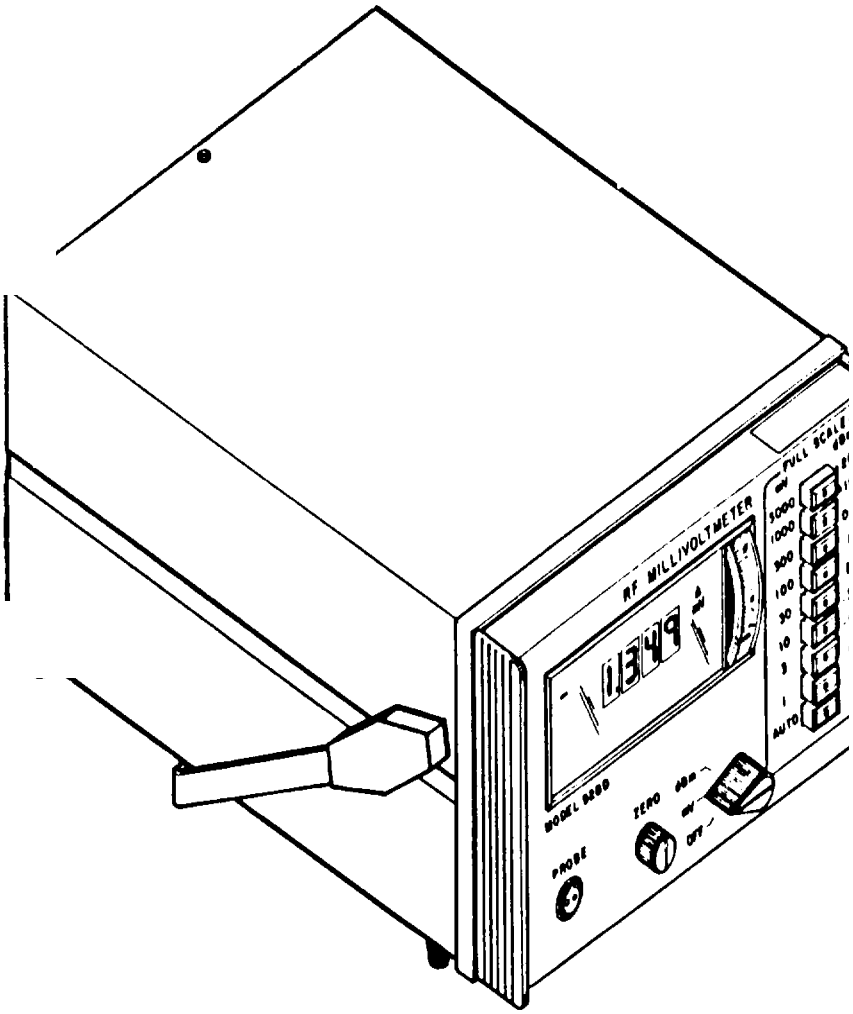
TECHNICAL MANUAL

ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL



METER, RF MILLIVOLT ME-52GA/USM
(NSN 6625-01-161-1461)

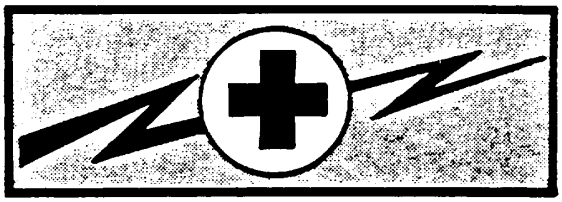
HEADQUARTERS, DEPARTMENT OF THE ARMY

1 SEPTEMBER 1986

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



HIGH VOLTAGE
is used in the operation of this equipment

DEATH ON CONTACT
may result if personnel fail to observe safety precautions

Never work on electronic equipment unless there is another person nearly who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When technicians are aided by operators, they must be warned about dangerous areas.

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment, after the power has been turned off, always ground every part before touching it.

Be careful not to contact high-voltage connections or I 15 volt ac input connections when installing or operating this equipment.

Whenever the nature of the operation permits, keep one hand away from the equipment to reduce the hazard of current flowing through the body.

Warning: Do not be misled by the term "low voltage." Potentials as low as 50 volts may cause death under adverse conditions.

For Artificial Respiration, refer to FM 21-1 1.

TECHNICAL MANUAL
No. 11-6625-3060-24

HEADQUARTERS,
DEPARTMENT OF THE ARMY
Washington, DC, 1 September 1986

ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

METER, RF MILLIVOLT ME-526A/USM
(NSN 6625-01-161-1461)

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, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ME-MP Fort Monmouth, New Jersey 07703-5000. In either case, a reply will be furnished direct to you.

LIST OF ILLUSTRATIONS

HOW TO USE THIS MANUAL

To assist you in locating the information you need to operate and maintain the Meter, RF Millivolt ME-526A/USM this manual includes:

- Cover Index
- Table of Contents
- Chapter Index

This technical manual contains authorized procedures for organizational, direct support and general support maintenance. Test equipment for troubleshooting and evaluating the equipment is also covered.

In addition, you will find specific guidance for organizational and other levels of maintenance in the back of this technical manual. Included are a list of technical publications you may want to refer to and a Maintenance Allocation Chart (MAC).

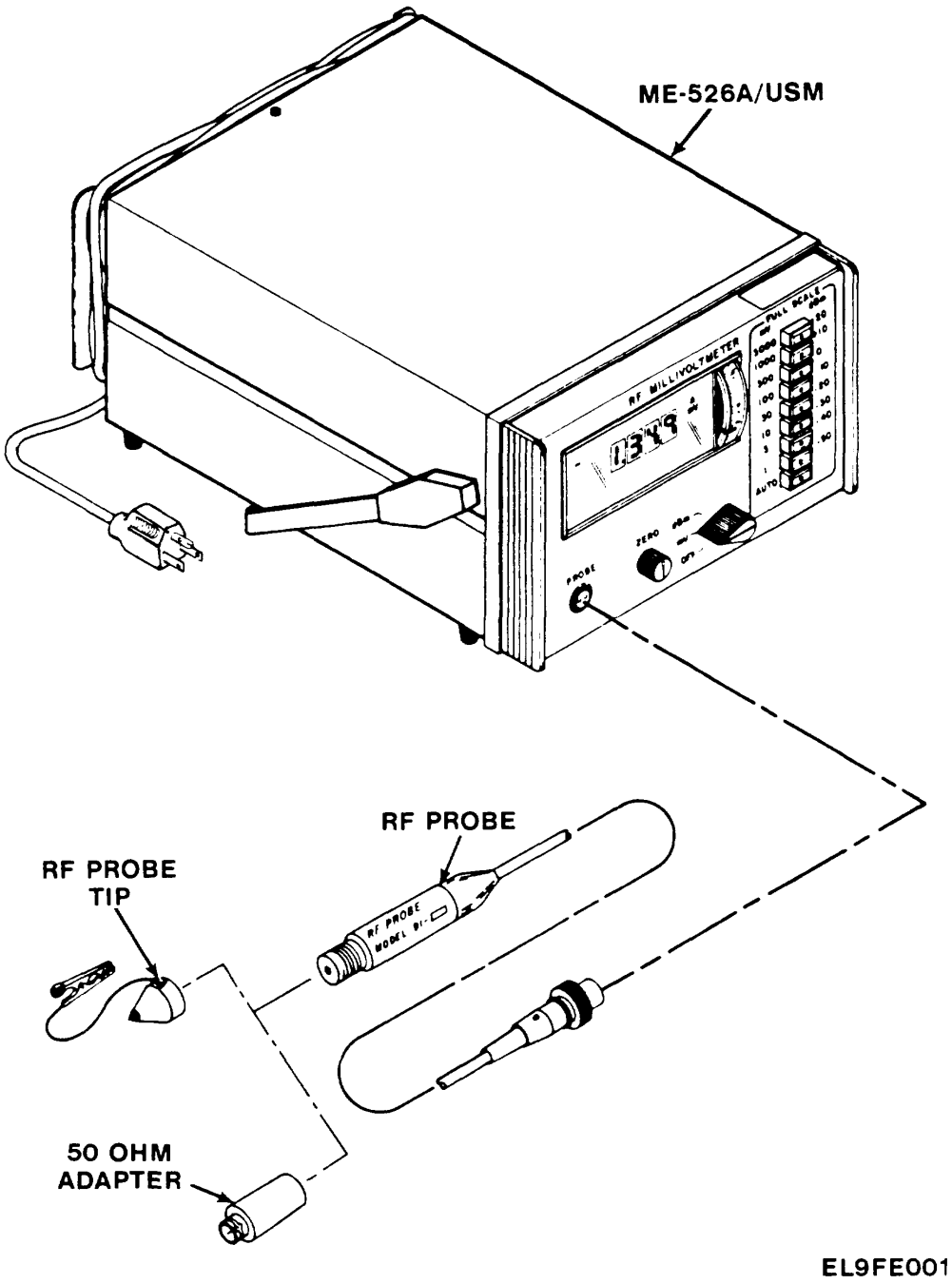


Figure 1-1. Meter, RF Millivolt ME-526A/USM

CHAPTER 1
INTRODUCTION

SECTION I. General Information

1-1. SCOPE

- This manual covers organizational, direct support and general support maintenance of Meter, Radio Frequency Millivolt ME-526A/USM.
- The ME-526AIUSM is used to measure radio frequency (rf) voltage in the voltage range of 200 microvolts (uv) to 3000 millivolts (3 volts) and within the frequency range of 10 kilohertz (kHz) to 1.2 gigahertz (gHz).

1-2. CONSOLIDATED INDEX OF ARMY PUBLICATIONS AND BLANK FORMS

Refer to the latest of DA Pam 310-1 to determine whether there are new editions, changes or additional publications pertaining to the equipment.

1-3. 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 DA Pam 738-750, as contained in Maintenance Management Update.

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 414**0.**55/ NAVMA**TI**NST 435**5.**73B/AFR 400**-5**4/MCO 443**0.**3H.**

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 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

1-4. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your equipment needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about the design. Put it on an SF 368 (Quality Deficiency Report). Mail it to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-PA-MA-D, Fort Monmouth, New Jersey 07703-5023. We'll send you a reply.

1-5. DESTRUCTION OF ARMY ELECTRONICS MATERIEL

Destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

1-6. CALIBRATION

Refer to TB 9-6625-2074-35 Calibration Procedure for RF Millivolt Meter.

1.7. PREPARATION FOR STORAGE OR SHIPMENT

(fig. 1-2)

Refer to Figure 1-2 for a description of the packaging of the ME-526AIUSM. Instructions for administrative storage of equipment issued to and used by Army activities will have preventive maintenance performed in accordance with the PMCS chart as shown in TM 11-6625-3060-10 before storing.

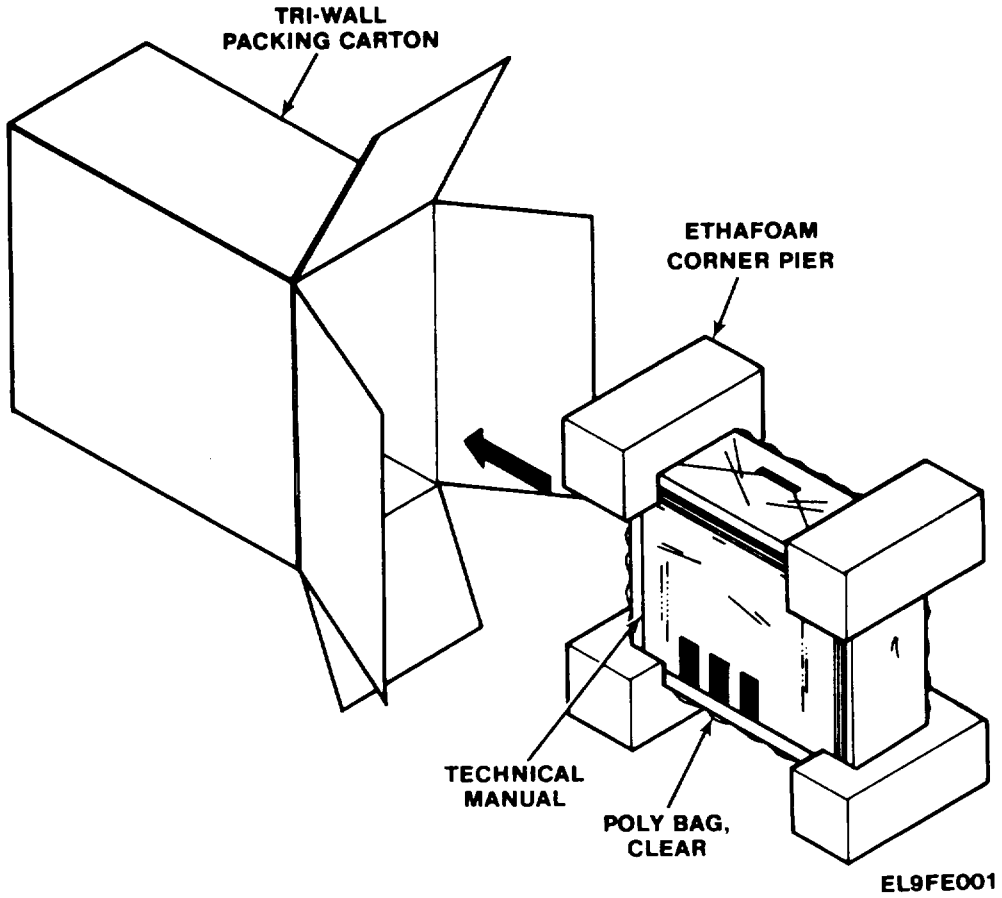


Figure 1-2. Packaging of Meter, Rf Millivolt ME-526A/USM.

SECTION II. Equipment Description and Data

1-8. CHARACTERISTICS, CAPABILITIES AND FEATURES

Refer to TM 11-6625-3060-10, Chapter 1, Section II.

1-9. EQUIPMENT DATA

Refer to TM 11-6625-3060-10, Chapter 1, Section II.

SECTION III. Technical Principles of Operation

1.10. PRINCIPLES OF OPERATION

(fig. 1-3, 1-4)

The essential circuits of the ME-526A/USM are the RF PROBE, CHOPPER DRIVER, CHOPPER, ATTEN- UATOR, AMPLIFIERS, PULSE GENERATOR, SYNC DETECTOR, SHAPING AMPLIFIER AND FEEDBACK RESISTORS, DIGITAL CONTROL, ANALOG TO DIGITAL (AID) CONVERTER, DIGITAL DISPLAY, PANEL METER, and POWER SUPPLY.

- **RF Probe**

The radio frequency input to the RF PROBE contains a full-wave diode rectifier which rectifies the input signal to a dc voltage level which is proportional to the rf input level. While operating in the square-law region (below approximately 30 millivolts) the detector provides true rms. response. As the input level in- creases beyond 30 mV, the ME-526A/USM input circuit response gradually approaches peak-to-peak levels which will be calibrated by the ME-526A/USM circuit so the indicator presentation will be in rms. readings. Use of full-wave rectification in the detector probe permits measurement of signals having waveforms which lack symmetry.

- **Attenuator and Amplifiers**

The dc output voltage of the RF PROBE is converted to a proportional ac voltage by the mechanical chop- per. The resultant ac voltage is applied to the attenuator and amplifiers section. For each range the output voltage from the second amplifier is approximately 3 volts peak-to-peak. It is accomplished by ranging both the attenuation and the gain of the second amplifier. The preamplifier has a constant gain and is designed

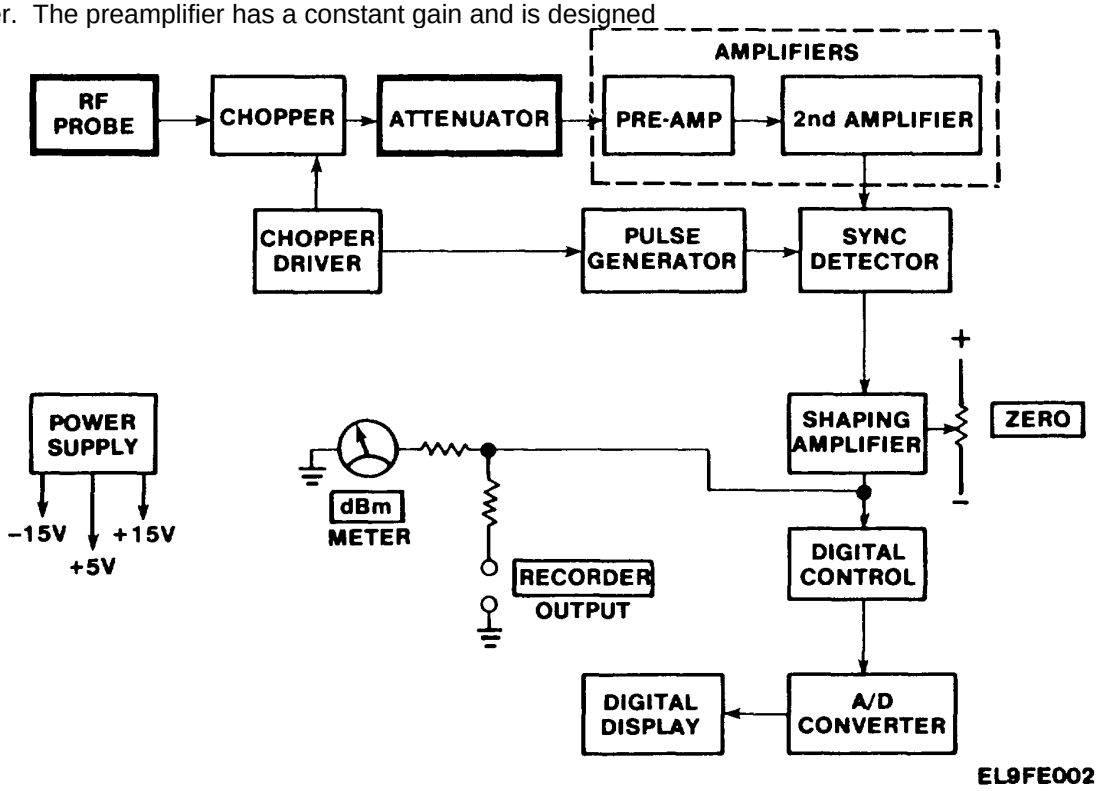


Figure 1-3. ME-526A/USM Block Diagram, RF Probe, Attenuator and Amplifiers

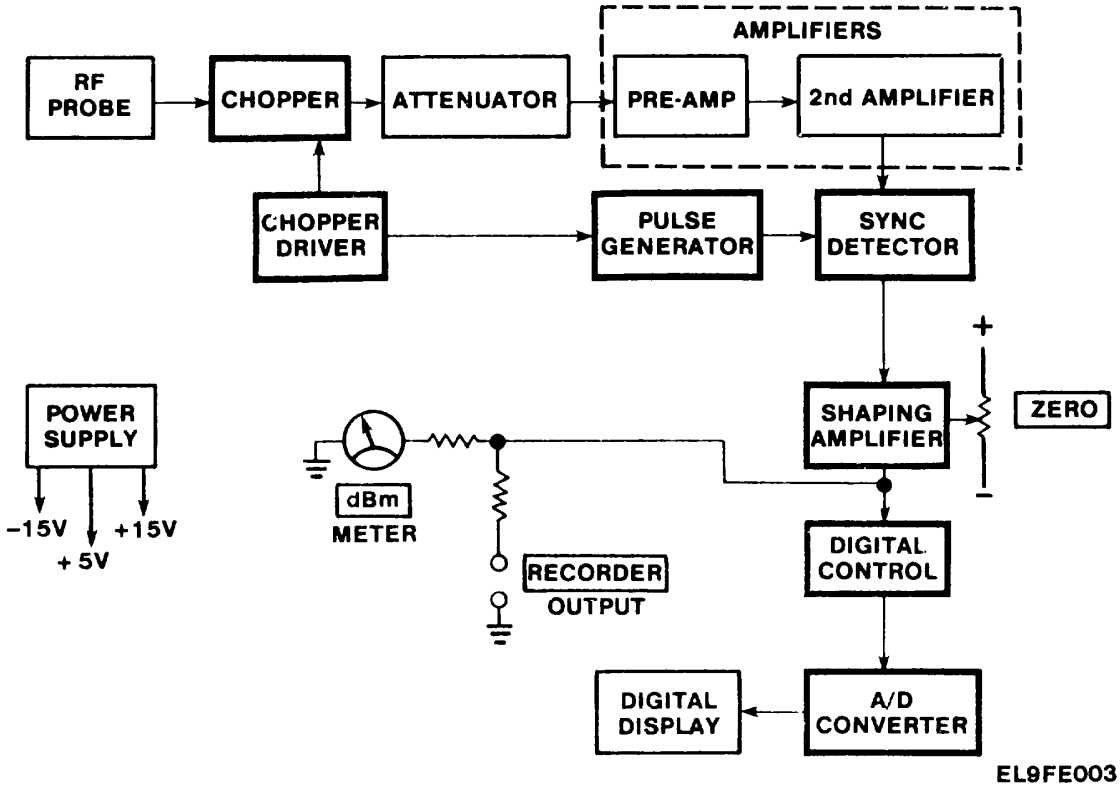


Figure 1-4. ME 526A/USM Block Diagram, Sync Detector, Shaping Amplifier, Digital Control, Analog to Digital i converter and Chopper Driver Circuits.

1-10. PRINCIPLES OF OPERATION - CONTINUED

- **Synchronous (Sync) Detector**

The amplified ac signal from the second amplifier is converted to dc by the synchronous detector. The peak-to-peak amplitude is derived from a shunt-series capacitor storage circuit using transistor switches The synchronous detector is driven by pulses from the chopper-driver circuit, thus assuring exact synchronization. The characteristics of the detector determine the effective bandwidth of the amplifier- detector combination and allow modification of the bandwidth for different range conditions.

- **Shaping Amplifier**

The conversion of rf to dc in the probe is non-linear, the response being square-law for the lowest ranges and gradually becoming linear for the 3 V (3000 mV) range. The shaping amplifier converts the non-linear output of the sync detector to a linear output by using a segmental approximation to the exact correction. The shaping amplifier is an operational amplifier so connected that, as the signal increases at its output, Its gain is reduced by successively paralleling resistors across the feedback resistors. The number of segments required to adequately linearize the response varies from 6 for the 1 mV ranges down to 2 for the 3 volt (3000 mV) range. The output of the shaping amplifier is 0 to + 10 volts which drives the panel dBm meter and is also applied to the RECORDER terminals.

1-10. PRINCIPLES OF OPERATION - CONTINUED

- **Digital Control**

The analog dc signal voltage from the shaping amplifier is processed by the digital control circuits before being passed on to the Analog to Digital (A/D) Converter and the Digital Display. The digital control section divides the incoming voltage (10 volts full-scale) by factors of 20 or 6.3, depending upon which FULL SCALE mV range switch has been selected. It extracts information for the control of FULL SCALE range, decimal point position and overrange (▲) or underrange (▼) readings.

- **Analog to Digital (A/D) Converter**

Incoming analog information is changed to digital form and applied to the Digital Display Unit, where the appropriate segments of the LED display are triggered. The display shows not only numerals, but also over- range (▲) or underrange (▼ indication, and the zero level mV indicator.

- **Chopper-Driver Circuits**

The chopper-driver block provides all of the drive signals required by the instrument. The chopper frequency is obtained by dividing the output of a unijunction oscillator by two. The oscillator also generates the switching pulse for the synchronous detector. Diode gating feeds the pulse to the proper transistor depending upon chopper phase. The chopper frequency is normally adjusted to 94 Hz, but can be changed + 10 Hz to avoid beating with harmonically related ground currents.

CHAPTER 2
ORGANIZATIONAL MAINTENANCE

SECTION I. Repair Parts, Special Tools, TMDE and Support Equipment

2-1. COMMON TOOLS
For authorized common tools and equipment refer to the Modified Table of Organization and Equipment (MTDE) applicable to your unit.

2-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT Only a 0.050 inch hex key is authorized for organizational maintenance. The hex key Is used to tighten or replace the ZERO control or mV-OFF power switch control knobs.

2-3. REPAIR PARTS Repair parts are listed and illustrated In Repair Parts and Special Tools List TM 11-6625-3060-24P covering organizational maintenance for this equipment.

SECTION II. Service Upon Receipt

2-4. SITE AND SHELTER REQUIREMENTS

- Siting of the ME-526A/USM should be in a shelter or maintenance facility with primary ac power available.
- Shelter or maintenance facility environment should be maintained at normal temperature and humidity levels. Refer to TM 11-6625-3060-10.

