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SERVICE MANUAL 125



marantz

model 125

Am / Fm Stereophonic Tuner

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INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for the Marantz Model 125 Stereophonic Tuner.

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

The parts list contains complete parts replacement information. Most replacement parts should be ordered from the Marantz Company. However, a simple description is included for parts which can be obtained locally.

The Marantz Model 125 is a high quality tuner employing some of the latest advances in tuner technology: Dual Gate FET RF amplifier and mixer, phase linear IF filters, phase locked loop multiplexing, and 3 levels of muting based on signal strength, noise level and tuning. All muting functions are performed by a muting IC which replaces the discrete components employed in other Marantz tuners and receivers. A complete description of the muting circuit will be found on pages 8 and 9.

2. AM TUNER

The AM TUNER portion of the Model 125 is composed on one IC circuit containing an RF amplifier, local oscillator, mixer, IF amplifier, detector and three transistors. Transistor H154 is a field strength indication amplifier, while transistors H152 and H153 amplify the detected audio signals.

All components except the tuning capacitor and ferrite bar antenna are mounted on the P150 circuit board, see fig. 9.

The AM signals induced in a ferrite bar antenna are applied to the input of the RF amplifier pin 12 of H151; then amplified to overcome conversion noises. This results in a good S/N ratio at the output. The tuned circuits located in both the input and output circuits of the RF amplifier assure very high image rejection and spurious signal rejection characteristics.

The amplified and selected AM signal is then applied to pin 1 of the mixer section contained in the IC. Local oscillator voltage is injected into the other input of the mixer section at pin 16. The AM signal and oscillator voltage are mixed and converted into a 455 KHz intermediate frequency which is applied to the IF transformer, L153. It consists of one ceramic filter and two tuned circuits.

The output of L153 is directed to the IF amplifier input, pin 9, through coupling capacitor C162. Here it is amplified sufficiently to drive the detector stage within the IC. The detected audio signal derived from pin 7 is filtered, then amplified by H153. The final audio output passes from the collector of H153 to the output jacks through the function switch, OUTPUT LEVEL control, R002 and output amplifiers H401 and H402.

The DC component of the detected IF signal is used as an AGC voltage to control emitter current of the RF amplifier through the AGC amplifier contained in the IC. Part of this DC component is applied to the base of the signal strength indication amplifier, H154. Output from the collector of H154 is level adjusted by R178, then applied to the signal strength meter, M002.

2.1 AM TUNER TROUBLESHOOTING

First, check for a broken AM bar antenna; then try to tune in a station while observing whether the AM signal strength meter deflects or not. If the signal strength meter indicated signal at several frequencies, it is probable no failure exists in the stages ahead of the detector circuit. To test the detector circuit, connect an oscilloscope to test point B or J161 and check for audio signal with the tuning meter deflected.

If the signal strength meter does not deflect, check the local oscillator circuit. Normal oscillating voltage at the hot end of the oscillator tuning capacitor is about 1.5 to 3 volts, depending on tuning capacitor position. Because of its extremely high frequency, oscillating voltage must be measured with an FR VTVM. An ordinary AC VTVM will not provide an accurate measurement. If local oscillator voltage is normal, check for proper DC voltages in the AM circuit with a DC VTVM. Compare the measured values with those given in the schematic diagram.

2.2 AM ALIGNMENT PROCEDURE

2.21 AM IF Alignment

1. Connect a sweep generator to J153 and an alignment scope to the test point B.
2. Rotate each core of IF transformer L153 for maximum height and symmetrical response.

2.22 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 L152 for maximum audio output.
2. Set the signal generator to 1650 KHz. Place the tuning pointer at the high frequency end and adjust the oscillator trimmer on the oscillator tuning capacitor for maximum audio output.
3. Repeat the step 1 and 2 until no further adjustment is necessary.
4. Set the receiver to a vacant spot around 600 KHz and tune the generator to the same frequency. Adjust the slug core of the AM ferrite rod antenna and RF coil L151 for maximum output, using the lowest workable output from the generator.
5. Set the generator to 1400 KHz and tune the receiver to the same frequency and adjust both trimming capacitors of Antenna and RF tuned circuit for maximum output.
6. Repeat the step 4 and 5 until no further adjustment is necessary.

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

3. FM TUNER

The FM tuner section of the Model 125 is divided into four functional blocks: the FM Front End, the IF Amplifier and Detector, the Muting Control and the MPX Stereo Decoding Circuit.

FM signal from the antenna (see fig.19) is directed to antenna coil L101 through attenuator switch SU01 and balun coil LU01. Then the signal is amplified by H101, a dual gate MOSFET amplifier, filtered through the triple tuned Butterworth tuned tank circuits and applied to H102, a dual-gate MOSFET mixer. Here, the FM signal is mixed with a 700mV local oscillator output from H103 to develop a 10.7MHz intermediate frequency. This output is directed through shielded cable to the IF stages on circuit board P200.

The IF board contains 9 IF amplifiers, 5 limiters, one AGC amplifier, and 4 phase linear block filters. The limiters assure excellent capture ratio and good AM suppression. The phase linear filters are employed to obtain high performance of the stereo multiplex characteristics.

Part of the IF output from the Front End is applied to AGC amplifier H201. H201's output is rectified by diodes H212 and H213 then, fed back to the second gate of the MOSFET amplifier H101.

Depending on the amount of negative feedback from the AGC amplifier, voltage at the second gate of H101 will vary from +3.0VDC (no signal) to -0.5 VDC (when there is a strong 100k μ V FM input).

The amplified IF frequencies are directed to the detector input. Here, the audio frequencies are detected and applied to buffer amplifier H211 impedance matching to later stages. Output from H211 splits into 3 paths: Path (a) goes to the Phase Locked Loop multiplex Decoder, IC H301; path (b) goes to noise amplifier H304 through capacitor C335 and resistor R328; and path (c) goes to the Quadrantal Jack on the rear panel through resistor R347.

3.1 MULTIPLEX STEREO DECODING CIRCUIT (PW BOARD P300).

The stereo composite signal from the buffer amplifier is directed through an RC network consisting of R302 and C301 (R302 is one of the separation adjustment potentiometer). Then the stereo composite signal is applied to the input terminal (pin 2) on the MPX IC (H301), for separation into the two stereo channels.

Pin 4 of the multiplex IC is the left channel output; pin 5 is the right channel output. The decoded left and right channel audio signals are directed through low pass filters composed of L301 ~ L304; C308 ~ C317. Here, undesirable residual switching signals are eliminated. Next, the signal passes through a de-emphasis network (R312, R313, C318 and C319) to the audio signal amplifiers contained in the muting system IC H302 (pins 10, 11). The signals are amplified; then pass to J316 and J317, the multiplex board outputs. From these jacks, the audio is routed through the function switch and OUTPUT LEVEL control R002 to output amplifiers H401 and H402, where the signals are amplified and directed to the output terminals. Figure 2 is a block diagram of the Phase Locked Loop IC, H301. The input stereo composite signal input is amplified by the audio amplifier, then delivered to phase detectors PD-1 and PD-2. Part of the stereo composite signal is also applied to the stereo decoder section.

The VCO (Voltage Control Oscillator) produces a free running 76KHz square wave. Its time constant is determined by capacitor C303 and resistors R304 and R305, which are connected externally to pin 14. The 76KHz VCO output is reduced to 19KHz by the two frequency dividers, DIV-1 and DIV-2. Then this internally produced 19KHz frequency is directed back to phase detector PD-1.

This is the "loop" in phase locked loop. The PLL chip is designed so that the free running 76KHz VCO output will lock in phase with the incoming 19KHz pilot only when the 19KHz from the 2nd divider and the stereo pilot are 90° out of phase. Any other phase relationship results in a DC error voltage which is extracted by low pass filter LP-1 and applied to the control terminal of the VCO. The error voltage forces the VCO to lock phase with the incoming pilot signal.

With phase locked, the 1st frequency divider (DIV-1) will produce a properly phased 38KHz switching frequency for stereo decoding.

Phase detector PD-2, low pass filter LPF-2 and a Schmitt trigger close the stereo switch and activate the stereo beacon when phase is locked. PD-2 differs from PD-1 in this important respect: when 19KHz pilot is present, and when phase is locked, it must produce maximum positive DC voltage, rather than zero volts DC to activate the trigger. The 19KHz frequency from the 2nd divider can't be used because it is 90 degrees out of phase with respect to the incoming pilot signal during the phase lock condition. Therefore, a 3rd divider (DIV-3) is employed to develop an in-phase 19KHz signal from the 38KHz output of DIV-2.

