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P TITLE                                                  A17     ADCSYS
P FILENAME                                               A17     DSCF
P MEDIUM                                                 A17     DISK
P ACCESSMODE                                             A17     SEQUENTIAL
P RECORDSIZE                                BYTE         I3      132
F BLANK                1     1 A1                        A1
F KEYWORD              2     1 A1                        A1
F FIELDNAME            4    17 A17                       A17
F START               22     5 I5          0 BYTE        A5
F LENGTH              28     5 I5          0 BYTE        A5
F FORMAT              34     6 A6                        A6
F EXPONENT            41     3 I3          0             A3
F UNITS               45    10 A10                       A10
F NULLFORMAT          56     6 A6                        A6
F NULLVALUE           63    17 A17                       A17
F COMMENT             81    50 A50                       A17
F TERMINATOR         132     1 A1                        A1      X
E ENDFIELDS            2     1 A1                        A1      E
C Catnotes are used to hold documentation supplied with the catalogue.
C Catnotes  are  ignored  by  the ADC file handling package.
C Catnotes will  be  included in  the  ADC HELP library.  This is why
C they are formatted in 76 character records.
A Adcnotes are  used to  comment on  the  implementation of the
A catalogue in the database.  ADC notes are ignored by the ADC software
A package.  ADC notes will be included in the ADC HELP library. This is
A why they are formatted in 76 character records.
A
A You are encouraged to examine the description files in CAR_F_DSCF_DIR
A and CAR_U_DSCF_DIR for examples before making you own.
A3 PARAMETERS
A o  The description file fields required for PARAMETERs are KEYWORD,
A    FIELDNAME, NULLFORMAT and  NULLVALUE.  COMMENTS  are optional.
A    It is recommended that any catalogue contain the full set of
A    parameters to allow the data to be converted to other forms.
A    For example if NRECORDS and KEYFIELD are omitted, then you cannot
A    convert a catalogue to direct access form.
A4 MEDIUM
A o  MEDIUM is the storage medium of the data.  MEDIUM is mandatory.
A    Allowed values are TAPE or DISK.
A4 ACCESSMODE
A o  ACCESSMODE is the mode of getting records from and putting them
A    into the file.  ACCESSMODE is mandatory when MEDIUM is DISK.
A4 RECORDSIZE
A o  RECORDSIZE is the length of the record in bytes.
A    RECORDSIZE is optional with MEDIUM=DISK and ACCESSMODE=SEQUENTIAL.
A4 KEYFIELD
A o  KEYFIELD is the sort field of catalogue.  It may be ascending or
A    descending.  It is assumed to be ASCENDING unless DESCENDING is
A    at the beginning of the comment.  KEYFIELD is mandatory when
A    MEDIUM=DISK and ACCESSMODE=DIRECT.
A    Secondary KEYFIELDs should be named KEYFIELD_1 to KEYFIELD_9.
A4 NRECORDS
A o  NRECORDS is the number of records in the catalogue.
A    NRECORDS is mandatory when MEDIUM=DISK  and  ACCESSMODE=DIRECT.
A4 BLOCKSIZE
A o  BLOCKSIZE is  mandatory when MEDIUM=TAPE.  BLOCKSIZE is the
A    number of bytes in a  tape block. The value of the parameter is
A    only used when writing a tape file.  On reading the actual
A    blocksize overrides the parameter value.
A4 EPOCH
A o  The date of the position measurements.
A    eg: 1983.5 (IRAS). (Units :Year)
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ADC System Description File.  Version 0.8C                X
Filename of file described.                               X
Storage medium:  DISK or TAPE.                            X
Record access mode:  SEQUENTIAL or DIRECT.                X
Record length.                                            X
Carriage control character.                               X
Parameter, Field, Generic, End, Catnotes, Adcnotes        X
Field name or attribute name.                             X
Start byte of the field.                                  X
Length of the field in bytes.                             X
Format of the field: Iw, A, Dw.d, Fw.d, Ew.d or Lw        X
Scale factor for units.  Value=Value*10**EXPONENT         X
Units of the field.                                       X
Format of null value: Iw, A, Dw.d, Fw.d, Ew.d, Lw         X
Null value of the field.                                  X
Comment on the field or expression defining field.        X
Record terminator.                                        X
End of relation.                                          X
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A4 EQUINOX
A o  The equinox of coordinates, eg: B1950 (IRAS), J2000, B1900
A    Format should be A5.
