

English Language Test Description

MIPR # M9545012MP24797

CDRL F001

for

Unit Under Test

UUT Nomenclature: Gun Control Logic, CCA

UUT Part Number: 7575335-011

from

Light Armored Vehicle - 25A2

(LAV-25A2)

ATE SYSTEM

AN/USM-657B – Third Echelon Test System (TETS-B)

AN/USM-717 – Virtual Instrument Portable Equipment Repair/Test (VIPER/T)

Developed by

U.S. Army RDECOM

Armament Research, Development and Engineering Center

Automated Test Systems Division

RDAR-WSF-A, Building 91

Picatinny, NJ 07806

Prepared By	Signature	Date Prepared	Date Submitted
Ryan Pickett		16 June 2015	

Approved By	Signature	Date Received	Date Approved
Thomas Bradford			
Richard Foyt			

DISTRIBUTION STATEMENT C.

Distribution authorized to U.S. Government agencies and their contractors only.

(Reason: Administrative Use). (Date: 12/1/11). Other requests for this document shall be referred to Marine Corps Systems Command.

Date: 04 March 2016

ELTD REVISION SUMMARY

[illegible]

Table of Contents

1.0 Reference Documents	1
1.1 Virtual Instrument Portable Equipment Repair/Test (VIPER/T)	1
1.2 Third Echelon Test System (TETS-B)	1
1.3 Unit Under Test (UUT)	1
1.4 Reference Drawings	2
2.0 English Language Test Description Steps	2
2.1 Common Procedures.....	2
2.1.1 UUT Power	2
2.2 Interface ID.....	2
2.3 Safe To Turn On	3
2.4 Module 1 – Power Supply/Analog Tests.....	7
2.5 Module 2 – Digital Tests	10
3.0 Functional Flow Chart (FFC).....	23

1.0 Reference Documents

1.1 Virtual Instrument Portable Equipment Repair/Test (VIPER/T)

IEEE Std 716-1989	IEEE Standard Common Abbreviated Test Language for All Systems
TM TBD-CD	VIPER/T IETM (Interactive Electronic Technical Manual)
System Design Document Doc # 7992008	VIPER/T AN/USM-717
VIPER/T P/N 7992021	VIPER/T CPM (Computer Programming Manual)

1.2 Third Echelon Test System (TETS-B)

TM 10530A-CD	TETS IETM (Interactive Electronic Technical Manual)
System Design Description Doc # 93006A0018	Third Echelon Test System (TETS) AN/USM-657
TETS P/N 93006A0026	TETS CPM (Computer Programming Manual)

1.3 Unit Under Test (UUT)

UUT P/N: 7575335-011
 UUT Nomenclature: Gun Control Logic, A1
 UUT Type: SRU

<u>DESCRIPTION</u>	<u>NUMBER</u>	<u>REVISION</u>	<u>DATE</u>
Parts List	7575335		
LRU QA Specification	ES12869	D	11-27-2007
Circuit Card Assy, Gun Control Logic A1	7575335	D	
Schematic Diagram, Gun Control Logic, A	7575335	D	

1.4 Reference Drawings

Refer to the following schematics when diagnosing connection paths.

ID Schematic



13020A0001
(SYSTEM INTERCONN

W4 Schematic



13020A7401 (CABLE,
W4, SCHEMATIC).pd

2.0 English Language Test Description Steps

2.1 Common Procedures

The following connection is common throughout the entire test.

2.1.1 UUT Power

Description:

28V Power is applied to J1-4 (HI) and J1-2 (LO) using DC4.

Connection Path is as follows:

From W4 P2-4 (UUT J1-4)	to W4 P1B-14C
From ID J2B-14C	to ID A1J2.31
From ID A1P2.31	to ID P10-87 (S101-6)
From ID P10-23 (S101-5)	to ID A1P2.4
From ID A1J2.4	to ID A1J1.3
From ID A1P1.3	to ID P1-10 (DC4-HI)
From W4 P2-2 (UUT J1-2)	to W4 P1B-4F
From ID J2B-4F	to ID A1J1.11
From ID A1P1.11	to GROUND
From GROUND	to ID P1-11 (DC4-LO)

2.2 Interface ID

Refer to [Reference Drawings](#) when diagnosing connection paths.

Step 1

Description:

Connect R111 (324 ohms) to Bus 5. Connect R109 (698 ohms) to Bus 6. R109 and R111 are now in series between Bus 5 and 6. Connect DMM HI

Date: 04 March 2016

to Bus 5. Connect DMM LO to Bus 6. Expected Resistance: 1022 ohms \pm 5%

Connection Path is as follows:

From ID P20-2 (DMM-HI)	to ID A1P15.49
From ID A1J15.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-137 (S503-7)	to ID A1P6.47
From ID A1J6.47	to ID BUS 5
From ID P20-3 (DMM-LO)	to ID A1P15.50
From ID A1J15.50	to ID A1J8.26
From ID A1P8.26	to ID P10-139 (S503-2)
From ID P10-170 (S503-8)	to ID A1P6.38
From ID A1J6.38	to ID BUS 6
From ID BUS 5	to ID A1J8.47
From ID A1P8.47	to ID P10-73 (S301-48)
From ID P10-7 (S301-47)	to ID A1P7.23
From ID A1J7.23	to ID A1J4.15
From ID A1P4.15	to ID R111.1
From ID R111.2	to ID A1P4.9
From ID A1J4.9	to +28V
From ID BUS 6	to ID A1J8.48
From ID A1P8.48	to ID P10-171 (S301-50)
From ID P10-42 (S301-49)	to ID A1P7.24
From ID A1J7.24	to ID A1J4.16
From ID A1P4.16	to ID R109.1
From ID R109.2	to ID A1P4.9
From ID A1J4.9	to +28V

2.3 Safe To Turn On

Step 2

Description:

This step verifies continuity between J1-2 and J1-3 to determine that the correct UUT is connected. The DMM is used to measure the resistance using limits of LT 10 ohms. This is due to the ID internal wiring and VIPER/T switch path resistance.

