (3) = X'52'        $
                CALCULATE, 'S-WAIT-TABLE-OK' (4) = X'20'        $
                CALCULATE, 'S-WAIT-TABLE-OK' (5) = X'30'        $
                CALCULATE, 'S-WAIT-TABLE-OK' (6) = X'30'        $
                CALCULATE, 'S-WAIT-TABLE-OK' (7) = X'3E'        $

                FOR, 'CNT' = 1 THRU 7, THEN                     $
                  IF,
                  'S-RX-TABLE'('CNT') NE 'S-WAIT-TABLE-OK' ('CNT'),
                                                        THEN    $
                    CALCULATE, 'LOOP-ERROR' = 'LOOP-ERROR' + 1  $
                    CALCULATE, 'G-TABLE-OK' = FALSE             $

                  END, IF                                       $
                END, FOR                                        $

 080515         IF, 'LOOP-ERROR' EQ 1, THEN                     $

                  IF, 'S-RX-TABLE'(5) EQ X'31', THEN            $
                    PERFORM, 'WRITE'
                    ('ALL', C'ATTENTION : VALEUR HORS PLAGE ' &
                    C'(COMMANDE RS232 <DR X>)')                 $

                  ELSE                                          $
                    PERFORM, 'WRITE'
                    ('ALL', C'ATTENTION : PROBLEME ' &
```


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```
                  C'AVEC COMMANDE RS232 <DR X>')                 $

                 END, IF                                         $

               ELSE IF, 'LOOP-ERROR' GT 1, THEN                  $
                 PERFORM, 'WRITE'
                 ('ALL', C'ATTENTION : PROBLEME ' &
                 C'AVEC COMMANDE RS232 <DR X>')                  $

               END, IF                                           $
C            End if command                                      $
             END, IF                                             $

           END, IF                                               $
C        END, IF                                                 $

       END, IF                                                   $

 080599 END, 'R23T-TABLE-CMD'                                    $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***              R 2 3 T - T A B L E - W A I T                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Wait for end of movement of table                            |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
 080601 DEFINE, 'R23T-TABLE-WAIT', GLOBAL, PROCEDURE             $

        DECLARE, VARIABLE, 'TIME' IS DECIMAL
        INITIAL =  0                                             $
        DECLARE, VARIABLE, 'CNT' IS INTEGER                      $
        DECLARE, VARIABLE, 'CMD' IS STRING(5) OF CHAR
        INITIAL =  C'<IE?>'                                      $
        IF, ('G-UUT'('UUT1').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT5').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT6').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT7').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT8').'PRESENCE' EQ TRUE), THEN            $
C        IF, 'G-TABLE-OK', THEN                                  $

            FOR, 'CNT' = 1 THRU 30, THEN                         $
              CALCULATE, 'S-RX-TABLE'('CNT') = X'FF'             $
            END, FOR                                             $
```


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```
            FOR, 'CNT' = 1 THRU 5, THEN                          $
              CALCULATE, 'S-TX-TABLE'('CNT') =
                       BITS(ASCII7, 'CMD'('CNT'))                 $
            END, FOR                                             $

            IF, 'G-TABLE-STATE' EQ 'INACTIVE', THEN              $
              PERFORM, 'R23T-TABLE-INIT'                         $
            ELSE                                                 $
 080615       UPDATE, 'TX-TABLE', EXCHANGE USING 'IES-RS232-TABLE',
                    TALKER TEST-EQUIP,
                    DATA 'S-TX-TABLE'(1 THRU 5)                  $
              WAIT FOR, TIME 200 MSEC                            $
            END, IF                                              $
C           Wait for string "<IE? 00 Att> or <IE? 00 Zer>        " $

            RESET, TIMER 'CLOCK5'                                $
            READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'             $

            ENABLE, EVENT 'EVT-TABLE'                            $
C           While char is not A (from Att) or Z (from Zer)       $
            WHILE, ('TIME' LT 330)            AND
                   ('S-RX-TABLE'(9) NE X'41')  AND
                   ('S-RX-TABLE'(9) NE X'5A'), THEN              $
C             Do Exchange on RS232-TABLE                         $
 080620       DO, EXCHANGE USING 'IES-RS232-TABLE',
                  TEST-EQUIP-ROLE MASTER,
                 (STARTING WHEN 'CLOCK-TABLE' 0 MSEC,
                  WITH PRIORITY 1,
                  EXCHANGE 'TX-TABLE',) THEN
                 (STARTING WHEN 'CLOCK-TABLE' 1 MSEC,
                  WITH PRIORITY 2,
                  UNTIL EVENT 'EVT-TABLE',
                  EXCHANGE 'RX-TABLE',),
                 PROCEED                                         $

              CALCULATE, 'S-NB-CAR-TABLE' = 1                    $
              CALCULATE, 'S-RX-TABLE'(1) = X'FF'                 $

              WHILE, ('TIME' LT 330)               AND
                     ('S-RX-TABLE'('S-NB-CAR-TABLE') NE X'3E'), THEN
                                                                 $
                FETCH, 'RX-TABLE', EXCHANGE USING 'IES-RS232-TABLE'
                 LISTENER TEST-EQUIP,
                 DATA 'S-RX-TABLE'(1 THRU 1),
                 STATUS   'S-NB-CAR-TABLE',,
                 MAX-TIME 60 SEC                                 $

 080630         FETCH, 'RX-TABLE', EXCHANGE USING 'IES-RS232-TABLE'
                 LISTENER TEST-EQUIP,
                 DATA
                'S-RX-TABLE'(1 THRU 'S-NB-CAR-TABLE')
                                                                 $

                READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'         $
```


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```
              END, WHILE                                          $

            END, WHILE                                            $

            DISABLE, EVENT 'EVT-TABLE'                            $
C           If max-time                                           $
            IF, (   MAX-TIME EQ TRUE)          OR
                ( ('S-RX-TABLE'(9) NE X'41') AND
                  ('S-RX-TABLE'(9) NE X'5A') ), THEN              $

              CALCULATE, 'G-TABLE-OK' = FALSE                     $
C             Ouput an error message                              $
              PERFORM, 'WRITE' ('ALL', C'ATTENTION : ERREUR AVEC ' &
                C'L`EXECUTION DE LA COMMANDE RS232 <IE?> .')      $
C           Else                                                  $
            ELSE                                                  $
C             Reception treatment                                 $
C-------------------------------------------------------------------$
C             String "<IE? 00 Att>"                               $
 080640       CALCULATE, 'S-WAIT-TABLE-OK' (1) = X'3C'            $
              CALCULATE, 'S-WAIT-TABLE-OK' (2) = X'49'            $
              CALCULATE, 'S-WAIT-TABLE-OK' (3) = X'45'            $
              CALCULATE, 'S-WAIT-TABLE-OK' (4) = X'3F'            $
              CALCULATE, 'S-WAIT-TABLE-OK' (5) = X'20'            $
              CALCULATE, 'S-WAIT-TABLE-OK' (6) = X'30'            $
              CALCULATE, 'S-WAIT-TABLE-OK' (7) = X'30'            $
              CALCULATE, 'S-WAIT-TABLE-OK' (8) = X'20'            $
              CALCULATE, 'S-WAIT-TABLE-OK' (9) = X'41'            $
              CALCULATE, 'S-WAIT-TABLE-OK'(10) = X'74'            $
              CALCULATE, 'S-WAIT-TABLE-OK'(11) = X'74'            $
              CALCULATE, 'S-WAIT-TABLE-OK'(12) = X'3E'            $
C             String "<IE? 00 Zer>"                               $
              CALCULATE, 'S-WAIT-TABLE-2' (1) = X'3C'             $
              CALCULATE, 'S-WAIT-TABLE-2' (2) = X'49'             $
              CALCULATE, 'S-WAIT-TABLE-2' (3) = X'45'             $
              CALCULATE, 'S-WAIT-TABLE-2' (4) = X'3F'             $
              CALCULATE, 'S-WAIT-TABLE-2' (5) = X'20'             $
              CALCULATE, 'S-WAIT-TABLE-2' (6) = X'30'             $
              CALCULATE, 'S-WAIT-TABLE-2' (7) = X'30'             $
              CALCULATE, 'S-WAIT-TABLE-2' (8) = X'20'             $
              CALCULATE, 'S-WAIT-TABLE-2' (9) = X'5A'             $
              CALCULATE, 'S-WAIT-TABLE-2'(10) = X'65'             $
              CALCULATE, 'S-WAIT-TABLE-2'(11) = X'72'             $
              CALCULATE, 'S-WAIT-TABLE-2'(12) = X'3E'             $

              FOR, 'CNT' = 1 THRU 12, THEN                        $

                IF, 'S-RX-TABLE'('CNT') NE 'S-WAIT-TABLE-OK' ('CNT'),
                                                          THEN  $
                  IF,
                  'S-RX-TABLE'('CNT') NE 'S-WAIT-TABLE-2' ('CNT'),
                                                          THEN  $
                    CALCULATE, 'G-TABLE-OK' = FALSE               $
```


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```
C                   Ouput an error message                          $
                    PERFORM, 'WRITE' ('ALL', C'ATTENTION : ERREUR ' &
                    C'AVEC L`EXECUTION DE LA COMMANDE RS232 <IE?> .')
                                                                    $

                    LEAVE, FOR                                      $

                  END, IF                                           $

                END, IF                                             $

              END, FOR                                              $

            END, IF                                                 $
C         END, IF                                                   $

        END, IF                                                     $

 080699 END, 'R23T-TABLE-WAIT'                                      $
C|                                                                  |
 |-----------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 2 3 T - T A B L E - C M D 2                 ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Send cmd on IES-RS232-TABLE                                    |
 |                                                                 |
 |  Param-in  : P-CMD  Send a command but no reply is expected     |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                    $
 080701 DEFINE, 'R23T-TABLE-CMD2', GLOBAL, PROCEDURE (
                    'P-CMD' IS STRING(20) OF CHAR
                )                                                   $

        DECLARE, VARIABLE, 'CNT' IS INTEGER                         $
        DECLARE, VARIABLE, 'STRING' IS STRING(20) OF CHAR           $
        IF, ('G-UUT'('UUT5').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT6').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT7').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT8').'PRESENCE' EQ TRUE), THEN              $
C         IF, 'G-TABLE-OK', THEN                                    $
 080705     CALCULATE, 'S-TX-NB-TABLE' = LEN('P-CMD')               $

            FOR, 'CNT' = 1 THRU 30, THEN                            $
              CALCULATE, 'S-RX-TABLE'('CNT') = X'FF'                $
            END, FOR                                                $
```


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```
            FOR, 'CNT' = 1 THRU 'S-TX-NB-TABLE', THEN              $
              CALCULATE, 'S-TX-TABLE'('CNT') =
                       BITS(ASCII7, 'P-CMD'('CNT'))                $
            END, FOR                                               $

            IF, 'G-TABLE-STATE' EQ 'INACTIVE', THEN                $
              PERFORM, 'R23T-TABLE-INIT'                           $
            ELSE                                                   $
 080710       UPDATE, 'TX-TABLE', EXCHANGE USING 'IES-RS232-TABLE',
                    TALKER TEST-EQUIP,
                    DATA 'S-TX-TABLE'(1 THRU 'S-TX-NB-TABLE')      $
              WAIT FOR, TIME 200 MSEC                              $
            END, IF                                                $

            ENABLE, EVENT 'EVT-TABLE'                              $
C           Do Exchange on RS232-TABLE                             $
 080720     DO, EXCHANGE USING 'IES-RS232-TABLE',
                  TEST-EQUIP-ROLE MASTER,
                 (STARTING WHEN 'CLOCK-TABLE' 0 MSEC,
                  WITH PRIORITY 1,
                  EXCHANGE 'TX-TABLE',) THEN
                 (STARTING WHEN 'CLOCK-TABLE' 1 MSEC,
                  WITH PRIORITY 2,
                  UNTIL EVENT 'EVT-TABLE',
                  EXCHANGE 'RX-TABLE',),
                 PROCEED                                           $

            DISABLE, EVENT 'EVT-TABLE'                             $
C         END, IF                                                  $

        END, IF                                                    $

 080799 END, 'R23T-TABLE-CMD2'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***          I N I T - T A B L E - A T T I T U D E             ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 | Initialisation of the three axis table                          |
 |                                                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080800 DEFINE, 'INIT-TABLE-ATTITUDE', GLOBAL, PROCEDURE           $
```

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```
              PERFORM, 'R23T-TABLE-CMD' (C'<MRe>')                $
              WAIT FOR, TIME 5 SEC                                $
              PERFORM, 'R23T-TABLE-WAIT'                          $
C             Selection of rate of moving table                   $
              PERFORM, 'R23T-TABLE-CMD' (C'<VI 20 20>')           $
C             Table for a pitch and roll angle of 0M-0              $
              PERFORM, 'R23T-TABLE-CMD' (C'<DP 0 0>')             $
              PERFORM, 'R23T-TABLE-WAIT'                          $
              PERFORM, 'R23T-TABLE-REM'                           $

 080899 END, 'INIT-TABLE-ATTITUDE'                                $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ********************************************************************
 *****                                                        *****
 *****                                                        *****
 *****              E N D    O F    M O D U L E               *****
 *****                                                        *****
 *****                                                        *****
 ********************************************************************
 ********************************************************************
 ********************************************************************
                                                                  $
 999999 TERMINATE, ATLAS MODULE 'TH-ISF-C1R23T09'                 $
```


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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-C1R23P10'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             C L A S S     M O D U L E                ******
 ******                                                      ******
 ******            DIALOG USING PROTOCOL RS232 .             ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      000105   EXTEND ATLAS                                     *
 *                                                                *
 *      007505   REQUIRE TIMER                                    *
 *      008005   REQUIRE EVENT MONITOR                            *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      011005   DECLARE CONSTANT                                 *
 *      013005   DECLARE EXTERNAL VARIABLES ( PROGRAM )           *
 *      014005   DECLARE MODULE SPECIFIC VARIABLES                *
 *                                                                *
 *      015005   ESTABLISH PROTOCOL                               *
 *                                                                *
```


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```
 *      025005   IDENTIFY TIMER                                    *
 *      026005   IDENTIFY SIGNAL BASED EVENT                       *
 *                                                                 *
 *      031005   DEFINE EXCHANGE                                   *
 *                                                                 *
 *                                                                 *
 *      050005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )   *
 *                                                                 *
 *      060005   DEFINE EXTERNAL PROCEDURES ( PROGRAMME )          *
 *                                                                 *
 *      080005   DEFINE GLOBAL SIGNAL SPECIFIC PROCEDURES          *
 *                                                                 *
 *      999999   TERMINATE ATLAS MODULE                            *
 *                                                                 *
 *******************************************************************
C                                                                  $
C
 *******************************************************************
 **                                                               **
 **      E X T E N D     A T L A S     S T A T E M E N T S      **
 **                                                               **
 *******************************************************************
                                                                   $
 000105 EXTEND, ATLAS NOUNS 'RS-232',
         FOR VERBS SETUP CONNECT CHANGE ARM FETCH
                   DISCONNECT RESET APPLY REMOVE
                   INITIATE READ MEASURE,
         SPEC 'GPDS RS/IO RESOURCE PROGRAMMING MANUAL'             $

 000107 EXTEND, ATLAS MODIFIERS FOR RS-232,
         BIT-RATE,           USAGE SR,
         WORD-LENGTH,        USAGE SR,
         'STOP-BIT-LENGTH'   MOD-VALUE R MOD-DIM NONE, USAGE SR,
         'DSR-DTR'           MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'XON-XOFF'          MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'AUTO-ECHO'         MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'FRAME-SIZE'        MOD-VALUE I MOD-DIM 'WORDS', USAGE SR,
         'DATA-TRANSFER'     MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'PARITY-VALUE'      MOD-VALUE I MOD-DIM NONE, USAGE SR,
         'PARITY-MODE'       MODIFIER-DESCRIPTOR
                             'ODD' 'EVEN' 'UND' 'MARK' 'SPACE',
                             USAGE SR,
         'DATA-WD'           MOD-ARRAY AB MOD-DIM NONE,
                             USAGE SRM,
         'NB-WORD'           MOD-VALUE I MOD-DIM NONE,
                             USAGE SR,
         'WORD-NBR'          MOD-VALUE I MOD-DIM NONE,
                             USAGE R,
         'DISPLAY-WARNING'   MODIFIER-DESCRIPTOR 'ON' 'OFF',
                             USAGE R,
         'WRITE-STATUS'      MOD-VALUE I MOD-DIM NONE,
                             USAGE RM,
         'TTLTRG-LINE'       MOD-VALUE I MOD-DIM NONE,
                             USAGE SR,
```


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```
         'BIT-MASK'          MOD-VALUE SB MOD-DIM NONE,
                             USAGE SRM,
         'VALUE'             MOD-VALUE SB MOD-DIM NONE,
                             USAGE SRM,
         'CONSECUTIVE-EVENT' MODIFIER-DESCRIPTOR 'ON' 'OFF',
                             USAGE SR,
         SPEC 'GPDS RS/IO RESOURCE PROGRAMMING MANUAL'            $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **           R E Q U I R E     S T A T E M E N T S              **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E   E X T E R N A L   L O A D S            **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E  E X T E R N A L  S O U R C E S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E  E X T E R N A L  S E N S O R S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **         R E Q U I R E  E X T E R N A L  S H O R T S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
 **         R E Q U I R E  E X T E R N A L  S H O R T S          **
 **                                                              **
 ******************************************************************
                                                                   $
C
 ******************************************************************
 **                                                              **
```


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```
 **           E X T E R N A L    T I M E R S              **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 ** R E Q U I R E  E X T E R N A L  E V E N T  M O N I T O R S **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **      R E Q U I R E    L O C A L   L O A D S            **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **      R E Q U I R E    L O C A L   S O U R C E S        **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **      R E Q U I R E    L O C A L    S E N S O R S       **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **      R E Q U I R E    L O C A L    C O M M O N S       **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **      R E Q U I R E    L O C A L   S H O R T S          **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **      R E Q U I R E    L O C A L   T I M E R S          **
 **                                                        **
 ************************************************************
                                                           $
 007505 REQUIRE, 'TIME-MEAS5', TIMER, TIME INTERVAL,
```


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```
                 CAPABILITY,
                   TIME MAX 10000 SEC                              $
 007507 REQUIRE, 'DOEX-TIM-PHOTO', TIMER, TIME INTERVAL,
                CAPABILITY,
                  TIME RANGE 0 MSEC TO 500000 MSEC                 $
C
 ******************************************************************
 **                                                              **
 **    R E Q U I R E   L O C A L   E V E N T   M O N I T O R S   **
 **                                                              **
 ******************************************************************
                                                                  $
 008005 REQUIRE, 'WORD-PHOTO', EVENT MONITOR (VALUE), RS-232,
          CONTROL,
            BIT-RATE 9600 BITS/SEC,
            WORD-LENGTH 8 BITS,
            STOP-BIT-LENGTH 1 BITS,
            PARITY-MODE UND,
            BIT-MASK,
          CAPABILITY,
            VALUE,
          CNX HI LO                                               $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                     D  E  C  L  A  R  E                      **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **     D E C L A R A T I O N     O F      T  Y  P  E  S         **
 **                                                              **
 ******************************************************************
                                                                  $
 010005 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                   $
C       State of device
 -----------------------------------------------------------------$

 010007 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                              $
C       Mnemonic of all UUT
 -----------------------------------------------------------------$

 010009 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION(
                   'ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN'
                   )                                              $
C
```


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```
 ******************************************************************
 **                                                              **
 **    D E C L A R A T I O N     O F     C O N S T A N T S       **
 **                                                              **
 ******************************************************************
                                                                  $
 011005 DECLARE, CONSTANT, 'ACTIVE' IS C'1'                       $
 011007 DECLARE, CONSTANT, 'INACTIVE' IS C'0'                     $
C
 ******************************************************************
 **                                                              **
 **              D E C L A R A T I O N     O F                   **
 **                                                              **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C         **
 **                                                              **
 **                    V A R I A B L E S                         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       D E C L A R A T I O N     O F   E X T E R N A L         **
 **                                                              **
 **     P R O G R A M   S P E C I F I C   V A R I A B L E S      **
 **                                                              **
 ******************************************************************
                                                                  $
 013005 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
               'UUT12') OF
                   RECORD OF [
                       'NAME' IS STRING(2) OF CHAR ;
                       'PRESENCE' IS BOOLEAN ;
                       'EDIT-RESULT' IS BOOLEAN ;
                       'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                       'PART-NUMB' IS STRING(20) OF CHAR ;
                       'HI' IS CONNECTION(
                           J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                            J8-G, J9-G, J10-G, J11-G, J12-G
                           ) ;
                       'LO' IS CONNECTION(
                           J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                            J8-t, J9-t, J10-t, J11-t, J12-t
                           )
                       ]                                          $
C       Informations about all UUT
 ------------------------------------------------------------------$

 013007 DECLARE, EXTERNAL, VARIABLE, 'G-PHOTO-STATE' IS
               'T-SIGNAL-STATE'                                   $
C       State of RS232-PHOTO device
 ------------------------------------------------------------------$

 013009 DECLARE, EXTERNAL, VARIABLE, 'G-VALUE' IS DECIMAL          $
```


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```
C       Value of luminosity .
 ----------------------------------------------------------------$

 013011 DECLARE, EXTERNAL, VARIABLE, 'G-PHOTO-OK' IS BOOLEAN       $
C       Indicates if a problem has occured
 ----------------------------------------------------------------$

 013012 DECLARE, EXTERNAL, VARIABLE, 'COORDONNEE-X' IS DECIMAL   $
C       Returned value by R23P-PHOTO-CMD : chrominance x...
 ----------------------------------------------------------------$

 013013 DECLARE, EXTERNAL, VARIABLE, 'COORDONNEE-Y' IS DECIMAL   $
C       Returned value by R23P-PHOTO-CMD : chrominance x...
 ----------------------------------------------------------------$
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F    L O C A L           **
 **                                                            **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S      **
 **                                                            **
 ****************************************************************
                                                                 $
 014007 DECLARE, VARIABLE, 'S-TX-PHOTO' IS ARRAY(1 THRU 100) OF
                   STRING(8) OF BIT
        INITIAL =  (100 OF X'00')                                $
C       Contains the frame to send
 ----------------------------------------------------------------$

 014009 DECLARE, VARIABLE, 'S-RX-PHOTO' IS ARRAY(1 THRU 200) OF
                   STRING(8) OF BIT
        INITIAL =  (200 OF X'FF')                                $
C       Contains the frame received
 ----------------------------------------------------------------$

 014011 DECLARE, VARIABLE, 'S-WAIT-PHOTO-OK' IS ARRAY(1 THRU 50) OF
                   STRING(8) OF BIT                              $
C       Contains the frame to compare
 ----------------------------------------------------------------$

 014013 DECLARE, VARIABLE, 'S-WAIT-PHOTO-2' IS ARRAY(1 THRU 20) OF
                   STRING(8) OF BIT                              $
C       Contains the frame to compare
 ----------------------------------------------------------------$

 014015 DECLARE, VARIABLE, 'S-WAIT-PHOTO-ER' IS ARRAY(1 THRU 20) OF
                   STRING(8) OF BIT                              $
C       Contains the error frame to compare
 ----------------------------------------------------------------$

 014017 DECLARE, VARIABLE, 'S-NB-CAR-PHOTO' IS INTEGER            $
C       Contains the number of words received.
 ----------------------------------------------------------------$
```

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```
 014019 DECLARE, VARIABLE, 'S-TX-NB-PHOTO' IS INTEGER              $
C       Number of words to send
 ----------------------------------------------------------------$

 014021 DECLARE, VARIABLE, 'S-RX-NB-PHOTO' IS INTEGER              $
C       Number of words to receive
 ----------------------------------------------------------------$
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **           E S T A B L I S H    P R O T O C O L               **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
 015005 ESTABLISH, BUS-PROTOCOL 'TX-RS232-PHOTO',
          SPEC 'AT6-GPDS-RMO',
          TEST-EQUIP-ROLE MASTER,
          BUS-MODE CON-RT,
                  TALKER   TEST-EQUIP,
                  DATA     ( STRING(8) OF BIT ),
          BUS-PARAMETER
             UPDATABLE PROTOCOL BIT-RATE
                       RANGE 10 BITS/SEC TO 40000 BITS/SEC ,
             UPDATABLE PROTOCOL WORD-LENGTH
                       RANGE 5 BITS TO 8 BITS BY 1 BITS,
             UPDATABLE PROTOCOL PARITY-VALUE
                       RANGE 1 TO 5 BY 1 ,
             UPDATABLE PROTOCOL STOP-BIT-LENGTH
                       RANGE 1 BITS TO 2 BITS BY 1 BITS,
             UPDATABLE PROTOCOL XON-XOFF
                       RANGE 0 TO 1 BY 1,
             UPDATABLE PROTOCOL-EXCHANGE FRAME-SIZE
                       RANGE 0 WORDS TO 65535 WORDS BY 1 WORDS,
          STANDARD BUS ,
       CNX HI LO
                                                                  $
 015007 ESTABLISH, BUS-PROTOCOL 'RX-RS232-PHOTO',
          SPEC 'AT6-GPDS-RMO',
          TEST-EQUIP-ROLE MASTER,
          BUS-MODE RT-CON,
                  LISTENER   TEST-EQUIP,
                  DATA     ( STRING(8) OF BIT ),
                  STATUS   ( INTEGER ),
          BUS-PARAMETER
             UPDATABLE PROTOCOL BIT-RATE
                       RANGE 10 BITS/SEC TO 40000 BITS/SEC ,
             UPDATABLE PROTOCOL WORD-LENGTH
                       RANGE 5 BITS TO 8 BITS BY 1 BITS ,
             UPDATABLE PROTOCOL PARITY-VALUE
                       RANGE 1 TO 5 BY 1 ,
             UPDATABLE PROTOCOL STOP-BIT-LENGTH
                       RANGE 1 BITS TO 2 BITS BY 1 BITS ,
```


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```
            UPDATABLE PROTOCOL XON-XOFF
                      RANGE 0 TO 1 BY 1,
            UPDATABLE PROTOCOL-EXCHANGE FRAME-SIZE
                      RANGE 0 WORDS TO 65535 WORDS BY 1 WORDS,
        STANDARD BUS ,
      CNX HI LO
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                I  D  E  N  T  I  F  Y                        **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **      I D E N T I F Y   E X T E R N A L   T I M E R           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y     E X T E R N A L                 **
 **                                                              **
 **           T I M E   B A S E D   E V E N T                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **         S I G N A L   B A S E D   E V E N T                  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y    E X T E R N A L                   **
 **                                                              **
 **          E V E N T   B A S E D   E V E N T                   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
```


