TECHNICAL BULLETIN

CALIBRATION PROCEDURES FOR RADAR TEST SET GROUP OQ-270/APS-94F (NSN 6625-01-069-7058)

HEADQUARTERS, DEPARTMENT OF THE ARMY

31 MAY 1983

5 SAFETY STEPS TO FOLLOW IF SOMEONE IS THE VICTIM OF ELECTRICAL SHOCK

1. DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL
2. IF POSSIBLE, TURN OFF THE ELECTRICAL POWER
3. IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH OR LIFT THE PERSON TO SAFETY USING A DRY WOODEN POLE OR A DRY ROPE OR SOME OTHER INSULATING MATERIAL
4. SEND FOR HELP AS SOON AS POSSIBLE
5. AFTER THE INJURED PERSON IS FREE OF CONTACT WITH THE SOURCE OF ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START ARTIFICIAL RESUSCITATION

WARNING

Dangerous voltages exist in this equipment. Be careful when 115 Vac is applied to the equipment. Serious injury or DEATH may result from contact with terminals carrying this voltage. Make sure all power is off when disassembling the equipment. DO NOT service or adjust the equipment alone. Always have another person available to give first aid in case of an accident.

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NO. 11-6625-2974-30

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 31 May 1983

CALIBRATION PROCEDURES FOR RADAR TEST SET GROUP OQ-270/APS-94F (NSN 6625-01-069-7058)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703. In either case, a reply will be furnished direct to you.

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LIST OF ILLUSTRATIONS

Section I. IDENTIFICATION AND DESCRIPTION

1-1. Test Instrument (TI) Identification

a. This technical bulletin provides calibration procedures for Radar Test Set Group OQ-270/ APS-94F. The OQ-270/APS-94F (fig. 1-1) is used for bench testing, alinement, calibration, and troubleshooting the following equipment:

(1) Radar Receiver/Transmitter RT-1283/ APS-94F.
(2) Power Supply-Mount PP-7508/APS-94F.
(3) Interconnecting Box J-2794A/APS-94F.
(4) Antenna AS-3322/APS-94F.

b. The OQ-270/APS-94F contains one component which requires calibration: Radar Test Set TS-3770/APS-94F (test set). The test set is used in testing and troubleshooting Radar Receiver/Transmitter RT-1283/APS-94F and Power Supply-Mount PP-7508/APS-94F.

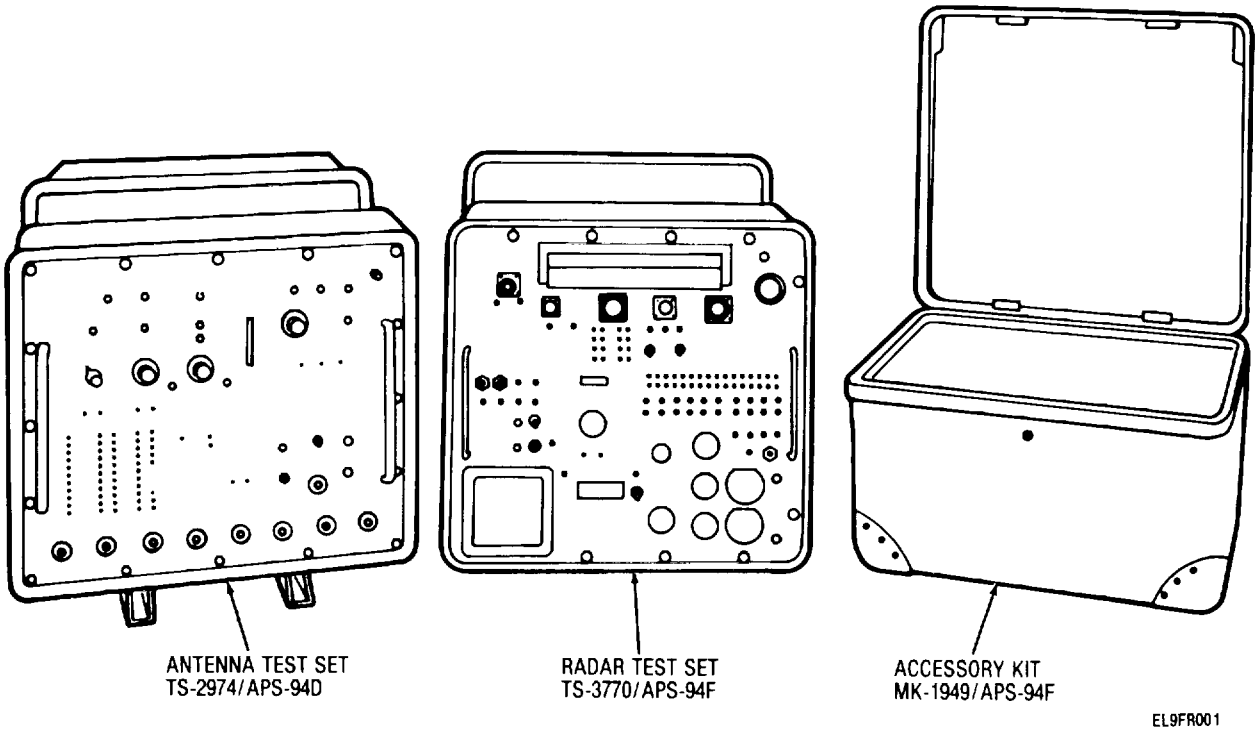

Figure 1-1. Radar Test Set Group OQ-270/APS-94F.

1-2. Calibration Description. Table 1-1 lists the parameters to be calibrated and the performance specifications for each parameter.

Table 1-1. Calibration Description

Test Instrument Parameters	Performance Specifications
Regulator Filter A6AI	
Dc output levels	+ 15.0 ± 0.3 V + 10.0 ± 0.3 V -15.0 + 0.3V
+ 5.2 Volt Regulator A3A4	
Dc output level	+5.20 ± 0.05 V
Detector/Amplifier A3A2	
Gain adjustment	0.0 + 0.1 Vdc
DVM Logic Module A5AI	
ANT DETECTION Signal	Calibrate at 0.0 ± 0.1 Vdc
Front panel METER display	Calibrate at O V and + 5 V
BITE Module A5A3	
SYNTH LOCK signal threshold	0.4 ± 0.1 Vdc above SYNTH output
ECCM Module A5A4	
MT video threshold	-1.2 ± 0.1 V
ECCM pulse width	500 ± 5OnS, 1100 ± 50 nS
Power Supply A1A1	
Dc output levels	+ 10.0 ± 0.4 V + 15.0 ± 0.6 V (3 outputs) -15.0 ± 0.6 V (2 outputs) +5.0 ± 0.2 V (2 outputs)

1-3. Reports of Maintenance Forms, Records, and Reports

a. Reports of Maintenance and Unsatisfactory Equipment. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management System (TAMMS).

b. Report of Packaging and Handling Deficiencies. Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.NAVMATINST 4355. /AFR 400-54/MCO 4430.3E.

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/ NAVSUPINST 4610./AFR 75-18/MCO P4610.19C /DLAR 4500.

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Section II. EQUIPMENT REQUIREMENTS

2-1. General. Minimum use specifications (table 2-1) are the principal parameters required for performance of the calibration, and are included to assist in the selection of alternate equipment, which may be used at the discretion of the calibrating activity. Satisfactory performance of alternate items shall be verified prior to use. All applicable equipment must bear evidence of current calibration.

Table 2-1. Minimum Specifications of Equipment Required

Item	Minimum Use Specifications	Calibration Equipment'
Digital voltmeter (DVM)	+30.00 + 0.05 V, and - 15.0 + 0.3 V	AN/GSM-64B
Oscilloscope	500 + 50 nanosecond pulse width	AN/USM-281C
Signal generator	2 V, 375 Hz sinewave with dc offset, and 2 V, 1 microsecond pulse with 1 millisecond period	Hewlett-Packard 3310
Extender card	---	P/O Accessory Kit MK-1949/APS-94F
Cable W7	---	P/O Accessory Kit MK-1949/APS-94F
Cable W12	---	P/O Accessory Kit MK-1949/APS-94F

'The calibration equipment utilized in this procedure was selected from those known to be available at Department of Defense facilities, and the listing by make or model number carries no implication of preference, recommendation, or approval by the Department of Defense for use by other agencies. It is recognized that equivalent equipment produced by other manufactures may be capable of equally satisfactory performance in the procedure.

Section III. PRELIMINARY OPERATIONS

3-1. Familiarization. Become familiar with the entire procedure before performing calibration of the TS-3770/APS-94F.

3-2. Test Fixtures. No test fixtures are needed to perform the calibration procedures.

3-3. Preliminary Procedures.

WARNING

Dangerous voltages exist in this equipment. Be careful when 115 Vac is applied to the equipment. Serious injury or DEATH may result from contact with terminals carrying this voltage. Make sure all power is off when disassembling the equipment. DO NOT service or adjust the equipment alone. Always have another person available to give first aid in case of an accident.

a. Unlatch four fasteners (fig. 3-1), and remove cover from test set.
b. Remove 16 floating screws holding front panel to case.
c. Grasp handles and lift front panel from case. Set front panel on bench.
d. Remove five screws securing card cage cover (fig. 3-2) and remove cover.
e. Connect cable W7 (P/O accessory kit) to J1 of STE PRIME POWER group. Connect W7 to + 28 V and 115 V, 400 Hz bench power.