Connection Path is as follows:

From W4 P2-3 (UUT J1-3)	to W4 P1A-1E
From ID J2A-1E	to ID A1J14.40
From ID A1P14.40	to ID P13-25 (S202-11)
From ID P12-59 (S202-1)	to ID A1P12.38
From ID A1J12.38	to ID A1J10.10
From ID A1P10.10	to ID P11-177 (S509-1)
From ID P11-18 (S509-3)	to ID A1P9.19
From ID A1J9.19	to ID BUS 1

Date: 04 March 2016

From ID P20-2 (DMM-HI)	to ID A1P15.49
From ID A1J15.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1
From ID P20-3 (DMM-LO)	to ID A1P15.50
From ID A1J15.50	to ID A1J7.38
From ID A1P7.38	to ID P10-130 (S301-23)
From ID P10-229 (S301-24)	to ID A1P7.36
From ID A1J7.36	to GROUND

Step 3

Description:

This step verifies continuity between J1-2 and J1-19. The DMM is used to measure the resistance using limits of LT 10 ohms. This is due to the ID internal wiring and VIPER/T switch path resistance.

Connection Path is as follows:

From W4 P3-A10 (UUT J2-19)	to W4 P1A-3F
From ID J2A-3F	to ID A1J14.41
From ID A1P14.41	to ID P13-57 (S202-12)
From ID P12-90 (S202-2)	to ID A1P12.36
From ID A1J12.36	to ID A1J10.12
From ID A1P10.12	to ID P11-242 (S509-2)
From ID P11-18 (S509-3)	to ID A1P9.19
From ID A1J9.19	to ID BUS 1
From ID P20-2 (DMM-HI)	to ID A1P15.49
From ID A1J15.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1
From ID P20-3 (DMM-LO)	to ID A1P15.50
From ID A1J15.50	to ID A1J7.38
From ID A1P7.38	to ID P10-130 (S301-23)
From ID P10-229 (S301-24)	to ID A1P7.36
From ID A1J7.36	to GROUND

Step 4

Description:

This step verifies continuity between J1-2 and J1-23. The DMM is used to measure the resistance using limits of LT 10 ohms. This is due to the ID internal wiring and VIPER/T switch path resistance.

Connection Path is as follows:

From W4 P2-23 (UUT J1-23)	to W4 P1B-13E
From ID J2B-13E	to ID A1J12.31

Date: 04 March 2016

From ID A1P12.31	to ID P12-57 (S202-13)
From ID P12-59 (S202-1)	to ID A1P12.38
From ID A1J12.38	to ID A1J10.10
From ID A1P10.10	to ID P11-177 (S509-1)
From ID P11-18 (S509-3)	to ID A1P9.19
From ID A1J9.19	to ID BUS 1
From ID P20-2 (DMM-HI)	to ID A1P15.49
From ID A1J15.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1
From ID A1J15.50	to ID A1J7.38
From ID A1P7.38	to ID P10-130 (S301-23)
From ID P10-229 (S301-24)	to ID A1P7.36
From ID A1J7.36	to GROUND

Step 5

Description:

This step verifies continuity between J1-2 and J1-24. The DMM is used to measure the resistance using limits of LT 10 ohms. This is due to the ID internal wiring and VIPER/T switch path resistance.

Connection Path is as follows:

From W4 P2-24 (UUT J1-24)	to W4 P1B-13F
From ID J2B-13F	to ID A1J12.32
From ID A1P12.32	to ID P12-88 (S202-14)
From ID P12-90 (S202-2)	to ID A1P12.36
From ID A1J12.36	to ID A1J10.12
From ID A1P10.12	to ID P11-242 (S509-2)
From ID P11-18 (S509-3)	to ID A1P9.19
From ID A1J9.19	to ID BUS 1
From ID P20-2 (DMM-HI)	to ID A1P15.49
From ID A1J15.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1
From ID P20-3 (DMM-LO)	to ID A1P15.50
From ID A1J15.50	to ID A1J7.38
From ID A1P7.38	to ID P10-130 (S301-23)
From ID P10-229 (S301-24)	to ID A1P7.36
From ID A1J7.36	to GROUND

Date: 04 March 2016

Step 6

Description:

This step verifies resistance between J1-4 and J2-8. The DMM is used to measure the resistance using LL = 2E4 and UL = 8E4.

Connection Path is as follows:

From ID P20-2 (DMM-HI)	to ID A1P15.49
From ID A1J15.49	to ID A1J7.44
From ID A1P7.44	to ID P10-99 (S301-4)
From ID P10-226 (S301-3)	to ID A1P7.13
From ID A1J7.13	to ID J2B-14C
From W4 P1B-14C	to W4 P2-4 (UUT J1-4)
From ID P20-3 (DMM-LO)	to ID A1P15.50
From ID A1J15.50	to ID A1J8.26
From ID A1P8.26	to ID P10-139 (S503-2)
From ID P10-12 (S503-4)	to ID A1P6.23
From ID A1J6.23	to ID BUS 2
From ID BUS 2	to ID A1J9.29
From ID A1P9.29	to ID P11-17 (S509-4)
From ID P11-242 (S509-2)	to ID A1P10.12
From ID A1J10.12	to ID A1J12.36
From ID A1P12.36	to ID P12-90 (S202-2)
From ID P12-29 (S202-32)	to ID A1P12.41
From ID A1J12.41	to ID J2B-9F
From W4 P1B-9F	to W4 P3-B4 (UUT J2-8)

Step 7

Description:

This step verifies isolation between J2-8 and J1-2. The DMM is used to measure the resistance using limits of GT 3E4 ohms.

Connection Path is as follows:

From ID P20-2 (DMM-HI)	to ID A1P15.49
From ID A1J15.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1
From ID BUS 1	to ID A1J9.19
From ID A1P9.19	to ID P11-18 (S509-3)
From ID P11-242 (S509-2)	to ID A1P10.12
From ID A1J10.12	to ID A1J12.36
From ID A1P12.36	to ID P12-90 (S202-2)
From ID P12-29 (S202-32)	to ID A1P12.41
From ID A1J12.41	to ID J2B-9F
From W4 P1B-9F	to W4 P3-B4 (UUT J2-8)

From ID P20-3 (DMM-LO)	to ID A1P15.50
From ID A1J15.50	to ID A1J7.38
From ID A1P7.38	to ID P10-130 (S301-23)
From ID P10-229 (S301-24)	to ID A1P7.36
From ID A1J7.36	to GROUND

Step 8

Description:

This step verifies isolation between J2-9 and J1-2. The DMM is used to measure the resistance using limits of LL = 11000 and UL = 20000 ohms.

