

HAL COMMUNICATIONS CORP. 90508004.TST ST-8000A
PRODUCTION TEST PROCEDURE: PT905-08004 Rev: - 02/12/91
ST8000A MODEM BOARD ASSEMBLY A6 P/N: 905-08004

ST-8000A UNIT - ASSEMBLY A6
FINAL HAL TEST PROCEDURE

MANUFACTURING WORK ORDER (MWO): 90508004.MWO

***** CAUTION *****

THIS ASSEMBLY CONTAINS ELECTRO-STATIC
SENSITIVE DEVICES (ESD). TESTS MUST BE CONDUCTED
AT AN APPROVED ESD WORK-STATION. PERSONNEL
MUST WEAR AND USE ESD PREVENTION DEVICES.

REF: SCHEMATIC DRAWINGS A1787 through A1805 Current REV:
PICTORIAL DRAWING C1464 REV: A
WIRING SAMPLE: WS905-08004 REV: -
PARTS LISTS: PL905-08004 REV: -

1.0 FACTORY TEST PROCEDURES AND CONFIGURATION

The following pages provide procedures for factory final testing of the ST-8000A unit and is not intended as a procedure for field maintenance. This procedure assumes access to factory test equipment and jigs that are not available for field maintenance.

All problems discovered while final testing the unit should be recorded and resolved before continuing. At the completion of these tests, the ST-8000A will have been tested and the ST8000A is then submitted for acceptance testing.

2.0 TEST EQUIPMENT REQUIRED:

The following test instruments or their equivalents are essential to the proper completion of the described tests:

HP400FL AC Voltmeter (+30 to -80 dBm @ 600 ohms)

HP3311 Function Generator (20 to 20,000 Hz, +10 to - 30 dBm)

HP5381A Frequency Counter (20 Hz to 10 MHz)

HP122A Oscilloscope (DC to 10 MHz)

Fluke 77 Multimeter (AC & DC Volts 20 MV to 600 V)

600 Ohm Step Attenuator (0 to - 70 dB in 1 dB steps)

ASCII Communication Terminal (HAL DS3200 or PC with serial I/O and communication terminal software)

Electrostatic Work Station with grounded floor and table mats, grounded wrist bracelet (3M 8031 kit)

HAL Engineering ST-8000A Audio I/O Test Unit

TF900-????? REV: -

HAL Engineering ST-8000A Data/Remote Test Unit

TF900-????? REV: -

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

3.0 TEST PROCEDURE:

STEP	ACTION
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3.1 INITIAL TESTS:

3.1.1 Preliminary Inspection:

Verify that the unit is still operating and that the unit has not reset on burn-in.

3.1.2 Verify Switch and Jumper Settings on MODEM Board (A1):

SW1-1 ON (SW1-2 thru -8 OFF) (0 dBm AMH Threshold)
SW2-8 ON (SW2-2 thru -8 OFF) (1 second AMH Delay)

J6 = Installed (Input Term = 600 ohms)
J8 = 'Tones On' Position (AUTO MUTE defeated)
J9 = '-V' Position (LOS = -V polarity)
J10 = Installed (HS Modem Filters)
J11 = Installed "
J12 = Installed "
J13 = Installed "
J14 = 'NDIV' Position (Defeat Diversity)
J15 = 'NDIV' Position "

3.1.3 Verify Switch and Jumper Settings on CONTROL Board (A2):

A2SW1 = All OFF (Delay 1,2)
A2SW2 = All OFF (Delay 3,4)
A2SW3-1 ON (SW3-2 thru -8 OFF) (19200 Baud Remote)
A2SW4-1 ON (SW4-2 thru -8 OFF) (Unit Address = 01)

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A2J1 = Open	(Deadman Enabled)
A2J2 = '232' Position	(RS-232 DATA TXD)
A2J6 = '232' Position	(RS-232 Data RXC)
A2J7 = '232' Position	(RS-232 Remote RXD/TXD)
A2J4 = Left Position	(REMTXD -8V pulldown)
A2J5 = Left Position	(REMRTS -8V pulldown)
A2J8 = Left Position	(REMDTR -8V pulldown)

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP	ACTION
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3.1.7 Turn On Test

Observe: 8.8.8.8.8 (Front panel)
8.8.8.8.8
8.8.8.8

Changes to: HAL
8000A
x.xx

Changes to: 2125.0
2975.0
75.

or other typical tone set.