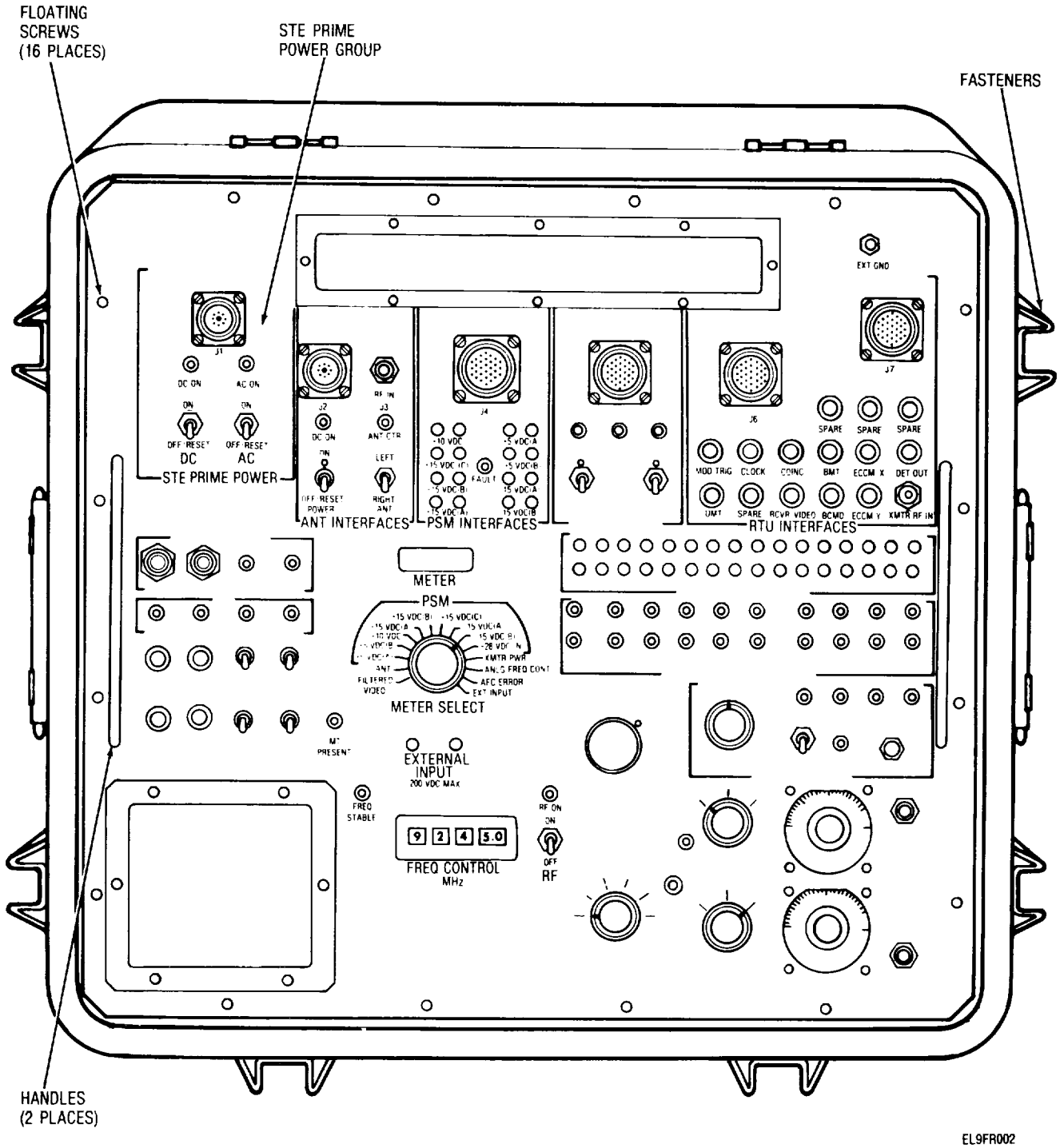


Figure 3-1. Front Panel Removal.

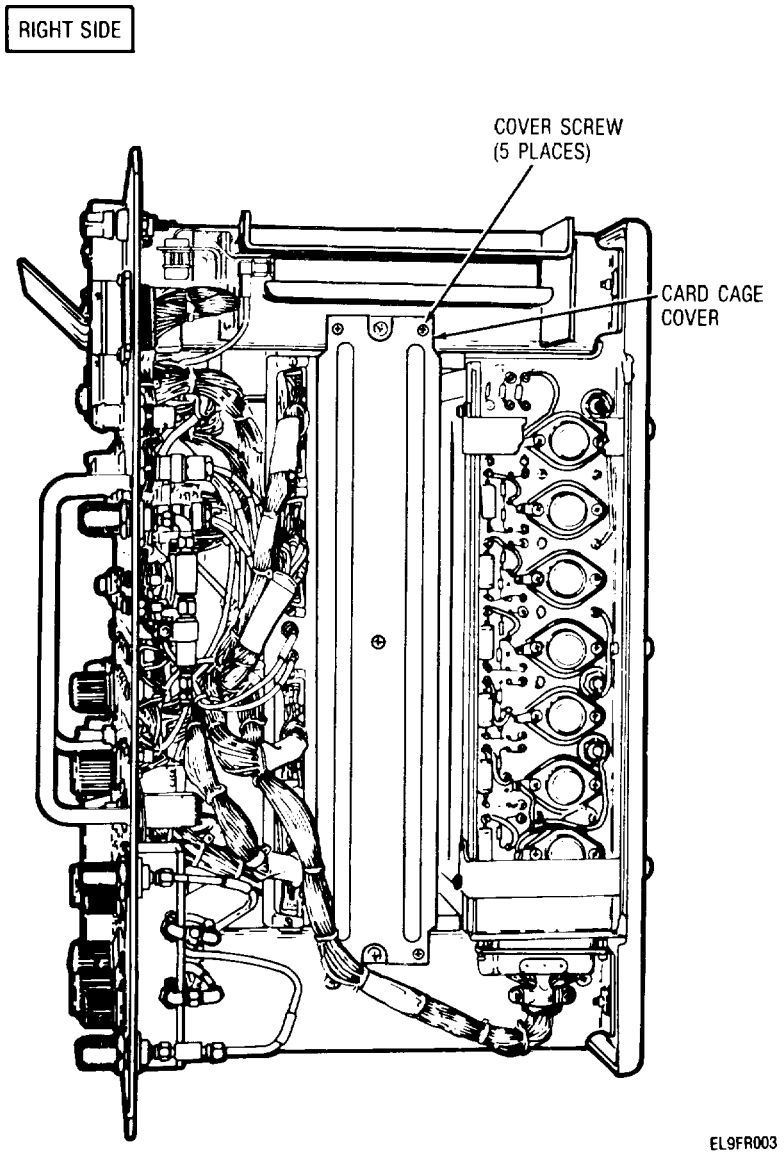


Figure 3-2. Card Cage Cover Removal.

Section IV. CALIBRATION PROCESS

NOTE

Each calibration procedure in this section is divided into two parts: a performance check, and an adjustment. If the parameter being measured is within tolerance during the performance check, do not perform the adjustment. Instead, go on to the next performance check.

4-1. Regulator Assembly A6 Calibration

a. + 15 V Performance Check.

(1) Set STE PRIME POWER AC and DC switches (fig.4-1) to OFF.

(2) Lay test set back on its base plate and locate regulator assembly A6 (fig. 4-2).

(3) Remove four screws securing regulator assembly A6 to base plate. Lift regulator assembly A6 off base plate.

(4) Remove four screws securing regulator filter A6A1 to regulator assembly A6. Pull regulator filter A6A1 out just far enough to reach test points on circuit card (fig.4-3).

(5) Connect DVM to regulator filter A6A1-E8 (+) (fig. 4-3) and chassis ground (-).

(6) Set STE PRIME POWER AC and DC switches to ON.

(7) Observe DVM. Reading should be + 15.0 ± 0.V. If the performance standard is met, go to subparagraph c (below) for the next performance check. If not, go to subparagraph b (below) for adjustment.

b. +15 V Adjustment. Adjust A6A1-R3 to obtain a reading of + 15.± 0.3 V on DVM.

c. +10 V Performance Check.

(1) Connect DVM to A6Al-Ell (+) and chassis ground (-).

(2) Observe DVM. Reading should be + 10.0 ± 0.V. If the performance standard is met, go to subparagraph e (below) for the next performance check. If not, go to subparagraph d (below) for adjustment.

d. + 10 V Adjustment. Adjust A6A1-R6 to obtain a reading of + 10.0 + 0.3 V on DVM.

e. -15 V Performance Check.

(1) Connect DVM to A6Al-E14 (+) and chassis ground(-)

(2) Observe DVM. Reading should be - 15.0 + 0.V. If the performance standard is met, perform step (3). not, go to subparagraph f (below) for adjustment.

(3) Set STE PRIME POWER AC and DC switches to OFF.

(4) Reinstall regulator filter A6A1 on regulator assembly A6. Install four screws to secure it.

(5) Reinstall regulator assembly A6 on chassis base plate. Install four screws to secure it.

f. -15 V Adjustment.

(1) Adjust A6Al-R9 to obtain a reading of -15. ± 0.3 V on DVM.

(2) Set STE PRIME POWER AC and DC switches to OFF.

(3) Reinstall regulator filter A6A1 on regulator assembly A6. Install four screws to secure it.

(4) Reinstall regulator assembly A6 on chassis base plate. Install four screws to secure it.