Connection Path is as follows:

From W4 P3-B3 (UUT J2-9)	to W4 P1A-2E
From ID J2A-2E	to ID A1J14.39
From ID A1P14.39	to ID P13-56 (S202-9)
From ID P12-59 (S202-1)	to ID A1P12.38
From ID A1J12.38	to ID A1J10.10
From ID A1P10.10	to ID P11-177 (S509-1)
From ID P11-18 (S509-3)	to ID A1P9.19
From ID A1J9.19	to ID BUS 1
From ID P20-2 (DMM-HI)	to ID A1P15.49
From ID A1J15.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1
From ID P20-3 (DMM-LO)	to ID A1P15.50
From ID A1J15.50	to ID A1J7.38
From ID A1P7.38	to ID P10-130 (S301-23)
From ID P10-229 (S301-24)	to ID A1P7.36
From ID A1J7.36	to GROUND

2.4 MODULE 1 – POWER SUPPLY/ANALOG TESTS

Description:

This Module will initiate several tests to determine that the expected voltage levels are present at the appropriate points.

Refer to [Reference Drawings](#) when diagnosing connection paths.

Step 101

Description:

This step will verify that the board supply voltage is present at the J2-8 Test Point. This verifies that the input circuitry to the IC regulator is functional. The DMM will be used to measure the test voltage. The expected voltage is 25.3 +/- 0.5V

Connection Path is as follows:

See "UUT Power"

From W4 P3-B4 (UUT J2-8)	to W4 P1B-9F
From ID J2B-9F	to ID A1J12.41
From ID A1P12.41	to ID P12-29 (S202-32)
From ID P12-90 (S202-2)	to ID A1P12.36
From ID A1J12.36	to ID A1J10.12
From ID A1P10.12	to ID P11-242 (S509-2)
From ID P11-18 (S509-3)	to ID A1P9.19
From ID A1J9.19	to ID BUS 1
From ID P20-2 (DMM-HI)	to ID A1P15.49
From ID A1J15.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1
From ID P20-3 (DMM-LO)	to ID A1P15.50
From ID A1J15.50	to ID A1J7.38
From ID A1P7.38	to ID P10-130 (S301-23)
From ID P10-229 (S301-24)	to ID A1P7.36
From ID A1J7.36	to GROUND

Step 102

Description:

This step will verify that the +15V output from the on board regulator IC is within specification. The DMM will be used to measure the test voltage. The expected voltage is 15.0 +/- 0.5V.

Connection Path is as follows:

See "UUT Power"

From W4 P3-B3 (UUT J2-9)	to W4 P1A-2E
From ID J2A-2E	to ID A1J14.39
From ID A1P14.39	to ID P13-56 (S202-9)
From ID P12-59 (S202-1)	to ID A1P12.38
From ID A1J12.38	to ID A1J10.10
From ID A1P10.10	to ID P11-177 (S509-1)
From ID P11-18 (S509-3)	to ID A1P9.19
From ID A1J9.19	to ID BUS 1
From ID P20-2 (DMM-HI)	to ID A1P15.49
From ID A1J15.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1
From ID P20-3 (DMM-LO)	to ID A1P15.50
From ID A1J15.50	to ID A1J7.38

Date: 04 March 2016

From ID A1P7.38	to ID P10-130 (S301-23)
From ID P10-229 (S301-24)	to ID A1P7.36
From ID A1J7.36	to GROUND

Step 103

Description:

This step will check for supply voltage at J1-5. The DMM will be used to measure the voltage. The expected voltage is 25.3 +/- 0.5V.

Connection Path is as follows:

See "UUT Power"

From W4 P2-5 (UUT J1-5)	to W4 P1B-14F
From ID J2B-14F	to ID A1J12.29
From ID A1P12.29	to ID P12-24 (S202-7)
From ID P12-59 (S202-1)	to ID A1P12.38
From ID A1J12.38	to ID A1J10.10
From ID A1P10.10	to ID P11-177 (S509-1)
From ID P11-18 (S509-3)	to ID A1P9.19
From ID A1J9.19	to ID BUS 1
From ID P20-2 (DMM-HI)	to ID A1P15.49
From ID A1J15.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1
From ID P20-3 (DMM-LO)	to ID A1P15.50
From ID A1J15.50	to ID A1J7.38
From ID A1P7.38	to ID P10-130 (S301-23)
From ID P10-229 (S301-24)	to ID A1P7.36
From ID A1J7.36	to GROUND

Step 104

Description:

This step will check for supply voltage at J1-6. The DMM will be used to measure the voltage. The expected voltage is 25.3 +/- 1.0V.

Connection Path is as follows:

See "UUT Power"

From W4 P2-6 (UUT J1-6)	to W4 P1B-13D
From ID J2B-13D	to ID A1J12.30
From ID A1P12.30	to ID P12-56 (S202-8)
From ID P12-90 (S202-2)	to ID A1P12.36
From ID A1J12.36	to ID A1J10.12
From ID A1P10.12	to ID P11-242 (S509-2)
From ID P11-18 (S509-3)	to ID A1P9.19

From ID A1J9.19	to ID BUS 1
From ID P20-2 (DMM-HI)	to ID A1P15.49
From ID A1J15.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1
From ID P20-3 (DMM-LO)	to ID A1P15.50
From ID A1J15.50	to ID A1J7.38
From ID A1P7.38	to ID P10-130 (S301-23)
From ID P10-229 (S301-24)	to ID A1P7.36
From ID A1J7.36	to GROUND

2.5 MODULE 2 – DIGITAL TESTS

Description:

This Module will utilize the Digital Test System (Teradyne) to execute several sequences of digital test bursts to exercise and test the full functionality of the board. Digital test patterns will stimulate the inputs of the design and drive specific outputs. The output states will be monitored during the digital test burst application. Additional analog tests will verify the FET output stage.

Refer to [Reference Drawings](#) when diagnosing connection paths.

Step 201

Description:

This step will exercise digital patterns generated using LASAR simulation software. The patterns will exercise UUT pins in such a way that all functional behavior is tested. The correspondence between UUT pins and the DTS Logic Channels is as follows.