A4 AUTHOR
A o  The value should be the author name, followed by his
A    initials (e.g:FAIRCLOUGH,J.H.).  The comment should contain
A    a full reference with standard abbreviations (e.g:
A    Ap. J. Supp. 40, No. 3, 1979)
A4 CLASS
A o  The catalogue class keyword for the librarian, the values
A    follow the CDS system: ASTROMETRY, PHOTOMETRY, SPECTROSCOPY,
A    X-IDENTIFICATION, COMBINED, MISCALLANEOUS, NON_STELLAR.
A4 WAVELENGTH
A o  The catalogue wavelength keyword for the librarian.
A    Examples are OPTICAL, RADIO, INFRA-RED, UBV, X-RAY etc.
A4 OBJECT
A o  The catalogue object keyword for the librarian.
A    This keyword describes the type object found.
A    examples are STAR, STAR/G (qualifiers may be used), GALAXY.
A    The underscore character should be used instead of spaces
A    to allow the keyword to be a HELP module name, e.g:
A    GLOBULAR_CLUSTER.  Note that the singular is used, not plural.
A    If there is more than one type of object, use GENERAL.
A4 START_RECORD
A o  The start record of the data in the catalogue.  The default
A    value of this parameter is 1.  Catalogues may contain header
A    records before the data described in the description file.
A    For example the STARLINK CSI contains header records.
A4 LOCAL_INDEX
A o  Identifies the catalogue as a local index catalogue.
A    A local index catalogue contains pointers to one other
A    catalogue.  It must have at least one field called POINTER
A    to contain the numbers of the records in the indexed catalogue.
A    The null value of the LOCAL_INDEX parameter should be the
A    filename of the catalogue that is indexed.
A4 GLOBAL_INDEX
A o  Identifies the catalogue as a global index catalogue.
A    A global index catalogue contains pointers to at least
A    one othe catalogue.  It must contain at least two fields:
A    CATALOGUE and POINTER.  The former is the filename of a
A    catalogue that is indexed and the latter is the number
A    of a record in the catalogue.
A4 CRITERION
A o  Specifies a logical expression that applies to each record in
A    the catalogue.  The null format should be L1.  The null value
A    should be T or F.  The comment field must contain a logical
A    expression.(Cf: expressions)
A4 KEY_CRITERION
A o  Specifies a logical expression that applies to each record in
A    the catalogue.  The null format should be L1.  The null value
A    must be T.  The comment field must contain a logical expression.
A4 CONTINUATION
A o  This parameter is used for the continuation of the comment field
A    of the preceding field or parameter.  Long expressions can be
A    accommodated by using up to 9 CONTINUATION parameters.
A3 FIELDS
A o  The description file fields required for  FIELDS are  KEYWORD,
A    FIELDNAME, START, LENGTH, FORMAT, EXPONENT, UNITS, NULLFORMAT,
A    and NULLVALUE. COMMENTS are optional.
A o  Additional FORMAT specifiers for unformatted fields are :
A    I*1, L*1, I*2, I*4, R*4, R*8 and C*n where n is an integer.
A o  In scaling: INTERNAL_VALUE = EXTERNAL_VALUE*10**EXPONENT UNITS .
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A    This facility should be used so that scaling prefixes are not used in
A    in the units specification. (eg:m,k,p,M).
A o  The ADC software implemented allows conversion of a quantity
A    from one data type to another.
A    To perform the conversion from a numeric data type to the character
A    data type  (and vice-versa) the null format specifier is used.
A    If a value has a non zero EXPONENT, then to avoid the loss of
A    significant figures the null format should specify the scaled
A    value of the field.