19KHz from this 3rd divider is mixed with stereo pilot at PD-2. A low pass filter extracts the DC component which is of sufficient amplitude to activate the trigger when phase is locked. The trigger turns on the stereo beacon and closes the stereo switch. Now 38KHz can be applied to the audio signal composite for separation into the left and right stereo channels.

Switching from stereo to mono is performed by turning on transistor H306. It grounds the stereo switch (Pin 8) whenever FM signal drops below the level determined by the muting control setting. H306 is also turned on by depressing the MONO switch.

Transistor H303 controls the 76KHz VCO in the IC (Pin 14). When the FUNCTION switch is set to AM, H303 turns on, grounding out the 76KHz VCO frequency to prevent it from interfering with AM reception.

3.2 AUDIO MUTING AND STEREO MODE AUTO-SELECTION CIRCUITS

The muting circuit used for Model 125 consists of a muting system IC, noise amplifier transistor H304, Invertor transistor H305 and a gating circuit composed of transistors H308 and H309.

Three inputs control the muting function. The first is related to signal strength, the second to the noise condition at the detector and the third is derived from the DC component of the detector output. These inputs are properly matrixed and gated to provide muting free from noise and transients.

The first input is DC voltage obtained by rectifying part of the IF signal output. It is fed to pin 6 of muting IC H302 through the gating circuit (H308 and H309). Pin 6 is connected internally to the base of the muting driver transistor Q19 through the IC's "Schmitt trigger and AND" circuit.

The collector of transistor Q19 is connected to pin 5 and pin 2 of IC H302 through the Muting Level Control Switch (S002), R319 and R316. Pin 2 is connected to muting switch transistors Q23 (for L channel) and Q22 (for R channel) in the IC. The collectors of the muting switch transistors are connected to pin 1 and pin 3 respectively. These pins are connected to left and right channel outputs of MPX stereo decoding IC (H301) through the low pass filters. The output from the MPX stereo decoding IC (H301) is also directed to input pins 10 (L channel) and 11 (R channel) of the muting system IC. These pins are connected to the IC's built-in audio signal amplifiers, where the signal is amplified 20 dB. Pin 13 and pin 14 are the left and right channel signal outputs on muting IC H302.

Normally, the IF signal output is above the muting threshold level set by the Muting Level Control Switch, S002. The DC voltage that is obtained by rectifying this IF signal sample is directed through the trigger voltage rectifying circuit (H308, H309) to pin 6, turning on transistor Q19 in the IC. When Q19 is turned On, its collector potential drops, turning off muting switch transistors Q22 and Q23. Therefore, the output of the MPX stereo decoding IC is not grounded out, but instead passes through the low pass filter and the de-emphasis circuit to pins 10 and 11 of the muting system IC. The signal is amplified by the audio signal amplifiers and directed to pins 14 and 13, the audio outputs.

If IF signal output drops below the muting threshold, transistor Q19 shuts OFF. Its collector voltage (voltage of pin 5) rises to the B+ voltage level (12 VDC), turning on Q22 and Q23. These transistors ground the audio output of the MPX stereo decoding IC (H301).

The second muting input-high frequency noise is derived from the output of the detector. It protects the muting circuit and MPX stereo beacon lamps from misoperation due to undesirable noises. Any high frequency noise present in the detected audio passes through a small capacitor, C335; then is amplified by noise amplifier transistor H304. Diodes H310 and H311 rectify the output of H304. This rectified output is proportional to the noise components in the detector output.

When there is excessive noise in the audio signal (such as the noise caused by tuning the unit off-station), the rectified DC output turns on transistor H305 which conducts, activating the muting circuit through pin 6. This prevents audio from reaching the audio amplifier inputs on the muting IC.

The third muting input comes from J210 and J213 of the FM discriminator. It is applied to J318 and J319 of the P300 circuit board; then to pins 8 and 9 of H302. The inputs consist of reverse polarity "S" curves from the discriminator. When an FM station is tuned in perfectly, these S curves will have a DC component of 0 volts. Whenever the station is mistuned so the DC component of either "S" curve rises above 0.25 VDC the OPTIMUM SYNCHRONIZATION DETECTOR within the muting IC turns Q19 OFF. This turns Q22 and Q23 ON, grounding the audio signal.

When the mono switch is in stereo position, pin 5 of the muting IC is connected to the base of transistor H306. Whenever signal strength drops below the threshold set by the muting control, pin 5's voltage rises, turning on H306, which defeats the stereo switch. Now, only mono FM will pass to the output Jack J005.

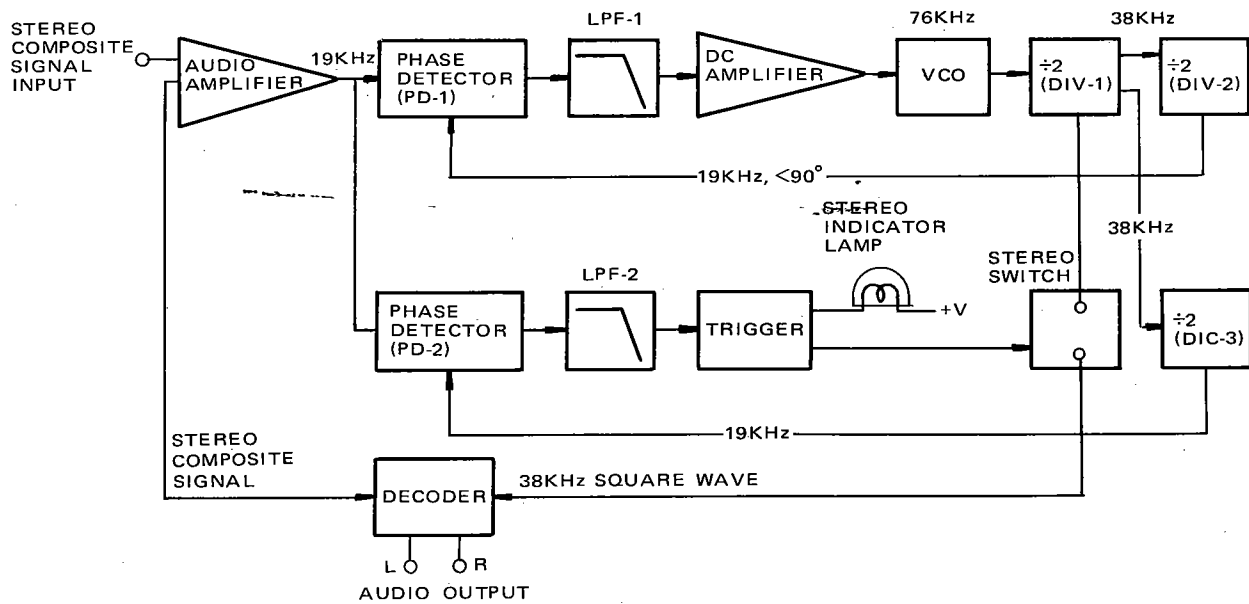


Figure 1. Block Diagram: Phase Locked LOOP IC H301

6. TEST EQUIPMENT REQUIRED FOR SERVICING

Table 1 lists the test equipment required for servicing the Model 125 Tuner.

| Item | Manufacturer and Model No. | Use |
|---------------------|---|---|
| AM Signal Generator | | Signal source for AM alignment. |
| Test Loop | | Used with AM Signal generator. |
| FM Signal Generator | Less than 0.2% distortion. | Signal source for FM alignment. |
| Stereo Modulator | Less than 0.2% distortion. | Stereo separation alignment and trouble shooting. |
| Frequency Counter | | MPX oscillator Adjustment (VCO). |
| Audio Oscillator | Weston Model CVO-100P, less than 0.02% residual distortion is required. | Sinewave and squarewaves signal source. |
| Oscilloscope | High sensitivity with DC horizontal and vertical amplifiers. | Waveform analysis and trouble shooting. |
| VTVM | With AC, DC, RF range. | Voltage measurements. |
| Circuit Tester | | Trouble shooting. |

Figure 2. Test Equipment Required for Servicing

SYMPTOM: TOTAL OR PARTIAL LOSS OF STEREO SEPARATION

First, measure separation. Total separation loss could be caused by:

1. Sticking Mono Control
2. Shorted Stereo-Mono Switching transistor (H306).
3. Open resistor R337.
4. Defective Muting Control Circuit Board (PW01)
5. No Vcc voltage to IC's H301, H302.
6. Defective capacitor C306.
7. Defective Selector Switch PS01.