Inputs:

J1-20 to	DTS CH0
J1-30 to	DTS CH1
J1-31 to	DTS CH2
J1-34 to	DTS CH3
J1-36 to	DTS CH4
J1-37 to	DTS CH5
J1-10 to	DTS CH6
J1-11 to	DTS CH7
J1-14 to	DTS CH16
J1-15 to	DTS CH17
J1-16 to	DTS CH18
J1-18 to	DTS CH19
J1-38 to	DTS CH20
J1-39 to	DTS CH21
J1-26 to	DTS CH22

Outputs:

J1-1 to	DTS CH23
J1-21 to	DTS CH24

J1-22 to	DTS CH25
J1-27 to	DTS CH26
J1-13 to	DTS CH28
J1-29 to	DTS CH30
J1-32 to	DTS CH31
J2-1 to	DTS CH40
J2-2 to	DTS CH41
J2-3 to	DTS CH42
J2-4 to	DTS CH43
J2-5 to	DTS CH44
J2-6 to	DTS CH45
J2-7 to	DTS CH46
J2-10 to	DTS CH47
J2-11 to	DTS CH48
J2-12 to	DTS CH49
J2-13 to	DTS CH50
J2-14 to	DTS CH51
J2-15 to	DTS CH52
J2-16 to	DTS CH53
J2-17 to	DTS CH54
J2-18 to	DTS CH55
J2-20 to	DTS CH56

Connection Path is as follows:

See "UUT Power"

From ID P1-1 (DC1-HI)	to ID A1P1.1
From ID A1J1.1 (+5V)	to ID A1U1.1
From ID A1J1.1 (+5V)	to ID A1U1.13
From ID A1J1.1 (+5V)	to ID A1U2.1
From ID A1J1.1 (+5V)	to ID A1U2.13
From ID A1J1.1 (+5V)	to ID A1U3.1
From ID A1J1.1 (+5V)	to ID A1U3.13
From ID A1J1.1 (+5V)	to ID A1U4.1
From ID A1J1.1 (+5V)	to ID A1U5.1
From ID A1J1.1 (+5V)	to ID A1U6.1
From ID A1J1.1 (+5V)	to ID A1U7.1
From ID A1J1.1 (+5V)	to ID A1U8.1
From ID A1J1.1 (+5V)	to ID A1C1.1
From ID A1J1.1 (+5V)	to ID A1C3.1
From ID A1J1.1 (+5V)	to ID A1C5.1
From ID A1J1.1 (+5V)	to ID A1C7.1
From ID A1J1.1 (+5V)	to ID A1C8.1
From ID A1J1.1 (+5V)	to ID A1C9.1
From ID A1J1.1 (+5V)	to ID A1C10.1
From ID A1J1.1 (+5V)	to ID A1C11.1
From ID P1-2 (DC1-LO)	to ID A1P1.9
From ID A1J1.9	to GROUND
From ID P1-4 (DC2-HI)	to ID A1P2.2
From ID A1J2.2 (+15V)	to ID A1U1.16
From ID A1J2.2 (+15V)	to ID A1U2.16
From ID A1J2.2 (+15V)	to ID A1U3.16
From ID A1J2.2 (+15V)	to ID A1C2.1

From ID A1J2.2 (+15V)	to ID A1C4.1
From ID A1J2.2 (+15V)	to ID A1C6.1
From ID P1-5 (DC2-LO)	to ID A1P1.10
From ID A1J1.10	to GROUND
From ID A1C1.2	to GROUND
From ID A1C2.2	to GROUND
From ID A1C3.2	to GROUND
From ID A1C4.2	to GROUND
From ID A1C5.2	to GROUND
From ID A1C6.2	to GROUND
From ID A1C7.2	to GROUND
From ID A1C8.2	to GROUND
From ID A1C9.2	to GROUND
From ID A1C10.2	to GROUND
From ID A1C11.2	to GROUND
From ID A1U1.8	to GROUND
From ID A1U2.8	to GROUND
From ID A1U3.8	to GROUND
From ID A1U4.8	to GROUND
From ID A1U5.8	to GROUND
From ID A1U6.8	to GROUND
From ID A1U7.8	to GROUND
From ID A1U8.8	to GROUND
From ID P7-24 (DTS GCH 40)	to ID A1P5.3
From ID A1J5.3	to GROUND
From ID P6-64 (DTS GCH 7)	to ID A1P5.1
From ID A1J5.1	to GROUND
From W4 P2-20 (UUT J1-20)	to W4 P1A-9C
From ID J2A-9C	to ID A1J10.49
From ID A1P10.49	to ID P11-174 (S301-164)
From ID P11-204 (S301-163)	to ID A1P10.46
From ID A1J10.46	to ID A1U1.2
From ID A1U1.3	to ID A1J5.49
From ID A1P5.49	to ID P6-25 (DTS CH0)
From W4 P2-30 (UUT J1-30)	to W4 P1A-9B
From ID J2A-9B	to ID A1J10.47
From ID A1P10.47	to ID P11-141 (S301-166)
From ID P11-44 (S301-165)	to ID A1P10.44
From ID A1J10.44	to ID A1U1.4
From ID A1U1.5	to ID A1J5.50
From ID A1P5.50	to ID P6-26 (DTS CH1)
From W4 P2-31 (UUT J1-31)	to W4 P1A-10C
From ID J2A-10C	to ID A1J10.45
From ID A1P10.45	to ID P11-142 (S301-168)
From ID P11-76 (S301-167)	to ID A1P10.42
From ID A1J10.42	to ID A1U1.6
From ID A1U1.7	to ID A1J5.47
From ID A1P5.47	to ID P6-27 (DTS CH2)
From W4 P2-34 (UUT J1-34)	to W4 P1A-10B
From ID J2A-10B	to ID A1J10.43
From ID A1P10.43	to ID P11-15 (S301-170)

