

**SERVICE**  
**MANUAL** **2220B**



**marantz**

model 2220B

*Stereophonic Receiver*

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## INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model 2220B Stereophonic Receiver.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instruction should be read carefully. No attempt should be made to proceed without a good understanding of the operation in the receiver.

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

### 1. SERVICE NOTES

As can be seen from the circuit diagram, the chassis of Model 2220B consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

|  |                        |
|--|------------------------|
| 1. FM Front End & AM Tuner . . . . .                             | mounted on P.W.B. P100 |
| 2. FM IF Amplifier, Detector, Muting Control . . . . .           | mounted on P.W.B. P200 |
| 3. MPX Stereo Decoding Amplifier . . . . .                       | mounted on P.W.B. P300 |
| 4. Phono Amplifier . . . . .                                     | mounted on P.W.B. P400 |
| 5. Tone Amplifier . . . . .                                      | mounted on P.W.B. PE01 |
| 6. TAPE Monitor, Mono, Low and High Filter Switch Unit . . . . . | mounted on P.W.B. PH01 |
| 7. Loudness, Muting, Main and Remote Switch Unit . . . . .       | mounted on P.W.B. PT01 |
| 8. Power Amplifier . . . . .                                     | mounted on P.W.B. P700 |
| 9. Power Supply . . . . .  | mounted on P.W.B. P800 |
| 10. Dial Lamp Unit . . . . .                                     | mounted on P.W.B. PZ01 |

### 2. AM TUNER

All components except ferrite bar antenna are mounted on a printed circuit board P100.

The AM signals induced in a ferrite bar antenna are applied to the RF amplifier section of the AM tuner IC H104 through a capacitor of C129 and amplified to the level required for overcoming the conversion noises, thus giving good S/N performance. The tuned circuits inserted in both out and input circuit of the RF amplifier assure very high image and spurious rejection performance. Thus amplified and selected AM signals are then applied to the converter section through a coupling capacitor C132. While the local oscillator voltage is injected through a capacitor C131, both AM signals and oscillating voltage are mixed and converted into 455KHz intermediate frequency. The resulting IF signal is applied to the first IF transformer L110 consisting of one ceramic filter and two tuned circuits.

The output of L110 is led to the IF amplifier/detector section of H104. The detected audio signal is obtained from PIN 11 of H104 and amplified to a required level (about 470 mV for 400Hz 30% mod.) by the amplifier H105 and fed to the function switch.

#### 2.1 Suggestions for AM Tuner Trouble Shooting

Check for broken AM bar antenna, next connect an oscilloscope to the pin 11 of H104 or J112 and check for audio signals with the tuning meter deflected. If detected audio signal is obtained at pin 11 of H104, no failure may exist in the AM tuner IC H104 and its associated circuit. If no audio signal is obtained at pin 11 of H104, check all voltage distribution in the AM circuits by using a DC VTVM.

### 3. FM TUNER

The FM Tuner section of Model 2220B is divided into three functional blocks: FM front end, IF amplifier & Detector, Muting control and MPX stereo decoding circuit.

FM signals induced on a FM antenna are led to FM antenna coil L101 through a balun coil. These signals are then applied to the FET RF amplifier which in turn applies its output to the next Transistor Mixer H102 through the double tuned high selective circuits. The Mixer convert its input signal into 10.7MHz intermediate frequency and amplifies it at the same time. The H103 is a local oscillator and its output is injected into the base of Mixer transistor, the injection voltage is about 50mV. The 10.7MHz front end IF output is led to the next IF amplifier unit through a coaxial cable.

The IF amplifier unit consists of five stages of IF amplifiers. Two pieces of ceramic filters are used to obtain high selectivity a pair of symmetrical diode limiter is also employed for the best limiting characteristics, improved capture ratio and good AM suppression.

A part of IF amplifier H202 is rectified by the diodes H211 and H212 and its DC output is fed back to the gate of FET RF amplifier to decrease the gain of it with increased input signal strength.

### **3-1. Muting and Auto-Stereo Switching Circuits**

The muting circuit consisting of all solid-state electrical switching has been incorporated in the Model 2220B.

The DC voltage obtained by rectifying the sub IF output signal from the H206 is applied to the base of H207 and turns on it, if the sub IF output is greater than predetermined level (muting threshold level).

When the H207 turns on, the muting switch transistor H208 is turned on, thus decreasing the emitter collector resistance to near zero ohm and allowing emitter current path to the Final IF amplifier H205.

When the input signal is lower than the predetermined level, the DC output obtained is small and can not turn on the H207 thus the H207 keeps its turn off state and this makes the switch transistor keep H208 turn off, then no emitter current is supplied to the H205 and signals below the threshold level are muted out.

The muting threshold level can be varied by adjusting the trimming resistor R253.

The DC voltage obtained is also used to make the Auto-Stereo switching transistor H209 turn on and off.

### **3-2. MPX Stereo Decoding Circuit**

The stereo composite signal from the FM detector undergoes a phase compensation by R303 and C304, is applied to the input terminal pin 2 of the MPX stereo decoding IC H301 on a PLL (Phase Locked Loop) basis, and decoded into the left and right stereo signals, which become available at pins 4 and 5 respectively. These decoded left and right stereo audio signals are introduced through a low pass filter composed of L301 to L304 and C309 to C318 for elimination of undesirable residual switching signal and through a de-emphasis network consisting of R314, R315, C319 and C320, into the npn-pnp direct coupled audio amplifier, where the signals are amplified to a required level for the output from J307 and J308. From these terminal the audio signals are led to the TAPE OUTPUT jacks through the function switch. Figure 1 presents an internal block diagram showing the functions of the PLL basis MPX stereo decoding IC HA1156. The input stereo composite signal, amplified by the audio amplifier, is delivered to the phase detectors PD-1 and PD-2. A part of the stereo composite signal is also applied to the stereo decoder section. The VCO (Voltage Control Oscillator) produces a free run oscillation in the neighborhood of 76KHz with the time constant determined by a capacitor C303 and resistors R304 and R305 set on the outside of pin 14. The VCO output has its frequency divided into 19KHz through the two stages of the frequency divider (DIV-1 & DIV-2), and is reverted to the phase detector PD-1, which contains two input terminals designed to produce an output in proportion to the product of the two input signals. The signal applied to one of the inputs of PD-1 is the 19KHz square wave formed through frequency division of the 76KHz VCO output signal by the two stages of the frequency divider

DIV-1 and DIV-2, and the 19KHz pilot signal included in the stereo composite signal as a reference signal is applied to the other input. Therefore, the output of PD-1 which has passed through the low pass filter LPF-1 provides DC output voltage in proportion to the phase variance between the two inputs. This DC output voltage is amplified by the DC amplifier, and supplied to the 76KHz VCO as a control voltage. This means that the output frequency and phase of the VCO have been phase-locked to the input pilot signal. The 38KHz sub-carrier reproduced by PLL as stated above is delivered through the stereo switch to the stereo decoder section as a switching signal, thus driving the decoder section. One of the inputs of PD-2 is given the 19KHz resulting from the frequency division completed by DIV-1 and DIV-3, whereas the other input gets the 19KHz output contained in the composite signal, and the output is provided with a DC output in proportion to the amplitude of the pilot signal. This DC output is furnished through LPF-2 to the trigger amplifier which drives the stereo indicator lamp and stereo switch. Therefore, insufficient supply of the pilot signal results in failure to light the stereo indicator and to turn on the stereo switch located in the path of the 38KHz switching signal, thereby avoiding a wrong stereo operation. H303 attached on the outside of pin 8 is a switching transistor for automatic monaural-stereo switchover. When the intensity of an incoming signal from an FM station is weaker than a predetermined level, this H303 is turned on and pin 8 is grounded, thereby developing a condition for monaural reception. For a forced monaural operation, switch the MODE switch to "NONO," an H303 comes into an "On" condition with the positive bias voltage applied to the base, and pin 8 is grounded, thereby establishing monaural operation. The transistor H302 connected externally to pin 14 is intended to stop the 76KHz oscillation of the VCO which interferes an AM signal during the reception of an AM station. When the function switch is set to "AM" position, a positive bias is charged on the base of H302, H302 is turned on, and pin 14 is grounded. Thus, the oscillation of the VCO is stopped, ending the interference with AM reception.

### **3.3 Suggestion for Trouble Shooting of FM Tuner**

#### **3.3.1 Symptom: No FM Reception**

First turn ON the power switch and try to tune FM stations. Rotate the fly-wheel tuning knob slowly and observe the FM tuning meter. If the tuning meter deflects at several frequencies received, the tuner circuits preceding the discriminator circuit may have no failure. When no reading is obtained in the meter, check FM local oscillator circuit, using a RF VTVM. The normal local oscillator voltage is one or two volts (rms) at the tuning capacitor, depending on the tuning capacitor position. If the local oscillator voltage is normal, next check all voltage distributions in the FM Front End and IF amplifier unit and compare them with those shown in the circuit diagram. When the tuning meter deflects but no sound is obtained, check audio circuits, using a high sensitive oscilloscope.

#### **3.3.2 Symptom: No Stereo Separation**

First check the "MONO" switch is in normal out position. Connect a FM RF signal generator output modulated by a stereo modulator to the rear FM antenna terminals, and check the stereo beacon is turned on or not. If not turned on, check for 19KHz VCO output signal (R312 Test Point), using an oscilloscope and a frequency counter.

## **4. PHONO AND PRE-AMPLIFIER**

Signals from the tuner and AUX jacks are applied to the selector switch. Signals from the PHONO jacks are applied to the phono-amplifier consisting of transistor H401, H403 and H405. The gain of the amplifier is 40 dB. The amplified and equalized phono-signals are, then, fed to other section of the selector switch which, in turn, applies output signals from the tuner, phono-amplifier and AUX jacks to the TAPE 1 MONITOR switch and TAPE OUT 1 jacks. The TAPE 1 MONITOR switch applies the signals to the balance and volume controls.

The controlled signals are fed to the pre-amplifier consisting of HE01, HE03 and HE05,

HE07. Frequency response of the amplifier can be varied by BASS, MID and TREBLE controls. The controlled output are then led to the main amplifier through high and low pass filter pushswitches.

## 5. MAIN AMPLIFIER

Transistor H701 and H703 are a differential amplifier coupled to the transistor H707. Transistor H707 drives the inverter transistors H721 and H723 which, in turn, drive the power stage consisting of H001 and H002. Transistors H709 and H721 are current limiters and operate as power protecting circuits.

Excessive currents flowing into the power stage are detected by the resistors R749 and R747 and the resultant variations are applied to the transistors H709 and H711 and make them turned on. This decreases the current flowing into the H721 and H723. In this way the currents flowing in the power stage (H001 and H002) are restricted within a safe value.

## 6. AUDIO TROUBLE ANALYSIS

1. Excessive line consumption
  - a. Check for shorted rectifiers H801, H802.
  - b. Check for shorted transistors H001, H002, Check L005 for short.
2. No line consumption or zero bias
  - a. Check line cord, fuse, shorted H005, H006, H725.
  - b. Check for open rectifiers H801, H802 or open L005.
3. High hum and noise level
  - a. Check filter capacitors C002, C004.
4. Parastic oscillation
  - a. Check for defective capacitors, C707, C708, C715, C716.
5. Improper clipping
  - a. Check for proper adjustment of R711, R712.

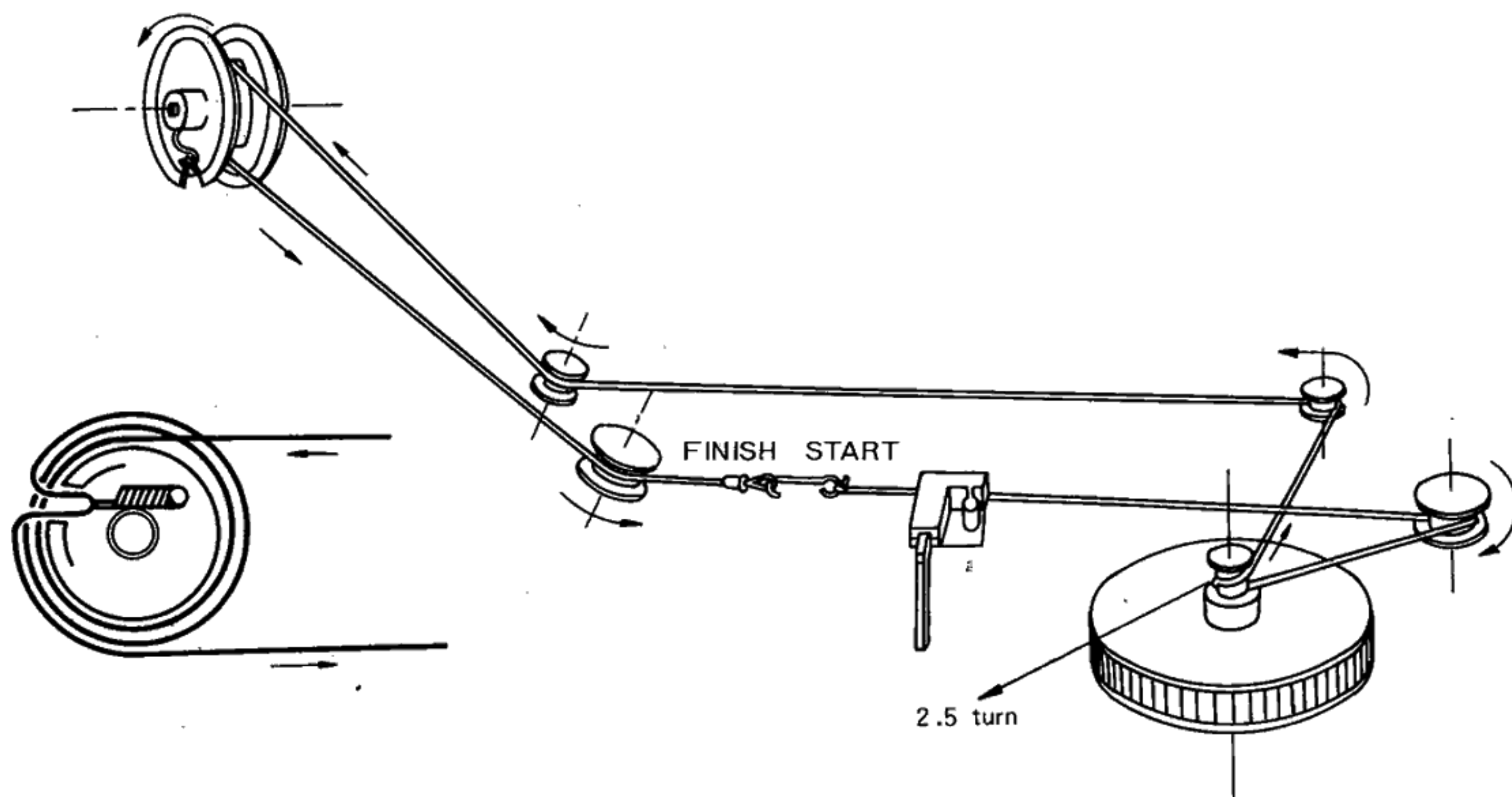


Figure 1. Dial Stringing

## 7. TEST EQUIPMENT REQUIRED FOR SERVICING

Table 1 lists the test equipment required for servicing the Model 2220B Receiver.

| Item  | Manufacturer and Model No.  | Use  |
|---|---|--|
| AM Signal Generator                           |   | Signal source for AM alignment                             |
| Test Loop                                     |   | Use with AM Signal generator                               |
| FM Signal Generator                           | Less than 0.3% distortion   | Signal source for FM alignment                             |
| Stereo Modulator                              | Less than 0.3% distortion   | Stereo Separation alignment and trouble shooting           |
| Audio Oscillator                              | Weston Model CVO-100P, less than 0.02% residual distortion is required. | Sinewave and squarewave signal source.                     |
| Frequency Counter                             |   | MPX Oscillator adjustment (VCO)                            |
| Oscilloscope                                  | High sensitivity with DC horizontal and vertical amplifiers.            | Waveform analysis and Trouble Shooting, and ASO alignment. |
| VTVM  | With AC, DC, RF range   | Voltage measurements.                                      |
| Circuit Tester                                |   | Trouble Shooting   |
| AC Wattmeter                                  | Simpson, Model 390  | Monitors primary power to Amplifier.                       |
| AC Ammeter                                    | Commercial Grade (1-10A)  | Monitors amplifier output under short circuit condition.   |
| Line Voltmeter                                | Commercial Grade (0-150VAC)   | Monitors potential of primary power to amplifier.          |
| Variable Autotransformer (0-140VAC, 10 amps.) | Powerstat, Model 116B   | Adjusts level of primary power to amplifier.               |
| Shorting Plug                                 | Use phono plug with 600 ohm across center pin and shell.                | Shorts amplifier input to eliminate noise pickup.          |
| Output Load (8 ohms, 0.5%, 100W)              | Commercial Grade  | Provides 8-ohm load for amplifier output termination.      |
| Output Load (4 ohms, 0.5%, 100W)              | Commercial Grade  | Provides 4-ohm load for amplifier output termination.      |

## 8. AM ALIGNMENT PROCEDURE

### AM IF Alignment

1. Connect a sweep generator to the J106 and an alignment scope to the resistor R120 (out side).
2. Rotate each core of IF transformers L110 and L111 for the maximum height and flat top symmetrical response.

### AM Frequency Range and Tracking Alignment

1. Set AM signal generator to 515 KHz. Turn the tuning capacitor fully closed (place the tuning pointer at the low end) and adjust the oscillator coil L109 for maximum audio output.
2. Set the signal generator to 1650 KHz. Place the tuning pointer in the high frequency end and adjust the oscillator trimmer on the oscillator tuning capacitor for maximum audio output.
3. Repeat step 1 and 2 until no further adjustment is necessary.
4. Set the generator to 600 KHz, tune the receiver to the same frequency and adjust a slug core of AM ferrite rod antenna and RF coil L108 for maximum output.
5. Set the generator to 1400 KHz and tune the receiver to the same frequency and adjust both trimming capacitor of antenna and RF tuned circuit for maximum output.

6. Repeat procedures 4 and 5 until no further adjustment is necessary.

Note: During tracking alignment reduce the signal generator output as necessary to avoid AGC action.

## 9. FM ALIGNMENT PROCEDURE

1. Connect a FM signal generator to the FM antenna terminals and an oscilloscope and an audio distortion analyzer to the tape output jack on the rear panel.
2. Set the FM SG to 87 MHz and provide about 3 to 5 $\mu$ V. Place the tuning pointer at the low frequency end by rotating the tuning knob and adjust the core of oscillator coil L104 to obtain maximum audio output.
3. Set the FM SG to 109 MHz and provide about 3 to 5 $\mu$ V. Rotate the tuning knob and place the tuning pointer at the high frequency end and adjust the trimming capacitor C118 for maximum output.
4. Repeat steps 2 and 3 until no further adjustment is necessary.
5. Set the FM SG to 90 MHz and tune the receiver to the same frequency. Decrease signal generator output until the audio output level decreases with the decreasing generator output. Adjust the ANTENNA coil L101, RF coil L102 and L103 and IF transformer L105 for minimum audio distortion.
6. Set the FM SG to 106 MHz and tune the receiver to the same frequency. Decrease the signal generator output until the audio output level decreases with the decreasing generator output. Adjust the trimming capacitors of ANTENNA and RF tuning circuits for minimum distortion.
7. Repeat steps 5 and 6 until no further adjustment is necessary.
8. Connect a DC VTVM with 1 V range selected to the resistor R237 (inside) and adjust the secondary core (black) of discriminator transformer L201 so that no voltage reading is obtained on the VTVM at no signal. Next set the FM SG to 98 MHz and increase the output level 1 K $\mu$ V, then tune the receiver to the same frequency so that no deflection is obtained on the VTVM. Adjust primary core (pink) of L201 for minimum distortion.

