Report 11334
November 1998

Integrated Advanced Microwave Sounding Unit-A (AMSU-A)

Performance Verification Reports

Initial Comprehensive Performance Test Report

P/N: 1356006-1-IT, S/N: 202/A2

Contract No. NAS 5-32314
CDRL 208

Submitted to:

National Aeronautics and Space Administration
Goddard Space Flight Center
Greenbelt, Maryland 20771

Submitted by:

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FIRST CPT

AE-26156/10

S.O. 323737/STEP 0740C

S/N 202/A2

P/N 1356006-1-IT

National Aeronautics and
Space Administration
Goddard Space Flight Center
Greenbelt, MD 20771

Reply to Attn of

480

April 13, 1998

Aerojet
Attn: W Mullooly
110W. Hollyvale Street
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Subject: Aerojet Process Specification AE-26156/10 "EOS/AMSU-A2, System Comprehensive and Limited Performance Tests and Test Procedure, Redlines dated 7 August 1998.

This following redlined test procedure was reviewed and is approved. Please refer to the redlined copy' s date on the final released procedure.

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AE-26156/10
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APRIL 7, 1998
~~APRIL 2, 1998~~

APPROVAL DRAFT

S.O. 323737
STEP 740C
P/N 1356006-1-I
S/N 202.

PROCESS SPECIFICATION

EOS/AMSU-A2, SYSTEM COMPREHENSIVE AND LIMITED PERFORMANCE TESTS TEST PROCEDURE

MASTER MARKUP IS IN CONFIGURATION MANAGEMENT.

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APPENDIX A. TEST DATA SHEETS

1. SCOPE

1.1 ***Scope.*** This process specification establishes the requirements for the Comprehensive Performance Test (CPT) and Limited Performance Test (LPT) of the Earth Observing System Advanced Microwave Sounding Unit - A2 (EOS/AMSU-A2), referred to as the unit. The unit is defined on Drawing 1356006.

1.2 ***Procedure sequence.*** The sequence of CPT/LPT testing is shown in Figure 1. At the discretion of the test engineer the order of tests may be changed.

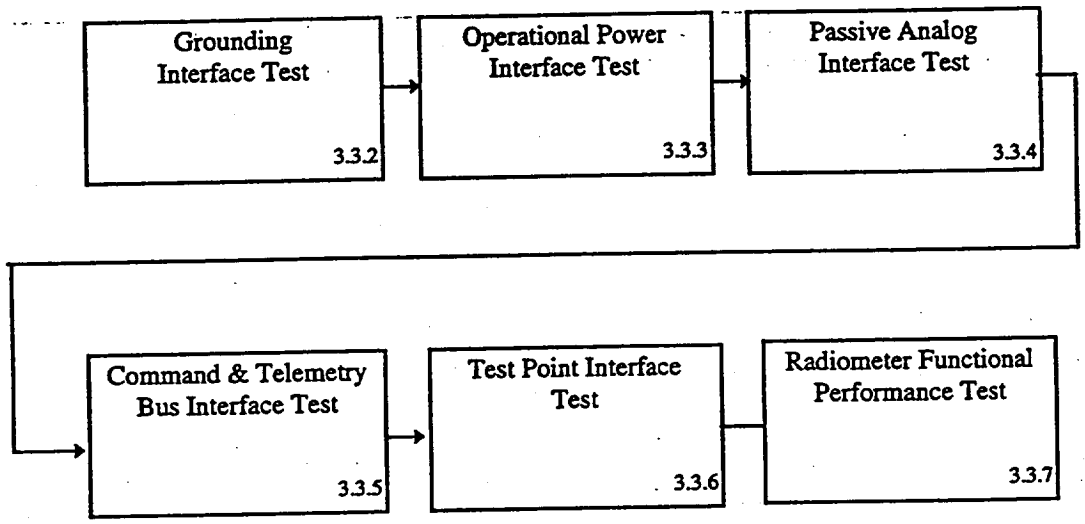

Figure 1. Sequence of EOS/AMSU-A2 CPT/LPT Testing

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2. APPLICABLE DOCUMENTS

2.1 ***Government documents.*** The following documents form a part of this specification to the extent specified herein. The latest issue is applicable.

SPECIFICATIONS

NASA (Goddard Space Flight Center (GSFC))

S-480-80	Performance and Operation Specification for the EOS/ METSAT Integrated Programs AMSU-A Instrument (POS)
S-480-79	Performance Assurance Requirements for the EOS/METSAT Integrated Programs AMSU-A Instrument (PAR)
422-11-12-01	General Interface Requirements Document for EOS Common Spacecraft /Instruments EOS PM Project (GIRD)
422-12-12-02	Unique Instrument Interface Document for the Advanced Microwave Sounding Unit (AMSU-A) EOS PM Project (UIID)

STANDARDS

MIL-STD-45662	Calibration Systems Requirements

(Copies of government documents should be obtained as indicated in the Department of Defense Index of Specifications and Standards).

2.2 ***Non government documents.*** The following documents form a part of this specification to the extent specified herein. The latest issue is applicable.

2.2.1 ***TRW documents***

SPECIFICATIONS

D24845	Interface Control Document for Advanced Microwave Sounding Unit - A2 (ICD)
D25093	Instrument Interface Database for the AMSU-A2

(Copies of TRW documents may be obtained from TRW Inc.).

2.2.2 ***Aerojet documents***

STANDARDS

STD-2454	Requirements for Electrostatic Discharge Control

SPECIFICATIONS

AE-26002/2	AMSU-A2 Antenna Drive Subsystem Test Procedure
AE-26156/8	EOS/AMSU-A2 Subsystem Integration Procedure
AE-26357	AMSU-A Transportation and Handling Procedure

SPECIFICATIONS - Cont

AE-26600	EOS/AMSU-A Firmware Test Procedures

REPORTS

10353	EOS/AMSU-A Contamination Control Plan
10443	EOS/AMSU-A Software User's Guide (STE Software)
10458	EOS/AMSU-A Firmware Requirements
10974	EOS/AMSU-A Firmware Test Report

DRAWINGS

1356006	EOS/AMSU-A2 Assembly
1356648	Cable Assembly, EOS Lab Test
1356655	Console Assembly, METSAT and EOS STE
1338427	Cover, ESD Shielded Bag
SK1358702	9 Pin Breakout Box
SK1358704	25 Pin Breakout Box
SK1358705	37 Pin Breakout Box
SK1366106	ON/OFF SWITCH

RM Pat 4/4/98 91 DC

(Copies of Aerojet documents may be obtained from Gencorp Aerojet, Azusa Operations, CAGE 70143, P.O. Box 296, Azusa, California, 91702-0296).

3. REQUIREMENTS

3.1 *General test requirements*

3.1.1 ***Equipment.*** All measurements shall be made using the test equipment or its equivalent as specified in Table I. Equivalent test equipment shall be approved by Systems Engineering and Quality Assurance. Test equipment and gauges required to perform examinations and tests shall be controlled by a calibration system as specified in MIL-STD-45662.

All inspection, measurement and test equipment used shall be currently calibrated to certified standards. The date of last calibration and calibration due date shall be displayed on each item of equipment subject to calibration and recorded at the time of test performance as specified in detailed procedures.

Table I. Required Test Equipment

Item	Qty	Equipment	Manufacturer	Model No,
1	1	9-Pin Breakout Box	Aerojet	SK1358702-1/2536-3743
2	1	25-Pin Breakout Box	Aerojet	SK1358704-1/2536-3746
3	1	37-Pin Breakout Box	Aerojet	SK1358705-1/2536-3745
4	1	AMSU-A Special Test Equipment (STE)	Aerojet	1356655-1
5	1	STE Interface Cable J1 (W31)	Aerojet	1356648-1
6	1	STE Interface Cable J2 (W32)	Aerojet	1356648-2
7	1	STE Interface Cable J3 (W33)	Aerojet	1356648-3
8	1	STE Interface Cable J4 (W34)	Aerojet	1356648-4
9	1	COLD TARGET	AEROJET	T-1291000-1
10	1	Digital Multimeter	Fluke/Tektronix	77/DMM916
11	1	Spectrum Analyzer	Hewlett-Packard	8566B/8590L
12	1	Plotter	Hewlett-Packard	7475A
13	1	Digital Multimeter	Hewlett-Packard	34401A
14	1	Digital Oscilloscope	Tektronix	TDS386/2221A
15	1	Dynamic Signal Analyzer	Hewlett-Packard	3562A/3563
16	1	Current Probe	Tektronics	AM503
17	1	Frequency Counter	Hewlett-Packard	5316A
18	1	Function Generator	Hewlett-Packard	3325A/B
19	1	Power Supply	Power Designs	3650-S
20	1	OXYGEN MONITOR	BIO SYSTEMS	3100
21	2	CRYO PROTECTIVE GLOVES	LAB SAFETY SUPPLY	5932L
22	1	PROTECTIVE FACE MASK	SELLSTROM	124-390\380
23	1	COLD TARGET SUPPORT	AEROJET	T-1291001-1
24	1	ON/OFF SWITCH	AEROJET	SK1360106
25	1	POWER SUPPLY	HEWLETT-PACKARD	HP-6205B
26	1	LIQUID NITROGEN CONTAINER	COLE PARMER	N03726-20
27	1	PROTECTIVE APRON	LAB SAFETY	BA-7549-3

3.2 ***Materials.*** Not applicable.

3.3 ***Required procedures and operations.*** The unit shall be subjected to the tests shown in Figure 1 and Table II.

3.3.1 ***Integration and test preliminary conditions.***

3.1.1 *Limited performance test (LPT).* The Limited Performance Test shall consist of the test procedures in the LPT column of Table II.

Table II. AMSU-A2 Performance Tests

Paragraph	Description	1st CPT	LPT	Sub CPT	Final CPT
3.3.2	Grounding Interface Test	X	X	X	X
3.3.3	Operational Power Interface Test				
3.3.3.1	Quiet Power Bus				
3.3.3.1.1	Quiet Power Bus Operational Power Test	X		X	X
3.3.3.1.2	Quiet Power Bus Operational Power Test (LPT Only)		X		
3.3.3.1.3	Quiet Power Bus Turn On Transient Test	X			X
3.3.3.2	Noisy Power Bus				
3.3.3.2.1	Noisy Power Bus Operational Power Test	X		X	X
3.3.3.2.2	Noisy Power Bus Turn On Transient Test	X			X
3.3.3.3	SURVIVAL HEATER POWER BUS INTERFACE TEST				X
3.3.4	Passive Analog Interface Test	X	X	X	X
3.3.5	Command & Telemetry Bus Interface Test				
3.3.5.1	FQT of the EOS/AMSU-A1 Firmware (PFM Only)	X			
3.3.5.2	Instrument Commanding Verification	X	X	X	X
3.3.5.3	Science and Engineering Data Verification	X	X	X	X
3.3.5.4	1553 BUS INTERFACE TEST	X			X
3.3.6	Test Point Interface Test				
3.3.6.1	INTENSIONALLY LEFT BLANK				
3.3.6.2	8 Second Sync Pulse Verification	X		X	X
3.3.6.3	Integrate/Hold & Dump Signal Verification	X		X	X
3.3.6.4	Radiometer Channel Analog Output Verification	X		X	X
3.3.6.5	GSE-1 Mode Verification	X			
3.3.6.6	GSE-2 Mode Verification	X			
3.3.6.7	GSE-3 Mode Verification	X			
3.3.6.8	GSE-4 Mode Verification	X			
3.3.6.9	GSE-5 Mode Verification	X			
3.3.6.10	GSE-7 Mode Verification	X			
3.3.7	Radiometer Functional Performance Test				
3.3.7.1	Relative Radiometer NEΔT Measurements	X	X	X	X

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3.1.1.2 *Comprehensive performance test (CPT).* Three types of Comprehensive Performance Testing are shown in Table II. The first and final CPTs are the same except for paragraph 3.3.5.1 which is performed during the first protoflight unit CPT. The first CPT is performed prior to the start of environmental testing. Sub CPTs are intermediate comprehensive

performance tests performed during environmental testing. The final CPT is performed after the completion of environmental testing. Table II shows the required tests for each CPT.

3.3.1.3 ***Integration and test facilities.*** Unless otherwise specified, all testing and inspection of the EOS/AMSU-A2 shall be conducted at Aerojet, Azusa Operations, Azusa, California.

3.3.1.4 ***Environment.*** Unless otherwise specified all testing and inspection operations shall be performed under the following laboratory ambient conditions:

a. Handling in accordance with AE-26357

b. Contamination control in accordance with Report 10353

c. Temperature: +23 ± 10 degrees Celsius

d. Pressure: 610 to 810 torr

e. Humidity: 50 ± 20% (no condensation)

f. The instrument shall be placed in its protective bag (1338427) when not in use.

3.3.1.5 ***Integration testing/inspection.*** Prior to the start of CPT/LPT testing, the unit should be in the final system configuration as determined by the successful completion of the subsystem integration procedure, AE-26156/8.

3.3.1.6 ***Electrostatic discharge (ESD) certification.*** Certification for handling ESD sensitive equipment in accordance with STD-2454 is required for all personnel working on the EOS/AMSU-A2 instrument.

3.3.1.7 ***CPT/LPT preparation checklist.*** Prior to starting the integration, perform the following procedures.

1. Visually inspect the instrument. Check for physical damage and cleanliness.

2. Verify proper installation of the ESD protective mat and wriststraps. Refer to STD-2454 for ESD protection instructions.

3. Verify that each connector of the spacecraft interface has a connector saver installed.

4. Obtain the required test equipment listed in Table I. Verify that the test equipment requiring calibration is currently calibrated.

5. Verify operation of the Special Test Equipment (STE) shown in Figure 2 by itself. Make sure that the current limits on the two power supplies that interface to the instrument are set correctly. The Q supply should be set to 3 amps and the N/S supply should be set to 1.5 amps. Refer to Figure 3 for the STE power supply panel layout. Figures 4 through 6 show other panels on the STE that will be referenced later in this procedure.

6. Verify that all of the required procedures and drawings listed in 2.2.2 are available for reference.

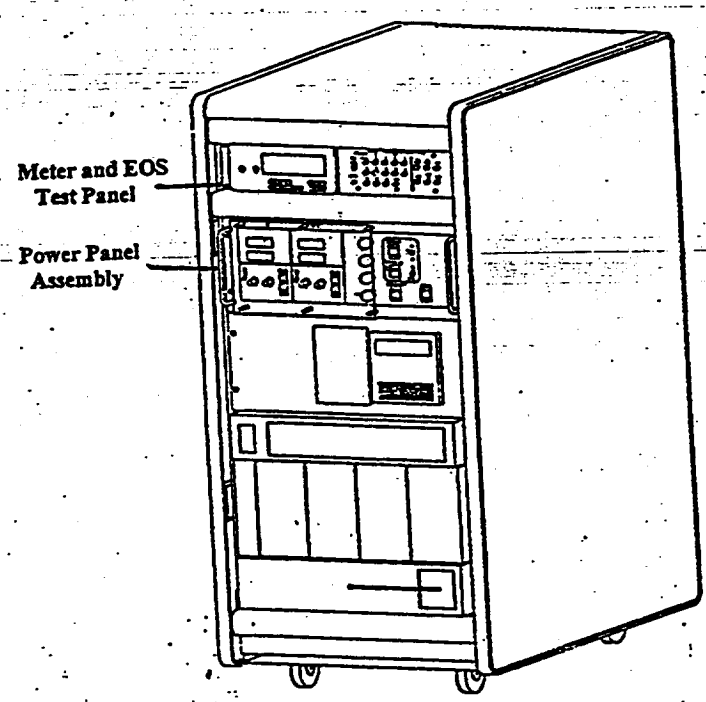

Figure 2. Special Test Equipment (STE)(1356655)

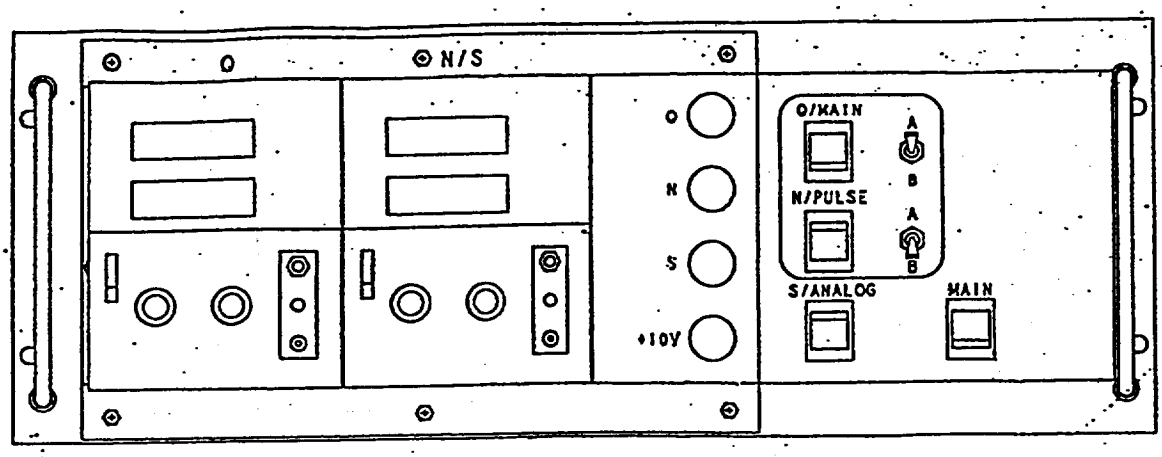

Figure 3. STE Front Power Supply Panel Layout

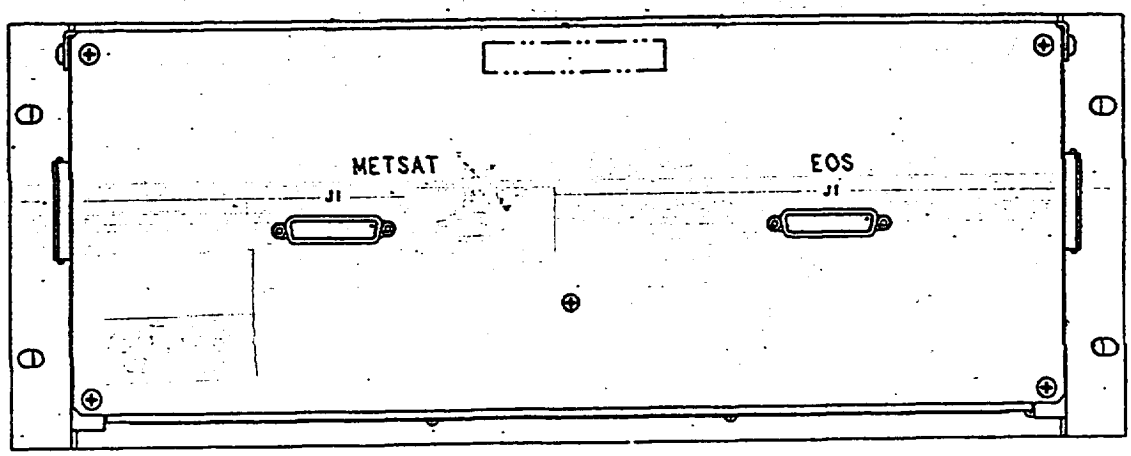

Figure 4. STE Rear Power Supply Panel Layout

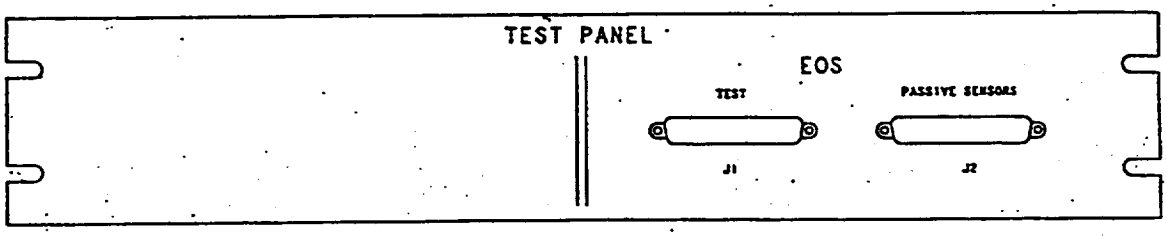

Figure 5. STE Rear Test Panel Layout

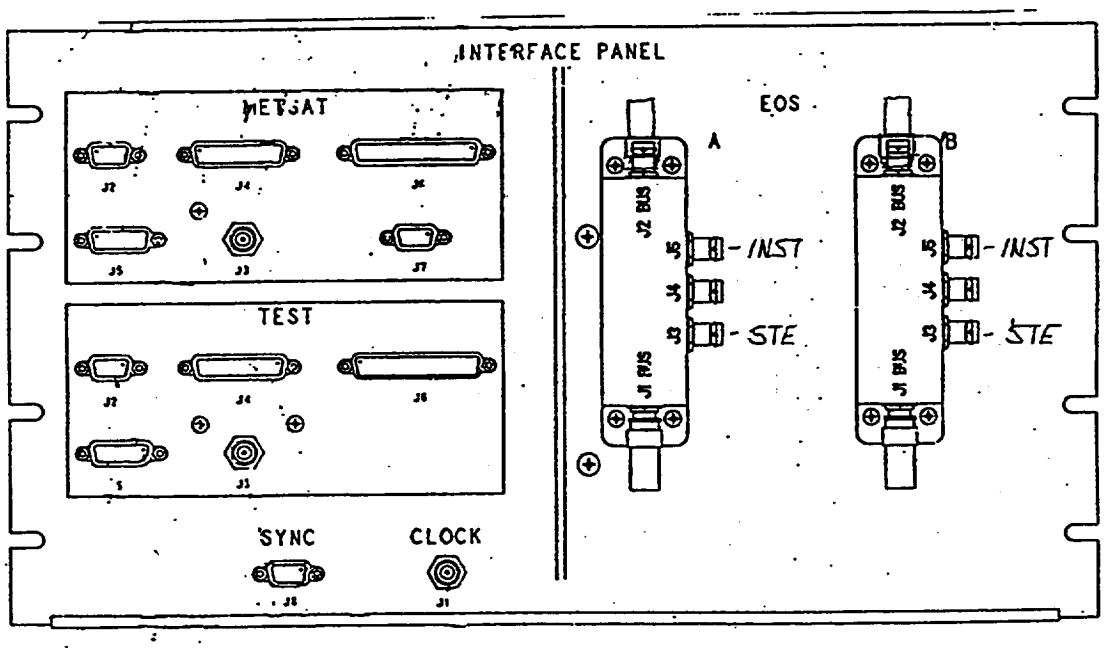

Figure 6. STE Rear Interface Panel Layout

3.3.2 *Grounding interface test.* This test provides the verification of the unit grounding requirements found in the following documents:

UIID Waiver 5 (12)

GIRD Sections 5.3 and 6.2.2 (except section 5.3.5.2)

POS Section 4.4.1

ICD Section 5.3

To verify these requirements, perform the following procedures.

1. Configure the unit as shown in Figure 7. Verify that connectors J1, J2, J3 and J4 have connector savers installed. Connect a 25 Pin breakout box at J1. Connect a 37 Pin breakout box at J2. Connect a 9 pin breakout box at J3. Connect a 37 pin breakout box at J4.

2. Measure and record continuity or isolation between the points as specified on Test Data Sheet (TDS) 1.

3. Remove the breakout boxes from J2 and J3 ensuring that the connector savers remain in place.

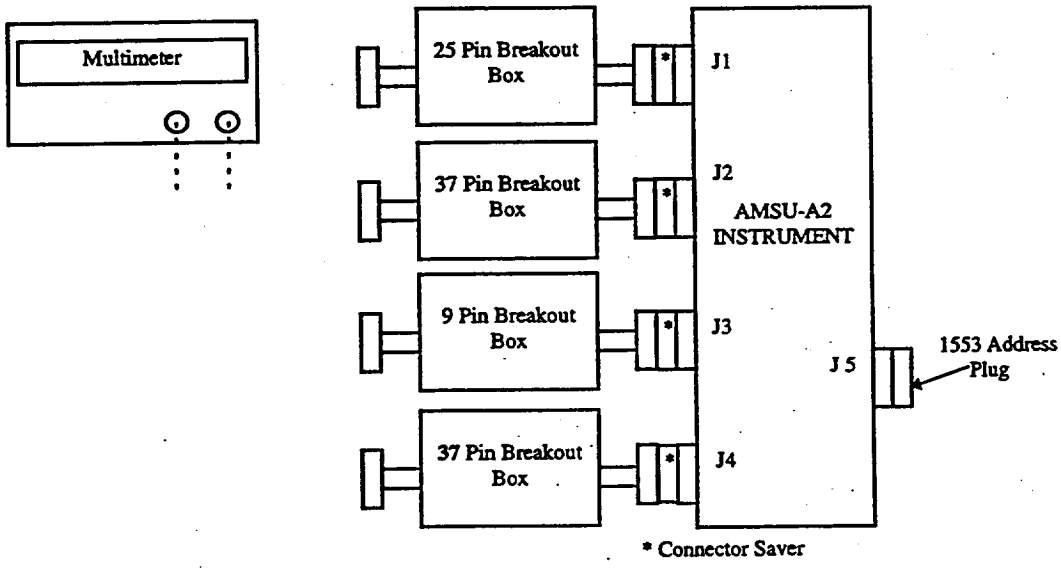

Figure 7. Setup for Grounding Interface Test

3.3.3 *Operational power interface test.* This test provides the verification of the operational power interface requirements found in the following documents:

UIID - Section 3.3 and waivers 5(3), 5(7), 5(9), and 5(11)

GIRD - Sections 5.1.2 and 5.2

POS - None

ICD - Sections 5.1.2 and 5.2

Operational power is delivered to the unit through spacecraft interface connector J1 as follows:

a. Quiet power bus (3.3.3.1)

b. Noisy power bus (3.3.3.2)

c. Survival heater power bus (3.3.3.3)

3.3.3.1 *Quiet power bus interface tests.* The quiet bus is active immediately upon the introduction of spacecraft power to the bus. There is no internal control within the unit. The quiet power bus shall be verified by performing the following tests:

1. Quiet power bus operational power test (3.3.3.1.1)
2. Quiet power bus operational power test (LPT only) (3.3.3.1.2)
3. Quiet power bus turn on transient test (3.3.3.1.3)

3.3.3.1.1 *Quiet power bus operational power test.* The Quiet Power Bus operational power shall be verified at combinations of three voltages (+27, +29, and +31 volts). The operational power test will be conducted for the unit in ~~full scan~~ mode as follows:

1. With the STE main power off and the STE power panel turned off (main power, Q/Main, N/Pulse, and S/Analog switches as shown in Figure 3 in the off position), connect the instrument as shown in Figure 8. This setup assumes a dc impedance from the spacecraft supplied power through fuse and cabling to the unit on the order of 0.3 ohms.
2. Breakout boxes at J1 and J4 should still be connected to the unit from paragraph 3.3.2 testing.
3. Connect the STE to the instrument using the following STE interface cables:
   a. STE interface cable J1 (1356648-1)
   b. STE interface cable J2 (1356648-2)
   c. STE interface cable J3 (1356648-3)
4. Connect STE interface cable J1 from EOS J1 found on the STE power panel shown in Figure 4 to the ~~remaining end of the~~ 25 pin breakout box ~~connected to J1 on the unit.~~ Connect the remaining end of the 25 pin breakout box to J1 of the instrument.
5. Connect STE interface cable J2 from EOS J2 found on the STE test panel shown in Figure 5 to J2 on the unit.
6. Connect STE interface cable J3 from EOS A&B J4 found on the STE interface panel shown in Figure 6 to J3 on the unit.
7. Before turning on the power to the unit, verify that switches 1, 2, 14, and 15 of the 25 pin breakout box are in the open position.
8. Disconnect the external power supply from the 25 pin breakout box. Turn on the external supply and using a multimeter, adjust its output to 27 ± 0.05 volts. Turn off the external supply and reconnect the supply as shown in Figure 8.

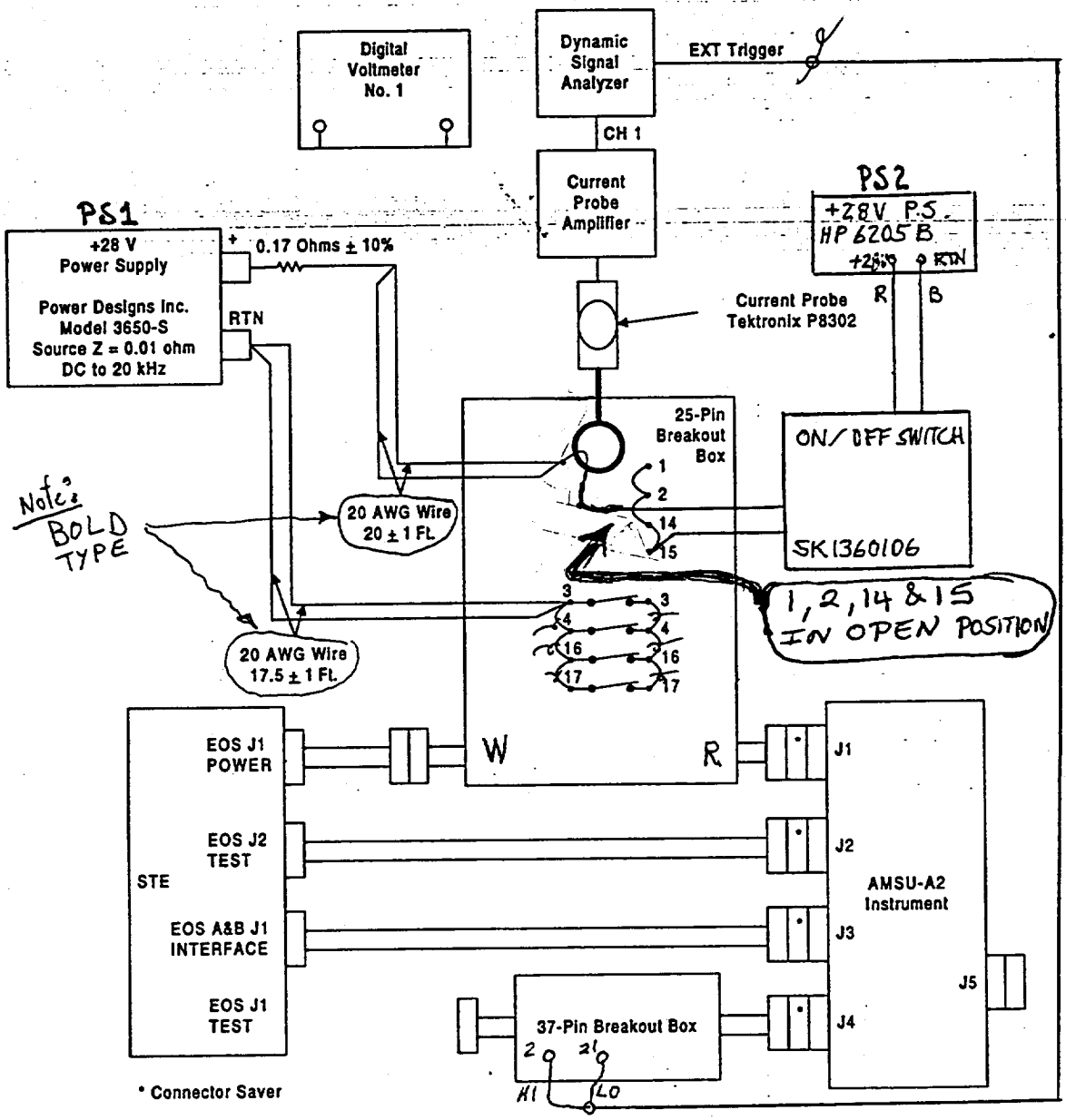

Figure 8. Setup for Quiet Bus Operational Power Tests

9. Turn the STE main power switch on (refer to Figures 2 and 3 (computer should be on, STE power panel should be off)). From the A2 directory and at the "$" prompt, enter the command to the STE "RUN E2". The EOS/AMSU-A2 software program should be running as evidenced by the STE screen shown in Figure 9. ~~Issuce Unit is in Warm Cal operation~~

10. Turn the STE power supply panel main power switch on (refer to Figure 3).

11. Turn the external power supply on. ~~Close~~ Place ON/OFF switch to the 'ON' position ~~15 on the 25 pin breakout box~~. With a multimeter adjust the Quiet Bus voltage at the breakout box to 27 ± ~~0.05~~ 0.10 volts (between J1-1 and J1-3).

12. Turn the STE power supply panel N/Pulse switch on (refer to Figure 3). With a multimeter adjust the Noisy Bus voltage at the breakout box to 29 ± ~~0.05~~ 0.10 volts (between J1-5 and J1-7).

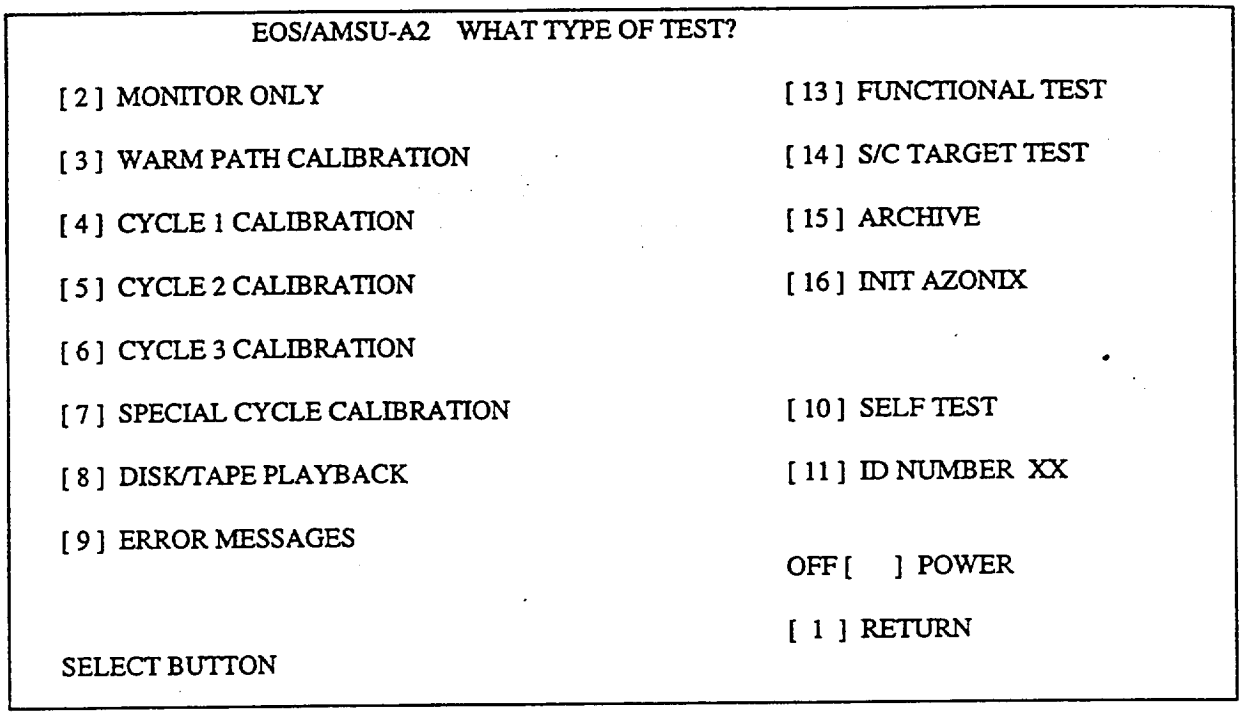

Figure 9. EOS/AMSU-A2 STE Main Screen

13. Go to the Commands screen on the STE. From the main screen shown in Figure 9, enter the STE command "[2] MONITOR ONLY". The screen should now be as shown in Figure 10. Enter the STE command "[14] COMMANDS". The screen should now be as shown in Figure 11.

14. Enter the STE command "[10] ANTENNA ~~FULL SCAN~~ MODE". Wait 18 seconds before issuing the next command.

15. Enter the STE command "[9] SCANNER A2 POWER". The unit should now be scanning in ~~full scan~~ mode.

16. Look at the Quiet Bus voltage. If necessary, using the multimeter adjust the external supply to 27 ± 0.0 volts. Record the voltage on TDS 2.

~~17. Observe the Quiet Bus current waveform on the dynamic signal analyzer using the time capture mode~~
~~Configure the dynamic signal analyzer as follows:~~

~~a. external trigger (negative slope)~~

~~b. capture length: 8 seconds~~

~~c. horizontal scale: 0, 8 seconds~~

~~d. vertical scale: -10, +70 millivolts~~

~~e. frequency span: 1 KHz~~

~~f. input configuration: ground~~

~~g. range: auto up/down~~

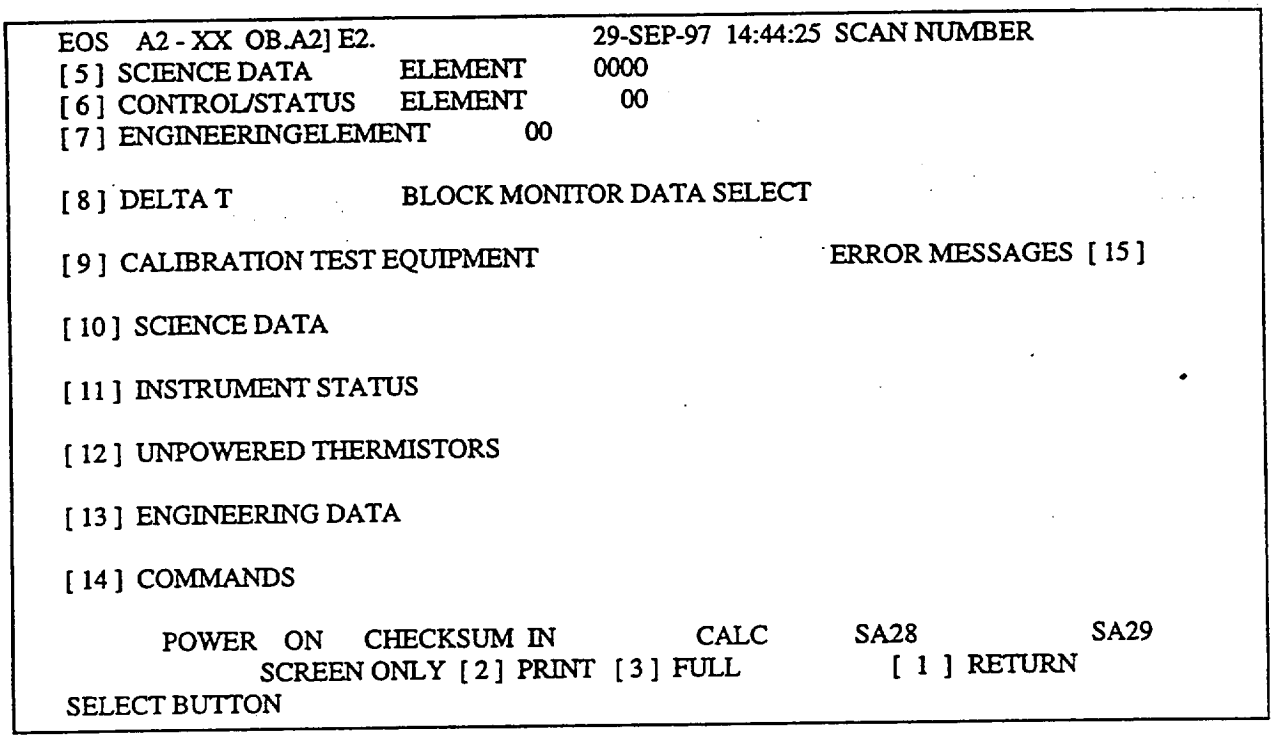

Figure 10. EOS/AMSU-A2 STE Monitor Only Screen

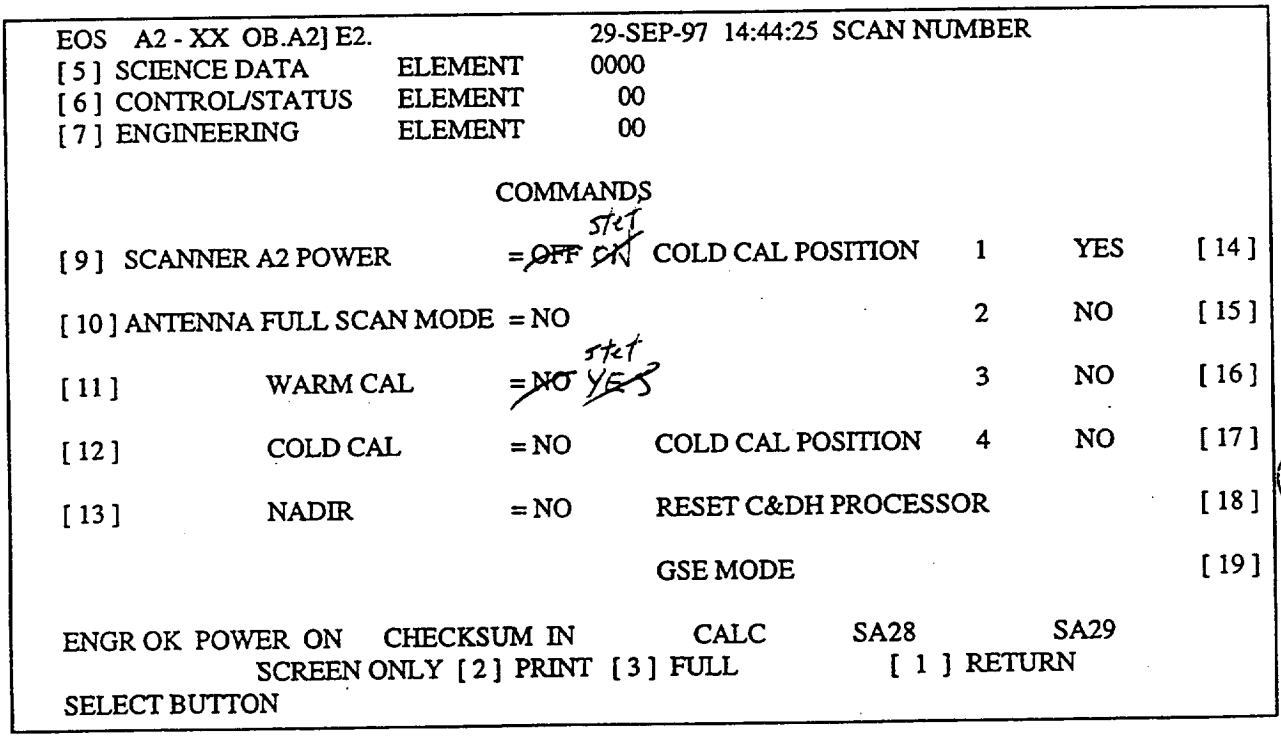

Figure 11. EOS/AMSU-A2 STE Commands Screen

17. Observe the Quiet Bus current waveform on the dynamic signal analyzer. Configure the dynamic signal analyzer as follows:

Select **MEAS MODE**
- Select *Time Capture*
- Select *Capture Select* 1.0
- Select *Capture Length*; Enter ~~10.0~~ 6; Select *Record*

Select **FREQ**
- Select *Freq Span*; Enter 100.0; Select *Hz*
- Select E SMPL *Off*
- Select *Time Length*; Enter 8.0; Select *Sec*

Select **SELECT MEAS**
- Select *Power Spec*
- Select CH1 *Active*

Select **WINDOW**
- Select *Hann*

Select **SOURCE**
- Select Source *Off*

Select **AVG**
- Select Avg *Off*
- Select Tim Av *Off*

Select **RANGE**
- Select *Aut 1 up&dwn*

Select **INPUT COUPLE**
- Select CH1 *DC*
- Select CH 1*Ground*

Select **SELECT TRIG**
- Select *Trig Level*; Enter 1.5; Select *V*
- Select Arm *AU*
- Select *Ext*
- Select *Slope* +

Select **TRIG DELAY**
- Enter 0.0; Select *Sec*

Select **COORD**
- Select *Real*

Select **VIEW INPUT**
- Select *Time Buff*

Select **SCALE**
- Select *X Fixd Scale*; Enter 0.0,8.0; Select *Sec*
- Select *Y Fixd Scale*; Enter -10.0,70.0; Select *mv*

Select **UNITS**
- Select *Hz (sec)*

- NOTE -

Prior to collecting any current data, the current meter and DSA have to be "zeroed out"; zero current reference has to be established on the DSA. Follow this interim procedure to zero reference the current meter and DSA.

a) Remove the current probe from the circuit and close the probe. Place the probe in a magnetic benign location.
b) Depress "Start Capture" on the DSA.
c) With the "capture in process", adjust the "output DC level" control on the current amplifier to indicate zero current on the DSA.

b) Depress "Start Capture" on the DSA.
c) With the "capture in process", adjust the "output DC level" control on the current amplifier to indicate zero current on the DSA.
d) Position the current probe to it's original location in accordance with Figure 8.

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The instrument is now ready to capture and plot 8.0 seconds of data

18. Start the DSA signal capture by depressing "Start Capture"; Insure Relay Board is 'ON'.
19. Obtain a record of the Quiet Bus current waveform. On the Relay Board, turn the switch OFF. Plot the obtained waveform and attach a hard copy of the scan to TDS 2.
20. Examine the expanded waveform to find the peak current over the entire 8.0 second scan. Record the peak current on TDS 2.
21. Calculate the Average Quiet Bus Current as follows:
    - Select VIEW INPUT
      Select Time Record: Note - the display changes to display only the first 8 seconds of data and the heading changes to read "Cap Tim Rec"
    - Select MATH
      Select Next
      Select Intgrt: Note - the display changes to present an integrated value of the current waveform.
    - Select X;
      Move the X marker to the maximum right of the display. The Y value is indicative of the integrated current value over the entire 8 second period. Plot this waveform and attach a hard copy of the scan to TDS 2

    Multiply the maximum Y value by the current/ div as selected on the current amplifier, then divide by 8 seconds to acquire an average current/ second value. As an example: if the current amplifier is set up to display 200 ma/ 10 mv per division, and the maximum Y value = 32.4 mv:

    [32.4 x (200/ 10)]/ 8 = 81ma/ sec

    Enter this value on TDS 2

22. Compute the operating peak and average power in watts the from the measured values in steps 20 and 21 above. Record the computed values on TDS 2.

Replace with steps 20 & 21 page 14-C

22,23. With the multimeter, adjust the external power supply PS1 to 29 ±0.10vdc as measured between J1-1 (high) and J1-2 (low). Record this voltage on TDS 2.
23. 24. Repeat steps 17 through 22.
24. 25. With the multimeter, adjust the external power supply PS1 to 31 ±0.10vdc as measured between J1-1 (high) and J1-2 (low). Record this voltage on TDS 2.
25. 26. Repeat steps 17 through 22.

20. Determine Average Power by the following:
Observe the current waveform on the DSA. Using the Y markers, place the lower horizontal bar on the 0.0 ma line and the upper bar on the current trace, adjusting the bar to the middle of the signal. This measures the average current over the 8.0 second span. Multiply this value by the current scale factor (20 ma/mv) which yields Average Quiet Bus Current. Record on TDS-2. Record the PS-1 measured Quiet Bus Voltage on TDS-2. Multiply the Voltage times the Current for the calculated Average Power. Record on TDS-2.

21. Determine Peak Power by the following:
Observe the current wave form taken above. Sweep the X marker across the current wave form stopping on each narrow spike to see which has the highest amplitude. Upon finding the largest one, leave the X marker indicating the Peak Current Amplitude. Record this on TDS-2. Make a plot of this screen and attach it to TDS-2. Record the PS-1 measured Quiet Bus Voltage on TDS-2. Multiply the Voltage times the Peak Current to obtain the Calculated Peak Power. Record this on TDS-2.

18. Obtain a record of the Quiet Bus current waveform along with the DSA setup and save to disk. Attach hard copies to TDS 2.

19. Examine the expanded waveform to find the peak current over the 8 second scan. Record the peak current on TDS 2. Peak current is defined as the maximum current averaged over any 10 millisecond period.

20. Use the DSA math function INTGRT to integrate the 8 second waveform. Record this value for the integrated current over the 8 second period on TDS 2.

21. Repeat steps 18 through 20 four more times to collect a total of five data sets.

22. From the five data sets take the maximum peak current and enter its value on TDS 2.

23. From the 5 data sets, add the integrated currents and divide by forty to obtain the average current over a forty second window. Record this value on TDS 2.

24. Compute the operating peak and average power in watts on TDS 2 using the equations provided on TDS 2.

25. With a multimeter adjust the Quiet Bus voltage (external supply) at the breakout box to 29 ± 0.05 volts (between J1-1 and J1-3). Record this voltage on TDS 2.

26. Repeat steps 17 through 24.

27. With a multimeter adjust the Quiet Bus voltage (external supply) at the breakout box to 31 ± 0.05 volts (between J1-1 and J1-3). Record this voltage on TDS 2.

28. Repeat steps 17 through 24.

29. Turn the STE power supply panel N/Pulse switch off (refer to Figure 3).

30. Turn the STE power supply panel main power switch off (refer to Figure 3).

31. Leave the external power supply on. Open switch 15 on the 25 pin breakout box. The setup is now ready for the transient measurements of paragraph 3.3.3.1.3.

RQ 4/4/98

3.3.3.1.2 *Quiet power bus operational power test (LPT only).*

1. Configure the unit as shown in Figure 12.

2. Breakout boxes at J1 ~~and J4~~ should still be connected to the unit from the grounding interface testing of paragraph 3.3.2.

3. Connect the STE to the instrument using the following STE interface cables:

   a. STE interface cable J1 (1356648-1)

   b. STE interface cable J2 (1356648-2)

   c. STE interface cable J3 (1356648-3)

4. Connect STE interface cable J1 from EOS J1 found on the STE power panel shown in Figure 4 to the remaining end of the 25 pin breakout box connected to J1 on the unit.

5. Connect STE interface cable J2 from EOS J2 found on the STE test panel shown in Figure 5 to J2 on the unit.

RQ 4/4/98

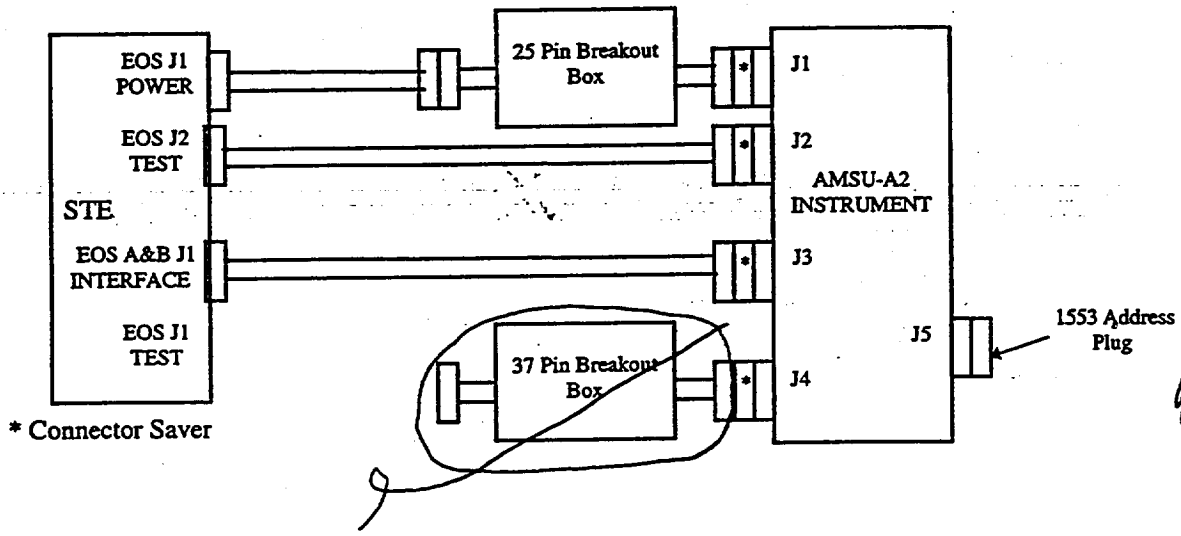

Figure 12. Test Setup of Unit Connected to STE

6. Connect STE interface cable J5 from EOS A&B J1 found on the STE interface panel shown in Figure 6 to J3 on the unit.

7. Turn the STE main power switch on (refer to Figures 2 and 3 (computer should be on, STE power panel should be off)). From the A2 directory and at the "$" prompt, enter the command to the STE "RUN E2". The EOS/AMSU-A2 software program should be running as evidenced by the STE screen shown in Figure 9.

8. Turn the STE power supply panel main power switch on (refer to Figure 3).

9. Turn the STE power supply panel Q/Main switch on (refer to Figure 3). With a multimeter adjust the Quiet Bus voltage at the breakout box to 29 ± 0.18 volts (between J1-1 and J1-3).

10. Turn the STE power supply panel N/Pulse switch on (refer to Figure 3). With a multimeter adjust the Noisy Bus voltage at the breakout box to 29 ± 0.18 volts (between J1-5 and J1-7).

11. Go to the Commands screen on the STE. From the main screen shown in Figure 9, enter the STE command "[2] MONITOR ONLY". The screen should now be as shown in Figure 10. Enter the STE command "[14] COMMANDS". The screen should now be as shown in Figure 11.

12. Enter the STE command "[10] ANTENNA FULL SCAN MODE". Wait 18 seconds before issuing the next command.

13. Enter the STE command "[9] SCANNER A2 POWER".

14. Look at the Quiet Bus voltage. If necessary, using the multimeter adjust the external supply to 29 ± 0.10 volts. Record the voltage and current on TDS 3. The current is read directly from the Q/Main power supply panel meter.

15. Compute the operating power in watts on TDS 3 using the equation provided on TDS 3.

16. Turn the STE power supply panel N/Pulse switch off (refer to Figure 3).

17. Turn the STE power supply panel Q/Main switch off (refer to Figure 3).

18. Turn the STE power supply panel main power switch off (refer to Figure 3).

19. Leave the setup intact for paragraph 3.3.4 testing.

3.3.3.1.3 *Quiet power bus turn on transient test.* The Quiet Power Bus turn on transient shall be ~~verified~~ STET at +31 volts as follows:

Replace with steps 1 – 16
QC 16
4/4/98

1. ~~The setup should still be intact from paragraph 3.3.3.1.1 testing.~~

2. ~~Configure the dynamic signal analyzer as follows:~~

   a. ~~time capture mode~~

   b. ~~internal trigger (rising edge)~~

   c. ~~time span: zero to 1 second~~

   d. ~~scale: select at test~~

   e. ~~frequency: 100 KHz~~

   f. ~~pretrigger delay: -0.1 seconds~~

3. ~~Close switch 15 on the 25 pin breakout box.~~

4. ~~Confirm that the signal analyzer has captured the turn on transient waveform and that the voltage is still 31 ± 0.05 volts. Obtain a record of the transient waveform along with the DSA setup and save to disk. Attach hard copies to TDS 4. A representative waveform is shown in Figure 13.~~

5. ~~From the hard copy, determine the current amplitude, transient pulse width and rate of change (dI/dT). Expand the scale, if necessary, to obtain dI/dT (obtain a hard copy of the expanded scale and attach it to TDS 4. Record the values on TDS 4.~~

6. ~~Turn off the external supply.~~

3.3.3.2 *Noisy power bus interface tests.* The noisy bus is not active upon the introduction of spacecraft power to the bus. The A2 scan drive relay must be turned on before the noisy bus is active within the unit. The noisy bus shall be verified by performing the following tests:

1. Noisy power bus operational power test (3.3.3.2.1)

2. Noisy power bus turn on transient test (3.3.3.2.2)

3.3.3.2.1 *Noisy power bus operational power test.* The Noisy Power Bus operational power shall be verified at combinations of three voltages (+27, +29, and +31 volts). The operational power test will be conducted for the unit in full scan mode as follows:

1. With the STE main power off and the STE power panel turned off (main power, Q/Main, N/Pulse, and S/Analog switches as shown in Figure 3 in the off position), connect the instrument as shown in Figure 14. This setup assumes a dc impedance from the spacecraft supplied power through fuse and cabling to the unit on the order of 0.3 ohms.

1. The setup should be intact from paragraph 3.3.3.1.1 testing
2. Verify the external power supply (PS1) is adjusted to 31 ±.1vdc, make appropriate adjustments.
3. Configure the Dynamic Signal Analyzer (DSA) as follows:

(200 223) 4-8-9 R. Hertz

Select **MEAS MODE**
- Select *Time Capture*
- Select *Capture Select* 80.0
- Select *Capture Length*; Enter ~~500.0~~ 6; Select *msec*

Select **FREQ**
- Select *Freq Span*; Enter 100.0; Select *KHz*
- Select E SMPL *Off*
- Select *Time Length*; Enter ~~8.0~~ 80.0 6; Select *msec*

Select **SELECT MEAS**
- Select *Power Spec*
- Select *CH1 Active*

Select **WINDOW**
- Select *Hann*

Select **SOURCE**
- Select Source *Off*

Select **AVG**
- Select Avg *Off*
- Select Tim Av *Off*

Select **RANGE**
- Select *Chan 1 Range*; Enter 1; Select *V*

Select **INPUT COUPLE**
- Select CH1 *DC*
- Select CH 1*Ground*

Select **INPUT TRIG**
- Select *Trig Level*; Enter 100; Select *mv*
- Select Arm *AU*
- Select *Chan 1 Input*
- Select *Slope* +

Select **TRIG DELAY**
- Enter 0.0; Select *Sec*

Select **COORD**
- Select *Real*

Select **VIEW INPUT**
- Select *Time Buff*

Select **SCALE** 80.0 msec
- Select *X Fixd Scale*; Enter 0.0,~~500~~; Select *usec*
- Select *Y Fixd Scale*; Enter 0,~~Y~~; Select ~~Y~~

Select **UNITS** 480 mV
- Select *Hz (sec)*

- NOTE -

Prior to collecting any current data, the current meter and DSA have to be "zeroed out"; zero current reference has to be established on the DSA. Follow this interim procedure to zero reference the current meter and DSA.

a) Remove the current probe from the circuit and close the probe. Place the probe in a magnetic benign location.
b) Depress "Start Capture" on the DSA.
c) With the "capture in process", adjust the "output DC level" control on the current amplifier to indicate zero current on the DSA.

d) Position the current probe to it's original location in accordance with Figure 8.

4. Adjust PS2 for +28vdc
5. Start the DSA signal capture by depressing "Start Capture"; wait for the DSA message "waiting for trigger" before proceeding.
6. On the Relay Board, turn the switch ON and obtain a record of the Quiet Bus Turn on current waveform. On the Relay Board, turn the switch OFF. Adjust the display time base and voltage sensitivity to allow for adequate current and pulse duration measurements. Plot the obtained waveform and attach a hard copy of the scan to TDS 4. See Figures 13-A & Figure 13-B.
7. Measure the Turn On pulse width; record this value in TDS 4.
8. Compute the peak current as follows:

   Multiply the maximum Y axvalue by the current/ div as selected on the current amplifier. As an example: if the current amplifier is set up to display 200 ma/ 10 mv per division, and the maximum Y axvalue = 276mv:

   $$276\text{mv} \times (200\text{ma}/\ 10\text{mv}) = 5520\text{ma} = 5.52\ \text{amps}$$

   Record this value on TDS 4
9. The 1st derivative of the current waveform must be calculated. Compute the dI/ dT as follows:

   The most probable location of the greatest current demand is during the first positive transition after voltage application. If this is the case, expand that segment of the display and measure the greatest voltage transition in the smallest time transition. The change in voltage times the current/ div as selected on the current amplifier produces the change in current. Next divide this change in current by the change in time (in microseconds). This value is dI/ dT. Example:

   Change in voltage ..... 144 mv
   Change in time (microseconds) ..... 19.5 us
   Current/ div on current amp..... 200ma/ 10mv

   $$144\text{mv} \times (200\text{ma}/\ 10\text{mv})/\ 19.5\text{us} = 147.7\text{ma per us}$$

10. Record the computed value on TDS 4.
11. With the multimeter, adjust the external power supply PS1 to 29 ±0.10vdc as measured between J1-1 (high) and J1-3 (low).
12. Repeat steps 3 through 10.
13. With the multimeter, adjust the external power supply PS1 to 27 ±0.10vdc as measured between J1-1 (high) and J1-3 (low).
14. Repeat steps 3 through 10.
15. Turn the STE power supply panel N/ pulse switch OFF (refer to Figure 3).
16. Turn the STE power supply panel main power switch OFF (refer to Figure 3.)

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QC 223 R Hert 4-8-

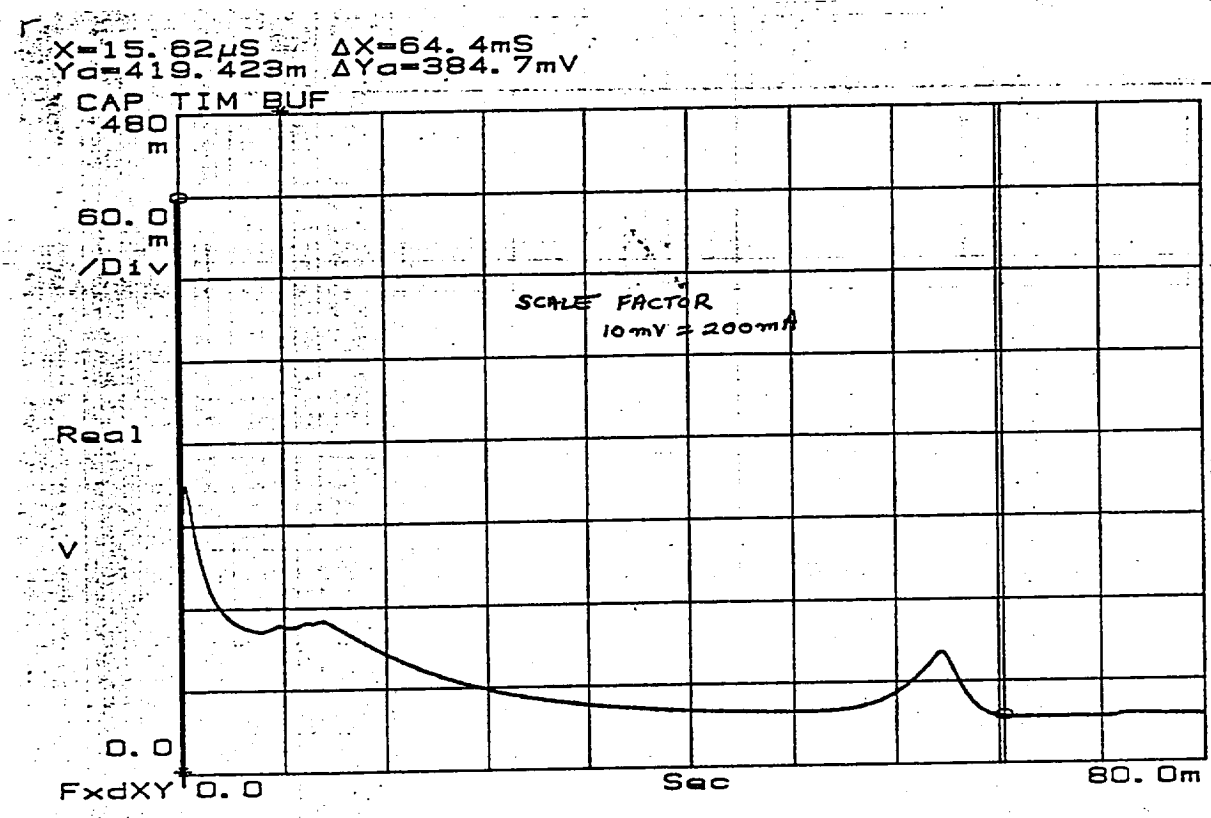

Figure 13-A Typical Quiet Bus Turn On Transient

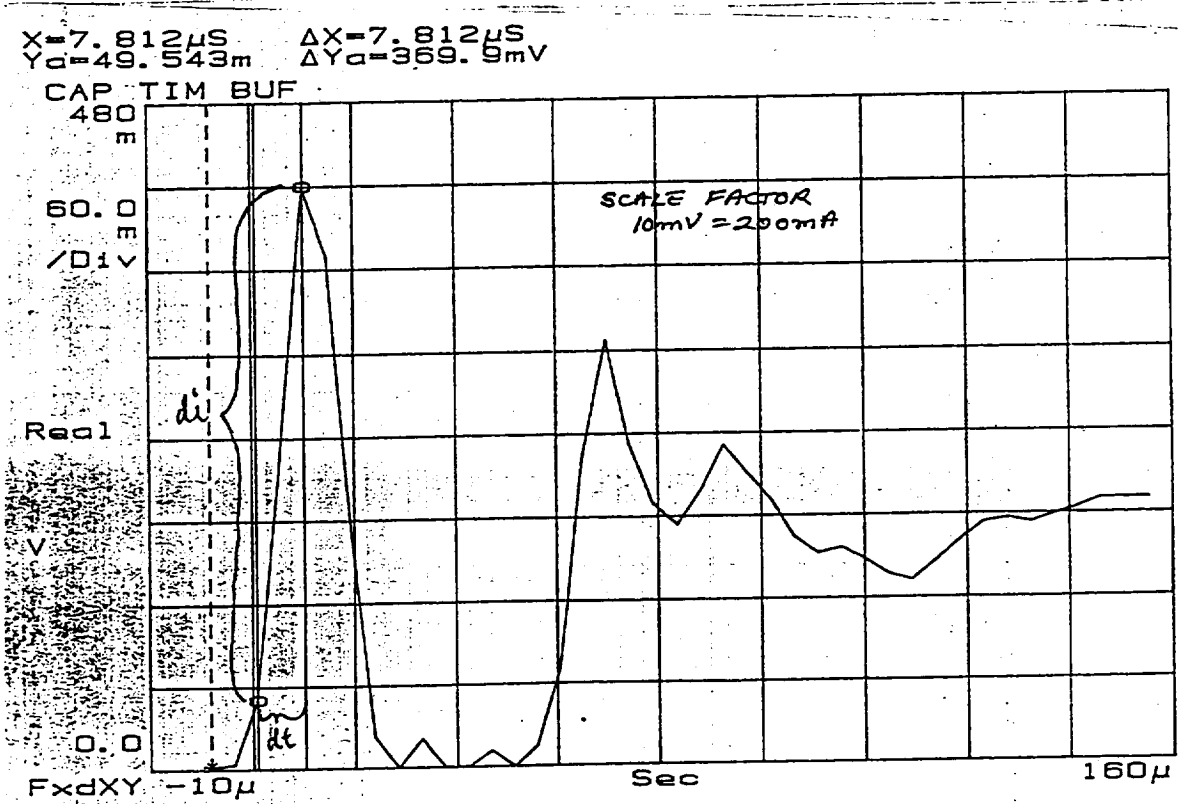

Figure 13-B. Typical Quiet Bus turn-on expanded.

2. Before turning on the power to the unit, verify that switches 5, 6, 18, and 19 of the 25 pin breakout box are in the open position.

PS1

3. Disconnect the external power supply from the 25 pin breakout box. Turn on the external supply and using a multimeter, adjust its output to 27 ± 0.05 volts. Turn off the external supply and reconnect the supply as shown in Figure 14.

QC 16 RMT 4/14

4. Turn the STE main power switch on (refer to Figures 2 and 3 (computer should be on, STE power panel should be off)). From the A2 directory and at the "$" prompt, enter the command to the STE "RUN E2". The EOS/AMSU-A2 software program should be running as evidenced by the STE screen shown in Figure 9.

5. Turn the STE power supply panel main power switch on (refer to Figure 3).

QC 16

6. Turn the STE power supply panel Q/Main switch on (refer to Figure 3). With a multimeter adjust the Quiet Bus voltage at the breakout box to 29 ± 0.05 volts (between J1-1 and J1-3).

PS1 Place on/OFF switch in the 'ON' position.

7. Turn the external power supply on. ~~Close switch 19 on the 25 pin breakout box.~~ With a multimeter adjust the Noisy Bus voltage at the breakout box to 27 ± 0.05 volts (between J1-5 and J1-7).

RMT 4/14

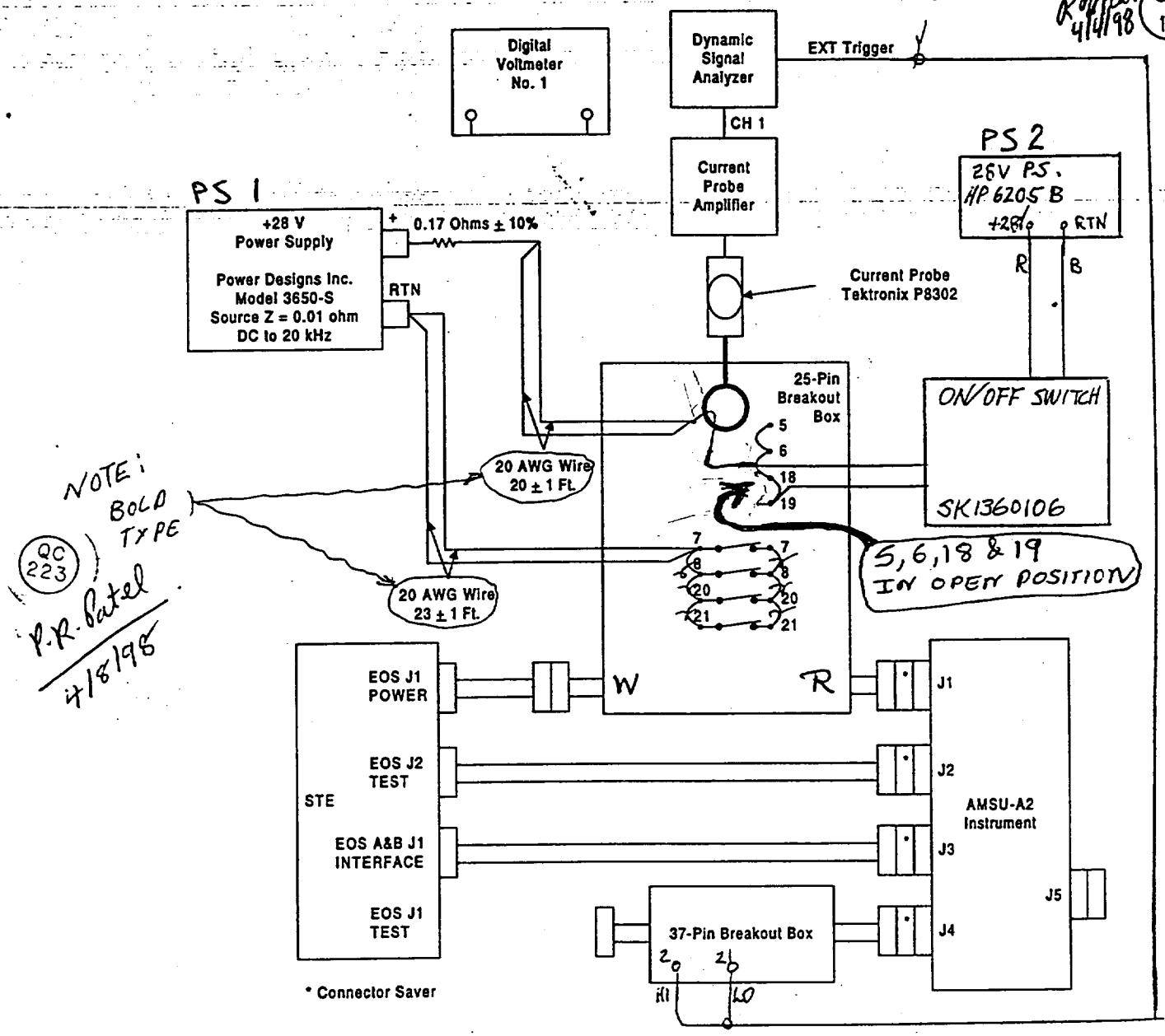

Figure 14. Setup for Noisy Bus Operational Power Tests

8. Go to the Commands screen on the STE. From the main screen shown in Figure 9, enter the STE command "[2] MONITOR ONLY". The screen should now be as shown in Figure 10. Enter the STE command "[14] COMMANDS". The screen should now be as shown in Figure 11.