Date: 04 March 2016

From ID P11-14 (S301-169)	to ID A1P10.40
From ID A1J10.40	to ID A1U1.10
From ID A1U1.9	to ID A1J5.48
From ID A1P5.48	to ID P6-28 (DTS CH3)
From W4 P2-36 (UUT J1-36)	to W4 P1A-10A
From ID J2A-10A	to ID A1J10.41
From ID A1P10.41	to ID P11-80 (S301-172)
From ID P11-79 (S301-171)	to ID A1P10.38
From ID A1J10.38	to ID A1U1.12
From ID A1U1.11	to ID A1J5.45
From ID A1P5.45	to ID P6-29 (DTS CH4)
From W4 P2-37 (UUT J1-37)	to W4 P1A-11C
From ID J2A-11C	to ID A1J10.39
From ID A1P10.39	to ID P11-208 (S301-174)
From ID P11-47 (S301-173)	to ID A1P10.36
From ID A1J10.36	to ID A1U1.15
From ID A1U1.14	to ID A1J5.46
From ID A1P5.46	to ID P6-30 (DTS CH5)
From W4 P2-10 (UUT J1-10)	to W4 P1A-11B
From ID J2A-11B	to ID A1J10.37
From ID A1P10.37	to ID P11-209 (S301-176)
From ID P11-143 (S301-175)	to ID A1P10.34
From ID A1J10.34	to ID A1U2.2
From ID A1U2.3	to ID A1J5.43
From ID A1P5.43	to ID P6-31 (DTS CH6)
From W4 P2-11 (UUT J1-11)	to W4 P1A-11A
From ID J2A-11A	to ID A1J10.35
From ID A1P10.35	to ID P11-48 (S301-178)
From ID P11-175 (S301-177)	to ID A1P10.32
From ID A1J10.32	to ID A1U2.4
From ID A1U2.5	to ID A1J5.44
From ID A1P5.44	to ID P6-32 (DTS CH7)
From W4 P2-14 (UUT J1-14)	to W4 P1A-12E
From ID J2A-12E	to ID A1J10.33
From ID A1P10.33	to ID P11-81 (S301-180)
From ID P11-78 (S301-179)	to ID A1P10.30
From ID A1J10.30	to ID A1U2.6
From ID A1U2.7	to ID A1J5.41
From ID A1P5.41	to ID P6-24 (DTS CH16)
From W4 P2-15 (UUT J1-15)	to W4 P1A-12D
From ID J2A-12D	to ID A1J10.31
From ID A1P10.31	to ID P11-243 (S301-182)
From ID P11-178 (S301-181)	to ID A1P10.28
From ID A1J10.28	to ID A1U2.10
From ID A1U2.9	to ID A1J5.42
From ID A1P5.42	to ID P6-23 (DTS CH17)
From W4 P2-16 (UUT J1-16)	to W4 P1A-12C

From ID J2A-12C	to ID A1J10.29
From ID A1P10.29	to ID P11-83 (S301-184)
From ID P11-210 (S301-183)	to ID A1P10.26
From ID A1J10.26	to ID A1U2.12
From ID A1U2.11	to ID A1J5.39
From ID A1P5.39	to ID P6-22 (DTS CH18)
From W4 P2-18 (UUT J1-18)	to W4 P1A-12B
From ID J2A-12B	to ID A1J10.27
From ID A1P10.27	to ID P11-82 (S301-186)
From ID P11-49 (S301-185)	to ID A1P10.24
From ID A1J10.24	to ID A1U2.15
From ID A1U2.14	to ID A1J5.40
From ID A1P5.40	to ID P6-21 (DTS CH19)
From W4 P2-38 (UUT J1-38)	to W4 P1A-12A
From ID J2A-12A	to ID A1J10.25
From ID A1P10.25	to ID P11-51 (S301-188)
From ID P11-114 (S301-187)	to ID A1P10.22
From ID A1J10.22	to ID A1U3.2
From ID A1U3.3	to ID A1J5.37
From ID A1P5.37	to ID P6-20 (DTS CH20)
From W4 P2-39 (UUT J1-39)	to W4 P1A-13F
From ID J2A-13F	to ID A1J10.23
From ID A1P10.23	to ID P11-179 (S301-190)
From ID P11-145 (S301-189)	to ID A1P10.20
From ID A1J10.20	to ID A1U3.4
From ID A1U3.5	to ID A1J5.38
From ID A1P5.38	to ID P6-19 (DTS CH21)
From W4 P2-26 (UUT J1-26)	to W4 P1A-13E
From ID J2A-13E	to ID A1J10.21
From ID A1P10.21	to ID P11-148 (S301-192)
From ID P11-50 (S301-191)	to ID A1P10.18
From ID A1J10.18	to ID A1U3.6
From ID A1U3.7	to ID A1J5.35
From ID A1P5.35	to ID P6-18 (DTS CH22)
From W4 P2-1 (UUT J1-1)	to W4 P1A-13A
From ID J2A-13A	to ID A1U4.3
From ID J2A-13A	to ID A1R12.1
From ID A1R12.2	to ID A1J1.2 (+15V)
From ID A1U4.2	to ID A1J5.36
From ID A1P5.36	to ID P6-17 (DTS CH23)
From W4 P2-21 (UUT J1-21)	to W4 P1A-13B
From ID J2A-13B	to ID A1U4.5
From ID J2A-13B	to ID A1R13.1
From ID A1R13.2	to ID A1J1.2 (+15V)
From ID A1U4.4	to ID A1J5.33
From ID A1P5.33	to ID P6-16 (DTS CH24)
From W4 P2-22 (UUT J1-22)	to W4 P1A-13C

From ID J2A-13C	to ID A1U4.7
From ID J2A-13C	to ID A1R14.1
From ID A1R14.2	to ID A1J1.2 (+15V)
From ID A1U4.6	to ID A1J5.34
From ID A1P5.34	to ID P6-15 (DTS CH25)
From W4 P2-27 (UUT J1-27)	to W4 P1A-13D
From ID J2A-13D	to ID A1U4.9
From ID J2A-13D	to ID A1R15.1
From ID A1R15.2	to ID A1J1.2 (+15V)
From ID A1U4.10	to ID A1J5.31
From ID A1P5.31	to ID P6-14 (DTS CH26)
From W4 P2-13 (UUT J1-13)	to W4 P1A-14E
From ID J2A-14E	to ID A1U5.5
From ID A1U5.4	to ID A1J5.29
From ID A1P5.29	to ID P6-12 (DTS CH28)
From W4 P2-29 (UUT J1-29)	to W4 P1B-1F
From ID J2B-1F	to ID A1U5.9
From ID A1U5.10	to ID A1J5.27
From ID A1P5.27	to ID P6-10 (DTS CH30)
From W4 P2-32 (UUT J1-32)	to W4 P1B-1E
From ID J2B-1E	to ID A1U5.11
From ID A1U5.12	to ID A1J5.28
From ID A1P5.28	to ID P6-9 (DTS CH31)
From W4 P3-A1 (UUT J2-1)	to W4 P1B-1D
From ID J2B-1D	to ID A1U6.3
From ID A1U6.2	to ID A1J5.25
From ID A1P5.25	to ID P7-56 (DTS CH40)
From W4 P3-B1 (UUT J2-2)	to W4 P1B-1C
From ID J2B-1C	to ID A1U6.5
From ID A1U6.4	to ID A1J5.26
From ID A1P5.26	to ID P7-55 (DTS CH41)
From W4 P3-A2 (UUT J2-3)	to W4 P1B-1B
From ID J2B-1B	to ID A1U6.7
From ID A1U6.6	to ID A1J5.23
From ID A1P5.23	to ID P7-54 (DTS CH42)
From W4 P3-B2 (UUT J2-4)	to W4 P1B-1A
From ID J2B-1A	to ID A1U6.9
From ID A1U6.10	to ID A1J5.24
From ID A1P5.24	to ID P7-53 (DTS CH43)
From W4 P3-A3 (UUT J2-5)	to W4 P1B-2F
From ID J2B-2F	to ID A1U6.11
From ID A1U6.12	to ID A1J5.21
From ID A1P5.21	to ID P7-52 (DTS CH44)
From W4 P3-B3 (UUT J2-6)	to W4 P1B-2C