2-5. CHECKING UNPACKED EQUIPMENT

- Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on SF 364 (Report of Discrepancy (ROD)).
- Check the equipment against the packing slip to see If the shipment is complete. Report all discrepancies In accordance with the instructions of DA Pam 738-750.
- Check to see if the equipment has been modified.

2-6. PRELIMINARY SERVICING AND ADJUSTMENT

(fig. 2-1)

Perform step 1 thru step 5 below before applying ac power to the ME-526AIUSM.

Step 1. Check and note the voltage of the available ac power. Insure the power frequency is 50-400 Hz.

Step 2. Using a flat blade screwdriver, place 0.10A-0.20A switch in the down (115) or up (230) position to correspond to the voltage noted in step 1.

Step 3. Using a flat blade screwdriver, remove the fuse by inserting the screwdriver in the fuse holder slot and rotate counterclockwise.

Step 4. Note the fuse value. The value of the fuse must correspond to the position of the 0.10A.0.20A switch set in step 2 **(0.10A** for 230 position or 0.20A for 115 position).

Step 5. Replace the fuse in the fuse holder by rotating slot clockwise with a flat blade screwdriver.

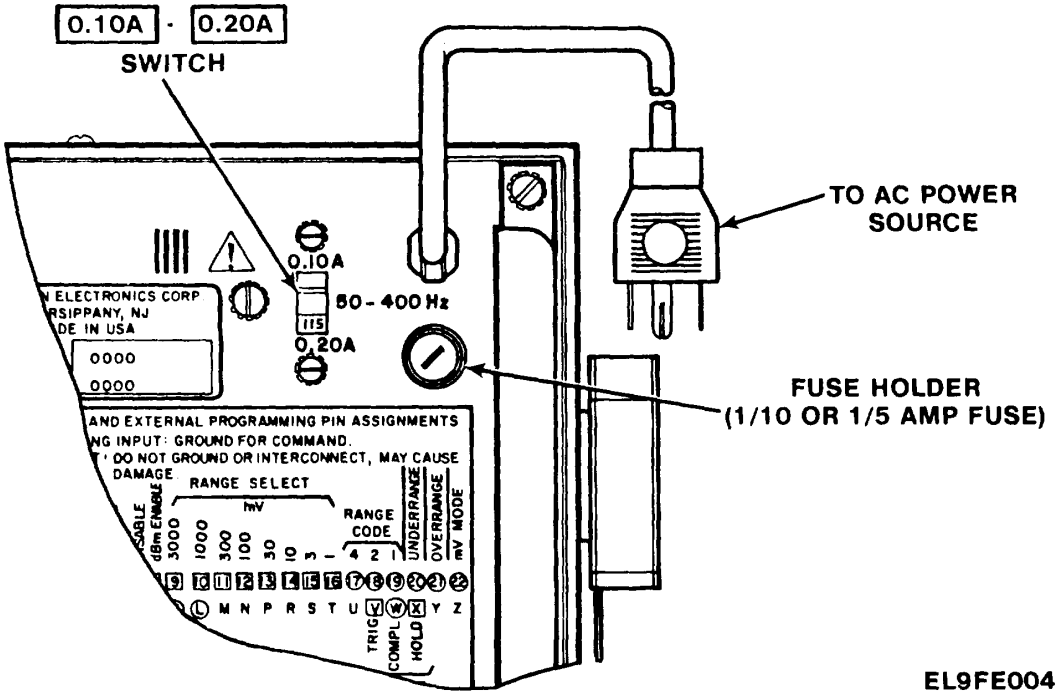


Figure 2-1. Power Requirements for ME-526A/USM.

2-7. NORMAL OPERATING CHECKS

(fig. 2-2)

- Connect the ac power cable to the ac power source.
- Connect the RF PROBE cable connector to the PROBE jack on the front panel of the ME-526A/USM.
- Screw the probe tip onto the RF PROBE connector.
- Place the 50 OHM ADAPTER in one of the storage clips on the rear panel.

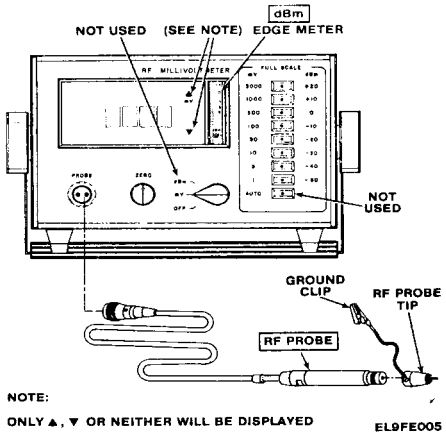


Figure 2-2. Operating Controls of the ME-526AIUSM.

NOTE

FULL SCALE mV AUTO switch is not used and is locked in the out position.
FULL SCALE **dBm** range is not used. OFF-mV-dBm switch cannot be moved to **d**Bm position.

- Place OFF-mV-dBm switch in mV position.
- Depress all FULL SCALE mV switches in turn and check for positive switch action. Each switch should lock in the down (in) position and release when another switch is depressed approximately 1/2 way in.

2-7. NORMAL OPERATING CHECKS - CONTINUED

- Short probe tip or loosen probe tip from RF PROBE. Depress FULL SCALE mV 1 switch. Rotate ZERO control fully clockwise. Digital meter will display random indication above and below .500 mV.
- Rotate ZERO control counterclockwise. Digital meter will blank and indicate lower range required (RF PROBE signal low).
- Adjust ZERO control clockwise for a zero indication on dBm edge meter.

SECTION III. Troubleshooting

- Malfunction of the ME-526A/USM should have been noted by the operator or become noted during the NORMAL OPERATING CHECKS given above.
- Refer to the troubleshooting procedure in TM 11-6625-3060-10**.**

CHAPTER 3
DIRECT SUPPORT (DS) AND GENERAL SUPPORT (GS) MAINTENANCE

SECTION I. Tools and Test Equipment

3-1. TOOLS
(fig 3-1)

- In addition to the tools contained in Tool Kit TK-105/G, a board extender, board puller, and a 0.050 inch hex key (not shown) are required
- Use the board puller to remove circuit boards which plug into jacks on the power supply and amplifier board.
- Use the board extender to make checks and measurements on the circuit boards.

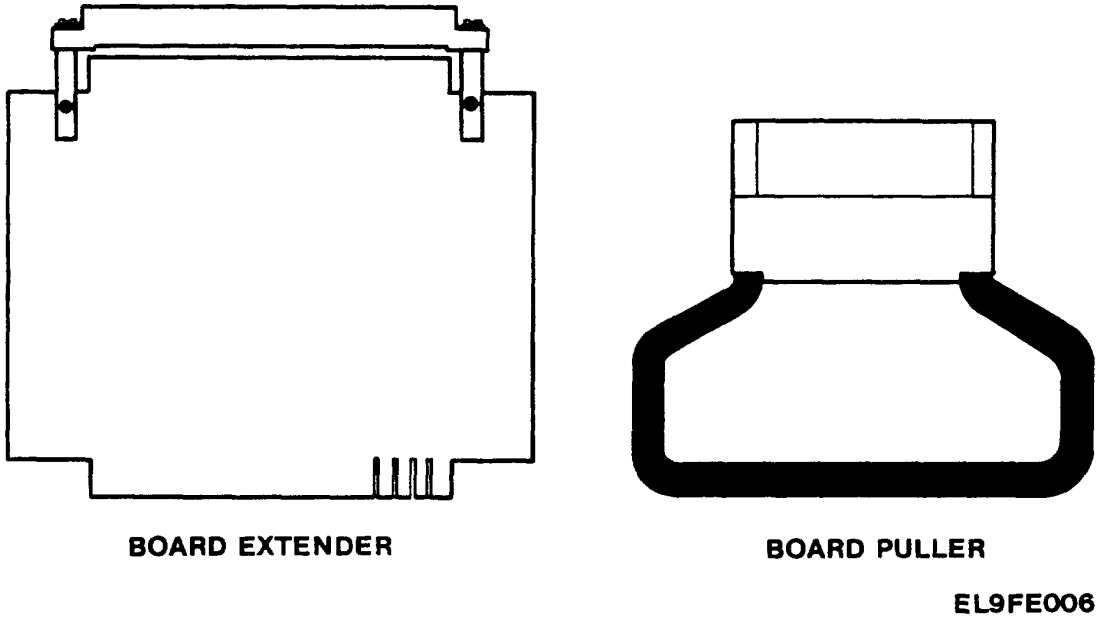


Figure 3-1. Board Extender and Board Puller Used with the ME-526A/USM.

3-2. TEST EQUIPMENT

- The test equipment required is listed in table 3**-1.**

Table 3-1. Test Equipment Required

Common name	*Manufacturer and model (part number)*
AC Voltage Standard	Hewlett-Packard, Model 745AOPT93
Attenuator	Weinschel, Model AF117A-69-34
Autotransformer	General Radio, Model W10MT3AS3
Digital Multimeter	Hewlett-Packard, Digital Multimeter 349OAOPT060
Frequency Counter	Hewlett-Packard, Model 4345A
Power Meter	Hewlett-Packard, Model 432A with thermistor mount 478A-H75
Oscilloscope	Tektronix Model 5440 with Amplifier Model 5A48 Time Base Model 5B42
Sweep Generator	Weinschel, Model 4310AK-16P-25
Oscillator	Hewlett-Packard, Model 652A
Thermal Converter	Ballantine, Model 1394-1

3-2. TEST EQUIPMENT - CONTINUED

- Additional equipment required, such as cables and adapters are listed in table 3-2.

Table 3-2. Additional Equipment Required

Item	*Common name*	*Description (part number)*
W1	Adapter	BNC jack to N plug (10519457) (2 required)
W2	Adapter	GR plug to BNC plug (10528560)
W3	Adapter	N plug terminations (MIS-10408-4) (2 required)
W4	Adapter	N jack terminations (MIS-10408-3)
W5	Adapter	BNC plug terminations (M55339/15-00491)
W6	Adapter	BNC T type, 2 jacks, 1 plug (MS35173-274C)
W7	Adapter	Boonton, Model 91-14A T Adapter
W8	Cable	18-in., RG-9A/U; N plug terminations (10519141)
W9	Cable	24-in., RG-58/U; BNC plug terminations (10519072)
W10	Cable	36-in., RG-581U; BNC plug to double banana plug terminations (7907471)
W12	Power Splitter	Weinschel, Model 1870A
W13	Termination	Boonton, Model 91-15A

SECTION II. Testing Procedures

3-3. POWER SUPPLY TEST

(fig. 3-2)

a.. Remove the top and bottom cover of the ME-526A/USM by removing screw at rear of each and slide to the rear and outward.

b Using a dc voltmeter, measure the voltage of the + 15 volt, - 15 volt and + 5 volt power supplies as follows.

(1) At the + side of capacitor Cl18, measure + 15 + 0 1 volts If necessary refer to power supply adjustments (para 3-21)

(2) At the negative side of capacitor Cl19, measure - 15 + 0.1 volts. If necessary refer to power supply adjustments (para 3-21).

(3) At the + side of capacitor C117, measure + 5 + 0.05 volts.

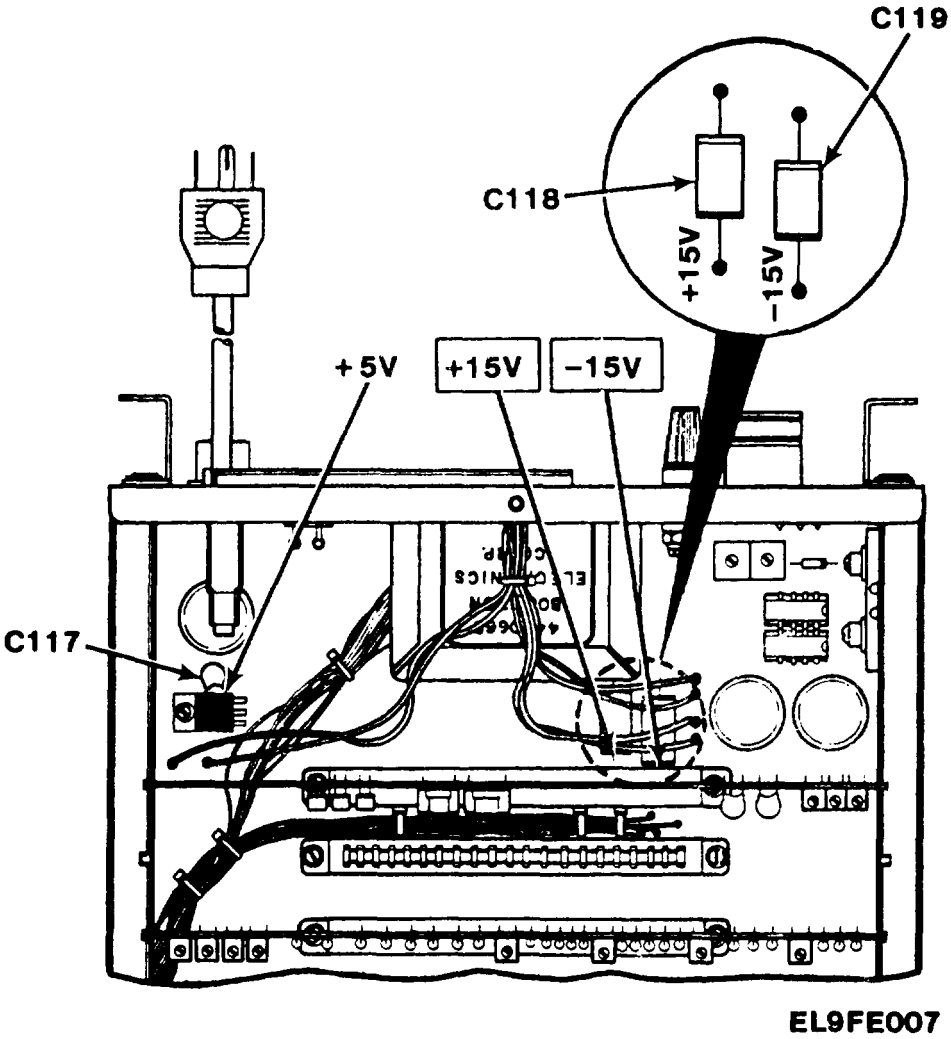


Figure 3-2. Voltage Measuring Points.

3-4. PERFORMANCE TEST

a. Connect the ME-526A/USM through the RF PROBE to the ac voltage standard.

b Apply power to the equipment and allow a 5 minute worm-up time.

c. Temporary remove **RF PROBE** from voltage standard and attach supplied 91-8B 50 Ω adapter for zeroing the ME-526A/USM if necessary.

d. Depress the **1 mV FULL SCALE** switch. Adjust the ac voltage standard for 100 kHz and 1.0 millivolt. The ME-526AIUSM must indicate between 0.97 and 1.03 mV.

e. For each **FULL SCALE mV** switch position, adjust the ac voltage standard for the ME-526A/USM indication given below.

Ac Standard	ME-526A/USM Reading	
millivolts)	minimum	maximum
3	2.94	3.06
10	9.80	10.2
30	29.4	30.6
100	98.0	102
300	294	306
1000	980	1020
3000	2940	3060

SECTION III. Removal of Assemblies

3-5. REMOVAL OF CHOPPER UNIT

fig. 3-3)

a. Disconnect ac power line from ac power source.

b. Remove top and bottom covers by removing one screw holding each, and slide covers to rear.

c. Disconnect chopper cap that connects chopper unit.

d. Remove chopper unit from chopper socket.

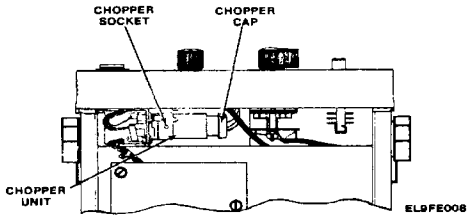


Figure 3-3. Removal of Chopper Unit;3.5

3-6. REMOVAL OF POWER TRANSFORMER T401

(fig. 3-4)

a. Disconnect ac power line from ac power source.

b. Remove top and bottom covers by removing one screw holding each, and slide covers to rear.

c. Disconnect six transformer T401 secondary leads from power supply and amplifier board.

d. Remove wire ties which retain transformer T401 wires.

e. Unsolder four primary wires from T401 at switch S402 on rear panel.

f. Remove two screws, washers and hexnuts which mount transformer T401 to rear panel and remove T401.

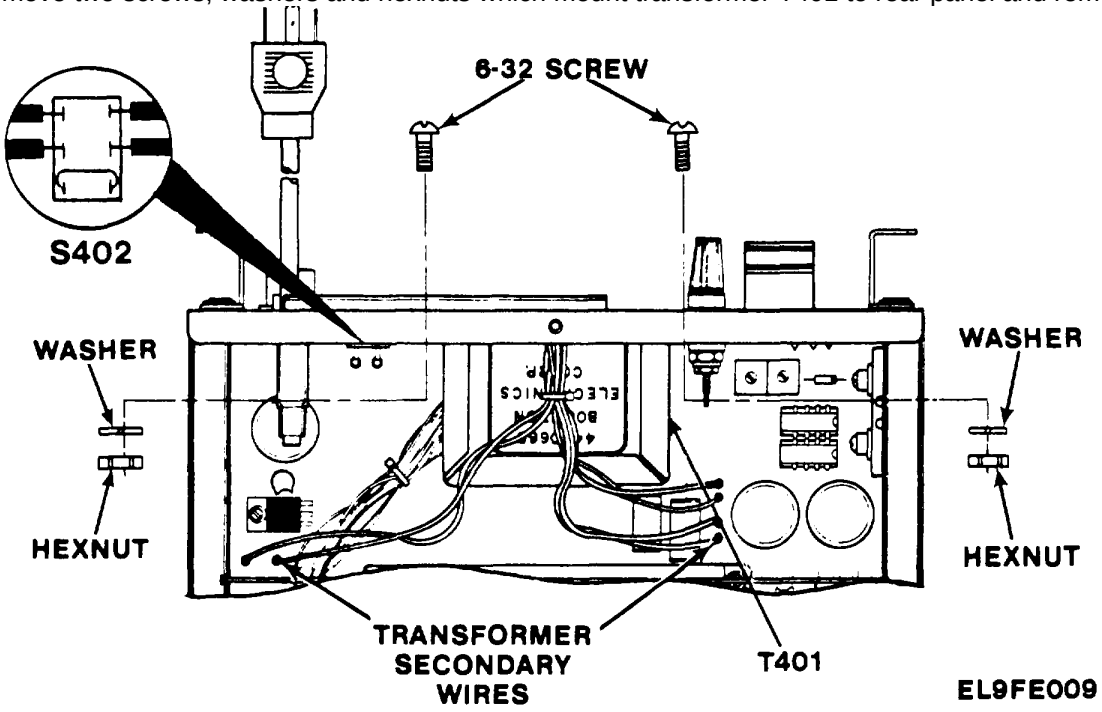


Figure 3-4. Removal of Transformer T401.

3-7. REMOVAL OF DISPLAY BOARD

(fig. 3-5, 3-6)

a. Disconnect ac power line from ac power source.

b. Remove top and bottom covers by removing one screw holding each and slide covers to rear.

c. Disconnect RF PROBE connector from front panel PROBE jack.

d. Using a 0.050 inch, hex key, remove the front panel ZERO knob and OFF-mV-dBm pointer knob.

e. Remove the top and bottom hold-down strips by removing three screws from the rear of each hold-down strip.

f. Remove the front panel.

g. Remove the two fiberglass board retainers from the top of display board and AID converter board.

h. Lift the display board from its connectors on the counter board.

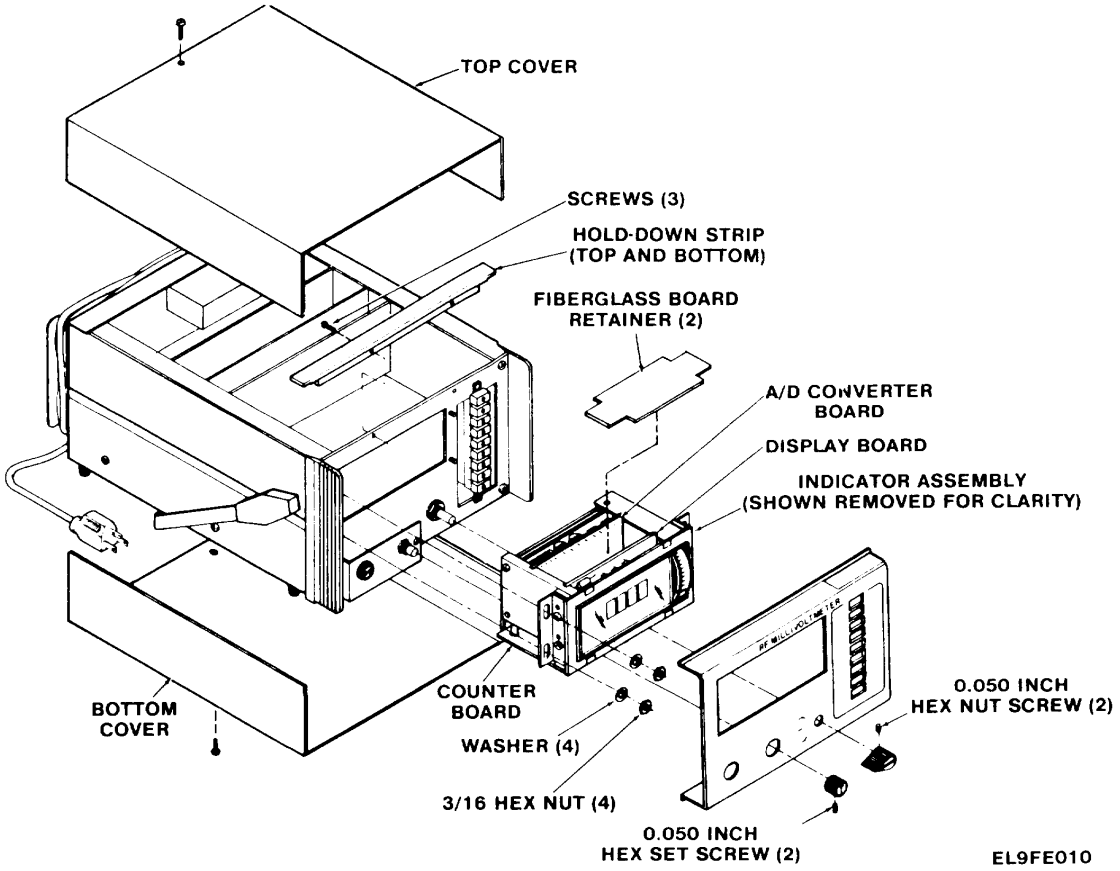


Figure 3-5. Exploded View of ME-526A/USM Front Panel Assembly

3-8. REMOVAL OF A/D CONVERTER BOARD

(fig. 3-6)

a. Disconnect ac power line from ac power source.

b. Remove top and bottom covers by removing one screw holding each and slide covers to rear.

c. Remove the two fiberglass board retainers from the top of the display board and A/D converter board

d. Lift the A/D converter board from Its connector on the counter board

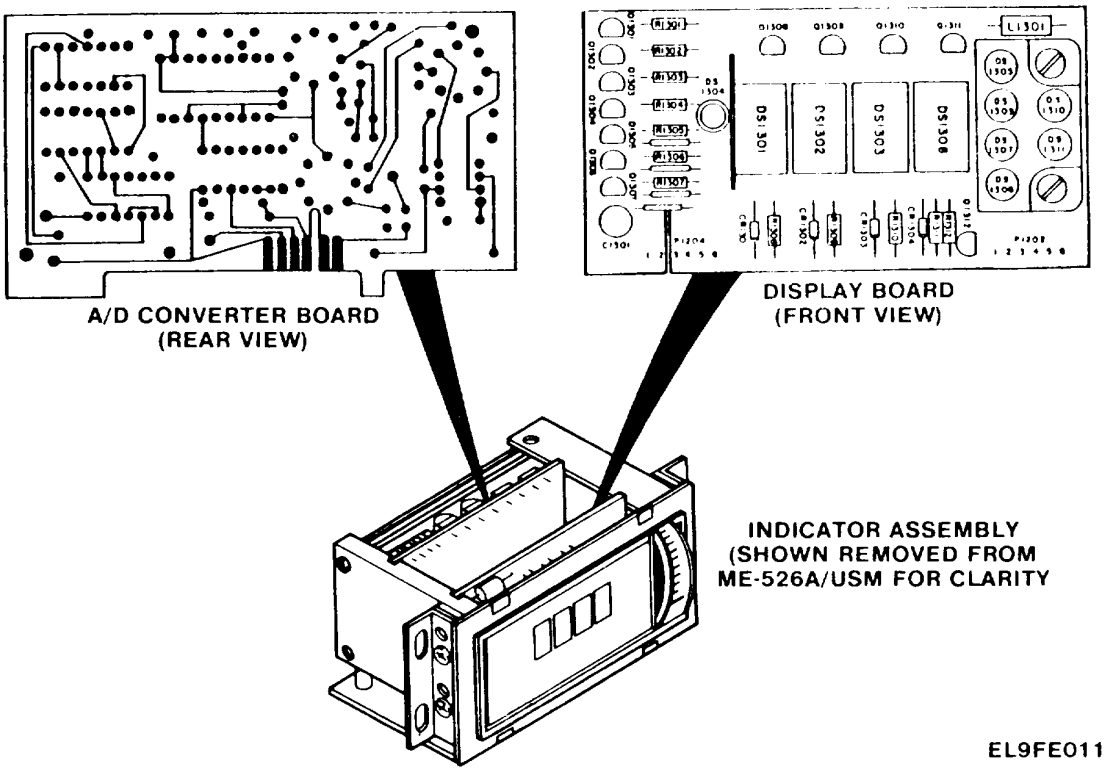


Figure 3-6. Removal of AID Converter Board and Display Board.