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```
 **                                                              **
 **              E V E N T   I N T E R V A L                     **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y     E X T E R N A L                 **
 **                                                              **
 **            E V E N T     I N D I C A T O R                   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **             I D E N T I F Y     T I M E R                    **
 **                                                              **
 ******************************************************************
                                                                  $
 025005 IDENTIFY, TIMER 'CLOCK5' TIME INTERVAL USING 'TIME-MEAS5',
                  TIME RANGE 1 SEC TO 10000 SEC
                                                                  $
 025007 IDENTIFY, TIMER 'CLOCK-PHOTO' TIME INTERVAL
                  USING 'DOEX-TIM-PHOTO',
                  TIME RANGE 0 MSEC TO 50000 MSEC
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y     T I M E                         **
 **                                                              **
 **            B A S E D     E V E N T                           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y     S I G N A L                     **
 **                                                              **
 **            B A S E D     E V E N T                           **
 **                                                              **
 ******************************************************************
                                                                  $
 026005 IDENTIFY, EVENT 'EVT-PHOTO'
                  AS RS-232 USING 'WORD-PHOTO',
                  VALUE EQ X'3E',
                  BIT-RATE 9600 BITS/SEC,
                  WORD-LENGTH 8 BITS,
                  PARITY-MODE UND,
                  STOP-BIT-LENGTH 1 BITS,
                  BIT-MASK       X'FF',
```


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```
                CNX HI P14-2 LO P14-5
                                                                $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y     E V E N T                       **
 **                                                              **
 **            B A S E D     E V E N T                         **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **     I D E N T F Y    E V E N T    I N T E R N A L           **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **     I D E N T F Y    E V E N T    I N D I C A T O R         **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                    D  E  F  I  N  E                          **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                               $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E     E X C H A N G E                  **
 **                                                              **
 ******************************************************************
                                                                $
 031005 DEFINE, 'IES-RS232-PHOTO', EXCHANGE-CONFIGURATION
               'TX-RS232-PHOTO', 'RX-RS232-PHOTO'
                                                                $
 031007 DEFINE, 'RX-PHOTO', EXCHANGE, PROTOCOL 'RX-RS232-PHOTO',
               BUS-MODE      RT-CON,
               LISTENER      TEST-EQUIP,
               DATA          'S-RX-PHOTO'(1 THRU 'S-RX-NB-PHOTO'),
               STATUS        'S-NB-CAR-PHOTO',
               BUS-PARAMETER FRAME-SIZE 200 WORDS
                                                                $
 031009 DEFINE, 'TX-PHOTO', EXCHANGE, PROTOCOL 'TX-RS232-PHOTO',
               BUS-MODE      CON-RT,
               TALKER        TEST-EQUIP,
```

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```
            DATA         'S-TX-PHOTO'(1 THRU 'S-TX-NB-PHOTO'),
            BUS-PARAMETER FRAME-SIZE 100 WORDS
                                                                $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E    D R A W I N G                    **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E     S I G N A L                     **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **  D E F I N E    D I G I T A L   C O N F I G U R A T I O N    **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S        **
 **                                                              **
 **             S T A N D A R D   L I B R A R Y                  **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                       W R I T E                            ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : .PERIPH                                           |
 |                                                                |
 |              .MESSAGE                                          |
 |                                                                |
 |----------------------------------------------------------------|
                                                                $
 050005 DEFINE, 'WRITE', EXTERNAL, PROCEDURE (
                   '.PERIPH' IS 'PERIPH-DEVICES',
                   '.MESSAGE' IS STRING(80) OF CHAR
```


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```
               )                                                $

       END, 'WRITE'                                             $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E   E X T E R N A L   P R O C E D U R E S      **
 **                                                              **
 **             S P E C I F I C   P R O G R A M                  **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 D E C O D E - A S C I I                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |--------------------------------------------------------------|
 |                                                              |
 |                                                              |
 |  Param-in  : STRNG                                           |
 |                                                              |
 |  Param-out : VALUE                                           |
 |                                                              |
 |              ERROR                                           |
 |                                                              |
 |--------------------------------------------------------------|
                                                                $
 060005 DEFINE, 'DECODE-ASCII', EXTERNAL, PROCEDURE (
                    'STRNG' IS STRING(20) OF CHAR
               )
               RESULT (
                    'VALUE' IS DECIMAL,
                    'ERROR' IS BOOLEAN
               )                                                $

       END, 'DECODE-ASCII'                                      $
C|                                                              |
 |--------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 **                                                              **
 **          D E F I N E   L O C A L   P R O C E D U R E         **
 **                                                              **
 ******************************************************************
                                                                $
```


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```
C
 ******************************************************************
 **                                                              **
 **         D E F I N E   G L O B A L   P R O C E D U R E        **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               R 2 3 P - P H O T O - I N I T                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Initialize RS232-PHOTO                                        |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080001 DEFINE, 'R23P-PHOTO-INIT', GLOBAL, PROCEDURE              $

        CALCULATE, 'S-RX-NB-PHOTO' = 200                          $
C       Initialize RS232-PHOTO                                    $

        IF, ('G-UUT'('UUT1').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT2').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT3').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT4').'PRESENCE' EQ TRUE), THEN            $

 080010   CONNECT, EXCHANGE-CONFIGURATION USING 'IES-RS232-PHOTO',
                   PROTOCOL 'TX-RS232-PHOTO',
                       CNX HI P14-3 LO P14-5,
                   PROTOCOL 'RX-RS232-PHOTO',
                       CNX HI P14-2 LO P14-5
                                                                  $

 080015   ENABLE, EXCHANGE-CONFIGURATION USING 'IES-RS232-PHOTO',
                  PROTOCOL 'TX-RS232-PHOTO',
                       BUS-PARAMETER
                       BIT-RATE 9600 BITS/SEC,
                       WORD-LENGTH  8 BITS,
                       STOP-BIT-LENGTH 1 BITS,
                       PARITY-VALUE 3,
                       XON-XOFF 0,
                       CNX HI P14-3 LO P14-5,
                  PROTOCOL 'RX-RS232-PHOTO',
                       BUS-PARAMETER
                       BIT-RATE 9600 BITS/SEC,
                       WORD-LENGTH  8 BITS,
                       STOP-BIT-LENGTH 1 BITS,
                       PARITY-VALUE 3,
                       XON-XOFF 0,
```


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```
                    CNX HI P14-2 LO P14-5
                                                                $

         SETUP,  EVENT 'EVT-PHOTO'                              $
         CALCULATE, 'G-PHOTO-STATE' = 'ACTIVE'                  $

       END, IF                                                  $

 080049 END, 'R23P-PHOTO-INIT'                                  $
C|                                                              |
 |---------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                R 2 3 P - P H O T O - R E M                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Remove RS232-PHOTO                                           |
 |                                                               |
 |---------------------------------------------------------------|
                                                                $
 080051 DEFINE, 'R23P-PHOTO-REM', GLOBAL, PROCEDURE             $

       IF, ('G-UUT'('UUT1').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('UUT2').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('UUT3').'PRESENCE' EQ TRUE) OR
           ('G-UUT'('UUT4').'PRESENCE' EQ TRUE), THEN           $
C        Remove RS232-PHOTO                                     $
         IF, 'G-PHOTO-STATE' EQ 'ACTIVE', THEN                  $

 080055     DISABLE, EXCHANGE-CONFIGURATION USING 'IES-RS232-PHOTO' $

 080060     DISCONNECT,
                  EXCHANGE-CONFIGURATION USING 'IES-RS232-PHOTO',
                  PROTOCOL 'TX-RS232-PHOTO',
                      CNX HI P14-3 LO P14-5,
                  PROTOCOL 'RX-RS232-PHOTO',
                      CNX HI P14-2 LO P14-5
                                                                $

            REMOVE,  EVENT 'EVT-PHOTO'                          $
            CALCULATE, 'G-PHOTO-STATE' = 'INACTIVE'             $

         END, IF                                                $

       END, IF                                                  $

 080099 END, 'R23P-PHOTO-REM'                                   $
C|                                                              |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                R 2 3 P - P H O T O - C M D                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |  Send a cmd on IES-RS232-PHOTO                                  |
 |                                                                 |
 |  Param-in  : P-CMD  Cmd to send                                 |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080101 DEFINE, 'R23P-PHOTO-CMD', GLOBAL, PROCEDURE (
                   'P-CMD' IS STRING(20) OF CHAR
               )                                                   $

        DECLARE, VARIABLE, 'CNT' IS INTEGER                        $
        DECLARE, VARIABLE, 'RESULT' IS DECIMAL                     $
        DECLARE, VARIABLE, 'STRING' IS STRING(20) OF CHAR          $
        DECLARE, VARIABLE, 'ERROR' IS BOOLEAN                      $
        DECLARE, VARIABLE, 'TIME' IS DECIMAL
        INITIAL =  0                                               $
        DECLARE, VARIABLE, 'LOOP-ERROR' IS INTEGER
        INITIAL =  0                                               $
        IF, ('G-UUT'('UUT1').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT2').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT3').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT4').'PRESENCE' EQ TRUE), THEN             $

          CALCULATE, 'G-VALUE' = 9999                              $

          CALCULATE, 'G-PHOTO-OK' = TRUE                           $

          IF, 'P-CMD' EQ C'<MZe>', THEN                            $
            PERFORM, 'WRITE'
            ('ALL', C'ATTENTION : LA COMMANDE <MZe> DOIT ETRE ' &
            C'UTILISEE  AVEC "R23P-PHOTO-CMD2"')                   $
            LEAVE, 'R23P-PHOTO-CMD'                                $
          END, IF                                                  $

 080110   CALCULATE, 'S-TX-NB-PHOTO' = LEN('P-CMD')                $

          FOR, 'CNT' = 1 THRU 30, THEN                             $
            CALCULATE, 'S-RX-PHOTO'('CNT') = X'FF'                 $
          END, FOR                                                 $

          FOR, 'CNT' = 1 THRU 'S-TX-NB-PHOTO', THEN                $
            CALCULATE, 'S-TX-PHOTO'('CNT') =
```


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```
                BITS(ASCII7, 'P-CMD'('CNT'))                  $
          END, FOR                                            $

          IF, 'G-PHOTO-STATE' EQ 'INACTIVE', THEN             $
            PERFORM, 'R23P-PHOTO-INIT'                        $
          ELSE                                                $
 080115     UPDATE, 'TX-PHOTO', EXCHANGE USING 'IES-RS232-PHOTO',
                 TALKER TEST-EQUIP,
                 DATA 'S-TX-PHOTO'(1 THRU 'S-TX-NB-PHOTO')    $
            WAIT FOR, TIME 200 MSEC                           $
          END, IF                                             $

          ENABLE, EVENT 'EVT-PHOTO'                           $
C         Do Exchange on RS232-PHOTO                          $
 080120   DO, EXCHANGE USING 'IES-RS232-PHOTO',
               TEST-EQUIP-ROLE MASTER,
              (STARTING WHEN 'CLOCK-PHOTO' 0 MSEC,
               WITH PRIORITY 1,
               EXCHANGE 'TX-PHOTO',) THEN
              (STARTING WHEN 'CLOCK-PHOTO' 1 MSEC,
               WITH PRIORITY 2,
               UNTIL EVENT 'EVT-PHOTO',
               EXCHANGE 'RX-PHOTO',),
              PROCEED                                         $

          RESET, TIMER 'CLOCK5'                               $
          READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'            $

          CALCULATE, 'S-NB-CAR-PHOTO' = 1                     $

          WHILE, ('TIME' LT 30)               AND
                 ('S-RX-PHOTO'('S-NB-CAR-PHOTO') NE X'3E'), THEN    $

              FETCH, 'RX-PHOTO', EXCHANGE USING 'IES-RS232-PHOTO'
              LISTENER TEST-EQUIP,
              DATA 'S-RX-PHOTO'(1 THRU 1),
              STATUS   'S-NB-CAR-PHOTO',,
              MAX-TIME 60 SEC                                 $

 080130     FETCH, 'RX-PHOTO', EXCHANGE USING 'IES-RS232-PHOTO'
              LISTENER TEST-EQUIP,
              DATA
             'S-RX-PHOTO'(1 THRU 'S-NB-CAR-PHOTO')
                                                              $

            READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'          $

          END, WHILE                                          $

          DISABLE, EVENT 'EVT-PHOTO'                          $
C         If no string or bad string received                 $
          IF, (MAX-TIME EQ TRUE)          OR
             ('S-RX-PHOTO'('S-NB-CAR-PHOTO') NE X'3E'), THEN  $
```


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```
            PERFORM, 'WRITE' ('ALL', C'')                          $

            CALCULATE, 'G-PHOTO-OK' = FALSE                        $
C           Ouput an error message                                 $
            PERFORM, 'WRITE' ('ALL', C'ATTENTION : ERREUR AVEC ' &
              C'L`EXECUTION DE LA COMMANDE RS232 ' & 'P-CMD')      $

          ELSE                                                     $
C           Reception treatment                                    $
C-------------------------------------------------------------- $
            FOR, 'CNT' = 2 THRU 'S-NB-CAR-PHOTO', THEN             $
              CALCULATE, 'S-WAIT-PHOTO-OK' ('CNT') = X'FF'         $
            END, FOR                                               $

            CALCULATE, 'S-WAIT-PHOTO-OK' (1) = X'3C'               $
C           <MRe> COMMAND                                          $
C           -------------                                          $
 080135     IF, 'P-CMD' EQ C'<MRe>', THEN                          $
              CALCULATE, 'S-WAIT-PHOTO-OK' (2) = X'4D'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (3) = X'52'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (4) = X'65'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (5) = X'20'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (6) = X'30'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (7) = X'30'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (8) = X'20'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (9) = X'31'             $
              CALCULATE, 'S-WAIT-PHOTO-OK'(10) = X'3E'             $

              FOR, 'CNT' = 1 THRU 10, THEN                         $

                IF,
               'S-RX-PHOTO'('CNT') NE 'S-WAIT-PHOTO-OK' ('CNT'),
                                                        THEN       $
                  CALCULATE, 'LOOP-ERROR' = 'LOOP-ERROR' + 1       $
                  CALCULATE, 'G-PHOTO-OK' = FALSE                  $

                END, IF                                            $

              END, FOR                                             $

 080140       IF, 'LOOP-ERROR' EQ 1, THEN                          $

 080141         IF, 'S-RX-PHOTO'(9) EQ X'30', THEN                 $
                  PERFORM, 'WRITE'
                  ('ALL', C'ATTENTION : PROBLEME ALIM OU ' &
                  C'SECURITE (COMMANDE RS232 <MRe>)')              $

                ELSE                                               $
                  PERFORM, 'WRITE'
                  ('ALL', C'ATTENTION : PROBLEME ' &
                  C'AVEC COMMANDE RS232 <MRe>')                    $

                END, IF                                            $
```


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```
 080142       ELSE IF, 'LOOP-ERROR' GT 1, THEN                    $
                PERFORM, 'WRITE'
                ('ALL', C'ATTENTION : PROBLEME ' &
                C'AVEC COMMANDE RS232 <MRe>')                     $

              END, IF                                             $

            END, IF                                               $
C           <MEn> COMMAND                                         $
C           -------------                                         $
 080145     IF, 'P-CMD' EQ C'<MEn>', THEN                         $
              CALCULATE, 'S-WAIT-PHOTO-OK' (2) = X'4D'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (3) = X'45'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (4) = X'6E'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (5) = X'20'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (6) = X'30'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (7) = X'30'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (8) = X'3E'            $

              FOR, 'CNT' = 1 THRU 8, THEN                         $
                IF,
                'S-RX-PHOTO'('CNT') NE 'S-WAIT-PHOTO-OK' ('CNT'),
                                                          THEN    $
                  CALCULATE, 'LOOP-ERROR' = 'LOOP-ERROR' + 1      $
                  CALCULATE, 'G-PHOTO-OK' = FALSE                 $

                END, IF                                           $
              END, FOR                                            $

 080146       IF, 'LOOP-ERROR' EQ 1, THEN                         $

                IF, 'S-RX-PHOTO'(7) EQ X'32', THEN                $
                  PERFORM, 'WRITE'
                  ('ALL', C'ATTENTION : PROBLEME ALIM OU ' &
                  C'SECURITE (COMMANDE RS232 <MEn>)')             $

                ELSE                                              $
                  PERFORM, 'WRITE'
                  ('ALL', C'ATTENTION : PROBLEME ' &
                  C'AVEC COMMANDE RS232 <MEn>')                   $

                END, IF                                           $

 080147       ELSE IF, 'LOOP-ERROR' GT 1, THEN                    $
                PERFORM, 'WRITE'
               ('ALL', C'ATTENTION : PROBLEME ' &
                C'AVEC COMMANDE RS232 <MEn>')                     $

              END, IF                                             $

            END, IF                                               $
C           <ITr X Y> COMMAND                                     $
C           -----------------                                     $
 080155     IF, COPY ('P-CMD', 1, 4) EQ C'<ITr', THEN             $
```


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```
              CALCULATE, 'S-WAIT-PHOTO-OK' (2) = X'49'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (3) = X'54'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (4) = X'72'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (5) = X'20'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (6) = X'30'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (7) = X'30'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (8) = X'3E'            $

              FOR, 'CNT' = 1 THRU 8, THEN                         $
                IF,
                'S-RX-PHOTO'('CNT') NE 'S-WAIT-PHOTO-OK' ('CNT'),
                                                        THEN      $
                  CALCULATE, 'LOOP-ERROR' = 'LOOP-ERROR' + 1      $
                  CALCULATE, 'G-PHOTO-OK' = FALSE                 $

                END, IF                                           $
              END, FOR                                            $

 080156       IF, 'LOOP-ERROR' EQ 1, THEN                         $

                IF, 'S-RX-PHOTO'(6) EQ X'31', THEN                $
                  PERFORM, 'WRITE'
                  ('ALL', C'ATTENTION : VALEUR HORS LIMITES ' &
                  C'(COMMANDE RS232 <ITr X Y>)')                  $

                ELSE                                              $
                  PERFORM, 'WRITE'
                  ('ALL', C'ATTENTION : PROBLEME ' &
                  C'AVEC COMMANDE RS232 <ITr X Y>')               $

                END, IF                                           $

              ELSE IF, 'LOOP-ERROR' GT 1, THEN                    $
                PERFORM, 'WRITE'
                ('ALL', C'ATTENTION : PROBLEME ' &
                C'AVEC COMMANDE RS232 <ITr X Y>')                 $

              END, IF                                             $

            END, IF                                               $
C           <IRo X Y> COMMAND                                     $
C           ----------------                                      $
 080165     IF, COPY ('P-CMD', 1, 4) EQ C'<IRo', THEN             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (2) = X'49'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (3) = X'52'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (4) = X'6F'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (5) = X'20'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (6) = X'30'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (7) = X'30'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (8) = X'3E'            $

              FOR, 'CNT' = 1 THRU 8, THEN                         $
                IF,
                'S-RX-PHOTO'('CNT') NE 'S-WAIT-PHOTO-OK' ('CNT'),
```


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```
                                                        THEN     $
                CALCULATE, 'LOOP-ERROR' = 'LOOP-ERROR' + 1       $
                CALCULATE, 'G-PHOTO-OK' = FALSE                  $

              END, IF                                            $
            END, FOR                                             $

 080166     IF, 'LOOP-ERROR' EQ 1, THEN                          $

              IF, 'S-RX-PHOTO'(6) EQ X'31', THEN                 $
                PERFORM, 'WRITE'
                ('ALL', C'ATTENTION : VALEUR HORS LIMITES ' &
                C'(COMMANDE RS232 <IRo X Y>)')                   $

              ELSE                                               $
                PERFORM, 'WRITE'
                ('ALL', C'ATTENTION : PROBLEME ' &
                C'AVEC COMMANDE RS232 <IRo X Y>')                $

              END, IF                                            $

            ELSE IF, 'LOOP-ERROR' GT 1, THEN                     $
              PERFORM, 'WRITE'
              ('ALL', C'ATTENTION : PROBLEME ' &
              C'AVEC COMMANDE RS232 <IRo X Y>')                  $

            END, IF                                              $

          END, IF                                                $
C         <LOn> COMMAND                                          $
C         -------------                                          $
 080185   IF, 'P-CMD' EQ C'<LOn>', THEN                          $
            CALCULATE, 'S-WAIT-PHOTO-OK' (2) = X'4C'             $
            CALCULATE, 'S-WAIT-PHOTO-OK' (3) = X'4F'             $
            CALCULATE, 'S-WAIT-PHOTO-OK' (4) = X'6E'             $
            CALCULATE, 'S-WAIT-PHOTO-OK' (5) = X'20'             $
            CALCULATE, 'S-WAIT-PHOTO-OK' (6) = X'30'             $
            CALCULATE, 'S-WAIT-PHOTO-OK' (7) = X'30'             $
            CALCULATE, 'S-WAIT-PHOTO-OK' (8) = X'3E'             $

            CALCULATE, 'S-WAIT-PHOTO-ER' (2) = X'4C'             $
            CALCULATE, 'S-WAIT-PHOTO-ER' (3) = X'4F'             $
            CALCULATE, 'S-WAIT-PHOTO-ER' (4) = X'6E'             $
            CALCULATE, 'S-WAIT-PHOTO-ER' (5) = X'20'             $
            CALCULATE, 'S-WAIT-PHOTO-ER' (6) = X'31'             $
            CALCULATE, 'S-WAIT-PHOTO-ER' (7) = X'30'             $
            CALCULATE, 'S-WAIT-PHOTO-ER' (8) = X'3E'             $

            FOR, 'CNT' = 1 THRU 8, THEN                          $

              IF,
             'S-RX-PHOTO'('CNT') NE 'S-WAIT-PHOTO-OK' ('CNT'),
                                                        THEN     $
 080190         IF,
```


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```
                 'S-RX-PHOTO'('CNT') NE 'S-WAIT-PHOTO-ER' ('CNT'),
                                                          THEN     $
                     CALCULATE, 'G-PHOTO-OK' = FALSE                $

                     PERFORM, 'WRITE'
                     ('ALL', C'ATTENTION : PROBLEME ' &
                     C'AVEC COMMANDE RS232 <LOn>')                  $

                     LEAVE, FOR                                     $

                   END, IF                                          $

                  END, IF                                           $

                END, FOR                                            $

              END, IF                                               $
C             <LOf> COMMAND                                         $
C             -------------                                         $
 080195       IF, 'P-CMD' EQ C'<LOf>', THEN                         $
                CALCULATE, 'S-WAIT-PHOTO-OK' (2) = X'4C'            $
                CALCULATE, 'S-WAIT-PHOTO-OK' (3) = X'4F'            $
                CALCULATE, 'S-WAIT-PHOTO-OK' (4) = X'66'            $
                CALCULATE, 'S-WAIT-PHOTO-OK' (5) = X'20'            $
                CALCULATE, 'S-WAIT-PHOTO-OK' (6) = X'30'            $
                CALCULATE, 'S-WAIT-PHOTO-OK' (7) = X'30'            $
                CALCULATE, 'S-WAIT-PHOTO-OK' (8) = X'3E'            $

                CALCULATE, 'S-WAIT-PHOTO-ER' (2) = X'4C'            $
                CALCULATE, 'S-WAIT-PHOTO-ER' (3) = X'4F'            $
                CALCULATE, 'S-WAIT-PHOTO-ER' (4) = X'66'            $
                CALCULATE, 'S-WAIT-PHOTO-ER' (5) = X'20'            $
                CALCULATE, 'S-WAIT-PHOTO-ER' (6) = X'31'            $
                CALCULATE, 'S-WAIT-PHOTO-ER' (7) = X'30'            $
                CALCULATE, 'S-WAIT-PHOTO-ER' (8) = X'3E'            $

                FOR, 'CNT' = 1 THRU 8, THEN                         $

                  IF,
                 'S-RX-PHOTO'('CNT') NE 'S-WAIT-PHOTO-OK' ('CNT'),
                                                            THEN    $
 080197            IF,
                 'S-RX-PHOTO'('CNT') NE 'S-WAIT-PHOTO-ER' ('CNT'),
                                                            THEN    $
                     CALCULATE, 'G-PHOTO-OK' = FALSE                $

                     PERFORM, 'WRITE'
                     ('ALL', C'ATTENTION : PROBLEME ' &
                     C'AVEC COMMANDE RS232 <LOf>')                  $

                     LEAVE, FOR                                     $

                   END, IF                                          $
```