9. Enter the STE command "[~~10~~ 5tet] ANTENNA ~~FULL SCAN~~ 5tet MODE". Wait 18 seconds before issuing the next command.

10. Enter the STE command "[9] SCANNER A2 POWER". The unit should now be scanning in full scan mode.

11. Look at the Noisy Bus voltage. If necessary, using the multimeter adjust the external supply to 27 ± ~~0.05~~ .10 volts. Record the voltage on TDS 5.

Part of 3.3.3.2.1

12. Observe the Noisy Bus current waveform on the dynamic signal analyzer. Configure the dynamic signal analyzer as follows:

Select **MEAS MODE**
  Select *Time Capture*
  Select *Capture Select*
  Select *Capture Length*; Enter 10.0; Select *Record*
Select **FREQ**
  Select *Freq Span*; Enter 100.0; Select *Hz*
  Select E SMPL *Off*
  Select *Time Length*; Enter 8.0; Select *Sec*
Select **SELECT MEAS**
  Select *Power Spec*
  Select CH1 *Active*
Select **WINDOW**
  Select *Hann*
Select **SOURCE**
  Select Source *Off*
Select **AVG**
  Select Avg *Off*
  Select Tim Av *Off*
Select **RANGE**
  Select *Aut 1 up&dwn*
Select **INPUT COUPLE**
  Select CH1 *DC*
  Select CH 1*Ground*
Select **SELECT TRIG**
  Select *Trig Level*; Enter 1.5; Select *V*
  Select Arm *AU*
  Select *Ext*
  Select *Slope +*
Select **TRIG DELAY**
  Enter 0.0; Select *Sec*
Select **COORD**
  Select *Real*
Select **VIEW INPUT**
  Select *Time Buff*
Select **SCALE**
  Select *X Fixd Scale*; Enter 0.0,8.0; Select *Sec*
  Select *Y Fixd Scale*; Enter -10.0,70.0; Select *mv*
Select **UNITS**
  Select *Hz (sec)*

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223

- NOTE -

Prior to collecting any current data, the current meter and DSA have to be "zeroed out"; zero current reference has to be established on the DSA. Follow this interim procedure to zero reference the current meter and DSA.

a) Remove the current probe from the circuit and close the probe. Place the probe in a magnetic benign location.

b) Depress "Start Capture" on the DSA.
c) With the "capture in process", adjust the "output DC level" control on the current amplifier to indicate zero current on the DSA.
d) Position the current probe to it's original location in accordance with Figure 14.

DC 223 R. Hall 4-8-98

The instrument is now ready to capture and plot 80 seconds of data

(B)

13. Start the DSA signal capture by depressing "Start Capture";
14. Obtain a record of the ~~Quiet~~ Noisy Bus current waveform. On the Relay Board, turn the switch OFF. Plot the obtained waveform and attach a hard copy of the scan to TDS 5.
15. Examine the expanded waveform to find the peak current over the entire 80 second scan. Record the peak current on TDS 5.
16. Calculate the Average Noisy Bus Current as follows:
    - Select **VIEW INPUT**
      Select Time Record: Note - the display ~~changes to display only~~ shows the first 8 seconds of data and the heading changes to read "Cap Tim Rec"
    - Select **MATH**
      Select Next
      Select Intgrt: Note - the display changes to present an integrated value of the current waveform.
    - Select **X**;
      Move the X marker to the maximum right of the display. The Y value is indicative of the integrated current value over the entire 8 second period. Plot this waveform and attach a hard copy of the scan to TDS 5.

    Multiply the maximum Y value by the current/ div as selected on the current amplifier, then divide by 8 seconds to acquire an average current/ second value. As an example: if the current amplifier is set up to display 200 ma/ 10 mv per division, and the maximum Y value = 32.4 mv:

    $$[32.4\text{mv} \times (200\text{ma}/\ 10\text{mv})]/\ 8\text{sec} = 81\text{ma}/\ \text{sec}$$

    Enter this value on TDS 5

17. Compute the operating peak and average power in watts the from the measured values in steps 15 and 16 above. Record the computed values on TDS 5.
18. With the multimeter, adjust the external power supply PS1 to 29 ±0.10vdc as measured between J1-5 (high) and J1-7 (low). Record this voltage on TDS 5.
19. Repeat steps 12 through 17.
20. With the multimeter, adjust the external power supply PS1 to 31 ±0.10vdc as measured between J1-5 (high) and J1-7 (low). Record this voltage on TDS 5.
21. Repeat steps 12 through 17.

DC 223 R H A

(B) Using the Y Markers mark the maximum current Amplitude as indicated in Figure 15.

12. Observe the noisy bus current waveform on the dynamic signal analyzer using the time capture mode. Configure the dynamic signal analyzer as follows:

a. external trigger (negative slope)

b. capture length: 8 seconds

c. horizontal scale: 0, 8 seconds

d. vertical scale: -10, +70 millivolts

e. frequency span: 1 KHz

f. input configuration: ground

g. range: auto up/down

3.3.3.2.1 Replace with step 12 → 25 QC 16 RAS Ltr 4/4/98

13. Obtain a record of the noisy bus current waveform along with the DSA setup and save to disk. Attach hard copies to TDS 5. A representative waveform is shown in Figure 15.

14. Examine the expanded waveform for the peak current over the 8 second scan.

15. Use the DSA math function INTGRT to integrate the 8 second waveform. Record this value for the average current over the 8 second period on TDS 5.

16. Repeat steps 13 through 15 four more times to collect a total of five data sets.

17. From the five data sets take the maximum peak current and enter its value on TDS 5.

18. From the 5 data sets, add the integrated currents and divide by forty to obtain the average current over a forty second window. Record this value on TDS 5.

19. Compute the operating peak and average power in watts on TDS 6 using the equations provided on TDS 5.

20. With a multimeter adjust the Noisy Bus voltage (external supply) at the breakout box to 29 ± 0.10 volts (between J1-5 and J1-7). Record this voltage on TDS 5.

21. Repeat steps 12 through 19.

22. With a multimeter adjust the Noisy Bus voltage (external supply) at the breakout box to 31 ± 0.10 volts (between J1-5 and J1-7). Record this voltage on TDS 5.

23. Repeat steps 12 through 19.

24. Open switch 19 on the 25 pin breakout box. The setup is now ready for the transient measurements of paragraph 3.3.3.2.2.

+29 and +27

3.3.3.2.2 *Noisy power bus turn on transient test.* The Noisy Power Bus turn on transient shall be verified at +31 volts as follows:

1. The setup should still be intact from paragraph 3.3.3.2.1 testing.

2. Configure the dynamic signal analyzer as follows:

Replace with steps 1 → 16 QC 16 RAS Ltr 4/4/98

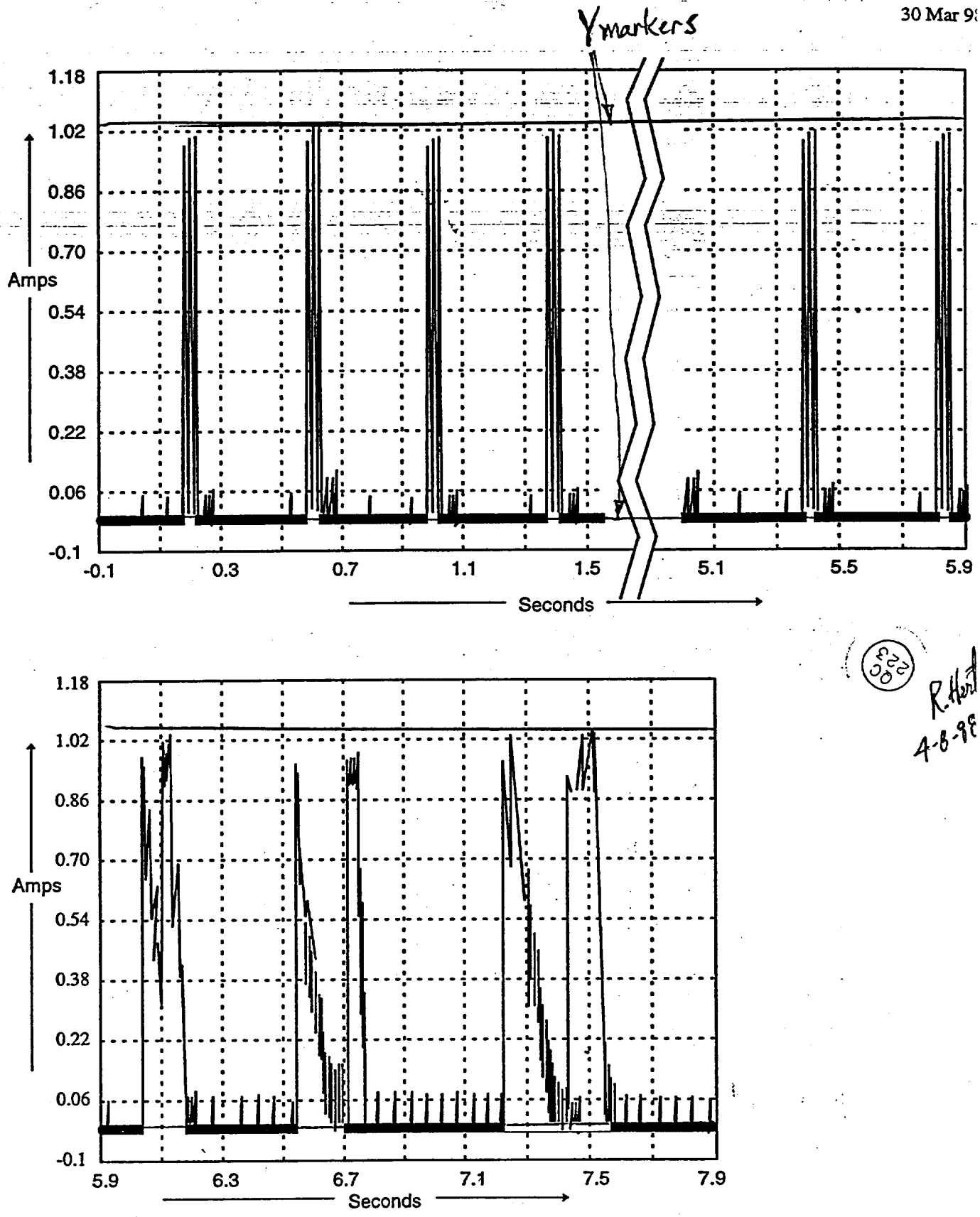

Figure 15. Typical Noisy Power Bus Current Waveform

a. time capture mode

b. internal trigger (rising edge)

Replace with steps 1→16 3.3.3.2.2

c. time span: zero to 1 second

d. scale: select at test

e. frequency: 100 KHz

f. pretrigger delay: 0.1 seconds

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place on/off switch in the "ON" position

3. Close switch 19 on the 25 pin breakout box.

4. Confirm that the signal analyzer has captured the turn on transient waveform and that the voltage is still 31 ± 0.05 volts. Obtain a record of the transient waveform along with the DSA setup and save to disk. Attach hard copies to TDS 6. A representative waveform is shown in Figure 16.

5. From the hard copy, determine the current amplitude, transient pulse width and rate of change (dI/dT). Expand the scale, if necessary, to obtain dI/dT (obtain a hard copy of the expanded scale and attach it to TDS 6. Record the values on TDS 6.

6. Turn off the external supply.

7. Turn the STE power supply panel Q/Main switch off (refer to Figure 3).

8. Turn the STE power supply panel main power switch off (refer to Figure 3).

9. Repeat steps 3 thru 8 for +29 and +27 Volts. Record and attach data to TDS-6.

10. Leave the setup intact for paragraph 3.3.4 testing.

3.3.3.3 ***Survival heater power bus interface tests.*** The operational characteristics of the redundant survival buses A and B shall be verified during ambient thermal cycle testing using test procedure AE-26151/9. Attach data sheet from Survival Heater test to this data package. For final CPT

3.3.4 ***Passive analog interface test.*** This test provides the verification of the passive analog telemetry requirements found in the following documents:

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UIID	None
GIRD	Sections 4.5.2, 4.5.3, and 6.3
POS	Section 4.6.3.6 (8)
ICD	Sections 4.5 and 6.3

Passive analog telemetry signals are output from the unit through the spacecraft interface connector J2. To verify these signals, perform the following procedures:

1. The unit should be configured as shown in Figure 12 if performing an LPT or Figure 14 if performing a CPT. Turn the STE main power switch on (computer should be on, STE power panel should be off. From the A2 directory and at the "$" prompt, enter the command to the STE "RUN E2". The EOS/AMSU-A2 software program should be running as evidenced by the STE screen shown in Figure 9.

2. Enter the STE command "[2] MONITOR ONLY". The screen should now be as shown in Figure 10.

Part of 3.3.3.2.2

4-9 R Hardy

1. The setup should be intact from paragraph 3.3.3.2.1 testing
2. Verify the external power supply (PS1) is adjusted to 31 ±.1vdc, make appropriate adjustments, and the unit is in WARM CAL Position.
3. Configure the Dynamic Signal Analyzer (DSA) as follows:

Select **MEAS MODE**
- Select *Time Capture*
- Select *Capture Select* 80.0
- Select *Capture Length*; Enter ~~500.0~~ 6; Select *msec*

Select **FREQ**
- Select *Freq Span*; Enter 100.0; Select *KHz*
- Select E SMPL *Off*
- Select *Time Length*; Enter 8.0; Select *msec*

Select **SELECT MEAS**
- Select *Power Spec*
- Select *CH1 Active*

Select **WINDOW**
- Select *Hann*

Select **SOURCE**
- Select Source *Off*

Select **AVG**
- Select Avg *Off*
- Select Tim Av *Off*

Select **RANGE**
- Select *Chan 1 Range*; Enter 1; Select *V*

Select **INPUT COUPLE**
- Select CH1 *DC*
- Select CH 1*Ground*

Select **INPUT TRIG**
- Select *Trig Level*; Enter 100; Select *mv*
- Select Arm *AU*
- Select *Chan 1 Input*
- Select *Slope* +

Select **TRIG DELAY**
- Enter 0.0; Select *Sec*

Select **COORD**
- Select *Real*

Select **VIEW INPUT**
- Select *Time Buff*

Select **SCALE** 80.0 mSec
- Select *X Fixd Scale*; Enter 0.0,~~500~~; Select ~~usec~~
- Select *Y Fixd Scale*; Enter 0,~~1~~; Select ~~V~~

Select **UNITS** 800.0 mV
- Select *Hz (sec)*

- NOTE -

Prior to collecting any current data, the current meter and DSA have to be "zeroed out"; zero current reference has to be established on the DSA. Follow this interim procedure to zero reference the current meter and DSA.

a) Remove the current probe from the circuit and close the probe. Place the probe in a magnetic benign location.
b) Depress "Start Capture" on the DSA.
c) With the "capture in process", adjust the "output DC level" control on the current amplifier to indicate zero current on the DSA.

d) Position the current probe to it's original location in accordance with Figure 14.

4. Adjust PS2 for +28vdc
5. Start the DSA signal capture by depressing "Start Capture"; wait for the DSA message "waiting for trigger" before proceeding.
6. On the Relay Board, turn the switch ON and obtain a record of the Noisy Bus Turn on current waveform. On the Relay Board, turn the switch OFF. Adjust the display time base and voltage sensitivity to allow for adequate current and pulse duration measurements. Plot the obtained waveform and attach a hard copy of the scan to TDS 6.
7. Measure the Turn On pulse width; record this value in TDS 6 .
8. Compute the peak current as follows:

   Multiply the maximum Y value by the current/ div as selected on the current amplifier. As an example: if the current amplifier is set up to display 200 ma/ 10 mv per division, and the maximum Y value = 276mv:

   276mv x (200ma/ 10mv) = 5520ma = 5.52 amps

   Record this value on TDS 6
9. The 1st derivative of the current waveform must be calculated. Compute the dI/ dT as follows:

   The most probable location of the greatest current demand is during the first positive transition after voltage application. If this is the case, expand that segment of the display and measure the greatest voltage transition in the smallest time transition. The change in voltage times the current/ div as selected on the current amplifier produces the change in current. Next divide this change in current by the change in time (in microseconds). This value is dI/ dT. Example:

   Change in voltage ..... 144 mv
   Change in time (microseconds) ..... 19.5 us
   Current/ div on current amp..... 200ma/ 10mv

   144mv x (200ma/ 10mv)/ 19.5us = 147.7ma per us

10. Record the computed value on TDS 6.
11. With the multimeter, adjust the external power supply PS1 to 29 ±0.10vdc as measured between J1-5 (high) and J1-7 (low).
12. Repeat steps 3 through 10.
13. With the multimeter, adjust the external power supply PS1 to 27 ±0.10vdc as measured between J1-5 (high) and J1-7 (low).
14. Repeat steps 3 through 10.
15. Turn the STE power supply panel Q/ Main switch OFF (refer to Figure 3).
16. Turn the STE power supply panel main power switch OFF (refer to Figure 3).

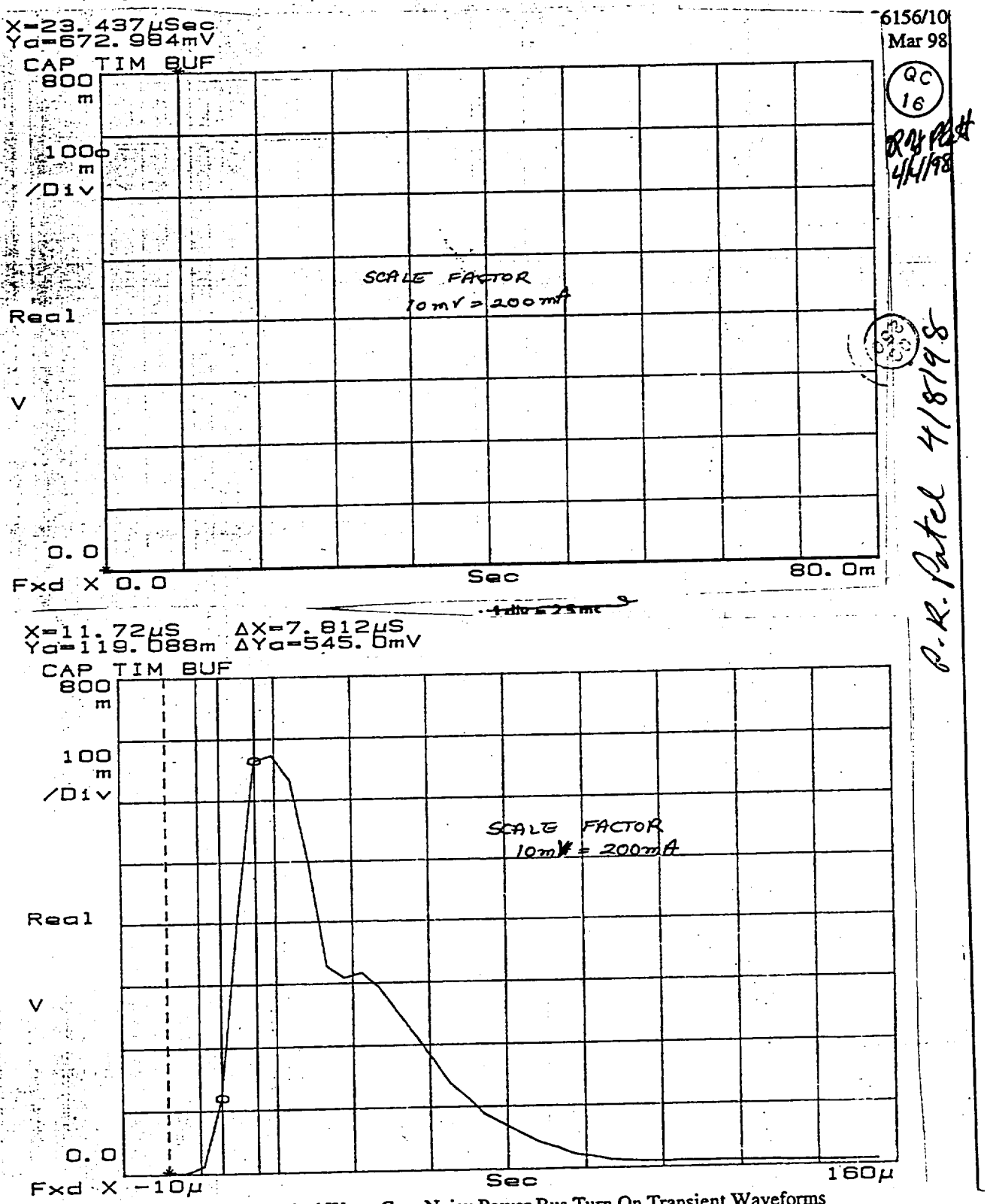

Figure 16. Typical Worst Case Noisy Power Bus Turn On Transient Waveforms

3. Enter the STE command "[12] UNPOWERED THERMISTORS". The screen should now be as shown in Figure 17.

4. The thermistor data should update every 8 seconds. Enter STE command "[2]" to print the screen. Enter the data on TDS 7 and attach the printout to TDS 7.

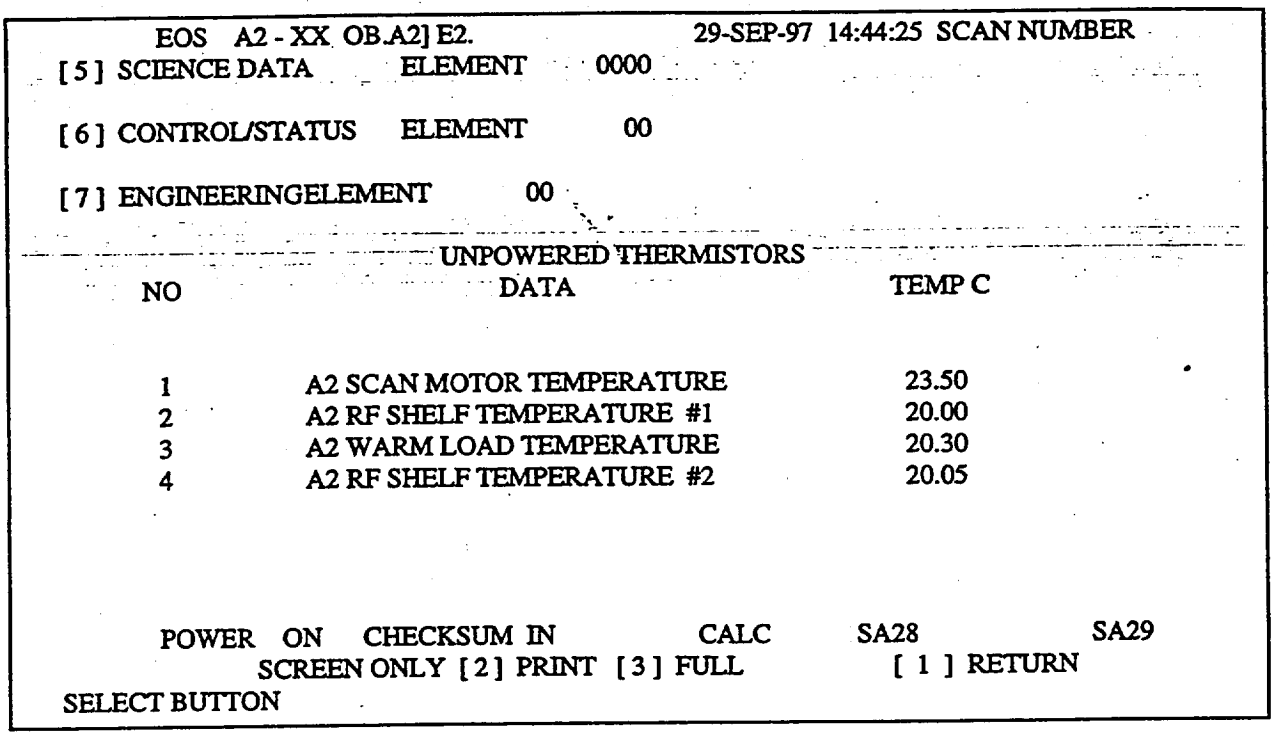

Figure 17. EOS/AMSU-A2 STE Unpowered Thermistors Screen

3.3.5 *Command and data handling bus interface test.*

3.3.5.1 *Formal qualification test of the EOS/AMSU-A2 firmware (protoflight model 1st CPT only).* On 3/21/97, an initial Formal Qualification Test (FQT) of the EOS AMSU-A firmware was conducted using Test Procedure AE-26600 (CDRL 415). The results of that test were documented in Report 10974 (CDRL 217). As stated in that report, a final FQT would be performed as a part of the initial instrument CPT for the EOS protoflight models A1 and A2 to validate the firmware requirements (Report 10458, CDRL 306-2b) which could not be validated during the initial FQT. The purpose of this test is to perform that validation by repeating Test Procedure AE-26600 and conducting additional system level testing with the unit connected to the Special Test Equipment (STE). At the conclusion of paragraph 3.3.5 testing, the firmware will be validated. Perform Test Procedure AE-26600 with the following clarifications:

1. Paragraph 4.1 Load bonded Software - the last half of the paragraph beginning with "The tape labeled N7 ..." to the end of the paragraph should be ignored because the unit configuration uses flight CCAs.

2 Paragraph 4.2 Configure the test environment - Replace this paragraph with the instructions provided in paragraph 3.3.5.2 steps 1 through 9 of this procedure.

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3. Paragraph 4.4.4. C thru L. These tests are replaced by section 3.3.5.3 of this procedure.

3.3.5.2 *Instrument commanding test.* This test provides the verification of the instrument commanding capability. Each of the commands shown in Table III with the exception of [19] GSE Modes will be sent to the unit and verified that it was received and carried out by the unit. GSE Modes will be verified during test point interface testing (paragraph 3.3.6). Perform the following procedures.

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1. Configure the unit as shown in Figure 12. If the unit is already configured, skip to step 7.

2. Connect a 25 pin breakout box to J1 of the instrument. Connect a 37 pin breakout box to J4 of the instrument.

3. Connect the STE to the instrument using the following STE interface cables:

Table III. EOS/AMSU-A2 Instrument Commands

STE Command Screen Number	STE Command	Instrument Status
[9]	Scanner A2 Power	ON / OFF
[10]	Antenna Full Scan Mode	YES / NO
[11]	Antenna Warm Cal Mode	YES / NO
[12]	Antenna Cold Cal Mode	YES / NO
[13]	Antenna Nadir Mode	YES / NO
[14]	Cold Cal Position 1	YES / NO
[15]	Cold Cal Position 2	YES / NO
[16]	Cold Cal Position 3	YES / NO
[17]	Cold Cal Position 4	YES / NO
[18]	Reset C&DH Processor	Resets1553 firmware
[19]	GSE Modes	YES / NO

a. STE interface cable J1 (1356648-1)

b. STE interface cable J2 (1356648-2)

c. STE interface cable J3 (1356648-3)

4. Connect STE interface cable J1 from EOS J1 found on the STE power panel shown in Figure 4 to the remaining end of the 25 pin breakout box connected to J1 on the unit.

5. Connect STE interface cable J2 from EOS J2 found on the STE test panel shown in Figure 5 to J2 on the unit.

6. Connect STE interface cable J3 from EOS A&B J1 found on the STE interface panel shown in Figure 6 to J3 on the unit.

7. Turn the STE main power switch on (refer to Figures 2 and 3 (computer should be on, STE power panel should be off)). From the A2 directory and at the "$" prompt, enter the command to the STE "RUN E2". The EOS/AMSU-A2 software program should be running as evidenced by the STE screen shown in Figure 9.

8. Turn the STE power supply panel Q/Main switch on (refer to Figure 3). With a multimeter adjust the Quiet Bus voltage at the breakout box to 29 ± 0.05 volts (between J1-1 and J1-3).

9. Turn the STE power supply panel N/Pulse switch on (refer to Figure 3). With a multimeter adjust the Noisy Bus voltage at the breakout box to 29 ± 0.05 volts (between J1-5 and J1-7).

10. Go to the Commands screen on the STE. From the main screen shown in Figure 9, enter the STE command "[2] MONITOR ONLY". The screen should now be as shown in Figure 10. Enter the STE command "[14] COMMANDS". The screen should now be as shown in Figure 11.

11. The instrument commands shown in Table III are now ready to be tested.

12. Enter the STE command "[10] ANTENNA FULL SCAN MODE". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES). Record the status on TDS 8.

13. Enter the STE command "[9] SCANNER A2 POWER". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO(OFF) to YES(ON)). The scan motor should now be scanning. Record the status on TDS 8.

14. Enter the STE command "[9] SCANNER A2 POWER". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from YES(ON) to NO(OFF)). The scan motor should stop scanning. Record the status on TDS 8.

15. Enter the STE command "[9] SCANNER A2 POWER". Look at the commands screen to see that the command was received by the instrument (the state of the command should go from NO(OFF) to YES(ON)). The motor should now be scanning. Record the status on TDS 8.

16. Enter the STE command "[11] ANTENNA WARM CAL MODE". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES and the state of ANTENNA IN FULL SCAN MODE should go from YES to NO). The motor should have moved to the warm calibration position. Record the status on TDS 8.

17. Enter the STE command "[13] ANTENNA NADIR MODE". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES and the state of ANTENNA WARM CAL MODE should go from YES to NO). The motor should have moved to the nadir position. Record the status on TDS 8.

18. Enter the STE command "[12] ANTENNA COLD CAL MODE". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES and the state of ANTENNA NADIR MODE should go from YES to NO). The motor should have moved to the cold calibration 1 position (LSB=0, MSB=0). Record the status on TDS 8.

19. Enter the STE command "[17] COLD CAL POSITION 4". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES. Also, the state of ANTENNA COLD CAL MODE should stay YES). The motor should have moved slightly to the cold calibration 4 position. Record the status on TDS 8.

20. Enter the STE command "[16] COLD CAL POSITION 3". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES. Also, the state of ANTENNA COLD CAL MODE should stay YES). The motor should have moved slightly to the cold calibration 3 position. Record the status on TDS 8.

21. Enter the STE command "[15] COLD CAL POSITION 2". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES. Also, the state of ANTENNA COLD CAL MODE should stay YES). The motor should have moved slightly to the cold calibration 2 position. Record the status on TDS 8.

22. Enter the STE command "[14] COLD CAL POSITION 1". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES. Also, the

state of ANTENNA COLD CAL MODE should stay YES). The motor should have moved slightly to the cold calibration 1 position. Record the status on TDS 8.

23. Enter the STE command "[18] RESET C&DH PROCESSOR". Look at the bottom of the commands screen to see that SA28 resets and starts counting from 1. Record the status on TDS 8.

24. Leave the unit powered and the setup intact for paragraph 3.3.5.2 testing.

3.3.5.3 *Science and Engineering Data Verification.* The engineering data in the engineering packet is also found embedded in the science data packet. The STE does a comparison between the data in the engineering packet and the same data located in the science data packet. If there is total agreement between the two data sets then a message "ENGR OK" appears at the bottom of the STE screen. Because of the fact that the two packets agree with respect to engineering data, this test validates both science and engineering data by verifying the data in the science data packet for each of the following instrument modes:

Look at Engineering Data, also Unpowered Thermistors prior to starting these Modes.

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RMH 4/14/98 (QC 16)

1. Full Scan Mode (3.3.5.2.1)
2. Warm Cal Mode (3.3.5.2.2)
3. Cold Cal Mode (3.3.5.2.3)
4. Nadir Mode (3.3.5.2.4)

3.3.5.3.1 *Full scan mode.* The full scan mode science and engineering data is verified as follows:

1. From the STE command screen shown in Figure 11, enter the STE command "[10] ANTENNA FULL SCAN MODE". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES). Record the status on TDS 9.

2. Look to see that "ENGR OK" message is displayed in bottom left corner of screen. Record the status on TDS 9.

3. Look to see that the unit is operating in full scan mode. Enter the observed result on TDS 9.

4. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 9.

   a. packet ID (elements 1 and 2, page 1 of printout)

   b. packet length (elements 3 and 4, page 1 of printout)

   c. unit serial number (elements 5 and 6, page 1 of printout)

   d. instrument mode/.status (elements 7 and 8, page 1 of printout)

   e. reflector positions (use data from procedure AE-26002/2 TDS 6 for required position data for warm cal position) (pages 1 and 2 of printout)

   f. radiometer scene data (pages 1 and 2 of printout)

   g. PRT temperature data (elements 262 - 300, page 2 of printout)

   h. status (page 3 of printout)

   i. engineering data (page 3 of printout)

5. Attach the printout to TDS 9.

3.3.5.3.2 *Warm cal mode.* The warm cal mode science and engineering data is verified as follows:

1. From the STE command screen shown in Figure 11, enter the STE command "[11] WARM CAL MODE". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES). Record the status on TDS 10.

2. Look to see that "ENGR OK" message is displayed in bottom left corner of screen. Record the status on TDS 10.

3. Look to see that the unit reflectors have moved to warm cal position. Enter the observed result on TDS 10.

4. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 10.

   a. packet ID (elements 1 and 2, page 1 of printout)

   b. packet length (elements 3 and 4, page 1 of printout)

   c. unit serial number (elements 5 and 6, page 1 of printout)

   d. instrument mode/.status (elements 7 and 8, page 1 of printout)

   e. reflector positions (use data from procedure AE-26002/2 TDS 6 for required position data for warm cal position) (pages 1 and 2 of printout)

   f. radiometer scene data (pages 1 and 2 of printout)

   g. PRT temperature data (elements 262 - 300, page 2 of printout)

   h. status (page 3 of printout)

   i. engineering data (page 3 of printout)

5. Attach the printout to TDS 10.

3.3.5.3.3 *Cold cal mode.* The cold cal mode science and engineering data is verified as follows:

1. From the STE command screen shown in Figure 11, enter the STE command "[12] COLD CAL MODE". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES). Record the status on TDS 11.

2. Look to see that "ENGR OK" message is displayed in bottom left corner of screen. Record the status on TDS 11.

3. Look to see that the unit reflectors have moved to cold cal position 1. Enter the observed result on TDS 11.

4. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 11.

   a. packet ID (elements 1 and 2, page 1 of printout)

   b. packet length (elements 3 and 4, page 1 of printout)

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~~Full Scan Test of Cold Cal Positions~~

- ~~Full scan mode~~
- look at beam positions; focus on cold cal position beam count
- ~~Get full print out~~

~~Cold Cal Mode~~ (beam positions)

- ~~Cold Cal position~~
- ~~Select Cold Cal position 1~~
- ~~Go into full scan~~
- ~~go back to Cold Cal~~
- ~~get full print out~~

S. Nymond 4-9-98

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3.3.5.3.3 Cold Cal Mode

1. same
2. same
3. same
4. From the STE command screen shown in Figure 11, enter the STE command"[10] ANTENNA FULL SCAN MODE". Look at the command screen to see that the command was received by the instrument (the state of the command should go from NO to YES).
5. From the STE command screen shown in Figure 11, enter the STE command"[12] ANTENNA COLD CAL MODE". Look at the command screen to see that the command was received by the instrument (the state of the command should go from NO to YES).
6. Enter the STE command [3] to obtain a full printout. Review the following data and record the results on TDS 11.

    a.) packet ID (elements 1 and 2, page 1 of printout)
    b.) packet length (elements 3 and 4, page 1 of printout)
    c.) unit serial number (element 5 and 6, page 1 of printout)
    d.) Instrument/ mode status (element 7 and 8, page 1 of printout)
    e.) reflector positions (use data from procedure AE-26002/2 TDS 2 for required position data for cold cal position 1) (page 1 and 2 of printout)
    f.) radiometric scene data (pages 1 and 2 of printout)
    g.) PRT temperature data (elements 262 - 300, page 2 of printout)
    h.) status (page 3 of printout)
    i.) engineering data (page 3 of the printout)

7. Attach the printout to TDS 11

8. From the STE command screen shown in Figure 11, enter the STE command"[15] COLD CAL POSITION 2". Look at the command screen to see that the command was received by the instrument (the state of the command should go from NO to YES). Record status on TDS 11
9. Look to see that "ENGR OK" message is displayed in the bottom left corner of screen. Record status on TDS 11
10. Look to see that the unit reflector has moved to cold cal position 2. Enter the results on TDS 11.
11. From the STE command screen shown in Figure 11, enter the STE command"[10] ANTENNA FULL SCAN MODE". Look at the command screen to see that the command was received by the instrument (the state of the command should go from NO to YES).
12. From the STE command screen shown in Figure 11, enter the STE command"[12] ANTENNA COLD CAL MODE". Look at the command screen to see that the command was received by the instrument (the state of the command should go from NO to YES).

13. Look to see that the unit reflector has moved to cold cal position 2
14. Enter the STE command [3] to obtain a full printout. Review the following data and record the results on TDS 11

    a.) Instrument/ mode status (element 7 and 8, page 1 of printout)
    b.) status (page 3 of printout)
    c.) reflector positions (use data from procedure AE-26002/2 TDS 2 for required position data for cold cal position 1) (page 1 and 2 of printout)

15. Attach the printout to TDS 11

16. From the STE command screen shown in Figure 11, enter the STE command"[16] COLD CAL POSITION 3". Look at the command screen to see that the command was received by the instrument (the state of the command should go from NO to YES). Record status on TDS 11
17. Look to see that "ENGR OK" message is displayed in the bottom left corner of screen. Record status on TDS 11
18. Look to see that the unit reflector has moved to cold cal position 3. Enter the results on TDS 11.
19. From the STE command screen shown in Figure 11, enter the STE command"[10] ANTENNA FULL SCAN MODE". Look at the command screen to see that the command was received by the instrument (the state of the command should go from NO to YES).
20. From the STE command screen shown in Figure 11, enter the STE command"[12] ANTENNA COLD CAL MODE". Look at the command screen to see that the command was received by the instrument (the state of the command should go from NO to YES).
21. Look to see that the unit reflector has moved to cold cal position 3
22. Enter the STE command [3] to obtain a full printout. Review the following data and record the results on TDS 11

    a.) Instrument/ mode status (element 7 and 8, page 1 of printout)
    b.) status (page 3 of printout)
    c.) reflector positions (use data from procedure AE-26002/2 TDS 2 for required position data for cold cal position 1) (page 1 and 2 of printout)

23. Attach the printout to TDS 11

24. From the STE command screen shown in Figure 11, enter the STE command"[17] COLD CAL POSITION 4". Look at the command screen to see that the command was received by the instrument (the state of the command should go from NO to YES). Record status on TDS 11
25. Look to see that "ENGR OK" message is displayed in the bottom left corner of screen. Record status on TDS 11
26. Look to see that the unit reflector has moved to cold cal position 4. Enter the results on TDS 11.
27. From the STE command screen shown in Figure 11, enter the STE command"[10] ANTENNA FULL SCAN MODE". Look at the command screen to see that the command was received by the instrument (the state of the command should go from NO to YES).
28. From the STE command screen shown in Figure 11, enter the STE command"[12] ANTENNA COLD CAL MODE". Look at the command screen to see that the command was received by the instrument (the state of the command should go from NO to YES).
29. Look to see that the unit reflector has moved to cold cal position 4
30. Enter the STE command [3] to obtain a full printout. Review the following data and record the results on TDS 11

a.) Instrument/ mode status (element 7 and 8, page 1 of printout)
b.) status (page 3 of printout)
c.) reflector positions (use data from procedure AE-26002/2 TDS 2 for required position data for cold cal position 1) (page 1 and 2 of printout)

31. Attach the printout to TDS 11

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c. unit serial number (elements 5 and 6, page 1 of printout)

d. instrument mode/.status (elements 7 and 8, page 1 of printout)

e. reflector positions (use data from procedure AE-26002/2 TDS 6 for required position data for cold cal position 1) (pages 1 and 2 of printout)

f. radiometer scene data (pages 1 and 2 of printout)

g. PRT temperature data (elements 262 - 300, page 2 of printout)

h. status (page 3 of printout)

i. engineering data (page 3 of printout)

5. Attach the printout to TDS 11.

6. From the STE command screen shown in Figure 11, enter the STE command "[15] COLD CAL POSITION 2". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES). Record the status on TDS 11.

7. Look to see that "ENGR OK" message is displayed in bottom left corner of screen. Record the status on TDS 11.

8. Look to see that the unit reflectors have moved to cold cal position 2. Enter the observed result on TDS 11.

9. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 11.

   a. instrument mode/.status (elements 7 and 8, page 1 of printout)

   b. status (page 3 of printout)

   c. reflector positions (use data from procedure AE-26002/2 TDS 6 for required position data for cold cal position 2) (pages 1 and 2 of printout)

10. Attach the printout to TDS 11.

11. From the STE command screen shown in Figure 11, enter the STE command "[16] COLD CAL POSITION 3". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES). Record the status on TDS 11.

12. Look to see that "ENGR OK" message is displayed in bottom left corner of screen. Record the status on TDS 11.

13. Look to see that the unit reflectors have moved to cold cal position 3. Enter the observed result on TDS 11.

14. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 11.

   a. instrument mode/.status (elements 7 and 8, page 1 of printout)

   b. status (page 3 of printout)

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c. reflector positions (use data from procedure AE-26002/2 TDS 6 for required position data for cold cal position 3) (pages 1 and 2 of printout)

15. Attach the printout to TDS 11.

16. From the STE command screen shown in Figure 11, enter the STE command "[17] COLD CAL POSITION 4". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES). Record the status on TDS 11.

17. Look to see that "ENGR OK" message is displayed in bottom left corner of screen. Record the status on TDS 11.

18. Look to see that the unit reflectors have moved to cold cal position 4. Enter the observed result on TDS 11.

19. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 11.

a. instrument mode/.status (elements 7 and 8, page 1 of printout)

b. status (page 3 of printout)

c. reflector positions (use data from procedure AE-26002/2 TDS 6 for required position data for cold cal position 4) (pages 1 and 2 of printout)

20. Attach the printout to TDS 11.

3.3.5.3.4 *Nadir mode.* The nadir mode science and engineering data is verified as follows:

1. From the STE command screen shown in Figure 11, enter the STE command "[13] NADIR MODE". Look at the commands screen to see that the command was received by the instrument (the state of that command should go from NO to YES). Record the status on TDS 12.

2. Look to see that "ENGR OK" message is displayed in bottom left corner of screen. Record the status on TDS 12.

3. Look to see that the unit reflectors have moved to nadir position. Enter the observed result on TDS 12.

4. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 12.

a. packet ID (elements 1 and 2, page 1 of printout)

b. packet length (elements 3 and 4, page 1 of printout)

c. unit serial number (elements 5 and 6, page 1 of printout)

d. instrument mode/.status (elements 7 and 8, page 1 of printout)

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e. reflector positions (use data from procedure AE-26002/2 TDS 6 for nadir ~~(beam position 15)~~ required position data) (pages 1 and 2 of printout) . ~~Nadir as far as the unit firmware is concerned is beam position 15.~~

f. radiometer scene data (pages 1 and 2 of printout)

g. PRT temperature data (elements 262 - 300, page 2 of printout)

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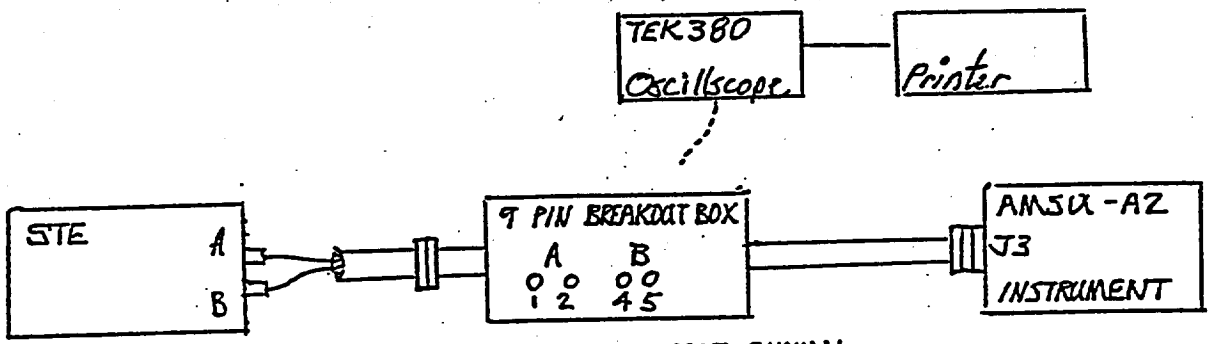
3.3.5.4. 1553 Bus Interface Test. The 1553 Bus interface shall be verified by observing its operation during Full-Scan operation. The interface test shall be accomplished by the following steps:

1. Configure the unit as shown below:



OTHER CABLES NOT SHOWN

Configuration for 1553 Interface Test Set-Up.

2. Insure all switches are closed on the 9-Pin Breakout Box.

3. Connect Oscilloscope to J3-1 (Hi) and J3-2 (Lo) to measure 1553 Interface A data. A representative wave form is shown in Fig: A. Set the Vertical to: 5 Volts; Horizontal to 5 ~~4~~ 1.5 ~~1~~ 4-9 DC coupling; Trig-CH 1 ~~Store the set up and wave form on Floppy disc~~. Print hard copy and attach to TDS 19.

4. Using the Vertical and Horizontal bars, measure the Amplitude and Rise Time of the instrument responce. Records these on TDS 19.

5. Repeat steps 3 and 4 For Interface B. Attach and record data on TDS 19. Connect to J3-4 (Hi) and J3-5 (Lo).

Note: Figure B shows a typical rise-time measarement.

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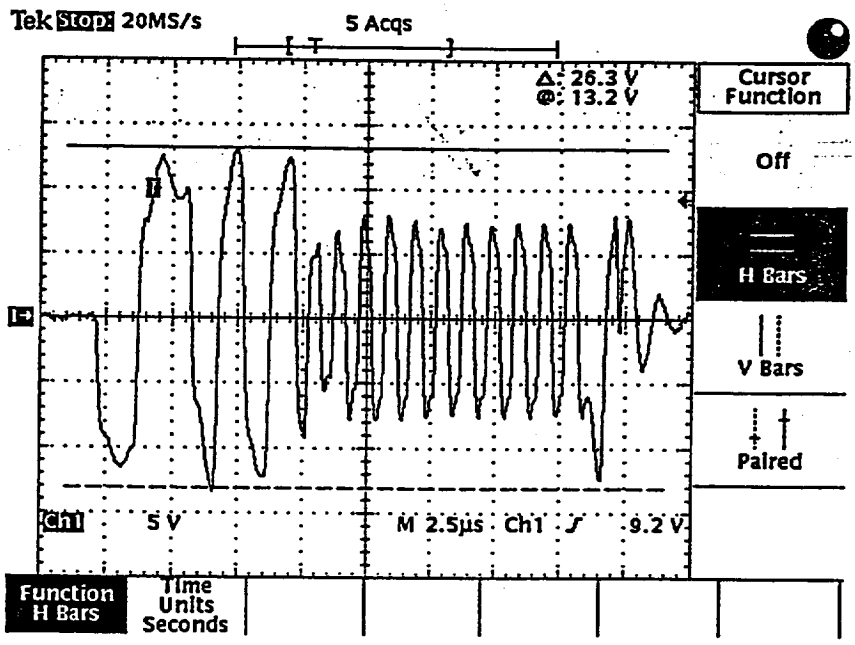

FIG. A TYPICAL 1553 BUS WAVE FORM (INSTRUMENT RESPONCE)

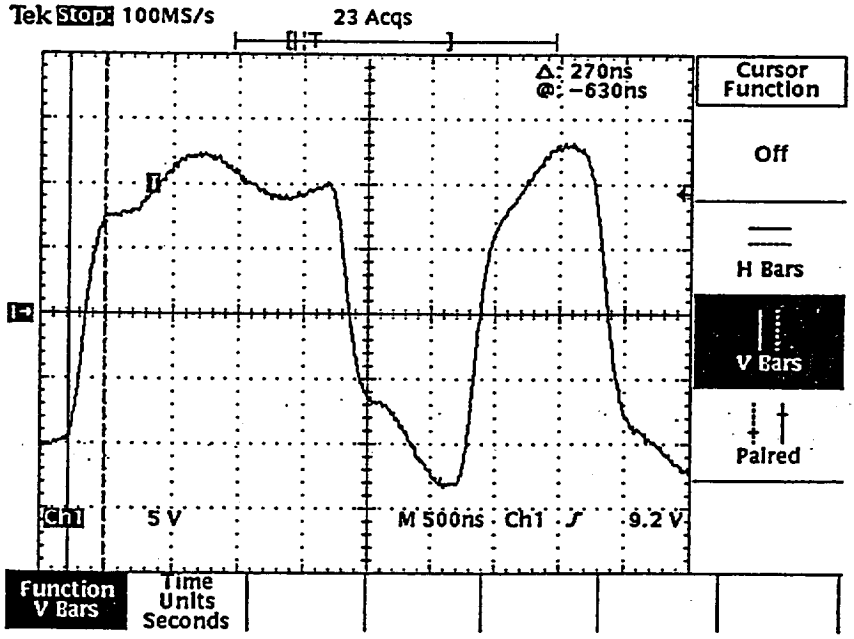

FIG B TYPICAL RISE-TIME MEASUREMENT

h. status (page 3 of printout)

i. engineering data (page 3 of printout)

5. Attach the printout to TDS 12.

6. Leave the setup powered and intact for paragraph 3.3.6 testing.

3.3.6 *Test point interface test.* The purpose of this test is twofold:

1. Verify the following test point signals:

   a. ~~1.248 MHz clock test point (3.3.6.1)~~ (Intensionally left blank)

   b. 8 second sync pulse test point (3.3.6.2)

   c. Integrate/hold and dump test points (3.3.6.3)

   d. Channel 1 and 2 analog output test points (3.3.6.4)

2. Verify the following GSE mode operations:

   a. GSE-1 mode (3.3.6.5)

   b. GSE-2 mode (3.3.6.6)

   c. GSE-3 mode (3.3.6.7)

   d. GSE-4 mode (3.3.6.8)

   e. GSE-5 mode (3.3.6.9)

   f. GSE-7 mode (3.3.6.10)

The test point interface connector (J4) is not used during spacecraft configuration and is covered with a cover plate when the unit is operating in the flight configuration. The above test points and GSE modes are used only by Aerojet during test and evaluation of instrument performance and do not meet any system level requirements.

3.3.6.1 ~~*1.248 MHz clock test point verification.*~~ Intensionally left blank. Perform the following procedures.

~~1. Configure the instrument as shown in Figure 12. This setup should still be intact from the testing in paragraph 3.3.5.~~

~~2. Enter the STE command "[10] ANTENNA FULL SCAN MODE". The motor should be scanning in full scan mode.~~

~~3. Connect channel 1 of the oscilloscope to pins J4-20 (High) and J4-21 (Low).~~

~~4. Plot the oscilloscope display and record the information indicated on TDS 13. Attach the plot to TDS 13.~~

3.3.6.2 *8 second sync pulse test point verification.* Perform the following procedures.

1. Connect channel 1 of the oscilloscope to pins J4-2 (High) and J4-21 (Low).

2. Plot the oscilloscope display and record the information indicated on TDS 14. Attach the plot to TDS 14.

3.3.6.3 *Integrate/Hold and dump test point verification.* Perform the following procedures.

1. Connect channel 1 of the oscilloscope to pins J4-~~2~~ 6 (High) and J4-5 (Low).

2. Connect channel 2 of the oscilloscope to pins J4-23 (High) and J4-5 (Low).

3. Set the scope to trigger internally on channel 1. Optimize time and amplitude for best resolution. The desired display should look similar to the top two traces shown in Figure 18.

4. Plot the oscilloscope display and record the information indicated on TDS 15. Attach the plot to TDS 15.

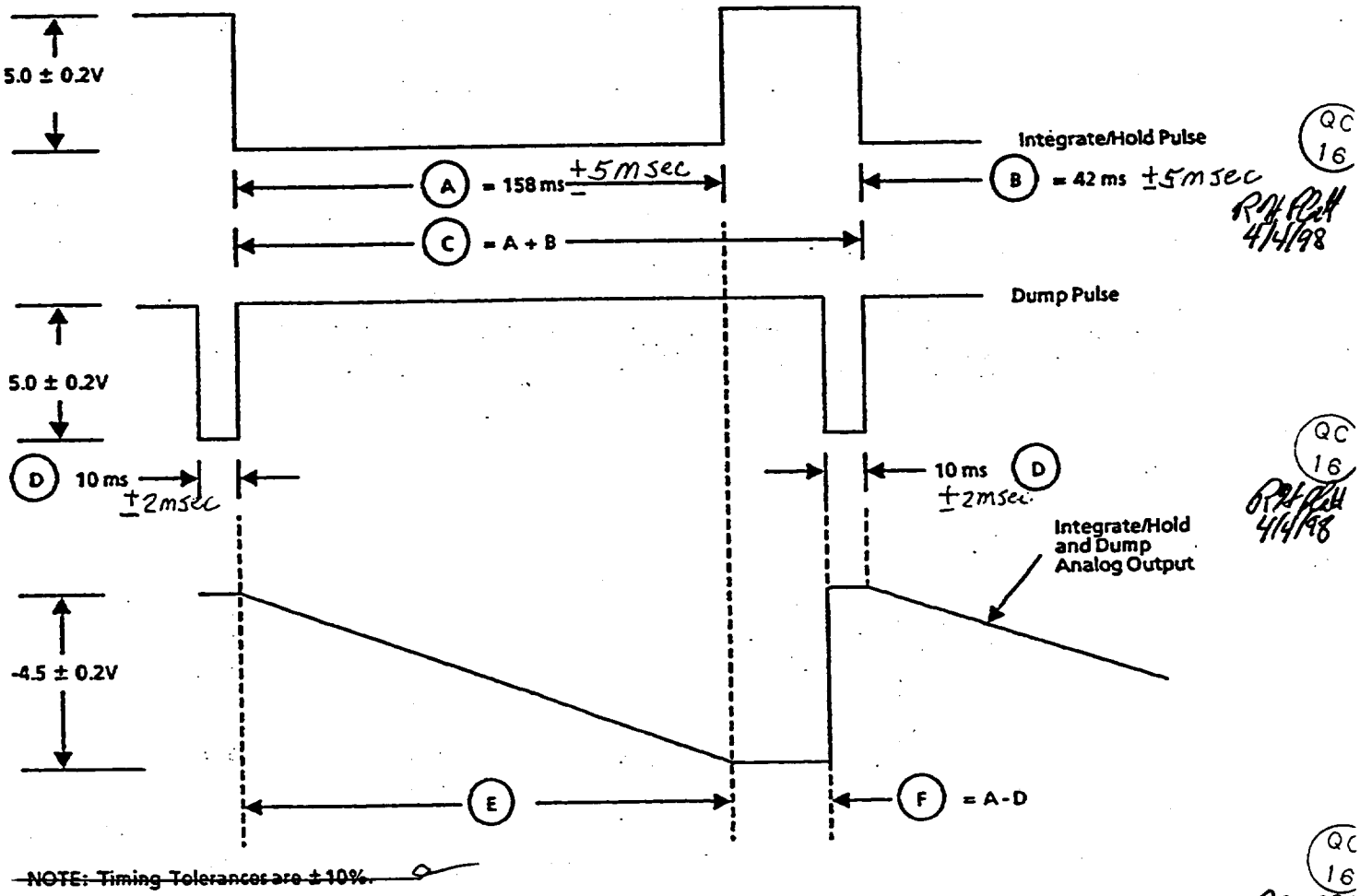

Figure 18. Integrate/Hold, Dump, and Analog Out Test Point Signals

3.3.6.4 *Radiometer channel analog output test point verification.* Perform the following procedures.

1. Connect channel 1 of the oscilloscope to pins J4-8 (High) and J4-26 (Low). Optimize time and amplitude for best resolution. The desired display should look similar to the bottom trace shown in Figure 18.

2. Plot the oscilloscope display and record the information indicated on TDS 16. Label the plot Channel 1 and attach the plot to TDS 16.

3. Connect channel 1 of the oscilloscope to pins J4-9 (High) and J4-26 (Low). Optimize time and amplitude for best resolution. The desired display should look similar to the bottom trace shown in Figure 18.

4. Plot the oscilloscope display and record the information indicated on TDS 16. Label the plot Channel 2 and attach the plot to TDS 16.

3.3.6.5 *GSE-1 mode verification.* This test mode positions the reflectors at beam position 6 for 10 integration periods, then to the cold calibration position for 10 integration periods, and finally to the warm cal position for 10 integration periods. This process is then repeated. To verify this mode, perform the following procedures.
Look at Engineering Data, also Unpowered Thermistors prior to starting these modes.

1. Enter a "1" on the mode switch located on the front of the STE test panel (refer to Figure 2 for test panel location).

2. From the STE command screen shown in Figure 11, enter the STE command "[19] GSE MODE" .

3. Wait 18 seconds, and look to see that the unit is performing the scan pattern described. Enter the observed result on TDS 17.

4. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 17.

   a. packet ID (elements 1 and 2, page 1 of printout)

   b. packet length (elements 3 and 4, page 1 of printout)

   c. unit serial number (elements 5 and 6, page 1 of printout)

   d. instrument mode/.status (elements 7 and 8, page 1 of printout)

   e. reflector positions (1st 10 at beam position 6, 2nd 10 at cold cal position, 3rd 10 at warm cal position, ignore cold cal and warm cal positions on the printout) (pages 1 and 2 of printout)

   f. radiometer scene data (pages 1 and 2 of printout)

   g. PRT temperature data (elements 262 - 300, page 2 of printout)

   h. status (page 3 of printout)

   i. engineering data (page 3 of printout)

5. Attach the printout to TDS 17. There is NO Pass/Fail criteria.

3.3.6.6 *GSE-2 mode verification.* This test mode positions the reflectors at beam position 1 for 30 integration periods. This process is then repeated. To verify this mode, perform the following procedures.

1. Enter a "2" on the mode switch located on the front of the STE test panel.

2. Wait 18 seconds, and look to see that the unit is performing the scan pattern described. Enter the observed result on TDS 17.

3. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 17.

a. packet ID (elements 1 and 2, page 1 of printout)

b. packet length (elements 3 and 4, page 1 of printout)

c. unit serial number (elements 5 and 6, page 1 of printout)

d. instrument mode/.status (elements 7 and 8, page 1 of printout)

e. reflector positions (30 positions at beam position 1, ignore cold cal and warm cal positions on the printout) (pages 1 and 2 of printout)

f. radiometer scene data (pages 1 and 2 of printout)

g. PRT temperature data (elements 262 - 300, page 2 of printout)

h. status (page 3 of printout)

i. engineering data (page 3 of printout)

4. Attach the printout to TDS 17. There is No Pass / Fail Criteria.

3.3.6.7 *GSE-3 mode verification.* This test mode positions the reflectors at each beam position for 30 integration periods incrementing the beam position to the next beam position each 8 seconds. This process is then repeated. To verify this mode, perform the following procedures.

1. Enter a "3" on the mode switch located on the front of the STE test panel.

2. Wait 18 seconds, and look to see that the unit is performing the scan pattern described. Enter the observed result on TDS 17.

3. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 17.

   a. packet ID (elements 1 and 2, page 1 of printout)

   b. packet length (elements 3 and 4, page 1 of printout)

   c. unit serial number (elements 5 and 6, page 1 of printout)

   d. instrument mode/.status (elements 7 and 8, page 1 of printout)

   e. reflector positions (30 positions at beam position when printout obtained, ignore cold cal and warm cal positions on the printout) (pages 1 and 2 of printout)

   f. radiometer scene data (pages 1 and 2 of printout)

   g. PRT temperature data (elements 262 - 300, page 2 of printout)

   h. status (page 3 of printout)

   i. engineering data (page 3 of printout)

4. Attach the printout to TDS 17. There is NO Pass / Fail Criteria.

3.3.6.8 *GSE-4 mode verification.* This test mode positions the reflectors at beam position 30 for 30 integration periods. This process is then repeated. To verify this mode, perform the following procedures.

1. Enter a "4" on the mode switch located on the front of the STE test panel.

2. Wait 18 seconds, and look to see that the unit is performing the scan pattern described. Enter the observed result on TDS 17.

3. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 17.

   a. packet ID (elements 1 and 2, page 1 of printout)

   b. packet length (elements 3 and 4, page 1 of printout)

   c. unit serial number (elements 5 and 6, page 1 of printout)

   d. instrument mode/.status (elements 7 and 8, page 1 of printout)

   e. reflector positions (30 positions at beam position 30, ignore cold cal and warm cal positions on the printout) (pages 1 and 2 of printout)

   f. radiometer scene data (pages 1 and 2 of printout)

   g. PRT temperature data (elements 262 - 300, page 2 of printout)

   h. status (page 3 of printout)

   i. engineering data (page 3 of printout)

   RJ Flynn 4/4/98 QC 16

4. Attach the printout to TDS 17. There is No Pass/Fail Criteria

3.3.6.9 *GSE-5 mode verification.* This test mode positions the reflectors at beam position 6 for 39 integration periods. This process is then repeated. To verify this mode, perform the following procedures.

1. Enter a "5" on the mode switch located on the front of the STE test panel.

2. Wait 18 seconds, and look to see that the unit is performing the scan pattern described. Enter the observed result on TDS 17.

3. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 17.

   a. packet ID (elements 1 and 2, page 1 of printout)

   b. packet length (elements 3 and 4, page 1 of printout)

   c. unit serial number (elements 5 and 6, page 1 of printout)

   d. instrument mode/.status (elements 7 and 8, page 1 of printout)

   e. reflector positions (30 positions at beam position 6, ignore cold cal and warm cal positions on the printout) (pages 1 and 2 of printout)

   f. radiometer scene data (pages 1 and 2 of printout)

g. PRT temperature data (elements 262 - 300, page 2 of printout)

h. status (page 3 of printout)

i. engineering data (page 3 of printout)

4. Attach the printout to TDS 17. There is NO Pass/Fail Criteria

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3.3.6.10 ***GSE-7 mode verification.*** This test mode is used in conjunction with GSE-3 mode to pause the reflector at the current beam position for 30 integration periods. This process is then repeated. To verify this mode, perform the following procedures.

1. Enter a "7" on the mode switch located on the front of the STE test panel.

2. Wait 18 seconds, and look to see that the unit is performing the scan pattern described. Enter the observed result on TDS 17.

3. Enter the STE command "[3]" to obtain a full printout. Review the following data and record the results on TDS 17.

   a. packet ID (elements 1 and 2, page 1 of printout)

   b. packet length (elements 3 and 4, page 1 of printout)

   c. unit serial number (elements 5 and 6, page 1 of printout)

   d. instrument mode/.status (elements 7 and 8, page 1 of printout)

   e. reflector positions (30 positions at current beam position, ignore cold cal and warm cal positions on the printout) (pages 1 and 2 of printout)

   f. radiometer scene data (pages 1 and 2 of printout)

   g. PRT temperature data (elements 262 - 300, page 2 of printout)

   h. status (page 3 of printout)

   i. engineering data (page 3 of printout)

4. Attach the printout to TDS 17. There is NO Pass/Fail Criteria

RA Clark 4/4/98 QC 16

3.3.7 ***Radiometer functional performance test.*** The purpose of this test is to verify the radiometric performance of the AMSU-A2 instrument at the system level. This test consists of:

1. Relative radiometer NEΔT measurements (3.3.7.1)

3.3.7.1 ***Relative radiometer NEΔT measurements.*** The purpose of this test is to perform a preliminary evaluation of the radiometer NEΔT at the system level. Since the STE is not in the thermal vacuum configuration, no temperature readings from the cold load are available. To compute the NEΔT for this test, the temperature used for the cold load temperature shall be 80 K.

The data obtained from this test are considered as relative NEΔT and are to be used as a diagnostic tool to verify proper operation of each radiometer channel from antenna input to the spacecraft interface. The equation to determine relative NEΔT is as follows:

$$NE\Delta T = \frac{\left[SD * (T_h - T_c)\right]}{M - N}$$

where
- SD = Standard deviation of 120 radiometric samples looking at the warm load
- T_h = Physical temperature of the warm load (300 K)
- T_c = Physical temperature of the cold target (80 K)
- M = Average of the radiometric readings in counts viewing the warm load (120 samples)
- N = Average of the radiometric readings in counts viewing the cold target (30 samples)

Perform the following procedures:

WARNING

The use of liquid nitrogen in a confined poorly ventilated area can cause asphyxiation and death due to lack of oxygen (oxygen concentration below 20 percent). Accidental contact with liquid nitrogen will cause severe frostbite to the eyes or skin. When handling liquid nitrogen, personnel shall observe the following safety precautions:

a. Ensure that the work area is well ventilated to prevent excessive gas buildup.

b. To protect your eyes always wear a face shield or safety goggles (safety glasses without side shields do not provide adequate protection).

c. To protect exposed skin always wear a lab coat, gloves made for cryogenic work, cuffless trousers (worn outside the boots or shoes), and safety shoes.

d. Do not fill Target fuller than 1.0 inch from the top. Fill Tar at the floor level, away from Unit.

e. Do not move filled Target without cover in place.

1. The unit should still be powered and configured as shown in Figure 12. The unit should already be in a stabilized state.

2. Enter the STE command "[10] ANTENNA FULL SCAN MODE".

3. After the unit is stabilized (minimum of 30 minutes required), fill the cold target with liquid nitrogen and position it as shown in Figure 19.

4. Enter the STE command "[1] RETURN" twice to return to the EOS/AMSU-A2 STE main screen shown in Figure 9.

5. From the main screen, enter the STE command "[13] FUNCTIONAL TEST".

6. The STE then asks for "COLD TARGET POSITION... ENTER C=COLD, N=NADIR". Enter "C" for cold.

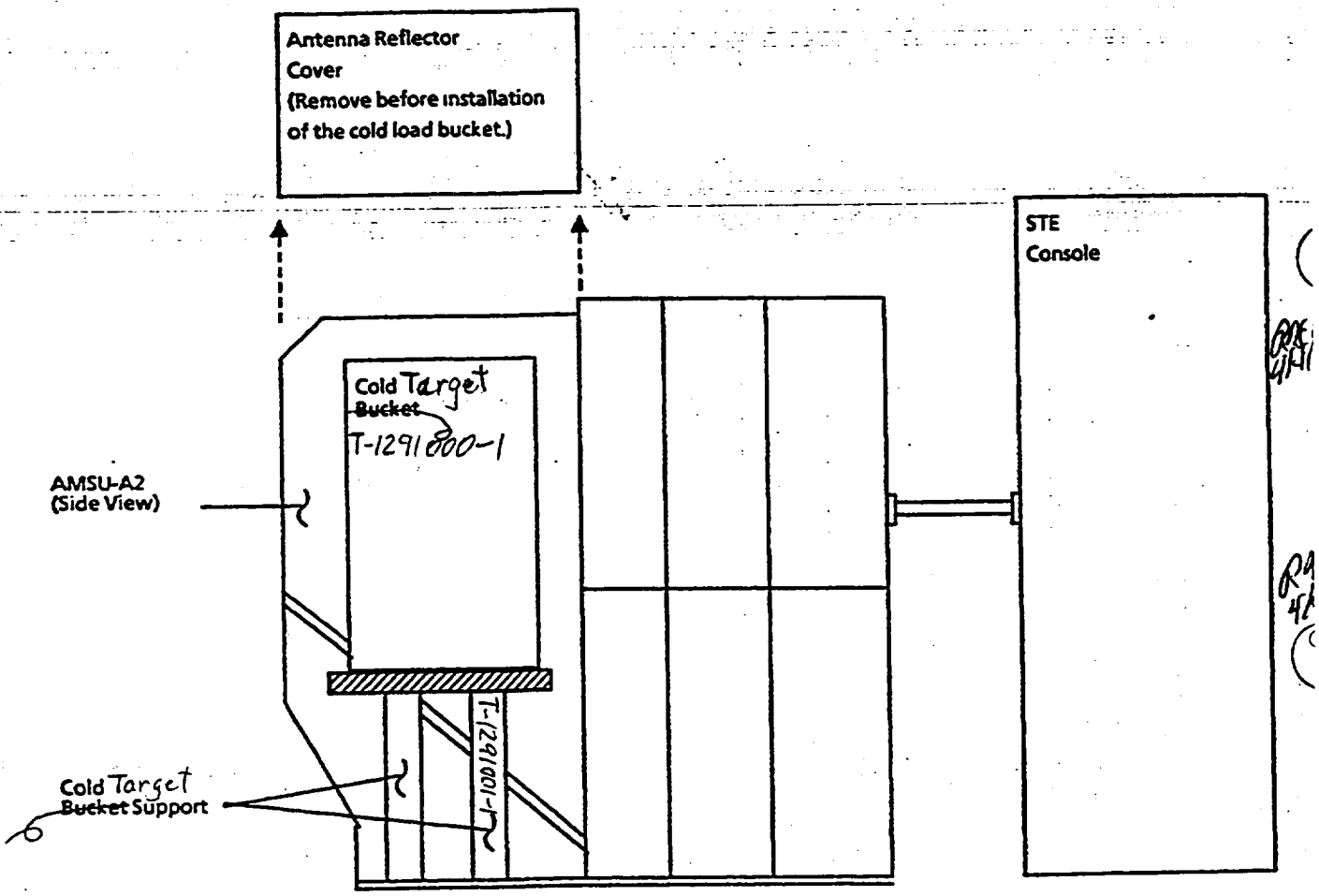

Figure 19. Relative NEΔT Test Setup

7. No additional operator input is needed as the computer will automatically display the results. There is typically a 40 second delay after executing a functional test before the results are displayed. A typical screen is shown in Figure 20.

8. Obtain a screen printout by issuing the STE command "[2]".

9. Repeat steps 5 through 8 four more times obtaining four additional screen printouts. Average the NEΔT readings from the five printouts for each channel and enter those averages on TDS 18. Attach the printouts to TDS 18.

10. Remove the cold load and associated hardware.

11. Turn the STE power supply panel N/Pulse switch off (refer to Figure 3).

12. Turn the STE power supply panel Q/Main switch off (refer to Figure 3).

13. Turn the STE power supply panel main power switch off (refer to Figure 3).

CH	WARM TEMP.	WARM COUNTS	COLD COUNTS	GAIN	DELTA-T
1	297.45	16558.0	13752.0	0.069	0.623
2	297.44	16317.0	13108.0	0.061	0.556

Figure 20. Typical Screen Display Following a Functional Test

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4. QUALITY ASSURANCE PROVISIONS

4.1 ***Responsibility for inspection.*** Aerojet Quality Assurance shall inspect in accordance with the requirements of this test procedure, S-480-80 and S-480-79. Quality Control shall verify all test set-ups prior to start of test. Bonded software shall be used for all tests and shall be obtained from Quality Control. Quality Control shall review all test data for conformance to success criteria. The test data shall include test limits. For tests that satisfy requirements from S-480-80 on protoflight and flight units, customer representatives shall be invited to ~~witness~~ monitor tests and shall be invited to review the data and show approval on the test data sheets. Sanyna 4-7-98 QC 227

4.1.1 ***Test facilities.*** Unless otherwise specified, the examinations and tests described herein shall be conducted at Aerojet, Azusa Operations, Azusa, California.