A4 PRECISION
A o  On the VAX 11/780 the range of values permitted is:
A     R*8 : 0.29E-38 to 1.7E38 ; 16 significant digits.
A     R*4 : 0.29E-38 to 1.7E38 ; 7 significant digits.
A     I*4 : -2,147,483,648 to 2,177,483,647.
A     I*2 : -32768 to 32767.
A     I*1 : -128 to 127.
A4 POSITION_FIELDS
A o   Particular care should be used when describing positions.
A o   FIELDNAMES for position coordinates.
A     The names to be used for position are :
A     "RA", "DEC", "ELONG", "ELAT", "GLONG" and "GLAT"
A     If the parameters EQUINOX and EPOCH are absent then B1950 and
A     and 1950.0 are assumed.
A o   UNITS for position coordinates.
A     The units to be used for position are :
A     "TIME", "ANGLE" and "RADIAN"
A     TIME includes all varieties of hours, minutes and seconds.
A     ANGLE includes all varieties of sign, degrees, arc minutes and
A     arc seconds.
A o   FORMAT of position coordinates.
A     When the units are TIME or ANGLE and the field contains more
A     than one number (e.g: HOURS, MINUTES and SECONDS) then
A     the format specifier should be of type A.  If it contains a
A     single number then the format specifier can be of any type.
A o   COMMENT for position coordinates.
A     The first characters of the comment should contain a description
A     of the position value when a string is required to describe it
A     units of time or angle.  The string must be terminated with a
A     "!" character to seperate it from the remaining comment and to
A     mark the end of the string for ADC.  ADC automatically converts
A     the following types of time and angle:
A     "HOUR", "HH MM SS.S", "HHMMSS.S", "HH MM SSS", "HHMMSSS",
A     "HH MM SS", "HHMMSS", "HHMM.MM", "DEGREE", "SDD MM SS.S",
A     "SDD MM SS", "SDDMMSS", "SDD MM.M" and "SDDMM.M".
A     New formats can easily be
A     included by extra clauses in the ADC routines which process
A     positions.
A     Users are recommended to examine some description files to
A     familiarise themselves with the conventions on position.
A3 GENERICS
A o   The description file fields required for GENERICs are KEYWORD,
A o   FIELDNAME, START, LENGTH, FORMAT, EXPONENT, UNITS, NULLFORMAT, NULL-
A     VALUE.  COMMENTS are optional.
A o   GENERICS are arrays.  The FIELDNAME field in the description file
A     must specify the dimensions of the array.  FIELDNAMEs can be given
A     according to the rules of FORTRAN 77:  ARRAY([lb:]ub,[[lb:]ub]...)
A     with up to seven dimensions permitted.
A     Tables, spectra and images can be stored as generic fields.
A     Examples are FLUX(4), LRS(200), MAP(100,100), W(50:100).
A o   The START of a generic field is the first byte of the array.  The
A     LENGTH, FORMAT, EXPONENT, UNITS, NULLFORMAT, NULLVALUE describe
A     the length, format, exponent, units, nullformat, nullvalue of each
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A     element of the array.
A3 ENDFIELDS
A o   The END record gives the position and value of the last record
A     of a relation.  This may be used if the number of records in the
A     catalogue is not known.  It can be the EOF (End of file) or
A     EOT (End of tape) marker.
A3 EXPRESSIONS
A o   The comment field in a description file may contain a FORTRAN type
A     expression which defines the field in terms of fields in an
A     antecedent catalogue.  The comment field can look like:
A
A     This is a simple comment
A     New Galactic latitude!GLONG_EG50(RA,DEC)
A
A     The "!" character is used to split comments and expressions.
A     See under "CAR EXPRESSIONS" for more information on expressions.
A3 NOTES
A o   When putting in extensive notes on a catalogue (more than 20
A     lines) then it is recommended that the notes be broken up into
A     HELP modules by using the editor to put in numbers 2, 3, 4... in
A     column 3.
A3 Examples
A o   Examples of description files can be typing/printing the files
A     with logical names DSCF*
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