## 10. STEREO SEPARATION ALIGNMENT

1. Set the FM SG to provide 1 K $\mu$ V at 98 MHz. Tune the receiver to the same frequency so that the center tuning meter pointer indicates its center. Then turn off the modulation of the FM SG, connect a frequency counter to test point R312 (point C) and adjust R 304 so that the frequency counter may precisely read 19 KHz.
2. Modulate the FM SG with stereo composite signal consisting of only L or R channel (of course a pilot signal must be included).
3. Adjust the trimming resistor R 303 for maximum and same separation in both channels.

## 11. MUTING THRESHOLD ADJUSTMENT

1. Set the FM SG output to provide 12.5 $\mu$ V(IHF) at 98 MHz and tune receiver to the same frequency. Adjust the trimming resistor R 253 for the threshold level of 12.5 $\mu$ V. (During this adjustment turn the MUTING pushswitch "on".)

## 12. POWER AMPLIFIER ADJUSTMENT

Connect a VTVM between J712(+) and J718(-) and adjust the trimming resistor R733 until the VTVM reads 20 mV DC. And next, connect a VTVM between J723 and J722 (GROUND) and adjust the trimming resistor R711 until the VTVM reads 0 mV DC. Do over again. For the other channel, connect the VTVM between J713(+) and J719(-) and adjust the R734 for the same reading, and connect the VTVM between J724 and J722 and adjust the R712 for the same reading. Do over again.

## 13. POWER SUPPLY ADJUSTMENT

Connect a VTVM between J812(+) and J811(-) and adjust R808 until the VTVM reads 35.0 V under no signal condition.

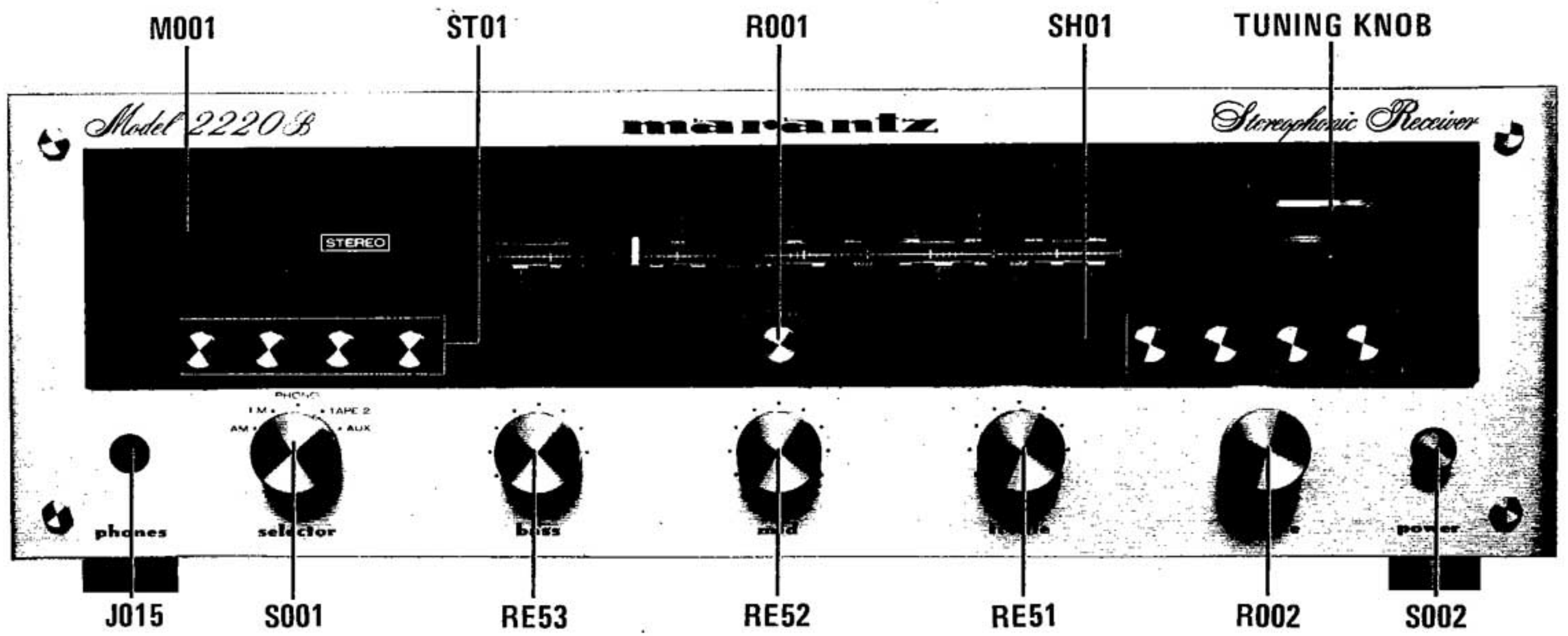


Figure 2. Front Panel Adjustments and Component Locations

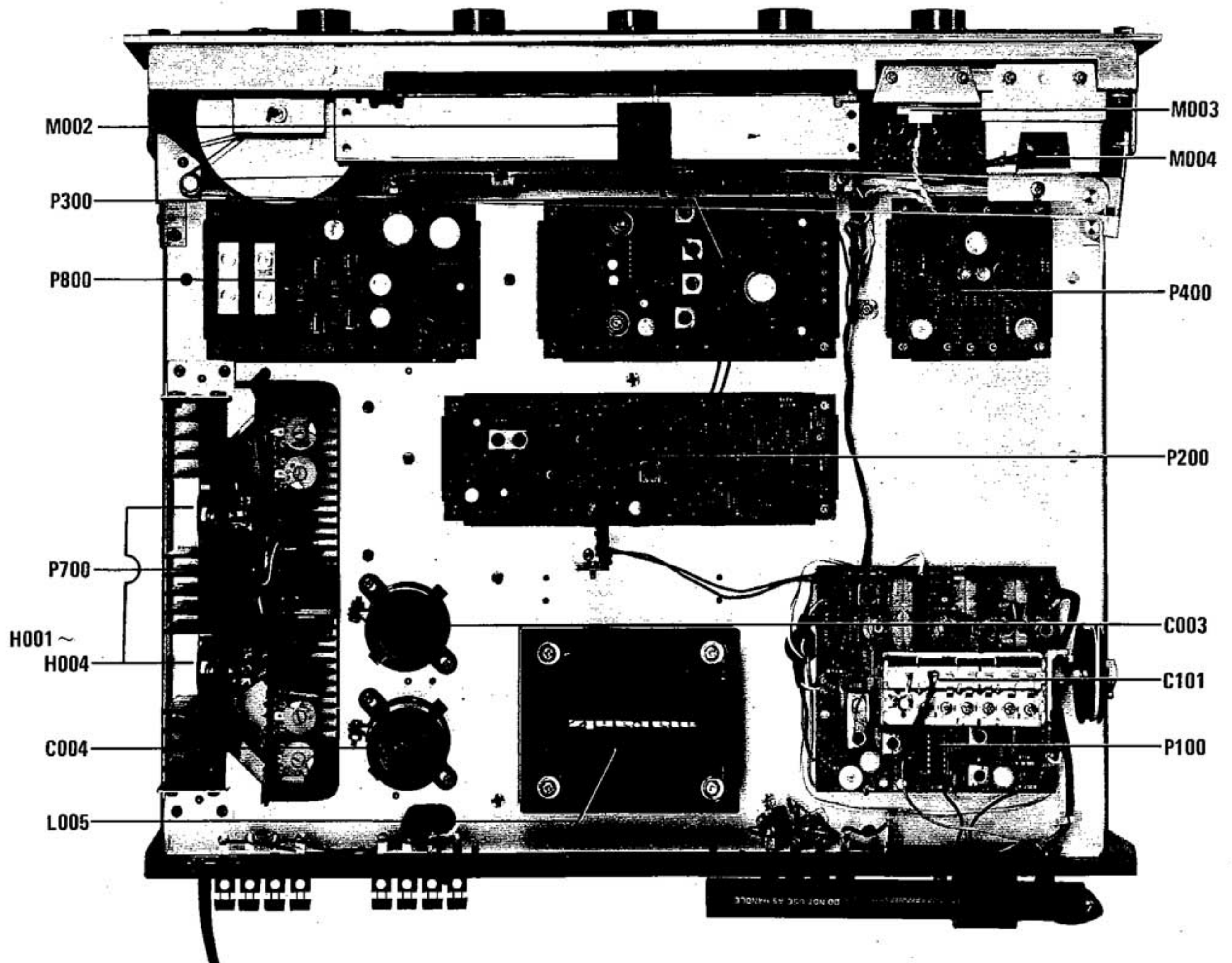


Figure 3. Main Chassis Component Locations (Top View)

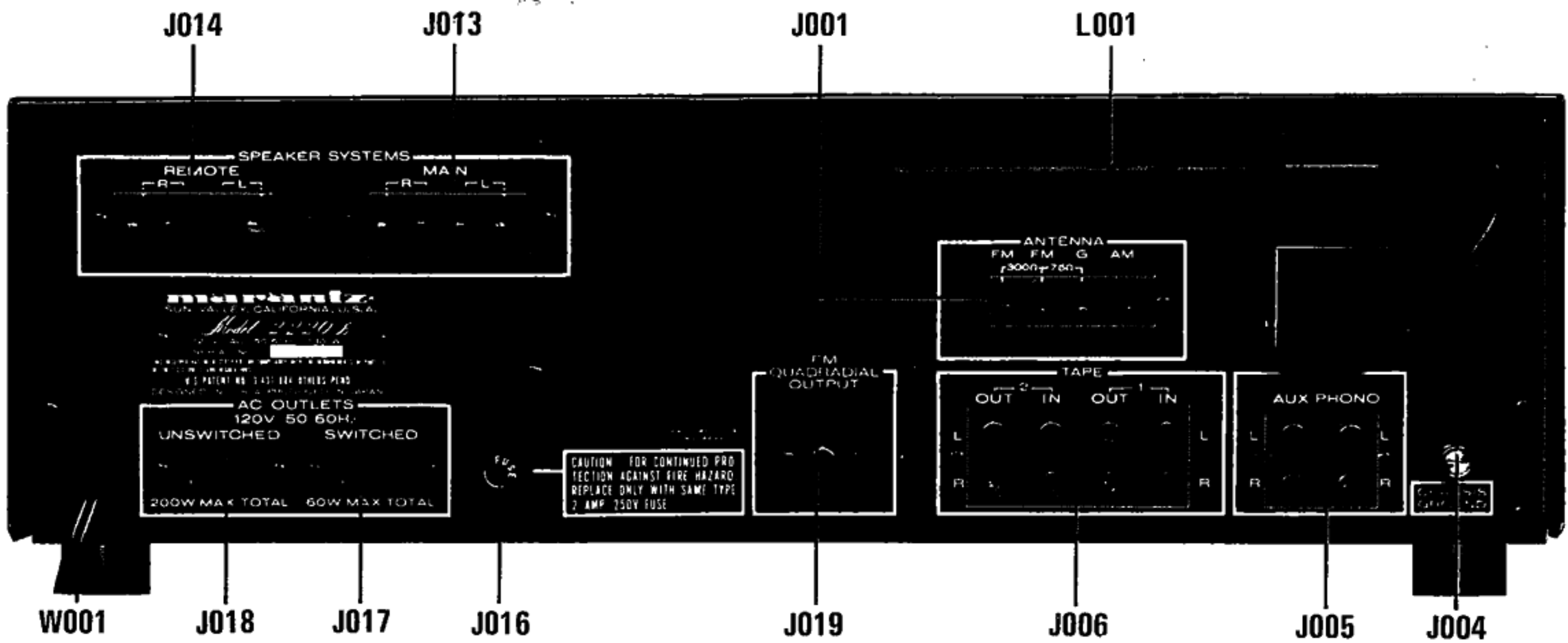


Figure 4. Rear Panel Adjustment and Component Locations

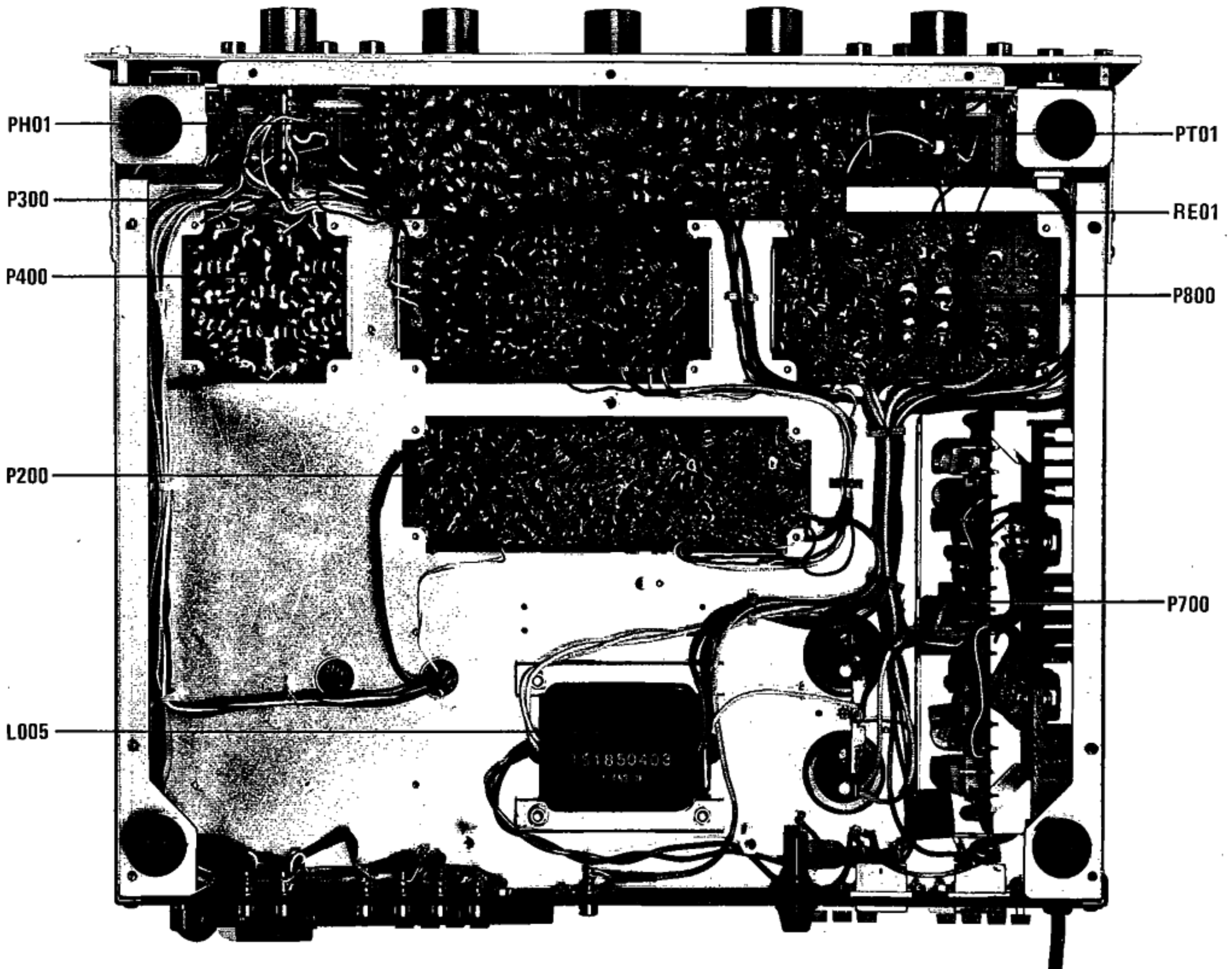


Figure 5. Main Chassis Component Locations (Bottom View)

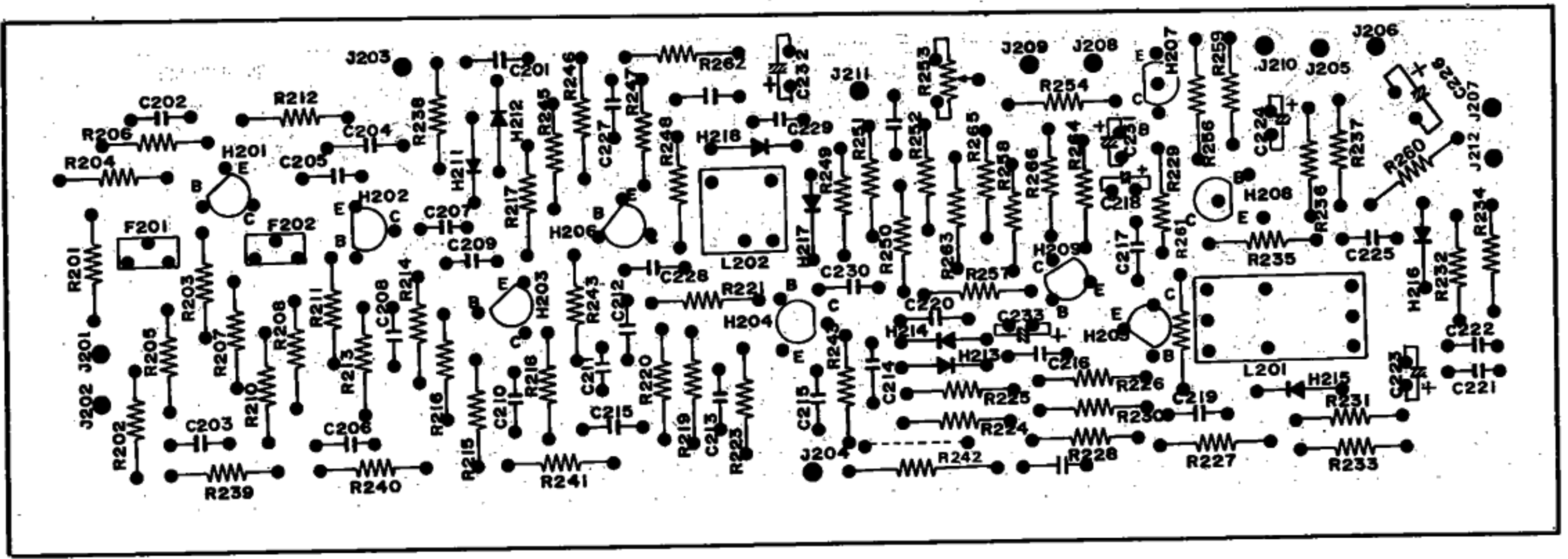


Figure 6. FM Front End and AM Tuner Assembly P100 Component Locations

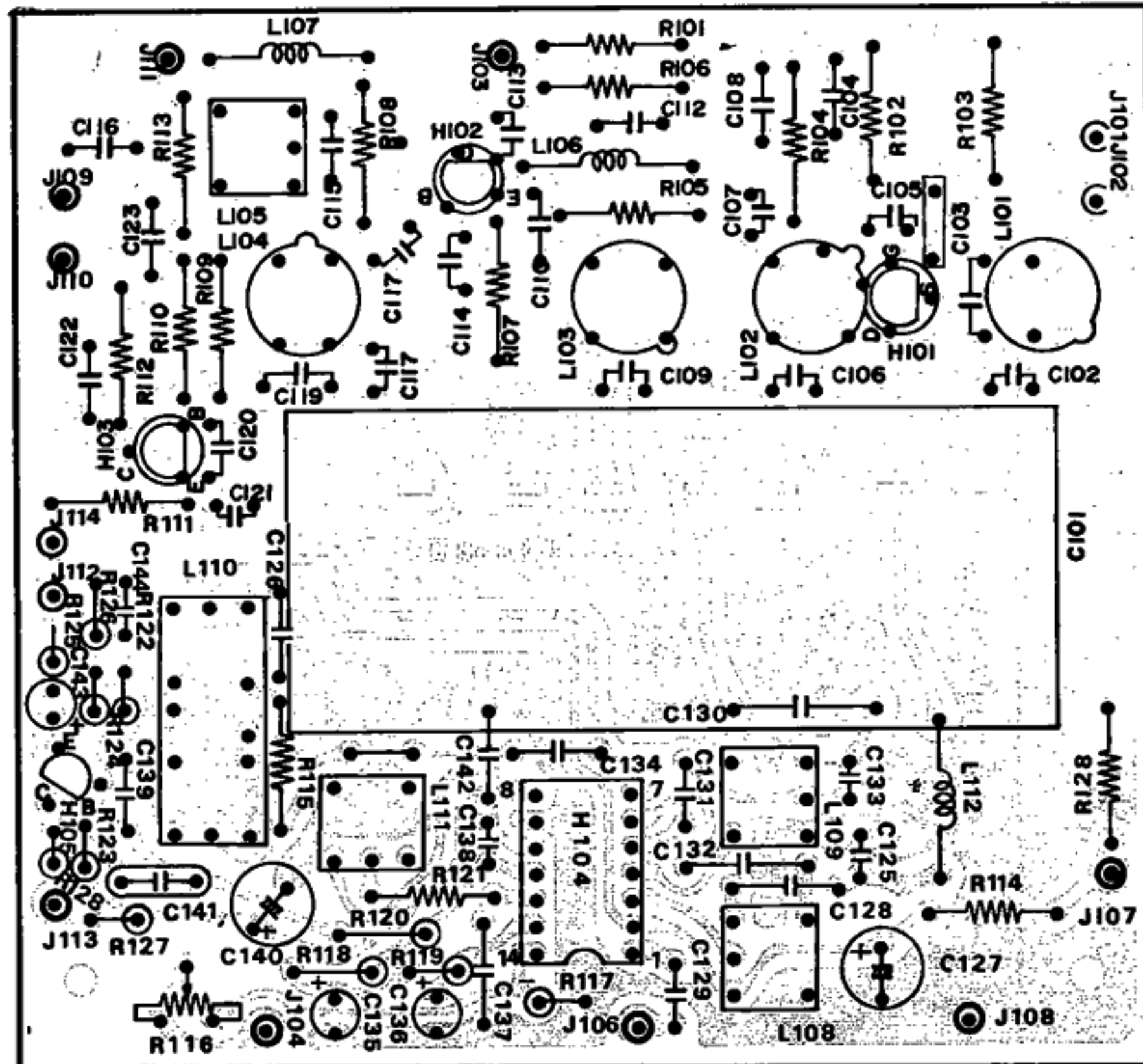


Figure 7. FM IF Amplifier, Detector, Muting Control and Meter Amplifier Unit Assembly P200 Component Locations