4.1.2 ***Electrostatic device (ESD) handling.*** All electronic hardware shall be handled in accordance with Aerojet Standard STD-2454.

4.2 ***Monitoring procedures.*** All tests in this procedure shall be witnessed by Quality Control.

4.2.1 ***Test equipment.*** Test equipment calibration procedures shall comply with the requirements of MIL-STD-45662.

4.2.2 ***Software.*** Bonded software shall be used at all times.

4.3 ***Monitoring procedures for materials.*** Not applicable.

4.4 ***Certification.*** Certification for handling ESD sensitive equipment is required for all personnel working on the assembly and test of the AMSU-A instrument.

4.5 ***Test methods***

4.5.1 ***Accept-reject criteria.*** The accept-reject criteria for each examination or test shall be as specified in the data sheets included in each phase of the applicable test procedure. The test results shall be recorded on the data sheets to demonstrate compliance with the applicable specification requirements. Methods of analysis shall be appropriate for the parameters being inspected. It shall be the responsibility of Aerojet to review the test data and determine conformance of the unit under test to the performance requirements contained in S-480-80 and this specification.

In the event of a failure during any phase of this test procedure, the test activity shall record the required information on the Test History Log and alert the design assurance and quality engineers. Except for failures which only represent a limited out-of-tolerance condition for a particular parameter and are not expected to interfere with the balance of the testing and which are non-destructive, the testing must be stopped until a complete description of the observed anomaly failure is documented and a Failure Analysis Strategy (FAS) is formulated, documented, and implemented to preclude loss of information or evidence that may facilitate determining the failure cause. The full set of data from the referenced tests are required in order to formulate a plan of action. The cognizant reliability engineer, quality assurance engineer, and the system or responsible test engineer shall jointly develop the FAS which must be approved by Design Assurance and Quality Assurance. Analysis and reporting shall be performed in accordance with Aerojet procedures.

4.5.2 ***General.*** Separate test reports shall be prepared in accordance with 4.5.2.1.1 for each series which has successfully completed testing. This report shall include all data sheets associated with the tests on the unit plus the data reduction and analysis of specific parameters required by each applicable test procedure specification obtained from screen printouts and plots, oscilloscope photographs, or magnetic recordings. During tests in which a CRT screen is to be printed or plotted and retained as a data sheet, the following annotation shall be applied:

Test/Systems Engineer: _____ (Signature)

Quality Control: _____ (Signature)

Customer Representative: _____ (Signature)
(Flight hardware only)

Date: _____
Test Paragraph No.: _____
Subassembly/Assembly Serial No. _____

The report shall also include a certification statement. A complete copy of the report shall be included in the shop order package.

4.5.2.1 *Acceptance test reports*

4.5.2.1.1 *Format.* The acceptance test report shall be prepared and shall include, as a minimum, the following:

a. Title page

b. Summary

c. Requirements satisfied (if any)

d. Discrepancy reports (if any)

e. Test data

4.5.2.1.2 *Test data.* The test data included in the report shall be that which was obtained during performance of the tests specified herein and recorded on the Test Data Sheet(s) (TDS) (see Appendix A) and on printouts and plots.

5. NOTES

5.1 *Intended use.* The intended use of this process specification is to establish the requirements for the comprehensive and limited performance testing of the Advanced Microwave Sounding Unit - A1 System.

5.2 *Abbreviations and acronyms*

AMSU	Advanced Microwave Sounding Unit
BW	Bandwidth
C	Celsius
CAL	Calibration
CCA	Circuit Card Assembly
CH	Channel
CPT	Comprehensive Performance Test
DMM	Digital Multimeter
DRB	Decade Resistor Box
DVM	Digital Voltmeter
ESD	Electrostatic Discharge
F	Fail
FAS	Failure Analysis Strategy
GND	Ground
GPIB	General Purpose Interface Bus
GSFC	Goddard Space Flight Center
HP	Hewlett-Packard
HTR	Heater
I/O	Input/Output
IF	Intermediate Frequency
K	Degrees Kelvin
LO	Local Oscillator
LPT	Limited Performance Test
max	Maximum
MUX	Multiplexer
NF	Noise Figure
P	Pass
P/N	Part Number
PRT	Platinum Resistance Transducer
RF	Radio Frequency
RTN	Return
S/N	Serial Number
STE	Special Test Equipment

TDS	Test Data Sheet
TLM	Telemetry

APPENDIX A

TEST DATA SHEETS

10. APPENDIX A

10.1 ***Scope.*** This appendix contains the test data sheets for all tests and inspections listed in section 3.

S.O. 323737
STEP 740C. .
P/N 1356006-1-IT
S/N 202

TEST DATA SHEET NO. 1 (Sheet 1 of 6)
Grounding Interface Test (Paragraph 3.3.2, Step 2)

J1 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-1	+29V QUIET PWR BUS	> 1M	>1M	PASS
J1-2	+29V QUIET PWR BUS	> 1M		
J1-3	29V QUIET BUS RTN	> 1M		
J1-4	29V QUIET BUS RTN	> 1M		
J1-5	+29V NOISY PWR BUS	> 1M		
J1-6	+29V NOISY PWR BUS	> 1M		
J1-7	29V NOISY BUS RTN	> 1M		
J1-8	29V NOISY BUS RTN	> 1M		
J1-9	SURVIVAL PWR BUS A	> 1M		
J1-10	SURVIVAL BUS A RTN	> 1M		
J1-11	SURVIVAL PWR BUS A	> 1M		
J1-12	SURVIVAL BUS A RTN	> 1M	>1M	
J1-13	CHASSIS GROUND	< 1	0.30	
J1-14	+29V QUIET PWR BUS	> 1M	>1M	
J1-15	+29V QUIET PWR BUS	> 1M		
J1-16	29V QUIET BUS RTN	> 1M		
J1-17	29V QUIET BUS RTN	> 1M		
J1-18	+29V NOISY PWR BUS	> 1M		
J1-19	+29V NOISY PWR BUS	> 1M		
J1-20	29V NOISY BUS RTN	> 1M		
J1-21	29V NOISY BUS RTN	> 1M		
J1-22	SURVIVAL PWR BUS B	> 1M		
J1-23	SURVIVAL BUS B RTN	> 1M		
J1-24	SURVIVAL PWR BUS B	> 1M		
J1-25	SURVIVAL BUS B RTN	> 1M	>1M	PASS

EOS/AMSU-A2 ~~System~~ P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: 1st CPT Final CPT Sub CPT _____ LPT _____

4-7-98
Test Systems Engineer (7A 197) Date APR 8 98

4/10/96
Customer Representative Date

Quality Control Date

TEST DATA SHEET NO. 1 (Sheet 2 of 6)
Grounding Interface Test (Paragraph 3.3.2, Step 2)

J2 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J2-1	A2 MOTOR TEMP HI	> 1M	>1M	PASS
J2-2	A2 MOTOR TEMP LO	> 1M	↓	↓
J2-3	A2 RECEIVER TEMP 1 HI	> 1M		
J2-4	A2 RECEIVER TEMP 1 LO	> 1M		
J2-5	A2 WARM LOAD TEMP HI	> 1M		
J2-6	A2 WARM LOAD TEMP LO	> 1M		
J2-7	No Connection	> 1M		
J2-8	No Connection	> 1M		
J2-9	No Connection	> 1M		
J2-10	No Connection	> 1M		
J2-11	No Connection	> 1M		
J2-12	No Connection	> 1M		
J2-13	No Connection	> 1M		
J2-14	No Connection	> 1M		
J2-15	No Connection	> 1M		
J2-16	No Connection	> 1M		
J2-17	No Connection	> 1M		
J2-18	No Connection	> 1M		
J2-19	No Connection	> 1M		
J2-20	No Connection	> 1M		
J2-21	No Connection	> 1M		
J2-22	A2 RECEIVER TEMP 2 HI	> 1M		
J2-23	A2 RECEIVER TEMP 2 LO	> 1M		
J2-24	No Connection	> 1M		
J2-25	No Connection	> 1M		
J2-26	No Connection	> 1M		
J2-27	No Connection	> 1M		
J2-28	No Connection	> 1M		
J2-29	No Connection	> 1M		
J2-30	No Connection	> 1M		
J2-31	No Connection	> 1M		
J2-32	No Connection	> 1M		
J2-33	No Connection	> 1M		
J2-34	No Connection	> 1M		
J2-35	No Connection	> 1M	↓	↓
J2-36	No Connection	> 1M		
J2-37	No Connection	> 1M	>1M	PASS

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT

Test Systems Engineer 4-7-98 Date

C L 3243

Customer Representative 4/10/98 Date

Quality Control (7A 197) APR 8 98 Date

TEST DATA SHEET NO. 1 (Sheet 3 of 6)
Grounding Interface Test (Paragraph 3.3.2, Step 2)

J3 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J3-1	1553 INTERFACE DATA A HI	> 100K	> 100K	P
J3-2	1553 INTERFACE DATA A LO	> 100K	> 100K	P
J3-3	No Connection	> 1M	> 1M	P
J3-4	1553 INTERFACE DATA B LO	> 100K	> 100K	P
J3-5	1553 INTERFACE DATA B HI	> 100K	> 100K	P
J3-6	1553 INTERFACE DATA A SHIELD	< 1	0.30	P
J3-7	No Connection	> 1M	> 1M	P
J3-8	No Connection	> 1M	> 1M	P
J3-9	1553 INTERFACE DATA B SHIELD	< 1	0.30	P

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT

Customer Representative 4/10/98 Date

Test Systems Engineer 4-7-98 Date

Quality Control APR 8 98 Date

TEST DATA SHEET NO. 1 (Sheet 4 of 6)
Grounding Interface Test (Paragraph 3.3.2, Step 2)

J4 of Spacecraft Interface				
From Chassis Ground to	Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J4-1	CHASSIS GROUND	< 1	0.25	PASS
J4-2	8 SECOND SYNC PULSE TP	> 100K	>1M	
J4-3	No Connection	> 1M	>1M	
J4-4	No Connection	> 1M	>1M	
J4-5	I/H & DUMP RTN (2/3)	< 1	0.36	
J4-6	DUMP COMMAND TP	> 100K	>1M	
J4-7	No Connection	> 1M	>1M	
J4-8	CH 1 ANALOG OUT TP	> 100K	>1M	
J4-9	CH 2 ANALOG OUT TP	> 100K	>1M	
J4-10	No Connection	> 1M	>1M	
J4-11	No Connection	> 1M	>1M	
J4-12	No Connection	> 1M	>1M	
J4-13	No Connection	> 1M	>1M	
J4-14	No Connection	> 1M	>1M	
J4-15	No Connection	> 1M	>1M	
J4-16	No Connection	> 1M	>1M	
J4-17	GSE COMMAND LSB	>5K	6.65K	
J4-18	GSE COMMAND MSB-1	>5K	6.65K	
J4-19	No Connection	> 1M	>1M	
J4-20	1.248 MHz CLOCK TP	> 100K	>1M	
J4-21	1.248 MHz CLOCK RTN (1)	< 1	0.41	
J4-22	No Connection	> 1M	>1M	
J4-23	I/H COMMAND TP	> 100K	>1M	
J4-24	No Connection	> 1M	>1M	
J4-25	No Connection	> 1M	>1M	
J4-26	ANALOG OUT RTN (2/3)	< 1	0.35	
J4-27	No Connection	> 1M	>1M	
J4-28	No Connection	> 1M	>1M	
J4-29	No Connection	> 1M	>1M	
J4-30	No Connection	> 1M	>1M	
J4-31	No Connection	> 1M	>1M	
J4-32	No Connection	> 1M	>1M	
J4-33	No Connection	> 1M	>1M	
J4-34	No Connection	> 1M	>1M	
J4-35	GSE COMMAND MSB	>5K	6.65K	
J4-36	GSE COMMAND RTN (1)	< 1	0.41	
J4-37	No Connection	> 1M	>1M	PASS

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

Ray Hartwig 4-7-98
Test Systems Engineer Date

4/10/98
Customer Representative Date

7A APR 8 98
Quality Control Date

TEST DATA SHEET NO. 1 (Sheet 5 of 6)
Grounding Interface Test (Paragraph 3.3.2, Step 2)

Source	Destination	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail*
J1-1	J1-2	+29V QUIET PWR BUS	<1	0.33	P
J1-1	J1-14	+29V QUIET PWR BUS	<1	0.35	P
J1-1	J1-15	+29V QUIET PWR BUS	<1	0.36	P
J1-3	J1-4	29V QUIET BUS RTN	<1	0.33	P
J1-3	J1-16	29V QUIET BUS RTN	<1	0.35	P
J1-3	J1-17	29V QUIET BUS RTN	<1	0.34	P
J1-5	J1-6	+29V NOISY PWR BUS	<1	0.30	P
J1-5	J1-18	+29V NOISY PWR BUS	<1	0.34	P
J1-5	J1-19	+29V NOISY PWR BUS	<1	0.35	P
J1-7	J1-8	29V NOISY BUS RTN	<1	0.33	P
J1-7	J1-20	29V NOISY BUS RTN	<1	0.35	P
J1-7	J1-21	29V NOISY BUS RTN	<1	0.35	P
J1-9	J1-11	SURVIVAL PWR BUS A	<1	0.31	P
J1-10	J1-12	SURVIVAL BUS A RTN	<1	0.32	P
J1-22	J1-24	SURVIVAL PWR BUS B	<1	0.33	P
J1-23	J1-25	SURVIVAL BUS B RTN	<1	0.33	P
J1-1	J1-5	+29V QUIET PWR BUS	> 1M	> 1M	P
J1-1	J1-7	+29V QUIET PWR BUS	> 1M	> 1M	P
J1-1	J1-9	+29V QUIET PWR BUS	> 1M	> 1M	P
J1-1	J1-10	+29V QUIET PWR BUS	> 1M	> 1M	P
J1-1	J1-22	+29V QUIET PWR BUS	> 1M	> 1M	P
J1-1	J1-23	+29V QUIET PWR BUS	> 1M	> 1M	P
J1-3	J1-5	29V QUIET BUS RTN	> 1M	> 1M	P
J1-3	J1-7	29V QUIET BUS RTN	> 1M	> 1M	P
J1-3	J1-9	29V QUIET BUS RTN	> 1M	> 1M	P

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

Ray Hutchens 4-7-98
Test Systems Engineer (197) Date

4/10/94
Customer Representative Date

APR 8 98
Quality Control Date

TEST DATA SHEET NO. 1 (Sheet 6 of 6)
Grounding Interface Test (Paragraph 3.3.2, Step 2)

Source	Destination	Source Pin Description	Required Resistance (Ohms)	Measured Value (Ohms)	Pass/Fail
J1-3	J1-10	29V QUIET BUS RTN	> 1M	>1M	PASS
J1-3	J1-22	29V QUIET BUS RTN	> 1M	>1M	↑
J1-3	J1-23	29V QUIET BUS RTN	> 1M	>1M	
J1-5	J1-9	+29V NOISY PWR BUS	> 1M	>1M	
J1-5	J1-10	+29V NOISY PWR BUS	> 1M	>1M	
J1-5	J1-22	+29V NOISY PWR BUS	> 1M	>1M	
J1-5	J1-23	+29V NOISY PWR BUS	> 1M	>1M	
J1-7	J1-9	29V NOISY BUS RTN	> 1M	>1M	
J1-7	J1-10	29V NOISY BUS RTN	> 1M	>1M	
J1-7	J1-22	29V NOISY BUS RTN	> 1M	>1M	
J1-7	J1-23	29V NOISY BUS RTN	> 1M	>1M	
J1-9	J1-22	SURVIVAL PWR BUS A	> 1M	>1M	
J1-9	J1-23	SURVIVAL PWR BUS A	> 1M	>1M	
J1-10	J1-22	SURVIVAL BUS A RTN	> 1M	>1M	
J1-10	J1-23	SURVIVAL BUS A RTN	> 1M	>1M	
J1-13	J1 OUTER SHELL	CHASSIS GROUND	< 1	0.24	
J1-13	J2 OUTER SHELL	CHASSIS GROUND	< 1	0.26	
J1-13	J3 OUTER SHELL	CHASSIS GROUND	< 1	0.36	
J1-13	J4 OUTER SHELL	CHASSIS GROUND	< 1	0.23	
J3-1	J3-5	1553 INTERFACE DATA A HI	> ~~1~~100K	>1M	
J3-1	J3-4	1553 INTERFACE DATA A HI	> ~~1~~100K	>1M	
J3-2	J3-5	1553 INTERFACE DATA A LO	> ~~1~~100K	>1M	
J3-2	J3-4	1553 INTERFACE DATA A LO	> ~~1~~100K	>1M	PASS

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

Ray Kerkhoff 4-7-98
Test Systems Engineer (7A 197) Date

4/20/94
Customer Representative Date

Quality Control Date
APR 8 93

TEST DATA SHEET NO. 2

Quiet Power Bus Operational Power Test (Paragraph 3.3.3.1.1)

Required Quiet Bus Voltage QBV (Volts)	Measured QBV (Volts)	Maximum Peak Quiet Bus Current QBI (Amps)	Required Power (Watts)	Calculated Peak Power (QBV x QBI) (Watts)	Pass/Fail
26.95 - 27.05	27.0	0.3414	≤31	9.217	PASS
28.95 - 29.05	29.0	0.3228	≤31	9.363	PASS
30.95 - 31.05	31.0	0.3059	≤31	9.482	PASS

Required Quiet Bus Voltage QBV (Volts)	Measured QBV (Volts)	Average Quiet Bus Current QBI (Amps)	Required Power (Watts)	Calculated Average Power (QBV x QBI) (Watts)	Pass/Fail
26.95 - 27.05	27.0	305.75 ma	≤25	8.255 Watts	PASS
28.95 - 29.05	29.0	289.40 ma	≤25	8.392 Watts	PASS
30.95 - 31.05	31.0	278.39 mA	≤25	8.630 Watts	PASS

Probe (item # 12) was replaced by Probe (item # 23) - Ref - TEAR # 0003.

R. Sitt
4-8-98

This data was taken with defective probe. Another set of data taken with operative probe (Refer to attached). P. K. Patel 4/8/98

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT _____

Ray Hutchinson 4-7-98
Test Systems Engineer Date

APR 8 98

CAGE 3243

4/10/98
Customer Representative Date

7A 197
Quality Control Date

TEST DATA SHEET NO. 2

Quiet Power Bus Operational Power Test (Paragraph 3.3.3.1.1)

Required Quiet Bus Voltage QBV (Volts)	Measured QBV (Volts)	Maximum Peak Quiet Bus Current QBI (Amps)	Required Power (Watts)	Calculated Peak Power (QBV x QBI) (Watts)	Pass/Fail
26.95 - 27.05	27.0V	780.2 mA	≤31	21.07W	PASS
28.95 - 29.05	29.0V	741.28mA	≤31	21.5W	PASS
30.95 - 31.05	31.0V	701.9 mA	≤31	21.76W	PASS

Required Quiet Bus Voltage QBV (Volts)	Measured QBV (Volts)	Average Quiet Bus Current QBI (Amps)	Required Power (Watts)	Calculated Average Power (QBV x QBI) (Watts)	Pass/Fail
26.95 - 27.05	27.0V	694.4mA	≤25	18.75W	PASS
28.95 - 29.05	29.0V	651.60mA	≤25	18.90 W	PASS
30.95 - 31.05	31.0V	640.0 mA	≤25	19.84W	PASS

This Data was taken with the replacement probe.

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT

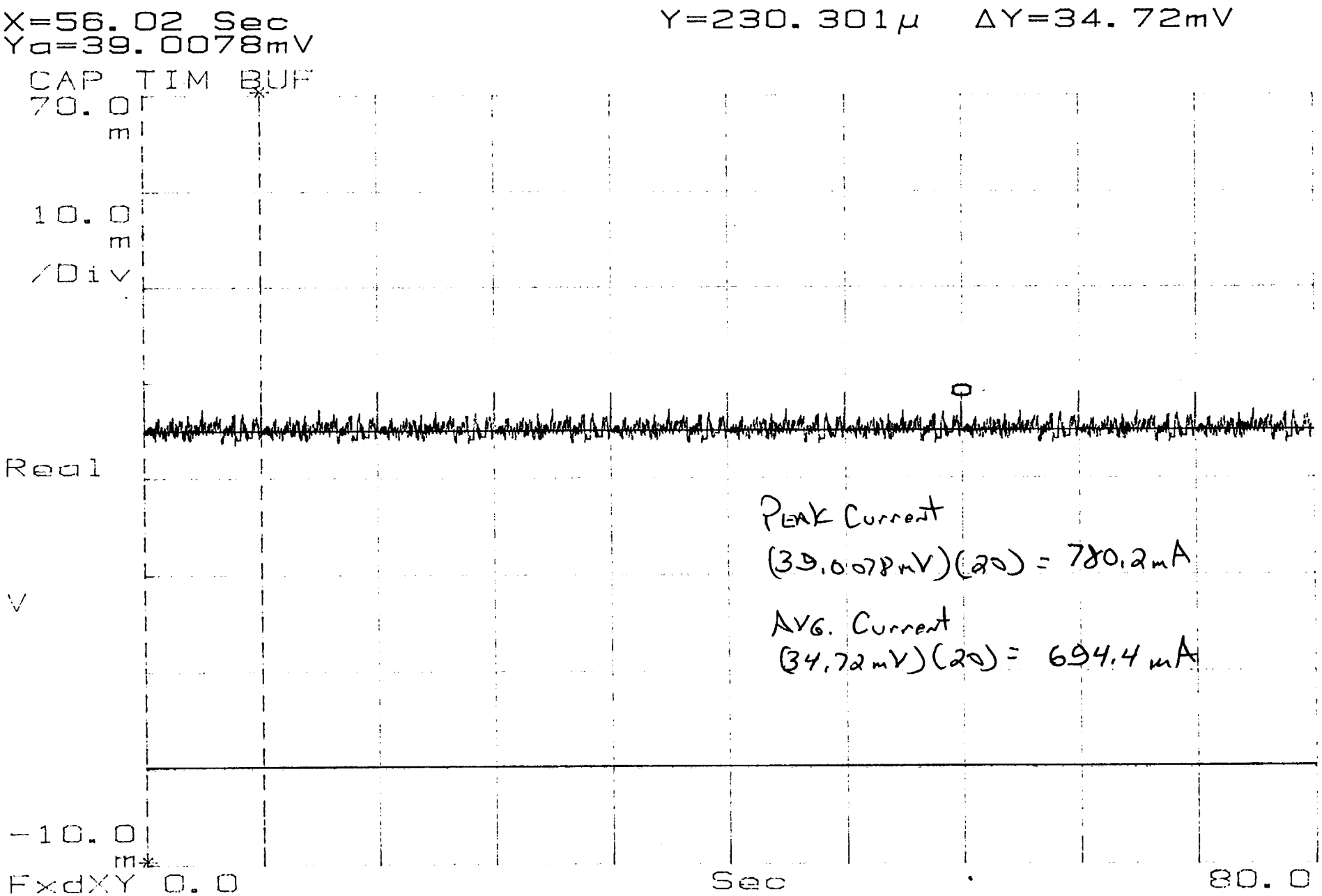
R. M. Macil 4-8-98

Test Systems Engineer Date APR 8 98

4/10/94

Customer Representative Date

Quality Control Date



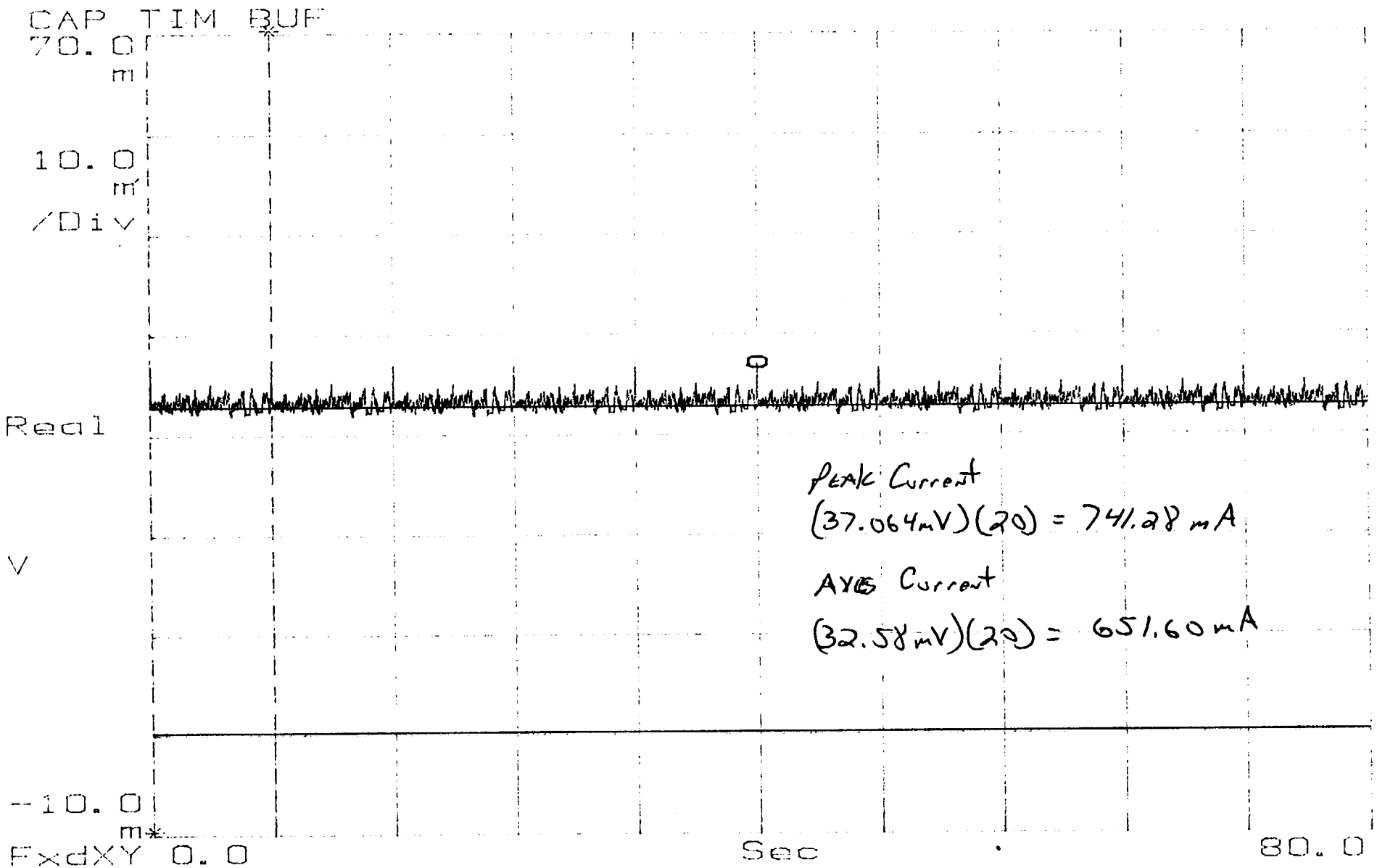
Current QBUS 27.0

SCALE FACTOR

10mV = 200mA

X=40.02 Sec
Ya=37.064mV

Y=230.301μ ΔY=32.58mV



Peak Current
(37.064mV)(20) = 741.28 mA

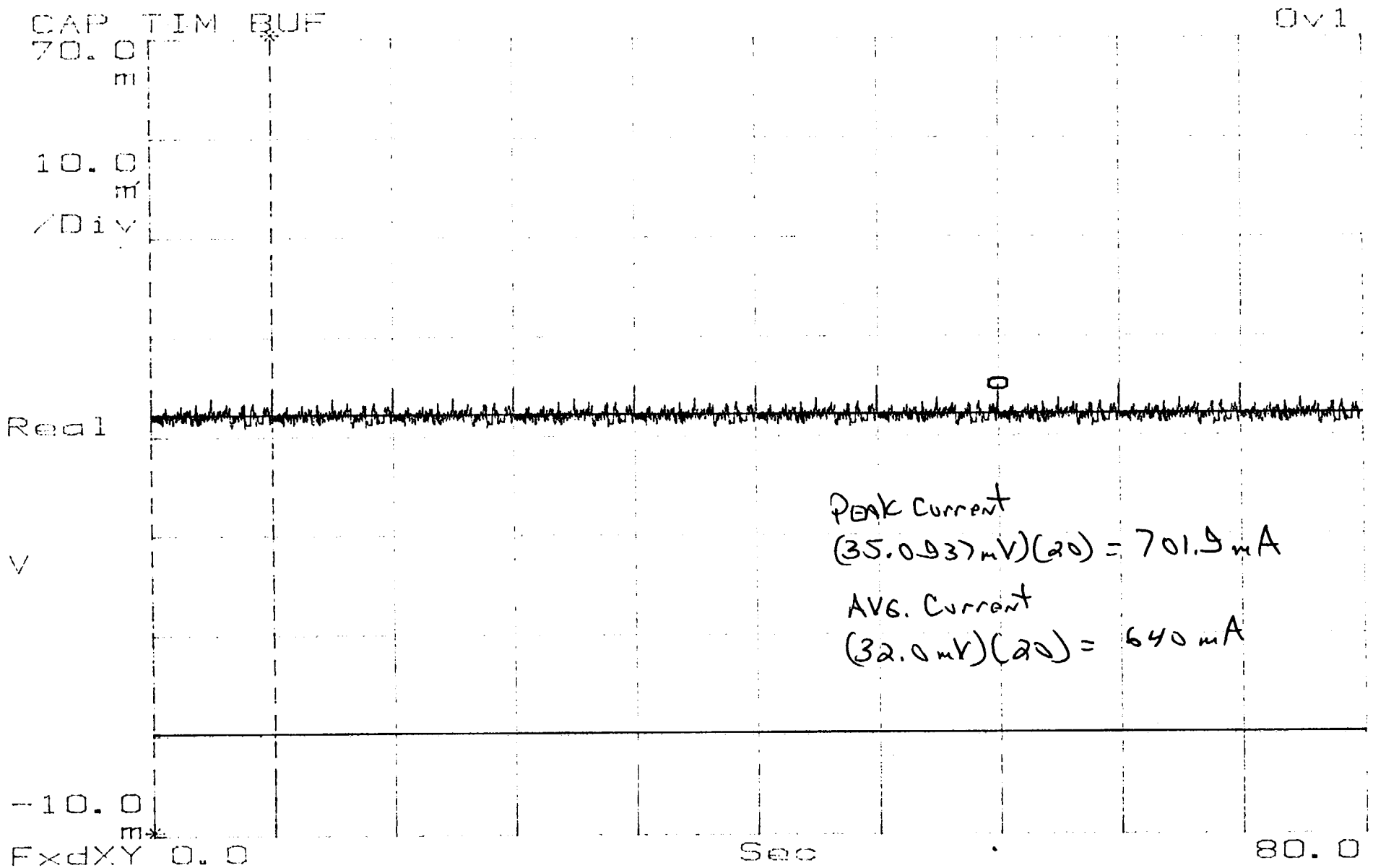
AVG Current
(32.58mV)(20) = 651.60 mA

CURRENT Ω BUS 29.0V

SCALE FACTOR
10mV = 200 mA

APR 8 98

(74A 197)



Current Q-Bus 31.0Y

SCALE FACTOR
10mV = 200mA

APR 8 98

TEST DATA SHEET NO. 3

Quiet Power Bus Operational Power Test (LPT) (Paragraph 3.3.3.1.2)

Required Quiet Bus Voltage QBV (Volts)	Measured QBV (Volts)	Average Quiet Bus Current QBI (Amps)	Required Power (Watts)	Calculated Average Power (QBV x QBI) (Watts)	Pass/Fail
28.95 - 29.05	29.01	≈ 0.64 Avg.	<25	18.57	P.

NOTE: 0.62 to 0.65 Amp. QBI

This data is taken for reference only.

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202

LPT ✓

Customer Representative 4/10/98 Date

P. K. Patel 4/8/98

Test Systems Engineer Date APR 8 98

Quality Control (7A 197) Date

TEST DATA SHEET NO. 4

Quiet Power Bus Turn On Transient Test (Paragraph 3.3.3.1.3)

+31 Volts

Parameter	Measured/Calculated		Required	Pass/Fail
Peak Current	9.43	Amps	<8.3 Amps	F *
Pulse Width	63.49	ms	<150 ms	P
Rate of Change(slope): dI/dT	1004	ma/µs	<640 mA/µs	F *

+29 Volts

Parameter	Measured/Calculated		Required	Pass/Fail
Peak Current	8.43	Amps	<8.3 Amps	F *
Pulse Width	63.89	ms	<150 ms	P
Rate of Change(slope): dI/dT	1051	ma/µs	<640 mA/µs	F *

+27 Volts

Parameter	Measured/Calculated		Required	Pass/Fail
Peak Current	8.09	Amps	<8.3 Amps	P
Pulse Width	65.25	ms	<150 ms	P
Rate of Change(slope): dI/dT	865.8	ma/µs	<640 mA/µs	F *

* TAR ORD. 3193 This sheet may be completely signed off. TAR closed out on 4/9/98 and FAR 071 was opened. All data will be sent to TRW for evaluation. 4/9/98

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202

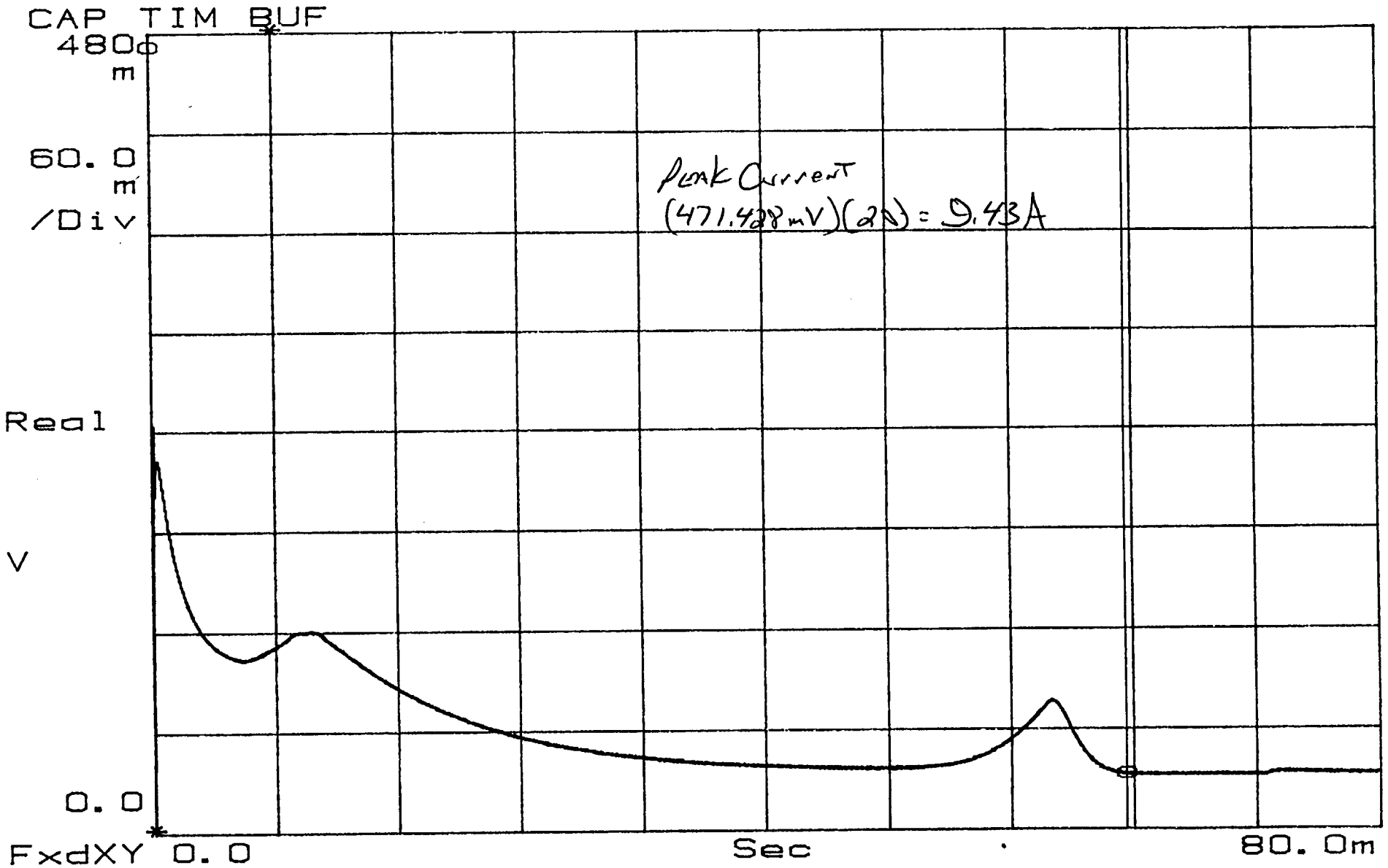
Circle Test: (1st CPT) Final CPT

4/10/98
Customer Representative Date

R. M. Main 4-8-98
Test Systems Engineer Date

7A 197
Quality Control APR 9 98 Date

X=15.62μS ΔX=63.49mS
Ya=471.428m ΔYa=438.5mV

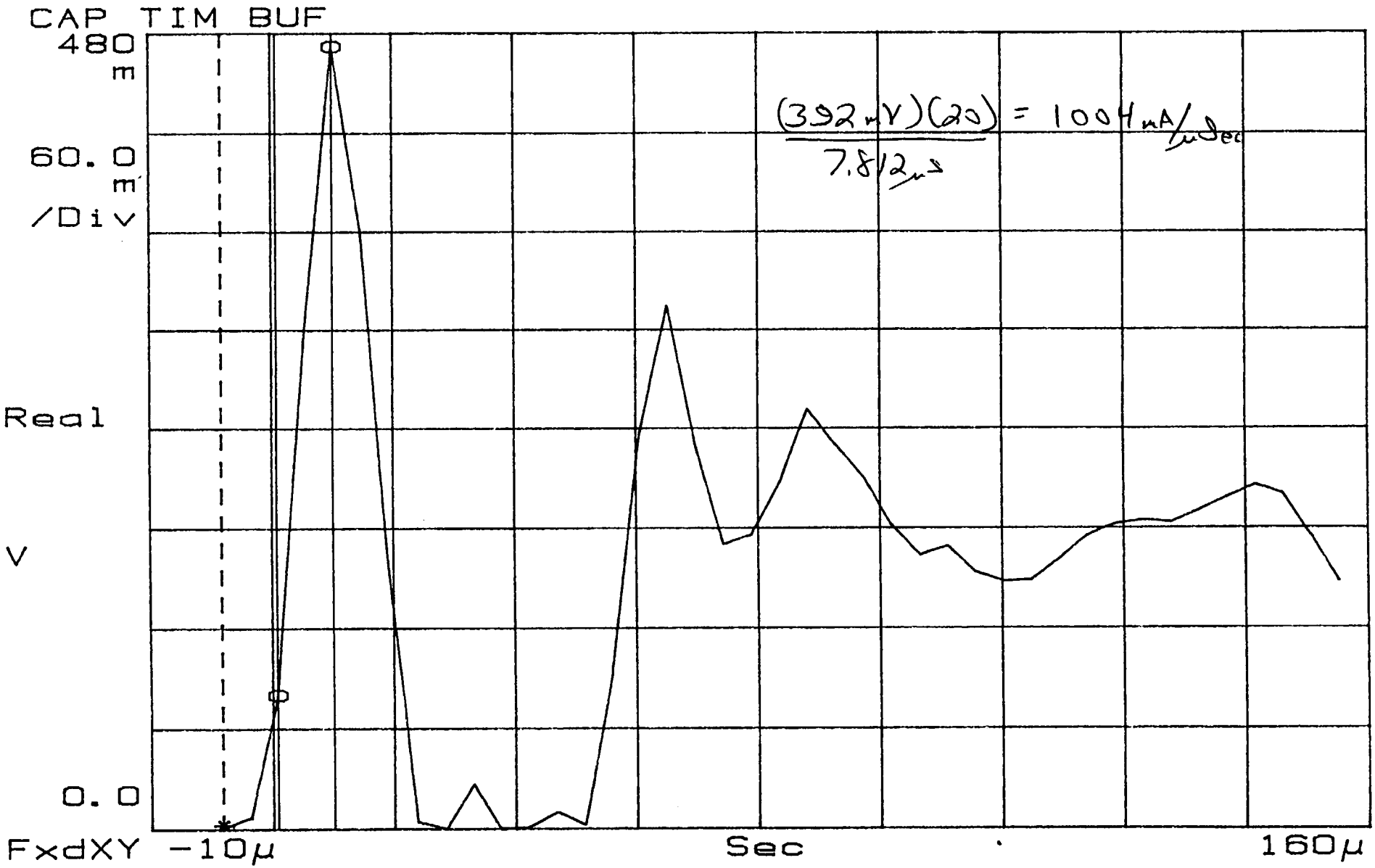


APR 9 98

Q-Buss 31.0V

SCALE FACTOR
10mV = 200mA

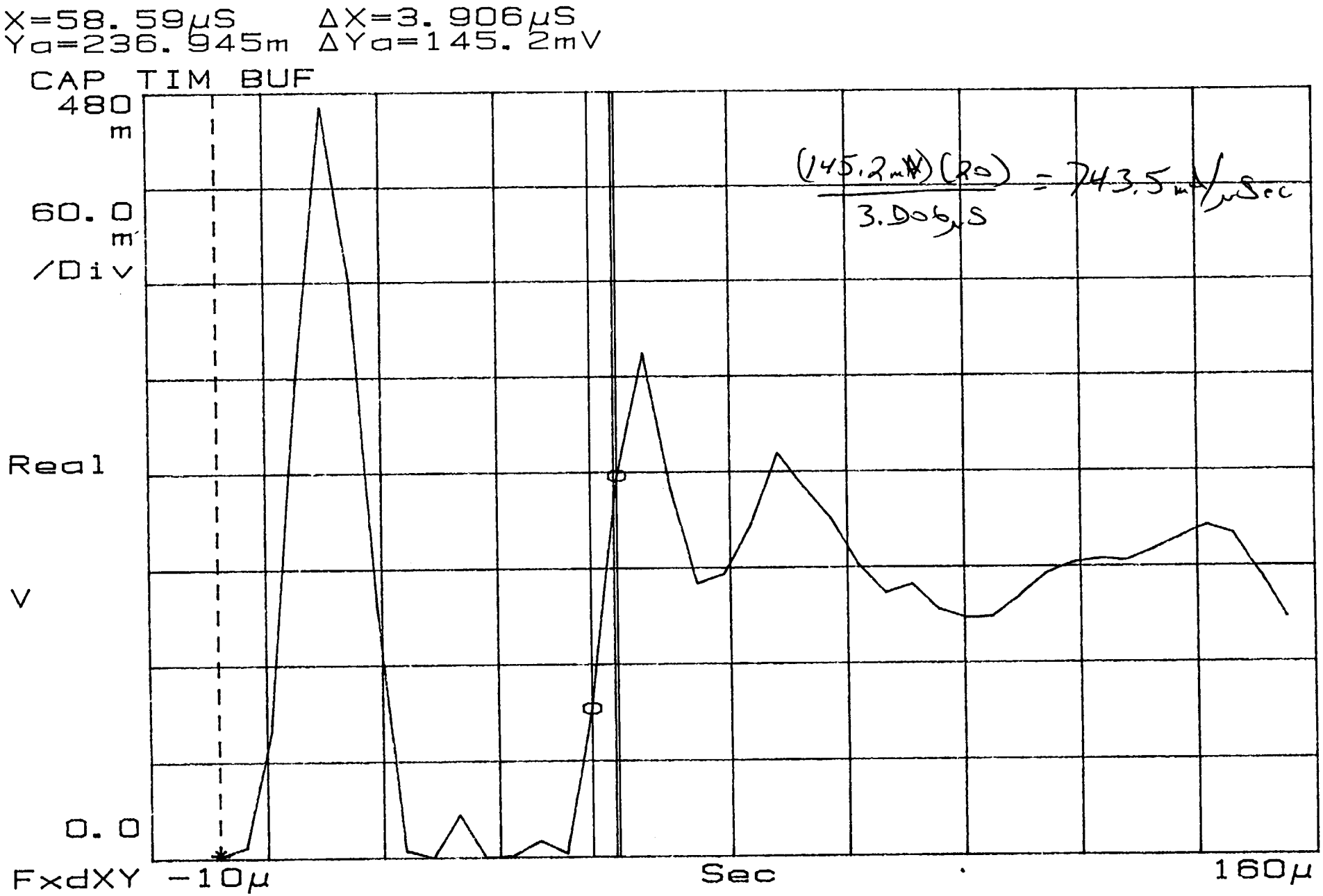
X=7.812µS ΔX=7.812µS
Ya=79.3919m ΔYa=392.0mV



APR 9 98
7A 197

Q-bus 31.0V

SCALE FACTOR
10mV = 200mA

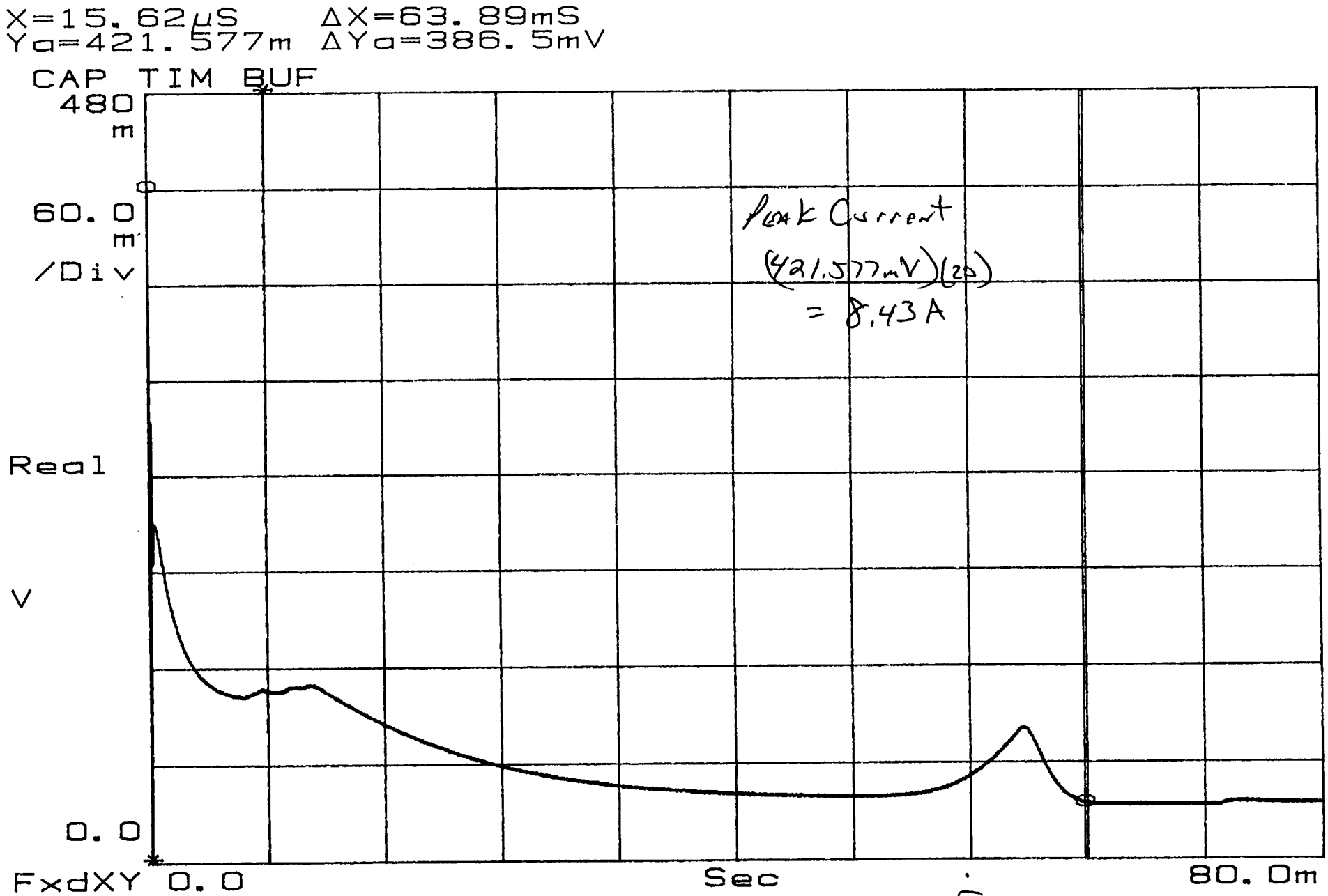


SCALE FACTOR

10mV = 200mA

Q-Bus 31.0V

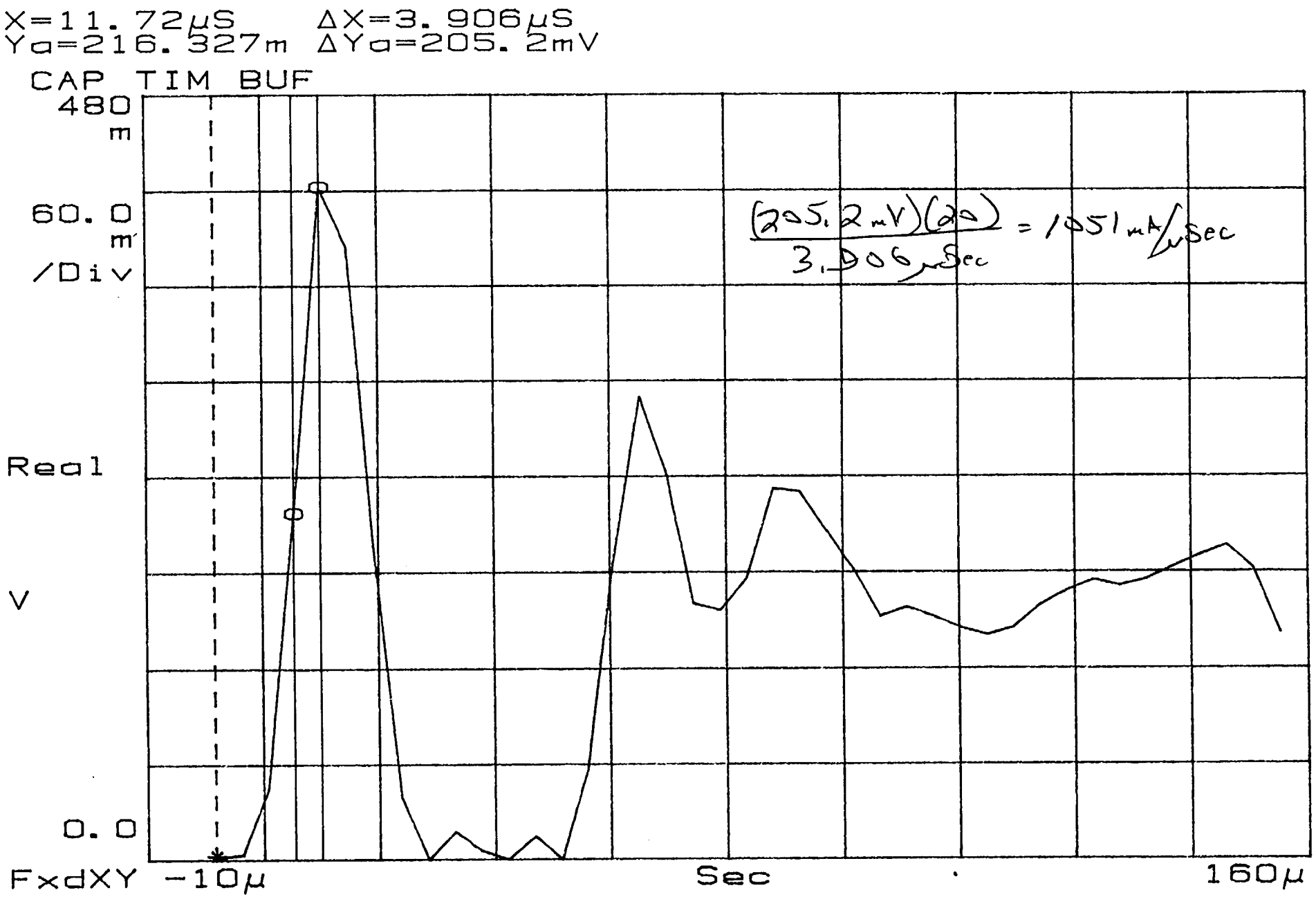
TA 197
APR 6 98



Q-Bus 29.0 V

SCALE FACTOR

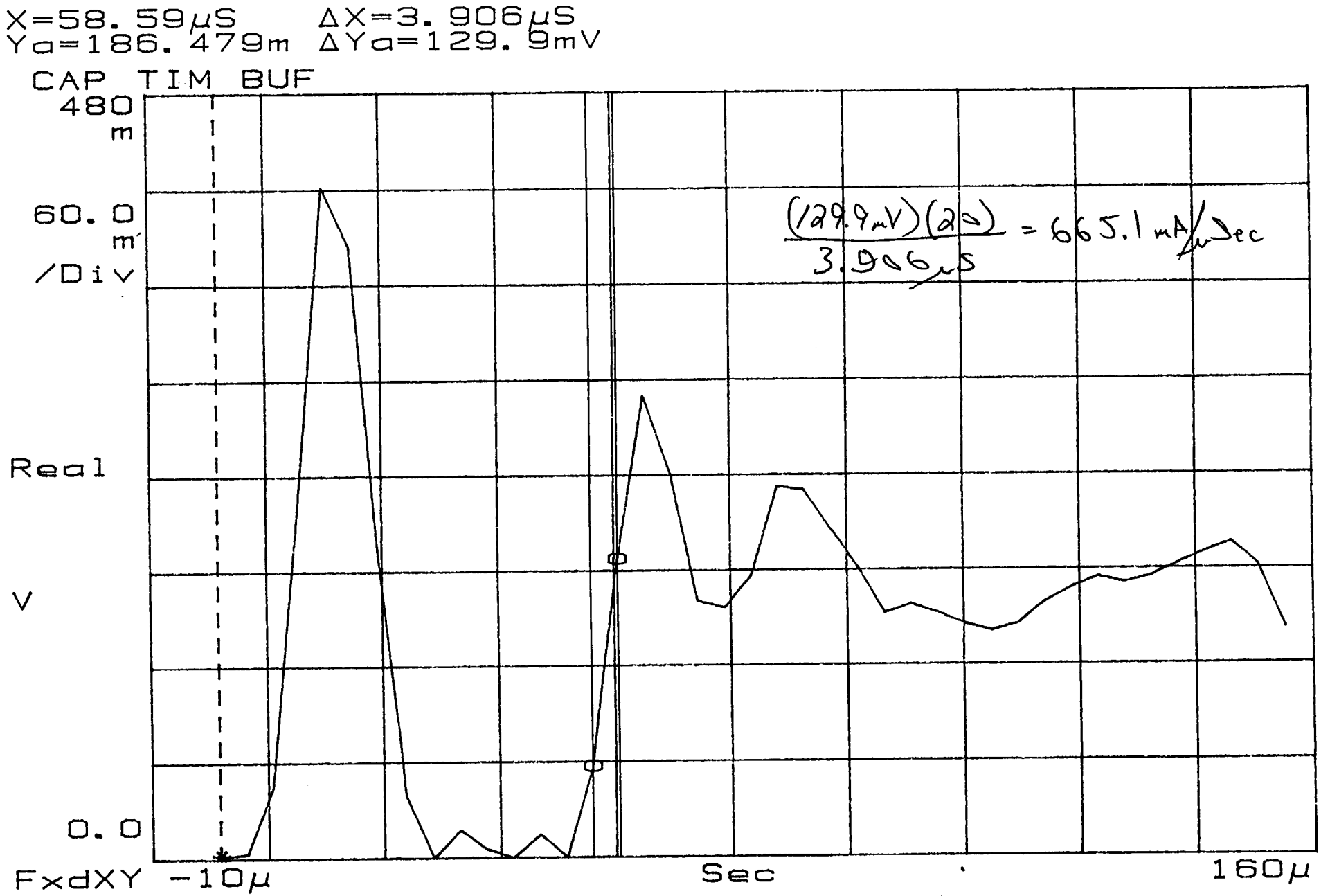
10mV = 200mA



APR 9 98

Q-Bus 29.0 V

SCALE FACTOR
10 mV = 200 mA

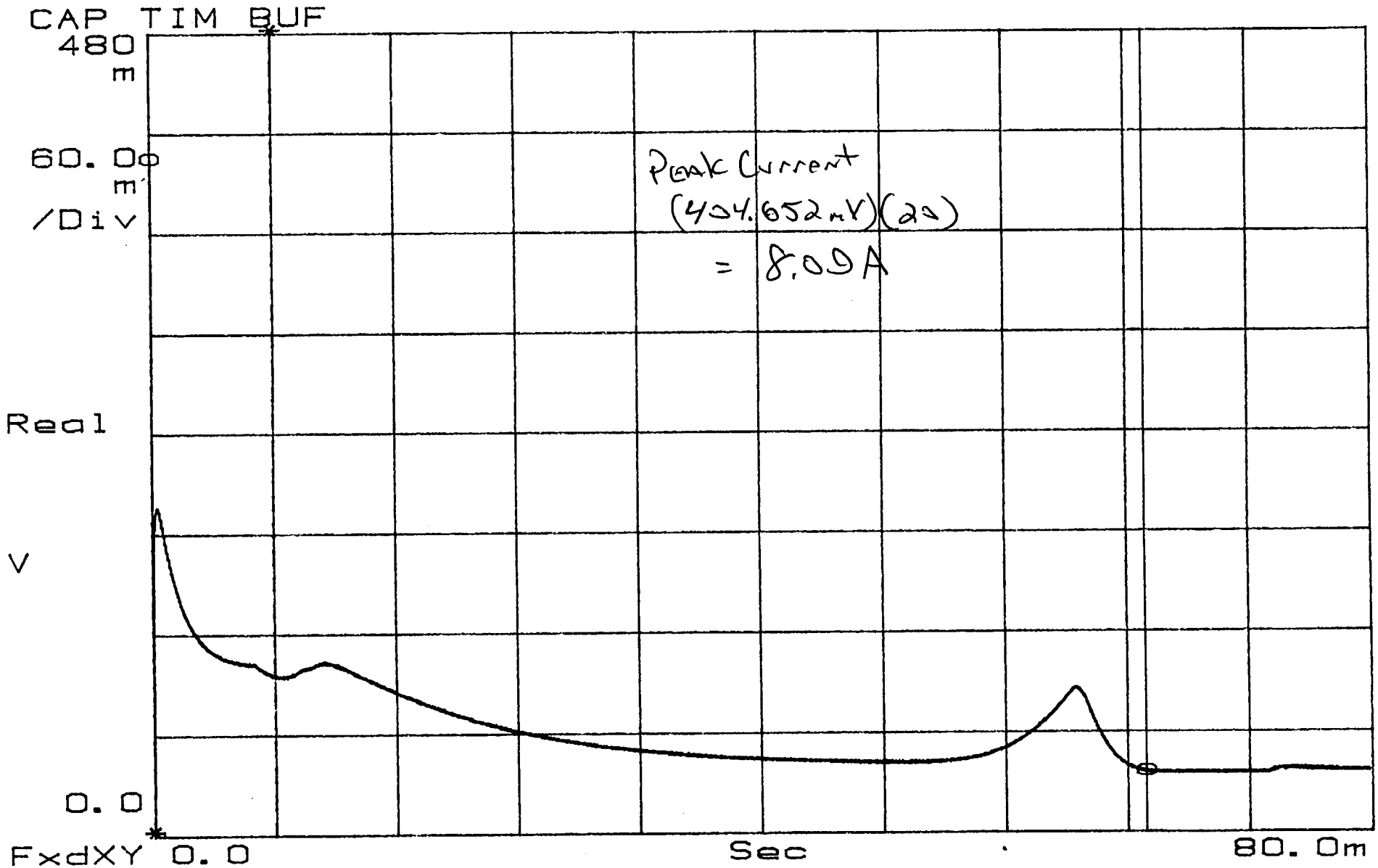


7A 197 APR 9 98

Q-Bus 29.0 V

SCALE FACTOR
10 mV = 200mA

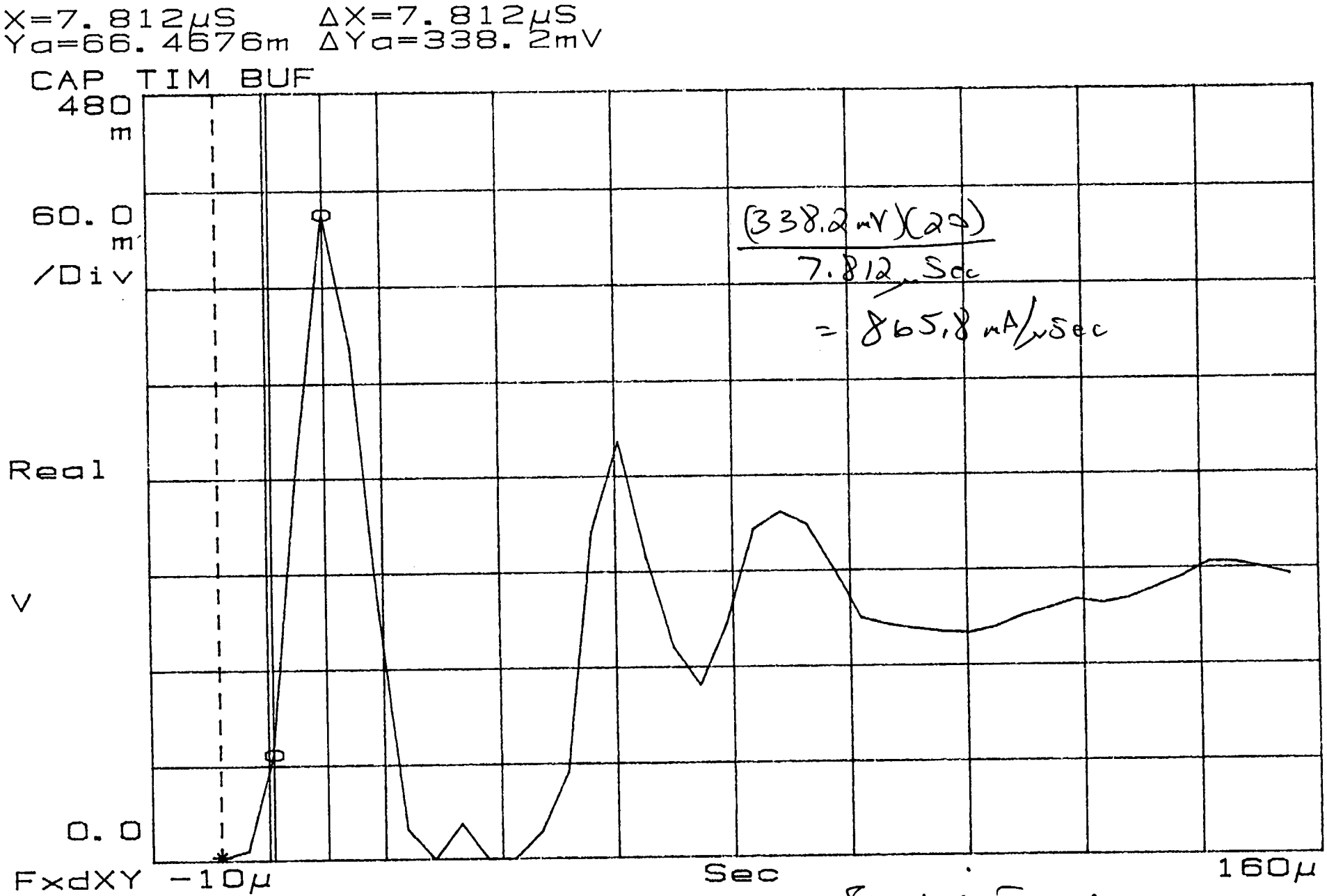
X=15.62μS ΔX=65.25mS
Ya=404.652m ΔYa=368.6mV



Q-Bus 27.0 V

SCALE FACTOR
10mV = 200mA

7A 197 MDR 9 96

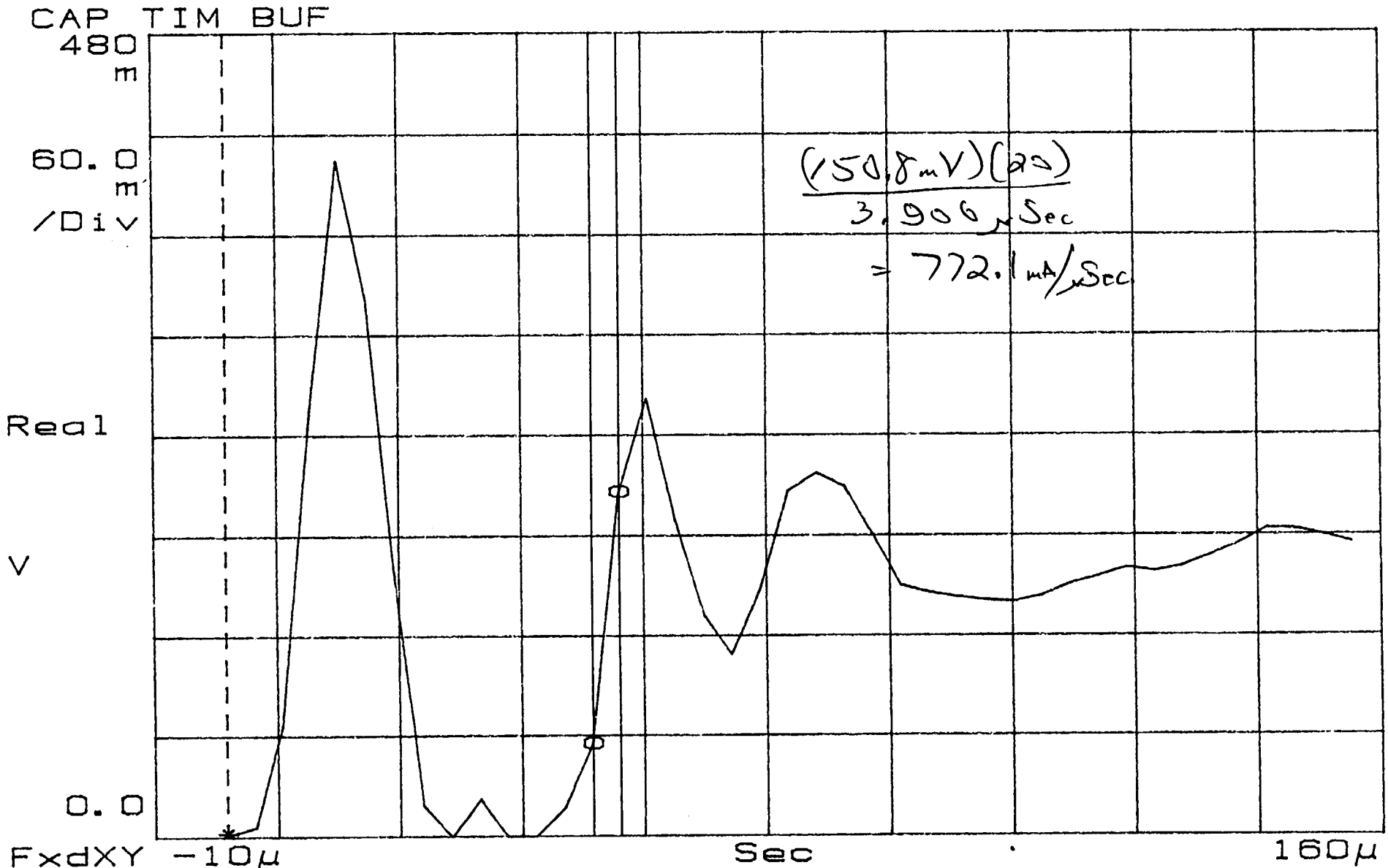


Q-Bus 27.0V

SCALE FACTOR

10mV = 200mA

X=54.69µS ΔX=3.906µS
Ya=205.557m ΔYa=150.8mV



Q-bus 27.0V

SCALE FACTOR
10mV = 200mA

TEST DATA SHEET NO. 5

Noisy Power Bus Operational Power Test (Paragraph 3.3.3.2.1)

Required Noisy Bus Voltage NBV (Volts)	Measured NBV (Volts)	REQUIRED PEAK CURRENT (AMPS)	Maximum Peak Noisy Bus Current NBI (Amps)	Required Peak Power (Watts)	Calculated Peak Power (NBV x NBI) (Watts)	Pass/F
26.95 - 27.05	27.0	≤1.2	1.05A	≤40	28.36 W	PASS
28.95 - 29.05	29.0	≤1.2	1.04A	≤40	30.12 W	PASS
30.95 - 31.05	31.0	≤1.2	0.984A	≤40	30.5 W	PASS

Required Noisy Bus Voltage NBV (Volts)	Measured NBV (Volts)	Average Noisy Bus Current NBI (Amps)	Required Average Power (Watts)	Calculated Average Power (NBV x NBI) (Watts)	Pass/Fail
26.95 - 27.05	27.0	0.1079A	≤6	2.913W	PASS
28.95 - 29.05	29.0	0.1128A	≤6	3.271W	PASS
30.95 - 31.05	31.0	0.1159A	≤6	3.592W	PASS

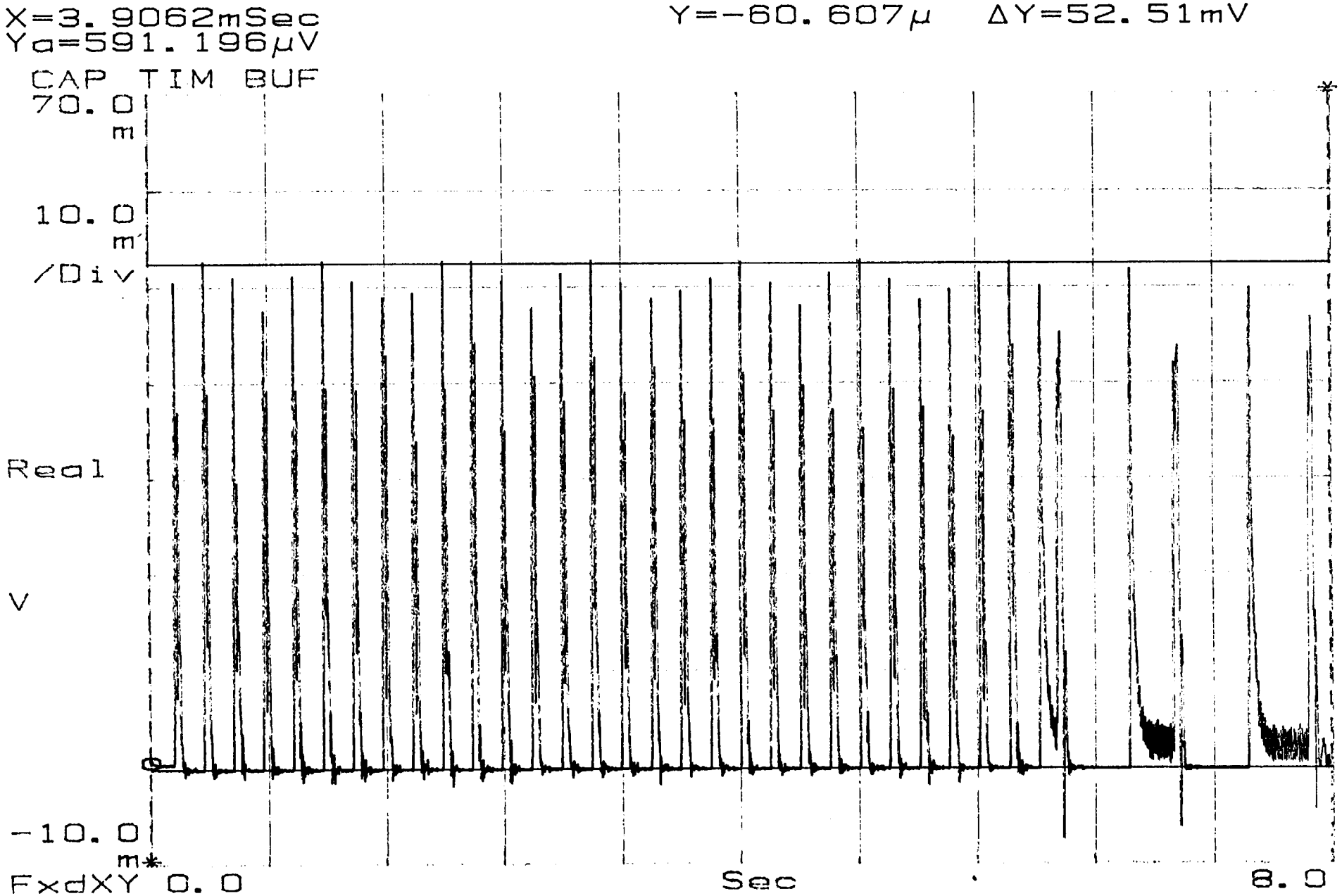
EOS/AMSU-A2 System P/N 1356006 Shop Order: 323731 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT _____