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```
                END, IF                                          $

              END, FOR                                           $

            END, IF                                              $
C           <PMe> COMMAND                                        $
C           -------------                                        $
 080215     IF, 'P-CMD' EQ C'<PMe>', THEN                        $
              CALCULATE, 'S-WAIT-PHOTO-OK' (2) = X'50'           $
              CALCULATE, 'S-WAIT-PHOTO-OK' (3) = X'4D'           $
              CALCULATE, 'S-WAIT-PHOTO-OK' (4) = X'65'           $
              CALCULATE, 'S-WAIT-PHOTO-OK' (5) = X'20'           $
              CALCULATE, 'S-WAIT-PHOTO-OK' (6) = X'30'           $
              CALCULATE, 'S-WAIT-PHOTO-OK' (7) = X'30'           $
              CALCULATE, 'S-WAIT-PHOTO-OK' (8) = X'3E'           $

              FOR, 'CNT' = 1 THRU 8, THEN                        $

 080220         IF,
               'S-RX-PHOTO'('CNT') NE 'S-WAIT-PHOTO-OK' ('CNT'),
                                                       THEN      $
                   CALCULATE, 'G-PHOTO-OK' = FALSE                $

                   PERFORM, 'WRITE'
                   ('ALL', C'ATTENTION : PROBLEME ' &
                   C'AVEC COMMANDE RS232 <PMe>')                  $

                   LEAVE, FOR                                     $

                END, IF                                           $

              END, FOR                                            $

            END, IF                                               $
C           <PVd> COMMAND                                         $
C           -------------                                         $
 080225     IF, 'P-CMD' EQ C'<PVd>', THEN                         $
              CALCULATE, 'S-WAIT-PHOTO-OK' (2) = X'50'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (3) = X'56'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (4) = X'64'            $
              CALCULATE, 'S-WAIT-PHOTO-OK' (5) = X'20'            $

              FOR, 'CNT' = 1 THRU 5, THEN                         $

                IF,
               'S-RX-PHOTO'('CNT') NE 'S-WAIT-PHOTO-OK' ('CNT'),
                                                       THEN      $
                  CALCULATE, 'G-PHOTO-OK' = FALSE                 $

                END, IF                                           $

              END, FOR                                            $

 080230       IF, NOT ('G-PHOTO-OK'), THEN                        $
```


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```
                PERFORM, 'WRITE'
                ('ALL', C'ATTENTION : PROBLEME ' &
                C'AVEC COMMANDE RS232 <PVd>')                      $

               ELSE                                                $

                IF, ('S-RX-PHOTO'(6) EQ X'32')  AND
                    ('S-RX-PHOTO'(7) EQ X'30'), THEN               $

                  CALCULATE, 'G-PHOTO-OK' = FALSE                  $

                  PERFORM, 'WRITE'
                 ('ALL', C'ATTENTION : PROBLEME AVEC ' &
                  C'COMMANDE RS232 <PVd> (VALEUR NON VALIDE)')     $

 080235         ELSE IF, ('S-RX-PHOTO'(6) EQ X'30')
                     AND
                       ( ('S-RX-PHOTO'(7) EQ X'38')  OR
                         ('S-RX-PHOTO'(7) EQ X'30') )
                     AND
                         ('S-RX-PHOTO'(8) EQ X'20'), THEN          $
C---------------- acquisition of luminosity value ------------------$
                  CALCULATE, 'CNT' = 9                             $

                  CALCULATE, 'STRING' = C''                        $

 080240           WHILE, ('S-RX-PHOTO' ('CNT') NE X'20') AND
                         ('CNT' LT 'S-NB-CAR-PHOTO'), THEN         $

                    IF, 'S-RX-PHOTO' ('CNT') EQ X'2C', THEN        $
                      CALCULATE, 'S-RX-PHOTO' ('CNT') = X'2E'      $
                    END, IF                                        $

                    IF,
                    ( ('S-RX-PHOTO' ('CNT') LT X'3A') AND
                      ('S-RX-PHOTO' ('CNT') GT X'2F') )
                    OR
                      ('S-RX-PHOTO' ('CNT') EQ X'2E'), THEN        $

                      CALCULATE, 'STRING' = 'STRING' &
                             CHAR(ASCII7, 'S-RX-PHOTO'('CNT'))     $
                    END, IF                                        $

                    CALCULATE, 'CNT' = 'CNT' + 1                   $

                  END, WHILE                                       $

                  PERFORM, 'DECODE-ASCII' ('STRING')
                           RESULT ('RESULT', 'ERROR')              $

                  IF, 'ERROR' EQ FALSE, THEN                       $
                    CALCULATE, 'G-VALUE' = 'RESULT'                $
                  END, IF                                          $
C---------------- acquisition of X chrominance value ---------------$
```


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```
                  CALCULATE, 'CNT' = 'CNT' + 1                    $

                  CALCULATE, 'STRING' = C''                       $

 080245           WHILE, ('S-RX-PHOTO' ('CNT') NE X'20') AND
                         ('CNT' LT 'S-NB-CAR-PHOTO'), THEN        $

                    IF, 'S-RX-PHOTO' ('CNT') EQ X'2C', THEN        $
                      CALCULATE, 'S-RX-PHOTO' ('CNT') = X'2E'      $
                    END, IF                                        $

                    IF,
                    ( ('S-RX-PHOTO' ('CNT') LT X'3A') AND
                      ('S-RX-PHOTO' ('CNT') GT X'2F') )
                    OR
                      ('S-RX-PHOTO' ('CNT') EQ X'2E'), THEN        $

                      CALCULATE, 'STRING' = 'STRING' &
                             CHAR(ASCII7, 'S-RX-PHOTO'('CNT'))     $
                    END, IF                                        $

                    CALCULATE, 'CNT' = 'CNT' + 1                   $

                  END, WHILE                                       $

                  PERFORM, 'DECODE-ASCII' ('STRING')
                           RESULT ('RESULT', 'ERROR')              $

                  IF, 'ERROR' EQ FALSE, THEN                       $
                    CALCULATE, 'COORDONNEE-X' = 'RESULT'           $
                  END, IF                                          $
C-----------------------------------------------------------------$
C--------------- acquisition of Y chrominance value --------------$
                  CALCULATE, 'CNT' = 'CNT' + 1                     $

                  CALCULATE, 'STRING' = C''                        $

 080250           WHILE, ('S-RX-PHOTO' ('CNT') NE X'3E') AND
                         ('CNT' LT 'S-NB-CAR-PHOTO'), THEN        $

                    IF, 'S-RX-PHOTO' ('CNT') EQ X'2C', THEN        $
                      CALCULATE, 'S-RX-PHOTO' ('CNT') = X'2E'      $
                    END, IF                                        $

                    IF,
                    ( ('S-RX-PHOTO' ('CNT') LT X'3A') AND
                      ('S-RX-PHOTO' ('CNT') GT X'2F') )
                    OR
                      ('S-RX-PHOTO' ('CNT') EQ X'2E'), THEN        $

                      CALCULATE, 'STRING' = 'STRING' &
                             CHAR(ASCII7, 'S-RX-PHOTO'('CNT'))     $
                    END, IF                                        $
```


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```
                  CALCULATE, 'CNT' = 'CNT' + 1                  $

                END, WHILE                                      $

                PERFORM, 'DECODE-ASCII' ('STRING')
                         RESULT ('RESULT', 'ERROR')             $

                IF, 'ERROR' EQ FALSE, THEN                      $
                  CALCULATE, 'COORDONNEE-Y' = 'RESULT'          $
                END, IF                                         $
C-----------------------------------------------------------------$
              ELSE                                              $

                CALCULATE, 'G-PHOTO-OK' = FALSE                 $

                PERFORM, 'WRITE'
                ('ALL', C'ATTENTION : PROBLEME ' &
                C'AVEC COMMANDE RS232 <PVd>')                   $

              END, IF                                           $

            END, IF                                             $
C-----------------------------------------------------------------$
C          End if command                                       $
           END, IF                                              $

         END, IF                                                $

         PERFORM, 'R23P-PHOTO-REM'                              $

     END, IF                                                    $

 080299 END, 'R23P-PHOTO-CMD'                                   $
C|                                                              |
 |---------------------------------------------------------------|
                                                                $
C
 ******************************************************************
 ******************************************************************
 ***                                                          ***
 ***               R 2 3 P - P H O T O - W A I T              ***
 ***                                                          ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |  Wait for end of movement of optical module                   |
 |                                                               |
 |---------------------------------------------------------------|
                                                                $
 080301 DEFINE, 'R23P-PHOTO-WAIT', GLOBAL, PROCEDURE            $

        DECLARE, VARIABLE, 'TIME' IS DECIMAL
        INITIAL =  0                                            $
```


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```
        DECLARE, VARIABLE, 'CNT' IS INTEGER                        $
        DECLARE, VARIABLE, 'CMD' IS STRING(5) OF CHAR
        INITIAL =  C'<IE?>'                                        $
        IF, ('G-UUT'('UUT1').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT2').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT3').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT4').'PRESENCE' EQ TRUE), THEN             $
C         IF, 'G-PHOTO-OK', THEN                                   $

            FOR, 'CNT' = 1 THRU 30, THEN                           $
              CALCULATE, 'S-RX-PHOTO'('CNT') = X'FF'               $
            END, FOR                                               $

            FOR, 'CNT' = 1 THRU 5, THEN                            $
              CALCULATE, 'S-TX-PHOTO'('CNT') =
                       BITS(ASCII7, 'CMD'('CNT'))                  $
            END, FOR                                               $

            IF, 'G-PHOTO-STATE' EQ 'INACTIVE', THEN                $
              PERFORM, 'R23P-PHOTO-INIT'                           $
            ELSE                                                   $
 080315       UPDATE, 'TX-PHOTO', EXCHANGE USING 'IES-RS232-PHOTO',
                    TALKER TEST-EQUIP,
                    DATA 'S-TX-PHOTO'(1 THRU 5)                    $
              WAIT FOR, TIME 200 MSEC                              $
            END, IF                                                $
C           Wait for string "<IE? 00 Att> or <IE? 00 Zer>        " $

            RESET, TIMER 'CLOCK5'                                  $
            READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'               $

            ENABLE, EVENT 'EVT-PHOTO'                              $

            WHILE, ('TIME' LT 120)            AND
                   ('S-RX-PHOTO'(9) NE X'41')  AND
                   ('S-RX-PHOTO'(9) NE X'5A'), THEN                $
C             Do Exchange on RS232-PHOTO                           $
 080320       DO, EXCHANGE USING 'IES-RS232-PHOTO',
                  TEST-EQUIP-ROLE MASTER,
                 (STARTING WHEN 'CLOCK-PHOTO' 0 MSEC,
                  WITH PRIORITY 1,
                  EXCHANGE 'TX-PHOTO',) THEN
                 (STARTING WHEN 'CLOCK-PHOTO' 1 MSEC,
                  WITH PRIORITY 2,
                  UNTIL EVENT 'EVT-PHOTO',
                  EXCHANGE 'RX-PHOTO',),
                 PROCEED                                           $

              CALCULATE, 'S-NB-CAR-PHOTO' = 1                      $
              CALCULATE, 'S-RX-PHOTO'(1) = X'FF'                   $

              WHILE, ('TIME' LT 120)               AND
                     ('S-RX-PHOTO'('S-NB-CAR-PHOTO') NE X'3E'), THEN
                                                                   $
```


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```
                FETCH, 'RX-PHOTO', EXCHANGE USING 'IES-RS232-PHOTO'
                 LISTENER TEST-EQUIP,
                 DATA 'S-RX-PHOTO'(1 THRU 1),
                 STATUS   'S-NB-CAR-PHOTO',,
                 MAX-TIME 60 SEC                                  $

 080330         FETCH, 'RX-PHOTO', EXCHANGE USING 'IES-RS232-PHOTO'
                 LISTENER TEST-EQUIP,
                 DATA
                'S-RX-PHOTO'(1 THRU 'S-NB-CAR-PHOTO')
                                                                  $

                READ, (TIME INTO 'TIME'), TIMER 'CLOCK5'          $

              END, WHILE                                          $

            END, WHILE                                            $

            DISABLE, EVENT 'EVT-PHOTO'                            $
C           If max-time                                           $
            IF, (   MAX-TIME EQ TRUE)           OR
                ( ('S-RX-PHOTO'(9) NE X'41') AND
                  ('S-RX-PHOTO'(9) NE X'5A') ), THEN              $

              CALCULATE, 'G-PHOTO-OK' = FALSE                     $
C             Ouput an error message                              $
              PERFORM, 'WRITE' ('ALL', C'ATTENTION : ERREUR AVEC ' &
                C'L`EXECUTION DE LA COMMANDE RS232 <IE?> .')      $
C           Else                                                  $
            ELSE                                                  $
C             Reception treatment                                 $
C-----------------------------------------------------------------$
 080340       CALCULATE, 'S-WAIT-PHOTO-OK' (1) = X'3C'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (2) = X'49'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (3) = X'45'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (4) = X'3F'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (5) = X'20'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (6) = X'30'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (7) = X'30'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (8) = X'20'             $
              CALCULATE, 'S-WAIT-PHOTO-OK' (9) = X'41'             $
              CALCULATE, 'S-WAIT-PHOTO-OK'(10) = X'74'             $
              CALCULATE, 'S-WAIT-PHOTO-OK'(11) = X'74'             $
              CALCULATE, 'S-WAIT-PHOTO-OK'(12) = X'3E'             $

              CALCULATE, 'S-WAIT-PHOTO-2' (1) = X'3C'              $
              CALCULATE, 'S-WAIT-PHOTO-2' (2) = X'49'              $
              CALCULATE, 'S-WAIT-PHOTO-2' (3) = X'45'              $
              CALCULATE, 'S-WAIT-PHOTO-2' (4) = X'3F'              $
              CALCULATE, 'S-WAIT-PHOTO-2' (5) = X'20'              $
              CALCULATE, 'S-WAIT-PHOTO-2' (6) = X'30'              $
              CALCULATE, 'S-WAIT-PHOTO-2' (7) = X'30'              $
              CALCULATE, 'S-WAIT-PHOTO-2' (8) = X'20'              $
              CALCULATE, 'S-WAIT-PHOTO-2' (9) = X'5A'              $
```


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```
              CALCULATE, 'S-WAIT-PHOTO-2'(10) = X'65'              $
              CALCULATE, 'S-WAIT-PHOTO-2'(11) = X'72'              $
              CALCULATE, 'S-WAIT-PHOTO-2'(12) = X'3E'              $

              FOR, 'CNT' = 1 THRU 12, THEN                         $

                IF, 'S-RX-PHOTO'('CNT') NE 'S-WAIT-PHOTO-OK' ('CNT'),
                                                          THEN  $
                  IF,
                  'S-RX-PHOTO'('CNT') NE 'S-WAIT-PHOTO-2' ('CNT'),
                                                          THEN  $
                    CALCULATE, 'G-PHOTO-OK' = FALSE                $
C                   Ouput an error message                         $
                    PERFORM, 'WRITE' ('ALL', C'ATTENTION : ERREUR ' &
                    C'AVEC L`EXECUTION DE LA COMMANDE RS232 <IE?> .')
                                                                   $

                    LEAVE, FOR                                     $

                  END, IF                                          $

                END, IF                                            $

              END, FOR                                             $

            END, IF                                                $
C         END, IF                                                  $

        END, IF                                                    $

 080499 END, 'R23P-PHOTO-WAIT'                                     $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***               R 2 3 P - P H O T O - C M D 2                ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Send cmd on IES-RS232-PHOTO                                    |
 |                                                                 |
 |  Param-in  : P-CMD  Send a command but no reply is expected     |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 080701 DEFINE, 'R23P-PHOTO-CMD2', GLOBAL, PROCEDURE (
                    'P-CMD' IS STRING(20) OF CHAR
                )                                                  $
```


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```
        DECLARE, VARIABLE, 'CNT' IS INTEGER                        $
        DECLARE, VARIABLE, 'STRING' IS STRING(20) OF CHAR          $
        IF, ('G-UUT'('UUT1').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT2').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT3').'PRESENCE' EQ TRUE) OR
            ('G-UUT'('UUT4').'PRESENCE' EQ TRUE), THEN             $
C         IF, 'G-PHOTO-OK', THEN                                  $
 080705     CALCULATE, 'S-TX-NB-PHOTO' = LEN('P-CMD')             $

            FOR, 'CNT' = 1 THRU 30, THEN                          $
              CALCULATE, 'S-RX-PHOTO'('CNT') = X'FF'              $
            END, FOR                                              $

            FOR, 'CNT' = 1 THRU 'S-TX-NB-PHOTO', THEN             $
              CALCULATE, 'S-TX-PHOTO'('CNT') =
                       BITS(ASCII7, 'P-CMD'('CNT'))               $
            END, FOR                                              $

            IF, 'G-PHOTO-STATE' EQ 'INACTIVE', THEN               $
              PERFORM, 'R23P-PHOTO-INIT'                          $
            ELSE                                                  $
 080710       UPDATE, 'TX-PHOTO', EXCHANGE USING 'IES-RS232-PHOTO',
                    TALKER TEST-EQUIP,
                    DATA 'S-TX-PHOTO'(1 THRU 'S-TX-NB-PHOTO')     $
              WAIT FOR, TIME 200 MSEC                             $
            END, IF                                               $

            ENABLE, EVENT 'EVT-PHOTO'                             $
C           Do Exchange on RS232-PHOTO                            $
 080720     DO, EXCHANGE USING 'IES-RS232-PHOTO',
                  TEST-EQUIP-ROLE MASTER,
                 (STARTING WHEN 'CLOCK-PHOTO' 0 MSEC,
                  WITH PRIORITY 1,
                  EXCHANGE 'TX-PHOTO',) THEN
                 (STARTING WHEN 'CLOCK-PHOTO' 1 MSEC,
                  WITH PRIORITY 2,
                  UNTIL EVENT 'EVT-PHOTO',
                  EXCHANGE 'RX-PHOTO',),
                 PROCEED                                          $

            DISABLE, EVENT 'EVT-PHOTO'                            $

            PERFORM, 'R23P-PHOTO-REM'                             $
C         END, IF                                                 $

        END, IF                                                   $

 080799 END, 'R23P-PHOTO-CMD2'                                    $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
```


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```
*******************************************************************
*****                                                         *****
*****                                                         *****
*****              E N D    O F    M O D U L E                *****
*****                                                         *****
*****                                                         *****
*******************************************************************
*******************************************************************
*******************************************************************
                                                                  $
999999 TERMINATE, ATLAS MODULE 'TH-ISF-C1R23P10'                  $
```

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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-C1TIME11'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******             C L A S S     M O D U L E                ******
 ******                                                      ******
 ******                 TIME MEASUREMENT .                   ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      007505   REQUIRE TIMER                                    *
 *                                                                *
 *      025005   IDENTIFY TIMER                                   *
 *                                                                *
 *                                                                *
 *      999999   TERMINATE ATLAS MODULE                           *
 *                                                                *
 ******************************************************************
C                                                                $
C
 ******************************************************************
 **                                                              **
```


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```
 **      E X T E N D    A T L A S    S T A T E M E N T S     **
 **                                                          **
 ************************************************************
                                                             $
C
 ************************************************************
 ************************************************************
 **                                                          **
 **           R E Q U I R E    S T A T E M E N T S           **
 **                                                          **
 ************************************************************
 ************************************************************
C                                                            $
C
 ************************************************************
 **                                                          **
 **       R E Q U I R E   E X T E R N A L   L O A D S        **
 **                                                          **
 ************************************************************
                                                             $
C
 ************************************************************
 **                                                          **
 **       R E Q U I R E  E X T E R N A L  S O U R C E S      **
 **                                                          **
 ************************************************************
                                                             $
C
 ************************************************************
 **                                                          **
 **       R E Q U I R E  E X T E R N A L  S E N S O R S      **
 **                                                          **
 ************************************************************
                                                             $
C
 ************************************************************
 **                                                          **
 **         R E Q U I R E  E X T E R N A L  S H O R T S      **
 **                                                          **
 ************************************************************
                                                             $
C
 ************************************************************
 **                                                          **
 **         R E Q U I R E  E X T E R N A L  S H O R T S      **
 **                                                          **
 ************************************************************
                                                             $
C
 ************************************************************
 **                                                          **
 **            E X T E R N A L    T I M E R S                **
 **                                                          **
 ************************************************************
```


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```
                                                                $
C
 ****************************************************************
 **                                                            **
 ** R E Q U I R E   E X T E R N A L   E V E N T   M O N I T O R S **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **       R E Q U I R E     L O C A L    L O A D S              **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **       R E Q U I R E     L O C A L    S O U R C E S          **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **       R E Q U I R E     L O C A L     S E N S O R S         **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **       R E Q U I R E     L O C A L     C O M M O N S         **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **       R E Q U I R E     L O C A L    S H O R T S            **
 **                                                            **
 ****************************************************************
                                                                $
C
 ****************************************************************
 **                                                            **
 **       R E Q U I R E     L O C A L    T I M E R S            **
 **                                                            **
 ****************************************************************
                                                                $
 007505 REQUIRE, 'TIME-MEAS1', TIMER, TIME INTERVAL,
                 CAPABILITY,
                   TIME MAX 10000 SEC                           $
 007507 REQUIRE, 'TIME-MEAS2', TIMER, TIME INTERVAL,
```

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```
                CAPABILITY,
                  TIME MAX 10000 SEC                          $
 007509 REQUIRE, 'TIME-MEAS3', TIMER, TIME INTERVAL,
                CAPABILITY,
                  TIME MAX 10000 SEC                          $
 007511 REQUIRE, 'TIME-MEAS6', TIMER, TIME INTERVAL,
                CAPABILITY,
                  TIME MAX 10000 SEC                          $
C
 ******************************************************************
 **                                                              **
 **   R E Q U I R E   L O C A L   E V E N T   M O N I T O R S   **
 **                                                              **
 ******************************************************************
                                                                 $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                  D E C L A R E                               **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                $
C
 ******************************************************************
 **                                                              **
 **    D E C L A R A T I O N    O F     T Y P E S                **
 **                                                              **
 ******************************************************************
                                                                 $
C
 ******************************************************************
 **                                                              **
 **    D E C L A R A T I O N    O F     C O N S T A N T S        **
 **                                                              **
 ******************************************************************
                                                                 $
C
 ******************************************************************
 **                                                              **
 **             D E C L A R A T I O N    O F                    **
 **                                                              **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C         **
 **                                                              **
 **                  V A R I A B L E S                           **
 **                                                              **
 ******************************************************************
                                                                 $
C
 ******************************************************************
 **                                                              **
 **      D E C L A R A T I O N    O F   E X T E R N A L          **
 **                                                              **
```


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```
 **     P R O G R A M    S P E C I F I C    V A R I A B L E S   **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **       D E C L A R A T I O N     O F    L O C A L           **
 **                                                            **
 **    M O D U L E    S P E C I F I C    V A R I A B L E S     **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 ****************************************************************
 **                                                            **
 **          E S T A B L I S H    P R O T O C O L              **
 **                                                            **
 ****************************************************************
 ****************************************************************
C                                                              $
C
 ****************************************************************
 ****************************************************************
 **                                                            **
 **                I D E N T I F Y                             **
 **                                                            **
 ****************************************************************
 ****************************************************************
C                                                              $
C
 ****************************************************************
 **                                                            **
 **      I D E N T I F Y   E X T E R N A L   T I M E R         **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **          I D E N T I F Y     E X T E R N A L               **
 **                                                            **
 **           T I M E   B A S E D    E V E N T                 **
 **                                                            **
 ****************************************************************
                                                               $
C
 ****************************************************************
 **                                                            **
 **          I D E N T I F Y    E X T E R N A L                 **
 **                                                            **
 **         S I G N A L   B A S E D    E V E N T               **
 **                                                            **
```

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```
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y     E X T E R N A L                 **
 **                                                              **
 **           E V E N T   B A S E D   E V E N T                  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **           I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **              E V E N T   I N T E R V A L                     **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                   **
 **                                                              **
 **            E V E N T    I N D I C A T O R                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **             I D E N T I F Y    T I M E R                     **
 **                                                              **
 ******************************************************************
                                                                  $
 025005 IDENTIFY, TIMER 'CLOCK1' TIME INTERVAL USING 'TIME-MEAS1',
                 TIME RANGE 1 SEC TO 10000 SEC
                                                                  $
 025007 IDENTIFY, TIMER 'CLOCK2' TIME INTERVAL USING 'TIME-MEAS2',
                 TIME RANGE 1 SEC TO 10000 SEC
                                                                  $
 025009 IDENTIFY, TIMER 'CLOCK3' TIME INTERVAL USING 'TIME-MEAS3',
                 TIME RANGE 1 SEC TO 10000 SEC
                                                                  $
 025011 IDENTIFY, TIMER 'CLOCK6' TIME INTERVAL USING 'TIME-MEAS6',
                 TIME RANGE 1 SEC TO 10000 SEC
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y    T I M E                          **
 **                                                              **
 **            B A S E D    E V E N T                            **
```


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```
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y    S I G N A L                      **
 **                                                              **
 **           B A S E D    E V E N T                            **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y    E V E N T                        **
 **                                                              **
 **           B A S E D    E V E N T                            **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **     I D E N T F Y   E V E N T   I N T E R N A L              **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **     I D E N T F Y   E V E N T   I N D I C A T O R            **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 ****************************************************************
 **                                                              **
 **                  D  E  F  I  N  E                            **
 **                                                              **
 ****************************************************************
 ****************************************************************
C                                                                $
C
 ****************************************************************
 **                                                              **
 **            D E F I N E    E X C H A N G E                    **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
```