Partial Separation Loss could be caused by misaligned separation controls.

SEPARATION ADJUSTMENT:

1. Connect tuner to FM antenna. Tune to vacant spot between stations around 98MHz.
2. Replace antenna leads with FM signal generator leads. Inject a 1000uV FM signal modulated by 1KHz. Match FM frequencies until the tuning meter needle is centered.
3. Turn off audio modulation from the signal generator and connect a frequency counter to test point (R311). Adjust R304 until the frequency generator reads exactly 19KHz.
4. Modulate the FM signal with L channel signal only; then add 9% stereo pilot.
5. Adjust trimmer resistor R302 for maximum left-to-right channel separation.
6. Repeat steps 4 and 5 while injecting R channel signal only. Right-to-left channel separation should match left-to-right channel separation. Adjust R302 until it does.

SYMPTOM: POOR FM SENSITIVITY

First measure IHF usable sensitivity. If it is extremely poor-1000uV for example there is usually a defective component or a cold solder joint in the front end or IF section.

When usable sensitivity is only slightly below specification, the front end might be misaligned. Proper FM alignment requires a screen room and special testing equipment for optimum results. However, here is a good procedure which requires only an FM signal generator and a distortion analyzer.

SYMPTOM: EXCESSIVE DISTORTION

Measure Total Harmonic Distortion. A defective discriminator transformer or discriminator component is the chief cause of high distortion in FM tuners. Naturally, the Front End and IF semi-conductors, as well as the possibility of cold solder joints should be checked out. But check the discriminator stage first.

When THD is only slightly below specification; the front end and/or discriminator might require realignment.

SENSITIVITY AND DISTORTION – FRONT END ALIGNMENT:

1. Connect an FM antenna to the antenna inputs; a distortion analyzer to the output.
2. Tune the tuner to a vacant spot between stations at the low frequency end of the dial. Replace antenna with an FM signal generator. Adjust FM generator to same frequency, centering the tuning meter needle. Decrease signal generator output until the audio output level decreases with decreasing generator output, (Just below limiting). Modulated 100% by 400Hz audio.
3. Working from antenna to output, adjust antenna coil L101 RF coils L102, L103, L104 and IF transformer L106 for minimum distortion.
4. Tune to a vacant spot at the high frequency end of the dial. Adjust FM generator to same frequency, centering the tuning meter needle.
5. Working from antenna to output, adjust capacitors C101, C102, C103 and C104 for minimum distortion.
6. Repeat hi and low end adjustments until sensitivity and distortion are optimized.

DISTORTION – DISCRIMINATOR ALIGNMENT:

1. Connect FM signal generator to antenna inputs; a distortion analyzer to the output.
2. Tune the tuner to a vacant spot around 98MHz. With no signal applied, adjust the secondary (upper) core of discriminator transformer L201 until the tuning meter needle is centered.
3. With a 1000uV signal applied at the same frequency, and meter centered, adjust the primary core (lower) for minimum distortion.

NO FM OUTPUT

Connect unit to an antenna, audio amplifier and speakers. Switch to AM. If there is still no output, check H401 and H402, the audio pre-amps.

If There is AM Output, switch to FM and try tuning in an FM station. If the tuning meter needle won't deflect, the trouble is in the Front End (P100) or IF section (P200 Board).

Check both boards for proper supply voltage and check their semi-conductors for proper DC operating voltages.

If the tuning meter will deflect when FM stations are tuned in, the trouble is in the discriminator or muting circuits. Inject a 400Hz audio at J303 in the P300 Board. If it is heard through the loud-speakers, the P300 Board is OK, and the trouble is in the discriminator circuit. Check discriminator transformer L201 and the semi-conductors.

If signal injection proves the P300 board is defective, check for proper voltage at the pins of the muting IC H302. It might be grounding audio signal constantly. If any voltage reading differs greatly from the schematic voltage, check and outboard components connected to the IC pin. If they're OK, replace the IC.

Sometimes, signal injection is the best troubleshooting approach. It requires an audio oscillator, FM signal generator and an 10.7MHz sweep generator. Test signals to be injected into the various inputs are:

Front End: 1000uV FM carrier 100% modulated by 400Hz audio at antenna inputs.

IF Amps: 10.7MHz 100% modulated by 400Hz audio at J201. (Short local oscillator output at local oscillator capacitor C115).

Discriminator: Increase 10.7MHz signal level and inject it at the base of H210.

Multiplex Section: Inject 400Hz audio at J303.

MISCELLANEOUS ADJUSTMENTS

SIGNAL STRENGTH METER ADJUSTMENT:

1. Connect an FM signal generator to the antenna inputs. Tune the tuner to a vacant spot between stations around 98MHz. Then tune the FM generator to match frequencies. Generator output should be 100,000 microvolts.
2. Adjust R340 on the multiplex board until the signal strength meter reads 90% of full scale deflection.

MUTING LEVEL/STEREO THRESHOLD LEVEL ADJUSTMENT:

1. Connect tuner to an FM antenna. Tune to vacant spot between stations around 98MHz.
2. Replace antenna with an FM generator. Modulate FM signal with 1000Hz audio, 100%. Match FM frequencies until tuning meter needle is centered. Set signal strength at 150 microvolts.
3. Switch MUTING LEVEL CONTROL on tuner to HIGH. Adjust RW03 until audio is just above muting threshold.
4. Decrease FM generator signal strength to 30 microvolts. Switch MUTING LEVEL CONTROL to MID. Adjust RW04 until audio is just above muting threshold.
5. Remove 1KHz modulation and adjust output to 12.5uV. Add 9.0% stereo pilot. Switch MUTING LEVEL CONTROL to OFF. Adjust RW05 until stereo beacon just lights up.

FM DOLBY LEVEL ADJUSTMENT:

1. Connect tuner to FM antenna. Connect AC VTVM to tuner output. Tune the tuner to vacant spot between stations around 98MHz.
2. Replace antenna with an FM signal generator. Match frequencies until tuning meter needle is centered. Inject a 1000 microvolt FM signal mono modulated 50% by 400Hz audio.
3. Depress FM DOLBY push switch. Adjust RW01 and RW02 for 580mV output at left channel and right channel tuner outputs.