R. M. Moore 4-8-98
Test Systems Engineer (197) Date

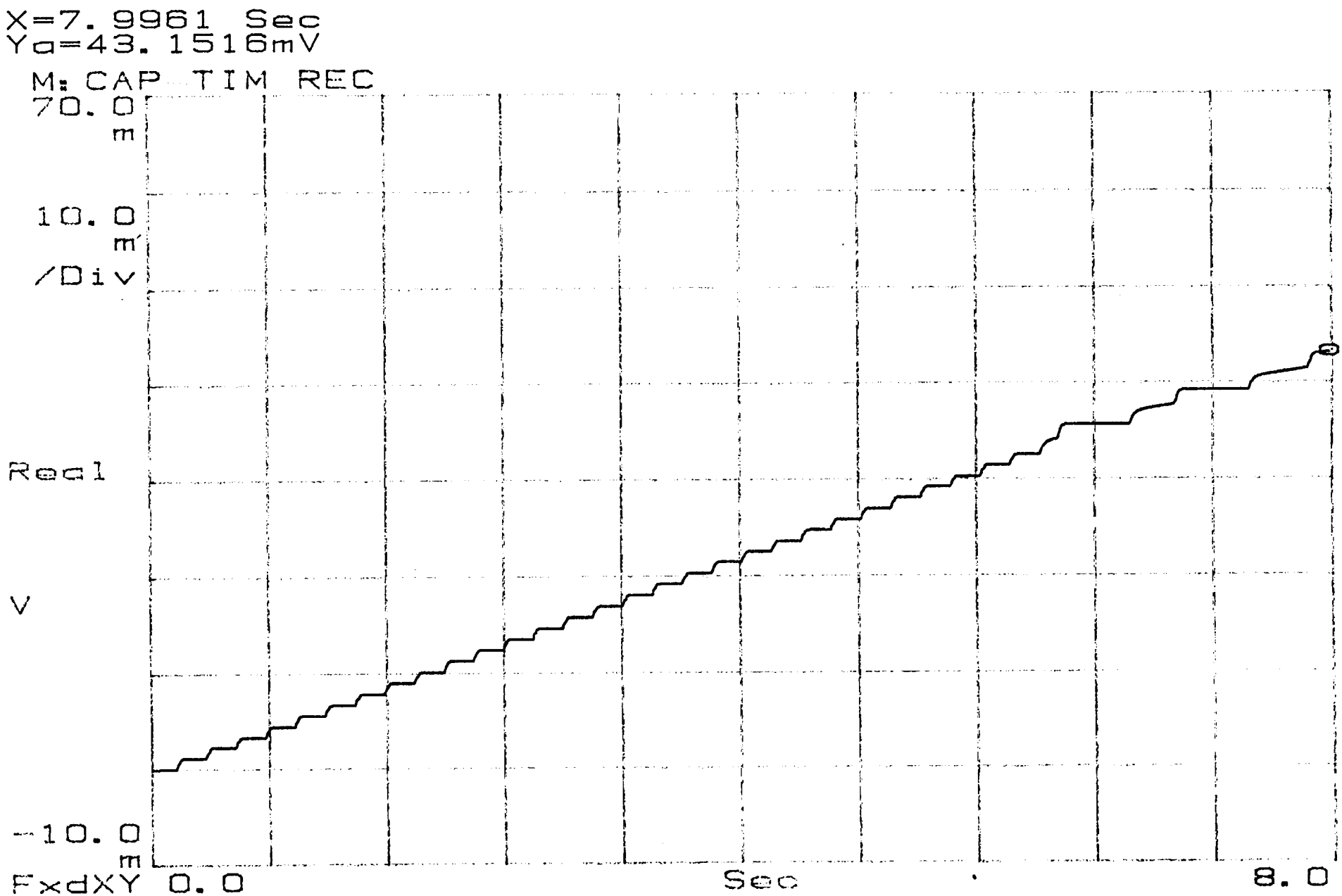
4/8/98
Customer Representative Date

APR 8 98
Quality Control Date



N-Bus 27.0 V

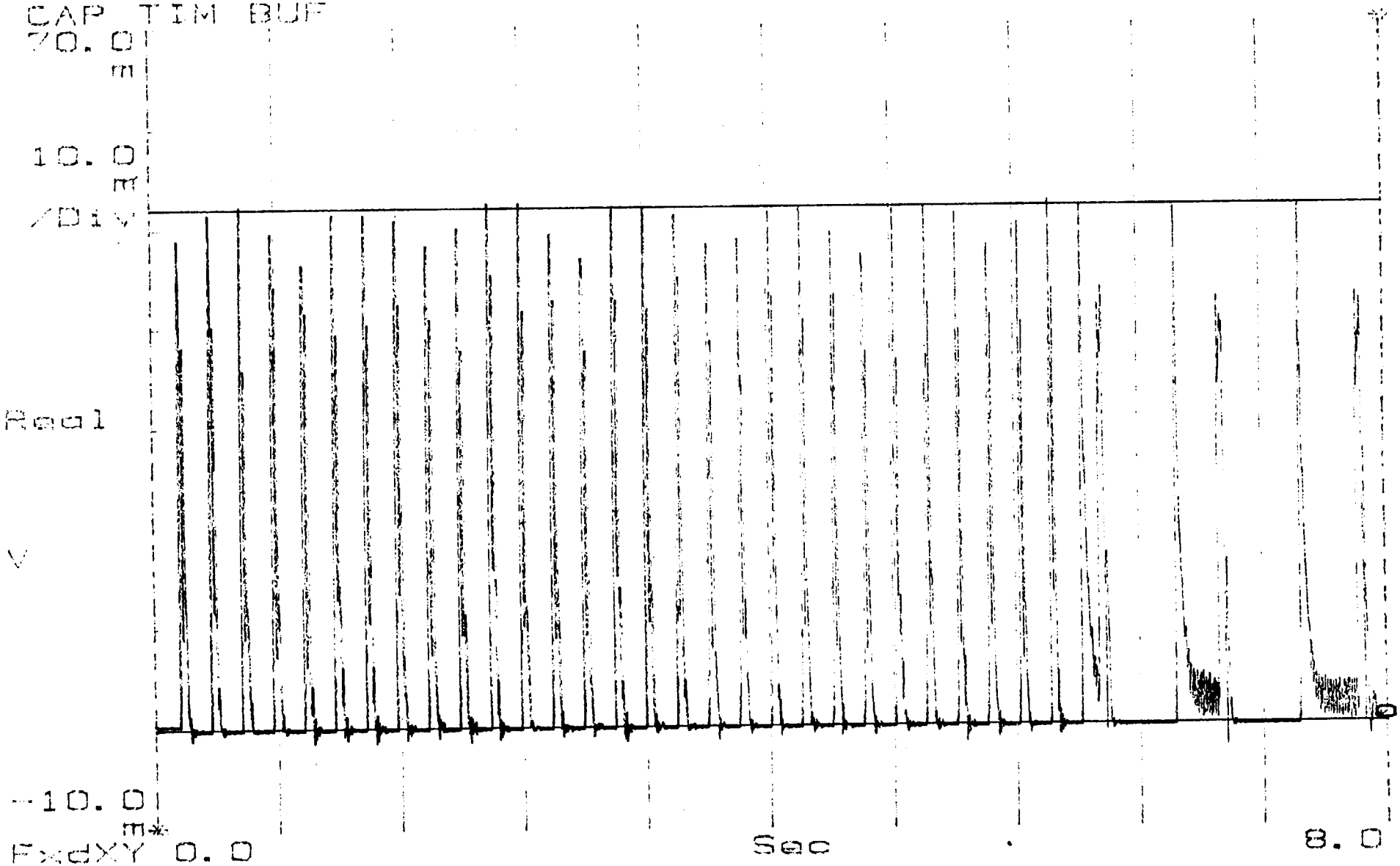
10mV = 200mA


X=7.9961 Sec
Ya=43.1516mV
M: CAP TIM REC
70.0 m
10.0 m/Div
Real
V
-10.0 m
FxdXY 0.0
Sec
8.0

N Bus 27.0V

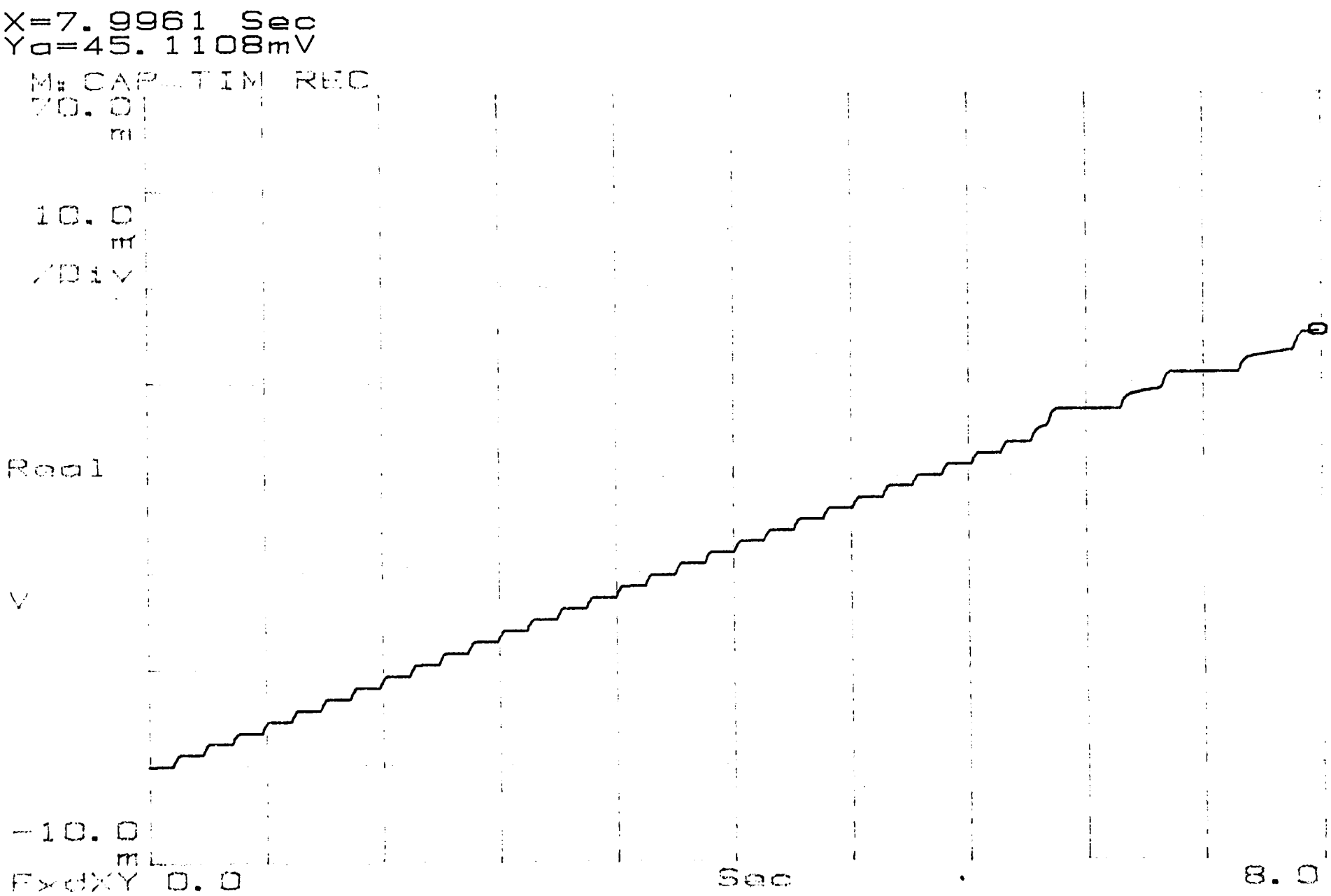
X=7.9961 Sec
Ya=765.985μV

Y=52.0606m ΔY=51.93mV



N-Bus 28.0V

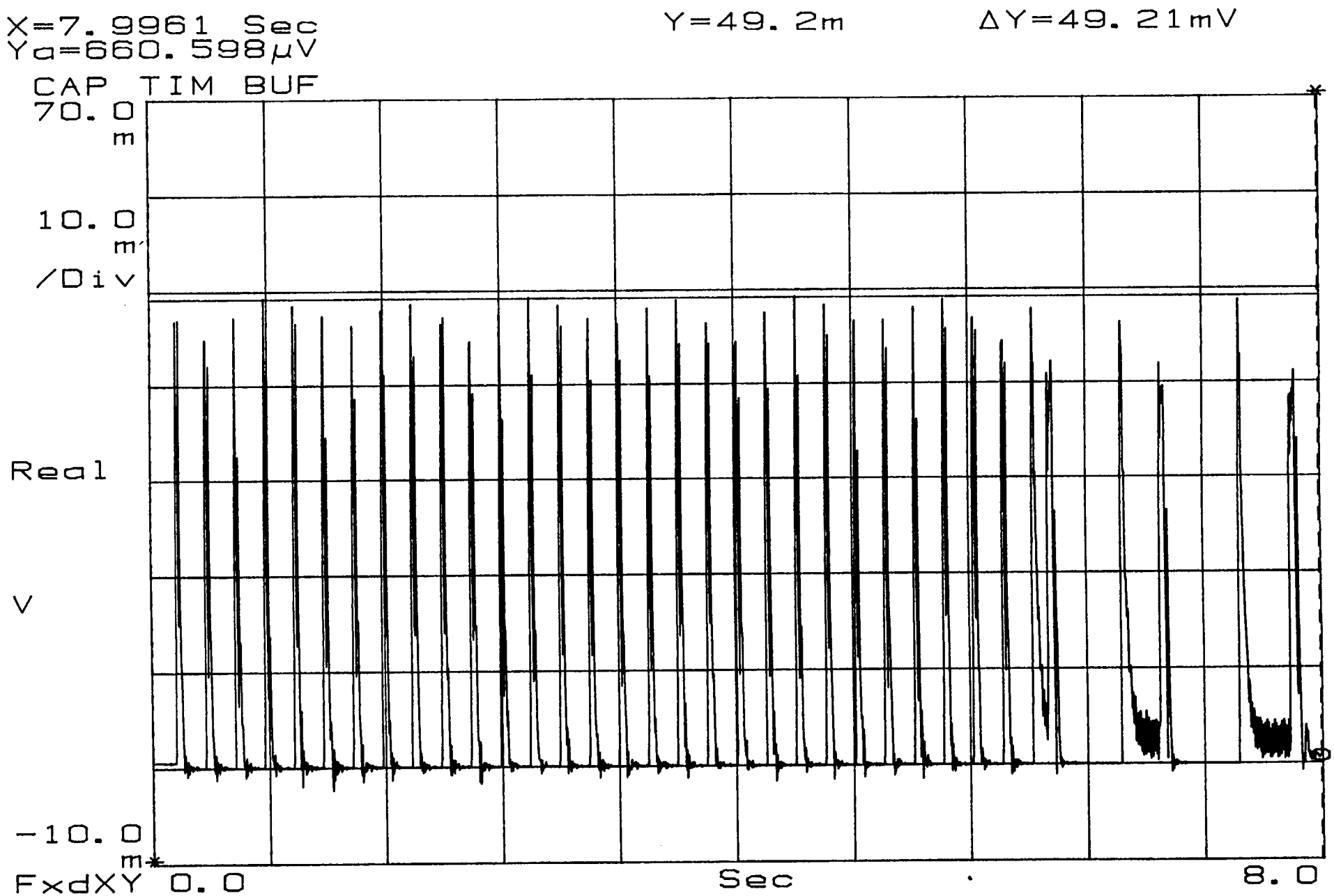
APR 8 '86 (74-197)



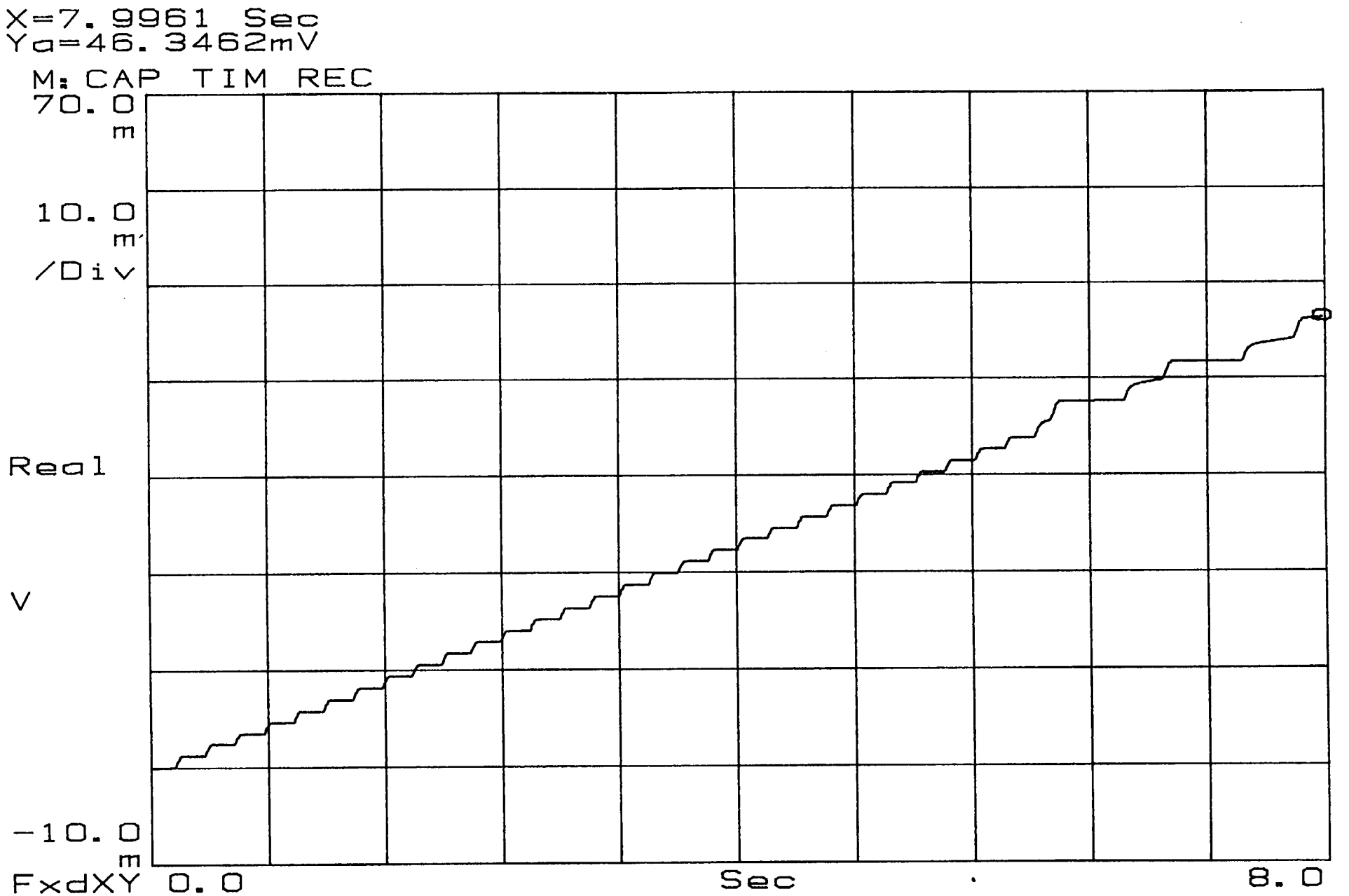
APR 8 98

N-bus

29.0V


X=7.9961 Sec
Ya=660.598µV
Y=49.2m
ΔY=49.21mV
CAP TIM BUF
70.0 m
10.0 m/Div
Real V
-10.0 m
FxdXY 0.0
Sec
8.0

N- Bus 31.0V



N-BUS

31.0V

APR 8 86

TEST DATA SHEET NO. 6

Noisy Power Bus Turn On Transient Test (Paragraph 3.3.3.2.2)

+31 Volts

Parameter	Measured/Calculated	Required	Pass/Fail
Peak Current	14.38 Amps	<9.6 Amps	F *
Pulse Width	145 μSec ms	<100 ms	P
Rate of Change(slope): dI/dT	1498 ma/μs	<846 mA/μs	F *

+29 Volts

Parameter	Measured/Calculated	Required	Pass/Fail
Peak Current	13.46 Amps	<9.6 Amps	F *
Pulse Width	110 μSec ms	<100 ms	P
Rate of Change(slope): dI/dT	1395 ma/μs	<846 mA/μs	F *

+27 Volts

Parameter	Measured/Calculated	Required	Pass/Fail
Peak Current	12.47 Amps	<9.6 Amps	F *
Pulse Width	110 μSec ms	<100 ms	P
Rate of Change(slope): dI/dT	1008 ma/μs	<846 mA/μs	F *

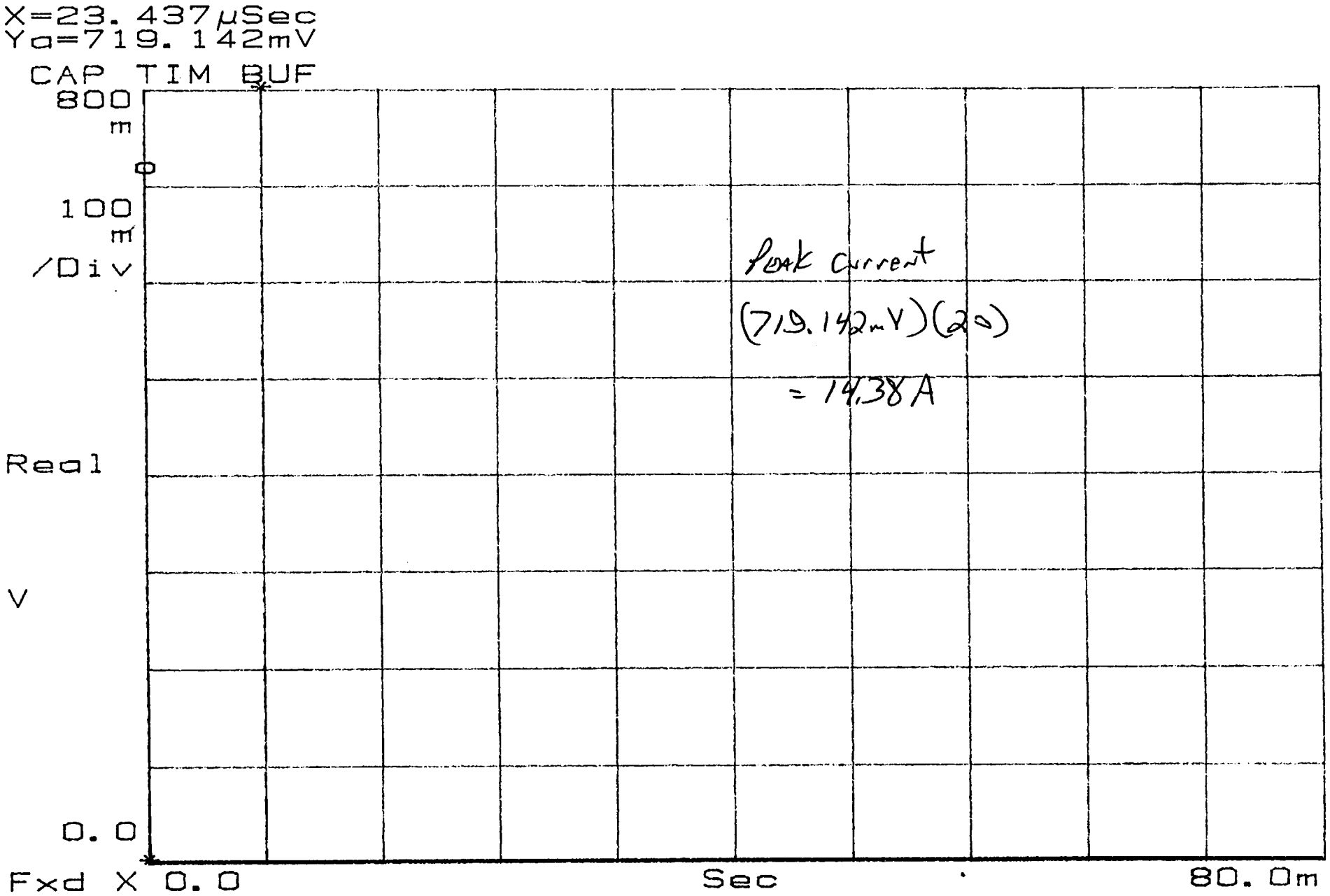
* TAR NO: 3193
TAR NO: 3193 closed out 4/9/98
FAR 01 opened 4/9/98. Data transferred to TRW for evaluation. This sheet may be completely signed off 4/9/98

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT

Customer Representative 4/10/98 Date

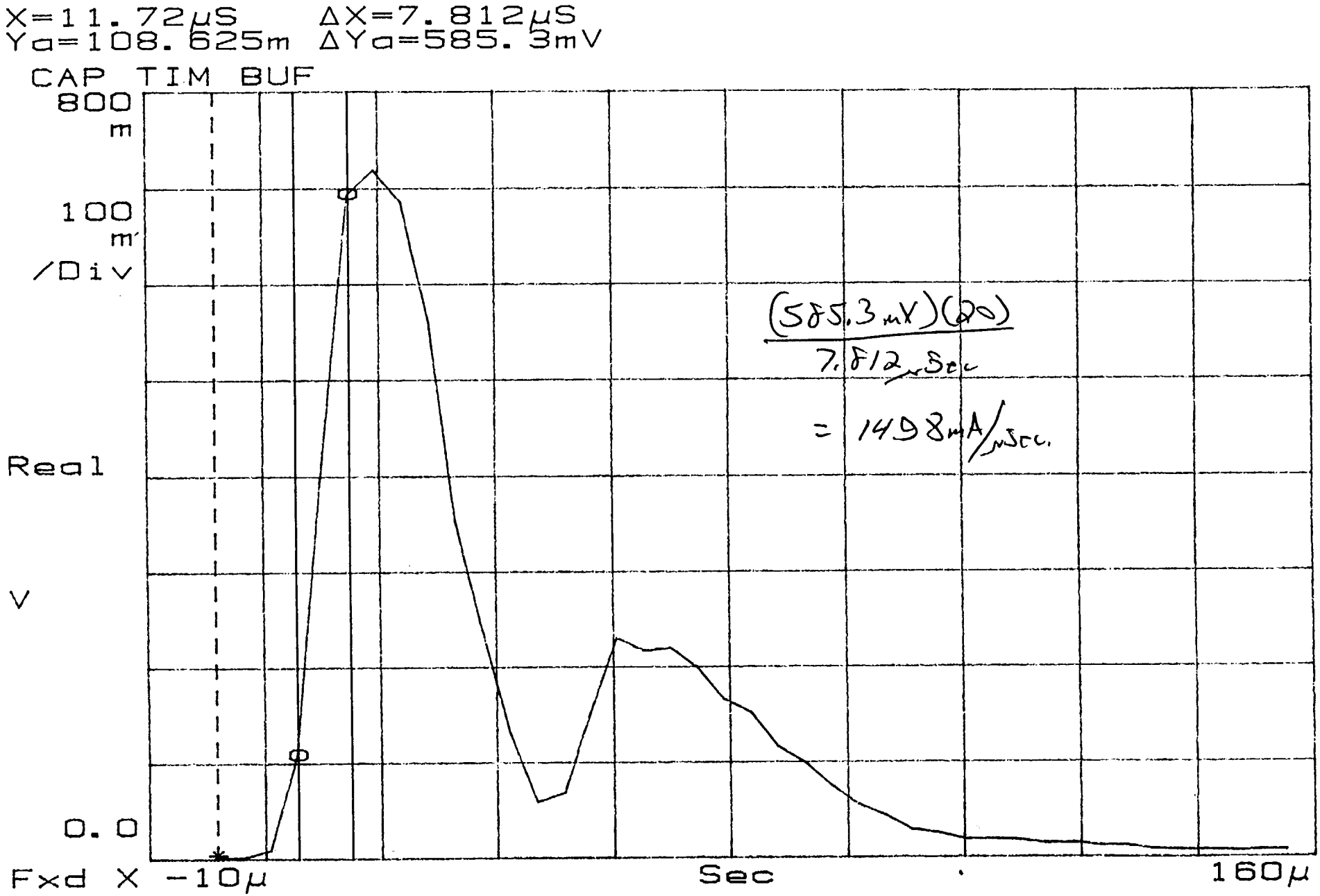
Test Systems Engineer 4-8-98 Date

Quality Control APR 9 98 Date



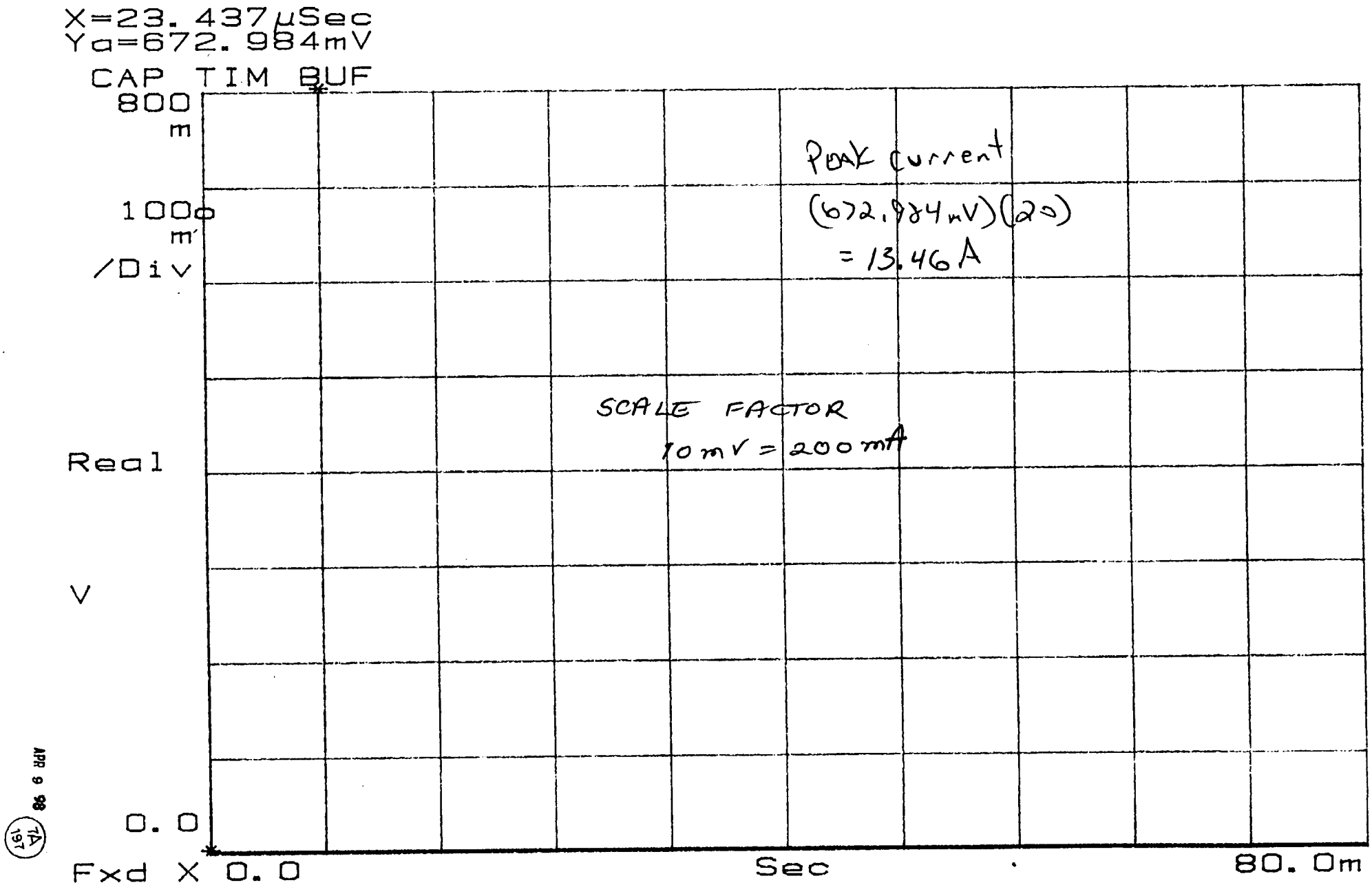
N-Bus 31.0V

SCALE FACTOR
10mV = 200mA

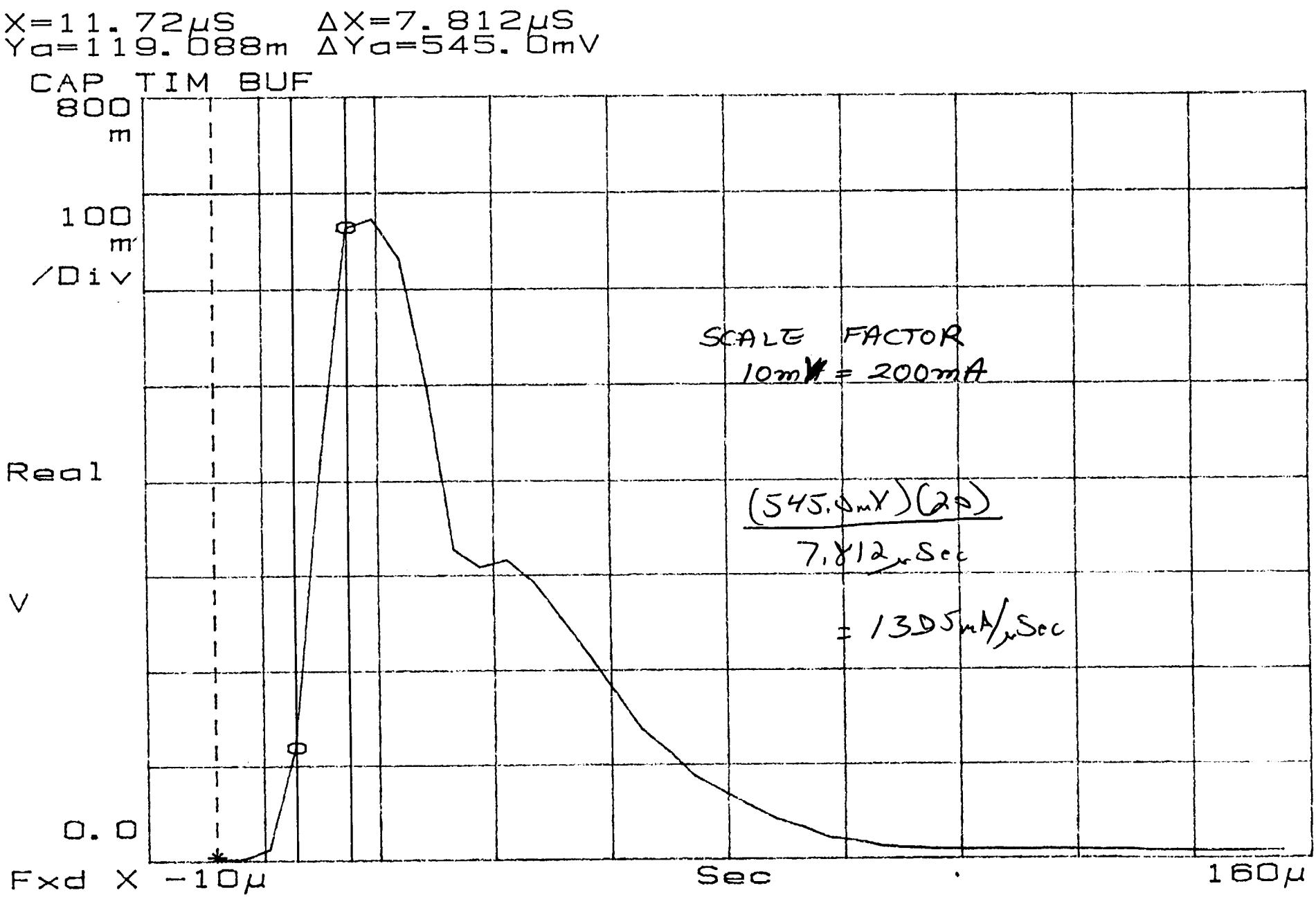


N-605 31.2V

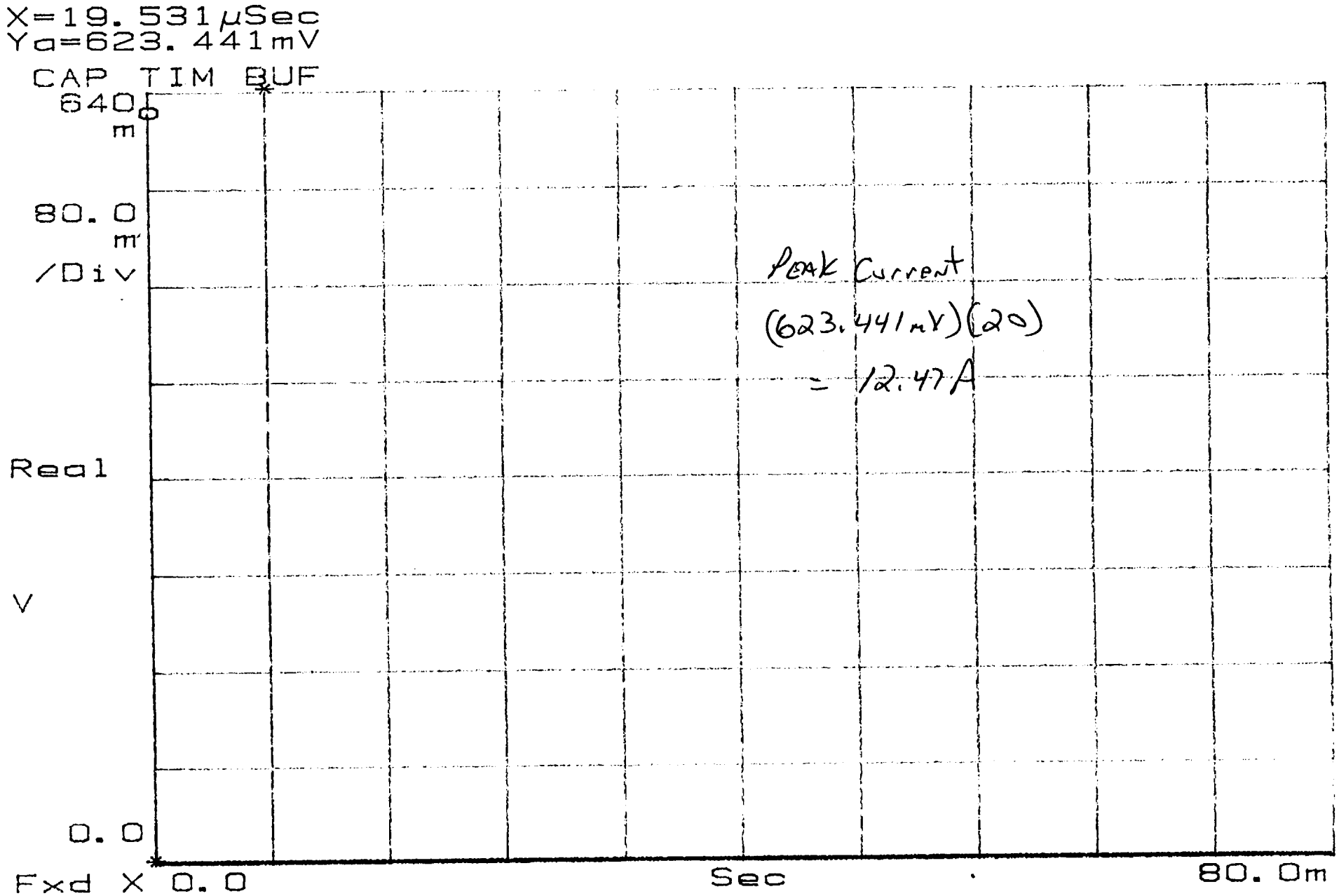
SCALE FACTOR
10mV = 200mA


X=23.437µSec
Ya=672.984mV
CAP TIM BUF
800 m
100 m /Div
Real
V
0.0
Fxd X 0.0
Sec
80.0m
Peak current
(672.984mV)(20)
= 13.46A
SCALE FACTOR
10mV = 200mA

N-Bus 29.0V

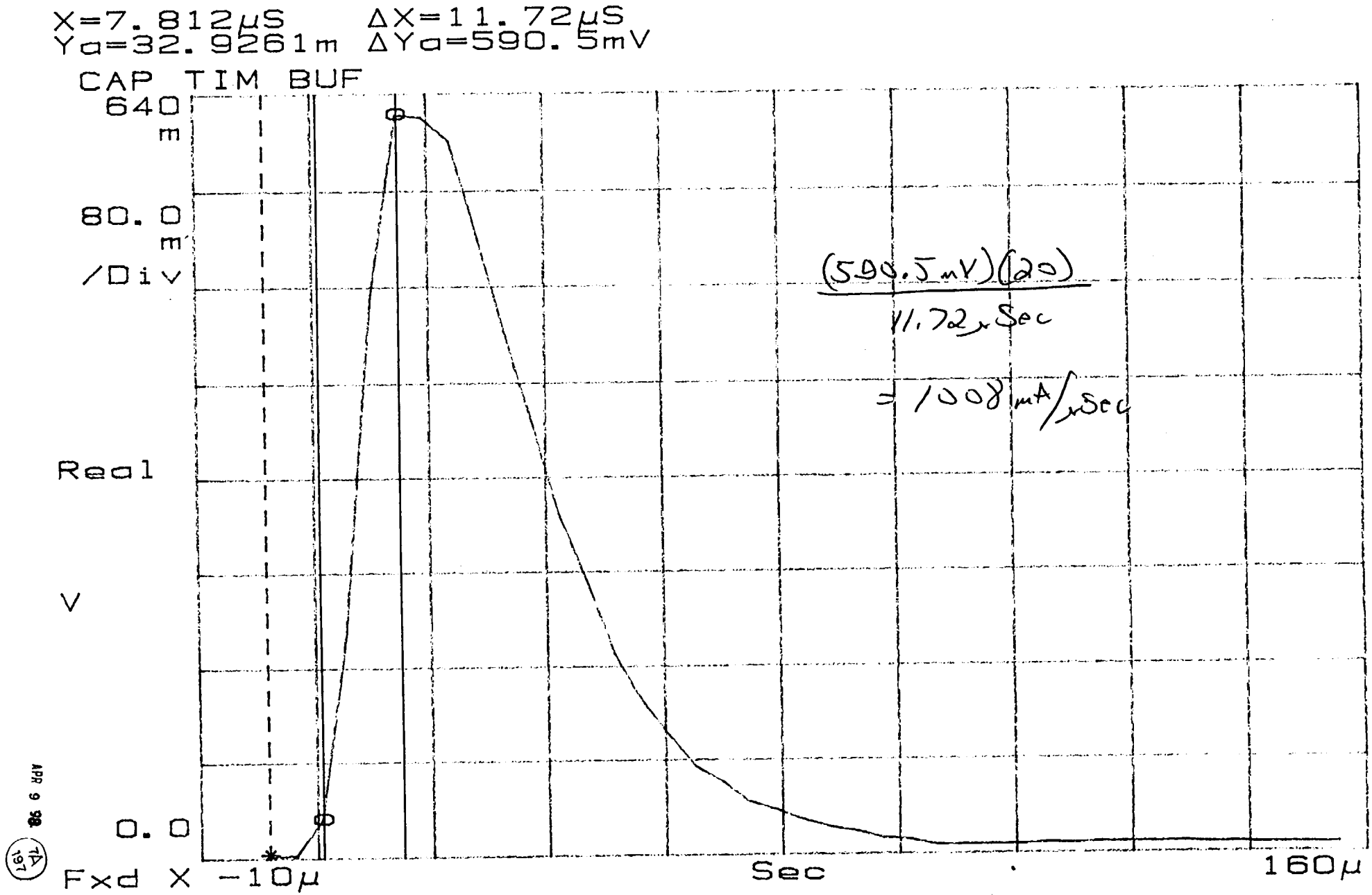

X=11.72µS ΔX=7.812µS
Ya=119.088m ΔYa=545.0mV
CAP TIM BUF
800 m
100 m /Div
Real
V
0.0
Fxd X -10µ
Sec
160µ
SCALE FACTOR
10mV = 200mA
(545.0mV)(20)
7.812µSec
= 1395mA/µSec

N-bus 29.0Y



APR 9 98 (TA 197)

N-bus 27.9V


X=7.812µS ΔX=11.72µS
Ya=32.9261m ΔYa=590.5mV
CAP TIM BUF
640 m
80.0 m /Div
Real
V
0.0
Fxd X −10µ
Sec
160µ
(590.5mV)(20)
11.72µSec
= 1008 mA/µSec

N-Bus 27.0V

TEST DATA SHEET NO. 7

Passive Analog Interface Test (Paragraph 3.3.4)

Number	Thermistor	Required Temperature (Celsius)	Measured Temperature (Celsius)	Pass/Fail
1	A2 SCAN MOTOR	21.8 * ±5°	21.15	PASS
2	A2 RF SHELF # 1	21.8 * ±5°	21.09	PASS
3	A2 WARM LOAD	21.8 * ±5°	21.37	PASS
4	A2 RF SHELF # 2	21.8 * ±5°	21.26	PASS

* is the measured Temperature of the Unit environment.

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

CSL 3243

4/10/98
Customer Representative Date

T. Smith 4-8-98
Test Systems Engineer (TA 197) Date APR 8 98

Quality Control Date

AE-26156/10 PARA. 3.3.4

EOS A2-04 E2.EXE;18 8-APR-98 04:43:46 SCAN NUMBER
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 00

UNPOWERED THERMISTORS

NO	DATA	TEMP C
1	SCAN MOTOR TEMPERATURE	21.15
2	RF SHELF TEMPERATURE #1	21.09
3	WARM LOAD TEMPERATURE	21.37
4	RF SHELF TEMPERATURE #2	21.26

POWER OFF CHECKSUM IN CALC SA28 0 SA29
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

S/O# 323737

AE-26156/10 TP 3.3.5.1

P/N 1356006-1-IT S/N 202 S/O # 323737

TEST DATA SHEET 1
Test Case 1 (Paragraph 4.3)

Unit Tested (AMSU-A1 or AMSU-A2) EOS/Amsu-A2

STE Tape Loaded E2.EXE;18 E2X.EXE;2

Instrument Control Tape Loaded NONE - FLIGHT PROMS

Control and Data Handling Tape Loaded NONE - FLIGHT PROMS

Procedure Step	Requirement Description	Specification Reference	Requirement Satisfied ? yes or no	HardCopy Test Data Attached ?	Test Data on Tape ?	Related Discrepany Reports
4.3.2a	Reset C&DH	5.1.1.2b,d 5.1.3.1	YES	YES	No	N/A
4.3.2b	Cold Cal	5.1.1.2b,d 5.1.3.1	YES	YES	No	N/A
4.3.2c	Cold Cal Position 4	5.1.1.2b,d 5.1.3.1	YES	YES	No	N/A
4.3.2d	Cold Cal Position 3	5.1.1.2b,d 5.1.3.1	YES	YES	No	N/A
4.3.2e	Cold Cal Position 2	5.1.1.2b,d 5.1.3.1	YES	YES	No	N/A
4.3.2f	Cold Cal Position 1	5.1.1.2b,d 5.1.3.1	YES	YES	No	N/A
4.3.2g	Nadir	5.1.1.2b,d 5.1.3.1	YES	YES	No	N/A
4.3.2h	Warm Cal	5.1.1.2b,d 5.1.3.1	YES	YES	No	N/A
4.3.2i	Full Scan	5.1.1.2b,d 5.1.3.1	YES	YES	No	N/A

Comments:

Authentication:

Aerojet System Test: Robert Schwantz Date: 4/8/98

Aerojet Quality Assurance: Date: 4-9-98

Customer Representative: Date: 4/10/98

Other Witness (optional): Date:

EOS A2 04 E2.EXE;18 NADIR MODE 8-APR-98 08:36:232 SCAN NUMBER 1636

[5] SCIENCE DATA ELEMENT 0000

[ ] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 00

COMMANDS

[9] SCANNER A2 POWER = ON	COLD CAL POSITION 1 =	YES	[14
[10] ANTENNA IN FULL SCAN MODE = NO	COLD CAL POSITION 2 =	NO	[15
[11] ANTENNA IN WARM CAL POSIT = NO	COLD CAL POSITION 3 =	NO	[16
[12] ANTENNA IN COLD CAL POSIT = NO	COLD CAL POSITION 4 =	NO	[17
[13] ANTENNA IN NADIR POSITION = YES	RESET C&DH PROCESSOR		[18
	GSE MODE		[19

ENGR OK POWER ON CHECKSUM IN 9FE8 CALC 9FE8 SA28 1523 SA29 152

SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26620 ¶ 4.3.1

```
EOS A2-04  E2.EXE;18 NADIR MODE          8-APR-98  08:36:562 SCAN NUMBER  164(
[ 5 ] SCIENCE DATA     ELEMENT 0000

[ 6 ] CONTROL/STATUS   ELEMENT   00

[ . ] ENGINEERING      ELEMENT   00

                                        COMMANDS
[ 9 ]  SCANNER A2 POWER =          ON    COLD CAL POSITION 1 =      YES [ 14
[ 10 ] ANTENNA IN FULL SCAN MODE = NO    COLD CAL POSITION 2 =      NO  [ 15
[ 11 ] ANTENNA IN WARM CAL POSIT = NO    COLD CAL POSITION 3 =      NO  [ 16
[ 12 ] ANTENNA IN COLD CAL POSIT = NO    COLD CAL POSITION 4 =      NO  [ 17
[ 13 ] ANTENNA IN NADIR POSITION = YES   RESET C&DH PROCESSOR           [ 18
                                         GSE MODE                      [ 19

ENGR OK   POWER        ON    CHECKSUM  IN A062 CALC A062   SA28    0 SA29
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL      [ 1 ] RETURN
 SELECT BUTTON 2
```

AE26600 ¶ 4.3.2.a

EOS [illegible]04 E2.EXE;18 NADIR MODE 8-APR-98 08:37:272 SCAN NUMBER 1643
[5] SCIENCE DATA ELEMENT 0000

[5] CONTROL/STATUS ELEMENT 00

[,] ENGINEERING ELEMENT 00

DATA STREAM 1 TO 64

NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA
1	9	9	0	17	4	25	66	33	66	41	66	49	66	57	66
2	33	10	0	18	0	26	182	34	196	42	188	50	192	58	190
3	192	11	0	19	136	27	66	35	66	43	66	51	66	59	66
4	2	12	0	20	16	28	241	36	248	44	244	52	252	60	246
5	1	13	0	21	45	29	45	37	45	45	45	53	45	61	45
6	69	14	0	22	151	30	151	38	151	46	151	54	151	62	151
7	0	15	0	23	45	31	45	39	45	47	45	55	45	63	45
8	174	16	0	24	151	32	151	40	151	48	151	56	151	64	151

[21] UP [22] DOWN

ENGR OK POWER ON CHECKSUM IN 998E CALC 998E SA28 3 SA29
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26600 4 4.3.2.a

```
EOS  A2-04  E2.EXE;18 COLD CAL MODE        8-APR-98  08:38:072 SCAN NUMBER  1648
[ 5 ] SCIENCE DATA     ELEMENT 0000

[ 6 ] CONTROL/STATUS   ELEMENT   00

[ . ] ENGINEERING      ELEMENT   00

                                          COMMANDS
[ 9 ]  SCANNER A2 POWER =            ON   COLD CAL POSITION 1 =        YES [ 14 ]

[ 10 ] ANTENNA IN FULL SCAN MODE = NO     COLD CAL POSITION 2 =        NO  [ 15 ]

[ 11 ] ANTENNA IN WARM CAL POSIT = NO     COLD CAL POSITION 3 =        NO  [ 16 ]

[ 12 ] ANTENNA IN COLD CAL POSIT = YES    COLD CAL POSITION 4 =        NO  [ 17 ]

[ 13 ] ANTENNA IN NADIR POSITION = NO     RESET C&DH PROCESSOR              [ 18 ]

                                          GSE MODE                          [ 19 ]

ENGR OK   POWER          ON    CHECKSUM  IN 5291 CALC 5291   SA28     8 SA29     8
                         SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL       [ 1 ] RETURN

 SELECT BUTTON 2
```

AE 26600 # 4.3.2.6

EOS A2-04 E2.EXE;18 COLD CAL MODE 8-APR-98 08:38:302 SCAN NUMBER 1651
[5] SCIENCE DATA ELEMENT 0000

[<] CONTROL/STATUS ELEMENT 00

[.] ENGINEERING ELEMENT 00

DATA STREAM 1 TO 64

NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA
1	9	9	0	17	4	25	66	33	66	41	66	49	66	57	66
2	33	10	0	18	0	26	190	34	196	42	195	50	199	58	192
3	192	11	0	19	128	27	66	35	66	43	66	51	66	59	66
4	10	12	0	20	8	28	216	36	221	44	218	52	222	60	215
5	1	13	0	21	44	29	44	37	44	45	44	53	44	61	44
6	69	14	0	22	254	30	254	38	254	46	254	54	254	62	254
7	0	15	0	23	44	31	44	39	44	47	44	55	44	63	44
8	174	16	0	24	254	32	254	40	254	48	254	56	254	64	254

[21] UP [22] DOWN

ENGR OK POWER ON CHECKSUM IN 4AA0 CALC 4AA0 SA28 11 SA29 1
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26600 # 4.3.2.b

```
EOS  A2-04  E2.EXE;18 COLD CAL MODE        8-APR-98  08:39:272 SCAN NUMBER  1658
[ 5 ] SCIENCE DATA     ELEMENT 0000

[   ] CONTROL/STATUS   ELEMENT   00

[   ] ENGINEERING      ELEMENT   00

                                        COMMANDS
[ 9 ]  SCANNER A2 POWER =            OFF    COLD CAL POSITION 1 =        NO  [ 14 ]

[ 10 ] ANTENNA IN FULL SCAN MODE = NO       COLD CAL POSITION 2 =        NO  [ 15 ]

[ 11 ] ANTENNA IN WARM CAL POSIT = NO       COLD CAL POSITION 3 =        NO  [ 16 ]

[ 12 ] ANTENNA IN COLD CAL POSIT = YES      COLD CAL POSITION 4 =        YES [ 17 ]

[ 13 ] ANTENNA IN NADIR POSITION = NO       RESET C&DH PROCESSOR             [ 18 ]

                                            GSE MODE                         [ 19 ]

ENGR OK   POWER          ON    CHECKSUM  IN 4927 CALC 4927   SA28    18 SA29    18
                         SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL       [ 1 ] RETURN
 SELECT BUTTON 2
```

AE 26600 ¶ 4.3.2.c

EOS M204 E2.EXE;18 COLD CAL MODE 8-APR-98 08:39:512 SCAN NUMBER 166

[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[.] ENGINEERING ELEMENT 00

DATA STREAM 1 TO 64

NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA
1	9	9	0	17	4	25	66	33	66	41	66	49	66	57	66
2	33	10	0	18	0	26	182	34	194	42	196	50	194	58	19
3	192	11	0	19	128	27	66	35	66	43	66	51	66	59	66
4	20	12	0	20	104	28	211	36	213	44	221	52	222	60	22
5	1	13	0	21	44	29	44	37	44	45	44	53	44	61	44
6	69	14	0	22	254	30	254	38	254	46	254	54	254	62	254
7	0	15	0	23	44	31	44	39	44	47	44	55	44	63	44
8	174	16	0	24	254	32	254	40	254	48	254	56	254	64	254

[21] UP [22] DOWN

ENGR OK POWER ON CHECKSUM IN 4BAE CALC 4BAE SA28 21 SA29

SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26600 ¶ 4.3.2.c

```
EO.  A2-04  E2.EXE;18 COLD CAL MODE        8-APR-98  08:40:472 SCAN NUMBER  166E
[ 5 ] SCIENCE DATA     ELEMENT 0000

[ 6 ] CONTROL/STATUS   ELEMENT   00

[ 7 ] ENGINEERING      ELEMENT   00

                                        COMMANDS
[ 9 ]  SCANNER A2 POWER =          OFF    COLD CAL POSITION 1 =      NO  [ 14
[ 10 ] ANTENNA IN FULL SCAN MODE = NO     COLD CAL POSITION 2 =      NO  [ 15
[ 11 ] ANTENNA IN WARM CAL POSIT = NO     COLD CAL POSITION 3 =      YES [ 16
[ 12 ] ANTENNA IN COLD CAL POSIT = YES    COLD CAL POSITION 4 =      NO  [ 17
[ 13 ] ANTENNA IN NADIR POSITION = NO     RESET C&DH PROCESSOR          [ 18
                                          GSE MODE                      [ 19

ENGR OK   POWER        ON    CHECKSUM  IN 4A2D CALC 4A2D   SA28    28 SA29    2
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL       [ 1 ] RETURN
 SELECT BUTTON 2
```

AE26600 ¶ 4.3.2.d

EOS A2-04 E2.EXE;18 COLD CAL MODE 8-APR-98 08:41:112 SCAN NUMBER 167
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 00

DATA STREAM 1 TO 64

NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA
1	9	9	0	17	4	25	66	33	66	41	66	49	66	57	6
2	33	10	0	18	0	26	189	34	197	42	195	50	197	58	19
3	192	11	0	19	128	27	66	35	66	43	66	51	66	59	6
4	30	12	0	20	72	28	221	36	218	44	219	52	225	60	21
5	1	13	0	21	44	29	44	37	44	45	44	53	44	61	4
6	69	14	0	22	254	30	254	38	254	46	254	54	254	62	25
7	0	15	0	23	44	31	44	39	44	47	44	55	44	63	4
8	174	16	0	24	254	32	254	40	254	48	254	56	254	64	25

[21] UP [22] DOWN

ENGR OK POWER ON CHECKSUM IN 48F2 CALC 48F2 SA28 31 SA29
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE26600 # 4.3.2.d

```
EOS  A2-04  E2.EXE;18 COLD CAL MODE        8-APR-98  08:42:072 SCAN NUMBER  1678
[ 5 ] SCIENCE DATA     ELEMENT 0000

[ - ] CONTROL/STATUS   ELEMENT   00

[ . ] ENGINEERING      ELEMENT   00

                                          COMMANDS
[ 9 ]  SCANNER A2 POWER =          OFF    COLD CAL POSITION 1 =        NO  [ 14
[ 10 ] ANTENNA IN FULL SCAN MODE = NO     COLD CAL POSITION 2 =        YES [ 15
[ 11 ] ANTENNA IN WARM CAL POSIT = NO     COLD CAL POSITION 3 =        NO  [ 16
[ 12 ] ANTENNA IN COLD CAL POSIT = YES    COLD CAL POSITION 4 =        NO  [ 17
[ 13 ] ANTENNA IN NADIR POSITION = NO     RESET C&DH PROCESSOR             [ 18
                                          GSE MODE                         [ 19

ENGR OK   POWER          ON    CHECKSUM  IN 49DB CALC 49DB   SA28   38 SA29    3
                         SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL      [ 1 ] RETURN
 SELECT BUTTON 2
```

AE 2600 ¶ 4.3.2.e

EOS A2-04 E2.EXE;18 COLD CAL MODE 8-APR-98 08:42:232 SCAN NUMBER 1680
[5] SCIENCE DATA ELEMENT 0000

[-] CONTROL/STATUS ELEMENT 00

[.] ENGINEERING ELEMENT 00

DATA STREAM 1 TO 64

NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA
1	9	9	0	17	4	25	66	33	66	41	66	49	66	57	66
2	33	10	0	18	0	26	188	34	192	42	198	50	195	58	197
3	192	11	0	19	128	27	66	35	66	43	66	51	66	59	66
4	39	12	0	20	40	28	223	36	212	44	217	52	221	60	210
5	1	13	0	21	44	29	44	37	44	45	44	53	44	61	44
6	69	14	0	22	254	30	254	38	254	46	254	54	254	62	254
7	0	15	0	23	44	31	44	39	44	47	44	55	44	63	44
8	174	16	0	24	254	32	254	40	254	48	254	56	254	64	254

[21] UP [22] DOWN

ENGR OK POWER ON CHECKSUM IN 4C17 CALC 4C17 SA28 40 SA29 4
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26600 ¶ 4.3.2.e

```
EOS  A2-04  E2.EXE;18 COLD CAL MODE        8-APR-98  08:43:112 SCAN NUMBER  1686
[ 5 ] SCIENCE DATA     ELEMENT 0000

[ < ] CONTROL/STATUS   ELEMENT   00

[ . ] ENGINEERING      ELEMENT   00

                                        COMMANDS
[ 9 ]  SCANNER A2 POWER =          OFF    COLD CAL POSITION 1 =      YES [ 14 ]

[ 10 ] ANTENNA IN FULL SCAN MODE = NO     COLD CAL POSITION 2 =      NO  [ 15 ]

[ 11 ] ANTENNA IN WARM CAL POSIT = NO     COLD CAL POSITION 3 =      NO  [ 16 ]

[ 12 ] ANTENNA IN COLD CAL POSIT = YES    COLD CAL POSITION 4 =      NO  [ 17 ]

[ 13 ] ANTENNA IN NADIR POSITION = NO     RESET C&DH PROCESSOR           [ 18 ]

                                          GSE MODE                       [ 19 ]

ENGR OK   POWER          ON    CHECKSUM  IN 4DB7 CALC 4DB7   SA28   46 SA29   4(
                         SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL      [ 1 ] RETURN
 SELECT BUTTON 2
```

AE 26600 ¶ 4.3.2.f

EOS A2-04 E2.EXE;18 COLD CAL MODE 8-APR-98 08:43:272 SCAN NUMBER 1688
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[.] ENGINEERING ELEMENT 00

DATA STREAM 1 TO 64

NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA
1	9	9	0	17	4	25	66	33	66	41	66	49	66	57	66
2	33	10	0	18	0	26	195	34	198	42	198	50	200	58	198
3	192	11	0	19	128	27	66	35	66	43	66	51	66	59	66
4	47	12	0	20	8	28	214	36	221	44	227	52	219	60	224
5	1	13	0	21	44	29	44	37	44	45	44	53	44	61	44
6	69	14	0	22	254	30	254	38	254	46	254	54	254	62	254
7	0	15	0	23	44	31	44	39	44	47	44	55	44	63	44
8	174	16	0	24	254	32	254	40	254	48	254	56	254	64	254

[21] UP [22] DOWN

ENGR OK POWER ON CHECKSUM IN 4D19 CALC 4D19 SA28 48 SA29 4
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26600 ¶ 4.3.2.f

```
EOS  A2-04  E2.EXE;18 NADIR MODE          8-APR-98  08:44:162 SCAN NUMBER  1694
[ 5 ] SCIENCE DATA     ELEMENT 0000

[ 6 ] CONTROL/STATUS   ELEMENT   00

[ 7 ] ENGINEERING      ELEMENT   00

                                        COMMANDS
[ 9 ]  SCANNER A2 POWER =          OFF    COLD CAL POSITION 1 =      YES [ 14 ]

[ 10 ] ANTENNA IN FULL SCAN MODE = NO     COLD CAL POSITION 2 =      NO  [ 15 ]

[ 11 ] ANTENNA IN WARM CAL POSIT = NO     COLD CAL POSITION 3 =      NO  [ 16 ]

[ 12 ] ANTENNA IN COLD CAL POSIT = NO     COLD CAL POSITION 4 =      NO  [ 17 ]

[ 13 ] ANTENNA IN NADIR POSITION = YES    RESET C&DH PROCESSOR           [ 18 ]

                                          GSE MODE                       [ 19 ]

ENGR OK   POWER        ON    CHECKSUM  IN 4AE5 CALC 4AE5   SA28    54 SA29    54
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL      [ 1 ] RETURN
 SELECT BUTTON 2
```

AE 26600 # 4.3.2.g

EOS A2-04 E2.EXE;18 NADIR MODE 8-APR-98 08:44:392 SCAN NUMBER 1697
[5] SCIENCE DATA ELEMENT 0000

[ ] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 00

DATA STREAM 1 TO 64

NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA
1	9	9	0	17	4	25	66	33	66	41	66	49	66	57	66
2	33	10	0	18	0	26	186	34	195	42	197	50	194	58	196
3	192	11	0	19	128	27	66	35	66	43	66	51	66	59	66
4	56	12	0	20	16	28	220	36	226	44	221	52	226	60	222
5	1	13	0	21	44	29	44	37	44	45	44	53	44	61	44
6	69	14	0	22	254	30	254	38	254	46	254	54	254	62	254
7	0	15	0	23	44	31	44	39	44	47	44	55	44	63	44
8	174	16	0	24	254	32	254	40	254	48	254	56	254	64	254

[21] UP [22] DOWN

ENGR OK POWER ON CHECKSUM IN 4A36 CALC 4A36 SA28 57 SA29 5
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26600 # 4.3.2.9

```
EOS  A2-04  E2.EXE;18 WARM CAL MODE        8-APR-98  08:45:442 SCAN NUMBER  1705
[ 5 ] SCIENCE DATA     ELEMENT 0000

[ 6 ] CONTROL/STATUS   ELEMENT   00

[ . ] ENGINEERING      ELEMENT   00

                                        COMMANDS
[ 9 ]  SCANNER A2 POWER =          OFF     COLD CAL POSITION 1 =        YES [ 14
[ 10 ] ANTENNA IN FULL SCAN MODE = NO      COLD CAL POSITION 2 =        NO  [ 15
[ 11 ] ANTENNA IN WARM CAL POSIT = YES     COLD CAL POSITION 3 =        NO  [ 16
[ 12 ] ANTENNA IN COLD CAL POSIT = NO      COLD CAL POSITION 4 =        NO  [ 17
[ 13 ] ANTENNA IN NADIR POSITION = NO      RESET C&DH PROCESSOR             [ 18
                                           GSE MODE                         [ 19

ENGR OK   POWER        ON    CHECKSUM  IN 4C0C CALC 4C0C   SA28   66 SA29    6
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL      [ 1 ] RETURN
 SELECT BUTTON 2
```

AE26600 ¶ 4.3.2.h

EOS A2-04 E2.EXE;18 WARM CAL MODE 8-APR-98 08:46:172 SCAN NUMBER 1709
[5] SCIENCE DATA ELEMENT 0000

[ ] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 00

DATA STREAM 1 TO 64

NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA
1	9	9	0	17	4	25	66	33	66	41	66	49	66	57	66
2	33	10	0	18	0	26	187	34	197	42	195	50	191	58	190
3	192	11	0	19	128	27	66	35	66	43	66	51	66	59	66
4	68	12	0	20	4	28	220	36	221	44	219	52	221	60	219
5	1	13	0	21	44	29	44	37	44	45	44	53	44	61	44
6	69	14	0	22	254	30	254	38	254	46	254	54	254	62	254
7	0	15	0	23	44	31	44	39	44	47	44	55	44	63	44
8	174	16	0	24	254	32	254	40	254	48	254	56	254	64	254

[21] UP [22] DOWN

ENGR OK POWER ON CHECKSUM IN 4BC2 CALC 4BC2 SA28 69 SA29 6
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE26600 ¶ 4.3.2.h

EOS A2-04 E2.EXE;18 FULL SCAN MODE 8-APR-98 08:47:222 SCAN NUMBER 1717
[5] SCIENCE DATA ELEMENT 0000

[ ] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 00

COMMANDS

[9] SCANNER A2 POWER = ON	COLD CAL POSITION 1 =	YES	[14
[10] ANTENNA IN FULL SCAN MODE = YES	COLD CAL POSITION 2 =	NO	[15
[11] ANTENNA IN WARM CAL POSIT = NO	COLD CAL POSITION 3 =	NO	[16
[12] ANTENNA IN COLD CAL POSIT = NO	COLD CAL POSITION 4 =	NO	[17
[13] ANTENNA IN NADIR POSITION = NO	RESET C&DH PROCESSOR		[18
	GSE MODE		[19

ENGR OK POWER ON CHECKSUM IN 23DD CALC 23DD SA28 77 SA29 7
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26600 ¶ 4.3.2.i

EOS A2-04 E2.EXE;18 FULL SCAN MODE 8-APR-98 08:47:382 SCAN NUMBER 1719
[5] SCIENCE DATA ELEMENT 0000

[ ] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 00

DATA STREAM 1 TO 64

NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA
1	9	9	0	17	4	25	66	33	66	41	66	49	66	57	66
2	34	10	0	18	0	26	196	34	196	42	198	50	194	58	197
3	192	11	0	19	136	27	66	35	66	43	66	51	66	59	66
4	78	12	0	20	2	28	212	36	214	44	214	52	211	60	204
5	1	13	0	21	62	29	61	37	60	45	59	53	58	61	56
6	93	14	0	22	195	30	147	38	99	46	55	54	7	62	215
7	0	15	0	23	62	31	61	39	60	47	59	55	58	63	56
8	174	16	0	24	195	32	149	40	101	48	57	56	7	64	217

[21] UP [22] DOWN

ENGR OK POWER ON CHECKSUM IN 3B8D CALC 3B8D SA28 79 SA29 7
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26600 ¶ 4.3.2.i

TEST DATA SHEET 2
Test Case 2 (Paragraph 4.4)

