

service
manual

18

marantz

model eighteen

Stereophonic Receiver

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INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service data for the Marantz Model 18 Stereophonic Receiver.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation of the Receiver. A brief functional description and associated block diagram, furnished in the Operating Instruction Manual for the Model 18 Receiver, provides functional data about the Receiver as an aid in this understanding.

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A description is included for parts which can usually be obtained through local suppliers.

SERVICE NOTES

The Service Notes that follow identify some of the servicing problems that have been encountered in the field and their remedies. In most cases, the remedies consist of a modification to the Model 18 Receiver which has already been implemented in the normal production of the receiver. As a normal routine, all Model 18 Receivers requiring service should be inspected to determine if the modifications have been implemented and if not, the receiver should be modified in accordance with the Service Note.

PROLONGING CRT LIFE

Maintaining the display on the screen of the cathode ray tube for prolonged or excessive periods or with excessive brightness will eventually cause the phosphor coating on the face of the CRT to develop burned areas. To extend the life of the CRT it is recommended that the trace is removed from the screen when not actually being viewed. This may be accomplished easily by offsetting the trace with vertical centering control.

LOOSE SUBASSEMBLY CONNECTING PLUGS

The phono plugs which are used to make the input and output signal connections to the Antenna Strip, FM Front End, IF, Limiter, and Detector subassemblies have been found to come loose occasionally during shipment of the receiver. This will cause a loss of FM operation. Check these phono plugs when unpacking the receiver. To prevent their coming loose, apply a small spot of solder to the plug shield to hold it securely in its socket while still permitting easy removal.

LOCATION OF PHONO INPUT GROUND WIRE

Inspect the underside of the main chassis at the PHONO jacks to determine if the black phono ground wire runs inside the lip of the back panel near the ac cord and fuseholder. If it does, cut the wire at the ground bus and re-locate the lead close to the chassis and away from the ac cord. Re-solder the ground wire to the ground bus.

REPLACEMENT OF 12-VOLT ZENER REGULATORS

In early units Zener diodes CR10 and CR11 were prone to an internal breakdown. For improved reliability and performance they should be replaced. Failure of these diodes will result in loss of FM operation, scope display, or if the failure is in the +12-volt supply (CR10), a loss of output on both channels.

The old type Zener diodes are identified by a blue band, and are wired to a terminal strip adjacent to the power transformer on the top of the main chassis. Replace these diodes with the new type (identified by a grey band) and re-locate them to the terminal strip adjacent to the limiter assembly and on bottom of the main chassis. (This is electrically the same point.)

REPLACEMENT OF POWER AMPLIFIER REFERENCE DIODES

For improved reliability reference diodes CR17 and CR18 should be replaced with a new type. The new diodes are identified by the manufacturer's name (B & T) printed on them and by their larger size 5/32 X 1/2 X 1/2 inch). These diodes are located in the power amplifier section adjacent to Bias adj pots R26 and R27. (Refer to figure 3.) After installing the new diodes. Readjust the power amplifier bias as described in the adjustment procedures.

LOW FILTER 'POPS'

Some receivers develop a loud 'Pop' in the loudspeakers when the LO FILTER button is operated. This 'Pop' is not affected by the VOLUME control setting. To correct this, install two (2) 100K, 10%, 1/4 watt resistors (Marantz Part No. 26-1055), one between pins 9H and 9L, the other between pins 9C and 9W on the Hi-Lo Filter board (figure 20).

The above procedure should reduce the 'Pop' to a tolerable level. If it does not, replace capacitors C810 and C814 located on the Tone Amplifier board (figure 18) in addition to the installation of the above resistors.

Note

Inspect the Tone Amplifier board for cracked solder connections at the BASS and TREBLE control terminals. These can result in intermittent operation of the receiver.

When re-assembling the Tone Amplifier board on the main chassis, do not re-install the screw removed from the rear of the board.

CORRECTION OF POINTER SPRING-BACK

Problems of pointer spring-back or mechanical calibration shift may be evidenced in some receivers. This can be corrected by providing a solid reference for mechanical zero in the dial assembly. Restring the dial assembly as shown in figure 1. Eliminate the START spring and anchor the dial cord directly to the hub using a noose. This provide the reference that is required.

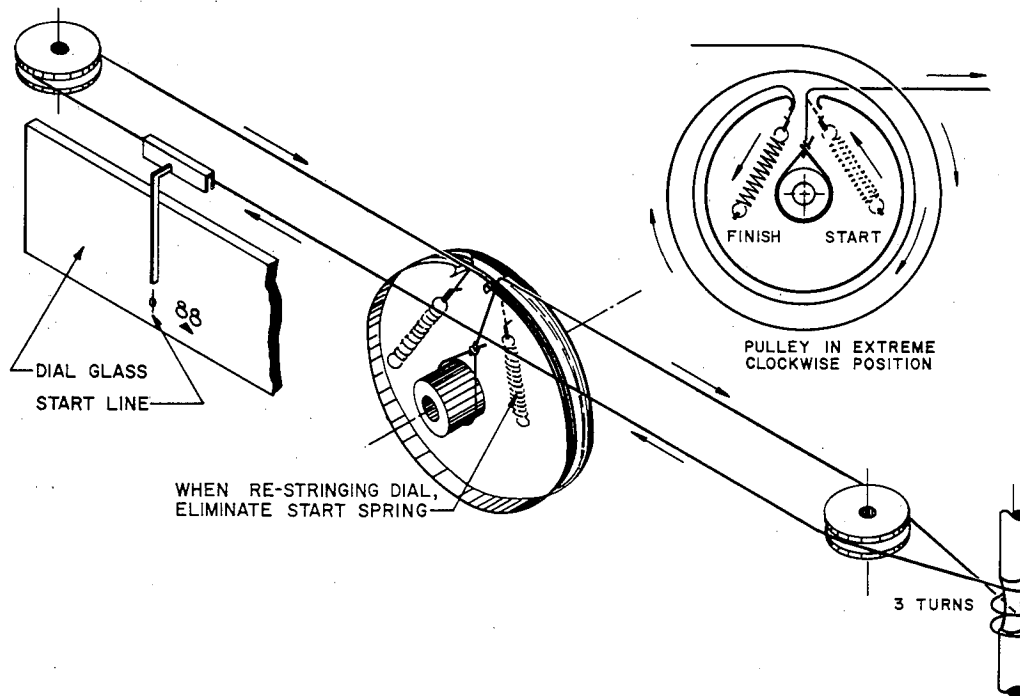
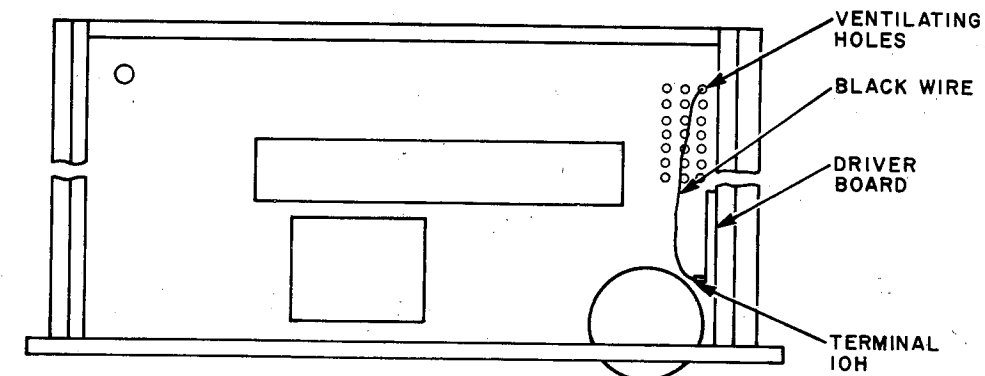


Figure 1. Dial Stringing Diagram

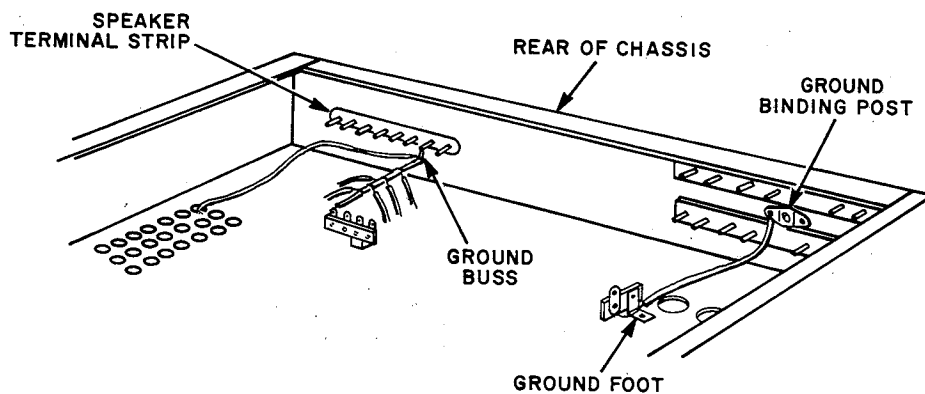
ULTRASONIC OSCILLATION

Problems of ultrasonic oscillation in the audio section may be evidenced in some receivers. A modification to correct this condition can be identified by inspecting the black ground wire connected to terminal 10H of the right-hand side driver board. The modification has been implemented if this wire runs along the right-hand side of the main chassis (looking at the top of the chassis with the front panel facing you). If the black ground wire runs toward the left and along the front of the main chassis, the modification is required.

1. Locate the grounded end of the black wire at the bottom of the main chassis. The grounding point will be near the signal input jacks on the left rear of the chassis.
2. Disconnect this wire from ground and pull it out back to terminal 10H at the driver board.
3. Run this wire along the right side of the chassis to the rear and pass it through one of the ventilating holes to the bottom of the main chassis. (See A, figure 2.) Cut off the excess wire and solder it to the ground bus at the ground wire connection to the speaker terminal strip. (See B, figure 2.)
4. Connect a wire from the lug underneath the ground binding post (B, figure 2) to the grounded foot of the terminal strip just in front. This completes the modification. Install the covers.



A. Main Chassis Top View



B. Main Chassis Bottom View

Figure 2. Ultrasonic Oscillation Modification Wiring

ADJUSTMENTS

Note

Before proceeding with the following adjustments:

1. Make sure the dial pointer coincides with the index mark below 88 MHz on the dial.
2. The scope display should be calibrated. To do so, depress the TAPE MONITOR and AUDIO DISPLAY push button switches. Note that the scope trace will be reduced to a dot. Adjust the centering controls to bring the dot to the center of the small circle. Release the TAPE MONITOR and AUDIO DISPLAY push button switches. The oscilloscope is now properly calibrated for use as an accurate tuning indicator.

FM FRONT END LOCAL OSCILLATOR ADJUSTMENTS. (See figure 3.)

1. Set FM signal generator to 106 MHz. Tune receiver to the same frequency and adjust high end adj trimmer C114 until the dial pointer coincides with the 106 marking on the dial.
2. Set FM signal generator to 90 MHz. Tune receiver to the same frequency and adjust low end adj coil L108 until the dial pointer coincides with the 90 MHz marking on the dial.
3. Repeat procedure until no further improvement can be made between the low end and the high end.

IF ALIGNMENT

Alignment of the IF Assembly should not be attempted in the field. If improper alignment is suspected, replace the assembly and return the defective assembly to the factory.

NOISE LEVEL DISPLAY ADJUSTMENT. (See figure 3.)

The scope should display the interstation noise just above and almost touching the bottom horizontal indicator line. If not, adjust the noise level adj R327. Note that the noise level control when rotated will move the interstation noise vertically up or down.

VERTICAL GAIN ADJUSTMENT. (See figure 3.)

Connect the FM generator to the FM ANTENNA terminal strip. Set the generator to 106 MHz. Tune the receiver to the same frequency. Adjust the output of the generator to provide 100,000 microvolts. The tuning trace should reach the top horizontal line of the scope tuning indicator. If the trace is too high or too low, adjust the vertical gain adj R325. Alternately repeat the noise level display and vertical gain adjustments until no further adjustment is required (both fall into their proper place).

MUTING CONTROL ADJUSTMENT. (See figure 3.)

Set the FM signal generator to 106 MHz. Tune the receiver to the same frequency. Reduce the output of the generator to provide 10 microvolts at the receiver, using a 400 Hz modulation. Adjust muting control R328 until muting is achieved at the 10-microvolt level. This may also be monitored on the oscilloscope of the receiver by depressing the AUDIO DISPLAY button. When muting occurs the audio display will be reduced on the oscilloscope.

DETECTOR ALIGNMENT

Alignment of the Detector Assembly should not be attempted in the field. If improper alignment is suspected, replace the assembly and return the defective assembly to the factory.

MPX OSC AND MATRIX ADJUSTMENTS. (See figures 3 and 12.)

Note

A proper stereo multiplex and RF FM signal generator is required to make the separation adjustments on the MPX Oscillator and Matrix boards. Perform the following adjustments in the sequence given.

1. Adjust STEREO SEP control R517 on MPX oscillator board at 500 Hz for maximum separation.
2. Adjust coil L503 on the MPX oscillator board at 15 KHz for maximum separation.
3. Adjust STEREO SEP control R621 on multiplex matrix board at 15 KHz for maximum separation.
4. Repeat all three (3) adjustments until no further improvement in separation can be made.

HORIZONTAL GAIN ADJUSTMENT. (See figures 3 and 12.)

Tune the receiver off station until only interstation noise is heard. The noise trace should just barely be touching the top of the base line of the scope. Adjust the horizontal gain control R505 until the trace is approximately a half inch wide.

STEREO THRESHOLD ADJUSTMENT. (See figures 3 and 12.)

If a stereo Multiplex generator is available, STEREO THRESHOLD control R512 is adjusted so that the stereo switch is triggered at 6% pilot level. To adjust the STEREO THRESHOLD control without special test equipment, adjust STEREO THRESHOLD control R512 until the stereo indicator light on the front panel turns on. When tuning off a stereo station the stereo indicator light should go off.

SCOPE DISPLAY ADJUSTMENTS. (See figures 3 and 24.)

The only adjustments that may be required on the scope display board are the FOCUS and INTENSITY controls. To adjust focus, depress the TAPE MONITOR and AUDIO DISPLAY push buttons and adjust focus adj control R1216 until the dot is at its sharpest point. With the TAPE MONITOR and AUDIO DISPLAY push buttons depressed, adjust intensity adj control R1223 until the dot is barely visible in a normally lit room.

PHONO AMPLIFIER BIAS ADJUSTMENTS. (See figures 3 and 16.)

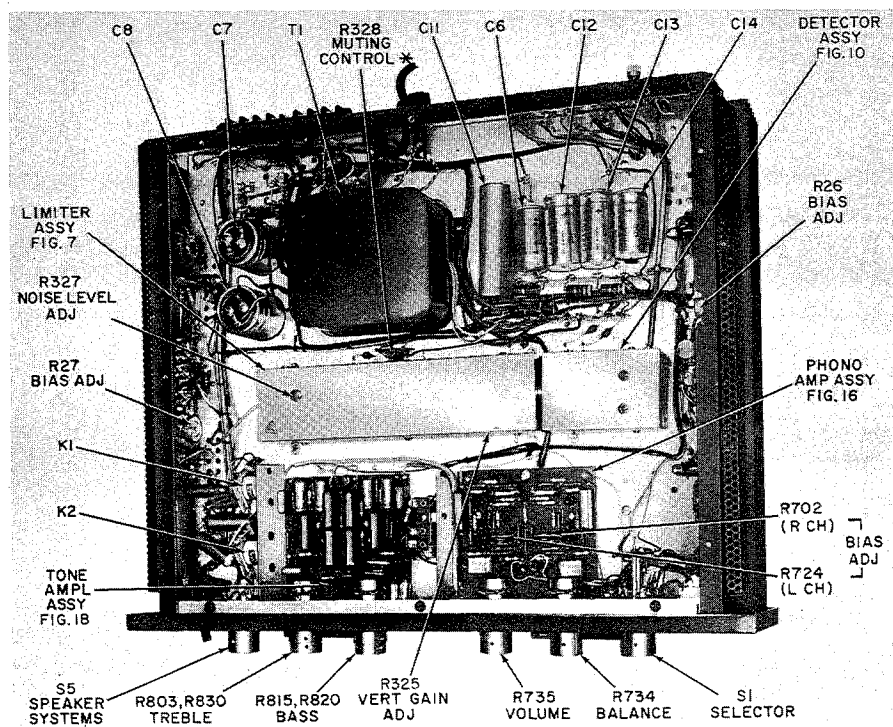
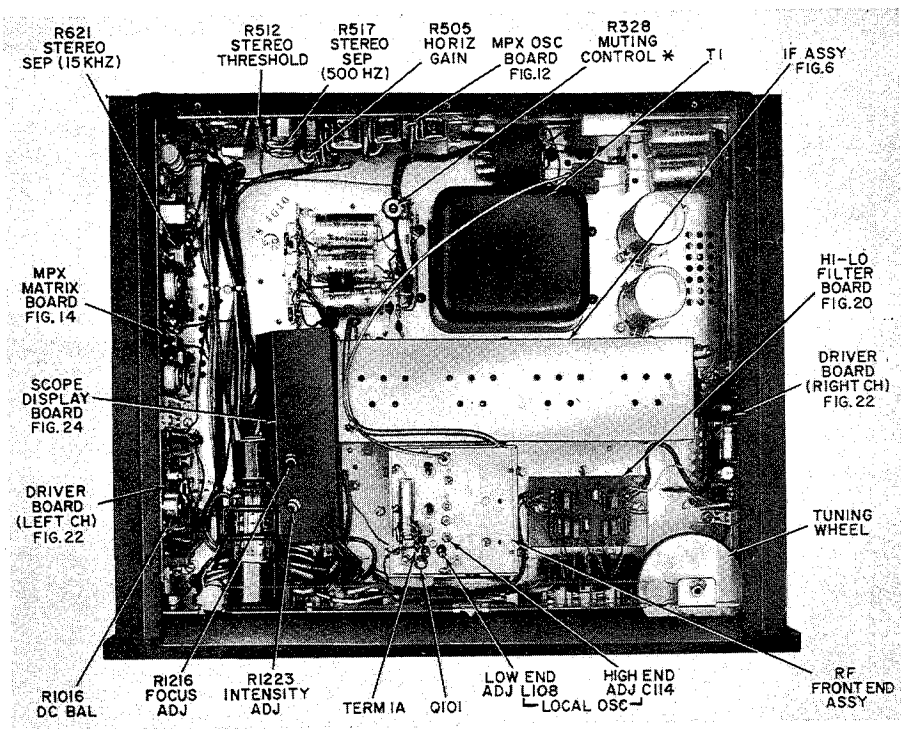
To adjust BIAS control R702, connect a VTVM across resistor R716. Adjust the bias control until the meter reads between 17 and 19 volts dc. To adjust BIAS CONTROL R724 repeat the above procedure but connect the VTVM across resistor R721. The reading across R721 should be between 17 and 19 volts dc.

DRIVER DC BALANCE ADJUSTMENT. (See figures 3 and 22.)

Connect a VTVM across the SPEAKER SYSTEMS terminal output for the channel being tested. Set the voltage range on VTVM to the lowest scale possible, preferably 1.5v full scale deflection. Adjust the DC BALANCE control R1016 until there is zero dc voltage at the speaker terminal strip. Repeat the procedure for the alternate channel.

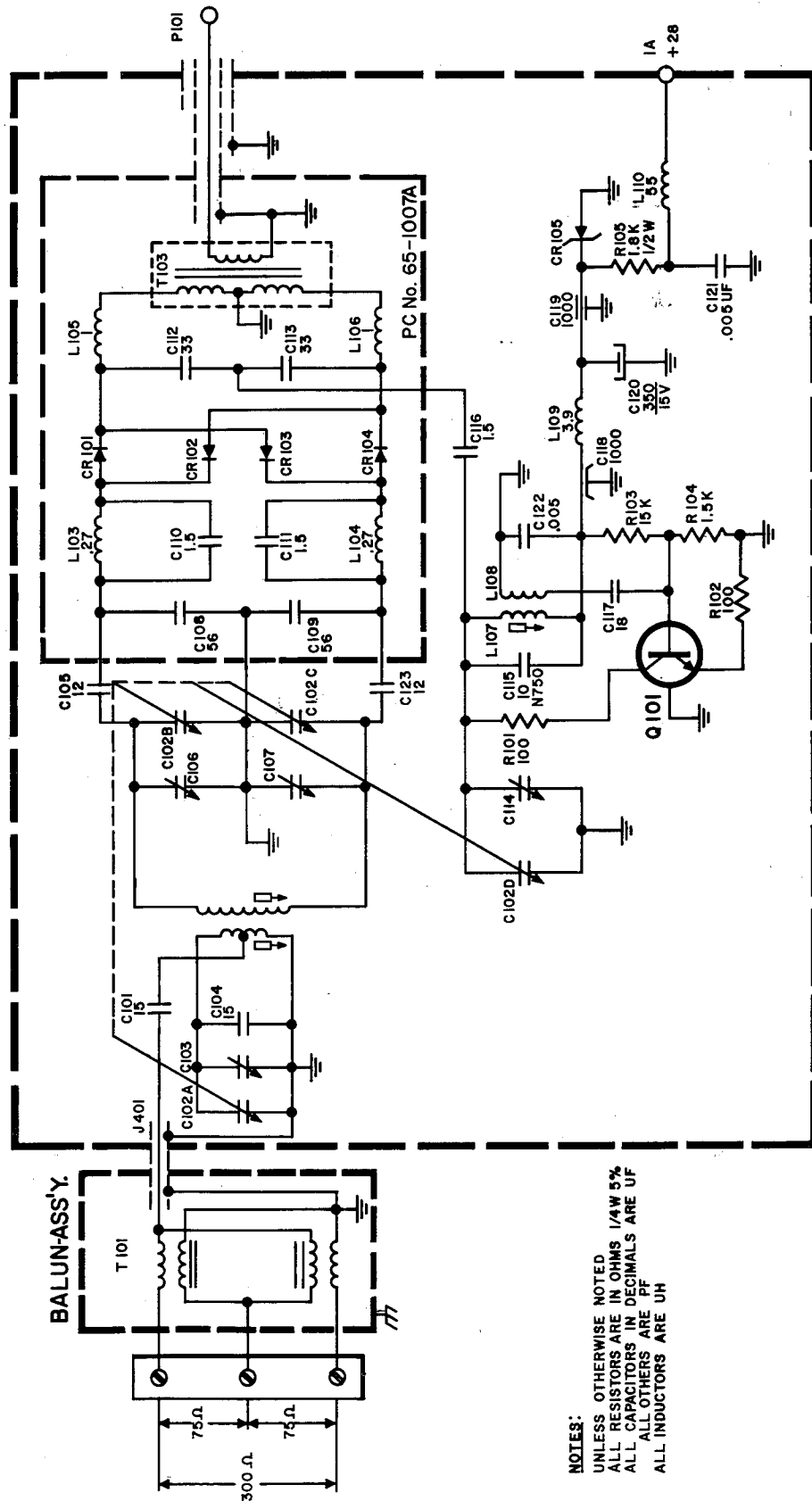
POWER AMPLIFIER BIAS ADJUSTMENT. (See figure 3.)