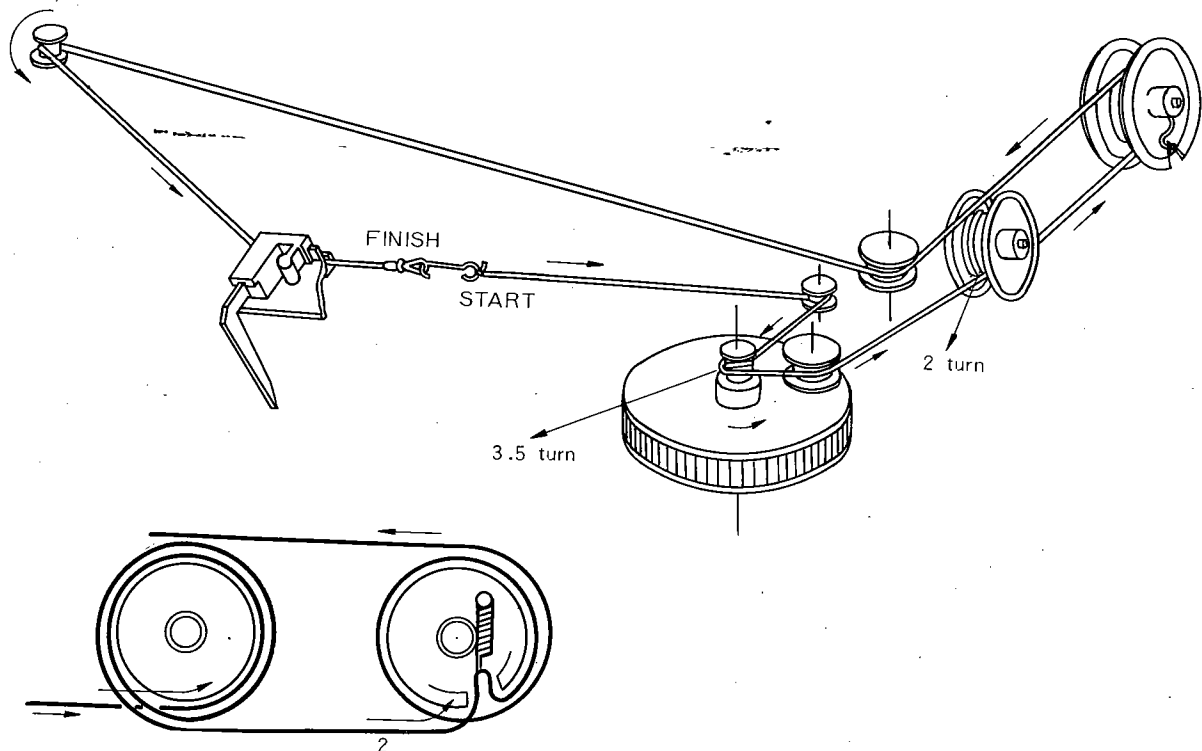


Figure 3. Dial Stringing

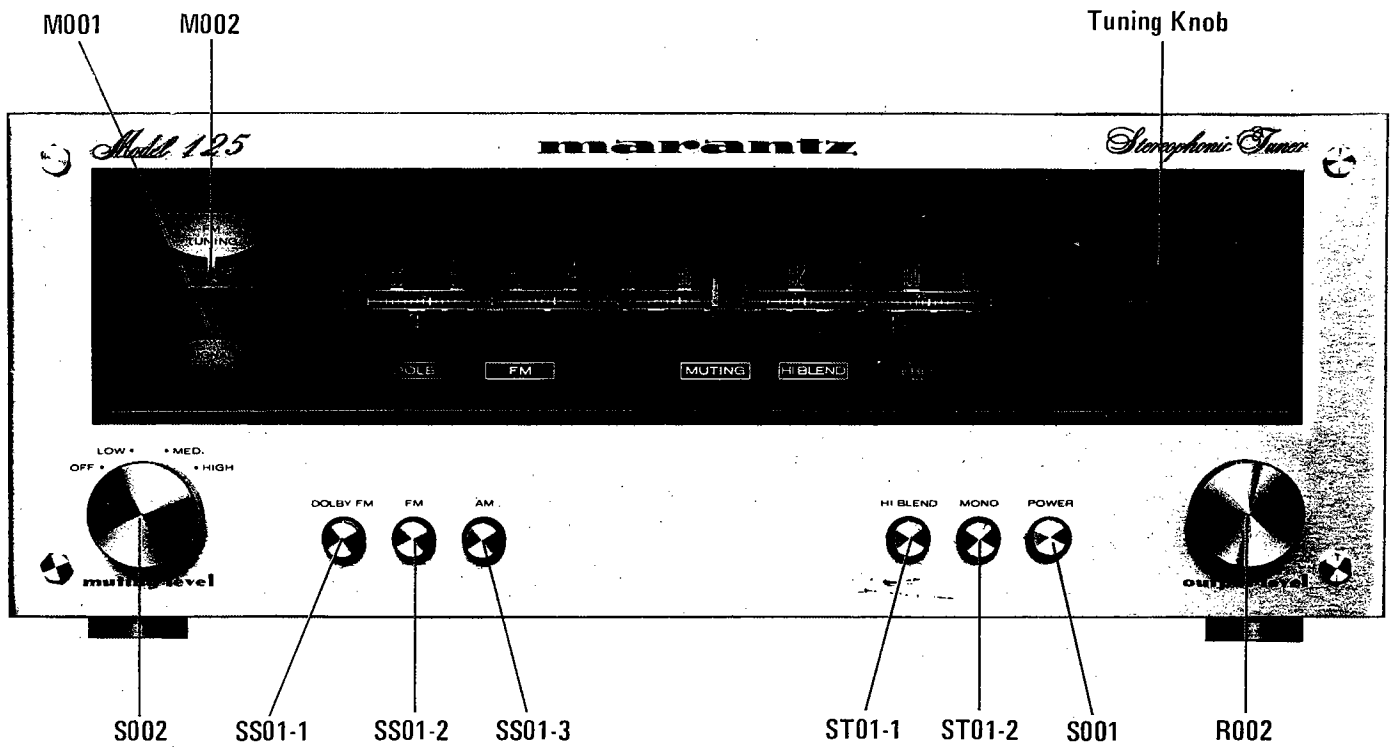


Figure 4. Front Panel Adjustment and Component Locations

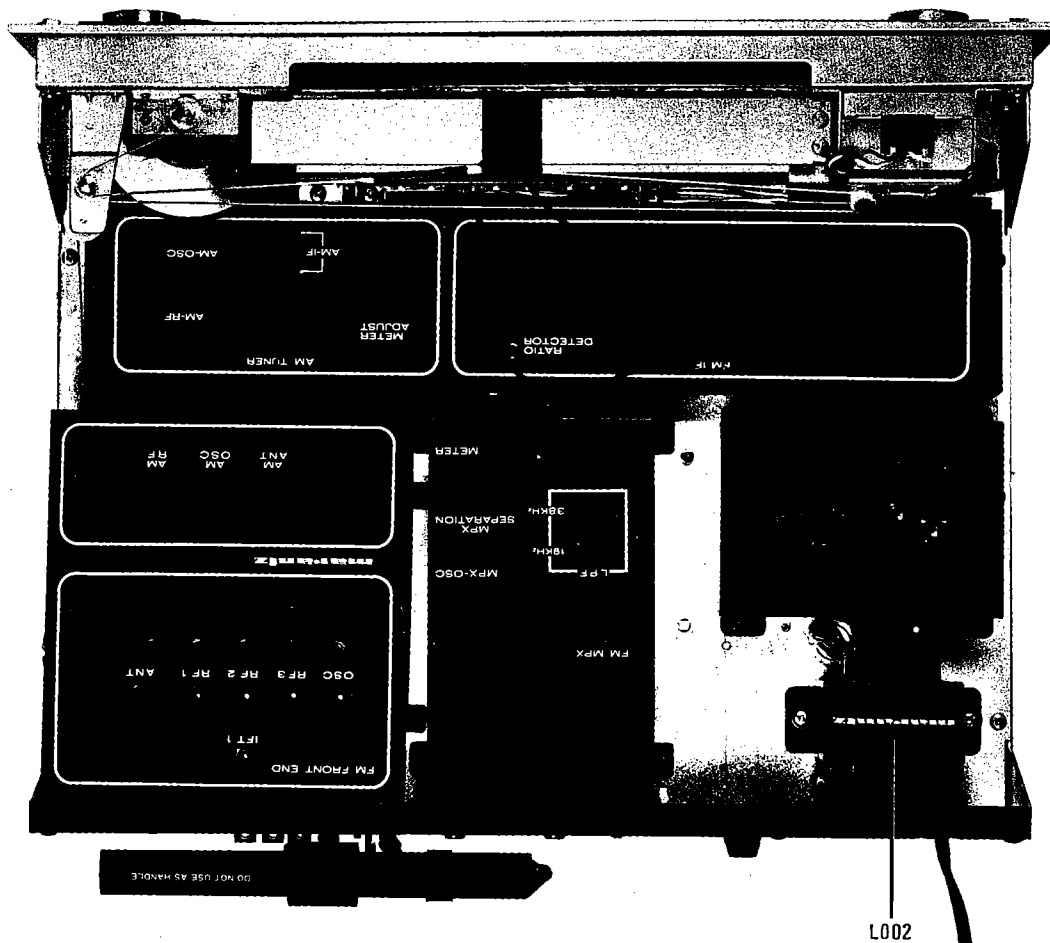


Figure 5. Main Chassis Component Locations (Top View)