Unit Tested (AMSU-A1 or AMSU-A2) EOS/Amsu-A2

STE Tape Loaded E2.EXE;18 E2X.EXE;2

Instrument Control Tape Loaded NONE - FLIGHT PROMS

Control and Data Handling Tape Loaded NONE - FLIGHT PROMS

Procedure Step	Requirement Description	Specification Reference	Requirement Satisfied ? yes or no	HardCopy Test Data Attached ?	Test Data on Tape ?	Related Discrepany Reports
4.4.4a	Data Stream	5.1.1.2a, 5.1.3.4,5.1.3.6	YES	YES	NO	N/A
4.4.4c	Beam Position NN	5.1.1.2b5 5.1.3.7	YES	YES	NO	N/A
4.4.4e	Channel NN	5.1.1.2b5 5.1.3.7	YES	YES	NO	N/A
4.4.4g	Warm Calibrate	5.1.1.2b5 5.1.3.7	YES	YES	NO	N/A
4.4.4i	Cold Calibrate	5.1.1.2b5 5.1.3.7	YES	YES	NO	N/A
4.4.4k	Reflector Positions	5.1.1.2b4 5.1.3.7	YES	YES	NO	N/A
4.4.5	Checksum sub-address	5.1.3.3,5.1.3.9 5.1.3.10	YES	YES	NO	N/A
4.4.6	8 Sec Scan	5.1.3.2	YES	SEE BELOW	NO	N/A
4.4.7	Skip Time Mark	No Req't	YES	NO	NO	N/A
4.4.8	Invalid APID	5.2.3	YES	NO	NO	N/A

Comments: @ 4.4.6 START SCAN 1737 START TIME 8:50:02
END SCAN 1812 END TIME 9:00:02
75 SCANS 10 MIN $\frac{600}{75} = 8.00$ SEC

Authentication:

Aerojet System Test: Robert Schwartz Date: 4/8/98

Aerojet Quality Assurance: [signature] Date: 4-9-98

Customer Representative: [signature] Date: 4/10/98

Other Witness (optional): _____ Date: _____

```
EOS  A2-04  E2.EXE;18 FULL SCAN MODE      8-APR-98  09:08:275 SCAN NUMBER    25
[ 5 ] SCIENCE DATA    ELEMENT 0000

[ 6 ] CONTROL/STATUS  ELEMENT   00

[ 7 ] ENGINEERING     ELEMENT   00

                                        COMMANDS
[ 9 ]  SCANNER A2 POWER =          ON     COLD CAL POSITION 1 =      YES [ 14

[ 10 ] ANTENNA IN FULL SCAN MODE = YES    COLD CAL POSITION 2 =      NO  [ 15

[ 11 ] ANTENNA IN WARM CAL POSIT = NO     COLD CAL POSITION 3 =      NO  [ 16

[ 12 ] ANTENNA IN COLD CAL POSIT = NO     COLD CAL POSITION 4 =      NO  [ 17

[ 13 ] ANTENNA IN NADIR POSITION = NO     RESET C&DH PROCESSOR           [ 18

                                          GSE MODE                       [ 19

ENGR OK   POWER          ON    CHECKSUM  IN 473F CALC 473F   SA28   225 SA29   22
                         SCREEN ONLY [ 2 ] PRINT  [ 3 ] FULL          [ 1 ] RETURN
 SELECT BUTTON 3
```

AE 26600 ¶ 4.4.3

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	5605
2		00100010	140	REFL POS 17 2ND LOOK	5609
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17091
4		01011101	144	CH 2	17101
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	5452
6		00000000	148	REFL POS 18 2ND LOOK	5455
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17088
8		00000010	152	CH 2	17106
10	REFLECTOR POSITION 1	8033	154	REFLECTOR POSITION 19	5301
12	REFL POS 1 2ND LOOK	8033	156	REFL POS 19 2ND LOOK	5304
14	SCENE DATA BP 1 CH 1	17084	158	SCENE DATA BP 19 CH 1	17084
16	CH 2	17105	160	CH 2	17099
18	REFLECTOR POSITION 2	7882	162	REFLECTOR POSITION 20	5152
20	REFL POS 2 2ND LOOK	7882	164	REFL POS 20 2ND LOOK	5153
22	SCENE DATA BP 2 CH 1	17085	166	SCENE DATA BP 20 CH 1	17090
24	CH 2	17103	168	CH 2	17106
26	REFLECTOR POSITION 3	7729	170	REFLECTOR POSITION 21	5000
28	REFL POS 3 2ND LOOK	7730	172	REFL POS 21 2ND LOOK	5002
30	SCENE DATA BP 3 CH 1	17089	174	SCENE DATA BP 21 CH 1	17087
32	CH 2	17105	176	CH 2	17105
34	REFLECTOR POSITION 4	7579	178	REFLECTOR POSITION 22	4849
36	REFL POS 4 2ND LOOK	7581	180	REFL POS 22 2ND LOOK	4851
38	SCENE DATA BP 4 CH 1	17087	182	SCENE DATA BP 22 CH 1	17088
[illegible]	CH 2	17102	184	CH 2	17102
	REFLECTOR POSITION 5	7427	186	REFLECTOR POSITION 23	4697
	REFL POS 5 2ND LOOK	7428	188	REFL POS 23 2ND LOOK	4699
46	SCENE DATA BP 5 CH 1	17083	190	SCENE DATA BP 23 CH 1	17087
48	CH 2	17092	192	CH 2	17100
50	REFLECTOR POSITION 6	7274	194	REFLECTOR POSITION 24	4545
52	REFL POS 6 2ND LOOK	7275	196	REFL POS 24 2ND LOOK	4547
54	SCENE DATA BP 6 CH 1	17089	198	SCENE DATA BP 24 CH 1	17090
56	CH 2	17098	200	CH 2	17105
58	REFLECTOR POSITION 7	7124	202	REFLECTOR POSITION 25	4394
60	REFL POS 7 2ND LOOK	7125	204	REFL POS 25 2ND LOOK	4394
62	SCENE DATA BP 7 CH 1	17090	206	SCENE DATA BP 25 CH 1	17090
64	CH 2	17097	208	CH 2	17096
66	REFLECTOR POSITION 8	6969	210	REFLECTOR POSITION 26	4239
68	REFL POS 8 2ND LOOK	6973	212	REFL POS 26 2ND LOOK	4243
70	SCENE DATA BP 8 CH 1	17094	214	SCENE DATA BP 26 CH 1	17089
72	CH 2	17098	216	CH 2	17099
74	REFLECTOR POSITION 9	6816	218	REFLECTOR POSITION 27	4089
76	REFL POS 9 2ND LOOK	6821	220	REFL POS 27 2ND LOOK	4091
78	SCENE DATA BP 9 CH 1	17090	222	SCENE DATA BP 27 CH 1	17087
80	CH 2	17101	224	CH 2	17105
82	REFLECTOR POSITION 10	6666	226	REFLECTOR POSITION 28	3937
84	REFL POS 10 2ND LOOK	6669	228	REFL POS 28 2ND LOOK	3939
86	SCENE DATA BP 10 CH 1	17088	230	SCENE DATA BP 28 CH 1	17083
88	CH 2	17102	232	CH 2	17096
90	REFLECTOR POSITION 11	6517	234	REFLECTOR POSITION 29	3787
	REFL POS 11 2ND LOOK	6518	236	REFL POS 29 2ND LOOK	3788

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17091
96		CH	2	17096
98	REFLECTOR POSITION 12			6364
100	REFL POS 12 2ND LOOK			6367
102	SCENE DATA BP 12	CH	1	17089
104		CH	2	17100
106	REFLECTOR POSITION 13			6213
108	REFL POS 13 2ND LOOK			6216
110	SCENE DATA BP 13	CH	1	17090
112		CH	2	17103
114	REFLECTOR POSITION 14			6062
116	REFL POS 14 2ND LOOK			6065
118	SCENE DATA BP 14	CH	1	17092
120		CH	2	17106
122	REFLECTOR POSITION 15			5909
124	REFL POS 15 2ND LOOK			5912
126	SCENE DATA BP 15	CH	1	17085
128		CH	2	17129
130	REFLECTOR POSITION 16			5758
132	REFL POS 16 2ND LOOK			5760
134	SCENE DATA BP 16	CH	1	17083
136		CH	2	17110

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17087
240		CH	2	17101
242	REFLECTOR POSITION 30			3635
244	REFL POS 30 2ND LOOK			3637
246	SCENE DATA BP 30	CH	1	17089
248		CH	2	17099
250	REFLECTOR COLD CAL POS			2041
252	REFL COLD CAL 2ND LOOK			2042
254	COLD CAL DATA 1	CH	1	17088
256		CH	2	17102
258	COLD CAL DATA 2	CH	1	17086
260		CH	2	17103
302	REFLECTOR WARM CAL POS			14028
304	REFL WARM CAL 2ND LOOK			14027
306	WARM CAL DATA 1	CH	1	17070
308		CH	2	17097
310	WARM CAL DATA 2	CH	1	17070
312		CH	2	17096

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18545	23.21
264	FEED HORN	18279	23.92
266	RF MUX	18811	25.00
268	MIXER/IF AMPLIFIER CHANNEL 1	19299	25.84
270	MIXER/IF AMPLIFIER CHANNEL 2	19525	25.97
272	LOCAL OSCILLATOR CHANNEL 1	19026	25.53
274	LOCAL OSCILLATOR CHANNEL 2	19636	26.21
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17931	23.07
280	DC/DC CONVERTER	20481	28.42
282	RF SHELF	19044	24.69
284	DETECTOR/PREAMP ASSEMBLY	19438	25.09
286	WARM LOAD CENTER	23148	23.74
288	WARM LOAD 2	23687	23.64
290	WARM LOAD 3	23293	23.67
292	WARM LOAD 4	23175	23.74
294	WARM LOAD 5	23160	23.73
296	WARM LOAD 6	23652	23.71
298	WARM LOAD 1	23509	23.68
300	TEMP SENSOR REFERENCE VOLTAGE	25090	

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	YES
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	22.7
RF SHELF TEMPERATURE #1	24.1
WARM LOAD TEMPERATURE	23.1
RF SHELF TEMPERATURE #2	24.3

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22223	4.91
	+15 VDC	21892	15.04
	-15 VDC	21871	-15.07
ANTENNA DRIVE	+5 VDC	22098	4.94
	+15 VDC	22063	14.98
	-15 VDC	21883	-15.07
MIXER/IF AMPLIFIER	+10 VDC	21723	9.93
LO CHANNEL 1	+10 VDC	21318	10.05
LO CHANNEL 2	+10 VDC	21433	10.01
QUIET BUS CURRENT		13665	615.90
NOISY BUS CURRENT		17954	114.86

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
EPLATE HEATER N2	510	3.00	511	4.00
EPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

N2 CONTROL FUNCTIONS

	NO.	VALUE	NO.	VALUE
FIXED TARGET N2 PRESSURE PSI	401	11.00		
FIXED TARGET N2 FLOW LB/HR	701	28.00		
VARIABLE TARGET N2 PRESSURE PSI	402	12.00		
VARIABLE TARGET N2 FLOW LB/HR	702	29.00		
BASEPLATE N2 PRESSURE PSI	403	13.00		
BASEPLATE N2 FLOW LB/HR	703	54.00		
FIXED TARGET BYPASS RELAY	104	CLOSED		
VARIABLE TARGET LN2 RELAY	105	CLOSED		
VARIABLE TARGET GN2 RELAY	108	CLOSED		
TARGET LN2 SUPPLY RELAY	102	CLOSED		
BASEPLATE GN2 SUPPLY RELAY	109	CLOSED		
HOT GN2 PURGE RELAY	103	CLOSED		
VARIABLE TARGET LN2 BYPASS RELAY	106	CLOSED		
BASEPLATE GN2 BYPASS RELAY	110	CLOSED		
ADJUNCT RADIATOR LN2 SUPPLY RELAY	114	CLOSED	116	CLOSED

EOS A2-04 E2.EXE;18 FULL SCAN MODE 8-APR-98 08:48:422 SCAN NUMBER 1727
[5] SCIENCE DATA ELEMENT 0000

[ ] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 00

DATA STREAM 1 TO 64

NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA	NO	DATA
1	9	9	0	17	4	25	66	33	66	41	66	49	66	57	66
2	34	10	0	18	0	26	193	34	196	42	203	50	198	58	196
3	192	11	0	19	136	27	66	35	66	43	66	51	66	59	66
4	86	12	0	20	2	28	215	36	211	44	213	52	211	60	205
5	1	13	0	21	62	29	61	37	60	45	59	53	58	61	56
6	93	14	0	22	195	30	149	38	101	46	57	54	5	62	215
7	0	15	0	23	62	31	61	39	60	47	59	55	58	63	56
8	174	16	0	24	195	32	147	40	103	48	59	56	9	64	217

[21] UP [22] DOWN

ENGR OK POWER ON CHECKSUM IN 43A9 CALC 43A9 SA28 87 SA29 8
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26600 ∓ 4.4.4 a./b

EOS A2.04 E2.EXE;18 FULL SCAN MODE 8-APR-98 09:51:078 SCAN NUMBER 131
[5] SCIENCE DATA ELEMENT 0000

[ ] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 9 LOCAL OSCILLATOR-CH 1 +10 VDC 10.04

RADIOMETRIC DATA

BEAM POSITION 1

CH	DATA
1	17073
2	17104

[21] UP [22] DOWN

ENGR OK POWER ON CHECKSUM IN 31AB CALC 31AB SA28 543 SA29 543
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26600 # 4.4.4 c/d

EOS A2-04 E2.EXE;18 FULL SCAN MODE 8-APR-98 09:51:238 SCAN NUMBER 13:
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[,] ENGINEERING ELEMENT 9 LOCAL OSCILLATOR-CH 1 +10 VDC 10.04

RADIOMETRIC DATA
CHANNEL 1

BP	DATA	BP	DATA	BP	DATA	BP	DATA
1	17078	9	17084	17	17086	25	17083
2	17082	10	17077	18	17081	26	17080
3	17082	11	17079	19	17085	27	17079
4	17078	12	17085	20	17083	28	17079
5	17082	13	17081	21	17081	29	17082
6	17079	14	17076	22	17079	30	17080
7	17083	15	17077	23	17081	CC	17080
8	17083	16	17082	24	17081	WC	17067

[21] UP [22] DOWN

ENGR OK POWER ON CHECKSUM IN 4937 CALC 4937 SA28 545 SA29 5
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE26600 ¶ 4.4.4 e/f

EOS A2-Q4 E2.EXE;18 FULL SCAN MODE 8-APR-98 09:51:318 SCAN NUMBER 134
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[7] ENGINEERING ELEMENT 9 LOCAL OSCILLATOR-CH 1 +10 VDC 10.04

WARM CALIBRATE

CH	DATA
1	17065
1	17064
2	17100
2	17100

ENGR OK POWER ON CHECKSUM IN 4E24 CALC 4E24 SA28 546 SA29 54
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE26600 PH 4.4.4 g/h

EOS A2-04 E2.EXE;18 FULL SCAN MODE 8-APR-98 09:51:478 SCAN NUMBER 136
[5] SCIENCE DATA ELEMENT 0000

[-] CONTROL/STATUS ELEMENT 00

[.] ENGINEERING ELEMENT 9 LOCAL OSCILLATOR-CH 1 +10 VDC 10.04

COLD CALIBRATE

CH	DATA
1	17082
1	17085
2	17092
2	17098

ENGR OK POWER ON CHECKSUM IN 5030 CALC 5030 SA28 548 SA29 54
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26600 ¶ 4.4.4 i/j

EOS A2-04 E2.EXE;18 FULL SCAN MODE 8-APR-98 09:52:038 SCAN NUMBER 138
[5] SCIENCE DATA ELEMENT 0000

[ ] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 9 LOCAL OSCILLATOR-CH 1 +10 VDC 10.04

REFLECTOR POSITIONS

BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2	BP	LOOK 1	LOOK 2
1	8033	8033	9	6817	6821	17	5605	5609	25	4394	4394
2	7881	7881	10	6665	6670	18	5452	5456	26	4238	4243
3	7730	7730	11	6518	6519	19	5301	5304	27	4089	4092
4	7579	7581	12	6365	6367	20	5152	5153	28	3936	3939
5	7427	7427	13	6213	6217	21	5000	5002	29	3787	3789
6	7276	7276	14	6062	6064	22	4848	4851	30	3635	3637
7	7123	7125	15	5910	5912	23	4698	4699	CC	2041	2043
8	6970	6973	16	5758	5760	24	4545	4547	WC	14028	14028

ENGR OK POWER ON CHECKSUM IN 50BA CALC 50BA SA28 550 SA29 55
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

AE 26600 # 4.4.4 K/2

EOS A?-04 E2.EXE;18 FULL SCAN MODE 8-APR-98 09:52:198 SCAN NUMBER 140
[5] SCIENCE DATA ELEMENT 0000

6] CONTROL/STATUS ELEMENT 00

[,] ENGINEERING ELEMENT 9 LOCAL OSCILLATOR-CH 1 +10 VDC 10.04

SCIENCE TEMPERATURES

NO		DATA	TEMP C	NO		DATA	TEMP C
1	SCAN MOTOR	18640	23.39	11	RF SHELF	19114	24.82
2	FEED HORN	18324	24.01	12	DET/PREAMP	19511	25.23
3	RF DIPLEXER	18875	25.12	13	WARM LOAD CNTR	23227	23.89
4	MIXER IF CH 1	19370	25.98	14	WARM LOAD 2	23760	23.78
5	MIXER IF CH 2	19592	26.10	15	WARM LOAD 3	23371	23.82
6	LO CHANNEL 1	19098	25.66	16	WARM LOAD 4	23248	23.88
7	LO CHANNEL 2	19712	26.36	17	WARM LOAD 5	23231	23.87
8	1553 INTERFACE	0	44.72	18	WARM LOAD 6	23729	23.86
9	SUBREFLECTOR	17997	23.20	19	WARM LOAD 1	23589	23.84
10	DC/DC CONVERTER	20559	28.57		THERMAL REFERENCE	25090	

ENGR OK POWER ON CHECKSUM IN 4F78 CALC 4F78 SA28 552 SA29 55
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 2

TEST DATA SHEET NO. 8

Instrument Commanding Test (Paragraph 3.3.5.2)

Step	Instrument Status	(Y)es / (N)o
12	Full Scan Mode command received?	Y
13	Is A2 motor scanning?	Y
14	Did A2 motor stop scanning?	Y
15	Is A2 motor scanning?	Y
16	Reflector positioned looking at warm loads?	Y
17	Reflector positioned looking at nadir?	Y
18	Reflector positioned looking at cold cal 1?	Y
19	Reflector positioned looking at cold cal 4?	Y
20	Reflector positioned looking at cold cal 3?	Y
21	Reflector positioned looking at cold cal 2?	Y
22	Reflector positioned looking at cold cal 1?	Y
23	Did C&DH processor reset?	Y

Yes = Pass No = Fail

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

Test Systems Engineer 4-8-98 Date

Customer Representative 4/10/98 Date

Quality Control (7A 197) APR 8 98 Date

TEST DATA SHEET NO. 9 (sheet 1 of 3)
Science and Engineering Data Test (Full Scan Mode) (Paragraph 3.3.5.3.1)

Step	Instrument Status	(Y)es / (N)o
1	Full Scan Mode command received?	Y
2	ENGR OK message seen?	Y
3	Unit running in full scan mode?	Y

Yes = Pass No = Fail

Step	Element	Description	Measured Value* (Binary)	Required Value (Binary)	(P)ass/(F)ail
4a	1-2	Packet ID		0000100100100010	P
4b	3-4	Packet Length		0000000101011100	P
4c	5-6	Unit Serial Number		0000010000000000	P
4d	7-8	Instrument Mode/ Status		1000100000000010	P

RADIOMETER SCENE DATA			
Step	Description	Required Counts	(P)ass/(F)ail
4f	Review All Scene Data	12500-20500	P

PRT TEMPERATURE DATA				
Step	Element	Description	Required	(P)ass/(F)ail
4g	262-298*	Review All PRT Data	10-40 degrees C	P
4g	300	Temperature Sensor Reference	23244-26317 counts	P

* EXCEPT FOR ELEMENT 276 >40°C Silleymuno 4-8-98

STATUS				
Step	Description	Status*	Required Status	(P)ass/(F)ail
4h	Antenna in Full Scan Mode		YES	P
	Antenna in Warm Cal Mode		NO	P
	Antenna in Cold Cal Mode		NO	P
	Antenna in Nadir Mode		NO	P
	Cold Cal Position LSB		ZERO	P
	Cold Cal Position MSB		ZERO	P
	A2 Scanner Power		ON	P
	ADC Latchup Flag		ONE	P

* Rewriting printout data on this data sheet is optional.

EOS/AMSU-A2 ~~System~~ P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

4-8-98
Test Systems Engineer Date

4/10/98
Customer Representative Date

7A 197
Quality Control Date APR 8 98

TEST DATA SHEET NO. 9 (sheet 2 of 3)
Science and Engineering Data Test (Full Scan Mode) (Paragraph 3.3.5.3.1)

A2 REFLECTOR POSITIONS (Step 4e)				
BP	Element	Position (*)	Required (**) +/- 5	(P)ass/ (F)ail
1	12		8035	P
2	20		7883	P
3	28		7731	P
4	36		7580	P
5	44		7428	P
6	52		7276	P
7	60		7125	P
8	68		6973	P
9	76		6821	P
10	84		6670	P
11	92		6518	P
12	100		6366	P
13	108		6215	P
14	116		6063	P
15	124		5911	P
16	132		5760	P
17	140		5608	P
18	148		5456	P
19	156		5305	P
20	164		5153	P
21	172		5001	P
22	180		4850	P
23	188		4698	P
24	196		4546	P
25	204		4395	P
26	212		4243	P
27	220		4091	P
28	228		3940	P
29	236		3788	P
30	244		3636	P
CC	252		2043	P
WC	304		14028	P

* Actual counts from printout. Rewriting counts on this data sheet is optional.
** Required counts from AE26002/2 TDS 6 +/- 5 counts

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

Test Systems Engineer 4-8-98 Date

Customer Representative 4/10/98 Date

Quality Control Date

TEST DATA SHEET NO. 9 (sheet 3 of 3)
Science and Engineering Data Test (Full Scan Mode) (Paragraph 3.3.5.3.1)

ENGINEERING DATA				
Step	Description	Measured***	Required	(P)ass/(F)ail
4i	Signal Processor (+5 VDC)		+4 to +6 volts	P
	Signal Processor (+15 VDC)		+14 to +16 volts	P
	Signal Processor (-15 VDC)		-14 to -16 volts	P
	Scan Drive (+5 VDC)		+4 to +6 volts	P
	Scan Drive (+15 VDC)		+14 to +16 volts	P
	Scan Drive (-15 VDC)		-14 to -16 volts	P
	Mixer/IF Amplifier (+10 VDC)		+9 to +11 volts	P
	LO Channel 1		+9 to +11 volts	P
	LO Channel 2		+9 to +11 volts	P
	Quiet Bus Current		≤ 1 Amps	P
	Noisy Bus Current		≤ 150 milliamps	P

* Rewriting printout data on this data sheet is optional.

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

Customer Representative 4/10/98 Date

Test Systems Engineer 4-8-98 Date

Quality Control (7A 197) APR 8 98 Date

AE26156/10 P #3.3.5.3.1

EOS A2-04 E2.EXE;18 FULL SCAN MODE 8-APR-98 10:03:318 SCAN NUMBER 224
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[7] ENGINEERING ELEMENT 12 A2 NOISY POWER BUS CURRENT 114.97

COMMANDS

[9] SCANNER A2 POWER = ON	COLD CAL POSITION 1 = YES	[14
[10] ANTENNA IN FULL SCAN MODE = YES	COLD CAL POSITION 2 = NO	[15
[11] ANTENNA IN WARM CAL POSIT = NO	COLD CAL POSITION 3 = NO	[16
[12] ANTENNA IN COLD CAL POSIT = NO	COLD CAL POSITION 4 = NO	[17
[13] ANTENNA IN NADIR POSITION = NO	RESET C&DH PROCESSOR	[18
	GSE MODE	[19

ENGR OK POWER ON CHECKSUM IN 54F8 CALC 54F8 SA28 636 SA29 63
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 3

AP 3.3.5.3.1

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	5605
2		00100010	140	REFL POS 17 2ND LOOK	5609
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17088
4		01011101	144	CH 2	17101
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	5452
6		00000000	148	REFL POS 18 2ND LOOK	5456
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17084
8		00000010	152	CH 2	17099
10	REFLECTOR POSITION 1	8033	154	REFLECTOR POSITION 19	5301
12	REFL POS 1 2ND LOOK	8033	156	REFL POS 19 2ND LOOK	5305
14	SCENE DATA BP 1 CH 1	17085	158	SCENE DATA BP 19 CH 1	17084
16	CH 2	17104	160	CH 2	17104
18	REFLECTOR POSITION 2	7882	162	REFLECTOR POSITION 20	5152
20	REFL POS 2 2ND LOOK	7882	164	REFL POS 20 2ND LOOK	5153
22	SCENE DATA BP 2 CH 1	17082	166	SCENE DATA BP 20 CH 1	17085
24	CH 2	17102	168	CH 2	17104
26	REFLECTOR POSITION 3	7730	170	REFLECTOR POSITION 21	5000
28	REFL POS 3 2ND LOOK	7731	172	REFL POS 21 2ND LOOK	5002
30	SCENE DATA BP 3 CH 1	17088	174	SCENE DATA BP 21 CH 1	17086
32	CH 2	17110	176	CH 2	17101
34	REFLECTOR POSITION 4	7578	178	REFLECTOR POSITION 22	4848
36	REFL POS 4 2ND LOOK	7580	180	REFL POS 22 2ND LOOK	4851
38	SCENE DATA BP 4 CH 1	17081	182	SCENE DATA BP 22 CH 1	17084
40	CH 2	17108	184	CH 2	17098
42	REFLECTOR POSITION 5	7427	186	REFLECTOR POSITION 23	4697
44	REFL POS 5 2ND LOOK	7427	188	REFL POS 23 2ND LOOK	4698
46	SCENE DATA BP 5 CH 1	17079	190	SCENE DATA BP 23 CH 1	17079
48	CH 2	17096	192	CH 2	17101
50	REFLECTOR POSITION 6	7275	194	REFLECTOR POSITION 24	4545
52	REFL POS 6 2ND LOOK	7276	196	REFL POS 24 2ND LOOK	4546
54	SCENE DATA BP 6 CH 1	17085	198	SCENE DATA BP 24 CH 1	17087
56	CH 2	17110	200	CH 2	17108
58	REFLECTOR POSITION 7	7124	202	REFLECTOR POSITION 25	4394
60	REFL POS 7 2ND LOOK	7125	204	REFL POS 25 2ND LOOK	4394
62	SCENE DATA BP 7 CH 1	17088	206	SCENE DATA BP 25 CH 1	17086
64	CH 2	17109	208	CH 2	17104
66	REFLECTOR POSITION 8	6970	210	REFLECTOR POSITION 26	4239
68	REFL POS 8 2ND LOOK	6973	212	REFL POS 26 2ND LOOK	4243
70	SCENE DATA BP 8 CH 1	17084	214	SCENE DATA BP 26 CH 1	17084
72	CH 2	17097	216	CH 2	17103
74	REFLECTOR POSITION 9	6817	218	REFLECTOR POSITION 27	4089
76	REFL POS 9 2ND LOOK	6821	220	REFL POS 27 2ND LOOK	4092
78	SCENE DATA BP 9 CH 1	17083	222	SCENE DATA BP 27 CH 1	17086
80	CH 2	17100	224	CH 2	17101
82	REFLECTOR POSITION 10	6665	226	REFLECTOR POSITION 28	3936
84	REFL POS 10 2ND LOOK	6671	228	REFL POS 28 2ND LOOK	3939
86	SCENE DATA BP 10 CH 1	17086	230	SCENE DATA BP 28 CH 1	17085
88	CH 2	17104	232	CH 2	17099
90	REFLECTOR POSITION 11	6517	234	REFLECTOR POSITION 29	3787
92	REFL POS 11 2ND LOOK	6519	236	REFL POS 29 2ND LOOK	3788

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17083
96		CH	2	17100
98	REFLECTOR POSITION 12			6364
100	REFL POS 12 2ND LOOK			6367
102	SCENE DATA BP 12	CH	1	17080
104		CH	2	17100
106	REFLECTOR POSITION 13			6213
108	REFL POS 13 2ND LOOK			6217
110	SCENE DATA BP 13	CH	1	17085
112		CH	2	17098
114	REFLECTOR POSITION 14			6062
116	REFL POS 14 2ND LOOK			6064
118	SCENE DATA BP 14	CH	1	17082
120		CH	2	17107
122	REFLECTOR POSITION 15			5910
124	REFL POS 15 2ND LOOK			5912
126	SCENE DATA BP 15	CH	1	17085
128		CH	2	17125
130	REFLECTOR POSITION 16			5758
132	REFL POS 16 2ND LOOK			5757
134	SCENE DATA BP 16	CH	1	17087
136		CH	2	17114

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17085
240		CH	2	17098
242	REFLECTOR POSITION 30			3634
244	REFL POS 30 2ND LOOK			3637
246	SCENE DATA BP 30	CH	1	17083
248		CH	2	17102
250	REFLECTOR COLD CAL POS			2041
252	REFL COLD CAL 2ND LOOK			2042
254	COLD CAL DATA 1	CH	1	17086
256		CH	2	17098
258	COLD CAL DATA 2	CH	1	17090
260		CH	2	17094
302	REFLECTOR WARM CAL POS			14028
304	REFL WARM CAL 2ND LOOK			14028
306	WARM CAL DATA 1	CH	1	17065
308		CH	2	17099
310	WARM CAL DATA 2	CH	1	17067
312		CH	2	17096

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18656	23.42
264	FEED HORN	18343	24.04
266	RF MUX	18887	25.14
268	MIXER/IF AMPLIFIER CHANNEL 1	19381	26.00
270	MIXER/IF AMPLIFIER CHANNEL 2	19605	26.12
272	LOCAL OSCILLATOR CHANNEL 1	19109	25.68
274	LOCAL OSCILLATOR CHANNEL 2	19723	26.38
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	18004	23.21
280	DC/DC CONVERTER	20573	28.59
282	RF SHELF	19124	24.84
284	DETECTOR/PREAMP ASSEMBLY	19524	25.25
286	WARM LOAD CENTER	23245	23.93
288	WARM LOAD 2	23783	23.83
290	WARM LOAD 3	23389	23.86
292	WARM LOAD 4	23265	23.91
294	WARM LOAD 5	23253	23.91
296	WARM LOAD 6	23749	23.90
298	WARM LOAD 1	23609	23.88
300	TEMP SENSOR REFERENCE VOLTAGE	25091	

PD 3.3.5.3.1

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	YES
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	22.9
RF SHELF TEMPERATURE #1	24.2
WARM LOAD TEMPERATURE	23.3
RF SHELF TEMPERATURE #2	24.4

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22247	4.90
	+15 VDC	21892	15.03
	-15 VDC	21868	-15.08
ANTENNA DRIVE	+5 VDC	22062	4.94
	+15 VDC	21999	14.99
	-15 VDC	21832	-15.06
MIXER/IF AMPLIFIER	+10 VDC	21724	9.93
LO CHANNEL 1	+10 VDC	21320	10.04
LO CHANNEL 2	+10 VDC	21434	10.01
QUIET BUS CURRENT		13792	617.44
NOISY BUS CURRENT		18003	115.04

TP 3.3.5.3.1

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

N2 CONTROL FUNCTIONS

	NO.	VALUE	NO.	VALUE
FIXED TARGET N2 PRESSURE PSI	401	11.00		
FIXED TARGET N2 FLOW LB/HR	701	28.00		
VARIABLE TARGET N2 PRESSURE PSI	402	12.00		
VARIABLE TARGET N2 FLOW LB/HR	702	29.00		
BASEPLATE N2 PRESSURE PSI	403	13.00		
BASEPLATE N2 FLOW LB/HR	703	54.00		
FIXED TARGET BYPASS RELAY	104	CLOSED		
VARIABLE TARGET LN2 RELAY	105	CLOSED		
VARIABLE TARGET GN2 RELAY	108	CLOSED		
TARGET LN2 SUPPLY RELAY	102	CLOSED		
BASEPLATE GN2 SUPPLY RELAY	109	CLOSED		
HOT GN2 PURGE RELAY	103	CLOSED		
VARIABLE TARGET LN2 BYPASS RELAY	106	CLOSED		
BASEPLATE GN2 BYPASS RELAY	110	CLOSED		
ADJUNCT RADIATOR LN2 SUPPLY RELAY	114	CLOSED	116	CLOSED

for TP 3.3.5.3.1

TEST DATA SHEET 6 (SHEET 1 OF 2)
3.4.4, Step 2: Position Command Test

Test Setup Verified: _____ Signature Shop Order No. 323737

Temperature: 25 °C

↓	Scene No.	Resolver 14-Bit Digital word MSB → LSB
8035★	8032 1 ✓	0 1 1 1 1 0 1 ~~1 0 0 0 1 1~~
7883	7882 2 ✓	0 1 1 1 1 0 1 1 0 0 1 0 1 1
7731	7730 3 ✓	0 1 1 1 1 0 0 0 1 1 0 0 1 1
7580	7579 4 ✓	0 1 1 1 0 1 1 0 0 1 1 1 0 0
7428	7426 5 ✓	0 1 1 1 0 1 0 0 0 0 0 1 0 0
7276	7276 6 ✓	0 1 1 1 0 0 0 1 1 0 1 1 0 0
7125	7123 7 ✓	0 1 1 0 1 1 1 1 0 1 0 1 0 1
6973	6969 8 ✓	0 1 1 0 1 1 0 0 1 1 1 1 0 1
6821	6817 9 ✓	0 1 1 0 1 0 1 0 1 0 0 1 0 1
6670	6665 10 ✓	0 1 1 0 1 0 0 0 0 0 1 1 1 0
6518	6517 11 ✓	0 1 1 0 0 1 0 1 1 1 0 1 1 0
6366	6365 12 ✓	0 1 1 0 0 0 1 1 0 1 1 1 1 0
6215	6213 13 ✓	0 1 1 0 0 0 0 1 0 0 0 1 1 0
6063	6062 14 ✓	0 1 0 1 1 1 1 0 1 0 1 1 1 1
5911	5910 15 ✓	0 1 0 1 1 1 0 0 0 1 0 1 1 1
5760	5758 16 ✓	0 1 0 1 1 0 1 0 0 0 0 0 0 0
5608	5604 17 ✓	0 1 0 1 0 1 1 1 1 0 1 0 0 0
5456	5452 18 ✓	0 1 0 1 0 1 0 1 0 1 0 1 0 0
5305	5300 19 ✓	0 1 0 1 0 0 1 0 1 1 1 0 0 1
5153	5152 20 ✓	0 1 0 1 0 0 0 0 1 0 0 0 0 1
5001	5000 21 ✓	0 1 0 0 1 1 1 0 0 0 1 0 0 1
4850	4848 22 ✓	0 1 0 0 1 0 1 1 1 1 0 0 1 0

A

★ INCLUDES (-6) CORRECTION

2/11/98 QC 226

2/11/98 QC 226

for TP 3.3.5.3.1

AE-26002/2C
16 Dec 97

TEST DATA SHEET 6 (SHEET 2 OF 2)
3.4.4, Step 2: Position Command Test

Temperature: 25 °C

QC 226 21-24

	Scene No.	MSB Resolver 14-Bit Digital Word LSB
4698	4697 23 ✓	0 1 0 0 1 0 0 1 0 1 1 0 1 0
4546	4545 24 ✓	0 1 0 0 0 1 1 1 0 0 0 0 1 0
4395	4393 25 ✓	0 1 0 0 0 1 0 0 1 0 1 0 1 1
4243	4239 26 ✓	0 1 0 0 0 0 1 0 0 1 0 0 1 1
4091	4087 27 ✓	0 0 1 1 1 1 1 1 1 1 1 0 1 1
3940	3935 28 ✓	0 0 1 1 1 1 0 1 1 0 0 1 0 0
3788	3786 29 ✓	0 0 1 1 1 0 1 1 0 0 1 1 0 0
3636	3634 30 ✓	0 0 1 1 1 0 0 0 1 1 0 1 0 0
2346	Cold Cal 4	0 0 1 0 0 1 0 0 1 0 1 0 1 0
2195	Cold Cal 3	0 0 1 0 0 0 1 0 0 1 0 0 1 1
2119	Cold Cal 2	0 0 1 0 0 0 0 1 0 0 0 1 1 1
2043	2043 *Cold Cal 1 ✓	0 0 0 1 1 1 1 1 1 1 1 0 1 1
14028	Warm Cal	1 1 0 1 1 0 1 1 0 0 1 1 0 0
5836	**Nadir Reference	0 1 0 1 1 0 1 1 0 0 1 1 0 0

A

*Standard
**Not scene or calibration station.

Subassembly No.: 1333650-1

Serial No.: 207

Test Engineer: Roger V. Thomas

Quality Assurance: QC 226

Date: 980212

TEST DATA SHEET NO. 10 (Sheet 1 of 2)

Science and Engineering Data Test (Warm Cal Mode) (Paragraph 3.3.5.3.2)

Step	Instrument Status	(Y)es / (N)o
1	Warm Cal Mode command received?	Y
2	ENGR OK message seen?	Y
3	Reflector positioned at warm load?	Y

Yes = Pass No = Fail

Step	Element	Description	Measured Value* (Binary)	Required Value (Binary)	(P)ass/(F)ail
4a	1-2	Packet ID		0000100100100001	P
4b	3-4	Packet Length		0000000101000101	P
4c	5-6	Unit Serial Number		0000010000000000	P
4d	7-8	Instrument Mode/ Status		1000100000000100	P

RADIOMETER SCENE DATA			
Step	Description	Required Counts	(P)ass/(F)ail
4f	Review All Scene Data	12500-20500	P

PRT TEMPERATURE DATA				
Step	Element	Description	Required	(P)ass/(F)ail
4g	262-298 *	Review All PRT Data	10-40 degrees C	P
4g	300	Temperature Sensor Reference	23244-26317 counts	P

QC 223

* EXCEPT FOR ELEMENT 276 740°C B.R. Tuttle 4-8-98

STATUS				
Step	Description	Status*	Required Status	(P)ass/(F)ail
4h	Antenna in Full Scan Mode		NO	P
	Antenna in Warm Cal Mode		YES	P
	Antenna in Cold Cal Mode		NO	P
	Antenna in Nadir Mode		NO	P
	Cold Cal Position LSB		ZERO	P
	Cold Cal Position MSB		ZERO	P
	A2 Scanner Power		ON	P
	ADC Latchup Flag		ONE	P

* Rewriting printout data on this data sheet is optional.

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

Customer Representative 4/10/98 Date

Test Systems Engineer (TSE) 4-8-98 Date

Quality Control IPR 8 98 Date

TEST DATA SHEET NO. 10 (sheet 2 of 2)
Science and Engineering Data Test (Warm Cal Mode) (Paragraph 3.3.5.3.2)

A2 REFLECTOR POSITIONS (Step 4e)			
Beam Positions	Position Range (*)	Required (**) +/- 5 counts	(P)ass/ (F)ail
1-30	14030 - 14030	14028	P

* Actual range (min to max) of counts from printout (Only beam positions 1-30). Rewriting counts on this data sheet is optional.

** Required counts from AE26002/2 TDS 6 +/- 5 counts for Warm Cal Position

ENGINEERING DATA				
Step	Description	Measured***	Required	(P)ass/(F)ail
4i	Signal Processor (+5 VDC)		+4 to +6 volts	P
	Signal Processor (+15 VDC)		+14 to +16 volts	P
	Signal Processor (-15 VDC)		-14 to -16 volts	P
	Scan Drive (+5 VDC)		+4 to +6 volts	P
	Scan Drive (+15 VDC)		+14 to +16 volts	P
	Scan Drive (-15 VDC)		-14 to -16 volts	P
	Mixer/IF Amplifier (+10 VDC)		+9 to +11 volts	P
	LO Channel 1		+9 to +11 volts	P
	LO Channel 2		+9 to +11 volts	P
	Quiet Bus Current		≤ 1 Amps	P
	Noisy Bus Current		≤ 150 milliamps	P

*** Rewriting printout data on this data sheet is optional.

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

Customer Representative 4/10/98 Date

Test Systems Engineer 4-8-98 Date

Quality Control APR 8 98 Date

AE-26156/10 A 3.3.5.3.2

```
EOS  A2-04  E2.EXE;18 WARM CAL MODE        8-APR-98  06:09:032 SCAN NUMBER   531
[ 5 ] SCIENCE DATA     ELEMENT 0000

[ 6 ] CONTROL/STATUS   ELEMENT   00

[ . ] ENGINEERING      ELEMENT   00


                                        COMMANDS
[ 9 ]  SCANNER A2 POWER =          ON    COLD CAL POSITION 1 =        YES [ 14

[ 10 ] ANTENNA IN FULL SCAN MODE = NO    COLD CAL POSITION 2 =        NO  [ 15

[ 11 ] ANTENNA IN WARM CAL POSIT = YES   COLD CAL POSITION 3 =        NO  [ 16

[ 12 ] ANTENNA IN COLD CAL POSIT = NO    COLD CAL POSITION 4 =        NO  [ 17

[ 13 ] ANTENNA IN NADIR POSITION = NO    RESET C&DH PROCESSOR              [ 18

                                         GSE MODE                          [ 19

ENGR OK   POWER          ON    CHECKSUM  IN 5893 CALC 5893   SA28   418 SA29   41
                         SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL       [ 1 ] RETURN
 SELECT BUTTON 3
```

P 3.3.5.3.2

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	14030
2		00100001	140	REFL POS 17 2ND LOOK	14030
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17108
4		01000101	144	CH 2	17110
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	14030
6		00000000	148	REFL POS 18 2ND LOOK	14030
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17111
8		00000100	152	CH 2	17111
10	REFLECTOR POSITION 1	14030	154	REFLECTOR POSITION 19	14030
12	REFL POS 1 2ND LOOK	14030	156	REFL POS 19 2ND LOOK	14030
14	SCENE DATA BP 1 CH 1	17106	158	SCENE DATA BP 19 CH 1	17110
16	CH 2	17110	160	CH 2	17107
18	REFLECTOR POSITION 2	14030	162	REFLECTOR POSITION 20	14030
20	REFL POS 2 2ND LOOK	14030	164	REFL POS 20 2ND LOOK	14030
22	SCENE DATA BP 2 CH 1	17108	166	SCENE DATA BP 20 CH 1	17110
24	CH 2	17111	168	CH 2	17106
26	REFLECTOR POSITION 3	14030	170	REFLECTOR POSITION 21	14030
28	REFL POS 3 2ND LOOK	14030	172	REFL POS 21 2ND LOOK	14030
30	SCENE DATA BP 3 CH 1	17113	174	SCENE DATA BP 21 CH 1	17109
32	CH 2	17108	176	CH 2	17102
34	REFLECTOR POSITION 4	14030	178	REFLECTOR POSITION 22	14030
36	REFL POS 4 2ND LOOK	14030	180	REFL POS 22 2ND LOOK	14030
38	SCENE DATA BP 4 CH 1	17114	182	SCENE DATA BP 22 CH 1	17111
40	CH 2	17111	184	CH 2	17104
42	REFLECTOR POSITION 5	14030	186	REFLECTOR POSITION 23	14030
44	REFL POS 5 2ND LOOK	14030	188	REFL POS 23 2ND LOOK	14030
46	SCENE DATA BP 5 CH 1	17112	190	SCENE DATA BP 23 CH 1	17110
48	CH 2	17112	192	CH 2	17110
50	REFLECTOR POSITION 6	14030	194	REFLECTOR POSITION 24	14030
52	REFL POS 6 2ND LOOK	14030	196	REFL POS 24 2ND LOOK	14030
54	SCENE DATA BP 6 CH 1	17111	198	SCENE DATA BP 24 CH 1	17111
56	CH 2	17101	200	CH 2	17111
58	REFLECTOR POSITION 7	14030	202	REFLECTOR POSITION 25	14030
60	REFL POS 7 2ND LOOK	14030	204	REFL POS 25 2ND LOOK	14030
62	SCENE DATA BP 7 CH 1	17107	206	SCENE DATA BP 25 CH 1	17109
64	CH 2	17112	208	CH 2	17104
66	REFLECTOR POSITION 8	14030	210	REFLECTOR POSITION 26	14030
68	REFL POS 8 2ND LOOK	14030	212	REFL POS 26 2ND LOOK	14030
70	SCENE DATA BP 8 CH 1	17107	214	SCENE DATA BP 26 CH 1	17109
72	CH 2	17109	216	CH 2	17114
74	REFLECTOR POSITION 9	14030	218	REFLECTOR POSITION 27	14030
76	REFL POS 9 2ND LOOK	14030	220	REFL POS 27 2ND LOOK	14030
78	SCENE DATA BP 9 CH 1	17106	222	SCENE DATA BP 27 CH 1	17113
80	CH 2	17105	224	CH 2	17108
82	REFLECTOR POSITION 10	14030	226	REFLECTOR POSITION 28	14030
84	REFL POS 10 2ND LOOK	14030	228	REFL POS 28 2ND LOOK	14030
86	SCENE DATA BP 10 CH 1	17107	230	SCENE DATA BP 28 CH 1	17110
88	CH 2	17110	232	CH 2	17109
90	REFLECTOR POSITION 11	14030	234	REFLECTOR POSITION 29	14030
92	REFL POS 11 2ND LOOK	14030	236	REFL POS 29 2ND LOOK	14030

AP 3.3.5.3.2

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17110
96		CH	2	17105
98	REFLECTOR POSITION 12			14030
100	REFL POS 12 2ND LOOK			14030
102	SCENE DATA BP 12	CH	1	17106
104		CH	2	17103
106	REFLECTOR POSITION 13			14030
108	REFL POS 13 2ND LOOK			14030
110	SCENE DATA BP 13	CH	1	17111
112		CH	2	17109
114	REFLECTOR POSITION 14			14030
116	REFL POS 14 2ND LOOK			14030
118	SCENE DATA BP 14	CH	1	17108
120		CH	2	17110
122	REFLECTOR POSITION 15			14030
124	REFL POS 15 2ND LOOK			14030
126	SCENE DATA BP 15	CH	1	17112
128		CH	2	17105
130	REFLECTOR POSITION 16			14030
132	REFL POS 16 2ND LOOK			14030
134	SCENE DATA BP 16	CH	1	17111
136		CH	2	17104

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17106
240		CH	2	17108
242	REFLECTOR POSITION 30			14030
244	REFL POS 30 2ND LOOK			14030
246	SCENE DATA BP 30	CH	1	17113
248		CH	2	17110
250	REFLECTOR COLD CAL POS			0E
252	REFL COLD CAL 2ND LOOK			0E
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E
304	REFL WARM CAL 2ND LOOK			0E
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

MENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18082	22.37
264	FEED HORN	17833	23.07
266	RF MUX	18289	24.00
268	MIXER/IF AMPLIFIER CHANNEL 1	18761	24.81
270	MIXER/IF AMPLIFIER CHANNEL 2	18982	24.93
272	LOCAL OSCILLATOR CHANNEL 1	18490	24.51
274	LOCAL OSCILLATOR CHANNEL 2	19082	25.15
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17558	22.37
280	DC/DC CONVERTER	19978	27.45
282	RF SHELF	18545	23.73
284	DETECTOR/PREAMP ASSEMBLY	18906	24.07
286	WARM LOAD CENTER	22545	22.55
288	WARM LOAD 2	23084	22.44
290	WARM LOAD 3	22689	22.47
292	WARM LOAD 4	22571	22.54
294	WARM LOAD 5	22556	22.54
296	WARM LOAD 6	23048	22.52
298	WARM LOAD 1	22904	22.48
300	TEMP SENSOR REFERENCE VOLTAGE	25089	

P 3.3.5.3.2

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	NO
ANTENNA IN WARM CAL MODE	YES
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	21.3
RF SHELF TEMPERATURE #1	21.9
WARM LOAD TEMPERATURE	21.5
RF SHELF TEMPERATURE #2	22.0

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22226	4.91
	+15 VDC	21888	15.03
	-15 VDC	21870	-15.08
ANTENNA DRIVE	+5 VDC	22090	4.92
	+15 VDC	22020	14.95
	-15 VDC	21841	-15.12
MIXER/IF AMPLIFIER	+10 VDC	21721	9.93
LO CHANNEL 1	+10 VDC	21317	10.04
LO CHANNEL 2	+10 VDC	21430	10.01
QUIET BUS CURRENT		13709	625.64
NOISY BUS CURRENT		257	1.04

for ¶ 3.3.5.3.2

TEST DATA SHEET 6 (SHEET 2 OF 2)
3.4.4, Step 2: Position Command Test

Temperature: 25 °C

QC 226 3/24/98

	Scene No.	Resolver 14-Bit Digital Word MSB													LSB
4698	23	0	1	0	0	1	0	0	1	0	1	1	0	1	0
4546	24	0	1	0	0	0	1	1	1	0	0	0	0	1	0
4395	25	0	1	0	0	0	1	0	0	1	0	1	0	1	1
4243	26	0	1	0	0	0	0	1	0	0	1	0	0	1	1
4091	27	0	0	1	1	1	1	1	1	1	1	1	0	1	1
3940	28	0	0	1	1	1	1	0	1	1	0	0	1	0	0
3788	29	0	0	1	1	1	0	1	1	0	0	1	1	0	0
36	30	0	0	1	1	1	0	0	0	1	1	0	1	0	0
2346	Cold Cal 4	0	0	1	0	0	1	0	0	1	0	1	0	1	0
2195	Cold Cal 3	0	0	1	0	0	0	1	0	0	1	0	0	1	1
2119	Cold Cal 2	0	0	1	0	0	0	0	1	0	0	0	1	1	1
2043	*Cold Cal 1	0	0	0	1	1	1	1	1	1	1	1	0	1	1
14028	Warm Cal	1	1	0	1	1	0	1	1	0	0	1	1	0	0
5836	**Nadir Reference	0	1	0	1	1	0	1	1	0	0	1	1	0	0

*Standard
**Not scene or calibration station.

Subassembly No.: 1333650-1

Serial No.: 207

Test Engineer: Roger V. Thoney

Quality Assurance: QC 226

Date: 980212

for A 3.3.5.3.2

TEST DATA SHEET 6 (SHEET 1 OF 2)
3.4.4, Step 2: Position Command Test

Test Setup Verified: _____ Shop Order No. 323737
Signature

Temperature: 25 °C

↓	Scene No.	Resolver 14-Bit Digital word MSB → LSB
8035★	1	0 1 1 1 1 1 0 1 1 0 0 0 1 1
7883	2	0 1 1 1 1 0 1 1 0 0 1 0 1 1
7731	3	0 1 1 1 1 0 0 0 1 1 0 0 1 1
7580	4	0 1 1 1 0 1 1 0 0 1 1 1 0 0
7428	5	0 1 1 1 0 1 0 0 0 0 0 1 0 0
7276	6	0 1 1 1 0 0 0 1 1 0 1 1 0 0
7125	7	0 1 1 0 1 1 1 1 0 1 0 1 0 1
6973	8	0 1 1 0 1 1 0 0 1 1 1 1 0 1
6821	9	0 1 1 0 1 0 1 0 1 0 0 1 0 1
6670	10	0 1 1 0 1 0 0 0 0 0 1 1 1 0
6518	11	0 1 1 0 0 1 0 1 1 1 0 1 1 0
6366	12	0 1 1 0 0 0 1 1 0 1 1 1 1 0
6215	13	0 1 1 0 0 0 0 1 0 0 0 1 1 0
6063	14	0 1 0 1 1 1 1 0 1 0 1 1 1 1
5911	15	0 1 0 1 1 1 0 0 0 1 0 1 1 1
5760	16	0 1 0 1 1 0 1 0 0 0 0 0 0 0
5608	17	0 1 0 1 0 1 1 1 1 0 1 0 0 0
5456	18	0 1 0 1 0 1 0 1 0 1 0 1 0 0
5305	19	0 1 0 1 0 0 1 0 1 1 1 0 0 1
5153	20	0 1 0 1 0 0 0 0 1 0 0 0 0 1
5001	21	0 1 0 0 1 1 1 1 0 0 0 1 0 0 1
4850	22	0 1 0 0 1 0 1 1 1 1 0 0 1 0

A

★ INCLUDES (-6) correction

-TM Aujin 2/27/98 QC 226

TM Aujin 2/27/98 QC 226

QC 223 R.R. Patel 4/4/98

TEST DATA SHEET NO. 11 (Sheet 1 of 5)

Science and Engineering Data Test (Cold Cal Mode) (Paragraph 3.3.5.3.3)

Step	Instrument Status	(Y)es / (N)o
1	Cold Cal Mode command received?	Y
2	ENGR OK message seen?	Y
3	Reflector positioned at cold cal position 1?	Y
6	Cold Cal Position 2 command received?	Y
7	ENGR OK message seen?	Y
8	Reflector positioned at cold cal position 2?	Y
11	Cold Cal Position 3 command received?	Y
12	ENGR OK message seen?	Y
13	Reflector positioned at cold cal position 3?	Y
16	Cold Cal Position 4 command received?	Y
17	ENGR OK message seen?	Y
18	Reflector positioned at cold cal position 4?	Y

Yes = Pass No = Fail

Step	Element	Description	Measured Value* (Binary)	Required Value (Binary)	(P)ass/(F)ail
4a	1-2	Packet ID		0000100100100001	P
4b	3-4	Packet Length		0000000101000101	P
4c	5-6	Unit Serial Number		0000010000000000	P
4d	7-8	Instrument Mode/ Status		1000100000001000	P
9a	7-8	Instrument Mode/ Status		1000100000101000	P
14a	7-8	Instrument Mode/ Status		1000100001001000	P
19a	7-8	Instrument Mode/ Status		1000100001101000	P

RADIOMETER SCENE DATA			
Step	Description	Required Counts	(P)ass/(F)ail
4f	Review All Scene Data	12500-20500	P

PRT TEMPERATURE DATA				
Step	Element	Description	Required	(P)ass/(F)ail
4g	262-298 **	Review All PRT Data	10-40 degrees C	P
4g	300	Temperature Sensor Reference	23244-26317 counts	P

** Except for element 276 740°C P.R. Patel 4/8/98 QC 223

* Rewriting printout data on this data sheet is optional.

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

T.H.F. 4-8-98

Test Systems Engineer Date

QC 3243 L 4/10/98

Customer Representative Date

Quality Control Date

RMRH 4/4/98

TEST DATA SHEET NO. 11 (sheet 2 of 5)
Science and Engineering Data Test (Cold Cal Mode) (Paragraph 3.3.5.3.3)

		STATUS		
Step	Description	Status*	Required Status	(P)ass/(F)ail
4h	Antenna in Full Scan Mode		NO	P
	Antenna in Warm Cal Mode		NO	P
	Antenna in Cold Cal Mode		YES	P
	Antenna in Nadir Mode		NO	P
	Cold Cal Position LSB		ZERO	P
	Cold Cal Position MSB		ZERO	P
	A2 Scanner Power		ON	P
	ADC Latchup Flag		ONE	P
9b	Cold Cal Position LSB		ONE	P
	Cold Cal Position MSB		ZERO	P
14b	Cold Cal Position LSB		ZERO	P
	Cold Cal Position MSB		ONE	P
19b	Cold Cal Position LSB		ONE	P
	Cold Cal Position MSB		ONE	P

* Rewriting printout data on this data sheet is optional.

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

Customer Representative 4/10/98 Date

Test Systems Engineer 4-8-98 Date

Quality Control APR 8 98 Date

TEST DATA SHEET NO. 11 (sheet 3 of 5)
Science and Engineering Data Test (Cold Cal Mode) (Paragraph 3.3.5.3.3)

A2 REFLECTOR POSITIONS (Step 6e)			
Beam Positions	Position Range (*)	Required (**) +/- 5 counts	(P)ass/ (F)ail
1-30	2046 - 2046	2043	P
* Actual range (min to max) of counts from printout (Only beam positions 1-30). Rewriting counts on this data sheet is optional.			
** Required counts from AE26002/2 TDS 6 +/- 5 counts for Cold Cal Position #1			

A2 REFLECTOR POSITIONS (Step 9c)			
Beam Positions	Position Range (*)	Required (**) +/- 5 counts	(P)ass/ (F)ail
1-30	2116 - 2116	2119	P
* Actual range (min to max) of counts from printout (Only beam positions 1-30). Rewriting counts on this data sheet is optional.			
** Required counts from AE26002/2 TDS 6 +/- 5 counts for Cold Cal Position #2			

A2 REFLECTOR POSITIONS (Step 14c)			
Beam Positions	Position Range (*)	Required (**) +/- 5 counts	(P)ass/ (F)ail
1-30	2198 - 2198	2195	P
* Actual range (min to max) of counts from printout (Only beam positions 1-30). Rewriting counts on this data sheet is optional.			
** Required counts from AE26002/2 TDS 6 +/- 5 counts for Cold Cal Position #3			

A2 REFLECTOR POSITIONS (Step 19c)			
Beam Positions	Position Range (*)	Required (**) +/- 5 counts	(P)ass/ (F)ail
1-30	2348 - 2349	2346	P
* Actual range (min to max) of counts from printout (Only beam positions 1-30). Rewriting counts on this data sheet is optional.			
** Required counts from AE26002/2 TDS 6 +/- 5 counts for Cold Cal Position #4			

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

Customer Representative — Date 4/10/98

Test Systems Engineer — Date 4-8-98

Quality Control — Date APR 8 98

RAS Plt 4/4/98

TEST DATA SHEET NO. 11 (sheet 4 of 5)
Science and Engineering Data Test (Cold Cal Mode) (Paragraph 3.3.5.3.3)

A2 REFLECTOR POSITION (Step 4e)			
Beam Position	Actual Beam Count *	Required ** Beam Count (± 5 counts)	Pass/ Fail
Cold Cal 1	2042	2043	P
* Actual count from printout (Only beam position Cold Cal 1)			
** Required count from AE-26002/2 TDS 6 ± 5 counts for Cold Cal 1			

A2 REFLECTOR POSITION (Step 4e)			
Beam Position	Actual Beam Count *	Required ** Beam Count (± 5 counts)	Pass/ Fail
Cold Cal 2	2114	2119	P
* Actual count from printout (Only beam position Cold Cal 2)			
** Required count from AE-26002/2 TDS 6 ± 5 counts for Cold Cal 2			

A2 REFLECTOR POSITION (Step 4e)			
Beam Position	Actual Beam Count *	Required ** Beam Count (± 5 counts)	Pass/ Fail
Cold Cal 3	2195	2195	P
* Actual count from printout (Only beam position Cold Cal 3)			
** Required count from AE-26002/2 TDS 6 ± 5 counts for Cold Cal 3			

A2 REFLECTOR POSITION (Step 4e)			
Beam Position	Actual Beam Count *	Required ** Beam Count (± 5 counts)	Pass/ Fail
Cold Cal 4	2346	2346	P
* Actual count from printout (Only beam position Cold Cal 4)			
** Required count from AE-26002/2 TDS 6 ± 5 counts for Cold Cal 4			

EOS/ AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT LPT

T.H.F. Smith 4-8-98
System Engineer Date

4/10/98
Customer Representative Date

APR 8 98
Quality ~~Assurance~~ CONTROL Date

RM/RH
4/4/98

TEST DATA SHEET NO. 11 (sheet ~~4~~ 5 of ~~4~~ 5)
Science and Engineering Data Test (Cold Cal Mode) (Paragraph 3.3.5.3.3)

ENGINEERING DATA				
Step	Description	Measured*	Required	(P)ass/(F)ail
4i	Signal Processor (+5 VDC)		+4 to +6 volts	P
	Signal Processor (+15 VDC)		+14 to +16 volts	P
	Signal Processor (-15 VDC)		-14 to -16 volts	P
	Scan Drive (+5 VDC)		+4 to +6 volts	P
	Scan Drive (+15 VDC)		+14 to +16 volts	P
	Scan Drive (-15 VDC)		-14 to -16 volts	P
	Mixer/IF Amplifier (+10 VDC)		+9 to +11 volts	P
	LO Channel 1		+9 to +11 volts	P
	LO Channel 2		+9 to +11 volts	P
	Quiet Bus Current		≤ 1 Amps	P
	Noisy Bus Current		≤ 150 milliamps	P

* Rewriting printout data on this data sheet is optional.

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT ________ LPT ________

Test Systems Engineer [signature] Date 4-8-98

Quality Control (stamp: 197) Date APR 8 98

Customer Representative (stamp: C 3243 L) Date 4/10/98

AE-26156/10 TP 3.3,5,3.3

EOS A2-04 E2.EXE;18 COLD CAL MODE 8-APR-98 06:51:272 SCAN NUMBER 849
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[7] ENGINEERING ELEMENT 00

COMMANDS

[9]	SCANNER A2 POWER = ON	COLD CAL POSITION 1 =	YES	[14
[10]	ANTENNA IN FULL SCAN MODE = NO	COLD CAL POSITION 2 =	NO	[15
[11]	ANTENNA IN WARM CAL POSIT = NO	COLD CAL POSITION 3 =	NO	[16
[12]	ANTENNA IN COLD CAL POSIT = YES	COLD CAL POSITION 4 =	NO	[17
[13]	ANTENNA IN NADIR POSITION = NO	RESET C&DH PROCESSOR		[18
		GSE MODE		[19

2 13 PREVIOUS COMMAND NOT ACCEPTED
ENGR OK POWER ON CHECKSUM IN E11D CALC E11D SA28 736 SA29 73
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 3

AP 3.3.5.3.3

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	2046
2		00100001	140	REFL POS 17 2ND LOOK	2046
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17119
4		01000101	144	CH 2	17114
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	2046
6		00000000	148	REFL POS 18 2ND LOOK	2046
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17117
8		00001000	152	CH 2	17114
10	REFLECTOR POSITION 1	2046	154	REFLECTOR POSITION 19	2046
12	REFL POS 1 2ND LOOK	2046	156	REFL POS 19 2ND LOOK	2046
14	SCENE DATA BP 1 CH 1	17116	158	SCENE DATA BP 19 CH 1	17113
16	CH 2	17108	160	CH 2	17114
18	REFLECTOR POSITION 2	2046	162	REFLECTOR POSITION 20	2046
20	REFL POS 2 2ND LOOK	2046	164	REFL POS 20 2ND LOOK	2046
22	SCENE DATA BP 2 CH 1	17119	166	SCENE DATA BP 20 CH 1	17113
24	CH 2	17116	168	CH 2	17109
26	REFLECTOR POSITION 3	2046	170	REFLECTOR POSITION 21	2046
28	REFL POS 3 2ND LOOK	2046	172	REFL POS 21 2ND LOOK	2046
30	SCENE DATA BP 3 CH 1	17117	174	SCENE DATA BP 21 CH 1	17116
32	CH 2	17111	176	CH 2	17109
34	REFLECTOR POSITION 4	2046	178	REFLECTOR POSITION 22	2046
36	REFL POS 4 2ND LOOK	2046	180	REFL POS 22 2ND LOOK	2046
38	SCENE DATA BP 4 CH 1	17118	182	SCENE DATA BP 22 CH 1	17115
40	CH 2	17117	184	CH 2	17106
42	REFLECTOR POSITION 5	2046	186	REFLECTOR POSITION 23	2046
44	REFL POS 5 2ND LOOK	2046	188	REFL POS 23 2ND LOOK	2046
46	SCENE DATA BP 5 CH 1	17114	190	SCENE DATA BP 23 CH 1	17116
48	CH 2	17114	192	CH 2	17113
50	REFLECTOR POSITION 6	2046	194	REFLECTOR POSITION 24	2046
52	REFL POS 6 2ND LOOK	2046	196	REFL POS 24 2ND LOOK	2046
54	SCENE DATA BP 6 CH 1	17113	198	SCENE DATA BP 24 CH 1	17113
56	CH 2	17108	200	CH 2	17112
58	REFLECTOR POSITION 7	2046	202	REFLECTOR POSITION 25	2046
60	REFL POS 7 2ND LOOK	2046	204	REFL POS 25 2ND LOOK	2046
62	SCENE DATA BP 7 CH 1	17120	206	SCENE DATA BP 25 CH 1	17117
64	CH 2	17114	208	CH 2	17106
66	REFLECTOR POSITION 8	2046	210	REFLECTOR POSITION 26	2046
68	REFL POS 8 2ND LOOK	2046	212	REFL POS 26 2ND LOOK	2046
70	SCENE DATA BP 8 CH 1	17117	214	SCENE DATA BP 26 CH 1	17117
72	CH 2	17114	216	CH 2	17109
74	REFLECTOR POSITION 9	2046	218	REFLECTOR POSITION 27	2046
76	REFL POS 9 2ND LOOK	2046	220	REFL POS 27 2ND LOOK	2046
78	SCENE DATA BP 9 CH 1	17115	222	SCENE DATA BP 27 CH 1	17118
80	CH 2	17110	224	CH 2	17110
82	REFLECTOR POSITION 10	2046	226	REFLECTOR POSITION 28	2046
84	REFL POS 10 2ND LOOK	2046	228	REFL POS 28 2ND LOOK	2046
86	SCENE DATA BP 10 CH 1	17117	230	SCENE DATA BP 28 CH 1	17116
88	CH 2	17108	232	CH 2	17114
90	REFLECTOR POSITION 11	2046	234	REFLECTOR POSITION 29	2046
92	REFL POS 11 2ND LOOK	2046	236	REFL POS 29 2ND LOOK	2046

TP 3.3.5.3.3

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17122
96		CH	2	17108
98	REFLECTOR POSITION 12			2046
100	REFL POS 12 2ND LOOK			2046
102	SCENE DATA BP 12	CH	1	17119
104		CH	2	17114
106	REFLECTOR POSITION 13			2046
108	REFL POS 13 2ND LOOK			2046
110	SCENE DATA BP 13	CH	1	17115
112		CH	2	17118
114	REFLECTOR POSITION 14			2046
116	REFL POS 14 2ND LOOK			2046
118	SCENE DATA BP 14	CH	1	17116
120		CH	2	17111
122	REFLECTOR POSITION 15			2046
124	REFL POS 15 2ND LOOK			2046
126	SCENE DATA BP 15	CH	1	17118
128		CH	2	17114
130	REFLECTOR POSITION 16			2046
132	REFL POS 16 2ND LOOK			2046
134	SCENE DATA BP 16	CH	1	17114
136		CH	2	17106

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17115
240		CH	2	17104
242	REFLECTOR POSITION 30			2046
244	REFL POS 30 2ND LOOK			2046
246	SCENE DATA BP 30	CH	1	17116
248		CH	2	17111
250	REFLECTOR COLD CAL POS			0E
252	REFL COLD CAL 2ND LOOK			0E
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E
304	REFL WARM CAL 2ND LOOK			0E
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18178	22.54
264	FEED HORN	17996	23.38
266	RF MUX	18510	24.42
268	MIXER/IF AMPLIFIER CHANNEL 1	18997	25.26
270	MIXER/IF AMPLIFIER CHANNEL 2	19216	25.38
272	LOCAL OSCILLATOR CHANNEL 1	18726	24.96
274	LOCAL OSCILLATOR CHANNEL 2	19332	25.63
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17682	22.60
280	DC/DC CONVERTER	20167	27.82
282	RF SHELF	18761	24.15
284	DETECTOR/PREAMP ASSEMBLY	19146	24.53
286	WARM LOAD CENTER	22750	22.95
288	WARM LOAD 2	23288	22.84
290	WARM LOAD 3	22895	22.88
292	WARM LOAD 4	22775	22.95
294	WARM LOAD 5	22760	22.94
296	WARM LOAD 6	23254	22.92
298	WARM LOAD 1	23113	22.90
300	TEMP SENSOR REFERENCE VOLTAGE	25090	

P 3.3.5.3.3

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	NO
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	YES
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	21.3
RF SHELF TEMPERATURE #1	21.9
WARM LOAD TEMPERATURE	21.5
RF SHELF TEMPERATURE #2	22.0

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22205	4.91
	+15 VDC	21891	15.03
	-15 VDC	21871	-15.08
ANTENNA DRIVE	+5 VDC	22040	4.94
	+15 VDC	22024	14.99
	-15 VDC	21836	-15.06
MIXER/IF AMPLIFIER	+10 VDC	21722	9.93
LO CHANNEL 1	+10 VDC	21317	10.04
LO CHANNEL 2	+10 VDC	21431	10.01
QUIET BUS CURRENT		13636	616.26
NOISY BUS CURRENT		10057	60.37

TP 3.3.5.3.3

```
EOS  A2-04  E2.EXE;18 COLD CAL MODE        8-APR-98  06:55:192 SCAN NUMBER   878
[ 5 ] SCIENCE DATA     ELEMENT 0000

[ 6 ] CONTROL/STATUS   ELEMENT   00

[   ] ENGINEERING      ELEMENT   00


                                        COMMANDS
[ 9 ]  SCANNER A2 POWER =           ON     COLD CAL POSITION 1 =        NO  [ 14

[ 10 ] ANTENNA IN FULL SCAN MODE = NO      COLD CAL POSITION 2 =        YES [ 15

[ 11 ] ANTENNA IN WARM CAL POSIT = NO      COLD CAL POSITION 3 =        NO  [ 16

[ 12 ] ANTENNA IN COLD CAL POSIT = YES     COLD CAL POSITION 4 =        NO  [ 17

[ 13 ] ANTENNA IN NADIR POSITION = NO      RESET C&DH PROCESSOR             [ 18

                                           GSE MODE                         [ 19

  2   16  PREVIOUS COMMAND NOT ACCEPTED
ENGR OK   POWER          ON    CHECKSUM  IN F08A CALC F08A   SA28   765 SA29   76
                         SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL       [ 1 ] RETURN
 SELECT BUTTON 3
```

P 3.3.5.3.3

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	2116
2		00100001	140	REFL POS 17 2ND LOOK	2116
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17122
4		01000101	144	CH 2	17121
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	2116
6		00000000	148	REFL POS 18 2ND LOOK	2116
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17118
8		00101000	152	CH 2	17118
10	REFLECTOR POSITION 1	2116	154	REFLECTOR POSITION 19	2116
12	REFL POS 1 2ND LOOK	2116	156	REFL POS 19 2ND LOOK	2116
14	SCENE DATA BP 1 CH 1	17111	158	SCENE DATA BP 19 CH 1	17117
16	CH 2	17109	160	CH 2	17112
18	REFLECTOR POSITION 2	2116	162	REFLECTOR POSITION 20	2116
20	REFL POS 2 2ND LOOK	2116	164	REFL POS 20 2ND LOOK	2116
22	SCENE DATA BP 2 CH 1	17120	166	SCENE DATA BP 20 CH 1	17116
24	CH 2	17114	168	CH 2	17117
26	REFLECTOR POSITION 3	2116	170	REFLECTOR POSITION 21	2116
28	REFL POS 3 2ND LOOK	2116	172	REFL POS 21 2ND LOOK	2116
30	SCENE DATA BP 3 CH 1	17123	174	SCENE DATA BP 21 CH 1	17117
32	CH 2	17114	176	CH 2	17112
34	REFLECTOR POSITION 4	2116	178	REFLECTOR POSITION 22	2116
36	REFL POS 4 2ND LOOK	2116	180	REFL POS 22 2ND LOOK	2116
38	SCENE DATA BP 4 CH 1	17115	182	SCENE DATA BP 22 CH 1	17118
40	CH 2	17111	184	CH 2	17119
42	REFLECTOR POSITION 5	2116	186	REFLECTOR POSITION 23	2116
44	REFL POS 5 2ND LOOK	2116	188	REFL POS 23 2ND LOOK	2116
46	SCENE DATA BP 5 CH 1	17117	190	SCENE DATA BP 23 CH 1	17120
48	CH 2	17115	192	CH 2	17111
50	REFLECTOR POSITION 6	2116	194	REFLECTOR POSITION 24	2116
52	REFL POS 6 2ND LOOK	2116	196	REFL POS 24 2ND LOOK	2116
54	SCENE DATA BP 6 CH 1	17118	198	SCENE DATA BP 24 CH 1	17118
56	CH 2	17112	200	CH 2	17118
58	REFLECTOR POSITION 7	2116	202	REFLECTOR POSITION 25	2116
60	REFL POS 7 2ND LOOK	2116	204	REFL POS 25 2ND LOOK	2116
62	SCENE DATA BP 7 CH 1	17117	206	SCENE DATA BP 25 CH 1	17114
64	CH 2	17107	208	CH 2	17113
66	REFLECTOR POSITION 8	2116	210	REFLECTOR POSITION 26	2116
68	REFL POS 8 2ND LOOK	2116	212	REFL POS 26 2ND LOOK	2116
70	SCENE DATA BP 8 CH 1	17115	214	SCENE DATA BP 26 CH 1	17116
72	CH 2	17116	216	CH 2	17120
74	REFLECTOR POSITION 9	2116	218	REFLECTOR POSITION 27	2116
76	REFL POS 9 2ND LOOK	2116	220	REFL POS 27 2ND LOOK	2116
78	SCENE DATA BP 9 CH 1	17120	222	SCENE DATA BP 27 CH 1	17120
80	CH 2	17113	224	CH 2	17112
82	REFLECTOR POSITION 10	2116	226	REFLECTOR POSITION 28	2116
84	REFL POS 10 2ND LOOK	2116	228	REFL POS 28 2ND LOOK	2116
86	SCENE DATA BP 10 CH 1	17121	230	SCENE DATA BP 28 CH 1	17118
88	CH 2	17114	232	CH 2	17114
90	REFLECTOR POSITION 11	2116	234	REFLECTOR POSITION 29	2116
92	REFL POS 11 2ND LOOK	2116	236	REFL POS 29 2ND LOOK	2116

