ENGINEERING SPECIFICATION

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TITLE

INTEGRATED TEST SPECIFICATION FOR MODE S TRANSPONDER, PART NO. 4061400-9XX

PREPARED BY:	DATE	APPROVED BY TECHNICAL MANAGER	DATE	APPROVED BY ENGINEERING DEPARTMENT MANAGER	DATE
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FOR PAGE INDEX, SEE PAGE CR-2. REVISION RECORD FOLLOWS PAGE INDEX.

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THE LATEST REVISION OF EACH SHEET IS INDICATED ON THE PAGE INDEX.

Page	Rev Ltr	Page	Rev Ltr	Page	Rev Ltr	Page	Rev Ltr	Page	Rev Ltr
Title		29	G	70	G	A-14	G		
CR-1	H	30	G	71	G	A-15	G		
Page Index		31	G	72	G	A-16	G		
CR-2	H	32	G	73	G	A-17	G		
Revision Record		33	G	74	G	A-18	G		
CR-3	H	34	G	75	G	A-19	G		
Table of Contents		35	G	76	G	A-20	G		
i	G	36	G	77	G	A-21	G		
ii	G	37	G	78	G	A-22	G		
		38	G	79	G	A-23	G		
1	G	39	G	80	G	A-24	G		
2	G	40	G	81	G	A-25	G		
3	G	41	G	82	G	A-26	G		
4	G	42	G	83	G	A-27	G		
5	G	43	G	84	G	A-28	G		
6	G	44	G	85	G	A-29	G		
7	G	45	G	86	G	A-30	G		
8	G	46	G	87	G	A-31	G		
9	G	47	G	88	G	A-32	G		
10	G	48	G	89	G	A-33	G		
11	G	49	G	90	G	A-34	G		
12	G	50	G	91	G	A-35	G		
13	G	51	G	92	G	A-36	G		
14	G	52	G	93	G	A-37	G		
15	G	53	G	94	G	A-38	G		
16	G	54	G	95	G	A-39	G		
17	G	55	G	Appendix A		A-40	G		
18	G	56	G	A-0	G	A-41	G		
19	G	57	G	A-1	G	A-42	H		
20	G	58	G	A-2	G	A-43	G		
21	G	59	G	A-3	G	TOTAL PAGES:	144		
22	G	60	G	A-4	G				
23	G	61	G	A-5	H				
24	G	62	G	A-6	H				
25	G	63	G	A-7	G				
26	G	64	G	A-8	G				
27	G	65	G	A-9	G				
28	G	66	G	A-10	G				
		67	G	A-11	G				
		68	G	A-12	G				
		69	G	A-13	G				

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REV LTR	PAGE	DESCRIPTION	DATE AND APPROVAL
G	SEE PAGE INDEX SHEET CR-2	SEE REV F FOR PREVIOUS REVISION INFORMATION. DOCUMENT CONVERTED TO LATEST FORMAT. CO 21761 (NA)	D. Zinda 5 MAR 01
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Honeywell	AW/CRITICAL NOTATION		
	SECURITY NOTATION	REVISION RECORDS	CR-3 PAGE

Table of Contents

Title **Page**

1. SCOPE 1
2. REFERENCE DOCUMENTS 1
3. GENERAL INFORMATION 1
4. POWER REQUIREMENTS 18
5. TEST EQUIPMENT 18
   - 5.1 HONEYWELL TEST EQUIPMENT 18
   - 5.2 COMMERCIAL TEST EQUIPMENT 18
6. TEST SETUP 19
7. TEST REQUIREMENTS 19
8. TEST PROCEDURE 23

APPENDIX A ALTERNATIVE TEST PROCEDURE FOR PC EMULATION SYSTEM A-0

TABLE OF CONTENTS (cont)

Title **Page**

List of Figures

Figure 1. Initial Test Equipment Setup....20
Figure 2. Timing Diagrams....21

List of Tables

Table 1. Initial IFR ATC-1400A Control Settings....6
Initial IFR S-1403 Control Settings....6
Table 2. Initial Mode S Transponder (UUT) Configuration....7
Table 3. Complemented Mode S Transponder (UUT) Configuration....10
Table 4. Initial Setup For Internal RF Self-Test....13
Table 5. Initial Settings For Mode S And Atcrbs (Mode S Sw Running)....14
Table 6. Initial 429 Setup (Internal Wrap)....16
Table 6.1. Walking 1s 429 Setup (Internal Wrap)....16
Table 7. Initial 429 Setup (External Wrap)....16
Table 8. Initial 429 I/O Interconnects (Mode S Interface Panel)....17

TITLE: INTEGRATED TEST SPECIFICATION FOR MODE S TRANSPONDER, PART NO. 4061400-9XX

1. SCOPE

This Integrated Test Specification (IT) establishes the manufacturing and operational requirements that the Mode S Transponder, Part No. 4061400-9XX, must meet to ensure that the unit is in proper operating condition.

2. REFERENCE DOCUMENTS

These reference documents are not required for performance of the test procedure. The purpose of listing these documents is to provide an aid for troubleshooting should any discrepancies occur during the performance of the test procedure.

4061400-9XX	End Item Drawing - Mode S Transponder
4061401	Outline and Installation Drawing
64980-90912	HP 64000 System Overview Reference
64980-90928	HP 64000 System Software Reference
1002-6801-000	IFR 1403 Operation/Maintenance Manual
C35-3641-05	System Control Panel User's Manual

3. GENERAL INFORMATION

3.1 All tests shall be performed under the following conditions:

Temperature = 25 ± 5 C
Relative humidity = 95% maximum
Pressure = between 20 and 32 inHg

3.2 Tests 1 thru 10 shall be performed with the HP 64000/UDE or PC/CPI emulation system attached to the top connector of the unit under test (UUT) A1 CCA (refer to figure 1). All subsequent tests shall be performed in a stand-alone configuration with the emulation system removed or deactivated. Power to the UUT shall be removed before attaching or removing any interconnecting systems.

3.3 Notes on operating the HP 64000 emulation system are as follows:

3.3.1 All tests requiring the HP 64000 emulation system shall be performed while executing the SDP-185 monitor software. In the engineering environment, the monitor is invoked by executing the 'HW' command file from within the MODESP user ID of the HP 64000 system.

3.3.2 All address and data information should be entered in Hex with a leading 0 and trailing H (the H indicates the data is in hexadecimal). See example in 3.3.3.

3.3.3 Most emulation commands are invoked by pressing HP 64000 softkeys, found directly below the CRT. Only hexadecimal addresses and data are typed using the standard typewriter keypad of the HP 64000. For example, to change the contents of location C000 (Hex) to the value AAAA (Hex), the following HP 64000 command would be entered:

modify memory 0C000H to 0AAAAH

In this example, the words (modify, memory, and to) are entered with single-keystroke softkeys.

3.4 Notes on operation of the PC emulation system are as follows:

3.4.1 All tests requiring the PC emulation system shall be performed while executing the SDP-185 monitor software. In the engineering environment, the monitor is invoked by executing the 'SCP MDS' command file.

3.4.2 All address and data information should be entered in Hex with a leading 0# for CACHE locations and a leading 1# for local memory. See example in 3.4.3.

3.4.3 Most emulation commands are invoked by pressing the softkeys. Only addresses, data, and 'MDS' are typed using the standard typewriter keys. For example, to change the contents of location C000 (Hex) to the value AAAA (Hex), the following PC command would be entered:

modify memory MDS word 0#C000 to AAAA

In this example, the words (modify, memory, word, and to) are entered with single-keystroke softkeys.

3.5 When testing diversity, the two antenna signals are referred to as ANT A and ANT B. This conversion is consistent with that used by the IFR transponder test equipment and does not need to be correlated to the actual top and bottom antenna signals. In other words, the TOP ANT cable can be connected to either ANT A port or ANT B port of the IFR equipment.

3.6 Standard rate and power for ATCRBS and Mode S interrogations are defined as follows:

ATCRBS: 450 Hz, -50 dBm
Mode S: 45 Hz, -50 dBm

3.7 Input discrete signal standards are as follows:

GND - <3.5 V at 100 mA
OPEN - >100k ohms
+5V - 5 ± 1 V dc at 20 mA
+28V - >18 V dc

3.8 Output discrete signal standards are as follows:

GND - <3.5 V dc
OPEN - >100k ohms
+28V - >18 V dc

3.9 Notes on entering data into the IFR S-1403 are listed below:

3.9.1 Data is entered by use of the cursor keys, slew knob, and numeric keypad. Use the cursor keys to move between input fields (the cursor will not move to an output/display field). Once in the desired field, use the slew knob and/or numeric keypad to alter the data.

3.9.2 Some fields require the data to toggle through one or more states (for example, the SPR: ON/OFF field). Use the ON/CAL button to toggle such fields.

3.9.3 Some input fields can be moved through a range of numeric values (for example, the Dv=CAL field). These fields must first be toggled out of the CAL state and into the data entry mode. The slew knob and numeric keypad can then be used to provide the desired value.

3.9.4 Some fields require the ENTER key to be pressed after the required data has been selected (for example, the UF= field).

3.10 Notes and a list of HP 64000 command files (Honeywell Part No. MT4061400-902) are as follows:

3.10.1 The total execution time of this Integrated Test Procedure may be greatly reduced by using the HP 64000 command files listed in paragraph 3.10.3. These command files automatically execute many keystrokes found in certain tests and match statement-for-statement (excluding 'wait' statements) the steps found in the IT work steps.

3.10.2 After executing the 'HW' batch file (see paragraph 3.3), execute the command file by typing the filename (using all caps) into the HP 64000 and pressing RETURN. Most command files pause to allow the operator to record data. Press any key to resume command file execution.

3.10.3 **IT Test No.** **HP 64000 Command Filename**

1	IT10
2	IT20
3	IT30 (See note 1.)
4	IT40
5	IT50
6	IT60
7	IT70 (Shall be executed twice to complete test 7.)
8	IT80
9	IT81
10	IT90
11	IT100 (See note 2.)

NOTE 1: Before running IT30, test 3 must be performed. IT30 must also be performed at the completion of the IT to clear E^2.

NOTE 2: Before running IT100, end out of emulation mode by entering "END" into the HP 64000.

3.11 Notes and a list of PC command files (Honeywell Part No. MT4061400-101, Revision A) are as follows:

3.11.1 The total execution time of this Integrated Test Procedure may be greatly reduced by using the PC command files listed in paragraph 3.11.3. These command files automatically execute many keystrokes found in certain tests and match statement-for-statement (excluding 'pause' statements) the steps found in the IT work steps.

3.11.2 After executing the 'SCP MDS' batch file (see paragraph 3.4), execute the command file by typing the filename (using all caps) into the PC and pressing ENTER. Most command files pause to allow the operator to record data. Press any key to resume command file execution.

3.11.3

IT Test No.	PC Command Filename
1	IT10
2	IT20
3	IT30 (See note 1.)
4	IT40
5	IT50
6	IT60
7	IT70 (Shall be executed twice to complete test 7.)
8	IT80
8.1	IT81
9	IT90
10	IT100 (See note 2.)

NOTE 1: Before running IT30, test A3 must be performed. IT30 must also be performed at the completion of the IT to clear E2.

NOTE 2: Before running IT100, end out of emulation mode by entering "END" into the PC. (Resume testing at test 10.13.)

3.12 This IT conforms to Specification ATLAS ATP SA4061400-905, Revision A or later.

Table 1. Initial IFR ATC-1400A Control Settings

Switch	Initial Setting
RF LEVEL control	-70 dBm
CW/NORM/OFF switch	OFF
SUPPRESSOR ON/OFF switch	OFF
SLS/ECHO ON/OFF switch	OFF
XPDR PULSE WIDTH VAR/CAL switch	CAL
FREQ STEP RATE control	OFF
MAN/AUTO/MAN STEP switch	MAN
XPDR DEV P3/CAL switch	CAL
1.0µs/1.45µs switch	1.45 µs
XPDR DEV P2/CAL switch	CAL
TO/TAC/TD switch	TD
PRF/SQTR ON/OFF switch	ON
F2/P2 F1/P1 switch	F2/P2
XPDR MODE control	A
DISPLAY SELECT control	FREQ MHz
PRF/SQTR thumbwheels	45 Hz
DBL INTERR/INTERF PULSE thumbwheels	047.9 µs OFF
XPDR P2/P3 DEV thumbwheels	0.20 µs
FREQ/FUNCTION SELECT thumbwheels	1030 MHz XPDR
DELTA F thumbwheels	0.00 MHz OFF
XPDR PULSE WIDTH thumbwheels	0.00 µs
SLS/ECHO thumbwheels	+0 dB
DECODER (at rear of unit)	NARROW

NOTE: If unit is cold, provide a 5-minute warmup period. Adjust the FREQ and DELTA F thumbwheels until the FREQ DISPLAY indicates 1030.00 MHz.

Initial IFR S-1403 Control Settings

Menu	Sub-Menu/Field	Initial Settings
Sequence	S01	UF = 5
		ADD = 25252525
	S02 thru S16:	OFF
Control Menu 1	Func:	1 ATC (ATCRBS)
	RF Lvl:	+0.0

Table 2. Initial Mode S Transponder (UUT) Configuration

(Mode S Interface Panel)

Signal Name		Switch Position	Signal Sense	UUT Rear Connector Pin No.
MODE S ADDRESS	A1	0	OPEN	J1B-1A
	A2	1	GND	J1B-1B
	A3	0	OPEN	J1B-1C
	A4	1	GND	J1B-1D
	A5	0	OPEN	J1B-1E
	A6	1	GND	J1B-1F
	A7	0	OPEN	J1B-1G
	A8	1	GND	J1B-1H
	A9	0	OPEN	J1B-1J
	A10	1	GND	J1B-1K
	A11	0	OPEN	J1B-2A
	A12	1	GND	J1B-2B
	A13	0	OPEN	J1B-2C
	A14	1	GND	J1B-2D
	A15	0	OPEN	J1B-2E
	A16	1	GND	J1B-2F
	A17	0	OPEN	J1B-2G
	A18	1	GND	J1B-2H
	A19	0	OPEN	J1B-2J
	A20	1	GND	J1B-2K
	A21	0	OPEN	J1B-3A
	A22	1	GND	J1B-3B
	A23	0	OPEN	J1B-3C
	A24	1	GND	J1B-3D

Table 2(Cont). Initial Mode S Transponder (UUT) Configuration

(Mode S Interface Panel)

Signal Name		Switch Position	Signal Sense	UUT Rear Connector Pin No.
ANT PGM		2	OPEN	J1A-6K
ANT CABLE DLY	T/B	BOT	GND	J1A-3C
	B	1	OPEN	J1A-3D
	A	0	GND	J1A-3E
GILHAM ALT 1	A1	1	GND	J1B-4A
	A2	0	OPEN	J1B-4B
	A4	1	GND	J1B-4C
	B1	0	OPEN	J1B-4D
	B2	1	GND	J1B-4E
	B4	0	OPEN	J1B-4F
	C1	1	GND	J1B-4G
	C2	0	OPEN	J1B-4H
	C4	1	GND	J1B-4J
	D2	0	OPEN	J1B-4K
	D1	1	GND	J1B-5K
GILHAM ALT 2	A1	0	OPEN	J1A-1A
	A2	1	GND	J1A-1B
	A4	0	OPEN	J1A-1C
	B1	1	GND	J1A-1D
	B2	0	OPEN	J1A-1E
	B4	1	GND	J1A-1F
	C1	0	OPEN	J1A-1G
	C2	1	GND	J1A-1H
	C4	0	OPEN	J1A-1J
	D2	1	GND	J1A-1K
	D4	0	OPEN	J1A-2K
ANT BITE		ON	GND	J1B-5J

Table 2(Cont). Initial Mode S Transponder (UUT) Configuration

(Mode S Interface Panel)

Signal Name		Switch Position	Signal Sense	UUT Rear Connector Pin No.
FUNC TEST		ON	GND	J1B-3H
STBY/ON		ON	OPEN	J1A-7G
SYNC ALT FLAG No. 1		INV	OPEN	J1A-4J
SYNC ALT FLAG No. 2		VLD	+18 V	J1B-7J
ALT COMP		ON	GND	J1B-5G
ALT SRC		1	OPEN	J1B-6E
ALT TYP SEL	B	1	OPEN	J1B-6F
	A	0	GND	J1B-6G
MAX AIRSPEED	15	1	OPEN	J1A-5A
	16	0	GND	J1A-5B
	17	1	OPEN	J1A-5C
SDI	B	1	OPEN	J1A-3G
	A	0	GND	J1A-3H
DATA LINK		DLP	GND	J1B-5H
CNTL PNL		B	OPEN	J1A-7D
AIR/GND No. 1		AIR	OPEN	J1A-5K
AIR/GND No. 2		AIR	OPEN	J1A-5J

Table 3. Complemented Mode S Transponder (UUT) Configuration

(Mode S Interface Panel)

Signal Name		Switch Position	Signal Sense
MODE S ADDRESS	A1	1	GND
	A2	0	OPEN
	A3	1	GND
	A4	0	OPEN
	A5	1	GND
	A6	0	OPEN
	A7	1	GND
	A8	0	OPEN
	A9	1	GND
	A10	0	OPEN
	A11	1	GND
	A12	0	OPEN
	A13	1	GND
	A14	0	OPEN
	A15	1	GND
	A16	0	OPEN
	A17	1	GND
	A18	0	OPEN
	A19	1	GND
	A20	0	OPEN
	A21	1	GND
	A22	0	OPEN
	A23	1	GND
	A24	0	OPEN

Table 3(Cont). Complemented Mode S Transponder (UUT) Configuration

(Mode S Interface Panel)

Signal Name		Switch Position	Signal Sense
ANT PGM		1	GND
ANT CABLE DLY	T/B	TOP	OPEN
	B	0	GND
	A	1	OPEN
GILHAM ALT 1	A1	0	OPEN
	A2	1	GND
	A4	0	OPEN
	B1	1	GND
	B2	0	OPEN
	B4	1	GND
	C1	0	OPEN
	C2	1	GND
	C4	0	OPEN
	D2	1	GND
	D4	0	OPEN
GILHAM ALT 2	A1	1	GND
	A2	0	OPEN
	A4	1	GND
	B1	0	OPEN
	B2	1	GND
	B4	0	OPEN
	C1	1	GND
	C2	0	OPEN
	C4	1	GND
	D2	0	OPEN
	D4	1	GND

Table 3(Cont). Complemented Mode S Transponder (UUT) Configuration

(Mode S Interface Panel)

Signal Name		Switch Position	Signal Sense
ANT BITE		OFF	OPEN
FUNC TEST		OFF	OPEN
STBY/ON		STBY	GND
SYNC ALT FLAG No. 1		VLD	+18 V
SYNC ALT FLAG No. 2		INV	OPEN
ALT COMP		OFF	OPEN
ALT SRC		2	GND
ALT TYP SEL	B	0	GND
	A	1	OPEN
MAX AIRSPEED	15	0	GND
	16	1	OPEN
	17	0	GND
SDI	B	0	GND
	A	1	OPEN
DATA LINK		DL	OPEN
CNTL PNL		A	GND
AIR/GND No. 1		GROUND	GND
AIR/GND No. 2		GROUND	GND

Table 4. Initial Setup For Internal RF Self-Test

Address	Modify to
C000H thru C006H	0000H
C007H thru C00DH	5555H
C00EH	D457H
C00FH	AAAAH
C01FH	FFFFH
C020H	AAAAH
C021H	AAAAH
C022H	5555H
C023H	5555H
C024H	000DH
C025H	009EH
C026H	00BFH
C028H	002AH
C02AH	5500H
C02BH	FFAAH
C02FH	0007H

NOTE 1: Read 1DW4 (location 0D604).

NOTE 2: Copy bits 0 thru 3 of 1DW4 into bits 4 thru 7 and write the value 7H into bits 0 thru 3 of RF 0DW15 (location 0C027).

NOTE 3: Copy bits 4 thru 7 of 1DW4 plus 01DH into bits 0 thru 5 of RF 0DW17(location 0C029).

Table 5. Initial Settings For Mode S And ATCRBS (Mode S SW Running)

(Mode S Interface Panel)

Signal Name		Switch Position	Signal Sense
MODE S ADDRESS	A1	0	OPEN
	A2	1	GND
	A3	0	OPEN
	A4	1	GND
	A5	0	OPEN
	A6	1	GND
	A7	0	OPEN
	A8	1	GND
	A9	0	OPEN
	A10	1	GND
	A11	0	OPEN
	A12	1	GND
	A13	0	OPEN
	A14	1	GND
	A15	0	OPEN
	A16	1	GND
	A17	0	OPEN
	A18	1	GND
	A19	0	OPEN
	A20	1	GND
	A21	0	OPEN
	A22	1	GND
	A23	0	OPEN
	A24	1	GND
ANT PGM		2	OPEN
ANT CABLE DELAY	T/B	BOT	OPEN
	B	1	OPEN
	A	1	OPEN
ANT BITE		ON	GND
FUNC TEST		OFF	OPEN
STBY/ON		ON	OPEN

Table 5(Cont). Initial Settings For Mode S And ATCRBS (Mode S SW Running)

(Mode S Interface Panel)

Signal Name		Switch Position	Signal Sense
ALT COMP		OFF	OPEN
ALT SRC SEL		2	GND
ALT TYPE SEL	B	1	OPEN
	A	1	OPEN
CNTL PNL		B	OPEN
AIR/GND	1	GROUND	GND
AIR/GND	2	AIR	OPEN

NOTE 1: Disconnect all wires from MAINT DATA OUT A, B jacks on the Mode S interface panel.