3.1.8 Voltage Tests:

a. On POWER SUPPLY Assembly A4 (GND = A4J5-5&6):

+5 Unreg Power Supply A4J2-1 to GND 11.0 ± 1.0 VDC
+V Unreg Power Supply A4VR1-1 to GND 15.0 ± 1.5 VDC
-V Unreg Power Supply A4VR2-2 to GND -16.0 ± 1.5 VDC

b. On MODEM BOARD Assembly A1 (Use GND TP on A1):

+5 Reg J17-1 to Gnd 5.0 ± 0.1 VDC Measure & record.
+V Reg J17-3 to Gnd 8.0 7.9 to 8.3 VDC Measure & record.
-V Reg J17-4 to Gnd -8.0 -7.9 to -8.3 VDC Measure & record.

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STEP ACTION

3.2 MODULATOR TEST:

For this part of the final test procedure, references to jumpers, resistors, test points, switches, and integrated circuits all refer to parts on the modem board unless specified otherwise.

3.2.1 Remote Control Terminal Setup

Connect a 19200 baud ASCII terminal to the Remote Control port (Rear Panel A5J4). To facilitate the testing of the ST-8000A Modem board, the following test commands will be useful and should be stored as HERE IS messages in the ASCII terminal. The test commands can be entered on a single line. Spaces are not necessary, but the command must be terminated with a carriage return.

Test Command 1:	Test Command 2:
c02r1 m2000 s3000 b30 n0	c02r1 m2125 s2975 b30 n0
c01 m2000 s3000 b30 n0	c01 m2125 s2975 b30 n0
j0 h0 y0 a1 x1 u0	j0 h0 y0 a1 x1 u0

Test Command 1 sets the following parameters:	Test Command 2 sets the following parameters:
MOD MARK: 2000	MOD MARK: 2125
MOD SPACE: 3000	MOD SPACE: 2975
MOD BAUD: 30	MOD BAUD: 30
MOD Polarity: Normal	MOD Polarity: Normal
DEMOMARK: 2000	DEMOMARK: 2125
DEMOMARK SPACE: 3000	DEMOMARK SPACE: 2975
DEMOMARK BAUD: 30	DEMOMARK BAUD: 30
DEMOMARK Polarity: Normal	DEMOMARK Polarity: Normal

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Mode:	FSK	Mode:	FSK
Hold:	Off	Hold:	Off
Regen:	Off	Regen:	Off
AMH:	On	AMH:	On
Remote Echo:	On	Remote Echo:	On
Auto Mute	Off	Auto Mute	Off

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX
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3.2.2 Connect MOD FSK Audio out
 out to a 600 ohm load.
 (Rear Pan A5J2-1, A5J2-3)

3.2.3 Send Test Command 1.
 Observe 2000 Hz sine wave. TP4;
 Measure & record level. 1.25 dBm \pm .5

3.2.4 Confirm -20 to 0 dBm Mod FSK out
 range with Front Panel (Rear Panel
 Output Level control. A5J2-1, J2-3)

Reset front panel Output
 Level control to maximum
 (Full CW). Measure and TP3;
 record level. 4.25 dBm \pm .5

3.2.5 Connect MOD FSK out
 (A5J2-1, A5J2-3)
 to Demod FSK Audio in
 (A5J2-10, A5J2-12).
 Remove jumper J6.
 Measure and record MOD FSK
 level change at MOD Audio out
 FSK Audio out. Change =
 (A5J2-1, A5J2-3). 5.75 dBm \pm .5
 Reinstall jumper J6.

3.2.6 Connect a 30 baud RS232
 signal to Data TXD in

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(A5J1-20).