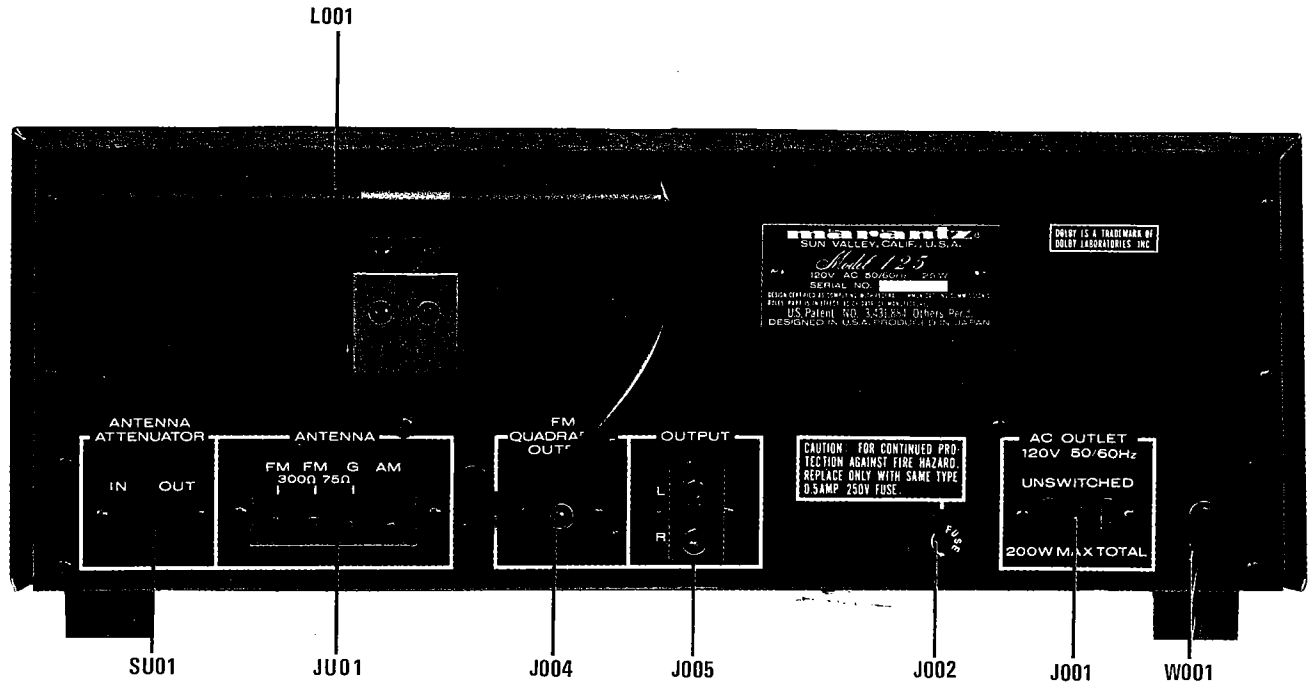


Figure 6. Rear Panel Adjustment and Component Locations

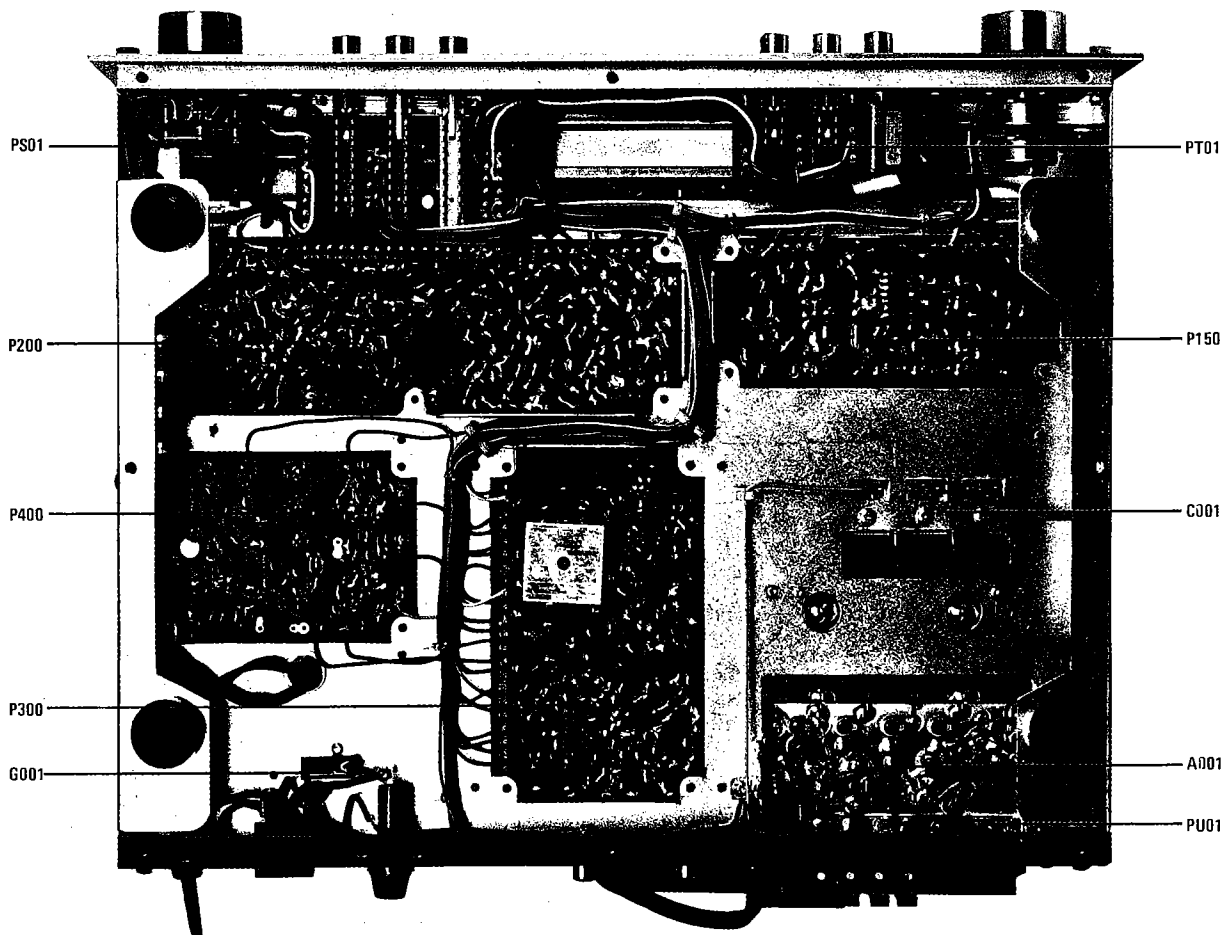


Figure 7. Main Chassis Component Locations (Bottom View)