To adjust the left channel BIAS adj control R26 connect a volt meter across resistor R28. Adjust the BIAS until the meter reads 80 millivolts (.08v). To adjust the right channel BIAS control, connect the meter across R43 and adjust BIAS adj control R27. The reading here should be the same as for the left channel



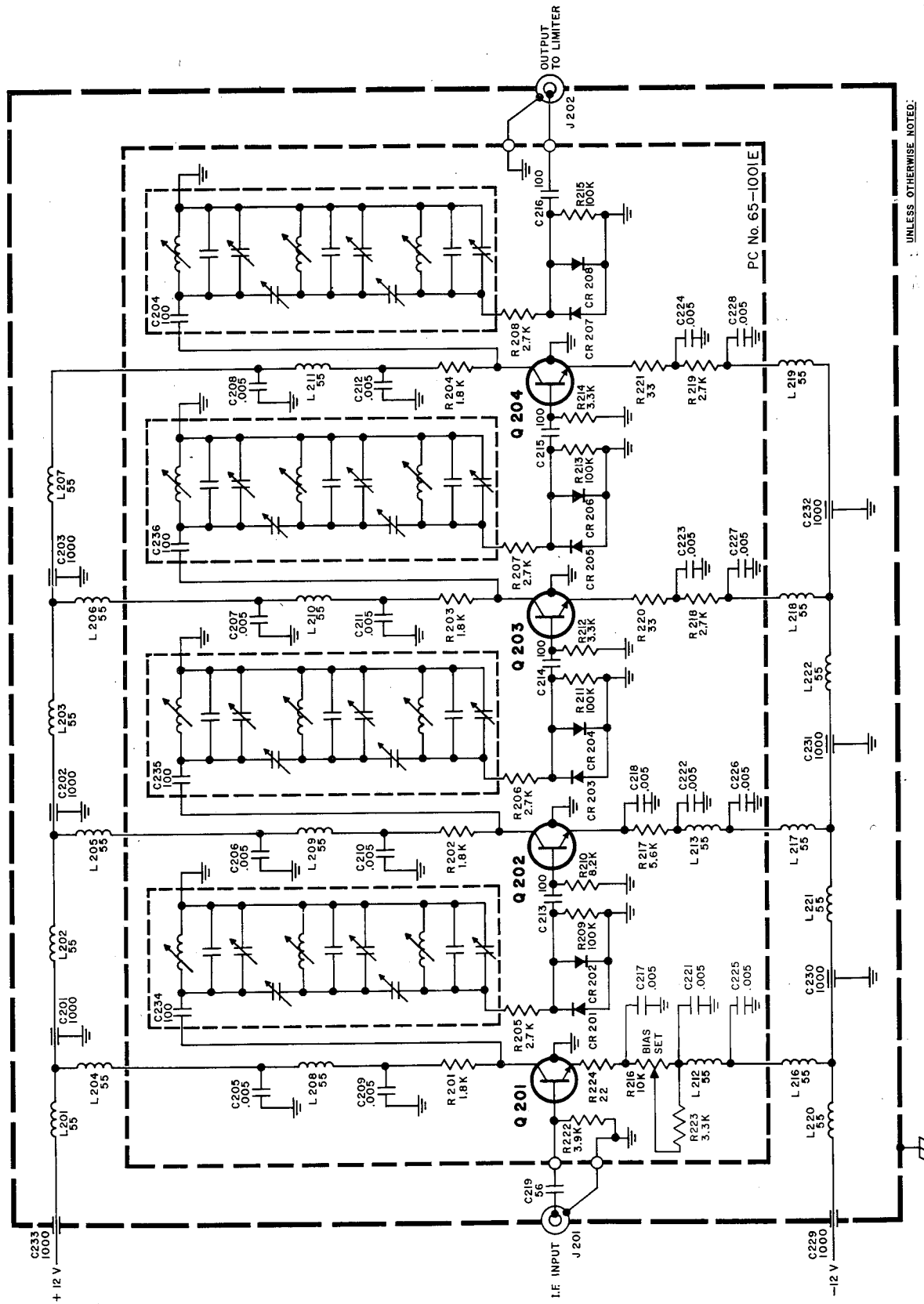
*on early units R328 on Limiter Assy; on later units R328 on top of chassis.

Figure 3. Main Chassis Adjustment and Component Locations



NOTES:
 UNLESS OTHERWISE NOTED
 ALL RESISTORS ARE IN OHMS 1/4W 5%
 ALL CAPACITORS IN DECIMALS ARE UF
 ALL OTHERS ARE PF
 ALL INDUCTORS ARE UH

Figure 4. FM Front End Assembly 11-1020, Schematic Diagram



UNLESS OTHERWISE NOTED:
 ALL RESISTORS ARE IN OHMS 1/4W 5%
 ALL CAPACITORS IN DECIMALS ARE UF
 ALL INDUCTORS ARE UH

Figure 5. IF Assembly 11-1021, Schematic Diagram

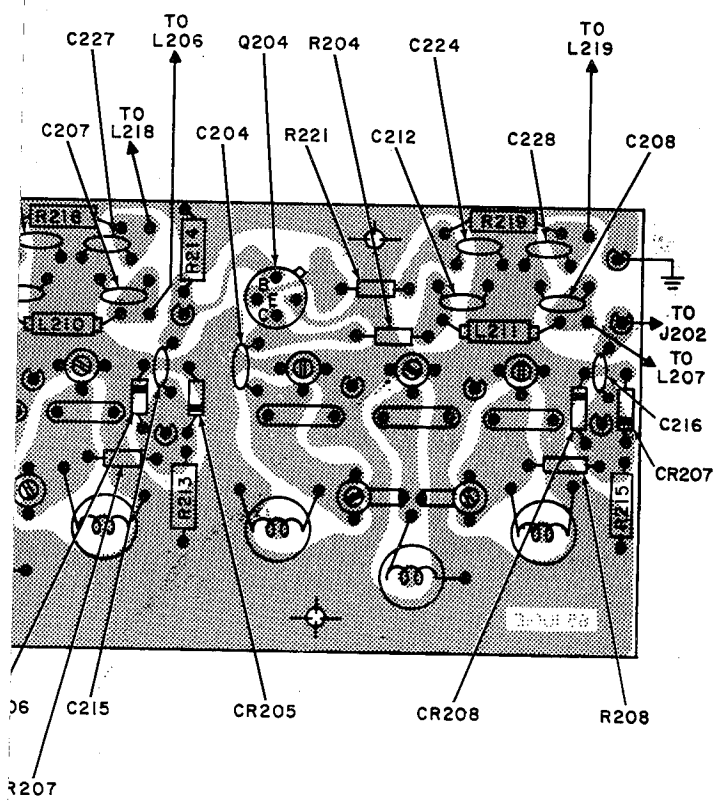
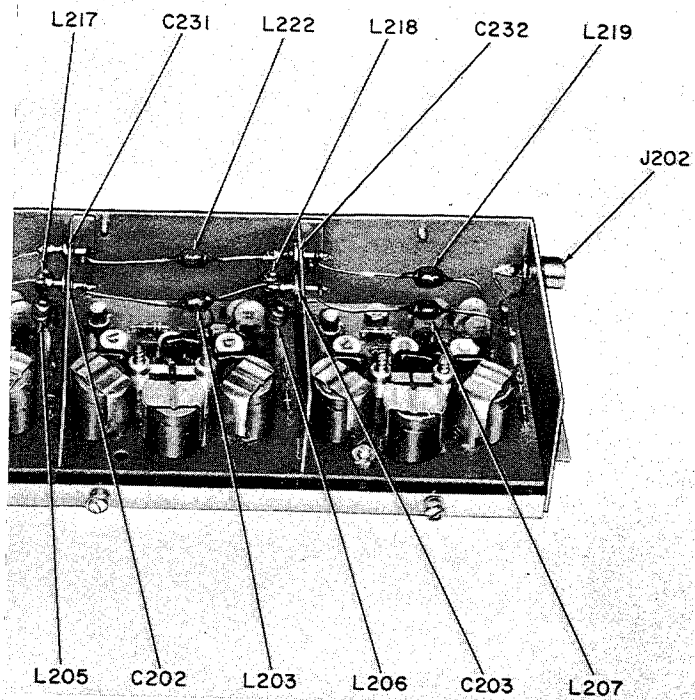


Figure 6. IF Assembly 11-1021, Component Locations

| | B | E | C |
|------|------|------|-----|
| Q201 | -0.2 | -1 | 5.5 |
| Q202 | -0.7 | -1 | 9 |
| Q203 | -0.2 | -1.2 | 4.5 |
| Q204 | -0.4 | -1.3 | 5 |

Voltages are:

1. Dc $\pm 10\%$
2. Measured using VTVM
3. Measured with 117-volt line
4. Measured with respect to chassis
5. Measured with no signal (ant terminals shorted), volume at zero, Muting out, Bass and Treble flat, Dot on scope centered, Audio display out.

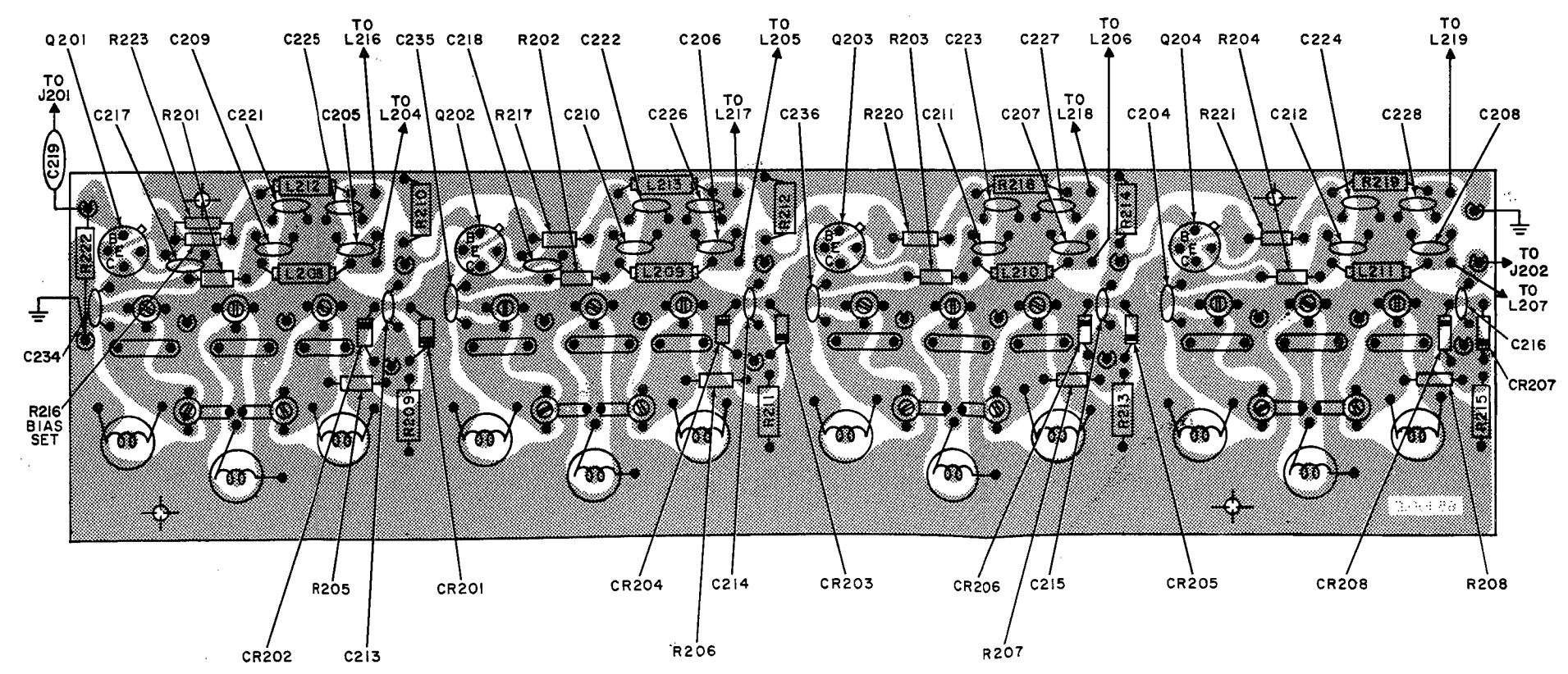
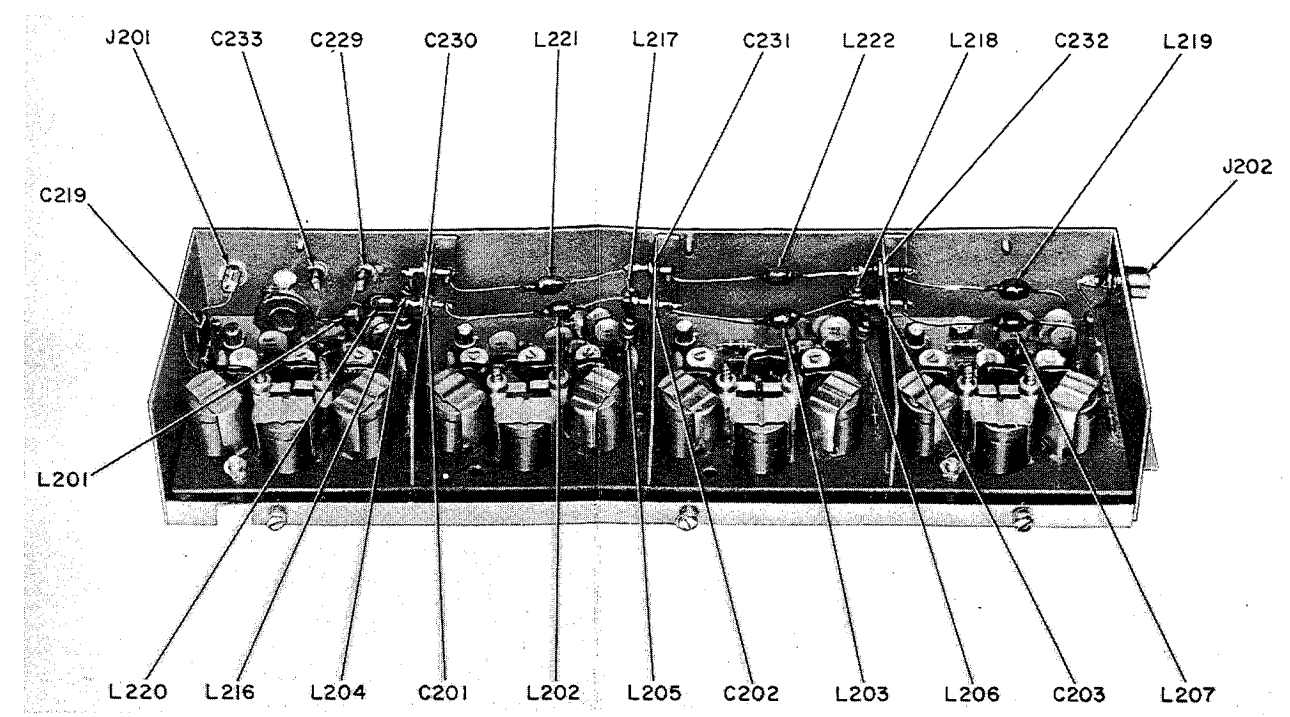


Figure 6. IF Assembly 11-1021, Component Locations

| | B | E | C |
|------|-------|------|-----|
| Q301 | -3 | -4 | 12 |
| Q302 | -0.45 | -1.1 | 12 |
| Q303 | -0.45 | -1.2 | 12 |
| Q304 | -0.2 | -0.3 | 12 |
| Q305 | -0.5 | 12 | -12 |

Voltages are:

1. Dc ±10%
2. Measured using VTVM
3. Measured with 117-volt line
4. Measured with respect to chassis
5. Measured with no signal (ant terminals shorted), volume at zero, Muting out, Bass and Treble flat, Dot on scope centered, Audio display out.

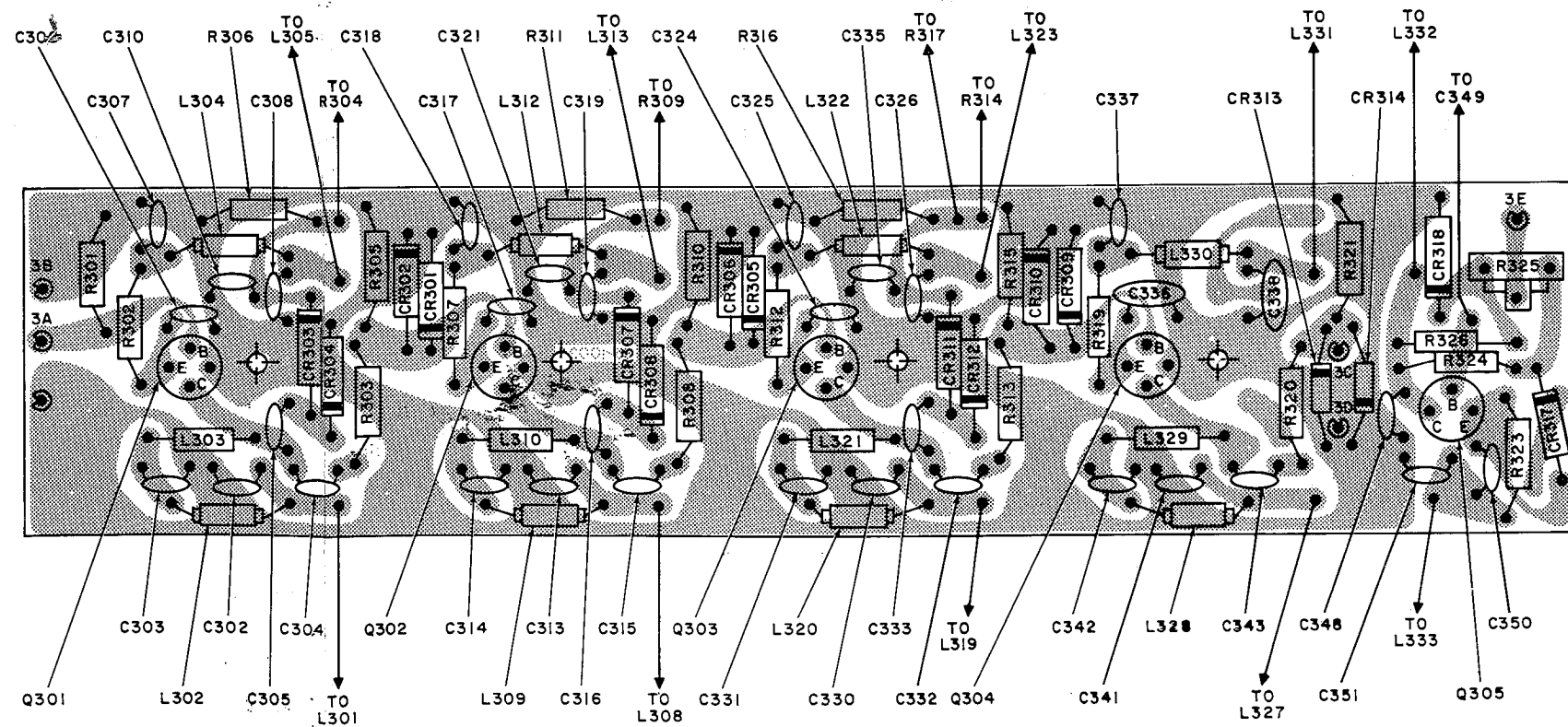
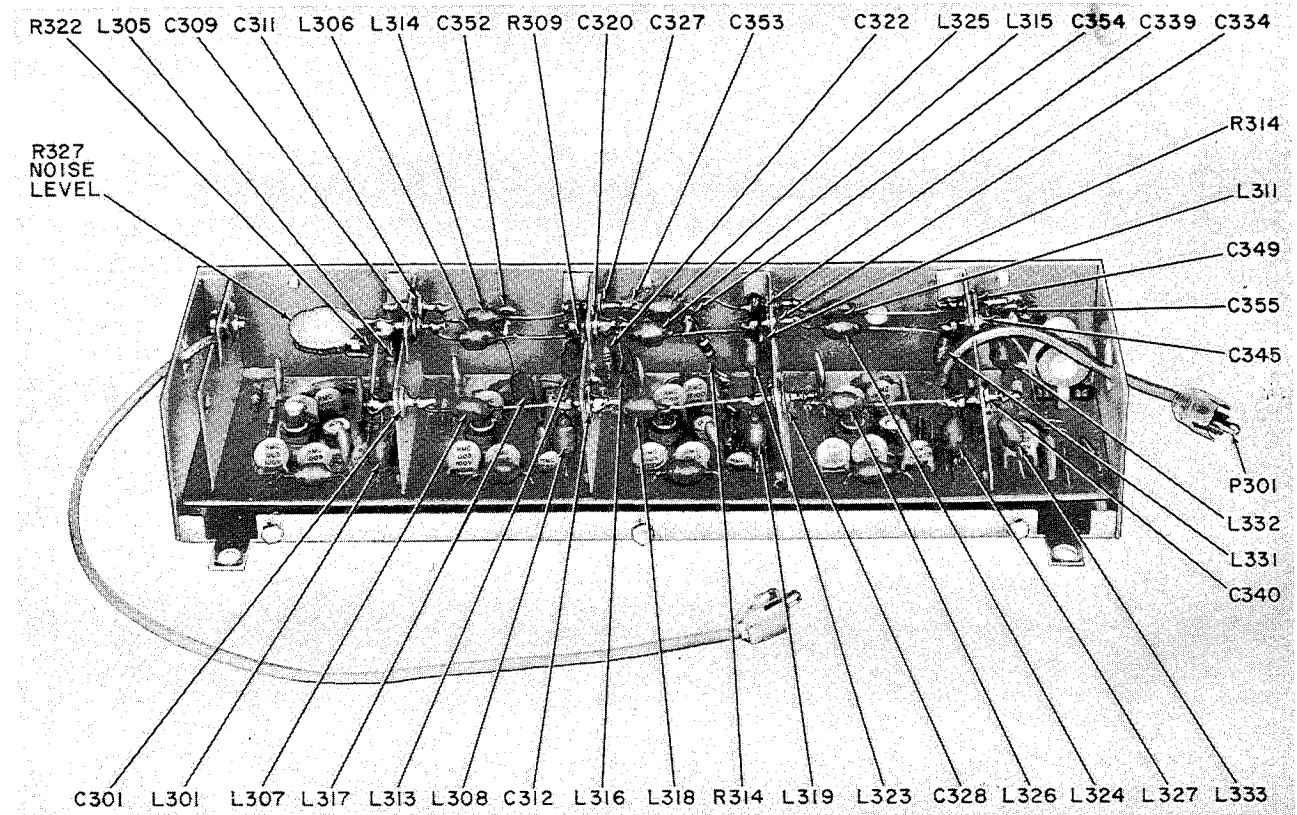