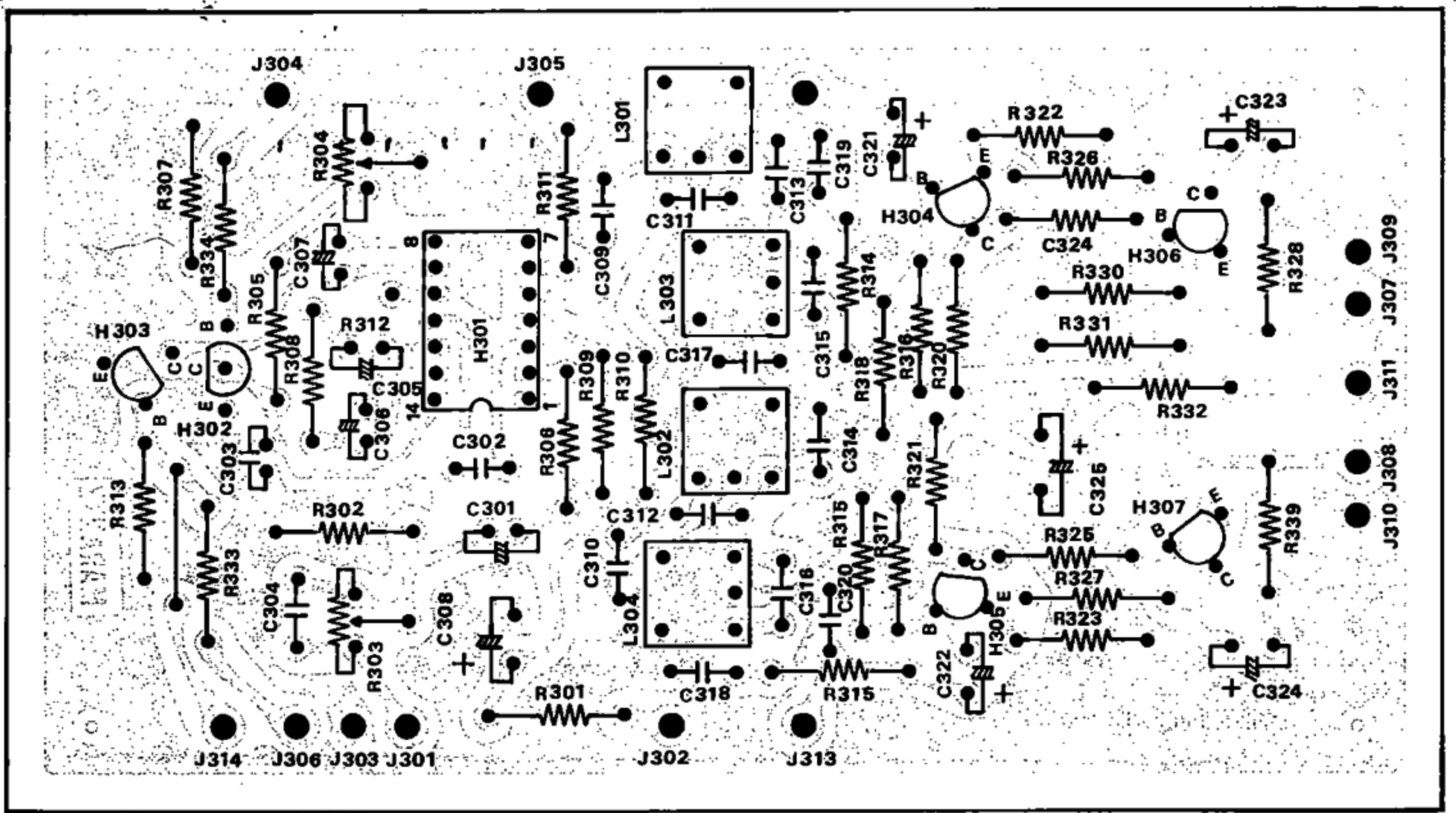


Figure 8. MPX Stereo Decoding Amplifier Assembly P300 Component Locations

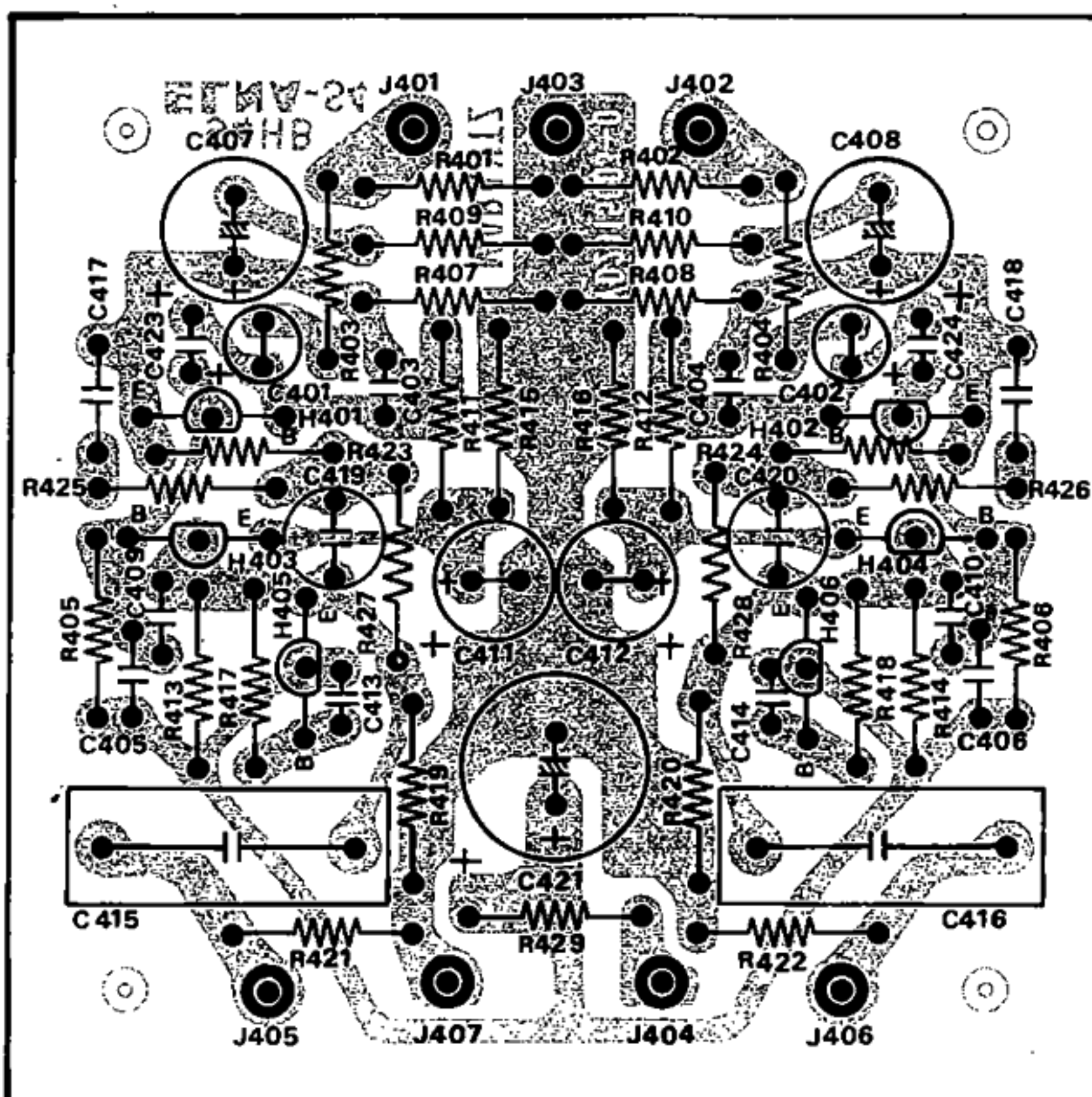


Figure 9. Phono Amplifier Assembly P400 Component Locations

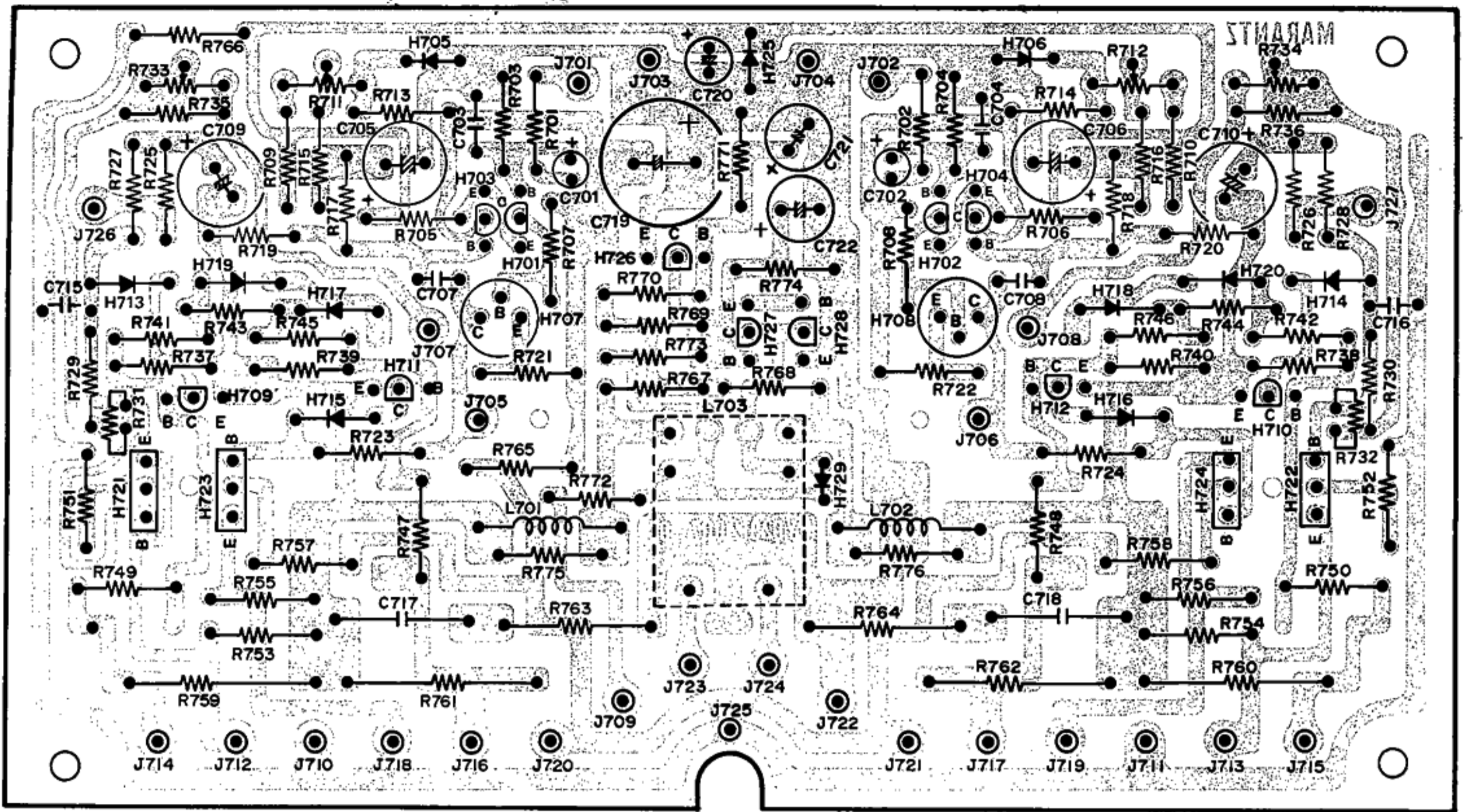


Figure 10. Power Amplifier Assembly P700 Component Locations

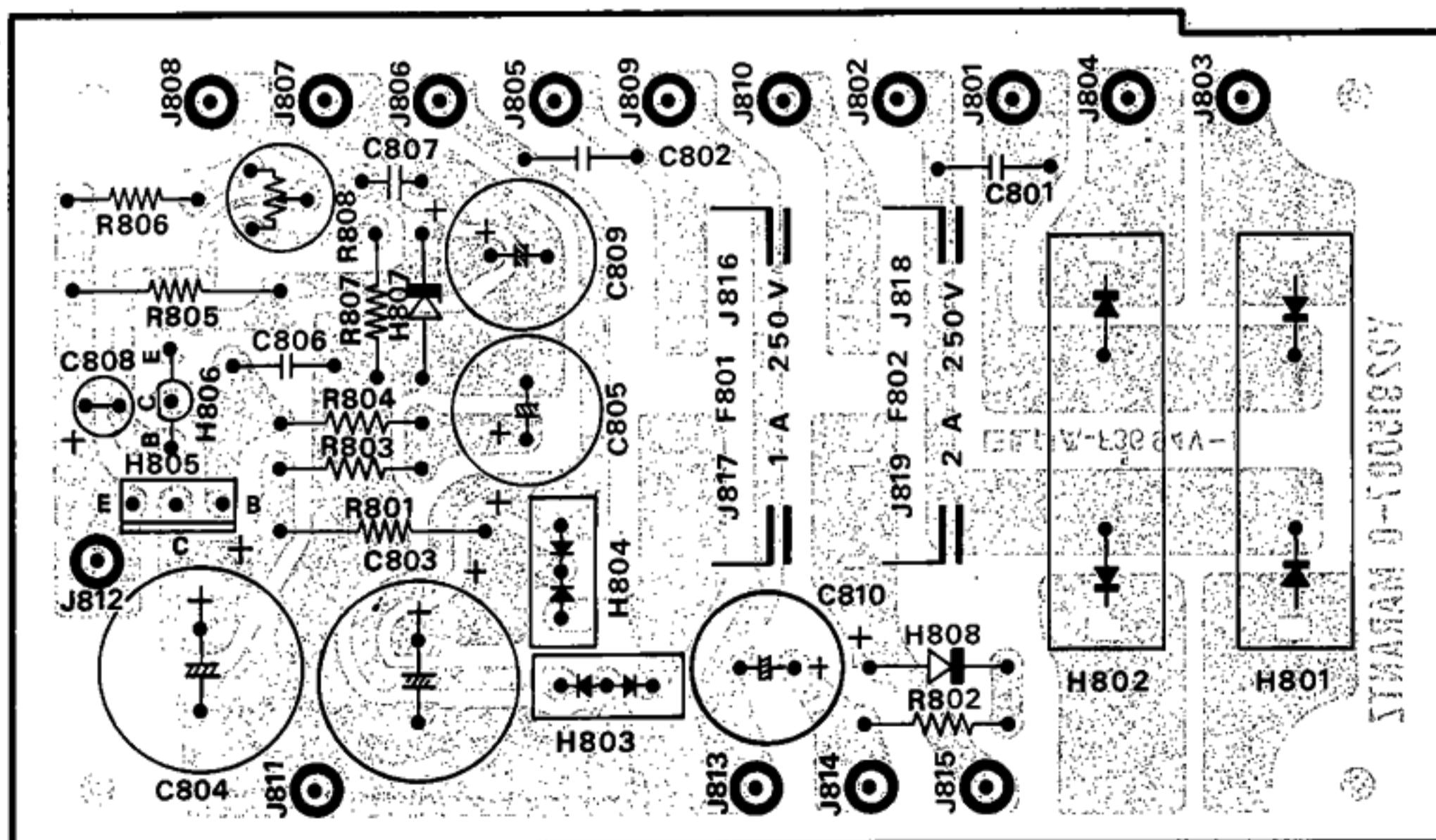


Figure 11. Power Supply Assembly P800 Component Locations



Figure 12. Dial Lamp Assembly PZ01 Component Locations

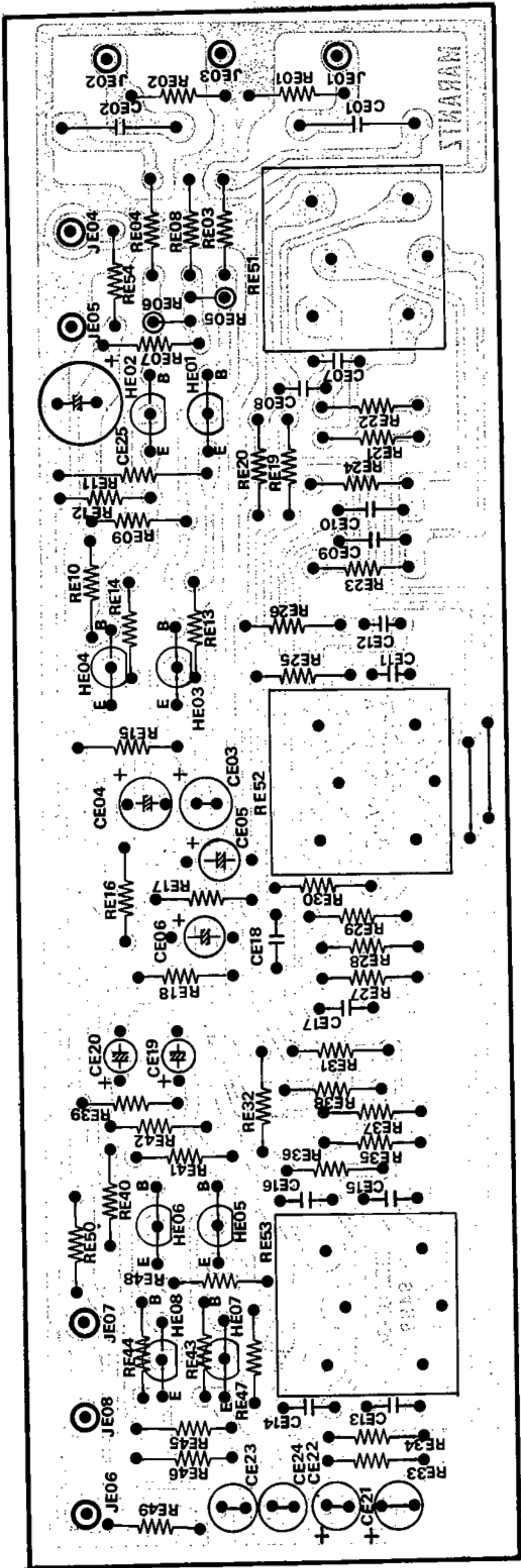


Figure 13. Tone Amplifier Assembly P500 Component Locations

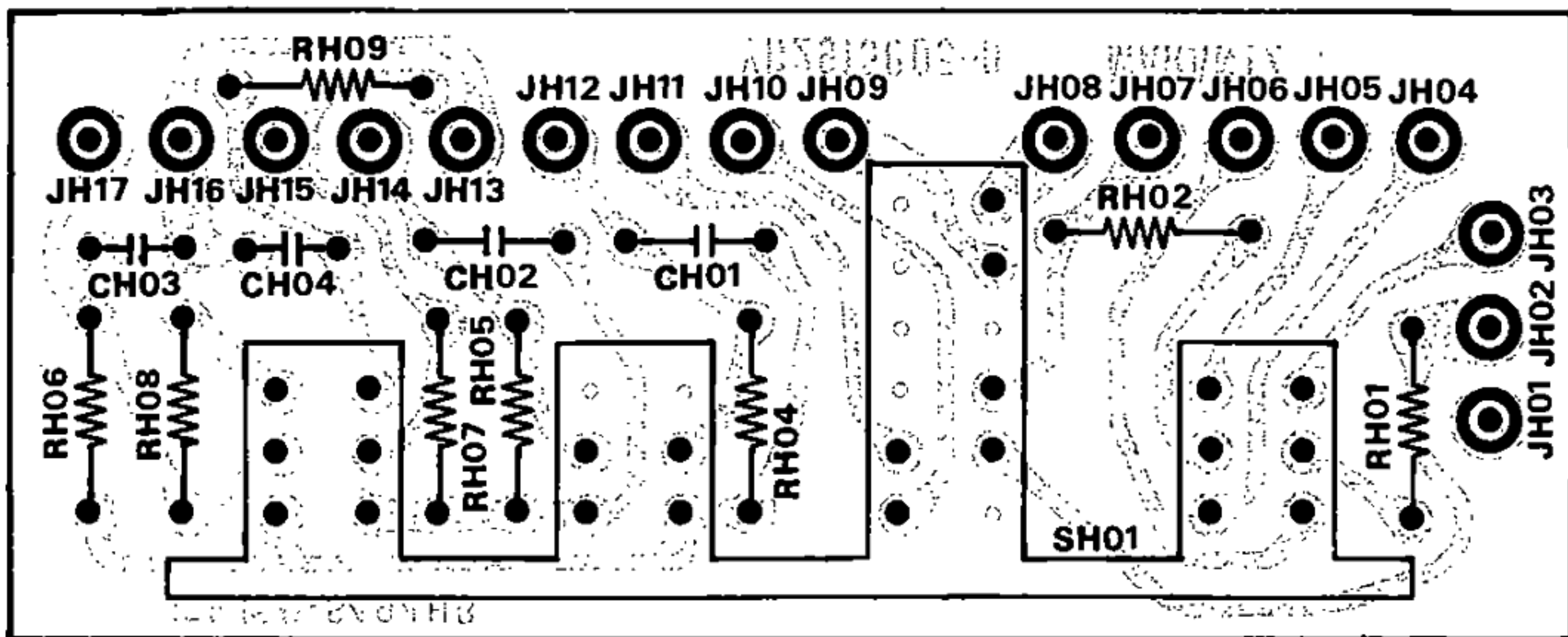


Figure 14. Filter Assembly PH01 Component Locations

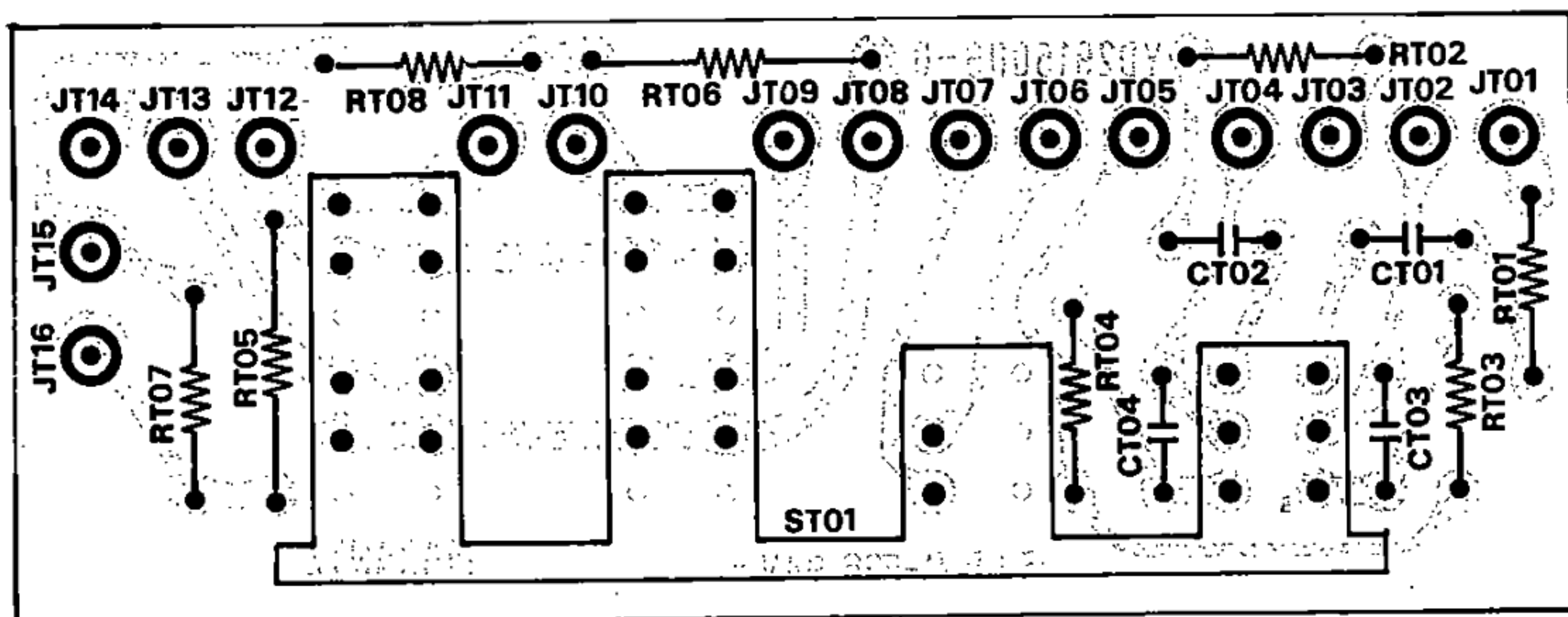


Figure 15. Main Remote Assembly PT01 Component Locations



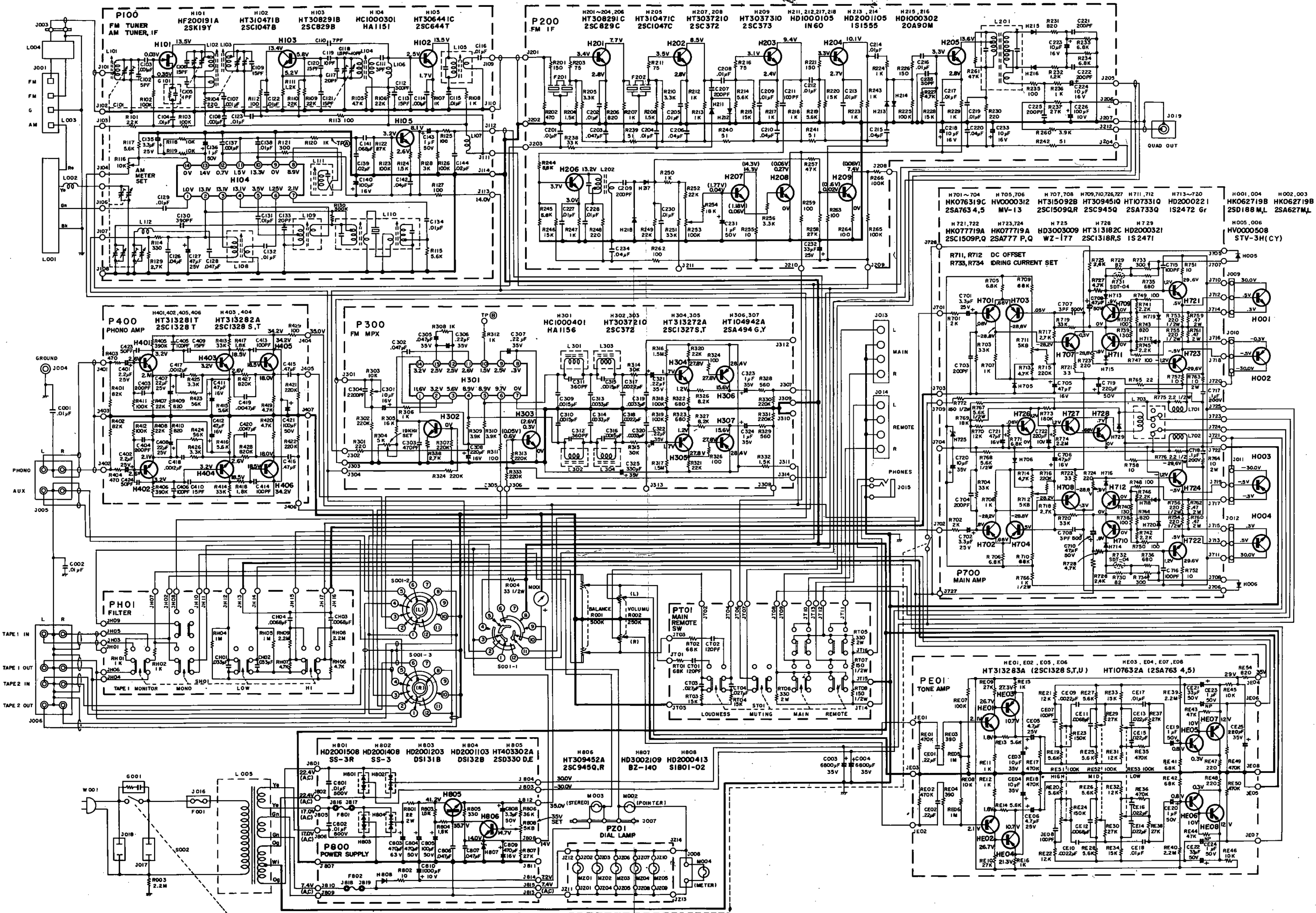


Figure 17. Schematic Diagram

## Parts List

| REF. DESIG. | U | E | PART NO.  | DESCRIPTION                                      |
|-------------|---|---|-----------|--|
| A           | 1 | 1 | 291506340 | Front Panel Assembly                             |
| 0104        | 1 | 1 | 291506301 | Escutcheon                                       |
| 0105        | 1 | 1 | 285340101 | Frame  |
| 0106        | 1 | 1 | 291515801 | Window   |
| 0107        | 8 | 8 | 288625901 | Bush   |
| 0108        | 1 | 1 | 285425901 | Bush   |
| 0110        | 1 | 1 | 281825905 | Bush   |
| 0111        | 1 | 1 | 291510701 | Sheet  |
| 0115        | 1 | 1 | 291505301 | Cover  |
| B           | 1 | 1 | 285327340 | Fly Wheel Assembly                               |
| 1204        | 2 | 2 | 257706302 | Escutcheon                                       |
| 1205        | 1 | 1 | 257727301 | Fly Wheel  |
| 1206        | 1 | 1 | 285311201 | Shaft  |
| 1210        | 1 | 1 | 53110603E | Hexagon Nut                                      |
| 1212        | 1 | 1 | 54020601E | Flat Washer                                      |
| C           | 1 | 1 | 291510340 | Pointer Assembly                                 |
| 1304        | 1 | 1 | 291510301 | Pointer  |
| 1305        | 1 | 1 | 281810302 | Pointer  |
| 1306        | 1 | 1 | 291510302 | Pointer  |
| M002        | 1 | 1 | IN1008030 | Lamp   |
| D           | 1 | 1 | 120200640 | Hook Assembly                                    |
| 1404        | 1 | 1 | 120225801 | Hook   |
| 1406        | 1 | 1 | 72080802A | String   |
| E           | 1 | 1 | 281915941 | Drum Assembly                                    |
| 1608        | 1 | 1 | 281915901 | Drum   |
| 1610        | 1 | 1 | 71101569M | Spring   |
| 1613        | 2 | 2 | 51064019A | Set Screw  |
| P100        | 1 | 1 | YD2888003 | P100 FM TUNER<br>P W Board,FM-AM Front End Board |
|             | 1 | 1 | ZZ2915103 | P W Board Assembly                               |
|             | 1 | 1 | ZZ2915803 | P W Board Assembly                               |
| R101        | 1 | 1 | RT0522314 | Resistor 22K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R102        | 1 | 1 | RT0510414 | Resistor 100K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W  |
| R103        | 1 | 1 | RT0510514 | Resistor 1M $\Omega$ $\pm$ 5% $\frac{1}{4}$ W    |
| R104        | 1 | 1 | RT0522114 | Resistor 220 $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R105        | 1 | 1 | RT0547214 | Resistor 4.7K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W  |
| R106        | 1 | 1 | RT0522314 | Resistor 22K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R107        | 1 | 1 | RT0510214 | Resistor 1K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W    |
| R108        | 1 | 1 | RT0510214 | Resistor 1K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W    |
| R109        | 1 | 1 | RT0522314 | Resistor 22K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R110        | 1 | 1 | RT0522314 | Resistor 22K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R111        | 1 | 1 | RT0512214 | Resistor 1.2K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W  |
| R112        | 1 | 1 | RT0510114 | Resistor 100 $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R113        | 1 | 1 | RT0510114 | Resistor 100 $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R114        | 1 | 1 | RT0533114 | Resistor 330 $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R115        | 1 | 1 | RT0556214 | Resistor 5.6K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W  |
| R116        | 1 | 1 | RA0103020 | Trimming Res. $\pm$ 10K $\Omega$                 |
| R117        | 1 | 1 | RT0556214 | Resistor 5.6K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W  |
| R118        | 1 | 1 | RT0510314 | Resistor 10K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R119        | 1 | 1 | RT0510314 | Resistor 10K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R120        | 1 | 1 | RT0510214 | Resistor 1K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W    |
| R121        | 1 | 1 | RT0530114 | Resistor 300 $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R122        | 1 | 1 | RT0527314 | Resistor 27K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R123        | 1 | 1 | RT0510414 | Resistor 100K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W  |
| R124        | 1 | 1 | RT0515214 | Resistor 1.5K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W  |