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```
 **            D E F I N E   D R A W I N G                 **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **            D E F I N E    S I G N A L                  **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 ** D E F I N E    D I G I T A L   C O N F I G U R A T I O N **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **    D E F I N E  E X T E R N A L  P R O C E D U R E S   **
 **                                                        **
 **            S T A N D A R D   L I B R A R Y             **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **    D E F I N E  E X T E R N A L  P R O C E D U R E S   **
 **                                                        **
 **            S P E C I F I C   P R O G R A M             **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **        D E F I N E  L O C A L  P R O C E D U R E       **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **       D E F I N E  G L O B A L  P R O C E D U R E      **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 ************************************************************
 ***                                                      ***
```


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```
 ***              T I M E - R E S E T - C L K 1              ***
 ***                                                         ***
 ***********************************************************************
 ***********************************************************************

 |-------------------------------------------------------------------|
 |  Resets the clock 1 .                                             |
 |                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
 080150 DEFINE, 'TIME-RESET-CLK1', GLOBAL, PROCEDURE                 $

        RESET, TIMER 'CLOCK1'                                        $

        END, 'TIME-RESET-CLK1'                                       $
C|                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
C
 ***********************************************************************
 ***********************************************************************
 ***                                                         ***
 ***              T I M E - R E S E T - C L K 2              ***
 ***                                                         ***
 ***********************************************************************
 ***********************************************************************

 |-------------------------------------------------------------------|
 |  Resets the clock 2 .                                             |
 |                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
 080152 DEFINE, 'TIME-RESET-CLK2', GLOBAL, PROCEDURE                 $

        RESET, TIMER 'CLOCK2'                                        $

        END, 'TIME-RESET-CLK2'                                       $
C|                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
C
 ***********************************************************************
 ***********************************************************************
 ***                                                         ***
 ***              T I M E - R E S E T - C L K 3              ***
 ***                                                         ***
 ***********************************************************************
 ***********************************************************************

 |-------------------------------------------------------------------|
 |  Resets the clock 3 .                                             |
 |                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
```


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```
 080155 DEFINE, 'TIME-RESET-CLK3', GLOBAL, PROCEDURE                $

        RESET, TIMER 'CLOCK3'                                       $

        END, 'TIME-RESET-CLK3'                                      $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***               T I M E - R E S E T - C L K 6                  ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Resets the clock 6 .                                            |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 080157 DEFINE, 'TIME-RESET-CLK6', GLOBAL, PROCEDURE                $

        RESET, TIMER 'CLOCK6'                                       $

        END, 'TIME-RESET-CLK6'                                      $
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                T I M E - R E A D - C L K 1                   ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |------------------------------------------------------------------|
 |  Reads a time .                                                  |
 |                                                                  |
 |  Param-out : TIME  Time reading                                  |
 |                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 080160 DEFINE, 'TIME-READ-CLK1', GLOBAL, PROCEDURE
               RESULT (
                   'TIME' IS DECIMAL
               )                                                    $

        READ, (TIME INTO 'TIME'), TIMER 'CLOCK1'                    $

        END, 'TIME-READ-CLK1'                                       $
```


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```
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                T I M E - R E A D - C L K 2                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Reads a time .                                                |
 |                                                                |
 |  Param-out : TIME  Time reading                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080165 DEFINE, 'TIME-READ-CLK2', GLOBAL, PROCEDURE
               RESULT (
                   'TIME' IS DECIMAL
               )                                                  $

        READ, (TIME INTO 'TIME'), TIMER 'CLOCK2'                  $

        END, 'TIME-READ-CLK2'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                T I M E - R E A D - C L K 3                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Reads a time .                                                |
 |                                                                |
 |  Param-out : TIME  Time reading                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080170 DEFINE, 'TIME-READ-CLK3', GLOBAL, PROCEDURE
               RESULT (
                   'TIME' IS DECIMAL
               )                                                  $

        READ, (TIME INTO 'TIME'), TIMER 'CLOCK3'                  $

        END, 'TIME-READ-CLK3'                                     $
```


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```
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                T I M E - R E A D - C L K 6                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Reads a time .                                                |
 |                                                                |
 |  Param-out : TIME  Time reading                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080180 DEFINE, 'TIME-READ-CLK6', GLOBAL, PROCEDURE
               RESULT (
                   'TIME' IS DECIMAL
               )                                                  $

        READ, (TIME INTO 'TIME'), TIMER 'CLOCK6'                  $

        END, 'TIME-READ-CLK6'                                     $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 *****                                                        *****
 *****                                                        *****
 *****              E N D    O F    M O D U L E               *****
 *****                                                        *****
 *****                                                        *****
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                  $
 999999 TERMINATE, ATLAS MODULE 'TH-ISF-C1TIME11'                 $
```


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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-GKSIGNAL'                    $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E R - C L A S S   M O D U L E          ******
 ******                                                      ******
 ******                                                      ******
 ******                Adjustment procedures                 ******
 ******                                                      ******
 ******                                                      ******
 ****** MANUFACTURER     : THALES AVIONICS                    ******
 ******                                                      ******
 ****** PART NUMBER      : C16221KA01                         ******
 ******                 : C16221LA01                         ******
 ******                                                      ******
 ****** LINK FILE NAME   : 3304LK00.LD                        ******
 ******                                                      ******
 ****** COMPANY          : AEROSPATIALE MATRA                 ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN MAIN MODULE  ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                 $
C
 ******************************************************************
 *                                                                *
 *                       I N D E X                                *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN ATLAS MODULE                               *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      011005   DECLARE CONSTANT                                 *
 *                                                                *
 *                                                                *
 *      080005   DEFINE GLOBAL SIGNAL SPECIFIC PROCEDURES         *
```


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```
 *                                                                *
 *     999999   TERMINATE ATLAS MODULE                            *
 *                                                                *
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **      E X T E N D    A T L A S    S T A T E M E N T S        **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **           R E Q U I R E    S T A T E M E N T S               **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E   E X T E R N A L   L O A D S            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E  E X T E R N A L  S O U R C E S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **       R E Q U I R E  E X T E R N A L  S E N S O R S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         R E Q U I R E  E X T E R N A L  S H O R T S          **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         R E Q U I R E  E X T E R N A L  S H O R T S          **
 **                                                              **
```


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```
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
**            E X T E R N A L    T I M E R S                   **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
** R E Q U I R E   E X T E R N A L   E V E N T   M O N I T O R S **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
**       R E Q U I R E    L O C A L    L O A D S                **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
**       R E Q U I R E    L O C A L    S O U R C E S            **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
**       R E Q U I R E    L O C A L     S E N S O R S           **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
**       R E Q U I R E    L O C A L     C O M M O N S           **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
**       R E Q U I R E    L O C A L    S H O R T S              **
**                                                             **
*****************************************************************
                                                               $
C
*****************************************************************
**                                                             **
```


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```
 **      R E Q U I R E    L O C A L   T I M E R S          **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **   R E Q U I R E   L O C A L  E V E N T  M O N I T O R S **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 ************************************************************
 **                                                        **
 **                  D  E  C  L  A  R  E                   **
 **                                                        **
 ************************************************************
 ************************************************************
C                                                          $
C
 ************************************************************
 **                                                        **
 **    D E C L A R A T I O N    O F     T  Y  P  E  S       **
 **                                                        **
 ************************************************************
                                                           $
 010005 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR            $
C      State of device
 ------------------------------------------------------------$
C
 ************************************************************
 **                                                        **
 **    D E C L A R A T I O N    O F     C O N S T A N T S   **
 **                                                        **
 ************************************************************
                                                           $
 011005 DECLARE, CONSTANT, 'ADJUSTED' IS C'A'              $
 011007 DECLARE, CONSTANT, 'OUT-OF-ORDER' IS C'H'          $
C
 ************************************************************
 **                                                        **
 **             D E C L A R A T I O N    O F               **
 **                                                        **
 **    E X T E R N A L   L I B R A R Y   S P E C I F I C   **
 **                                                        **
 **                  V A R I A B L E S                     **
 **                                                        **
 ************************************************************
                                                           $
C
 ************************************************************
 **                                                        **
 **      D E C L A R A T I O N    O F   E X T E R N A L    **
```


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```
 **                                                              **
 **     P R O G R A M   S P E C I F I C   V A R I A B L E S      **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **      D E C L A R A T I O N   O F   L O C A L                 **
 **                                                              **
 **    M O D U L E   S P E C I F I C   V A R I A B L E S         **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **          E S T A B L I S H   P R O T O C O L                 **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **               I  D  E  N  T  I  F  Y                         **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                                 $
C
 ******************************************************************
 **                                                              **
 **      I D E N T I F Y   E X T E R N A L   T I M E R           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y     E X T E R N A L                 **
 **                                                              **
 **           T I M E   B A S E D   E V E N T                    **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **         S I G N A L   B A S E D   E V E N T                  **
```


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```
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y     E X T E R N A L                  **
 **                                                              **
 **          E V E N T   B A S E D   E V E N T                   **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **          I D E N T I F Y    E X T E R N A L                  **
 **                                                              **
 **             E V E N T   I N T E R V A L                      **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y    E X T E R N A L                   **
 **                                                              **
 **           E V E N T    I N D I C A T O R                     **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **            I D E N T I F Y    T I M E R                      **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y    T I M E                           **
 **                                                              **
 **           B A S E D    E V E N T                             **
 **                                                              **
 ****************************************************************
                                                                 $
C
 ****************************************************************
 **                                                              **
 **         I D E N T I F Y    S I G N A L                       **
 **                                                              **
 **           B A S E D    E V E N T                             **
 **                                                              **
 ****************************************************************
```


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```
                                                                $
C
 ******************************************************************
 **                                                              **
 **         I D E N T I F Y     E V E N T                        **
 **                                                              **
 **           B A S E D     E V E N T                          **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **     I D E N T F Y    E V E N T    I N T E R N A L            **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **     I D E N T F Y    E V E N T    I N D I C A T O R          **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 ******************************************************************
 **                                                              **
 **                  D  E  F  I  N  E                            **
 **                                                              **
 ******************************************************************
 ******************************************************************
C                                                               $
C
 ******************************************************************
 **                                                              **
 **            D E F I N E     E X C H A N G E                   **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E    D R A W I N G                     **
 **                                                              **
 ******************************************************************
                                                                $
C
 ******************************************************************
 **                                                              **
 **             D E F I N E     S I G N A L                      **
 **                                                              **
 ******************************************************************
                                                                $
```


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```
C
 ******************************************************************
 **                                                              **
 **  D E F I N E    D I G I T A L   C O N F I G U R A T I O N  **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S       **
 **                                                              **
 **            S T A N D A R D   L I B R A R Y                   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **     D E F I N E  E X T E R N A L  P R O C E D U R E S       **
 **                                                              **
 **            S P E C I F I C   P R O G R A M                   **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **         D E F I N E  L O C A L  P R O C E D U R E            **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 **                                                              **
 **        D E F I N E  G L O B A L  P R O C E D U R E           **
 **                                                              **
 ******************************************************************
                                                                  $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                S I G N - O F S T - A D J                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |----------------------------------------------------------------|
 |  Taking in account measured value and programmed value this    |
 |  procedure determines the new voltage to apply . The calculation |
 |  compensates offset error for power supply needing an offset   |
 |  compensation                                                  |
 |                                                                |
```


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```
|  Param-in  : V-MESUREE  Measured value                          |
|                                                                 |
|              V-NOMINAL  Value to obtain                         |
|                                                                 |
|              TOL-HI  Upper limit for the value to obtain        |
|                                                                 |
|              TOL-LO  Lower limit for the value to obtain        |
|                                                                 |
|              PROG-MIN  Programming lower limit                  |
|                                                                 |
|              PROG-MAX  Programming upper limit                  |
|                                                                 |
|  Param-out : V-PROGRAMMEE  Programmed value                     |
|                                                                 |
|              DEVICE-STATE  State of power supply to adjust      |
|                                                                 |
|              NB-AJU  Loop counter of adjustment                 |
|                                                                 |
|-----------------------------------------------------------------|
                                                                  $
 080005 DEFINE, 'SIGN-OFST-ADJ', GLOBAL, PROCEDURE (
                    'V-MESUREE' IS DECIMAL,
                    'V-NOMINAL' IS DECIMAL,
                    'TOL-HI' IS DECIMAL,
                    'TOL-LO' IS DECIMAL,
                    'PROG-MIN' IS DECIMAL,
                    'PROG-MAX' IS DECIMAL
                )
                RESULT (
                    'V-PROGRAMMEE' IS DECIMAL,
                    'DEVICE-STATE' IS 'T-SIGNAL-STATE',
                    'NB-AJU' IS INTEGER
                )                                                 $
C       If measured value is correct                              $
        IF, ('V-MESUREE' GT 'TOL-LO') AND
            ('V-MESUREE' LT 'TOL-HI'), THEN                       $
C         ==> power supply adjusted                               $
          CALCULATE, 'DEVICE-STATE' = 'ADJUSTED'                  $

        ELSE                                                      $
C         If max nb adjustment reached                            $
          IF, 'NB-AJU' EQ 1, THEN                                 $
C            ==> power supply no adjustable                       $
            CALCULATE, 'DEVICE-STATE' = 'OUT-OF-ORDER'            $

          ELSE                                                    $
C           Calculation of the new value to apply                 $
            CALCULATE, 'V-PROGRAMMEE' = 'V-PROGRAMMEE' +
                       ('V-NOMINAL' - 'V-MESUREE')                $
C           Decrementation of allowed adjustment number           $
            CALCULATE, 'NB-AJU' = 'NB-AJU' - 1                    $
C            If the new value is not in the tolerances ,
             it is set to the limit                               $
            IF, 'V-PROGRAMMEE' LT 'PROG-MIN', THEN                $
```


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```
            CALCULATE, 'V-PROGRAMMEE' = 'PROG-MIN'                $
          END, IF                                                 $
          IF, 'V-PROGRAMMEE' GT 'PROG-MAX', THEN                  $
            CALCULATE, 'V-PROGRAMMEE' = 'PROG-MAX'                $
          END, IF                                                 $

        END, IF                                                   $

      END, IF                                                     $

      END, 'SIGN-OFST-ADJ'                                        $
C|                                                                |
 |----------------------------------------------------------------|
                                                                  $
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***                 S I G N - G A I N - A D J                    ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |----------------------------------------------------------------|
 |  Taking in account measured value and programmed value this    |
 |  procedure determines the new voltage to apply . The calculation |
 |  compensates gain error for linear amplificators.              |
 |  Remark : this procedure cannot be used for a nominal value equal|
 |  to 0                                                          |
 |                                                                |
 |  Param-in  : V-MESUREE  Measured value                         |
 |                                                                |
 |              V-NOMINAL  Value to obtain                        |
 |                                                                |
 |              TOL-HI  Upper limit for the value to obtain       |
 |                                                                |
 |              TOL-LO  Lower limit for the value to obtain       |
 |                                                                |
 |              PROG-MIN  Programming lower limit                 |
 |                                                                |
 |              PROG-MAX  Programming upper limit                 |
 |                                                                |
 |  Param-out : V-PROGRAMMEE  Programmed value                    |
 |                                                                |
 |              DEVICE-STATE  State of power supply to adjust     |
 |                                                                |
 |              NB-AJU  Loop counter of adjustment                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
 080105 DEFINE, 'SIGN-GAIN-ADJ', GLOBAL, PROCEDURE (
                    'V-MESUREE' IS DECIMAL,
                    'V-NOMINAL' IS DECIMAL,
                    'TOL-HI' IS DECIMAL,
```


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```
                    'TOL-LO' IS DECIMAL,
                    'PROG-MIN' IS DECIMAL,
                    'PROG-MAX' IS DECIMAL
                )
                RESULT (
                    'V-PROGRAMMEE' IS DECIMAL,
                    'DEVICE-STATE' IS 'T-SIGNAL-STATE',
                    'NB-AJU' IS INTEGER
                )                                                $
C       If measured value is correct                             $
        IF, ('V-MESUREE' GT 'TOL-LO') AND
            ('V-MESUREE' LT 'TOL-HI'),       THEN                $
C           ==> power supply adjusted                            $
          CALCULATE, 'DEVICE-STATE' = 'ADJUSTED'                 $

        ELSE                                                     $
C         If max nb adjustment reached                           $
          IF, 'NB-AJU' EQ 1, THEN                                $
C           ==> power supply no adjustable                       $
            CALCULATE, 'DEVICE-STATE' = 'OUT-OF-ORDER'           $

          ELSE                                                   $
C           Calculation of the new value to apply                $
            CALCULATE, 'V-PROGRAMMEE' = 'V-PROGRAMMEE' *
                       ('V-NOMINAL' / 'V-MESUREE')               $
C           Decrementation of allowed adjustment number          $
            CALCULATE, 'NB-AJU' = 'NB-AJU' - 1                   $
C           If the new value is not in the tolerances , it is set to
            the limit                                            $
            IF, 'V-PROGRAMMEE' LT 'PROG-MIN', THEN               $
              CALCULATE, 'V-PROGRAMMEE' = 'PROG-MIN'             $
            END, IF                                              $
            IF, 'V-PROGRAMMEE' GT 'PROG-MAX', THEN               $
              CALCULATE, 'V-PROGRAMMEE' = 'PROG-MAX'             $
            END, IF                                              $

          END, IF                                                $

        END, IF                                                  $

        END, 'SIGN-GAIN-ADJ'                                     $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 *****                                                        *****
 *****                                                        *****
 *****              E N D    O F    M O D U L E               *****
 *****                                                        *****
 *****                                                        *****
 ******************************************************************
```


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```
*******************************************************************
*******************************************************************
                                                                  $
999999 TERMINATE, ATLAS MODULE 'TH-ISF-GKSIGNAL'                  $
```


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```
000010 BEGIN, ATLAS MODULE 'TH-ISF-UUT'                          $

C
 ******************************************************************
 ******************************************************************
 ******************************************************************
 ******                                                      ******
 ******   A T L A S   S O U R C E   P R O G R A M   F O R    ******
 ******                                                      ******
 ******                                                      ******
 ******         I N T E G R A T E D   S T A N D B Y          ******
 ******           F L I G H T   D I S P L A Y                ******
 ******                                                      ******
 ******                                                      ******
 ******                 (  I. S. F. D.  )                    ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ******         FOR MORE INFORMATIONS OR REFERENCES          ******
 ******     SEE "IDENTIFY-PRODUCT" PROCEDURE IN THIS MODULE  ******
 ******                                                      ******
 ******                                                      ******
 ******************************************************************
 ******************************************************************
 ******************************************************************
                                                                  $
C
 ******************************************************************
 *                                                                *
 *                          I N D E X                             *
 *                                                                *
 ******************************************************************
 *                                                                *
 *      000010   BEGIN, ATLAS MODULE                              *
 *                                                                *
 *      000305   EXTEND ATLAS                                     *
 *                                                                *
 *      006505   REQUIRE SOURCES                                  *
 *                                                                *
 *      010005   DECLARE TYPE                                     *
 *      011005   DECLARE CONSTANT                                 *
 *      012005   DECLARE GLOBAL VARIABLES ( LIBRARY )             *
 *      013005   DECLARE GLOBAL VARIABLES ( PROGRAM SPECIFIC )    *
 *                                                                *
 *                                                                *
 *      050005   DEFINE EXTERNAL PROCEDURES ( STANDARD LIBRARY )  *
 *      052505   DEFINE EXTERNAL PROCEDURES ( USER1 LIBRARY    )  *
 *      059005   DEFINE EXTERNAL PROCEDURES ( TEST EXECUTIVE   )  *
 *                                                                *
```


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```
 *      060005   DEFINE EXTERNAL PROCEDURES ( PROGRAMME )          *
 *                                                                 *
 *      999999   TERMINATE ATLAS MODULE                            *
 *                                                                 *
 *******************************************************************
C
 *******************************************************************
 *******************************************************************
 **                                                               **
 **                E X T E N D    A T L A S                      **
 **                                                               **
 *******************************************************************
 *******************************************************************

 ===================================================================
 =                                                                 =
 =        E X T E N D     A T L A S    N O U N S                   =
 =                                                                 =
 ===================================================================
                                                                   $
 000305 EXTEND, ATLAS  NOUNS 'SWU-TEST',
               FOR VERBS REQUIRE SETUP RESET MEASURE,
               SPEC 'AT6.SWU.RMO'                                  $
C
 ===================================================================
 =                                                                 =
 =        E X T E N D     A T L A S    M O D I F I E R S           =
 =                                                                 =
 ===================================================================
                                                                   $
 000750 EXTEND, ATLAS MODIFIERS FOR SWU-TEST,
               'HANDLE-ON' MOD-VALUE I MOD-DIM NONE, USAGE RM,
               'PATCH-ON' MOD-VALUE I MOD-DIM NONE, USAGE RM,
               SPEC 'AT6.SWU.RMO'                                  $

 000999 EXTEND, ATLAS MODIFIERS FOR IMPEDANCE,
               'OFFSET-COMPENSATION' MODIFIER-DESCRIPTOR 'ON' 'OFF',
               USAGE R,
               SPEC 'DMMDMC DEVICE MODEL SPEC SECT 3'              $
C
 *******************************************************************
 *******************************************************************
 **                                                               **
 **                  R  E  Q  U  I  R  E                          **
 **                                                               **
 *******************************************************************
 *******************************************************************
                                                                   $
C==================================================================
 =                                                                 =
 =        R E Q U I R E    L O C A L     S E N S O R S             =
 =                                                                 =
 =                 A N D    S O U R C E S                          =
 =                                                                 =
```


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```
 ==================================================================
                                                                  $
 006505 REQUIRE, 'MEAS-RES', SENSOR (RES), IMPEDANCE,
                CAPABILITY,
                RES RANGE 0 OHM TO 1000000000 OHM,
                CNX HI LO                                         $

 006750 REQUIRE, 'SWU-MEAS', SENSOR (HANDLE-ON, PATCH-ON), SWU-TEST,
                CAPABILITY,
                HANDLE-ON RANGE 0  TO  1,
                PATCH-ON RANGE 0  TO  1,
                CNX VIA                                           $
C ************************************************************** $
C *                                                            * $
C *        DECLARE STATEMENTS                                  * $
C *                                                            * $
C ************************************************************** $
C
  ==================================================================
  =                                                                =
  =         D  E  C  L  A  R  A  T  I  O  N        O  F           =
  =                                                                =
  =                      T  Y  P  E  S                             =
  =                                                                =
  ==================================================================
                                                                  $

 010005 DECLARE, TYPE, 'PERIPH-DEVICES' IS ENUMERATION(
                   'ALL', 'C-FILE', 'N-FILE', 'DISP', 'SCREEN'
                   )                                              $
C         PERIPHERAL DEVICES
 -----------------------------------------------------------------$

        DECLARE, TYPE, 'TPSDIR-REC' IS RECORD OF [
                   'PATHNAME' IS STRING(64) OF CHAR ;
                   'TPSNAME' IS STRING(15) OF CHAR ;
                   'TUAPATH' IS STRING(64) OF CHAR ;
                   'SELECTED-PN' IS STRING(15) OF CHAR ;
                   'ARRAY-PN' IS ARRAY(1 THRU 6) OF
                       STRING(15) OF CHAR
                   ]                                              $
C       FILE INFOTPSD.WW RECORD FORMAT
 -----------------------------------------------------------------$

 010025 DECLARE, TYPE, 'T-SIGNAL-STATE' IS CHAR                   $
C       State of device
 -----------------------------------------------------------------$

 010027 DECLARE, TYPE, 'T-ALL-UUT' IS ENUMERATION(
                   'UUT1', 'UUT2', 'UUT3', 'UUT4', 'UUT5', 'UUT6',
                   'UUT7', 'UUT8', 'UUT9', 'UUT10', 'UUT11',
                   'UUT12', 'NO-UUT'
                   )                                              $
C       Mnemonic of all UUT
```

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```
 ----------------------------------------------------------------$

 010029 DECLARE, TYPE, 'T-TOLE' IS ENUMERATION(
                    'UL', 'LL'
                    )                                            $
C       Mnemonic of all UUT
 ----------------------------------------------------------------$

 010031 DECLARE, TYPE, 'T-FRAME' IS ENUMERATION(
                    'FR-173-174-EQ-0', 'FR-173-174-NE-0',
                    'FR-312-320-EQ-0', 'FR-312-320-NE-0', 'NO-FRAME'
                    )                                            $
C       Indicator to know the frame to send
 ----------------------------------------------------------------$

 010033 DECLARE, TYPE, 'T-DISCIN-MNEMO' IS ENUMERATION(
                    'DISC-X', 'DISC-h', 'DISC-a', 'DISC-b', 'DISC-c',
                    'DISC-d', 'DISC-e', 'DISC-k', 'DISC-m', 'DISC-n',
                    'DISC-p', 'DISC-q', 'DISC-r', 'DISC-s', 'DISC-f',
                    'DISC-Z'
                    )                                            $
C       Mnemonic of discrete inputs class
 ----------------------------------------------------------------$

 010035 DECLARE, TYPE, 'T-PARA-MNEMO' IS ENUMERATION(
                    'PARA-D', 'PARA-E', 'PARA-i', 'PARA-j', 'PARA-A',
                     'PARA-W', 'PARA-U', 'PARA-V', 'PARA-S',
                    'PARA-T', 'PARA-B', 'PARA-C', 'PARA-M', 'PARA-N',
                     'PARA-R', 'PARA-P', 'PARA-b', 'PARA-c',
                    'PARA-d', 'PARA-e', 'PARA-k', 'PARA-m', 'PARA-p',
                     'PARA-r', 'PARA-s', 'PARA-q', 'PARA-Z',
                    'PARA-f', 'PARA-g'
                    )                                            $
C       Mnemonic of lightning pins
 ----------------------------------------------------------------$