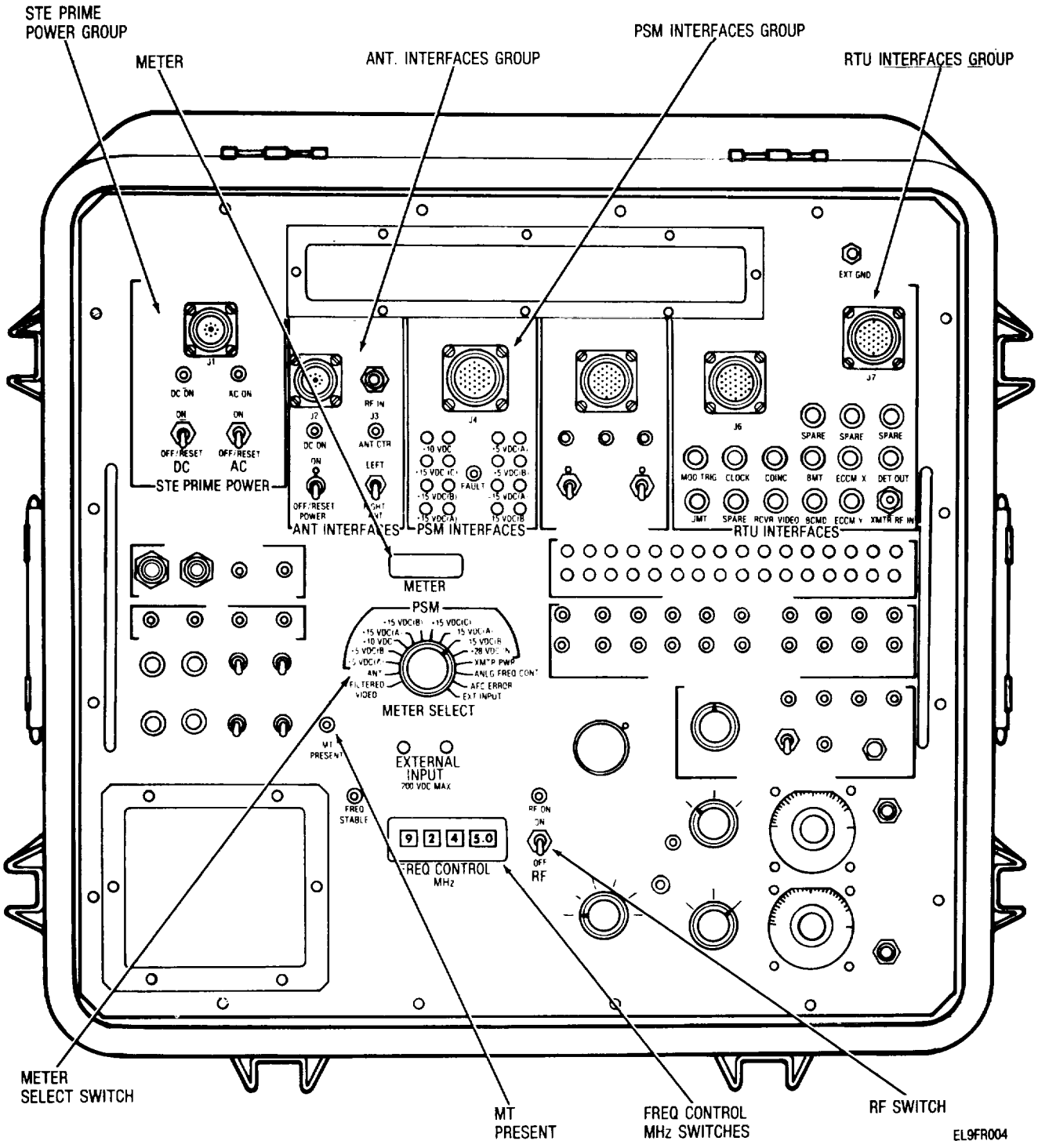


Figure 4-1. Front Panel Controls.

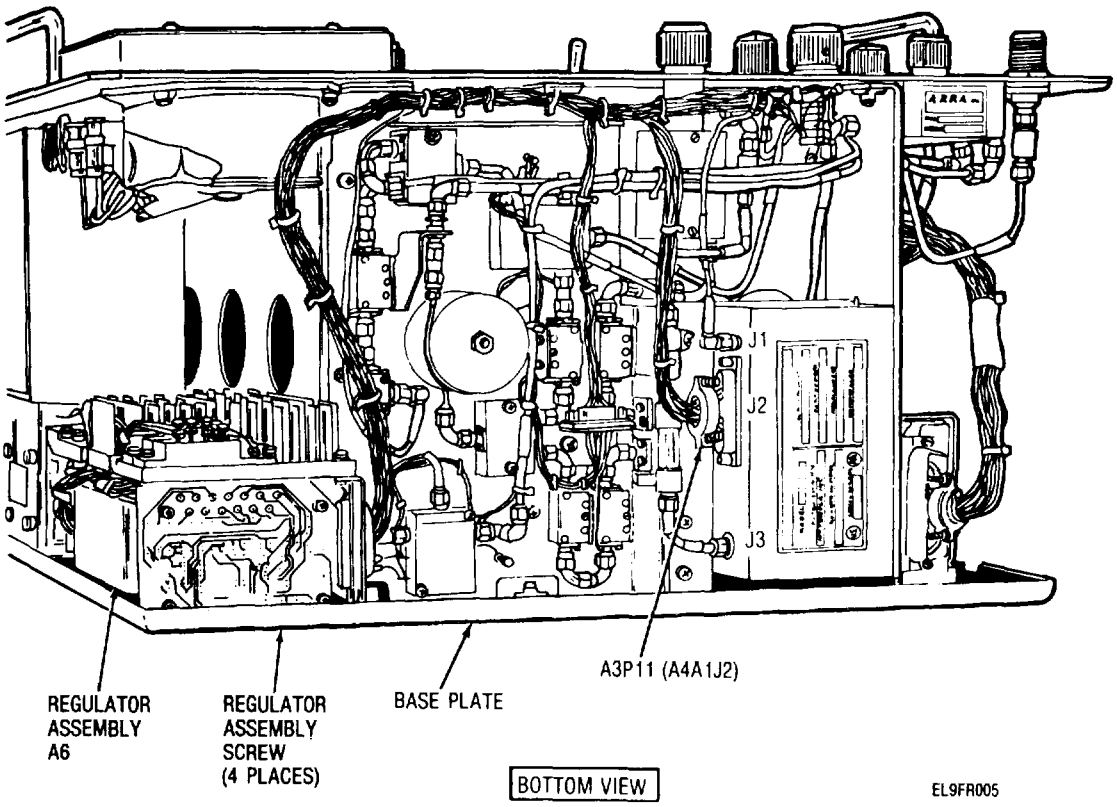


Figure 4-2. Test Set Bottom View.

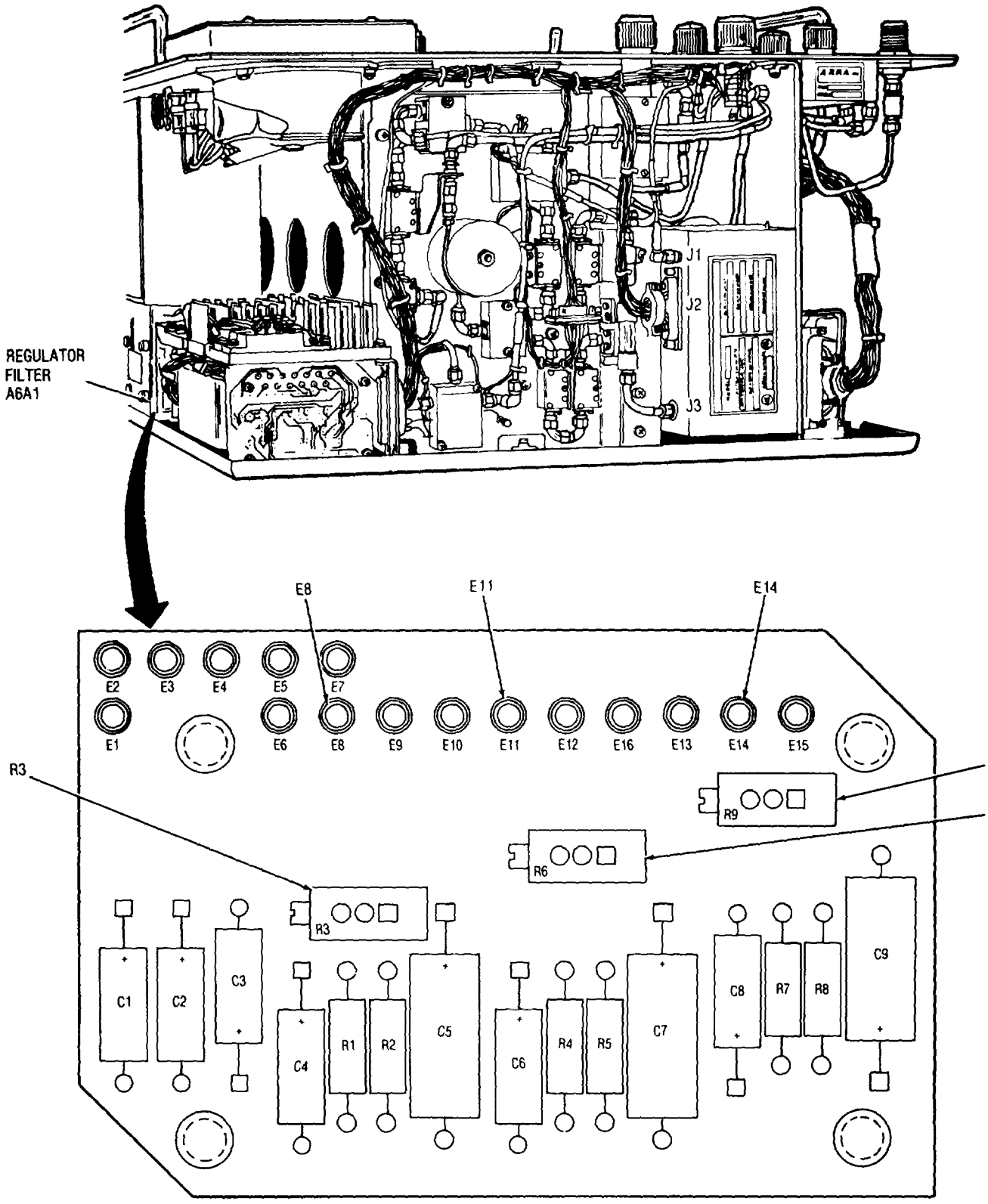


Figure 4-3. Regulator Filter A6A1 Parts Locations.

4-2. +5.2 V Regulator Assembly A3A4 Calibration

a. +5.2 V Performance Check.

(1) Disconnect A3-Pll from A4A1-J2 (fig.4-2).Connect three, 15-ohm, 2-watt, 5-percent resistors in parallel between pin 10 and pin 13 of A3-Pl. Connect DVM to pin 10 (+) and pin 13 (- of A3-Pll.

(2) Set STE PRIME POWER AC and DC switches to ON.