Observe modulated MOD FSK
MOD FSK Audio output. Audio out

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX
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3.3 DEMODULATOR FILTER TESTS

3.3.1 Connect signal generator to

Demod FSK Audio in (A5J2-10, A5J2-12) through the dB box. Set signal generator.	DEMOM FSK Audio In. 2.000 kHz 0.0 dBm	0 dB	
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3.3.4 Test Input Filter Check generator. Measure & record	DEMOM FSK Audio In TP2; 6.8 dBm ±.5	2.000 kHz 0.0 dBm	0 dB
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3.3.5 Test Filter Clocks Send Test Command 1. Observe: TTL square wave.	TP15 (MARK) @ 100 KHz TP8 (SPACE) @ 150 KHz TP21 (LPF) @ 2880 Hz		
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3.3.6 MARK Filter Test

Send Test Command 1. Set generator.	DEMOM FSK Audio In	2.000 kHz 0.0 dBm	0 dB
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Change the Demod. baud rate to set MARK filter Qs using:

Q	Baud	Q	Baud
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*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

33.6	30	5.93	337
23.2	86	4.48	443
17.5	114	3.69	540
13.7	145	3.16	625
11.7	170	2.88	689
9.90	202	2.63	760
7.85	253	2.34	854
6.10	327	2.10	952

The above is based on the formula:
 $Q = \text{Center Frequency} / \text{Baud} = 2000 / \text{Baud}$

Decrement the Q
 of the MARK filter. TP14
 (Remote commands:
 c01 b30, b86, ... b952).

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX
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3.3.6 (Continued)

Observe level increases. ≈ 4.5 dBm @
 MARK Q = 33.6
 ≈ 7.0 dBm @
 MARK Q = 2.1

Send Test Command 1. TP12 ≈ 6.9 dBm
 Measure & record levels. TP14 ≈ 4.5 dBm

Measure & record levels
 for MARK Q = TP14
 33.6, 6.1, 5.93, 2.10.

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

(Remote commands:
c01 b30, b327, b337, b952).

Measure & record -3 dB
frequencies for MARK Q = TP14
33.6

(Remote commands:
c01 b30).

Compute and record BW, Fc and Qmeas. Target Value:

Mark Q	BW (Hz)	Fc (Hz)	Qmeas
33.6	62 ±4	2000 ±2	33.6 ±1.5

Reset generator.	DEMOM FSK	2.000 kHz
Audio In	0.0 dBm	0 dB

3.3.7 Space Filter Test

Send Test Command 1.
Set Demod SPACE: 2000 Hz,
Demod MARK: 3000 Hz

(Remote command:
c01 s2000 m3000).

Set generator.	DEMOM FSK	2.000 kHz
Audio In	0.0 dBm	0 dB

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP ACTION SCOPE, ACVM, dB METER, COUNTER ATTN GEN BOX

3.3.7 (Continued)

Change the demod baud rate to set filter Qs:

Q	Baud	Q	Baud
33.6	30	5.93	337
23.2	86	4.48	443
17.5	114	3.69	540
13.7	145	3.16	625
11.7	170	2.88	689
9.90	202	2.63	760
7.85	253	2.34	854
6.10	327	2.10	952

The above is based on the formula:

$$Q = \text{Center Frequency} / \text{Baud} = 2000 / \text{Baud}$$

Decrement the Q of the SPACE filter. (Remote commands: c01 b30, b86, ... b952). Observe level increases.

TP7 ≈ 4.75 dBm @ SPACE Q = 33.6 ≈ 7.25 dBm @ SPACE Q = 2.1

Set SPACE Q to 33.6 (Remote command: c01 b30). Measure & record levels.

TP9 ≈ 6.75 dBm TP7 ≈ 4.75 dBm

Measure & record levels for SPACE Q = 33.6, TP7

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

(Remote commands:
 c01 b30, b327, b337, b952).

Measure & record -3dB TP7
 frequencies for SPACE Q =
 33.6

(Remote commands:
 c01 b30).

Compute and record BW, Fc and Qmeas. Target Values:

SPACE Q	BW (Hz)	Fc (Hz)	Qmeas
33.6	62 ±4	2000 ±2	33.6 ±1.5

Reset generator. 2.000 kHz

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX

3.3.8 AMH Test

Connect the signal generator to DEMOD FSK Audio in (A5J2-10, A2J2-12). DEMOD FSK Audio In DEMOD FSK Audio In

Send Test Command 1.

Set generator & dB box. 2.000 kHz
 Set AMH Threshold @ 0 dBm 0.0 dBm -1 dB
 (SW1-1 only on).