 010037 DECLARE, TYPE, 'T-M429-MNEMO' IS ENUMERATION(
                    'INERTIE', 'CMC'
                    )                                            $
C       Mnemonic of arinc measurement pins
 ----------------------------------------------------------------$

 010039 DECLARE, TYPE, 'T-G429-MNEMO' IS ENUMERATION(
                    'BUS1', 'BUS2', 'BUS3'
                    )                                            $
C       Mnemonic of arinc generation pins
 ----------------------------------------------------------------$

 010041 DECLARE, TYPE, 'T-422-CNX' IS CONNECTION(
                    J1-L, J2-L, J3-L, J4-L, J5-L, J6-L, J7-L, J8-L,
                    J9-L, J10-L, J11-L, J12-L, J1-K, J2-K, J3-K,
                    J4-K, J5-K, J6-K, J7-K, J8-K, J9-K, J10-K, J11-K,
                     J12-K, J1-J, J2-J, J3-J, J4-J, J5-J, J6-J, J7-J,
                     J8-J, J9-J, J10-J, J11-J, J12-J, J1-H, J2-H,
```


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```
                    J3-H, J4-H, J5-H, J6-H, J7-H, J8-H, J9-H, J10-H,
                    J11-H, J12-H
                    )                                                   $
C       Connections of RS422 class
 ------------------------------------------------------------------$

 010043 DECLARE, TYPE, 'T-PRES-MNEMO' IS ENUMERATION(
                    'PRES-PS', 'PRES-PT'
                    )                                                   $
C       Mnemonic of pressure inputs class
 ------------------------------------------------------------------$
C ==================================================================
  =                                                                =
  =                    DECLARE CONSTANT STATEMENTS                 =
  =                                                                =
  ================================================================ $

 011005 DECLARE, CONSTANT, 'ACTIVE' IS C'1'                          $
 011007 DECLARE, CONSTANT, 'INACTIVE' IS C'0'                        $
 011009 DECLARE, CONSTANT, 'ALL-OPEN' IS C'X'                        $
 011011 DECLARE, CONSTANT, 'ADJUSTED' IS C'A'                        $
 011013 DECLARE, CONSTANT, 'NOT-ADJUSTED' IS C'N'                    $
 011015 DECLARE, CONSTANT, 'OUT-OF-ORDER' IS C'H'                    $
 011017 DECLARE, CONSTANT, 'CONNECT' IS C'C'                         $
 011019 DECLARE, CONSTANT, 'DISCONNECT' IS C'D'                      $
C

 ===================================================================
 =                                                                 =
 =             D E C L A R A T I O N     O F                       =
 =                                                                 =
 =        E X T E R N A L     S T A N D A R D      T E S T        =
 =                                                                 =
 =           P R O G R A M     S E T   V A R I A B L E S           =
 =                                                                 =
 ===================================================================
                                                                    $

 012005 DECLARE, EXTERNAL, VARIABLE,
                'CURRENT-NB-FAIL'           IS INTEGER              $
C       TOTAL NUMBER OF FAILS NOTED DURING THE CURRENT SELECTION
 ------------------------------------------------------------------$

 012275 DECLARE, EXTERNAL, VARIABLE,
                'FAIL'                      IS BOOLEAN              $
C       SET TO TRUE IF ERROR (NON-FATAL) DETECTED IN LAST
        TEST(NOGO AT TRUE)
 ------------------------------------------------------------------$

 012545 DECLARE, EXTERNAL, VARIABLE,
                'FATAL'                     IS BOOLEAN              $
C       AT TRUE IF FATAL ERROR DETECTED IN LAST TEST
 ------------------------------------------------------------------$
```

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```
 012815 DECLARE, EXTERNAL, VARIABLE,
                'POWER-ON'                 IS BOOLEAN            $
C       UUT POWER STATUS INDICATOR
 ----------------------------------------------------------------$

 013085 DECLARE, EXTERNAL, VARIABLE,
                'LIST-CNX'                 IS BOOLEAN            $
C       OUTPUTS LIST OF CONNECTIONS IF 'LIST-CNX' AT TRUE
 ----------------------------------------------------------------$
C       CONTAINS THE TUA NUMBER
 ----------------------------------------------------------------$
C        DECLARE, EXTERNAL, VARIABLE,
                'ESA'                      IS BOOLEAN            $
C       ESA = TRUE : ESA AND ESA CABLE NECESSARY ELSE ESA = FALSE
 ----------------------------------------------------------------$

 013625 DECLARE, EXTERNAL, VARIABLE,
                'FIRST-FAIL'               IS STRING (26) OF CHAR $
C       STATEMENT NUMBER AND MODULE OF FIRST FAILURE OCCURENCE
 ----------------------------------------------------------------$

 013895 DECLARE, EXTERNAL, VARIABLE,
                'LAST-FAIL'                IS STRING (26) OF CHAR $
C       STATEMENT NUMBER AND MODULE OF LAST ENCOUNTERED FAILURE
 ----------------------------------------------------------------$

 014165 DECLARE, EXTERNAL, VARIABLE,
                'G-TEST-FAC'               IS BOOLEAN            $
C       USED TO PERFORM THE TEST FAC
 ----------------------------------------------------------------$

        DECLARE, EXTERNAL, VARIABLE, 'CONTINUE' IS BOOLEAN         $
C       REMAINS AT TRUE SO LONG AS TEST NOT YET OVER
        (MULTI-RESULT TEST)
 ----------------------------------------------------------------$

        DECLARE, EXTERNAL, VARIABLE,
                'OP-CHOICE'                IS STRING (12) OF CHAR $
C       THE OPERATOR ANSWER
 ----------------------------------------------------------------$

        DECLARE, EXTERNAL, VARIABLE, 'STOP-EP' IS STRING(80) OF CHAR
                                                                   $
        DECLARE, EXTERNAL, VARIABLE, 'START-EP' IS STRING(80) OF CHAR
                                                                   $
        DECLARE, EXTERNAL, VARIABLE, 'COMPLETE' IS BOOLEAN         $
C

 ================================================================
 =                                                              =
 =        D E C L A R A T I O N     O F    E X T E R N A L      =
 =                                                              =
 =      P R O G R A M    S P E C I F I C    V A R I A B L E S   =
 =                                                              =
```


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```
 ==================================================================
                                                                  $
 014435 DECLARE, EXTERNAL, VARIABLE,
                'CRT'                      IS FILE OF TEXT        $
C        PERIPHERAL DEVICE
 ------------------------------------------------------------------$

 014705 DECLARE, EXTERNAL, VARIABLE,
                'DISK'                     IS FILE OF TEXT        $
C        PERIPHERAL DEVICE
 ------------------------------------------------------------------$

 014710 DECLARE, EXTERNAL, VARIABLE,
                'NDISK'                    IS FILE OF TEXT        $
C        PERIPHERAL DEVICE
 ------------------------------------------------------------------$

        DECLARE, EXTERNAL, VARIABLE,
                'TPSDIR'                  IS 'TPSDIR-REC'         $
C       CONTAINS INFORMATIONS OF FILE INFOTPSD.WW
 ------------------------------------------------------------------$

        DECLARE, EXTERNAL, VARIABLE,
                'DATE',
                'TIME'                    IS STRING (8) OF CHAR   $
C        DATE and TIME store the current date and time.
         DATE format dd/mm/yy
         TIME format hh:mm:ss
 ------------------------------------------------------------------$

        DECLARE, EXTERNAL, VARIABLE,
                'TOT-ONE-MIC',
                'TOT-ONE-LOOP',
                'TOT-ONE-STOP',
                'TOT-ONE-PAUSE'           IS BOOLEAN              $
C ----------------------------------------------------------------$

        DECLARE, EXTERNAL, VARIABLE,
                'TOTAL-USER'              IS STRING (16) OF CHAR  $
C       TOTAL-USER contains the highest user mode during the
           execution of the last test run.

        User modes and their priorities are as follow;
          1. Integration
          2. Development
          3. E/ATLAS/WS
          4. ATLAS/WS
          5. Repair/Debug
          6. Repair
          7. Test
  ----------------------------------------------------------------$

 014715 DECLARE, EXTERNAL, VARIABLE, 'G-CUSTOMER' IS STRING(80) OF
                CHAR                                              $
```


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```
C       Indicates the choice of test :
C       airlines or production
 ----------------------------------------------------------------$

 014720 DECLARE, EXTERNAL, VARIABLE, 'G-PRESSURE' IS BOOLEAN       $
C       Indicates if the pressure has been applied
 ----------------------------------------------------------------$

 014725 DECLARE, EXTERNAL, VARIABLE, 'G-PSALT-STATE' IS
                'T-SIGNAL-STATE'                                   $
C       State of GENE-PS-ALT device
 ----------------------------------------------------------------$

 014730 DECLARE, EXTERNAL, VARIABLE, 'G-PTIAS-STATE' IS
                'T-SIGNAL-STATE'                                   $
C       State of GENE-PT-IAS device
 ----------------------------------------------------------------$

 014735 DECLARE, EXTERNAL, VARIABLE, 'G-INSIDE-ALTIAS' IS BOOLEAN   $
C       Indicates if the program is in 'PRES-APP-ALTIAS' subroutine
 ----------------------------------------------------------------$

 014740 DECLARE, EXTERNAL, VARIABLE, 'G-UUT' IS ARRAY('UUT1' THRU
                'UUT12') OF
                    RECORD OF [
                        'NAME' IS STRING(2) OF CHAR ;
                        'PRESENCE' IS BOOLEAN ;
                        'EDIT-RESULT' IS BOOLEAN ;
                        'SERIAL-NUMB' IS STRING(20) OF CHAR ;
                        'PART-NUMB' IS STRING(20) OF CHAR ;
                        'HI' IS CONNECTION(
                            J1-G, J2-G, J3-G, J4-G, J5-G, J6-G, J7-G,
                             J8-G, J9-G, J10-G, J11-G, J12-G
                            ) ;
                        'LO' IS CONNECTION(
                            J1-t, J2-t, J3-t, J4-t, J5-t, J6-t, J7-t,
                             J8-t, J9-t, J10-t, J11-t, J12-t
                            )
                        ]                                          $
C       Informations about all UUT
 ----------------------------------------------------------------$

 014745 DECLARE, EXTERNAL, VARIABLE, 'G-PRES-ATMO' IS DECIMAL       $
C       Memorization of atmospheric pressure
 ----------------------------------------------------------------$

 014750 DECLARE, EXTERNAL, VARIABLE, 'G-INSIDE-MBAR' IS BOOLEAN     $
C       Indicates if the program is in 'PRES-APP-MBAR' subroutine
 ----------------------------------------------------------------$

 014755 DECLARE, EXTERNAL, VARIABLE, 'G-UUT1' IS 'T-ALL-UUT'        $
C       Value of 'UUT1'
 ----------------------------------------------------------------$
```


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```
 014760 DECLARE, EXTERNAL, VARIABLE, 'G-UUT2' IS 'T-ALL-UUT'        $
C       Value of 'UUT2'
 ------------------------------------------------------------------$

 014765 DECLARE, EXTERNAL, VARIABLE, 'G-UUT3' IS 'T-ALL-UUT'        $
C       Value of 'UUT3'
 ------------------------------------------------------------------$

 014770 DECLARE, EXTERNAL, VARIABLE, 'G-UUT4' IS 'T-ALL-UUT'        $
C       Value of 'UUT4'
 ------------------------------------------------------------------$

 014775 DECLARE, EXTERNAL, VARIABLE, 'G-UUT5' IS 'T-ALL-UUT'        $
C       Value of 'UUT5'
 ------------------------------------------------------------------$

 014780 DECLARE, EXTERNAL, VARIABLE, 'G-UUT6' IS 'T-ALL-UUT'        $
C       Value of 'UUT6'
 ------------------------------------------------------------------$

 014785 DECLARE, EXTERNAL, VARIABLE, 'G-UUT7' IS 'T-ALL-UUT'        $
C       Value of 'UUT7'
 ------------------------------------------------------------------$

 014790 DECLARE, EXTERNAL, VARIABLE, 'G-UUT8' IS 'T-ALL-UUT'        $
C       Value of 'UUT8'
 ------------------------------------------------------------------$

 014795 DECLARE, EXTERNAL, VARIABLE, 'G-UUT9' IS 'T-ALL-UUT'        $
C       Value of 'UUT9'
 ------------------------------------------------------------------$

 014800 DECLARE, EXTERNAL, VARIABLE, 'G-UUT10' IS 'T-ALL-UUT'       $
C       Value of 'UUT10'
 ------------------------------------------------------------------$

 014805 DECLARE, EXTERNAL, VARIABLE, 'G-UUT11' IS 'T-ALL-UUT'       $
C       Value of 'UUT11'
 ------------------------------------------------------------------$

 014810 DECLARE, EXTERNAL, VARIABLE, 'G-UUT12' IS 'T-ALL-UUT'       $
C       Value of 'UUT12'
 ------------------------------------------------------------------$

 014815 DECLARE, EXTERNAL, VARIABLE, 'POWER-PHOTO-STATE' IS BOOLEAN $
C       Indicates if optical bench is powered on
 ------------------------------------------------------------------$

 014820 DECLARE, EXTERNAL, VARIABLE, 'POWER-TABLE-STATE' IS BOOLEAN $
C       Indicates if one axis table is powered on
 ------------------------------------------------------------------$
C
 ==================================================================
 =                                                                =
```


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```
 =        D E C L A R A T I O N     O F    L O C A L          =
 =                                                             =
 =      M O D U L E      S P E C I F I C    V A R I A B L E S   =
 =                                                             =
 ===============================================================
                                                               $
 015005 DECLARE, VARIABLE, 'EMPTY-LINE' IS STRING(80) OF CHAR
        INITIAL =  C''                                         $
C       TO OUTPUT AN EMPTY LINE
 ---------------------------------------------------------------$

 015400 DECLARE, VARIABLE, 'FAC-ON' IS BOOLEAN
        INITIAL =  FALSE                                       $
C       FORCED AIR COOLING STATUS INDICATOR
 ---------------------------------------------------------------$

 015795 DECLARE, VARIABLE, 'FAC-PIPE' IS BOOLEAN
        INITIAL =  FALSE                                       $
C       FORCED AIR COOLING PIPE STATUS INDICATOR
 ---------------------------------------------------------------$

 016190 DECLARE, VARIABLE, 'SCCS-LIB' IS STRING(80) OF CHAR$
 C'"@(#) FRAME: MAIN.AS    CL311T311 VERSION 3.1.1  DATED : 04/10/05"'$
C       TO KNOW THE SOURCES FILES LINKED TO MAKE A BINARY FILE
 ---------------------------------------------------------------$

 016999 DECLARE, VARIABLE, 'LEVER' IS INTEGER                   $
 017000 DECLARE, VARIABLE, 'PATCH' IS INTEGER                   $
C       IF  LEVER = 1 : LOCKED         LEVER =0 : UNLOCKED
        IF  PATCH = 1 : PATCH PRESENT  PATCH = 0 : PATCH ABSENT    $
C--------------------------------------------------------------$

        DECLARE, VARIABLE, 'TPSDIR-PATH' IS STRING(64) OF CHAR     $
C
 ===============================================================
 =                                                             =
 =               D E F I N E    D R A W I N G                  =
 =                                                             =
 ===============================================================
                                                               $
C
 ===============================================================
 =                                                             =
 =      E X T E R N A L  S T A N D A R D   L I B R A R Y       =
 =                                                             =
 =                  P R O C E D U R E S                        =
 =                                                             =
 ===============================================================

 ***************************************************************
 ***                                                         ***
 ***                  U U T - D O W N                        ***
 ***                                                         ***
 ***************************************************************
```


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```
 |-----------------------------------------------------------------|
 |  Resets unit under test after a programmed or manual "uut-down"  |
 |  request. Also stops the test-time and power-time stop-watches   |
 |                                                                  |
 |  Calls proc : reset-uut             (uut library     )           |
 |               edit-uut-down         (user1 library   )           |
 |               read-date             (standard library)           |
 |               calc-time             (standard library)           |
 |               ascii-time            (standard library)           |
 |                                                                  |
 |  Store-in   : power-on      boolean that indicates the uut power |
 |                             status                               |
 |                                                                  |
 |               start-time    test start time in seconds           |
 |                                                                  |
 |               date          current date in ascii form           |
 |                                                                  |
 |               time          current time in ascii form           |
 |                                                                  |
 |               power-time    total power up time in ascii form    |
 |                                                                  |
 |               stop-power-time                                    |
 |                             power down time in seconds           |
 |                                                                  |
 |               uut-down-evt associated smart event indicator      |
 |                                                                  |
 |-----------------------------------------------------------------|
 |                                                                 $
 050005 DEFINE, 'UUT-DOWN', EXTERNAL, PROCEDURE                    $
        END, 'UUT-DOWN'                                            $
C|                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
C
 ===================================================================
 =                                                                 =
 =      D E F I N E   E X T E R N A L   P R O C E D U R E S        =
 =                                                                 =
 =                  U S E R 1 - L I B - A S                        =
 =                                                                 =
 ===================================================================

 *******************************************************************
 ***                                                             ***
 ***            I N I T - P O W E R - T I M E                    ***
 ***                                                             ***
 *******************************************************************

 |-----------------------------------------------------------------|
 |  Outputs to both the all-result and bad-result files on disk, and|
 |  to screen the test program identification frame in specific user|
 |  defined format                                                  |
 |                                                                  |
```


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```
 |  Calls proc : write                                              |
 |------------------------------------------------------------------|
 |                                                                  $
 052505 DEFINE, 'INIT-POWER-TIME', EXTERNAL, PROCEDURE              $
        END, 'INIT-POWER-TIME'                                      $
C|                                                                  |
 |------------------------------------------------------------------|

 ********************************************************************
 ***                                                              ***
 ***                        W R I T E                             ***
 ***                                                              ***
 ********************************************************************

 |------------------------------------------------------------------|
 |  Outputs data to all attached devices (screen, all-results and   |
 |  bad-result files on disk, printer etc..)                        |
 |                                                                  |
 |  Param-in   : .periph        attached device to which data should|
 |                              be output                           |
 |               .message       information to be output (sentence) |
 |------------------------------------------------------------------|
 |                                                                  $
 052555 DEFINE, 'WRITE', EXTERNAL, PROCEDURE
               ('.PERIPH'                 IS 'PERIPH-DEVICES',
               '.MESSAGE'                 IS STRING (80) OF CHAR) $
        END, 'WRITE'                                                $
C|                                                                  |
 |------------------------------------------------------------------|

 |------------------------------------------------------------------|
 |  PROCEDURE :              'NUM-TO-STRING'                        |
 |------------------------------------------------------------------|
 |  PURPOSE   : Used to convert an integer value to the equivalent  |
 |              ASCII character string.                             |
 |                                                                  |
 |------------------------------------------------------------------|
 |  Param-in  :.number      the integer to be converted to character|
 |                          string format.                          |
 |                                                                  |
 | Param-out  : .ascii-num  contains the character string conversion|
 |                          of .number                              |
 |------------------------------------------------------------------|
 |- LOCATION  :  USER2 STANDARD LIBRARY                             |
 |------------------------------------------------------------------$
 052560 DEFINE, 'NUM-TO-STRING', EXTERNAL, PROCEDURE
                       ('.NUMBER'          IS INTEGER)
                 RESULT ('.ASCII-NUM'       IS STRING (20) OF CHAR )$
        END, 'NUM-TO-STRING'                                        $
C|                                                                  |
 |------------------------------------------------------------------|

 ********************************************************************
 ***                                                              ***
```


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```
 ***                O P E R A T O R - N E E D E D              ***
 ***                                                           ***
 *****************************************************************

 |-------------------------------------------------------------|
 |      Used to indicate when presence of operator is needed during |
 |      the execution of program.                                |
 |                                                               |
 |  Param-in : .presence       is the rank of the entry point  which|
 |                             If = C'ALL', the frame "operator must|
 |                             be present during all execution of   |
 |                             the program" is displayed.           |
 |                             If = C'YES', the frame "operator must|
 |                             be present step '.STEP' in  section  |
 |                             '.section' in about '.delay' mn" is  |
 |                             displayed.                           |
 |                             If = C'NO', the frame "operator no   |
 |                             more needed until the end of the     |
 |                             program" is displayed.               |
 |                                                                  |
 |           : .test-and-step  Step where operator must be present. |
 |                                                                  |
 |           : .section        Section where operator must be       |
 |                             present                              |
 |                                                                  |
 |           : .delay          Time(in minutes) before next operator|
 |                             intervention.                        |
 |                                                                  |
 |  Calls proc :  wait-man                                          |
 |                                                                  |
 |-------------------------------------------------------------|
 |                                                                $
 052605 DEFINE, 'OPERATOR-NEEDED', EXTERNAL,  PROCEDURE
               ('.PRESENCE'               IS STRING (4) OF CHAR,
               '.TEST-AND-STEP'           IS STRING (6) OF CHAR,
               '.SECTION', '.DELAY'       IS  INTEGER)           $
       END, 'OPERATOR-NEEDED'                                    $
C|                                                               |
 |                                                               |
 |-------------------------------------------------------------|

 *****************************************************************
 ***                                                           ***
 ***                    W A I T - M A N                        ***
 ***                                                           ***
 *****************************************************************

 |-------------------------------------------------------------|
 |  Notifies the operator to press MAN.INTERV to continue.      |
 |                                                               |
 |-------------------------------------------------------------|

 |-------------------------------------------------------------|
 |                                                                $
```


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```
 052655 DEFINE, 'WAIT-MAN', EXTERNAL, PROCEDURE
               ('.MESSAGE' IS STRING (75) OF CHAR)                $
       END, 'WAIT-MAN'                                            $
C|                                                                |
 |----------------------------------------------------------------|C

 ==================================================================
 =                                                                =
 =       E X T E R N A L   T E S T   E X E C U T I V E            =
 =                                                                =
 =                    P R O C E D U R E S                         =
 =                                                                =
 ==================================================================

 ******************************************************************
 ***                                                            ***
 ***                    R E Q - I N P U T                       ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Outputs a message and a prompt to screen on the tps-warning line|
 |  and waits for an answer formatted according to the control     |
 |  string. Allows operator to enter information while avoiding    |
 |  screen scrolling                                               |
 |                                                                 |
 |  Param-in   :  .message     is the actual sentence to be written |
 |                             on screen                           |
 |                                                                 |
 |  Param-out  :  .ctrl-str    control string of the same length as |
 |                             .answer and contains a sequence of  |
 |                             the following characters :          |
 |                                                                 |
 |                             x : all alphanumeric characters     |
 |                             X : same as above except that lower |
 |                                 case letters are transformed to |
 |                                 upper case                      |
 |                                                                 |
 |                             a : only alphabetical characters    |
 |                             A : same as above except that lower |
 |                                 case letters are transformed to |
 |                                 upper case                      |
 |                                                                 |
 |                             9 : only numerical characters       |
 |                                 data displayed from left to right|
 |                                                                 |
 |                             # : only numerical characters       |
 |                                 data displayed from right to left|
 |                                                                 |
 |                .answer      data entered by the operator        |
 |                                                                 |
 |----------------------------------------------------------------|
 |                                                                 $
 059005 DEFINE, 'REQ-INPUT', EXTERNAL, PROCEDURE
```


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```
              ('.MESSAGE'                IS STRING (40) OF CHAR,
              '.CTRL-STR'                IS STRING (80) OF CHAR)
              RESULT ('.ANSWER'          IS STRING (80) OF CHAR) $
       END, 'REQ-INPUT'                                           $
C|                                                                |
 |----------------------------------------------------------------|

 ******************************************************************
 ***                                                            ***
 ***                  S T A T U S - L I N E                     ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Outputs the information referenced above to the user status line|
 |  '.first-fail' and '.last-fail' contain the module and statement |
 |  number.                                                       |
 |                                                                |
 |  Param-in   :  .power-on    indicates the uut power status     |
 |                                                                |
 |                .current-nb-fail                                |
 |                            indicates the number of failures    |
 |                            recorded during the current selection|
 |                                                                |
 |                .first-fail  statement number and module of first |
 |                            failure occurence                   |
 |                                                                |
 |                .last-fail   statement number and module of last |
 |                            failure occurence during selection  |
 |                                                                |
 |----------------------------------------------------------------|
 |                                                                $
 059555 DEFINE, 'STATUS-LINE', EXTERNAL, PROCEDURE
              ('.POWER-ON'               IS BOOLEAN,
              '.CURRENT-NB-FAIL'         IS INTEGER,
              '.FIRST-FAIL'              IS STRING (26) OF CHAR,
              '.LAST-FAIL'               IS STRING (26) OF CHAR) $
       END, 'STATUS-LINE'                                         $
C|                                                                |
 |----------------------------------------------------------------|

 ******************************************************************
 ***                                                            ***
 ***                        S T O P                             ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Permits the test program set to pass over control to the test |
 |  executive which then adjusts "run", "cont", "term" (and other) |
 |  authorisations depending on the fail or fatal conditions      |
 |                                                                |
 |  Param-in   :  .fail        an error that does not forbid test |
 |                            continuation has been detected      |
```