| R125        | 1 | 1 | RT0510114 | Resistor 100 $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R126        | 1 | 1 | RT0510414 | Resistor 100K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W  |
| R127        | 1 | 1 | RT0510114 | Resistor 100 $\Omega$ $\pm$ 5% $\frac{1}{4}$ W   |
| R128        | 1 | 1 | RT0530214 | Resistor 3K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W    |
| R129        | 1 | 1 | RC1027212 | Resistor 2.7K $\Omega$ $\pm$ 10% $\frac{1}{2}$ W |
| R130        | 1 | 1 | RT0530414 | Resistor 300K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W  |
| C101        | 1 | 1 | CA4330002 | Variable Cap AM FM VC                            |

| REF. DESIG. | U  | E  | PART NO.  | DESCRIPTION                         |
|-------------|----|----|-----------|-------------------------------------|
| C102        | 1  | 1  | DD1205001 | Ceramic Cap 5PF $\pm$ 10%           |
| C103        | 1  | 1  | DK1710201 | Ceramic Cap 0.001 $\mu$ F $\pm$ 20% |
| C104        | 1  | 1  | DK1710301 | Ceramic Cap 0.01 $\mu$ F $\pm$ 20%  |
| C105        | 1  | 1  | DD1001001 | Ceramic Cap 1PF $\pm$ 0.25PF        |
| C106        | 1  | 1  | DD1615001 | Ceramic Cap 15PF $\pm$ 10%          |
| C107        | 1  | 1  | DK1710201 | Ceramic Cap 0.001 $\mu$ F $\pm$ 20% |
| C108        | 1  | 1  | DK1710301 | Ceramic Cap 0.001 $\mu$ F $\pm$ 20% |
| C109        | 1  | 1  | DD1615001 | Ceramic Cap 15PF $\pm$ 10%          |
| C110        | 1  | 1  | DD1207001 | Ceramic Cap 7PF $\pm$ 1PF           |
| C111        | 1  | 1  | DD1103001 | Ceramic Cap 3PF $\pm$ 0.5PF         |
| C112        | 1  | 1  | DD1530101 | Ceramic Cap 300PF $\pm$ 5%          |
| C113        | 1  | 1  | DD1615001 | Ceramic Cap 15PF $\pm$ 10%          |
| C114        | 1  | 1  | DK1710201 | Ceramic Cap 0.001 $\mu$ F $\pm$ 20% |
| C115        | 1  | 1  | DK1710301 | Ceramic Cap 0.01 $\mu$ F $\pm$ 20%  |
| C116        | 1  | 1  | DK1710301 | Ceramic Cap 0.01 $\mu$ F $\pm$ 20%  |
| C117        | 1  | 1  | DD1620004 | Ceramic Cap 20PF $\pm$ 10%          |
| C118        | 1  | 1  | CT1100008 | Trimming Cap 1.5PF~10PF             |
| C119        | 1  | 1  | DD1210006 | Ceramic Cap 10PF $\pm$ 1PF          |
| C120        | 1  | 1  | DD1615003 | Ceramic Cap 15PF $\pm$ 10%          |
| C121        | 1  | 1  | DD1615003 | Ceramic Cap 15PF $\pm$ 10%          |
| C122        | 1  | 1  | DK1710301 | Ceramic Cap 0.01 $\mu$ F $\pm$ 20%  |
| C123        | 1  | 1  | DK1710301 | Ceramic Cap 0.01 $\mu$ F $\pm$ 20%  |
| C126        | 1  | 1  | DK1840302 | Ceramic Cap 0.04 $\mu$ F $\pm$ 20%  |
| C127        | 1  | 1  | EA4760259 | Electroly Cap 47 $\mu$ F 25V        |
| C128        | 1  | 1  | DF1747301 | Film Cap 0.047 $\mu$ F $\pm$ 20%    |
| C129        | 1  | 1  | DK1710301 | Ceramic Cap 0.01 $\mu$ F $\pm$ 20%  |
| C130        | 1  | 1  | DF6539101 | Film Cap 390PF $\pm$ 5%             |
| C131        | 1  | 1  | DK1710301 | Ceramic Cap 0.01 $\mu$ F $\pm$ 20%  |
| C132        | 1  | 1  | DF1710301 | Film Cap 0.01 $\mu$ F $\pm$ 20%     |
| C133        | 1  | 1  | DD1620001 | Ceramic Cap 20PF $\pm$ 10%          |
| C134        | 1  | 1  | DK1710301 | Ceramic Cap 0.01 $\mu$ F $\pm$ 20%  |
| C135        | 1  | 1  | EA3350259 | Electroly Cap 3.3 $\mu$ F 25V       |
| C136        | 1  | 1  | EA1050509 | Electroly Cap 1 $\mu$ F 50V         |
| C137        | 1  | 1  | DK1710201 | Ceramic Cap 1000PF $\pm$ 20%        |
| C138        | 1  | 1  | DF1710301 | Film Cap 0.01 $\mu$ F $\pm$ 20%     |
| C139        | 1  | 1  | DK1720301 | Ceramic Cap 0.02 $\mu$ F $\pm$ 20%  |
| C140        | 1  | 1  | EA1070169 | Electroly Cap 100 $\mu$ F 16V       |
| C141        | 1  | 1  | EV1040356 | Electroly Cap 0.1 $\mu$ F 35V       |
| C142        | 1  | 1  | DK1840302 | Ceramic Cap 0.04 $\mu$ F $\pm$ 20%  |
| C143        | 1  | 1  | EA1050509 | Electroly Cap 1 $\mu$ F 50V         |
| C144        | 1  | 1  | DK1720301 | Ceramic Cap 0.02 $\mu$ F $\pm$ 20%  |
| H101        | 1  | 1  | HF200191A | FET 2SK 19(Y)                       |
| H102        | 1  | 1  | HT310471B | Transistor 2SC 1047 (B)             |
| H103        | 1  | 1  | HT308291B | Transistor 2SC829 (B)               |
| H104        | 1  | 1  | HC1000301 | IC IC HA 1151                       |
| H105        | 1  | 1  | HT306441C | Transistor 2SC 644 T                |
| L101        | 1  | 1  | LA1202801 | ANT Coil FM ANT                     |
| L102        | 1  | 1  | LA1202802 | RF Coil FM RF                       |
| L103        | 1  | 1  | LA1202803 | RF Coil FM RF                       |
| L104        | 1  | 1  | LO1202801 | OSC Coil FM OSC                     |
| L105        | 1  | 1  | LI1015801 | FM IFT FM IFT                       |
| L106        | 1  | 1  | LC1751001 | Choke Coil 0.75 $\mu$ H             |
| L107        | 1  | 1  | LC1332002 | Choke Coil 3.3 $\mu$ F              |
| L108        | 1  | 1  | LA1001308 | AM RF AM RF                         |
| L109        | 1  | 1  | LO1001314 | AM OSC Coil AM OSC                  |
| L110        | 1  | 1  | LI1028301 | AM IFT AM IFT                       |
| L111        | 1  | 1  | LI1001316 | AM IFT AM IFT                       |
| L112        | 1  | 1  | LC1332002 | Choke Coil 3.3 $\mu$ F              |
| L110        | 1  | 1  | LI1028302 | AM IFT AM IFT                       |
| J101        | 13 | 13 | YP1000113 | Plug                                |
| J114        |    |    |           |                                     |