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

Confirm LOS (TTL High)
for Threshold switch TP5 -1 dB
settings of: 0,-6, to
-12,-18,-24,-30,-36,-42 -43 dB
with input levels of -1,-7,
-13,-19,-25,-31,-37,-43
dBm respectively, ± 1 dBm.

Reset AMH Threshold to
0 dBm (SW1-1 only on).

3.3.9 Gain Control Test DEMOD FSK 2.000 kHz
Send Test Command 1. Audio In 0.0 dBm 0 dB
Set generator & dB box.

Decrease Demod FSK Audio TP14
In level. Observe level
increases due to gain
control @ -4, -10, -16,
-22, -28, -34, -40 dBm.
Tolerance = ± 1 dBm.

Set Demod Space: 2000
(Remote Command: c01 s2000)
Decrease Demod FSK Audio TP7
In level. Observe gain
control changes @ -4, -10,
-16, -22, -28, -34,
-40 dBm, ± 1 dBm

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX

3.3.10 Low Pass Filter Test

Set generator and dB box. DEMOD FSK 2.000 kHz
 Audio In 0.0 dBm 0 dB

Send Test Command 1.
 Confirm zero offset TP23

Set Demod MARK: 3000,
 Demod SPACE: 2000
 (Remote command:
 m3000 s2000)
 Confirm zero offset TP22

Observe detected space
 ≈4VDC level. TP23

Send Test Command 1.
 Observe detected mark
 ≈4VDC level. TP22

3.3.11 Detector Select Test

Jumper Mod FSK Audio out
 (A5J2-1, A5J2-3)
 to Mod FSK Audio In
 (A5J2-10, A5J2-12).

Send Test Command 2.

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

Connect a symmetric
30 baud RS232 signal
to Data TXD in (A5J1-20).

Observe a symmetric
30 baud TTL Signal TP24
for Mk Only, Sp Only,
and FSK detector modes
(Remote commands:
j1, j2, j0).

3.3.12 High Speed Demod Filter Test

Jumper Mod FSK Audio out
(A5J2-1, A5J2-3)
to Mod FSK Audio In
(A5J2-10, A5J2-12).
Send Test Command 2.
Observe 12275 Hz sine wave TP11
≈ 6.0 dBm

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX
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3.4 MODEM I/O TESTS:

3.4.1 Demod RXD Output Check

Jumper Mod FSK Audio out
 (A5J2-1, A5J2-3)
 to Demod FSK Audio in
 (A5J2-10, A5J2-12).

Connect symmetric 30 baud
 RS232 signal to
 Data TXD in (A5J1-20).
 Send Test Command 2.
 Observe symmetric 30 baud DEMOD RS-RXD
 RS232 signal. A5J1-22

Set Data TXD in rate
 to 1200 baud.
 Set Demod to 1200 baud
 (Remote command: c01 b1200).
 Observe symmetric DEMOD MIL-RXD
 1200 baud MIL188 signal. A5J1-23

3.4.2 Data CD Out Test

Jumper Mod FSK Audio out
 (A5J2-1, A5J2-3)
 to Demod FSK Audio in
 (A5J2-10, A5J2-12).

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Confirm AMH Threshold
@ 0 dBm (SW1-1 only on).

Confirm AMH Delay
@ 1 second (SW2-8 only on).

Confirm LOS Polarity
(J9) '-V' position.

Sent Test Command 2.
Set BIT Mode to
0dBm internal
(Remote command:t5) CD Out
Observe Data CD out A5J1-10
RS232 High

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX
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3.4.2 (Continued)

Set BIT Mode to CD Out
 internal -20 dBm A5J1-10
 (Remote command: t6). RS232 Low
 Observe Data CD out.

Set Demod baud to CD Out
 1200 baud. (Test A5J1-10
 command: c01 b1200 t6). RS232 High
 Observe Data CD out.

Set Auto Mute On CD Out
 (Test command: u1). A5J1-10
 Observe Data CD out. RS232 Low (LOS)

Set AMH off CD Out
 (Test command: A0). A5J10-1
 Observe Data CD out. RS232 High

Set LOS Polarity to '+V'. CD out
 (A1J9 = '+V') A5J1-10
 RS232 Low

Reset Low Polarity to '-V'
 (A1J9 = '-V')

3.4.3 AMH Time-out Test

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Jumper Mod FSK Audio out
(A5J2-1, A5J2-3)
to Demod FSK Audio in
(A5J2-10, A5J2-12).
Connect < 0.2 Hz
symmetric RS232 signal to
Data DRTS in (A5J1-17).