NOTE 2: Set up two ARINC sources as shown (can be provided by one 429 source with dual-label capability):

	SOURCE 1	SOURCE 2
Transmit speed:	LOW	LOW
Transmit parity:	ODD	ODD
Transmit rate:	168 ms	50 ms
429 Label:	016 (octal)	203 (octal)
429 Data:	1FFE48 (Hex)	627740 (Hex)
Connect to: (On MDS interface panel)	CNTL DATA B	429 ADC 1 and 429 ADC 2

NOTE 3: Run Mode S software by removing or disabling the UDE or CPI interface from the UUT and reenergizing the unit.

NOTE 4: The UDE or CPI must be removed or disabled to allow LRU software to operate.

Table 6. Initial 429 Setup (Internal Wrap)

Config Reg	Address	Modify To
0	0D218H	08888H
1	0D21AH	08888H
2	0D21CH	00000H
3	0D400H	0FFE0H
N/A	0D220H thru 0D22EH	0FFAAH

Table 6.1. Walking 1S 429 Setup (Internal Wrap)

Config Reg	Address	Modify To
0	0D218H	08888H
1	0D21AH	08888H
2	0D21CH	00000H
3	0D400H	0FFE0H
N/A	0D220H thru 0D22EH	00000H

Table 7. Initial 429 Setup (External Wrap)

Config Reg	Address	Modify To
0	0D218H	08888H
1	0D21AH	088AAH
2	0D21CH	00090H
3	0D400H	0FF76H
N/A	0D220H thru 0D22EH	0FF00H

Table 8. Initial 429 I/O Interconnects (Mode S Interface Panel)

From			To		
Signal Name		UUT Rear Connector Pin No.	Signal Name		UUT Rear Connector Pin No.
DATA LINK OUT	A	J1B-5E	DATA LINK IN	A	J1A-2A
	B	J1B-5F		B	J1A-2B
XT COORD	A	J1A-5G	TX COORD	A	J1A-5E
	B	J1A-5H		B	J1A-5F
MAINT DATA IN	A	J1B-6A	FLT ID	A	J1A-6A
	B	J1B-6B		B	J1A-6B
MAINT DATA OUT	A	J1B-6C	MAINT DATA IN	A	J1A-6A
	B	J1B-6D		B	J1A-6B
429 ADC #1	A	J1A-7H	CNTL DATA A	A	J1A-7A
	B	J1A-7J		B	J1A-7B
429 ADC #2	A	J1B-5A	CNTL DATA B	A	J1A-7E
	B	J1B-5B		B	J1A-7F
FLT ID	A	J1A-6A	CNTL DATA A	A	J1A-7A
	B	J1A-6B		B	J1A-7B
CNTL DATA A	A	J1A-7A	CNTL DATA B	A	J1A-7E
	B	J1A-7B		B	J1A-7F

4. POWER REQUIREMENTS

115 ± 5 V ac, 400 ± 10 Hz

G 115 ± 5 V ac or 230 ± 10 V ac, 48 to 66 Hz

5. TEST EQUIPMENT

5.1 Honeywell Test Equipment

4066423-902	CPI (modified with connector board, Part No. 4067220)
4067839	Mode S Interface Panel
4067841-901	RF Cable
4067841-902	RF Cable
4067842	M-S LRU Cooling Tray
4067846	SDP-185 UDE
MT4061400-902	HP 64000/UDE Test Software
MT4061400-101	PC/CPI Test Software

5.2 Commercial Test Equipment

IEEE-488 Cable, 10833A

IFR ATC-1400A Transponder Tester

IFR S-1403 Mode S Tester

HP 64000 System, or equivalent

JCAir 429E ARINC 429 Analyzer, or equivalent

Tektronix 2432A Digital Oscilloscope, or equivalent

Digital Voltmeter, Fluke 77, or equivalent

Omni Spectra, 2021-1314-02, or equivalent zero ohm terminator

Omni Spectra, 3082-2240-00, Type N-SMA or equivalent connector

IBM PC, or equivalent, with a Ziatech IEEE-488 interface card, ZT1444A

6. TEST SETUP

6.1 Turn on the commercial test equipment and allow it to warm up. Verify that the test equipment used is calibrated and working properly.

6.2 Connect the UUT to the IFR test equipment, Mode S interface panel, and HP 64000 system. (See figure 1.)

7. TEST REQUIREMENTS

7.1 The IFR equipment requires a 5-minute warmup period. No other warmup is required before testing the Mode S Transponder.

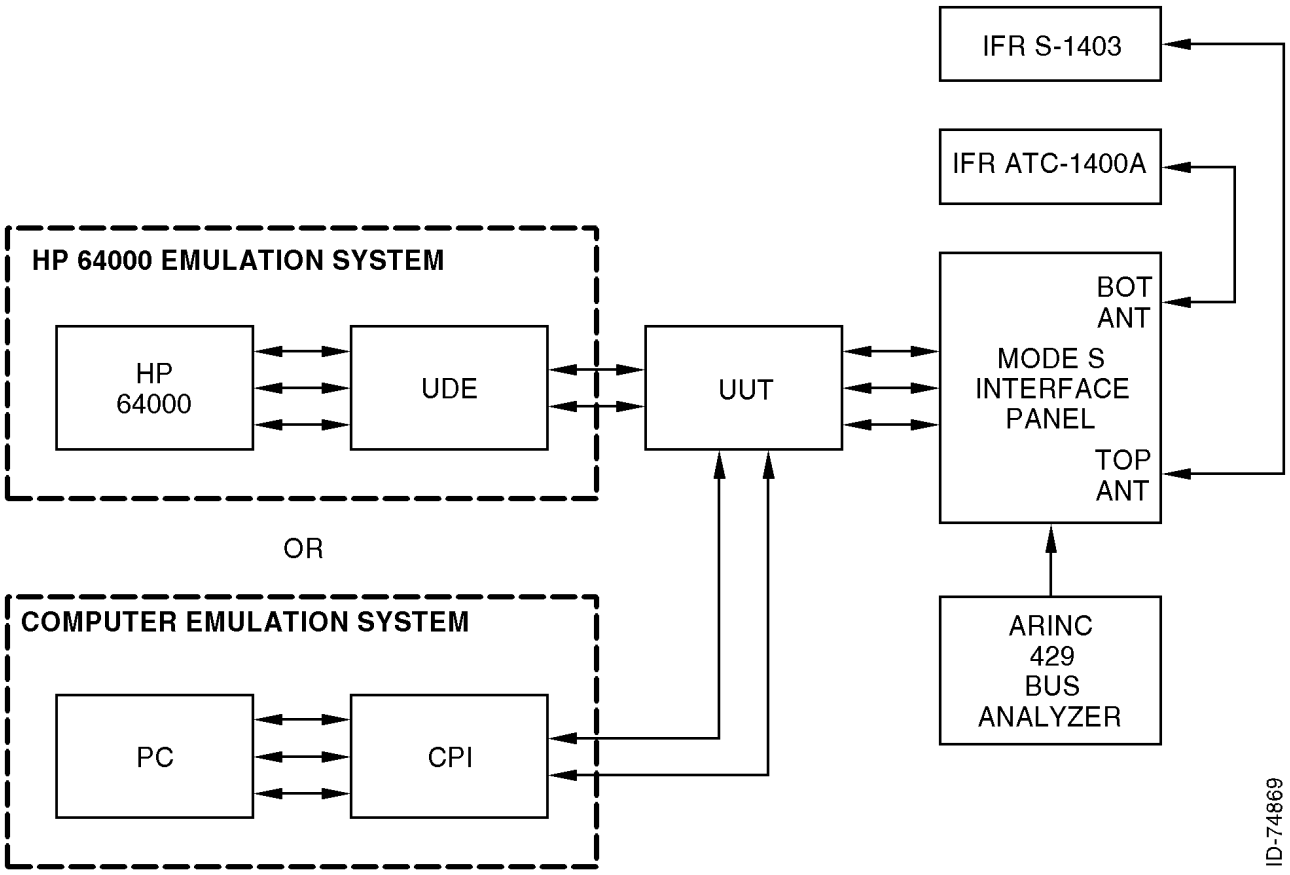

Figure 1. Initial Test Equipment Setup

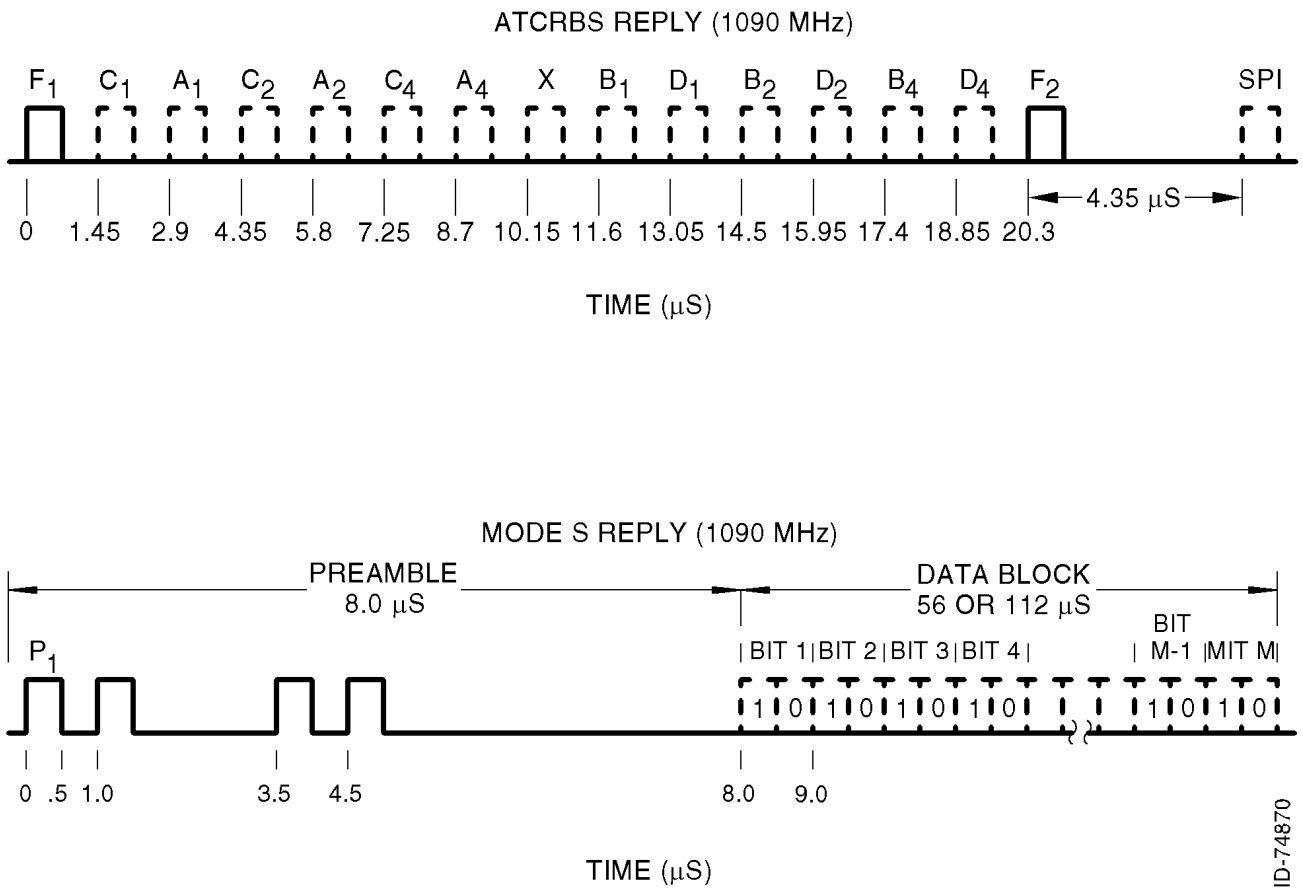

Figure 2. Timing Diagrams

7.2 The test steps shall be performed in the order listed. In the event of a failure and repair, the test must be performed again from the beginning.

7.3 All control settings that are altered during the course of a specific test should be returned to their initial settings before starting a new procedure.

7.4 This procedure is intended to be performed by a knowledgeable technician or engineer. It is assumed that the equipment will be energized and deenergized as appropriate when changing connections and setups.

7.5 Individual column definitions are as follows:

Column	Description
Rev Ltr	Revision letters are used to identify revised material.
Test No.	Tests are numbered in sequence.
Opr Limits	Unit under test (UUT) shall meet these limits when tested at other than the manufacturing facility. When an item is marked OPTIONAL, the corresponding test is not required except as an aid in troubleshooting.
Test Description	These items are the parameters to which the UUT was designed and aid in troubleshooting by specifying the input and output signal terminals. All conditions required are not repeated for each test, and conditions established in previous tests also apply.
Switch Pos	Positions to which switches must be set are listed in required order and are grouped to correspond to applicable work steps.
Work Steps	This column defines the operations necessary to perform a test and achieve a result. Set switches to designated positions before performing corresponding work step.
Mfg Limits	UUT shall meet these limits at final buyoff before customer delivery.

8. TEST PROCEDURE

8.1 Perform tests 1 thru 28 if using the HP 64000 emulation system.

8.2 Perform tests A1 thru A10 in Appendix A if using the PC/CPI emulation system.

8.3 When alternative tests A1 thru A10 are completed, perform tests 11 thru 28 to complete the test procedures.

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	1			SOFTWARE LOAD While running the SDP-185 monitor program (refer to paragraph 3.3.1), modify the following SDP-185 registers as shown: Modify register CACHE to 1. Modify register EPROM_EN to 1.			SOFTWARE LOAD Run the SDP-185 monitor program (refer to paragraph 3.3.1). Modify the following SDP-185 registers as shown: Enter "modify register CACHE to 1" "modify register EPROM_EN to 1"	
	1.1	7FDE:580D 7FDF:EEE0		Observe the CRC words in program ROM (memory locations 7FDEH and 7FDFH). The values shall be as specified for a -902.			Enter "display memory 07FDEH thru 07FDFH" The values shall be as specified for a -902.	7FDE:580D 7FDF:EEE0
	1.2	7FDE:718F 7FDF:3150		Observe the CRC words in program ROM (memory locations 7FDEH and 7FDFH). The values shall be as specified for a -903.			Enter "display memory 07FDEH thru 07FDFH" The values shall be as specified for a -903.	7FDE:718F 7FDF:3150
	1.3	7FDE:0E2D 7FDF:F202		Observe the CRC words in program ROM (memory locations 7FDEH and 7FDFH). The values shall be as specified for a -904.			Enter "display memory 07FDEH thru 07FDFH" The values shall be a specified for a -904.	7FDE:0E2D 7FDF:F202
	1.4	7FDE:4353 7FDF:F5DF		Observe the CRC words in program ROM (memory locations 7FDEH and 7FDFH). The values shall be as specified for a -905 not MOD E.			Enter "display memory 07FDEH thru 07FDFH" The values shall be as specified for a -905 not MOD E.	7FDE:4353 7FDF:F5DF
	1.5	7FDE:6C8B 7FDF:BA1D		Observe the CRC words in program ROM (memory locations 7FDEH and 7FDFH). The values shall be as specified for a -905 MOD E.			Enter "display memory 07FDEH thru 07FDFH" The values shall be as specified for a -905 MOD E.	7FDE:6C8B 7FDF:BA1D

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	2			CACHE RAM Modify register CACHE to 0. If this IT is being performed using an automated test facility, complete test 2.1. If this IT is being performed using the manual test fixture, complete test 2.2.			CACHE RAM Modify register CACHE to 0. If this IT is being performed using an automated test facility, complete test 2.1. If this IT is being performed using the manual test fixture, complete test 2.2.	
	2.1	N/A		Automated Procedure Write the cache RAM address (0000H thru 3FFFH) to each location in cache RAM (20000H thru 23FFFH).			Automated Procedure Write the cache RAM address (0000H thru 3FFFH) to each location in cache RAM (20000H thru 23FFFH).	N/A
	2.1.1	0000H thru 3FFFH		Verify that each cache RAM location contains the correct data. Write the complement of each cache RAM address (FFFFH thru C000H) to each location in cache RAM (20000H thru 23FFFH).			Verify that each cache RAM location contains the correct data. Write the complement of each cache RAM address (FFFFH thru C000H) to each location in cache RAM (20000H thru 23FFFH).	0000H thru 3FFFH
	2.1.2	FFFFH thru C000H		Verify that each cache RAM location contains the correct data.			Verify that each cache RAM location contains the correct data.	FFFFH thru C000H
	2.2	N/A		Manual Test Procedure Enter "modify memory 20000H thru 23FFFH to 0AAAAH"			Manual Test Procedure Enter "modify memory 20000H thru 23FFFH to 0AAAAH"	N/A
	2.2.1	AAAAH		Enter "display memory 20000H thru 2007FH" Enter "modify memory 20000H thru 23FFFH to 05555H"			Enter "display memory 20000H thru 2007FH" Enter "modify memory 20000H thru 23FFFH to 05555H"	AAAAH

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	2.2.2	5555H		Enter "display memory 20000H thru 2007FH"			Enter "display memory 20000H thru 2007FH"	5555H
	2.2.3	5555H		Enter "display memory 23E80H thru 23FFFH"			Enter "display memory 23E80H thru 23FFFH"	5555H
	3	N/A		<u>EEPROM</u> Enter "modify register CACHE TO 0" Write LRU dash and serial numbers to the EEPROM locations 9FC0H to 9FCAH respectively. D/N stands for dash number and S/N stands for serial number.			<u>EEPROM</u> Enter "modify register CACHE to 0" Enter "modify memory 20000H thru 2000AH to (1st digit of D/N). (2nd digit of D/N). (3rd digit of D/N). (1st digit of S/N). (2nd digit of S/N). (3rd digit of S/N). (4th digit of S/N). (5th digit of S/N). (6th digit of S/N). (7th digit of S/N). (8th digit of S/N)." D/N stands for dash number and S/N for serial number. Enter "END" Switch HBDIS* on UDE (LED shall be illuminated).	N/A

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	3.1	N/A		NOTE: EEPROM is only 8 bits wide, instead of 16. If 16 bits of data are specified, only the least significant 8 bits are used. Thus, FE34H is the same as 34H. Write the EEPROM address (00H thru FFH) to each location in EEPROM (8000H thru 9FFFH). Verify each location. Write the complement of each EEPROM address (FFH thru 00H) to each location in EEPROM (8000H thru 9FFFH). Verify each location. Write the value FFH to each location in EEPROM (8000H thru 9FFFH). Verify each location. Write the LRU dash and serial numbers, in ISO-5 format, to the EEPROM locations 9FC0H to 9FCAH.			Enter "SW IT30P" Enter "run from startup" Program will take several minutes to complete. Front panel LEDs shall flash in a repetitive pattern while the program is executing. When the program is complete all six LEDs shall be illuminated. Enter "modify register CACHE to 0"	N/A
	3.2	PASS					Enter "display memory 20010H thru 20011H" Look in the ASCII decode display for the Pass/Fail indicator. Status shall be as indicated. Enter "modify register CACHE to 1"	PASS

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	3.3	PASS		Verify that each 8-bit word in locations 9FC0H thru 9FCAH contains the proper dash and serial numbers.			Enter "display memory 9FC0H thru 9FCAH" Look in the ASCII decode display and verify that each 8-bit word contains the proper dash and serial numbers. Enter "END" Switch HBDIS* on VDE (LED shall not illuminate). Enter "HW"	PASS
	4			VIDEO RAM Write the video RAM address (C000H thru C00FH) to each location in video RAM (C000H thru C00FH).			VIDEO RAM Enter "modify register CACHE to 1" Enter "modify memory 0C000H thru 0C003H to 0C000H, 0C001H, 0C002H, 0C003H" Enter "modify memory 0C004H thru 0C007H to 0C004H, 0C005H, 0C006H, 0C007H" Enter "modify memory 0C008H thru 0C00BH to 0C008H, 0C009H, 0C00AH, 0C00BH" Enter "modify memory 0C00CH thru 0C00FH to 0C00CH, 0C00DH, 0C00EH, 0C00FH" Enter "display memory 0C000H thru 0C00FH"	

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	4.1	C000H thru C00FH		Verify that each video RAM location contains the correct data. Write the complement of each video RAM address (3FFFH thru 3FF0H) to each location in video RAM (C000H thru C00FH).			Verify that each video RAM location contains the correct data. Enter "modify memory 0C000H thru 0C003H to 3FFFH, 3FFEH, 3FFDH, 3FFCH" Enter "modify memory 0C004H thru 0C007H to 3FFBH, 3FFAH, 3FF9H, 3FF8H" Enter "modify memory 0C008H thru 0C00BH to 3FF7H, 3FF6H, 3FF5H, 3FF4H" Enter "modify memory 0C00CH thru 0C00FH to 3FF3H, 3FF2H, 3FF1H, 3FF0H" Enter "display memory 0C000H thru 0C00FH"	C000H thru C00FH
	4.2	3FFFH thru 3FF0H		Verify that each video RAM location contains the correct data.			Verify that each video RAM location contains the correct data.	3FFFH thru 3FF0H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	5			INPUT DISCRETES Perform test setup in accordance with table 2. Read the following memory locations:			INPUT DISCRETES Perform test setup for the transponder interface panel in accordance with table 2. Enter "modify register CACHE to 1" Enter "display memory 0D600H thru 0D605H repetitively" The memory locations shall indicate as follows: (X = don't care)	
	5.1	X355H or XB55H X4AAH or XCAAH 5555H 55XXH 6AXXH XABFH, bit 12 = 0		0D600H 0D601H 0D602H 0D603H 0D604H 0D605H Complement all of the discrete input stimuli to the UUT. Read the following memory locations:	Mode S Interface Panel Table 3		0D600H 0D601H 0D602H 0D603H 0D604H 0D605H Complement all of the discrete input stimuli to the UUT by performing test setup in accordance with table 3. The memory locations shall indicate as follows: (X = don't care)	X355H or XB55H X4AAH or XCAAH 5555H 55XXH 6AXXH XABFH, bit 12 = 0
	5.2	X4AAH or XCAAH X355H or XB55H AAAAH AAXXH 95XXH X744H, bit 12 = 1		0D600H 0D601H 0D602H 0D603H 0D604H 0D605H			0D600H 0D601H 0D602H 0D603H 0D604H 0D605H	X4AAH or XCAAH X355H or XB55H AAAAH AAXXH 95XXH X744H, bit 12 = 1