AP 3.3.5.33

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17119
96		CH	2	17118
98	REFLECTOR POSITION 12			2116
100	REFL POS 12 2ND LOOK			2116
102	SCENE DATA BP 12	CH	1	17120
104		CH	2	17112
106	REFLECTOR POSITION 13			2116
108	REFL POS 13 2ND LOOK			2116
110	SCENE DATA BP 13	CH	1	17115
112		CH	2	17114
114	REFLECTOR POSITION 14			2116
116	REFL POS 14 2ND LOOK			2116
118	SCENE DATA BP 14	CH	1	17117
120		CH	2	17108
122	REFLECTOR POSITION 15			2116
124	REFL POS 15 2ND LOOK			2116
126	SCENE DATA BP 15	CH	1	17114
128		CH	2	17115
130	REFLECTOR POSITION 16			2116
132	REFL POS 16 2ND LOOK			2116
134	SCENE DATA BP 16	CH	1	17116
136		CH	2	17113

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17122
240		CH	2	17110
242	REFLECTOR POSITION 30			2116
244	REFL POS 30 2ND LOOK			2116
246	SCENE DATA BP 30	CH	1	17116
248		CH	2	17117
250	REFLECTOR COLD CAL POS			0E
252	REFL COLD CAL 2ND LOOK			0E
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E
304	REFL WARM CAL 2ND LOOK			0E
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18190	22.56
264	FEED HORN	18008	23.40
266	RF MUX	18524	24.45
268	MIXER/IF AMPLIFIER CHANNEL 1	19014	25.30
270	MIXER/IF AMPLIFIER CHANNEL 2	19227	25.40
272	LOCAL OSCILLATOR CHANNEL 1	18741	24.98
274	LOCAL OSCILLATOR CHANNEL 2	19346	25.66
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17690	22.62
280	DC/DC CONVERTER	20186	27.85
282	RF SHELF	18777	24.18
284	DETECTOR/PREAMP ASSEMBLY	19164	24.56
286	WARM LOAD CENTER	22769	22.99
288	WARM LOAD 2	23304	22.88
290	WARM LOAD 3	22915	22.92
292	WARM LOAD 4	22792	22.98
294	WARM LOAD 5	22779	22.98
296	WARM LOAD 6	23270	22.96
298	WARM LOAD 1	23130	22.93
300	TEMP SENSOR REFERENCE VOLTAGE	25090	

TP 3.3.5.3.3

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	NO
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	YES
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ONE
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	21.3
RF SHELF TEMPERATURE #1	21.9
WARM LOAD TEMPERATURE	21.5
RF SHELF TEMPERATURE #2	22.0

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22340	4.89
	+15 VDC	21893	15.03
	-15 VDC	21859	-15.07
ANTENNA DRIVE	+5 VDC	22032	4.95
	+15 VDC	22029	14.98
	-15 VDC	21846	-15.07
MIXER/IF AMPLIFIER	+10 VDC	21724	9.93
LO CHANNEL 1	+10 VDC	21317	10.04
LO CHANNEL 2	+10 VDC	21431	10.01
QUIET BUS CURRENT		14479	636.64
NOISY BUS CURRENT		2222	54.15

TP 3.3.5.3.3

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EOS  A2-04  E2.EXE;18 COLD CAL MODE        8-APR-98  06:57:432 SCAN NUMBER   896
[ 5 ] SCIENCE DATA    ELEMENT 0000

[ 6 ] CONTROL/STATUS  ELEMENT   00

[ . ] ENGINEERING     ELEMENT   00


                                        COMMANDS
[ 9 ]  SCANNER A2 POWER =           ON     COLD CAL POSITION 1 =       NO   [ 14

[ 10 ] ANTENNA IN FULL SCAN MODE = NO      COLD CAL POSITION 2 =       NO   [ 15

[ 11 ] ANTENNA IN WARM CAL POSIT = NO      COLD CAL POSITION 3 =       YES  [ 16

[ 12 ] ANTENNA IN COLD CAL POSIT = YES     COLD CAL POSITION 4 =       NO   [ 17

[ 13 ] ANTENNA IN NADIR POSITION = NO      RESET C&DH PROCESSOR            [ 18

                                           GSE MODE                        [ 19
  2   19  PREVIOUS COMMAND NOT ACCEPTED
ENGR OK   POWER          ON    CHECKSUM  IN 5028 CALC 5028   SA28   783 SA29   78
                         SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL       [ 1 ] RETURN
 SELECT BUTTON 3
```

AP 3.3.5.3.3

LF	NT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1		PACKET ID	00001001	138	REFLECTOR POSITION 17	2198
2			00100001	140	REFL POS 17 2ND LOOK	2198
3		PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17117
4			01000101	144	CH 2	17116
5		UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	2198
6			00000000	148	REFL POS 18 2ND LOOK	2198
7		INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17117
8			01001000	152	CH 2	17125
10		REFLECTOR POSITION 1	2198	154	REFLECTOR POSITION 19	2198
12		REFL POS 1 2ND LOOK	2198	156	REFL POS 19 2ND LOOK	2198
14		SCENE DATA BP 1 CH 1	17117	158	SCENE DATA BP 19 CH 1	17116
16		CH 2	17116	160	CH 2	17120
18		REFLECTOR POSITION 2	2198	162	REFLECTOR POSITION 20	2198
20		REFL POS 2 2ND LOOK	2198	164	REFL POS 20 2ND LOOK	2198
22		SCENE DATA BP 2 CH 1	17120	166	SCENE DATA BP 20 CH 1	17118
24		CH 2	17118	168	CH 2	17115
26		REFLECTOR POSITION 3	2198	170	REFLECTOR POSITION 21	2198
28		REFL POS 3 2ND LOOK	2198	172	REFL POS 21 2ND LOOK	2198
30		SCENE DATA BP 3 CH 1	17121	174	SCENE DATA BP 21 CH 1	17115
32		CH 2	17117	176	CH 2	17119
34		REFLECTOR POSITION 4	2198	178	REFLECTOR POSITION 22	2198
36		REFL POS 4 2ND LOOK	2198	180	REFL POS 22 2ND LOOK	2198
38		SCENE DATA BP 4 CH 1	17117	182	SCENE DATA BP 22 CH 1	17116
		CH 2	17123	184	CH 2	17116
		REFLECTOR POSITION 5	2198	186	REFLECTOR POSITION 23	2198
1		REFL POS 5 2ND LOOK	2198	188	REFL POS 23 2ND LOOK	2198
46		SCENE DATA BP 5 CH 1	17116	190	SCENE DATA BP 23 CH 1	17117
48		CH 2	17113	192	CH 2	17116
50		REFLECTOR POSITION 6	2198	194	REFLECTOR POSITION 24	2198
52		REFL POS 6 2ND LOOK	2198	196	REFL POS 24 2ND LOOK	2198
54		SCENE DATA BP 6 CH 1	17121	198	SCENE DATA BP 24 CH 1	17116
56		CH 2	17117	200	CH 2	17116
58		REFLECTOR POSITION 7	2198	202	REFLECTOR POSITION 25	2198
60		REFL POS 7 2ND LOOK	2198	204	REFL POS 25 2ND LOOK	2198
62		SCENE DATA BP 7 CH 1	17116	206	SCENE DATA BP 25 CH 1	17118
64		CH 2	17119	208	CH 2	17118
66		REFLECTOR POSITION 8	2198	210	REFLECTOR POSITION 26	2198
68		REFL POS 8 2ND LOOK	2198	212	REFL POS 26 2ND LOOK	2198
70		SCENE DATA BP 8 CH 1	17114	214	SCENE DATA BP 26 CH 1	17119
72		CH 2	17121	216	CH 2	17118
74		REFLECTOR POSITION 9	2198	218	REFLECTOR POSITION 27	2198
76		REFL POS 9 2ND LOOK	2198	220	REFL POS 27 2ND LOOK	2198
78		SCENE DATA BP 9 CH 1	17118	222	SCENE DATA BP 27 CH 1	17120
80		CH 2	17115	224	CH 2	17116
82		REFLECTOR POSITION 10	2198	226	REFLECTOR POSITION 28	2198
84		REFL POS 10 2ND LOOK	2198	228	REFL POS 28 2ND LOOK	2198
86		SCENE DATA BP 10 CH 1	17119	230	SCENE DATA BP 28 CH 1	17118
88		CH 2	17113	232	CH 2	17115
90		REFLECTOR POSITION 11	2198	234	REFLECTOR POSITION 29	2198
		REFL POS 11 2ND LOOK	2198	236	REFL POS 29 2ND LOOK	2198

AP 3.3.5.3.3

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	NO
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	YES
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ONE
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	21.3
RF SHELF TEMPERATURE #1	21.9
WARM LOAD TEMPERATURE	21.5
RF SHELF TEMPERATURE #2	22.0

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22308	4.89
	+15 VDC	21892	15.03
	-15 VDC	21863	-15.07
ANTENNA DRIVE	+5 VDC	22041	4.95
	+15 VDC	22051	14.98
	-15 VDC	21869	-15.07
MIXER/IF AMPLIFIER	+10 VDC	21721	9.93
LO CHANNEL 1	+10 VDC	21318	10.04
LO CHANNEL 2	+10 VDC	21431	10.01
QUIET BUS CURRENT		14184	632.42
NOISY BUS CURRENT		4600	57.10

TP 3.3.5.3.3

```
EOS  A2-04  E2.EXE;18 COLD CAL MODE        8-APR-98  06:59:272 SCAN NUMBER   909
[ 5 ] SCIENCE DATA    ELEMENT 0000

[ 6 ] CONTROL/STATUS  ELEMENT   00

[ . ] ENGINEERING     ELEMENT   00

                                          COMMANDS
[ 9 ]  SCANNER A2 POWER =           ON    COLD CAL POSITION 1 =        NO  [ 14
[ 10 ] ANTENNA IN FULL SCAN MODE = NO     COLD CAL POSITION 2 =        NO  [ 15
[ 11 ] ANTENNA IN WARM CAL POSIT = NO     COLD CAL POSITION 3 =        NO  [ 16
[ 12 ] ANTENNA IN COLD CAL POSIT = YES    COLD CAL POSITION 4 =        YES [ 17
[ 13 ] ANTENNA IN NADIR POSITION = NO     RESET C&DH PROCESSOR             [ 18
                                          GSE MODE                         [ 19
  2   22  PREVIOUS COMMAND NOT ACCEPTED
ENGR OK   POWER          ON    CHECKSUM IN  513 CALC  513   SA28   796 SA29   79
                         SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL       [ 1 ] RETURN
 SELECT BUTTON 3
```

TP 3.3.5.3.3

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	2349
2		00100001	140	REFL POS 17 2ND LOOK	2349
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17117
4		01000101	144	CH 2	17114
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	2349
6		00000000	148	REFL POS 18 2ND LOOK	2349
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17115
8		01101000	152	CH 2	17113
10	REFLECTOR POSITION 1	2348	154	REFLECTOR POSITION 19	2349
12	REFL POS 1 2ND LOOK	2349	156	REFL POS 19 2ND LOOK	2349
14	SCENE DATA BP 1 CH 1	17117	158	SCENE DATA BP 19 CH 1	17119
16	CH 2	17119	160	CH 2	17121
18	REFLECTOR POSITION 2	2349	162	REFLECTOR POSITION 20	2349
20	REFL POS 2 2ND LOOK	2349	164	REFL POS 20 2ND LOOK	2349
22	SCENE DATA BP 2 CH 1	17119	166	SCENE DATA BP 20 CH 1	17119
24	CH 2	17116	168	CH 2	17119
26	REFLECTOR POSITION 3	2349	170	REFLECTOR POSITION 21	2349
28	REFL POS 3 2ND LOOK	2349	172	REFL POS 21 2ND LOOK	2349
30	SCENE DATA BP 3 CH 1	17118	174	SCENE DATA BP 21 CH 1	17116
32	CH 2	17118	176	CH 2	17116
34	REFLECTOR POSITION 4	2349	178	REFLECTOR POSITION 22	2349
36	REFL POS 4 2ND LOOK	2349	180	REFL POS 22 2ND LOOK	2349
38	SCENE DATA BP 4 CH 1	17116	182	SCENE DATA BP 22 CH 1	17113
40	CH 2	17111	184	CH 2	17114
42	REFLECTOR POSITION 5	2349	186	REFLECTOR POSITION 23	2349
44	REFL POS 5 2ND LOOK	2349	188	REFL POS 23 2ND LOOK	2349
46	SCENE DATA BP 5 CH 1	17114	190	SCENE DATA BP 23 CH 1	17119
48	CH 2	17116	192	CH 2	17113
50	REFLECTOR POSITION 6	2349	194	REFLECTOR POSITION 24	2349
52	REFL POS 6 2ND LOOK	2349	196	REFL POS 24 2ND LOOK	2349
54	SCENE DATA BP 6 CH 1	17118	198	SCENE DATA BP 24 CH 1	17118
56	CH 2	17113	200	CH 2	17112
58	REFLECTOR POSITION 7	2349	202	REFLECTOR POSITION 25	2349
60	REFL POS 7 2ND LOOK	2349	204	REFL POS 25 2ND LOOK	2349
62	SCENE DATA BP 7 CH 1	17120	206	SCENE DATA BP 25 CH 1	17114
64	CH 2	17113	208	CH 2	17119
66	REFLECTOR POSITION 8	2349	210	REFLECTOR POSITION 26	2349
68	REFL POS 8 2ND LOOK	2349	212	REFL POS 26 2ND LOOK	2349
70	SCENE DATA BP 8 CH 1	17116	214	SCENE DATA BP 26 CH 1	17114
72	CH 2	17113	216	CH 2	17116
74	REFLECTOR POSITION 9	2349	218	REFLECTOR POSITION 27	2349
76	REFL POS 9 2ND LOOK	2349	220	REFL POS 27 2ND LOOK	2349
78	SCENE DATA BP 9 CH 1	17115	222	SCENE DATA BP 27 CH 1	17116
80	CH 2	17109	224	CH 2	17120
82	REFLECTOR POSITION 10	2349	226	REFLECTOR POSITION 28	2349
84	REFL POS 10 2ND LOOK	2349	228	REFL POS 28 2ND LOOK	2349
86	SCENE DATA BP 10 CH 1	17118	230	SCENE DATA BP 28 CH 1	17116
88	CH 2	17116	232	CH 2	17112
90	REFLECTOR POSITION 11	2349	234	REFLECTOR POSITION 29	2349
92	REFL POS 11 2ND LOOK	2349	236	REFL POS 29 2ND LOOK	2349

IP 3.3.5.3.3

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17117
96		CH	2	17121
98	REFLECTOR POSITION 12			2349
100	REFL POS 12 2ND LOOK			2349
102	SCENE DATA BP 12	CH	1	17115
104		CH	2	17120
106	REFLECTOR POSITION 13			2349
108	REFL POS 13 2ND LOOK			2349
110	SCENE DATA BP 13	CH	1	17113
112		CH	2	17113
114	REFLECTOR POSITION 14			2349
116	REFL POS 14 2ND LOOK			2349
118	SCENE DATA BP 14	CH	1	17116
120		CH	2	17112
122	REFLECTOR POSITION 15			2349
124	REFL POS 15 2ND LOOK			2349
126	SCENE DATA BP 15	CH	1	17116
128		CH	2	17115
130	REFLECTOR POSITION 16			2349
132	REFL POS 16 2ND LOOK			2349
134	SCENE DATA BP 16	CH	1	17115
136		CH	2	17111

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17117
240		CH	2	17115
242	REFLECTOR POSITION 30			2349
244	REFL POS 30 2ND LOOK			2349
246	SCENE DATA BP 30	CH	1	17116
248		CH	2	17117
250	REFLECTOR COLD CAL POS			0E
252	REFL COLD CAL 2ND LOOK			0E
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E
304	REFL WARM CAL 2ND LOOK			0E
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18204	22.59
264	FEED HORN	18025	23.43
266	RF MUX	18541	24.48
268	MIXER/IF AMPLIFIER CHANNEL 1	19030	25.33
270	MIXER/IF AMPLIFIER CHANNEL 2	19244	25.43
272	LOCAL OSCILLATOR CHANNEL 1	18758	25.02
274	LOCAL OSCILLATOR CHANNEL 2	19364	25.69
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17700	22.63
280	DC/DC CONVERTER	20209	27.90
282	RF SHELF	18792	24.20
284	DETECTOR/PREAMP ASSEMBLY	19178	24.59
286	WARM LOAD CENTER	22785	23.02
288	WARM LOAD 2	23323	22.91
290	WARM LOAD 3	22929	22.95
292	WARM LOAD 4	22810	23.01
294	WARM LOAD 5	22795	23.01
296	WARM LOAD 6	23285	22.99
298	WARM LOAD 1	23142	22.95
300	TEMP SENSOR REFERENCE VOLTAGE	25090	

P 33533

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	NO
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	YES
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ONE
COLD CAL POSITION MSB	ONE
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	21.3
RF SHELF TEMPERATURE #1	21.9
WARM LOAD TEMPERATURE	21.5
RF SHELF TEMPERATURE #2	22.0

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22284	4.90
	+15 VDC	21890	15.03
	-15 VDC	21864	-15.07
ANTENNA DRIVE	+5 VDC	22089	4.95
	+15 VDC	22030	14.99
	-15 VDC	21851	-15.06
MIXER/IF AMPLIFIER	+10 VDC	21721	9.93
LO CHANNEL 1	+10 VDC	21318	10.04
LO CHANNEL 2	+10 VDC	21431	10.01
QUIET BUS CURRENT		14025	628.81
NOISY BUS CURRENT		9772	57.14

P 3.3.5.3.3

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
'EPLATE HEATER N2	510	3.00	511	4.00
EPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

N2 CONTROL FUNCTIONS

		NO.	VALUE	NO.	VALUE
FIXED TARGET N2 PRESSURE	PSI	401	11.00		
FIXED TARGET N2 FLOW	LB/HR	701	28.00		
VARIABLE TARGET N2 PRESSURE	PSI	402	12.00		
VARIABLE TARGET N2 FLOW	LB/HR	702	29.00		
BASEPLATE N2 PRESSURE	PSI	403	13.00		
BASEPLATE N2 FLOW	LB/HR	703	54.00		
FIXED TARGET BYPASS RELAY		104	CLOSED		
VARIABLE TARGET LN2 RELAY		105	CLOSED		
VARIABLE TARGET GN2 RELAY		108	CLOSED		
TARGET LN2 SUPPLY RELAY		102	CLOSED		
BASEPLATE GN2 SUPPLY RELAY		109	CLOSED		
HOT GN2 PURGE RELAY		103	CLOSED		
VARIABLE TARGET LN2 BYPASS RELAY		106	CLOSED		
BASEPLATE GN2 BYPASS RELAY		110	CLOSED		
ADJUNCT RADIATOR LN2 SUPPLY RELAY		114	CLOSED	116	CLOSED

TP 33533

EOS A2-04 E2.EXE;18 FULL SCAN MODE 8-APR-98 08:09:202 SCAN NUMBER 1433
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 00

COMMANDS

[9] SCANNER A2 POWER = ON	COLD CAL POSITION 1 =	YES	[14
[10] ANTENNA IN FULL SCAN MODE = YES	COLD CAL POSITION 2 =	NO	[15
[11] ANTENNA IN WARM CAL POSIT = NO	COLD CAL POSITION 3 =	NO	[16
[12] ANTENNA IN COLD CAL POSIT = NO	COLD CAL POSITION 4 =	NO	[17
[13] ANTENNA IN NADIR POSITION = NO	RESET C&DH PROCESSOR		[18
	GSE MODE		[19

2 31 PREVIOUS COMMAND NOT ACCEPTED
ENGR OK POWER ON CHECKSUM IN FEA8 CALC FEA8 SA28 1320 SA29 132
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 3

TP 33533

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	5605
2		00100010	140	REFL POS 17 2ND LOOK	5609
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17098
4		01011101	144	CH 2	17108
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	5452
6		00000000	148	REFL POS 18 2ND LOOK	5456
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17096
8		00000010	152	CH 2	17105
10	REFLECTOR POSITION 1	8034	154	REFLECTOR POSITION 19	5300
12	REFL POS 1 2ND LOOK	8034	156	REFL POS 19 2ND LOOK	5305
14	SCENE DATA BP 1 CH 1	17090	158	SCENE DATA BP 19 CH 1	17096
16	CH 2	17103	160	CH 2	17107
18	REFLECTOR POSITION 2	7881	162	REFLECTOR POSITION 20	5152
20	REFL POS 2 2ND LOOK	7881	164	REFL POS 20 2ND LOOK	5153
22	SCENE DATA BP 2 CH 1	17099	166	SCENE DATA BP 20 CH 1	17096
24	CH 2	17112	168	CH 2	17107
26	REFLECTOR POSITION 3	7729	170	REFLECTOR POSITION 21	5000
28	REFL POS 3 2ND LOOK	7730	172	REFL POS 21 2ND LOOK	5001
30	SCENE DATA BP 3 CH 1	17102	174	SCENE DATA BP 21 CH 1	17094
32	CH 2	17108	176	CH 2	17105
34	REFLECTOR POSITION 4	7579	178	REFLECTOR POSITION 22	4848
36	REFL POS 4 2ND LOOK	7581	180	REFL POS 22 2ND LOOK	4851
38	SCENE DATA BP 4 CH 1	17091	182	SCENE DATA BP 22 CH 1	17097
40	CH 2	17108	184	CH 2	17109
42	REFLECTOR POSITION 5	7427	186	REFLECTOR POSITION 23	4697
44	REFL POS 5 2ND LOOK	7426	188	REFL POS 23 2ND LOOK	4699
46	SCENE DATA BP 5 CH 1	17094	190	SCENE DATA BP 23 CH 1	17097
48	CH 2	17101	192	CH 2	17103
50	REFLECTOR POSITION 6	7275	194	REFLECTOR POSITION 24	4545
52	REFL POS 6 2ND LOOK	7276	196	REFL POS 24 2ND LOOK	4547
54	SCENE DATA BP 6 CH 1	17093	198	SCENE DATA BP 24 CH 1	17094
56	CH 2	17103	200	CH 2	17109
58	REFLECTOR POSITION 7	7124	202	REFLECTOR POSITION 25	4393
60	REFL POS 7 2ND LOOK	7125	204	REFL POS 25 2ND LOOK	4394
62	SCENE DATA BP 7 CH 1	17097	206	SCENE DATA BP 25 CH 1	17101
64	CH 2	17105	208	CH 2	17104
66	REFLECTOR POSITION 8	6969	210	REFLECTOR POSITION 26	4238
68	REFL POS 8 2ND LOOK	6973	212	REFL POS 26 2ND LOOK	4243
70	SCENE DATA BP 8 CH 1	17096	214	SCENE DATA BP 26 CH 1	17096
72	CH 2	17107	216	CH 2	17111
74	REFLECTOR POSITION 9	6817	218	REFLECTOR POSITION 27	4088
76	REFL POS 9 2ND LOOK	6821	220	REFL POS 27 2ND LOOK	4092
78	SCENE DATA BP 9 CH 1	17103	222	SCENE DATA BP 27 CH 1	17098
80	CH 2	17103	224	CH 2	17112
82	REFLECTOR POSITION 10	6665	226	REFLECTOR POSITION 28	3936
84	REFL POS 10 2ND LOOK	6669	228	REFL POS 28 2ND LOOK	3939
86	SCENE DATA BP 10 CH 1	17095	230	SCENE DATA BP 28 CH 1	17093
88	CH 2	17099	232	CH 2	17103
90	REFLECTOR POSITION 11	6517	234	REFLECTOR POSITION 29	3787
92	REFL POS 11 2ND LOOK	6519	236	REFL POS 29 2ND LOOK	3788

TP 3,35,33

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17101
96		CH	2	17107
98	REFLECTOR POSITION 12			6364
100	REFL POS 12 2ND LOOK			6367
102	SCENE DATA BP 12	CH	1	17097
104		CH	2	17105
106	REFLECTOR POSITION 13			6212
108	REFL POS 13 2ND LOOK			6216
110	SCENE DATA BP 13	CH	1	17098
112		CH	2	17107
114	REFLECTOR POSITION 14			6063
116	REFL POS 14 2ND LOOK			6065
118	SCENE DATA BP 14	CH	1	17101
120		CH	2	17117
122	REFLECTOR POSITION 15			5909
124	REFL POS 15 2ND LOOK			5912
126	SCENE DATA BP 15	CH	1	17090
128		CH	2	17133
130	REFLECTOR POSITION 16			5758
132	REFL POS 16 2ND LOOK			5760
134	SCENE DATA BP 16	CH	1	17095
136		CH	2	17117

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17094
240		CH	2	17105
242	REFLECTOR POSITION 30			3634
244	REFL POS 30 2ND LOOK			3637
246	SCENE DATA BP 30	CH	1	17094
248		CH	2	17108
250	REFLECTOR COLD CAL POS			2041
252	REFL COLD CAL 2ND LOOK			2042
254	COLD CAL DATA 1	CH	1	17091
256		CH	2	17101
258	COLD CAL DATA 2	CH	1	17099
260		CH	2	17101
302	REFLECTOR WARM CAL POS			14028
304	REFL WARM CAL 2ND LOOK			14028
306	WARM CAL DATA 1	CH	1	17079
308		CH	2	17095
310	WARM CAL DATA 2	CH	1	17075
312		CH	2	17102

EMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18347	22.85
264	FEED HORN	18170	23.71
266	RF MUX	18705	24.80
268	MIXER/IF AMPLIFIER CHANNEL 1	19198	25.65
270	MIXER/IF AMPLIFIER CHANNEL 2	19419	25.77
272	LOCAL OSCILLATOR CHANNEL 1	18925	25.33
274	LOCAL OSCILLATOR CHANNEL 2	19535	26.02
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17819	22.86
280	DC/DC CONVERTER	20371	28.21
282	RF SHELF	18953	24.51
284	DETECTOR/PREAMP ASSEMBLY	19345	24.91
286	WARM LOAD CENTER	23018	23.48
288	WARM LOAD 2	23554	23.37
290	WARM LOAD 3	23160	23.40
292	WARM LOAD 4	23040	23.47
294	WARM LOAD 5	23029	23.47
296	WARM LOAD 6	23525	23.46
298	WARM LOAD 1	23379	23.42
300	TEMP SENSOR REFERENCE VOLTAGE	25090	

P 33533

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	YES
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	21.3
RF SHELF TEMPERATURE #1	21.9
WARM LOAD TEMPERATURE	21.5
RF SHELF TEMPERATURE #2	22.0

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22245	4.91
	+15 VDC	21892	15.03
	-15 VDC	21868	-15.08
ANTENNA DRIVE	+5 VDC	22032	4.95
	+15 VDC	22013	14.99
	-15 VDC	21824	-15.06
MIXER/IF AMPLIFIER	+10 VDC	21721	9.93
LO CHANNEL 1	+10 VDC	21320	10.04
LO CHANNEL 2	+10 VDC	21433	10.01
QUIET BUS CURRENT		13796	622.90
NOISY BUS CURRENT		9851	50.30

AP 3.3.5.3.3

EOS A2-04 E2.EXE;18 FULL SCAN MODE 8-APR-98 08:07:282 SCAN NUMBER 1419
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[7] ENGINEERING ELEMENT 00

COMMANDS

[9] SCANNER A2 POWER = ON	COLD CAL POSITION 1 =	NO	[14
[10] ANTENNA IN FULL SCAN MODE = YES	COLD CAL POSITION 2 =	YES	[15
[11] ANTENNA IN WARM CAL POSIT = NO	COLD CAL POSITION 3 =	NO	[16
[12] ANTENNA IN COLD CAL POSIT = NO	COLD CAL POSITION 4 =	NO	[17
[13] ANTENNA IN NADIR POSITION = NO	RESET C&DH PROCESSOR		[18
	GSE MODE		[19

ENGR OK POWER ON CHECKSUM IN FD8E CALC FD8E SA28 1306 SA29 130
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 3

TP 33533

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	5604
2		00100010	140	REFL POS 17 2ND LOOK	5609
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17098
4		01011101	144	CH 2	17109
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	5452
6		00000000	148	REFL POS 18 2ND LOOK	5456
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17099
8		00100010	152	CH 2	17108
10	REFLECTOR POSITION 1	8034	154	REFLECTOR POSITION 19	5300
12	REFL POS 1 2ND LOOK	8034	156	REFL POS 19 2ND LOOK	5304
14	SCENE DATA BP 1 CH 1	17085	158	SCENE DATA BP 19 CH 1	17099
16	CH 2	17108	160	CH 2	17106
18	REFLECTOR POSITION 2	7881	162	REFLECTOR POSITION 20	5152
20	REFL POS 2 2ND LOOK	7881	164	REFL POS 20 2ND LOOK	5153
22	SCENE DATA BP 2 CH 1	17089	166	SCENE DATA BP 20 CH 1	17097
24	CH 2	17106	168	CH 2	17106
26	REFLECTOR POSITION 3	7730	170	REFLECTOR POSITION 21	5000
28	REFL POS 3 2ND LOOK	7730	172	REFL POS 21 2ND LOOK	5002
30	SCENE DATA BP 3 CH 1	17096	174	SCENE DATA BP 21 CH 1	17103
32	CH 2	17105	176	CH 2	17110
34	REFLECTOR POSITION 4	7579	178	REFLECTOR POSITION 22	4849
36	REFL POS 4 2ND LOOK	7581	180	REFL POS 22 2ND LOOK	4851
38	SCENE DATA BP 4 CH 1	17093	182	SCENE DATA BP 22 CH 1	17099
40	CH 2	17111	184	CH 2	17101
2	REFLECTOR POSITION 5	7427	186	REFLECTOR POSITION 23	4697
4	REFL POS 5 2ND LOOK	7428	188	REFL POS 23 2ND LOOK	4698
46	SCENE DATA BP 5 CH 1	17091	190	SCENE DATA BP 23 CH 1	17097
48	CH 2	17102	192	CH 2	17106
50	REFLECTOR POSITION 6	7275	194	REFLECTOR POSITION 24	4544
52	REFL POS 6 2ND LOOK	7276	196	REFL POS 24 2ND LOOK	4547
54	SCENE DATA BP 6 CH 1	17098	198	SCENE DATA BP 24 CH 1	17102
56	CH 2	17105	200	CH 2	17102
58	REFLECTOR POSITION 7	7123	202	REFLECTOR POSITION 25	4394
60	REFL POS 7 2ND LOOK	7125	204	REFL POS 25 2ND LOOK	4394
62	SCENE DATA BP 7 CH 1	17103	206	SCENE DATA BP 25 CH 1	17102
64	CH 2	17107	208	CH 2	17101
66	REFLECTOR POSITION 8	6969	210	REFLECTOR POSITION 26	4238
68	REFL POS 8 2ND LOOK	6973	212	REFL POS 26 2ND LOOK	4243
70	SCENE DATA BP 8 CH 1	17098	214	SCENE DATA BP 26 CH 1	17100
72	CH 2	17109	216	CH 2	17104
74	REFLECTOR POSITION 9	6817	218	REFLECTOR POSITION 27	4088
76	REFL POS 9 2ND LOOK	6822	220	REFL POS 27 2ND LOOK	4092
78	SCENE DATA BP 9 CH 1	17099	222	SCENE DATA BP 27 CH 1	17094
80	CH 2	17103	224	CH 2	17110
82	REFLECTOR POSITION 10	6666	226	REFLECTOR POSITION 28	3936
84	REFL POS 10 2ND LOOK	6670	228	REFL POS 28 2ND LOOK	3939
86	SCENE DATA BP 10 CH 1	17100	230	SCENE DATA BP 28 CH 1	17095
88	CH 2	17101	232	CH 2	17103
90	REFLECTOR POSITION 11	6518	234	REFLECTOR POSITION 29	3786
92	REFL POS 11 2ND LOOK	6519	236	REFL POS 29 2ND LOOK	3788

TP 33533

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17095
96		CH	2	17109
98	REFLECTOR POSITION 12			6365
100	REFL POS 12 2ND LOOK			6367
102	SCENE DATA BP 12	CH	1	17098
104		CH	2	17103
106	REFLECTOR POSITION 13			6212
108	REFL POS 13 2ND LOOK			6217
110	SCENE DATA BP 13	CH	1	17096
112		CH	2	17106
114	REFLECTOR POSITION 14			6062
116	REFL POS 14 2ND LOOK			6064
118	SCENE DATA BP 14	CH	1	17096
120		CH	2	17116
122	REFLECTOR POSITION 15			5910
124	REFL POS 15 2ND LOOK			5912
126	SCENE DATA BP 15	CH	1	17089
128		CH	2	17124
130	REFLECTOR POSITION 16			5757
132	REFL POS 16 2ND LOOK			5760
134	SCENE DATA BP 16	CH	1	17097
136		CH	2	17118

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17097
240		CH	2	17103
242	REFLECTOR POSITION 30			3635
244	REFL POS 30 2ND LOOK			3637
246	SCENE DATA BP 30	CH	1	17097
248		CH	2	17098
250	REFLECTOR COLD CAL POS			2115
252	REFL COLD CAL 2ND LOOK			2114
254	COLD CAL DATA 1	CH	1	17103
256		CH	2	17103
258	COLD CAL DATA 2	CH	1	17103
260		CH	2	17106
302	REFLECTOR WARM CAL POS			14028
304	REFL WARM CAL 2ND LOOK			14027
306	WARM CAL DATA 1	CH	1	17078
308		CH	2	17099
310	WARM CAL DATA 2	CH	1	17081
312		CH	2	17099

MENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18343	22.84
264	FEED HORN	18165	23.70
266	RF MUX	18700	24.79
268	MIXER/IF AMPLIFIER CHANNEL 1	19193	25.64
270	MIXER/IF AMPLIFIER CHANNEL 2	19413	25.76
272	LOCAL OSCILLATOR CHANNEL 1	18922	25.33
274	LOCAL OSCILLATOR CHANNEL 2	19532	26.01
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17817	22.86
280	DC/DC CONVERTER	20371	28.21
282	RF SHELF	18948	24.50
284	DETECTOR/PREAMP ASSEMBLY	19342	24.90
286	WARM LOAD CENTER	23012	23.47
288	WARM LOAD 2	23550	23.36
290	WARM LOAD 3	23158	23.40
292	WARM LOAD 4	23037	23.46
294	WARM LOAD 5	23024	23.46
296	WARM LOAD 6	23516	23.44
298	WARM LOAD 1	23377	23.42
300	TEMP SENSOR REFERENCE VOLTAGE	25090	

TP 3.35.33

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	YES
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ONE
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	21.3
RF SHELF TEMPERATURE #1	21.9
WARM LOAD TEMPERATURE	21.5
RF SHELF TEMPERATURE #2	22.0

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22224	4.89
	+15 VDC	21892	15.03
	-15 VDC	21870	-15.07
ANTENNA DRIVE	+5 VDC	22031	4.95
	+15 VDC	22002	14.99
	-15 VDC	21821	-15.06
MIXER/IF AMPLIFIER	+10 VDC	21722	9.93
LO CHANNEL 1	+10 VDC	21318	10.04
LO CHANNEL 2	+10 VDC	21434	10.01
QUIET BUS CURRENT		13668	635.87
NOISY BUS CURRENT		9621	16.56

TP 3.3.5.3.3

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EOS  A2-04  E2.EXE;18 FULL SCAN MODE      8-APR-98  08:04:082 SCAN NUMBER  1394
[ 5 ] SCIENCE DATA    ELEMENT 0000

[ 6 ] CONTROL/STATUS  ELEMENT   00

[ 7 ] ENGINEERING     ELEMENT   00


                                          COMMANDS
[ 9 ]  SCANNER A2 POWER =           ON    COLD CAL POSITION 1 =       NO  [ 14 ]

[ 10 ] ANTENNA IN FULL SCAN MODE = YES    COLD CAL POSITION 2 =       NO  [ 15 ]

[ 11 ] ANTENNA IN WARM CAL POSIT = NO     COLD CAL POSITION 3 =       YES [ 16 ]

[ 12 ] ANTENNA IN COLD CAL POSIT = NO     COLD CAL POSITION 4 =       NO  [ 17 ]

[ 13 ] ANTENNA IN NADIR POSITION = NO     RESET C&DH PROCESSOR            [ 18 ]

                                          GSE MODE                        [ 19 ]
  2   26  PREVIOUS COMMAND NOT ACCEPTED
ENGR OK   POWER          ON    CHECKSUM  IN 2487 CALC 2487   SA28  1281 SA29  128
                         SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL       [ 1 ] RETURN
 SELECT BUTTON 3
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ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	5605
2		00100010	140	REFL POS 17 2ND LOOK	5609
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17105
4		01011101	144	CH 2	17111
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	5452
6		00000000	148	REFL POS 18 2ND LOOK	5456
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17098
8		01000010	152	CH 2	17102
10	REFLECTOR POSITION 1	8033	154	REFLECTOR POSITION 19	5300
12	REFL POS 1 2ND LOOK	8033	156	REFL POS 19 2ND LOOK	5305
14	SCENE DATA BP 1 CH 1	17092	158	SCENE DATA BP 19 CH 1	17099
16	CH 2	17110	160	CH 2	17109
18	REFLECTOR POSITION 2	7881	162	REFLECTOR POSITION 20	5152
20	REFL POS 2 2ND LOOK	7882	164	REFL POS 20 2ND LOOK	5153
22	SCENE DATA BP 2 CH 1	17101	166	SCENE DATA BP 20 CH 1	17102
24	CH 2	17100	168	CH 2	17106
26	REFLECTOR POSITION 3	7730	170	REFLECTOR POSITION 21	5000
28	REFL POS 3 2ND LOOK	7731	172	REFL POS 21 2ND LOOK	5002
30	SCENE DATA BP 3 CH 1	17101	174	SCENE DATA BP 21 CH 1	17100
32	CH 2	17109	176	CH 2	17108
34	REFLECTOR POSITION 4	7579	178	REFLECTOR POSITION 22	4848
36	REFL POS 4 2ND LOOK	7581	180	REFL POS 22 2ND LOOK	4851
38	SCENE DATA BP 4 CH 1	17099	182	SCENE DATA BP 22 CH 1	17100
40	CH 2	17108	184	CH 2	17101
2	REFLECTOR POSITION 5	7426	186	REFLECTOR POSITION 23	4698
4	REFL POS 5 2ND LOOK	7428	188	REFL POS 23 2ND LOOK	4698
46	SCENE DATA BP 5 CH 1	17095	190	SCENE DATA BP 23 CH 1	17098
48	CH 2	17098	192	CH 2	17104
50	REFLECTOR POSITION 6	7276	194	REFLECTOR POSITION 24	4544
52	REFL POS 6 2ND LOOK	7275	196	REFL POS 24 2ND LOOK	4547
54	SCENE DATA BP 6 CH 1	17099	198	SCENE DATA BP 24 CH 1	17098
56	CH 2	17106	200	CH 2	17109
58	REFLECTOR POSITION 7	7123	202	REFLECTOR POSITION 25	4394
60	REFL POS 7 2ND LOOK	7125	204	REFL POS 25 2ND LOOK	4394
62	SCENE DATA BP 7 CH 1	17102	206	SCENE DATA BP 25 CH 1	17101
64	CH 2	17104	208	CH 2	17101
66	REFLECTOR POSITION 8	6969	210	REFLECTOR POSITION 26	4239
68	REFL POS 8 2ND LOOK	6973	212	REFL POS 26 2ND LOOK	4243
70	SCENE DATA BP 8 CH 1	17098	214	SCENE DATA BP 26 CH 1	17103
72	CH 2	17104	216	CH 2	17107
74	REFLECTOR POSITION 9	6817	218	REFLECTOR POSITION 27	4088
76	REFL POS 9 2ND LOOK	6822	220	REFL POS 27 2ND LOOK	4091
78	SCENE DATA BP 9 CH 1	17097	222	SCENE DATA BP 27 CH 1	17098
80	CH 2	17109	224	CH 2	17107
82	REFLECTOR POSITION 10	6665	226	REFLECTOR POSITION 28	3936
84	REFL POS 10 2ND LOOK	6670	228	REFL POS 28 2ND LOOK	3939
86	SCENE DATA BP 10 CH 1	17106	230	SCENE DATA BP 28 CH 1	17098
88	CH 2	17106	232	CH 2	17101
90	REFLECTOR POSITION 11	6518	234	REFLECTOR POSITION 29	3787
92	REFL POS 11 2ND LOOK	6519	236	REFL POS 29 2ND LOOK	3789

P 3.3.5.3.3

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17103
96		CH	2	17106
98	REFLECTOR POSITION 12			6364
100	REFL POS 12 2ND LOOK			6367
102	SCENE DATA BP 12	CH	1	17098
104		CH	2	17107
106	REFLECTOR POSITION 13			6212
108	REFL POS 13 2ND LOOK			6217
110	SCENE DATA BP 13	CH	1	17101
112		CH	2	17103
114	REFLECTOR POSITION 14			6062
116	REFL POS 14 2ND LOOK			6065
118	SCENE DATA BP 14	CH	1	17099
120		CH	2	17111
122	REFLECTOR POSITION 15			5910
124	REFL POS 15 2ND LOOK			5912
126	SCENE DATA BP 15	CH	1	17095
128		CH	2	17131
130	REFLECTOR POSITION 16			5758
132	REFL POS 16 2ND LOOK			5760
134	SCENE DATA BP 16	CH	1	17099
136		CH	2	17115

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17104
240		CH	2	17102
242	REFLECTOR POSITION 30			3635
244	REFL POS 30 2ND LOOK			3637
246	SCENE DATA BP 30	CH	1	17099
248		CH	2	17106
250	REFLECTOR COLD CAL POS			2194
252	REFL COLD CAL 2ND LOOK			2195
254	COLD CAL DATA 1	CH	1	17101
256		CH	2	17106
258	COLD CAL DATA 2	CH	1	17103
260		CH	2	17109
302	REFLECTOR WARM CAL POS			14027
304	REFL WARM CAL 2ND LOOK			14027
306	WARM CAL DATA 1	CH	1	17083
308		CH	2	17102
310	WARM CAL DATA 2	CH	1	17080
312		CH	2	17097

EMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18321	22.80
264	FEED HORN	18152	23.68
266	RF MUX	18692	24.77
268	MIXER/IF AMPLIFIER CHANNEL 1	19186	25.63
270	MIXER/IF AMPLIFIER CHANNEL 2	19403	25.74
272	LOCAL OSCILLATOR CHANNEL 1	18913	25.31
274	LOCAL OSCILLATOR CHANNEL 2	19525	26.00
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17810	22.84
280	DC/DC CONVERTER	20359	28.18
282	RF SHELF	18940	24.49
284	DETECTOR/PREAMP ASSEMBLY	19334	24.89
286	WARM LOAD CENTER	23005	23.46
288	WARM LOAD 2	23544	23.35
290	WARM LOAD 3	23151	23.39
292	WARM LOAD 4	23030	23.45
294	WARM LOAD 5	23019	23.45
296	WARM LOAD 6	23510	23.43
298	WARM LOAD 1	23367	23.40
300	TEMP SENSOR REFERENCE VOLTAGE	25090	

TP 33533

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	YES
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ONE
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	21.3
RF SHELF TEMPERATURE #1	21.9
WARM LOAD TEMPERATURE	21.5
RF SHELF TEMPERATURE #2	22.0

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22247	4.90
	+15 VDC	21892	15.03
	-15 VDC	21869	-15.08
ANTENNA DRIVE	+5 VDC	22035	4.95
	+15 VDC	22037	14.98
	-15 VDC	21852	-15.07
MIXER/IF AMPLIFIER	+10 VDC	21722	9.93
LO CHANNEL 1	+10 VDC	21320	10.04
LO CHANNEL 2	+10 VDC	21433	10.01
QUIET BUS CURRENT		13797	626.13
NOISY BUS CURRENT		14123	55.35

AP 33533

EOS A2-04 E2.EXE;18 FULL SCAN MODE 8-APR-98 08:01:202 SCAN NUMBER 1373
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[7] ENGINEERING ELEMENT 00

COMMANDS

[9]	SCANNER A2 POWER = ON	COLD CAL POSITION 1 = NO	[14
[10]	ANTENNA IN FULL SCAN MODE = YES	COLD CAL POSITION 2 = NO	[15
[11]	ANTENNA IN WARM CAL POSIT = NO	COLD CAL POSITION 3 = NO	[16
[12]	ANTENNA IN COLD CAL POSIT = NO	COLD CAL POSITION 4 = YES	[17
[13]	ANTENNA IN NADIR POSITION = NO	RESET C&DH PROCESSOR	[18
		GSE MODE	[19

ENGR OK POWER ON CHECKSUM IN 2814 CALC 2814 SA28 1260 SA29 126
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN
SELECT BUTTON 3

TP 3,3,5,3,3

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	5604
2		00100010	140	REFL POS 17 2ND LOOK	5609
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17099
4		01011101	144	CH 2	17112
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	5452
6		00000000	148	REFL POS 18 2ND LOOK	5456
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17098
8		01100010	152	CH 2	17103
10	REFLECTOR POSITION 1	8033	154	REFLECTOR POSITION 19	5300
12	REFL POS 1 2ND LOOK	8033	156	REFL POS 19 2ND LOOK	5304
14	SCENE DATA BP 1 CH 1	17092	158	SCENE DATA BP 19 CH 1	17101
16	CH 2	17107	160	CH 2	17102
18	REFLECTOR POSITION 2	7881	162	REFLECTOR POSITION 20	5152
20	REFL POS 2 2ND LOOK	7881	164	REFL POS 20 2ND LOOK	5153
22	SCENE DATA BP 2 CH 1	17100	166	SCENE DATA BP 20 CH 1	17100
24	CH 2	17111	168	CH 2	17106
26	REFLECTOR POSITION 3	7730	170	REFLECTOR POSITION 21	5000
28	REFL POS 3 2ND LOOK	7730	172	REFL POS 21 2ND LOOK	5001
30	SCENE DATA BP 3 CH 1	17102	174	SCENE DATA BP 21 CH 1	17097
32	CH 2	17109	176	CH 2	17105
34	REFLECTOR POSITION 4	7579	178	REFLECTOR POSITION 22	4848
36	REFL POS 4 2ND LOOK	7581	180	REFL POS 22 2ND LOOK	4851
38	SCENE DATA BP 4 CH 1	17094	182	SCENE DATA BP 22 CH 1	17099
40	CH 2	17114	184	CH 2	17106
42	REFLECTOR POSITION 5	7427	186	REFLECTOR POSITION 23	4697
44	REFL POS 5 2ND LOOK	7428	188	REFL POS 23 2ND LOOK	4699
46	SCENE DATA BP 5 CH 1	17095	190	SCENE DATA BP 23 CH 1	17099
48	CH 2	17103	192	CH 2	17105
50	REFLECTOR POSITION 6	7275	194	REFLECTOR POSITION 24	4545
52	REFL POS 6 2ND LOOK	7276	196	REFL POS 24 2ND LOOK	4547
54	SCENE DATA BP 6 CH 1	17098	198	SCENE DATA BP 24 CH 1	17103
56	CH 2	17107	200	CH 2	17106
58	REFLECTOR POSITION 7	7123	202	REFLECTOR POSITION 25	4393
60	REFL POS 7 2ND LOOK	7125	204	REFL POS 25 2ND LOOK	4394
62	SCENE DATA BP 7 CH 1	17096	206	SCENE DATA BP 25 CH 1	17104
64	CH 2	17103	208	CH 2	17104
66	REFLECTOR POSITION 8	6969	210	REFLECTOR POSITION 26	4239
68	REFL POS 8 2ND LOOK	6973	212	REFL POS 26 2ND LOOK	4244
70	SCENE DATA BP 8 CH 1	17100	214	SCENE DATA BP 26 CH 1	17102
72	CH 2	17112	216	CH 2	17102
74	REFLECTOR POSITION 9	6817	218	REFLECTOR POSITION 27	4088
76	REFL POS 9 2ND LOOK	6821	220	REFL POS 27 2ND LOOK	4092
78	SCENE DATA BP 9 CH 1	17096	222	SCENE DATA BP 27 CH 1	17100
80	CH 2	17106	224	CH 2	17109
82	REFLECTOR POSITION 10	6665	226	REFLECTOR POSITION 28	3936
84	REFL POS 10 2ND LOOK	6670	228	REFL POS 28 2ND LOOK	3939
86	SCENE DATA BP 10 CH 1	17094	230	SCENE DATA BP 28 CH 1	17100
88	CH 2	17099	232	CH 2	17106
90	REFLECTOR POSITION 11	6518	234	REFLECTOR POSITION 29	3787
92	REFL POS 11 2ND LOOK	6519	236	REFL POS 29 2ND LOOK	3788

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17101
96		CH	2	17105
98	REFLECTOR POSITION 12			6364
100	REFL POS 12 2ND LOOK			6366
102	SCENE DATA BP 12	CH	1	17101
104		CH	2	17108
106	REFLECTOR POSITION 13			6212
108	REFL POS 13 2ND LOOK			6217
110	SCENE DATA BP 13	CH	1	17102
112		CH	2	17106
114	REFLECTOR POSITION 14			6063
116	REFL POS 14 2ND LOOK			6065
118	SCENE DATA BP 14	CH	1	17095
120		CH	2	17118
122	REFLECTOR POSITION 15			5910
124	REFL POS 15 2ND LOOK			5912
126	SCENE DATA BP 15	CH	1	17089
128		CH	2	17128
130	REFLECTOR POSITION 16			5758
132	REFL POS 16 2ND LOOK			5760
134	SCENE DATA BP 16	CH	1	17099
136		CH	2	17121

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17101
240		CH	2	17104
242	REFLECTOR POSITION 30			3634
244	REFL POS 30 2ND LOOK			3637
246	SCENE DATA BP 30	CH	1	17100
248		CH	2	17107
250	REFLECTOR COLD CAL POS			2346
252	REFL COLD CAL 2ND LOOK			2346
254	COLD CAL DATA 1	CH	1	17102
256		CH	2	17111
258	COLD CAL DATA 2	CH	1	17103
260		CH	2	17108
302	REFLECTOR WARM CAL POS			14026
304	REFL WARM CAL 2ND LOOK			14027
306	WARM CAL DATA 1	CH	1	17085
308		CH	2	17103
310	WARM CAL DATA 2	CH	1	17081
312		CH	2	17102

EMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18306	22.77
264	FEED HORN	18144	23.66
266	RF MUX	18683	24.75
268	MIXER/IF AMPLIFIER CHANNEL 1	19180	25.61
270	MIXER/IF AMPLIFIER CHANNEL 2	19398	25.73
272	LOCAL OSCILLATOR CHANNEL 1	18907	25.30
274	LOCAL OSCILLATOR CHANNEL 2	19520	25.99
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17803	22.83
280	DC/DC CONVERTER	20352	28.17
282	RF SHELF	18933	24.47
284	DETECTOR/PREAMP ASSEMBLY	19328	24.88
286	WARM LOAD CENTER	23003	23.45
288	WARM LOAD 2	23537	23.34
290	WARM LOAD 3	23145	23.37
292	WARM LOAD 4	23025	23.44
294	WARM LOAD 5	23011	23.43
296	WARM LOAD 6	23501	23.41
298	WARM LOAD 1	23363	23.39
300	TEMP SENSOR REFERENCE VOLTAGE	25091	

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	YES
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ONE
COLD CAL POSITION MSB	ONE
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	21.3
RF SHELF TEMPERATURE #1	21.9
WARM LOAD TEMPERATURE	21.5
RF SHELF TEMPERATURE #2	22.0

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22246	4.90
	+15 VDC	21892	15.03
	-15 VDC	21868	-15.07
ANTENNA DRIVE	+5 VDC	22042	4.94
	+15 VDC	22051	14.98
	-15 VDC	21875	-15.07
MIXER/IF AMPLIFIER	+10 VDC	21724	9.93
LO CHANNEL 1	+10 VDC	21318	10.04
LO CHANNEL 2	+10 VDC	21433	10.01
QUIET BUS CURRENT		13801	626.95
NOISY BUS CURRENT		14037	23.79

TP 33533

TEST DATA SHEET 6 (SHEET 1 OF 2)
3.4.4, Step 2: Position Command Test

Test Setup Verified: _____ Signature Shop Order No. 323737

Temperature: 25 °C

↓	Scene No.	Resolver 14-Bit Digital word MSB → LSB
8035★	1	0 1 1 1 1 0 1 1 0 0 0 1 1 1
7883	2	0 1 1 1 1 0 1 1 0 0 1 0 1 1
7731	3	0 1 1 1 1 0 0 0 1 1 0 0 1 1
7580	4	0 1 1 1 0 1 1 0 0 1 1 1 0 0
7428	5	0 1 1 1 0 1 0 0 0 0 0 1 0 0
7276	6	0 1 1 1 0 0 0 1 1 0 1 1 0 0
7125	7	0 1 1 0 1 1 1 1 0 1 0 1 0 1
6973	8	0 1 1 0 1 1 0 0 1 1 1 1 0 1
6821	9	0 1 1 0 1 0 1 0 1 0 0 1 0 1
6670	10	0 1 1 0 1 0 0 0 0 0 0 1 1 1 0
6518	11	0 1 1 0 0 1 0 1 1 1 0 1 1 0
6366	12	0 1 1 0 0 0 1 1 0 1 1 1 1 0
6215	13	0 1 1 0 0 0 0 1 0 0 0 1 1 0
6063	14	0 1 0 1 1 1 1 0 1 0 1 1 1 1
5911	15	0 1 0 1 1 1 0 0 0 1 0 1 1 1
5760	16	0 1 0 1 1 0 1 0 0 0 0 0 0 0
5608	17	0 1 0 1 0 1 1 1 1 0 1 0 0 0
5456	18	0 1 0 1 0 1 0 1 0 1 0 0 0 0
5305	19	0 1 0 1 0 0 1 0 1 1 1 0 0 1
5153	20	0 1 0 1 0 0 0 0 1 0 0 0 0 1
5001	21	0 1 0 0 1 1 1 0 0 0 1 0 0 1
4850	22	0 1 0 0 1 0 1 1 1 0 0 1 0

A

★ INCLUDES (-6) CORRECTION

4-8-98

2/12/98 QC 225

2/12/98 QC 226

P 33533

AE-26002/2C
16 Dec 97

TEST DATA SHEET 6 (SHEET 2 OF 2)
3.4.4, Step 2: Position Command Test

Temperature: 25 °C

QC 226 3/24/98

	Scene No.	Resolver 14-Bit Digital Word MSB													LSB
4698	23	0	1	0	0	1	0	0	1	0	1	1	0	1	0
4546	24	0	1	0	0	0	1	1	1	0	0	0	0	1	0
4395	25	0	1	0	0	0	1	0	0	1	0	1	0	1	1
4243	26	0	1	0	0	0	0	1	0	0	1	0	0	1	1
4091	27	0	0	1	1	1	1	1	1	1	1	1	0	1	1
3940	28	0	0	1	1	1	1	0	1	1	0	0	1	0	0
3788	29	0	0	1	1	1	0	1	1	0	0	1	1	0	0
1636	30	0	0	1	1	1	0	0	0	1	1	0	1	0	0
2346	Cold Cal 4	0	0	1	0	0	1	0	0	1	0	1	0	1	0
2195	Cold Cal 3	0	0	1	0	0	0	1	0	0	1	0	0	1	1
2119	Cold Cal 2	0	0	1	0	0	0	0	1	0	0	0	1	1	1
2043	*Cold Cal 1	0	0	0	1	1	1	1	1	1	1	1	0	1	1
14028	Warm Cal	1	1	0	1	1	0	1	1	0	0	1	1	0	0
5836	**Nadir Reference	0	1	0	1	1	0	1	1	0	0	1	1	0	0

*Standard
**Not scene or calibration station.

Subassembly No.: 1333650-1

Serial No.: 207

Test Engineer: Roger V. Thomas

Quality Assurance: QC 226

Date: 980212

TEST DATA SHEET NO. 12 (Sheet 1 of 2)

Science and Engineering Data Test (Nadir Mode) (Paragraph 3.3.5.3.4)

Step	Instrument Status	(Y)es / (N)o
1	Nadir Mode command received?	Y
2	ENGR OK message seen?	Y
3	Reflector positioned at nadir position?	Y

Yes = Pass No = Fail

Step	Element	Description	Measured Value* (Binary)	Required Value (Binary)	(P)ass/(F)ail
4a	1-2	Packet ID		0000100100100001	P
4b	3-4	Packet Length		0000000101000101	P
4c	5-6	Unit Serial Number		0000010000000000	P
4d	7-8	Instrument Mode/ Status		1000100000010000	P

RADIOMETER SCENE DATA			
Step	Description	Required Counts	(P)ass/(F)ail
4f	Review All Scene Data	12500-20500	P

PRT TEMPERATURE DATA				
Step	Element	Description	Required	(P)ass/(F)ail
4g	262-298*	Review All PRT Data	10-40 degrees C	P
4g	300	Temperature Sensor Reference	23244-26317 counts	P

* Except for element 276 740°C

STATUS				
Step	Description	Status*	Required Status	(P)ass/(F)ail
4h	Antenna in Full Scan Mode		NO	P
	Antenna in Warm Cal Mode		NO	P
	Antenna in Cold Cal Mode		NO	P
	Antenna in Nadir Mode		YES	P
	Cold Cal Position LSB		ZERO	P
	Cold Cal Position MSB		ZERO	P
	A2 Scanner Power		ON	P
	ADC Latchup Flag		ONE	P

* Rewriting printout data on this data sheet is optional.

EOS/AMSU-A1 System P/N 1356008 Shop Order: 323737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

4/10/98

Customer Representative Date

4-8-98

Test Systems Engineer Date APR 8 98

Quality Control Date

QC 223 P.R. dated 4/15/98

TEST DATA SHEET NO. 12 (sheet 2 of 2)
Science and Engineering Data Test (Nadir Mode) (Paragraph 3.3.5.3.4)

A2 REFLECTOR POSITIONS (Step 4e)			
Beam Positions	Position Range (*)	Required (**) +/- 5 counts	(P)ass/ (F)ail
1-30	5835 - 5835	5836	P

* Actual range (min to max) of counts from printout (Only beam positions 1-30). Rewriting counts on this data sheet is optional. "true" RM 4/1/98

** Required counts from AE26002/2 TDS 6 +/- 5 counts for ~~beam position 15~~ nadir position

ENGINEERING DATA				
Step	Description	Measured***	Required	(P)ass/(F)ail
4i	Signal Processor (+5 VDC)		+4 to +6 volts	P
	Signal Processor (+15 VDC)		+14 to +16 volts	P
	Signal Processor (-15 VDC)		-14 to -16 volts	P
	Scan Drive (+5 VDC)		+4 to +6 volts	P
	Scan Drive (+15 VDC)		+14 to +16 volts	P
	Scan Drive (-15 VDC)		-14 to -16 volts	P
	Mixer/IF Amplifier (+10 VDC)		+9 to +11 volts	P
	LO Channel 1		+9 to +11 volts	P
	LO Channel 2		+9 to +11 volts	P
	Quiet Bus Current		≤ 1 Amps	P
	Noisy Bus Current		≤ 150 milliamps	P

*** Rewriting printout data on this data sheet is optional.

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202
Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

Customer Representative 4/20/98 Date

Test Systems Engineer 4-8-98 Date

Quality Control APR 8 98 Date

AE-26156/10 TP 3.3,5.3.4

```
EOS  A2-04  E2.EXE;18 NADIR MODE          8-APR-98  08:16:392 SCAN NUMBER  1488
[ 5 ] SCIENCE DATA    ELEMENT 0000

[ 6 ] CONTROL/STATUS  ELEMENT   00

[ . ] ENGINEERING     ELEMENT   00


                                        COMMANDS
[ 9 ]  SCANNER A2 POWER =           ON     COLD CAL POSITION 1 =       YES [ 14 ]

[ 10 ] ANTENNA IN FULL SCAN MODE = NO      COLD CAL POSITION 2 =       NO  [ 15 ]

[ 11 ] ANTENNA IN WARM CAL POSIT = NO      COLD CAL POSITION 3 =       NO  [ 16 ]

[ 12 ] ANTENNA IN COLD CAL POSIT = NO      COLD CAL POSITION 4 =       NO  [ 17 ]

[ 13 ] ANTENNA IN NADIR POSITION = YES     RESET C&DH PROCESSOR            [ 18 ]