Figure 7. Limiter Assembly 11-1022, Component Locations

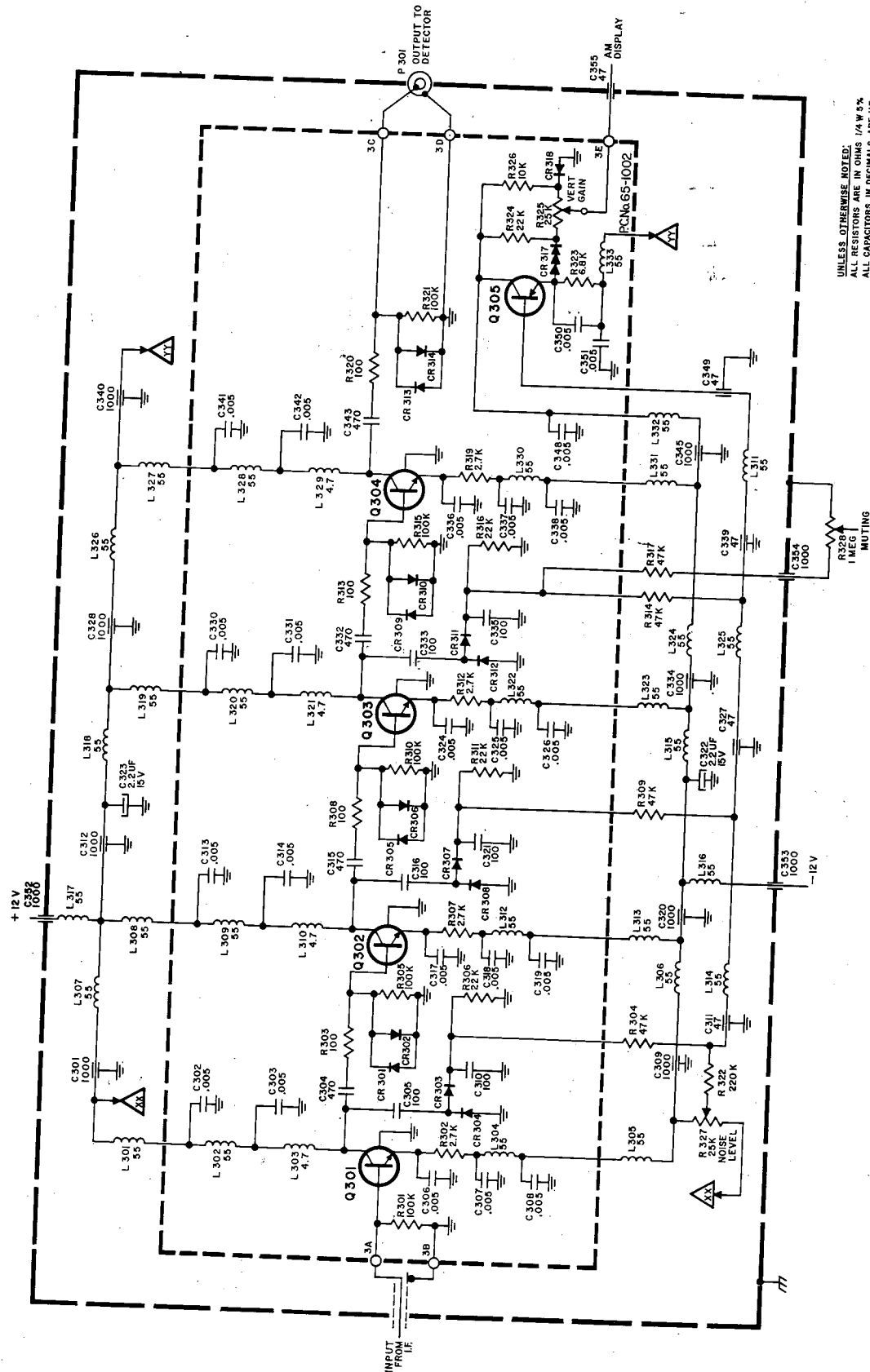
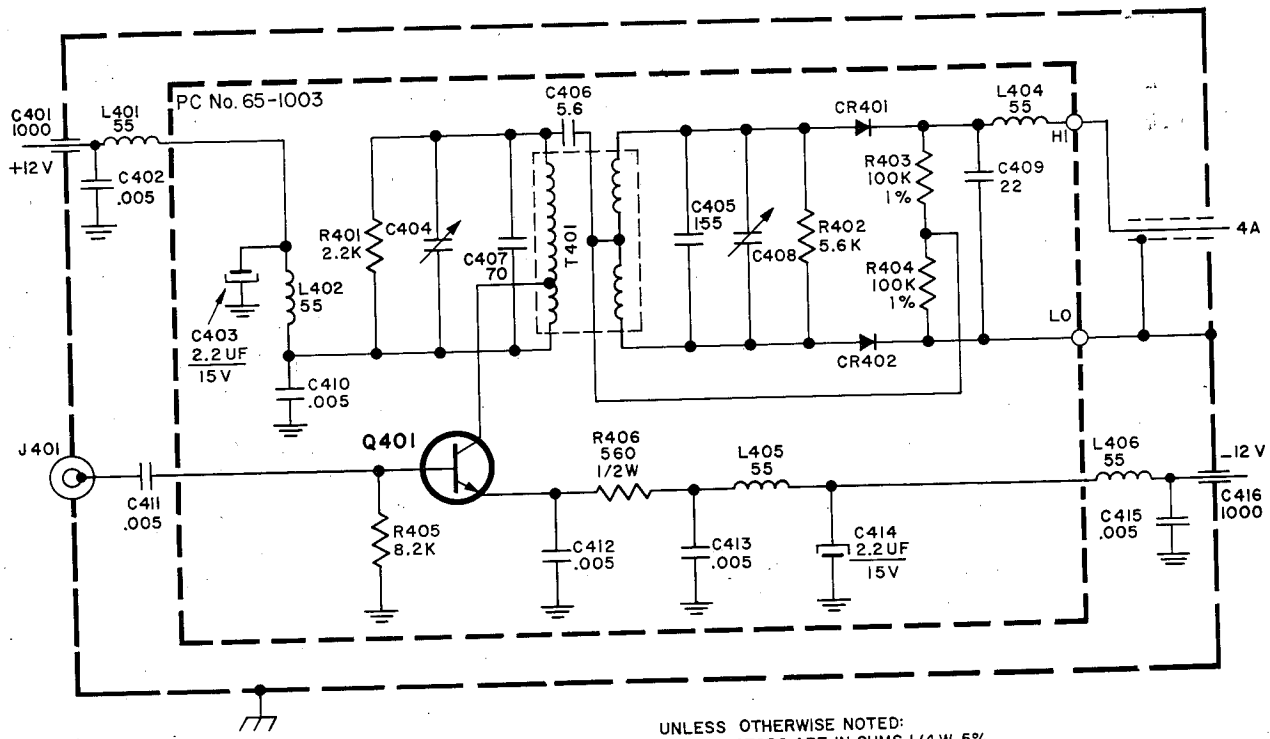


Figure 8. Limiter Assembly 11-1022, Schematic Diagram



UNLESS OTHERWISE NOTED:
 ALL RESISTORS ARE IN OHMS 1/4W 5%
 ALL CAPACITORS IN DECIMALS ARE UF
 ALL OTHERS ARE PF
 ALL INDUCTORS ARE UH

| | B | E | C |
|------|------|------|----|
| Q401 | -1.5 | -1.4 | 12 |

Voltage is:

1. Dc $\pm 10\%$
2. Measured using VTVM
3. Measured with 117-volt line
4. Measured with respect to chassis
5. Measured with no signal (ant terminals shorted), volume at zero, Muting out, Bass and Treble flat, Dot on scope centered, Audio display out.

Figure 9. Detector Assembly 11-1023, Schematic Diagram

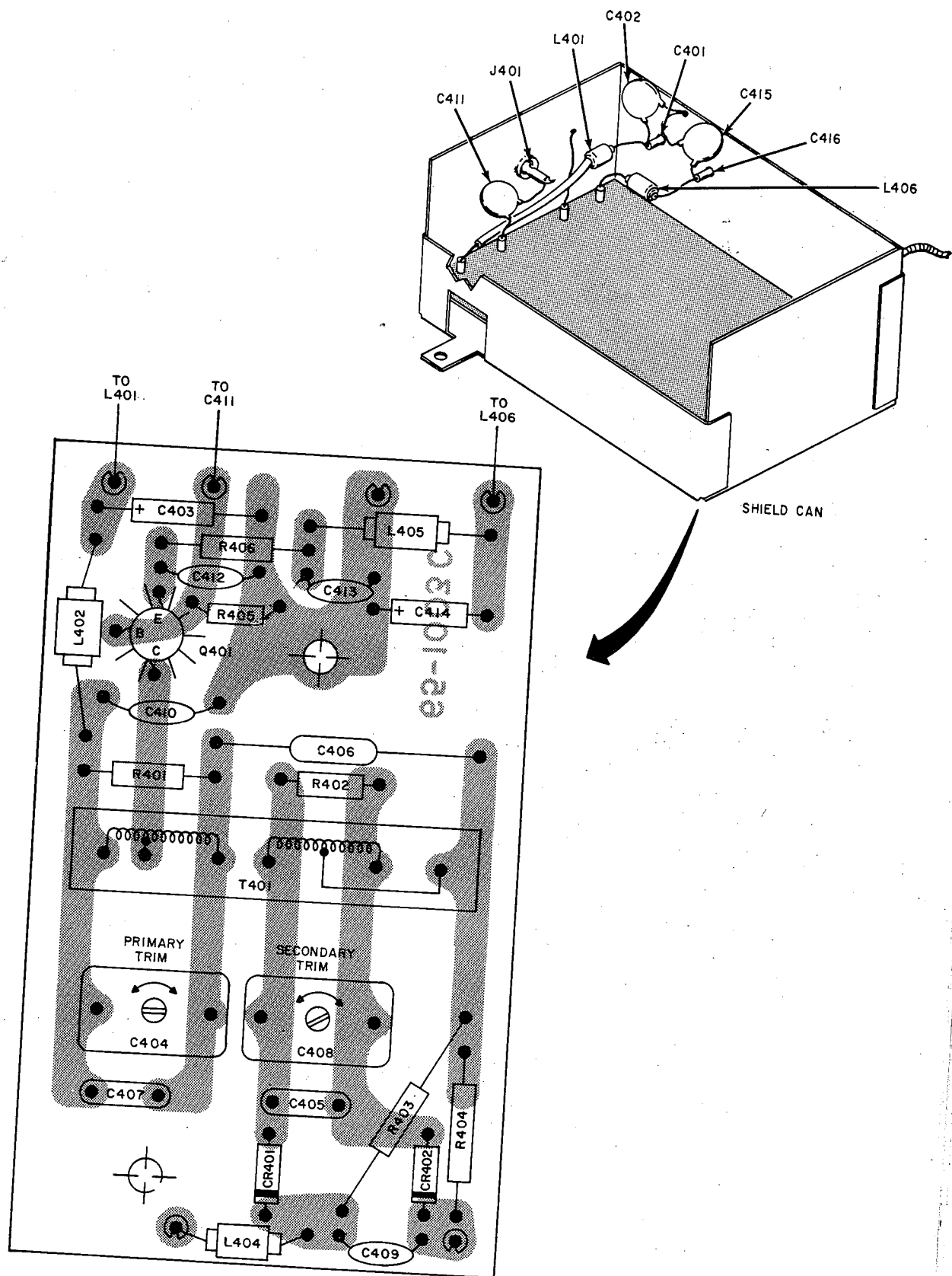
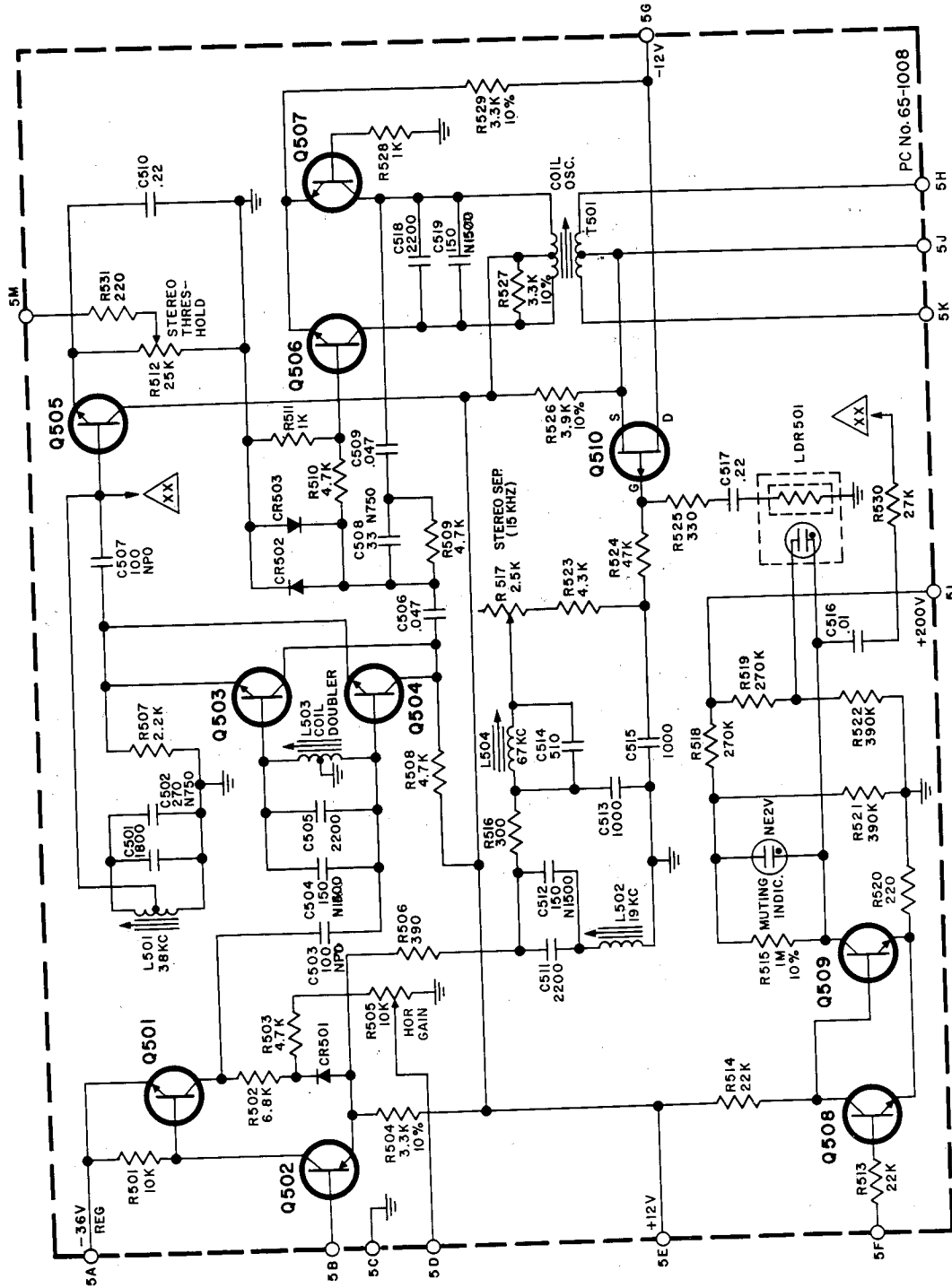
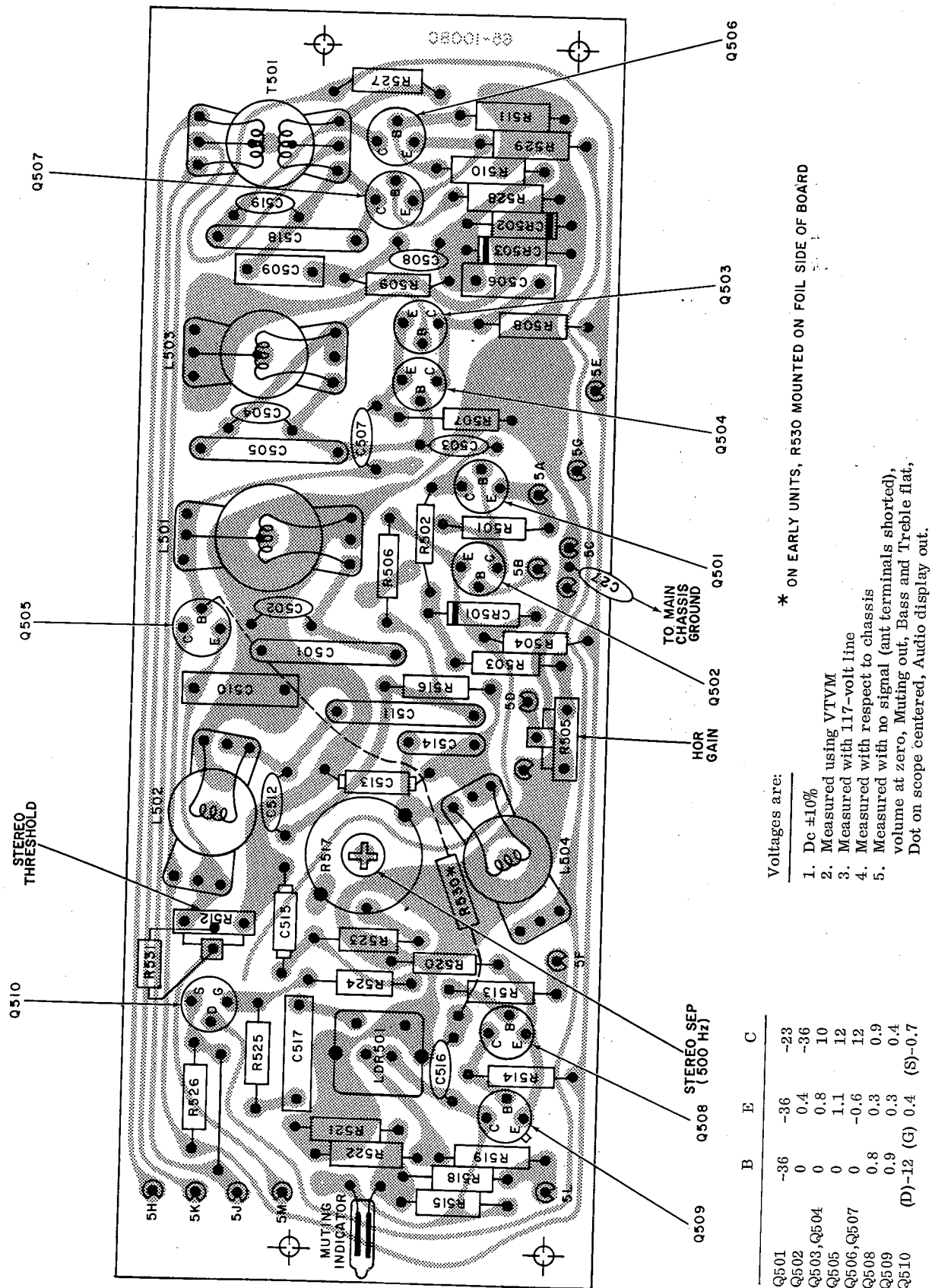