| REF. DESIG. | U | E | PART NO.  | DESCRIPTION                       |
|-------------|---|---|-----------|-----------------------------------|
| 1726        | 2 | 2 | 282110901 | Shield                            |
| 1727        | 1 | 1 | 288810901 | Shield                            |
| P200        | 1 | 1 | YD2915001 | P W Board,FM IF Board FM IF Board |
|             | 1 | 1 | ZZ2915001 | P W Board Assembly                |
| R201        | 1 | 1 | RT0515114 | Resistor 150Ω ±5% ¼W              |
| R202        | 1 | 1 | RT0547114 | Resistor 470Ω ±5% ¼W              |
| R203        | 1 | 1 | RT0575014 | Resistor 75Ω ±5% ¼W               |
| R204        | 1 | 1 | RT0515214 | Resistor 1.5KΩ ±5% ¼W             |
| R205        | 1 | 1 | RT0533214 | Resistor 3.3KΩ ±5% ¼W             |
| R206        | 1 | 1 | RT0582114 | Resistor 820Ω ±5% ¼W              |
| R207        | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W               |
| R208        | 1 | 1 | RT0515214 | Resistor 1.5KΩ ±5% ¼W             |
| R210        | 1 | 1 | RT0533214 | Resistor 3.3KΩ ±5% ¼W             |
| R211        | 1 | 1 | RT0575014 | Resistor 75Ω ±5% ¼W               |
| R212        | 1 | 1 | RT0582114 | Resistor 820Ω ±5% ¼W              |
| R213        | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W               |
| R214        | 1 | 1 | RT0556214 | Resistor 5.6KΩ ±5% ¼W             |
| R215        | 1 | 1 | RT0515314 | Resistor 15KΩ ±5% ¼W              |
| R216        | 1 | 1 | RT0575014 | Resistor 75Ω ±5% ¼W               |
| R217        | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W               |
| R218        | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W               |
| R219        | 1 | 1 | RT0556214 | Resistor 5.6KΩ ±5% ¼W             |
| R220        | 1 | 1 | RT0515314 | Resistor 15KΩ ±5% ¼W              |
| R221        | 1 | 1 | RT0515114 | Resistor 150Ω ±5% ¼W              |
| R222        | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W               |
| R223        | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W               |
| R224        | 1 | 1 | RT0515114 | Resistor 150Ω ±5% ¼W              |
| R226        | 1 | 1 | RT0515114 | Resistor 150Ω ±5% ¼W              |
| R227        | 1 | 1 | RT0533214 | Resistor 3.3KΩ ±5% ¼W             |
| R228        | 1 | 1 | RT0515314 | Resistor 15KΩ ±5% ¼W              |
| R229        | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W               |
| R230        | 1 | 1 | RT0522114 | Resistor 220Ω ±5% ¼W              |
| R231        | 1 | 1 | RT0582114 | Resistor 820Ω ±5% ¼W              |
| R232        | 1 | 1 | RT0512214 | Resistor 1.2KΩ ±5% ¼W             |
| R233        | 1 | 1 | RT0568214 | Resistor 6.8KΩ ±5% ¼W             |
| R234        | 1 | 1 | RT0568214 | Resistor 6.8KΩ ±5% ¼W             |
| R235        | 1 | 1 | RT0510114 | Resistor 100Ω ±5% ¼W              |
| R236        | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W               |
| R237        | 1 | 1 | RT0522314 | Resistor 22KΩ ±5% ¼W              |
| R238        | 1 | 1 | RT0533314 | Resistor 33KΩ ±5% ¼W              |
| R239        | 1 | 1 | RT0551014 | Resistor 51Ω ±5% ¼W               |
| R240        | 1 | 1 | RT0551014 | Resistor 51Ω ±5% ¼W               |
| R241        | 1 | 1 | RT0551014 | Resistor 51Ω ±5% ¼W               |
| R242        | 1 | 1 | RT0551014 | Resistor 51Ω ±5% ¼W               |
| R243        | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W               |
| R244        | 1 | 1 | RT0556214 | Resistor 5.6KΩ ±5% ¼W             |
| R245        | 1 | 1 | RT0556214 | Resistor 5.6KΩ ±5% ¼W             |
| R246        | 1 | 1 | RT0515314 | Resistor 15KΩ ±5% ¼W              |
| R247        | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W               |
| R248        | 1 | 1 | RT0522114 | Resistor 220Ω ±5% ¼W              |
| R249        | 1 | 1 | RT0522314 | Resistor 22KΩ ±5% ¼W              |
| R250        | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W               |
| R251        | 1 | 1 | RT0533314 | Resistor 33KΩ ±5% ¼W              |
| R252        | 1 | 1 | RT0522314 | Resistor 22KΩ ±5% ¼W              |
| R253        | 1 | 1 | RA0104018 | Trimming Res. 100KΩ               |
| R254        | 1 | 1 | RT0518314 | Resistor 18KΩ ±5% ¼W              |
| R255        | 1 | 1 | RT0510014 | Resistor 10Ω ±5% ¼W               |
| R256        | 1 | 1 | RT0533214 | Resistor 3.3KΩ ±5% ¼W             |
| R257        | 1 | 1 | RT0547314 | Resistor 47KΩ ±5% ¼W              |
| R258        | 1 | 1 | RT0527314 | Resistor 27KΩ ±5% ¼W              |

| REF. DESIG. | U | E | PART NO.  | DESCRIPTION                  |
|-------------|---|---|-----------|------------------------------|
| R259        | 1 | 1 | RT0510114 | Resistor 100Ω ±5% ¼W         |
| R260        | 1 | 1 | RT0539214 | Resistor 3.9KΩ ±5% ¼W        |
| R261        | 1 | 1 | RT0547314 | Resistor 47KΩ ±5% ¼W         |
| R262        | 1 | 1 | RT0510114 | Resistor 100Ω ±5% ¼W         |
| R263        | 1 | 1 | RT0510114 | Resistor 100Ω ±5% ¼W         |
| R264        | 1 | 1 | RT0510114 | Resistor 100Ω ±5% ¼W         |
| R265        | 1 | 1 | RT0510414 | Resistor 100KΩ ±5% ¼W        |
| R266        | 1 | 1 | RT0510414 | Resistor 100KΩ ±5% ¼W        |
| C201        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20%      |
| C202        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20%      |
| C203        | 1 | 1 | DK1840301 | Ceramic Cap 0.04μF ±100%     |
| C204        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20%      |
| C205        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20%      |
| C206        | 1 | 1 | DK1840301 | Ceramic Cap 0.04μF ±100%     |
| C207        | 1 | 1 | DD1620101 | Ceramic Cap 200PF ±10%       |
| C208        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±10%      |
| C209        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±10%      |
| C210        | 1 | 1 | DK1840301 | Ceramic Cap 0.04μF ±100%     |
| C211        | 1 | 1 | DD1610101 | Ceramic Cap 100PF ±10%       |
| C212        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20%      |
| C213        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20%      |
| C214        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±100%     |
| C215        | 1 | 1 | DK1840301 | Ceramic Cap 0.04μF ±100%     |
| C216        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20%      |
| C217        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20%      |
| C218        | 1 | 1 | EA1060169 | Electroly Cap 10μF 16V       |
| C219        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20%      |
| C220        | 1 | 1 | DK1840301 | Ceramic Cap 0.04μF ±100%     |
| C221        | 1 | 1 | DD1620101 | Ceramic Cap 200PF ±10%       |
| C222        | 1 | 1 | DD1620101 | Ceramic Cap 200PF ±10%       |
| C223        | 1 | 1 | EA1060169 | Electroly Cap 10μF 16V       |
| C224        | 1 | 1 | EA1060169 | Electroly Cap 10μF 16V       |
| C225        | 1 | 1 | DD1620101 | Ceramic Cap 200PF ±10%       |
| C226        | 1 | 1 | EA1070109 | Electroly Cap 100μF 10V      |
| C227        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20%      |
| C228        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20%      |
| C229        | 1 | 1 | DD1620101 | Ceramic Cap 200PF ±10%       |
| C230        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20%      |
| C231        | 1 | 1 | EA1050509 | Electroly Cap 1μF 50V        |
| C232        | 1 | 1 | EA3360259 | Electroly Cap 33μF 25V       |
| C233        | 1 | 1 | EA1060169 | Electroly Cap 10μF 16V       |
| C234        | 1 | 1 | DK1840301 | Ceramic Cap 0.04μF ±100%     |
| H201        | 1 | 1 | HT308291C | Transistor 2SC 829C          |
| H202        | 1 | 1 | HT308291C | Transistor 2SC 829C          |
| H203        | 1 | 1 | HT308291C | Transistor 2SC 829C          |
| H204        | 1 | 1 | HT308291C | Transistor 2SC 829C          |
| H205        | 1 | 1 | HT310471C | Transistor 2SC 1047C         |
| H206        | 1 | 1 | HT308291C | Transistor 2SC 829C          |
| H207        | 1 | 1 | HT3037210 | Transistor 2SC 372           |
| H208        | 1 | 1 | HT3037210 | Transistor 2SC 372           |
| H209        | 1 | 1 | HT3037310 | Transistor 2SC 373           |
| H211        | 1 | 1 | HD1000105 | Diode IN60                   |
| H212        | 1 | 1 | HD1000105 | Diode IN60                   |
| H213        | 1 | 1 | HD2001105 | Diode IS 1555                |
| H214        | 1 | 1 | HD2001105 | Diode IS 1555                |
| H215        | 1 | 1 | HD1000302 | Diode 20A 90M                |
| H216        | 1 | 1 | HD1000302 | Diode 20A 90M                |
| H217        | 1 | 1 | HD1000105 | Diode IN 60                  |
| H218        | 1 | 1 | HD1000105 | Diode IN 60                  |
| F201        | 1 | 1 | FF1107004 | Ceramic Filters CFS 10.7 MHz |
| F202        | 1 | 1 | FF1107004 | Ceramic Filters CFS 10.7 MHz |
| L201        | 1 | 1 | LI1018802 | IFT FM DET                   |

| REF. DESIG.       | U  | E  | PART NO.  | DESCRIPTION                                     |
|-------------------|----|----|-----------|---|
| L202              | 1  | 1  | LI1015602 | IFT FM IFT                                      |
| L203              | 1  | 1  | LC1154004 | Choke Coil 150 $\mu$ H                          |
| J201<br>~<br>J211 | 11 | 11 | YP1000113 | Plug  |
| 1626              | 1  | 1  | 62030039W | Lug   |
| P300              | 1  | 1  | YD2915002 | <b>P300 MPX BOARD</b><br>P W Board,FM MPX Board |
|                   | 1  |    | ZZ2915002 | P W Board Assembly                              |
|                   |    | 1  | ZZ2915802 | P W Board Assembly                              |
| R301              | 1  | 1  | RT0522114 | Resistor 220 $\Omega$ $\pm$ 5% 1/4W             |
| R302              | 1  | 1  | RT0556314 | Resistor 56K $\Omega$ $\pm$ 5% 1/4W             |
| R303              | 1  | 1  | RA0103025 | Trimming Res. 10K $\Omega$                      |
| R304              | 1  | 1  | RA0502020 | Trimming Res. 5K $\Omega$                       |
| R305              | 1  | 1  | RT0516314 | Resistor 16K $\Omega$ $\pm$ 5% 1/4W             |
| R306              | 1  | 1  | RT0510214 | Resistor 1K $\Omega$ $\pm$ 5% 1/4W              |
| R307              | 1  | 1  | RT0522414 | Resistor 220K $\Omega$ $\pm$ 5% 1/4W            |
| R308              | 1  | 1  | RT0510214 | Resistor 1K $\Omega$ $\pm$ 5% 1/4W              |
| R309              | 1  | 1  | RT0539214 | Resistor 3.9K $\Omega$ $\pm$ 5% 1/4W            |
| R310              | 1  | 1  | RT0539214 | Resistor 3.9 K $\Omega$ $\pm$ 5% 1/4W           |
| R311              | 1  | 1  | RT0510014 | Resistor 10 $\Omega$ $\pm$ 5% 1/4W              |
| R312              | 1  | 1  | RT0510214 | Resistor 1K $\Omega$ $\pm$ 5% 1/4W              |
| R313              | 1  | 1  | RT0522414 | Resistor 220K $\Omega$ $\pm$ 5% 1/4W            |
| R314              | 1  | 1  | RT0530314 | Resistor 30K $\Omega$ $\pm$ 5% 1/4W             |
| R315              | 1  | 1  | RT0530314 | Resistor 30K $\Omega$ $\pm$ 5% 1/4W             |
| R316              | 1  | 1  | RT0515514 | Resistor 1.5M $\Omega$ $\pm$ 5% 1/4W            |
| R317              | 1  | 1  | RT0515514 | Resistor 1.5M $\Omega$ $\pm$ 5% 1/4W            |
| R318              | 1  | 1  | RT0510414 | Resistor 100K $\Omega$ $\pm$ 5% 1/4W            |
| R319              | 1  | 1  | RT0510414 | Resistor 100K $\Omega$ $\pm$ 5% 1/4W            |
| R320              | 1  | 1  | RT0522314 | Resistor 22K $\Omega$ $\pm$ 5% 1/4W             |
| R321              | 1  | 1  | RT0522314 | Resistor 22K $\Omega$ $\pm$ 5% 1/4W             |
| R322              | 1  | 1  | RT0568114 | Resistor 680 $\Omega$ $\pm$ 5% 1/4W             |
| R323              | 1  | 1  | RT0568114 | Resistor 680 $\Omega$ $\pm$ 5% 1/4W             |
| R324              | 1  | 1  | RT0510114 | Resistor 100 $\Omega$ $\pm$ 5% 1/4W             |
| R325              | 1  | 1  | RT0510114 | Resistor 100 $\Omega$ $\pm$ 5% 1/4W             |
| R326              | 1  | 1  | RT0582214 | Resistor 8.2K $\Omega$ $\pm$ 5% 1/4W            |
| R327              | 1  | 1  | RT0582214 | Resistor 8.2K $\Omega$ $\pm$ 5% 1/4W            |
| R328              | 1  | 1  | RT0556114 | Resistor 560 $\Omega$ $\pm$ 5% 1/4W             |
| R329              | 1  | 1  | RT0556114 | Resistor 560 $\Omega$ $\pm$ 5% 1/4W             |
| R330              | 1  | 1  | RT0522414 | Resistor 220K $\Omega$ $\pm$ 5% 1/4W            |
| R331              | 1  | 1  | RT0522414 | Resistor 220K $\Omega$ $\pm$ 5% 1/4W            |
| R332              | 1  | 1  | RT0515214 | Resistor 1.5K $\Omega$ $\pm$ 5% 1/4W            |
| R333              | 1  | 1  | RT0522414 | Resistor 220K $\Omega$ $\pm$ 5% 1/4W            |
| R334              | 1  | 1  | RT0522414 | Resistor 220K $\Omega$ $\pm$ 5% 1/4W            |
| R335              | 1  | 1  | RT0522414 | Resistor 220K $\Omega$ $\pm$ 5% 1/4W            |
| R336              | 1  | 1  | RT0527214 | Resistor 2.7K $\Omega$ $\pm$ 5% 1/4W            |
| C319              |    | 1  | DF1522205 | Film Cap 2200PF $\pm$ 5%                        |
| C320              |    | 1  | DF1522205 | Film Cap 2200PF $\pm$ 5%                        |
| C301              | 1  | 1  | EA1060169 | Electroly Cap 10 $\mu$ F 16V                    |
| C302              | 1  | 1  | DF1747301 | Film Cap 0.047 $\mu$ F $\pm$ 20%                |
| C303              | 1  | 1  | DF5547101 | Film Cap 470PF                                  |
| C304              | 1  | 1  | DF1622205 | Film Cap 2200PF $\pm$ 10%                       |
| C305              | 1  | 1  | EQ4740501 | Electroly Cap 0.47 $\mu$ F $\pm$ 20% 35V        |
| C306              | 1  | 1  | EQ2240501 | Electroly Cap 0.22 $\mu$ F $\pm$ 20% 35V        |
| C307              | 1  | 1  | EQ2240501 | Electroly Cap 0.22 $\mu$ F $\pm$ 20% 35V        |
| C308              | 1  | 1  | EA2270169 | Electroly Cap 220 $\mu$ F 16V                   |
| C309              | 1  | 1  | DF1615205 | Film Cap 1500PF $\pm$ 10%                       |
| C310              | 1  | 1  | DF1615205 | Film Cap 1500PF $\pm$ 10%                       |
| C311              | 1  | 1  | DD1536101 | Ceramic Cap 360PF $\pm$ 5%                      |
| C312              | 1  | 1  | DD1536101 | Ceramic Cap 360PF $\pm$ 5%                      |