(3) Observe DVM. Reading should be +5.20 ± 0. V. If the performance standard is met, perform step (4).If not, go to subparagraph b (below) for adjustment.

(4) Set STE PRIME POWER AC and DC switches to OFF.

(5) Disconnect DVM and resistors from A3P11.Connect A3-Pll to A4A1-J2.

b. +5.2 V Adjustment.

(1) Set STE PRIME POWER AC and DC switches to OFF.

(2) Remove card cage (refer to TM 11-6625-2974-13) to gain access to +5. V regulator assembly A3A4.

(3) Set STE PRIME POWER AC and DC switches to ON.

(4) Adjust A3A4-R3 (fig. 4-4) to obtain a reading of + 5.+ 0.05 on DVM.

NOTE

The +5. V regulator A3A4 is on the back of front panel assembly A3. To adjust A3A4- R3, reach in through the opening shown in figure 4-4.

(5) Set STE PRIME POWER AC and DC switches to OFF.

(6) Reinstall card cage (refer to TM 11-6625-2974-13).

(7) Disconnect DVM and resistors from A3-P11.Connect A3-Pll to A4A1-J2.

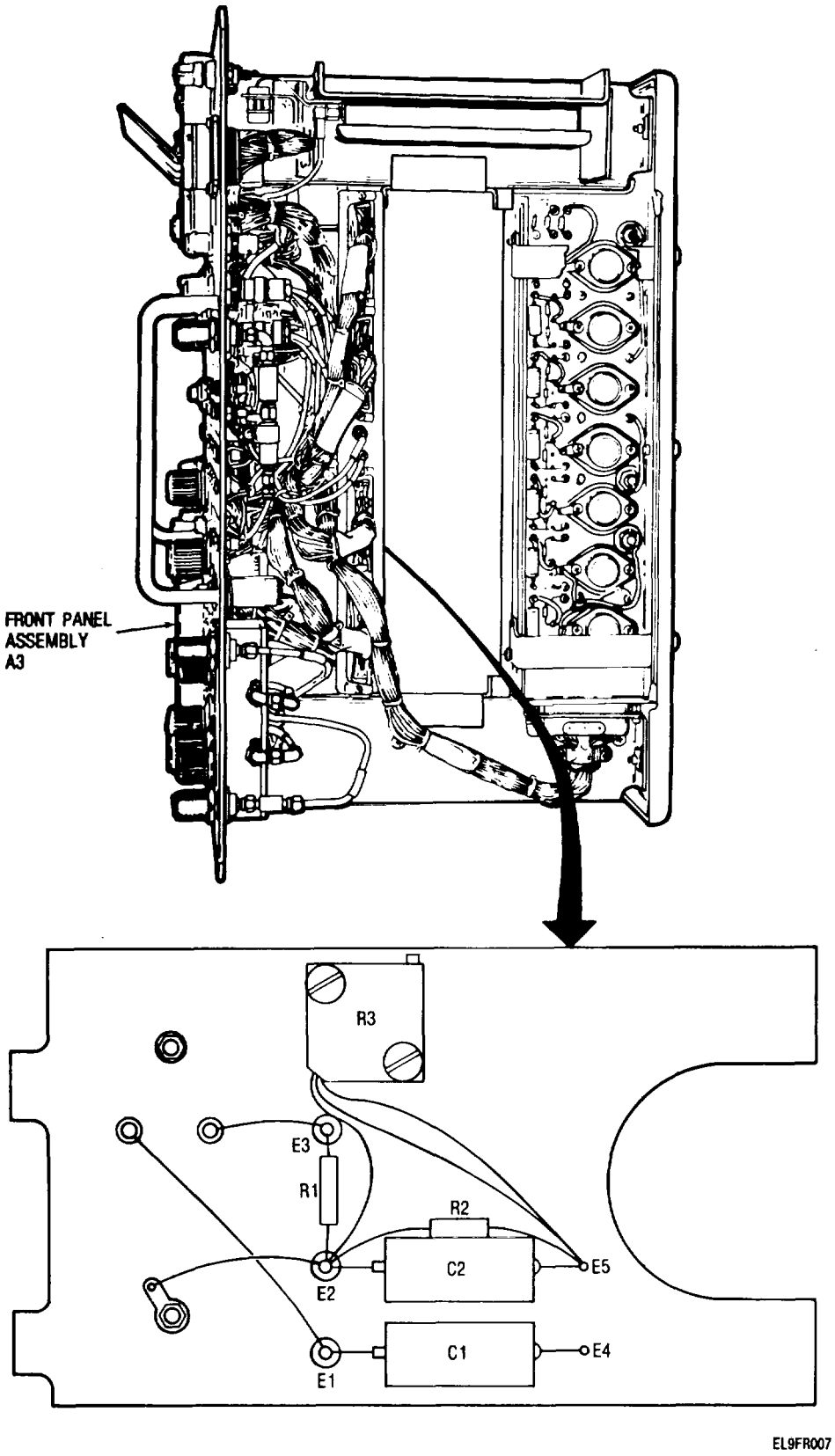


Figure 4-4. +5.2 Regulator A3A4 Parts Locations.

4-3. Detector/AmplifierA3A2Calibration

a. Detector/Amplifier Performance Check.

(1) Connect a 50-ohm termination to ANT INTERFACES RF IN J3 connector on the front panel (fig.4-1).

(2) Set STE PRIME POWER AC and DC switches to OFF.

(3) Remove DVM logic module A5Al (fig. 4- 5) and install on extender card (P/O accessory kit).

(4) Connect DVM to pin 23 (+) and pin 19 (-) of extender card.

(5) Set STE PRIME POWER AC and DC switches to ON. (6) Observe DVM. Reading should be 0.0 + 0. Vdc. If the performance standard is met, go to paragraph 4-4 (below) for the next performance check. If not, go to subparagraph b (below) for adjustment.

b. Detector/Amplifier Adjustment. Adjust A3A2-R9 (fig.'4-6) to obtain a reading of 0.0 ± 0.1 Vdc on DVM.

NOTE

R9 is difficult to find. To see the adjusting screw, look through the hole in the chassis frame.

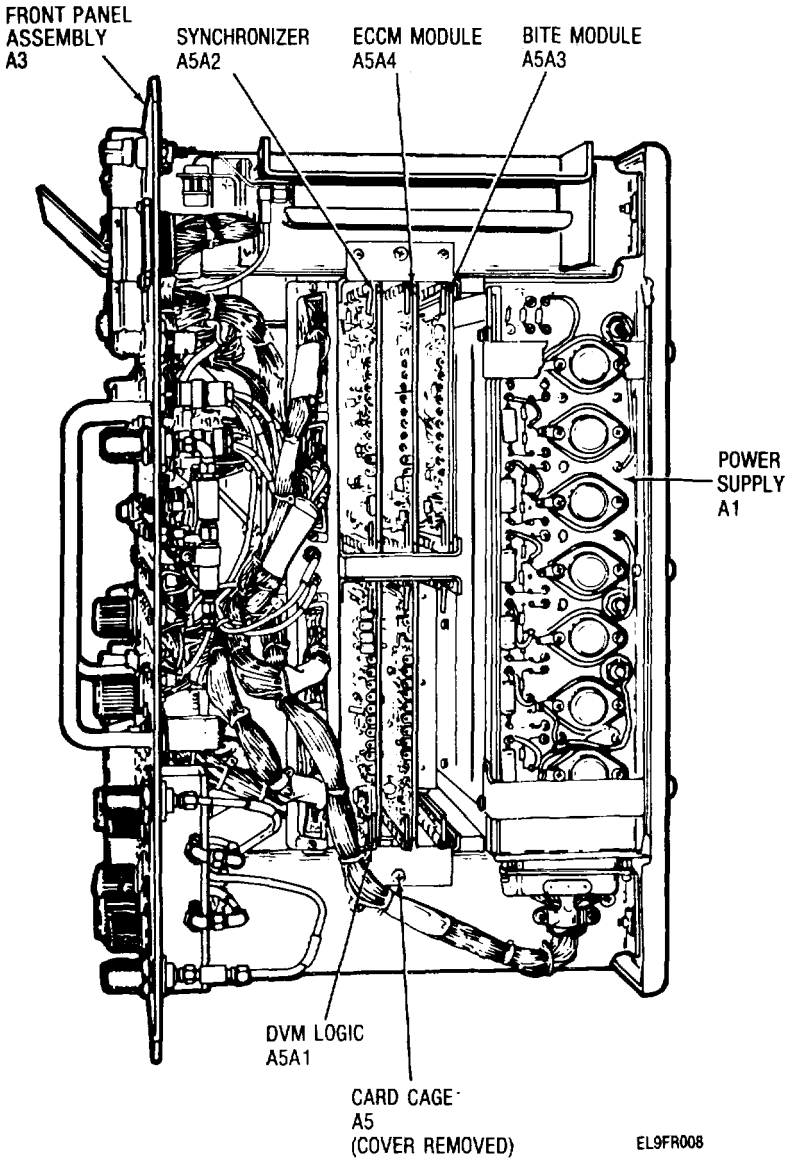


Figure 4-5. Plug-In Module Locations.