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```
 |                                                                |
 |               .fatal       major error that does not normally  |
 |                            allow test continuation has been    |
 |                            detected                            |
 |                                                                |
 |----------------------------------------------------------------|
 |                                                                $
 059605 DEFINE, 'STOP', EXTERNAL, PROCEDURE
               ('.FAIL', '.FATAL'         IS BOOLEAN )            $
        END, 'STOP'                                               $
C|                                                                |
 |----------------------------------------------------------------|

 ******************************************************************
 ***                                                            ***
 ***                D I S P - T P S - E R R                     ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Displays an error warning message to the operator in a special |
 |  test executive window. The message is also written in the test |
 |  executive error file that can be exploited later by authorised |
 |  users                                                         |
 |                                                                |
 |  Param-in    : .message     message to be displayed            |
 |                                                                |
 |----------------------------------------------------------------|
 |                                                                $
 059655 DEFINE, 'DISP-TPS-ERR', EXTERNAL, PROCEDURE
               ('.MESSAGE'                IS STRING (65) OF CHAR) $
        END, 'DISP-TPS-ERR'                                       $
C|                                                                |
 |----------------------------------------------------------------|

 ******************************************************************
 ***                                                            ***
 ***                  T P S - W A R N I N G                     ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Displays a caution or special attention message to the operator |
 |  in the test executive input window at the bottom of the screen |
 |                                                                |
 |  Param-in    : .message     message to be displayed            |
 |                                                                |
 |----------------------------------------------------------------|
 |                                                                $
 059705 DEFINE, 'TPS-WARNING', EXTERNAL, PROCEDURE
               ('.MESSAGE'                IS STRING (60) OF CHAR) $
        END, 'TPS-WARNING'                                        $
C|                                                                |
 |----------------------------------------------------------------|
```


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```
 ******************************************************************
 ***                                                            ***
 ***                 T P S - M E S S A G E                      ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Displays the message contained in the input parameter in a    |
 |  special window. the message is erased and execution resumed as |
 |  soon as any key is hit                                        |
 |                                                                |
 |  Param-in    : .message     message to be displayed             |
 |                                                                |
 |----------------------------------------------------------------|
 |                                                                $
 059755 DEFINE, 'TPS-MESSAGE', EXTERNAL, PROCEDURE
               ('.MESSAGE'        IS STRING (75) OF CHAR)         $
       END, 'TPS-MESSAGE'                                         $
C|                                                                |
 |----------------------------------------------------------------|

 ******************************************************************
 ***                                                            ***
 ***                   T P S - Q U E S T I O N                  ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Ask the operator to click YES or NO button to a question      |
 |  continuously while ringing                                    |
 |                                                                |
 |  Param-in   :  .message     question text                      |
 |                                                                |
 |  Param-out  :  .yes         TRUE if answer is YES              |
 |                             FALSE if answeris NO               |
 |----------------------------------------------------------------|
 |                                                                $
 059805 DEFINE, 'TPS-QUESTION', EXTERNAL, PROCEDURE

               ('.MESSAGE'  IS STRING (75) OF CHAR )
               RESULT ('.YES' IS BOOLEAN)                          $
       END, 'TPS-QUESTION'                                         $
C|                                                                |
 |----------------------------------------------------------------|

 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                     STRING-TO-NUM'                         ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************
```

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```
 |-----------------------------------------------------------------|
 | PURPOSE   : Used to convert a character string to the equivalent |
 |             integer value.                                      |
 |                                                                 |
 |-----------------------------------------------------------------|
 | Param-in   : .ascii-num   contains the character string to be   |
 |                           converted.                            |
 |                                                                 |
 | Param-out  :.number       the integer conversion of the charcater|
 |                           string.                               |
 |                                                                 |
 |-----------------------------------------------------------------|
 |- LOCATION  :  USER2 STANDARD LIBRARY                            |
 |-----------------------------------------------------------------|
 |                                                                $
       DEFINE, 'STRING-TO-NUM', EXTERNAL, PROCEDURE
                      ('.ASCII-NUM' IS STRING (20) OF CHAR )
               RESULT ('.NUMBER'    IS INTEGER )                  $
       END, 'STRING-TO-NUM'                                       $
C|                                                                |
 |-----------------------------------------------------------------|

 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                      B I P - B I P                         ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Procedure that prints a message in the test executive          |
 |  tps-warning and a continuous beep during a specified number    |
 |  of seconds.                                                    |
 |                                                                 |
 |  Param-in   :  p.message   character string to be displayed     |
 |                p.time      duration of continuous beep          |
 |                                                                 |
 |-----------------------------------------------------------------|
 |                                                                $
       DEFINE, 'BIP-BIP', EXTERNAL, PROCEDURE
               ('P.MESSAGE'         IS STRING (60) OF CHAR,
                'P.TIME'            IS DECIMAL)                   $
       END, 'BIP-BIP'                                             $
C|                                                                |
 |-----------------------------------------------------------------|
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                    S T A R T - S T O P                     ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************
```


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```
 |-----------------------------------------------------------------|
 |  Procedure that prints a message in the test executive          |
 |  tps-warning and a continuous beep during a specified number    |
 |  of seconds.                                                    |
 |                                                                 |
 |  Param-out :.start-ep  first entry-point selected by test station|
 |                         operator.                               |
 |                                                                 |
 |             .stop-ep   last entry-point selected by test station |
 |                         operator.                               |
 |                                                                 |
 |             .complete  indicates whether a complete test or a   |
 |                        partial test has been selected by the test|
 |                        station operator. A test is defined as   |
 |                        being complete when the test station     |
 |                        operator has selected all the entry points|
 |                        in the test program.                     |
 |                                                                 |
 |-----------------------------------------------------------------|
 |                                                                $
 059875 DEFINE, 'START-STOP', EXTERNAL, PROCEDURE
               RESULT('.START-EP',
                      '.STOP-EP'    IS STRING (80) OF CHAR,
                      '.COMPLETE'   IS BOOLEAN )                  $
       END, 'START-STOP'                                          $
C|                                                                |
 |-----------------------------------------------------------------|
C
 ********************************************************************
 ********************************************************************
 ***                                                              ***
 ***              S X - S C R O L W - C R E A T E                 ***
 ***                                                              ***
 ********************************************************************
 ********************************************************************

 |-----------------------------------------------------------------|
 |                                                                 |
 |                                                                 |
 |  Param-in  : WINDOW-TITLE                                       |
 |                                                                 |
 |  Param-out : SX-STATUS                                          |
 |                                                                 |
 |              WINDOW-HANDLE                                      |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                  $
       DEFINE, 'SX-SCROLW-CREATE', EXTERNAL, PROCEDURE (
                   'WINDOW-TITLE' IS STRING(20) OF CHAR
               )
               RESULT (
                   'SX-STATUS' IS INTEGER,
                   'WINDOW-HANDLE' IS INTEGER
               )                                                  $
```


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```
        END, 'SX-SCROLW-CREATE'                                  $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                S X - S C R O L W - T E X T                 ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |                                                               |
 |                                                               |
 |  Param-in  : WINDOW-HANDLE                                    |
 |                                                               |
 |              TEXT                                             |
 |                                                               |
 |  Param-out : SX-STATUS                                        |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
        DEFINE, 'SX-SCROLW-TEXT', EXTERNAL, PROCEDURE (
                    'WINDOW-HANDLE' IS INTEGER,
                    'TEXT' IS STRING(80) OF CHAR
                )
                RESULT (
                    'SX-STATUS' IS INTEGER
                )                                                $

        END, 'SX-SCROLW-TEXT'                                    $
C|                                                               |
 |---------------------------------------------------------------|
                                                                 $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  O P - R E Q U E S T E D                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |---------------------------------------------------------------|
 |                                                               |
 |                                                               |
 |  Param-in  : .MESSAGE                                         |
 |                                                               |
 |---------------------------------------------------------------|
                                                                 $
        DEFINE, 'OP-REQUESTED', EXTERNAL, PROCEDURE (
```


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```
                    '.MESSAGE' IS STRING(75) OF CHAR
                )                                                       $

        END, 'OP-REQUESTED'                                             $
C|                                                                      |
 |----------------------------------------------------------------------|
                                                                        $
C
 ***********************************************************************
 ***********************************************************************
 ***                                                                 ***
 ***              S X - S C R O L W - D E L E T E                    ***
 ***                                                                 ***
 ***********************************************************************
 ***********************************************************************

 |---------------------------------------------------------------------|
 |                                                                     |
 |                                                                     |
 |  Param-in  : WINDOW-HANDLE                                          |
 |                                                                     |
 |  Param-out : SX-STATUS                                              |
 |                                                                     |
 |---------------------------------------------------------------------|
                                                                        $
        DEFINE, 'SX-SCROLW-DELETE', EXTERNAL, PROCEDURE (
                    'WINDOW-HANDLE' IS INTEGER
                )
                RESULT (
                    'SX-STATUS' IS INTEGER
                )                                                       $

        END, 'SX-SCROLW-DELETE'                                         $
C|                                                                      |
 |----------------------------------------------------------------------|
                                                                        $
C ====================================================================
  =                                                                 =
  =          DEFINE EXTERNAL PROCEDURE STATEMENTS ( PROGRAM )       =
  =                                                                 =
  ==================================================================== $

 060005 DEFINE, 'PRES-MEASURE', EXTERNAL, PROCEDURE (
                    'GENE' IS 'T-PRES-MNEMO'
                )
                RESULT (
                    'RESULT' IS DECIMAL
                )                                                       $
        END, 'PRES-MEASURE'                                             $

 060007 DEFINE, 'PRES-APP-ALTIAS', EXTERNAL, PROCEDURE (
                    'ALTITUDE' IS DECIMAL,
                    'ALTI-RATE' IS DECIMAL,
                    'AIRSPEED' IS DECIMAL,
```


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```
                'AIRSPEED-RATE' IS DECIMAL
            )                                                   $
        END, 'PRES-APP-ALTIAS'                                  $

060009 DEFINE, 'DCSU-DISCONNECT', EXTERNAL, PROCEDURE (
                'UUT' IS 'T-ALL-UUT'
            )                                                   $
        END, 'DCSU-DISCONNECT'                                  $

060011 DEFINE, 'PRES-REM-ALTIAS', EXTERNAL, PROCEDURE           $
        END, 'PRES-REM-ALTIAS'                                  $

060013 DEFINE, 'PRES-APP-MBAR', EXTERNAL, PROCEDURE (
                'PRES-PS-VALUE' IS DECIMAL,
                'PRES-PS-RATE' IS DECIMAL,
                'PRES-PT-VALUE' IS DECIMAL,
                'PRES-PT-RATE' IS DECIMAL
            )                                                   $
        END, 'PRES-APP-MBAR'                                    $

060015 DEFINE, 'PRES-REM-MBAR', EXTERNAL, PROCEDURE             $
        END, 'PRES-REM-MBAR'                                    $

060017 DEFINE, 'UTIL-REMOVE', EXTERNAL, PROCEDURE (
                'ABANDON-UUT' IS BOOLEAN,
                'UUT' IS 'T-ALL-UUT'
            )                                                   $
        END, 'UTIL-REMOVE'                                      $

060019 DEFINE, 'UTIL-RESET-VAR', EXTERNAL, PROCEDURE            $
        END, 'UTIL-RESET-VAR'                                   $

060021 DEFINE, 'UTIL-CHECK-UUT', EXTERNAL, PROCEDURE            $
        END, 'UTIL-CHECK-UUT'                                   $

060023 DEFINE, 'ENV', EXTERNAL, PROCEDURE (
                'PATH' IS STRING(160) OF CHAR
            )
            RESULT (
                'STATUS' IS INTEGER
            )                                                   $
        END, 'ENV'                                              $

060025 DEFINE, 'R23P-PHOTO-REM', EXTERNAL, PROCEDURE            $

        END, 'R23P-PHOTO-REM'                                   $

060027 DEFINE, 'R23T-TABLE-REM', EXTERNAL, PROCEDURE            $

        END, 'R23T-TABLE-REM'                                   $

060029 DEFINE, 'R23P-PHOTO-CMD', EXTERNAL, PROCEDURE (
                'P-CMD' IS STRING(20) OF CHAR
            )                                                   $
```


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```
       END, 'R23P-PHOTO-CMD'                                    $

 060031 DEFINE, 'R23T-TABLE-CMD', EXTERNAL, PROCEDURE(
                  'P-CMD' IS STRING(20) OF CHAR
              )                                                 $

       END, 'R23T-TABLE-CMD'                                    $
C|                                                              |
 |---------------------------------------------------------------|
                                                                $
C
 ==================================================================
 =                                                                =
 =        D E F I N E   G L O B A L   P R O C E D U R E S         =
 =                                                                =
 ==================================================================

 ******************************************************************
 *                                                                *
 *    I N D E X   O F   G L O B A L   P R O C E D U R E S         *
 *   ---------------------------------------------------          *
 *                                                                *
 *                                                                *
 *        100005  ADAP-CONNECT ...........                        *
 *        100105  IDENTX .................                        *
 *        100205  RESET-UUT ..............                        *
 *        100301  UUT-CONNECT1 ...........                        *
 *        100325  UUT-CONNECT2 ...........                        *
 *        100355  UUT-CONNECT ............                        *
 *        100405  UUT-DISCONNECT .........                        *
 *        100505  INIT-FAIL ..............                        *
 *        100565  SET-FAC ................                        *
 *        100605  UUT-TEST-INIT ..........                        *
 *        100705  UUT-TEST-RESET .........                        *
 *        100805  ESA-CONNECT ............                        *
 *                                                                *
 ******************************************************************
 *                                                                *
 *             A L P H A B E T I C A L   I N D E X                *
 *             ...................................                *
 *                                                                *
 *        100005  ADAP-CONNECT ...........                        *
 *        100805  ESA-CONNECT ............                        *
 *        100105  IDENTX .................                        *
 *        100505  INIT-FAIL ..............                        *
 *        100205  RESET-UUT ..............                        *
 *        100565  SET-FAC ................                        *
 *        100355  UUT-CONNECT ............                        *
 *        100301  UUT-CONNECT1 ...........                        *
 *        100325  UUT-CONNECT2 ...........                        *
 *        100405  UUT-DISCONNECT .........                        *
 *        100605  UUT-TEST-INIT ..........                        *
 *        100705  UUT-TEST-RESET .........                        *
```


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```
 *                                                                  *
 ********************************************************************

 ********************************************************************
 ***                                                              ***
 ***                    A D A P - C O N N E C T                   ***
 ***                                                              ***
 ********************************************************************

 |------------------------------------------------------------------|
 |  Checks that necessary adaptor-board or patchboard is correctly  |
 |  installed                                                       |
 |                                                                  |
 |  Param-out  :  test-ok      set to true in case of correct test  |
 |                             result otherwise set to false        |
 |                                                                  |
 |------------------------------------------------------------------|

 |------------------------------------------------------------------|
 |                                                                 $
 100005 DEFINE, 'ADAP-CONNECT', GLOBAL, PROCEDURE
               RESULT ('.TEST-OK'        IS BOOLEAN)               $
C|                                                                 |
 |------------------------------------------------------------------|
                                                                 $
 100006 DECLARE, VARIABLE,
                'P-N'                IS STRING (20) OF CHAR ;
                'RES-NUMBER'         IS STRING (1)  OF CHAR ;
                'REF-TYPE'           IS STRING (1)  OF CHAR       $

       DECLARE, VARIABLE,
                'FOOL-PROOF-1',
                'FOOL-PROOF-3',
                'FOOL-PROOF-4'       IS INTEGER INITIAL = 3 OF 0   $

 100007 DECLARE, VARIABLE,
                'TOLERANCE',
                'U-LIM',
                'L-LIM'              IS DECIMAL                    $

       DECLARE, VARIABLE,
                'INDEX'              IS INTEGER                    $
 100008 DECLARE, VARIABLE,
                'REF-ARRAY'           IS ARRAY (1 THRU 34) OF
                STRING (1) OF CHAR INITIAL =
                ( C'0', C'1', C'2', C'3', C'4', C'5',
                C'6', C'7', C'8', C'9',
                C'A', C'B', C'C', C'D', C'E', C'F',
                C'G', C'H', C'J', C'K', C'L', C'M',
                C'N', C'P', C'Q', C'R', C'S', C'T',
                C'U', C'V', C'W', C'X', C'Y', C'Z' )              $

       DECLARE, VARIABLE,
                'STND-VALUES'         IS ARRAY (1 THRU 34) OF
```


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```
                 DECIMAL  INITIAL =
                ( 3160.0, 3480.0,  3830.0,  4020.0,   4220.0, 4420.0,
                 4870.0, 5360.0,  5900.0,  6490.0,
                 7150.0, 7870.0,  8660.0,  9530.0,  10500.0, 11500.0,
                12700.0, 13300.0, 14700.0, 15400.0, 16900.0, 18700.0,
                19600.0, 21500.0, 22600.0, 24900.0, 26100.0, 28700.0,
             31600.0, 34800.0, 38300.0, 40200.0, 42200.0, 44200.0 ) $

        PERFORM, 'TPS-WARNING' (C'')                                $

        CALCULATE, '.TEST-OK' = FALSE                               $
C-----------------------------------------------------------------$
C       CHECK IF TUA HANDLE IS CLOSED                               $

        CALCULATE, 'LEVER' = 0                                      $
        CALCULATE, 'PATCH' = 0                                      $

        MEASURE, (HANDLE-ON INTO 'LEVER', PATCH-ON INTO 'PATCH'),
                 SWU-TEST USING  'SWU-MEAS',
                 HANDLE-ON RANGE 0 TO 1,
                 PATCH-ON RANGE 0 TO 1,
                 CNX VIA VXI-BUS                                    $

 100009 IF, ('LEVER' EQ 0) OR ('PATCH' EQ 0), THEN                  $
          OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'   $
          WAIT FOR, TIME 200 MSEC                                   $
          OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'   $
          PERFORM, 'TPS-MESSAGE'
                 (C' HOOK UP THE < TUA > AND CLOSE THE < HANDLE >') $
 100010   LEAVE, 'ADAP-CONNECT'                                    $
 100011 END, IF                                                     $
C-----------------------------------------------------------------$
C       ELIMINATE ALL SPACES, SLASHES AND HYPHENS
                  FROM PART NUMBER ENTERED                          $

        CALCULATE, 'P-N' = C''                                      $
 100012 FOR, 'INDEX' = 1 THRU LEN('TUA-NUMBER'), THEN               $
 100013   IF, ((COPY('TUA-NUMBER', 'INDEX', 1) NE C'/')  AND
              (COPY('TUA-NUMBER', 'INDEX', 1) NE C'-')   AND
              (COPY('TUA-NUMBER', 'INDEX', 1) NE C':')   AND
              (COPY('TUA-NUMBER', 'INDEX', 1) NE C'.')   AND
              (COPY('TUA-NUMBER', 'INDEX', 1) NE C' ')), THEN       $
            CALCULATE,  'P-N' =
                       'P-N' & COPY('TUA-NUMBER', 'INDEX', 1)       $
 100014   END, IF                                                   $
 100015 END, FOR                                                    $
C-----------------------------------------------------------------$
C       SEARCH TYPE OF THE TUA REFERENCE (L6... OR 6-....-...)      $

        CALCULATE, 'REF-TYPE'= COPY ('P-N',1,1)                     $
C-----------------------------------------------------------------$
C       EXTRACT THE FOOL-PROOFING RESISTANCE VALUES
                FROM THE TUA PART NUMBER                            $
```


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```
        IF, 'REF-TYPE' EQ C'L', THEN                                $
 100016   CALCULATE, 'RES-NUMBER' = COPY('P-N', 3, 1)              $
        ELSE                                                        $
          CALCULATE, 'RES-NUMBER' = COPY('P-N', 2, 1)              $
        END, IF                                                     $
 100017 FOR, 'INDEX' = 1 THRU 34, THEN                              $
 100018   IF, 'RES-NUMBER' EQ 'REF-ARRAY'('INDEX'), THEN           $
            CALCULATE, 'FOOL-PROOF-1' = 'INDEX'                     $
 100019     LEAVE, FOR                                              $
 100020   END, IF                                                   $
 100021 END, FOR                                                    $

 100022 IF, 'FOOL-PROOF-1' NE 0, THEN                               $
          IF, 'REF-TYPE' EQ C'L', THEN                              $
            CALCULATE, 'RES-NUMBER' = COPY('P-N', 5, 1)             $
          ELSE                                                      $
            CALCULATE, 'RES-NUMBER' = COPY('P-N', 3, 1)             $
          END, IF                                                   $
 100023   FOR, 'INDEX' = 1 THRU 34, THEN                            $
 100024     IF, 'RES-NUMBER' EQ 'REF-ARRAY'('INDEX'), THEN          $
              CALCULATE, 'FOOL-PROOF-3' = 'INDEX'                   $
 100025       LEAVE, FOR                                            $
 100026     END, IF                                                 $
 100027   END, FOR                                                  $

 100028   IF, 'FOOL-PROOF-3' NE 0, THEN                             $
            IF, 'REF-TYPE' EQ C'L', THEN                            $
              CALCULATE, 'RES-NUMBER' = COPY('P-N', 7, 1)           $
            ELSE                                                    $
              CALCULATE, 'RES-NUMBER' = COPY('P-N', 4, 1)           $
            END, IF                                                 $
 100029     FOR, 'INDEX' = 1 THRU 34, THEN                          $
 100030       IF, 'RES-NUMBER' EQ 'REF-ARRAY'('INDEX'), THEN        $
                CALCULATE, 'FOOL-PROOF-4' = 'INDEX'                 $
 100031         LEAVE, FOR                                          $
 100032       END, IF                                               $
 100033     END, FOR                                                $

 100034     IF , 'FOOL-PROOF-4' NE 0, THEN                          $
C-----------------------------------------------------------------$
C             THE TOLERANCE IS FIXED AT 2% OF THE REFERENCE VALUE   $

 100035       CALCULATE,
                  'TOLERANCE'='STND-VALUES'('FOOL-PROOF-1') * 2/100 $
              CALCULATE, 'U-LIM' =
                        'STND-VALUES'('FOOL-PROOF-1') + 'TOLERANCE' $
              CALCULATE, 'L-LIM' =
                        'STND-VALUES'('FOOL-PROOF-1') - 'TOLERANCE' $
C-----------------------------------------------------------------$
C             MEASURE THE ACTUAL RESISTANCE (REF-1)                 $

 100036       MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                       RES RANGE 0 OHM TO 10000 OHM,
                       CNX HI REF-1-HI
```


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```
                    LO REF-1-LO                                $

 100037       IF, 'MEASUREMENT' UL 'U-LIM' LL 'L-LIM', THEN     $
C-----------------------------------------------------------------$
C               MEASURE THE 2ND RESISTANCE (REF-2 = 10 OHM)     $

 100038         MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                         RES RANGE 0 OHM TO 10000 OHM,
                         CNX HI REF-2-HI
                         LO REF-2-LO                           $

 100039         IF, 'MEASUREMENT' UL 15 LL 9, THEN              $
                  CALCULATE, 'TOLERANCE'=
                             'STND-VALUES'('FOOL-PROOF-3') * 2/100  $
                  CALCULATE, 'U-LIM' = 'STND-VALUES'('FOOL-PROOF-3')
                             + 'TOLERANCE'                       $
                  CALCULATE, 'L-LIM' = 'STND-VALUES'('FOOL-PROOF-3')
                             - 'TOLERANCE'                       $
C-----------------------------------------------------------------$
C                 MEASURE THE ACTUAL RESISTANCE (REF-3)         $

 100040           MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                           RES RANGE 0 OHM TO 10000 OHM,
                           CNX HI REF-3-HI
                           LO REF-3-LO                         $

 100041           IF, 'MEASUREMENT' UL 'U-LIM' LL 'L-LIM', THEN   $
                    CALCULATE, 'TOLERANCE' =
                               'STND-VALUES'('FOOL-PROOF-4') * 2/100 $
                    CALCULATE, 'U-LIM' =
                               'STND-VALUES'('FOOL-PROOF-4') +
                               'TOLERANCE'                     $
                    CALCULATE, 'L-LIM' =
                               'STND-VALUES'('FOOL-PROOF-4') -
                               'TOLERANCE'                     $
C-----------------------------------------------------------------$
C                   MEASURE THE ACTUAL RESISTANCE (REF-4)       $

 100042             MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                             RES RANGE 0 OHM TO 10000 OHM,
                             CNX HI REF-4-HI
                             LO REF-4-LO                       $

 100043             IF, 'MEASUREMENT' UL 'U-LIM' LL 'L-LIM', THEN   $
                      CALCULATE, '.TEST-OK' = TRUE               $
 100044             END, IF                                     $
 100045           END, IF                                       $
 100046         END, IF                                         $
 100047       END, IF                                           $
 100048       IF, NOT('.TEST-OK'), THEN                         $
                OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\',
                        C'\VT\'                                  $
                WAIT FOR, TIME 200 MSEC                          $
                OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\',
```


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```
                    C'\VT\'                                   $

 100053 IF, ('FOOL-PROOF-1' EQ 0) OR
           ('FOOL-PROOF-3' EQ 0) OR
           ('FOOL-PROOF-4' EQ 0), THEN                         $
         OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'   $
         WAIT FOR, TIME 200 MSEC                               $
         OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'   $
         PERFORM, 'DISP-TPS-ERR'
                  (C'TUA REFERENCE '
                  & C'CONTAINS ILLEGAL CHARACTERS')            $
 100054 END, IF                                                $