| REF. DESIG.       | U  | E  | PART NO.  | DESCRIPTION   |
|-------------------|----|----|-----------|---|
| C313              | 1  | 1  | DF1633205 | Film Cap 3300PF $\pm$ 10%                             |
| C314              | 1  | 1  | DF1633205 | Film Cap 3300PF $\pm$ 10%                             |
| C315              | 1  | 1  | DF1515205 | Film Cap 1500PF $\pm$ 5%                              |
| C316              | 1  | 1  | DF1515205 | Film Cap 1500PF $\pm$ 5%                              |
| C317              | 1  | 1  | DF1622205 | Film Cap 2200PF $\pm$ 10%                             |
| C318              | 1  | 1  | DF1622205 | Film Cap 2200PF $\pm$ 10%                             |
| C319              | 1  |    | DF1533205 | Film Cap 3300PF $\pm$ 5%                              |
| C320              | 1  |    | DF1533205 | Film Cap 3300PF $\pm$ 5%                              |
| C321              | 1  | 1  | EV2240351 | Electroly Cap 0.22 $\mu$ F $\pm$ 20% 35V              |
| C322              | 1  | 1  | EV2240351 | Electroly Cap 0.22 $\mu$ F $\pm$ 20% 35V              |
| C323              | 1  | 1  | EV1050352 | Electroly Cap 1 $\mu$ F $\pm$ 20% 35V                 |
| C324              | 1  | 1  | EV1050352 | Electroly Cap 1 $\mu$ F $\pm$ 20% 35V                 |
| C325              | 1  | 1  | EA3370359 | Electroly Cap 330 $\mu$ F 35V                         |
| H301              | 1  | 1  | HC1000401 | IC HA1156   |
| H302              | 1  | 1  | HT3037210 | Transistor 2SC 372                                    |
| H303              | 1  | 1  | HT3037210 | Transistor 2SC 372                                    |
| H304              | 1  | 1  | HT313272A | Transistor 2SC 1327 S or T                            |
| H305              | 1  | 1  | HT313272A | Transistor 2SC 1327 S or T                            |
| H306              | 1  | 1  | HT104942A | Transistor 2SA 494 G or Y                             |
| H307              | 1  | 1  | HT104942A | Transistor 2SA 494 G or Y                             |
| L301              | 1  | 1  | LS1001304 | MPX Coil 56mH   |
| L302              | 1  | 1  | LS1001304 | MPX Coil 56mH   |
| L303              | 1  | 1  | LS1001305 | MPX Coil 43mH   |
| L304              | 1  | 1  | LS1001305 | MPX Coil 43mH   |
| J301<br>~<br>J311 | 11 | 11 | YP1000113 | Plug  |
| P400              | 1  | 1  | YD2915003 | <b>P400 EQL AMP. BOARD</b><br>P W Board,EQL AMP Board |
|                   | 1  | 1  | ZZ2915003 | P W Board Assembly                                    |
| R401              | 1  | 1  | RT0582314 | Resistor 82K $\Omega$ $\pm$ 5% 1/4W                   |
| R402              | 1  | 1  | RT0582314 | Resistor 82K $\Omega$ $\pm$ 5% 1/4W                   |
| R403              | 1  | 1  | RT0547114 | Resistor 470 $\Omega$ $\pm$ 5% 1/4W                   |
| R404              | 1  | 1  | RT0547114 | Resistor 470 $\Omega$ $\pm$ 5% 1/4W                   |
| R405              | 1  | 1  | RN0539414 | Resistor 390K $\Omega$ $\pm$ 5% 1/4W                  |
| R406              | 1  | 1  | RN0539414 | Resistor 390K $\Omega$ $\pm$ 5% 1/4W                  |
| R407              | 1  | 1  | RT0522314 | Resistor 22K $\Omega$ $\pm$ 5% 1/4W                   |
| R408              | 1  | 1  | RT0522314 | Resistor 22K $\Omega$ $\pm$ 5% 1/4W                   |
| R409              | 1  | 1  | RT0582114 | Resistor 820 $\Omega$ $\pm$ 5% 1/4W                   |
| R410              | 1  | 1  | RT0582114 | Resistor 820 $\Omega$ $\pm$ 5% 1/4W                   |
| R411              | 1  | 1  | RN0510414 | Resistor 100K $\Omega$ $\pm$ 5% 1/4W                  |
| R412              | 1  | 1  | RN0510414 | Resistor 100K $\Omega$ $\pm$ 5% 1/4W                  |
| R413              | 1  | 1  | RT0533314 | Resistor 33K $\Omega$ $\pm$ 5% 1/4W                   |
| R414              | 1  | 1  | RT0533314 | Resistor 33K $\Omega$ $\pm$ 5% 1/4W                   |
| R415              | 1  | 1  | RT0556214 | Resistor 5.6K $\Omega$ $\pm$ 5% 1/4W                  |
| R416              | 1  | 1  | RT0556214 | Resistor 5.6K $\Omega$ $\pm$ 5% 1/4W                  |
| R417              | 1  | 1  | RT0518214 | Resistor 1.8K $\Omega$ $\pm$ 5% 1/4W                  |
| R418              | 1  | 1  | RT0518214 | Resistor 1.8K $\Omega$ $\pm$ 5% 1/4W                  |
| R419              | 1  | 1  | RT0547214 | Resistor 4.7K $\Omega$ $\pm$ 5% 1/4W                  |
| R420              | 1  | 1  | RT0547214 | Resistor 4.7K $\Omega$ $\pm$ 5% 1/4W                  |
| R421              | 1  | 1  | RT0522414 | Resistor 220K $\Omega$ $\pm$ 5% 1/4W                  |
| R422              | 1  | 1  | RT0522414 | Resistor 220K $\Omega$ $\pm$ 5% 1/4W                  |
| R423              | 1  | 1  | RT0556314 | Resistor 56K $\Omega$ $\pm$ 5% 1/4W                   |
| R424              | 1  | 1  | RT0556314 | Resistor 56K $\Omega$ $\pm$ 5% 1/4W                   |
| R425              | 1  | 1  | RT0533214 | Resistor 3.3K $\Omega$ $\pm$ 5% 1/4W                  |
| R426              | 1  | 1  | RT0533214 | Resistor 3.3K $\Omega$ $\pm$ 5% 1/4W                  |
| R427              | 1  | 1  | RN0582414 | Resistor 820K $\Omega$ $\pm$ 5% 1/4W                  |
| R428              | 1  | 1  | RN0582414 | Resistor 820K $\Omega$ $\pm$ 5% 1/4W                  |
| R429              | 1  | 1  | RT0510114 | Resistor 100 $\Omega$ $\pm$ 5% 1/4W                   |

| REF. DESIG.            | U | E | PART NO.  | DESCRIPTION  |
|------------------------|---|---|-----------|--|
| C401                   | 1 | 1 | EV2250256 | Electroly Cap 2.2μF 25V±20%                              |
| C402                   | 1 | 1 | EV2250256 | Electroly Cap 2.2μF 25V±20%                              |
| C403                   | 1 | 1 | DD1520101 | Ceramic Cap 200PF 50V±10%                                |
| C404                   | 1 | 1 | DD1520101 | Ceramic Cap 200PF 50V±10%                                |
| C405                   | 1 | 1 | DD1610101 | Ceramic Cap 100PF 50V±10%                                |
| C406                   | 1 | 1 | DD1610101 | Ceramic Cap 100PF 50V±10%                                |
| C407                   | 1 | 1 | EE2260251 | Electroly Cap 22μF 25V±20%                               |
| C408                   | 1 | 1 | EE2260251 | Electroly Cap 22μF 25V±20%                               |
| C409                   | 1 | 1 | DD1615001 | Ceramic Cap 15PF 50V±10%                                 |
| C410                   | 1 | 1 | DD1615001 | Ceramic Cap 15PF 50V±10%                                 |
| C411                   | 1 | 1 | EA4760169 | Electroly Cap 47μF 16V <sup>+100%</sup> <sub>-10%</sub>  |
| C412                   | 1 | 1 | EA4760169 | Electroly Cap 47μF 16V <sup>+100%</sup> <sub>-10%</sub>  |
| C413                   | 1 | 1 | DD1610101 | Ceramic Cap 100PF 50V±10%                                |
| C414                   | 1 | 1 | DD1610101 | Ceramic Cap 100PF 50V±10%                                |
| C415                   | 1 | 1 | DF1747401 | Film Cap 0.47μF 50V±20%                                  |
| C416                   | 1 | 1 | DF1747401 | Film Cap 0.47μF 50V±20%                                  |
| C417                   | 1 | 1 | DF5412201 | Film Cap 1200PF 50V±2%                                   |
| C418                   | 1 | 1 | DF5412201 | Film Cap 1200PF 50V±2%                                   |
| C419                   | 1 | 1 | DF5547201 | Film Cap 4700PF 50V±5%                                   |
| C420                   | 1 | 1 | DF5547201 | Film Cap 4700PF 50V±5%                                   |
| C421                   | 1 | 1 | EA1070509 | Electroly Cap 100μF 50V <sup>+100%</sup> <sub>-10%</sub> |
| C423                   | 1 | 1 | DD1650001 | Ceramic Cap 50PF 50V±10%                                 |
| C424                   | 1 | 1 | DD1650001 | Ceramic Cap 50PF 50V±10%                                 |
| H401                   | 1 | 1 | HT313281T | Transistor 2SC 1328 T                                    |
| H402                   | 1 | 1 | HT313281T | Transistor 2SC 1328 T                                    |
| H403                   | 1 | 1 | HT313282A | Transistor 2SC 1328 S.T                                  |
| H404                   | 1 | 1 | HT313282A | Transistor 2SC 1328 S.T                                  |
| H405                   | 1 | 1 | HT313281T | Transistor 2SC 1328 T                                    |
| H406                   | 1 | 1 | HT313281T | Transistor 2SC 1328 T                                    |
| J401                   |   |   |           |  |
| ~                      | 7 | 7 | YP1000113 | Plug   |
| J407                   |   |   |           |  |
| 1702                   | 2 | 2 | 51440314A | P H M Screw  |
| 1703                   | 2 | 2 | 54020301A | Flat Washer  |
| 1704                   | 2 | 2 | 53110303A | Hexagon Nut  |
| 1709                   | 4 | 4 | 51100306S | B H M Screw B 3 x 6                                      |
| 1720                   | 1 | 1 | 121000501 | Clamper  |
| H005                   | 1 | 1 | HV0000508 | Diode STU-3H   |
| H006                   | 1 | 1 | HV0000508 | Diode STU-3H   |
| 1714                   | 2 | 2 | 281810104 | Support  |
| 1715                   | 2 | 2 | 51100306S | B H M Screw B 3 x 6                                      |
| <b>P700 MAIN BOARD</b> |   |   |           |  |
| P700                   | 1 | 1 | YD2912007 | P W Board Main Amp Board                                 |
|                        | 1 | 1 | ZZ2915107 | P W Board Assembly                                       |
| R701                   | 1 | 1 | RT0520214 | Resistor 2.0KΩ ±5% ¼W                                    |
| R702                   | 1 | 1 | RT0520214 | Resistor 2.0KΩ ±5% ¼W                                    |
| R703                   | 1 | 1 | RT0533314 | Resistor 33KΩ ±5% ¼W                                     |
| R704                   | 1 | 1 | RT0533314 | Resistor 33KΩ ±5% ¼W                                     |
| R705                   | 1 | 1 | RT0568214 | Resistor 6.8KΩ ±5% ¼W                                    |
| R706                   | 1 | 1 | RT0568214 | Resistor 6.8KΩ ±5% ¼W                                    |
| R707                   | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W                                      |
| R708                   | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W                                      |
| R709                   | 1 | 1 | RT0568314 | Resistor 68KΩ ±5% ¼W                                     |
| R710                   | 1 | 1 | RT0568314 | Resistor 68KΩ ±5% ¼W                                     |
| R711                   | 1 | 1 | RA0502017 | Trimming Res. 5KΩ (B) ±5% ¼W                             |
| R712                   | 1 | 1 | RA0502017 | Trimming Res. 5KΩ (B) ±5% ¼W                             |
| R713                   | 1 | 1 | RT0547214 | Resistor 4.7KΩ ±5% ¼W                                    |
| R714                   | 1 | 1 | RT0547214 | Resistor 4.7KΩ ±5% ¼W                                    |
| R715                   | 1 | 1 | RT0522414 | Resistor 220KΩ ±5% ¼W                                    |
| R716                   | 1 | 1 | RT0522414 | Resistor 220KΩ ±5% ¼W                                    |

| REF. DESIG. | U | E | PART NO.  | DESCRIPTION                 |
|-------------|---|---|-----------|-----------------------------|
| R717        | 1 | 1 | RT0527214 | Resistor 2.7KΩ ±5% ¼W       |
| R718        | 1 | 1 | RT0527214 | Resistor 2.7KΩ ±5% ¼W       |
| R719        | 1 | 1 | RT0533314 | Resistor 33KΩ ±5% ¼W        |
| R720        | 1 | 1 | RT0533314 | Resistor 33KΩ ±5% ¼W        |
| R721        | 1 | 1 | GF0533014 | Resistor 33Ω ±5% ¼W         |
| R722        | 1 | 1 | GF0533014 | Resistor 33Ω ±5% ¼W         |
| R723        | 1 | 1 | GF0522114 | Resistor 220Ω ±5% ¼W        |
| R724        | 1 | 1 | GF0522114 | Resistor 220Ω ±5% ¼W        |
| R725        | 1 | 1 | RT0524214 | Resistor 2.4KΩ ±5% ¼W       |
| R726        | 1 | 1 | RT0524214 | Resistor 2.4KΩ ±5% ¼W       |
| R727        | 1 | 1 | RT0547214 | Resistor 4.7KΩ ±5% ¼W       |
| R728        | 1 | 1 | RT0547214 | Resistor 4.7KΩ ±5% ¼W       |
| R729        | 1 | 1 | RT0582014 | Resistor 82Ω ±5% ¼W         |
| R730        | 1 | 1 | RT0582014 | Resistor 82Ω ±5% ¼W         |
| R731        | 1 | 1 | HH0000303 | Thermister SDT-04           |
| R732        | 1 | 1 | HH0000303 | Thermister SDT-04           |
| R733        | 1 | 1 | RA0301002 | Trimming Res. 300Ω (B)      |
| R734        | 1 | 1 | RA0301002 | Trimming Res. 300Ω (B)      |
| R735        | 1 | 1 | RT0568114 | Resistor 680Ω ±5% ¼W        |
| R736        | 1 | 1 | RT0568114 | Resistor 680Ω ±5% ¼W        |
| R737        | 1 | 1 | GF0510114 | Resistor 100Ω ±5% ¼W        |
| R738        | 1 | 1 | GF0510114 | Resistor 100Ω ±5% ¼W        |
| R739        | 1 | 1 | GF0513114 | Resistor 130Ω ±5% ¼W        |
| R740        | 1 | 1 | GF0513114 | Resistor 130Ω ±5% ¼W        |
| R741        | 1 | 1 | GF0522214 | Resistor 2.2KΩ ±5% ¼W       |
| R742        | 1 | 1 | GF0522214 | Resistor 2.2KΩ ±5% ¼W       |
| R743        | 1 | 1 | GF0582114 | Resistor 820Ω ±5% ¼W        |
| R744        | 1 | 1 | GF0582114 | Resistor 820Ω ±5% ¼W        |
| R745        | 1 | 1 | GF0522214 | Resistor 2.2KΩ ±5% ¼W       |
| R746        | 1 | 1 | GF0522214 | Resistor 2.2KΩ ±5% ¼W       |
| R747        | 1 | 1 | GF0510114 | Resistor 100Ω ±5% ¼W        |
| R748        | 1 | 1 | GF0510114 | Resistor 100Ω ±5% ¼W        |
| R749        | 1 | 1 | GF0510114 | Resistor 100Ω ±5% ¼W        |
| R750        | 1 | 1 | GF0510114 | Resistor 100Ω ±5% ¼W        |
| R751        | 1 | 1 | GF0510014 | Resistor 10Ω ±5% ¼W         |
| R752        | 1 | 1 | GF0510014 | Resistor 10Ω ±5% ¼W         |
| R753        | 1 | 1 | GF0522112 | Resistor 220Ω ±5% ½W        |
| R754        | 1 | 1 | GF0522112 | Resistor 220Ω ±5% ½W        |
| R755        | 1 | 1 | GF0522112 | Resistor 220Ω ±5% ½W        |
| R756        | 1 | 1 | GF0522112 | Resistor 220Ω ±5% ½W        |
| R757        | 1 | 1 | GF0510014 | Resistor 10Ω ±5% ¼W         |
| R758        | 1 | 1 | GF0510014 | Resistor 10Ω ±5% ¼W         |
| R759        | 1 | 1 | GW1047202 | Resistor 0.47Ω ±10% 2W      |
| R760        | 1 | 1 | GW1047202 | Resistor 0.47Ω ±10% 2W      |
| R761        | 1 | 1 | GW1047202 | Resistor 0.47Ω ±10% 2W      |
| R762        | 1 | 1 | GW1047202 | Resistor 0.47Ω ±10% 2W      |
| R763        | 1 | 1 | GJ0510002 | Resistor 10Ω ±5% 2W         |
| R764        | 1 | 1 | GJ0510002 | Resistor 10Ω ±5% 2W         |
| R765        | 1 | 1 | GF0522014 | Resistor 22Ω ±5% ¼W         |
| R766        | 1 | 1 | GF0510212 | Resistor 1KΩ ±5% ½W         |
| R767        | 1 | 1 | RC1056212 | Resistor 5.6KΩ ±10% ½W      |
| R768        | 1 | 1 | RC1056212 | Resistor 5.6KΩ ±10% ½W      |
| R769        | 1 | 1 | RT0518314 | Resistor 18KΩ ±5% ¼W        |
| R770        | 1 | 1 | RT0512314 | Resistor 12KΩ ±5% ¼W        |
| R771        | 1 | 1 | RT0568214 | Resistor 6.8KΩ ±5% ¼W       |
| R772        | 1 | 1 | GF0515112 | Resistor 150Ω ±5% ½W        |
| R773        | 1 | 1 | RT0518414 | Resistor 180KΩ ±5% ¼W       |
| R774        | 1 | 1 | RT0539314 | Resistor 39KΩ ±5% ¼W        |
| R775        | 1 | 1 | RC1002212 | Resistor 2.2Ω ±10% ½W       |
| R776        | 1 | 1 | RC1002212 | Resistor 2.2Ω ±10% ½W       |
| C701        | 1 | 1 | EE3350251 | Electroly Cap 3.3μF 25V±20% |
| C702        | 1 | 1 | EE3350251 | Electroly Cap 3.3μF 25V±20% |

| REF. DESIG. | U  | E  | PART NO.  | DESCRIPTION  |
|-------------|----|----|-----------|--|
| C703        | 1  | 1  | DD1620101 | Ceramic Cap 200PF 50V                                    |
| C704        | 1  | 1  | DD1620101 | Ceramic Cap 200PF 50V                                    |
| C705        | 1  | 1  | EE4760162 | Electroly Cap 47μF 16V±20%                               |
| C706        | 1  | 1  | EE4760162 | Electroly Cap 47μF 16V±20%                               |
| C707        | 1  | 1  | DD1003050 | Ceramic Cap 3PF 500V                                     |
| C708        | 1  | 1  | DD1003050 | Ceramic Cap 3PF 500V                                     |
| C709        | 1  | 1  | EA4760509 | Electroly Cap 47μF 500V <sup>+100%</sup> <sub>-10%</sub> |
| C710        | 1  | 1  | EA4760509 | Electroly Cap 47μF 500V <sup>+100%</sup> <sub>-10%</sub> |
| C715        | 1  | 1  | DK1610150 | Ceramic Cap 100PF  |
| C716        | 1  | 1  | DK1610150 | Ceramic Cap 100PF  |
| C717        | 1  | 1  | DF1710452 | Film Cap 0.1μF 200V                                      |
| C718        | 1  | 1  | DF1710452 | Film Cap 0.1μF 200V                                      |
| C719        | 1  | 1  | EA2270509 | Electroly Cap 220μF 50V <sup>+100%</sup> <sub>-10%</sub> |
| C720        | 1  | 1  | EA1060359 | Electroly Cap 10μF 35V <sup>+100%</sup> <sub>-10%</sub>  |
| C721        | 1  | 1  | EA4760169 | Electroly Cap 47μF 16V <sup>+100%</sup> <sub>-10%</sub>  |
| C722        | 1  | 1  | EA2270109 | Electroly Cap 220μF 10V <sup>+100%</sup> <sub>-10%</sub> |
| J701        |    |    |           |  |
| ~           |    |    |           |  |
| J727        | 27 | 27 | YP1000113 | Plug   |
| H701        | 1  | 1  | HT107631B | Transistor 2SA763  |
| H702        | 1  | 1  | HT107631B | Transistor 2SA763  |
| H703        | 1  | 1  | HT107631B | Transistor 2SA763  |
| H704        | 1  | 1  | HT107631B | Transistor 2SA763  |
| H705        | 1  | 1  | HV0000312 | Diode MV-13  |
| H706        | 1  | 1  | HV0000312 | Diode MV-13  |
| H707        | 1  | 1  | HT315092B | Transistor 2SC 1509 Q.R                                  |
| H708        | 1  | 1  | HT315092B | Transistor 2SC 1509 Q.R                                  |
| H709        | 1  | 1  | HT309451Q | Transistor 2SC 945 Q                                     |
| H710        | 1  | 1  | HT309451Q | Transistor 2SC 945 Q                                     |
| H711        | 1  | 1  | HT107331Q | Transistor 2SA 733 Q                                     |
| H712        | 1  | 1  | HT107331Q | Transistor 2SA 733 Q                                     |
| H713        | 1  | 1  | HD2000221 | Diode 1S2472 (GY)  |
| H714        | 1  | 1  | HD2000221 | Diode 1S2472 (GY)  |
| H715        | 1  | 1  | HD2000221 | Diode 1S2472 (GY)  |
| H716        | 1  | 1  | HD2000221 | Diode 1S2472 (GY)  |
| H717        | 1  | 1  | HD2000221 | Diode 1S2472 (GY)  |
| H718        | 1  | 1  | HD2000221 | Diode 1S2472 (GY)  |
| H719        | 1  | 1  | HD2000221 | Diode 1S2472 (GY)  |
| H720        | 1  | 1  | HD2000221 | Diode 1S2472 (GY)  |
| H721        | 1  | 1  | HT315091P | Transistor 2SC1509 (P.Q)                                 |
| H722        | 1  | 1  | HT315091P | Transistor 2SC1509 (P.Q)                                 |
| H723        | 1  | 1  | HT107771P | Transistor 2SA 777 (P.Q)                                 |
| H724        | 1  | 1  | HT107771P | Transistor 2SA 777 (P.Q)                                 |
| H725        | 1  | 1  | HD3003009 | Diode WZ-177   |
| H726        | 1  | 1  | HT309452A | Transistor 2SC945 Q.R                                    |
| H727        | 1  | 1  | HT309452A | Transistor 2SC945 Q.R                                    |
| H728        | 1  | 1  | HT313182C | Transistor 2SC1318 R.S                                   |
| H729        | 1  | 1  | HD2000321 | Diode 1S2471   |
| L701        | 1  | 1  | LC2272001 | Coil 2.7μH   |
| L702        | 1  | 1  | LC2272001 | Coil 2.7μH   |
| L703        | 1  | 1  | LY2024005 | Relay  |
| 1706        | 1  | 1  | 291526701 | Heat Sink  |
| 1707        | 2  | 2  | 291516007 | Bracket  |
| 1708        | 4  | 4  | 51380306P | R H Tap Screw  |
| 1711        | 8  | 8  | 51100312E | B H M Screw B 3 x 12                                     |
| 1713        | 8  | 8  | 54040302N | Spring Washer Power Tr.                                  |
| 1716        | 2  | 2  | 282016007 | Bracket  |
| 1717        | 8  | 8  | 51380306P | R H Tap Screw  |
| H001        | 1  | 1  | HT401881M | Transistor 2SD188M.L                                     |
| H002        | 1  | 1  | HT106271M | Transistor 2SA627M.L                                     |
| H003        | 1  | 1  | HT106271M | Transistor 2SA627M.L                                     |