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	5.3	X5XXH		While pressing the Push To Test button on the front panel of the UUT, read memory location D605H. The value shall be as indicated. (X = don't care)			While pressing the Push To Test button on the front panel of the UUT, enter "display memory 0D605H". The value shall be as indicated. (X = don't care)	X5XXH
	6			OUTPUT DISCRETES Perform test setup in accordance with table 2. Write to Output Data Word 0 and Configuration Register 3 as shown: Address Data 0D607H 0012H 0D400H 2A00H Verify the state of the following UUT front panel LEDs: Signal Name			OUTPUT DISCRETES Perform test setup in accordance with table 2. Write to Output Data Word 0 and Configuration Register 3 as shown: (Enter "modify memory <address> to <data>") Address Data 0D607H 0012H 0D400H 2A00H Verify the state of the following UUT front panel LEDs: Signal Name	
	6.1	on off off on off on		XPDRPASS XPDRFAIL CNTLPNL TOPANT BOTANT ALTSIG Verify the following signals. The signal sense shall be as specified.			XPDRPASS XPDRFAIL CNTLPNL TOPANT BOTANT ALTSIG Verify the following signals. The indicator lamps on the Mode S interface panel (or the signals themselves) shall be as specified.	on off off on off on

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
		Sig/Lamp		Sig/Lamp			Sig/Lamp	Sig/Lamp
	6.2	OPN/ON (Green) GND/OFF OPN/OFF GND/ON (Green)		ALT FAIL 1 ALT FAIL 2 XPDR FAIL 1 XPDR FAIL 2 Write to Output Data Word 0 and Configuration Register 3 as shown: Address Data 0D607H 0001H 0D400H 1500H Verify the state of the following UUT front panel LEDs: Signal Name			ALT FAIL 1 ALT FAIL 2 XPDR FAIL 1 XPDR FAIL 2 Write to Output Data Word 0 and Configuration Register 3 as shown: (Enter "modify memory <address> to <data>") Address Data 0D607H 0001H 0D400H 1500H Verify the state of the following UUT front panel LEDs: Signal Name	OPN/ON (Green) GND/OFF OPN/OFF GND/ON (Green)
	6.3	off on on off on off		XPDRPASS XPDRFAIL CNTLPNL TOPANT BOTANT ALTSIG Verify the following signals. The signal sense shall be as specified.			XPDRPASS XPDRFAIL CNTLPNL TOPANT BOTANT ALTSIG Verify the following signals. The indicator lamps on the Mode S interface panel (or the signals themselves) shall be as specified.	off on on off on off

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
		Sig/Lamp		Signal Name			Signal Name	Sig/Lamp
	6.4	GND/OFF OPN/ON (Red) +5V/ON (Red) OPN/OFF		ALT FAIL 1 ALT FAIL 2 XPDR FAIL 1 XPDR FAIL 2			ALT FAIL 1 ALT FAIL 2 XPDR FAIL 1 XPDR FAIL 2	GND/OFF OPN/ON (Red) +5V/ON (Red) OPN/OFF
	7			SYNCHRO ALTITUDE Perform test setup in accordance with table 2. Stimulate the UUT SYNCHRO REF H and SYNCHRO REF C signals with a 26 V ac, 400 Hz sinusoidal waveform. Stimulate the UUT synchro altitude inputs with a second 400 Hz sinusoid that is synchronous with the reference signal (above). Apply this signal across the following UUT synchro inputs with the negative side of the signal connected to the Z input: SYNC ALT 1 FINE X-Z SYNC ALT 1 FINE Y-Z SYNC ALT 1 CRSE X-Z SYNC ALT 1 CRSE Y-Z SYNC ALT 2 FINE X-Z SYNC ALT 2 FINE Y-Z SYNC ALT 2 CRSE X-Z SYNC ALT 2 CRSE Y-Z	Mode S Interface Panel 26 VAC POL = +		SYNCHRO ALTITUDE Perform test setup in accordance with table 2. On the Mode S interface panel, connect the 26 V ac REF + and - signals to the Sync Alt 1/2 RH and RC signals. Connect the TEST VAC + signal to the FX, FY, CX, and CY signals. Connect the TEST VAC - signal to the FZ and CZ signals. Adjust the amplitude of the TEST VAC signal to 9 V rms.	

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
				1. Adjust the amplitude of this signal to 9 V rms. Read the digital value for each synchro source, using the following procedure: 1. Write the appropriate data (see following table) to memory location D607H. 2. Wait at least 75 µs. 3. Read location D606H. 4. Record the value. The data should fall within the range shown in the Limits.			Read the digital value for each synchro source, using the following procedure: 1. Write the appropriate data (see following table) to memory location D607H. 2. Enter "modify memory 0D607H to <value from table>" 3. Enter "display memory 0D606H thru 0D606H" 4. Record the value. The data should fall within the range shown in the Limits.	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Write To D607H / Source Being Tested			Write To D607H / Source Being Tested	
	7.1			0100H ALT 1 FIN X-Z			0100H ALT 1 FIN X-Z	
		CD5 ± 6FH 0H		(upper 12 bits) (lower 4 bits)			(upper 12 bits) (lower 4 bits)	CD5 ± 6FH 0H
		CD5 ± 6FH 1H		0120H ALT 1 FIN Y-Z (upper 12 bits) (lower 4 bits)			0120H ALT 1 FIN Y-Z (upper 12 bits) (lower 4 bits)	CD5 ± 6FH 1H
		CD5 ± 6FH 2H		0140H ALT 1 CRS X-Z (upper 12 bits) (lower 4 bits)			0140H ALT 1 CRS X-Z (upper 12 bits) (lower 4 bits)	CD5 ± 6FH 2H
		CD5 ± 6FH 3H		0160H ALT 1 CRS Y-Z (upper 12 bits) (lower 4 bits)			0160H ALT 1 CRS Y-Z (upper 12 bits) (lower 4 bits)	CD5 ± 6FH 3H
		CD5 ± 6FH 4H		0180H ALT 2 FIN X-Z (upper 12 bits) (lower 4 bits)			0180H ALT 2 FIN X-Z (upper 12 bits) (lower 4 bits)	CD5 ± 6FH 4H
		CD5 ± 6FH 5H		01A0H ALT 2 FIN Y-Z (upper 12 bits) (lower 4 bits)			01A0H ALT 2 FIN Y-Z (upper 12 bits) (lower 4 bits)	CD5 ± 6FH 5H
		CD5 ± 6FH 6H		01C0H ALT 2 CRS X-Z (upper 12 bits) (lower 4 bits)			01C0H ALT 2 CRS X-Z (upper 12 bits) (lower 4 bits)	CD5 ± 6FH 6H
		CD5 ± 6FH 7H		01E0H ALT 2 CRS Y-Z (upper 12 bits) (lower 4 bits)			01E0H ALT 2 CRS Y-Z (upper 12 bits) (lower 4 bits)	CD5 ± 6FH 7H
				Reverse the phase 180 degrees on the SYNCHRO REFERENCE input to the UUT.	Mode S Interface Panel 26 VAC POL = -		Reverse the phase 180 degrees on the SYNCHRO REFERENCE input to the UUT.	
				Read the digital value for each synchro source, using the following procedure:			Read the digital value for each synchro source, using the following procedure:	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				1. Write the appropriate data (see following table) to memory location D607H. 2. Wait at least 75 µs. 3. Read location D606H. 4. Record the value. The data should fall within the range shown in the Limits. Write To D607H — Source Being Tested			1. Write the appropriate data (see following table) to memory location D607H. 2. Enter "modify memory 0D607H to <value from table>" 3. Enter "display memory D606H" 4. Record the value. The data should fall within the range shown in the Limits. Write To D607H — Source Being Tested	
	7.2							
		329 ± 6FH 0H		0100H ALT 1 FIN X-Z (upper 12 bits) (lower 4 bits)			0100H ALT 1 FIN X-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 0H
		329 ± 6FH 1H		0120H ALT 1 FIN Y-Z (upper 12 bits) (lower 4 bits)			0120H ALT 1 FIN Y-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 1H
		329 ± 6FH 2H		0140H ALT 1 CRS X-Z (upper 12 bits) (lower 4 bits)			0140H ALT 1 CRS X-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 2H
		329 ± 6FH 3H		0160H ALT 1 CRS Y-Z (upper 12 bits) (lower 4 bits)			0160H ALT 1 CRS Y-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 3H
		329 ± 6FH 4H		0180H ALT 2 FIN X-Z (upper 12 bits) (lower 4 bits)			0180H ALT 2 FIN X-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 4H
		329 ± 6FH 5H		01A0H ALT 2 FIN Y-Z (upper 12 bits) (lower 4 bits)			01A0H ALT 2 FIN Y-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 5H
		329 ± 6FH 6H		01C0H ALT 2 CRS X-Z (upper 12 bits) (lower 4 bits)			01C0H ALT 2 CRS X-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 6H
		329 ± 6FH 7H		01E0H ALT 2 CRS Y-Z (upper 12 bits) (lower 4 bits)			01E0H ALT 2 CRS Y-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 7H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	8			429 RECEIVER TESTS (INTERNAL) Internal wrap on receiver 0 thru 7. Perform test setup in accordance with table 2. (Accept AAH label with no masking)			429 RECEIVER TESTS (INTERNAL) Perform test setup in accordance with table 2. (Accept AAH label with no masking)	
	8.1	N/A		Perform initial setup in accordance with table 6. Modify memory: Address Data 0D210H AAAAH 0D211H AAAAH Read the following block of memory: D200H thru D20FH.			Perform initial setup in accordance with table 6. Enter "modify memory 0D210H thru 0D211H to AAAAH" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.2	AAAAH 2AAAH		Even Locations Odd Locations (Reject even parity data, no label qualification)			Even Locations Odd Locations (Reject even parity data, no label qualification)	AAAAH 2AAAH
	8.3	N/A		Perform initial setup per table 6 except: Address Data 0D21CH 0249H 0D220H - 0D22EH 0044H Modify memory: Address Data 0D210H 5555H 0D211H 5555H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup per table 6 except: Address Data 0D21CH 0249H 0D220H - 0D22EH 0044H Enter "modify memory 0D210H thru 0D211H to 5555H" Enter "display memory 0D200H thru 0D20FH"	N/A

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	8.4	AAAAH 2AAAH (no change from test 8.2)		Even Locations Odd Locations (Reject nonmatching labels)			Even Locations Odd Locations (Reject nonmatching labels)	AAAAH 2AAAH (no change from test 8.2)
	8.5	N/A		Perform initial setup in accordance with table 6 except: Address Data 0D220H - 0D22EH EF44H Modify memory: Address Data 0D210H 5555H 0D211H 5555H Read the following block of memory: D200H thru D20FH.			Perform initial setup in accordance with table 6 except: Address Data 0D220H - 0D22EH EF44H Enter "modify memory 0D210H thru 0D211H to 5555H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.6	AAAAH 2AAAH (no change from test 8.2)		Even Locations Odd Locations (Reject due to disable feature)			Even Locations Odd Locations (Reject due to disable feature)	AAAAH 2AAAH (no change from test 8.2)
	8.7	N/A		Perform initial setup in accordance with table 6 except: Address Data 0D218H 0000H 0D21AH 0000H 0D220H - 0D22EH EE44H Modify memory: Address Data 0D210H 5555H 0D211H 5555H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6 except: Address Data 0D218H 0000H 0D21AH 0000H 0D220H - 0D22EH EE44H Enter "modify memory 0D210H thru 0D211H to 5555H" Enter "display memory 0D200H thru 0D20FH"	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	8.8	AAAAH 2AAAH (no change)		Even Locations Odd Locations (Accept valid data and label)			Even Locations Odd Locations (Accept valid data and label)	AAAAH 2AAAH (no change)
	8.9	N/A		Perform initial setup in accordance with table 6 except: Address Data 0D220H - 0D22EH EE44H Modify memory: Address Data 0D210H 5555H 0D211H 5555H Read the following block of memory: 0D200H thru 3D20FH.			Perform initial setup in accordance with table 6 except: Address Data 0D220H - 0D22EH EE44H Enter "modify memory 0D210H thru 0D211H to 5555H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.10	5555H D555H		Even Locations Odd Locations			Even Locations Odd Locations	5555H D555H
	8.11	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 8000H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 8000H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.12	8000H 0000H		Even locations Odd locations			Even locations Odd locations	8000H 0000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	8.13	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 4000H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 4000H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.14	4000H 0000H		Even locations Odd locations			Even locations Odd locations	4000H 0000H
	8.15	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 2000H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 2000H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.16	2000H 0000H		Even locations Odd locations			Even locations Odd locations	2000H 0000H
	8.17	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 1000H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 1000H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.18	1000H 0000H		Even locations Odd locations			Even locations Odd locations	1000H 0000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	8.19	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0800H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0800H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.20	0800H 0000H		Even locations Odd locations			Even locations Odd locations	0800H 0000H
	8.21	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0400H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0400H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.22	0400H 0000H		Even locations Odd locations			Even locations Odd locations	0400H 0000H
	8.23	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0200H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0200H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.24	0200H 0000H		Even locations Odd locations			Even locations Odd locations	0200H 0000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	8.25	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0100H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0100H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.26	0100H 0000H		Even locations Odd locations			Even locations Odd locations	0100H 0000H
	8.27	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0080H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0080H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.28	0080H 0000H		Even locations Odd locations			Even locations Odd locations	0080H 0000H
	8.29	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0040H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0040H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.30	0040H 0000H		Even locations Odd locations			Even locations Odd locations	0040H 0000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	8.31	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0020H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0020H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.32	0020H 0000H		Even locations Odd locations			Even locations Odd locations	0020H 0000H
	8.33	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0010H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0010H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.34	0010H 0000H		Even locations Odd locations			Even locations Odd locations	0010H 0000H
	8.35	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0008H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0008H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.36	0008H 0000H		Even locations Odd locations			Even locations Odd locations	0008H 0000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	8.37	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0004H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0004H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.38	0004H 0000H		Even locations Odd locations			Even locations Odd locations	0004H 0000H
	8.39	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0002H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0002H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.40	0002H 0000H		Even locations Odd locations			Even locations Odd locations	0002H 0000H
	8.41	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0001H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0001H" Enter "modify memory 0D211H to 0000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.42	0001H 0000H		Even locations Odd locations			Even locations Odd locations	0001H 0000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	8.43	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 8000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 8000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.44	0000H 8000H		Even locations Odd locations			Even locations Odd locations	0000H 8000H
	8.45	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 4000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 4000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.46	0000H 4000H		Even locations Odd locations			Even locations Odd locations	0000H 4000H
	8.47	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 2000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 2000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.48	0000H 2000H		Even locations Odd locations			Even locations Odd locations	0000H 2000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	8.49	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 1000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 1000H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.50	0000H 1000H		Even locations Odd locations			Even locations Odd locations	0000H 1000H
	8.51	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0800H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 0800H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.52	0000H 0800H		Even locations Odd locations			Even locations Odd locations	0000H 0800H
	8.53	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0400H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 0400H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.54	0000H 0400H		Even locations Odd locations			Even locations Odd locations	0000H 0400H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	8.55	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0200H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 0200H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.56	0000H 0200H		Even locations Odd locations			Even locations Odd locations	0000H 0200H
	8.57	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0100H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 0100H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.58	0000H 0100H		Even locations Odd locations			Even locations Odd locations	0000H 0100H
	8.59	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0080H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 0080H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.60	0000H 0080H		Even locations Odd locations			Even locations Odd locations	0000H 0080H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	8.61	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0040H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 0040H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.62	0000H 0040H		Even locations Odd locations			Even locations Odd locations	0000H 0040H
	8.63	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0020H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 0020H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.64	0000H 0020H		Even locations Odd locations			Even locations Odd locations	0000H 0020H
	8.65	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0010H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 0010H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.66	0000H 0010H		Even locations Odd locations			Even locations Odd locations	0000H 0010H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	8.67	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0008H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 0008H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.68	0000H 0008H		Even locations Odd locations			Even locations Odd locations	0000H 0008H
	8.69	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0004H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 0004H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.70	0000H 0004H		Even locations Odd locations			Even locations Odd locations	0000H 0004H
	8.71	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0002H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 0002H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.72	0000H 0002H		Even locations Odd locations			Even locations Odd locations	0000H 0002H

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	8.73	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0001H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory 0D210H to 0000H" Enter "modify memory 0D211H to 0001H" Enter "display memory 0D200H thru 0D20FH"	N/A
	8.74	0000H 0001H		Even locations Odd locations			Even locations Odd locations	0000H 0001H
	9			429 RECEIVER/ TRANSMITTER TESTS (EXTERNAL) Perform test setup in accordance with tables 2 and 8.			429 RECEIVER/ TRANSMITTER TESTS (EXTERNAL) Perform test setup in accordance with tables 2 and 8.	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Xmtr 0/Rcvr 0			Xmtr 0/Rcvr 0	
	9.1	N/A		(MAINT DATA OUT/AIR DATA 1)			(MAINT DATA OUT/AIR DATA 1)	N/A
							Connect Xmtr 0 (Maint Data Out) to Rcvr 0 (429 Air Data 1).	
				Perform initial setup in accordance with table 7.			Perform initial setup in accordance with table 7.	
				Modify receiver label: Address Data 0D220H FFAAH			Enter "modify memory 0D220H to FFAAH"	
				Modify transmitter data: Address Data 0D210H AAAAH 0D211H AAAAH			Enter "modify memory 0D210H thru 0D211H to AAAAH"	
							Enter "display memory 0D200 thru 0D201H"	
				Data should read as follows:			Data should read as follows:	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Address			Address	
	9.2	AAAAH 2AAAH		0D200H 0D201H			0D200H 0D201H	AAAAH 2AAAH
				On Mode S interface panel, remove connections on 429 ADC #1 and reconnect on 575 ADC #1.			On Mode S interface panel, remove connections on 429 ADC #1 and reconnect on 575 ADC #1.	
				Modify receiver label: Address Data 0D220H FF55H			Enter "modify memory 0D220H to FF55H"	
				Modify transmitter data: Address Data 0D210H 5555H 0D211H 5555H			Enter "modify memory 0D210H thru 0D211H to 5555H"	
							Enter "display memory 0D200H thru 0D201H"	
				Data should read as follows:			Data should read as follows:	
				Address			Address	
	9.3	5555H D555H		0D200H 0D201H			0D200H 0D201H	5555H D555H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Xmtr 0/Rcvr 1			Xmtr 0/Rcvr 1	
	9.4	N/A		(MAINT DATA OUT/AIR DATA 2) Perform initial setup in accordance with table 7. Modify receiver label: Address Data 0D222H FFAAH Modify transmitter data: Address Data 0D210H AAAAH 0D211H AAAAH Data should read as follows: Address			(MAINT DATA OUT/AIR DATA 2) Perform initial setup in accordance with table 7. Enter "modify memory 0D222H to FFAAH" Enter "modify memory 0D210H thru 0D211H to AAAAH" Enter "display memory 0D202H thru 0D203H" Data should read as follows: Address	N/A
	9.5	AAAAH 2AAAH		0D202H 0D203H On Mode S interface panel, remove connections on 429 ADC #2 and reconnect on 575 ADC #2. Modify receiver label: Address Data 0D222H FF55H Modify transmitter data: Address Data 0D210H 5555H 0D211H 5555H Data should read as follows:			0D202H 0D203H On Mode S interface panel, remove connections on 429 ADC #2 and reconnect on 575 ADC #2. Enter "modify memory 0D222H to FF55H" Enter "modify memory 0D210H thru 0D211H to 5555H" Enter "display memory 0D202H thru 0D203H" Data should read as follows:	AAAAH 2AAAH