Date: 04 March 2016

From ID J2B-2C	to ID A1U6.14
From ID A1U6.15	to ID A1J5.22
From ID A1P5.22	to ID P7-51 (DTS CH45)
From W4 P3-A4 (UUT J2-7)	to W4 P1B-2B
From ID J2B-2B	to ID A1U7.3
From ID A1U7.2	to ID A1J5.19
From ID A1P5.19	to ID P7-50 (DTS CH46)
From W4 P3-B5 (UUT J2-10)	to W4 P1B-2A
From ID J2B-2A	to ID A1U7.5
From ID A1U7.4	to ID A1J5.20
From ID A1P5.20	to ID P7-49 (DTS CH47)
From W4 P3-A6 (UUT J2-11)	to W4 P1B-3C
From ID J2B-3C	to ID A1U7.7
From ID A1U7.6	to ID A1J5.17
From ID A1P5.17	to ID P7-48 (DTS CH48)
From W4 P3-B6 (UUT J2-12)	to W4 P1B-3B
From ID J2B-3B	to ID A1U7.9
From ID A1U7.10	to ID A1J5.18
From ID A1P5.18	to ID P7-47 (DTS CH49)
From W4 P3-A7 (UUT J2-13)	to W4 P1B-3A
From ID J2B-3A	to ID A1U7.11
From ID A1U7.12	to ID A1J5.15
From ID A1P5.15	to ID P7-46 (DTS CH50)
From W4 P3-B7 (UUT J2-14)	to W4 P1B-4C
From ID J2B-4C	to ID A1U7.14
From ID A1U7.15	to ID A1J5.16
From ID A1P5.16	to ID P7-45 (DTS CH51)
From W4 P3-A8 (UUT J2-15)	to W4 P1B-4B
From ID J2B-4B	to ID A1U8.3
From ID A1U8.2	to ID A1J5.13
From ID A1P5.13	to ID P7-44 (DTS CH52)
From W4 P3-B8 (UUT J2-16)	to W4 P1B-4A
From ID J2B-4A	to ID A1U8.5
From ID A1U8.4	to ID A1J5.11
From ID A1P5.11	to ID P7-43 (DTS CH53)
From W4 P3-A9 (UUT J2-17)	to W4 P1B-5C
From ID J2B-5C	to ID A1U8.7
From ID A1U8.6	to ID A1J5.9
From ID A1P5.9	to ID P7-42 (DTS CH54)
From W4 P3-B9 (UUT J2-18)	to W4 P1B-5B
From ID J2B-5B	to ID A1U8.9
From ID A1U8.10	to ID A1J5.7
From ID A1P5.7	to ID P7-41 (DTS CH55)

Date: 04 March 2016

From W4 P3-B10 (UUT J2-20)	to W4 P1B-5A
From ID J2B-5A	to ID A1U8.11
From ID A1U8.12	to ID A1J5.5
From ID A1P5.5	to ID P7-40 (DTS CH56)

Step 202

Description:

This step will exercise digital patterns generated using LASAR simulation software. The patterns will exercise UUT pins in such a way that all functional behavior of the FET outputs is tested. The correspondence between UUT pins and the DTS Logic Channels is as follows.

Inputs:

J1-20 to	DTS CH0
J1-30 to	DTS CH1
J1-31 to	DTS CH2
J1-34 to	DTS CH3
J1-36 to	DTS CH4
J1-37 to	DTS CH5
J1-10 to	DTS CH6
J1-11 to	DTS CH7
J1-14 to	DTS CH16
J1-15 to	DTS CH17
J1-16 to	DTS CH18
J1-18 to	DTS CH19
J1-38 to	DTS CH20
J1-39 to	DTS CH21
J1-26 to	DTS CH22

Output:

J1-28 AND J1-9 to DTS CH27

In this step, there are two FET drive outputs that require additional circuitry, as their logical high voltages are approximately 36VDC, while their low outputs oscillate as a square wave between 10V and 2.5V at 2.885 kHz. Two FETs have been added to the ID (with protection and passive components) to stabilize and scale these two outputs to acceptable logic levels. The design of this circuitry provides one output, as the logical AND of the two FET drive outputs J1-28 and J1-9. This is fed to DTS CH27.