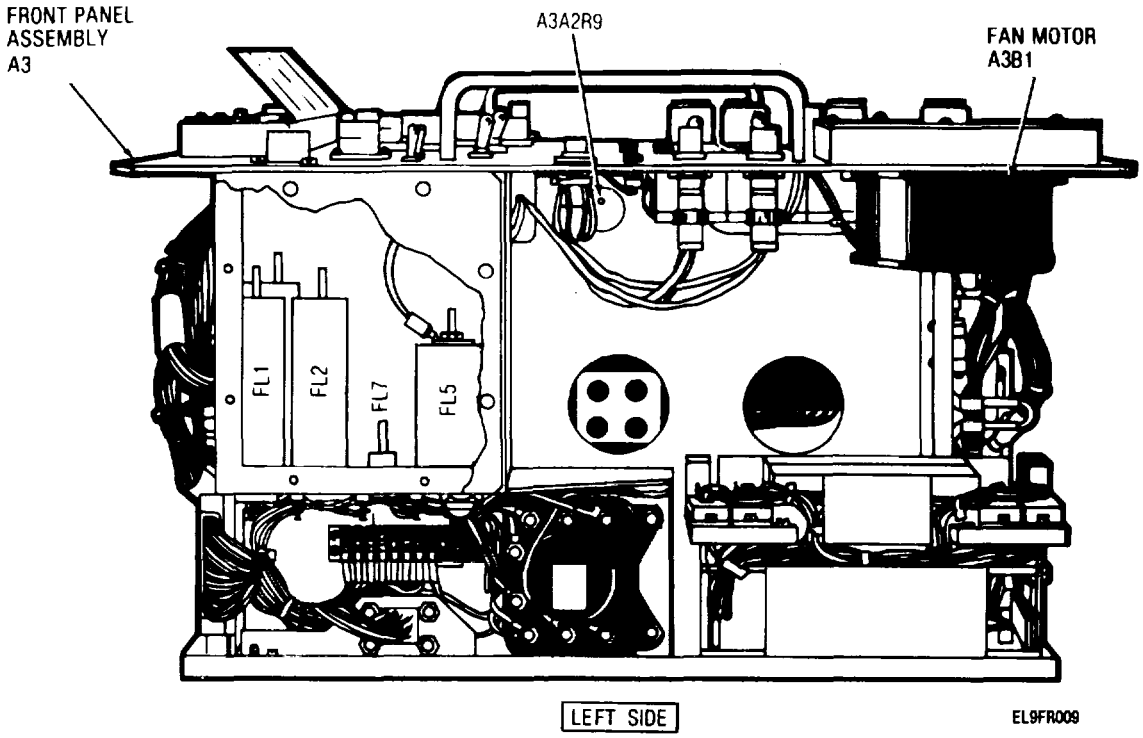


Figure 4-6. Detector/Amplifier Adjustment Location.

4-4. DVM Logic Module A5A1 Calibration

a. Antenna Detection Performance Check.
   (1) Connect DVM to pin 21 (+) and pin 1 (-) of extender card.
   (2) Observe DVM. Reading should be 0.0 + 0.Vdc. If the standard is met, perform step 3. If not, go to subparagraph b (below) for adjustment.
   (3) Set STE PRIME POWER AC and DC switches to OFF.
   (4) Disconnect DVM. Remove extender card and reinstall DVM logic module in card cage.
   (5) Remove 50-ohm termination from RF IN J3 connector.

b. Antenna Detection Adjustment.
   (1) Adjust A5A1-R52 (fig.-7) to obtain a reading of 0.+ 0.1 Vdc on DVM.
   (2) Set STE PRIME POWER AC and DC switches to OFF.
   (3) Disconnect DVM. Remove extender card and reinstall DVM logic module in card cage.
   (4) Remove 50-ohm termination from RF IN J3 connector.

c. DVM Logic Performance Check.
   (1) Set METER SELECT switch (fig.4-1) to EXT INPUT.
   (2) Connect a jumper wire between the two front panel EXTERNAL INPUT jacks.
   (3) Set STE PRIME POWER AC and DC switches to ON.
   (4) Observe front panel METER. Display should be -00.
   (5) Remove jumper wire from EXTERNAL INPUT jacks.
   (6) Using a DVM, adjust an external power supply for +30. + 0.05 V.
   (7) Connect the power supply outputs to EXTERNAL INPUT red (+) and gray (-) jacks.

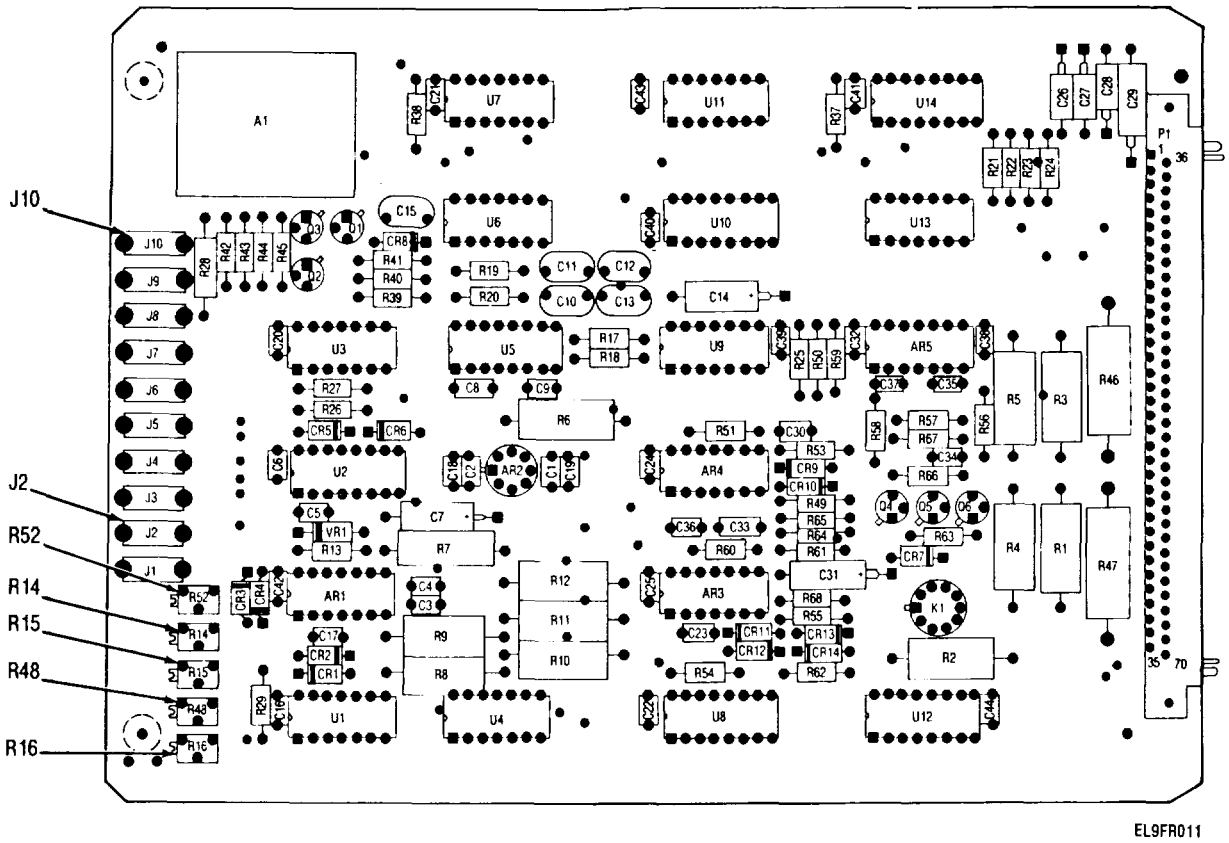


Figure 4-7. DVM Logic Module A5A1 Parts Locations.

(8) Observe METER. Display should be +30..

(9) If METER display in steps (4) and (8) was -00.and +30.00, the performance standard is met. Go to paragraph 4-5 for the next performance check. If the standard is not met, there are two adjustment procedures available. If the -00.0 display was within + 0. V and the + 30.00 display was within ± 3 V, go to subparagraph d (below) for the minor adjustment procedure. If the display was outside the ranges listed above, go to subparagraph e (below) for the major adjustment.

d. DVM Logic Minor Adjustment.

(1) Connect jumper wire between the front panel EXTERNAL INPUT jacks.

(2) Adjust A5AI-R16 (fig. 4-7) to obtain a display of -00.on METER.

(3) Remove jumper wire and connect external power supply (set for + 30.±. 0.05 V) to EXTERNAL INPUT red (+) and gray (-) jacks.

(4) Adjust A5A1-R14 (fig.4-7) to obtain a display of + 30. on METER.

(5) Repeat steps 1 thru 4 until both standards are met without further adjustment.

e. DVM Logic Major Adjustment.

(1) Disconnect external power supply. Connect a jumper wire between the front panel EXTERNAL INPUT jacks.

(2) Locate DVM logic module A5A1 in card cage (fig. 4-5).

(3) Connect DVM to A5Al-J2 (+) (fig.4-7) and A5Al-J1O (-).