Figure 10. Detector Assembly 11-1023, Component Locations



UNLESS OTHERWISE NOTED:
 ALL RESISTORS ARE IN OHMS 1/4 W 5%
 ALL CAPACITORS IN DECIMALS ARE UF
 ALL OTHERS ARE PF

Figure 11. MPX Oscillator Board 11-1004, Schematic Diagram



ON EARLY UNITS, R530 MOUNTED ON FOIL SIDE OF BOARD

TO MAIN CHASSIS GROUND

HOR GAIN

STEREO SEP (500 Hz)

STEREO THRESHOLD

MUTING INDICATOR

5H 5K 5J 5M 5L 5F 5G 5E

Q510 Q505 Q507 Q503 Q504 Q501 Q502 Q506

Q509 Q508 Q507 Q506 Q505 Q504 Q503 Q502 Q501 Q500

R527 R526 R525 R524 R523 R522 R521 R520 R519 R518 R517 R516 R515 R514 R513 R512 R511 R510 R509 R508 R507 R506 R505 R504 R503 R502 R501 R500

C519 C518 C517 C516 C515 C514 C513 C512 C511 C510 C509 C508 C507 C506 C505 C504 C503 C502 C501 C500

T501

L503 L502 L501 L500

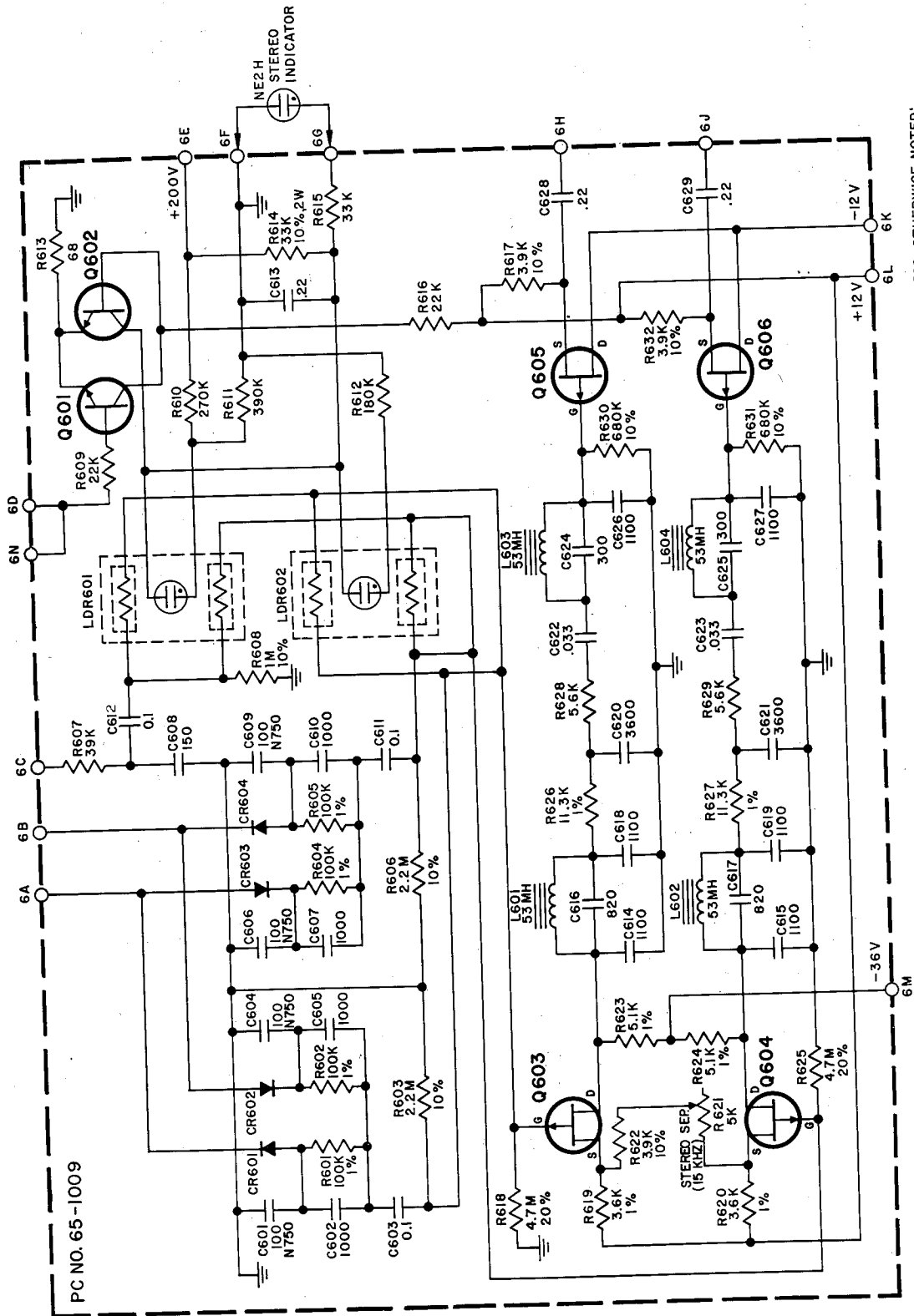
LDR50

3800-80

- Volts are:
1. Dc $\pm 10\%$
 2. Measured using VTVM
 3. Measured with 117-volt line
 4. Measured with respect to chassis
 5. Measured with no signal (ant terminals shorted), volume at zero, Muting out, Bass and Treble flat, Dot on scope centered, Audio display out.

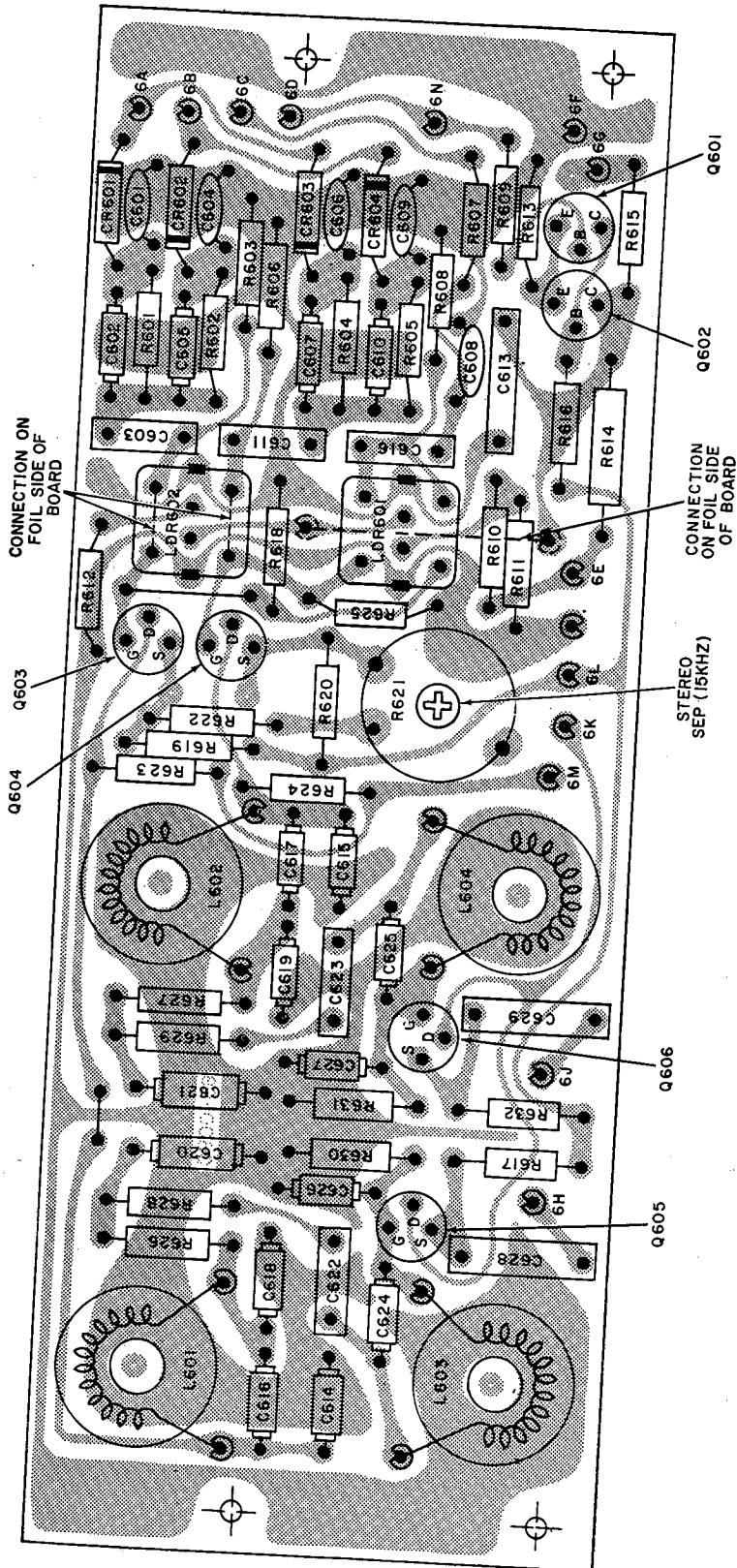
| | B | E | C |
|------------|--------|---------|---------|
| Q501 | -36 | -36 | -23 |
| Q502 | 0 | 0.4 | -36 |
| Q503, Q504 | 0 | 0.8 | 10 |
| Q505 | 0 | 1.1 | 12 |
| Q506, Q507 | 0 | -0.6 | 12 |
| Q508 | 0.8 | 0.3 | 0.9 |
| Q509 | 0.9 | 0.3 | 0.4 |
| Q510 | (D)-12 | (G) 0.4 | (S)-0.7 |

Figure 12. MPX Oscillator Board 11-1004, Component Locations



UNLESS OTHERWISE NOTED:
ALL RESISTORS ARE IN OHMS 1/4 W 5%
ALL CAPACITORS IN DECIMALS ARE UF
ALL OTHERS ARE PF
ALL 1% RESISTORS PRECISION FILM

Figure 13. MPX Matrix 11-1003, Schematic Diagram

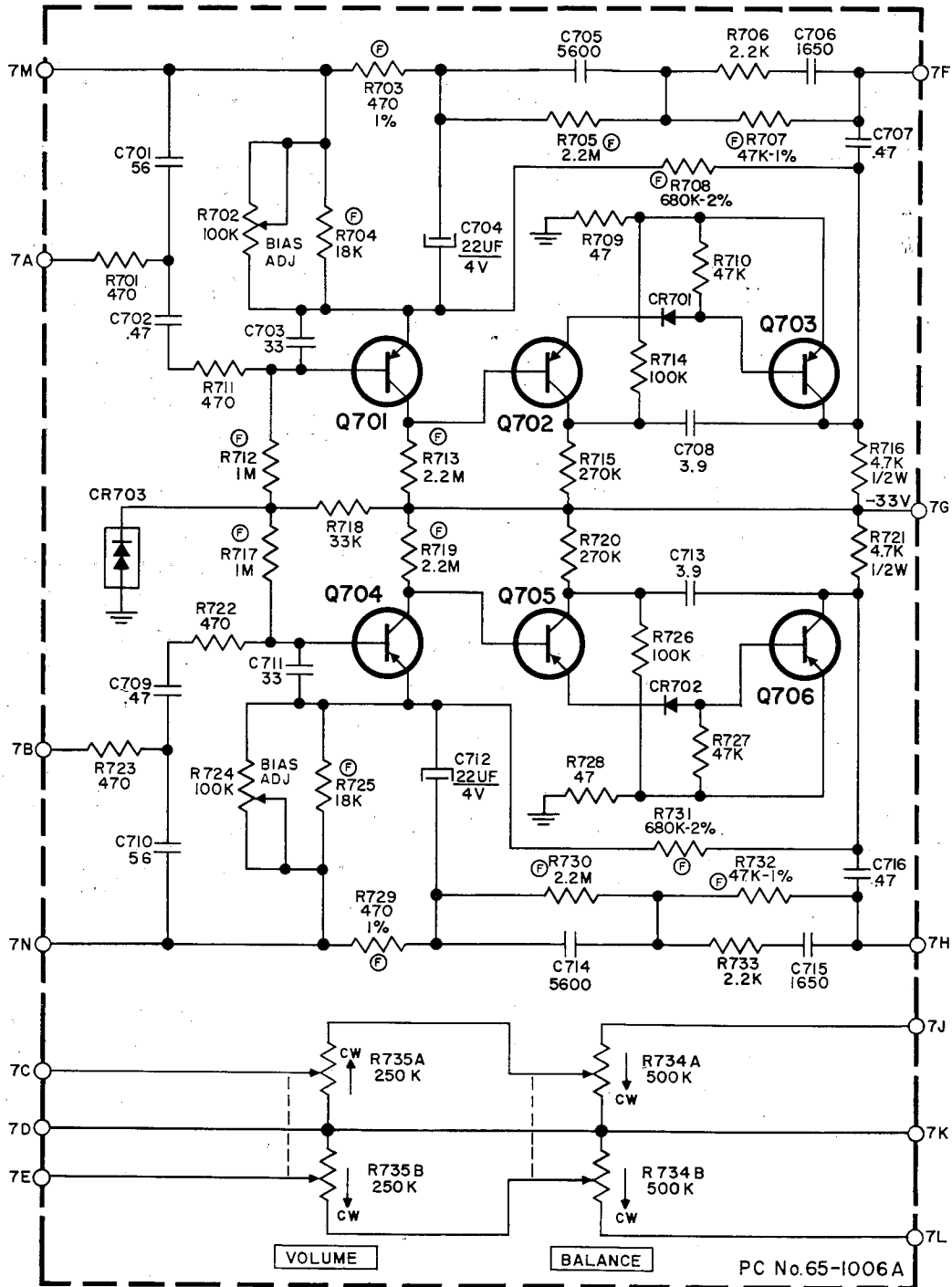


Voltages are:

1. Dc $\pm 10\%$
2. Measured using VTVM
3. Measured with 117-volt line
4. Measured with respect to chassis
5. Measured with no signal (ant terminals shorted), volume at zero, Muting out, Bass and Treble flat, Dot on scope centered, Audio display out.

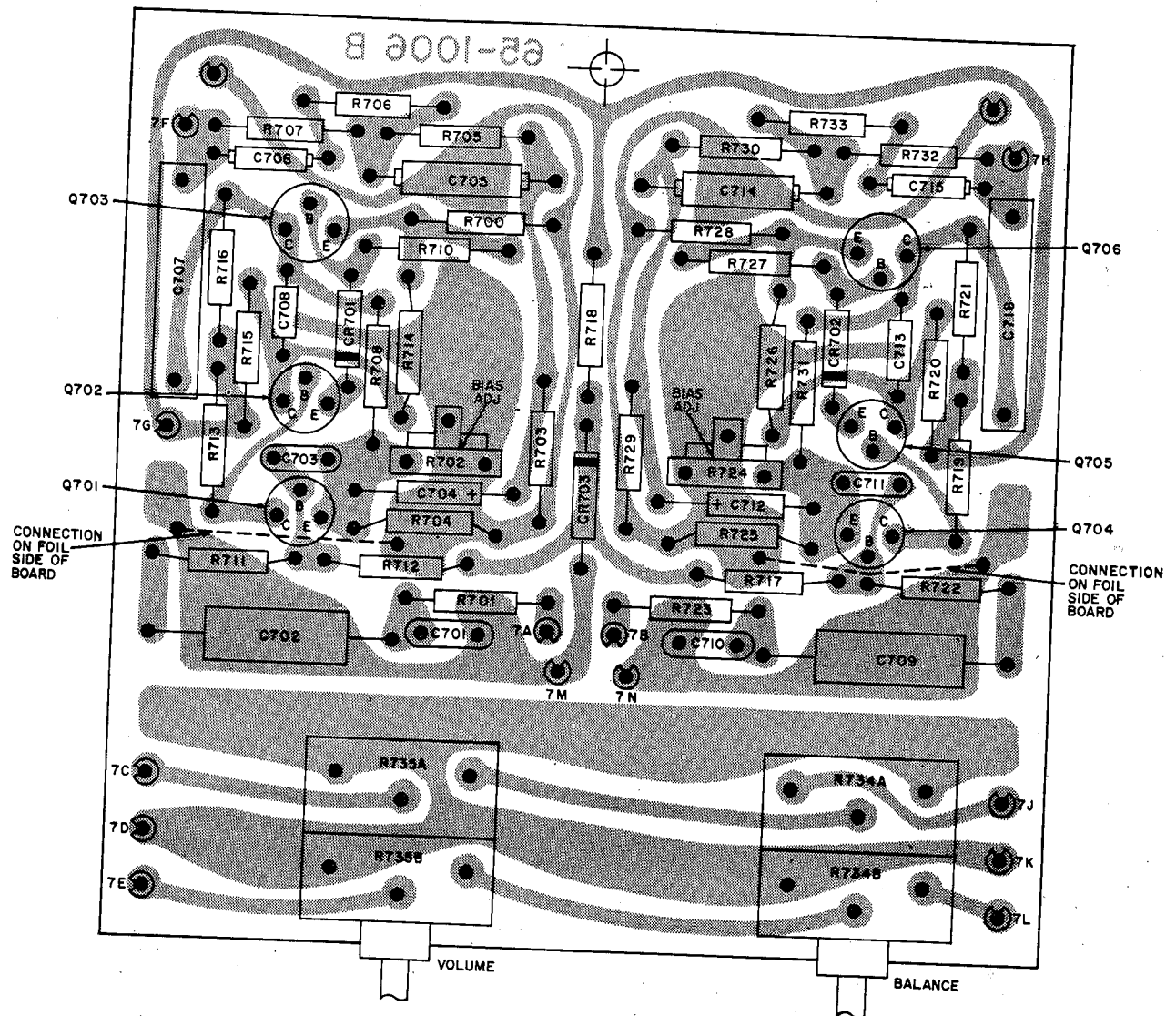
| | B | E | C |
|------|--------|-------|---------|
| Q601 | 0.15 | 0.4 | 1.1 |
| Q602 | 1.1 | 0.4 | 0.7 |
| Q603 | (D)-19 | (G) 0 | (S)-1.2 |
| Q604 | (D)-19 | (G) 0 | (S)-1.3 |
| Q605 | (D)-12 | (G) 0 | (S)-1.4 |
| Q606 | (D)-12 | (G) 0 | (S)-1.6 |

Figure 14. MPX Matrix 11-1003, Component Locations



UNLESS OTHERWISE NOTED:
 ALL RESISTORS ARE IN OHMS 1/4W 5%
 ALL CAPACITORS IN DECIMALS ARE UF
 ALL OTHERS ARE PF
 Ⓢ DENOTES PRECISION FILM RESISTOR

Figure 15. Phono Amplifier Board 11-1006, Schematic Diagram

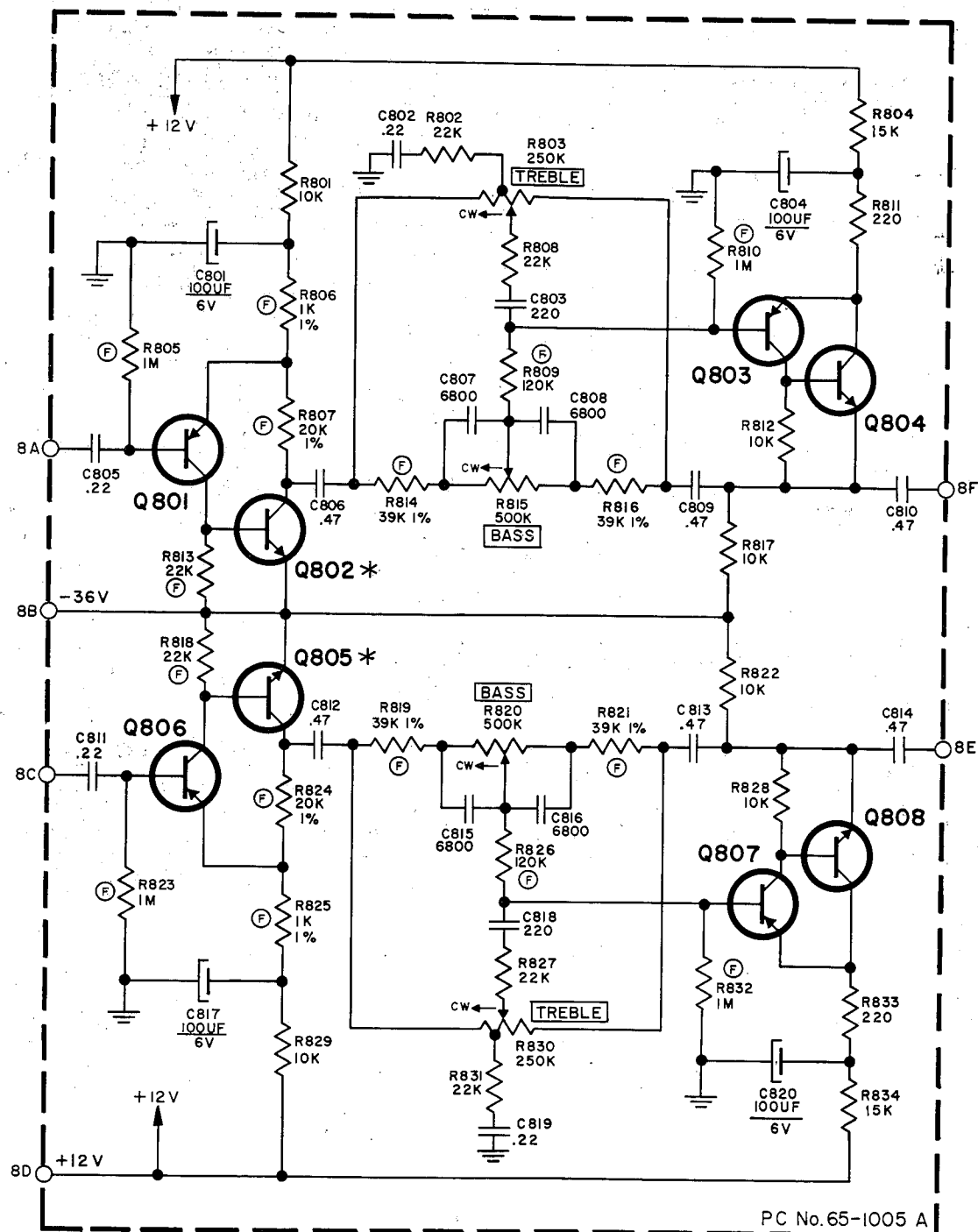


| | B | E | C |
|------------|------|------|-----|
| Q701, Q704 | 0 | -0.6 | -2 |
| Q702, Q705 | -2 | -1.4 | -7 |
| Q703, Q706 | -0.9 | -0.2 | -20 |

Voltages are:

1. Dc $\pm 10\%$
2. Measured using VTVM
3. Measured with 117-volt line
4. Measured with respect to chassis
5. Measured with no signal (ant terminals shorted), volume at zero, Muting out, Bass and Treble flat, Dot on scope centered, Audio display out.