Connection Path is as follows:

See "UUT Power"

From ID P1-1 (DC1-HI)	to ID A1P1.1
From ID A1J1.1 (+5V)	to ID A1U1.1
From ID A1J1.1 (+5V)	to ID A1U1.13
From ID A1J1.1 (+5V)	to ID A1U2.1
From ID A1J1.1 (+5V)	to ID A1U2.13
From ID A1J1.1 (+5V)	to ID A1U3.1
From ID A1J1.1 (+5V)	to ID A1U3.13

From ID A1J1.1 (+5V)	to ID A1U4.1
From ID A1J1.1 (+5V)	to ID A1U5.1
From ID A1J1.1 (+5V)	to ID A1U6.1
From ID A1J1.1 (+5V)	to ID A1U7.1
From ID A1J1.1 (+5V)	to ID A1U8.1
From ID A1J1.1 (+5V)	to ID A1C1.1
From ID A1J1.1 (+5V)	to ID A1C3.1
From ID A1J1.1 (+5V)	to ID A1C5.1
From ID A1J1.1 (+5V)	to ID A1C7.1
From ID A1J1.1 (+5V)	to ID A1C8.1
From ID A1J1.1 (+5V)	to ID A1C9.1
From ID A1J1.1 (+5V)	to ID A1C10.1
From ID A1J1.1 (+5V)	to ID A1C11.1
From ID P1-2 (DC1-LO)	to ID A1P1.9
From ID A1J1.9	to GROUND
From ID P1-4 (DC2-HI)	to ID A1P2.2
From ID A1J2.2 (+15V)	to ID A1U1.16
From ID A1J2.2 (+15V)	to ID A1U2.16
From ID A1J2.2 (+15V)	to ID A1U3.16
From ID A1J2.2 (+15V)	to ID A1C2.1
From ID A1J2.2 (+15V)	to ID A1C4.1
From ID A1J2.2 (+15V)	to ID A1C6.1
From ID P1-5 (DC2-LO)	to ID A1P1.10
From ID A1J1.10	to GROUND
From ID A1C1.2	to GROUND
From ID A1C2.2	to GROUND
From ID A1C3.2	to GROUND
From ID A1C4.2	to GROUND
From ID A1C5.2	to GROUND
From ID A1C6.2	to GROUND
From ID A1C7.2	to GROUND
From ID A1C8.2	to GROUND
From ID A1C9.2	to GROUND
From ID A1C10.2	to GROUND
From ID A1C11.2	to GROUND
From ID A1U1.8	to GROUND
From ID A1U2.8	to GROUND
From ID A1U3.8	to GROUND
From ID A1U4.8	to GROUND
From ID A1U5.8	to GROUND
From ID A1U6.8	to GROUND
From ID A1U7.8	to GROUND
From ID A1U8.8	to GROUND
From ID P7-24 (DTS GCH 40)	to ID A1P5.3
From ID A1J5.3	to GROUND
From ID P6-64 (DTS GCH 7)	to ID A1P5.1
From ID A1J5.1	to GROUND
From W4 P2-20 (UUT J1-20)	to W4 P1A-9C
From ID J2A-9C	to ID A1J10.49
From ID A1P10.49	to ID P11-174 (S301-164)
From ID P11-204 (S301-163)	to ID A1P10.46
From ID A1J10.46	to ID A1U1.2
From ID A1U1.3	to ID A1J5.49

Date: 04 March 2016

From ID A1P5.49	to ID P6-25 (DTS CH0)
From W4 P2-30 (UUT J1-30)	to W4 P1A-9B
From ID J2A-9B	to ID A1J10.47
From ID A1P10.47	to ID P11-141 (S301-166)
From ID P11-44 (S301-165)	to ID A1P10.44
From ID A1J10.44	to ID A1U1.4
From ID A1U1.5	to ID A1J5.50
From ID A1P5.50	to ID P6-26 (DTS CH1)
From W4 P2-31 (UUT J1-31)	to W4 P1A-10C
From ID J2A-10C	to ID A1J10.45
From ID A1P10.45	to ID P11-142 (S301-168)
From ID P11-76 (S301-167)	to ID A1P10.42
From ID A1J10.42	to ID A1U1.6
From ID A1U1.7	to ID A1J5.47
From ID A1P5.47	to ID P6-27 (DTS CH2)
From W4 P2-34 (UUT J1-34)	to W4 P1A-10B
From ID J2A-10B	to ID A1J10.43
From ID A1P10.43	to ID P11-15 (S301-170)
From ID P11-14 (S301-169)	to ID A1P10.40
From ID A1J10.40	to ID A1U1.10
From ID A1U1.9	to ID A1J5.48
From ID A1P5.48	to ID P6-28 (DTS CH3)
From W4 P2-36 (UUT J1-36)	to W4 P1A-10A
From ID J2A-10A	to ID A1J10.41
From ID A1P10.41	to ID P11-80 (S301-172)
From ID P11-79 (S301-171)	to ID A1P10.38
From ID A1J10.38	to ID A1U1.12
From ID A1U1.11	to ID A1J5.45
From ID A1P5.45	to ID P6-29 (DTS CH4)
From W4 P2-37 (UUT J1-37)	to W4 P1A-11C
From ID J2A-11C	to ID A1J10.39
From ID A1P10.39	to ID P11-208 (S301-174)
From ID P11-47 (S301-173)	to ID A1P10.36
From ID A1J10.36	to ID A1U1.15
From ID A1U1.14	to ID A1J5.46
From ID A1P5.46	to ID P6-30 (DTS CH5)
From W4 P2-10 (UUT J1-10)	to W4 P1A-11B
From ID J2A-11B	to ID A1J10.37
From ID A1P10.37	to ID P11-209 (S301-176)
From ID P11-143 (S301-175)	to ID A1P10.34
From ID A1J10.34	to ID A1U2.2
From ID A1U2.3	to ID A1J5.43
From ID A1P5.43	to ID P6-31 (DTS CH6)
From W4 P2-11 (UUT J1-11)	to W4 P1A-11A
From ID J2A-11A	to ID A1J10.35
From ID A1P10.35	to ID P11-48 (S301-178)
From ID P11-175 (S301-177)	to ID A1P10.32