                                           GSE MODE                        [ 19 ]
  2   33  PREVIOUS COMMAND NOT ACCEPTED
ENGR OK   POWER          ON    CHECKSUM  IN 9AA4 CALC 9AA4   SA28  1375 SA29  137
                         SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL       [ 1 ] RETURN
 SELECT BUTTON 3
```

TP 33534

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	5835
2		00100001	140	REFL POS 17 2ND LOOK	5835
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17090
4		01000101	144	CH 2	17140
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	5835
6		00000000	148	REFL POS 18 2ND LOOK	5835
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17095
8		00010000	152	CH 2	17140
10	REFLECTOR POSITION 1	5835	154	REFLECTOR POSITION 19	5835
12	REFL POS 1 2ND LOOK	5835	156	REFL POS 19 2ND LOOK	5835
14	SCENE DATA BP 1 CH 1	17083	158	SCENE DATA BP 19 CH 1	17091
16	CH 2	17142	160	CH 2	17141
18	REFLECTOR POSITION 2	5835	162	REFLECTOR POSITION 20	5835
20	REFL POS 2 2ND LOOK	5835	164	REFL POS 20 2ND LOOK	5835
22	SCENE DATA BP 2 CH 1	17090	166	SCENE DATA BP 20 CH 1	17093
24	CH 2	17140	168	CH 2	17145
26	REFLECTOR POSITION 3	5835	170	REFLECTOR POSITION 21	5835
28	REFL POS 3 2ND LOOK	5835	172	REFL POS 21 2ND LOOK	5835
30	SCENE DATA BP 3 CH 1	17090	174	SCENE DATA BP 21 CH 1	17091
32	CH 2	17146	176	CH 2	17139
34	REFLECTOR POSITION 4	5835	178	REFLECTOR POSITION 22	5835
36	REFL POS 4 2ND LOOK	5835	180	REFL POS 22 2ND LOOK	5835
38	SCENE DATA BP 4 CH 1	17088	182	SCENE DATA BP 22 CH 1	17092
40	CH 2	17148	184	CH 2	17146
2	REFLECTOR POSITION 5	5835	186	REFLECTOR POSITION 23	5835
4	REFL POS 5 2ND LOOK	5835	188	REFL POS 23 2ND LOOK	5835
46	SCENE DATA BP 5 CH 1	17093	190	SCENE DATA BP 23 CH 1	17090
48	CH 2	17141	192	CH 2	17146
50	REFLECTOR POSITION 6	5835	194	REFLECTOR POSITION 24	5835
52	REFL POS 6 2ND LOOK	5835	196	REFL POS 24 2ND LOOK	5835
54	SCENE DATA BP 6 CH 1	17093	198	SCENE DATA BP 24 CH 1	17090
56	CH 2	17143	200	CH 2	17143
58	REFLECTOR POSITION 7	5835	202	REFLECTOR POSITION 25	5835
60	REFL POS 7 2ND LOOK	5835	204	REFL POS 25 2ND LOOK	5835
62	SCENE DATA BP 7 CH 1	17094	206	SCENE DATA BP 25 CH 1	17092
64	CH 2	17138	208	CH 2	17144
66	REFLECTOR POSITION 8	5835	210	REFLECTOR POSITION 26	5835
68	REFL POS 8 2ND LOOK	5835	212	REFL POS 26 2ND LOOK	5835
70	SCENE DATA BP 8 CH 1	17088	214	SCENE DATA BP 26 CH 1	17092
72	CH 2	17142	216	CH 2	17137
74	REFLECTOR POSITION 9	5835	218	REFLECTOR POSITION 27	5835
76	REFL POS 9 2ND LOOK	5835	220	REFL POS 27 2ND LOOK	5835
78	SCENE DATA BP 9 CH 1	17090	222	SCENE DATA BP 27 CH 1	17092
80	CH 2	17148	224	CH 2	17142
82	REFLECTOR POSITION 10	5835	226	REFLECTOR POSITION 28	5835
84	REFL POS 10 2ND LOOK	5835	228	REFL POS 28 2ND LOOK	5835
86	SCENE DATA BP 10 CH 1	17086	230	SCENE DATA BP 28 CH 1	17091
88	CH 2	17145	232	CH 2	17148
90	REFLECTOR POSITION 11	5835	234	REFLECTOR POSITION 29	5835
92	REFL POS 11 2ND LOOK	5835	236	REFL POS 29 2ND LOOK	5835

P 3.3.5.3.4

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17091
96		CH	2	17147
98	REFLECTOR POSITION 12			5835
100	REFL POS 12 2ND LOOK			5835
102	SCENE DATA BP 12	CH	1	17093
104		CH	2	17145
106	REFLECTOR POSITION 13			5835
108	REFL POS 13 2ND LOOK			5835
110	SCENE DATA BP 13	CH	1	17089
112		CH	2	17141
114	REFLECTOR POSITION 14			5835
116	REFL POS 14 2ND LOOK			5835
118	SCENE DATA BP 14	CH	1	17089
120		CH	2	17146
122	REFLECTOR POSITION 15			5835
124	REFL POS 15 2ND LOOK			5835
126	SCENE DATA BP 15	CH	1	17092
128		CH	2	17143
130	REFLECTOR POSITION 16			5835
132	REFL POS 16 2ND LOOK			5835
134	SCENE DATA BP 16	CH	1	17093
136		CH	2	17150

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17091
240		CH	2	17144
242	REFLECTOR POSITION 30			5835
244	REFL POS 30 2ND LOOK			5835
246	SCENE DATA BP 30	CH	1	17088
248		CH	2	17141
250	REFLECTOR COLD CAL POS			0E
252	REFL COLD CAL 2ND LOOK			0E
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E
304	REFL WARM CAL 2ND LOOK			0E
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18399	22.94
264	FEED HORN	18189	23.75
266	RF MUX	18721	24.83
268	MIXER/IF AMPLIFIER CHANNEL 1	19213	25.68
270	MIXER/IF AMPLIFIER CHANNEL 2	19438	25.80
272	LOCAL OSCILLATOR CHANNEL 1	18941	25.36
274	LOCAL OSCILLATOR CHANNEL 2	19551	26.05
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17836	22.89
280	DC/DC CONVERTER	20380	28.22
282	RF SHELF	18962	24.53
284	DETECTOR/PREAMP ASSEMBLY	19359	24.94
286	WARM LOAD CENTER	23038	23.52
288	WARM LOAD 2	23570	23.40
290	WARM LOAD 3	23177	23.44
292	WARM LOAD 4	23057	23.50
294	WARM LOAD 5	23040	23.49
296	WARM LOAD 6	23536	23.48
298	WARM LOAD 1	23396	23.46
300	TEMP SENSOR REFERENCE VOLTAGE	25090	

TP 3.3.5.3.4

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	NO
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	YES
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	21.3
RF SHELF TEMPERATURE #1	21.9
WARM LOAD TEMPERATURE	21.5
RF SHELF TEMPERATURE #2	22.0

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22241	4.90
	+15 VDC	21890	15.03
	-15 VDC	21869	-15.08
ANTENNA DRIVE	+5 VDC	22038	4.95
	+15 VDC	22041	14.99
	-15 VDC	21867	-15.07
MIXER/IF AMPLIFIER	+10 VDC	21722	9.93
LO CHANNEL 1	+10 VDC	21318	10.04
LO CHANNEL 2	+10 VDC	21432	10.01
QUIET BUS CURRENT		13768	619.59
NOISY BUS CURRENT		121	28.38

P 3.3.5.3.4

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

N2 CONTROL FUNCTIONS

	NO.	VALUE	NO.	VALUE
FIXED TARGET N2 PRESSURE PSI	401	11.00		
FIXED TARGET N2 FLOW LB/HR	701	28.00		
VARIABLE TARGET N2 PRESSURE PSI	402	12.00		
VARIABLE TARGET N2 FLOW LB/HR	702	29.00		
BASEPLATE N2 PRESSURE PSI	403	13.00		
BASEPLATE N2 FLOW LB/HR	703	54.00		
FIXED TARGET BYPASS RELAY	104	CLOSED		
VARIABLE TARGET LN2 RELAY	105	CLOSED		
VARIABLE TARGET GN2 RELAY	108	CLOSED		
TARGET LN2 SUPPLY RELAY	102	CLOSED		
BASEPLATE GN2 SUPPLY RELAY	109	CLOSED		
HOT GN2 PURGE RELAY	103	CLOSED		
VARIABLE TARGET LN2 BYPASS RELAY	106	CLOSED		
BASEPLATE GN2 BYPASS RELAY	110	CLOSED		
ADJUNCT RADIATOR LN2 SUPPLY RELAY	114	CLOSED	116	CLOSED

TEST DATA SHEET 6 (SHEET 1 OF 2)
3.4.4, Step 2: Position Command Test

Test Setup Verified: _____ Signature Shop Order No. 323737

Temperature: 25 °C

↓	Scene No.	Resolver 14-Bit Digital word MSB → LSB
8035★	1	0 1 1 1 1 1 0 1 1 0 0 0 1 1 1
7883	2	0 1 1 1 1 0 1 1 0 0 1 0 1 1
7731	3	0 1 1 1 1 0 0 0 1 1 0 0 1 1
7580	4	0 1 1 1 0 1 1 0 0 1 1 1 0 0
7428	5	0 1 1 1 0 1 0 0 0 0 0 1 0 0
7276	6	0 1 1 1 0 0 0 1 1 0 1 1 0 0
7125	7	0 1 1 0 1 1 1 1 0 1 0 1 0 1
6973	8	0 1 1 0 1 1 0 0 1 1 1 1 0 1
6821	9	0 1 1 0 1 0 1 0 1 0 0 1 0 1
6670	10	0 1 1 0 1 0 0 0 0 0 0 1 1 1 0
6518	11	0 1 1 0 0 1 0 1 1 1 0 1 1 0
6366	12	0 1 1 0 0 0 1 1 0 1 1 1 1 0
6215	13	0 1 1 0 0 0 0 1 0 0 0 1 1 0
6063	14	0 1 0 1 1 1 1 0 1 0 1 1 1 1
5911	15	0 1 0 1 1 1 0 0 0 1 0 1 1 1
5760	16	0 1 0 1 1 0 1 0 0 0 0 0 0 0
5608	17	0 1 0 1 0 1 1 1 1 0 1 0 0 0
5456	18	0 1 0 1 0 1 0 1 0 1 0 0 0 0
5305	19	0 1 0 1 0 0 1 0 1 1 1 0 0 1
5153	20	0 1 0 1 0 0 0 0 1 0 0 0 0 1
5001	21	0 1 0 0 1 1 1 0 0 0 1 0 0 1
4850	22	0 1 0 0 1 0 1 1 1 0 0 1 0

A

★ INCLUDES (-6) CORRECTION

-TRA 2/2/98 QC 225

TRA 2/2/98 QC 226

TEST DATA SHEET 6 (SHEET 2 OF 2)
3.4.4, Step 2: Position Command Test

Temperature: 25 °C

QC 226 2/2

	Scene No.	Resolver 14-Bit Digital Word MSB → LSB
4698	23	0 1 0 0 1 0 0 1 0 1 1 0 1 0
4546	24	0 1 0 0 0 1 1 1 0 0 0 0 1 0
4395	25	0 1 0 0 0 1 0 0 1 0 1 0 1 1
4243	26	0 1 0 0 0 0 1 0 0 1 0 0 1 1
4091	27	0 0 1 1 1 1 1 1 1 1 1 0 1 1
3940	28	0 0 1 1 1 1 0 1 1 0 0 1 0 0
3788	29	0 0 1 1 1 0 1 1 0 0 1 1 0 0
3636	30	0 0 1 1 1 0 0 0 1 1 0 1 0 0
2346	Cold Cal 4	0 0 1 0 0 1 0 0 1 0 1 0 1 0
2195	Cold Cal 3	0 0 1 0 0 0 1 0 0 1 0 0 1 1
2119	Cold Cal 2	0 0 1 0 0 0 0 1 0 0 0 1 1 1
2043	*Cold Cal 1	0 0 0 1 1 1 1 1 1 1 1 0 1 1
14028	Warm Cal	1 1 0 1 1 0 1 1 0 0 1 1 0 0
5836	**Nadir Reference	0 1 0 1 1 0 1 1 0 0 1 1 0 0

*Standard
**Not scene or calibration station.

Subassembly No.: 1333650-1

Serial No.: 207

Test Engineer: Roger V. Thoney

Quality Assurance: QC 226

Date: 980212

TEST DATA SHEET NO. 19
1553 BUS INTERFACE TEST 3.3.5.4

RAH Rev H 4/17/98

ATTACH BUS A WAVE FORM

P/F

BUS A AMPLITUDE 24.0 Vp-p : 18.0 – 27.0 Vp-p P

BUS A RISE TIME 220 n sec : 100 – 300 n sec. A

ATTACH BUS B WAVE FORM

P/F

BUS B AMPLITUDE 21.7 V : 18.0 – 27.0 Vp-p P

BUS B RISE TIME 280 n sec : 100 – 300 n sec P

(1ST CPT) ; Final CPT ;

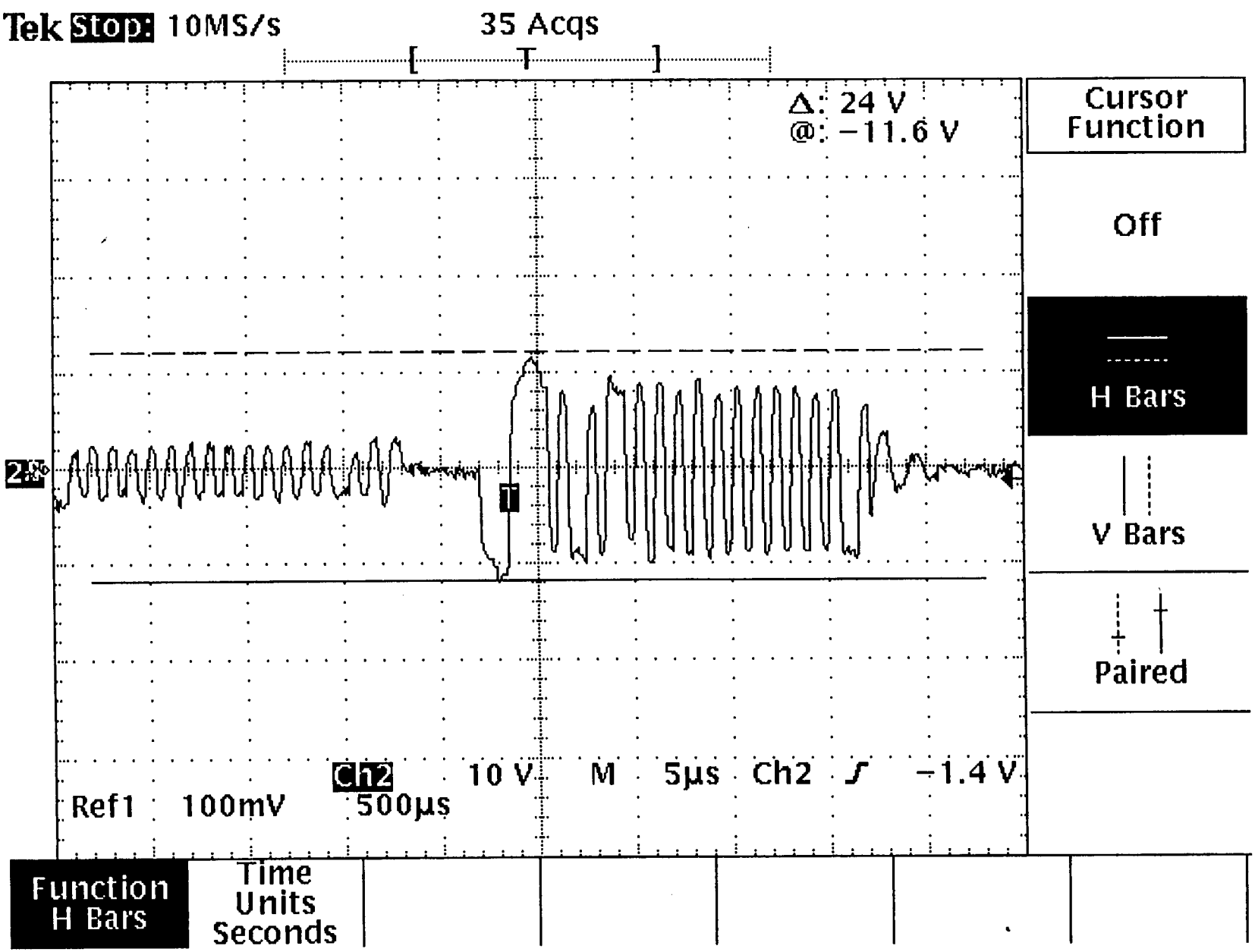
S/O: 323737

P/N: 1356006-1-1T

SN: 202

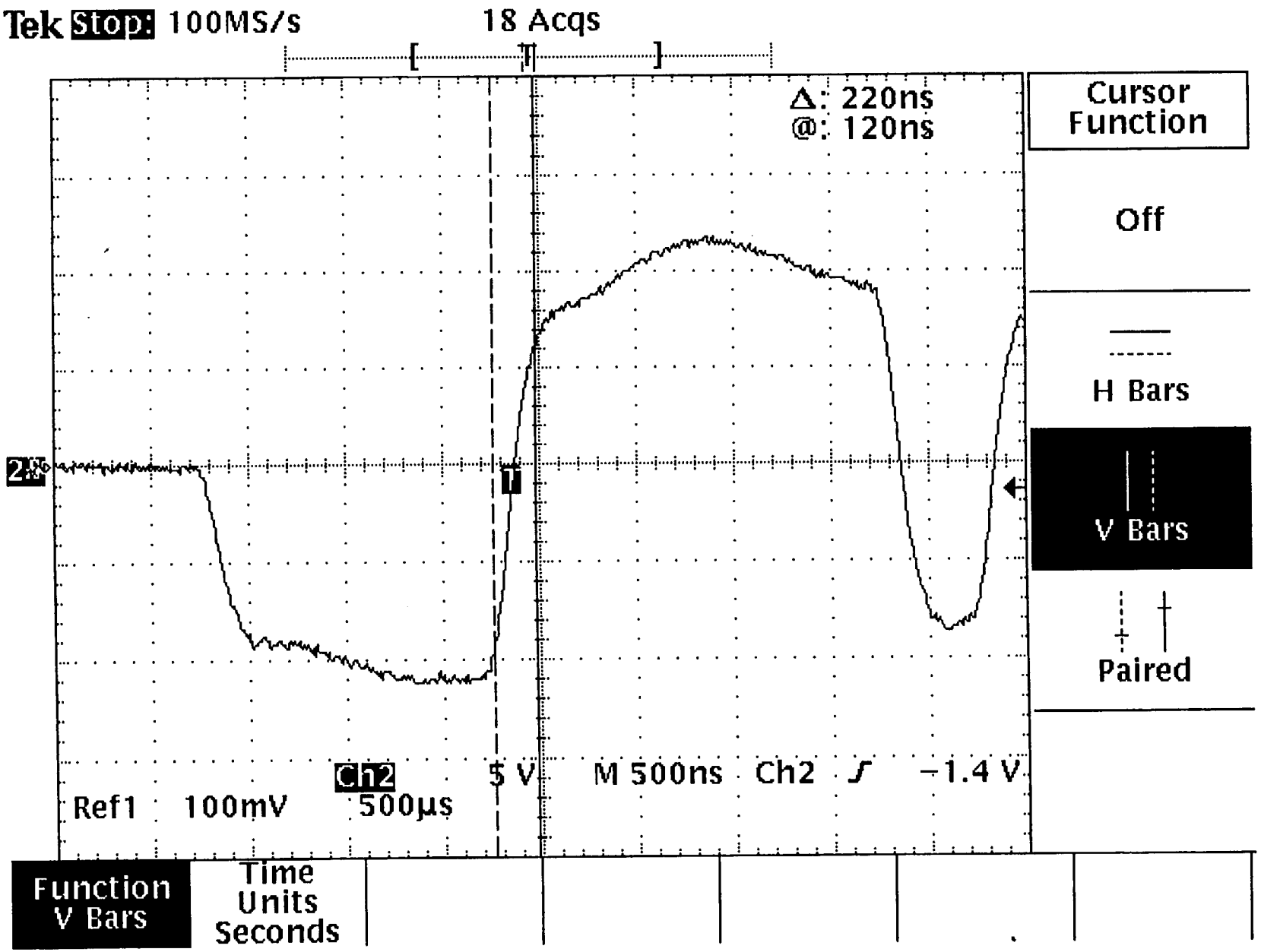
Test Engineer: Ray Herzbrug Date: 4-8-98

Quality: 7A Date: APR 8 98



TDS 19 CH-A AMPLITUDE

APR 8 98



TDS 19 CH-A RISE TIME

(TA 197)
MAR 8 98

RJH 4/14/98 91 30

TEST DATA SHEET NO. 13 (INTENTIONALLY LEFT BLANK)

~~Test Point Interface Test (1.248 MHz Clock TP) (Paragraph 3.3.6.1)~~

1.248 MHz CLOCK SIGNAL TEST POINT

Attach Photograph or Plot Here or to Back of TDS

1.248 MHz CLOCK SIGNAL TEST POINT				
Step	Parameter	Measured	Required	(P)ass / (F)ail
4	Clock Frequency	MHz	1.248 MHz +/- 10%	
4	Clock Amplitude	volts	4-6 volts	

EOS/AMSU-A2 System P/N 1356006 Shop Order: _____ S/N: _____

Circle Test: 1st CPT Final CPT Sub CPT _____

Test Systems Engineer Date

Quality Control Date

TEST DATA SHEET NO. 14

Test Point Interface Test (8 Second Sync Pulse TP) (Paragraph 3.3.6.2)

8 SECOND SYNC PULSE TEST POINT

Attach Photograph or Plot Here or to Back of TDS

8 SECOND SYNC PULSE TEST POINT				
Step	Parameter	Measured	Required	(P)ass / (F)ail
2	Pulse Length	8.0 seconds	8 seconds +/- 10%	P
2	Amplitude	3.62 volts	3-5 Volts	P

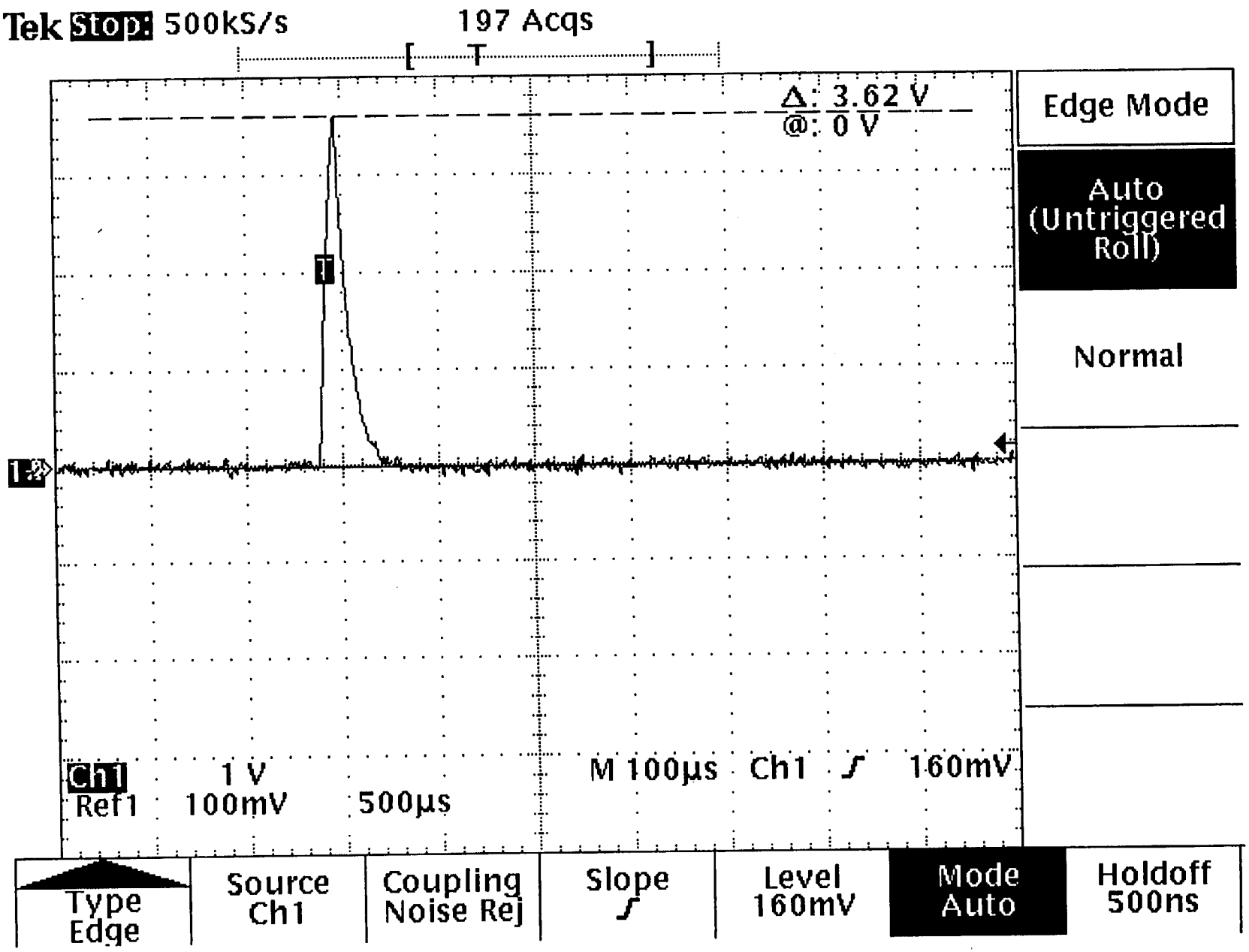
Ray Flat 4/7/98

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323 737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT _____

Ray Hughes 4-8-98
Test Systems Engineer Date

7A 197
Quality Control APR 8 98
Date



TDS 14 8 SEC SCAN PULSE

AE-26156/10
30 Mar 98

TEST DATA SHEET NO. 15

Test Point Interface Test (Integrate/Hold and Dump TPs) (Paragraph 3.3.6.3)

INTEGRATE/HOLD AND DUMP TEST POINTS

Attach Photograph or Plot Here or to Back of TDS

R Hertzberg A-8-98

INTEGRATE/HOLD SIGNAL TEST POINT				
Step	Parameter	Measured	Required	(P)ass / (F)ail
4	Time Measured (A)*	158 milliseconds	158 ± 5 ms	P
4	Time Measured (B)*	~~32~~ 45 milliseconds	38 -46 ms	P
4	Time Measured (A+B)*	203 milliseconds	200 ± 5 ms	P
4	Amplitude	5.0 volts	4-6 volts	P

DUMP SIGNAL TEST POINT				
Step	Parameter	Measured	Required	(P)ass / (F)ail
4	Time Measured (D)*	12 ms	9-15 ms	P
4	Amplitude	5.0 volts	4-6 volts	P

* Refer to Figure 18 for Waveform Definition

EOS/AMSU-A2 ~~System~~ P/N 1356006 Shop Order: 323 737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT ________

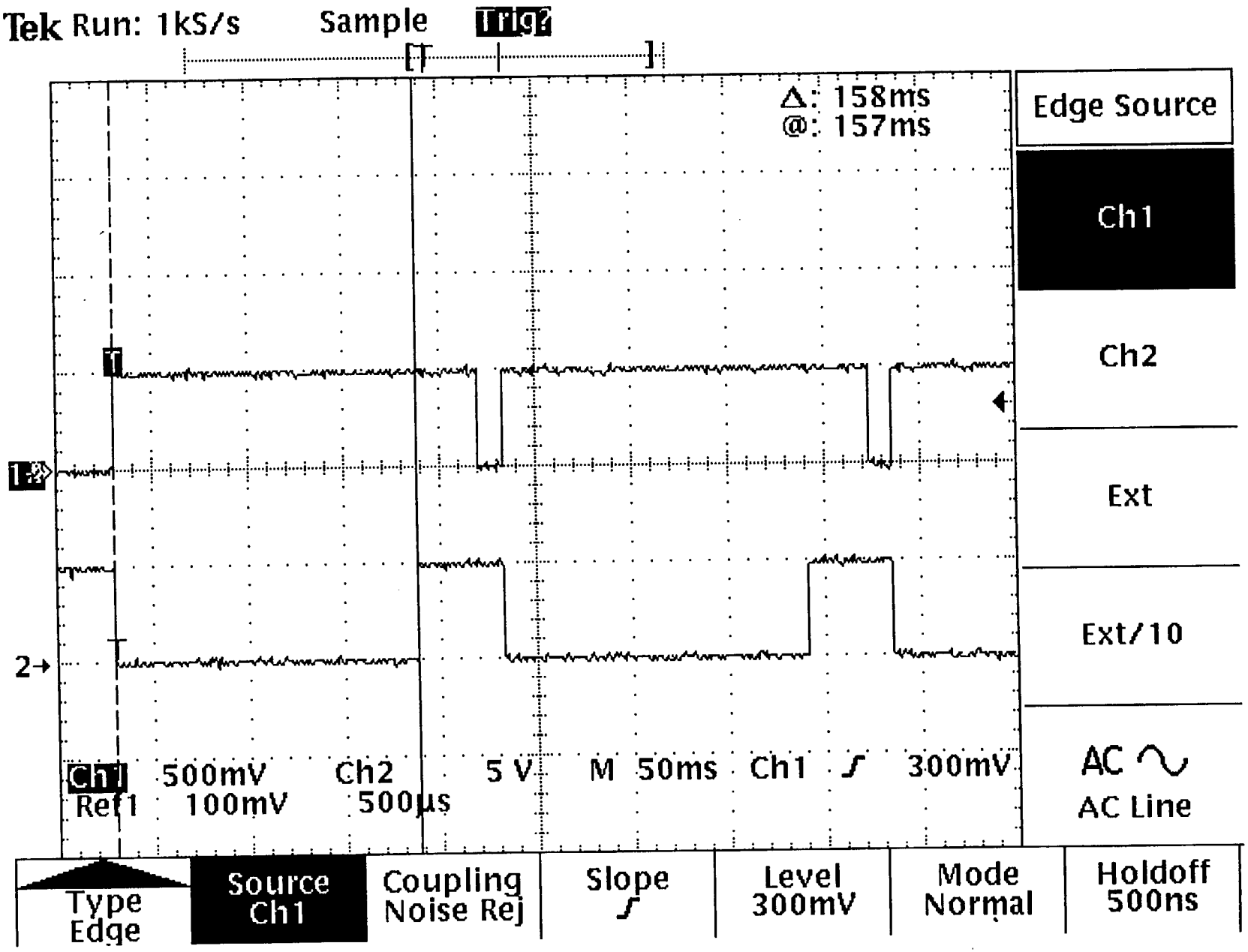
Ray Hertzberg 4-8-98

Test Systems Engineer (TA 197) Date APR 8 98

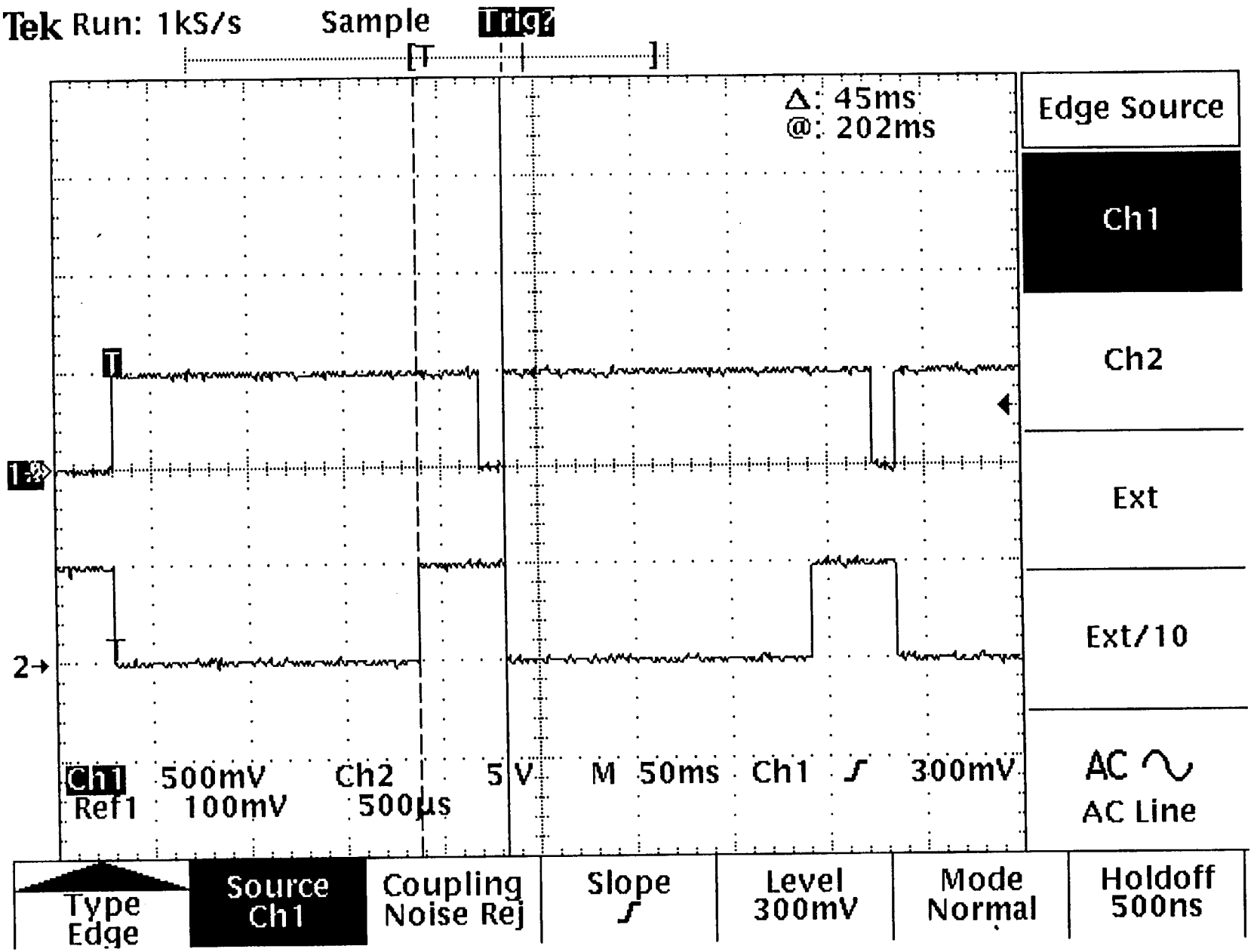
Quality Control Date

BJH 4/14/98 (QC 16)

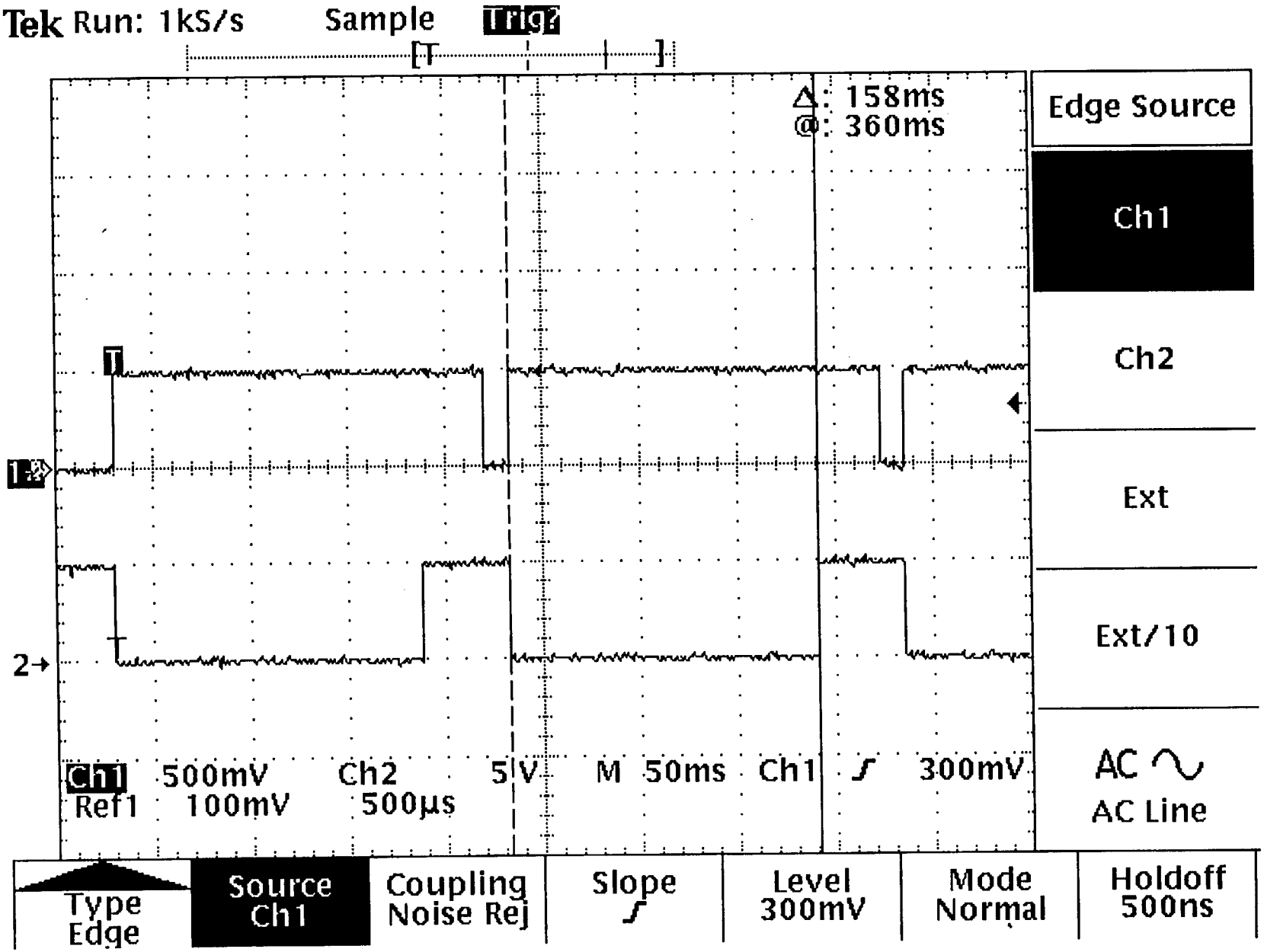
RMR 4/7/98 (QC 25)


Tek Run: 1kS/s Sample Trig?
Δ: 158ms
@: 157ms
Edge Source
Ch1
Ch2
Ext
Ext/10
AC
AC Line
Ch1 500mV Ch2 5 V M 50ms Ch1 ∫ 300mV
Ref1 100mV 500µs
Type Edge
Source Ch1
Coupling Noise Rej
Slope ∫
Level 300mV
Mode Normal
Holdoff 500ns

TDS 15 PLOTS

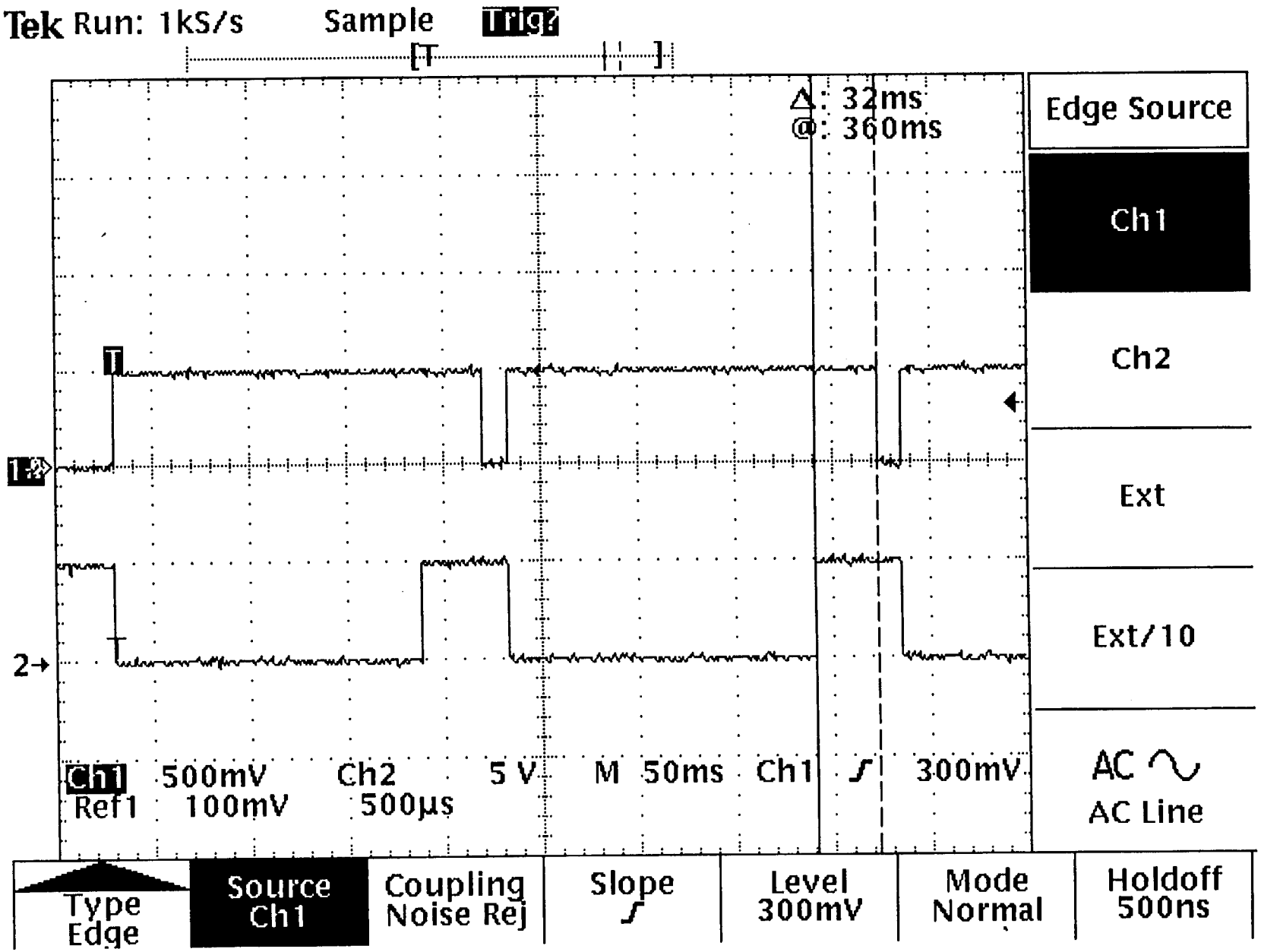

Tek Run: 1kS/s Sample Trig?
Δ: 45ms
@: 202ms
Edge Source
Ch1
Ch2
Ext
Ext/10
AC
AC Line
Ch1 500mV Ch2 5 V M 50ms Ch1 ∫ 300mV
Ref1 100mV 500µs
Type Edge
Source Ch1
Coupling Noise Rej
Slope
Level 300mV
Mode Normal
Holdoff 500ns

TDS 15 PLOTS

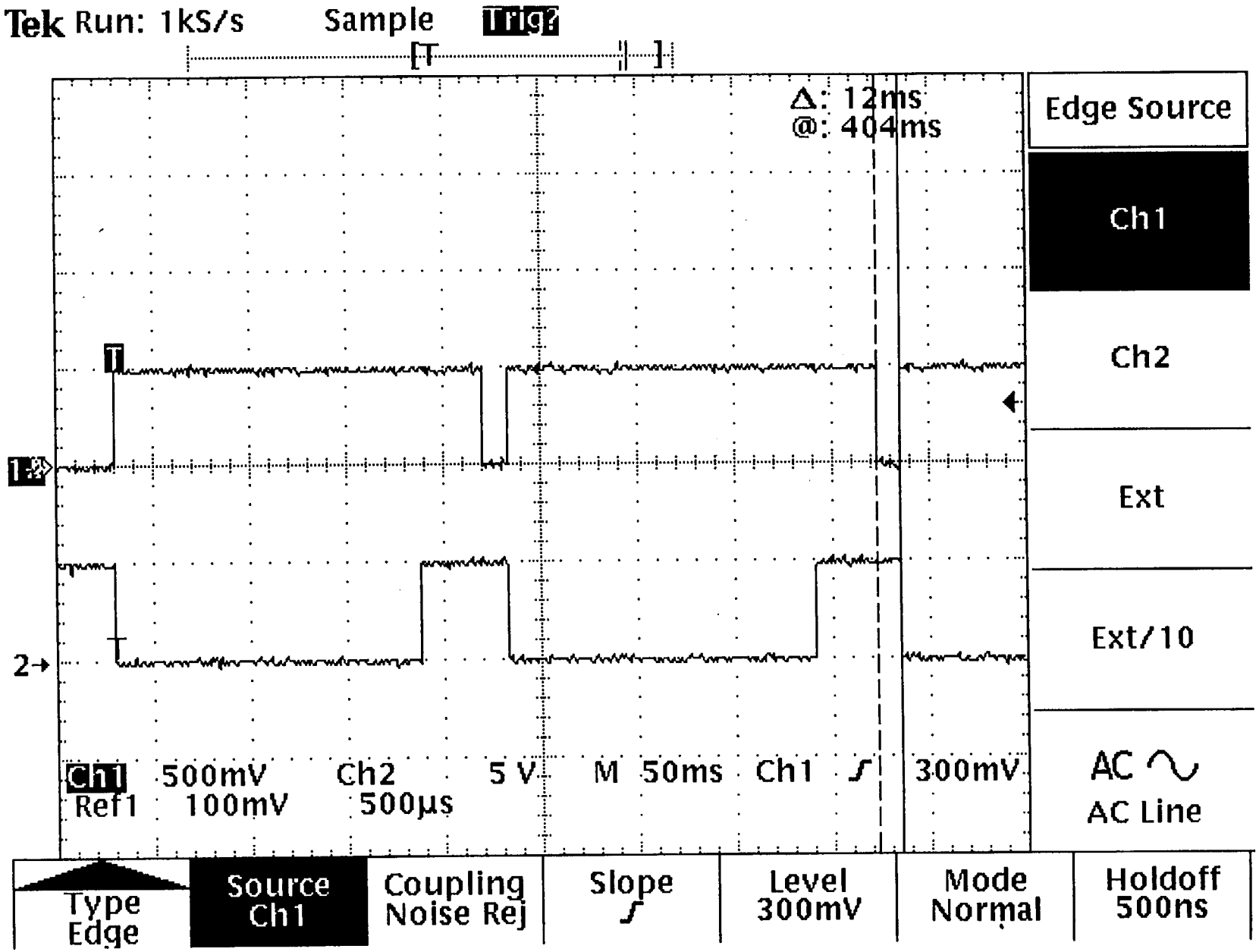


TDS 15 PLOTS

Apr 8 '98

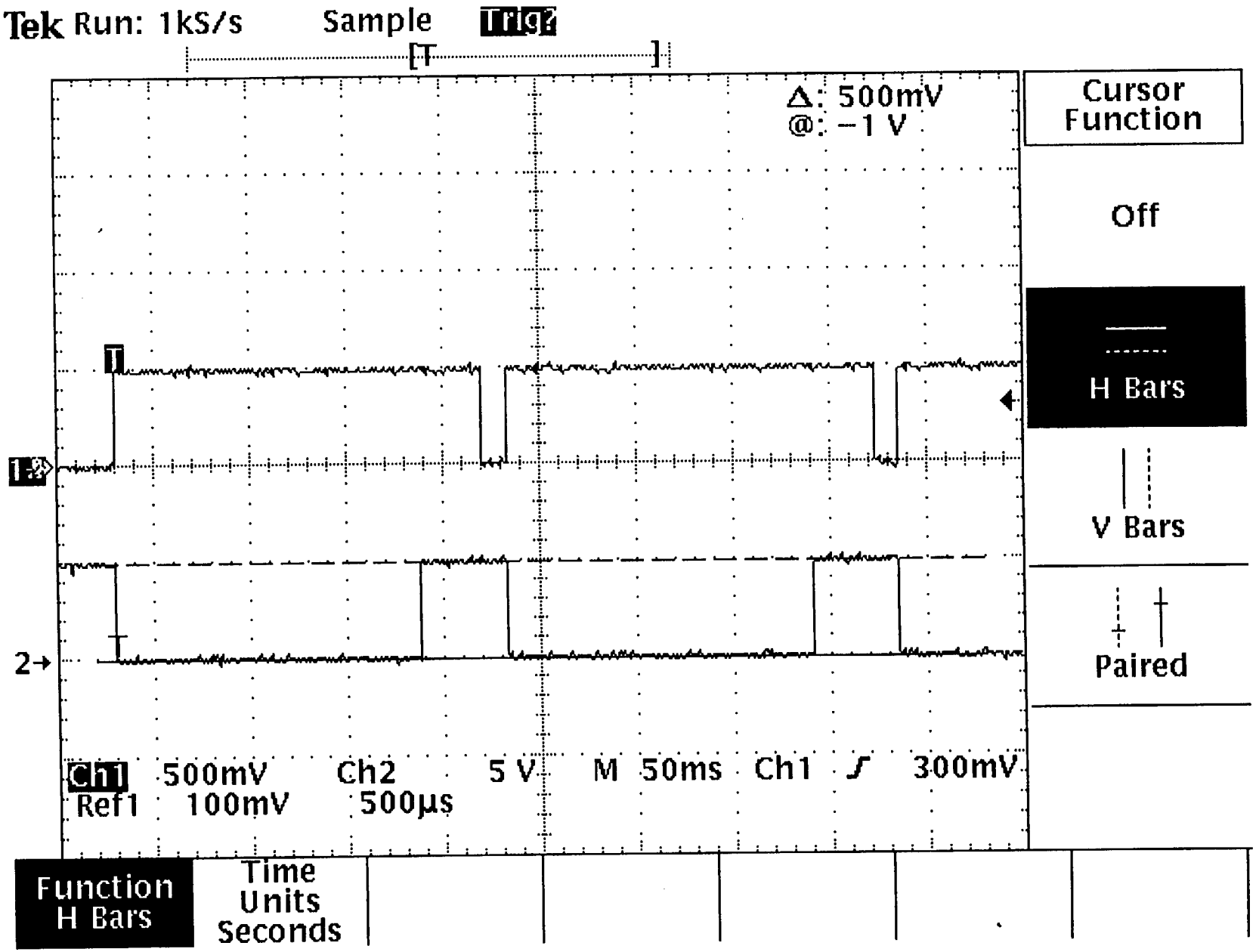

Tek Run: 1kS/s Sample Trig?
Δ: 32ms
@: 360ms
Edge Source
Ch1
Ch2
Ext
Ext/10
AC
AC Line
Ch1 500mV Ch2 5 V M 50ms Ch1 300mV
Ref1 100mV 500µs
Type Edge
Source Ch1
Coupling Noise Rej
Slope
Level 300mV
Mode Normal
Holdoff 500ns

TDS 15 PLOTS



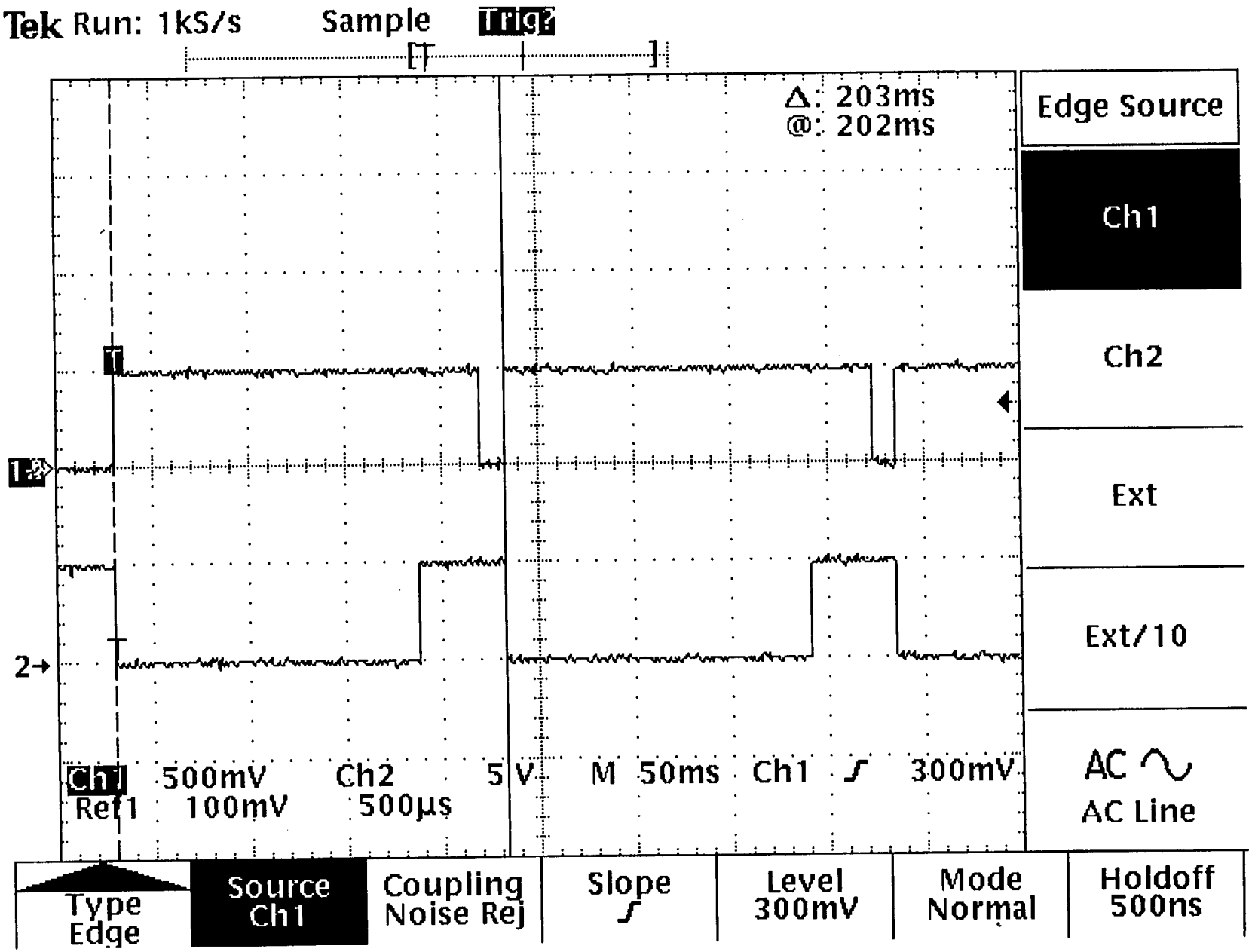
4998

TDS 15 PLOTS



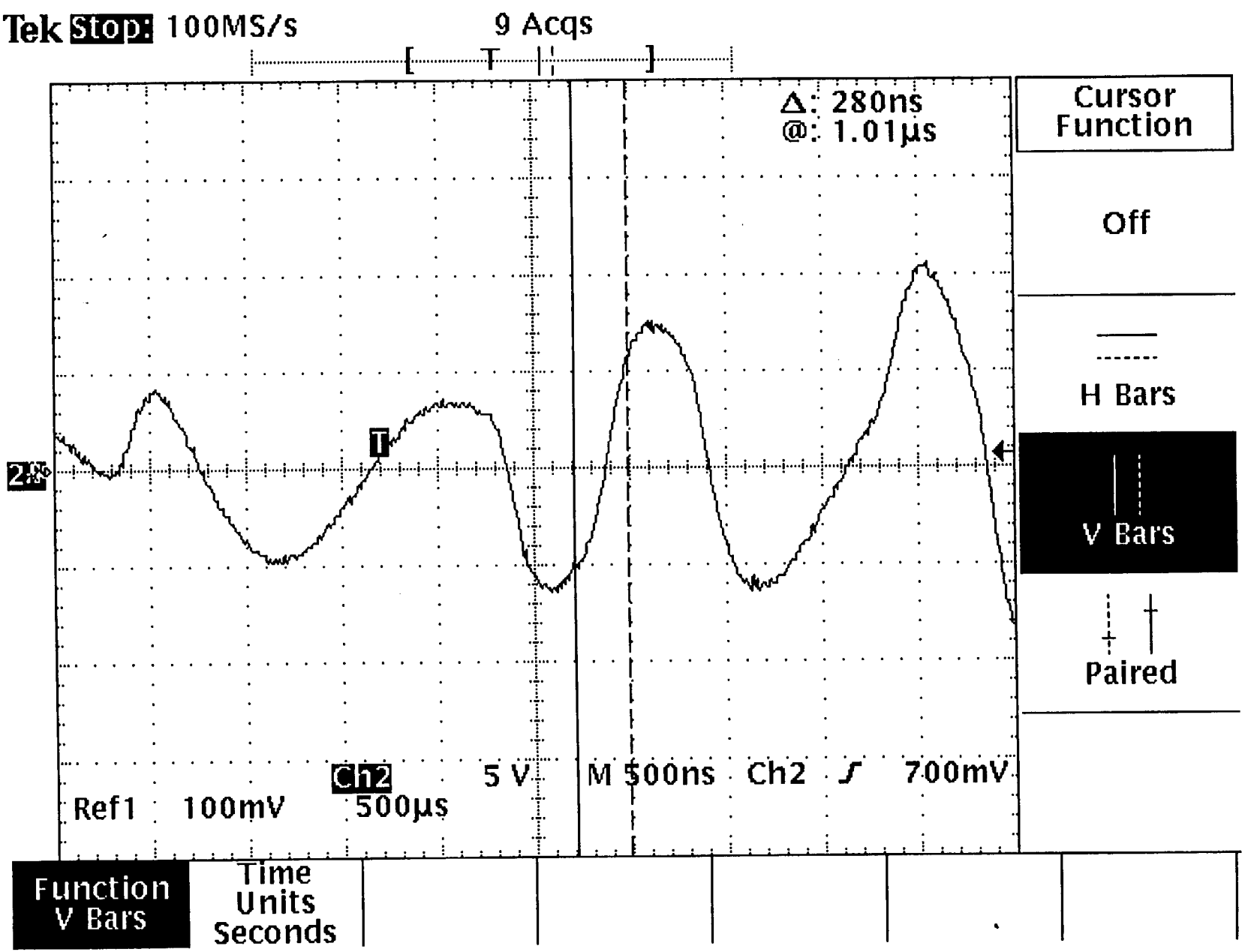
4-9-98

TDS 15 PLOTS

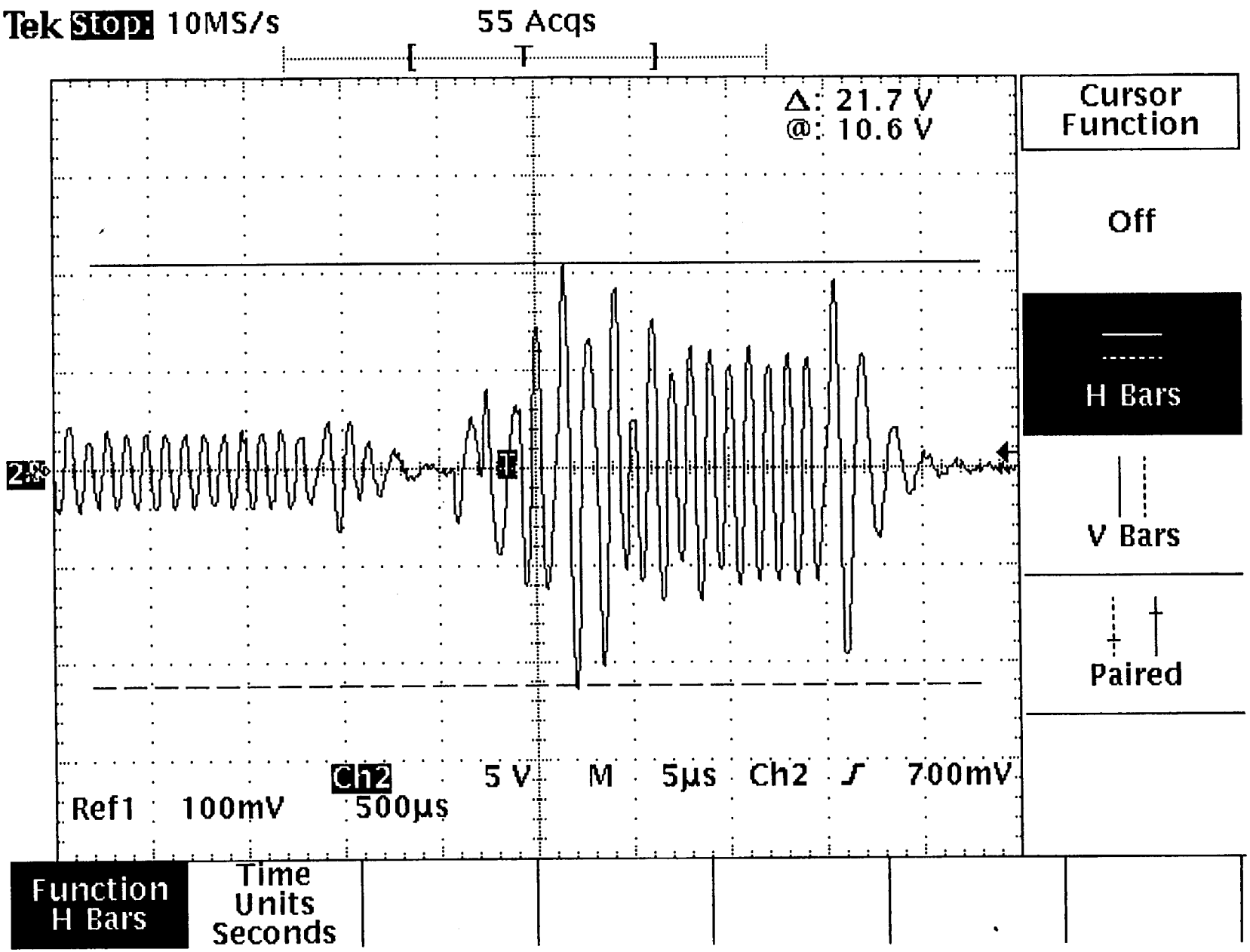


4-9-98

TDS 15 PLOTS



TDS 19 CH 'B' RISE TIME



TDS 19 CH 'B' AMPLITUDE

TEST DATA SHEET NO. 16

Test Point Interface Test (Radiometer Channel Analog Output TPs) (Paragraph 3.3.6.4)

RADIOMETER CHANNEL ANALOG OUTPUT TEST POINTS

Attach Photographs or Plots Here or to Back of TDS

RADIOMETER CHANNEL ANALOG OUTPUT TEST POINTS							
Channel	Integration Time Measured (E)*	Integration Time Required (ms)	Hold Time Measured (F)*	Hold Time Required (ms)	Dump Time Measured (F)*	Dump Time Required (ms)	(P)ass / (F)ail
1	158 ms	158 ±5ms	32 ms	29-35	12 ms	9-15	P
2	158 ms	158 ±5ms	32 ms	29-35	11 ms	9-15	P

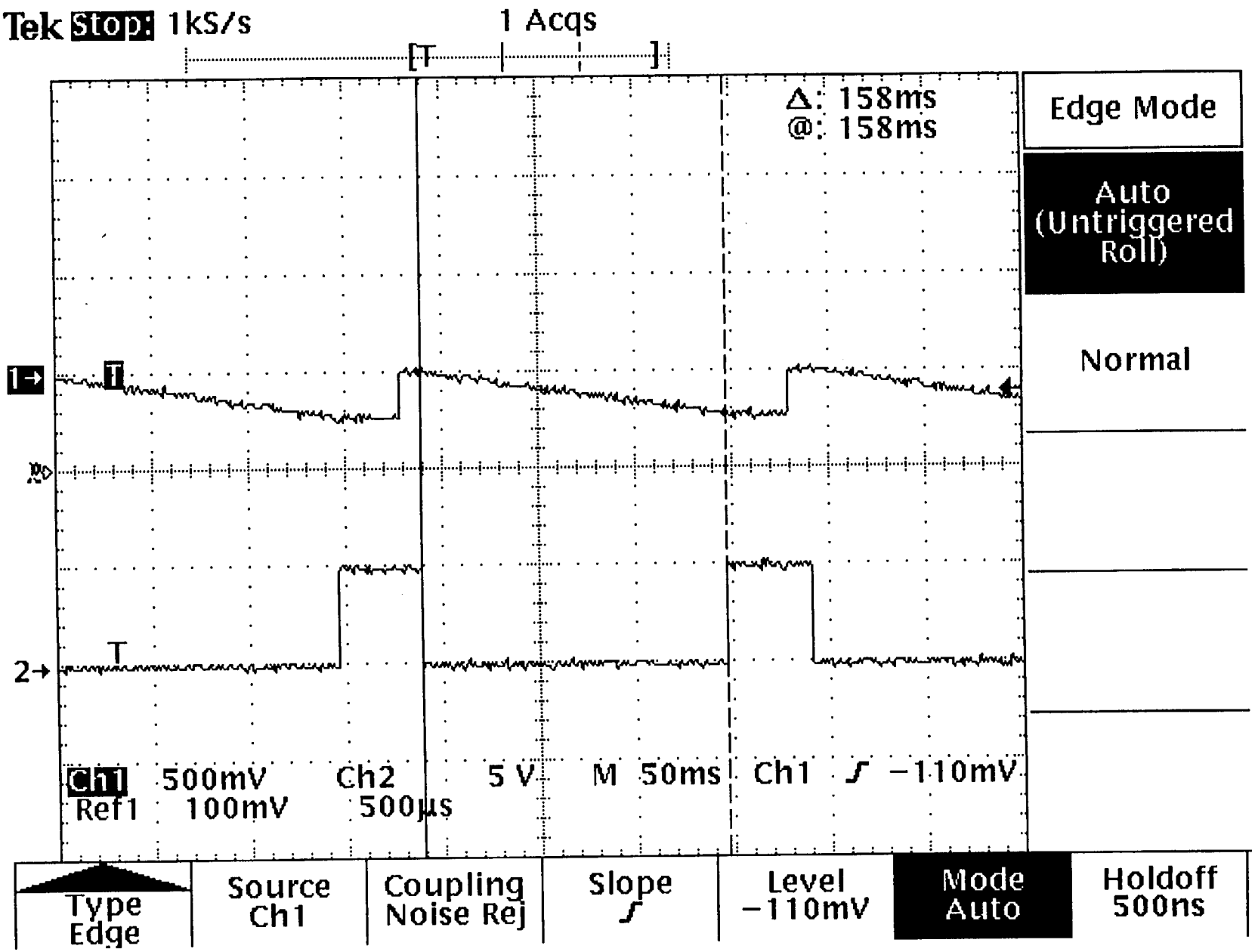
* Refer to Figure 18 for Waveform Definition

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323 737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT _____

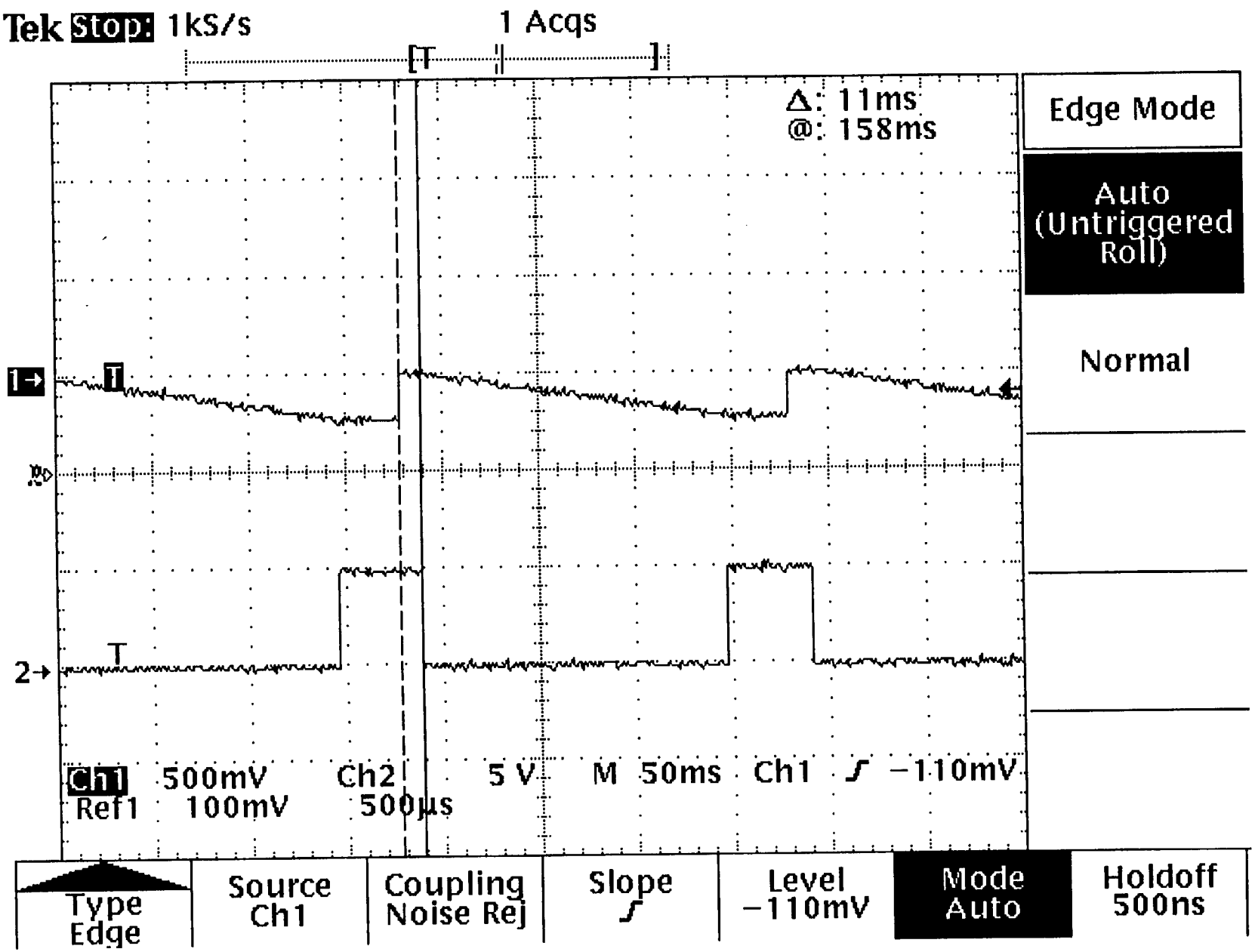
Test Systems Engineer 7A 4-8-98 Date

Quality Control APR 9 98 Date

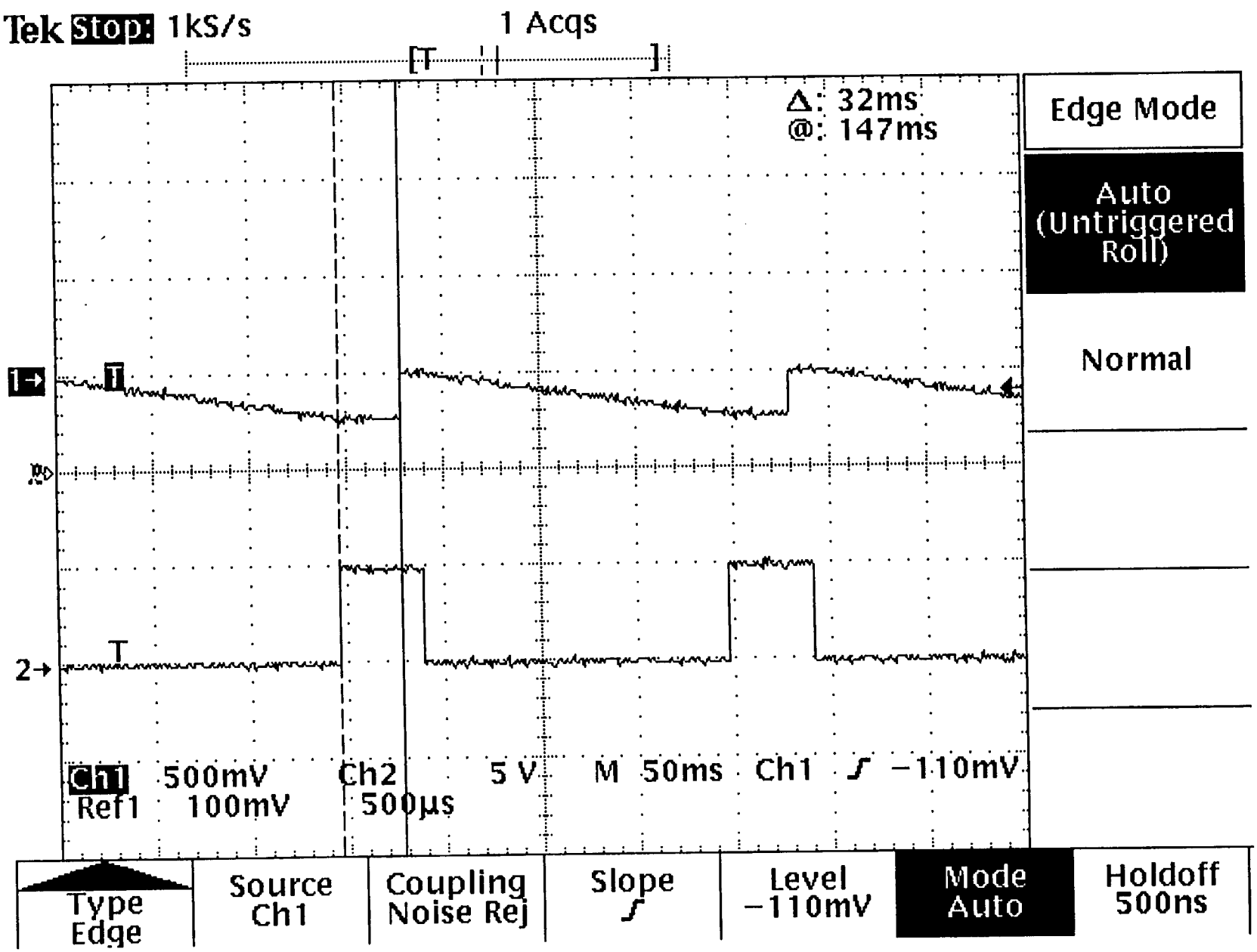


TDS 16 CH2 "E" INTEGRATION

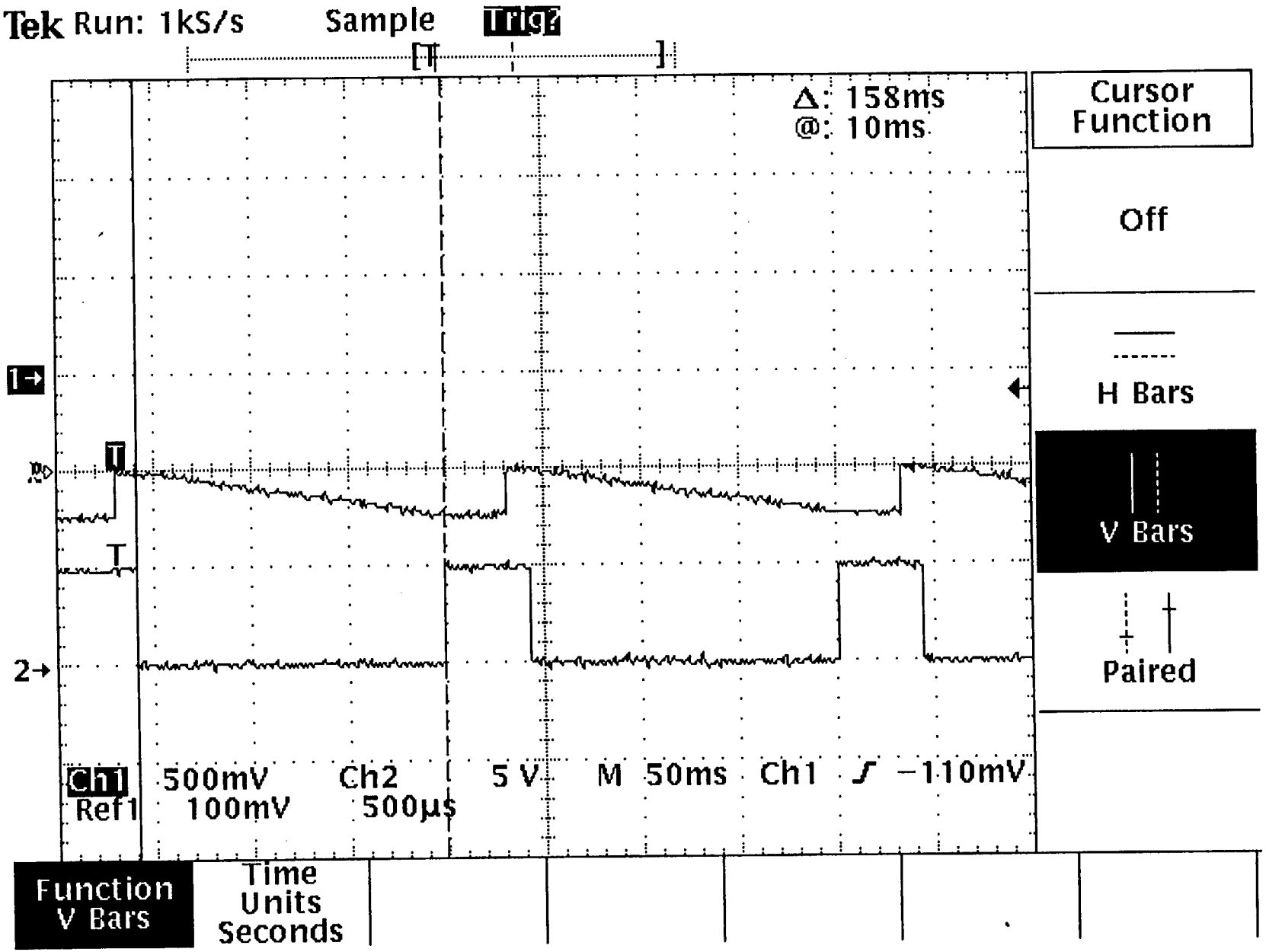
APR 8 98



TDS 16 CH 2 "F" DUMP

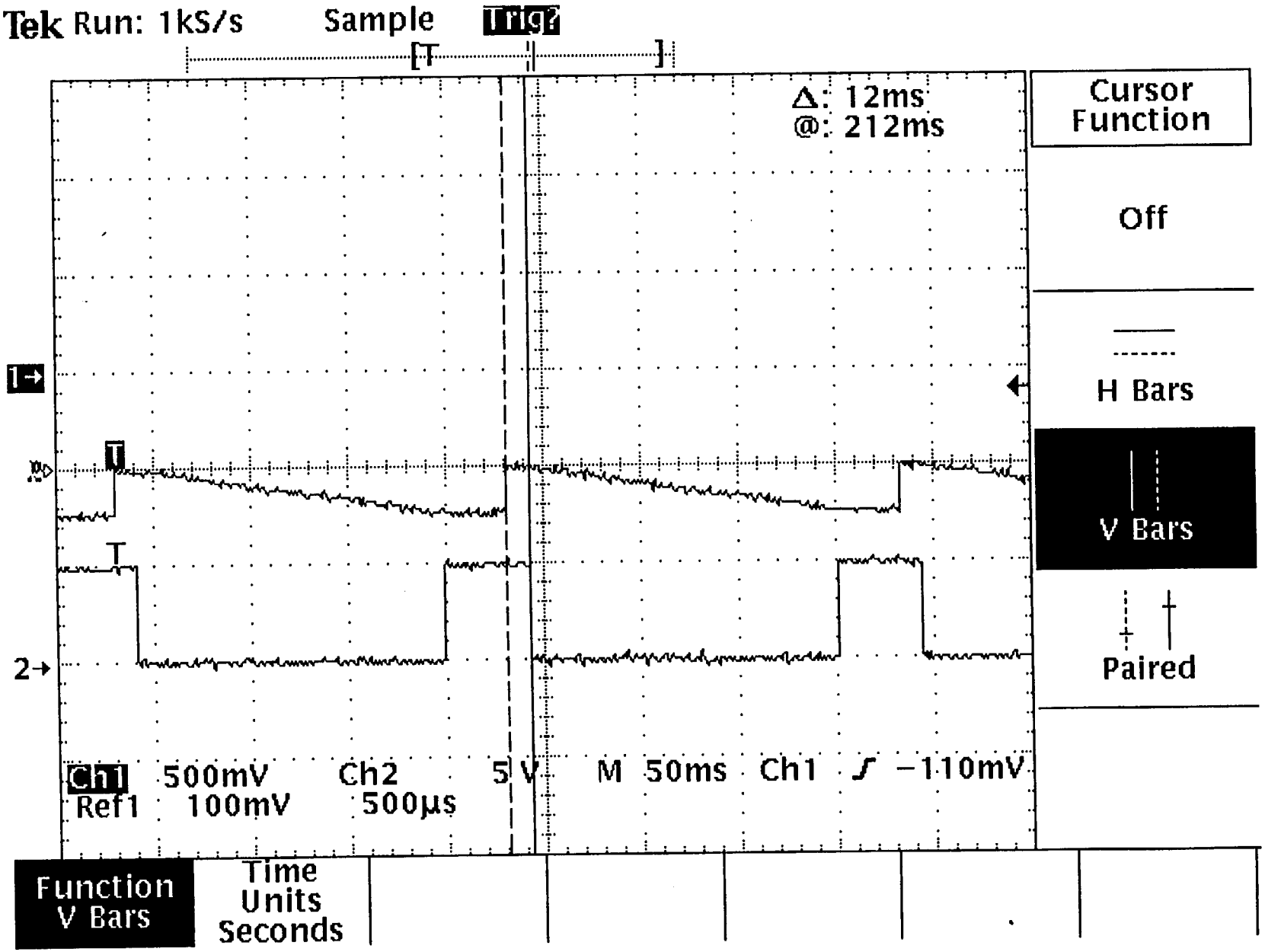


TDS 16 CH 2 HOLD



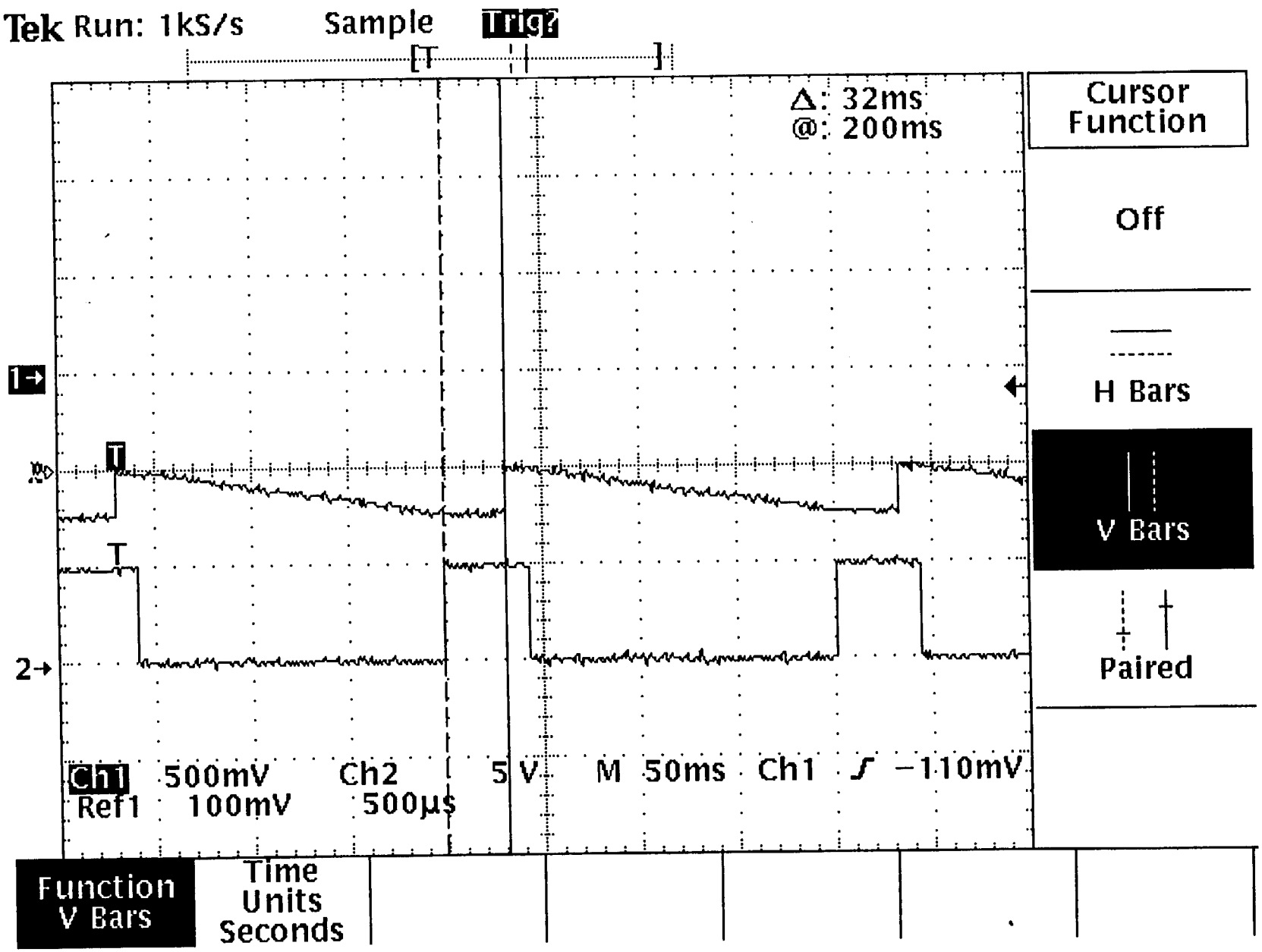
TDS 16 CH 1 'INTEGRATION'

APR 8 98



TDS 16 CH 1 'DUMP'

(7A) 197
Apr 8 98



TDS 16 CH 1 "HOLD"

TEST DATA SHEET NO. 17

Test Point Interface Test (GSE Modes) (Paragraphs 3.3.6.5 - 3.3.6.10)

	GSE MODES					
	1	2	3	4	5	7
	MODE OBSERVED? (YES/NO)					
	Y	Y	Y	Y	Y	Y
	DATA REVIEWED? (YES/NO)					
Printout data	Y	Y	Y	Y	Y	Y
Packet ID	Y	↓	↓	↓	↓	↓
Packet Length	Y	↓	↓	↓	↓	↓
Unit Serial Number	Y	↓	↓	↓	↓	↓
Instrument Mode/Status	Y	↓	↓	↓	↓	↓
Reflector Positions	Y	↓	↓	↓	↓	↓
Radiometer Scene Data	Y	Y	↓	↓	↓	↓
PRT Temperature Data	Y	Y	Y	Y	Y	Y
Engineering Data	Y	↓	Y	Y	Y	Y

~~Yes = Pass No = Fail~~

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202

Circle Test: (1st CPT) Final CPT

R. M. Neil 4-8-98

Test Systems Engineer Date APR 8 98

Quality Control Date

AP 3.3.6.5

EOS A2-04 E2.EXE;18 10-10-10 CAL MODE 8-APR-98 09:39:318 SCAN NUMBER 44
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 9 LOCAL OSCILLATOR-CH 1 +10 VDC 10.04

COMMANDS

[9] SCANNER A2 POWER = ON	COLD CAL POSITION 1 =	YES	[14
[10] ANTENNA IN FULL SCAN MODE = NO	COLD CAL POSITION 2 =	NO	[15
[11] ANTENNA IN WARM CAL POSIT = NO	COLD CAL POSITION 3 =	NO	[16
[12] ANTENNA IN COLD CAL POSIT = NO	COLD CAL POSITION 4 =	NO	[17
[13] ANTENNA IN NADIR POSITION = NO	RESET C&DH PROCESSOR		[18
	GSE MODE		[19

ENGR OK POWER ON CHECKSUM IN C7FF CALC C7FF SA28 456 SA29 45
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 3

AP 3.3.6.5

ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001
2		00100001
3	PACKET LENGTH	00000001
4		01000101
5	UNIT SERIAL NUMBER	00000100
6		00100000
7	INSTRUMENT MODE/STATUS	10001000
8		00000000
10	REFLECTOR POSITION 1	7271
12	REFL POS 1 2ND LOOK	7271
14	SCENE DATA BP 1 CH 1	17078
16	CH 2	17101
18	REFLECTOR POSITION 2	7271
20	REFL POS 2 2ND LOOK	7271
22	SCENE DATA BP 2 CH 1	17086
24	CH 2	17098
26	REFLECTOR POSITION 3	7271
28	REFL POS 3 2ND LOOK	7271
30	SCENE DATA BP 3 CH 1	17089
32	CH 2	17104
34	REFLECTOR POSITION 4	7271
36	REFL POS 4 2ND LOOK	7271
38	SCENE DATA BP 4 CH 1	17081
40	CH 2	17101
42	REFLECTOR POSITION 5	7271
44	REFL POS 5 2ND LOOK	7271
46	SCENE DATA BP 5 CH 1	17084
48	CH 2	17107
50	REFLECTOR POSITION 6	7271
52	REFL POS 6 2ND LOOK	7271
54	SCENE DATA BP 6 CH 1	17083
56	CH 2	17099
58	REFLECTOR POSITION 7	7271
60	REFL POS 7 2ND LOOK	7271
62	SCENE DATA BP 7 CH 1	17083
64	CH 2	17104
66	REFLECTOR POSITION 8	7271
68	REFL POS 8 2ND LOOK	7271
70	SCENE DATA BP 8 CH 1	17084
72	CH 2	17105
74	REFLECTOR POSITION 9	7271
76	REFL POS 9 2ND LOOK	7271
78	SCENE DATA BP 9 CH 1	17085
80	CH 2	17105
82	REFLECTOR POSITION 10	7271
84	REFL POS 10 2ND LOOK	7271
86	SCENE DATA BP 10 CH 1	17082
88	CH 2	17104
90	REFLECTOR POSITION 11	2043
92	REFL POS 11 2ND LOOK	2043
138	REFLECTOR POSITION 17	2043
140	REFL POS 17 2ND LOOK	2043
142	SCENE DATA BP 17 CH 1	17084
144	CH 2	17097
146	REFLECTOR POSITION 18	2043
148	REFL POS 18 2ND LOOK	2043
150	SCENE DATA BP 18 CH 1	17085
152	CH 2	17100
154	REFLECTOR POSITION 19	2043
156	REFL POS 19 2ND LOOK	2043
158	SCENE DATA BP 19 CH 1	17088
160	CH 2	17095
162	REFLECTOR POSITION 20	2043
164	REFL POS 20 2ND LOOK	2043
166	SCENE DATA BP 20 CH 1	17085
168	CH 2	17100
170	REFLECTOR POSITION 21	14028
172	REFL POS 21 2ND LOOK	14027
174	SCENE DATA BP 21 CH 1	17065
176	CH 2	17089
178	REFLECTOR POSITION 22	14027
180	REFL POS 22 2ND LOOK	14027
182	SCENE DATA BP 22 CH 1	17061
184	CH 2	17092
186	REFLECTOR POSITION 23	14027
188	REFL POS 23 2ND LOOK	14027
190	SCENE DATA BP 23 CH 1	17069
192	CH 2	17092
194	REFLECTOR POSITION 24	14027
196	REFL POS 24 2ND LOOK	14027
198	SCENE DATA BP 24 CH 1	17064
200	CH 2	17093
202	REFLECTOR POSITION 25	14027
204	REFL POS 25 2ND LOOK	14027
206	SCENE DATA BP 25 CH 1	17065
208	CH 2	17092
210	REFLECTOR POSITION 26	14027
212	REFL POS 26 2ND LOOK	14027
214	SCENE DATA BP 26 CH 1	17062
216	CH 2	17091
218	REFLECTOR POSITION 27	14027
220	REFL POS 27 2ND LOOK	14027
222	SCENE DATA BP 27 CH 1	17069
224	CH 2	17093
226	REFLECTOR POSITION 28	14027
228	REFL POS 28 2ND LOOK	14027
230	SCENE DATA BP 28 CH 1	17066
232	CH 2	17090
234	REFLECTOR POSITION 29	14027
236	REFL POS 29 2ND LOOK	14027

TP 3.3.6.5

ELEMENT	DESCRIPTION			VALUE
4	SCENE DATA BP 11	CH	1	17088
96		CH	2	17091
98	REFLECTOR POSITION 12			2043
100	REFL POS 12 2ND LOOK			2043
102	SCENE DATA BP 12	CH	1	17089
104		CH	2	17098
106	REFLECTOR POSITION 13			2043
108	REFL POS 13 2ND LOOK			2043
110	SCENE DATA BP 13	CH	1	17084
112		CH	2	17098
114	REFLECTOR POSITION 14			2043
116	REFL POS 14 2ND LOOK			2043
118	SCENE DATA BP 14	CH	1	17089
120		CH	2	17102
122	REFLECTOR POSITION 15			2043
124	REFL POS 15 2ND LOOK			2043
126	SCENE DATA BP 15	CH	1	17087
128		CH	2	17098
130	REFLECTOR POSITION 16			2043
132	REFL POS 16 2ND LOOK			2043
134	SCENE DATA BP 16	CH	1	17083
136		CH	2	17102

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17068
240		CH	2	17096
242	REFLECTOR POSITION 30			14027
244	REFL POS 30 2ND LOOK			14027
246	SCENE DATA BP 30	CH	1	17065
248		CH	2	17090
250	REFLECTOR COLD CAL POS			0E
252	REFL COLD CAL 2ND LOOK			0E
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E
304	REFL WARM CAL 2ND LOOK			0E
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

MENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
2	SCAN MOTOR	18649	23.41
264	FEED HORN	18326	24.01
266	RF MUX	18866	25.10
268	MIXER/IF AMPLIFIER CHANNEL 1	19356	25.95
270	MIXER/IF AMPLIFIER CHANNEL 2	19585	26.09
272	LOCAL OSCILLATOR CHANNEL 1	19083	25.63
274	LOCAL OSCILLATOR CHANNEL 2	19695	26.32
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17981	23.17
280	DC/DC CONVERTER	20531	28.51
282	RF SHELF	19099	24.79
284	DETECTOR/PREAMP ASSEMBLY	19495	25.20
286	WARM LOAD CENTER	23198	23.84
288	WARM LOAD 2	23735	23.73
290	WARM LOAD 3	23341	23.76
292	WARM LOAD 4	23221	23.83
294	WARM LOAD 5	23209	23.82
296	WARM LOAD 6	23703	23.81
298	WARM LOAD 1	23562	23.79
300	TEMP SENSOR REFERENCE VOLTAGE	25090	

AP 3.3.65

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	NO
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	22.9
RF SHELF TEMPERATURE #1	24.2
WARM LOAD TEMPERATURE	23.3
RF SHELF TEMPERATURE #2	24.3

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22098	4.91
	+15 VDC	21895	15.03
	-15 VDC	21869	-15.08
ANTENNA DRIVE	+5 VDC	21076	5.17
	+15 VDC	21068	15.30
	-15 VDC	20901	-14.44
MIXER/IF AMPLIFIER	+10 VDC	21723	9.93
LO CHANNEL 1	+10 VDC	21319	10.04
LO CHANNEL 2	+10 VDC	21435	10.01
QUIET BUS CURRENT		14272	642.66
NOISY BUS CURRENT		3753	24.28

AP 3.3.6.5

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

N2 CONTROL FUNCTIONS

		NO.	VALUE	NO.	VALUE
FIXED TARGET N2 PRESSURE	PSI	401	11.00		
FIXED TARGET N2 FLOW	LB/HR	701	28.00		
VARIABLE TARGET N2 PRESSURE	PSI	402	12.00		
VARIABLE TARGET N2 FLOW	LB/HR	702	29.00		
BASEPLATE N2 PRESSURE	PSI	403	13.00		
BASEPLATE N2 FLOW	LB/HR	703	54.00		
FIXED TARGET BYPASS RELAY		104	CLOSED		
VARIABLE TARGET LN2 RELAY		105	CLOSED		
VARIABLE TARGET GN2 RELAY		108	CLOSED		
TARGET LN2 SUPPLY RELAY		102	CLOSED		
BASEPLATE GN2 SUPPLY RELAY		109	CLOSED		
HOT GN2 PURGE RELAY		103	CLOSED		
VARIABLE TARGET LN2 BYPASS RELAY		106	CLOSED		
BASEPLATE GN2 BYPASS RELAY		110	CLOSED		
ADJUNCT RADIATOR LN2 SUPPLY RELAY		114	CLOSED	116	CLOSED

TP 3.3.6.6

EOS A2-04 E2.EXE;18 GSE MODE 2 BP 1 8-APR-98 09:43:468 SCAN NUMBER 76
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[7] ENGINEERING ELEMENT 9 LOCAL OSCILLATOR-CH 1 +10 VDC 10.04

[8] DELTA T BLOCK MONITOR DATA SELECT

[9] CALIBRATION TEST EQUIPMENT ERROR MESSAGES [15]

[10] SCIENCE DATA

[11] INSTRUMENT STATUS

[12] UNPOWERED TEMPERATURES

[13] ENGINEERING DATA

[14] COMMANDS

ENGR OK POWER ON CHECKSUM IN B233 CALC B233 SA28 489 SA29 489
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 3

AP 3.3.6.6

ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001
2		00100001
3	PACKET LENGTH	00000001
4		01000101
5	UNIT SERIAL NUMBER	00000100
6		01000000
7	INSTRUMENT MODE/STATUS	10001000
8		00000000
10	REFLECTOR POSITION 1	8034
12	REFL POS 1 2ND LOOK	8034
14	SCENE DATA BP 1 CH 1	17075
16	CH 2	17104
18	REFLECTOR POSITION 2	8034
20	REFL POS 2 2ND LOOK	8034
22	SCENE DATA BP 2 CH 1	17079
24	CH 2	17100
26	REFLECTOR POSITION 3	8034
28	REFL POS 3 2ND LOOK	8034
30	SCENE DATA BP 3 CH 1	17074
32	CH 2	17105
34	REFLECTOR POSITION 4	8034
36	REFL POS 4 2ND LOOK	8034
38	SCENE DATA BP 4 CH 1	17080
40	CH 2	17109
42	REFLECTOR POSITION 5	8034
44	REFL POS 5 2ND LOOK	8034
46	SCENE DATA BP 5 CH 1	17080
48	CH 2	17102
50	REFLECTOR POSITION 6	8034
52	REFL POS 6 2ND LOOK	8034
54	SCENE DATA BP 6 CH 1	17079
56	CH 2	17101
58	REFLECTOR POSITION 7	8034
60	REFL POS 7 2ND LOOK	8034
62	SCENE DATA BP 7 CH 1	17083
64	CH 2	17102
66	REFLECTOR POSITION 8	8034
68	REFL POS 8 2ND LOOK	8034
70	SCENE DATA BP 8 CH 1	17084
72	CH 2	17110
74	REFLECTOR POSITION 9	8034
76	REFL POS 9 2ND LOOK	8034
78	SCENE DATA BP 9 CH 1	17081
80	CH 2	17108
82	REFLECTOR POSITION 10	8034
84	REFL POS 10 2ND LOOK	8034
86	SCENE DATA BP 10 CH 1	17079
88	CH 2	17101
90	REFLECTOR POSITION 11	8034
92	REFL POS 11 2ND LOOK	8034
138	REFLECTOR POSITION 17	8034
140	REFL POS 17 2ND LOOK	8034
142	SCENE DATA BP 17 CH 1	17086
144	CH 2	17105
146	REFLECTOR POSITION 18	8034
148	REFL POS 18 2ND LOOK	8034
150	SCENE DATA BP 18 CH 1	17081
152	CH 2	17100
154	REFLECTOR POSITION 19	8034
156	REFL POS 19 2ND LOOK	8034
158	SCENE DATA BP 19 CH 1	17082
160	CH 2	17104
162	REFLECTOR POSITION 20	8034
164	REFL POS 20 2ND LOOK	8034
166	SCENE DATA BP 20 CH 1	17082
168	CH 2	17101
170	REFLECTOR POSITION 21	8034
172	REFL POS 21 2ND LOOK	8034
174	SCENE DATA BP 21 CH 1	17080
176	CH 2	17106
178	REFLECTOR POSITION 22	8034
180	REFL POS 22 2ND LOOK	8034
182	SCENE DATA BP 22 CH 1	17079
184	CH 2	17106
186	REFLECTOR POSITION 23	8034
188	REFL POS 23 2ND LOOK	8034
190	SCENE DATA BP 23 CH 1	17084
192	CH 2	17102
194	REFLECTOR POSITION 24	8034
196	REFL POS 24 2ND LOOK	8034
198	SCENE DATA BP 24 CH 1	17078
200	CH 2	17103
202	REFLECTOR POSITION 25	8034
204	REFL POS 25 2ND LOOK	8034
206	SCENE DATA BP 25 CH 1	17081
208	CH 2	17098
210	REFLECTOR POSITION 26	8034
212	REFL POS 26 2ND LOOK	8034
214	SCENE DATA BP 26 CH 1	17081
216	CH 2	17105
218	REFLECTOR POSITION 27	8034
220	REFL POS 27 2ND LOOK	8034
222	SCENE DATA BP 27 CH 1	17085
224	CH 2	17105
226	REFLECTOR POSITION 28	8034
228	REFL POS 28 2ND LOOK	8034
230	SCENE DATA BP 28 CH 1	17082
232	CH 2	17111
234	REFLECTOR POSITION 29	8034
236	REFL POS 29 2ND LOOK	8034

AP 3.3.6.6

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17083
96		CH	2	17108
98	REFLECTOR POSITION 12			8034
100	REFL POS 12 2ND LOOK			8034
102	SCENE DATA BP 12	CH	1	17084
104		CH	2	17106
106	REFLECTOR POSITION 13			8034
108	REFL POS 13 2ND LOOK			8034
110	SCENE DATA BP 13	CH	1	17080
112		CH	2	17107
114	REFLECTOR POSITION 14			8034
116	REFL POS 14 2ND LOOK			8034
118	SCENE DATA BP 14	CH	1	17085
120		CH	2	17102
122	REFLECTOR POSITION 15			8034
124	REFL POS 15 2ND LOOK			8034
126	SCENE DATA BP 15	CH	1	17084
128		CH	2	17101
130	REFLECTOR POSITION 16			8034
132	REFL POS 16 2ND LOOK			8034
134	SCENE DATA BP 16	CH	1	17080
136		CH	2	17105

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17084
240		CH	2	17106
242	REFLECTOR POSITION 30			8034
244	REFL POS 30 2ND LOOK			8034
246	SCENE DATA BP 30	CH	1	17085
248		CH	2	17109
250	REFLECTOR COLD CAL POS			0E
252	REFL COLD CAL 2ND LOOK			0E
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E
304	REFL WARM CAL 2ND LOOK			0E
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
262	SCAN MOTOR	18652	23.42
264	FEED HORN	18324	24.01
266	RF MUX	18870	25.11
268	MIXER/IF AMPLIFIER CHANNEL 1	19362	25.96
270	MIXER/IF AMPLIFIER CHANNEL 2	19588	26.09
272	LOCAL OSCILLATOR CHANNEL 1	19089	25.65
274	LOCAL OSCILLATOR CHANNEL 2	19699	26.33
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17988	23.18
280	DC/DC CONVERTER	20542	28.53
282	RF SHELF	19106	24.80
284	DETECTOR/PREAMP ASSEMBLY	19501	25.21
286	WARM LOAD CENTER	23206	23.85
288	WARM LOAD 2	23745	23.75
290	WARM LOAD 3	23351	23.78
292	WARM LOAD 4	23228	23.84
294	WARM LOAD 5	23220	23.85
296	WARM LOAD 6	23708	23.82
298	WARM LOAD 1	23569	23.80
300	TEMP SENSOR REFERENCE VOLTAGE	25090	

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	NO
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	22.9
RF SHELF TEMPERATURE #1	24.2
WARM LOAD TEMPERATURE	23.3
RF SHELF TEMPERATURE #2	24.4

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22241	4.90
	+15 VDC	21894	15.03
	-15 VDC	21869	-15.08
ANTENNA DRIVE	+5 VDC	22058	5.00
	+15 VDC	22068	15.05
	-15 VDC	21886	-14.93
MIXER/IF AMPLIFIER	+10 VDC	21722	9.93
LO CHANNEL 1	+10 VDC	21321	10.04
LO CHANNEL 2	+10 VDC	21437	10.01
QUIET BUS CURRENT		13917	630.25
NOISY BUS CURRENT		97	7.75

TP 3.3.6.6

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

N2 CONTROL FUNCTIONS

	NO.	VALUE	NO.	VALUE
FIXED TARGET N2 PRESSURE PSI	401	11.00		
FIXED TARGET N2 FLOW LB/HR	701	28.00		
VARIABLE TARGET N2 PRESSURE PSI	402	12.00		
VARIABLE TARGET N2 FLOW LB/HR	702	29.00		
BASEPLATE N2 PRESSURE PSI	403	13.00		
BASEPLATE N2 FLOW LB/HR	703	54.00		
FIXED TARGET BYPASS RELAY	104	CLOSED		
VARIABLE TARGET LN2 RELAY	105	CLOSED		
VARIABLE TARGET GN2 RELAY	108	CLOSED		
TARGET LN2 SUPPLY RELAY	102	CLOSED		
BASEPLATE GN2 SUPPLY RELAY	109	CLOSED		
HOT GN2 PURGE RELAY	103	CLOSED		
VARIABLE TARGET LN2 BYPASS RELAY	106	CLOSED		
BASEPLATE GN2 BYPASS RELAY	110	CLOSED		
ADJUNCT RADIATOR LN2 SUPPLY RELAY	114	CLOSED	116	CLOSED

P 3.3.6.7

EOS A2-04 E2.EXE;18 GSE MODE 3 8 SEC 8-APR-98 09:49:468 SCAN NUMBER 121
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[7] ENGINEERING ELEMENT 9 LOCAL OSCILLATOR-CH 1 +10 VDC 10.04

[8] DELTA T BLOCK MONITOR DATA SELECT

[9] CALIBRATION TEST EQUIPMENT ERROR MESSAGES [15]

[10] SCIENCE DATA

[11] INSTRUMENT STATUS

[12] UNPOWERED TEMPERATURES

[13] ENGINEERING DATA

[14] COMMANDS

ENGR OK POWER ON CHECKSUM IN 9B2C CALC 9B2C SA28 533 SA29 533
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 3

AP 3.3.6.7

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	3635
2		00100001	140	REFL POS 17 2ND LOOK	3635
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17087
4		01000101	144	CH 2	17105
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	3635
6		01100000	148	REFL POS 18 2ND LOOK	3635
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17090
8		00000000	152	CH 2	17104
10	REFLECTOR POSITION 1	3635	154	REFLECTOR POSITION 19	3635
12	REFL POS 1 2ND LOOK	3635	156	REFL POS 19 2ND LOOK	3635
14	SCENE DATA BP 1 CH 1	17081	158	SCENE DATA BP 19 CH 1	17092
16	CH 2	17100	160	CH 2	17105
18	REFLECTOR POSITION 2	3635	162	REFLECTOR POSITION 20	3635
20	REFL POS 2 2ND LOOK	3635	164	REFL POS 20 2ND LOOK	3635
22	SCENE DATA BP 2 CH 1	17091	166	SCENE DATA BP 20 CH 1	17088
24	CH 2	17107	168	CH 2	17104
26	REFLECTOR POSITION 3	3635	170	REFLECTOR POSITION 21	3635
28	REFL POS 3 2ND LOOK	3635	172	REFL POS 21 2ND LOOK	3635
30	SCENE DATA BP 3 CH 1	17087	174	SCENE DATA BP 21 CH 1	17088
32	CH 2	17102	176	CH 2	17109
34	REFLECTOR POSITION 4	3635	178	REFLECTOR POSITION 22	3635
36	REFL POS 4 2ND LOOK	3635	180	REFL POS 22 2ND LOOK	3635
38	SCENE DATA BP 4 CH 1	17090	182	SCENE DATA BP 22 CH 1	17090
40	CH 2	17109	184	CH 2	17109
42	REFLECTOR POSITION 5	3635	186	REFLECTOR POSITION 23	3635
44	REFL POS 5 2ND LOOK	3635	188	REFL POS 23 2ND LOOK	3635
46	SCENE DATA BP 5 CH 1	17089	190	SCENE DATA BP 23 CH 1	17088
48	CH 2	17100	192	CH 2	17104
50	REFLECTOR POSITION 6	3635	194	REFLECTOR POSITION 24	3635
52	REFL POS 6 2ND LOOK	3635	196	REFL POS 24 2ND LOOK	3635
54	SCENE DATA BP 6 CH 1	17091	198	SCENE DATA BP 24 CH 1	17085
56	CH 2	17106	200	CH 2	17110
58	REFLECTOR POSITION 7	3635	202	REFLECTOR POSITION 25	3635
60	REFL POS 7 2ND LOOK	3635	204	REFL POS 25 2ND LOOK	3635
62	SCENE DATA BP 7 CH 1	17090	206	SCENE DATA BP 25 CH 1	17090
64	CH 2	17098	208	CH 2	17104
66	REFLECTOR POSITION 8	3635	210	REFLECTOR POSITION 26	3635
68	REFL POS 8 2ND LOOK	3635	212	REFL POS 26 2ND LOOK	3635
70	SCENE DATA BP 8 CH 1	17087	214	SCENE DATA BP 26 CH 1	17090
72	CH 2	17106	216	CH 2	17101
74	REFLECTOR POSITION 9	3635	218	REFLECTOR POSITION 27	3635
76	REFL POS 9 2ND LOOK	3635	220	REFL POS 27 2ND LOOK	3635
78	SCENE DATA BP 9 CH 1	17093	222	SCENE DATA BP 27 CH 1	17086
80	CH 2	17107	224	CH 2	17104
82	REFLECTOR POSITION 10	3635	226	REFLECTOR POSITION 28	3635
84	REFL POS 10 2ND LOOK	3635	228	REFL POS 28 2ND LOOK	3635
86	SCENE DATA BP 10 CH 1	17087	230	SCENE DATA BP 28 CH 1	17093
88	CH 2	17103	232	CH 2	17110
90	REFLECTOR POSITION 11	3635	234	REFLECTOR POSITION 29	3635
92	REFL POS 11 2ND LOOK	3635	236	REFL POS 29 2ND LOOK	3635

TP 3.3.6.7

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17089
96		CH	2	17105
98	REFLECTOR POSITION 12			3635
100	REFL POS 12 2ND LOOK			3635
102	SCENE DATA BP 12	CH	1	17086
104		CH	2	17106
106	REFLECTOR POSITION 13			3635
108	REFL POS 13 2ND LOOK			3635
110	SCENE DATA BP 13	CH	1	17090
112		CH	2	17113
114	REFLECTOR POSITION 14			3635
116	REFL POS 14 2ND LOOK			3635
118	SCENE DATA BP 14	CH	1	17086
120		CH	2	17109
122	REFLECTOR POSITION 15			3635
124	REFL POS 15 2ND LOOK			3635
126	SCENE DATA BP 15	CH	1	17095
128		CH	2	17117
130	REFLECTOR POSITION 16			3635
132	REFL POS 16 2ND LOOK			3635
134	SCENE DATA BP 16	CH	1	17086
136		CH	2	17102

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17094
240		CH	2	17107
242	REFLECTOR POSITION 30			3635
244	REFL POS 30 2ND LOOK			3635
246	SCENE DATA BP 30	CH	1	17090
248		CH	2	17105
250	REFLECTOR COLD CAL POS			0E
252	REFL COLD CAL 2ND LOOK			0E
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E
304	REFL WARM CAL 2ND LOOK			0E
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

ELEMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
2	SCAN MOTOR	18645	23.40
264	FEED HORN	18325	24.01
266	RF MUX	18874	25.12
268	MIXER/IF AMPLIFIER CHANNEL 1	19367	25.97
270	MIXER/IF AMPLIFIER CHANNEL 2	19592	26.10
272	LOCAL OSCILLATOR CHANNEL 1	19096	25.66
274	LOCAL OSCILLATOR CHANNEL 2	19709	26.35
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	17996	23.20
280	DC/DC CONVERTER	20555	28.56
282	RF SHELF	19113	24.82
284	DETECTOR/PREAMP ASSEMBLY	19509	25.22
286	WARM LOAD CENTER	23220	23.88
288	WARM LOAD 2	23757	23.78
290	WARM LOAD 3	23365	23.81
292	WARM LOAD 4	23243	23.87
294	WARM LOAD 5	23229	23.86
296	WARM LOAD 6	23723	23.85
298	WARM LOAD 1	23582	23.82
300	TEMP SENSOR REFERENCE VOLTAGE	25090	

AP 3.3.6.7

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	NO
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	22.9
RF SHELF TEMPERATURE #1	24.2
WARM LOAD TEMPERATURE	23.3
RF SHELF TEMPERATURE #2	24.4

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22264	4.90
	+15 VDC	21892	15.03
	-15 VDC	21866	-15.08
ANTENNA DRIVE	+5 VDC	22041	4.95
	+15 VDC	22014	14.98
	-15 VDC	21830	-15.07
MIXER/IF AMPLIFIER	+10 VDC	21723	9.93
LO CHANNEL 1	+10 VDC	21320	10.04
LO CHANNEL 2	+10 VDC	21434	10.01
QUIET BUS CURRENT		13908	626.86
NOISY BUS CURRENT		404	2.56

A 3.3.6.7

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00.	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

N2 CONTROL FUNCTIONS

		NO.	VALUE	NO.	VALUE
FIXED TARGET N2 PRESSURE	PSI	401	11.00		
FIXED TARGET N2 FLOW	LB/HR	701	28.00		
VARIABLE TARGET N2 PRESSURE	PSI	402	12.00		
VARIABLE TARGET N2 FLOW	LB/HR	702	29.00		
BASEPLATE N2 PRESSURE	PSI	403	13.00		
BASEPLATE N2 FLOW	LB/HR	703	54.00		
FIXED TARGET BYPASS RELAY		104	CLOSED		
VARIABLE TARGET LN2 RELAY		105	CLOSED		
VARIABLE TARGET GN2 RELAY		108	CLOSED		
TARGET LN2 SUPPLY RELAY		102	CLOSED		
BASEPLATE GN2 SUPPLY RELAY		109	CLOSED		
HOT GN2 PURGE RELAY		103	CLOSED		
VARIABLE TARGET LN2 BYPASS RELAY		106	CLOSED		
BASEPLATE GN2 BYPASS RELAY		110	CLOSED		
ADJUNCT RADIATOR LN2 SUPPLY RELAY		114	CLOSED	116	CLOSED

P 3.3.68

EOS A2-04 E2.EXE;18 GSE MODE 4 BP 30 8-APR-98 10:09:548 SCAN NUMBER 272
[5] SCIENCE DATA ELEMENT 0000

[6] CONTROL/STATUS ELEMENT 00

[ ] ENGINEERING ELEMENT 12 A2 NOISY POWER BUS CURRENT 2.48

COMMANDS

[9] SCANNER A2 POWER = ON	COLD CAL POSITION 1 =	YES	[14
[10] ANTENNA IN FULL SCAN MODE = NO	COLD CAL POSITION 2 =	NO	[15
[11] ANTENNA IN WARM CAL POSIT = NO	COLD CAL POSITION 3 =	NO	[16
[12] ANTENNA IN COLD CAL POSIT = NO	COLD CAL POSITION 4 =	NO	[17
[13] ANTENNA IN NADIR POSITION = NO	RESET C&DH PROCESSOR		[18
	GSE MODE		[19

ENGR OK POWER ON CHECKSUM IN 9B95 CALC 9B95 SA28 684 SA29 68
SCREEN ONLY [2] PRINT [3] FULL [1] RETURN

SELECT BUTTON 3

RP 3.3.6.8

ELEMENT	DESCRIPTION	VALUE	ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001	138	REFLECTOR POSITION 17	3635
2		00100001	140	REFL POS 17 2ND LOOK	3635
3	PACKET LENGTH	00000001	142	SCENE DATA BP 17 CH 1	17081
4		01000101	144	CH 2	17097
5	UNIT SERIAL NUMBER	00000100	146	REFLECTOR POSITION 18	3635
6		10000000	148	REFL POS 18 2ND LOOK	3635
7	INSTRUMENT MODE/STATUS	10001000	150	SCENE DATA BP 18 CH 1	17085
8		00000000	152	CH 2	17101
10	REFLECTOR POSITION 1	3635	154	REFLECTOR POSITION 19	3635
12	REFL POS 1 2ND LOOK	3635	156	REFL POS 19 2ND LOOK	3635
14	SCENE DATA BP 1 CH 1	17080	158	SCENE DATA BP 19 CH 1	17084
16	CH 2	17103	160	CH 2	17101
18	REFLECTOR POSITION 2	3635	162	REFLECTOR POSITION 20	3635
20	REFL POS 2 2ND LOOK	3635	164	REFL POS 20 2ND LOOK	3635
22	SCENE DATA BP 2 CH 1	17085	166	SCENE DATA BP 20 CH 1	17081
24	CH 2	17094	168	CH 2	17100
26	REFLECTOR POSITION 3	3635	170	REFLECTOR POSITION 21	3635
28	REFL POS 3 2ND LOOK	3635	172	REFL POS 21 2ND LOOK	3635
30	SCENE DATA BP 3 CH 1	17084	174	SCENE DATA BP 21 CH 1	17085
32	CH 2	17095	176	CH 2	17093
34	REFLECTOR POSITION 4	3635	178	REFLECTOR POSITION 22	3635
36	REFL POS 4 2ND LOOK	3635	180	REFL POS 22 2ND LOOK	3635
38	SCENE DATA BP 4 CH 1	17082	182	SCENE DATA BP 22 CH 1	17082
40	CH 2	17096	184	CH 2	17100
42	REFLECTOR POSITION 5	3635	186	REFLECTOR POSITION 23	3635
44	REFL POS 5 2ND LOOK	3635	188	REFL POS 23 2ND LOOK	3635
46	SCENE DATA BP 5 CH 1	17085	190	SCENE DATA BP 23 CH 1	17087
48	CH 2	17097	192	CH 2	17098
50	REFLECTOR POSITION 6	3635	194	REFLECTOR POSITION 24	3635
52	REFL POS 6 2ND LOOK	3635	196	REFL POS 24 2ND LOOK	3635
54	SCENE DATA BP 6 CH 1	17083	198	SCENE DATA BP 24 CH 1	17084
56	CH 2	17102	200	CH 2	17101
58	REFLECTOR POSITION 7	3635	202	REFLECTOR POSITION 25	3635
60	REFL POS 7 2ND LOOK	3635	204	REFL POS 25 2ND LOOK	3635
62	SCENE DATA BP 7 CH 1	17085	206	SCENE DATA BP 25 CH 1	17085
64	CH 2	17101	208	CH 2	17095
66	REFLECTOR POSITION 8	3635	210	REFLECTOR POSITION 26	3635
68	REFL POS 8 2ND LOOK	3635	212	REFL POS 26 2ND LOOK	3635
70	SCENE DATA BP 8 CH 1	17080	214	SCENE DATA BP 26 CH 1	17084
72	CH 2	17100	216	CH 2	17102
74	REFLECTOR POSITION 9	3635	218	REFLECTOR POSITION 27	3635
76	REFL POS 9 2ND LOOK	3635	220	REFL POS 27 2ND LOOK	3635
78	SCENE DATA BP 9 CH 1	17083	222	SCENE DATA BP 27 CH 1	17083
80	CH 2	17104	224	CH 2	17099
82	REFLECTOR POSITION 10	3635	226	REFLECTOR POSITION 28	3635
84	REFL POS 10 2ND LOOK	3635	228	REFL POS 28 2ND LOOK	3635
86	SCENE DATA BP 10 CH 1	17084	230	SCENE DATA BP 28 CH 1	17086
88	CH 2	17102	232	CH 2	17103
90	REFLECTOR POSITION 11	3635	234	REFLECTOR POSITION 29	3635
92	REFL POS 11 2ND LOOK	3635	236	REFL POS 29 2ND LOOK	3635

TP 3.3.6.8

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17084
96		CH	2	17104
98	REFLECTOR POSITION 12			3635
100	REFL POS 12 2ND LOOK			3635
102	SCENE DATA BP 12	CH	1	17083
104		CH	2	17104
106	REFLECTOR POSITION 13			3635
108	REFL POS 13 2ND LOOK			3635
110	SCENE DATA BP 13	CH	1	17080
112		CH	2	17098
114	REFLECTOR POSITION 14			3635
116	REFL POS 14 2ND LOOK			3635
118	SCENE DATA BP 14	CH	1	17085
120		CH	2	17098
122	REFLECTOR POSITION 15			3635
124	REFL POS 15 2ND LOOK			3635
126	SCENE DATA BP 15	CH	1	17084
128		CH	2	17099
130	REFLECTOR POSITION 16			3635
132	REFL POS 16 2ND LOOK			3635
134	SCENE DATA BP 16	CH	1	17077
136		CH	2	17101

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17084
240		CH	2	17098
242	REFLECTOR POSITION 30			3635
244	REFL POS 30 2ND LOOK			3635
246	SCENE DATA BP 30	CH	1	17084
248		CH	2	17098
250	REFLECTOR COLD CAL POS			0E
252	REFL COLD CAL 2ND LOOK			0E
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E
304	REFL WARM CAL 2ND LOOK			0E
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

EMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
2	SCAN MOTOR	18671	23.45
264	FEED HORN	18361	24.08
266	RF MUX	18899	25.17
268	MIXER/IF AMPLIFIER CHANNEL 1	19389	26.01
270	MIXER/IF AMPLIFIER CHANNEL 2	19616	26.14
272	LOCAL OSCILLATOR CHANNEL 1	19117	25.70
274	LOCAL OSCILLATOR CHANNEL 2	19730	26.39
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	18015	23.23
280	DC/DC CONVERTER	20580	28.61
282	RF SHELF	19132	24.85
284	DETECTOR/PREAMP ASSEMBLY	19530	25.26
286	WARM LOAD CENTER	23255	23.95
288	WARM LOAD 2	23795	23.85
290	WARM LOAD 3	23404	23.89
292	WARM LOAD 4	23280	23.94
294	WARM LOAD 5	23266	23.94
296	WARM LOAD 6	23762	23.93
298	WARM LOAD 1	23616	23.89
300	TEMP SENSOR REFERENCE VOLTAGE	25091	

P 3.3.6.8

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	NO
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	22.9
RF SHELF TEMPERATURE #1	24.2
WARM LOAD TEMPERATURE	23.3
RF SHELF TEMPERATURE #2	24.4

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22260	4.90
	+15 VDC	21892	15.03
	-15 VDC	21867	-15.08
ANTENNA DRIVE	+5 VDC	22100	4.94
	+15 VDC	22053	14.98
	-15 VDC	21866	-15.07
MIXER/IF AMPLIFIER	+10 VDC	21723	9.93
LO CHANNEL 1	+10 VDC	21320	10.04
LO CHANNEL 2	+10 VDC	21436	10.01
QUIET BUS CURRENT		13903	625.60
NOISY BUS CURRENT		75	1.45

AP 3.3.6.8

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
EPLATE HEATER N2	510	3.00	511	4.00
EPLATE N2	512	36.00	513	37.00
EPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

N2 CONTROL FUNCTIONS

		NO.	VALUE	NO.	VALUE
FIXED TARGET N2 PRESSURE	PSI	401	11.00		
FIXED TARGET N2 FLOW	LB/HR	701	28.00		
VARIABLE TARGET N2 PRESSURE	PSI	402	12.00		
VARIABLE TARGET N2 FLOW	LB/HR	702	29.00		
BASEPLATE N2 PRESSURE	PSI	403	13.00		
BASEPLATE N2 FLOW	LB/HR	703	54.00		
FIXED TARGET BYPASS RELAY		104	CLOSED		
VARIABLE TARGET LN2 RELAY		105	CLOSED		
VARIABLE TARGET GN2 RELAY		108	CLOSED		
TARGET LN2 SUPPLY RELAY		102	CLOSED		
BASEPLATE GN2 SUPPLY RELAY		109	CLOSED		
HOT GN2 PURGE RELAY		103	CLOSED		
VARIABLE TARGET LN2 BYPASS RELAY		106	CLOSED		
BASEPLATE GN2 BYPASS RELAY		110	CLOSED		
ADJUNCT RADIATOR LN2 SUPPLY RELAY		114	CLOSED	116	CLOSED

P 3.3.6.9

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A2-04  E2.EXE;18 GSE MODE 5 BP 6      8-APR-98  10:11:558 SCAN NUMBER   287
[ 5 ] SCIENCE DATA     ELEMENT 0000

[ 6 ] CONTROL/STATUS   ELEMENT   00

[ 7 ] ENGINEERING      ELEMENT   12      A2 NOISY POWER BUS CURRENT      2.48


                                        COMMANDS
[ 9 ]  SCANNER A2 POWER =            ON     COLD CAL POSITION 1 =        YES [ 14
[ 10 ] ANTENNA IN FULL SCAN MODE = NO       COLD CAL POSITION 2 =        NO  [ 15
[ 11 ] ANTENNA IN WARM CAL POSIT = NO       COLD CAL POSITION 3 =        NO  [ 16
[ 12 ] ANTENNA IN COLD CAL POSIT = NO       COLD CAL POSITION 4 =        NO  [ 17
[ 13 ] ANTENNA IN NADIR POSITION = NO       RESET C&DH PROCESSOR             [ 18
                                            GSE MODE                         [ 19

ENGR OK   POWER        ON    CHECKSUM  IN BDA6 CALC BDA6   SA28   699 SA29   69
                       SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL       [ 1 ] RETURN
 SELECT BUTTON 3
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TP 3_3,69

ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001
2		00100001
3	PACKET LENGTH	00000001
4		01000101
5	UNIT SERIAL NUMBER	00000100
6		10100000
7	INSTRUMENT MODE/STATUS	10001000
8		00000000
10	REFLECTOR POSITION 1	7274
12	REFL POS 1 2ND LOOK	7274
14	SCENE DATA BP 1 CH 1	17071
16	CH 2	17096
18	REFLECTOR POSITION 2	7274
20	REFL POS 2 2ND LOOK	7274
22	SCENE DATA BP 2 CH 1	17087
24	CH 2	17100
26	REFLECTOR POSITION 3	7274
28	REFL POS 3 2ND LOOK	7274
30	SCENE DATA BP 3 CH 1	17087
32	CH 2	17105
34	REFLECTOR POSITION 4	7274
36	REFL POS 4 2ND LOOK	7274
38	SCENE DATA BP 4 CH 1	17086
40	CH 2	17103
4	REFLECTOR POSITION 5	7274
4	REFL POS 5 2ND LOOK	7274
5	SCENE DATA BP 5 CH 1	17087
48	CH 2	17098
50	REFLECTOR POSITION 6	7274
52	REFL POS 6 2ND LOOK	7274
54	SCENE DATA BP 6 CH 1	17083
56	CH 2	17104
58	REFLECTOR POSITION 7	7274
60	REFL POS 7 2ND LOOK	7274
62	SCENE DATA BP 7 CH 1	17085
64	CH 2	17106
66	REFLECTOR POSITION 8	7274
68	REFL POS 8 2ND LOOK	7274
70	SCENE DATA BP 8 CH 1	17085
72	CH 2	17106
74	REFLECTOR POSITION 9	7274
76	REFL POS 9 2ND LOOK	7274
78	SCENE DATA BP 9 CH 1	17079
80	CH 2	17100
82	REFLECTOR POSITION 10	7274
84	REFL POS 10 2ND LOOK	7274
86	SCENE DATA BP 10 CH 1	17081
88	CH 2	17099
90	REFLECTOR POSITION 11	7274
9	REFL POS 11 2ND LOOK	7274
138	REFLECTOR POSITION 17	7274
140	REFL POS 17 2ND LOOK	7274
142	SCENE DATA BP 17 CH 1	17081
144	CH 2	17099
146	REFLECTOR POSITION 18	7274
148	REFL POS 18 2ND LOOK	7274
150	SCENE DATA BP 18 CH 1	17088
152	CH 2	17101
154	REFLECTOR POSITION 19	7274
156	REFL POS 19 2ND LOOK	7274
158	SCENE DATA BP 19 CH 1	17085
160	CH 2	17106
162	REFLECTOR POSITION 20	7274
164	REFL POS 20 2ND LOOK	7274
166	SCENE DATA BP 20 CH 1	17081
168	CH 2	17098
170	REFLECTOR POSITION 21	7274
172	REFL POS 21 2ND LOOK	7274
174	SCENE DATA BP 21 CH 1	17086
176	CH 2	17102
178	REFLECTOR POSITION 22	7274
180	REFL POS 22 2ND LOOK	7274
182	SCENE DATA BP 22 CH 1	17083
184	CH 2	17106
186	REFLECTOR POSITION 23	7274
188	REFL POS 23 2ND LOOK	7274
190	SCENE DATA BP 23 CH 1	17086
192	CH 2	17101
194	REFLECTOR POSITION 24	7274
196	REFL POS 24 2ND LOOK	7274
198	SCENE DATA BP 24 CH 1	17080
200	CH 2	17104
202	REFLECTOR POSITION 25	7274
204	REFL POS 25 2ND LOOK	7274
206	SCENE DATA BP 25 CH 1	17084
208	CH 2	17101
210	REFLECTOR POSITION 26	7274
212	REFL POS 26 2ND LOOK	7274
214	SCENE DATA BP 26 CH 1	17088
216	CH 2	17104
218	REFLECTOR POSITION 27	7274
220	REFL POS 27 2ND LOOK	7274
222	SCENE DATA BP 27 CH 1	17086
224	CH 2	17103
226	REFLECTOR POSITION 28	7274
228	REFL POS 28 2ND LOOK	7274
230	SCENE DATA BP 28 CH 1	17083
232	CH 2	17101
234	REFLECTOR POSITION 29	7274
236	REFL POS 29 2ND LOOK	7274

TP 3.3.69

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	NO
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	22.9
RF SHELF TEMPERATURE #1	24.2
WARM LOAD TEMPERATURE	23.3
RF SHELF TEMPERATURE #2	24.4

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	14549	6.07
	+15 VDC	14549	16.71
	-15 VDC	17085	-12.88
ANTENNA DRIVE	+5 VDC	17096	5.70
	+15 VDC	14549	16.70
	-15 VDC	14549	-11.72
MIXER/IF AMPLIFIER	+10 VDC	17101	10.80
LO CHANNEL 1	+10 VDC	14549	11.32
LO CHANNEL 2	+10 VDC	14549	11.31
QUIET BUS CURRENT		17085	720.99
NOISY BUS CURRENT		17094	73.11

TP 3,3,6,9

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
BASEPLATE HEATER N2	510	3.00	511	4.00
BASEPLATE N2	512	36.00	513	37.00
BASEPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

N2 CONTROL FUNCTIONS

	NO.	VALUE	NO.	VALUE
FIXED TARGET N2 PRESSURE PSI	401	11.00		
FIXED TARGET N2 FLOW LB/HR	701	28.00		
VARIABLE TARGET N2 PRESSURE PSI	402	12.00		
VARIABLE TARGET N2 FLOW LB/HR	702	29.00		
BASEPLATE N2 PRESSURE PSI	403	13.00		
BASEPLATE N2 FLOW LB/HR	703	54.00		
FIXED TARGET BYPASS RELAY	104	CLOSED		
VARIABLE TARGET LN2 RELAY	105	CLOSED		
VARIABLE TARGET GN2 RELAY	108	CLOSED		
TARGET LN2 SUPPLY RELAY	102	CLOSED		
BASEPLATE GN2 SUPPLY RELAY	109	CLOSED		
HOT GN2 PURGE RELAY	103	CLOSED		
VARIABLE TARGET LN2 BYPASS RELAY	106	CLOSED		
BASEPLATE GN2 BYPASS RELAY	110	CLOSED		
ADJUNCT RADIATOR LN2 SUPPLY RELAY	114	CLOSED	116	CLOSED

P 3.3.6.10