| REF. DESIG. | U  | E  | PART NO.  | DESCRIPTION   |
|-------------|----|----|-----------|---|
| H004        | 1  | 1  | HT401881M | Transistor 2SD188M.L                                    |
| J009        | 1  | 1  | YJ0500019 | Socket TR   |
| J010        | 1  | 1  | YJ0500019 | Socket TR   |
| J011        | 1  | 1  | YJ0500019 | Socket TR   |
| J012        | 1  | 1  | YJ0500019 | Socket TR   |
| P800        | 1  | 1  | YD2915007 | P800 POWER BOARD  |
|             | 1  | 1  | ZZ2915007 | P.W.Board, Power Supply Board                           |
|             |    |    |           | P.W. Board Assembly                                     |
| R801        | 1  | 1  | GJ0522002 | Resistor 22Ω ±5% 2W                                     |
| R802        | 1  | 1  | GF0510014 | Resistor 10Ω ±5% ¼W                                     |
| R803        | 1  | 1  | RT0515214 | Resistor 1.5KΩ ±5% ¼W                                   |
| R804        | 1  | 1  | RT0515214 | Resistor 1.5KΩ ±5% ¼W                                   |
| R805        | 1  | 1  | GJ0533102 | Resistor 330Ω ±5% 2W                                    |
| R806        | 1  | 1  | RT0536314 | Resistor 36KΩ ±5% ¼W                                    |
| R807        | 1  | 1  | RT0527314 | Resistor 27KΩ ±5% ¼W                                    |
| R808        | 1  | 1  | RA0502013 | Trimming Res 5KΩ B                                      |
| C801        | 1  | 1  | DK1810351 | Ceramic Cap 0.01μF <sup>+100%</sup> <sub>-0%</sub> 500V |
| C802        | 1  | 1  | DK1810351 | Ceramic Cap 0.01μF <sup>+100%</sup> <sub>-0%</sub> 500V |
| C803        | 1  | 1  | EA4770631 | Electroly Cap 470μF 63V                                 |
| C804        | 1  | 1  | EA4770509 | Electroly Cap 470μF 50V                                 |
| C805        | 1  | 1  | EA1070509 | Electroly Cap 100μF 50V                                 |
| C806        | 1  | 1  | DF1747305 | Film Cap 0.047μF ±20% 50V                               |
| C807        | 1  | 1  | DK1840302 | Ceramic Cap 0.04μF <sup>+100%</sup> <sub>-0%</sub> 50V  |
| C808        | 1  | 1  | EA3350509 | Electroly Cap 3.3μF 50V                                 |
| C809        | 1  | 1  | EA4770169 | Electroly Cap 470μF 16V                                 |
| C810        | 1  | 1  | EA1080109 | Electroly Cap 1000μF 10V                                |
| H801        | 1  | 1  | HD2001508 | Diode SS-3R   |
| H802        | 1  | 1  | HD2001408 | Diode SS-3  |
| H803        | 1  | 1  | HD2001203 | Diode DS-131B   |
| H804        | 1  | 1  | HD2001103 | Diode DS-132B   |
| H805        | 1  | 1  | HT403302A | Transistor 2SD330 D or E                                |
| H806        | 1  | 1  | HT309452A | Transistor 2SC945 Q or R                                |
| H807        | 1  | 1  | HD3002109 | Diode BZ-140 14V  |
| H808        | 1  | 1  | HD2000413 | Diode S1B01-02  |
| J801        |    |    |           |   |
| ~           |    |    |           |   |
| J815        | 15 | 15 | YP1000113 | Plug  |
| J816        | 1  | 1  | YJ0800021 | Socket  |
| J817        | 1  | 1  | YJ0800021 | Socket  |
| J818        | 1  | 1  | YJ0800021 | Socket  |
| J819        | 1  | 1  | YJ0800021 | Socket  |
| 0403        | 1  |    | 291516021 | Bracket   |
| 0404        | 1  | 1  | 291516022 | Bracket   |
| 0406        | 1  | 1  | 291516024 | Bracket   |
| 0409        | 2  | 1  | 145525901 | Bush  |
| 0411        | 4  | 4  | 51100306S | B H M Screw B 3 x 6                                     |
| 0412        | 4  | 4  | 53110303E | Hexagon Nut   |
| 0414        | 2  | 2  | 51100306S | B H M Screw B 3 x 6                                     |
| 0415        | 2  | 2  | 53110303E | Hexagon Nut   |
| 0416        | 6  | 6  | 51100306S | B H M Screw B 3 x 6                                     |
| 0417        | 6  | 6  | 53110303E | Hexagon Nut   |
| 0419        | 1  | 1  | 54050400R | T L Washer OR Chassis Ground                            |
| 0421        | 4  | 4  | 51100308S | B H M Screw AC Outlet B 3 x 8                           |
| 0422        | 4  | 4  | 53110303E | Hexagon Nut AC Outlet                                   |
| 0424        | 1  |    | 284906702 | Cap   |
| 0426        | 1  |    | 282125901 | Bush  |
| 0427        | 2  |    | 53110303A | Hexagon Nut   |
| 0428        | 2  |    | 54050300R | T L Washer  |
| 0429        | 2  |    | 51060316A | P H M Screw P 3 x 16                                    |

| REF. DESIG. | U | E | PART NO.  | DESCRIPTION                   |
|-------------|---|---|-----------|-------------------------------|
| 0430        |   | 2 | 55060305S | T R Rivet                     |
| 0432        | 3 | 3 | 51100306S | B H M Screw B 3 x 6           |
| R003        | 1 |   | RC1022512 | Resistor 2.2MΩ ±10% ½W        |
| 1517        | 1 | 1 | 62030039W | Lug                           |
| J001        | 1 | 1 | YT0304009 | Terminal Ant                  |
| J004        | 1 | 1 | YT0101003 | Terminal Ground               |
| J013        | 1 | 1 | YT0304006 | Terminal SPK                  |
| J014        | 1 | 1 | YT0304006 | Terminal SPK                  |
| J016        | 1 |   | YJ0800012 | Socket Fuse Holder            |
| F001        | 1 |   | FS1020006 | Fuse 2A                       |
| F002        | 1 |   | FS2025091 | Fuse 2.5A                     |
| W001        | 1 |   | YC0240010 | AC Cord                       |
| 0423        | 4 | 4 | 54050300R | T. L Washer                   |
| J017        | 1 | 1 | YJ0400048 | Jack AC Outlet                |
| J018        | 1 | 1 | YJ0400048 | Jack AC Outlet                |
| J019        | 1 | 1 | YT0201009 | Terminal Quad Out             |
| 0505        | 1 | 1 | 281927103 | Holder                        |
| 0506        | 1 | 1 | 257816052 | Bracket K                     |
| 0511        | 2 | 2 | 51100310S | B H M Screw x 2 B 3 x 10      |
| 0512        | 2 | 2 | 54050300R | T L Washer OR x 2             |
| 0513        | 2 | 2 | 53110303E | Hexagon Nut x 2               |
| 0516        | 2 | 2 | 51100310S | B H M Screw x 2 B 3 x 10      |
| 0518        | 2 | 2 | 53110303E | Hexagon Nut x 2               |
| L001        | 1 | 1 | LF1120036 | Ant Coil                      |
| L002        | 1 | 1 | LC1332002 | Choke Coil                    |
| C001        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20% 50V   |
| 0420        | 1 | 1 | 62041760W | Lug Chassis Ground            |
| J005        | 1 | 1 | YT0204008 | Terminal 4P Pin-Jack          |
| C002        | 1 | 1 | DK1710301 | Ceramic Cap 0.01μF ±20% 50V   |
| 1621        | 1 | 1 | 62030039W | Lug                           |
| J006        | 1 | 1 | YT0208006 | Terminal 8P Pin-Jack          |
| 0603        | 1 | 1 | 291516050 | Bracket K                     |
| 0610        | 2 | 2 | 51100306A | B H M Screw x 2 B 3 x 6       |
| 0613        | 2 | 2 | 51100306A | B H M Screw x 2 B 3 x 6       |
| 0616        | 1 | 1 | 281816003 | Bracket                       |
| 0617        | 1 | 1 | 281816004 | Bracket                       |
| 0618        | 4 | 4 | 51100406A | B H M Screw x 4 B 4 x 6       |
| 0621        | 4 | 4 | 51100306A | B H M Screw x 4 B 3 x 6       |
| 0622        | 2 | 2 | 51100306A | B H M Screw x 2 B 3 x 6       |
| 0828        | 2 | 2 | 51100305A | B H M Screw x 2 B 3 x 5       |
| 0624        | 1 | 1 | 257710602 | Bearing                       |
| 0625        | 1 | 1 | 141511801 | Spacer                        |
| 0626        | 2 | 2 | 51040306A | F H M Screw x 2 F 3 x 6       |
| 0627        | 2 | 2 | 51470306A | B H M Screw x 2               |
| 0628        | 1 | 1 | 287105302 | Cover                         |
| 0623        | 1 | 1 | 291512002 | Insulator                     |
| 0631        | 1 | 1 | 281912005 | Insulator                     |
| 0632        | 1 | 1 | 285326901 | Protector                     |
| 0633        | 2 | 2 | 51570305B | P H Tapt Screw x 2 P 3 x 5 ST |
| 0702        | 2 | 2 | 51570306B | P H Tapt Screw P 3 x 6 ST     |
| 0703        | 2 | 2 | 54050300R | T L Washer OR                 |

| REF. DESIG. | U | E | PART NO.  | DESCRIPTION  |
|-------------|---|---|-----------|--|
| 0706        | 2 | 2 | 51042608A | F H M Screw F 2.6 x 8                              |
| 0711        | 2 | 2 | 51570305B | P H Tapt Screw P 3 x 5 ST                          |
| 0729        | 1 | 1 | 287105102 | Guide  |
| 0733        | 4 | 4 | 288612002 | Insulator  |
| 0609        | 1 | 1 | 291516006 | Bracket  |
| J015        | 1 | 1 | YJ0100098 | Jack Headphone                                     |
| 0611        | 1 | 1 | 291516005 | Bracket Power SW                                   |
| G001        | 1 |   | BF1040003 | Printed Comp                                       |
| C005        |   | 1 | DF1722380 | Film Cap 0.0022μF 1000V                            |
| 0612        | 2 | 2 | 51060306A | P H M Screw Power Sw. P 3 x 6                      |
| S002        | 1 | 1 | SP0201015 | Power Switch                                       |
| M001        | 1 | 1 | IM1104208 | Meter AM/FM  |
| 0629        | 1 | 1 | 288610701 | Sheet  |
| 0709        | 1 | 1 | 291516004 | Bracket  |
| 0710        | 1 | 1 | 291225901 | Bush   |
| M003        | 1 | 1 | IN1008009 | Lamp Stereo Ind.                                   |
| 0802        | 1 | 1 | 285427401 | Reflector  |
| 0803        | 1 | 1 | 285427101 | Holder   |
| 0805        | 1 | 1 | 51480306A | B H M Screw F                                      |
| 0806        | 1 | 1 | 51570305B | P H Tapt Screw P 3 x 5 ST                          |
| M004        | 1 | 1 | IN1008036 | Lamp Meter   |
| J008        | 1 | 1 | YJ0800019 | Socket Lamp Socket                                 |
| 0826        | 1 | 1 | 291510903 | Shield   |
| 0827        | 1 | 1 | 291512003 | Insulator  |
| 1002        | 1 | 1 | 287127101 | Holder   |
| 1003        | 2 | 2 | 51570305B | P H Tapt Screw P 3 x 5 ST                          |
| 1006        | 1 | 1 | 287100501 | Clamper  |
| 1007        | 2 | 2 | 51100306A | B H M Screw B 3 x 6                                |
| 0902        | 1 | 1 | 287127401 | Reflector  |
| 0903        | 2 | 2 | 51480306A | B H M Screw F                                      |
| PZ01        | 1 | 1 | YD2886016 | <b>PZ01 DIAL LAMP BOARD</b>                        |
|             | 1 | 1 | ZZ2915116 | P.W. Board, Dial Lamp Board<br>P.W. Board Assembly |
| MZ01        | 1 | 1 | IN1008036 | Lamp   |
| MZ02        | 1 | 1 | IN1008036 | Lamp   |
| MZ03        | 1 | 1 | IN1008036 | Lamp   |
| MZ04        | 1 | 1 | IN1008036 | Lamp   |
| MZ05        | 1 | 1 | IN1008036 | Lamp   |
| JZ01        | 1 | 1 | YJ0800017 | Socket   |
| JZ02        | 1 | 1 | YJ0800017 | Socket   |
| JZ03        | 1 | 1 | YJ0800017 | Socket   |
| JZ04        | 1 | 1 | YJ0800017 | Socket   |
| JZ05        | 1 | 1 | YJ0800017 | Socket   |
| JZ06        | 1 | 1 | YJ0800017 | Socket   |
| JZ07        | 1 | 1 | YJ0800017 | Socket   |
| JZ08        | 1 | 1 | YJ0800017 | Socket   |
| JZ09        | 1 | 1 | YJ0800017 | Socket   |
| JZ10        | 1 | 1 | YJ0800017 | Socket   |
| JZ11        |   |   |           |  |
| ~           | 4 | 4 | YP1000113 | Plug   |
| JZ14        |   |   |           |  |

| REF. DESIG.                | U | E | PART NO.  | DESCRIPTION                    |
|----------------------------|---|---|-----------|--------------------------------|
| 1103                       | 1 | 1 | 285310650 | Bearing K                      |
| 1108                       | 1 | 1 | 51640410D | Set Screw C P                  |
| 1109                       | 1 | 1 | 54040402N | Spring Washer                  |
| 1110                       | 1 | 1 | 53110403E | Hexagon Nut                    |
| <b>PE01 TONE AMP BOARD</b> |   |   |           |                                |
| PE01                       | 1 | 1 | YD2915004 | P.W.Board, Pre-Tone Amp. Board |
|                            | 1 | 1 | ZZ2915004 | P.W. Board Assembly            |
| RE01                       | 1 | 1 | RT0547414 | Resistor 470KΩ ±5% ¼W          |
| RE02                       | 1 | 1 | RT0547414 | Resistor 470KΩ ±5% ¼W          |
| RE03                       | 1 | 1 | RT0539114 | Resistor 390Ω ±5% ¼W           |
| RE04                       | 1 | 1 | RT0539114 | Resistor 390Ω ±5% ¼W           |
| RE05                       | 1 | 1 | RN0510514 | Resistor 1MΩ ±5% ¼W            |
| RE06                       | 1 | 1 | RN0510514 | Resistor 1MΩ ±5% ¼W            |
| RE07                       | 1 | 1 | RN0510414 | Resistor 100KΩ ±5% ¼W          |
| RE08                       | 1 | 1 | RT0510314 | Resistor 10KΩ ±5% ¼W           |
| RE09                       | 1 | 1 | RT0527314 | Resistor 27KΩ ±5% ¼W           |
| RE10                       | 1 | 1 | RT0527314 | Resistor 27KΩ ±5% ¼W           |
| RE11                       | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W            |
| RE12                       | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W            |
| RE13                       | 1 | 1 | RT0551214 | Resistor 5.1KΩ ±5% ¼W          |
| RE14                       | 1 | 1 | RT0551214 | Resistor 5.1KΩ ±5% ¼W          |
| RE15                       | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W            |
| RE16                       | 1 | 1 | RT0510214 | Resistor 1KΩ ±5% ¼W            |
| RE17                       | 1 | 1 | RT0547414 | Resistor 470KΩ ±5% ¼W          |
| RE18                       | 1 | 1 | RT0547414 | Resistor 470KΩ ±5% ¼W          |
| RE19                       | 1 | 1 | RT0556214 | Resistor 5.6KΩ ±5% ¼W          |
| RE20                       | 1 | 1 | RT0556214 | Resistor 5.6KΩ ±5% ¼W          |
| RE21                       | 1 | 1 | RT0512314 | Resistor 12KΩ ±5% ¼W           |
| RE22                       | 1 | 1 | RT0512314 | Resistor 12KΩ ±5% ¼W           |
| RE23                       | 1 | 1 | RT0515414 | Resistor 150KΩ ±5% ¼W          |
| RE24                       | 1 | 1 | RT0515414 | Resistor 150KΩ ±5% ¼W          |
| RE25                       | 1 | 1 | RT0556214 | Resistor 5.6KΩ ±5% ¼W          |
| RE26                       | 1 | 1 | RT0556214 | Resistor 5.6KΩ ±5% ¼W          |
| RE27                       | 1 | 1 | RT0556214 | Resistor 5.6KΩ ±5% ¼W          |
| RE28                       | 1 | 1 | RT0556214 | Resistor 5.6KΩ ±5% ¼W          |
| RE29                       | 1 | 1 | RT0527314 | Resistor 27KΩ ±5% ¼W           |
| RE30                       | 1 | 1 | RT0527314 | Resistor 27KΩ ±5% ¼W           |
| RE31                       | 1 | 1 | RT0512314 | Resistor 12KΩ ±5% ¼W           |
| RE32                       | 1 | 1 | RT0512314 | Resistor 12KΩ ±5% ¼W           |
| RE33                       | 1 | 1 | RT0515314 | Resistor 15KΩ ±5% ¼W           |
| RE34                       | 1 | 1 | RT0515314 | Resistor 15KΩ ±5% ¼W           |
| RE35                       | 1 | 1 | RT0547414 | Resistor 470KΩ ±5% ¼W          |
| RE36                       | 1 | 1 | RT0547414 | Resistor 470KΩ ±5% ¼W          |
| RE37                       | 1 | 1 | RT0527314 | Resistor 27KΩ ±5% ¼W           |
| RE38                       | 1 | 1 | RT0527314 | Resistor 27KΩ ±5% ¼W           |
| RE39                       | 1 | 1 | RT0522514 | Resistor 2.2MΩ ±5% ¼W          |
| RE40                       | 1 | 1 | RT0522514 | Resistor 2.2MΩ ±5% ¼W          |
| RE41                       | 1 | 1 | RT0568314 | Resistor 68KΩ ±5% ¼W           |
| RE42                       | 1 | 1 | RT0568314 | Resistor 68KΩ ±5% ¼W           |
| RE43                       | 1 | 1 | RT0547314 | Resistor 47KΩ ±5% ¼W           |
| RE44                       | 1 | 1 | RT0547314 | Resistor 47KΩ ±5% ¼W           |
| RE45                       | 1 | 1 | RT0510314 | Resistor 10KΩ ±5% ¼W           |
| RE46                       | 1 | 1 | RT0510314 | Resistor 10KΩ ±5% ¼W           |
| RE47                       | 1 | 1 | RT0522114 | Resistor 220Ω ±5% ¼W           |
| RE48                       | 1 | 1 | RT0522114 | Resistor 220Ω ±5% ¼W           |
| RE49                       | 1 | 1 | RT0547414 | Resistor 470KΩ ±5% ¼W          |
| RE50                       | 1 | 1 | RT0547414 | Resistor 470KΩ ±5% ¼W          |
| RE51                       | 1 | 1 | RM0104005 | Variable Resist 100KΩ (B) High |
| RE52                       | 1 | 1 | RM0104005 | Variable Resist 100KΩ Mid      |
| RE53                       | 1 | 1 | RM0104005 | Variable Resist 100KΩ Low      |
| RE54                       | 1 | 1 | RT0582114 | Resistor 820Ω ±5% ¼W           |
| CE01                       | 1 | 1 | DF1722405 | Film Cap 0.22μF 50V±20%        |