3-9. REMOVAL OF COUNTER BOARD

(fig. 3-7)

a. Disconnect ac power line from ac power source.

b. Disconnect RF PROBE connector from front panel PROBE jack.

c. Remove top and bottom covers by removing one screw holding each, and slide covers to rear (para 3-7).

d. Using a 0.050 inch hex key, remove the front panel ZERO knob and OFF-mV-dBm pointer knob.

e. Remove the top and bottom hold-down strips by removing three screws from the rear of each hold-down strip.

f. Remove front panel.

g. Disconnect the connector at the rear of the counter board.

h. Using a 3/16 hex wrench remove the four nuts and washers retaining the indicator assembly.

i. Remove the indicator assembly by moving it forward and out of the ME-526A/USM.

j. Remove the two fiberglass board retainers from the top of display board and AID converter board and move display board and AID counter board.

k. Disconnect the red and black wires from the counter board.

l. Remove the four screws and washers from beneath the counter board and remove the counter board.

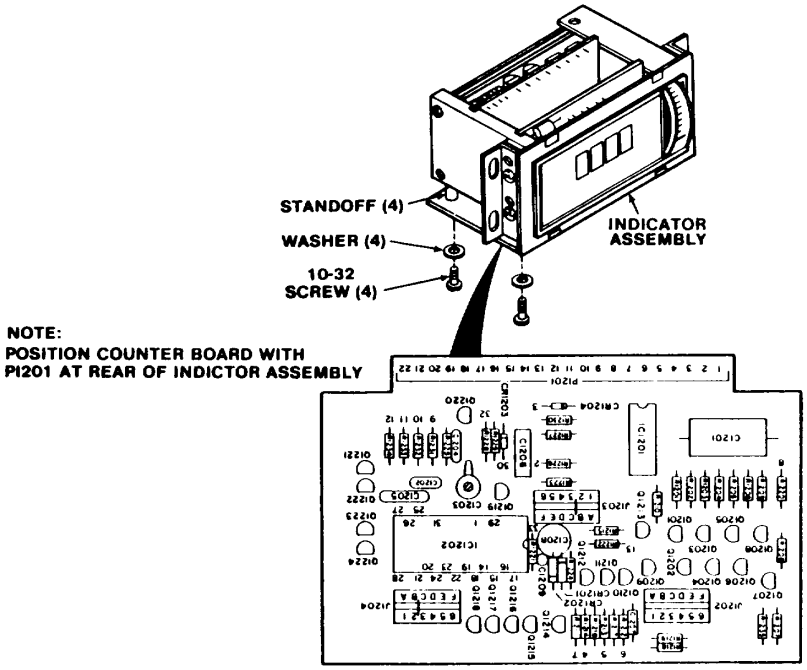


Figure 3-7. Removal of Counter Board. EL9FEO12

3-10. REMOVAL OF POWER SUPPLY AND AMPLIFIER BOARD
(fig. 3-8, 3-9)

a Disconnect ac power line from ac power source.

b. Remove top and bottom covers by removing one screw holding each. and slide covers to rear.

c On the bottom of the power supply and amplifier board, remove the shield by removing three screws

d On the top side of the board, remove the shield (with standoffs) that was loosened when bottom side shield was removed

e. With the ME-526A/USM upright, using the board puller, remove the digital control board and the shaping amplifier board

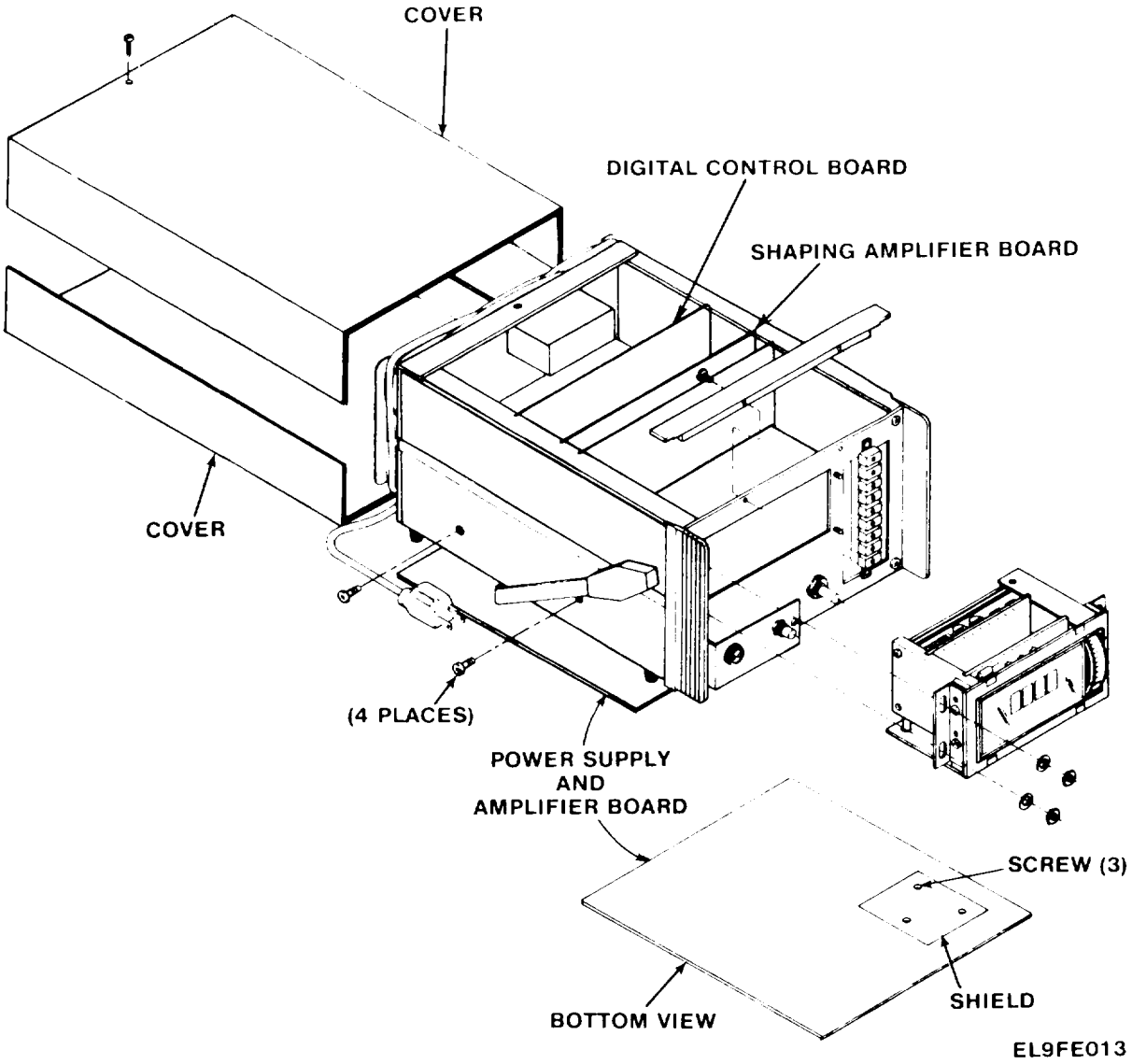


Figure 3-8. Removal of Power Supply and Amplifier Board.

3-10. REMOVAL OF POWER SUPPLY AND AMPLIFIER - CONTINUED

f. At the chopper disconnect the chopper top cap connector (para 3-5) and, using a board puller, remove the chopper driver board.

g. Remove indicator assembly (para 3-9 a through i)

h. Disconnect transformer T401 secondary wires connected to the power supply and amplifier board.

i. Disconnect the black and the white with blue tracer wires that connect to the RECORDER terminals (+ and - (ground)).

j. Disconnect the brown, red and orange wires from the ZERO control.

k. Disconnect the 10 wires from the FULL SCALE function switches. The colors for these wires are etched on the power supply and amplifier board.

I. Disconnect black wire and white wire from the OFF-mV switch at the power supply and amplifier board.

m. Place ME-526A/USM upside down and unsolder chopper wires that were exposed when the shield (above) was removed.

n. Remove the four retaining screws and washers from the sides of the ME-526A/USM that hold the board in p**lace** and the two screws holding IC101 and IC102 heat sink. A cable clamp and three round eccentric nuts will fall **free.**

o Remove the power supply and amplifier board from the bottom side of the ME-526A/USM.

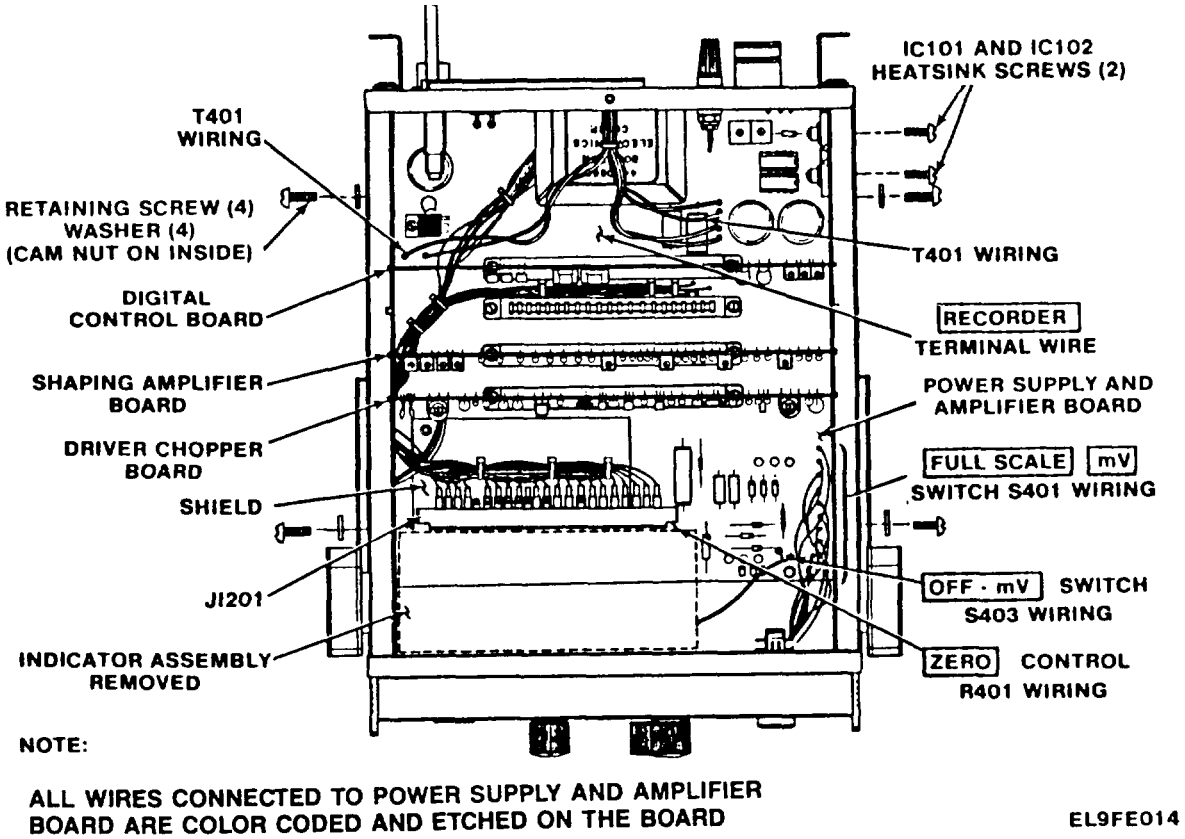


Figure 3-9. Removal of Power Supply and Amplifier Board (Top View).

3-11. REMOVAL OF HANDLE ASSEMBLIES

(fig. 3-10)

a. Pry the detent cover away from the handle detent.

b. Remove the two flathead screws from the handle. The handle and spring will become free from the han dle detent and hub detent. Remove the screw from the center of the hub detent.

c. If necessary, remove other handle assembly as described in a. and *b.* above.

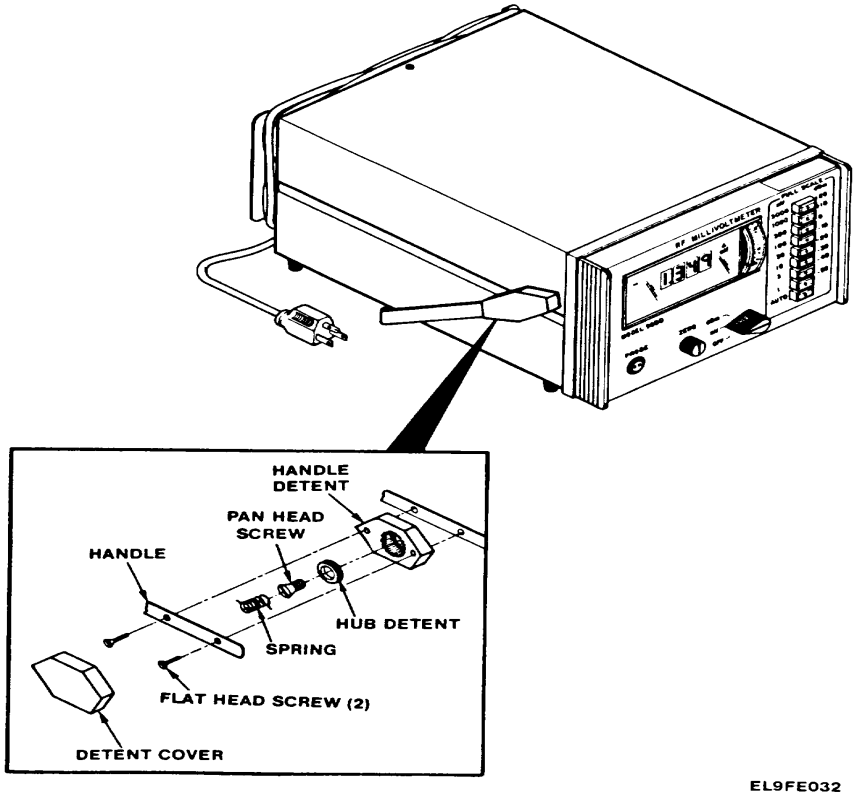


Figure 3-10. Removal of Handle Assemblies, ME-526A/USM.

SECTION IV. Replacement of Assemblies

3-12. REPLACEMENT OF CHOPPER UNIT

(fig. 3-11)

a. Install chopper unit into chopper socket from beneath the ME-526AIUSM.

b. Replace chopper cap which connects to the chopper unit.

c. Replace top and bottom covers by sliding each into slots on top and bottom hold-down strips of ME-526A/USM. Retain covers with screw at the rear of each cover.

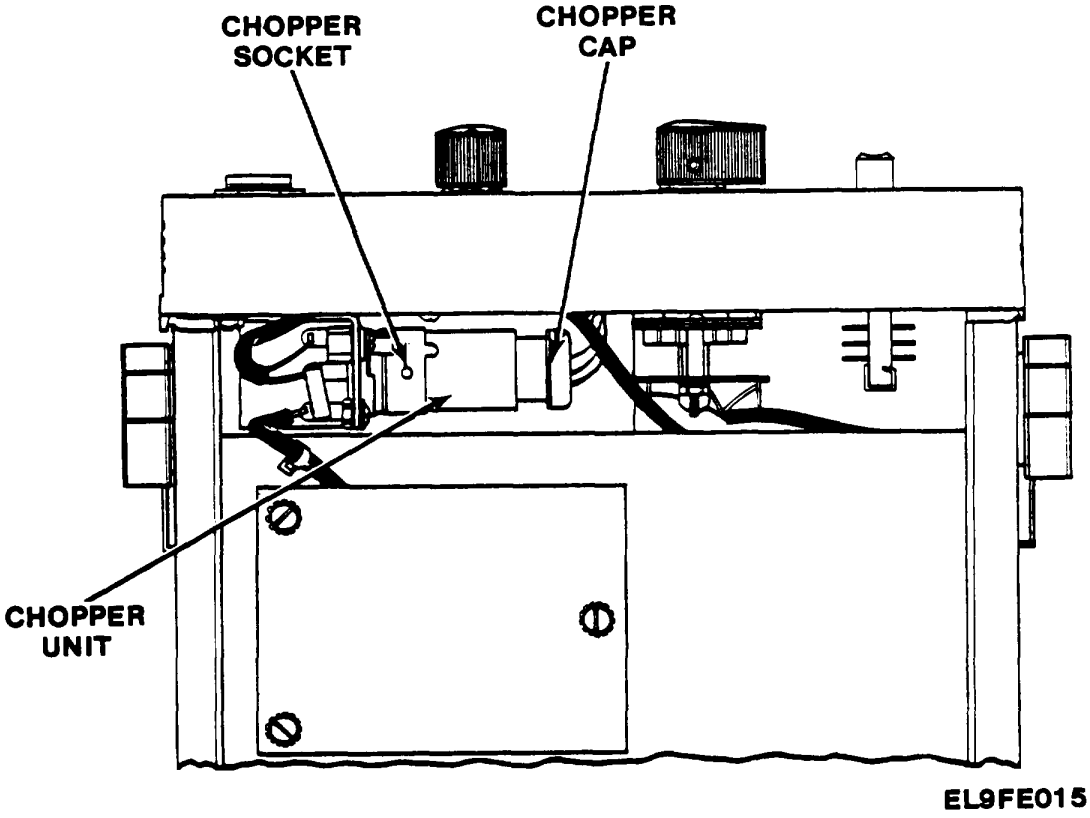


Figure 3-11. Replacement of Chopper Unit.

3-13. REPLACEMENT OF POWER TRANSFORMER T401
(fig. 3-12)

a. Mount T401 to rear panel using two screws, washers and hexnuts.

b. Strip and solder black with white tracer and black with red tracer wires to center terminals of switch S402.

c. Strip and solder secondary wires to pin jacks and connect to terminals on power supply and amplifier board. Wire colors are etched on board.

d. Replace top and bottom covers by sliding each into slots on top and bottom hold-down strips of ME- 526A/USM. Retain covers with screw at the rear of each cover.

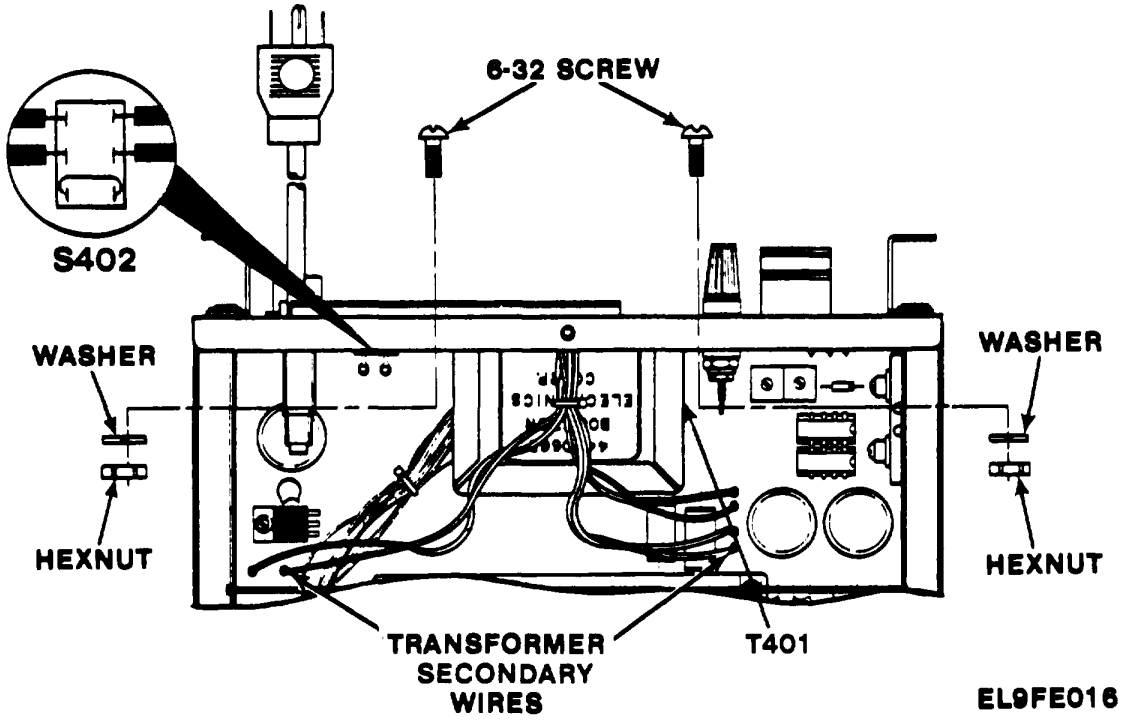


Figure 3-12. Replacement of Transformer T401.

3-14. REPLACEMENT OF DISPLAY BOARD
(fig. 3-13)

a. Install the display board into its connector on the counter board.

b. Install the two fiberglass board retainers.

c. Place the front panel in position and install the top and bottom hold-down strips using three screws and washers on each.

d. Using a 0.05 inch hex key install the round ZERO knob and the pointed power OFF-mV dBm knob. Verify that pointed knob points to OFF in the full ccw position of the switch.

e. Replace the top and bottom covers by sliding each Into slots on top and bottom hold-down strips and retain covers with screw at rear of each cover.