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Address			Address	
	9.6	5555H D555H		0D202H 0D203H			0D202H 0D203H	5555H D555H
				Xmtr 0/Rcvr 2			Xmtr 0/Rcvr 2	
	9.7	N/A		(MAINT DATA OUT/CNTL DATA B)			(MAINT DATA OUT/CNTL DATA B)	N/A
				Perform initial setup in accordance with table 7.			Perform initial setup in accordance with table 7.	
				Modify receiver label: Address Data 0D224H FFAAH			Enter "modify memory 0D224H to FFAAH"	
				Modify transmitter data: Address Data 0D210H AAAAH 0D211H AAAAH			Enter "modify memory 0D210H thru 0D211H to AAAAH"	
							Enter "display memory 0D204H thru 0D205H"	
				Data should read as follows:			Data should read as follows:	
				Address			Address	
	9.8	AAAAH 2AAAH		0D204H 0D205H			0D204H 0D205H	AAAAH 2AAAH
				Modify receiver label: Address Data 0D224H FF55H			Enter "modify memory 0D224H to FF55H"	
				Modify transmitter data: Address Data 0D210H 5555H 0D211H 5555H			Enter "modify memory 0D210H thru 0D211H to 5555H"	
							Enter "display memory 0D204H thru 0D205H"	
				Data should read as follows:			Data should read as follows:	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Address			Address	
	9.9	5555H D555H		0D204H 0D205H			0D204H 0D205H	5555H D555H
				Xmtr 0/Rcvr 3			Xmtr 0/Rcvr 3	
	9.10	N/A		(MAINT DATA OUT/MAINT DATA IN)			(MAINT DATA OUT/MAINT DATA IN)	N/A
				Perform initial setup in accordance with table 7.			Perform initial setup in accordance with table 7.	
				Modify receiver label: Address Data 0D226H FFAAH			Enter "modify memory 0D226H to FFAAH"	
				Modify transmitter data: Address Data 0D210H AAAAH 0D211H AAAAH			Enter "modify memory 0D210H thru 0D211H to AAAAH"	
							Enter "display memory 0D206H thru 0D207H"	
				Data should read as follows:			Data should read as follows:	
				Address			Address	
	9.11	AAAAH 2AAAH		0D206H 0D207H			0D206H 0D207H	AAAAH 2AAAH
				Modify receiver label: Address Data 0D226H FF55H			Enter "modify memory 0D226H to FF55H"	
				Modify transmitter data: Address Data 0D210H 5555H 0D211H 5555H			Enter "modify memory 0D210H thru 0D211H to 5555H"	
							Enter "display memory 0D206H thru 0D207H"	
				Data should read as follows:			Data should read as follows:	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Address			Address	
	9.12	5555H D555H		0D206H 0D207H			0D206H 0D207H	5555H D555H
				Xmtr 0/Rcvr 6			Xmtr 0/Rcvr 6	
	9.13	N/A		(MAINT DATA OUT/FLIGHT ID)			(MAINT DATA OUT/FLIGHT ID)	N/A
				Perform setup in accordance with table 7.			Perform setup in accordance with table 7.	
				Modify receiver label: Address Data 0D22CH FFAAH			Enter "modify memory 0D22CH to FFAAH"	
				Modify transmitter data: Address Data 0D210H AAAAH 0D211H AAAAH			Enter "modify memory 0D210H thru 0D211H to AAAAH"	
							Enter "display memory 0D20CH thru 0D20DH"	
				Data should read as follows:			Data should read as follows:	
				Address			Address	
	9.14	AAAAH 2AAAH		0D20CH 0D20DH			0D20CH 0D20DH	AAAAH 2AAAH
				Modify receiver label: Address Data 0D22CH FF55H			Enter "modify memory 0D22CH to FF55H"	
				Modify transmitter data: Address Data 0D210H 555H 0D211H 5555H			Enter "modify memory 0D210H thru 0D211H to 5555H"	
							Enter "display memory 0D20CH thru 0D20DH"	
				Data should read as follows:			Data should read as follows:	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Address			Address	
	9.15	5555H D555H		0D20CH 0D20DH			0D20CH 0D20DH	5555H D555H
				Xmtr 0/Rcvr 7			Xmtr 0/Rcvr 7	
	9.16	N/A		(MAINT DATA OUT/CNTL DATA A)			(MAINT DATA OUT/CNTL DATA A)	N/A
				Perform initial setup in accordance with table 7.			Perform initial setup in accordance with table 7.	
				Modify receiver label: Address Data 0D22EH FFAAH			Enter "modify memory 0D22EH to FFAAH"	
				Modify transmitter data: Address Data 0D210H AAAAH 0D211H AAAAH			Enter "modify memory 0D210H thru 0D211H to AAAAH"	
							Enter "display memory 0D20EH thru 0D20FH"	
				Data should read as follows:			Data should read as follows:	
				Address			Address	
	9.17	AAAAH 2AAAH		0D20EH 0D20FH			0D20EH 0D20FH	AAAAH 2AAAH
				Modify receiver label: Address Data 0D22EH FF55H			Enter "modify memory 0D22EH to FF55H"	
				Modify transmitter data: Address Data 0D210H 5555H 0D211H 5555H			Enter "modify memory 0D210H thru 0D211H to 5555H"	
							Enter "display memory 0D20EH thru 0D20FH"	
				Data should read as follows:			Data should read as follows:	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Address			Address	
	9.18	5555H D555H		0D20EH 0D20FH			0D20EH 0D20FH	5555H D555H
				Xmtr 1/Rcvr 4			Xmtr 1/Rcvr 4	
	9.19	N/A		(XT COORD/TX COORD)			(XT COORD/TX COORD)	N/A
				Perform initial setup in accordance with table 7.			Perform initial setup in accordance with table 7.	
				Modify receiver label: Address Data 0D228H FFAAH			Enter "modify memory 0D228H to FFAAH"	
				Modify transmitter data: Address Data 0D212H AAAAH 0D213H AAAAH			Enter "modify memory 0D212H thru 0D213H to AAAAH"	
							Enter "display memory 0D208H thru 0D209H"	
				Data should read as follows:			Data should read as follows:	
				Address			Address	
	9.20	AAAAH 2AAAH		0D208H 0D209H			0D208H 0D209H	AAAAH 2AAAH
				Modify receiver label: Address Data 0D228H FF55H			Enter "modify memory 0D228H to FF55H"	
				Modify transmitter data: Address Data 0D212H 5555H 0D213H 5555H			Enter "modify memory 0D212H thru 0D213H to 5555H"	
							Enter "display memory 0D208H thru 0D209H"	
				Data should read as follows:			Data should read as follows:	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Address			Address	
	9.21	5555H D555H		0D208H 0D209H			0D208H 0D209H	5555H D555H
				Xmtr 2/Rcvr 5			Xmtr 2/Rcvr 5	
	9.22	N/A		(DATA LINK OUT/DATA LINK IN)			(DATA LINK OUT/DATA LINK IN)	N/A
				Perform initial setup in accordance with table 7.			Perform initial setup in accordance with table 7.	
				Modify receiver label: Address Data 0D22AH FFAAH			Enter "modify memory 0D22AH to FFAAH"	
				Modify transmitter data: Address Data 0D214H AAAAH 0D215H AAAAH			Enter "modify memory 0D214H thru 0D215H to AAAAH"	
							Enter "display memory 0D20AH thru 0D20BH"	
				Data should read as follows:			Data should read as follows:	
				Address			Address	
	9.23	AAAAH 2AAAH		0D20AH 0D20BH			0D20AH 0D20BH	AAAAH 2AAAH
				Modify receiver label: Address Data 0D22AH FF55H			Enter "modify memory 0D22AH to FF55H"	
				Modify transmitter data: Address Data 0D214H 5555H 0D215H 5555H			Enter "modify memory 0D214H thru 0D215H to 5555H"	
							Enter "display memory 0D20AH thru 0D20BH"	
				Data should read as follows:			Data should read as follows:	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Address			Address	
	9.24	5555H D555H		0D20AH 0D20BH			0D20AH 0D20BH	5555H D555H
	10			INTERNAL RF SELF-TEST			INTERNAL RF SELF-TEST	
				Perform test setup in accordance with table 4.	Mode S Interface Panel		Perform test setup in accordance with table 4.	
				Set up video ASIC according to table 4.	STBY/ON: ON		Enter "END"	
							Disable heartbeat by switching HBDIS* switch on the UDE (LED should be illuminated).	
							Enter "SWIT100P"	
							Enter "trace about address FINISHED break_on measurement_complete"	
							Enter "run from STARTUP". Program takes only a fraction of a second to run. When all six front panel LEDs are illuminated, program is complete.	
							Enter "modify register CACHE to 1"	
				Short Mode S Bottom Antenna			Short Mode S Bottom Antenna	
	10.1	N/A		Initiate the self-test by writing to memory as shown. Address Data 0C02EH 0031H			Enter "modify memory 0C02EH to 0031H"	N/A
							Enter "display memory 0C000H thru 0C003H"	
				The received interrogation data shall be as shown.			Data shall indicate as follows:	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Address			Address	
	10.2	5555H		0C000H thru 0C003H			0C000H thru 0C003H	5555H
				Long Mode S Top Antenna			Long Mode S Top Antenna	
	10.3	N/A		Initiate the self-test by writing to memory as shown. Address Data 0C007H thru 0C00DH AAAAH 0C02EH 0037H			Enter "modify memory 0C007H thru 0C00DH to AAAAH" Enter "modify memory 0C02EH to 0037H" Enter "display memory 0C000H thru 0C007H"	N/A
				The received interrogation data shall be as shown.			Data shall indicate as follows:	
				Address			Address	
	10.4	AAAAH		0C000H thru 0C006H			0C000H thru 0C006H	AAAAH
				Mode S Long Squitter Top Antenna Pwr Vld			Mode S Long Squitter Top Antenna Pwr Vld	
	10.5	N/A		Set up reply data by writing to memory as shown. (Send preamble pulses only.) Address Data 0C007H F000H 0C008H thru 0C00DH 0000H	Mode S Interface Panel STBY/ON: ON		Enter "modify memory 0C007H to F000H" Enter "modify memory 0C008H thru 0C00DH to 0000H"	N/A
				Initiate the self-test by writing to memory as shown. Address Data 0C02EH 003FH			Enter "modify memory 0C02EH to 003FH"	

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	10.6	XXX8H bits 4 and 5 = 1		Observe the top antenna power valid signal by reading the self-test status word, address 0C011H. This word shall be as specified. (X = don't care) Mode S Long Squitter Bot Antenna Pwr Vld			Enter "display memory 0C011H thru 0C011H" Location shall be as specified. (X = don't care) Mode S Long Squitter Bot Antenna Pwr Vld	XXX8H bits 4 and 5 = 1
	10.7	N/A		Initiate the self-test by writing to memory as shown. Address Data 0C02EH 003DH	Mode S Interface Panel STBY/ON: ON		Enter "modify memory 0C02EH to 003DH"	N/A
	10.8	XXXX4H bits 4 and 5 = 1		Observe the bottom antenna power valid signal by reading the self-test status word, address 0C011H. This word shall be as specified. (X = don't care) ATCRBS Mode A Top Antenna			Enter "display memory 0C011H thru 0C011H" This location shall be as specified. (X = don't care) ATCRBS Mode A Top Antenna	XXXX4H bits 4 and 5 = 1
	10.9	N/A		Set up interrogation data for Mode A. Address Data 0C007H E000H 0C008H 0000H 0C009H E000H 0C00AH 0000H 0C00BH 0000H 0C00CH 0000H 0C00DH 0000H Initiate the self-test by writing to memory as shown. Address Data 0C02EH 0036H			Modify memory according to the following table: (Enter "modify memory <address> to <data>") Address Data 0C007H E000H 0C008H 0000H 0C009H E000H 0C00AH 0000H 0C00BH 0000H 0C00CH 0000H 0C00DH 0000H Enter "modify memory 0C02EH to 0036H"	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	10.10	XXX2H		Observe the Mode A signal by reading the self-test status word, address 0C011H. Word shall be as specified. (X = don't care) ATCRBS Mode C Bot Antenna			Enter "display memory 0C011H thru 0C011H" This location shall be as specified. (X = don't care) ATCRBS Mode C Bot Antenna	XXX2H
	10.11	N/A		Set up interrogation data for Mode C. Address Data 0C007H E000H 0C008H 0000H 0C009H 0000H 0C00AH 0000H 0C00BH 0000H 0C00CH 0E00H 0C00DH 0000H Initiate the self-test by writing to memory as shown. Address Data 0C02EH 0030H			Modify memory according to the following table: (Enter "modify memory <address> to <data>") Address Data 0C007H E000H 0C008H 0000H 0C009H 0000H 0C00AH 0000H 0C00BH 0000H 0C00CH 0E00H 0C00DH 0000H Enter "modify memory 0C02EH to 0030H"	N/A
	10.12	XXX1H		Observe the Mode A signal by reading the self-test status word, address 0C011H. Word shall be as specified. (X = don't care)			Enter "display memory 0C011H thru 0C011H" This location shall be as specified. (X = don't care)	XXX1H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	10.13	N/A		Perform test setup in accordance with table 1.			Perform test setup in accordance with table 1.	N/A
				STBY/ON discrete (hardware path)	S-1403 FUNC 1			
				Interrogate the UUT with an ATCRBS Mode A interrogation at the standard rate and power.	ATC-1400A XPDR MODE A PRF: 0450 RF Lvl: -50 CW/NORM/ OFF: NORM Mode S Interface Panel STBY/ON: ON		Turn XPDR MODE control knob to A position. Turn PRF thumbwheels to 450 Hz.	
	10.14	>90%		Observe the ATCRBS % reply. The value shall be as specified.			Read the % reply display on the ATC-1400A. The display shall indicate as specified.	>98%
				Switch the UUT to STANDBY mode.	Mode S Inteface Panel STBY/ON: STBY		On the Mode S interface panel, toggle the STBY/ON switch to the STBY position.	
	10.15	<10%		Observe the ATCRBS % reply. The value shall be as specified.			Read the % reply display on the ATC-1400A. The display shall indicate as specified.	<2%

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	11			ATCRBS MTL, REPLY FREQUENCY, DELAY, AND POWER			ATCRBS MTL, REPLY FREQUENCY, DELAY, AND POWER	
				Perform test setup in accordance with tables 1 and 5, except set CNTL DATA B source as shown.	CNTL DATA B 429 source settings SPD: low PAR: odd RATE: 168 ms LBL: 016 DATA: 007E38 S-1403 FUNC 1		Perform test setup in accordance with tables 1 and 5, except set CNTL DATA B source as shown.	
				Remove the emulation system from the UUT. Turn on the UUT.			Remove the HP 64000 emulation system by performing the following steps: 1. Type "END" on the HP 64000 keyboard. 2. Turn off UUT. 3. Remove UDE connector from the UUT. 4. Turn on UUT.	
				Interrogate the UUT with an ATCRBS Mode A interrogation at the standard rate.	ATC-1400A XPDR MDE A PRF: 0450		Turn XPDR MODE control to MODE A position. Turn PRF thumbwheels to 450 Hz.	
				ATCRBS MTL at 1029.8 MHz			ATCRBS MTL at 1029.8 MHz	
	11.1	N/A		Set the interrogation frequency to 1029.8 MHz.	ATC-1400A DSPLY SEL: FREQ FREQ and DELTA F: as required		Turn thumbwheels on FREQ SELECT and DELTA F until FREQ DISPLAY indicates 1029.80 MHz.	N/A
				Set the interrogation level to -70 dBm.	ATC-1400A RF Lvl: -70		Set ATC-1400A RF level to -70 dBm.	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	11.2	ID 0077		Observe the 4096 code returned by the UUT. Code shall be as specified.	ATC-1400A CW/NORM/ OFF: NORM DPLY SEL: XPDR CODE		Observe the XPDR CODE display. Display shall indicate as specified.	ID 0077
	11.3	250 TO 630 Watts		Measure and record the bottom antenna F1 pulse power. The power shall be within the limits specified.	ATC-1400A F2/P2 F1/P1: F1		On the ATC-1400A, observe and record the XMTR PWR display. This measurement is the bottom antenna F1 power, and shall be within the limits specified.	280 to 550 Watts
	11.4	-76 ± 4 dBm		Slowly decrement the interrogation level in 1-dB steps until the % reply is less than 90%, then increment by 1 dB. The interrogation level shall be as specified. Record the value.			Slowly decrement the RF LEVEL knob on the ATC-1400A in 1-dB steps until the % reply indicates less than 90%, then increment the RF level by 1 dB. The RF level shall indicate as specified. Record the value.	-76 ± 4 dBm
				Interrogate the UUT with an ATCRBS Mode A interrogation at the standard rate.	ATC-1400A XPDR MDE A PRF: 0450		Turn XPDR MODE control to MODE A position. Turn PRF thumbwheels to 450 Hz.	
				ATCRBS MTL at 1030.0 MHz			ATCRBS MTL at 1030.0 MHz	
	11.4.1	N/A		Set the interrogation frequency to 1030.0 MHz.	ATC-1400A DSPLY SEL: FREQ FREQ and DELTA F: as required		Turn thumbwheels on FREQ SELECT and DELTA F until FREQ DISPLAY indicates 1030.00 MHz.	N/A
				Set the interrogation level to -70 dBm.	ATC-1400A RF Lvl: -70		Set ATC-1400A RF level to -70 dBm.	
	11.4.2	ID 0077		Observe the 4096 code returned by the UUT. Code shall be as specified.	ATC-1400A CW/NORM/ OFF: NORM DPLY SEL: XPDR CODE		Observe the XPDR CODE display. Display shall indicate as specified.	ID 0077

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	11.4.3	-76 ± 4 dBm		Slowly decrement the interrogation level in 1-dB steps until the % reply is less than 90%, then increment by 1 dB. The interrogation level shall be as specified. Record the value.			Slowly decrement the RF LEVEL knob on the ATC-1400A in 1-dB steps until the % reply indicates less than 90%, then increment the RF level by 1 dB. The RF level shall indicate as specified. Record the value.	-76 ± 4 dBm
	11.4.4	N/A		Interrogate the UUT with an ATCRBS Mode C interrogation at the standard rate.	ATC-1400A XPDR MDE C CW/NORM: NORM		Turn XPDR MODE control to MODE C position, CW/NORM/OFF to NORM.	N/A
				Set the interrogation level to -70 dBm.	ATC-1400A RF Lvl: -70		Set ATC-1400A RF level to -70 dBm.	
	11.4.5	-76 ± 4 dBm		Slowly decrement the interrogation level in 1-dB steps until the % reply is less than 90%, then increment by 1 dB. The interrogation level shall be as specified. Record the value.			Slowly decrement the RF LEVEL knob on the ATC-1400A in 1-dB steps until the % reply indicates less than 90%, then increment the RF level by 1 dB. The RF level shall indicate as specified. Record the value.	-76 ± 4 dBm
	11.4.6	<1.0 dB		Compare values obtained in tests 11.4.3 and 11.4.5. Value obtained in 11.4.3 shall be equal to that obtained in 11.4.5 ±1.0 dB. ATCRBS MTL at 1030.2 MHZ, Top and Bottom Antennas Switched			Compare values obtained in tests 11.4.3 and 11.4.5. Value obtained in 11.4.3 shall be equal to that obtained in 11.4.5 ±1.0 dB. ATCRBS MTL at 1030.2 MHZ, Top and Bottom Antennas Switched	<1.0 dB

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	11.5	N/A		Disable interrogations and turn off the UUT.	ATC-1400A CW/NORM: OFF		Turn CW/NORM/OFF switch to OFF position on the ATC-1400A and turn off the UUT.	N/A
				Reverse the antenna cables connected to the Mode S test equipment.			Reverse the antenna cables connected to the IFR ANT A and ANT B ports.	
				Turn on the UUT.			Turn on UUT.	
				Interrogate the UUT with an ATCRBS Mode C interrogation at the standard rate.	ATC-1400A XPDR MDE C CW/NORM: NORM		Turn XPDR MODE control to MODE C position, CW/NORM/OFF to NORM.	
				Set the interrogation frequency to 1030.2 MHz.	ATC-1400A DSPLY SEL: FREQ FREQ and DELTA F: as required		Turn thumbwheels on FREQ SELECT and DELTA F until FREQ DISPLAY indicates 1030.20 MHz.	
				Set the interrogation level to -70 dBm.	ATC-1400A RF Lvl: -70		Set ATC-1400A RF level to -70 dBm.	
	11.6	7710		Observe the altitude code returned by the UUT. Code shall be as specified.	ATC-1400A DSPLY SEL: XPDR CODE		Observe the XPDR CODE display. Display shall indicate as specified.	7710

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	11.7	-76 ± 4 dBm		Slowly decrement the interrogation level in 1-dB steps until the % reply is less than 90%, then increment by 1 dB. The interrogation level shall be as specified. Record the value.			Slowly decrement the RF LEVEL knob on the ATC-1400A in 1-dB steps until the % reply indicates less than 90%, then increment the RF level by 1 dB. The RF level shall indicate as specified. Record the value.	-76 ± 4 dBm
				Return the interrogation level to -50 dBm.	ATC-1400A RF Lvl: -50		Set ATC-1400A RF level to -50 dBm.	
				Return the interrogation frequency to 1030.0 MHz.	DSPLY SEL: FREQ		Turn thumbwheels on FREQ SELECT and DELTA F until FREQ DISPLAY indicates 1030.00 MHz.	
				ATCRBS Reply Frequency			ATCRBS Reply Frequency	
	11.8	N/A		Change the 429 Cntl Data B source to provide an all 1s (7777) Mode A reply with SPI (ident).	Cntl Data B 429 source settings SPD: low PAR: odd RATE: 168 ms LBL: 016 DATA: 1FFE48		Change the 429 Cntl Data B source to provide an all 1s (7777) Mode A reply with SPI (ident).	N/A
	11.9	1090 ± 1 MHz		Measure and record the reply frequency. Frequency shall be as specified.	ATC-1400A XPDR MDE A		Observe the XMTR FREQ display on the ATC-1400A. Display shall indicate as specified. Record the value.	1090 ± 1 MHz
				ATCRBS Reply Delay			ATCRBS Reply Delay	
	11.10	N/A		This test measures the reply delay.				N/A

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	11.11	2.5 to 3.5 µs		Measure and record the reply delay. Delay shall be as specified.			Observe the reply delay field on the S-1403. Field shall indicate as specified. Record the value.	2.5 to 3.5 µs
				ATCRBS Reply Power			ATCRBS Reply Power	
	11.12	N/A		This test measures the reply power.				N/A
	11.13	250 to 630 Watts		Measure and record the peak reply power of the F1 pulse.	ATC-1400A F2/P2 F1/P1: F1		On the ATC-1400A, select the F1 pulse for power detection. Observe and record the XMTR PWR display. Display shall indicate as shown.	280 to 550 Watts
				Select the ATCRBS F2 pulse for power detection.	S-1403 CONTROL MENU 2, Pulse Power Gate: F2		On the S-1403, change the pulse power gate (PPG) field to F2.	
	11.14	250 to 630 Watts		Measure and record the top antenna F2 pulse power.	ATC-1400A F2/P2 F1/P1: F2		On the ATC-1400A, select the F2 pulse for power detection. Observe and record the XMTR PWR display. This measurement is the top antenna F2 pulse power.	280 to 550 Watts
	11.15	<1 dB		Calculate and record the absolute value of the transmitter droop (in dB), using the following formula: Droop = ABS [10(Log_{10} P1 - Log_{10} P2)], where P1 and P2 are the power measurements taken in tests 11.13 and 11.14, respectively. The droop shall not exceed the specified limits.			Calculate and record the absolute value of the transmitter droop (in dB), using the following formula: Droop = ABS [10(Log_{10} P1 - Log_{10} P2)], where P1 and P2 are the power measurements taken in tests 11.13 and 11.14, respectively. The droop shall not exceed the specified limits.	<1 dB