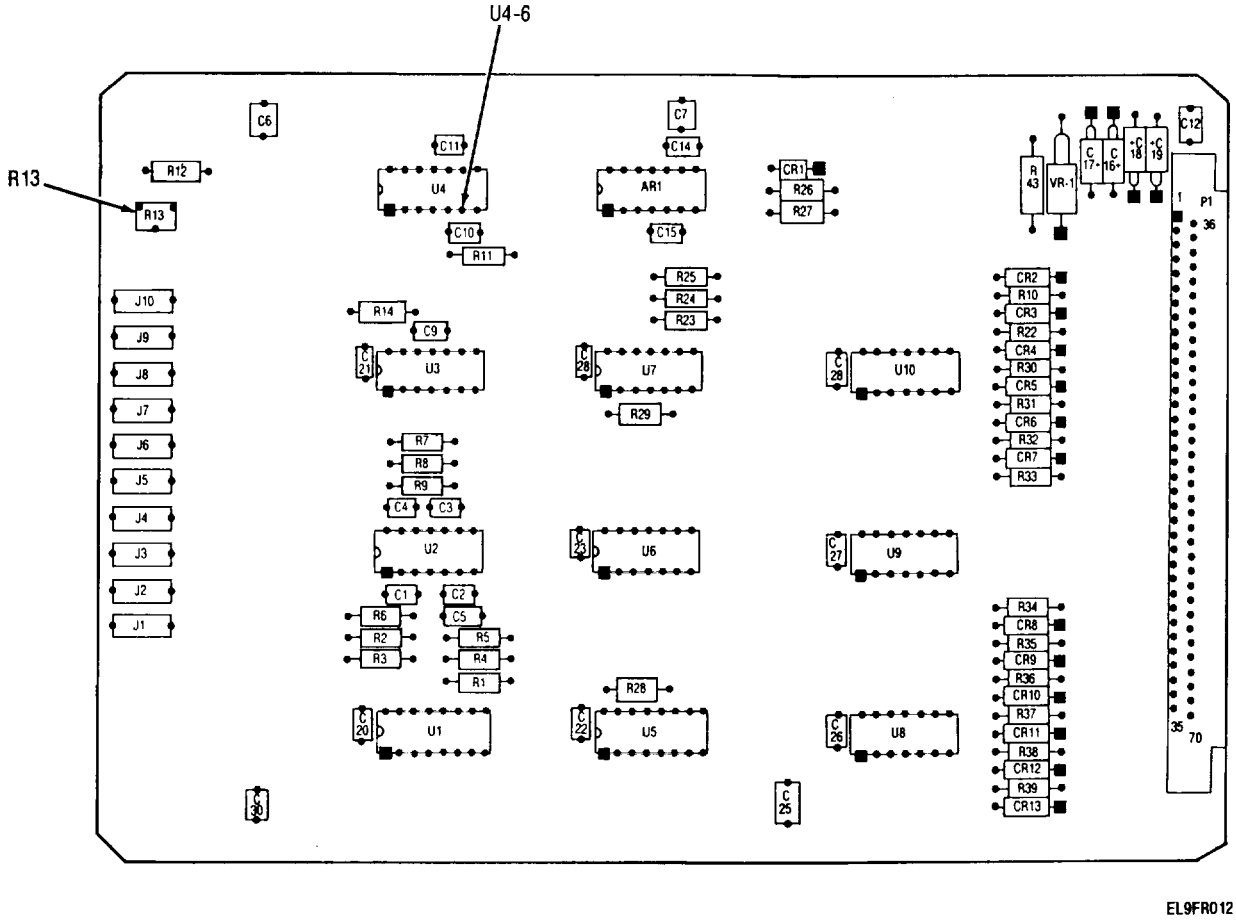
(4) Adjust A5A1-R48 to obtain a reading of 0.± 0.02 V on DVM.

(5) Set A5Al-R14 and A5A1-R15 to midrange.
(6) Adjust A5Al-R16 to obtain a reading of -00.on METER.
(7) Remove jumper wire from EXTERNAL INPUT jacks.
(8) Using DVM, adjust external power supply output for + 30.± 0.05 V.
(9) Connect the power supply outputs to EXTERNAL INPUT red (+) and gray (-) jacks.
(10) Adjust A5A1-R14 to obtain a reading of + 30.on METER.
(11) Disconnect external power supply and connect jumper wire between EXTERNAL INPUT jacks.
(12) Repeat steps (6) through (11) until the performance standards in steps (6) and (10) are met without further adjustment.

4-5. BITE Module A5A3 Calibration

a. BITE Module Performance Check.
(1) Set STE PRIME POWER AC and DC switches to OFF.
(2) Remove BITE module A5A3 (fig.4-5) from card cage, and install on extender card (P/O accessory kit).
(3) Set front panel RF switch (fig.4-1) to ON.
(4) Set FREQ CONTROL MHz switches to 9250
(5) Connect oscilloscope probe to pin 3 of extender card.
(6) Set STE PRIME POWER AC and DC switches to ON.
(7) Observe oscilloscope. The display should be +3. ± 0.2 Vdc, with no voltage spikes present. If there are spikes on the signal, the synthesizer may be faulty and cannot be calibrated (refer to TM 11-6625-2974-13 for maintenance instructions).
(8) Disconnect oscilloscope from extender card. Connect DVM to pin 3 (+) and pin 1 (-)of extender card.
(9) Observe and record reading on DVM.
(10) Connect DVM to A5A3-U4, pin 6 (+) (fig.4-8).
(11) Observe DVM. Reading should be 0.4 + 0.V higher than the reading in step (9). If the performance standard is met, perform step (12).If not, go to subparagraph
b (below) for adjustment.
(12) Set STE PRIME POWER AC and DC switches to OFF.
(13) Remove extender card and reinstall BITE module in card cage.

b. BITE Module Adjustment.
(1) Adjust A5A3-R13 (fig. 4-8) to obtain a reading on DVM of 0.± 0.1 V higher than the reading recorded in step (9) (sub para. a, above).
(2) Set STE PRIME POWER AC and DC switches to OFF.
(3) Remove extender card and reinstall BITE module in card cage.



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4-6. ECCM Module A5A4 Calibration

a. MT Video Performance Check.

(1) To prepare the signal generator, connect the oscilloscope input to the signal generator output using coaxial cable and a 100-ohm termination.

(2) Adjust signal generator to obtain the display shown in A, figure 4-9.

(3) Disconnect oscilloscope and 100-ohm termination. Connect signal generator output directly to front panel RTU INTERFACES RCVR VIDEO connector (fig. 4-1).

(4) Set STE PRIME POWER AC and DC switches to OFF.

(5) Remove ECCM module A5A4 from card cage (fig. 4-5) and install on extender card (P/O accessory kit).

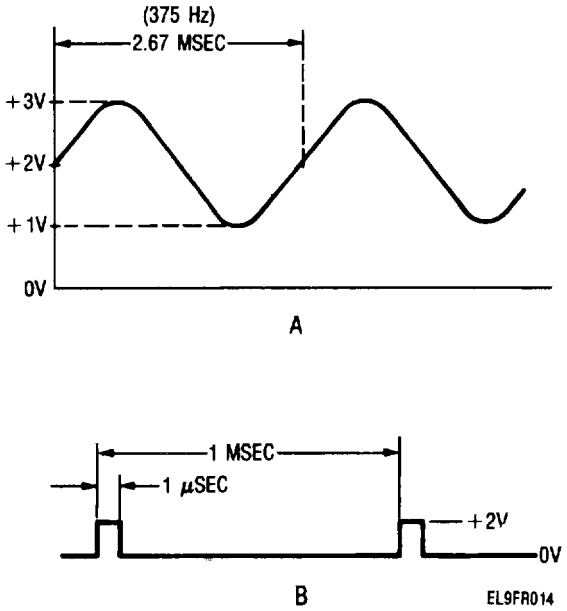
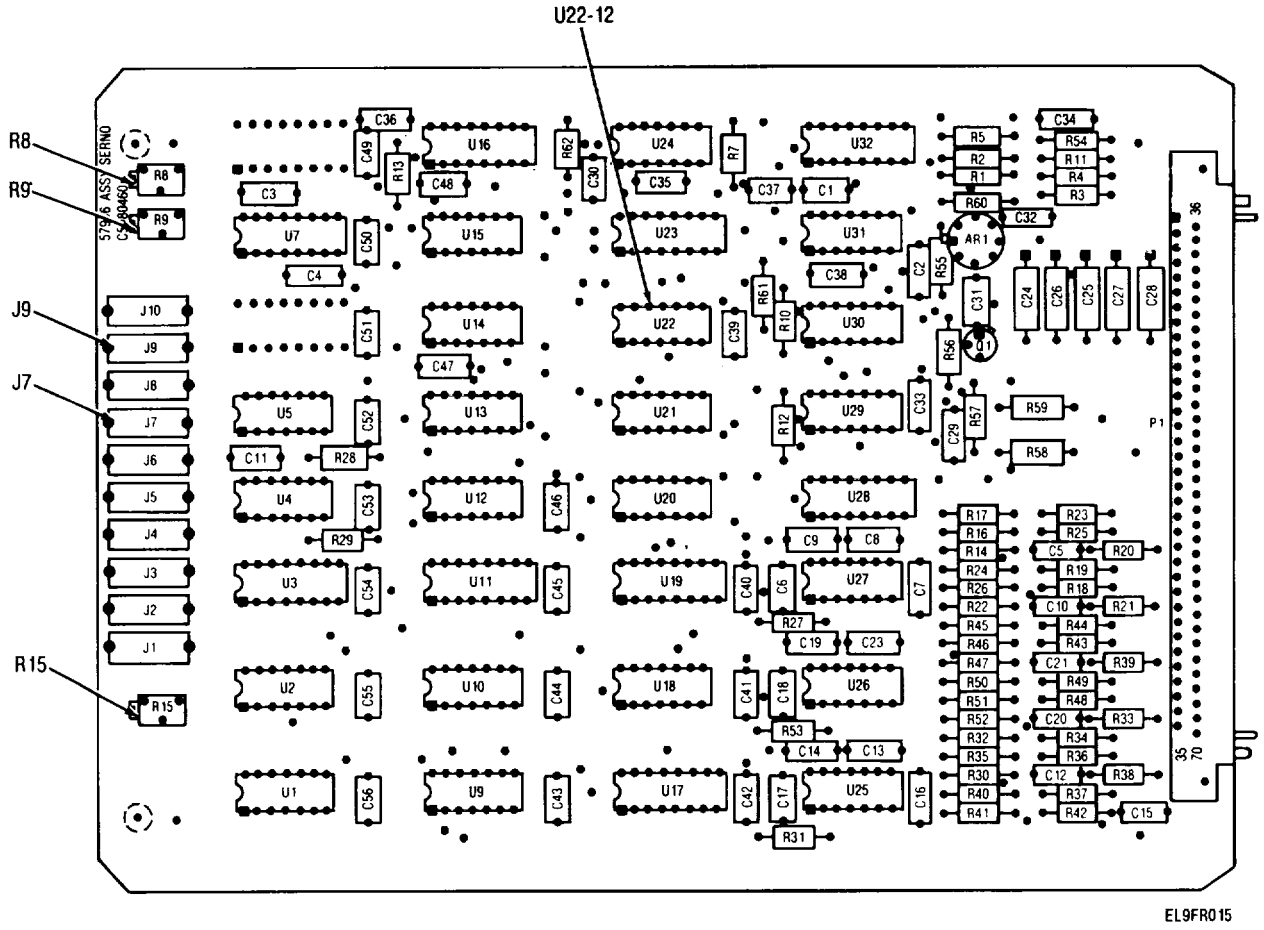


Figure 4-9. ECCM Module Setup Waveforms.