From ID A1J10.32	to ID A1U2.4
From ID A1U2.5	to ID A1J5.44
From ID A1P5.44	to ID P6-32 (DTS CH7)
From W4 P2-14 (UUT J1-14)	to W4 P1A-12E
From ID J2A-12E	to ID A1J10.33
From ID A1P10.33	to ID P11-81 (S301-180)
From ID P11-78 (S301-179)	to ID A1P10.30
From ID A1J10.30	to ID A1U2.6
From ID A1U2.7	to ID A1J5.41
From ID A1P5.41	to ID P6-24 (DTS CH16)
From W4 P2-15 (UUT J1-15)	to W4 P1A-12D
From ID J2A-12D	to ID A1J10.31
From ID A1P10.31	to ID P11-243 (S301-182)
From ID P11-178 (S301-181)	to ID A1P10.28
From ID A1J10.28	to ID A1U2.10
From ID A1U2.9	to ID A1J5.42
From ID A1P5.42	to ID P6-23 (DTS CH17)
From W4 P2-16 (UUT J1-16)	to W4 P1A-12C
From ID J2A-12C	to ID A1J10.29
From ID A1P10.29	to ID P11-83 (S301-184)
From ID P11-210 (S301-183)	to ID A1P10.26
From ID A1J10.26	to ID A1U2.12
From ID A1U2.11	to ID A1J5.39
From ID A1P5.39	to ID P6-22 (DTS CH18)
From W4 P2-18 (UUT J1-18)	to W4 P1A-12B
From ID J2A-12B	to ID A1J10.27
From ID A1P10.27	to ID P11-82 (S301-186)
From ID P11-49 (S301-185)	to ID A1P10.24
From ID A1J10.24	to ID A1U2.15
From ID A1U2.14	to ID A1J5.40
From ID A1P5.40	to ID P6-21 (DTS CH19)
From W4 P2-38 (UUT J1-38)	to W4 P1A-12A
From ID J2A-12A	to ID A1J10.25
From ID A1P10.25	to ID P11-51 (S301-188)
From ID P11-114 (S301-187)	to ID A1P10.22
From ID A1J10.22	to ID A1U3.2
From ID A1U3.3	to ID A1J5.37
From ID A1P5.37	to ID P6-20 (DTS CH20)
From W4 P2-39 (UUT J1-39)	to W4 P1A-13F
From ID J2A-13F	to ID A1J10.23
From ID A1P10.23	to ID P11-179 (S301-190)
From ID P11-145 (S301-189)	to ID A1P10.20
From ID A1J10.20	to ID A1U3.4
From ID A1U3.5	to ID A1J5.38
From ID A1P5.38	to ID P6-19 (DTS CH21)
From W4 P2-26 (UUT J1-26)	to W4 P1A-13E
From ID J2A-13E	to ID A1J10.21
From ID A1P10.21	to ID P11-148 (S301-192)

Date: 04 March 2016

From ID P11-50 (S301-191)	to ID A1P10.18
From ID A1J10.18	to ID A1U3.6
From ID A1U3.7	to ID A1J5.35
From ID A1P5.35	to ID P6-18 (DTS CH22)
From W4 P2-28 (UUT J1-28)	to W4 P1B-4E
From ID J2B-4E	to ID A1D1.A
From ID A1D1.K	to ID A1Q1.1
From ID A1D1.K	to ID A1CR2.K
From ID A1D1.K	to ID A1R20.1
From W4 P2-9 (UUT J1-9)	to W4 P1B-5E
From ID J2B-5E	to ID A1Q2.1
From ID J2B-5E	to ID A1CR3.K
From ID J2B-5E	to ID A1R21.1
From W4 P2-8 (UUT J1-8)	to W4 P1B-6E
From ID J2B-6E	to ID A1Q2.3
From ID J2B-6E	to ID A1R22.1
From ID J2B-6E	to ID A1CR3.A
From ID J2B-6E	to ID A1R21.2
From ID J2B-6E	to ID A1R23.1
From ID A1R23.2	to ID J2B-8E
From ID A1R23.2	to ID A1R24.1
From ID A1R23.2	to ID A1C12.1
From ID A1C12.2	to GROUND
From ID A1R24.2	to GROUND
From ID A1R22.2	to GROUND
From ID A1J1.3	to ID A1Q1.2
From ID A1Q1.3	to ID A1Q2.2
From ID A1Q1.3	to ID A1CR2.A
From ID A1Q1.3	to ID A1R20.2
From W4 P1B-8E	to W4 P1A-14D
From ID J1A-14D	to ID A1U5.3
From ID A1U5.2	to ID A1J5.32
From ID A1P5.32	to ID P6-13 (DTS CH27)

Step 203

Description:

This step will verify the correct bootstrap behavior of the two FET outputs, J1-28 (FET1) and J1-9 (FET2), with respect to J1-8 (D60T). It is not sufficient to look at a single channel, or single voltage in isolation. Therefore, this step will measure the V-POS and V-NEG voltages of J1-28, J1-9, and J1-8, and calculate the following:

```

FET1-V-POS - D60T-V-POS
FET1-V-NEG - D60T-V-NEG
FET2-V-POS - D60T-V-POS
FET2-V-NEG - D60T-V-NEG

```

As the circuit is expected to be in a Logic 0 state during this step, the 4 differences should be 0V +/- 0.5V. Additionally, the entire circuit must be floating above ground, with J1-8 swinging

Date: 04 March 2016

between 10V +/- 0.5V and 2.5V +/- 0.5V. Therefore, for this step to pass, all 6 criteria must be met. A failure of one or more will lead to further diagnostic analysis.

Connection Path is as follows:

See "UUT Power"

From W4 P2-28 (UUT J1-28)	to W4 P1B-4E
From ID J2B-4E	to ID A1D1.A
From ID A1D1.K	to ID A1Q1.1
From ID A1D1.K	to ID A1CR2.K
From ID A1D1.K	to ID A1R20.1
From W4 P2-9 (UUT J1-9)	to W4 P1B-5E
From ID J2B-5E	to ID A1Q2.1
From ID J2B-5E	to ID A1CR3.K
From ID J2B-5E	to ID A1R21.1
From W4 P2-8 (UUT J1-8)	to W4 P1B-6E
From ID J2B-6E	to ID A1Q2.3
From ID J2B-6E	to ID A1R22.1
From ID J2B-6E	to ID A1CR3.A
From ID J2B-6E	to ID A1R21.2
From ID J2B-6E	to ID A1R23.1
From ID A1R23.2	to ID J2B-8E
From ID A1R23.2	to ID A1R24.1
From ID A1R23.2	to ID A1C12.1
From ID A1C12.2	to GROUND
From ID A1R24.2	to GROUND
From ID A1R22.2	to GROUND
From ID A1J1.3	to ID A1Q1.2
From ID A1Q1.3	to ID A1Q2.2
From ID A1Q1.3	to ID A1CR2.A
From ID A1Q1.3	to ID A1R20.2
From W4 P1B-8E	to W4 P1A-14D
From ID J1A-14D	to ID A1U5.3
From ID A1U5.2	to ID A1J5.32
From ID A1P5.32	to ID P6-13 (DTS CH27)

3.0 Functional Flow Chart (FFC)