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	12			ATCRBS INTERROGATION PULSE WIDTH TOLERANCE Perform test setup in accordance with tables 1 and 5. Interrogate the UUT with an ATCRBS Mode A interrogation with variable P1, P3 pulse width. Interrogate at the standard rate. Use the following table to set the P1, P3 pulse widths. The % ATCRBS reply shall be as specified.	ATC-1400A XPDR MDE A PRF: 0450 XPDR PLSE WDTH: VAR ATC-1400A CW/NORM/ OFF: NORM		ATCRBS INTERROGATION PULSE WIDTH TOLERANCE Perform test setup in accordance with tables 1 and 5. Turn DISPLAY SELECT control to MODE A position. Turn PRF thumbwheels to 450 Hz. Set the XPDR PULSE WIDTH switch to VAR. Use the following table to set the P1, P3 pulse widths (on ATC-1400A, adjust the XPDR PULSE WIDTH thumbwheels). The % ATCRBS reply shall indicate as specified.	
	12.1	>90% >90% <10%		P1, P3 Pulse Width 0.70 µs 0.90 µs 0.30 µs Return the P1, P3 pulse width to the nominal setting.	ATC-1400A XPDR PLSE WDTH: CAL		P1, P3 Pulse Width 0.70 µs 0.90 µs 0.30 µs On the ATC-1400A, return the XPDR PULSE WIDTH switch to the CAL position.	>98% >98% <2%

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	13			ATCRBS INTERROGATION PULSE POSITION TOLERANCE (MODE A) Perform test setup in accordance with tables 1 and 5. Interrogate the UUT with an ATCRBS Mode A interrogation at the standard rate, with adjustable P1-P3 spacing. Use the following table to set the spacing of the P1-P3 pulses. The resulting ATCRBS % reply shall be as specified.	ATC-1400A XPDR MDE A PRF: 0450 ATC-1400A CW/NORM/ OFF: NORM		ATCRBS INTERROGATION PULSE POSITION TOLERANCE (MODE A) Perform test setup in accordance with tables 1 and 5. Turn XPDR MODE control to the A position. Turn PRF thumbwheels to 450 Hz. Use the following table to set the XPDR P2/P3 DEV thumbwheels and P3 switch on the ATC-1400A. The resulting ATCRBS % reply shall be as specified.	
				Dev Delta P1-P3			Dev Delta P1-P3	
	13.1	>90%		0.20 - 7.8 µs			0.20 - 7.8 µs	>98%
		>90%		0.20 + 8.2 µs			0.20 + 8.2 µs	>98%
		<10%		1.00 + 9.0 µs			1.00 + 9.0 µs	<2%
		<10%		1.00 - 7.0 µs			1.00 - 7.0 µs	<2%

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	14			ATCRBS INTERROGATION PULSE POSITION TOLERANCE (MODE C) Perform test setup in accordance with tables 1 and 5. Interrogate the UUT with an ATCRBS Mode C interrogation at the standard rate, with adjustable P1-P3 spacing. Use the following table to set the spacing of the P1-P3 pulses. The resulting ATCRBS % reply shall be as specified.			ATCRBS INTERROGATION PULSE POSITION TOLERANCE (MODE C) Perform test setup in accordance with tables 1 and 5. ATC-1400A XPDR MDE C PRF: 0450 ATC-1400A CW/NORM/ OFF: NORM Turn XPDR MODE control to the C position. Turn PRF thumbwheels to 450 Hz. Use the following table to set the XPDR P2/P3 DEV thumbwheels and P3 switch on the ATC-1400A. The resulting ATCRBS % reply shall be as specified.	
				Dev Delta P1-P3			Dev Delta P1-P3	
	14.1	>90%		0.20 - 20.8 µs			0.20 - 20.8 µs	>98%
		>90%		0.20 + 21.2 µs			0.20 + 21.2 µs	>98%
		<10%		1.00 + 22.0 µs			1.00 + 22.0 µs	<2%
		<10%		1.00 - 20.0 µs			1.00 - 20.0 µs	<2%
	15			ATCRBS REPLY RATE CAPABILITY Perform test setup in accordance with tables 1 and 5.			ATCRBS REPLY RATE CAPABILITY Perform test setup in accordance with tables 1 and 5.	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Burst			Burst	
	15.1	N/A		Interrogate the UUT with a burst of 120 ATCRBS Mode A interrogations at a rate of 1200 per second and power of -30 dBm.	ATC-1400A CW/NORM/ OFF: OFF XPDR MDE A PRF: 1200 RF Lvl: -30		Turn XPDR MODE control to MODE A position. Turn PRF thumbwheels to 1200 Hz. Turn RF LEVEL knob to -30 dBm.	N/A
					S-1403 FUNC 7, ATC, 120		Select FUNC 7 (BURST). Using the cursor keys and slew knob, change the fields in the FUNC 7 menu as follows: FUNC 7 ATC 120.	
					ATC-1400A CW/NORM/ OFF: NORM			
					S-1403 Press BURST		On the S-1403, press the BURST key to initiate the interrogations.	
	15.2	>90%		Observe the % ATCRBS reply. The value shall be as specified.			Read the ATCRBS % reply display on the S-1403. The display shall indicate as specified.	>98%
				Continuous			Continuous	
	15.3	N/A		Interrogate the UUT with an ATCRBS Mode A interrogation at a rate of 500 per second.	ATC-1400A XPDR MDE A PRF: 0500		On the ATC-1400A, turn the XPDR MODE knob to the A position. Adjust the PRF thumbwheels to 500 Hz.	N/A
					S-1403 FUNC 1		On the S-1403, select FUNC 1 (ATCRBS).	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	15.4	>90% ID = 7777		Observe the % ATCRBS reply. The value shall be as specified. Data shall be as specified. Reply Rate Limit	ATC-1400A CW/NORM/ OFF: NORM		Read the % reply display on the ATC-1400A. The display shall indicate as specified. Data shall be as specified. Reply Rate Limit	>98% ID = 7777
	15.5	N/A		Interrogate the UUT with an ATCRBS Mode A interrogation at a rate of 1500 per second.	ATC-1400A XPDR MDE A PRF: 1500 S-1403 FUNC 1		On the ATC-1400A, turn the XPDR MODE knob to the A position. Adjust the PRF thumbwheels to 1500 Hz. On the S-1403, select FUNC 1 (ATCRBS).	N/A
	15.6	>34%		Observe and record the % ATCRBS reply. The value shall be as specified. ATCRBS SLS Characteristics	ATC-1400A CW/NORM/ OFF: NORM		Read and record the % reply display on the ATC-1400A. The display shall indicate as specified. ATCRBS SLS Characteristics	43 to 46%
	15.7	N/A		Perform test setup in accordance with tables 1 and 5. Amplitude			Perform test setup in accordance with tables 1 and 5. Amplitude	N/A
	15.8	N/A		Interrogate the UUT with an ATCRBS Mode C interrogation with P2 SLS pulse of adjustable amplitude. Interrogate at the standard rate. Use the following table to adjust the interrogation RF level. The % ATCRBS reply for each case shall be as specified.	ATC-1400A XPDR MDE C PRF: 0450 SLS/ECHO: -0, ON ATC-1400A CW/NORM/ OFF: NORM		Turn XPDR MODE control to MODE C position. Turn PRF thumbwheels to 450 Hz. Turn SLS/ECHO switch to ON position. Use the following table to adjust the interrogation RF level. The % ATCRBS reply for each case shall be as specified.	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	15.9	<10% <10% <10% <10%		RF Level -68 dBm -40 dBm -21 dBm -50 dBm			RF Level -68 dBm -40 dBm -21 dBm -50 dBm	<2% <2% <2% <2%
				Reduce the amplitude of P2 in 1-dB steps until the % reply is greater than 90%.	ATC-1400A SLS/ECHO: -X		Adjust the SLS thumbwheels on the ATC-1400A in 1-dB steps until the % reply display indicates >90%.	
	15.10	-1 to -9 dB		Record the amount of P2 attenuation. This value shall be within the limits specified.	ATC-1400A CW/NORM/ OFF: NORM		Record the value shown on the SLS thumbwheels. This value shall be within the limits specified.	-1 to -9 dB
				Adjust the interrogation RF level to -21 dBm.	ATC-1400A RF Lvl: -21 SLS/ECHO: -0		Adjust the interrogation RF level to -21 dBm.	
				Reduce the amplitude of P2 in 1-dB steps until the % reply is greater than 90%.	ATC-1400A CW/NORM/ OFF: NORM		By adjusting the SLS thumbwheels on the ATC-1400A, reduce the amplitude of P2 in 1-dB steps until the % reply display reads >90%.	
	15.11	-1 to -9 dB		Record the amount of P2 attenuation. This value shall be within the limits specified.			Record the value shown on the SLS thumbwheels. This value shall be within the limits specified.	-1 to -9 dB

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Position			Position	
	15.12	N/A		Set the P2 attenuation to 0 dB.	ATC-1400A SLS: -0, ON RF Lvl: -50		Set the SLS/ECHO thumbwheels on ATL-1400A to -0, ON.	N/A
				Adjust the position of the P2 pulse as shown in the following table. P2 Dev indicates the amount by which the P2 position will move, and Delta indicates whether the deviation is added or subtracted (+/-) to the nominal position. The % reply for each position shall be as shown.	ATC-1400A CW/NORM/ OFF: NORM		Adjust the P2 DEV thumbwheels and switch as shown in the following table. P2 Dev indicates the amount by which the P2 position will move, and Delta indicates whether the deviation is added or subtracted (+/-) to the nominal position. The % reply for each position shall be as shown. (Read the % reply on the ATC-1400A.)	
				P2 Dev Delta			P2 Dev Delta	
	15.13	>90%		0.70 -			0.70 -	>98%
		>90%		0.70 +			0.70 +	>98%
		<10%		0.15 +			0.15 +	<2%
		<10%		0.15 -			0.15 -	<2%

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	16			ATCRBS ONLY ALL-CALL, SHORT P4 POSITION Perform test setup in accordance with tables 1 and 5. Interrogate the UUT with an ATCRBS Mode A interrogation with short P4 of adjustable position. Interrogate at the standard rate.	 ATC-1400A PRF: 0450 SLS/ECHO: OFF XPDR MDE A S-1403 FUNC 3, (ACS,A) P4:CAL, Dv = 0		ATCRBS ONLY ALL-CALL, SHORT P4 POSITION Perform test setup in accordance with tables 1 and 5. Turn PRF thumbwheels to 450 Hz. Turn SLS/ECHO switch to OFF position. Turn the XPDR MODE CNTL to the MODE A position. Select FUNC 3 (ACS). Within the FUNC 3 menu, select ACS, A and P4:CAL.	
				Adjust the position of the P4 pulse on S-1403 as shown in the table below. P4 Dv indicates the amount by which the P4 position will move from nominal. The % ATCRBS reply for each position shall be as shown.	ATC-1400A CW/NORM/ OFF: NORM		On the S-1403, adjust the position of the P4 pulse as shown in the table below. P4 Dv indicates the amount by which the P4 position will move from nominal. The % ATCRBS reply for each position shall be as shown. (Read the % reply display on the ATC-1400A.)	
	16.1	<10% >90% >10% <10% >90%		P4 Dv 0 µs +0.3 µs +0.05 µs -0.05 µs -0.3 µs			P4 Dv 0 µs +0.3 µs +0.05 µs -0.05 µs -0.3 µs	<2% >98% <2% <2% >98%

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	17			ATCRBS DIVERSITY Perform test setup in accordance with tables 1 and 5. Simultaneously interrogate both UUT antennas with an ATCRBS Mode A at standard rate. See paragraph 3.4. Use the following table to set the relative power and timing of the two interrogations. The % ATCRBS reply shall be at the specified value and antenna.	 ATC-1400A PRF: 0450 S-1403 FUNC 1 ANT B: 0 RF Lvl: 0 ATC-1400A CW/NORM/ OFF: NORM		ATCRBS DIVERSITY Perform test setup in accordance with tables 1 and 5. Set PRF thumbwheels to 0450 on ATC-1400A. In FUNC 1 menu on S-1403, turn on antenna B and ensure RF level is set to zero. See paragraph 3.4. Use the following table to set the relative power and timing of the two interrogations. The % ATCRBS reply shall be at the specified value and antenna. Read the % reply on the ATC-1400A.	

	ANTA	ANTB	ANT A RF LVL	ANT B DELAY	ANT A RF LVL	ANT B DELAY	ANTA	ANTB
17.1	<10%	N/A	-56 dBm	+0.05 µs	-56 dBm	+0.05 µs	<2%	N/A
	>90%	N/A	-44 dBm	+0.05 µs	-44 dBm	+0.05 µs	>98%	N/A
	>90%	N/A	-44 dBm	+0.45 µs	-44 dBm	+0.45 µs	>98%	N/A
	>90%	N/A	-70 dBm	+0.45 µs	-70 dBm	+0.45 µs	>98%	N/A
	<10%	N/A	-56 dBm	-0.05 µs	-56 dBm	-0.05 µs	<2%	N/A
	>90%	N/A	-44 dBm	-0.05 µs	-44 dBm	-0.05 µs	>98%	N/A
	<10%	N/A	-56 dBm	-0.45 µs	-56 dBm	-0.45 µs	<2%	N/A
	<10%	N/A	-44 dBm	-0.45 µs	-44 dBm	-0.45 µs	<2%	N/A

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	18			MODE S MTL, REPLY FORMAT, REPLY FREQUENCY, DELAY, POWER, AND SQUITTERS			MODE S MTL, REPLY FORMAT, REPLY FREQUENCY, DELAY, POWER, AND SQUITTERS	
				Perform test setup in accordance with tables 1 and 5.			Perform test setup in accordance with tables 1 and 5.	
				Interrogate the UUT with Mode S UF 5 interrogation at the standard rate.	ATC-1400A PRF: 0045		Select 0045 on the PRF thumbwheels of the ATC-1400A.	
					S-1403 FUNC 2 ANT B: OFF		Select FUNC 2 (SEQ - MODE S ONLY) on the S-1403.	
				Mode S MTL			Mode S MTL	
	18.1	N/A		Set interrogation level to -70 dBm.	ATC-1400A RF Lvl: -70		Set the RF level on the 1400A to -70 dBm.	N/A
	18.2	DF = 05 FS = 5 DR = 00 UM = 00 ID = 7777 ADD = 25252525		Observe the Mode S reply data. Data shall be as specified.	ATC-1400A CW/NORM/ OFF: NORM		Observe the decoded Mode S reply on the S-1403 sequence menu (S MENU) display. Data shall indicate as specified.	DF = 05 FS = 5 DR = 00 UM = 00 ID = 7777 ADD = 25252525
	18.3	-77 ± 3 dBm		Slowly decrement the interrogation level in 1-dB steps until the % reply is less than 90%, then increment by 1 dB. The interrogation level shall be as specified. Record the value.			Slowly decrement the RF LEVEL knob on the ATC-1400A in 1-dB steps until the % reply display indicates less than 90%, then increment the RF level by 1 dB. The RF level shall indicate as specified. Record the value.	-77 ± 3 dBm

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Mode S Reply Format			Mode S Reply Format	
	18.3.1	N/A		Return the RF LEVEL knob on the ATC-1400A to -70 dBm.	ATC-1400A RF Lvl: -70 dBm		Return the RF LEVEL knob on the ATC-1400A to -70 dBm.	N/A
				Interrogate the UUT with a Mode S UF 4 interrogation.	S-1403 UF = 04		Select UF#04 on the S-1403.	
	18.3.2	DF = 04 FS = 5 DR = 00 UM = 00 AC = +20200 ADD = 25252525		Observe the decoded Mode S reply data. Data shall be as specified. Verify the AC value agrees with the coded altitude measured in paragraph 11.6. (+20200 = 7710 in Gilliam code)			Observe the decoded Mode S reply on the S-1403 sequence menu (S MENU) display. Data shall indicate as specified. Verify the AC value agrees with the coded altitude measured in paragraph 11.6. (+20200 = 7710 in Gilliam code)	DF = 04 FS = 5 DR = 00 UM = 00 AC = +20200 ADD = 25252525
				Interrogate the UUT with a Mode S UF 20 interrogation.	S-1403 UF = 20		Select UF#20 on the S-1403.	
	18.3.3	DF = 04 FS = 5 DR = 00 UM = 00 AC = +20200 ADD = 25252525		Observe the decoded Mode S reply data. Data shall be as specified.			Observe the decoded Mode S reply on the S-1403 sequence menu (S MENU) display. Data shall indicate as specified.	DF = 04 FS = 5 DR = 00 UM = 00 AC = +20200 ADD = 25252525
				Interrogate the UUT with a Mode S UF 21 interrogation.	S-1403 UF = 21		Select UF#21 on the S-1403.	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	18.3.4	DF = 05 FS = 5 DR = 00 UM = 00 ID = 7777 ADD = 25252525		Observe the decoded Mode S reply data. Data shall be as specified. Verify that this ID agrees with the ID data in paragraph 15.4.			Observe the decoded Mode S reply on the S-1403 sequence menu (S MENU) display. Data shall indicate as specified. Verify that this ID agrees with the ID data in paragraph 15.4.	DF = 05 FS = 5 DR = 00 UM = 00 ID = 7777 ADD = 25252525
				Interrogate the UUT with a Mode S UF 11 interrogation	S-1403 UF =11 ADD = 77777777		Select UF#11 on the S-1403.	
				Perform test setup in accordance with tables 1 and 5 except set AIR/GND 1 to AIR. Restore to normal position after this test is completed.	AIR/GND 1 to air or open		Perform test setup in accordance with tables 1 and 5 except set AIR/GND 1 to AIR. Restore to normal position after this test is completed.	
	18.3.5	DF = 11 AA = 25252525 PI = 00000000 CA = 1 for -902 1 for -903 1 for -904 0 for -905		Observe the decoded Mode S reply data. Data shall be as specified.			Observe the decoded Mode S reply on the S-1403 sequence menu (S MENU) display. Data shall indicate as specified.	DF = 11 AA = 25252525 PI = 00000000 CA = 1 for -902 1 for -903 1 for -904 0 for -905
				Mode S Reply Frequency			Mode S Reply Frequency	
	18.4	N/A		This test measures Mode S reply frequency.			This test measures Mode S reply frequency.	N/A
	18.5	1090 ± 1 MHz		Measure and record the reply frequency. Frequency shall be as specified.	ATC-1400A RF Lvl: -50		Observe and record the XMTR FREQ display on the ATC-1400A. Display shall indicate as shown.	1090 ± 1 MHz
				Mode S Reply Delay			Mode S Reply Delay	
	18.6	N/A		This test measures Mode S reply delay.			This test measures Mode S reply delay.	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	18.7	128 ± 0.25 µs		Measure and record the reply delay. Delay shall be as specified.			Observe and record the reply field on the S-1403. Field shall indicate as specified.	128 ± 0.25 µs
				Mode S Reply Power			Mode S Reply Power	
	18.8	N/A		This test measures Mode S reply power.			This test measures Mode S reply power.	N/A
	18.9	250 to 630 Watts		Measure and record the peak power of the first preamble pulse of the Mode S reply. The power shall be as specified.	S-1403 CONTROL MENU 2, Pulse Power Gate: p1 ATC-1400A F2/P2 F1/P1: F2		On the S-1403, change the pulse power gate to p1. Observe and record the XMTR PWR display on the ATC-1400. The display shall indicate as specified.	280 to 550 Watts
	18.10	250 to 630 Watts		Measure and record the peak power of the last data pulse of the Mode S reply. The power shall be a specified.	S-1403 CONTROL MENU 2, Pulse Power Gate: P60 ATC-1400A F2/P2 F1/P1: F2		On the S-1403, change the pulse power gate to P60. Observe and record the XMTR PWR display on the ATC-1400. The display shall indicate as specified.	280 to 550 Watts
	18.11	<2 dB		Calculate and record the absolute value of the transmitter droop (in dB), using the following formula: Droop = ABS [10(Log_{10} P1 - Log_{10} P2)], where P1 and P2 are the power measurements taken in tests 18.9 and 18.10, respectively. The droop shall not exceed the specified limits.			Calculate and record the absolute value of the transmitter droop (in dB), using the following formula: Droop = ABS [10(Log_{10} P1 - Log_{10} P2)], where P1 and P2 are the power measurements taken in tests 18.9 and 18.10, respectively. The droop shall not exceed the specified limits.	<2 dB
				Squitter Monitor			Squitter Monitor	
	18.12	N/A			S1403 FUNC 2 ANT B: +.00		On S-1403, enter FUNC 2 and turn on ANT B.	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	18.13	PASS		Observe the squitter interval over a period of 10 seconds. The value shall not exceed the limits from 0.8 to 1.2 seconds.			Observe the squitter interval on the S-1403 over a period of 10 seconds. The value shall not exceed the limits from 0.8 to 1.2 seconds.	PASS
					S-1403 ANT B: OFF			
	19			MODE S REPLY RATE CAPABILITY			MODE S REPLY RATE CAPABILITY	
				Perform test setup in accordance with tables 1 and 5.			Perform test setup in accordance with tables 1 and 5.	
				Interrogate the UUT with a UF 5 interrogation at a rate of 177 per second.	ATC-1400A PRF: 0177		On the ATC-1400A, adjust the PRF thumbwheels to 0177.	
					S-1403 FUNC 2		On the S-1403, select FUNC 2 (SEQ - MODE S ONLY).	
				Observe the following reply characteristics. The values shall be as specified.	ATC-1400A CW/NORM/ OFF: NORM		Observe the following reply characteristics on the ATC-1400A displays. The values shall be as specified.	
	19.1	PASS		Over a period of 10 seconds, the Mode S % reply shall not fall below 90%.			Over a period of 10 seconds, the Mode S % reply shall not fall below 98%.	PASS
	19.2	PASS		Reply Frequency 1090 ± 1 MHz			Reply Frequency 1090 ± 1 MHz	PASS
	19.3	PASS		Reply Power 250 to 630 Watts			Reply Power 280 to 550 Watts	PASS