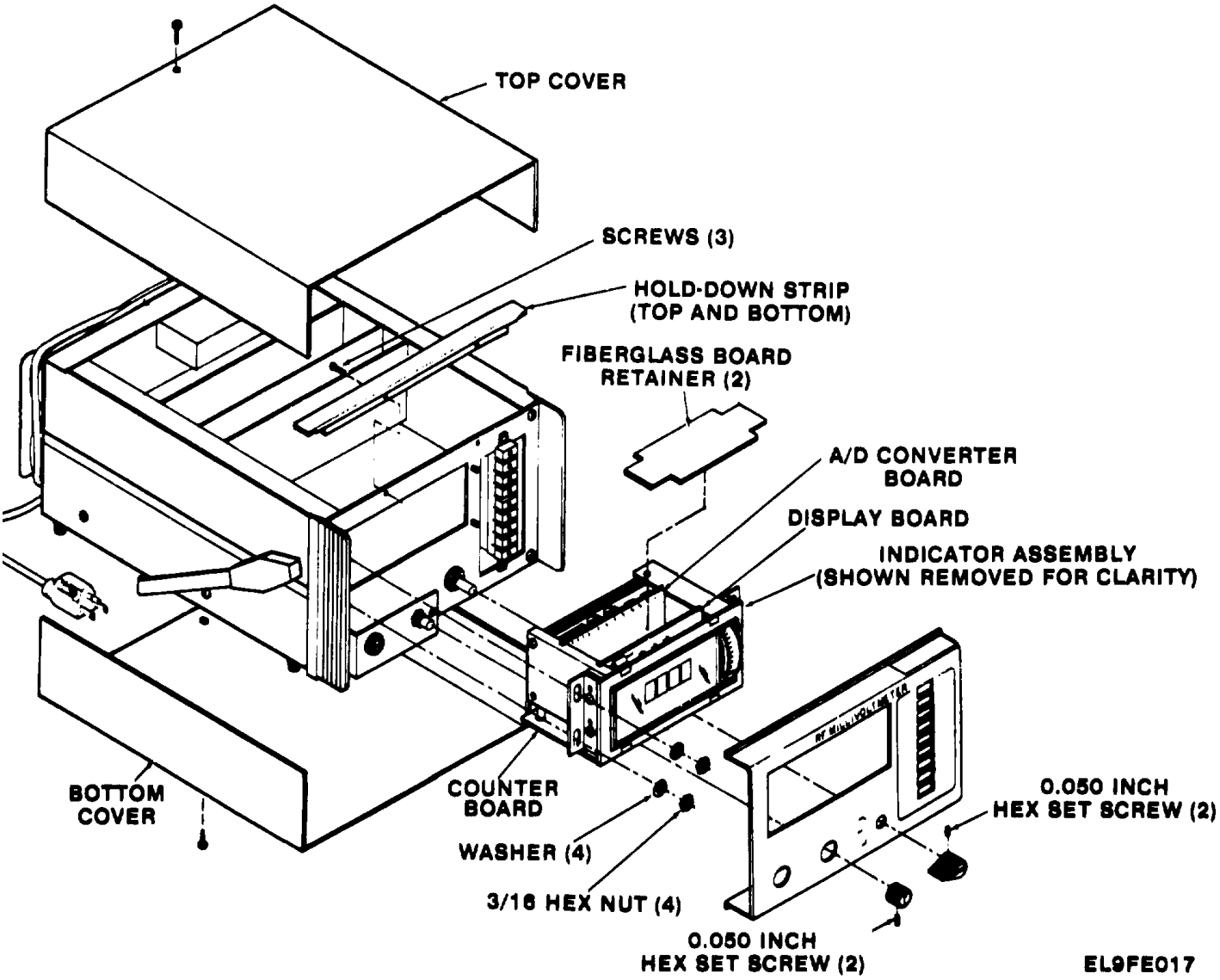


Figure 3-13. Replacement of Indicator Assembly.

3-15. REPLACEMENT OF A/D CONVERTER BOARD

(figs. 3-13, 3-14)

a. Install the A/D converter board in its connector on the counter board.

b. Install the two fiberglass board retainers.

c. Replace the lop) and bottom covers by sliding each into slots on top and bottom hold-down strips of ME-526AIUSM. Retain covers with screw at rear of each cover.

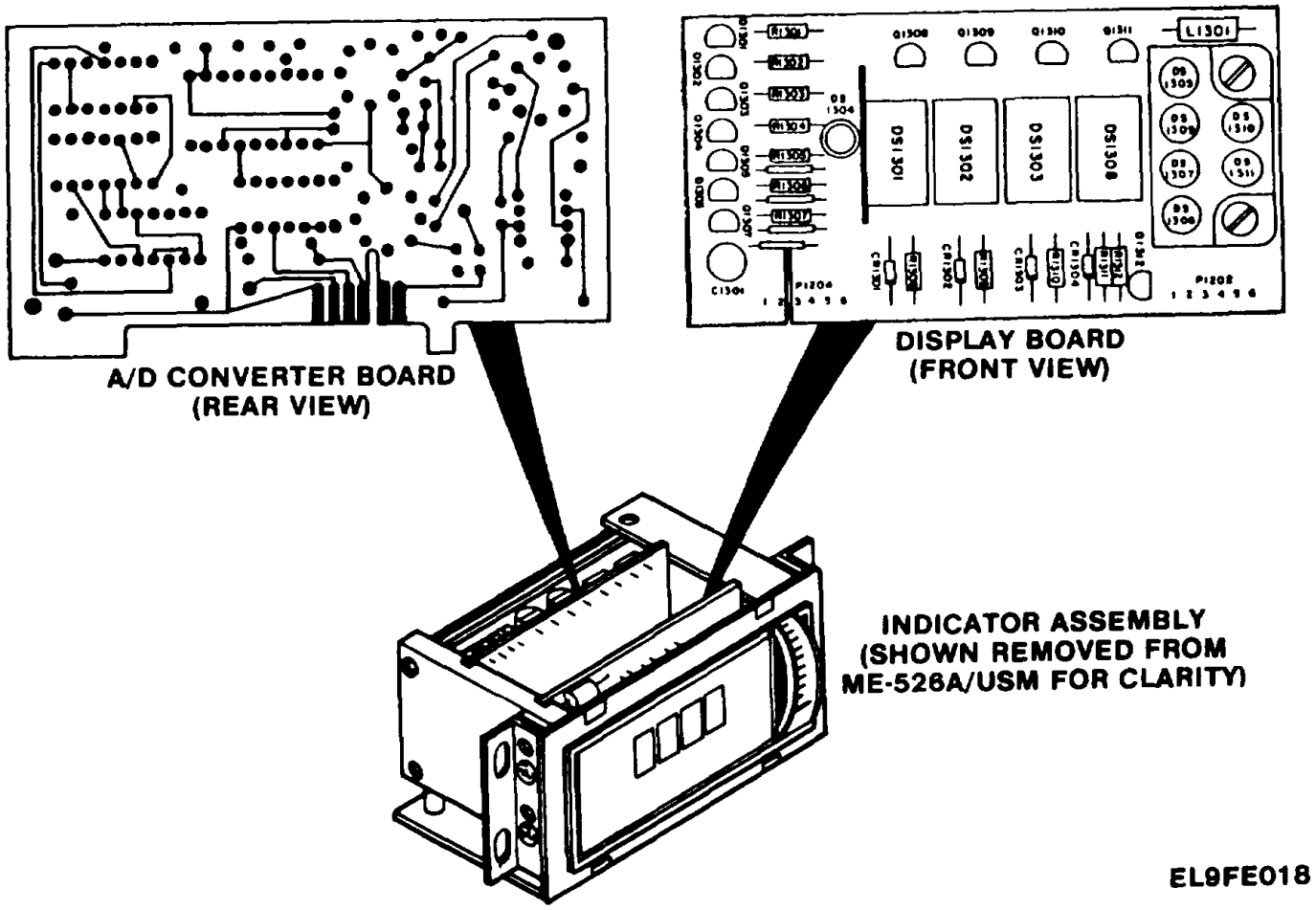


Figure 3-14. Replacement of A/D Converter and Display Boards.

3-16. REPLACEMENT OF COUNTER BOARD

(figs 3-13, 3-15)

a. Place the counter board on the indicator assembly so the four mounting holes align and with connector P1201 towards rear. Install the four mounting screws and washers.

b. Connect the red and black wires to the counter board. The red and black wires are from the rear of the dBm meter.

c. Reinstall the display board, *AID* converter board and the fiberglass board retainers.

d. Install the indicator assembly into the ME-526A/USM and fasten in place using four 3/16 hex nuts and lockwashers.

e. Connect J1201 to P1201 at rear of counter board.

f. Place the front panel in place and install the top and bottom hold-down strips with three screws and lockwashers on each.

g. Using a 0.050 inch hex key, install the round ZERO knob and the pointed power OFF-mV knob. Verify that pointed knob points to OFF In the full ccw position.

h. Replace the top and bottom covers by sliding each into slots on top and bottom hold-down strips of the ME-526A/USM. Retain covers with screw at rear of each cover.

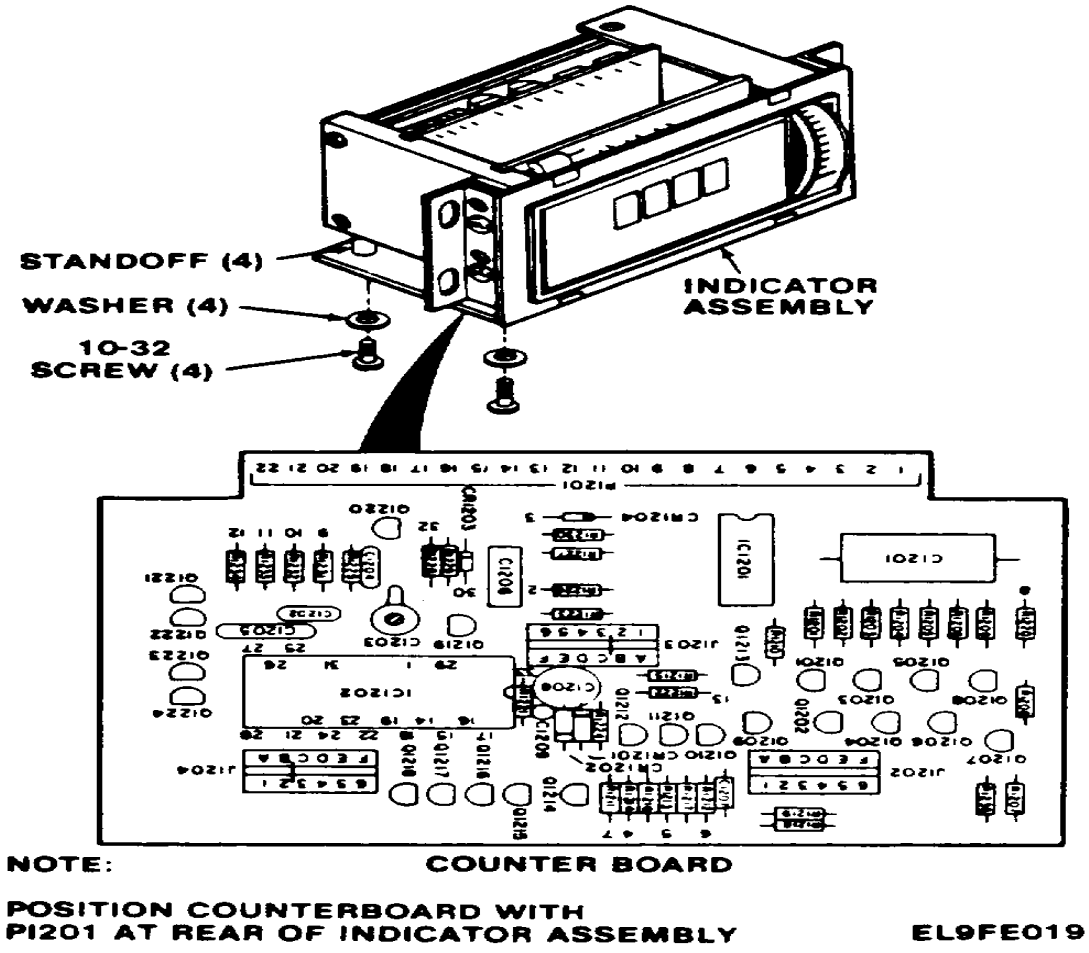


Figure 3-15. Replacement of Counter Board

3-17. REPLACEMENT OF POWER SUPPLY AND AMPLIFIER BOARD

(figs. 3-16, 3-17)

a. Position the power supply and amplifier board from beneath the ME-526A/USM so that it aligns with the mounting holes on the sides of the ME-526A/USM.

b. Install two screws and washers, from the outside, into the heatsink. Install two cable clamps under the right front and rear cam nuts to hold gray and white wires.

c. Install four screws and washers from the outside into the cam nuts so that the cam nuts anchor the power supply and amplifier board to the ME-526A/USM main chassis.

d. From beneath the board, solder the red and white wires which connect to the chopper socket.

e. Reconnect tile 10 wires from tile FULL SCALE switches. Wire colors are Indicated on the oil the board.

f. Reconnect black and white wires from the OFF .mV switch.

g. Reconnect the brown, red and orange wires from the ZERO control (colors are indicated on the board).

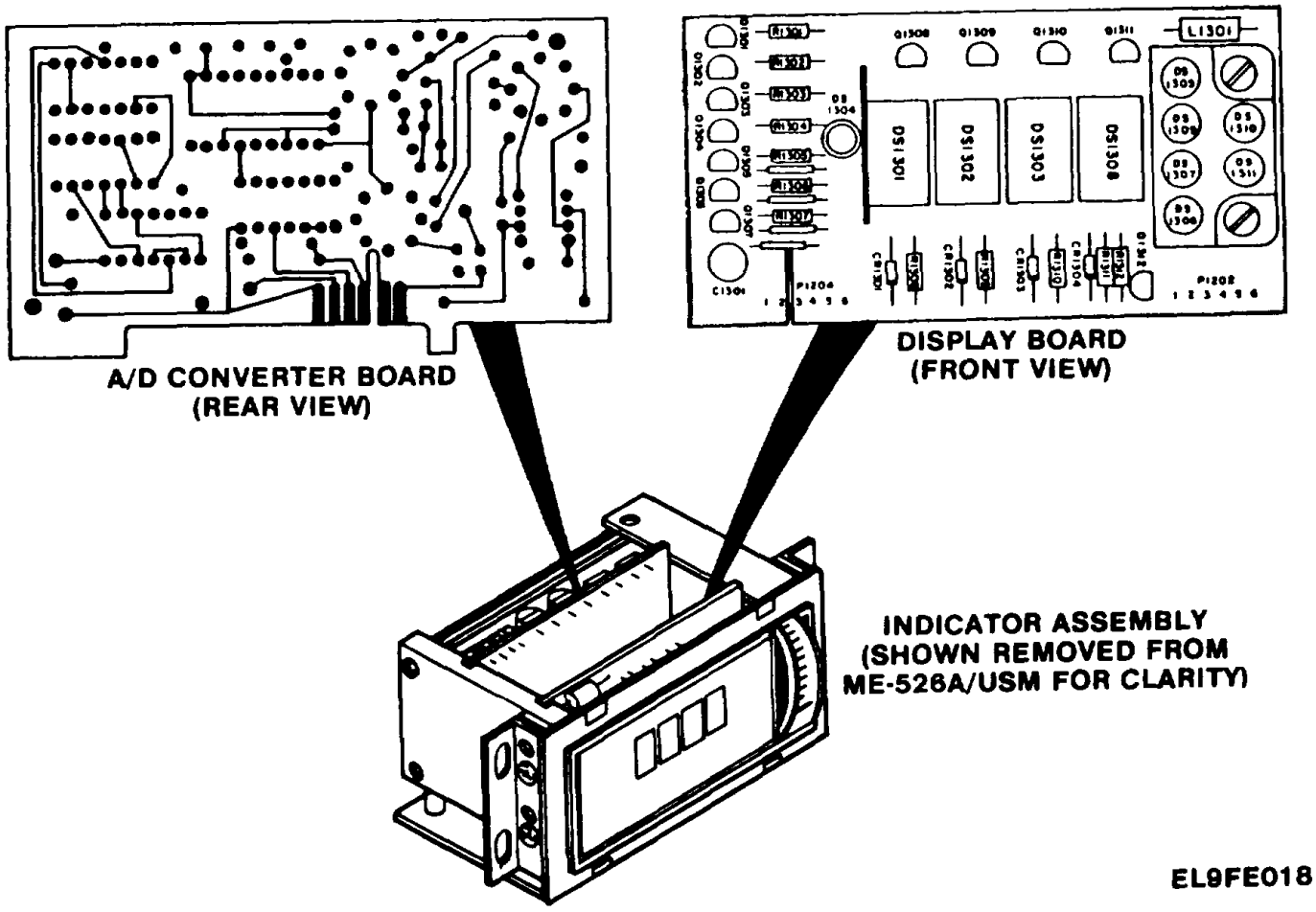


Figure 3-16. Replacement or Power supply and Amplifier Board (Top View).

3-17. REPLACEMENT OF POWER SUPPLY AND AMPLIFIER BOARD - CONTINUED
(figs. 3-16, 3-17)

h. Reconnect the black and white with blue tracer wires that connect to the RECORDER terminals (+ and - (ground)).

i. Trim and solder the six T401 secondary wires to pin connectors and connect to terminal on the board. Wire colors are etched on the board.

j. Install digital control board and shaping amplifier board.

k. Install the chopper driver board. Connect the chopper connector cap to the chopper unit.

l. On the top side of the board, place the top shield with three standoffs in place over the mounting holes.

m. On the bottom side of the board, place the bottom shield in position and fasten the top and bottom shields together using three screws and washers.

n. Replace bottom and top covers by sliding each into slots on top and bottom hold-down strips and retain covers with screws at the rear of each.

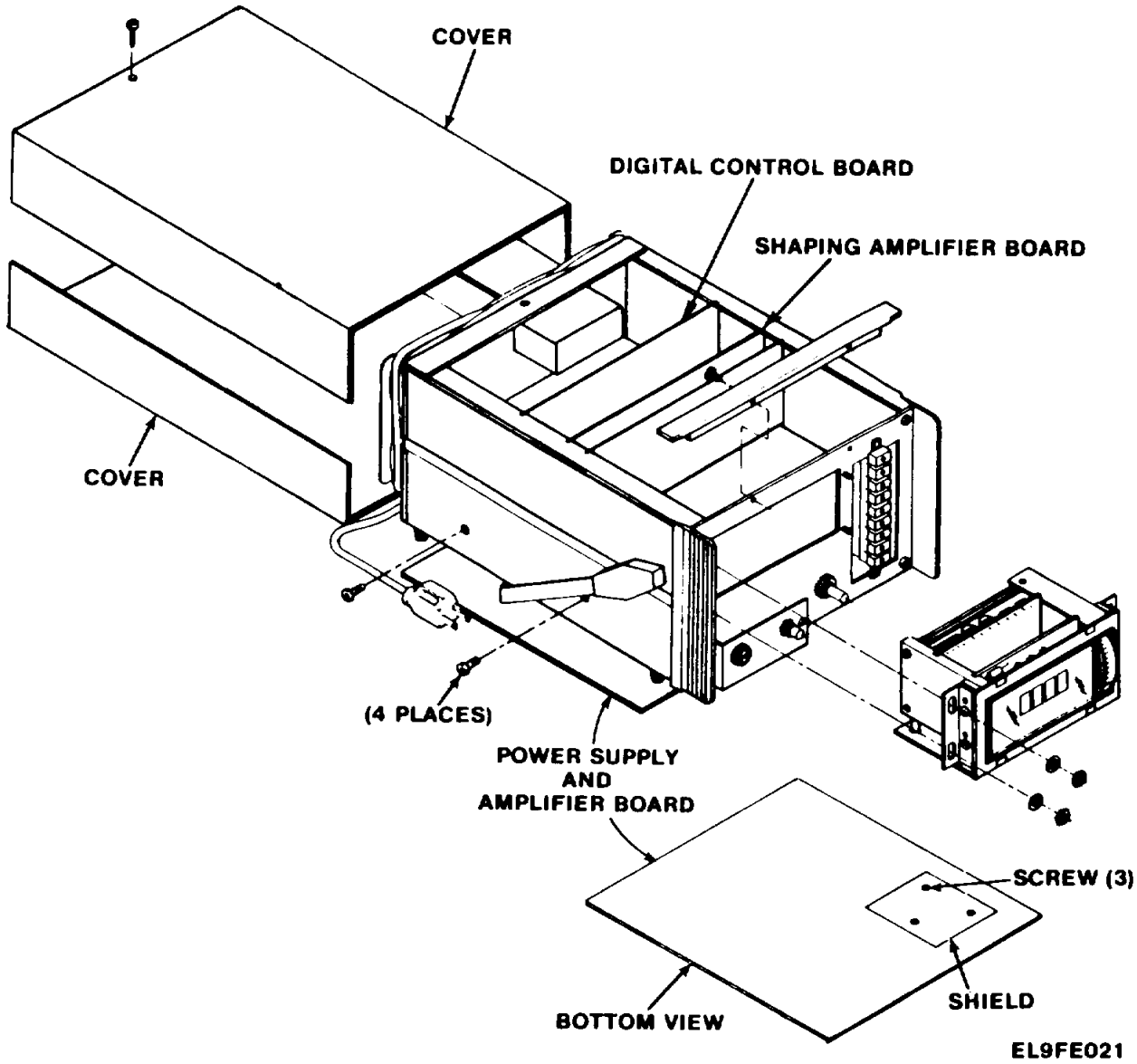


Figure 3-17. Replacement of Power Supply and Amplifier Board.

3-18. REPLACEMENT OF HANDLE ASSEMBLIES
(fig. 3-18)

a. Assemble the hub detent and handle detent and position over mounting hole on side of ME-526AIUSM.

b. Fasten handle detent and hub detent to ME-526AIUSM case using slotted pan head screw.

c. Place the spring between the handle and hub detent. Hold in place while fastening handle to the handle detent with two flathead screws.

d. Place detent cover over the handle assembly.

e. If necessary, replace opposite side handle assembly as described in a through d above.

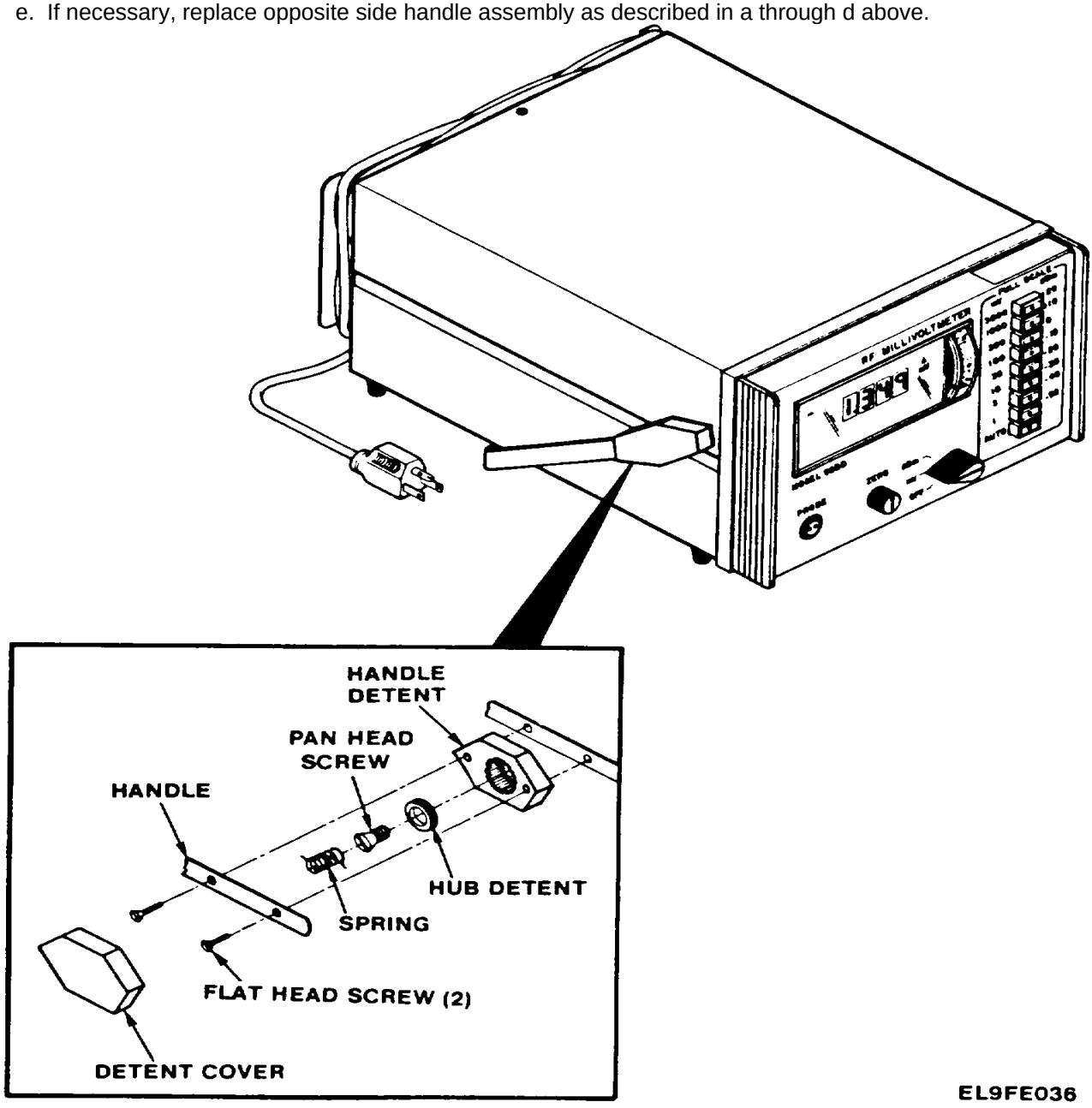


Figure 3-18. Replacement of Handle Assemblies, ME-526A/USM.