 100099 END, 'ADAP-CONNECT'                                    $
C

 ******************************************************************
 ***                                                            ***
 ***                    I D E N T X                             ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |    Checks that necessary cables or interface boards on the patch |
 |    are correctly installed. This is normally done by measuring   |
 |    the path resistance which should generally be a short-circuit.|
 |                                                                |
 |  Param-out  :  test-ok      set to true in case of correct test  |
 |                             result otherwise set to false      |
 |                                                                |
 |----------------------------------------------------------------|

 |----------------------------------------------------------------|
 |                                                                $
 100105 DEFINE, 'IDENTX', GLOBAL, PROCEDURE
                RESULT ('.TEST-OK'        IS BOOLEAN)            $
C|                                                               |
 |----------------------------------------------------------------|
                                                                $
 100120 DECLARE, VARIABLE,
                 'REF-VALUE'        IS DECIMAL INITIAL = 10.0   $
C-----------------------------------------------------------------$
C VERIFY THAT CABLE ON P1 IS CORRECTLY CONNECTED                 $

        CALCULATE, '.TEST-OK' = TRUE                             $

 100135 MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                 RES RANGE 0 OHM TO 10000 OHM,
                 CNX HI P1-A23 LO P1-B23                         $
 100140 IF, 'MEASUREMENT' GT 'REF-VALUE', THEN                   $
         CALCULATE, '.TEST-OK' = FALSE                           $
         OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'   $
         WAIT FOR, TIME 200 MSEC                                 $
         OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'   $
```


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```
 100145 END, IF                                                    $
C       If the program is for production                           $
        IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                      $
C VERIFY THAT CABLE L6MZQZ1ZOH50201 IS CORRECTLY CONNECTED ON
  THE TUA                                                          $

         CALCULATE, '.TEST-OK' = TRUE                              $
 100150  MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                  RES RANGE 0 OHM TO 10000 OHM,
                  CNX HI P2-C23 LO P2-D23                          $
 100155  IF, 'MEASUREMENT' GT 'REF-VALUE', THEN                    $
           CALCULATE, '.TEST-OK' = FALSE                           $
           OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\' $
           WAIT FOR, TIME 200 MSEC                                 $
           OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\' $
           PERFORM, 'TPS-MESSAGE'
           (C'CONNECT < P2 > OF CABLE < L6MZQZ1ZOH50201 > ' &
            C'TO < P2 > TUA')                                      $
 100160  END, IF                                                   $
C VERIFY THAT CABLE L6MZQZ1ZOH50301 IS CORRECTLY CONNECTED ON
  THE TUA                                                          $

         CALCULATE, '.TEST-OK' = TRUE                              $
 100165  MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                  RES RANGE 0 OHM TO 10000 OHM,
                  CNX HI P3-E23 LO P3-F23                          $
 100170  IF, 'MEASUREMENT' GT 'REF-VALUE', THEN                    $
           CALCULATE, '.TEST-OK' = FALSE                           $
           OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\' $
           WAIT FOR, TIME 200 MSEC                                 $
           OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\' $
           PERFORM, 'TPS-MESSAGE'
           (C'CONNECT < P3 > OF CABLE < L6MZQZ1ZOH50301 > ' &
            C'TO < P3 > TUA')                                      $
 100180  END, IF                                                   $

        END, IF                                                    $

 100199 END, 'IDENTX'                                              $
C

 ******************************************************************
 ***                                                            ***
 ***                    R E S E T - U U T                       ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Switches uut power off.Must be modified to take into account uut|
 |  specific power-down requirements.                             |
 |                                                                |
 |----------------------------------------------------------------|
```


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```
 |-------------------------------------------------------------|
 |                                                             $
 100205 DEFINE, 'RESET-UUT', GLOBAL, PROCEDURE                 $
C|                                                             |
 |-------------------------------------------------------------|
                                                               $
        DECLARE, VARIABLE,
                 'RESULT-PS'          IS DECIMAL               $

        DECLARE, VARIABLE,
                 'RESULT-PT'          IS DECIMAL               $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                $
C-------------------------------------------------------------$
C       DISCONNECT ALL ATTACHED DEVICES FROM THE UUT           $
C-------------------------------------------------------------$

        IF, 'G-PRESSURE' EQ TRUE, THEN                         $

          PERFORM, 'PRES-MEASURE' ('PRES-PS') RESULT ('RESULT-PS')  $
          PERFORM, 'PRES-MEASURE' ('PRES-PT') RESULT ('RESULT-PT')  $

          IF, ('G-PSALT-STATE' EQ 'ACTIVE')  AND
              ('G-PTIAS-STATE' EQ 'ACTIVE'), THEN              $

            IF, 'G-INSIDE-ALTIAS' EQ FALSE, THEN               $
              PERFORM, 'PRES-APP-ALTIAS' (0, 83.3, 40, 2.05)   $
            ELSE                                               $

              FOR, 'UUT' = 'UUT1' THRU 'UUT12', THEN           $
                IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN    $
                  PERFORM, 'DCSU-DISCONNECT' ('UUT')           $
                  WAIT FOR, TIME 2 SEC                         $
                END, IF                                        $
              END, FOR                                         $

              CALCULATE, 'G-INSIDE-ALTIAS' = FALSE             $
              PERFORM, 'PRES-REM-ALTIAS'                       $
            END, IF                                            $

            WHILE, ((NOT( 'RESULT-PS' UL ( 'G-PRES-ATMO' + 50 )
                                      LL ( 'G-PRES-ATMO' - 50 )))
                OR  (NOT( 'RESULT-PT' UL ( 'G-PRES-ATMO' + 50 )
                                      LL ( 'G-PRES-ATMO' - 50 )))
                OR (ABS( 'RESULT-PT' - 'RESULT-PS' ) GT 10 )) , THEN
                                                               $
              PERFORM, 'PRES-MEASURE' ('PRES-PS')
                       RESULT ('RESULT-PS')                    $
              PERFORM, 'PRES-MEASURE' ('PRES-PT')
                       RESULT ('RESULT-PT')                    $

            END, WHILE                                         $

            PERFORM, 'PRES-REM-ALTIAS'                         $
```


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```
          ELSE                                                  $

            IF, 'G-INSIDE-MBAR' EQ FALSE, THEN                  $
              PERFORM, 'PRES-APP-MBAR'
                  ('G-PRES-ATMO', 166, 'G-PRES-ATMO', 16.65)    $
            ELSE                                                $

              FOR, 'UUT' = 'UUT1' THRU 'UUT12', THEN            $
                IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN     $
                  PERFORM, 'DCSU-DISCONNECT' ('UUT')            $
                  WAIT FOR, TIME 2 SEC                          $
                END, IF                                         $
              END, FOR                                          $

              CALCULATE, 'G-INSIDE-MBAR' = FALSE                $
              PERFORM, 'PRES-REM-MBAR'                          $
            END, IF                                             $

            WHILE, ((NOT( 'RESULT-PS' UL ( 'G-PRES-ATMO' + 50 )
                                      LL ( 'G-PRES-ATMO' - 50 )))
                OR  (NOT( 'RESULT-PT' UL ( 'G-PRES-ATMO' + 50 )
                                      LL ( 'G-PRES-ATMO' - 50 )))
                OR  (ABS( 'RESULT-PT' - 'RESULT-PS' ) GT 10 )) , THEN
                                                                $
              PERFORM, 'PRES-MEASURE' ('PRES-PS')
                       RESULT ('RESULT-PS')                     $
              PERFORM, 'PRES-MEASURE' ('PRES-PT')
                       RESULT ('RESULT-PT')                     $

            END, WHILE                                          $

            PERFORM, 'PRES-REM-MBAR'                            $

          END, IF                                               $

        END, IF                                                 $

        FOR, 'UUT' = 'UUT1' THRU 'UUT12', THEN                  $
          IF, 'G-UUT'('UUT').'PRESENCE' EQ TRUE, THEN           $
            PERFORM, 'UTIL-REMOVE' (TRUE, 'UUT')                $
          END, IF                                               $
        END, FOR                                                $

 100235 CALCULATE, 'POWER-ON' = FALSE                           $
        CALCULATE, 'FAC-ON' = FALSE                             $
        REMOVE, ALL                                             $
C-----------------------------------------------------------------$
C        UPDATE THE STATUS DISPLAY                              $

 100265 PERFORM, 'STATUS-LINE'('POWER-ON', 'CURRENT-NB-FAIL',
                  'FIRST-FAIL', 'LAST-FAIL')                    $

 100299 END, 'RESET-UUT'                                        $
```


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```
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                  U U T - C O N N E C T 1                   ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************
 |----------------------------------------------------------------|
 |  Checks that the uut is properly connected to the tua          |
 |                                                                |
 |  Param-out  :  test-ok      set to true in case of correct test |
 |                             result otherwise set to false      |
 |                                                                |
 |----------------------------------------------------------------|

 |----------------------------------------------------------------|
 |                                                                |
 |                                                                |
 |  Param-in  : UUT                                               |
 |                                                                |
 |  Param-out : .TEST-OK                                          |
 |                                                                |
 |----------------------------------------------------------------|
                                                                 $
 100301 DEFINE, 'UUT-CONNECT1', GLOBAL, PROCEDURE (
                    'UUT' IS 'T-ALL-UUT'
                )
                RESULT (
                    '.TEST-OK' IS BOOLEAN
                )                                                $

        DECLARE, VARIABLE, 'REF-VALUE' IS DECIMAL
        INITIAL =  10.0                                          $
        CALCULATE, 'G-UUT'('UUT').'PRESENCE'     = FALSE         $
C-----------------------------------------------------------------$
C       Verify that the UUT is properly connected to the TUA     $
C-----------------------------------------------------------------$
        CALCULATE, '.TEST-OK' = TRUE                             $
 100307 MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                 RES RANGE 0 OHM TO 10000 OHM,
                 CNX HI 'G-UUT'('UUT').'HI'
                     LO 'G-UUT'('UUT').'LO'                      $
        IF, 'MEASUREMENT' LE 'REF-VALUE', THEN                   $
          CALCULATE, 'G-UUT'('UUT').'PRESENCE'    = TRUE         $
        ELSE                                                     $
 100310   OUTPUT, TEXT TO 'CRT', FROM C''                        $
          OUTPUT, TEXT TO 'CRT', FROM
                  C'   ABSENCE OF UUT DETECTED ON < J',
                  'G-UUT'('UUT').'NAME', C' >'                   $
        END, IF                                                  $

 100319 END, 'UUT-CONNECT1'                                      $
C|                                                               |
```


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```
 |-----------------------------------------------------------------|
                                                                   $
C
 ******************************************************************
 ******************************************************************
 ***                                                            ***
 ***                 U U T - C O N N E C T 2                    ***
 ***                                                            ***
 ******************************************************************
 ******************************************************************

 |-----------------------------------------------------------------|
 |  Checks that the uut is properly connected to the tua           |
 |                                                                 |
 |  Param-out  :  test-ok      set to true in case of correct test |
 |                             result otherwise set to false       |
 |                                                                 |
 |-----------------------------------------------------------------|

 |-----------------------------------------------------------------|
 |                                                                 |
 |                                                                 |
 |  Param-out : .TEST-OK                                           |
 |                                                                 |
 |-----------------------------------------------------------------|
                                                                   $
 100325 DEFINE, 'UUT-CONNECT2', GLOBAL, PROCEDURE
               RESULT (
                   '.TEST-OK' IS BOOLEAN
               )                                                   $

        DECLARE, VARIABLE, 'REF-VALUE' IS DECIMAL
        INITIAL =  10.0                                            $
 100330 CALCULATE, '.TEST-OK' = TRUE                               $
        CALCULATE, 'G-UUT'('UUT1').'PRESENCE'    = TRUE            $
C-----------------------------------------------------------------$
C       MEASURE THE ACTUAL RESISTANCE AND STORE THE
        VALUE IN MEASUREMENT                                       $

 100335 MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                RES RANGE 0 OHM TO 10000 OHM,
                CNX HI J1-G LO J1-t                                $
 100336 IF, 'MEASUREMENT' GT 'REF-VALUE', THEN                     $
         CALCULATE, '.TEST-OK' = FALSE                             $
         CALCULATE, 'G-UUT'('UUT1').'PRESENCE'    = FALSE          $
 100337 END, IF                                                    $

 100340 IF, NOT('.TEST-OK'), THEN                                  $
         OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'   $
         WAIT FOR, TIME 200 MSEC                                   $
         OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'   $
         PERFORM, 'TPS-MESSAGE'
                 (C'CONNECT UUT TO < J1 > TUA')                    $
 100345 END, IF                                                    $
```


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```
 100349 END, 'UUT-CONNECT2'                                          $
C|                                                                   |
 |-------------------------------------------------------------------|
                                                                     $
C
 ********************************************************************
 ***                                                              ***
 ***                 U U T - C O N N E C T                        ***
 ***                                                              ***
 ********************************************************************

 |-------------------------------------------------------------------|
 |  Checks that the uut is properly connected to the tua             |
 |                                                                   |
 |  Param-out  :  test-ok      set to true in case of correct test   |
 |                             result otherwise set to false         |
 |                                                                   |
 |-------------------------------------------------------------------|

 |-------------------------------------------------------------------|
 |                                                                   $
 100355 DEFINE, 'UUT-CONNECT', GLOBAL, PROCEDURE
               RESULT ('.TEST-OK'        IS BOOLEAN)                 $
C|                                                                   |
 |-------------------------------------------------------------------|
                                                                     $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                      $
C--------------------------------------------------------------------$
C    Output start of selection title to attached peripheral devices $
C--------------------------------------------------------------------$
 100360 PERFORM, 'START-STOP' RESULT('START-EP', 'STOP-EP',
                                     'COMPLETE')                     $

        FOR, 'UUT' = 'UUT1' THRU 'UUT12', THEN                       $
          CALCULATE, 'G-UUT'('UUT').'PRESENCE'    = FALSE            $
        END, FOR                                                     $
C       If the program is for production                             $
        IF, 'G-CUSTOMER' EQ C'PRODUCTION', THEN                      $

          IF, ( ('START-EP' EQ C'1: OPERATOR TESTS') OR
                ('START-EP' EQ C'2: OPTICAL TESTS') ), THEN          $
            FOR, 'UUT' = 'UUT1' THRU 'UUT4', THEN                    $
              PERFORM, 'UUT-CONNECT1' ('UUT') RESULT ('.TEST-OK')    $
              IF, NOT ('.TEST-OK'), THEN                             $
                LEAVE, FOR                                           $
              END, IF                                                $
            END, FOR                                                 $
          END, IF                                                    $

          IF, (('COMPLETE' EQ TRUE) OR
               (('STOP-EP' EQ C'4: ALTITUDE TESTS')AND
               ('START-EP' NE C'4: ALTITUDE TESTS'))OR
```


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```
            ('START-EP' EQ C'3: ATTITUDE TESTS') OR
            ('STOP-EP' EQ C'3: ATTITUDE TESTS')), THEN          $
          FOR, 'UUT' = 'UUT5' THRU 'UUT8', THEN                 $
            PERFORM, 'UUT-CONNECT1' ('UUT') RESULT ('.TEST-OK')  $
            IF, NOT ('.TEST-OK'), THEN                          $
              LEAVE, FOR                                        $
            END, IF                                             $
          END, FOR                                              $
        END, IF                                                 $

        IF, (('START-EP' EQ C'4: ALTITUDE TESTS') OR
           ('STOP-EP' EQ C'4: ALTITUDE TESTS')), THEN           $
          FOR, 'UUT' = 'UUT9' THRU 'UUT12', THEN                $
            PERFORM, 'UUT-CONNECT1' ('UUT') RESULT ('.TEST-OK')  $
            IF, NOT ('.TEST-OK'), THEN                          $
              LEAVE, FOR                                        $
            END, IF                                             $
          END, FOR                                              $
        END, IF                                                 $

        CALCULATE, 'G-UUT1'  = 'UUT1'                           $
        CALCULATE, 'G-UUT2'  = 'UUT2'                           $
        CALCULATE, 'G-UUT3'  = 'UUT3'                           $
        CALCULATE, 'G-UUT4'  = 'UUT4'                           $
        CALCULATE, 'G-UUT5'  = 'UUT5'                           $
        CALCULATE, 'G-UUT6'  = 'UUT6'                           $
        CALCULATE, 'G-UUT7'  = 'UUT7'                           $
        CALCULATE, 'G-UUT8'  = 'UUT8'                           $
        CALCULATE, 'G-UUT9'  = 'UUT9'                           $
        CALCULATE, 'G-UUT10' = 'UUT10'                          $
        CALCULATE, 'G-UUT11' = 'UUT11'                          $
        CALCULATE, 'G-UUT12' = 'UUT12'                          $
C       Else if the program is for airlines                     $
      ELSE IF, 'G-CUSTOMER' EQ C'AIRLINES', THEN                $

        PERFORM, 'UUT-CONNECT2' RESULT ('.TEST-OK')             $

        CALCULATE, 'G-UUT1'  = 'UUT1'                           $
        CALCULATE, 'G-UUT2'  = 'UUT1'                           $
        CALCULATE, 'G-UUT3'  = 'UUT1'                           $
        CALCULATE, 'G-UUT4'  = 'UUT1'                           $
        CALCULATE, 'G-UUT5'  = 'UUT1'                           $
        CALCULATE, 'G-UUT6'  = 'UUT1'                           $
        CALCULATE, 'G-UUT7'  = 'UUT1'                           $
        CALCULATE, 'G-UUT8'  = 'UUT1'                           $
        CALCULATE, 'G-UUT9'  = 'UUT1'                           $
        CALCULATE, 'G-UUT10' = 'UUT1'                           $
        CALCULATE, 'G-UUT11' = 'UUT1'                           $
        CALCULATE, 'G-UUT12' = 'UUT1'                           $

      END, IF                                                   $

 100399 END, 'UUT-CONNECT'                                      $
C
```


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```
 ******************************************************************
 ***                                                            ***
 ***                U U T - D I S C O N N E C T                 ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Checks that the uut is completely disconnected from the tua   |
 |                                                                |
 |  Param-out  :  test-ok      set to true in case of correct test |
 |                             result otherwise set to false      |
 |                                                                |
 |----------------------------------------------------------------|

 |----------------------------------------------------------------|
 |                                                                $
 100405 DEFINE, 'UUT-DISCONNECT', GLOBAL, PROCEDURE
               RESULT ('.TEST-OK'        IS BOOLEAN)              $
C|                                                               |
 |                                                               |
 |----------------------------------------------------------------|
                                                                  $
 100415 DECLARE, VARIABLE,
                'REF-VALUE'        IS DECIMAL INITIAL = 9000.0    $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                   $

        DECLARE, VARIABLE, 'EDIT' IS BOOLEAN                      $

 100425 CALCULATE, '.TEST-OK' = TRUE                              $
C-----------------------------------------------------------------
 MEASURE THE ACTUAL RESISTANCE AND STORE THE VALUE IN MEASUREMENT
 -----------------------------------------------------------------$
        FOR, 'UUT' = 'UUT1' THRU 'UUT12', THEN                    $

          CALCULATE, 'EDIT' = FALSE                               $

 100435   MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                RES RANGE 0 OHM TO 10000 OHM,
                  CNX HI 'G-UUT'('UUT').'HI'
                      LO 'G-UUT'('UUT').'LO'                      $
 100445   IF, 'MEASUREMENT' LE 'REF-VALUE', THEN                  $
            CALCULATE, '.TEST-OK' = FALSE                         $
            CALCULATE, 'EDIT' = TRUE                              $
 100455   END, IF                                                 $

 100465   IF, 'EDIT', THEN                                        $
            OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\' $
            WAIT FOR, TIME 200 MSEC                               $
            OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\' $
            PERFORM, 'TPS-MESSAGE'
                   (C'DISCONNECT UUT FROM < J' &
                    'G-UUT'('UUT').'NAME' & C' > TUA')            $
 100475   END, IF                                                 $
```


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```
       END, FOR                                                $

 100499 END, 'UUT-DISCONNECT'                                  $
C

 ******************************************************************
 ***                                                            ***
 ***                  I N I T - F A I L                         ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Outputs to attached peripherals a message informing the operator|
 |  that a failure appeared during  UUT initialization            |
 |                                                                |
 |  Calls proc :  uut-down                                        |
 |                write                                           |
 |                stop                                            |
 |----------------------------------------------------------------|

 |----------------------------------------------------------------|
 |                                                               $
 100505 DEFINE, 'INIT-FAIL', GLOBAL, PROCEDURE                   $
C|                                                               |
 |                                                               |
 |----------------------------------------------------------------|
                                                                 $
C-----------------------------------------------------------------$
C      CALL UUT-DOWN TO RESET THE DEVICES CONNECTED TO THE UUT    $
 100520 CALCULATE, 'POWER-ON' = TRUE                             $
       PERFORM, 'UUT-DOWN'                                       $
C-----------------------------------------------------------------$
C      OUTPUT  FAILURE  FRAME                                    $

 100535 PERFORM, 'WRITE'('ALL', 'EMPTY-LINE')                    $
       PERFORM, 'WRITE'('ALL', 'EMPTY-LINE')                     $
       PERFORM, 'WRITE'('ALL',
               C'****************************************'
               & C'****************************************')   $
       PERFORM, 'WRITE'('ALL',
               C'*                                    '
               & C'                                   *')       $
       PERFORM, 'WRITE'('ALL',
               C'*           I N I T I A L I Z A T I O N'
               & C'      F A I L U R E                *')       $
       PERFORM, 'WRITE'('ALL',
               C'*                                    '
               & C'                                   *')       $
       PERFORM, 'WRITE'('ALL',
               C'****************************************'
               & C'****************************************')   $
       PERFORM, 'WRITE'('ALL', 'EMPTY-LINE')                     $
       PERFORM, 'WRITE'('ALL', 'EMPTY-LINE')                     $
```


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```
C-----------------------------------------------------------------$
C       SET 'FATAL' AND 'FAIL' TO TRUE                             $

 100550 CALCULATE, 'FAIL' = TRUE                                   $
        CALCULATE, 'FATAL' = TRUE                                  $
        OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'    $
        WAIT FOR, TIME 200 MSEC                                    $
        OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'    $

 100565 PERFORM, 'STOP' ('FAIL', 'FATAL' )                         $

 100599 END, 'INIT-FAIL'                                           $
C

 ******************************************************************
 ***                                                            ***
 ***                      S E T - F A C                         ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Power on forced air cooling if necessary                      |
 |                                                                |
 |                                                                |
 |----------------------------------------------------------------|

 |----------------------------------------------------------------|
 |                                                                $
 100605 DEFINE, 'SET-FAC', GLOBAL, PROCEDURE                       $
C|                                                                |
 |                                                                |
 |----------------------------------------------------------------|
 -----------------------------------------------------------------$

 100699 END, 'SET-FAC'                                             $
C

 ******************************************************************
 ***                                                            ***
 ***                 U U T - T E S T - I N I T                  ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Initializes all program specific stores and functions. Issues |
 |  special test specific warnings required for specific operator |
 |  actions on the uut or ate station                             |
 |                                                                |
 |----------------------------------------------------------------|

 |----------------------------------------------------------------|
 |                                                                $
 100705 DEFINE, 'UUT-TEST-INIT', GLOBAL, PROCEDURE                 $
C|                                                                |
```


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```
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $
C-----------------------------------------------------------------$
C       LEAVE THE PROCEDURE IF THE POWER SUPPLIES ARE NOT REMOVED   $

 100710 IF, 'POWER-ON', THEN                                      $
 100715   LEAVE, 'UUT-TEST-INIT'                                  $
 100720 END, IF                                                   $

        CALCULATE, 'CONTINUE' = TRUE                              $

        CALCULATE, 'LIST-CNX' = TRUE                              $

        PERFORM, 'UTIL-RESET-VAR'                                 $

        PERFORM, 'UTIL-CHECK-UUT'                                 $

 100799 END, 'UUT-TEST-INIT'                                      $
C

 ******************************************************************
 ***                                                            ***
 ***                U U T - T E S T - R E S E T                 ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Resets all program specific stores and functions used within the|
 |  tps session. Outputs necessary messages to operator in order to |
 |  properly shut down the system.                                 |
 |                                                                 |
 |----------------------------------------------------------------|

 |----------------------------------------------------------------|
 |                                                                 $
 100805 DEFINE, 'UUT-TEST-RESET', GLOBAL, PROCEDURE                $
C|                                                                |
 |                                                                |
 |----------------------------------------------------------------|
                                                                  $

        DECLARE, VARIABLE, 'FILE' IS ARRAY('UUT1' THRU 'UUT12') OF
                   STRING(80) OF CHAR INITIAL = (12 OF C'')       $

        DECLARE, VARIABLE, 'TEXT' IS ARRAY(1 THRU 20) OF
                   STRING(80) OF CHAR INITIAL = (20 OF C'')       $

        DECLARE, VARIABLE, 'STATUS' IS INTEGER                    $

        DECLARE, VARIABLE, 'L-PLUG' IS INTEGER                    $

        DECLARE, VARIABLE, 'L-STR-PLUG' IS STRING(5) OF CHAR      $
```

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```
        DECLARE, VARIABLE, 'L-POST' IS INTEGER                    $