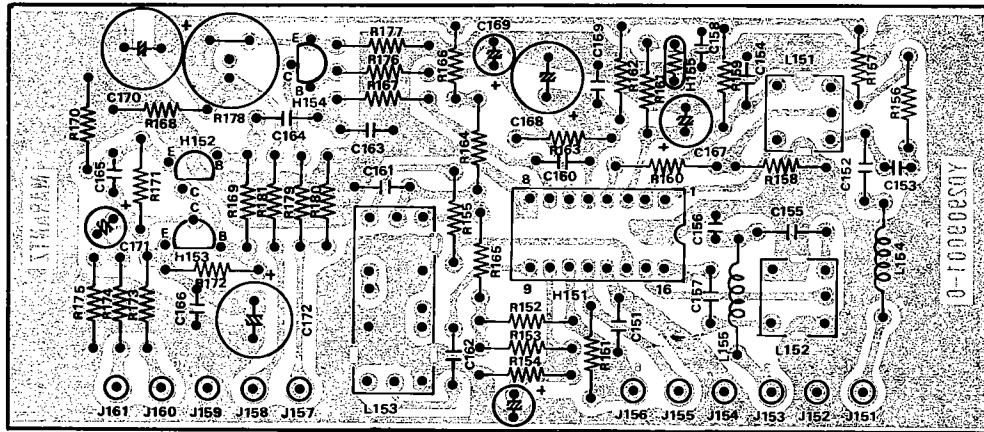


Figure 8. AM Tuner Unit Assembly P150 Component Locations

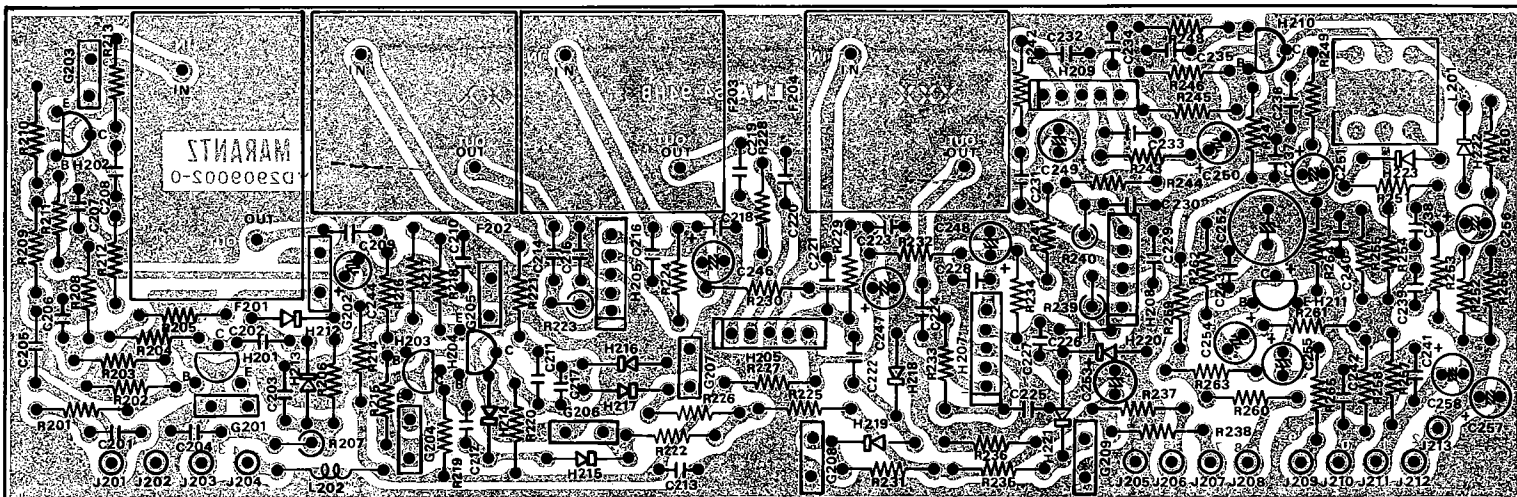


Figure 9. FM IF Amplifier Assembly P201 Component Locations

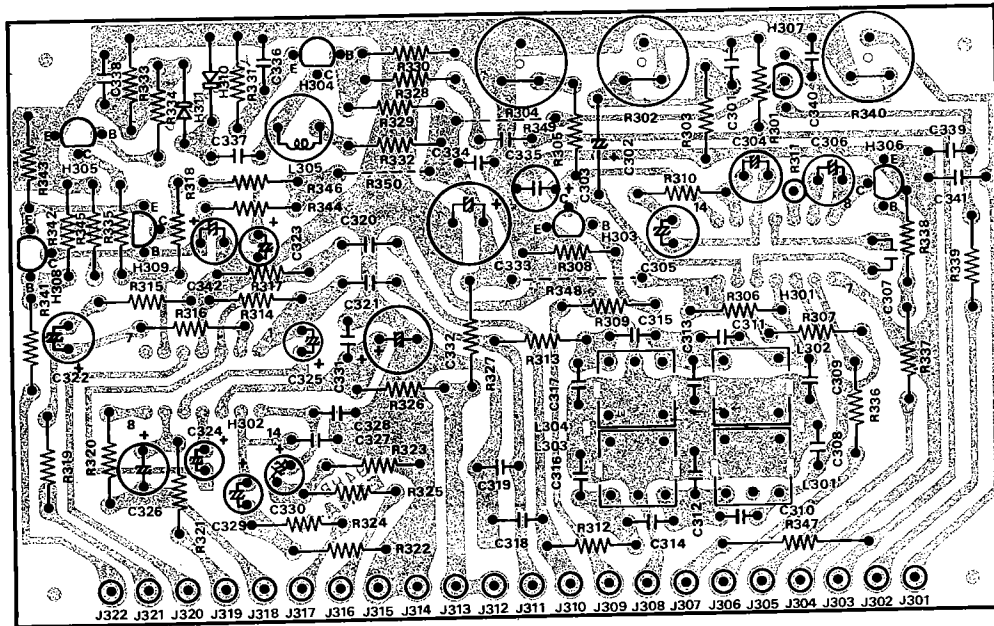


Figure 10. MPX Stereo Decoding Amplifier Assembly P300 Component Locations

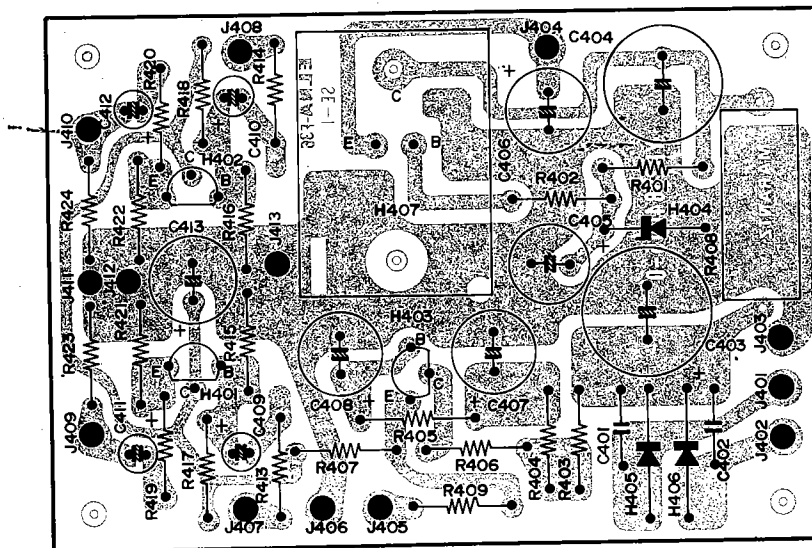


Figure 11. Power Supply Assembly P400 Component Locations

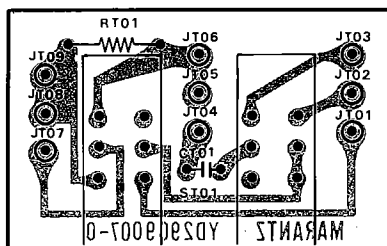


Figure 12. Mono HI Blend Assembly PT01 Component Locations

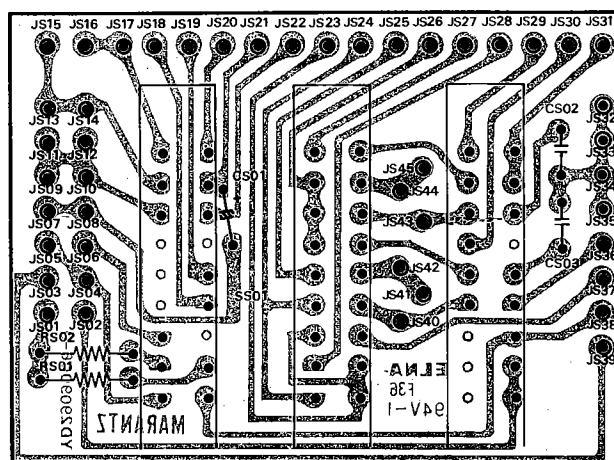