SECTION V. Troubleshooting

3-19. INTRODUCTION

- The following information will be helpful in troubleshooting the ME-526A/USM.

a. Parts location Illustrations may be used to locate components on the circuit boards and main chassis.

b. Schematic diagrams may be used in conjunction with the parts location illustration to locate check and test points.

NOTES

1. Reference numbers are not labeled on circuit boards or on the ME-526A/USM. Therefore, parts location illustrations are given to enable a technician to locate test or measuring points.

2. All circuit boards in the ME-526AIUSM are replaceable and not repairable.

3. During troubleshooting, for each malfunction, perform the power supply measurements and adjustments, when necessary, if not performed in a previous malfunction step.

4. When an equipment malfunction has been corrected (replacement of board or power supply adjustment) perform the adjustment procedures.

3-20. TROUBLESHOOTING

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

1. NO METER DISPLAY

NOTE

If this MALFUNCTION occurs only after a relatively long period of time after turn-on, check the primary voltages of transformer T401 when used with 120-volt (nominal) ac primary power. Check switch S402 for possible open.

Step 1. Verify ac power is present at primary of transformer T401.

a. Check continuity from black wire of ac line cord to black wire of T401 (power switch in mV position).

b. If open circuit and fuse T401 faulty, go to Step 2.

c. Check continuity from ac power connector to transformer T401 (black wire with yellow tracer).

d. If satisfactory, perform Step 2.

Step 2. Verify that replacement fuse F401 opens upon application of ac power to the M E-526A/US M.

• If fuse opens, disconnect secondary connections to power supply and amplifier board, replace fuse F401 and apply power to ME-526A/USM.

• If fuse opens, replace power transformer T401.

• If fuse does not open, replace power supply and amplifier board.

Step 3. Verify + 15 volt, - 15 volt and + 5 volt power supply voltages are present.

3-**20. TROUBLESHOOTING** - CONTINUED

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

2. BLANK DISPLAY

Step 1. Substitute digital control board A7. Verify operation of mV display.

• Replace A7 board if mV display appears.

Step 2. Substitute display board A3. Verify operation of mV display.

• Replace A3 board if my display appears.

Step 3. Substitute counter board A2. Verify operation of mV display.

• Replace A2 board if mV display appears.

3. NO MINUS SIGN DISPLAYED ON INDICATOR.

Substitute display board A3 and verify operation by using ac voltage standard.

• Replace A3 board if malfunction is corrected.

4. FAULTY NUMERIC DISPLAY OR DECIMAL READING

Step 1. Substitute display board A3. Verify operation by using ac voltage standard.

• Replace A3 board if malfunction is corrected.

Step 2. Substitute counter board A2. Verify operation by using ac voltage standard.

• Replace A2 board if malfunction is corrected.

5. FAULTY OVER RANGE (A) OR UNDER RANGE () INDICATION.

Step 1. Substitute digital control board A7. Verify over or under range operation by using ac voltage standard.

• Replace A7 board if malfunction is corrected.

Step 2. Substitute digital board A3. Verify over or under range operation by using ac voltage standard.

• Replace A3 board if malfunction is corrected.

3-20. TROUBLESHOOTING - CONTINUED

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION

5. FAULTY OVER RANGE (A) OR UNDER RANGE (V) INDICATION - CONTINUED

Step 3. Substitute counter board A2. Verify over-under range operation by using ac voltage standard.

• **Replace A2 board if malfunction Is corrected**.

6. NO CHANGE IN DIGITAL DISPLAY WITH RF INCREASE OR DECREASE

Step 1. Substitute AID converter board and verify ME-526A/USM operation using ac voltage standard.

• Replace AID converter board if malfunction is corrected.

Step 2. Substitute chopper driver board and verify ME-526A/USM operation using ac voltage standard.

• Replace chopper driver board if malfunction is corrected.

Step 3. Substitute counter board and verify ME-526A/USM operation using ac voltage standard.

• Replace counter board if malfunction is corrected.

7. DIGITAL DISPLAY INCORRECT ON ANY OR ALL RANGES

Step 1. Check RF PROBE

a. Disconnect RF PROBE connector at PROBE jack.
b. Apply a 1-volt ac voltage to the RF PROBE input.
c. Measure 2.5 volts dc at RF PROBE connector pins 1 and 2.

• Calibrate new** RF PROBE to ME-526A/USM **if new RF PROBE is required.

Step 2. Check chopper

a. Connect RF probe and apply ac voltage standard.
b. Check for 94 Hz chopper output (junction of capacitor C206 and black wire from chopper connector or pin 3 of chopper socket).

****Replace chopper.***

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION	
7. DI**GITAL** DI**SPLAY** INCORRECT ON ANY OR ALL RANGES - CONTINUED	
	Step 3. Substitute shaping amplifier board. Apply ac voltage standard and check inoperable full scale ranges. ***• Replace shaping amplifier board, if required.***
	Step 4 Install shaping amplifier board on card extender and install in ME-526A/USM.
card	*a*. Apply ac voltage standard for each faulty range. Using a multimeter set to measure + 10 volts dc, measure + 10 volts at pin Z on extender with ac power applied to the ME-526A/USM and ac voltage standard applied at a level of a faulty range.
	b. If satisfactory, check for - 3 volts dc at pin B. If satisfactory, reinstall shaping amplifier board and perform step 5.
	• Replace shaping amplifier board and perform power supply adjustment procedures as required.
	Step 5. Install chopper driver board on card extender and install in ME-526A/USM.
	a. Apply ac voltage standard for each faulty range. Using an oscilloscope adjusted to view a 90 Hz 3-volt peak-to-peak square wave, check waveform at pin Z on extender board. Observe a square wave at approximately 90 Hz and 3.1 volts peak-to-peak.
	b. If waveform satisfactory, replace the chopper driver board.
	c. If waveform unsatisfactory on any faulty range, replace shaping amplified board.
	d. When either the chopper driver board or the shaping amplifier board is replaced, the ME-526A/USM must be calibrated.
	• Replace board(s) as required.

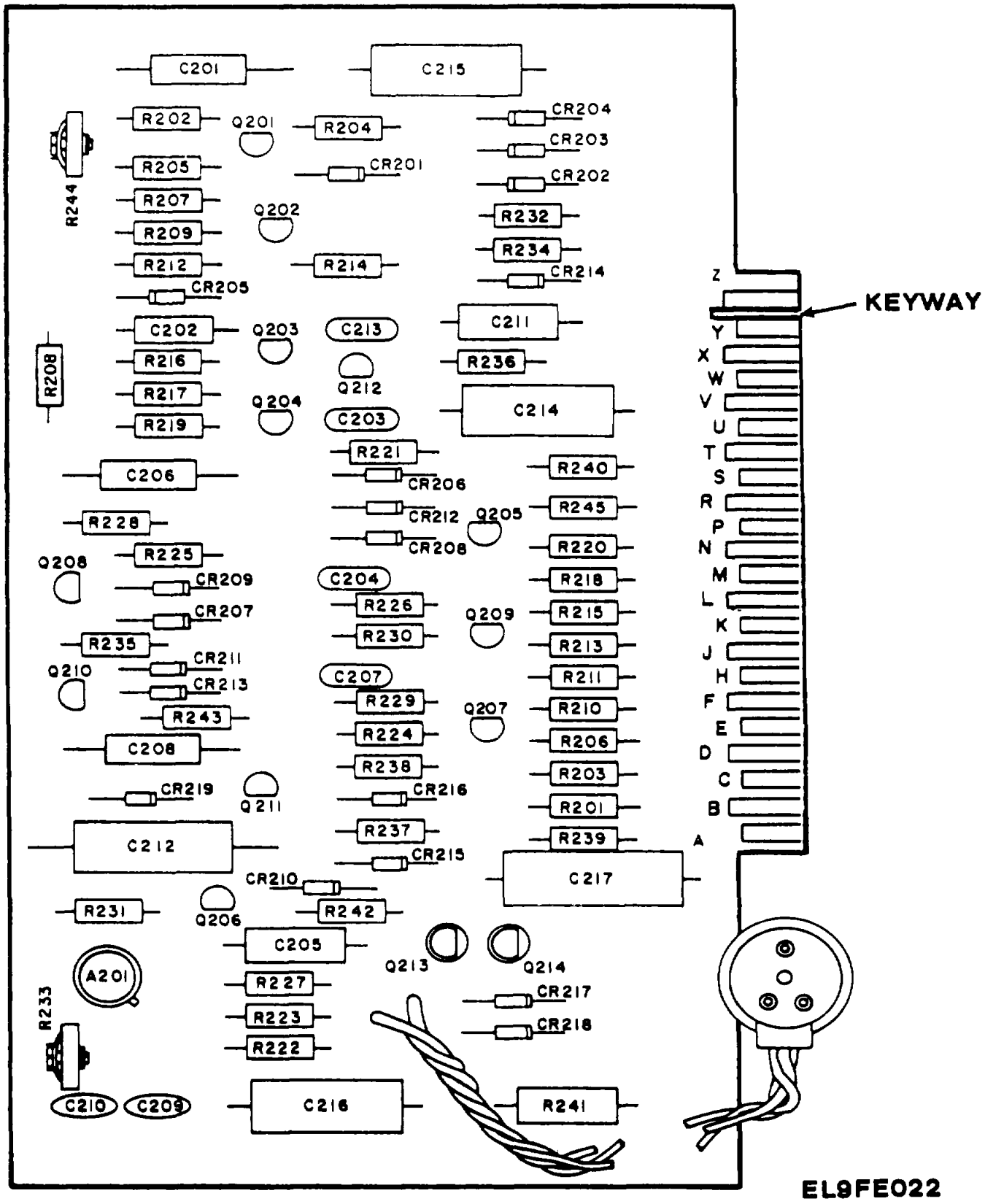


Figure 3-19. Chopper Driver Board Parts Location.

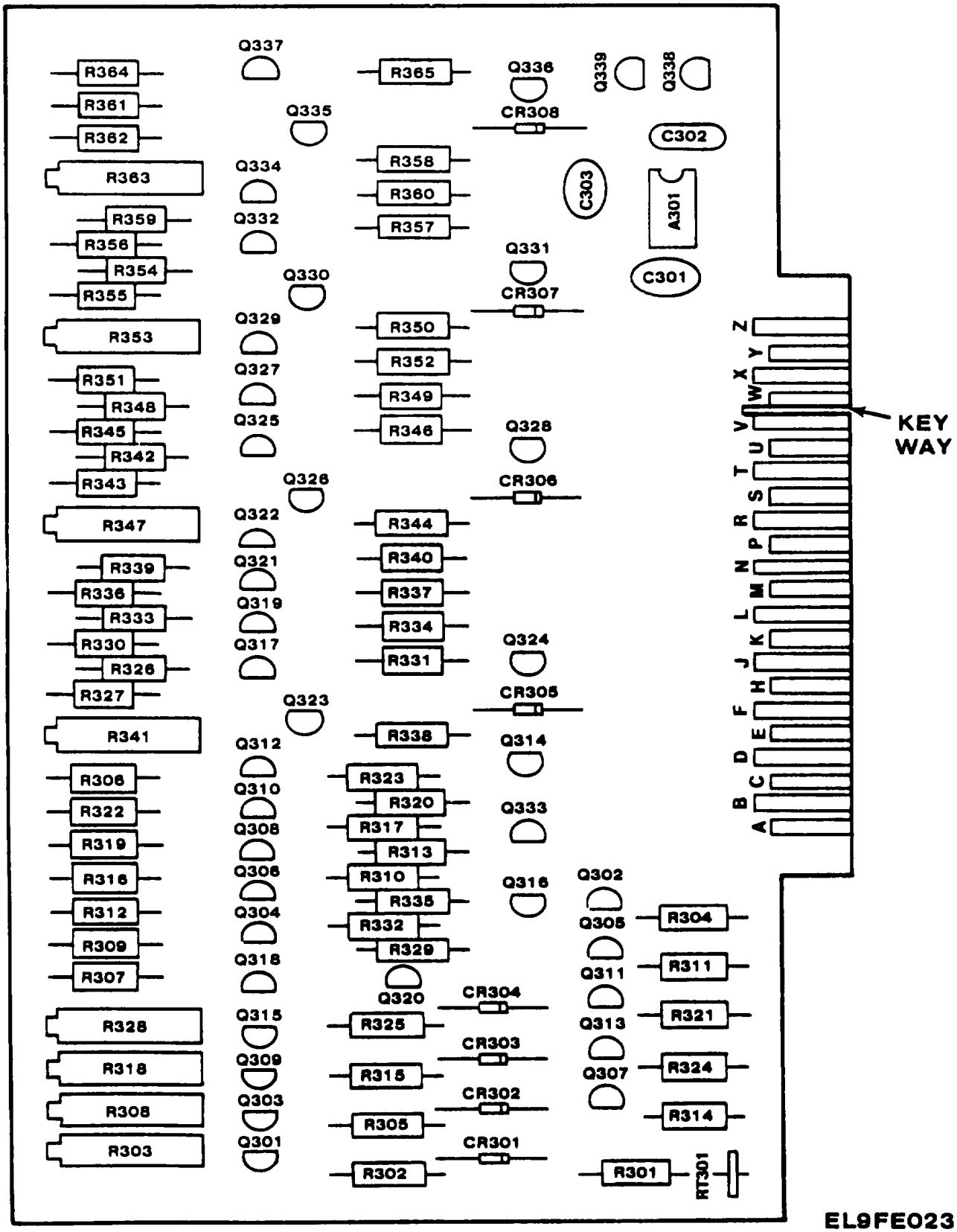


Figure 3-20. Shaping Amplifier Board Parts Location.

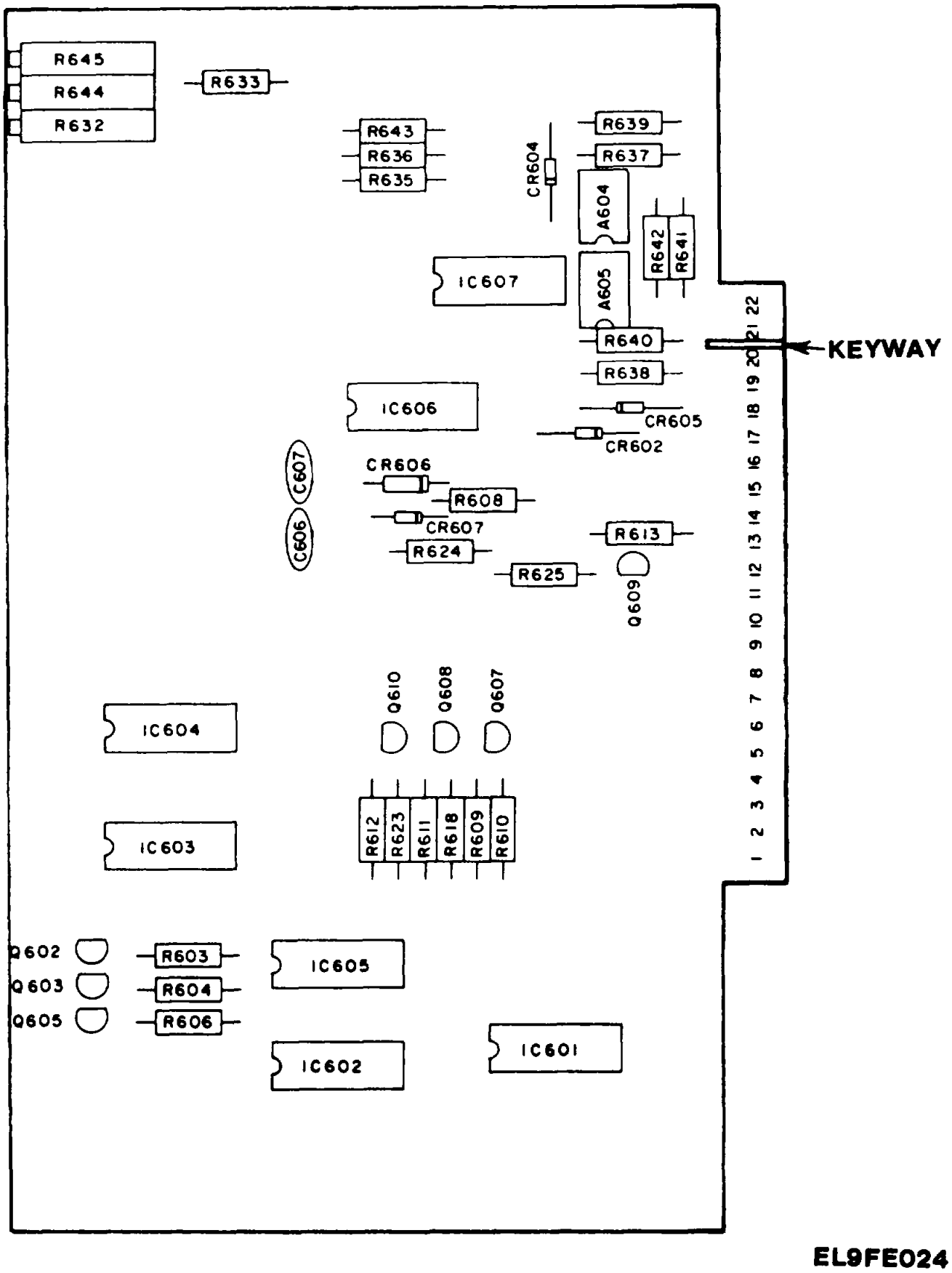


Figure 3-21. Digital Control Board Parts Location.

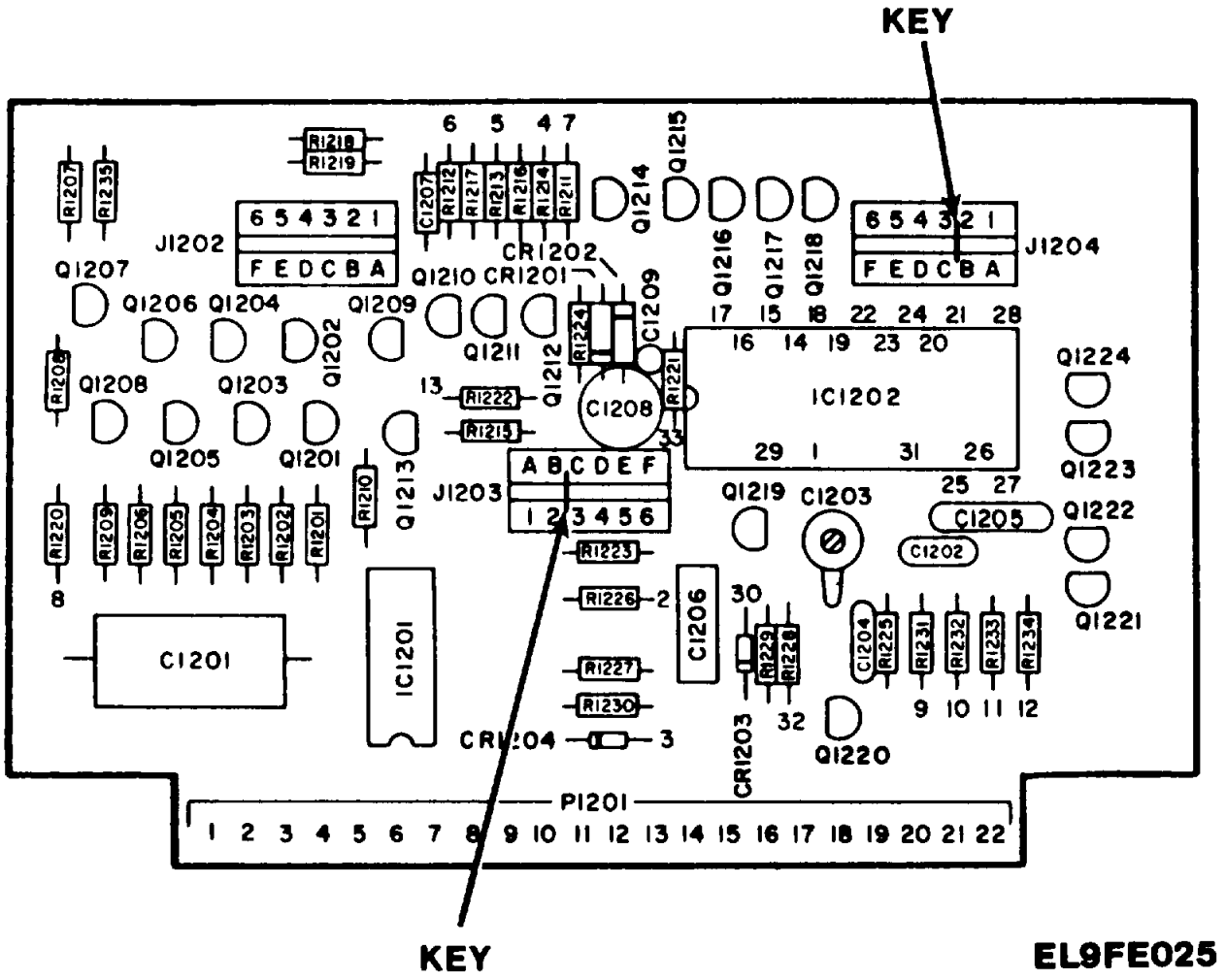


Figure 3-22. Counter Board Parts Location.

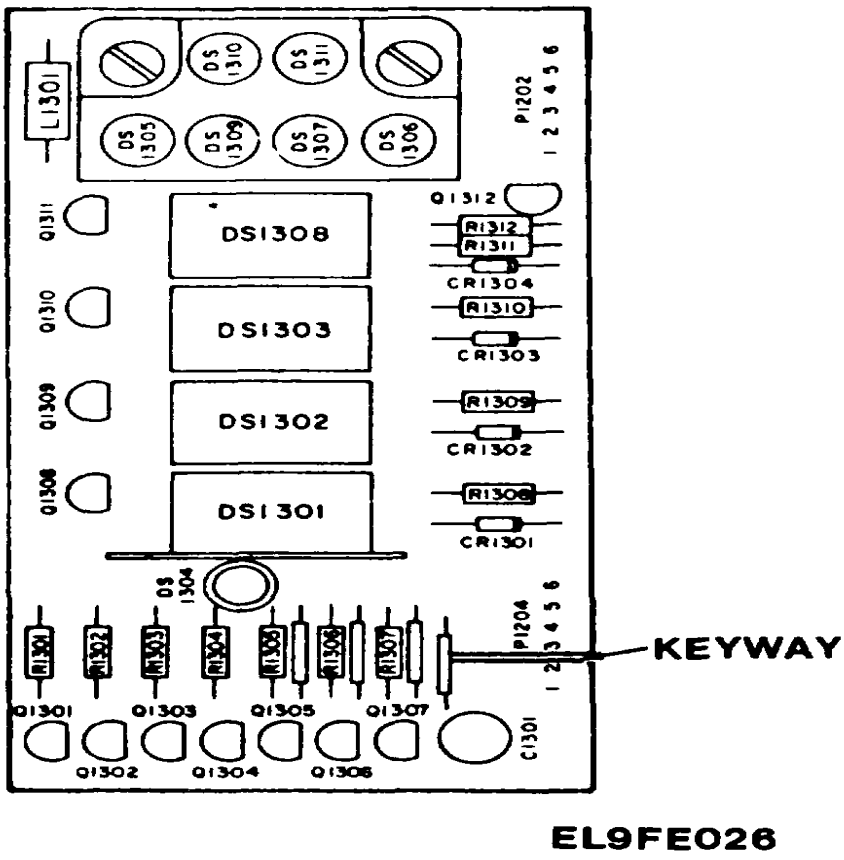


Figure 3-23. Display Board Parts Location

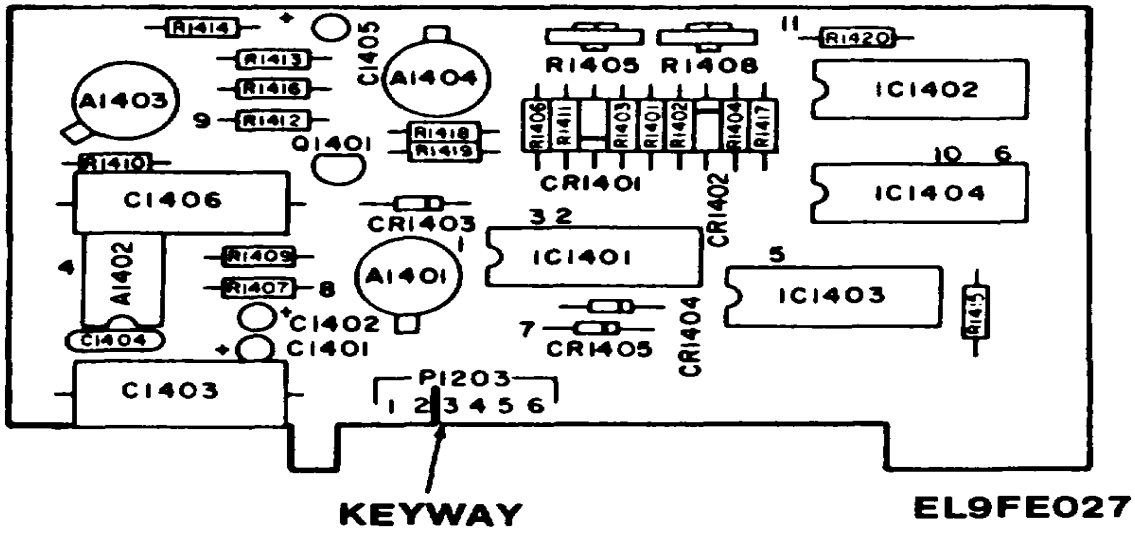


Figure 3-24. AID Converter Board Parts Location.