Figure 16. Phono Amplifier Board 11-1006, Component Locations



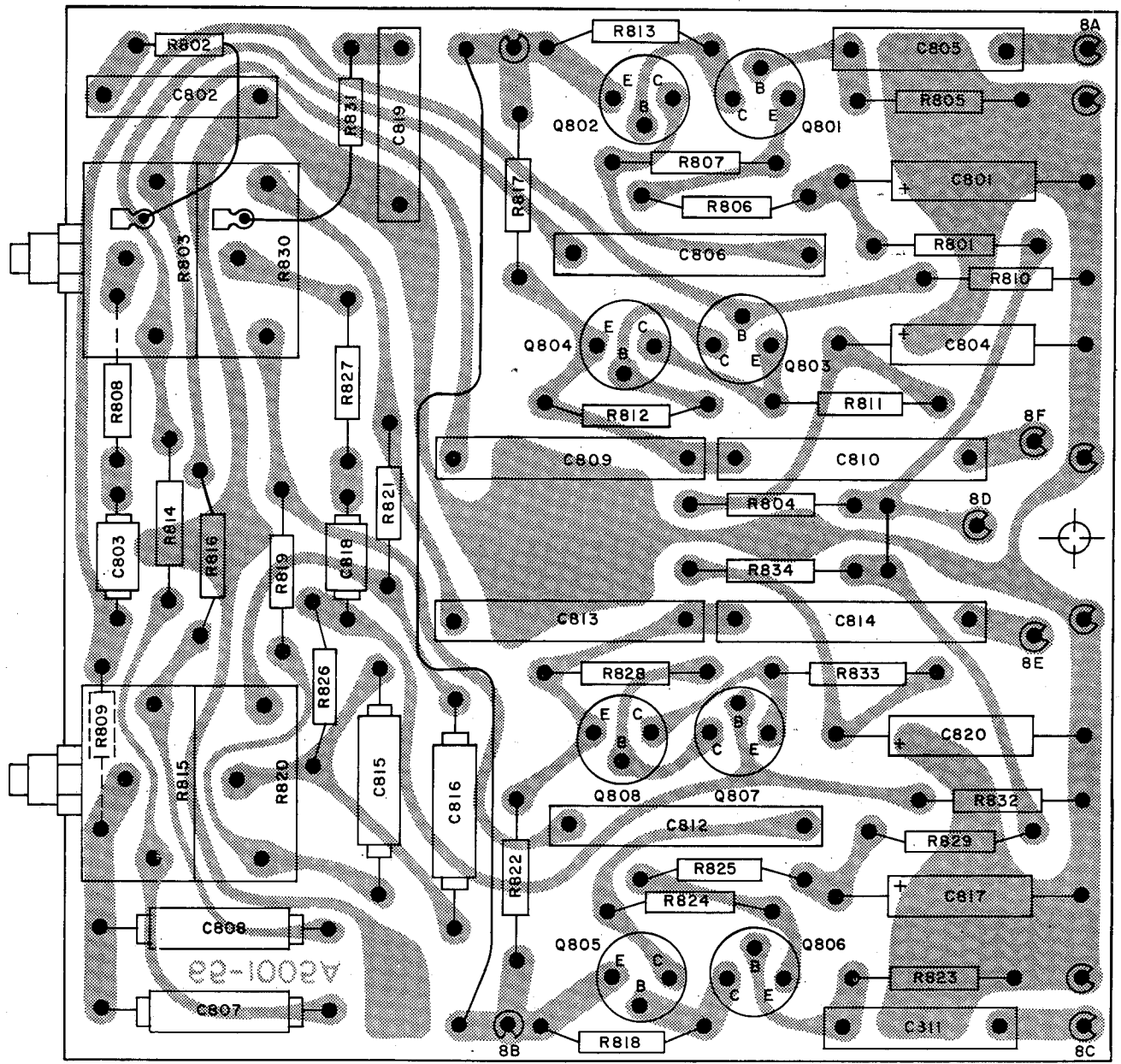
UNLESS OTHERWISE NOTED:

ALL RESISTORS ARE IN OHMS 1/4W 5%
 ALL CAPACITORS IN DECIMALS ARE UF
 ALL OTHERS ARE PF

Ⓢ DENOTES PRECISION FILM RESISTORS

* Q802, Q805 TYPE 34-1031
 (FORMERLY 34-1010 or 34-1011)

Figure 17. Tone Amplifier Board 11-1007, Schematic Diagram

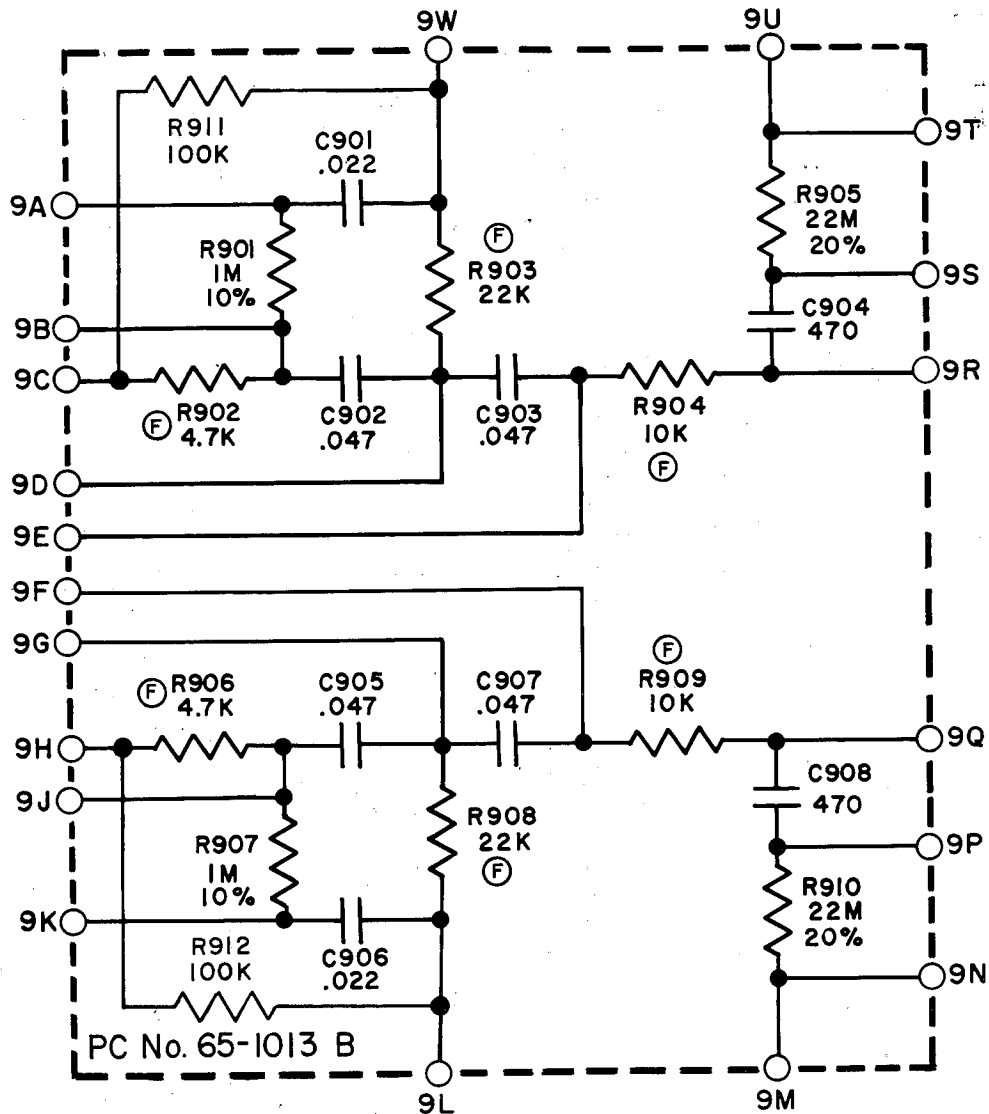


| | B | E | C |
|------------|-----|-----|-----|
| Q801, Q806 | 0.2 | 0.6 | -39 |
| Q802, Q805 | -39 | -36 | -21 |
| Q803, Q807 | 1 | 12 | -31 |
| Q804, Q808 | -31 | 0.7 | 12 |

Voltages are:

1. Dc $\pm 10\%$
2. Measured using VTVM
3. Measured with 117-volt line
4. Measured with respect to chassis
5. Measured with no signal (ant terminals shorted), volume at zero, Muting out, Bass and Treble flat, Dot on scope centered, Audio display out.

Figure 18. Tone Amplifier Board 11-1007, Component Locations



UNLESS OTHERWISE NOTED:
 ALL RESISTORS ARE IN OHMS 1/4 W 1%
 ALL CAPACITORS IN DECIMALS ARE UF
 ALL OTHERS ARE PF
 (F) DENOTES PRECISION FILM RESISTOR

Figure 19. Hi-Lo Filter Board 11-1008, Schematic Diagram

e2-1013 B

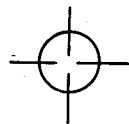
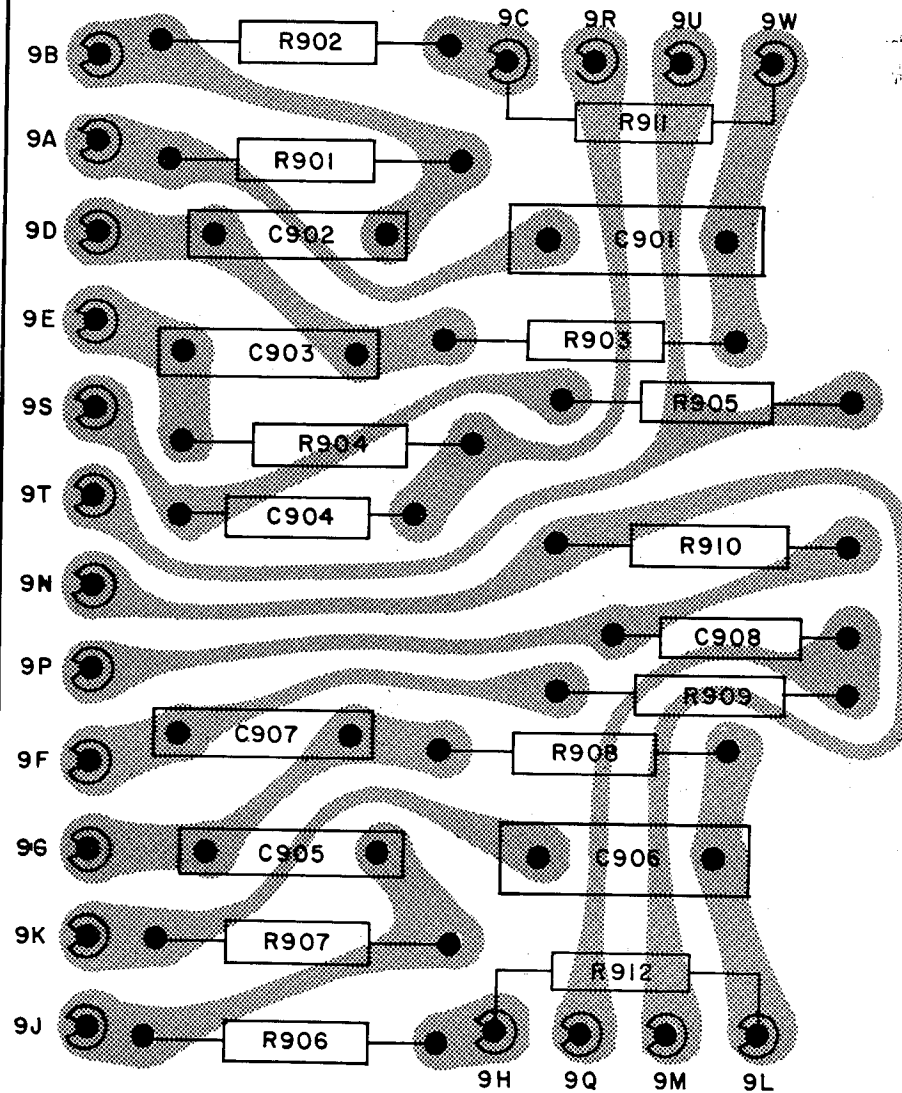
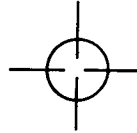
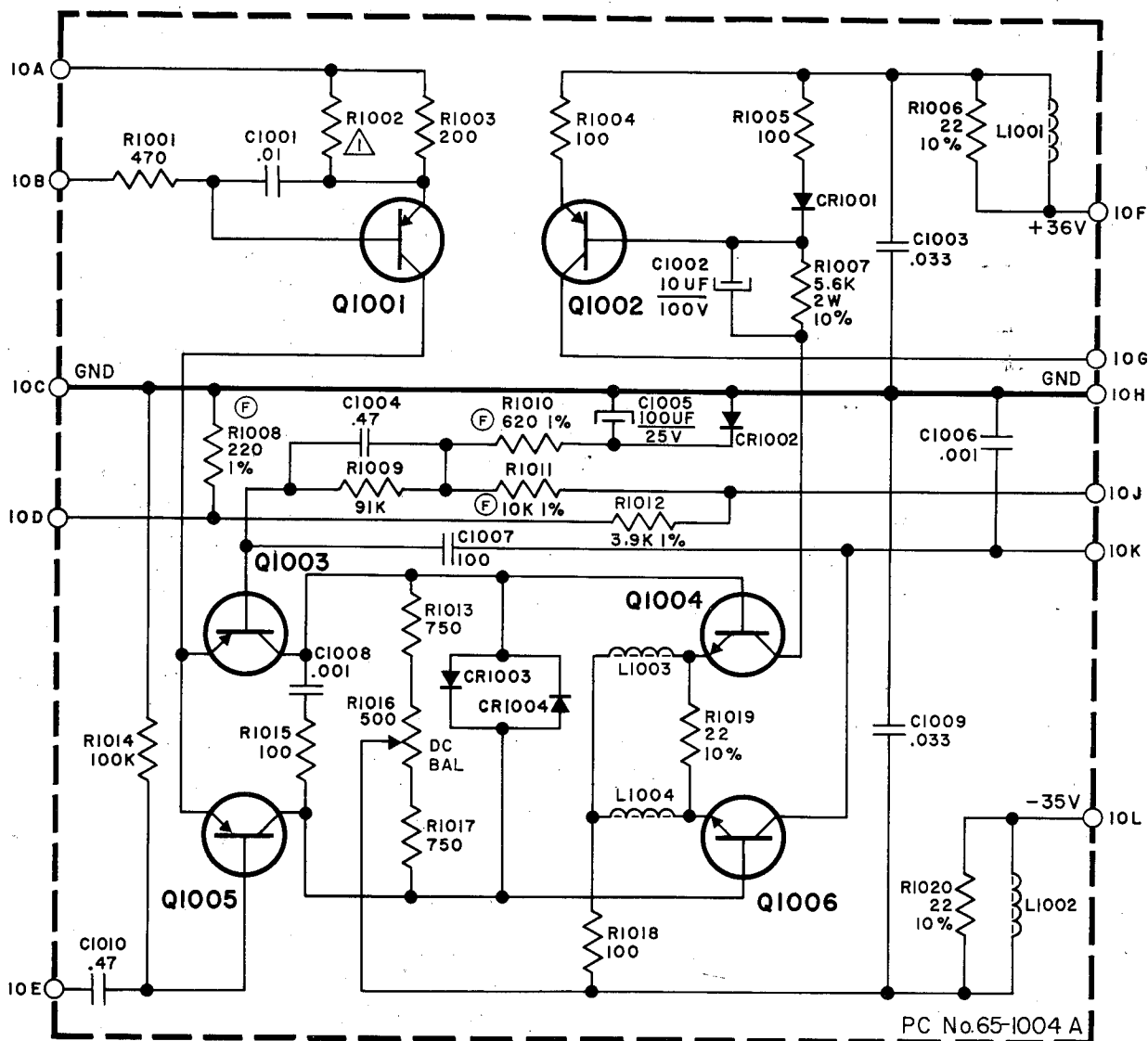


Figure 20. Hi Lo Filter Board 11-1008, Component Locations



UNLESS OTHERWISE NOTED:
 ALL RESISTORS ARE IN OHMS 1/4 W 5%
 ALL CAPACITORS IN DECIMALS ARE UF
 ALL OTHERS ARE PF
 (F) DENOTES PRECISION FILM RESISTORS
 (Δ) SELECTED FOR OPTIMUM VALUE

| | B | E | C |
|-------|------|-----|------|
| Q1001 | 28 | 29 | 1.1 |
| Q1002 | 39 | 40 | 1.3 |
| Q1003 | 0.45 | 1.1 | -40 |
| Q1004 | -40 | -38 | 4 |
| Q1005 | 0.55 | 1.1 | -37 |
| Q1006 | -37 | -38 | -1.3 |

Voltages are:

1. Dc ±10%
2. Measured using VTVM
3. Measured with 117-volt line
4. Measured with respect to chassis
5. Measured with no signal (ant terminals shorted), volume at zero, Muting out, Bass and Treble flat, Dot on scope centered, Audio display out.