(6) Connect DVM to A5A4-U22, pin 12 (+) (fig.4-10) and pin 1 of extender card (-).
(7) Set STE PRIME POWER AC and DC switches to ON.
(8) Observe DVM. Reading should be - 1.2 + 0.V.
(9) Check the MT PRESENT indicator on the front panel. It should be on.
(10) Disconnect signal generator cable from RTU INTERFACES RCVR VIDEO connector.
(11) Check the MT PRESENT indicator. It should be off.
(12) If the reading in step (8) was correct and the MT PRESENT indicator was working properly in steps (9) and (11), the performance standard is met. Go to subparagraph c (below) for the next performance check. If not, go to subparagraph
b (below) for adjustment.



b. MT Video Adjustment.
(1) Reconnect the signal generator cable to the RTU INTERFACES RCVR VIDEO connector.
(2) Adjust A5A4-R15 (fig. 4-10) to obtain a reading of-1. ± 0.1 V on DVM.
(3) Check the MT PRESENT indicator. It should be on.
(4) Disconnect the cable from the RTU INTERFACES RCVR VIDEO connector.

(5) Check the MT PRESENT indicator. It should be off.

(6) If the MT PRESENT indicator is working properly, the performance standard is met. If the standard can not be met, the ECCM module may be faulty (refer to TM 11-6625-2974-13 for maintenance procedures).

c. ECCM Pulse Performance Check.

(1) To prepare the signal generator, connect the oscilloscope input to the signal generator output using coaxial cable and a 100-ohm termination.

(2) Adjust signal generator to obtain the display shown in B, figure 4-9.

(3) Disconnect oscilloscope and 100-ohm termination. Connect output of signal generator directly to front panel RTU INTERFACES BMT connector (fig. 4-1).

(4) Connect oscilloscope probe to A5A4-J9 (fig.4-10). Set trigger to internal.

(5) Observe oscilloscope. The negative-going TTL pulses should have a pulse width of 500 + 50 nS.

(6) Connect oscilloscope to A5A4-J7. Leave trigger set to internal.

(7) Observe oscilloscope. The negative-going TTL pulses should have a pulse width of 1100 + 50nS.

(8) If the performance standards in steps (5) and (7) are met, perform step (9). If either standard is not met, go to subparagraph d (below) for adjustment.

(9) Set STE PRIME POWER AC and DC switches to OFF.

(10) Remove extender card and reinstall ECCM module in card cage.

d. ECCM Pulse Adjustment.

(1) Connect oscilloscope to A5A4-J9. Adjust A5A4-R8 (fig. 4-10) to obtain a pulse width of 500 ± 50 nS for the negative-going TTL pulses on oscilloscope.

(2) Connect oscilloscope to A5A4-J7. Adjust A5A4-R9 to obtain a pulse width of 1100 ± 50 nS for the negative-going TTL pulses on oscilloscope.

(3) Set STE PRIME POWER AC and DC switches to OFF.

(4) Remove extender card and reinstall ECCM module in card cage.

4-7. Power Supply Al Calibration

a. +5 Vdc (A) Performance Check.

(1) Connect cable W12 (P/O accessory kit) between J4 of PSM INTERFACES group and J6 of RTU INTERFACES group on front panel.

(2) Set STE PRIME POWER AC and DC switches to ON. Set RTU PSM PWR POWER switch to ON. Set RTU PSM PWR DC SOURCE switch to INT.

NOTE

All test jacks used in this paragraph are in the PSM INTERFACES group on the front panel (fig. 4-1).

(3) Connect DVM to +5 VDC(A) red (+) and gray (-) jacks.

(4) Observe DVM. Reading should be +5.0 ± 0.. If the performance standard is met, go to subparagraph c (below) for the next performance check. If not, go to subparagraph b (below) for adjustment.

b. +5 Vdc (A) Adjustment.

(1) Set STE PRIME POWER AC and DC switches to OFF.

(2) Remove power supply Al (refer to TM 11- 6625-2974-13).

(3) Loosen 16 captive screws (fig.4-11) and remove power supply cover.

(4) Reconnect A3P9 to A1J1 on power supply (disconnected in step (2).

(5) Set STE PRIME POWER AC and DC switches to ON.

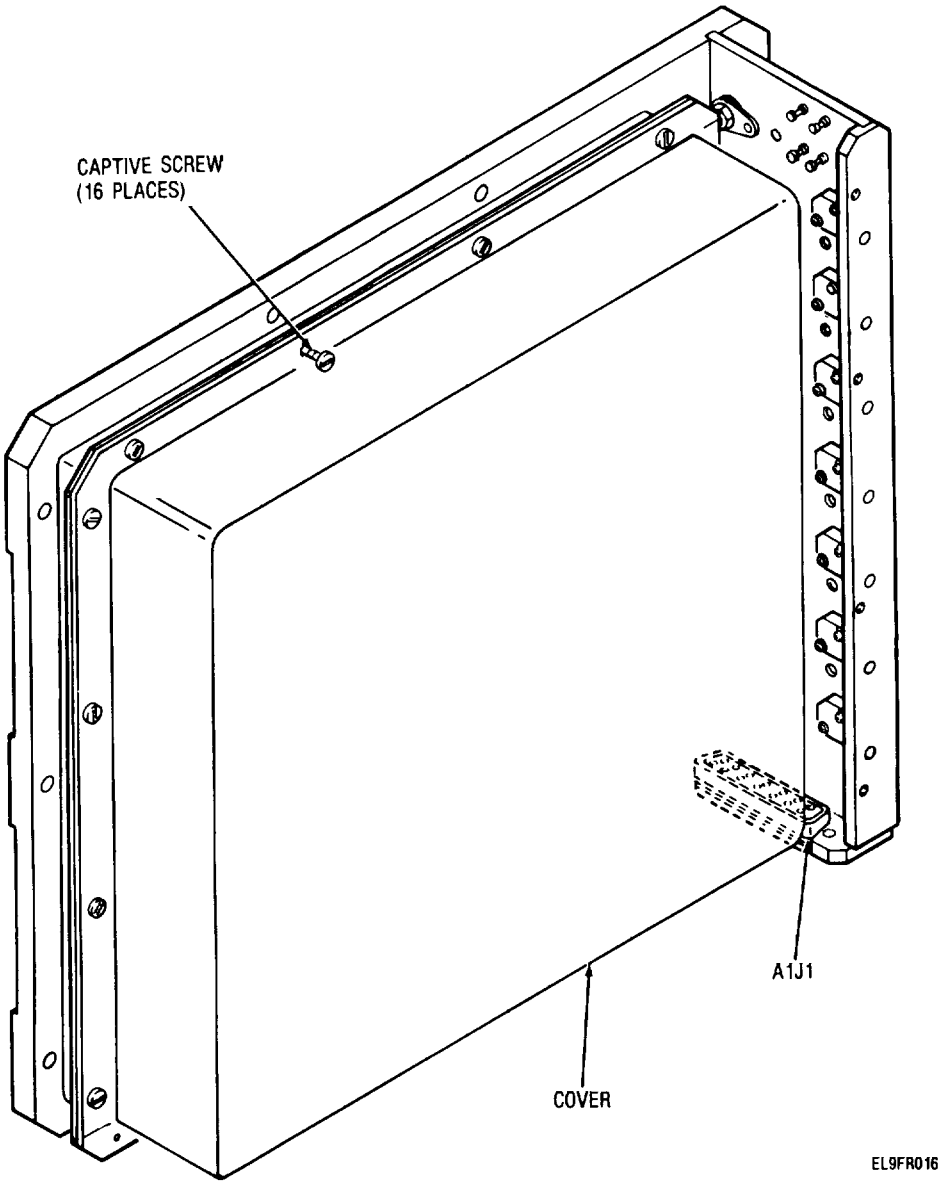


Figure 4-11. Power Supply A1 Cover Removal

(6) Adjust AlAl-R12 (fig. 4-12) to obtain a reading of + 5. ± 0.01 V on DVM.
(7) Set STE PRIME POWER AC and DC switches to OFF.
(8) Disconnect A3P9 from A1J1
(9) Reinstall power supply cover. Tighten 16 captive screws.
(10) Reinstall power supply A1(TM 11-6625- 2974-13).
(11) Set STE PRIME POWER AC and DC switches to ON.

c. +5 Vdc (B) Performance Check.
(1) Connect DVM to +5 VDC(B) red (+) and gray (-) jack.
(2) Observe DVM. Reading should be +5.2 ± 0.V. If the performance standard is met, go to subparagraph e (below) for the next performance check. If not, go to subparagraph d (below) for adjustment.
d. +5 Vdc (B) Adjustment. Adjust A1-R34 (fig.4-13) to obtain a reading of +5.20 ± 0.01 on DVM.