Figure 13. Selector SW Assembly PS01 Component Locations



Figure 14. Indicator Lamp Assembly PY01 Component Locations

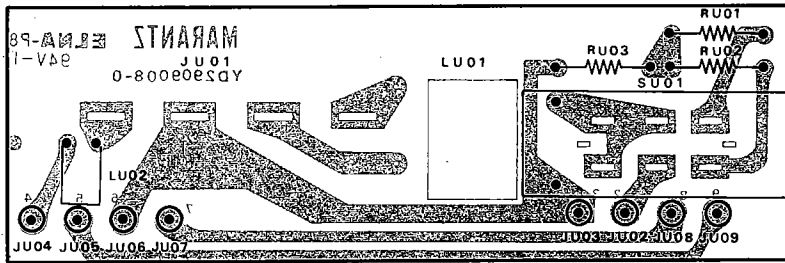


Figure 15. ANT ATT Assembly PV01 Component Locations

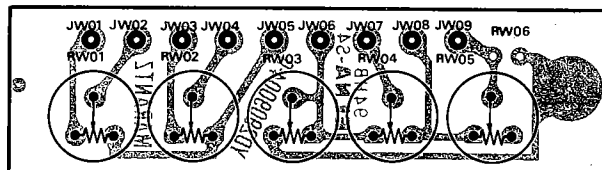


Figure 16. Trimming Resistor Assembly PW01 Component Locations

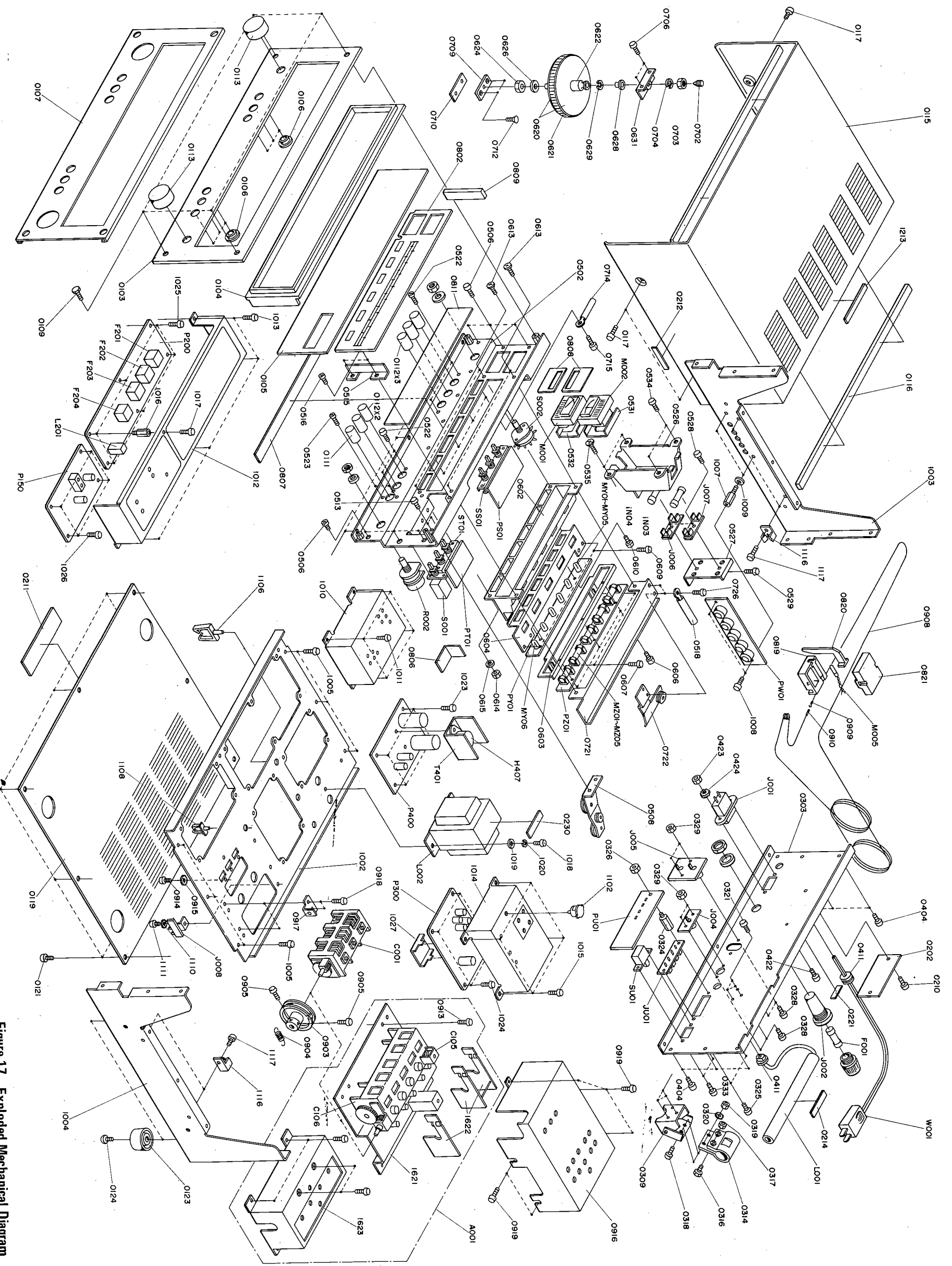
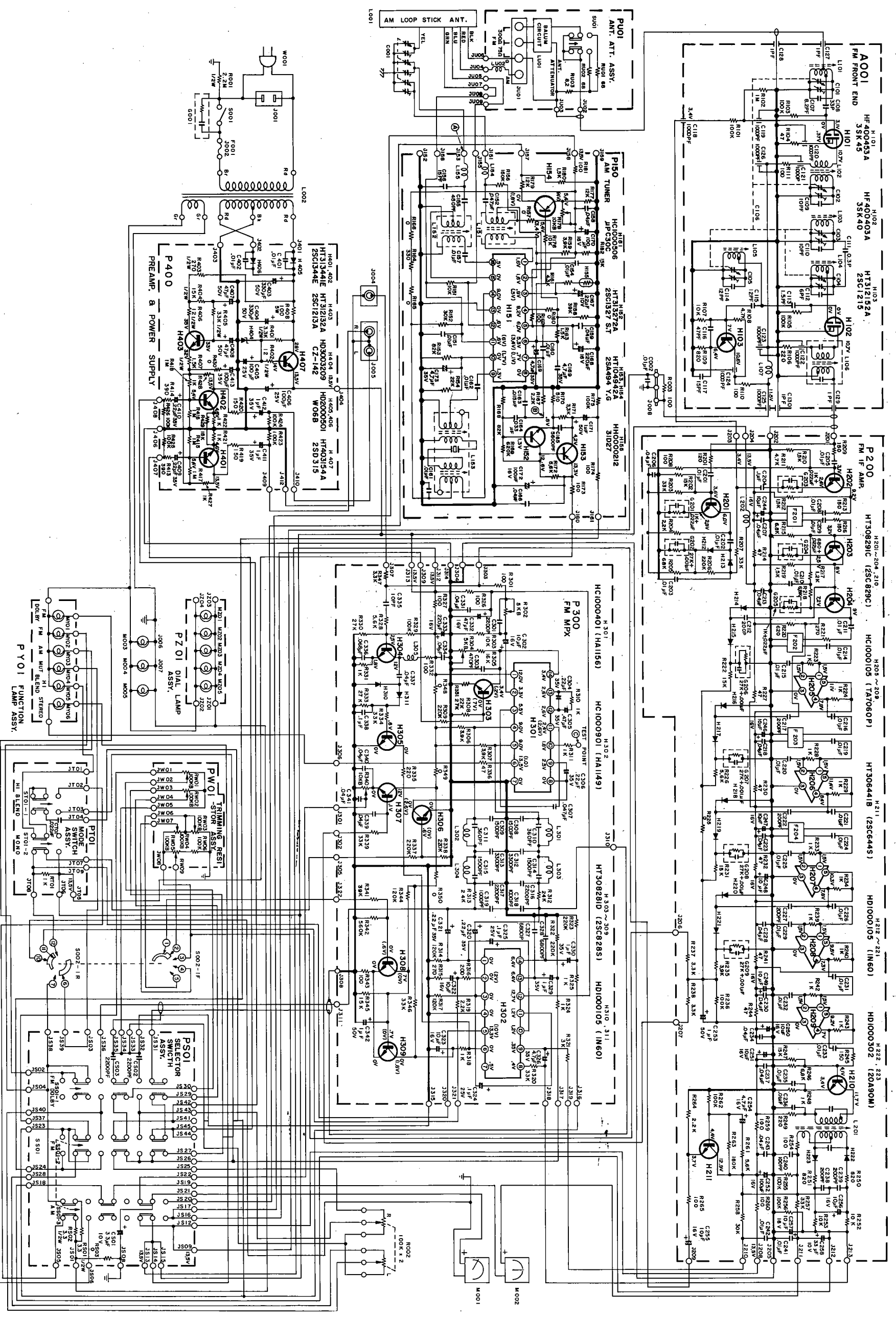


Figure 17. Exploded Mechanical Diagram

1 C



Model 125 NOTE: This schematic diagram applied to units manufactured for the U.S.A. market.