Set jumper J8 to
'Auto Mute' position.
Confirm AMH Threshold
@ 0 dBm (SW1-1 only on).

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX
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3.4.3 (Continued)

Set AMH Delay to
 5 seconds (SW2-1 only on).
 Set counter for
 interval measurements.
 Set counter Channel A
 to trigger on
 trailing edge of
 Data DRTS in
 (A5J1-17) signal CH A:
 Set counter Channel B Data DRTS In
 to measure delay to
 trailing edge of
 Data CD out CH B:
 (Rear J1-10) signal. Data CD out

Send Test Command 2.
 Confirm time delay to
 loss of signal (Data CD
 out @ RS232 low) for
 AMH Delay settings of:
 5.0, 4.5, 4.0, 3.5, 3.0,
 2.5, 2.0, 1.5, 1.0 secs
 (SW2-1 only on, SW2-2 only
 on, ... SW2-8 only on).
 Tolerance = ±0.2 secs.

Reset AMH Delay to
 1.0 secs (SW2-8 only on).
 Reset jumper J8 to

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

'Tone On' position.

3.4.4 Data DCTS Out Test

Set Data DRTS in
(A5J1-17) to RS232 high.
Confirm Data DCTS out Data DCTS
(A5J1-18) is RS232 high. RS232 high

Set Data DRTS in
(A5J1-17) to RS232 low.
Confirm Data DCTS out Data DCTS
(A5J1-18) is RS232 low. RS232 low

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX
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3.4.5 Tuning Bar Test

Set and connect signal
 generator to DEMOD FSK DEMOD FSK 2.000 kHz 0 dB
 Audio in (A5J2-10, -12). Audio In 0.0 dBm
 Send Test Command 1.
 Set Demod SPACE to 2000
 (Rem command: c01 s2000).

Confirm 0 dBm indication
 on the front panel tuning
 bar indicators.

Attenuate DEMOD FSK
 Audio in signal. -45 dB
 Confirm -45 dBm indication
 on the front panel tuning
 bar indicators.
 Reset dB box to 0 dB. 0 dB

Send Test Command 2.
 Jumper MOD FSK Audio out
 (A5J2-1, A5J2-3) to
 DEMOD FSK Audio in
 (A5J2-10, A5J2-12).
 Connect 30 baud RS232 signal
 to Data TXD in (A5J1-20).
 Confirm operation of
 tuning bar indicators.

Set Demod Baud to 1200

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(Remote command: c01 b1200).
Connect 1200 baud RS232 signal
to Data TXD in (A5J1-20).
Confirm operation of
tuning bar indicators.

Send Test Command 2.
Select Modulator
(Remote command: c02).
Connect 30 baud RS232 signal
to Data TXD in (A5J1-20).
Confirm operation of
the tuning bar indicators.

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX
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3.4.6 Keyline Test

Jumper MOD FSK Audio out
 (A5J2-1, A5J2-3) to
 DEMOD FSK Audio in
 (A5J2-10, A5J2-12).
 Connect 30 baud RS232 signal
 to Data TXD in (A5J1-20).

Send Test Command 2.
 Confirm continuity between
 Data Key1 and Data Key2
 (A5J1-15 and A5J1-16)
 Confirm continuity between
 Audio Key1 and Audio Key2
 (A5J2-5 and A5J2-6).
 Set Mute on (Remote command: u1).
 Confirm open circuit between
 Audio Key1 and Audio Key2
 (A5J2-5 and A5J2-6).

3.4.7 Data TXC Out And RXC Out.

Send Test Command 2.
 Set Synchronous mode
 (Remote command: w0)
 Verify Data RXC out
 (A5J1-21) Data RXC out
 (symmetric RS232 signal 30.0 Hz
 @ Demod baud rate).

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Verify Data TXC out
(A5J1-19) Data TXC
(symmetric RS232 signal @ 30.0 Hz
mod baud rate).

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX
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3.4.8 Undet MARK Out,
Undet SPACE Out Test.