| REF. DESIG.                   | U  | E  | PART NO.  | DESCRIPTION                  |
|-------------------------------|----|----|-----------|------------------------------|
| CE02                          | 1  | 1  | DF1722405 | Film Cap 0.22μF 50V±20%      |
| CE03                          | 1  | 1  | EA1060359 | Electroly Cap 10μF 35V ±10%  |
| CE04                          | 1  | 1  | EA1060359 | Electroly Cap 10μF 35V ±10%  |
| CE05                          | 1  | 1  | EE4750251 | Electroly Cap 4.7μF 25V±20%  |
| CE06                          | 1  | 1  | EE4750251 | Electroly Cap 4.7μF 25V±20%  |
| CE07                          | 1  | 1  | DD1610101 | Ceramic Cap 100PF 50V±10%    |
| CE08                          | 1  | 1  | DD1610101 | Ceramic Cap 100PF 50V±10%    |
| CE09                          | 1  | 1  | DF1622205 | Film Cap 2200PF 50V±10%      |
| CE10                          | 1  | 1  | DF1622205 | Film Cap 2200PF 50V±10%      |
| CE11                          | 1  | 1  | DF1668205 | Film Cap 6800PF 50V±10%      |
| CE12                          | 1  | 1  | DF1668205 | Film Cap 6800PF 50V±10%      |
| CE13                          | 1  | 1  | DF1622305 | Film Cap 0.022μF 50V±10%     |
| CE14                          | 1  | 1  | DF1622305 | Film Cap 0.022μF 50V±10%     |
| CE15                          | 1  | 1  | DF1622305 | Film Cap 0.022μF 50V±10%     |
| CE16                          | 1  | 1  | DF1622305 | Film Cap 0.022μF 50V±10%     |
| CE17                          | 1  | 1  | DF1610305 | Film Cap 0.01μF 50V±10%      |
| CE18                          | 1  | 1  | DF1610305 | Film Cap 0.01μF 50V±10%      |
| CE19                          | 1  | 1  | EE1050501 | Electroly Cap 1μF 50V±20%    |
| CE20                          | 1  | 1  | EE1050501 | Electroly Cap 1μF 50V±20%    |
| CE21                          | 1  | 1  | EE3350501 | Electroly Cap 33μF 50V±20%   |
| CE22                          | 1  | 1  | EE3350501 | Electroly Cap 33μF 50V±20%   |
| CE23                          | 1  | 1  | EQ1050501 | Electroly Cap 1μF 50V±30%    |
| CE24                          | 1  | 1  | EQ1050501 | Electroly Cap 1μF 50V±30%    |
| CE25                          | 1  | 1  | EA2270359 | Electroly Cap 220μF 35V ±10% |
| HE01                          | 1  | 1  | HT313283A | Transistor 2SC1328 S.T.U.    |
| HE02                          | 1  | 1  | HT313283A | Transistor 2SC1328 S.T.U.    |
| HE03                          | 1  | 1  | HT107632A | Transistor 2SA763 4.5        |
| HE04                          | 1  | 1  | HT107632A | Transistor 2SA763 4.5        |
| HE05                          | 1  | 1  | HT313283A | Transistor 2SC1328 S.T.U     |
| HE06                          | 1  | 1  | HT313283A | Transistor 2SC1328 S.T.U     |
| HE07                          | 1  | 1  | HT107632A | Transistor 2SA763 4.5        |
| HE08                          | 1  | 1  | HT107632A | Transistor 2SA763 4.5        |
| JE01                          |    |    |           |                              |
| ~                             | 8  | 8  | YP1000113 | Plug                         |
| JE08                          |    |    |           |                              |
| <b>PH02 FILTER BOARD</b>      |    |    |           |                              |
| PH01                          | 1  | 1  | YD2915005 | P.W. Board, Filter Board     |
|                               | 1  | 1  | ZZ2915005 | P.W. Assembly                |
| RH01                          | 1  | 1  | RT0510214 | Resistor 1KΩ ±5% ¼W          |
| RH02                          | 1  | 1  | RT0510214 | Resistor 1KΩ ±5% ¼W          |
| RH04                          | 1  | 1  | RT0510514 | Resistor 1MΩ ±5% ¼W          |
| RH05                          | 1  | 1  | RT0510514 | Resistor 1MΩ ±5% ¼W          |
| RH06                          | 1  | 1  | RT0547214 | Resistor 4.7KΩ ±5% ¼W        |
| RH07                          | 1  | 1  | RT0547214 | Resistor 4.7KΩ ±5% ¼W        |
| RH08                          | 1  | 1  | RT0522514 | Resistor 2.2MΩ ±5% ¼W        |
| RH09                          | 1  | 1  | RT0522514 | Resistor 2.2MΩ ±5% ¼W        |
| CH01                          | 1  | 1  | DF1633305 | Film Cap 0.033μF 50V±10%     |
| CH02                          | 1  | 1  | DF1633305 | Film Cap 0.033μF 50V±10%     |
| CH03                          | 1  | 1  | DF1668205 | Film Cap 0.0068μF 50V±10%    |
| CH04                          | 1  | 1  | DF1668205 | Film Cap 0.0068μF 50V±10%    |
| SH01                          | 1  | 1  | SP0404013 | Push Switch                  |
| JH01                          |    |    |           |                              |
| ~                             | 17 | 17 | YP1000113 | Plug                         |
| JH17                          |    |    |           |                              |
| <b>PT01 MAIN REMOTE BOARD</b> |    |    |           |                              |
| PT01                          | 1  | 1  | YD2915006 | P.W.Board,Selector-SW Board  |
|                               | 1  | 1  | ZZ2915006 | P.W. Board Assembly          |
| RT01                          | 1  | 1  | RT0568314 | Resistor 68KΩ ±5% ¼W         |

| REF. DESIG. | U  | E  | PART NO.  | DESCRIPTION                   |
|-------------|----|----|-----------|-------------------------------|
| RT02        | 1  | 1  | RT0568314 | Resistor 68KΩ ±5% ¼W          |
| RT03        | 1  | 1  | RT0515314 | Resistor 15KΩ ±5% ¼W          |
| RT04        | 1  | 1  | RT0515314 | Resistor 15KΩ ±5% ¼W          |
| RT05        | 1  | 1  | GJ0533102 | Resistor 330Ω ±5% 2W          |
| RT06        | 1  | 1  | GJ0533102 | Resistor 330Ω ±5% 2W          |
| RT07        | 1  | 1  | GU0515112 | Resistor 150Ω ±5% ½W          |
| RT08        | 1  | 1  | GU0515112 | Resistor 150Ω ±5% ½W          |
| CT01        | 1  | 1  | DD1612101 | Ceramic Cap 120PF 50V±10%     |
| CT02        | 1  | 1  | DD1612101 | Ceramic Cap 120PF 50V±10%     |
| CT03        | 1  | 1  | DF1627305 | Film Cap 0.027μF 50V±10%      |
| CT04        | 1  | 1  | DF1627305 | Film Cap 0.027μF 50V±10%      |
| ST01        | 1  | 1  | SP0404011 | Push Switch                   |
| JT01        | 16 | 16 | YP1000113 | Plug                          |
| R002        | 1  | 1  | RM0254022 | Variable Resist Volume        |
| S001        | 1  | 1  | SR0905008 | Rotary SW Selector            |
| R004        | 1  | 1  | GF0533012 | Resistor                      |
| R001        | 1  | 1  | RS0504002 | Resistor Balance (33Ω ±5% ½W) |
| 1416        | 1  | 1  | 291530201 | Dial                          |
| 1418        | 1  | 1  | 291530203 | Dial                          |
| 1420        | 1  | 1  | 285310701 | Sheet                         |
| 1733        | 1  | 1  | 138200503 | Clamper                       |
| 1734        | 1  | 1  | 51100305A | B H M Screw B 3 x 5           |
| 1731        | 1  | 1  | 257710402 | Retainer                      |
| 1632        | 1  | 1  | 291516011 | Bracket                       |
| 1633        | 1  | 1  | 51062606E | P H M Screw P 2.6 x 6         |
| J025        | 1  | 1  | YJ0800009 | Socket                        |
| J024        | 1  | 1  | YL0106004 | Terminal                      |
| 1534        | 1  | 1  | 290812002 | Insulator                     |
| 1522        | 1  | 1  | 121000501 | Clamper                       |
| 1624        | 1  | 1  | 121000501 | Clamper                       |
| J003        | 1  | 1  | YL0102003 | Terminal                      |
| L004        | 1  | 1  | LB3007526 | Balun Coil                    |
| 0234        | 4  | 4  | 275905701 | Leg                           |
| 0235        | 4  | 4  | 51490410S | B H M Screw FS                |
| 0321        | 1  | 1  | 288686101 | Label Marantz                 |
| 0323        | 1  | 1  | 951022101 | Label Fuse Caution            |
| 0327        | 1  | 1  | 951061102 | Label 2A 250V                 |
| 0407        | 6  | 6  | 51100306S | B H M Screw B 3 x 6           |
| 1502        | 1  | 1  | 291510550 | Chassis K                     |
| 1507        | 2  | 2  | 291516008 | Bracket                       |
| 1508        | 4  | 4  | 54020401A | Flat Washer P                 |
| 1509        | 4  | 4  | 54040402A | Spring Washer                 |
| 1510        | 4  | 4  | 53110403A | Hexagon Nut                   |
| 1511        | 2  | 2  | 287100501 | Clamper                       |
| 1513        | 4  | 4  | 51570306S | P H Tapt Screw P 3 x 6 ST     |
| 1515        | 4  | 4  | 51100306S | B H M Screw B 3 x 6           |
| 1516        | 16 | 16 | 51570306S | P H Tapt Screw P 3 x 6 ST     |
| 1518        | 1  | 1  | 51570306B | P H Tapt Screw P 3 x 6 ST     |
| 1519        | 1  | 1  | 138200503 | Clamper                       |
| 1520        | 4  | 4  | 54050300R | T L Washer OR                 |
| 1521        | 10 | 10 | 51570305B | P H Tapt Screw P 3 x 5 ST     |
| 1523        | 2  | 2  | 288600503 | Clamper                       |

| REF. DESIG. | U  | E  | PART NO.  | DESCRIPTION                   |
|-------------|----|----|-----------|-------------------------------|
| 1524        | 4  | 4  | 288600502 | Clamper                       |
| 1525        | 2  | 2  | 288600505 | Clamper                       |
| 1526        | 2  | 2  | 288600506 | Clamper                       |
| 1527        | 2  | 2  | 285116006 | Bracket                       |
| 1528        | 4  | 4  | 51570306B | P H Tapt Screw P 3 x 6 ST     |
| 1529        | 1  | 1  | 291516009 | Bracket                       |
| 1530        | 1  | 1  | 51570306B | P H Tapt Screw P 3 x 6 ST     |
| 1531        | 1  | 1  | 54050300R | T L Washer OR                 |
| 1532        | 2  | 2  | 51570306B | P H Tapt Screw P 3 x 6 ST     |
| 1535        | 2  | 2  | 51570312B | P H Tapt Screw P 3x12 ST      |
| 1619        | 1  | 1  | 51570306B | P H Tapt Screw P 3 x 6 ST     |
| 1620        | 1  | 1  | 54050300R | T L Washer OR                 |
| 1623        | 1  | 1  | 51570306B | P H Tapt Screw P 3 x 6 ST     |
| 1718        | 4  | 4  | 51570306B | P H Tapt Screw x 4 P 3 x 6 ST |
| 1732        | 1  | 1  | 51570306B | P H Tapt Screw P 3 x 6 ST     |
| 1627        | 1  | 1  | 51570306B | P H Tapt Screw P 3 x 6 ST     |
| 1630        | 1  | 1  | 51570306B | P H Tapt Screw P 3 x 6 ST     |
| J007        | 1  | 1  | YL0105002 | Terminal                      |
| C003        | 1  | 1  | EC6880352 | Electroly Cap 6800μF 35V      |
| C004        | 1  | 1  | EC6880352 | Electroly Cap 6800μF 35V      |
| L005        | 1  | 1  | TS1850403 | Power Transf                  |
| L005        | 1  | 1  | TS1850404 | Power Transf                  |
| 0714        | 1  | 1  | 291526250 | Pulley K                      |
| 0719        | 2  | 2  | 51100306A | B H M Screw B 3 x 6           |
| 0721        | 1  | 1  | 291526251 | Pulley K                      |
| 0728        | 2  | 2  | 51100306A | B H M Screw B 3 x 6           |
| F801        | 1  | 1  | FS1010008 | Fuse 1A                       |
| F802        | 1  | 1  | FS1020006 | Fuse 2A                       |
| F801        | 1  | 1  | FS1010090 | Fuse 1A                       |
| F802        | 1  | 1  | FS1020090 | Fuse 2A                       |
| F003        | 1  | 1  | FS1020090 | Fuse 2A                       |
| 0219        | 4  | 4  | 257711807 | Spacer                        |
| 0220        | 1  | 1  | 281825701 | Lid                           |
| 0221        | 1  | 1  | 281825702 | Lid                           |
| 0222        | 1  | 1  | 291512001 | Insulator                     |
| 0223        | 4  | 4  | 51480406S | B H M Screw F                 |
| 0224        | 10 | 10 | 51100406S | B H M Screw B 4 x 6           |
| 1512        | 1  | 1  | 209512004 | Insulator                     |
| 0303        | 1  | 1  | 257886101 | Label UL Caution              |
| 0304        | 1  | 1  | 257886102 | Label Do not remove           |
| 0305        | 1  | 1  | 257886103 | Label See marking             |
| 0306        | 1  | 1  | 250626506 | Indicator Do not use as       |
| 0313        | 1  | 1  | 951091102 | Label UL Factory              |
| 0113        | 4  | 4  | 52017039J | H Head Bolt                   |
| 0120        | 1  | 1  | 289610701 | Sheet                         |
| 0125        | 1  | 1  | 289205502 | Collar                        |
| 0202        | 8  | 8  | 288615403 | Knob Push SW                  |
| 0204        | 1  | 1  | 290415404 | Knob Power SW                 |
| 0205        | 1  | 1  | 285015401 | Knob Slide Vol.               |
| 0206        | 5  | 5  | 281815403 | Knob Single, Large            |
| 0208        | 1  | 1  | 291526501 | Indicator Name Plate          |
| 0210        | 1  | 1  | 291526503 | Indicator Name Plate          |
| 0217        | 2  | 2  | 51100306S | B H M Screw B 3 x 6           |
| 0316        | 1  | 1  | 951110102 | Label UL                      |
| 0634        | 1  | 1  | 285011202 | Shaft                         |
| 0635        | 1  | 1  | 54040402N | Spring Washer                 |
| 1410        | 1  | 1  | 56382540G | Eyelet                        |
| 1422        | 1  | 1  | 291526901 | Protector                     |
| 1423        | 2  | 2  | 51570305B | P H Tapt Screw P 3 x 5 ST     |
| 1922        | 4  | 4  | 952281501 | Serial No Card                |
| 1924        | 4  | 4  | 952301511 | Serial No Card                |



## TECHNICAL SPECIFICATIONS

### AUDIO CIRCUITS:

Rated Power Output (Continuous Average per Channel, All Channels Driven).

|  |  |
|--|--|
| Power Output .....   | 20 Watts 4 Ohms<br>20 Watts 8 Ohms<br>10 Watts 16 Ohms |
| Power Band .....   | 20 Hz to 20 KHz  |
| THD .....  | 0.5%   |
| High-level hum and noise (ref. 20 Watts at 8 ohms) .....   | -77 dB   |
| Phono hum and noise .....                                  | 1.5 $\mu$ V equivalent input                           |
| Dynamic range (phono input to tape recording output) ..... | 96 dB  |
| I.M. Distortion (SMPTE), at rated power .....              | 0.9%   |
| Distortion decreases as output is lowered                  |  |
| Total Harmonic Distortion, at rated power .....            | 0.5% Maximum   |
| Distortion decreases as output is lowered                  |  |
| Power Bandwidth (IHF) for 0.5% THD .....                   | 10 Hz to 50,000 Hz                                     |
| Damping Factor (ref. 8 ohms) .....                         | Greater than 20  |
| Frequency Response   |  |
| Through phono .....  | 2.0 dB   |
| Input Sensitivity (for 15 Watts at 8 ohms)                 |  |
| High-level .....   | 180 mV   |
| Phono (1,000 Hz) .....                                     | 1.8 mV   |
| Input Impedance  |  |
| High-level .....   | 100,000 ohms   |
| Phono .....  | 47,000 ohms  |
| Channel Separation 20 Hz to 10,000 Hz .....                | 30 dB Minimum  |

### FM SECTIONS:

|   |                            |
|---|----------------------------|
| IHF Usable Sensitivity .....                              | 2.5 $\mu$ V                |
| Selectivity .....   | 50 dB                      |
| Noise Quieting .....                                      | -70 dB at 1.000 $\mu$ V    |
| Total Harmonic Distortion, 400 Hz, 100% Mod .....         | 0.3% Maximum               |
| Frequency Response (ref. 75 $\mu$ sec. de-emphasis) ..... | $\pm$ 1 dB 50 Hz to 15 KHz |
| Stereo Separation .....                                   | 1,000 Hz 40 dB             |
| Sub Carrier (38 KHz) Suppression .....                    | 60 dB                      |

### GENERAL:

|  |                 |
|--|-----------------|
| Power Requirements .....                       | 220V ~ 50/60 Hz |
| At rated output, both channels operating ..... | 140 Watts       |
| Idling Power (Volume Control at zero) .....    | 30 Watts        |
| Dimensions                                     |                 |
| Panel Width .....                              | 17-3/8 Inches   |
| Panel Height .....                             | 5-3/8 Inches    |
| Depth .....                                    | 14 Inches       |
| Weight   |                 |
| Unit alone .....                               | 26.4 lbs        |
| Packed for shipment .....                      | 33 lbs          |

\*These specifications and exterior designs may be changed for improvement without advance notice.