Figure 21. Driver Board 11-1002, Schematic Diagram

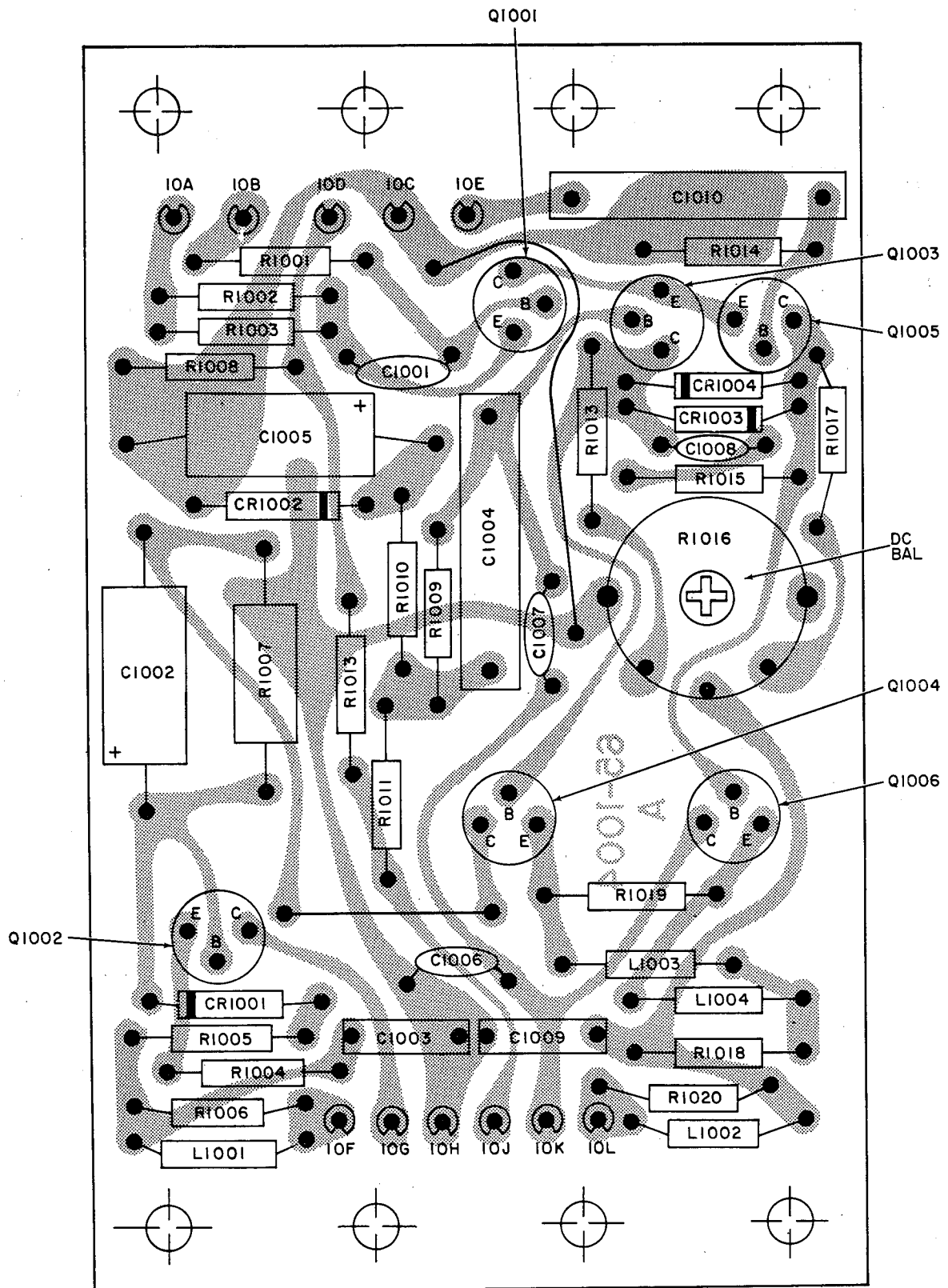
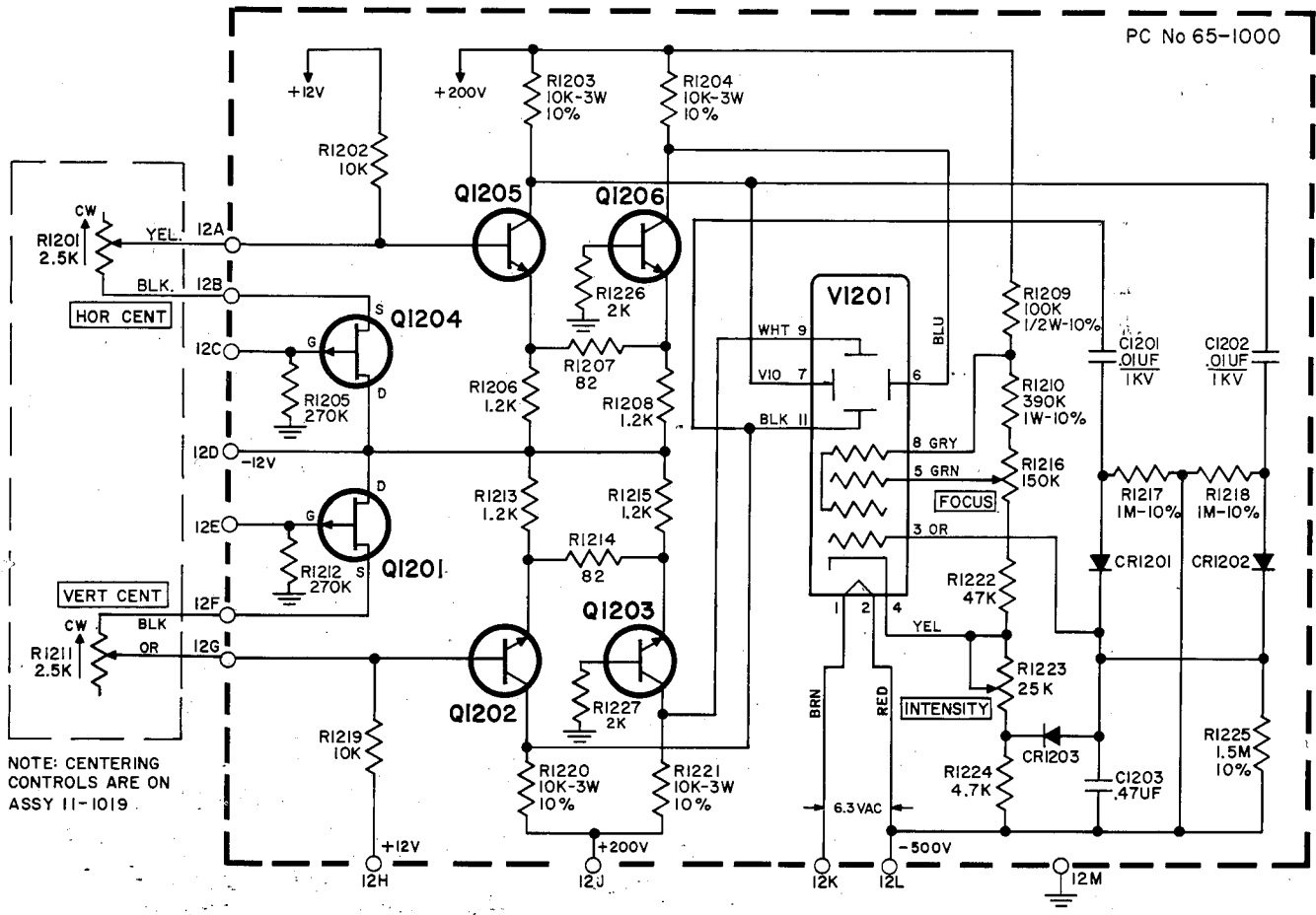


Figure 22. Driver Board 11-1002, Component Locations



NOTE: CENTERING CONTROLS ARE ON ASSY 11-1019.

UNLESS OTHERWISE NOTED:
ALL RESISTORS ARE IN OHMS 1/4W 5%

| | B | E | C |
|-------|--------------|---------|-----|
| Q1201 | (D)-12 (G) 0 | (S)-1.6 | |
| Q1202 | -0.6 | -1.1 | 150 |
| Q1203 | -0.5 | -1.1 | 130 |
| Q1204 | (D)-12 (G) 0 | (S)-1.7 | |
| Q1205 | -0.3 | -0.85 | 120 |
| Q1206 | -0.4 | 0.95 | 135 |

Voltages are:

1. Dc ±10%
2. Measured using VTVM
3. Measured with 117-volt line
4. Measured with respect to chassis
5. Measured with no signal (ant terminals shorted), volume at zero, Muting out, Bass and Treble flat, Dot on scope centered, Audio display out.

Figure 23. Scope Display Board 11-1005, Schematic Diagram

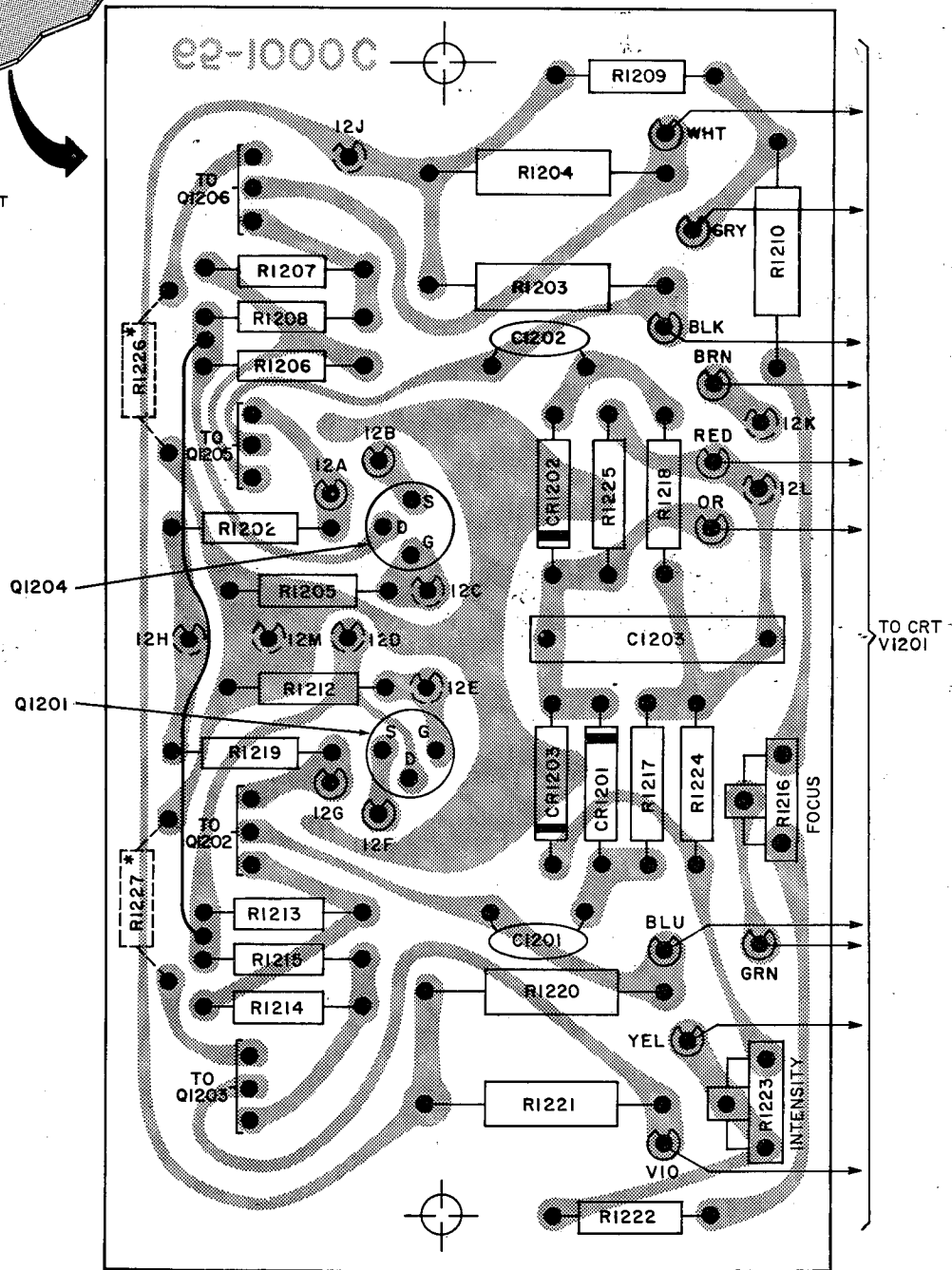
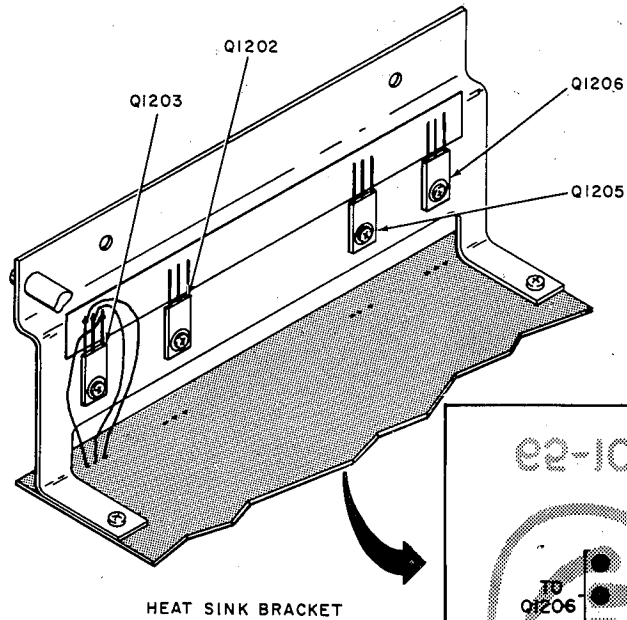


Figure 24. Scope Display Board 11-1005, Component Locations

PARTS LIST

| REF. DESIG. | MARANTZ PART NO. | DESCRIPTION | REF. DESIG. | MARANTZ PART NO. | DESCRIPTION |
|---------------------|------------------|---------------------------------|-------------|------------------|------------------------------|
| BOARD SUBASSEMBLIES | | | | | |
| -- | | Amplifier Driver Board Assy | C204 | 14-1021 | 100 pf, 10%, Ceramic |
| -- | 11-1002 | Multiplex Matrix Board Assy | C205, | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| -- | 11-1003 | Multiplex Oscillator Board Assy | C206 | | |
| -- | 11-1004 | Scope Display Board Assy | C212 | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| -- | 11-1005 | Phono Amplifier Board Assy | C213 | 14-1021 | 100 pf, 10%, Ceramic |
| -- | 11-1006 | Tone Amplifier Board Assy | thru | | |
| -- | 11-1007 | Hi-Lo Filter Board Assy | C216 | | |
| -- | 11-1008 | Front End Assy | C217, | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| -- | 11-1020 | IF Assy | C218 | | |
| -- | 11-1021 | Limiter Board Assy | C219 | 14-1039 | 56 pf, 5%, Ceramic |
| -- | 11-1022 | Detector Board Assy | C220 | | Not Used |
| -- | 11-1023 | | C221 | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| COMPONENT PARTS | | | | | |
| C1 | 14-1012 | 4700 pf, 20%, Ceramic | thru | | |
| C2, | 14-1014 | .005 uf, +80 -20 pf, Ceramic | C228 | | |
| C3 | | | C229 | 22-1000 | 1000 pf, 20%, Feed-thru |
| C4, | 14-1016 | .002 uf, 20%, 150 VAC/1.4K | thru | | |
| C5 | | VDC, Ceramic | C233 | | |
| C6 | 19-1007 | 20-20 uf, 250V, Elect (pigtail) | C234 | 14-1021 | 100 pf, 10%, Ceramic |
| C7, | 18-1000 | 5450 uf, 50V, Elect (terminal) | thru | | |
| C8 | | | C236 | | |
| C9, | 19-1001 | 350 uf, 50V, Elect (pigtail) | C301 | 22-1000 | 1000 pf, 20%, Feed-thru |
| C10 | | | C302, | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| C11 | 19-1006 | 10 uf, 575V, Elect (pigtail) | C303 | | |
| C12, | 19-1000 | 250 uf, 80V, Elect (pigtail) | C304 | 14-1013 | 47 pf, 10%, Ceramic |
| C13 | | | C305 | 14-1021 | 100 pf, 10%, Ceramic |
| C14 | 19-1001 | 350 uf, 50V, Elect (pigtail) | C306 | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| C15, | 19-1002 | 350 uf, 15V, Elect (pigtail) | thru | | |
| C16 | | | C308 | | |
| C17 | 19-1001 | 350 uf, 50V, Elect (pigtail) | C309 | 22-1000 | 1000 pf, 20%, Feed-thru |
| C18, | 14-1014 | .005 uf, +80 -20 pf, Ceramic | C310 | 14-1021 | 100 pf, 10%, Ceramic |
| C19 | | | C311 | 22-1001 | 47 pf, 20%, Feed-thru |
| C20 | 19-1001 | 350 uf, 50V, Elect (pigtail) | C312 | 22-1000 | 1000 pf, 20%, Feed-thru |
| thru | | | C313, | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| C22 | | | C314 | | |
| C23 | 13-1007 | .22 uf, 10%, 250V, Mylar | C315 | 14-1013 | 47 pf, 10%, Ceramic |
| C24 | 14-1012 | 4700 pf, 20%, Ceramic | C316 | 14-1021 | 100 pf, 10%, Ceramic |
| C25 | 13-1007 | .22 uf, 10%, 250V, Mylar | C317 | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| C26 | 14-1012 | 4700 pf, 20%, Ceramic | thru | | |
| C27 | 14-1014 | .005 uf, +80 -20 pf, Ceramic | C319 | | |
| C28, | 14-1013 | 47 pf, 10%, Ceramic | C320 | 22-1000 | 1000 pf, 20%, Feed-thru |
| C29 | | | C321 | 14-1021 | 100 pf, 10%, Ceramic |
| C30 | 13-1007 | .22 uf, 10%, 250V, Mylar | C322, | 16-1001 | 2.2 uf, 15V, Tant |
| thru | | | C323 | | |
| C32 | | | C324 | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| C33 | 19-1010 | 200 uf, 15V, Elect (pigtail) | thru | | |
| C34 | 13-1007 | .22 uf, 10%, 250V, Mylar | C326 | | |
| C35 | 19-1010 | 200 uf, 15V, Elect (pigtail) | C327 | 22-1001 | 47 pf, 20%, Feed-thru |
| *C36 | 13-1007 | .22 uf, 10%, 250V, Mylar | C328 | 22-1000 | 1000 pf, 20%, Feed-thru |
| thru | | | C330, | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| C39 | | | C331 | | |
| C201 | 22-1000 | 1000 pf, 20%, Feed-thru | C332 | 14-1013 | 47 pf, 10%, Ceramic |
| thru | | | C333 | 14-1021 | 100 pf, 10%, Ceramic |
| C203 | | | C334 | 22-1000 | 1000 pf, 20%, Feed-thru |
| | | | C335 | 14-1021 | 100 pf, 10%, Ceramic |
| | | | C336 | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| | | | thru | | |
| | | | C338 | | |

*C36 thru C39 installed during test, if required.

| REF. DESIG. | MARANTZ PART NO. | DESCRIPTION |
|-------------|------------------|------------------------------|
| C339 | 22-1001 | 47 pf, 20%, Feed-thru |
| C340 | 22-1000 | 1000 pf, 20%, Feed-thru |
| C341, | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| C342 | | |
| C343 | 14-1013 | 47 pf, 10%, Cer Disc |
| C344 | 14-1021 | 100 pf, 10%, Ceramic |
| C345 | 22-1000 | 1000 pf, 20%, Feed-thru |
| C346 | 14-1021 | 100 pf, 10%, Ceramic |
| C347 | | Not Used |
| C348 | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| C349 | 22-1001 | 47 pf, 20%, Feed-thru |
| C350, | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| C351 | | |
| C352 | 22-1000 | 1000 pf, 20%, Feed-thru |
| thru | | |
| C354 | | |
| C355 | 22-1001 | 47 pf, 20%, Feed-thru |
| C401 | 22-1000 | 1000 pf, 20%, Feed-thru |
| C402 | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| C403 | 16-1001 | 2.2 uf, 15V, Tant |
| C404 | 21-1000 | 1-18 pf, Trimmer |
| C405 | 17-1005 | 155 pf, 2%, Mica |
| C406 | 17-1003 | 5.6 pf, 5%, Mica |
| C407 | 17-1004 | 70 pf, 1%, Mica |
| C408 | 21-1000 | 1-18 pf, Trimmer |
| C409 | 14-1015 | 22 pf, 10%, Ceramic |
| C410 | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| thru | | |
| C413 | | |
| C414 | 16-1001 | 2.2 uf, 15V, Tant |
| C415 | 14-1014 | .005 uf, +80 -20 pf, Ceramic |
| C416 | 22-1000 | 1000 pf, 20%, Feed-thru |
| C501 | 17-1018 | 1800 pf, 1%, Mica |
| C502 | 14-1022 | 270 pf, 5%, Ceramic |
| C503 | 14-1006 | 100 pf, 5%, Ceramic |
| C504 | 14-1005 | 150 pf, 5%, Ceramic |
| C505 | 17-1017 | 2200 pf, 1%, Mica |
| C506 | 13-1004 | .047 uf, 5%, 250V, Mylar |
| C507 | 14-1006 | 100 pf, 5%, Ceramic |
| C508 | 14-1009 | 33 pf, 5%, Ceramic |
| C509 | 13-1004 | .047 uf, 5%, 250V, Mylar |
| C510 | 13-1001 | .22 uf, 10%, 25V, Mylar |
| C511 | 17-1017 | 2200 pf, 1%, Mica |
| C512 | 14-1005 | 150 pf, 5%, Ceramic |
| C513 | 15-1005 | 1000 pf, 2 1/2%, 125V, Poly |
| C514 | 17-1002 | 510 pf, 2%, Mica |
| C515 | 15-1005 | 1000 pf, 2 1/2%, 125V, Poly |
| C516 | 14-1003 | .01 uf, 20%, Ceramic |
| C517 | 13-1001 | .22 uf, 10%, 25V, Mylar |
| C518 | 17-1017 | 2200 pf, 1%, Mica |
| C519 | 14-1005 | 150 pf, 5%, Ceramic |
| C601 | 14-1007 | 100 pf, 5%, N750, Ceramic |
| C602 | 15-1005 | 1000 pf, 2 1/2%, 125V, Poly |
| C603 | 13-1002 | .1 uf, 10%, 250V, Mylar |
| C604 | 14-1007 | 100 pf, 5%, Ceramic |
| C605 | 15-1005 | 1000 pf, 2 1/2%, 125V, Poly |
| C606 | 14-1007 | 100 pf, 5%, Ceramic |
| C607 | 15-1005 | 1000 pf, 2 1/2%, 125V, Poly |
| C608 | 14-1005 | 150 pf, 5%, Ceramic |
| C609 | 14-1007 | 100 pf, 5%, Ceramic |
| C610 | 15-1005 | 1000 pf, 2 1/2%, 125V, Poly |
| C611 | 13-1002 | .1 uf, 10%, 250V, Mylar |