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	20			LONG MODE S Perform test setup in accordance with tables 1 and 5. Interrogate the UUT with a long Mode S interrogation at the standard rate.	ATC-1400A PRF: 0045 SLS/ECHO: OFF S-1403 FUNC 2, ANT B: OFF S-MENU: SO1; UF = 16 RL = 1 MU = 06000 0000000 0000001 ADD = 2525 2525		LONG MODE S Perform test setup in accordance with tables 1 and 5. Turn PFR thumbwheels to 45 Hz, turn SLS/ECHO switch to OFF position. Select FUNC 2 and set the S-MENU: SO1; UF = 16 RL = 1 MU = 06000000000 00000001 ADD = 25252525	
	20.1	>90%		Observe the % Mode S reply. It shall not fall below 90%.	ATC-1400A CW/NORM/ OFF: NORM		Observe the % Mode S reply. It shall not fall below 98%.	>98%
	20.2			With an oscilloscope, look at both the suppression pulse output and the Mode S reply pulse train coming from the UUT.			With an oscilloscope look at both the suppression pulse output (Sup Pulse connector on the Mode S interface panel) and the Mode S reply transmitter output on the ATC-1400A. Use a 50-ohm impedance on the transmitter and 1M ohm on the suppression.	
	20.3	PASS		Verify that the suppression pulse brackets the Mode S reply.			Verify that the suppression pulse brackets the Mode S reply.	PASS

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	20.4	500 ± 50 ns		Measure and record the 50-50% pulse width of the P1 pulse in the Mode S reply. The measurement shall be as specified.			Measure and record the 50-50% pulse width of the P1 pulse in the Mode S reply. The measurement shall be as specified.	500 ± 40 ns
	21			ATCRBS/MODE S ALL-CALL, LONG P4 AMPLITUDE			ATCRBS/MODE S ALL-CALL, LONG P4 AMPLITUDE	
				Perform test setup in accordance with tables 1 and 5 except set AIR/GND 1 to AIR.	AIR/GND 1 to air or open		Perform test setup in accordance with tables 1 and 5 except set AIR/GND 1 to AIR.	
				Interrogate the UUT with an ATCRBS Mode A interrogation with long P4 of adjustable amplitude. Interrogate at the standard rate.	ATC-1400A PRF: 0045 SLS/ECHO: OFF XPDR MDE A		Turn PRF thumbwheels to 45 Hz. Turn SLS/ECHO switch to OFF position. Turn the XPDR MODE CONTROL to MODE A.	
					S-1403 FUNC 4, (ACL) P4:VAR, Dv = CAL		Select FUNC 4 (ACL). Within the FUNC 4 menu, select ACL and P4:VAR.	
				Use the following table to adjust the interrogation RF level and the amount of P4 attenuation. The % Mode S reply for each case shall be as specified.	ATC-1400A CW/NORM/ OFF: NORM		Use the following table to adjust the interrogation RF level and the amount of P4 attenuation (SLS/ECHO thumbwheels on ATC-1400A). The % Mode S reply for each case shall be as specified. Read the value on the S-1403 Mode S % reply field.	
	21.1			RF Level P4			RF Level P4	
		<10%		-21 dBm -6			-21 dBm -6	<2%
		>90%		-21 dBm -1			-21 dBm -1	>98%
		>90%		-40 dBm -1			-40 dBm -1	>98%
		<10%		-40 dBm -6			-40 dBm -6	<2%
		<10%		-68 dBm -6			-68 dBm -6	<2%
		>90%		-68 dBm -1			-68 dBm -1	>98%

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Return P4 to full amplitude (0 attenuation).	S-1403 P4:CAL		Return P4 to full amplitude.	
	22			MODE S SPR POSITION TOLERANCE			MODE S SPR POSITION TOLERANCE	
				Perform test setup in accordance with tables 1 and 5.			Perform test setup in accordance with tables 1 and 5.	
				Interrogate the UUT with a Mode S UF 5 interrogation at the standard rate and power.	ATC-1400A PRF 0045 RF Lvl: -50		On the ATC-1400A, adjust the PRF thumbwheels to 45 Hz.	
				Use the following table to vary the position of the SPR. The resulting % Mode S reply shall be as shown.	S-1403 FUNC 2, SPR, Dv = as indicated ATC-1400A CW/NORM/ OFF: NORM		Use the following table to move the SPR from its nominal position. (Vary the SPR Dv field of the S-1403.) The resulting % Mode S reply shall be as shown. Read the % reply on the ATC-1400A.	
	22.1	<10% >90% >90% >10%		SPR Deviation +0.25 µs +0.05 µs -0.05 µs -0.25 µs			SPR Deviation +0.25 µs +0.05 µs -0.05 µs -0.25 µs	<2% >98% >98% >2%

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	23			MODE S DIVERSITY Perform test setup in accordance with tables 1 and 5. Simultaneously interrogate both UUT antennas with a Mode S UF 5 interrogation at standard rate. See paragraph 3.4. Use the following table to set the relative power and timing of the two interrogations. The % Mode S reply shall be at the specified value and antenna.	ATC-1400A PRF: 0045 S-1403 FUNC 2, ANT B: 0 RF Lvl: 0		MODE S DIVERSITY Perform test setup in accordance with tables 1 and 5. Set PRF thumbwheels to 0045 on ATC-1400A. In FUNC 2 menu on S-1403, turn on antenna B and ensure RF level is set to zero. See paragraph 3.4 Use the following table to set the relative power and timing of the two interrogations. The % Mode S reply shall be at the specified value and antenna. Read ANT A % reply on the ATC-1400A. Read ANT B % reply on the S-1403.	
		ANTA ANTB		ANT A RF LVL / ANT B DELAY			ANT A RF LVL / ANT B DELAY	ANTA ANTB
	23.1	<10% >90%		-56 dBm +0.05 µs			-56 dBm +0.05 µs	<2% >98%
		>90% <10%		-44 dBm +0.05 µs			-44 dBm +0.05 µs	>98% <2%
		>90% <10%		-44 dBm +0.45 µs			-44 dBm +0.45 µs	>98% <2%
		>90% <10%		-70 dBm +0.45 µs			-70 dBm +0.45 µs	>98% <2%
		<10% >90%		-56 dBm -0.05 µs			-56 dBm -0.05 µs	<2% >98%
		>90% <10%		-44 dBm -0.05 µs			-44 dBm -0.05 µs	>98% <2%
		<10% >90%		-56 dBm -0.45 µs			-56 dBm -0.45 µs	<2% >98%
		<10% >90%		-44 dBm -0.45 µs			-44 dBm -0.45 µs	<2% >98%

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	24			TRANSACTION RESET Perform test setup in accordance with tables 1 and 5.			TRANSACTION RESET Perform test setup in accordance with tables 1 and 5.	
				Interrogate the UUT with a Mode S UF 5 interrogation followed 75 µs later by ATCRBS Mode A interrogation. The rate of this double interrogation shall be 45 Hz.	ATC-1400A DBL INTER: OFF, 075.0 XPDR MDE A PRF: 0045		On the ATC-1400A, adjust the DBL INTERR/INTRF thumbwheels to 075.0 µs and OFF. Adjust the PRF thumbwheels to 0045. Turn the XPDR MODE knob to A.	
					S-1403 FUNC 6, 1ST = SEQ 2ND = ATC ANT B: OFF		On the S-1403, select FUNC 6 (DI). In this menu, select 1ST = SEQ and 2ND = ATC.	
	24.1	ATCRBS: <10% Mode S: >90%		Observe the % reply for both Mode S and ATCRBS replies. The values shall be shown.	ATC-1400A CW/NORM/ OFF: NORM		Read the % reply fields for both Mode S and ATCRBS on the S-1403 display. The values shall indicate as shown.	ATCRBS: <2% Mode S: >98%
				Change 1 bit of the Mode S interrogation address.	S-1403 S01: ADD = 152525		In the sequence menu (S01) of the S-1403, change 1 bit in the interrogation address (ADD = 152525).	
	24.2	ATCRBS: >90% Mode S: <10%		Observe the % reply for both Mode S and ATCRBS replies. The values shall be as shown.	S-1403 FUNC 6		Read the % reply fields for both Mode S and ATCRBS on the S-1403 display. The values shall indicate as shown.	ATCRBS: >98% Mode S: <2%
				Change 1 bit of the Mode S interrogation address.	S-1403 S01: ADD = 152521		In the sequence menu (S01) of the S-1403, change 1 bit in the interrogation address (ADD = 152521).	
	24.3	ATCRBS: >90% Mode S: <10%		Observe the % reply for both Mode S and ATCRBS replies. The values shall be as shown.	S-1403 FUNC 6		Read the % reply fields for both Mode S and ATCRBS on the S-1403 display. The values shall indicate as shown.	ATCRBS: >98% Mode S: <2%

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	25			SUPPRESSION BUS Perform test setup in accordance with tables 1 and 5.			SUPPRESSION BUS Perform test setup in accordance with tables 1 and 5.	
				Interrogate UUT with an ATCRBS Mode A interrogation at the standard rate and power.	S-1403 FUNC 1 ATC-1400A PRF: 0450 XPDR MDE A		On the ATC-1400A, set the PRF thumbwheels to 0450 Hz and the XPDR MODE knob to A.	
				With an oscilloscope, look at both the suppression pulse output and the ATCRBS reply pulse train coming from the UUT.	ATC-1400A CW/NORM/ OFF: NORM		With an oscilloscope, look at both the suppression pulse output (Sup Pulse connector on the Mode S interface panel) and the ATCRBS reply (Xmtr output on the ATC-1400A). Use a 50-ohm impedance to look at the Xmtr output and a 1M ohm impedance for the suppression pulse.	
	25.1	PASS		Verify that the suppression pulse brackets the ATCRBS reply.			Verify that the suppression pulse brackets the ATCRBS reply.	PASS
	25.2	>18 V <32 V		Measure and record the amplitude of the suppression pulse. The amplitude shall be as specified.			Measure and record the amplitude of the suppression pulse. The amplitude shall be as specified.	28 ± 3 V

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	26			REPLY PULSE CHARACTERISTICS Perform test setup in accordance with tables 1 and 5. Interrogate the UUT with an ATCRBS Mode A interrogation at the standard rate and power.	 ATC-1400A PRF: 0450 XPDR MDE A S-1403 FUNC 1		REPLY PULSE CHARACTERISTICS Perform test setup in accordance with tables 1 and 5. On the ATC-1400A, set the PRF thumbwheels to 0450 Hz and the XPDR MODE knob to A. On the S-1403, enter FUNC 1. Using an oscilloscope with 50-ohm impedance, look at the XMTR output of the ATC-1400A.	
	26.1	Rise: <0.1 µs Fall: <0.2 µs		Measure and record the 10% to 90% rise and fall times of the first framing pulse, F1. The measurements shall be as specified.			Measure and record the 10% to 90% rise and fall times of the first framing pulse, F1. The measurements shall be as specified.	Rise: <0.1 µs Fall: <0.2 µs
	26.2	450 ± 100 ns		Measure and record the 50-50% pulse width of the first framing pulse, F1. The measurement shall be as specified.			Measure and record the 50-50% pulse width of the first framing pulse, F1. The measurement shall be as specified.	450 ± 80 ns
	26.3	20.3 ± 1 µs		Measure and record the spacing between the two framing pulses, F1 and F2. The measurements shall be as specified.			Measure and record the spacing between the two framing pulses, F1 and F2. The measurements shall be as specified.	20.3 ± 1 µs

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	27			ANTENNA TEST Perform test setup in accordance with tables 1 and 5. Turn UUT off. Remove cable from TOP ANT and terminate the TOP ANT port with an open circuit (infinite ohm) terminator. Turn UUT on.			ANTENNA TEST Perform test setup in accordance with tables 1 and 5. Turn UUT off. Remove cable from TOP ANT port on Mode S interface panel, and terminate the TOP ANT port with an open circuit (infinite ohm) terminator. Turn UUT on.	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	27.1	ON		Verify that TOP ANT and XPDR FAIL indicator lamps are illuminated when the TEST button is pushed momentarily for any version that is prior to a -905 MOD E.			Press the TEST button on the UUT. Verify that, on the front panel of the Mode S Transponder, the TOP ANT and XPDR FAIL indicator lamps are illuminated when the TEST button is pushed momentarily for any version that is prior to a -905 MOD E.	ON
				Verify that TOP ANT FAIL and XPDR PASS indicator lamps are illuminated when the TEST button is pushed momentarily for a -905 MOD E.			Press the TEST button on the UUT. Verify that, on the front panel of the Mode S Transponder, the TOP ANT FAIL and XPDR PASS indicator lamps are illuminated when the TEST button is pushed momentarily for a -905 MOD E.	
				Turn UUT off.			Turn UUT off.	
				Replace the TOP ANT cable. Remove cable from the BOT ANT port and terminate the BOT ANT port with an open circuit (infinite ohm) terminator.			On the Mode S inter-face panel, replace the TOP ANT cable. Remove cable from the BOT ANT port and terminate the port with an open circuit (infinite ohm) terminator.	
				Turn UUT on.			Turn UUT on.	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	27.2	ON		Verify that the BOT ANT and XPDR FAIL indicator lamps are illuminated when the TEST button is pushed momentarily for any version that is prior to a -905 MOD E.			Press the TEST button on the UUT. Verify that, on the front panel of the Mode S Transponder, the BOT ANT and XPDR FAIL indicator lamps are illuminated when the TEST button is pushed momentarily for any version that is prior to a -905 MOD E.	ON
				Verify that BOT ANT FAIL and XPDR PASS indicator lamps are illuminated when the TEST button is pushed momentairly for a -905 MOD E.			Press the TEST button on the UUT. Verify that, on the front panel of the Mode S Transponder, the BOT ANT FAIL and XPDR PASS indicator lamps are illuminated when the TEST button is pushed momentarily for a -905 MOD E.	
				Turn off UUT.			Turn off UUT.	
				Replace cable on BOT ANT port.			On the Mode S interface panel, replace BOT ANT cable.	
	28			SYSTEM STATUS			SYSTEM STATUS	
				Perform test setup in accordance with tables 1 and 5.			Perform test setup in accordance with tables 1 and 5.	
				With Mode S software running, press the TEST button on the front panel of the UUT.	INTFC PNL AIR/GND 1: GROUND AIR/GND 2: GROUND		With Mode S software running, press the TEST button on the front panel of the UUT.	
				Observe the front panel LEDs. They should all illuminate briefly (lamp test), then display as specified.			Observe the front panel LEDs. They should all illuminate briefly (lamp test), then display as specified.	

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
				Signal Name			Signal Name	
	28.1	on		XPDRPASS			XPDRPASS	on
		off		XPDRFAIL			XPDRFAIL	off
		off		CNTLPNL			CNTLPNL	off
		off		TOPANT			TOPANT	off
		off		BOTANT			BOTANT	off
		off		ALTSIG			ALTSIG	off
	28.2			Perform test 3 to clear any failures logged in E^2.				
				END OF TEST			END OF TEST	

APPENDIX A
ALTERNATIVE TEST PROCEDURE FOR PC EMULATION SYSTEM

APPENDIX A
ALTERNATIVE TEST PROCEDURE FOR PC EMULATION SYSTEM

A1. Notes on operation of the PC emulation system are as follows:

A1.1 All tests requiring the PC emulation system shall be performed while executing the SDP-185 monitor software. In the engineering environment, the monitor is invoked by executing the 'SCP MDS' command file.

A1.2 All address and data information should be entered in Hex with a leading # for CACHE locations and a leading 1# for local memory. See example in 3.4.3.

A1.3 Most emulation commands are invoked by pressing the softkeys. Only addresses, data, and 'MDS' are typed using the standard typewriter keys. For example, to change the contents of location C000 (Hex) to the value AAAA (Hex), the following PC command would be entered:

modify memory MDS word 0#C000 to AAAA

In this example, the words (modify, memory, word, and to) are entered with single-keystroke softkeys.

A2. Notes and a list of PC command files (Honeywell Part No. MT4061400-101, revision a) are as follows:

A2.1 The total execution time of this Integrated Test Procedure may be greatly reduced by using the PC command files listed in paragraph 3.11.3. These command files automatically execute many keystrokes found in certain tests and match statement-for-statement (excluding 'pause' statements) the steps found in the IT work steps.

A2.2 After executing the 'SCP MDS' batch file (see paragraph 3.4), execute the command file by typing the filename (using all caps) into the PC and pressing ENTER. Most command files pause to allow the operator to record data. Press any key to resume command file execution.

A2.3 IT Test No. — PC Command Filename

IT Test No.	PC Command Filename
1	IT10
2	IT20
3	IT30 (See note 1.)
4	IT40
5	IT50
6	IT60
7	IT70 (Shall be executed twice to complete test 7.)
8	IT80
8.1	IT81
9	IT90
10	IT100 (See note 2.)

NOTE 1: Before running IT30, test A3 must be performed. IT30 must also be performed at the completion of the IT to clear E^2.

NOTE 2: Before running IT100, end out of emulation mode by entering "END" into the PC. (Resume testing at test 10.13.)

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
				ALTERNATIVE TEST PROCEDURES			ALTERNATIVE TEST PROCEDURES	
	A1			SOFTWARE LOAD			SOFTWARE LOAD	
				Run the SCP MDS program (refer to paragraph 3.4.1).			Run the SCP MDS program (refer to paragraph 3.4.1).	
	A1.1	7FDE:580D 7FDF:EEE0		Observe the CRC words in program ROM (memory locations 7FDEH and 7FDFH). The values shall be as specified for a -902.			Enter "display memory 07FDEH thru 07FDFH" The values shall be as specified for a -902.	7FDE:580D 7FDF:EEE0
	A1.2	7FDE:718F 7FDF:3150		Observe the CRC words in program ROM (memory locations 7FDEH and 7FDFH). The values shall be as specified for a -903.			Enter "display memory 07FDEH thru 07FDFH" The values shall be as specified for a -903.	7FDE:718F 7FDF:3150
	A1.3	7FDE:0E2D 7FDF:F202		Observe the CRC words in program ROM (memory locations 7FDEH and 7FDFH). The values shall be as specified for a -904.			Enter "display memory 07FDEH thru 07FDFH" The values shall be a specified for a -904.	7FDE:0E2D 7FDF:F202
	A1.4	7FDE:4353 7FDF:F5DF		Observe the CRC words in program ROM (memory locations 7FDEH and 7FDFH). The values shall be as specified for a -905 not MOD E.			Enter "display memory 07FDEH thru 07FDFH" The values shall be as specified for a -905 not MOD E.	7FDE:4353 7FDF:F5DF
	A1.5	7FDE:6C8B 7FDF:BA1D		Observe the CRC words in program ROM (memory locations 7FDEH and 7FDFH). The values shall be as specified for a -905 MOD E.			Enter "display memory 07FDEH thru 07FDFH" The values shall be as specified for a -905 MOD E.	7FDE:6C8B 7FDF:BA1D