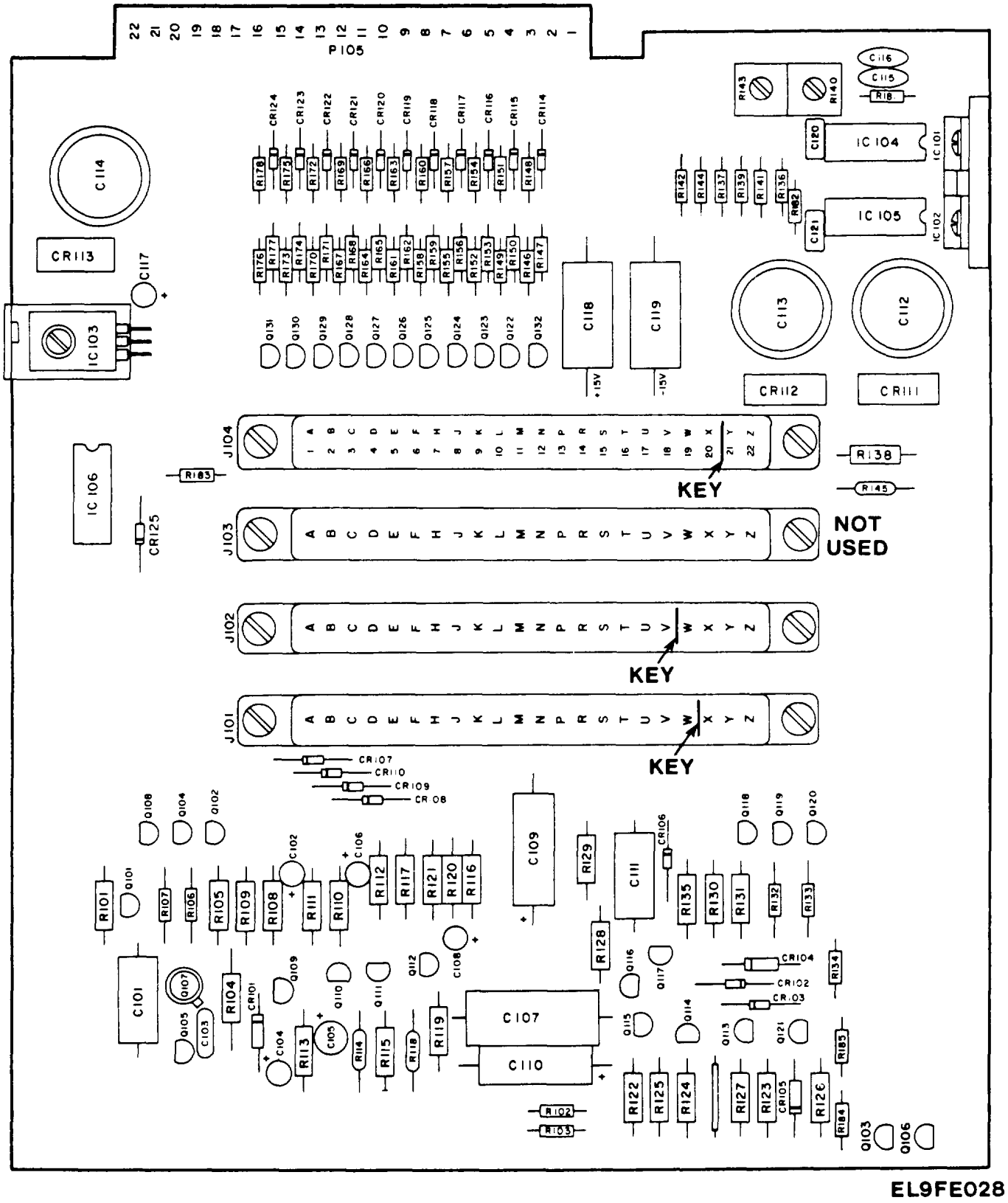


Figure 3-25. Power Supply and Amplifier Board Parts Location.

SECTION VI. Adjustments

3-21. POWER SUPPLY ADJUSTMENTS

(fig. 3-26)

a. Remove top cover of the ME-526A/USM by removing screw at rear and sliding cover toward rear and away from ME-526A/USM.

b. Apply ac power to the ME-526A/USM and allow a 5-minute warm-up period.

c. Connect a dc voltmeter to the positive (+) side of capacitor C118 (with negative to ground) and adjust potentiometer **R140** for + 15 +0.1 volts.

d. Connect the dc voltmeter to the negative (-) side of capacitor C119 with positive to ground and adjust potentiometer R143 for 15.0 + 0.1 volts.

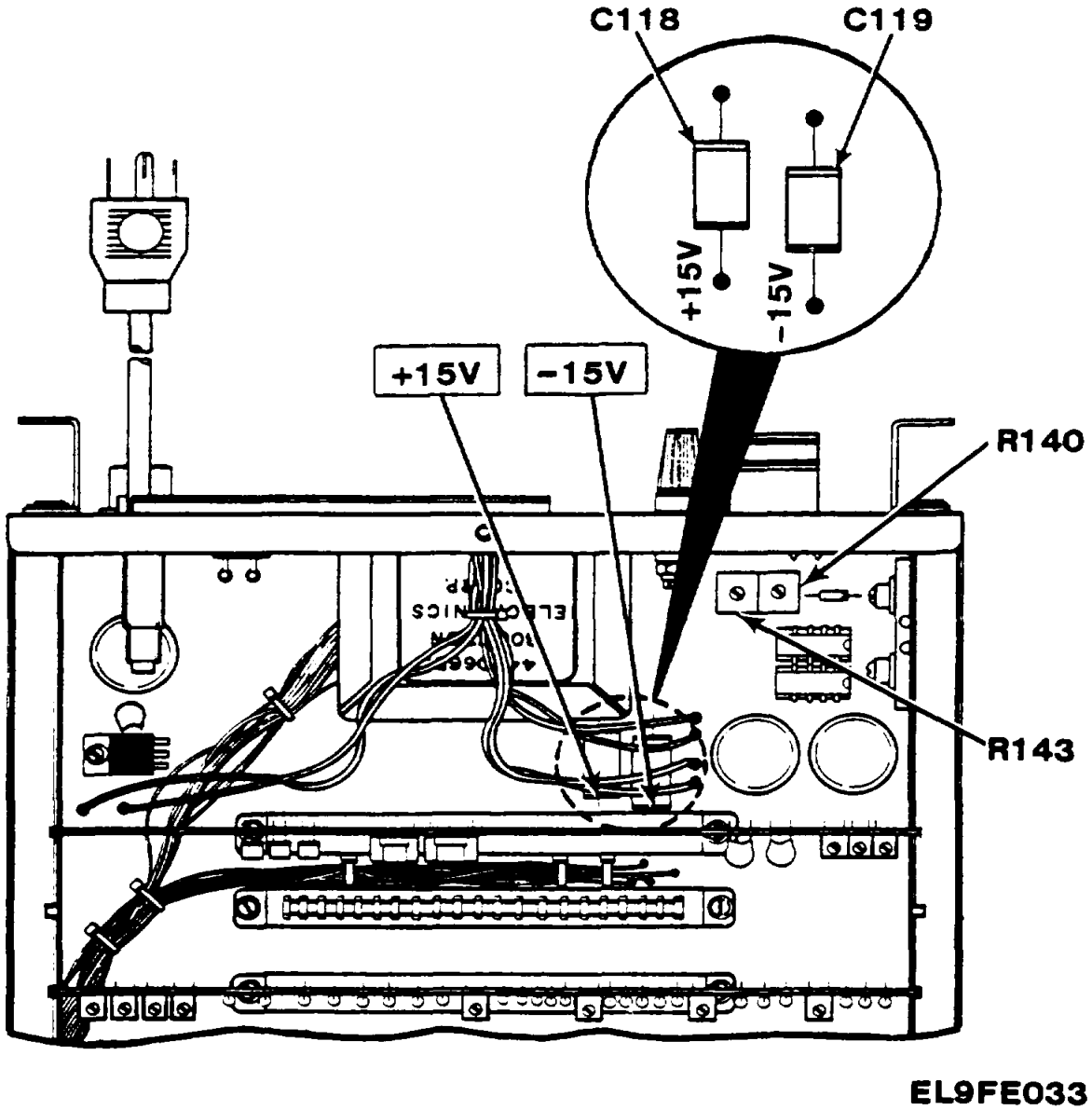


Figure 3-26. Power Supply Check Points and Adjustment Controls.

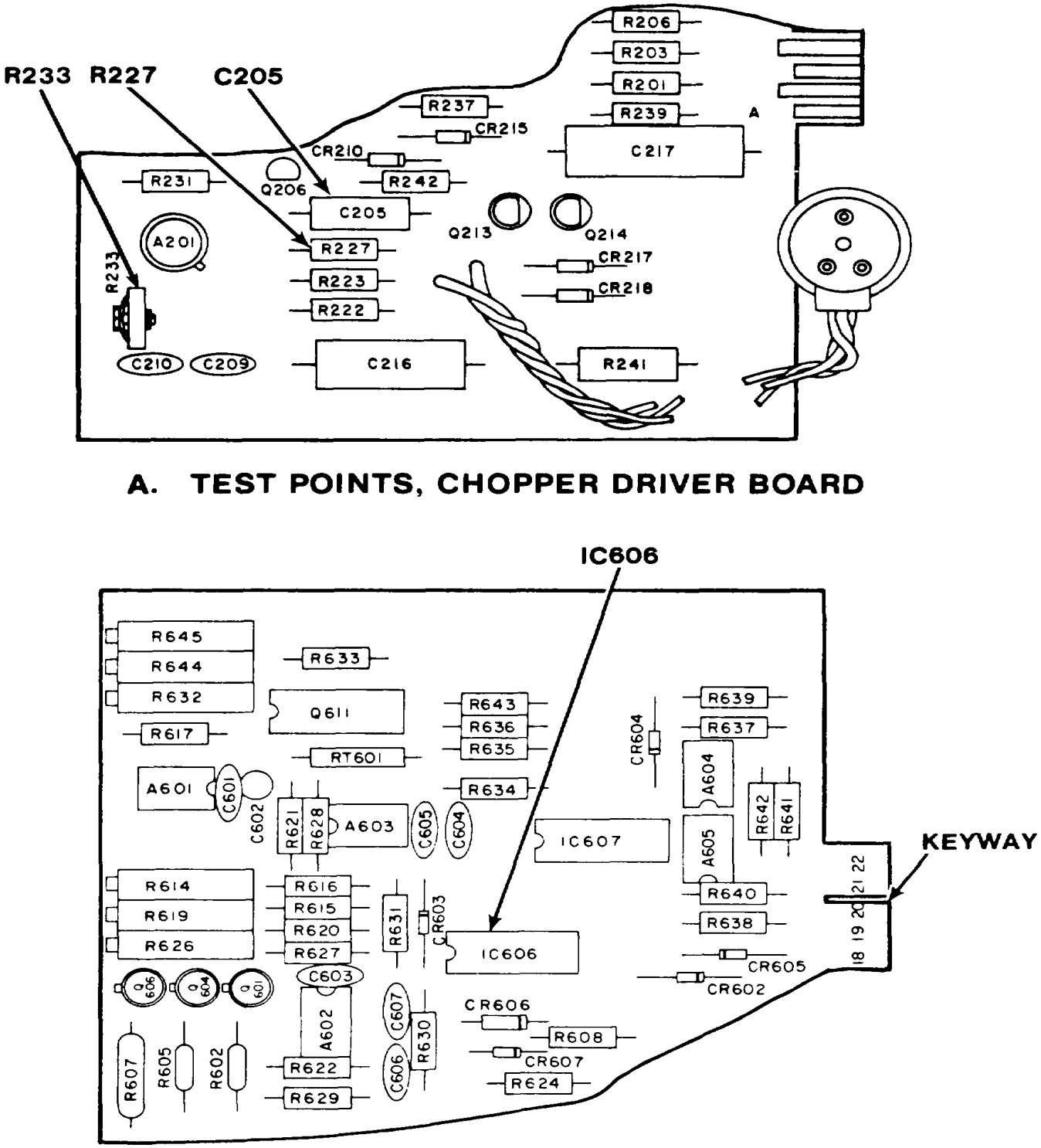


Figure 3-27. Test Point Locations for Preliminary Adjustments.

3-22. PRELIMINARY ADJUSTMENTS
(figs. 3-27, 3-28, FO-2)

Perform the adjustments given in a thru z below before making the adjustments given in paragraphs 3-23 and 3-24.

a. Remove top cover of the ME-526A/USM by removing screw at rear and sliding cover toward rear and away from ME-526A/USM (para 3-7).

b. Apply ac power to the ME-526A/USM and allow 5-minute warm-up period.

c. Zero the ME-526A/USM by disconnecting the RF PROBE tip, depressing mV1 FULL SCALE switch and adjusting ZERO control until dBm meter pointer is alined with zero reference line.

d. Depress the 1000 mV FULL SCALE range switch.

e. Using the RF PROBE connect the ME-526A/USM to the ac voltage standard. Apply power to the equipment and allow a 5-minute warm-up period.

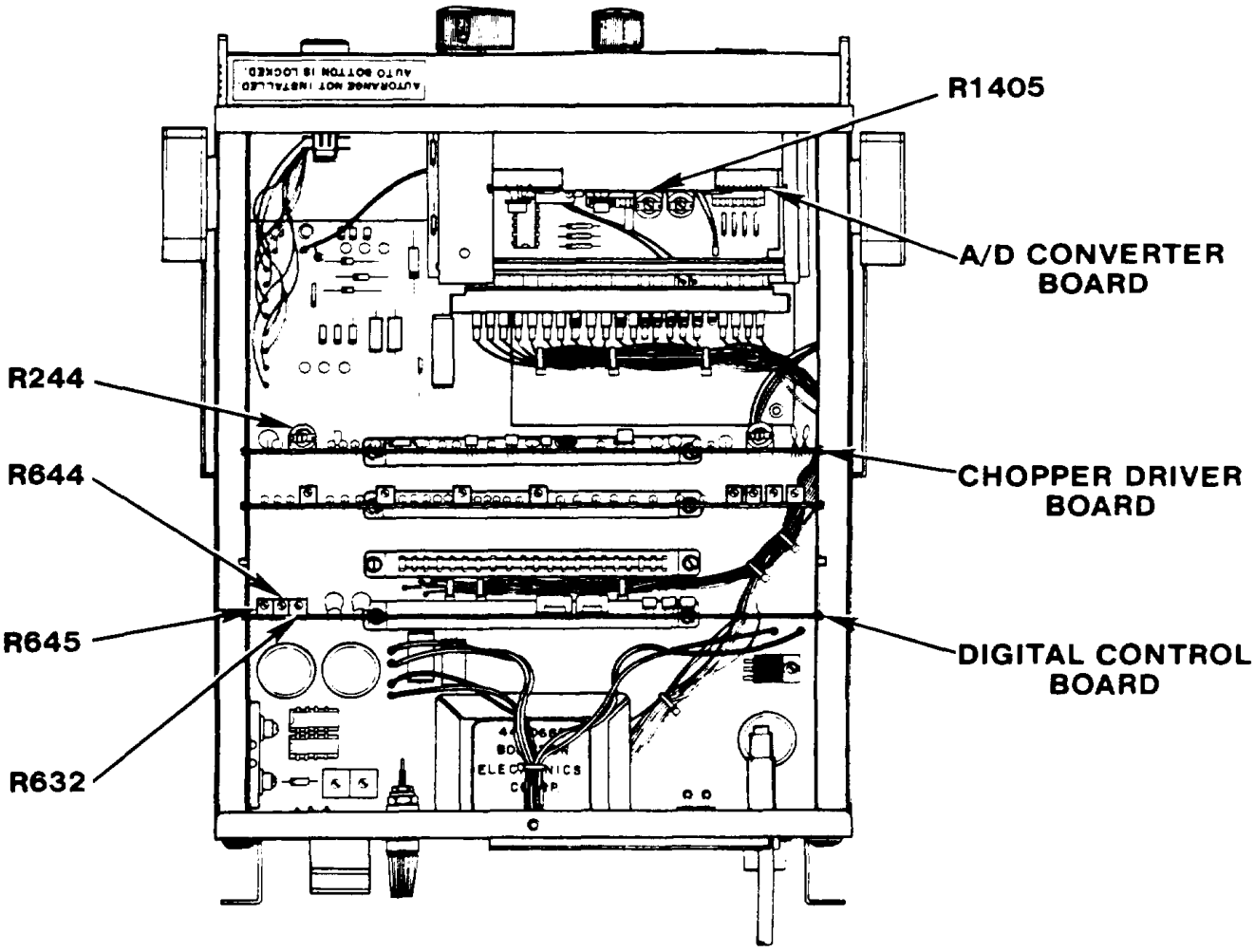
f. Adjust the ac voltage standard to a frequency of 100 kHz and an output level of 1000 mV.

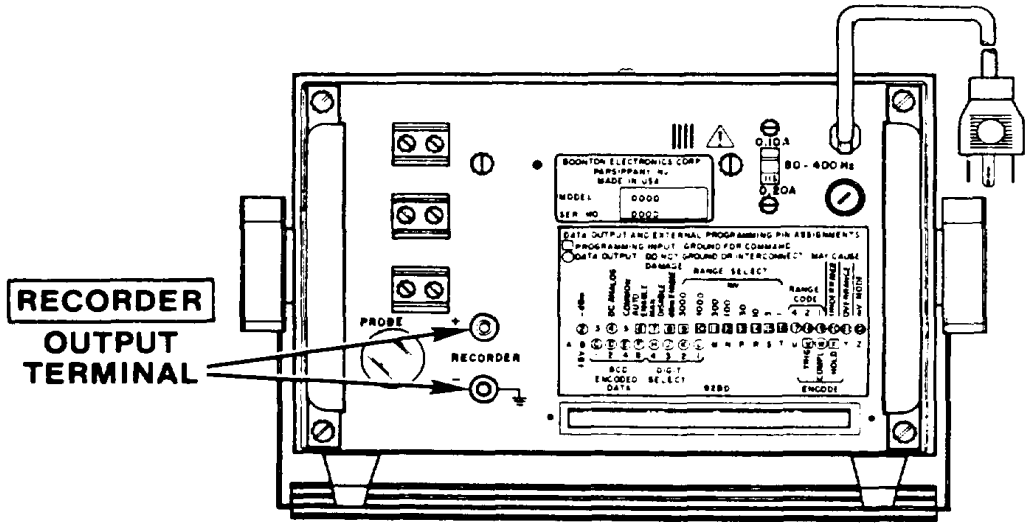
g. Connect frequency counter to test point 13 (junction of C205 and R227) (fig. 3-27A or FO-2) on chopper driver board. Adjust R244 (fig. 3-28) for a frequency of 94 + 1 Hz.

h Disconnect the RF PROBE from the ac voltage standard.

i. Zero the ME-526A/USM by disconnecting the RF PROBE tip, depressing mVl FULL SCALE switch and adjusting ZERO control until dBm meter pointer is alined with zero reference line.

j. With no input to the ME-526A/USM, depress the 30 mV FULL SCALE range switch.





EL9FE035

Figure 3-28. Preliminary Adjustment Controls Locations.

3-22. PRELIMINARY ADJUSTMENTS - CONTINUED

k. Connect the digital multimeter to RECORDER output on rear panel of the ME-526A/USM and adjust R233 on the chopper driver board (fig. 3-27A) for a reading of 0 ± 0.01 V dc.

l. Set dBm-mV-OFF switch on ME-526A/USM to OFF and place digital control board on card extender.

m. Set ME-526A/USM dBm-mV-OFF switch to mV.

n. Using a 16 pin IC extender clip connect the digital multimeter to pin 8 of IC606 on digital control board (fig.

3-27B) of the ME-526A/USM.

o. Depress the 1000 mV FULL SCALE range switch.

p. Connect the ME-526A/USM using the RF PROBE to the ac voltage standard.

q. Adjust the ac voltage standard to an output level of 1000 mV.

r. Adjust R645 on the digital control board for a dc voltmeter reading of 0.500 t 0.001 V dc.

s. Depress the 3000 mV FULL SCALE range switch and adjust the ac voltage standard for an output level of 3000 mV.

t. Using a 16 pin extender clip connect the dc voltmeter to pin 11 of IC606 on the digital control board.

u. Adjust R632 on the digital control board for a dc voltmeter reading of 1.500 ± 0.001 V dc.

v. Adjust R1405 on the AID converter board for a reading of 3000 mV on the ME-526A/USM display.

w. Depress the 300 mV FULL SCALE range switch.

x. Adjust the ac voltage standard to an output level of 223.6 mV.

y. Adjust R644 for a reading of 0 dBm on the ME-526A/USM *dBm* edgemeter.

z. Set ME-526A/USM dBm-mV-OFF switch to OFF. Remove card extender and replace digital control board in its socket in the ME-526A/USM.

3-23. ME-526AIUSM INDICATION ADJUSTMENTS
(Fig. 3-29)

a. Remove top cover of the ME-526A/USM by removing screw at rear and slide cover toward rear and away from ME-526A/USM.

b. Connect the ME-526A/USM using **RF** PROBE, probe tip and tip ground lead to the ac voltage standard. Apply power to the equipment and allow a 5-minute warm-up period.

c. Zero the ME-526A/USM by temporarily disconnecting the RF PROBE from the probe tip attaching 91-88 50al adapter, depressing m**V** FULL SCALE switch and adjusting zero on **dBm** meter.

d. Remove 500 adapter and reconnect **RF** PROBE to ac voltage standard using RF PROBE tip and the tip ground lead.

e. Adjust the ac voltage standard to a frequency of 100 kHz and output level to correspond to mV FULL SCALE (-) switch selection indicated in the chart below. Adjust control shown for each range to obtain ME526A/USM indications within the tolerances listed.