| REF. DESIG. | MARANTZ PART NO. | DESCRIPTION |
|-------------|------------------|-----------------------------|
| C612 | | Not Used |
| C613 | 13-1001 | .22 uf, 10%, 25V, Mylar |
| C614, | 15-1004 | 1100 pf, 2 1/2%, 125V, Poly |
| C615 | | |
| C616 | 13-1002 | .1 uf, 10%, 250V, Mylar |
| C617 | 15-1006 | 820 pf, 2 1/2%, 125V, Poly |
| C618, | 15-1004 | 1100 pf, 2 1/2%, 125V, Poly |
| C619 | | |
| C620, | 15-1002 | 3600 pf, 2 1/2%, 125V, Poly |
| C621 | | |
| C622, | 13-1005 | .033 uf, 10%, 250V, Mylar |
| C623 | | |
| C624, | 15-1008 | 300 pf, 2 1/2%, 125V, Poly |
| C625 | | |
| C626, | 15-1004 | 1100 pf, 2 1/2%, 125V, Poly |
| C627 | | |
| C628, | 13-1001 | .22 uf, 10%, 25V, Mylar |
| C629 | | |
| C701 | 17-1001 | 56 pf, 10%, Mica |
| C702 | 13-1006 | .47 uf, 10%, 250V, Mylar |
| C703 | 17-1000 | 33 pf, 5%, Mica |
| C704 | 16-1000 | 22 uf, 4V, Tant |
| C705 | 15-1001 | 5600 pf, 2 1/2%, 125V, Poly |
| C706 | 15-1003 | 1650 pf, 2 1/2%, 125V, Poly |
| C707 | 13-1000 | .47 uf, 10%, 25V, Mylar |
| C708 | 14-1011 | 3.9 pf, Gimmick |
| C709 | 13-1006 | .47 uf, 10%, 250V, Mylar |
| C710 | 17-1001 | 56 pf, 10%, Mica |
| C711 | 17-1000 | 33 pf, 5%, Mica |
| C712 | 16-1000 | 22 uf, 4V, Tant |
| C713 | 14-1011 | 3.9 pf, Gimmick |
| C714 | 15-1001 | 5600 pf, 2 1/2%, 125V, Poly |
| C715 | 15-1003 | 1650 pf, 2 1/2%, 125V, Poly |
| C716 | 13-1000 | .47 uf, 10%, 25V, Mylar |
| C801 | 19-1005 | 100 uf, 6V, Elect (pigtail) |
| C802 | 13-1001 | .22 uf, 10%, 25V, Mylar |
| C803 | 15-1009 | 220 pf, 2 1/2%, 125V, Poly |
| C804 | 19-1005 | 100 uf, 6V, Elect (pigtail) |
| C805 | 13-1001 | .22 uf, 10%, 25V, Mylar |
| C806 | 13-1000 | .47 uf, 10%, 25V, Mylar |
| C807, | 15-1000 | 6800 pf, 2 1/2%, 125V, Poly |
| C808 | | |
| C809, | 13-1000 | .47 uf, 10%, 25V, Mylar |
| C810 | | |
| C811 | 13-1001 | .22 uf, 10%, 25V, Mylar |
| C812 | 13-1000 | .47 uf, 10%, 25V, Mylar |
| thru | | |
| C814 | | |
| C815, | 15-1000 | 6800 pf, 2 1/2%, 125V, Poly |
| C816 | | |
| C817 | 19-1005 | 100 uf, 6V, Elect (pigtail) |
| C818 | 15-1009 | 220 pf, 2 1/2%, 125V, Poly |
| C819 | 13-1001 | .22 uf, 10%, 25V, Mylar |
| C820 | 19-1005 | 100 uf, 6V, Elect (pigtail) |
| C901 | 13-1008 | .022 uf, 10%, 250V, Mylar |
| C902, | 13-1004 | .047 uf, 5%, 250V, Mylar |
| C903 | | |
| C904 | 15-1010 | 470 pf, 2 1/2%, 125V, Poly |
| C905 | 13-1004 | .047 uf, 5%, 250V, Mylar |
| C906 | 13-1008 | .022 uf, 10%, 250V, Mylar |
| C907 | 13-1004 | .047 uf, 5%, 250V, Mylar |

| REF. DESIG. | MARANTZ PART NO. | DESCRIPTION | REF. DESIG. | MARANTZ PART NO. | DESCRIPTION |
|-------------|--------------------|------------------------------|-------------|------------------|-----------------------------|
| C908 | 15-1010 | 470 pf, 2 1/2%, 125V, Poly | CR703 | 35-1001 | Diode, Reference |
| C1001 | 14-1003 | .01 uf, 20%, Ceramic | CR1001 | 35-1000 | Diode, Reference |
| C1002 | 19-1003 | 10 uf, 100V, Elect (pigtail) | CR1002 | 35-1014 | Diode, Reference |
| C1003 | 13-1005 | .033 uf, 10%, 250V, Mylar | | thru | |
| C1004 | 13-1000 | .47 uf, 10%, 25V, Mylar | CR1004 | | |
| C1005 | 19-1004 | 100 uf, 25V, Elect (pigtail) | CR1201, | 35-1004 | Diode |
| C1006 | 14-1010 | .001 uf, 5%, Ceramic | CR1202 | | |
| C1007 | 14-1007 | 100 pf, 5%, N750, Ceramic | CR1203 | 35-1014 | Diode, Reference |
| C1008 | 14-1010 | .001 uf, 5%, Ceramic | J1 | 69-1003 | Jack, Phono (Dubbing Out) |
| C1009 | 13-1005 | .033 uf, 10%, 250V, Mylar | J2 | 69-1002 | Jack, Phono (Dubbing In) |
| C1010 | 13-1000 | .47 uf, 10%, 25V, Mylar | J3 | 69-1004 | Jack, Phono (Stereophones) |
| C1201, | 14-1002 | .01 uf, 10%, 2KV, Ceramic | K1, | 56-1000 | Relay |
| C1202 | | | K2 | | |
| C1203 | 13-1000 | .47 uf, 10%, 25V, Mylar | L1 thru | 55-1009 | Coil, Choke, 55 uh |
| CR1, | 35-1003 | Diode, Rectifier | L6 | | |
| CR2 | 35-1004 | Diode, Rectifier | L7, | 55-1007 | Coil, Toroid |
| CR3, | 35-1004 | Diode, Rectifier | L8 | | |
| CR4 | | | L201 | 55-1009 | Coil, Choke, 55 uh |
| CR5 | 35-1015 | Diode, Rectifier | thru | | |
| CR6 | 35-1009 | Diode, Rectifier | L222 | | |
| CR7 | 35-1008 | Diode, Rectifier | L301, | 55-1009 | Coil, Choke, 55 uh |
| CR8 | 35-1009 | Diode, Rectifier | L302 | | |
| CR9 | 35-1008 | Diode, Rectifier | L303 | 55-1019 | Coil, Choke, 4.7 uh |
| CR10, | 35-1012 | Diode, Zener | L304 | 55-1009 | Coil, Choke, 55 uh |
| CR11 | | | thru | | |
| CR12 | 35-1013 | Diode, Zener | L309 | | |
| CR13 | 35-1010 | Diode | L310 | 55-1019 | Coil, Choke, 4.7 uh |
| CR14 | 35-1000 | Diode, Reference | L311 | 55-1009 | Coil, Choke, 55 uh |
| CR15 | 35-1014 | Diode, Reference | thru | | |
| CR16 | 35-1005 | Diode | L320 | | |
| CR17, | 35-1002 | Diode, Reference | L321 | 55-1019 | Coil, Choke, 4.7 uh |
| CR18 | | | L322 | 55-1009 | Coil, Choke, 55 uh |
| CR19 | 35-1006 | Diode, Rectifier | thru | | |
| CR20 | 35-1007 | Diode, Rectifier | L328 | | |
| CR21 | | | L329 | 55-1019 | Coil, Choke, 4.7 uh |
| CR22 | 35-1006 | Diode, Rectifier | L330 | 55-1009 | Coil, Choke, 55 uh |
| CR201 | 35-1019 | Diode | thru | | |
| thru | | | L333 | | |
| CR208 | | | L401, | 55-1009 | Coil, Choke, 55 uh |
| CR301, | 35-1033A | Diode, Limiting | L402 | | |
| CR302 | | | L404 | 55-1009 | Coil, Choke, 55 uh |
| CR303, | 35-1017 | Diode | thru | | |
| CR304 | | | L406 | | |
| CR305, | 35-1033A | Diode, Limiting | L501 | 11-1014 | Coil Assy, 38KC |
| CR306 | | | L502 | 11-1015 | Coil Assy, 19KC |
| CR307, | 35-1017 | Diode | L503 | 11-1013 | Coil Assy, Doubler |
| CR308 | | | L504 | 11-1016 | Coil Assy, 67KC |
| CR309, | 35-1033A | Diode, Limiting | L601 | 11-1017 | Coil Assy, Low Pass Filter, |
| CR310 | | | thru | | 53 mh |
| CR311, | 35-1017 | Diode | L604 | | |
| CR312 | | | L1001 | 55-1008 | Rod, Inductor |
| CR313, | 35-1033A | Diode, Limiting | thru | | |
| CR314 | | | L1004 | | |
| CR315, | 35-1017 | Diode | LDR | 11-1010 | Light Cell Assy, Single |
| CR316 | | | 501 | | (Muting) |
| CR317 | 35-1029 | Diode, Reference | LDR | 11-1011 | Light Cell Assy, Double |
| CR401, | 35-1017 | Diode | 601, 602 | | (Mono Stereo) |
| CR402 | | | Q1, | 34-1014 | Transistor |
| CR501 | 35-1000 | Diode, Reference | Q2 | | |
| CR502, | 35-1016 | Diode, Signal | Q3 | 34-1013 | Transistor |
| CR503 | | | Q4, | 34-1014 | Transistor |
| CR701, | 35-1014 | Diode, Reference | Q5 | | |
| CR702 | | | | | |

| REF. DESIG. | MARANTZ PART NO. | DESCRIPTION | REF. DESIG. | MARANTZ PART NO. | DESCRIPTION |
|-------------|------------------|--------------------------|-------------|--------------------------|--------------------------------|
| Q6 | 34-1013 | Transistor | R9, | 270K, 5%, 1/4W, Dep Carb | |
| Q8, | 34-1002 | Transistor | R10 | | |
| Q9 | | | R11 | 26-1014 | 220 ohm, 10%, 2W, Carb Comp |
| Q11 | 34-1000 | Transistor | R12, | 29-1010 | 80 ohm, 5%, 5W, WW |
| Q12, | 34-1001 | Transistor | R13 | | |
| Q13 | | | R14 | 26-1015 | 430 ohm, 5%, 2W, Carb Comp |
| Q14 | 34-1000 | Transistor | R15, | 29-1010 | 80 ohm, 5%, 5W, WW |
| Q201 | 34-1018 | Transistor | R16 | | |
| thru | | | R17 | 26-1015 | 430 ohm, 5%, 2W, Carb Comp |
| Q204 | | | R18 | 27-1055 | 220 ohm, 5%, 1/4W, Dep Carb |
| Q301 | 34-1018 | Transistor | R19 | 26-1016 | 1.5K, -10%, 2W, Carb Comp |
| thru | | | R20 | 27-1063 | 18K, 5%, 1/4W, Dep Carb |
| Q304 | | | R21 | 27-1062 | 15K, 5%, 1/4W, Dep Carb |
| Q305 | 34-1008 | Transistor | R22 | 26-1018 | 120 ohm, 10%, 1/2W, Carb Comp |
| Q501 | 34-1010 | Transistor | R23 | 27-1023 | 39K, 5%, 1/4W, Dep Carb |
| Q502 | 34-1008 | Transistor | R24, | 26-1017 | 68 ohm, 10%, 1/2W, Carb Comp |
| Q503 | 34-1009 | Transistor | R25 | | Not Used |
| thru | | | R26, | 33-1012 | 2.5K, WW (Bias) |
| Q505 | | | R27 | | |
| Q506, | 34-1010 | Transistor | R28 | 29-1000 | .47 ohm, 5%, 5W, WW |
| Q507 | | | R29 | 27-1034 | 100 ohm, 10%, 1/4W, Dep Carb |
| Q508 | 34-1009 | Transistor | R30 | 27-1036 | 1K, 5%, 1/4W, Dep Carb |
| Q509 | 34-1017 | Transistor | R31, | 27-1035 | 33 ohm, 10%, 1/4W, Dep Carb |
| Q510 | 34-1012 | FET | R32 | | |
| Q601 | 34-1009 | Transistor | R33 | 27-1036 | 1K, 5%, 1/4W, Dep Carb |
| Q602 | 34-1017 | Transistor | R34 | 27-1034 | 100 ohm, 10%, 1/4W, Dep Carb |
| Q603 | 34-1012 | FET | R35, | 29-1000 | .47 ohm, 5%, 5W, WW |
| thru | | | R36 | | |
| Q606 | | | R37 | 27-1034 | 100 ohm, 10%, 1/4W, Dep Carb |
| Q701, | 34-1008 | Transistor | R38 | 27-1036 | 1K, 5%, 1/4W, Dep Carb |
| Q702 | | | R39, | 27-1035 | 33 ohm, 10%, 1/4W, Dep Carb |
| Q703 | 34-1011 | Transistor | R40 | | |
| Q704, | 34-1008 | Transistor | R41 | 27-1036 | 1K, 5%, 1/4W, Dep Carb |
| Q705 | | | R42 | 27-1034 | 100 ohm, 10%, 1/4W, Dep Carb |
| Q706 | 34-1011 | Transistor | R43 | 29-1000 | .47 ohm, 5%, 5W, WW |
| Q801 | 34-1008 | Transistor | R44 | 29-1001 | .13 ohm, 5%, 5W, WW |
| **Q802 | 34-1031 | Transistor | R45 | 26-1005 | 2.2 ohm, 10%, 1W Carb Comp |
| Q803 | 34-1008 | Transistor | R46 | 29-1001 | .13 ohm, 5%, 5W, WW |
| Q804 | 34-1010 | Transistor | R47 | 26-1005 | 2.2 ohm, 10%, 1W, Carb Comp |
| **Q805 | 34-1031 | Transistor | R48 | 29-1005 | 400 ohm, 5%, 5W, WW |
| Q806, | 34-1008 | Transistor | R49, | 29-1004 | 330 ohm, 5%, 5W, WW |
| Q807 | | | R50 | | |
| Q808 | 34-1010 | Transistor | R51 | 29-1005 | 400 ohm, 5%, 5W, WW |
| Q1001 | 34-1007 | Transistor | R52, | 26-1019 | 33 ohm, 5%, 1/2W, Carb Comp |
| Q1002 | 34-1005 | Transistor | R53 | | |
| Q1003 | 34-1007 | Transistor | *R54, | | 1 to 10 ohm, 10%, 1W Carb Comp |
| Q1004 | 34-1004 | Transistor | R55 | | |
| Q1005 | 34-1007 | Transistor | R201 | 26-1025 | 1.8K, 5%, 1/4W, Carb Comp |
| Q1006 | 34-1004 | Transistor | thru | | |
| Q1201 | 34-1030 | FET | R204 | | |
| Q1202, | 34-1006 | Transistor | R205 | 26-1026 | 2.7K, 5%, 1/4W, Carb Comp |
| Q1203 | | | thru | | |
| Q1204 | 34-1030 | FET | R208 | | |
| Q1205, | 34-1006 | Transistor | R209 | 26-1029 | 100K, 5%, 1/4W, Carb Comp |
| Q1206 | | | R210 | 26-1028 | 8.2K, 5%, 1/4W, Carb Comp |
| R1 | 27-1022 | 47K, 5%, 1/4W, Dep Carb | R211 | 26-1029 | 100K, 5%, 1/4W, Carb Comp |
| thru | | | R212 | 26-1027 | 3.3K, 5%, 1/4W, Carb Comp |
| R4 | | | R213 | 26-1029 | 100K, 5%, 1/4W, Carb Comp |
| R5 | 27-1049 | 4.7K, 5%, 1/4W, Dep Carb | R214 | 26-1027 | 3.3K, 5%, 1/4W, Carb Comp |
| thru | | | R215 | 26-1029 | 100K, 5%, 1/4W, Carb Comp |
| R9 | | | R216 | 33-1005 | 10K Pot (Bias Set) |
| | | | R217 | 26-1036 | 5.6K, 5%, 1/4W, Carb Comp |

*Value selected for optimum performance
** 34-1010 or 34-1011 may have been used in production