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	A2			CACHE RAM Modify register CACHE to 0. If this IT is being performed using an automated test facility, complete test 2.1. If this IT is being performed using the manual test fixture, complete test 2.2.			CACHE RAM If this IT is being performed using an automated test facility, complete test 2.1. If this IT is being performed using the manual test fixture, complete test 2.2.	
	A2.1	N/A		Automated Procedure Write the cache RAM address (0000H thru 3FFFH) to each location in cache RAM (20000H thru 23FFFH).			Automated Procedure Write the cache RAM address (0000H thru 3FFFH) to each location in cache RAM (20000H thru 23FFFH).	N/A
	A2.1 .1	0000H thru 3FFFH		Verify that each cache RAM location contains the correct data. Write the complement of each cache RAM address (FFFFH thru C000H) to each loca-tion in cache RAM (20000H thru 23FFFH).			Verify that each cache RAM location contains the correct data. Write the complement of each cache RAM address (FFFFH thru C000H) to each loca-tion in cache RAM (20000H thru 23FFFH).	0000H thru 3FFFH
	A2.1 .2	FFFFH thru C000H		Verify that each cache RAM location contains the correct data.			Verify that each cache RAM location contains the correct data.	FFFFH thru C000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A2.2	N/A		Manual Test Procedure			Manual Test Procedure	N/A
H				Modify memory 20000H thru 23FFFH to 0AAAAH.			Enter "modify memory MDS word 0#20000 thru 0#23FFF to AAAA"	
	A2.2 .1	AAAAH		Display memory 20000H thru 2007FH.			Enter "display memory MDS word from 0#20000 to 0#23FFF"	AAAAH
H				Modify memory 20000H thru 23FFFH to 5555H.			Enter "modify memory MDS word 0#20000 thru 0#23FFF to 5555"	
	A2.2 .2	5555H		Display memory 20000H thru 2007FH.			Enter "display memory MDS word from 0#20000 to 0#2007F"	5555H
	A2.2 .3	5555H		Display memory 23E80H thru 23FFFH.			Enter "display memory MDS word from 0#23E80 to 0#23FFF"	5555H
	A3	N/A		EEPROM			EEPROM	N/A
				Write LRU dash and serial numbers to the EEPROM locations 9FCOH to 9FCAH respectively. D/N stands for dash number and S/N stands for serial number.			Enter "modify memory MDS word 0#20000 (1st digit of D/N), (2nd digit of D/N), (3rd digit of D/N), (1st digit of S/N), (2nd digit of S/N), (3rd digit of S/N), (4th digit of S/N), (5th digit of S/N), (6th digit of S/N), (7th digit of S/N), (8th digit of S/N)."	
H							D/N stands for dash number and S/N for serial number. (Digit space comma space) Example: for unit with dash number 905 and serial number 90100257, enter modify memory MDS word 0#20000 9 , 0 , 5 , 9 , 0 , 1 , 0 , 0 , 2 , 5 , 7	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
H	A3.1	N/A		**NOTE**: EEPROM is only 8 bits wide, instead of 16. If 16 bits of data are specified, only the least significant 8 bits are used. Thus, FE34H is the same as 34H. Write the EEPROM address (OOH thru FFH) to each location in EEPROM (8OOOH thru 9FFFH). Verify each location. Write the complement of each EEPROM address (FFH thru OOH) to each location in EEPROM (8OOOH thru 9FFFH). Verify each location. Write the value FFH to each location in EEPROM (8OOOH thru 9FFFH). Verify each location.			Enter "SCP MDS" Enter "load verify MDS IT30P.RA" Enter "modify registers MDS E0 80E" Enter "modify registers MDS P 109" Enter "Set discretes MDS to 1FA" Enter "run MDS" Program will take several minutes to complete. Front panel LEDs shall flash in a repetitive pattern while the program is executing. When the program is complete all six LEDs shall be illuminated.	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Write the LRU dash and serial numbers, in ISO-5 format, to the EEPROM locations 9FCOH to 9FCAH.				
	A3.2	5041 5353					Enter "display memory MDS word from 0#20010 to 0#20011" The memory locations shall be as indicated.	5041 5353
	A3.3	PASS		Verify that each 8-bit word in locations 9FCOH thru 9FCAH contains the proper dash and serial numbers.			Enter "display memory MDS word from 1#9FC0 to 1#9FCA" Verify that the 8 bits for each word are as follows: - Lower 4 bits from the serial number and dash number of the UUT. - Upper 4 bits contain a 3 Hex. Enter "END" Enter "SCP MDS"	PASS

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A4			VIDEO RAM Write the video RAM address (C000H thru C00FH) to each location in video RAM (C000H thru C00FH).			VIDEO RAM Enter "modify memory MDS word 1#C000 0C000, 0C001, 0C002, 0C003" Enter "modify memory MDS word 1#C0004 0C004, 0C005, 0C006, 0C007" Enter "modify memory MDS word 1#C00B 0C008, 0C009, 0C00A, 0C00B" Enter "modify memory MDS word 1#C00C 0C00C, 0C00D, 0C00E, 0C00F" Enter "display memory MDS word from 1#C000 to 1#C00F	
	A4.1	C000H thru C00FH		Verify that each video RAM location contains the correct data. Write the complement of each video RAM address (3FFFH thru 3FF0H) to each location in video RAM (C000H thru C00FH).			Verify that each video RAM location contains the correct data. Enter "modify memory MDS word 1#C000 3FFF, 3FFE, 3FFD, 3FFC" Enter "modify memory MDS word 1#C004 3FFB, 3FFA, 3FF9, 3FF8" Enter "modify memory MDS word 1#C008 3FF7, 3FF6, 3FF5, 3FF4" Enter "modify memory MDS word 1#C00C 3FF3, 3FF2, 3FF1, 3FF0" Enter "display memory MDS word from 1#C000 to 1#C00F"	C000H thru C00FH

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A4.2	3FFFH thru 3FF0H		Verify that each video RAM location contains the correct data.			Verify that each video RAM location contains the correct data.	3FFFH thru 3FF0H
	A5			INPUT DISCRETES			INPUT DISCRETES	
				Perform test setup in accordance with table 2.			Perform test setup for the transponder interface panel in accordance with table 2.	
				Read the following memory locations:			Enter "display memory MDS word from 1#D600 to 1#D605" The memory locations shall indicate as follows: (X = don't care)	
	A5.1	X355H or XB55H X4AAH or XCAAH 5555H 55XXH 6AXXH XABFH, bit 12 = 0		0D600H 0D601H 0D602H 0D603H 0D604H 0D605H			0D600H 0D601H 0D602H 0D603H 0D604H 0D605H	X355H or XB55H X4AAH or XCAAH 5555H 55XXH 6AXXH XABFH, bit 12 = 0
				Complement all of the discrete input stimuli to the UUT.	Mode S Interface Panel Table 3		Complement all of the discrete input stimuli to the UUT by performing test setup in accordance with table 3.	
				Read the following memory locations:			Enter "display memory MDS word from 1#D600 to 1#D605" The memory locations shall indicate as follows: (X = don't care)	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A5.2	X4AAH or XCAAH		0D600H			OD600H	X4AAH or XCAAH
		X355H or XB55H		0D601H			0D601H	X355H or XB55H
		AAAAH		0D602H			0D602H	AAAAH
		AAXXH		0D603H			0D603H	AAXXH
		95XXH		0D604H			0D604H	95XXH
		X744H, bit 12 = 1		0D605H			0D605H	X744H, bit 12 = 1
	A5.3	X5XXH		While pressing the Push To Test button on the front panel of the UUT, read memory location D605H. The value shall be as indicated. (X = don't care)			While pressing the Push To Test button on the front panel of the UUT, enter "display memory MDS word from 1#D605 to 1#D605" The value shall be as indicated. (X = don't care)	X5XXH
	A6			OUTPUT DISCRETES			OUTPUT DISCRETES	
				Perform test setup in accordance with table 2.			Perform test setup in accordance with table 2.	
				Write to Output Data Word 0 and Configuration Register 3 as shown:			Write to Output Data Word 0 and Configuration Register 3 as shown: (Enter "modify memory MDS word <address> <data>")	
				Address Data 0D607H 0012H 0D400H 2A00H			Address Data 1#D607 0012 1#D400 2A00	
				Verify the state of the following UUT front panel LEDs:			Verify the state of the following UUT front panel LEDs:	
				Signal Name			Signal Name	
	A6.1	on		XPDRPASS			XPDRPASS	on
		off		XPDRFAIL			XPDRFAIL	off
		off		CNTLPNL			CNTLPNL	off
		on		TOPANT			TOPANT	on
		off		BOTANT			BOTANT	off
		on		ALTSIG			ALTSIG	on

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				Verify the following signals. The signal sense shall be as specified.			Verify the following signals. The indicator lamps on the Mode S interface panel (or the signals themselves) shall be as specified.	
		Sig/Lamp		Sig/Lamp			Sig/Lamp	Sig/Lamp
	A6.2	OPN/ON (Green) GND/OFF OPN/OFF GND/ON (Green)		ALT FAIL 1 ALT FAIL 2 XPDR FAIL 1 XPDR FAIL 2			ALT FAIL 1 ALT FAIL 2 XPDR FAIL 1 XPDR FAIL 2	OPN/ON (Green) GND/OFF OPN/OFF GND/ON (Green)
				Write to Output Data Word 0 and Configuration Register 3 as shown: Address Data 0D607H 0001H 0D400H 1500H			Write to Output Data Word 0 and Configuration Register 3 as shown: (Enter "modify memory MDS word <address> <data>") Address Data 1#D607 0001 1#D400 1500	
				Verify the state of the following UUT front panel LEDs: Signal Name			Verify the state of the following UUT front panel LEDs: Signal Name	

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	A6.3	off on on off on off		XPDRPASS XPDRFAIL CNTLPNL TOPANT BOTANT ALTSIG Verify the following signals. The signal sense shall be as specified.			XPDRPASS XPDRFAIL CNTLPNL TOPANT BOTANT ALTSIG Verify the following signals. The indicator lamps on the Mode S interface panel (or the signals themselves) shall be as specified.	off on on off on off
		Sig/Lamp		Signal Name			Signal Name	Sig/Lamp
	A6.4	GND/OFF OPN/ON(Red) +5V/ON(Red) OPN/OFF		ALT FAIL 1 ALT FAIL 2 XPDR FAIL 1 XPDR FAIL 2			ALT FAIL 1 ALT FAIL 2 XPDR FAIL 1 XPDR FAIL 2	GND/OFF OPN/ON(Red) +5V/ON(Red) OPN/OFF
	A7			SYNCHRO ALTITUDE Perform test setup in accordance with table 2. Stimulate the UUT SYNCHRO REF H and SYNCHRO REF C signals with a 26 V ac, 400 Hz sinusoidal waveform. Stimulate the UUT synchro altitude inputs with a second 400 Hz sinusoid that is synchronous with the reference signal (above). Apply this signal across the followng UUT synchro inputs with the negative side of the signal connected to the Z input:	Mode S Interface Panel 26 VAC POL = +		SYNCHRO ALTITUDE Perform test setup in accordance with table 2. On the Mode S Interface Panel, connect the 26 V ac REF + and – signals to the Sync Alt 1/2 RH and RC signals. Connect the TEST VAC + signal to the FX, FY, CX, and CY signals. Connect the TEST VAC – signal to the FZ and CZ signals. Adjust the amplitude of the TEST VAC signal to 9 V rms.	

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
				SYNC ALT 1 FINE X-Z SYNC ALT 1 FINE Y-Z SYNC ALT 1 CRSE X-Z SYNC ALT 1 CRSE Y-Z SYNC ALT 2 FINE X-Z SYNC ALT 2 FINE Y-Z SYNC ALT 2 CRSE X-Z SYNC ALT 2 CRSE Y-Z 1. Adjust the amplitude of this signal to 9 V rms. Read the digital value for each synchro source, using the following procedure: 1. Write the appropriate data (see following table) to memory location D607H. 2. Wait at least 75 µs. 3. Read location D606H. 4. Record the value. The data should fall within the range shown in the Limits. Write To D607H — Source Being Tested			Read the digital value for each synchro source, using the following procedure: 1. Write the appropriate data (see following table) to memory location D607H. 2. Enter "modify memory MDS word 1#D607 <value from table>" 3. Enter "display memory MDS word from 1#D606 to 1#D606" 4. Record the value. The data should fall within the range shown in the Limits. Write To D607H — Source Being Tested	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A7.1	CD5 ± 6FH OH CD5 ± 6FH 1H CD5 ± 6FH 2H CD5 ± 6FH 3H CD5 ± 6FH 4H CD5 ± 6FH 5H CD5 ± 6FH 6H CD5 ± 6FH 7H		0100H ALT 1 FIN X-Z (upper 12 bits) (lower 4 bits) 0120H ALT 1 FIN Y-Z (upper 12 bits) (lower 4 bits) 0140H ALT 1 CRS X-Z (upper 12 bits) (lower 4 bits) 0160H ALT 1 CRS Y-Z (upper 12 bits) (lower 4 bits) 0180H ALT 2 FIN X-Z (upper 12 bits) (lower 4 bits) 01AOH ALT 2 FIN Y-Z (upper 12 bits) (lower 4 bits) 01COH ALT 2 CRS X-Z (upper 12 bits) (lower 4 bits) 01EOH ALT 2 CRS Y-Z (upper 12 bits) (lower 4 bits) Reverse the phase 180 degrees on the SYNCHRO REFERENCE input to the UUT. Read the digital value for each synchro source, using the following procedure: 1. Write the appropriate data (see following table) to memory location D607H. 2. Wait at least 75 µs. 3. Read location D606H. 4. Record the value.	Mode S Interface Panel 26 VAC POL = -		0100 ALT 1 FIN X-Z (upper 12 bits) (lower 4 bits) 0120 ALT 1 FIN Y-Z (upper 12 bits) (lower 4 bits) 0140 ALT 1 CRS X-Z (upper 12 bits) (lower 4 bits) 0160 ALT 1 CRS Y-Z (upper 12 bits) (lower 4 bits) 0180 ALT 2 FIN X-Z (upper 12 bits) (lower 4 bits) 01AO ALT 2 FIN Y-Z (upper 12 bits) (lower 4 bits) 01CO ALT 2 CRS X-Z (upper 12 bits) (lower 4 bits) 01EO ALT 2 CRS Y-Z (upper 12 bits) (lower 4 bits) Reverse the phase 180 degrees on the SYNCHRO REFERENCE input to the UUT. Read the digital value for each synchro source, using the following procedure: 1. Write the appropriate data (see following table) to memory location D607H. 2. Enter "modify memory MDS word 1#D607 <value from table>" 3. Enter "display memory MDS word from 1#D606 to 1#D606" 4. Record the value.	CD5 ± 6FH OH CD5 ± 6FH 1H CD5 ± 6FH 2H CD5 ± 6FH 3H CD5 ± 6FH 4H CD5 ± 6FH 5H CD5 ± 6FH 6H CD5 ± 6FH 7H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
				The data should fall within the range shown in the Limits. Write To D607H / Source Being Tested			The data should fall within the range shown in the Limits. Write To D607H / Source Being Tested	
	A7.2			0100H ALT 1 FIN X-Z			0100 ALT 1 FIN X-Z	
		329 ± 6FH OH		(upper 12 bits) (lower 4 bits)			(upper 12 bits) (lower 4 bits)	329 ± 6FH OH
		329 ± 6FH 1H		0120H ALT 1 FIN Y-Z (upper 12 bits) (lower 4 bits)			0120 ALT 1 FIN Y-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 1H
		329 ± 6FH 2H		0140H ALT 1 CRS X-Z (upper 12 bits) (lower 4 bits)			0140 ALT 1 CRS X-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 2H
		329 ± 6FH 3H		0160H ALT 1 CRS Y-Z (upper 12 bits) (lower 4 bits)			0160 ALT 1 CRS Y-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 3H
		329 ± 6FH 4H		0180H ALT 2 FIN X-Z (upper 12 bits) (lower 4 bits)			0180 ALT 2 FIN X-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 4H
		329 ± 6FH 5H		01AOH ALT 2 FIN Y-Z (upper 12 bits) (lower 4 bits)			01AO ALT 2 FIN Y-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 5H
		329 ± 6FH 6H		01COH ALT 2 CRS X-Z (upper 12 bits) (lower 4 bits)			01CO ALT 2 CRS X-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 6H
		329 ± 6FH 7H		01EOH ALT 2 CRS Y-Z (upper 12 bits) (lower 4 bits)			01EO ALT 2 CRS Y-Z (upper 12 bits) (lower 4 bits)	329 ± 6FH 7H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A8			429 RECEIVER TESTS (INTERNAL) Internal wrap on receiver 0 thru 7. Perform test setup in accordance with table 2. (Accept AAH label with no masking)			429 RECEIVER TESTS (INTERNAL) Perform test setup in accordance with table 2. (Accept AAH label with no masking)	
	A8.1	N/A		Perform initial setup in accordance with table 6. Modify Memory: Address Data OD210H AAAAH OD211H AAAAH Read the following block of memory: D200H thru D20FH.			Perform initial setup in accordance with table 6. Enter "modify memory MDS word 1#D210 thru 1#D211 to AAAA" Enter "display memory MDS word from 1#D200 to 1#D20F"	N/A
	A8.2	AAAAH 2AAAH		Even locations Odd locations (Reject even parity data, no label qualification)			Even locations Odd locations (Reject even parity data, no label qualification)	AAAAH 2AAAH
	A8.3	N/A		Perform initial setup per table 6 except: Address Data D21CH 0249H D220H - D22EH 0044H Modify Memory: Address Data D210H 5555H D211H 5555H Read the following block of memory: D200H thru D20FH.			Perform initial setup per table 6 except: Address Data 1#D21C 0249 1#D220 - 1#D22E 0044 Enter "modify memory MDS word 1#D210 thru 1#D211 to 5555" Enter "display memory MDS word from 1#D200 to 1#D20F"	N/A

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	A8.4	AAAAH 2AAAH		Even locations Odd locations (Reject nonmatching labels)			Even locations Odd locations (Reject nonmatching labels)	AAAAH 2AAAH (no change from test 8.2)
	A8.5	N/A		Perform initial setup in accordance with table 6 except: Address Data D220H - D22EH EF44H Modify Memory: Address Data D210H 5555H D211H 5555H Read the following block of memory: D200H thru D20FH.			Perform initial setup in accordance with table 6 except: Address Data 1#D220 - 1#D22E EF44 Enter "modify memory MDS word 1#D210 thru 1#D210 to 5555" Enter "display memory MDS word from 1#D200 to 1#D20F"	N/A
	A8.6	AAAAH 2AAAH (no change from test 8.2)		Even locations Odd locations (Reject due to disable feature)			Even locations Odd locations (Reject due to disable feature)	AAAAH 2AAAH (no change from test 8.2)
	A8.7	N/A		Perform initial setup in accordance with table 6 except: Address Data D218H 0000H D21AH 0000H D220H - D22EH EE44H Modify Memory: Address Data D210H 5555H D211H 5555H Read the following block of memory: D200H thru D20FH.			Perform initial setup in accordance with table 6 except: Address Data 1#D218 0000 1#D21A 0000 1#D220 - 1#D22E EE44 Enter "modify memory MDS word 1#D210 thru 1#D211 to 5555" Enter "display memory MDS word from 1#D200 to 1#D20F"	N/A