        DECLARE, VARIABLE, 'L-CNT' IS INTEGER                     $

        DECLARE, VARIABLE, 'WIND-HANDLE' IS INTEGER               $

        DECLARE, VARIABLE, 'INDEX' IS INTEGER                     $

        DECLARE, VARIABLE, 'UUT' IS 'T-ALL-UUT'                   $

        DECLARE, VARIABLE, 'INDIC' IS BOOLEAN                     $

        DECLARE, VARIABLE, 'FILE-EDIT' IS BOOLEAN INITIAL = FALSE   $

        DECLARE, VARIABLE, 'VL-COMM' IS STRING(160) OF CHAR       $

        DECLARE, VARIABLE, 'VL-STAT' IS INTEGER                   $

        DECLARE, VARIABLE, 'VL-EXTENDED-DATE' IS STRING (15) OF CHAR$

        DECLARE, VARIABLE, 'VL-MONTH' IS INTEGER                  $

        DECLARE, VARIABLE, 'VL-TABL-MONTHS' IS ARRAY (1 THRU 12) OF
                           STRING (3) OF CHAR
                  INITIAL = (C'JAN',C'FEB',C'MAR',C'APR',
                             C'MAY',C'JUN',C'JUL',C'AUG',
                             C'SEP',C'OCT',C'NOV',C'DEC')          $
        DECLARE, VARIABLE,
                'VL-TOT-ONE-MIC'         IS STRING (5) OF CHAR     $

        DECLARE, VARIABLE,
                'VL-TOT-ONE-LOOP'        IS STRING (5) OF CHAR     $

        DECLARE, VARIABLE,
                'VL-TOT-ONE-STOP'        IS STRING (5) OF CHAR     $

        DECLARE, VARIABLE,
                'RESU-FILE'                IS FILE OF TEXT         $

        DECLARE, VARIABLE,
                'VL-TOT-ONE-PAUSE'       IS STRING (5) OF CHAR     $

        DECLARE, VARIABLE, 'PATH-AND-FILE' IS STRING(80) OF CHAR    $
C                                                                   $
C-------------------------------------------------------------------$
C       DISCONNECT AND RESET ALL DEVICES ATTACHED TO THE UUT        $

 100835 PERFORM, 'RESET-UUT'                                        $
C-------------------------------------------------------------------$
C       DISABLE ALL ACTIVE LOGICAL DEVICES                          $

 100845 DISABLE, 'DISK'                                             $
        DISABLE, 'NDISK'                                            $
```


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```
        IF, 'G-CUSTOMER' NE C'AIRLINES', THEN                      $

          PERFORM, 'STRING-TO-NUM'(COPY('DATE', 1,2))
                   RESULT('VL-MONTH')                               $

          CALCULATE, 'VL-EXTENDED-DATE' =
                              ('VL-TABL-MONTHS'('VL-MONTH') & C' ' &
                              (COPY('DATE', 4, 2))  & C'/20' &
                               COPY('DATE', 7, 2))                  $

          IF, 'TOT-ONE-STOP' EQ TRUE, THEN                          $
            CALCULATE, 'VL-TOT-ONE-STOP' = C'TRUE'                  $
          ELSE                                                      $
            CALCULATE, 'VL-TOT-ONE-STOP' = C'FALSE'                 $
          END, IF                                                   $

          IF, 'TOT-ONE-PAUSE 'EQ TRUE, THEN                         $
            CALCULATE, 'VL-TOT-ONE-PAUSE' = C'TRUE'                 $
          ELSE                                                      $
            CALCULATE, 'VL-TOT-ONE-PAUSE' = C'FALSE'                $
          END, IF                                                   $

          IF, 'TOT-ONE-LOOP' EQ TRUE, THEN                          $
            CALCULATE, 'VL-TOT-ONE-LOOP' = C'TRUE'                  $
          ELSE                                                      $
            CALCULATE, 'VL-TOT-ONE-LOOP' = C'FALSE'                 $
          END, IF                                                   $

          IF, 'TOT-ONE-MIC' EQ TRUE, THEN                           $
            CALCULATE, 'VL-TOT-ONE-MIC' = C'TRUE'                   $
          ELSE                                                      $
            CALCULATE, 'VL-TOT-ONE-MIC' = C'FALSE'                  $
          END, IF                                                   $

100847    PERFORM, 'ENV' (C'echo ">>>TOT" >>' &
                          'TPSDIR'.'PATHNAME' & C'/3304LK00.AR ')
              RESULT ('VL-STAT')                                    $

          IF, 'VL-STAT' NE 0, THEN                                  $
            OUTPUT, TEXT TO 'CRT', FROM C''                         $
            OUTPUT, TEXT TO 'CRT', FROM C'PROBLEM WITH UNIX COMMAND'$
            OUTPUT, TEXT TO 'CRT', FROM C''                         $
          END, IF                                                   $

          PERFORM, 'ENV'
                (C'echo ' & 'VL-TOT-ONE-STOP'  & C' '
                          & 'VL-TOT-ONE-PAUSE' & C' '
                          & 'VL-TOT-ONE-LOOP'  & C' '
                          & 'VL-TOT-ONE-MIC'
                          & C'>>' & 'TPSDIR'.'PATHNAME'
                          & C'/3304LK00.AR ')
              RESULT ('VL-STAT')                                    $

          IF, 'VL-STAT' NE 0, THEN                                  $
```


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```
          OUTPUT, TEXT TO 'CRT', FROM C''                          $
          OUTPUT, TEXT TO 'CRT', FROM C'PROBLEM WITH UNIX COMMAND'$
          OUTPUT, TEXT TO 'CRT', FROM C''                          $
        END, IF                                                    $

        PERFORM, 'ENV' (C'echo ">>>TOTAL_USER" >>' &
                        'TPSDIR'.'PATHNAME' & C'/3304LK00.AR ')
            RESULT ('VL-STAT')                                     $

100849  IF, 'VL-STAT' NE 0, THEN                                   $
          OUTPUT, TEXT TO 'CRT', FROM C''                          $
          OUTPUT, TEXT TO 'CRT', FROM C'PROBLEM WITH UNIX COMMAND'$
          OUTPUT, TEXT TO 'CRT', FROM C''                          $
        END, IF                                                    $

        PERFORM, 'ENV' (C'echo ' & 'TOTAL-USER' & C' >>' &
                        'TPSDIR'.'PATHNAME' & C'/3304LK00.AR ')
            RESULT ('VL-STAT')                                     $

        IF, 'VL-STAT' NE 0, THEN                                   $
          OUTPUT, TEXT TO 'CRT', FROM C''                          $
          OUTPUT, TEXT TO 'CRT', FROM C'PROBLEM WITH UNIX COMMAND'$
          OUTPUT, TEXT TO 'CRT', FROM C''                          $
        END, IF                                                    $

        PERFORM, 'ENV' (C'echo ">>>DATE" >>' &
                        'TPSDIR'.'PATHNAME' & C'/3304LK00.AR ')
            RESULT ('VL-STAT')                                     $

        IF, 'VL-STAT' NE 0, THEN                                   $
          OUTPUT, TEXT TO 'CRT', FROM C''                          $
          OUTPUT, TEXT TO 'CRT', FROM C'PROBLEM WITH UNIX COMMAND'$
          OUTPUT, TEXT TO 'CRT', FROM C''                          $
        END, IF                                                    $

        PERFORM, 'ENV' (C'echo ' & 'VL-EXTENDED-DATE'  &
                        C' ' & 'TIME' & C' >>' &
                        'TPSDIR'.'PATHNAME' & C'/3304LK00.AR ')
            RESULT ('VL-STAT')                                     $

        IF, 'VL-STAT' NE 0, THEN                                   $
          OUTPUT, TEXT TO 'CRT', FROM C''                          $
          OUTPUT, TEXT TO 'CRT', FROM C'PROBLEM WITH UNIX COMMAND'$
          OUTPUT, TEXT TO 'CRT', FROM C''                          $
        END, IF                                                    $

100851  CALCULATE, 'TEXT'(1) = C'----------------------------' &
                  C'------------------------------------'         $

        CALCULATE, 'TEXT'(2) = C'!  SERIAL NUMBER   |  POSTE  ' &
                  C'|  PRISE  |  GO  |  NOGO  |  FATAL |'         $

        CALCULATE, 'TEXT'(3) = C'----------------------------' &
                  C'------------------------------------'         $
```


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```
          CALCULATE, 'INDEX' = 4                                  $
          CALCULATE, 'FILE-EDIT' = FALSE                          $

 100853   FOR, 'UUT' = 'UUT1' THRU 'UUT12', THEN                   $

            IF, 'G-UUT'('UUT').'SERIAL-NUMB' NE C'', THEN          $
C             Creation of SN-PlugNumber.ART file which is results
              files corresponding to a test session.
              (This file is in /tmp_res directory)

              Creation of ISFD-SN.AR+PlugNumber and
                          ISFD-SN.BR+PlugNumber files which are
              partial results files corresponding to one post .    $

              CALCULATE, 'L-POST' = INT((ORD('UUT')/4))            $
              CALCULATE, 'L-POST' = ('L-POST' * 4) + 1             $
C             DELETE ALL OLD .ART FILES FOR THIS POST              $

              FOR, 'L-CNT' = 0 THRU 3, THEN                        $
                CALCULATE, 'L-PLUG'= 'L-POST' + 'L-CNT'            $
                PERFORM, 'NUM-TO-STRING'('L-PLUG')
                         RESULT('L-STR-PLUG')                      $
 100854         CALCULATE, 'VL-COMM'= C'cd ' & 'TPSDIR'.'PATHNAME' &
                           C'/tmp_res ; rm ' &
                           'G-UUT'('UUT').'SERIAL-NUMB' & C'-' &
                           'G-UUT'('UUT').'PART-NUMB' & C'-' &
                           'L-STR-PLUG' & C'.ART'                  $
                PERFORM, 'ENV' ('VL-COMM') RESULT ('VL-STAT')      $
              END, FOR                                             $

              CALCULATE, 'VL-COMM'= C'cd ' & 'TPSDIR'.'PATHNAME'   &
                          C';cp 3304LK00.AR ' & C'tmp_res/' &
                         'G-UUT'('UUT').'SERIAL-NUMB' & C'-' &
                         'G-UUT'('UUT').'PART-NUMB' & C'-' &
                         'G-UUT'('UUT').'NAME' & C'.ART' &
                          C';./mkres ' & 'G-UUT'('UUT').'SERIAL-NUMB' &
                          C' ' & 'G-UUT'('UUT').'NAME'             $

 100855       PERFORM, 'ENV' ('VL-COMM') RESULT ('VL-STAT')        $

              IF, 'VL-STAT' NE 0, THEN                             $
                OUTPUT, TEXT TO 'CRT', FROM C''                    $
                OUTPUT, TEXT TO 'CRT',
                        FROM C'PROBLEM WITH UNIX COMMAND'          $
                OUTPUT, TEXT TO 'CRT', FROM C''                    $
              END, IF                                              $
C             RESUME file contains informations about the passage of
              one UUT on one post (informations correspond to GO,
              NOGO and FATAL numbers)
              remark : this file is created with "mkres" command   $

              CALCULATE, 'PATH-AND-FILE' =
                         'TPSDIR'.'PATHNAME' & C'/RESUME'          $
```


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```
              CREATE, 'PATH-AND-FILE', STATUS 'INDIC'              $
C             If file RESUME exists                                $
              IF, 'INDIC' EQ FALSE, THEN                           $

                ENABLE, INPUT FROM 'PATH-AND-FILE', VIA 'RESU-FILE' $

                INPUT, TEXT FROM 'RESU-FILE', INTO 'TEXT'('INDEX')  $

                CALCULATE, 'INDEX' = 'INDEX' + 1                   $

                CALCULATE, 'FILE-EDIT' = TRUE                      $

                DISABLE, 'RESU-FILE'                               $

              ELSE                                                 $
                DELETE, 'PATH-AND-FILE'                            $
              END, IF                                              $

            END, IF                                                $

          END, FOR                                                 $

 100857   CALCULATE, 'TEXT'('INDEX') = C'------------------------' &
                   C'---------------------------------------'     $
C         If there are results informations to edit (GO, NOGO, FATAL)
                                                                   $
          IF, 'FILE-EDIT' EQ TRUE, THEN                            $

 100859     PERFORM, 'SX-SCROLW-CREATE' (C'OPERATOR MESSAGE')
                 RESULT ('STATUS', 'WIND-HANDLE')                  $

            IF, 'STATUS' EQ -1, THEN                               $
              PERFORM, 'DISP-TPS-ERR'
                       (C'ERROR - WINDOW MESSAGE NOT DISPLAYED')   $
            END, IF                                                $

            FOR , 'INDEX' = 1 THRU 20, THEN                        $
              IF, 'TEXT' ('INDEX') NE C'', THEN                    $
                PERFORM, 'SX-SCROLW-TEXT' ('WIND-HANDLE',
                     'TEXT'('INDEX')) RESULT ('STATUS')            $
              END, IF                                              $
            END, FOR                                               $

 100861     IF, 'STATUS' EQ -1, THEN                               $
              PERFORM, 'DISP-TPS-ERR'
                   (C'ERROR - MESSAGE NOT DISPLAYED')              $
            END, IF                                                $

            PERFORM, 'WAIT-MAN' (C'PRESS < OK > TO CONTINUE')      $

            PERFORM, 'SX-SCROLW-DELETE' ('WIND-HANDLE')
                 RESULT ('STATUS')                                 $
```


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```
            IF, 'STATUS' EQ -1, THEN                              $
              PERFORM, 'DISP-TPS-ERR'
              (C'ERROR - MESSAGE WINDOW DISPLAYED' &
               C' NOT REMOVED')                                   $
            END, IF                                               $

          END, IF                                                 $

          FOR, 'INDEX' = 1 THRU 20, THEN                          $
            CALCULATE, 'TEXT'('INDEX') = C''                      $
          END, FOR                                                $
C         Creation of ISFD-SN.AR files                            $
          CALCULATE, 'VL-COMM'= C'cd ' & 'TPSDIR'.'PATHNAME'  &
                       C';./mkres atlas;cd ' & 'TPSDIR'.'PATHNAME' $

          PERFORM, 'ENV' ('VL-COMM') RESULT ('VL-STAT')           $

          IF, 'VL-STAT' NE 0, THEN                                $
            OUTPUT, TEXT TO 'CRT', FROM C''                       $
            OUTPUT, TEXT TO 'CRT',
                       FROM C'PROBLEM WITH UNIX COMMAND'          $
            OUTPUT, TEXT TO 'CRT', FROM C''                       $
          END, IF                                                 $

 100863   CALCULATE, 'TEXT'(1) =
          C'- LES FICHIERS RESULTATS (POSTE1+POSTE2+POSTE3) ' &
          C'SONT DE LA FORME :'                                   $

          CALCULATE, 'TEXT'(2) =
          C'  "ISFD-SN.AR"'                                       $

          CALCULATE, 'TEXT'(3) =
          C'- ILS SE TROUVENT DANS LE REPERTOIRE :'               $

          CALCULATE, 'TEXT'(4) = C'  "' & 'TPSDIR'.'PATHNAME' & C'"'$

          CALCULATE, 'TEXT'(5) =
          C'- LES FICHIERS DISPONIBLES POUR CETTE SESSION SONT :'   $

          CALCULATE, 'INDEX' = 6                                  $
          CALCULATE, 'FILE-EDIT' = FALSE                          $

 100865   FOR, 'UUT' = 'UUT1' THRU 'UUT12', THEN                  $

            IF, 'G-UUT'('UUT').'SERIAL-NUMB' NE C'', THEN         $

              CALCULATE, 'VL-COMM'= C'ls ' &
                     'TPSDIR'.'PATHNAME' & C'/complete_tests/ISFD-' &
                     'G-UUT'('UUT').'SERIAL-NUMB' & C'.AR'        $
C                                                                 $
              PERFORM, 'ENV' ('VL-COMM') RESULT ('VL-STAT')       $
C             Verify if complete result file ISFD-SN.AR exists
              (file ISFD-SN.AR is result file for post 1, 2 and 3)  $
              IF, 'VL-STAT' EQ 0, THEN                            $
```


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```
C
              Fill the variable FILE if result file ISFD-SN.AR
               exists                                          $
               CALCULATE, 'FILE'('UUT') =
                          C'ISFD-' & 'G-UUT'('UUT').'SERIAL-NUMB'  &
                          C'.AR'                                  $

               CALCULATE, 'TEXT'('INDEX') =
                         C'  ISFD-' & 'G-UUT'('UUT').'SERIAL-NUMB' &
                         C'.AR'                                   $

               CALCULATE, 'INDEX' = 'INDEX' + 1                   $

               CALCULATE, 'FILE-EDIT' = TRUE                      $

             END, IF                                              $

           END, IF                                                $

         END, FOR                                                 $
C        If there are complete results files to edit              $
         IF, 'FILE-EDIT' EQ TRUE, THEN                            $

 100871    PERFORM, 'SX-SCROLW-CREATE' (C'OPERATOR MESSAGE')
                RESULT ('STATUS', 'WIND-HANDLE')                  $

           IF, 'STATUS' EQ -1, THEN                               $
             PERFORM, 'DISP-TPS-ERR'
                      (C'ERROR - WINDOW MESSAGE NOT DISPLAYED')   $
           END, IF                                                $

           FOR , 'INDEX' = 1 THRU 20, THEN                        $
             IF, 'TEXT' ('INDEX') NE C'', THEN                    $
               PERFORM, 'SX-SCROLW-TEXT' ('WIND-HANDLE',
                    'TEXT'('INDEX')) RESULT ('STATUS')            $
             END, IF                                              $
           END, FOR                                               $

 100873    IF, 'STATUS' EQ -1, THEN                               $
             PERFORM, 'DISP-TPS-ERR'
                  (C'ERROR - MESSAGE NOT DISPLAYED')              $
           END, IF                                                $

           PERFORM, 'OP-REQUESTED'
           (C'VOULEZ VOUS IMPRIMER CES FICHIERS RESULTATS')       $

           IF, 'OP-CHOICE' EQ C'YES', THEN                        $

             FOR, 'UUT' = 'UUT1' THRU 'UUT12', THEN               $

               IF, 'FILE'('UUT') NE C'', THEN                     $

                 CALCULATE, 'VL-COMM'= C'cd ' & 'TPSDIR'.'PATHNAME'
                          & C'/complete_tests; ' &
```


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```
                        C'/user/smart/tools/print_format.sh -f ' &
                        'FILE'('UUT')                            $

                PERFORM, 'ENV' ('VL-COMM') RESULT ('VL-STAT')     $

                IF, 'VL-STAT' NE 0, THEN                          $
                  OUTPUT, TEXT TO 'CRT', FROM C''                 $
                  OUTPUT, TEXT TO 'CRT',
                         FROM C'PROBLEM WITH UNIX COMMAND'        $
                  OUTPUT, TEXT TO 'CRT', FROM C''                 $
                END, IF                                           $

              END, IF                                             $

            END, FOR                                              $

          END, IF                                                 $

          PERFORM, 'SX-SCROLW-DELETE' ('WIND-HANDLE')
               RESULT ('STATUS')                                  $

          IF, 'STATUS' EQ -1, THEN                                $
            PERFORM, 'DISP-TPS-ERR'
            (C'ERROR - MESSAGE WINDOW DISPLAYED' &
             C' NOT REMOVED')                                     $
          END, IF                                                 $

        END, IF                                                   $

      END, IF                                                     $

      DISABLE, 'CRT'                                              $

 100899 END, 'UUT-TEST-RESET'                                     $
C
 ******************************************************************
 ***                                                            ***
 ***                  E S A - C O N N E C T                     ***
 ***                                                            ***
 ******************************************************************

 |----------------------------------------------------------------|
 |  Checks that necessary External SWitching Unit is correctly    |
 |  installed                                                     |
 |                                                                |
 |  Param-out  :  test-ok      set to true in case of correct test |
 |                             result otherwise set to false      |
 |                                                                |
 |----------------------------------------------------------------|

 |----------------------------------------------------------------|
 |                                                                $
 100905 DEFINE, 'ESA-CONNECT', GLOBAL, PROCEDURE
               RESULT ('.TEST-OK'        IS BOOLEAN)              $
```


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```
C|                                                                  |
 |------------------------------------------------------------------|
                                                                    $
 100908 DECLARE, VARIABLE,
                'RES-NUMBER'         IS STRING (1)  OF CHAR        $

        DECLARE, VARIABLE,
                'REF-1-UL','REF-1-LL',
                'REF-3-UL','REF-3-LL',
                'REF-4-UL','REF-4-LL' IS INTEGER
                                      INITIAL = (10710, 10290,
                                                 26622, 25578,
                                                 3468,  3332 )     $

        CALCULATE, '.TEST-OK' = FALSE                               $
C-------------------------------------------------------------------$
C       CHECK IF  ESA HANDLE IS CLOSED                              $

        CALCULATE, 'LEVER' = 0                                      $
        CALCULATE, 'PATCH' = 0                                      $
C       MEASURE, (HANDLE-ON INTO 'LEVER', PATCH-ON INTO 'PATCH'),
                SWU-TEST USING 'ESWU',
                HANDLE-ON RANGE 0 TO 1,
                PATCH-ON RANGE 0 TO 1,
                CNX VIA VXI-BUS                                     $

 100911 IF, ('LEVER' EQ 0) OR ('PATCH' EQ 0), THEN                  $
          CALCULATE, '.TEST-OK' = FALSE                             $
          OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'   $
          WAIT FOR, TIME 200 MSEC                                   $
          OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'   $
          PERFORM, 'TPS-MESSAGE'
                (C' HOOK UP THE < ESA > AND CLOSE THE < HANDLE >')  $
 100914   LEAVE, 'ESA-CONNECT'                                      $

 100917 END, IF                                                     $
C-------------------------------------------------------------------$
C       CHECK IF  ESA TO TUA CABLE IS CONNECTED                     $
C100920 MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                RES RANGE 0 OHM TO 10000 OHM,
                CNX HI  ESA-STR1-HI
                    LO  ESA-STR1-LO                                 $
 100923 IF, 'MEASUREMENT' GT 10, THEN                               $
          CALCULATE, '.TEST-OK' = FALSE                             $
          OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'   $
          WAIT FOR, TIME 200 MSEC                                   $
          OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\'   $
          PERFORM, 'TPS-MESSAGE'
            (C'CONNECT EXTENSION SWITCHING CABLE TO TUA')           $
 100926 ELSE                                                        $
C-------------------------------------------------------------------$
C         CHECK IF  ESA IS CONNECTED TO ATE                         $
C100929   MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                  RES RANGE 0 OHM TO 10000 OHM,
```


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```
                 CNX HI  ESA-STR2-HI
                     LO  ESA-STR2-LO                          $
 100932   IF, 'MEASUREMENT' GT 10, THEN                       $
            CALCULATE, '.TEST-OK' = FALSE                     $
            OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\' $
            WAIT FOR, TIME 200 MSEC                           $
            OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\', C'\VT\' $
            PERFORM, 'TPS-MESSAGE'
                    (C'CONNECT ESA CABLE TO ESA')             $
 100935   ELSE                                                $
C-------------------------------------------------------------$
C           MEASURE THE ACTUAL RESISTANCE (REF-1)             $
C100938     MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                    RES RANGE 0 OHM TO 10000 OHM,
                    CNX HI  ESA-REF1-HI
                        LO  ESA-REF-LO                        $

 100941     IF, 'MEASUREMENT' UL 'REF-1-UL'
                              LL 'REF-1-LL', THEN             $
C-------------------------------------------------------------$
C             MEASURE THE 2ND RESISTANCE (REF-2 = 10 OHM)     $
C100944       MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                       RES RANGE 0 OHM TO 10000 OHM,
                       CNX HI  ESA-REF2-HI
                           LO  ESA-REF-LO                     $

 100947       IF, 'MEASUREMENT' UL 15 LL 9, THEN              $
C-------------------------------------------------------------$
C               MEASURE THE ACTUAL RESISTANCE (REF-3)         $
C100950         MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                         RES RANGE 0 OHM TO 10000 OHM,
                         CNX HI  ESA-REF3-HI
                             LO  ESA-REF-LO                   $

 100953         IF, 'MEASUREMENT' UL 'REF-3-UL'
                                   LL 'REF-3-LL', THEN        $
C-------------------------------------------------------------$
C                 MEASURE THE ACTUAL RESISTANCE (REF-4)       $
C100956           MEASURE, (RES), IMPEDANCE USING 'MEAS-RES',
                           RES RANGE 0 OHM TO 10000 OHM,
                           CNX HI  ESA-REF4-HI
                               LO  ESA-REF-LO                 $

 100959           IF, 'MEASUREMENT' UL 'REF-4-UL'
                                     LL 'REF-4-LL', THEN      $
                    CALCULATE, '.TEST-OK' = TRUE              $
 100962           END, IF                                     $
 100965         END, IF                                       $
 100968       END, IF                                         $
 100971     END, IF                                           $
 100974     IF, NOT('.TEST-OK'), THEN                         $
              OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\',
                      C'\VT\'                                 $
              WAIT FOR, TIME 200 MSEC                         $
```


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```
            OUTPUT, TEXT TO 'CRT', FROM C'\BEL\', C'\BEL\',
                   C'\VT\'                                        $
            PERFORM, 'DISP-TPS-ERR'
                    (C'WRONG EXTENSION SWITCHING ADAPTOR.')       $
 100977     END, IF                                               $
 100980   END, IF                                                 $
 100983 END, IF                                                   $

 100999 END, 'ESA-CONNECT'                                        $
C                                                                 $
C

 ********************************************************************
 ********************************************************************
 ********************************************************************
 ******                                                      ******
 ******                                                      ******
 ******      E  N  D      O  F      M  O  D  U  L  E         ******
 ******                                                      ******
 ******                                                      ******
 ******                                                      ******
 ********************************************************************
 ********************************************************************
 ********************************************************************
                                                                   $
 999999   TERMINATE, ATLAS MODULE 'TH-ISF-UUT'                     $
```


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