| REF. DESIG. | MARANTZ PART NO. | DESCRIPTION | REF. DESIG. | MARANTZ PART NO. | DESCRIPTION |
|------------------|---------------------------|--|------------------------------|---|--|
| R218, R219 | 26-1026 | 2.7K, 5%, 1/4W, Carb Comp | R521, R522 | 27-1040 | 390K, 5%, 1/4W, Dep Carb |
| R220, R221 | 26-1004 | 33 ohm, 5%, 1/4W, Carb Comp | R523, R524 | 27-1050, 27-1022 | 4.3K, 5%, 1/4W, Dep Carb, 47K, 5%, 1/4W, Dep Carb |
| R222, R223 | 26-1113, 26-1027 | 3.9K, 5%, 1/4W, Carb Comp, 3.3K, 5%, 1/4W, Carb Comp | R525, R526 | 27-1053, 27-1047 | 330 ohm, 5%, 1/4W, Dep Carb, 3.9K, 10%, 1/4W, Dep Carb |
| R224, R301 | 26-1111, 26-1029 | 22 ohm, 5%, 1/4W, Carb Comp, 100K, 5%, 1/4W, Carb Comp | R527, R528 | 27-1006, 27-1036 | 3.3K, 10%, 1/4W, Dep Carb, 1K, 5%, 1/4W, Dep Carb |
| R302, R303 | 26-1026, 26-1007 | 2.7K, 5%, 1/4W, Carb Comp, 100 ohm, 5%, 1/4W, Carb Comp | R529, R530 | 27-1006, 26-1108 | 3.3K, 10%, 1/4W, Dep Carb, 27K, 10%, 1/4W, Carb Comp |
| R304, R305 | 26-1037, 26-1029 | 47K, 5%, 1/4W, Carb Comp, 100K, 5%, 1/4W, Carb Comp | R531, R601, R602 | 27-1055, 30-1023 | 220 ohm, 5%, 1/4W, Carb Comp, 100K, 1%, 1/4W |
| R306, R307 | 26-1030, 26-1026 | 22K, 5%, 1/4W, Carb Comp, 2.7K, 5%, 1/4W, Carb Comp | R603, R604, R605 | 27-1048, 30-1023, 30-1023 | 2.2M, 10%, 1/4W, Dep Carb, 100K, 1%, 1/4W |
| R308, R309 | 26-1007, 26-1037 | 100 ohm, 5%, 1/4W, Carb Comp, 47K, 5%, 1/4W, Carb Comp | R606, R607, R608 | 27-1048, 27-1023, 27-1001 | 2.2M, 10%, 1/4W, Dep Carb, 39K, 5%, 1/4W, Dep Carb, 1M, 10%, 1/4W, Dep Carb |
| R310, R311 | 26-1029, 26-1030 | 100K, 5%, 1/4W, Carb Comp, 22K, 5%, 1/4W, Carb Comp | R609, R610, R611 | 27-1027, 27-1041, 27-1040 | 22K, 5%, 1/4W, Dep Carb, 270K, 5%, 1/4W, Dep Carb, 390K, 5%, 1/4W, Dep Carb |
| R312, R313 | 26-1026, 26-1007 | 2.7K, 5%, 1/4W, Carb Comp, 100 ohm, 5%, 1/4W, Carb Comp | R612, R613, R614 | 27-1042, 27-1045, 26-1009 | 180K, 5%, 1/4W, Dep Carb, 68 ohm, 5%, 1/4W, Dep Carb, 33K, 10%, 2W, Carb Comp |
| R314, R315 | 26-1037, 26-1029 | 47K, 5%, 1/4W, Carb Comp, 100K, 5%, 1/4W, Carb Comp | R615, R616, R617 | 27-1043, 27-1027, 27-1047 | 33K, 5%, 1/4W, Dep Carb, 22K, 5%, 1/4W, Dep Carb, 3.9K, 10%, 1/4W, Dep Carb |
| R316, R317 | 26-1030, 26-1037 | 22K, 5%, 1/4W, Carb Comp, 47K, 5%, 1/4W, Carb Comp | R618, R619, R620 | 26-1010, 30-1026, 30-1026 | 4.7M, 20%, 1/4W, Dep Comp, 3.6K, 1%, 1/4W |
| R318, R319 | 26-1026 | Not Used, 2.7K, 5%, 1/4W, Carb Comp | R621, R622, R623, R624 | 33-1009, 27-1047, 30-1025, 30-1025 | 5K, Pot, WW, 3.9K, 10%, 1/4W, Dep Carb, 5.1K, 1%, 1/4W |
| R320, R321 | 26-1007, 26-1029 | 100 ohm, 5%, 1/4W, Carb Comp, 100K, 5%, 1/4W, Carb Comp | R625, R626, R627, R628, R629 | 26-1010, 30-1024, 30-1024, 27-1044, 30-1024 | 4.7M, 20%, 1/4W, Carb Comp, 11.3K, 1%, 1/4W, 5.6K, 5%, 1/4W, Dep Carb, 680K, 10%, 1/4W, Dep Carb |
| R322, R323 | 26-1109, 26-1041 | 220K, 5%, 1/4W, Carb Comp, 6.8K, 5%, 1/4W, Carb Comp | R630, R631, R632 | 27-1046, 27-1047, 27-1047 | 3.9K, 10%, 1/4W, Dep Carb, 470 ohm, 5%, 1/4W, Dep Carb |
| R324, R325 | 26-1030, 33-1006 | 22K, 5%, 1/4W, Carb Comp, 25K Pot (Vert Gain) | R701, R702, R703 | 27-1026, 33-1007, 30-1017 | 100K Pot (Bias), 470 ohm, 1%, 1/4W, 18K, 5%, 1/4W |
| R326, R327 | 26-1042, 33-1006 | 10K, 5%, 1/4W, Carb Comp, 25K Pot (Noise Level) | R704, R705, R706 | 27-1060, 27-1029, 27-1051 | 2.2M, 5%, 1/4W, 2.2K, 5%, 1/4W, Dep Carb |
| R328, R401 | 33-1026, 26-1104 | 1M Pot (Muting), 2.2K, 5%, 1/4W, Carb Comp | R707, R708, R709 | 30-1016, 30-1002, 27-1059 | 47K, 1%, 1/4W, 680K, 2%, 1/4W, 47 ohm, 5%, 1/4W, Dep Carb |
| R402, R403, R404 | 26-1036, 30-1023, 26-1028 | 5.6K, 5%, 1/4W, Carb Comp, 100K, 1%, 1/4W, 8.2K, 5%, 1/4W, Carb Comp | R710, R711, R712 | 27-1022, 27-1026, 27-1030 | 47K, 5%, 1/4W, Dep Carb, 470 ohm, 5%, 1/4W, Dep Carb, 1M, 5%, 1/4W |
| R405, R406 | 26-1098, 26-1098 | 560 ohm, 5%, 1/2W, Carb Comp, 10K, 5%, 1/4W, Dep Carb | R713, R714, R715 | 27-1029, 27-1021, 27-1041 | 2.2M, 5%, 1/4W, 100K, 5%, 1/4W, Dep Carb, 270K, 5%, 1/4W, Dep Carb |
| R501, R502 | 27-1024, 27-1003 | 10K, 5%, 1/4W, Dep Carb, 6.8K, 5%, 1/4W, Dep Carb | R716, R717, R718 | 26-1002, 27-1030, 27-1043 | 4.7K, 5%, 1/2W, Carb Comp, 1M, 5%, 1/4W, 33K, 5%, 1/4W, Dep Carb |
| R503, R504 | 27-1049, 27-1006 | 4.7K, 5%, 1/4W, Dep Carb, 3.3K, 10%, 1/4W, Dep Carb | | | |
| R505, R506 | 33-1005, 27-1052 | 10K Pot, 390 ohm, 5%, 1/4W, Dep Carb | | | |
| R507, R508 | 27-1051, 27-1049 | 2.2K, 5%, 1/4W, Dep Carb, 4.7K, 5%, 1/4W, Dep Carb | | | |
| thru R510 | | | | | |
| R511, R512 | 27-1036, 33-1006 | 1K, 5%, 1/4W, Dep Carb, 25K Pot | | | |
| R513, R514 | 27-1027, 27-1001 | 22K, 5%, 1/4W, Dep Carb, 1M, 10%, 1/4W, Dep Carb | | | |
| R515, R516 | 27-1054, 27-1054 | 300 ohm, 5%, 1/4W, Dep Carb, 2.5K, Pot, WW | | | |
| R517, R518, R519 | 33-1010, 27-1041, 27-1041 | 270K, 5%, 1/4W, Dep Carb, 270K, 5%, 1/4W, Dep Carb | | | |
| R520 | 27-1055 | 220 ohm, 5%, 1/4W, Dep Carb | | | |

| REF. DESIG. | MARANTZ PART NO. | DESCRIPTION |
|-------------|------------------|-----------------------------|
| R719 | 27-1029 | 2.2M, 5%, 1/4W |
| R720 | 27-1041 | 270K, 5%, 1/4W, Dep Carb |
| R721 | 26-1002 | 4.7K, 5%, 1/2W, Carb Comp |
| R722, | 27-1026 | 470 ohm, 5%, 1/4W, Dep Carb |
| R723 | | |
| R724 | 33-1007 | 100K, Pot (Bias) |
| R725 | 27-1060 | 18K, 5%, 1/4W |
| R726 | 27-1021 | 100K, 5%, 1/4W, Dep Carb |
| R727 | 27-1022 | 47K, 5%, 1/4W, Dep Carb |
| R728 | 27-1059 | 47 ohm, 5%, 1/4W, Dep Carb |
| R729 | 30-1017 | 470 ohm, 1%, 1/4W |
| R730 | 27-1029 | 2.2M, 5%, 1/4W |
| R731 | 30-1002 | 680K, 2%, 1/4W |
| R732 | 30-1016 | 47K, 1%, 1/4W |
| R733 | 27-1051 | 2.2K, 5%, 1/4W, Dep Carb |
| R734 | 33-1001 | 500K, Pot (Balance) |
| R735 | 33-1000 | 250K, Pot (Volume) |
| R801 | 27-1024 | 10K, 5%, 1/4W, Dep Carb |
| R802 | 27-1027 | 22K, 5%, 1/4W, Dep Carb |
| R803 | 33-1003 | 250K, Pot (Treble) |
| R804 | 27-1062 | 15K, 5%, 1/4W, Dep Carb |
| R805 | 27-1030 | 1M, 5%, 1/4W, Dep Carb |
| R806 | 30-1029 | 1K, 1%, 1/4W |
| R807 | 30-1028 | 20K, 1%, 1/4W |
| R808 | 27-1027 | 22K, 5%, 1/4W, Dep Carb |
| R809 | 27-1061 | 120K, 5%, 1/4W, Dep Carb |
| R810 | 27-1030 | 1M, 5%, 1/4W, Dep Carb |
| R811 | 27-1055 | 220 ohm, 5%, 1/4W, Dep Carb |
| R812 | 27-1024 | 10K, 5%, 1/4W, Dep Carb |
| R813 | 27-1033 | 22K, 5%, 1/4W, Dep Carb |
| R814 | 30-1027 | 39K, 1%, 1/4W |
| R815 | 33-1002 | 500K, Pot (Bass) |
| R816 | 30-1027 | 39K, 1%, 1/4W |
| R817 | 27-1024 | 10K, 5%, 1/4W, Dep Carb |
| R818 | 27-1033 | 22K, 5%, 1/4W, Dep Carb |
| R819 | 30-1027 | 39K, 1%, 1/4W |
| R820 | 33-1002 | 500K, Pot (Bass) |
| R821 | 30-1027 | 39K, 1%, 1/4W |
| R822 | 27-1024 | 10K, 5%, 1/4W, Dep Carb |
| R823 | 27-1030 | 1M, 5%, 1/4W, Dep Carb |
| R824 | 30-1028 | 20K, 1%, 1/4W |
| R825 | 30-1029 | 1K, 1%, 1/4W |
| R826 | 27-1061 | 120K, 5%, 1/4W, Dep Carb |
| R827 | 27-1027 | 22K, 5%, 1/4W, Dep Carb |
| R828, | 27-1024 | 10K, 5%, 1/4W, Dep Carb |
| R829 | | |
| R830 | 33-1003 | 250K, Pot (Treble) |
| R831 | 27-1027 | 22K, 5%, 1/4W, Dep Carb |
| R832 | 27-1030 | 1M, 5%, 1/4W, Dep Carb |
| R833 | 27-1055 | 220 ohm, 5%, 1/4W, Dep Carb |
| R834 | 27-1062 | 15K, 5%, 1/4W, Dep Carb |
| R901 | 27-1001 | 1M, 10%, 1/4W, Dep Carb |
| R902 | 30-1032 | 4.7K, 1%, 1/4W |
| R903 | 30-1030 | 22K, 1%, 1/4W |
| R904 | 30-1019 | 10K, 1%, 1/4W |
| R905 | 26-1004 | 22M, 20%, 1/4W, Carb Comp |
| R906 | 30-1032 | 4.7K, 1%, 1/4W |
| R907 | 27-1001 | 1M, 10%, 1/4W, Dep Carb |
| R908 | 30-1030 | 22K, 1%, 1/4W |
| R909 | 30-1019 | 10K, 1%, 1/4W |
| R910 | 26-1004 | 22M, 20%, 1/4W, Carb Comp |

| REF. DESIG. | MARANTZ PART NO. | DESCRIPTION |
|-------------|------------------|---|
| R911, | 26-1055 | 100K, 10%, 1/4W, Carb Comp |
| R912 | | |
| R1001 | 27-1026 | 470 ohm, 5%, 1/4W, Dep Carb |
| *R1002 | | 820 ohm to 3.9K, 10%, 1/4W |
| R1003 | 27-1039 | 200 ohm, 5%, 1/4W, Dep Carb |
| R1004, | 26-1007 | 100 ohm, 5%, 1/4W, Carb Comp |
| R1005 | | |
| R1006 | 26-1008 | 22 ohm, 10%, 1/4W, Carb Comp |
| R1007 | 26-1006 | 5.6K, 10%, 1/2W, Carb Comp |
| R1008 | 30-1022 | 220 ohm, 1%, 1/4W |
| R1009 | 27-1037 | 91K, 5%, 1/4W, Dep Carb |
| R1010 | 30-1021 | 620 ohm, 1%, 1/4W |
| R1011 | 30-1019 | 10K, 1%, 1/4W |
| R1012 | 30-1020 | 3.9K, 1%, 1/4W |
| R1013 | 27-1038 | 750 ohm, 5%, 1/4W, Dep Carb |
| R1014 | 27-1021 | 100K, 5%, 1/4W, Dep Carb |
| R1015 | 26-1007 | 100 ohm, 5%, 1/4W, Carb Comp |
| R1016 | 33-1011 | 500 ohm, Pot (DC Balance) |
| R1017 | 27-1038 | 750 ohm, 5%, 1/4W, Dep Carb |
| R1018 | 26-1007 | 100 ohm, 5%, 1/4W, Carb Comp |
| R1019 | 26-1008 | 22 ohm, 10%, 1/4W, Carb Comp |
| R1020 | 26-1008 | 22 ohm, 10%, 1/4W, Carb Comp |
| R1201 | 33-1004 | 2.5K, Pot (Horiz Centering) |
| R1202 | 27-1024 | 10K, 5%, 1/4W, Dep Carb |
| R1203, | 27-1076 | 10K, 10%, 3W, Dep Carb |
| R1204 | | |
| R1205 | 27-1041 | 270K, 5%, 1/4W, Dep Carb |
| R1206 | 27-1057 | 1.2K, 5%, 1/4W, Dep Carb |
| R1207 | 27-1058 | 82 ohm, 5%, 1/4W, Dep Carb |
| R1208 | 27-1057 | 1.2K, 5%, 1/4W, Dep Carb |
| R1209 | 26-1013 | 100K, 10%, 1/2W, Carb Comp |
| R1210 | 26-1012 | 390K, 10%, 1W, Carb Comp |
| R1211 | 33-1004 | 2.5K, Pot (Vert Centering) |
| R1212 | 27-1041 | 270K, 5%, 1/4W, Dep Carb |
| R1213 | 27-1057 | 1.2K, 5%, 1/4W, Dep Carb |
| R1214 | 27-1058 | 82 ohm, 5%, 1/4W, Dep Carb |
| R1215 | 27-1057 | 1.2K, 5%, 1/4W, Dep Carb |
| R1216 | 33-1008 | 150K, Pot (Focus) |
| R1217, | 27-1001 | 1M, 10%, 1/4W, Dep Carb |
| R1218 | | |
| R1219 | 27-1024 | 10K, 5%, 1/4W, Dep Carb |
| R1220, | 27-1076 | 10K, 10%, 3W, Dep Carb |
| R1221 | | |
| R1222 | 27-1022 | 47K, 5%, 1/4W, Dep Carb |
| R1223 | 33-1006 | 25K, Pot (Intensity) |
| R1224 | 27-1049 | 4.7K, 5%, 1/4W, Dep Carb |
| R1225 | 27-1056 | 1.5M, 10%, 1/4W, Dep Carb |
| R1226, | 27-1081 | 2K, 5%, 1/4W, Dep Carb |
| R1227 | | |
| S1 | 46-1000 | Switch, Rotary (SELECTOR) |
| S2 | 48-1000 | Switch-Assy, 4-section, pushbutton (PHONO 2, MONO L & R, TAPE MONITOR, AUDIO DISPLAY) |
| S3 | 48-1000 | Switch Assy, Pushbutton, 4-section (HI-BLEND, HI FILTER, LOW FILTER, MUTING OFF) |
| S4 | 48-1004 | Switch, Power |
| S5 | 46-1001 | Switch, Rotary (SPEAKER SYSTEMS) |

*Value selected for optimum performance.

| REF. DESIG. | MARANTZ PART NO. | DESCRIPTION | REF. DESIG. | MARANTZ PART NO. | DESCRIPTION |
|-------------|------------------|---|-------------|------------------|-------------------------------|
| T1 | 52-1000 | Transformer, Power | | 11-1000 | Knob Assy (Tuning) |
| T101 | 55-1020 | Transformer, Balun Assy (Input) | | 60-1007 | Knob, Front (Bass, Treble) |
| T401 | 55-1001 | Coil, Detector | | 60-1078 | Knob, Pushbutton (for S2, S3) |
| T501 | 11-1012 | Coil Assy, Oscillator | | 60-1006 | Knob, Rear (Bass, Treble) |
| V1201 | 37-1000 | CRT | | 40-1003 | Lamp, Panel, Type 1847 |
| | 87-1002 | Binding Post (Ground) | | 40-1007 | Lamp, Stereo, Type NE2H |
| | 90-1018 | Foot, Rubber | | 40-1000 | Lamp, Muting, Type NE2V |
| | 61-1000 | Glass, Dial | | 62-1000 | Pointer, Dial |
| | 60-1028 | Knob (Centering) | | 87-1000 | Terminal Block (Speaker) |
| | 60-1005 | Knob (Volume, Balance, Speaker Systems, Selector) | | 87-1001 | Terminal Block (Antenna) |

NOTES:

- Elect = Electrolytic
- Tant = Tantalum
- Poly = Polystyrene
- Carb Comp = Carbon Composition
- Dep Carb = Deposited Carbon
- WW = Wire Wound

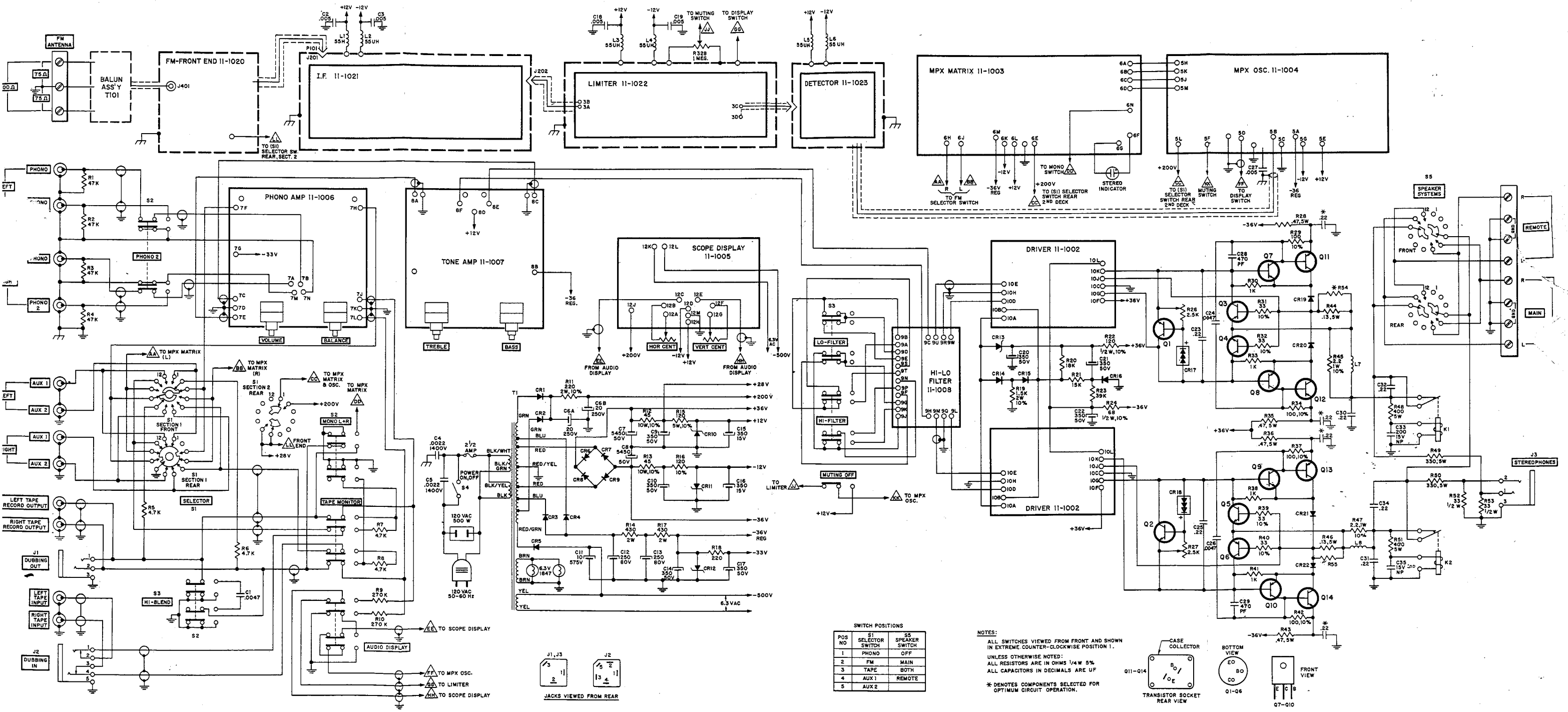


Figure 25. Model 18 Stereophonic Receiver Schematic Diagram

| | B | E | C |
|---------|------|-------|-------|
| Q1,Q2 | 0.6 | -1.3 | 1.3 |
| Q3,Q6 | 0 | 0 | -1.3 |
| Q4,Q5 | 0 | 0 | 1.3 |
| Q7,Q10 | -1.3 | -0.75 | -36 |
| Q8,Q9 | 1.3 | 0.7 | 36 |
| Q11,Q14 | -36 | -36 | -0.75 |
| Q12,Q13 | 36 | 36 | 0.7 |

Voltages are:

1. Dc $\pm 10\%$
2. Measured using VTVM
3. Measured with 117-volt line
4. Measured with respect to chassis
5. Measured with no signal (ant terminals shorted), volume at zero, Muting out, Bass and Treble flat, Dot on scope centered, Audio display out.

| REF. DESIG. | MARANTZ PART NO. | DESCRIPTION |
|-------------|------------------|---|
| T1 | 52-1000 | Transformer, Power |
| T101 | 55-1020 | Transformer, Balun Assy (Input) |
| T401 | 55-1001 | Coil, Detector |
| T501 | 11-1012 | Coil Assy, Oscillator |
| V1201 | 37-1000 | CRT |
| | 87-1002 | Binding Post (Ground) |
| | 90-1018 | Foot, Rubber |
| | 61-1000 | Glass, Dial |
| | 60-1028 | Knob (Centering) |
| | 60-1005 | Knob (Volume, Balance, Speaker Systems, Selector) |

| REF. DESIG. | MARANTZ PART NO. | DESCRIPTION |
|-------------|------------------|-------------------------------|
| | 11-1000 | Knob Assy (Tuning) |
| | 60-1007 | Knob, Front (Bass, Treble) |
| | 60-1078 | Knob, Pushbutton (for S2, S3) |
| | 60-1006 | Knob, Rear (Bass, Treble) |
| | 40-1003 | Lamp, Panel, Type 1847 |
| | 40-1007 | Lamp, Stereo, Type NE2H |
| | 40-1000 | Lamp, Muting, Type NE2V |
| | 62-1000 | Pointer, Dial |
| | 87-1000 | Terminal Block (Speaker) |
| | 87-1001 | Terminal Block (Antenna) |

NOTES:

- Elect = Electrolytic
- Tant = Tantalum
- Poly = Polystyrene
- Carb Comp = Carbon Composition
- Dep Carb = Deposited Carbon
- WW = Wire Wound



marantz

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