```
EOS  A2-04  E2.EXE;18 GSE MODE 7 PAUSE     8-APR-98  10:13:228 SCAN NUMBER    298
[ 5 ] SCIENCE DATA     ELEMENT 0000

[ 6 ] CONTROL/STATUS   ELEMENT   00

[ , ] ENGINEERING      ELEMENT   12       A2 NOISY POWER BUS CURRENT       2.48


                                                COMMANDS
[ 9 ]  SCANNER A2 POWER =              ON      COLD CAL POSITION 1 =          YES [ 14
[ 10 ] ANTENNA IN FULL SCAN MODE = NO          COLD CAL POSITION 2 =          NO  [ 15
[ 11 ] ANTENNA IN WARM CAL POSIT = NO          COLD CAL POSITION 3 =          NO  [ 16
[ 12 ] ANTENNA IN COLD CAL POSIT = NO          COLD CAL POSITION 4 =          NO  [ 17
[ 13 ] ANTENNA IN NADIR POSITION = NO          RESET C&DH PROCESSOR                [ 18
                                               GSE MODE                            [ 19

ENGR OK    POWER          ON     CHECKSUM  IN EE53 CALC EE53    SA28    710 SA29    71
                          SCREEN ONLY [ 2 ]  PRINT  [ 3 ] FULL          [ 1 ] RETURN
 SELECT BUTTON 3
```

PP 3.3.6.10

ELEMENT	DESCRIPTION	VALUE
1	PACKET ID	00001001
2		00100001
3	PACKET LENGTH	00000001
4		01000101
5	UNIT SERIAL NUMBER	00000100
6		11100000
7	INSTRUMENT MODE/STATUS	10001000
8		00000000
10	REFLECTOR POSITION 1	7274
12	REFL POS 1 2ND LOOK	7274
14	SCENE DATA BP 1 CH 1	17074
16	CH 2	17097
18	REFLECTOR POSITION 2	7274
20	REFL POS 2 2ND LOOK	7274
22	SCENE DATA BP 2 CH 1	17082
24	CH 2	17099
26	REFLECTOR POSITION 3	7274
28	REFL POS 3 2ND LOOK	7274
30	SCENE DATA BP 3 CH 1	17083
32	CH 2	17102
34	REFLECTOR POSITION 4	7274
36	REFL POS 4 2ND LOOK	7274
38	SCENE DATA BP 4 CH 1	17084
40	CH 2	17104
42	REFLECTOR POSITION 5	7274
44	REFL POS 5 2ND LOOK	7274
46	SCENE DATA BP 5 CH 1	17080
48	CH 2	17096
50	REFLECTOR POSITION 6	7274
52	REFL POS 6 2ND LOOK	7274
54	SCENE DATA BP 6 CH 1	17078
56	CH 2	17102
58	REFLECTOR POSITION 7	7274
60	REFL POS 7 2ND LOOK	7274
62	SCENE DATA BP 7 CH 1	17083
64	CH 2	17098
66	REFLECTOR POSITION 8	7274
68	REFL POS 8 2ND LOOK	7274
70	SCENE DATA BP 8 CH 1	17087
72	CH 2	17099
74	REFLECTOR POSITION 9	7274
76	REFL POS 9 2ND LOOK	7274
78	SCENE DATA BP 9 CH 1	17079
80	CH 2	17099
82	REFLECTOR POSITION 10	7274
84	REFL POS 10 2ND LOOK	7274
86	SCENE DATA BP 10 CH 1	17087
88	CH 2	17107
90	REFLECTOR POSITION 11	7274
92	REFL POS 11 2ND LOOK	7274
138	REFLECTOR POSITION 17	7274
140	REFL POS 17 2ND LOOK	7274
142	SCENE DATA BP 17 CH 1	17079
144	CH 2	17099
146	REFLECTOR POSITION 18	7274
148	REFL POS 18 2ND LOOK	7274
150	SCENE DATA BP 18 CH 1	17072
152	CH 2	17093
154	REFLECTOR POSITION 19	7274
156	REFL POS 19 2ND LOOK	7274
158	SCENE DATA BP 19 CH 1	17078
160	CH 2	17096
162	REFLECTOR POSITION 20	7274
164	REFL POS 20 2ND LOOK	7274
166	SCENE DATA BP 20 CH 1	17080
168	CH 2	17096
170	REFLECTOR POSITION 21	7274
172	REFL POS 21 2ND LOOK	7274
174	SCENE DATA BP 21 CH 1	17082
176	CH 2	17098
178	REFLECTOR POSITION 22	7274
180	REFL POS 22 2ND LOOK	7274
182	SCENE DATA BP 22 CH 1	17076
184	CH 2	17095
186	REFLECTOR POSITION 23	7274
188	REFL POS 23 2ND LOOK	7274
190	SCENE DATA BP 23 CH 1	17079
192	CH 2	17096
194	REFLECTOR POSITION 24	7274
196	REFL POS 24 2ND LOOK	7274
198	SCENE DATA BP 24 CH 1	17081
200	CH 2	17096
202	REFLECTOR POSITION 25	7274
204	REFL POS 25 2ND LOOK	7274
206	SCENE DATA BP 25 CH 1	17079
208	CH 2	17096
210	REFLECTOR POSITION 26	7274
212	REFL POS 26 2ND LOOK	7274
214	SCENE DATA BP 26 CH 1	17079
216	CH 2	17093
218	REFLECTOR POSITION 27	7274
220	REFL POS 27 2ND LOOK	7274
222	SCENE DATA BP 27 CH 1	17079
224	CH 2	17101
226	REFLECTOR POSITION 28	7274
228	REFL POS 28 2ND LOOK	7274
230	SCENE DATA BP 28 CH 1	17077
232	CH 2	17100
234	REFLECTOR POSITION 29	7274
236	REFL POS 29 2ND LOOK	7274

PP 3.3.6.10

ELEMENT	DESCRIPTION			VALUE
94	SCENE DATA BP 11	CH	1	17079
96		CH	2	17102
98	REFLECTOR POSITION 12			7274
100	REFL POS 12 2ND LOOK			7274
102	SCENE DATA BP 12	CH	1	17078
104		CH	2	17097
106	REFLECTOR POSITION 13			7274
108	REFL POS 13 2ND LOOK			7274
110	SCENE DATA BP 13	CH	1	17082
112		CH	2	17097
114	REFLECTOR POSITION 14			7274
116	REFL POS 14 2ND LOOK			7274
118	SCENE DATA BP 14	CH	1	17084
120		CH	2	17097
122	REFLECTOR POSITION 15			7274
124	REFL POS 15 2ND LOOK			7274
126	SCENE DATA BP 15	CH	1	17082
128		CH	2	17090
130	REFLECTOR POSITION 16			7274
132	REFL POS 16 2ND LOOK			7274
134	SCENE DATA BP 16	CH	1	17081
136		CH	2	17099

ELEMENT	DESCRIPTION			VALUE
238	SCENE DATA BP 29	CH	1	17081
240		CH	2	17097
242	REFLECTOR POSITION 30			7274
244	REFL POS 30 2ND LOOK			7274
246	SCENE DATA BP 30	CH	1	17078
248		CH	2	17101
250	REFLECTOR COLD CAL POS			0E
252	REFL COLD CAL 2ND LOOK			0E
254	COLD CAL DATA 1	CH	1	0
256		CH	2	0
258	COLD CAL DATA 2	CH	1	0
260		CH	2	0
302	REFLECTOR WARM CAL POS			0E
304	REFL WARM CAL 2ND LOOK			0E
306	WARM CAL DATA 1	CH	1	0
308		CH	2	0
310	WARM CAL DATA 2	CH	1	0
312		CH	2	0

EMENT	DESCRIPTION	VALUE	TEMPERATURE DEG C
2	SCAN MOTOR	18667	23.44
264	FEED HORN	18356	24.07
266	RF MUX	18898	25.16
268	MIXER/IF AMPLIFIER CHANNEL 1	19394	26.02
270	MIXER/IF AMPLIFIER CHANNEL 2	19616	26.14
272	LOCAL OSCILLATOR CHANNEL 1	19123	25.71
274	LOCAL OSCILLATOR CHANNEL 2	19735	26.40
276	I553 INTERFACE	0	44.72
278	SUB REFLECTOR	18021	23.24
280	DC/DC CONVERTER	20582	28.61
282	RF SHELF	19136	24.86
284	DETECTOR/PREAMP ASSEMBLY	19535	25.27
286	WARM LOAD CENTER	23267	23.97
288	WARM LOAD 2	23797	23.85
290	WARM LOAD 3	23408	23.89
292	WARM LOAD 4	23289	23.96
294	WARM LOAD 5	23272	23.95
296	WARM LOAD 6	23767	23.94
298	WARM LOAD 1	23628	23.92
300	TEMP SENSOR REFERENCE VOLTAGE	25091	

TP 3.3.6.10

DESCRIPTION	
ANTENNA IN FULL SCAN MODE	NO
ANTENNA IN WARM CAL MODE	NO
ANTENNA IN COLD CAL MODE	NO
ANTENNA IN NADIR MODE	NO
COLD CAL POSITION LSB	ZERO
COLD CAL POSITION MSB	ZERO
A2 SCANNER POWER	ON
ADC LATCHUP FLAG	ONE

ENGINEERING DATA

DESCRIPTION	DEG C
SCAN MOTOR TEMPERATURE	22.9
RF SHELF TEMPERATURE #1	24.2
WARM LOAD TEMPERATURE	23.3
RF SHELF TEMPERATURE #2	24.4

DESCRIPTION		VALUE	MA / VOLTS
SIGNAL PROCESSOR	+5 VDC	22261	5.31
	+15 VDC	21892	15.62
	-15 VDC	21868	-14.30
ANTENNA DRIVE	+5 VDC	22039	5.21
	+15 VDC	21996	15.59
	-15 VDC	21820	-13.88
MIXER/IF AMPLIFIER	+10 VDC	21722	10.24
LO CHANNEL 1	+10 VDC	21320	10.49
LO CHANNEL 2	+10 VDC	21433	10.47
QUIET BUS CURRENT		13972	661.61
NOISY BUS CURRENT		71	26.01

TP 3.3.6.10

PRT TEMPERATURES

	NO.	DEG K	NO.	DEG K
VARIABLE TARGET	601	14.00	607	20.00
	602	15.00	608	21.00
	603	16.00	609	22.00
	604	17.00	610	23.00
	605	18.00	611	24.00
	606	19.00		
FIXED TARGET	612	39.00	618	45.00
	613	40.00	619	46.00
	614	41.00	620	47.00
	615	42.00	621	48.00
	616	43.00	622	49.00
	617	44.00		
BASEPLATE	623	25.00	625	50.00
	624	26.00	626	27.00

THERMOCOUPLE TEMPERATURES

	NO.	DEG K	NO.	DEG K
FIXED TARGET SHROUD	532	32.00	533	33.00
VARIABLE TARGET SHROUD	515	7.00	516	8.00
FIXED TARGET N2	502	30.00	503	31.00
VARIABLE TARGET N2	507	5.00	508	6.00
HEATER N2	505	1.00	506	2.00
FIXED TARGET FLOW METER	504	34.00		
VARIABLE TARGET FLOW METER	509	9.00		
SEPLATE HEATER N2	510	3.00	511	4.00
EPLATE N2	512	36.00	513	37.00
EPLATE FLOW METER	514	35.00		
ADJUNCT RADIATORS	549	38.00	554	55.00
	542	10.00	556	57.00

N2 CONTROL FUNCTIONS

	NO.	VALUE	NO.	VALUE
FIXED TARGET N2 PRESSURE PSI	401	11.00		
FIXED TARGET N2 FLOW LB/HR	701	28.00		
VARIABLE TARGET N2 PRESSURE PSI	402	12.00		
VARIABLE TARGET N2 FLOW LB/HR	702	29.00		
BASEPLATE N2 PRESSURE PSI	403	13.00		
BASEPLATE N2 FLOW LB/HR	703	54.00		
FIXED TARGET BYPASS RELAY	104	CLOSED		
VARIABLE TARGET LN2 RELAY	105	CLOSED		
VARIABLE TARGET GN2 RELAY	108	CLOSED		
TARGET LN2 SUPPLY RELAY	102	CLOSED		
BASEPLATE GN2 SUPPLY RELAY	109	CLOSED		
HOT GN2 PURGE RELAY	103	CLOSED		
VARIABLE TARGET LN2 BYPASS RELAY	106	CLOSED		
BASEPLATE GN2 BYPASS RELAY	110	CLOSED		
ADJUNCT RADIATOR LN2 SUPPLY RELAY	114	CLOSED	116	CLOSED

TEST DATA SHEET NO. 18

Radiometer Functional Performance Test (Relative NEΔT Measurements*) (Paragraph 3.3.7.1)

RELATIVE NEΔT MEASUREMENTS			
Channel Number	Average NEΔT for 5 Data Sets (K)	Required** NEΔT (K)	Pass/Fail
1	0.206	0.30	PASS
2	0.205	0.30	PASS

P = Pass F = Fail

* Baseline data for acceptance tests. Use 1st CPT data along with specification value for pass/fail criteria

** For reference only

EOS/AMSU-A2 System P/N 1356006 Shop Order: 323737 S/N: 202

Circle Test: (1st CPT) Final CPT Sub CPT _____ LPT _____

R. M. Neil 4-8-98

Test Systems Engineer Date

4/10/98

Customer Representative Date

7A 197 APR 8 98

Quality Control Date

AP 3.3.7.1

A2 FUNCTIONAL TEST RESULTS
OB.A2]E2. 8-APR-98 19:54:18

CH	WARM TEMP	WARM COUNTS	COLD COUNTS	GAIN	DELTA T
1	295.77	16997.0	13865.0	0.069	0.217
2	295.77	17021.0	13755.0	0.066	0.200

[2] PRINT SCREEN [3] PRINT RAW DATA [4] PRINT HISTOGRAM

[5] PRINT DISTRIBUTION GRAPH RETURN [1]

SELECT BUTTON 2

TP 3.3.7.1

A2 FUNCTIONAL TEST RESULTS

OB.A2]E2. 8-APR-98 19:51:22

CH	WARM TEMP	WARM COUNTS	COLD COUNTS	GAIN	DELTA T
1	296.76	17017.0	13880.0	0.069	0.202
2	296.76	17037.0	13761.0	0.066	0.212

[2] PRINT SCREEN [3] PRINT RAW DATA [4] PRINT HISTOGRAM

[5] PRINT DISTRIBUTION GRAPH RETURN [1]

SELECT BUTTON 2

TP 3.3.7.1

A2 FUNCTIONAL TEST RESULTS
OB.A2]E2. 8-APR-98 20:18:14

CH	WARM TEMP	WARM COUNTS	COLD COUNTS	GAIN	DELTA T
1	294.55	16988.0	13950.0	0.071	0.188
2	294.55	17004.0	13833.0	0.068	0.211

[2] PRINT SCREEN [3] PRINT RAW DATA [4] PRINT HISTOGRAM

[5] PRINT DISTRIBUTION GRAPH RETURN [1]

SELECT BUTTON 2

TP 3.3.7.1

A2 FUNCTIONAL TEST RESULTS
OB.A2]E2. 8-APR-98 20:22:46

CH	WARM TEMP	WARM COUNTS	COLD COUNTS	GAIN	DELTA T
1	294.59	16989.0	13953.0	0.071	0.229
2	294.59	17007.0	13842.0	0.068	0.198

[2] PRINT SCREEN [3] PRINT RAW DATA [4] PRINT HISTOGRAM

[5] PRINT DISTRIBUTION GRAPH RETURN [1]

SELECT BUTTON 2

TP 3.3.7.1

A2 FUNCTIONAL TEST RESULTS

OB.A2]E2. 8-APR-98 20:28:06

CH	WARM TEMP	WARM COUNTS	COLD COUNTS	GAIN	DELTA T
1	294.63	16995.0	13955.0	0.071	0.195
2	294.63	17007.0	13836.0	0.068	0.208

[2] PRINT SCREEN [3] PRINT RAW DATA [4] PRINT HISTOGRAM

[5] PRINT DISTRIBUTION GRAPH RETURN [1]

SELECT BUTTON 2

NASA
National Aeronautics and Space Administration

Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
---	---	---

4. Title and Subtitle	5. Report Date
Integrated Advanced Microwave Sounding Unit-A (AMSU-A), Performance Verification Report	November1998
	6. Performing Organization Code: ---
7. Author(s): R. Platt	8. Performing Organization Report No.: 11334
	10. Work Unit No.: ---
9. Performing Organization Name and Address: Aerojet, 1100 W. Hollyvale, Azusa, CA 91702	11. Contract or Grant No.: NAS 5-32314
	13. Type of Report and Period Covered: Final
12. Sponsoring Agency Name and Address: NASA, Goddard Space Flight Center, Greenbelt, Maryland 20771	14. Sponsoring Agency Code: ---

15. Supplementary Notes: ---

16. ABSTRACT (*Maximum 200 words*)

This is the Performance Verification Report, Initial Comprehensive Performance Test Report, P/N 1356006-1-IT, S/N 202, for the Integrated Advanced Microwave Sounding Unit-A (AMSU-A).

17. Key Words (Suggested by Author(s))	18. Distribution Statement
EOS Microwave System	Unclassified --- Unlimited

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of pages	22. Price
Unclassified	Unclassified		---

NASA FORM 1626 OCT 86

PREPARATION OF THE REPORT DOCUMENTATION PAGE

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Block 11. Contract or Grant No. Provide when applicable.

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Block 16. Abstract. The abstract should be informative rather than descriptive and should state the objectives of the investigation, the methods employed (e.g., simulation, experiment, or remote sensing), the results obtained, and the conclusions reached.

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1. AGENCY USE ONLY (*Leave blank*)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED

4. TITLE AND SUBTITLE
Integrated Advanced Microwave Sounding Unit-A (AMSU-A), Performance Verification Report

5. FUNDING NUMBERS
NAS 5-32314

6. AUTHOR(S)
R. Platt

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
Aerojet
1100 W. Hollyvale
Azusa, CA 91702

8. PERFORMING ORGANIZATION REPORT NUMBER
11334
November 1998

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
NASA
Goddard Space Flight Center
Greenbelt, Maryland 20771

10. SPONSORING/MONITORING AGENCY REPORT NUMBER
---

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT

12b. DISTRIBUTION CODE
---

13. ABSTRACT (*Maximum 200 words*)

This is the Performance Verification Report, Initial Comprehensive Performance Test Report, for the Integrated Advanced Microwave Sounding Unit-A (AMSU-A).

14. SUBJECT TERMS
EOS
Microwave System

15. NUMBER OF PAGES

16. PRICE CODE
---

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	SAR

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescried by ANSI Std 239-18
298-102

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G	-	Grant	TA	-	Task
PE	-	Program Element	WU	-	Work Unit Accession No.

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Standard Form 298 Back (Rev. 2-89)

DOCUMENT APPROVAL SHEET

GENCORP
AEROJET

TITLE	DOCUMENT NO.
Performance Verification Report Initial Comprehensive Performance Test Report	Report 11334 November 1998

INPUT FROM: R. Platt	DATE	CDRL: 208	SPECIFICATION ENGINEER: N/A	DATE
CHECKED BY: N/A	DATE		JOB NUMBER: N/A	DATE

APPROVED SIGNATURES	DEPT. NO.	DATE
Product Team Leader (P. Patel) P. R. Patel	8341	11/17/98
Systems Engineer (R. Platt) Robert A Platt	8341	11/17/98
Design Assurance (E. Lorenz)	8331	11/18/98
Quality Assurance (R. Taylor) R M Taylor	7831	11/18/98
Technical Director/PMO (R. Hauerwaas) R V Hauerwaas	4001	11/18/98
Released: Configuration Management (J. Cavanaugh) J Cavanaugh	8361	11/19/98

By my signature, I certify the above document has been reviewed by me and concurs with the technical requirements related to my area of responsibility.

(Data Center) FINAL

Please return this sheet and the reproducible master to Jim Kirk (Bldg. 1/Dept. 8631), ext. 2081.