FULL SCALE mV Signal Level	Indication on ME-526A/USM			ME-526A/USM Adjustment
1	1.00	±	0.02	R303
3	3.00	±	0.06	R308
10	10.0	±	0.02	R318
30	30.0	±	0.6	R328
100	100.0	±	2.0	R341
300	300.0	±	6.0	R347
1000	1000.0	±	20.0	R353
3000	3000.0	±	40.0	R363

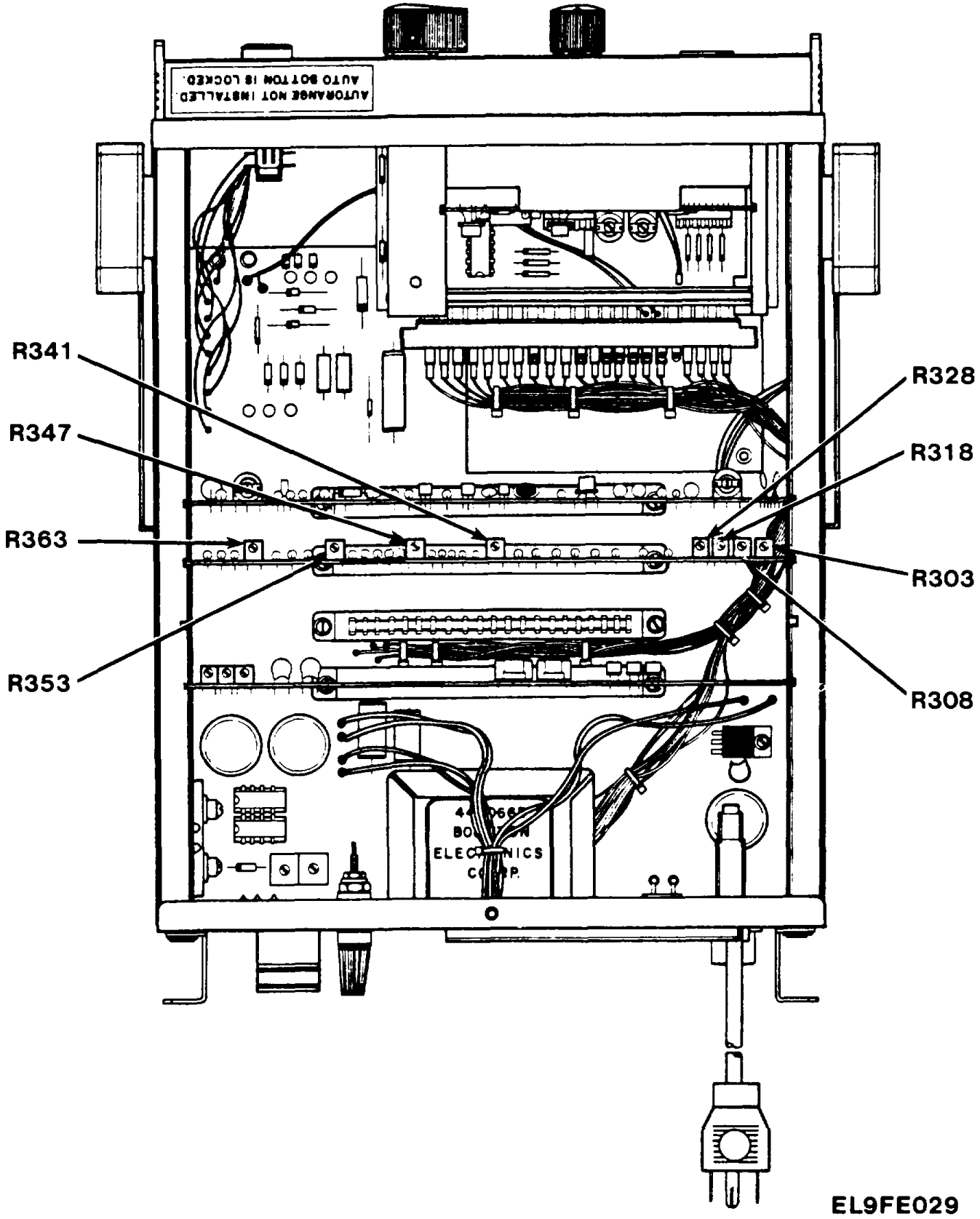


Figure 3-29. Indication Adjustment Controls.

3-24. ADJUSTMENT OF RF PROBE
(fig. 3-30)

a. Remove top cover of ME-526A/USM.

b. Connect the equipment as shown below and allow a 5-minute warm-up period.

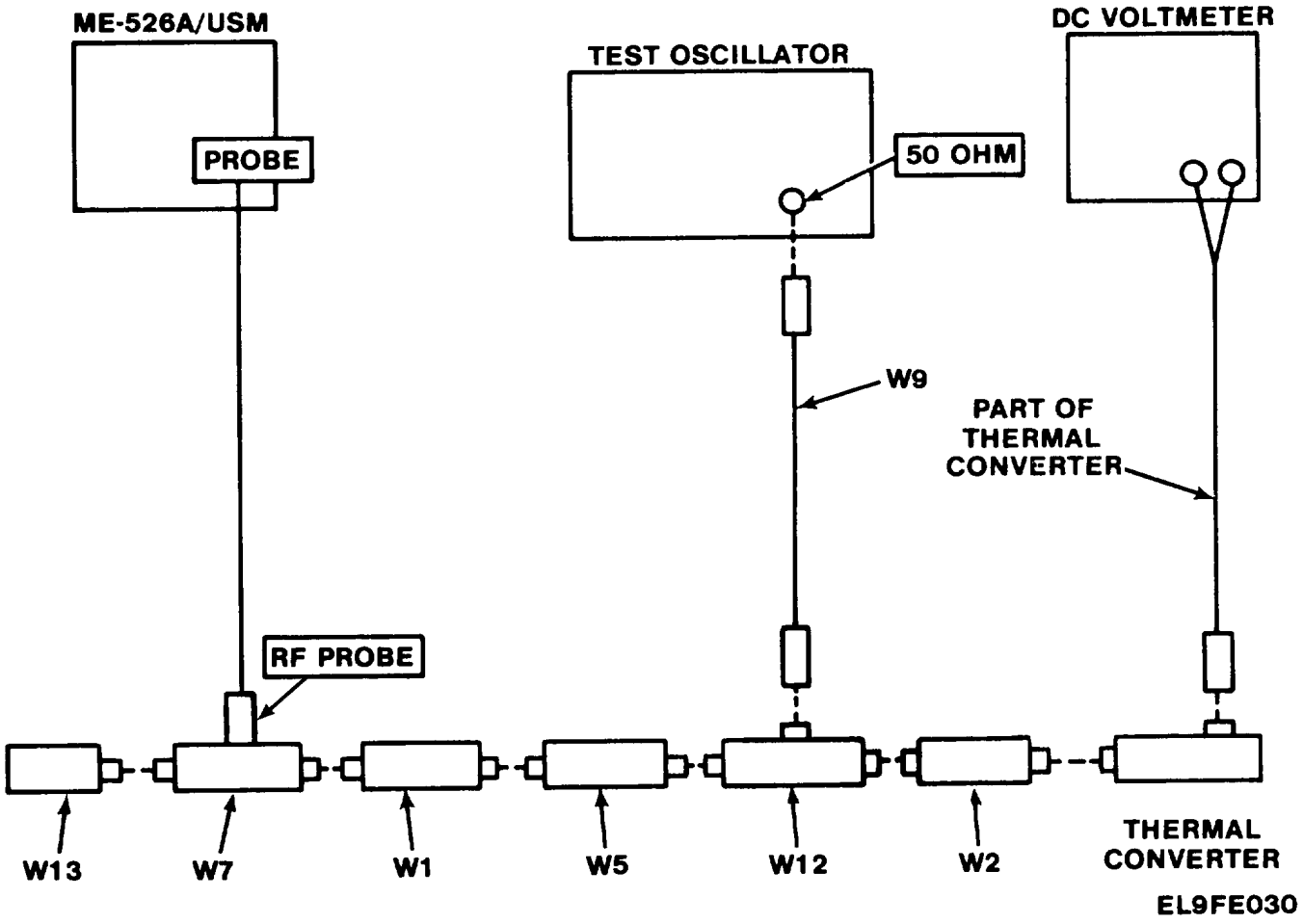


Figure 3-30. Low Frequency Response Test Setup.

c. Zero the ME-526A/USM by depressing the **mVl** FULL SCALE switch, temporarily disconnecting the RF PROBE and adjusting the ZERO control for zero indication on **dBm** meter.

d. Adjust the test oscillator for 100 kHz. Press the **300 mV FULL SCALE** switch and adjust the test oscillator level for a 285 mV indication on the ME-526A/USM. Record dc voltmeter reading.

e. Adjust test oscillator in turn to 10 kHz 1, 5 and 10 mHz while maintaining the same dc voltmeter reading recorded in *d.* above by adjusting the test oscillator level. Observe ME-526A/USM indicator indications. The indications should be 285 + 9mV at each frequency setting.

3-24. ADJUSTMENT OF RF PROBE - CONTINUED

(fig. **3-31)**

f. Disconnect ac power from equipment. Connect equipment as shown below and allow a 5-minute warm-up period.

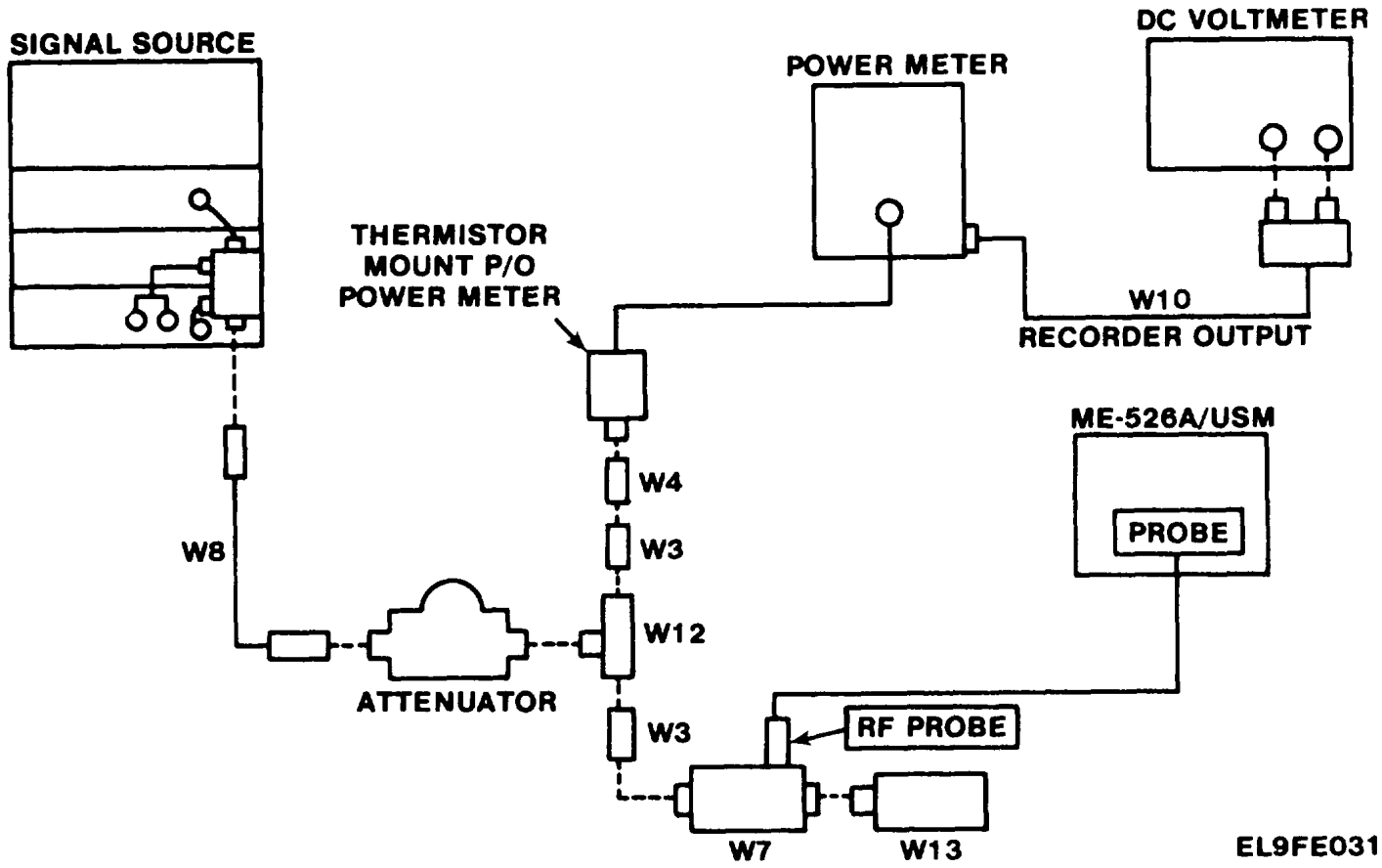


Figure 3-31. High Frequency Response Test Setup.

g. Adjust signal source for 10 MHz output and adjust signal source level and attenuator for a 285 mV ME526A/USM indicator indication. Record dc voltmeter reading.

3-24. ADJUSTMENT OF RF PROBE - CONTINUED
(fig. 3-31)

h. Adjust the signal source to the frequencies given in Table 3-3 while maintaining the same dc voltmeter reading recorded in g above by adjusting the signal source level and the attenuator. Note that the minimum and maximum ME-526A/USM mV indications are within these limits.

Table 3-3. ME-526A/USM Display Indications

Signal source frequency (MHz)	***ME-526A/USM indications (mV)***	
	Min	***Max***
30	279	291
60	279	291
80	279	291
100	279	291
200	273	297
400	273	297
600	273	297
800	261	309
1000	261	309

APPENDIX A.

REFERENCES

A-1. SCOPE

This appendix lists forms, field manuals, technical manuals and miscellaneous publications referenced in 000this manual.

A-2. FORMS

DA Form 2028 Recommended Changes to Publications and Blank Forms.
DA Form 2028-2 Recommended Changes to Equipment Technical Publications.
SF 368 Quality Deficiency Report

A-3. FIELD MANUALS

FM 21-11 Artificial Respiration

A-4. TECHNICAL MANUALS

TM 11-6625-3060-10 Operator's Manual for Meter, RF Millivolt ME-526A/USM.

TM 11-6625-3060-24P Organizational, Direct Support and General Support, Repair Parts and Special **Tools** List for Meter, RF Millivolt ME-526A/USM (NSN 6625-01-161-1461).

A-5. MISCELLANEOUS PUBLICATIONS

DA Pam 310-1 Consolidated Index of Army Publications and Blank Forms.

DA Pam 738-750 The Army Maintenance Management System (TAMMS).

APPENDIX B.

MAINTENANCE ALLOCATION CHART

METER, RF MILLIVOLT ME-526A/USM

Section I. INTRODUCTION

B-1. GENERAL

This appendix provides a summary of the maintenance operations for Meter, RF Millivolt ME-526A/USM. It authorizes categories of maintenance for specific maintenance function on repairable Items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

B-2. MAINTENANCE FUNCTION.

Maintenance functions will be limited to and defined as follows:

a. *Inspect.* To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

b. *Test.* To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean, preserve, drain, paint, or to replenish fuel/lubricants/hydraulic fluids or compressed air supplies.

d. Adjust. Maintain within prescribed limits by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.

e. Align. To adjust specified variable elements of an item to about optimum or desired performance.

f. *Calibrate.* To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipment used in precision measurement. Consists of the comparison of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the Instrument being compared.

g. Install. The act of emplacing, seating, or fixing into position an item, part, module (component or assembly) in a manner to allow the proper functioning of the equipment/system.

h. Replace. The act of substituting a serviceable like-type part, subassembly, module (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services (inspect, test, service, adjust, align, calibrate, replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly module/component/assembly, end item or system. This function does not include the trial and error replacement of running spare type items such as fuses, lamps, or electron tubes.

j. Overhaul. That periodic maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (e.g., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like-new condition.

k. *Rebuild.* Consists of those services/actions necessary for the restoration of unserviceable equipment to a like-new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours, miles, etc.) considered in classifying Army equipment/components.

B-3. COLUMN ENTRIES.

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. *Column 2, Component/Assembly.* Column 2 contains the noun names of components, assemblies, subassemblies and modules for which maintenance is authorized.

c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item listed in column 2. When items are listed without maintenance functions, it is solely for purpose of having the group numbers in the MAC and RPSTL coincide.

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a "work time" figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate "work time" figures will be shown for each category. The number of task-hours specified by the "work time" figure represents the average time required to restore an item (assembly, subassembly, component, module, end item or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. Subcolumns of column 4 are as follows:

C - Operator/Crew
O - Organizational
F - Direct Support
H - General Support
D - Depot

e. Column 5, Tools and Equipment. Column 5 specifies the code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated function.

f. Column 6, Remarks. Column 6 contains an alphabetic code which leads to the remark in section IV, Remarks, which is pertinent to the item opposite the particular code.

B-4. TOOL AND TEST EQUIPMENT REQUIREMENTS (SECT. III).

a Tool or Test Equipment Reference Code. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool or test equipment for the maintenance functions.

b Maintenance Category. The codes In this column indicate the maintenance category allocated the tool or test equipment.

c. Nomenclature. This column lists the noun name and nomenclature of the tools and test equipment required to perform the maintenance functions.

d National/NATO Stock Number. This column lists the National/NATO stock number of the specific tool or test equipment.

e. *Tool Number.* This column lists the manufacturer's part number of the tool followed by the Federal Supply Code for manufacturers (5-digit) in parentheses.

B-5. REMARKS (SECT. IV)

a. Reference Code. This code refers to the appropriate item in section II, column 6.

b. *Remarks.* This column provides the required explanatory information necessary to clarify items appearing in section II

SECTION II. MAINTENANCE ALLOCATION CHART
FOR
METER RF MILLIVOLT ME-526A/USM

(1) GROUP NUMBER	(2) COMPONENT ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL C	O	F	H	D	(5) TOOLS AND EQUIPMENT	(6) REMARKS
00	METER, RF MILLIVOLT	Inspect		.08					A
		Calibrate				.25		5, 6, 7	B
		Repair		.08				1	C
		Repair				1.2		2, 3, 4, 5, 6, 7, 8	D

SECTION III. TOOL AND TEST EQUIPMENT REQUIREMENTS FOR METER, RF MILLIVOLT ME-526A/USM

Tool or Test Equipment REF Code	Maintenance Level	Nomenclature	National Stock Number	Tool Number
1	H	EXTENDER, BOARD		960000 (04901)
2	N	PULLER, BOARD		L56B101 (52346)
3	H	ADAPTER, TEST BEC	6625-00-104-8967	91-14A (04901)
4	H	TOOL KIT ELECTRONIC EQUIPMENT TK-1O5/G	5180-00-610-8177	
5	H	CALIBRATOR, STANDARD HP OR EQUIVALENT	4931-01-012-2884	745A OPT 093 (28480)
6	H	VOLTMETER, DIGITAL HP OR EQUIVALENT	6625-00-557 - 8305	3490A OPT 060 (28480)
		OSCILLOSCOPE TEK OR EQUIVALENT	6625-01-046-3712	5440 (80009)
7	H	AMPLIFIER, DUAL TR, TEK OR EQUIVALENT6	625-01-008-1480	5A48 (80009)
		TIME BASE, DELAYING TEK OR EQUIVALENT	6625-01-008 1479	5042 (80009)
8	H	ATTENUATOR, VARIABLE WCHL OR EQUIVALENT	6625-01-063-9297	AF117A-69-34 (93459)
9	H	TRANSFORMER, POWER GR OR EQUIVALENT	6120-00-168-3705	W1*IO*T3AS3 (24655)
10	H	METER, POWER HP OR EQUIVALENT	6625-00-148-8069	432A (28480)
11	H	THERMISTOR MOUNT HP OR EQUIVALENT	4931-01-005-3865	478A-H75 (28480)
12	H	SWEEPER, GENERATOR WCHL OR EQUIVALENT	6695-01-131-6349	4310AK-16P-25 (93459)
13	H	OSCILLATOR,NONCRYSTAL HP OR EQUIVALENT	5963-00-113-2943	652A (28480)
14	H	TERMINATION, TEST SEC	6625-00-104-8990	91-15A (04901 C
15	H	CONVERTER, THERMAL SAL OR EQUIVALENT	6695-01-093-1686	1394-1 (50423)
16	H	POWER SPLITTER WCHL OR EQUIVALENT	6695-01-108-9833	1870A (93459)
17	0	HEX KEY SET	5120-00-729-6392	0.05 IN.

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SECTION IV. REMARKS
METER, RF MILLIVOLT ME-526A/USM

Reference Code	Remarks
A	PERFORM DAILY VISUAL INSPECTION FOR METER CLEANLINESS AND LOOSE OR DAMAGEDKNOBS.
B	WHEN RF PROBE ASSEMBLY IS REPLACED, ME-526A/USM MUST BE CALIBRATED FOR IMPEDANCE MATCH**.**
C	REPAIR BY REPLACING FUSES AND TIGHTENING OR REPLACING KNOBS.
D	REPAIR BY REPLACING CIRCUIT CARD ASSEMBLIES.

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

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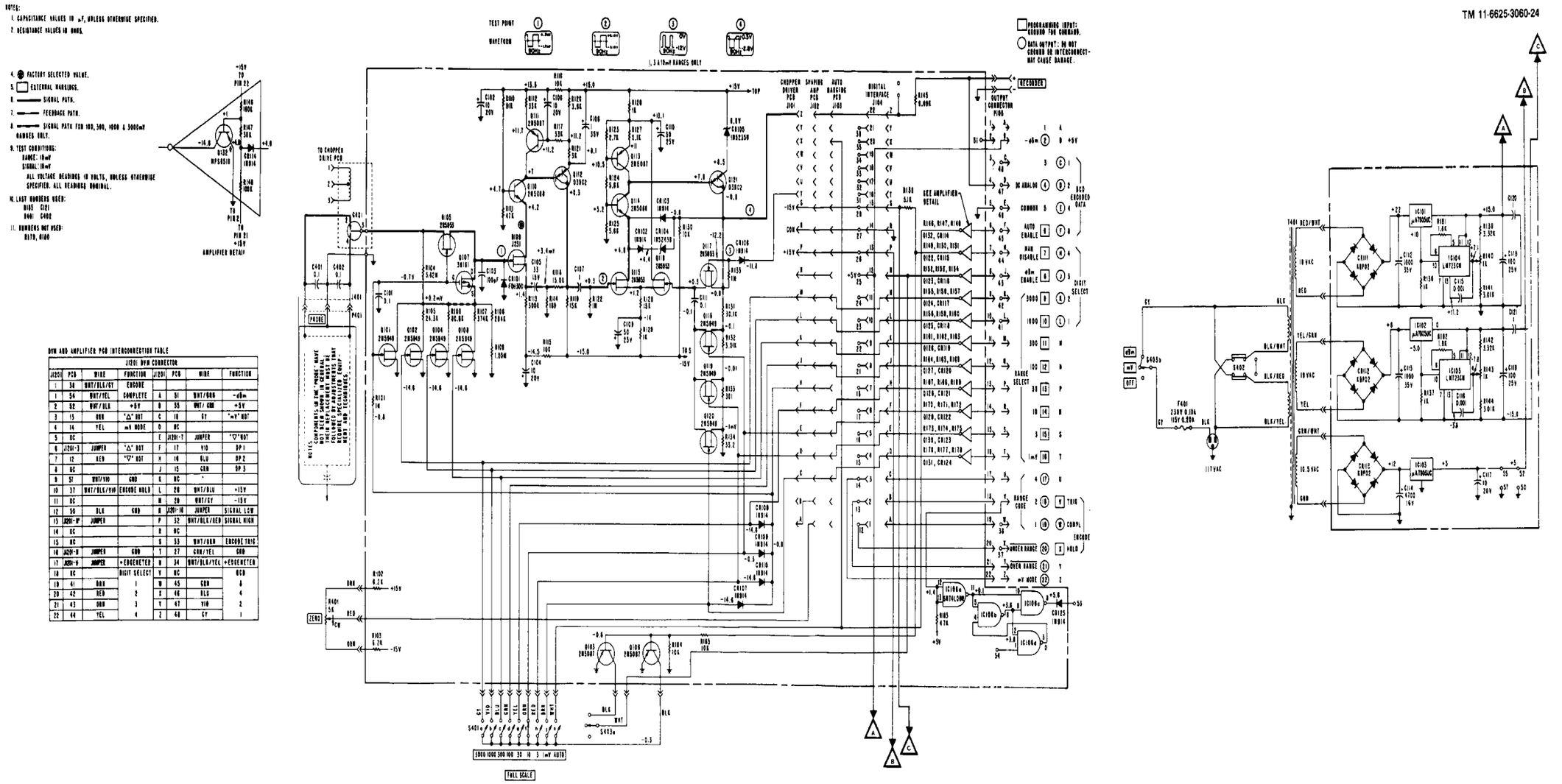