Jumper MOD FSK Audio out
 (A5J2-1, A5J2-3)
 to DEMOD FSK Audio in
 (A5J2-10, A5J2-12).
 Connect 30 baud RS232 signal
 to Data TXD in (A5J1-20).

Send Test Command 2.
 Set scope to A vs B mode.
 Connect CH A Scope to
 Undet Mark Out
 (A5J1-7). CH A:
 Connect CH B Scope to Undet MARK
 Undet Space Out
 (A5J1-9) CH B:
 Observe M/S ellipses. Undet SPACE

3.4.9 Connector Continuity Test

Check Continuity to
 ground for:
 Data Rear A5J1-12, 13,
 14, 24, 25, 26, 36, 37
 Audio Rear A5J2-37
 Remote Rear A5J4-6

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Check continuity between
A5J1-8 and A5J2-8.

3.4.10 Modem-Control Board I/O Test

Verify proper operation of
Remote CTS (A5J4-2),
Remote RTS out (A5J4-4), and
Remote CTS out (A5J4-5)
using the Control Board test
that checks these lines.

Also use the Control Board test to verify proper
operation of the following lines to the Control Board:
Demod Gain lines DGA, DGB, DGC (J18-20, 21, 22)
AMHO (J18-23)
Regen lines RXDTR, RXDFR (J18-29,30)

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX
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3.4.11 Diversity Test

(when installed)

Connect J2 to
 Diversity connector
 (A5J5).

Jumper Mod FSK Audio out
 (A5J2-1, A5J2-3) to
 Demod FSK Audio in
 (A5J2-10, A5J2-12).
 Set jumpers J13 and J14
 to 'Div' positions.

Send Test Command 2.
 Set Div mode
 (Remote command: d1).
 Connect a 30 baud
 RS232 signal to
 Data TXD in (A5J1-20).

Confirm Diversity Mark. A5J5-1
 Confirm Diversity Space. A5J5-2
 Confirm Diversity Peak Det. A5J5-3
 Confirm Diversity AMH. A5J5-4
 Confirm continuity to
 GND A5J5-5.
 Reset jumpers J13 & J14
 to 'NDIV' position.

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

HAL COMMUNICATIONS CORP. 90508004.TST ST-8000A
PRODUCTION TEST PROCEDURE: PT905-08004 Rev: - 02/12/91
ST8000A MODEM BOARD ASSEMBLY A6 P/N: 905-08004

3.5 Keypad Test

3.5.1 Confirm operation of all keys
using the BIT keypad test
(Remote command: t9 k)

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

STEP	ACTION	SCOPE, ACVM, dB METER, COUNTER	dB ATTEN GEN	BOX
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3.6 Front Panel LED Test

3.6.1 Confirm operation of all LEDS.

Remote
Command LED

?? Center & Shift ON
 ?? Mark & Space ON

w1 Synch ON
 w5 Synch OFF

y1 Regen ON
 y5 Regen OFF

j1 MK Only ON
 j2 SP Only OFF
 j0 FSK ON

a0 AMH OFF
 a1 AMH ON

h1 Hold ON
 h0 Hold OFF

n1 Rev ON
 n0 Rev OFF

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

HAL COMMUNICATIONS CORP. 90508004.TST ST-8000A
PRODUCTION TEST PROCEDURE: PT905-08004 Rev: - 02/12/91
ST8000A MODEM BOARD ASSEMBLY A6 P/N: 905-08004

3.7 Indicate that the unit has been successfully final tested and submit the unit for acceptance testing.

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

ST8000A MODEM BOARD/UNIT FINAL - ASSEMBLY A1/A6 TEST LOG

Unit _____
 Board S/N _____ Tech _____

Date _____ Start _____ Stop _____

Voltage Tests:

+5V _____ V +8V _____ V -8V _____ V

Modulator Tests:

TP4 _____ dBm TP3 _____ dBm Hi Z δ _____ dBm

Demod Filter Tests:

TP1 _____ dBm

TP2 (dBm) Fh (Hz) Fl (Hz) BW (Hz) Fc(Hz) Q

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TP12 _____ dBm TP14 _____ dBm

QM TP14(dBm) Fh (Hz) Fl (Hz) BW (Hz) Fc (Hz) Q

33.6						
6.10						

*** CAUTION ESD HANDLING PROCEDURES REQUIRED ***