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	A8.8	AAAAH 2AAAH (no change)		Even locations Odd locations (Accept valid data and label)			Even locations Odd locations (Accept valid data and label)	AAAAH 2AAAH (no change)
	A8.9	N/A		Perform initial setup in accordance with table 6 except: Address Data D220H - D22EH EE44H Modify Memory: Address Data D210H 5555H D211H 5555H Read the following block of memory: D200H thru D20FH.			Perform initial setup in accordance with table 6 except: Address Data 1#D220 - 1#D22E EE44 Enter "modify memory MDS word 1#D210 thru 1#D211 to 5555" Enter "display memory MDS word from 1#D200 to 1#D20F"	N/A
	A8.10	5555H D555H		Even locations Odd locations			Even locations Odd locations	5555H D555H
	A8.11	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 8000H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 8000H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.12	8000H 0000H		Even locations Odd locations			Even locations Odd locations	8000H 0000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A8.13	N/A		Perform initial setup in accordance with table 6.1. Modify Memory Address Data 0D210H 4000H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 4000H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.14	4000H 0000H		Even locations Odd locations			Even locations Odd locations	4000H 0000H
	A8.15	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 2000H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 2000H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.16	2000H 0000H		Even locations Odd locations			Even locations Odd locations	2000H 0000H
	A8.17	N/A		Perform initial setup in accordance with table 6.1. Modify memory: Address Data 0D210H 1000H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 1000H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.18	1000H 0000H		Even locations Odd locations			Even locations Odd locations	1000H 0000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A8.19	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0800H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0800H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.20	0800H 0000H		Even locations Odd locations			Even locations Odd locations	0800H 0000H
	A8.21	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0400H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0400H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.22	0400H 0000H		Even locations Odd locations			Even locations Odd locations	0400H 0000H
	A8.23	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0200H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0200H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH	N/A
	A8.24	0200H 0000H		Even locations Odd locations			Even locations Odd locations	0200H 0000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A8.25	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0100H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0100H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.26	0100H 0000H		Even locations Odd locations			Even locations Odd locations	0100H 0000H
	A8.27	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0080H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0080H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.28	0080H 0000H		Even locations Odd locations			Even locations Odd locations	0080H 0000H
	A8.29	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0040H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0040H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.30	0040H 0000H		Even locations Odd locations			Even locations Odd locations	0040H 0000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A8.31	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0020H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0020H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.32	0020H 0000H		Even locations Odd locations			Even locations Odd locations	0020H 0000H
	A8.33	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0010H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0010H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.34	0010H 0000H		Even locations Odd locations			Even locations Odd locations	0010H 0000H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A8.35	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0008H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0008H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.36	0008H 0000H		Even locations Odd locations			Even locations Odd locations	0008H 0000H
	A8.37	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0004H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0004H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.38	0004H 0000H		Even locations Odd locations			Even locations Odd locations	0004H 0000H
	A8.39	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0002H 0D211H 0000H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0002H" Enter "modify memory MDS word 1#D211H to 0000H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A8.40	0002H 0000H		Even locations Odd locations			Even locations Odd locations	0002H 0000H
	A8.41	N/A		Perform initial setup in accordance with table 6.1.			Perform initial setup in accordance with table 6.1.	N/A
				Modify Memory: Address Data 0D210H 0001H 0D211H 0000H			Enter "modify memory MDS word 1#D210H to 0001H" Enter "modify memory MDS word 1#D211H to 0000H"	
				Read the following block of memory: 0D200H thru 0D20FH.			Enter "display memory MDS word from 1#D200H thru 1#D20FH"	
	A8.42	0001H 0000H		Even locations Odd locations			Even locations Odd locations	0001H 0000H
	A8.43	N/A		Perform initial setup in accordance with table 6.1.			Perform initial setup in accordance with table 6.1.	N/A
				Modify Memory: Address Data 0D210H 0000H 0D211H 8000H			Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 8000H"	
				Read the following block of memory: 0D200H thru 0D20FH.			Enter "display memory MDS word from 1#D200H thru 1#D20FH"	
	A8.44	0000H 8000H		Even locations Odd locations			Even locations Odd locations	0000H 8000H
	A8.45	N/A		Perform initial setup in accordance with table 6.1.			Perform initial setup in accordance with table 6.1.	N/A
				Modify Memory: Address Data 0D210H 0000H 0D211H 4000H			Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 4000H"	
				Read the following block of memory: 0D200H thru 0D20FH.			Enter "display memory MDS word from 1#D200H thru 1#D20FH"	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A8.46	0000H 4000H		Even locations Odd locations			Even locations Odd locations	0000H 4000H
	A8.47	N/A		Perform initial setup in accordance with table 6.1.			Perform initial setup in accordance with table 6.1.	N/A
				Modify Memory: Address Data 0D210H 0000H 0D211H 2000H			Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 2000H"	
				Read the following block of memory: 0D200H thru 0D20FH.			Enter "display memory MDS word from 1#D200H thru 1#D20FH"	
	A8.48	0000H 2000H		Even locations Odd locations			Even locations Odd locations	0000H 2000H
	A8.49	N/A		Perform initial setup in accordance with table 6.1.			Perform initial setup in accordance with table 6.1.	N/A
				Modify Memory: Address Data 0D210H 0000H 0D211H 1000H			Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 1000H"	
				Read the following block of memory: 0D200H thru 0D20FH.			Enter "display memory MDS word from 1#D200H thru 1#D20FH"	
	A8.50	0000H 1000H		Even locations Odd locations			Even locations Odd locations	0000H 1000H
	A8.51	N/A		Perform initial setup in accordance with table 6.1.			Perform initial setup in accordance with table 6.1.	N/A
				Modify Memory: Address Data 0D210H 0000H 0D211H 0800H			Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 0800H"	
				Read the following block of memory: 0D200H thru 0D20FH.			Enter "display memory MDS word from 1#D200H thru 1#D20FH"	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A8.52	0000H 0800H		Even locations Odd locations			Even locations Odd locations	0000H 0800H
	A8.53	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0400H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 0400H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.54	0000H 0400H		Even locations Odd locations			Even locations Odd locations	0000H 0400H
	A8.55	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0200H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 0200H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.56	0000H 0020H		Even locations Odd locations			Even locations Odd locations	0000H 0200H
	A8.57	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0100H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 0100H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A8.58	0000H 0100H		Even locations Odd locations			Even locations Odd locations	0000H 0100H
	A8.59	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0080H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 0080H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.60	0000H 0080H		Even locations Odd locations			Even locations Odd locations	0000H 0080H
	A8.61	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0040H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 0040H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.62	0000H 0040H		Even locations Odd locations			Even locations Odd locations	0000H 0040H
	A8.63	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0020H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 0020H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A8.64	0000H 0020H		Even locations Odd locations			Even locations Odd locations	0000H 0020H
	A8.65	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0010H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 0010H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.66	0000H 0010H		Even locations Odd locations			Even locations Odd locations	0000H 0010H
	A8.67	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0008H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 0008H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.68	0000H 0008H		Even locations Odd locations			Even locations Odd locations	0000H 0008H
	A8.69	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0004H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 0004H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A8.70	0000H 0004H		Even locations Odd locations			Even locations Odd locations	0000H 0004H
	A8.71	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0002H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 0002H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.72	0000H 0002H		Even locations Odd locations			Even locations Odd locations	0000H 0002H
	A8.73	N/A		Perform initial setup in accordance with table 6.1. Modify Memory: Address Data 0D210H 0000H 0D211H 0001H Read the following block of memory: 0D200H thru 0D20FH.			Perform initial setup in accordance with table 6.1. Enter "modify memory MDS word 1#D210H to 0000H" Enter "modify memory MDS word 1#D211H to 0001H" Enter "display memory MDS word from 1#D200H thru 1#D20FH"	N/A
	A8.74	0000H 0001H		Even locations Odd locations			Even locations Odd locations	0000H 0001H
	A9			429 RECEIVER/ TRANSMITTER TESTS (EXTERNAL) Perform test setup in accordance with tables 2 and 8. Xmtr 0/Rcvr 0			429 RECEIVER/ TRANSMITTER TESTS (EXTERNAL) Perform test setup in accordance with tables 2 and 8. Xmtr 0/Rcvr 0	

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	A9.1	N/A		(MAINT DATA OUT/AIR DATA 1) Perform initial setup in accordance with table 7. Modify receiver label: Address Data D220H FFAAH Modify transmitter data: Address Data D210H AAAAH D211H AAAAH Data should read as follows: Address			(MAINT DATA OUT/AIR DATA 1) Connect Xmtr 0 (Maint Data Out) to Rcvr 0 (429 Air Data 1). Perform initial setup in accordance with table 7. Enter "modify memory MDS word 1#0D220 FFAA" Enter "modify memory MDS word 1#D210 thru 1#D211 to AAAA" Enter "display memory MDS word from 1#D200 to 1#D201" Data should read as follows: Address	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A9.2	AAAAH 2AAAH		D200H D201H On Mode S interface panel, remove connections on 429 ADC #1 and reconnect on 575 ADC #1. Modify receiver label: Address Data D220H FF55H Modify transmitter data: Address Data D210H 5555H D211H 5555H Data should read as follows: Address			D200H D201H On Mode S interface panel, remove connections on 429 ADC #1 and reconnect on 575 ADC #1. Enter "modify memory MDS word 1#0D220 FF55" Enter "modify memory MDS word 1#D210 thru 1#D211 to 5555" Enter "display memory MDS word from 1#D200 to 1#D201" Data should read as follows: Address	AAAAH 2AAAH
	A9.3	5555H D555H		D200H D201H Xmtr 0/Rcvr 1			D200H D201H Xmtr 0/Rcvr 1	5555H D555H

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A9.4	N/A		(MAINT DATA OUT/AIR DATA 2) Perform initial setup in accordance with table 7. Modify receiver label: Address Data D222H FFAAH Modify transmitter data: Address Data D210H AAAAH D211H AAAAH Data should read as follows: Address			(MAINT DATA OUT/AIR DATA 2) Perform initial setup in accordance with table 7. Enter "modify memory MDS word 1#0D222 FFAAH" Enter "modify memory MDS word 1#D210 thru 1#D211 to AAAA" Enter "display memory MDS word from 1#D202 to 1#D203" Data should read as follows: Address	N/A
	A9.5	AAAAH 2AAAH		D202H D203H On Mode S interface panel, remove connections on 429 ADC #2 and reconnect on 575 ADC #2. Modify receiver label: Address Data D222H FF55H Modify transmitter data: Address Data D210H 5555H D211H 5555H Data should read as follows: Address			D202H D203H On Mode S interface panel, remove connections on 429 ADC #2 and reconnect on 575 ADC #2. Enter "modify memory MDS word 1#0D222 FF55H" Enter "modify memory MDS word 1#D210 thru 1#D211 to 5555" Enter "display memory MDS word from 1#D202 to 1#D203" Data should read as follows: Address	AAAAH 2AAAH

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A9.6	5555H D555H		D202H D203H <u>Xmtr 0/Rcvr 2</u>			D202H D203H <u>Xmtr 0/Rcvr 2</u>	5555H D555H
	A9.7	N/A		(MAINT DATA OUT/CNTL DATA B) Perform initial setup in accordance with table 7. Modify receiver label: <u>Address</u> <u>Data</u> D224H FFAAH Modify transmitter data: <u>Address</u> <u>Data</u> D210H AAAAH D211H AAAAH Data should read as follows: <u>Address</u>			(MAINT DATA OUT/CNTL DATA B) Perform initial setup in accordance with table 7. Enter "modify memory MDS word 1#0D224 FFAAH" Enter "modify memory MDS word 1#D210 thru 1#D211 to AAAA" Enter "display memory MDS word from 1#D204 to 1#D205" Data should read as follows: <u>Address</u>	N/A
	A9.8	AAAAH 2AAAH		D204H D205H Modify receiver label: <u>Address</u> <u>Data</u> D224H FF55H Modify transmitter data: <u>Address</u> <u>Data</u> D210H 5555H D211H 5555H Data should read as follows: <u>Address</u>			D204H D205H Enter "modify memory MDS word 1#0D224 FF55H" Enter "modify memory MDS word 1#D201 thru 1#D211 to 5555" Enter "display memory MDS word from 1#D204 to 1#D205" Data should read as follows: <u>Address</u>	AAAAH 2AAAH

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A9.9	5555H D555H		D204H D205H <u>Xmtr 0/Rcvr 3</u>			D204H D205H <u>Xmtr 0/Rcvr 3</u>	5555H D555H
	A9.10	N/A		(MAINT DATA OUT/MAINT DATA IN) Perform initial setup in accordance with table 7. Modify receiver label: <u>Address</u> <u>Data</u> D226H FFAAH Modify transmitter data: <u>Address</u> <u>Data</u> D210H AAAAH D211H AAAAH Data should read as follows: <u>Address</u>			(MAINT DATA OUT/MAINT DATA IN) Perform initial setup in accordance with table 7. Enter "modify memory MDS word 1#0D226 FFAA" Enter "modify memory MDS word 1#D210 thru 1#D211 to AAAA" Enter "display memory MDS word from 1#D206 to 1#D207" Data should read as follows: <u>Address</u>	N/A
	A9.11	AAAAH 2AAAH		D206H D207H Modify receiver label: <u>Address</u> <u>Data</u> D226H FF55H Modify transmitter data: <u>Address</u> <u>Data</u> D210H 5555H D211H 5555H Data should read as follows: <u>Address</u>			D206H D207H Enter "modify memory MDS word 1#0D226 FF55" Enter "modify memory MDS word 1#D210 thru 1#D211 to 5555" Enter "display memory MDS word from 1#D206 to 1#D207" Data should read as follows: <u>Address</u>	AAAAH 2AAAH

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A9.12	5555H D555H		D206H D207H Xmtr 0/Rcvr 6			D206H D207H Xmtr 0/Rcvr 6	5555H D555H
	A9.13	N/A		(MAINT DATA OUT/FLIGHT ID) Perform setup in accordance with table 7. Modify receiver label: Address Data D22CH FFAAH Modify transmitter data: Address Data D210H AAAAH D211H AAAAH Data should read as follows: Address			(MAINT DATA OUT/FLIGHT ID) Perform setup in accordance with table 7. Enter "modify memory MDS word 1#0D22C FFAA" Enter "modify memory MDS word 1#D210 thru 1#D211 to AAAA" Enter "display memory MDS word from 1#D20C to 1#D20D" Data should read as follows: Address	N/A
	A9.14	AAAAH 2AAAH		D20CH D20DH Modify receiver label: Address Data D22CH FF55H Modify transmitter data: Address Data D210H 5555H D211H 5555H Data should read as follows: Address			D20CH D20DH Enter "modify memory MDS word 1#0D22C FF55" Enter "modify memory MDS word 1#D210 thru 1#D211 to 5555" Enter "display memory MDS word from 1#D20C to 1#D20D" Data should read as follows: Address	AAAAH 2AAAH

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A9.15	5555H D555H		D20CH D20DH <u>Xmtr 0/Rcvr 7</u>			D20CH D20DH <u>Xmtr 0/Rcvr 7</u>	5555H D555H
	A9.16	N/A		(MAINT DATA OUT/CNTL DATA A) Perform initial setup in accordance with table 7. Modify receiver label: <u>Address</u> <u>Data</u> D22EH FFAAH Modify transmitter data: <u>Address</u> <u>Data</u> D210H AAAAH D211H AAAAH Data should read as follows: <u>Address</u>			(MAINT DATA OUT/CNTL DATA A) Perform initial setup in accordance with table 7. Enter "modify memory MDS word 1#0D22E FFAA" Enter "modify memory MDS word 1#D210 thru 1#D211 to AAAA" Enter "display memory MDS word from 1#D20E to 1#D20F" Data should read as follows: <u>Address</u>	N/A
	A9.17	AAAAH 2AAAH		D20EH D20FH Modify receiver label: <u>Address</u> <u>Data</u> D22EH FF55H Modify transmitter data: <u>Address</u> <u>Data</u> D210H 5555H D211H 5555H Data should read as follows: <u>Address</u>			D20EH D20FH Enter "modify memory MDS word 1#0D22E FF55" Enter "modify memory MDS word 1#D210 thru 1#D211 to 5555" Enter "display memory MDS word 1#D20E to 1#D20F" Data should read as follows: <u>Address</u>	AAAAH 2AAAH

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A9.18	5555H D555H		D20EH D20FH Xmtr 1/Rcvr 4			D20EH D20FH Xmtr 1/Rcvr 4	5555H D555H
	A9.19	N/A		(XT COORD/TX COORD) Perform initial setup in accordance with table 7. Modify receiver label: Address Data D228H FFAAH Modify transmitter data: Address Data D212H AAAAH D213H AAAAH Data should read as follows: Address			(XT COORD/TX COORD) Perform initial setup in accordance with table 7. Enter "modify memory MDS word 1#0D228 FFAA" Enter "modify memory MDS word 1#D212 thru 1#D213 to AAAA" Enter "display memory MDS word from 1#D208 to 1#D209" Data should read as follows: Address	N/A
	A9.20	AAAAH 2AAAH		D208H D209H Modify receiver label: Address Data D228H FF55H Modify transmitter data: Address Data D212H 5555H D213H 5555H Data should read as follows: Address			D208H D209H Enter "modify memory MDS word 1#0D228 FF55" Enter "modify memory MDS word 1#D212 thru 1#D213 to 5555" Enter "display memory MDS word from 1#D208 to 1#D209" Data should read as follows: Address	AAAAH 2AAAH

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A9.21	5555H D555H		D208H D209H Xmtr 2/Rcvr 5			D208H D209H Xmtr 2/Rcvr 5	5555H D555H
	A9.22	N/A		(DATA LINK OUT/DATA LINK IN) Perform initial setup in accordance with table 7. Modify receiver label: Address Data D22AH FFAAH Modify transmitter data: Address Data D214H AAAAH D215H AAAAH Data should read as follows: Address			(DATA LINK OUT/DATA LINK IN) Perform initial setup in accordance with table 7. Enter "modify memory MDS word 1#0D22A FFAA" Enter "modify memory MDS word 1#D214 thru 1#D215 to AAAA" Enter "display memory MDS word from 1#D20A to 1#D20B" Data should read as follows: Address	N/A
	A9.23	AAAAH 2AAAH		D20AH D20BH Modify receiver label: Address Data D22AH FF55H Modify transmitter data: Address Data D214H 5555H D215H 5555H Data should read as follows: Address			D20AH D20BH Enter "modify memory MDS from 1#0D22A FF55" Enter "modify memory MDS from 1#D214 thru 1#D215 to 5555" Enter "display memory MDS word from 1#D20A to 1#D20B" Data should read as follows: Address	AAAAH 2AAAH

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A9.24	5555H D555H		D20AH D20BH			D20AH D20BH	5555H D555H
	A10			INTERNAL RF SELF-TEST			INTERNAL RF SELF-TEST	
				Perform test setup in accordance with table 4.	Mode S Interface Panel STBY/ON: ON		Perform test setup in accordance with table 4.	
				Set up video ASIC according to table 4.			Enter "END"	
							Enter "SCP MDS"	
							Enter "load verify MDS IT100P.RA"	
							Enter "modify registers MDS E0 80E"	
							Enter "modify registers MDS P 109."	
							Enter "Set discretes MDS to IFA."	
							Enter "run MDS" Program takes only a fraction of a second to run. When all six front panel LEDs are illuminated, program is complete.	
				Short Mode S Bottom Antenna			Short Mode S Bottom Antenna	
	A10.1	N/A		Initiate the self-test by writing to memory as shown. Address Data OC02EH 0031H			Enter "modify memory MDS word 1#0C02E 0031"	N/A
							Enter "display memory MDS word from 1#C000 to 1#C003"	
				The received interrogation data shall be as shown.			Data shall indicate as follows:	
				Address			Address	

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A10.2	5555H		0C000H thru 0C003H Long Mode S Top Antenna			0C000H thru OC003H Long Mode S Top Antenna	5555H
	A10.3	N/A		Initiate the self-test by writing to memory as shown. Address Data 0C007H thru 0C00DH AAAAH 0C02EH 0037H The received interrogation data shall be as shown. Address			Enter "modify memory MDS word 1#C007 thru 1#C00D to AAAA" Enter "modify memory MDS word 1#0C02E 0037" Enter "display memory MDS word from 1#C000 to 1#C007" Data shall indicate as follows: Address	N/A
	A10.4	AAAAH		0C000H thru 0C006H Mode S Long Squitter Top Antenna Pwr Vld			0C000H thru 0C006H Mode S Long Squitter Top Antenna Pwr Vld	AAAAH
	A10.5	N/A		Set up reply data by writing to memory as shown. (Send preamble pulses only.) Address Data 0C007H F000H 0C008H thru 0C00DH 0000H Initiate the self-test by writing to memory as shown. Address Data 0C02EH 003FH	Mode S Interface Panel STBY/ON: ON		Enter "modify memory MDS word 1#C007 F000" Enter "modify memory MDS word 1#C008 thru 1#C00D to 0000" Enter "modify memory MDS word 1#0C02E 003F"	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
	A10.6	XXX8H bits 4 and 5 = 1		Observe the top antenna power valid signal by reading the self-test status word, address 0C011H. This word shall be as specified. (X = don't care) Mode S Long Squitter Bot Antenna Pwr Vld			Enter "display memory MDS word from 1#C011 to 1#C011" Location shall be as specified. (X = don't care) Mode S Long Squitter Bot Antenna Pwr Vld	XXX8H bits 4 and 5 = 1
	A10.7	N/A		Initiate the self-test by writing to memory as shown. Address Data 0C02EH 003DH	Mode S Interface Panel STBY/ON: ON		Enter "modify memory MDS word 1#C02E 003D"	N/A
	A10.8	XXXX4H bits 4 and 5 = 1		Observe the bottom antenna power valid signal by reading the self-test status word, address 0C011H. This word shall be as specified. (X = don't care) ATCRBS Mode A Top Antenna			Enter "display memory MDS word from 1#C011 to 1#C011" This location shall be as specified. (X = don't care) ATCRBS Mode A Top Antenna	XXXX4H bits 4 and 5 = 1
	A10.9	N/A		Set up interrogation data for Mode A. Address Data 0C007H E000H 0C008H 0000H 0C009H E000H 0C00AH 0000H 0C00BH 0000H 0C00CH 0000H 0C00DH 0000H Initiate the self-test by writing to memory as shown. Address Data 0C02EH 0036H			Modify memory according to the following table: (Enter "modify memory <address> to <data>") Address Data 1#C007 E000 1#C008 0000 1#C009 E000 1#C00A 0000 1#C00B 0000 1#C00C 0000 1#C00D 0000 Enter "modify memory MDS word 1#0C02E 0036"	N/A

REV	TEST	SPECIFICATION			PROCEDURE			SPECIFICATION
LTR	NO.	OPR LIMITS	C	TEST DESCRIPTION	SWITCH POS	C	WORK STEPS	MFG LIMITS
H	A10 .10	XXX2H		Observe the Mode A signal by reading the self-test status word, address 0C011H. Word shall be as specified. (X = don't care) ATCRBS Mode C Bot Antenna	IFR 1400 CW/NORM/ OFF: OFF		Turn IFR 1400 CW/NORM/OFF Switch to “OFF” position. Enter "display memory MDS word from 1#C011 to 1#C011" This location shall be as specified. (X = don't care) ATCRBS Mode C Bot Antenna	XXX2H
	A10 .11	N/A		Set up interrogation data for Mode C. Address Data 0C007H E000H 0C008H 0000H 0C009H 0000H 0C00AH 0000H 0C00BH 0000H 0C00CH 0E00H 0C00DH 0000H Initiate the self-test by writing to memory as shown. Address Data 0C02EH 0030H			Modify memory according to the following table: (Enter "modify memory <address> to <data>") Address Data 1#C007 E000 1#C008 0000 1#C009 0000 1#C00A 0000 1#C00B 0000 1#C00C 0E00 1#C00D 0000 Enter "modify memory MDS word 1#0C02E 0030"	N/A
	A10 .12	XXX1H		Observe the Mode A signal by reading the self-test status word, address 0C011H. Word shall be as specified. (X = don't care)			Enter "display memory MDS word from 1#C011 to 1#C011" This location shall be as specified. (X = don't care)	XXX1H

REV LTR	TEST NO.	SPECIFICATION OPR LIMITS	C	SPECIFICATION TEST DESCRIPTION	PROCEDURE SWITCH POS	C	PROCEDURE WORK STEPS	SPECIFICATION MFG LIMITS
	A10 .13	N/A		Perform test setup in accordance with table 1. STBY/ON discrete (hardware path) Interrogate the UUT with an ATCRBS Mode A interrogation at the standard rate and power.	 S-1403 FUNC 1 ATC-1400A XPDR MODE A PRF: 0450 RF Lvl: -50 CW/NORM/ OFF: NORM Mode S Interface Panel STBY/ON: ON		Perform test setup in accordance with table 1. Turn XPDR MODE control knob to A position. Turn PRF thumbwheels to 450 Hz.	N/A
	A10 .14	>90%		Observe the ATCRBS % reply. The value shall be as specified. Switch the UUT to STANDBY mode.	 Mode S Interface Panel STBY/ON: STBY		Read the % reply display on the ATC-1400A. The display shall indicate as specified. On the Mode S inter-face panel, toggle the STBY/ON switch to the STBY position.	>98%
	A10 .15	<10%		Observe the ATCRBS % reply. The value shall be as specified. This is the end of PC/CPI emulation testing. Continue testing UUT with tests 11 thru 28.			Read the % reply display on the ATC-1400A. The display shall indicate as specified.	<2%