DVM AND AMPLIFIER PCB INTERCONNECTION TABLE

J101 PCB	WIRE	FUNCTION	J101 PCB	WIRE	FUNCTION
J101: DVM CONNECTOR					
34	WHT/BLK/GY	ENCODE			
54	WHT/YEL	COMPLETE	A	51	WHT/BRN	-dBm
52	WHT/BLU	+5V	B	55	WHT/ GRN	+5V
15	GRN	"Δ" OUT	C	18	GY	"mV" OUT
14	YEL	mV MODE	D	NC		
NC			E	J101-7	JUMPER	"▽" OUT
J101-3	JUMPER	"Δ" OUT	F	17	VIO	DP 1
12	BLU	"▽" OUT	H	16	BLU	DP 2
NC			J	15	GRN	DP 3
57	WHT/VIO	GRD	K	NC	-	
37	WHT/BLK/VIO	ENCODE HOLD	L	28	WHT/BLU	+15V
NC			M	29	WHT/KY	-15V
56	BLK	GRD	N	J101-10	JUMPER	SIGNAL LSW
J101-P	JUMPER		P	32	WHT/BLK/RED	SIGNAL HIGH
NC			R	NC		
NC			S	33	WHT/BRN	ENCODE TRIG
J101-9	JUMPER	GRD	T	27	GRN/YEL	GRD
J101-9	JUMPER	+EOUENCTER	U	34	WHT/BLK/YEL	+EOUENCTER
NC		DIGIT SELECT	V	NC		BCD
41	BRN	1	W	45	GRN	8
42	RED	2	X	46	BLU	4
43	ORN	3	Y	47	VIO	2
44	YEL	4	Z	48	GY	1

Figure FO-1. Power Supply and Amplifier Board Schematic Diagram (Chassis Series 100)

TM 11-6625-3060-24

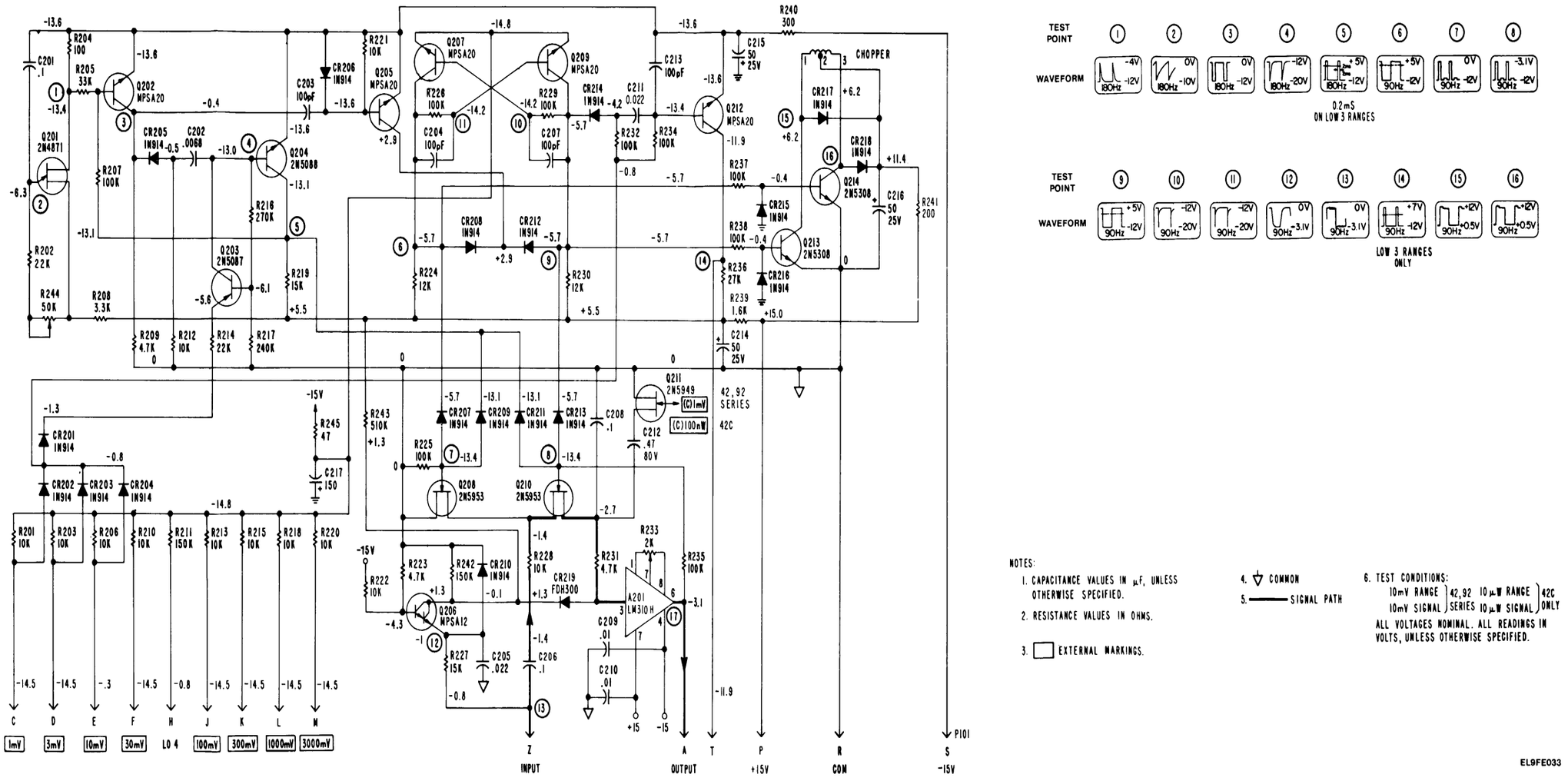

Figure FO-2. Chopper Driver Board Schematic Diagram (Chassis Series 200)

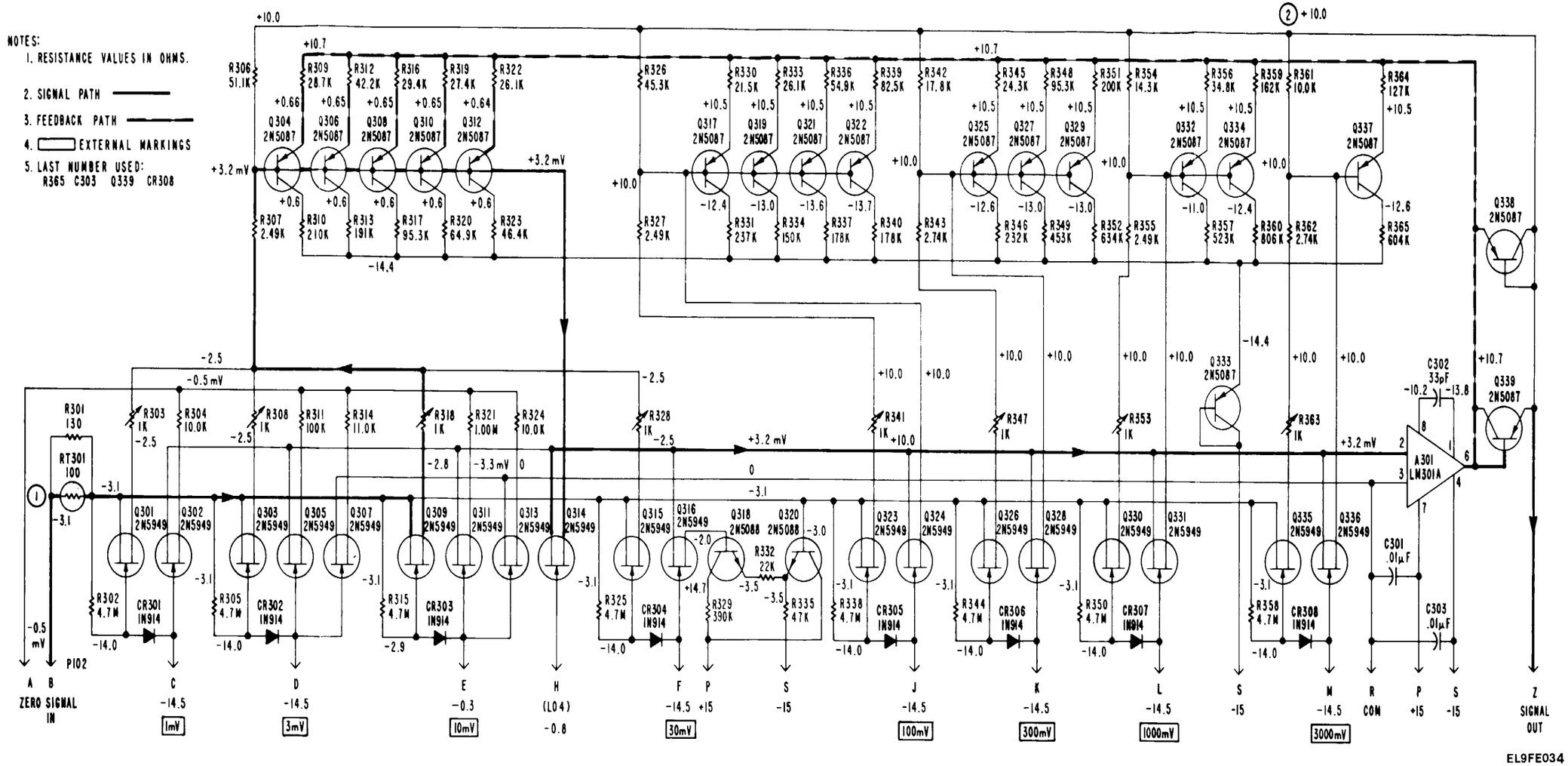

Figure FO-3. Shaping Amplifier Board Schematic Diagram (Chassis Series 300)

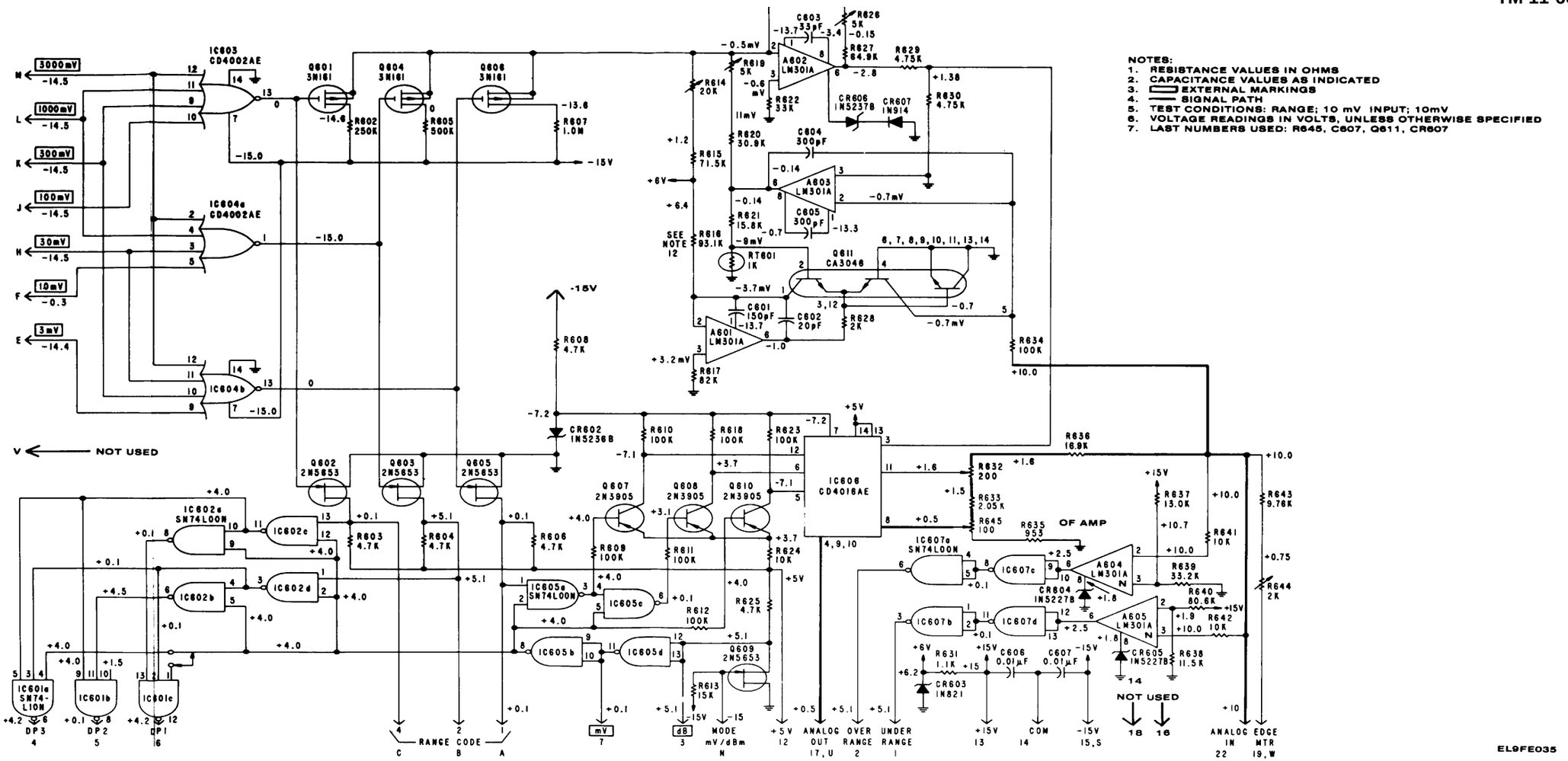

Figure FO-4. Digital Control Board Schematic Diagram (Chassis Series 600)

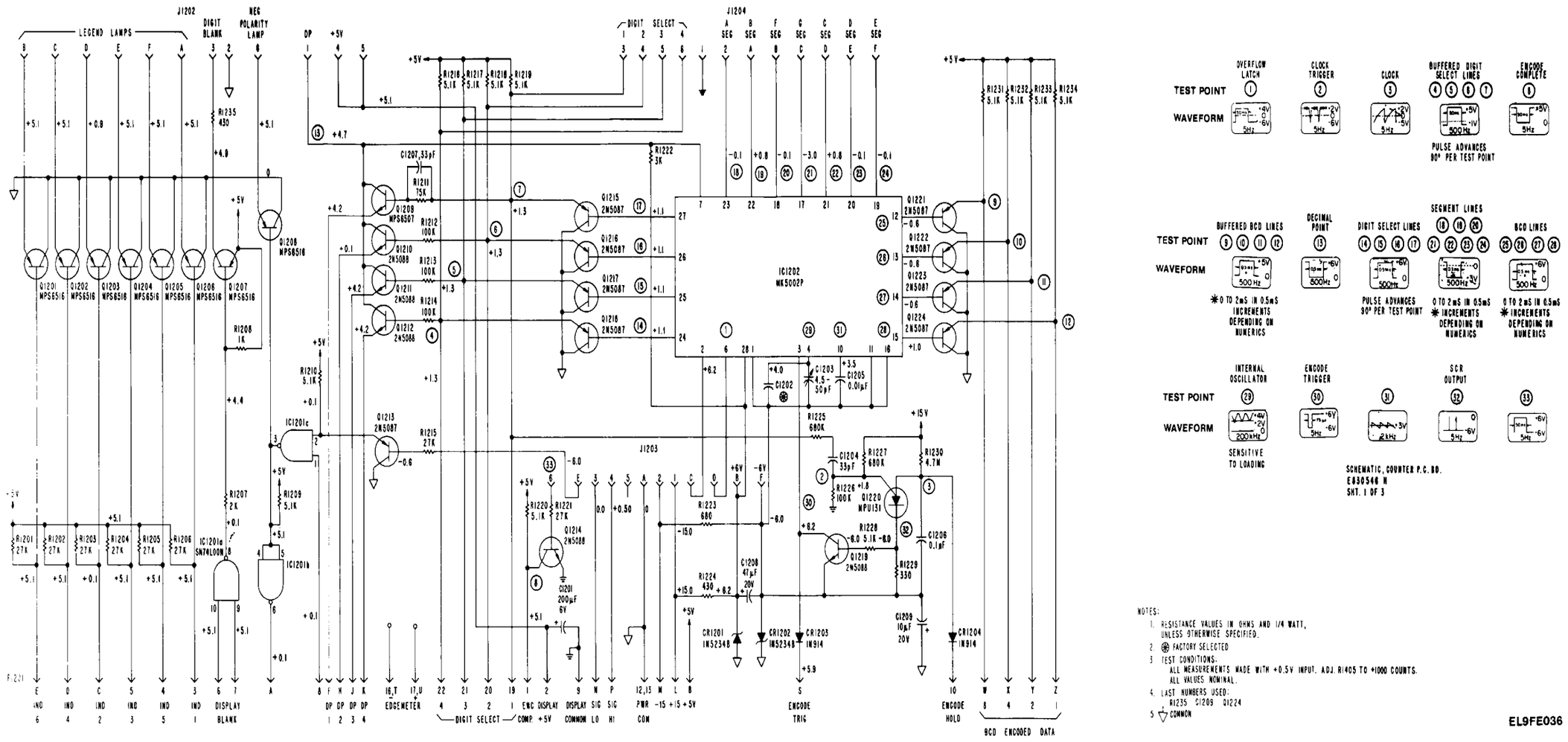

Figure FO-5. Counter Board Schematic Diagram (Chassis Series 1200)

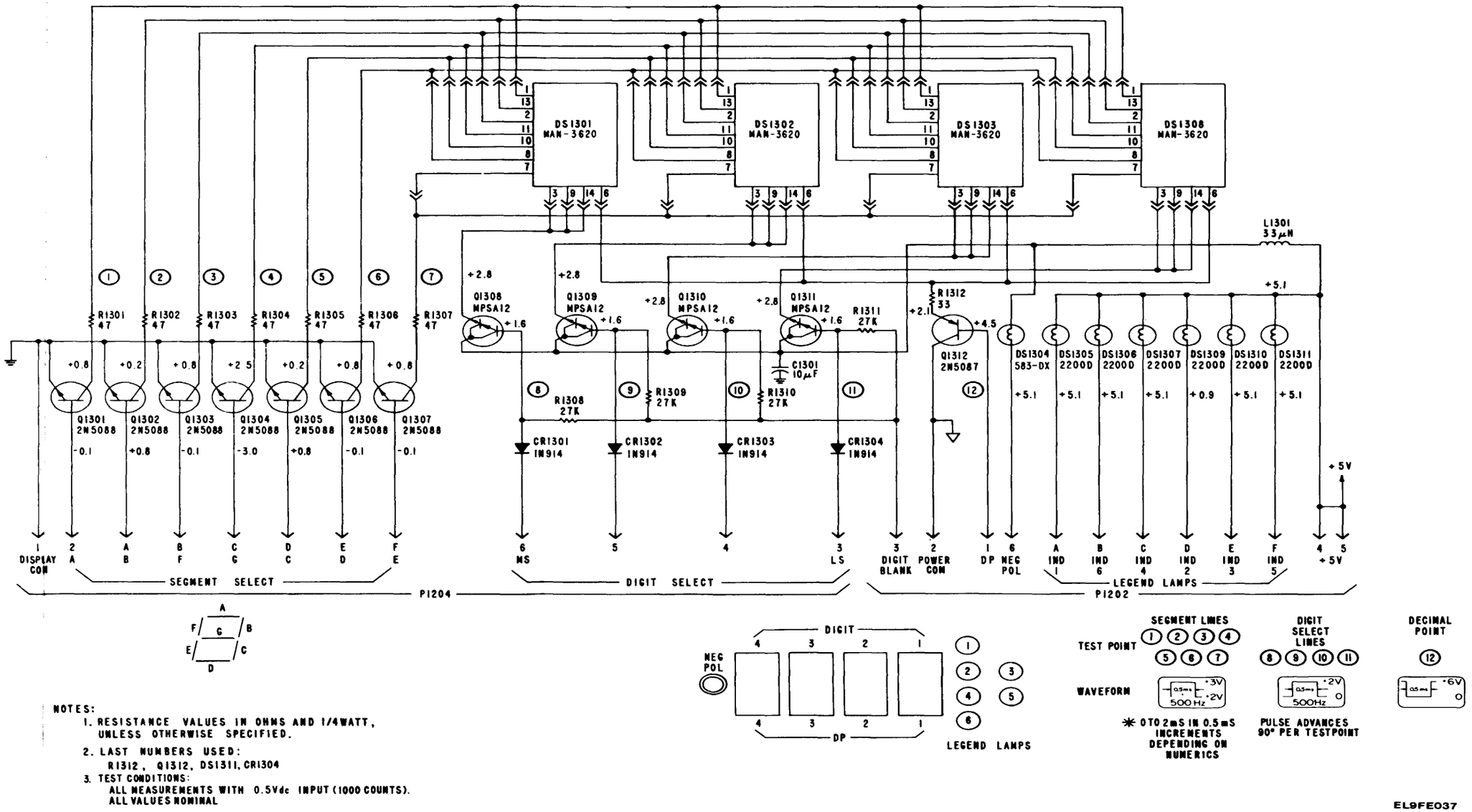

Figure FO-6. Display Board Schematic Diagram (Chassis Series 1300)

FP-11/(FP-12 blank)

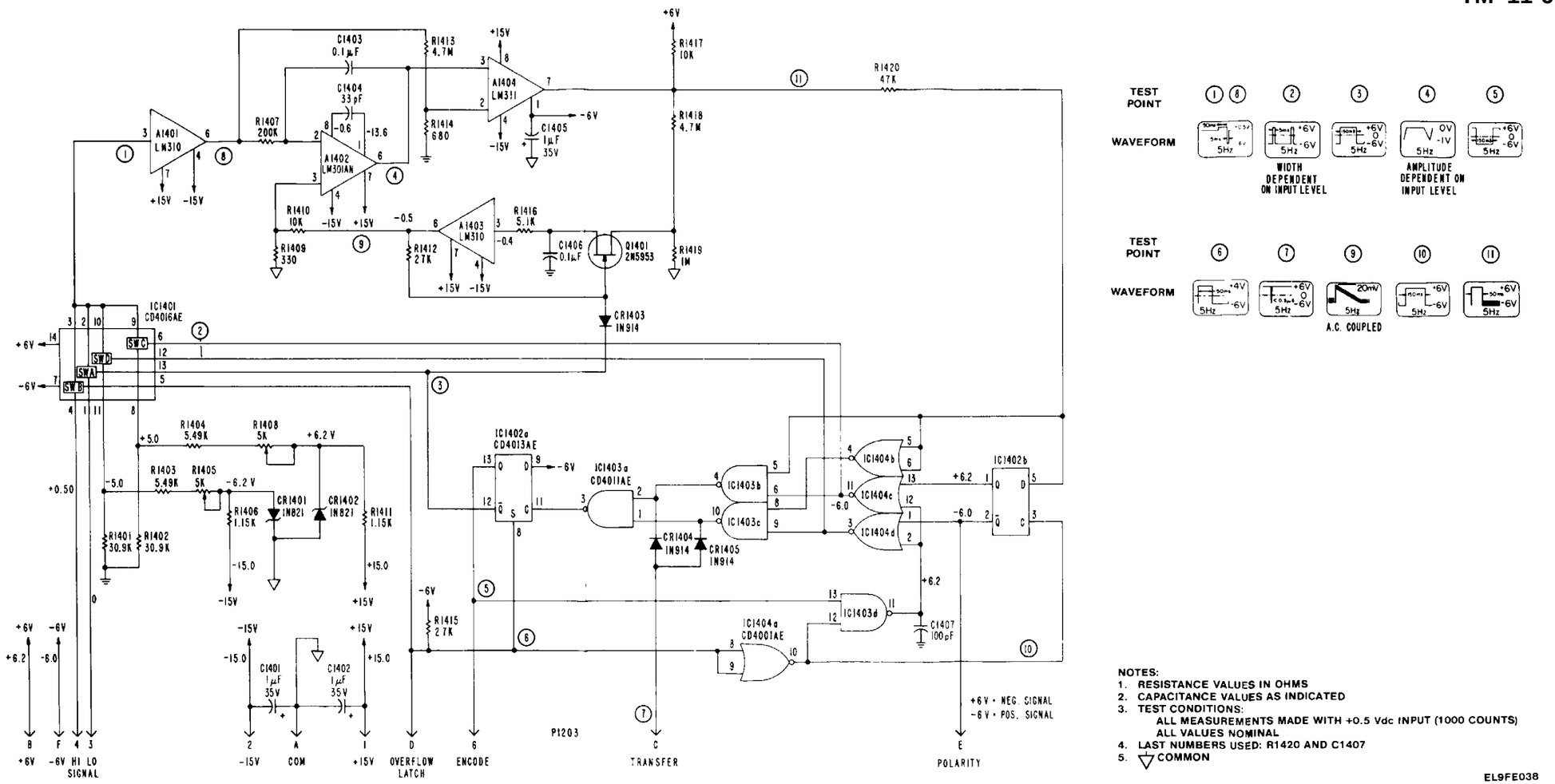

Figure FO-7. A/D Converter Board Schematic Diagram (Chassis Series 1400)

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