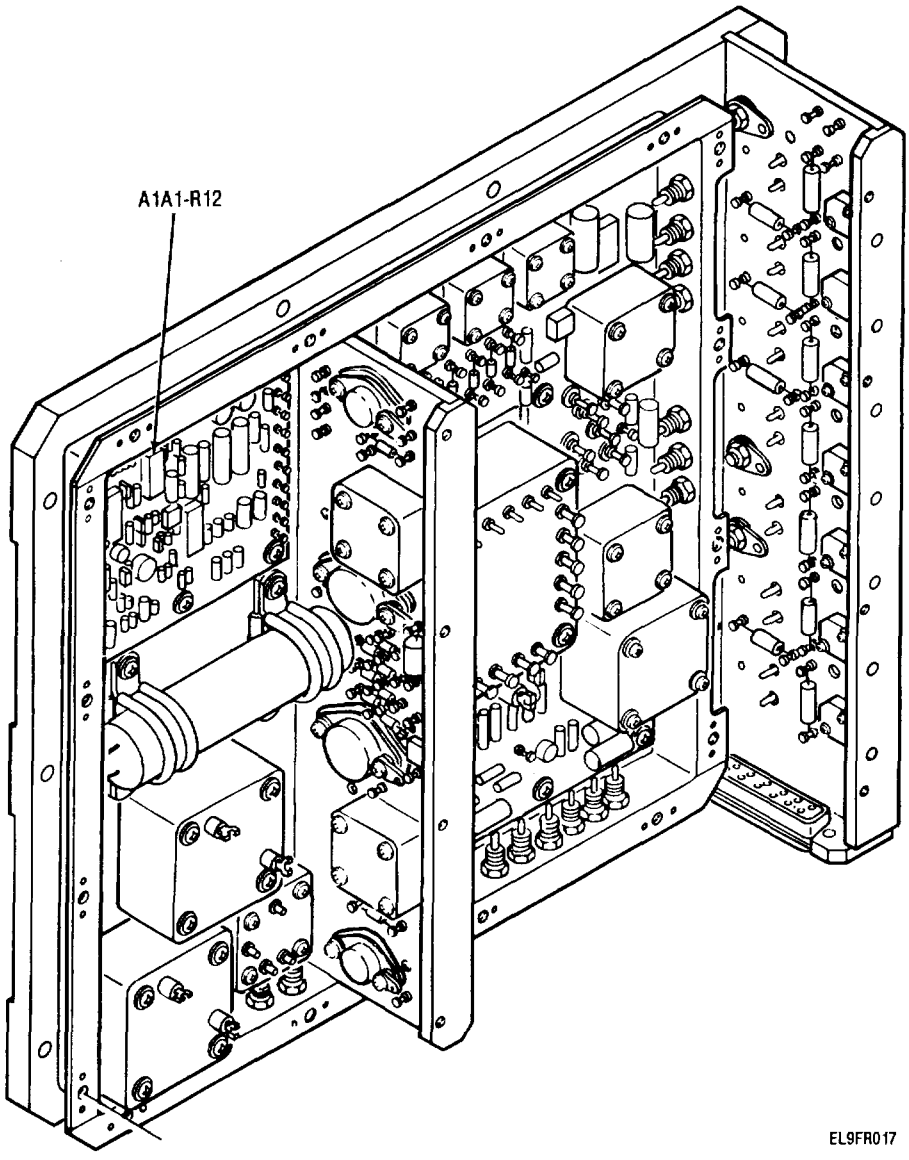


Figure 4-12. =5V Adjustment Location.

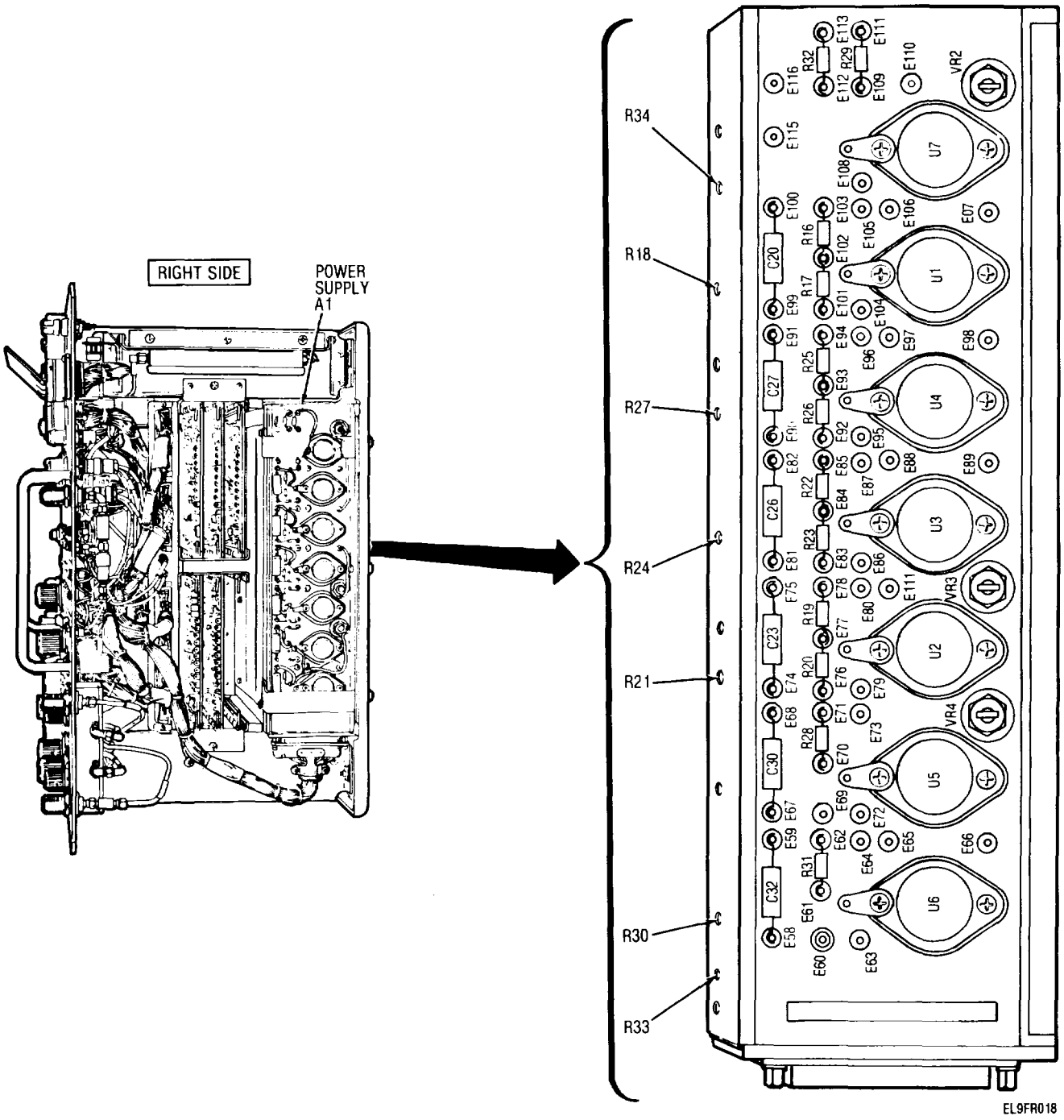


Figure 4-13. Power Supply A1 Adjustment Locations

e. + 10 Vdc Performance Check.

(1) Connect DVM to + 10 VDC red (+) and gray (-) jacks on front panel.

(2) Observe DVM. Reading should be + 10.0 ± 0. Vdc. If the performance standard is met, go to subparagraph g (below) for the next performance check. If not, go to subparagraph f (below) for adjustment.

f. + 10 Vdc Adjustment. Adjust Al-R18 (fig. 4-13) to obtain a reading of +10.00 ± 0.04 Vdc on -_* DVM.

g. + 15 Vdc (A) Performance Check.

(1) Connect DVM to +15 VDC(A) red (+) and gray (-) jacks on front panel.

(2) Observe DVM. Reading should be + 15.0 + 0.Vdc. If the performance standard is met, go to subparagraph i (below) for the next performance check. If not, go to subparagraph h (below) for adjustment.

h. +15 Vdc (A) Adjustment. Adjust A1-R21 (fig. 4-13) to obtain a reading of + 15.00 + 0.01 Vdc on DVM.

i. +15 Vdc (B) Performance Check.

(1) Connect DVM to +15 VDC(B) red (+) and gray (-) jacks on front panel.

(2) Observe DVM. Reading should be + 15.0 ± 0.Vdc. If the performance standard is met, go to subparagraph k (below) for the next performance check. If not, go to subparagraph j (below) for adjustment.

j. +15 Vdc (B) Adjustment. Adjust A1-R24 (fig. 4-13) to obtain a reading of + 15.00 ± 0.01 Vdc on DVM.

k. +15 Vdc (C) Performance Check.

(1) Connect DVM to +15 VDC(C) red (+) and gray (-) jacks on front panel.

(2) Observe DVM. Reading should be + 15.0 ± 0.Vdc. If the performance standard is met, go to subparagraph m (below) for the next performance check. If not, go to subparagraph l (below) for adjustment.

l. +15 Vdc (C) Adjustment. Adjust A1-R27 (fig. 4-13) to obtain a reading of + 15.00 ± 0.01 Vdc on DVM.

m - 15 Vdc (A) Performance Check,

(1) Connect DVM to - 15 VDC(A) red (+) and gray (-) jacks on front panel.

(2) Observe DVM. Reading should be - 15.0 ± 0.Vdc. If the performance standard is met, go to subparagraph o (below) for the next performance check. If not, go to subparagraph n (below) for adjustment.

n. - 15 Vdc (A) Adjustment. Adjust Al-R30 (fig. 4-13) to obtain a reading of -15.00 ± 0.01 Vdc on DVM.

o - 15 Vdc (B) Performance Check.

(1) Connect DVM to -15 VDC(B) red (+) and gray (-) jacks on front panel.

(2) Observe DVM. Reading should be -15.0 ± 0.Vdc. If the performance standard is met, perform step (3). If not, go to subparagraph p (below) for adjustment.

(3) Set STE PRIME POWER AC and DC switches to OFF.

(4) Disconnect test setup. Calibration complete.

p. -15 Vdc (B) Adjustment.

(1) Adjust A1-R33 to obtain a reading of -15.± 0.01 Vdc on DVM.

(2) Set STE PRIME POWER AC and DC switches to OFF.

(3) Disconnect test setup. Calibration complete.

4-8. Final Procedure

a. Installation of Test Set.

(1) Install card cage cover on card cage A5.Install five screws to secure cover.

(2) Set test set front panel into case.

(3) Install 16 floating screws holding front panel to case.

(4) Install case cover and snap four latches into place.

b. Final Instructions. When all parameters are within tolerance, annotate and affix DA Label 80 (US Army Calibrated Instrument). When the test instrument (TI) receives limited or special calibration, annotate and affix DA Label 163 (US Army Limited or Special Calibration). When the TI cannot be adjusted within tolerance, repair the TI in accordance with the maintenance manual. When repair is delayed for any reason or the TI cannot be repaired with local resources, annotate and affix DA Form 2417 (US Army Calibration System Rejected Instrument) and inform the owner/user accordingly in accordance with TB 750- 25-1.

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Chief of Staff

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