Figure 18. Schematic Diagram

U: For U.S.A.
E: For Europe

Parts List

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|-------------|---|---|-----------|--|
| A | 1 | 1 | 290906340 | Front Panel Assembly |
| 0103 | 1 | 1 | 290906301 | Escutcheon |
| 0104 | 1 | 1 | 285540101 | Frame |
| 0105 | 1 | 1 | 288415801 | Window |
| 0106 | 6 | 6 | 281825905 | Bush |
| 0107 | 1 | 1 | 288405301 | Cover |
| B | 1 | 1 | 285227340 | Fly Wheel Assembly |
| 0620 | 2 | 2 | 257706302 | Escutcheon |
| 0621 | 1 | 1 | 257727301 | Fly Wheel |
| 0622 | 1 | 1 | 285211201 | Shaft |
| 0624 | 1 | 1 | 53110603E | Hexagon Nut |
| 0626 | 1 | 1 | 54020601E | Flat Washer |
| C | 1 | 1 | 291510341 | Pointer Assembly |
| 0819 | 1 | 1 | 291510301 | Pointer |
| 0820 | 1 | 1 | 282610301 | Pointer |
| 0821 | 1 | 1 | 291510302 | Cover |
| M005 | 1 | 1 | IN1008030 | Lamp |
| D | 2 | 2 | 281915943 | Drum Assembly x 2 |
| 0903 | 2 | 2 | 281915901 | Drum x 2 |
| 0904 | 2 | 2 | 71101689L | Spring x 2 |
| 0905 | 4 | 4 | 51064019A | Set Screw x 4 |
| E | 1 | 1 | 120200640 | Hook Assembly |
| 0908 | 1 | 1 | 72080802A | String |
| 0909 | 1 | 1 | 120225801 | Hook |
| P150 | 1 | 1 | YD2909001 | P.W. Board, AM TUNER |
| | 1 | 1 | ZZ2909001 | P.W. Board Assembly |
| R151 | 1 | 1 | RT0510314 | Resistor, 10K Ω \pm 5% $\frac{1}{4}$ W |
| R152 | 1 | 1 | RT0530314 | Resistor, 30K Ω \pm 5% $\frac{1}{4}$ W |
| R153 | 1 | 1 | RT0582314 | Resistor, 82K Ω \pm 5% $\frac{1}{4}$ W |
| R154 | 1 | 1 | RT0547214 | Resistor, 4.7K Ω \pm 5% $\frac{1}{4}$ W |
| R156 | 1 | 1 | RT0515414 | Resistor, 150K Ω \pm 5% $\frac{1}{4}$ W |
| R157 | 1 | 1 | RC0000014 | Resistor, 0 Ω \pm 5% $\frac{1}{4}$ W |
| R158 | 1 | 1 | RT0539314 | Resistor, 3.9K Ω \pm 5% $\frac{1}{4}$ W |
| R159 | 1 | 1 | RT0539214 | Resistor, 3.9K Ω \pm 5% $\frac{1}{4}$ W |
| R160 | 1 | 1 | RC0000012 | Resistor, 0 Ω \pm 5% $\frac{1}{4}$ W |
| R161 | 1 | 1 | RT0543214 | Resistor, 4.3K Ω \pm 5% $\frac{1}{4}$ W |
| R162 | 1 | 1 | RT0510114 | Resistor, 100K Ω \pm 5% $\frac{1}{4}$ W |
| R163 | 1 | 1 | RT0515214 | Resistor, 1.5K Ω \pm 5% $\frac{1}{4}$ W |
| R164 | 1 | 1 | RT0533114 | Resistor, 330 Ω \pm 5% $\frac{1}{4}$ W |
| R165 | 1 | 1 | RC0000014 | Resistor, 0 Ω \pm 5% $\frac{1}{4}$ W |
| R166 | 1 | 1 | RC0000014 | Resistor, 0 Ω \pm 5% $\frac{1}{4}$ W |
| R167 | 1 | 1 | RT0522214 | Resistor, 2.2K Ω \pm 5% $\frac{1}{4}$ W |
| R168 | 1 | 1 | RT0582314 | Resistor, 82K Ω \pm 5% $\frac{1}{4}$ W |
| R169 | 1 | 1 | RT0562414 | Resistor, 620K Ω \pm 5% $\frac{1}{4}$ W |
| R170 | 1 | 1 | RT0551114 | Resistor, 510K Ω \pm 5% $\frac{1}{4}$ W |
| R171 | 1 | 1 | RT0533214 | Resistor, 3.3K Ω \pm 5% $\frac{1}{4}$ W |
| R172 | 1 | 1 | RT0556214 | Resistor, 5.6K Ω \pm 5% $\frac{1}{4}$ W |
| R173 | 1 | 1 | RT0510114 | Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W |
| R174 | 1 | 1 | RT0510114 | Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W |
| R175 | 1 | 1 | RT0510414 | Resistor, 100K Ω \pm 5% $\frac{1}{4}$ W |
| R176 | 1 | 1 | RT0510314 | Resistor, 10K Ω \pm 5% $\frac{1}{4}$ W |
| R177 | 1 | 1 | RT0512314 | Resistor, 12K Ω \pm 5% $\frac{1}{4}$ W |
| R178 | 1 | 1 | RA0103025 | Trimming Resist, 10K Ω B |
| R179 | 1 | 1 | RT0512314 | Resistor, 12K Ω \pm 5% $\frac{1}{4}$ W |
| R180 | 1 | 1 | RT0515214 | Resistor, 1.5K Ω \pm 5% $\frac{1}{4}$ W |
| R181 | 1 | 1 | RT0510114 | Resistor, 100K Ω \pm 5% $\frac{1}{4}$ W |
| R182 | 1 | 1 | RT0515214 | Resistor, 1.5K Ω \pm 5% $\frac{1}{4}$ W |
| C151 | 1 | 1 | DK1710301 | Ceramic Cap, .01 μ F \pm 20% |
| C152 | 1 | 1 | DF1747305 | Film Cap, .047 μ F \pm 20% |

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|-------------|----|----|-----------|------------------------------------|
| C153 | 1 | 1 | DD1620001 | Ceramic Cap, 20PF \pm 10% |
| C154 | 1 | 1 | DK1710301 | Ceramic Cap, .01 μ F \pm 20% |
| C155 | 1 | 1 | DF6545101 | Film Cap, 450PF \pm 5% |
| C156 | 1 | 1 | DD1615001 | Ceramic Cap, 15PF \pm 10% |
| C157 | 1 | 1 | DK1710301 | Ceramic Cap, .01 μ F \pm 20% |
| C158 | 1 | 1 | DK1840302 | Ceramic Cap, .04 μ F \pm 80% |
| C159 | 1 | 1 | DK1840302 | Ceramic Cap, .04 μ F \pm 80% |
| C160 | 1 | 1 | DK1710301 | Ceramic Cap, .01 μ F \pm 20% |
| C161 | 1 | 1 | DK1710301 | Ceramic Cap, .01 μ F \pm 20% |
| C162 | 1 | 1 | DK1710301 | Ceramic Cap, .01 μ F \pm 20% |
| C163 | 1 | 1 | DF1615305 | Film Cap, .015 μ F \pm 10% |
| C164 | 1 | 1 | DF1633305 | Film Cap, .033 μ F \pm 10% |
| C165 | 1 | 1 | DF1756205 | Film Cap, 5600PF \pm 20% |
| C166 | 1 | 1 | DK1840302 | Film Cap, .04 μ F \pm 80% |
| C167 | 1 | 1 | EA2260169 | Electroly Cap, 22 μ F 16V |
| C168 | 1 | 1 | EA1070169 | Electroly Cap, 100 μ F 16V |
| C169 | 1 | 1 | EA4750359 | Electroly Cap, 4.7 μ F 35V |
| C170 | 1 | 1 | EA1070169 | Electroly Cap, 100 μ F 16V |
| C171 | 1 | 1 | EA1050509 | Electroly Cap, 1 μ F 50V |
| C172 | 1 | 1 | EA1070169 | Electroly Cap, 100 μ F 16V |
| C173 | 1 | 1 | EA4750359 | Electroly Cap, 4.7 μ F 35V |
| H151 | 1 | 1 | HC1000506 | IC, μ PC30C |
| H152 | 1 | 1 | HT313272A | Transistor, 2SC1327 S.T |
| H153 | 1 | 1 | HT104942A | Transistor, 2SA494 Y.G |
| H154 | 1 | 1 | HT104942A | Transistor, 2SA494 |
| H155 | 1 | 1 | HH0000212 | Thermistor, 31D27 |
| L151 | 1 | 1 | LA1001019 | RF Coil, AM RF |
| L152 | 1 | 1 | LO1001050 | OSC Coil, AM OSC |
| L153 | 1 | 1 | Li1028003 | IFT, AM Ceramic Filt |
| L154 | 1 | 1 | LC1332002 | Choke Coil, 3.3 μ H |
| L155 | 1 | 1 | LC1332002 | Choke Coil, 3.3 μ H |
| J151 | 10 | 10 | YP1000113 | Plug |
| P201 | 1 | 1 | YD2909002 | P.W. Board |
| | 1 | 1 | ZZ2909002 | P.W. Board Assembly |
| R201 | 1 | 1 | RT0512114 | 120 Ω |
| R202 | 1 | 1 | RT0515314 | 15K Ω |
| R203 | 1 | 1 | RT0533314 | 33K Ω |
| R204 | 1 | 1 | RT0522214 | 2.2K Ω |
| R205 | 1 | 1 | RT0568314 | 68K Ω |
| R206 | 1 | 1 | RT0522414 | 220K Ω |
| R207 | 1 | 1 | RT0533314 | 33K Ω |
| R208 | 1 | 1 | RT0510114 | 100 Ω |
| R209 | 1 | 1 | RT0515114 | 150 Ω |
| R210 | 1 | 1 | RT0515214 | 1.5K Ω |
| R211 | 1 | 1 | RT0547214 | 4.7K Ω |
| R212 | 1 | 1 | RT0515214 | 1.5K Ω |
| R213 | 1 | 1 | RT0515114 | 150 Ω |
| R214 | 1 | 1 | RT0547014 | 47 Ω |
| R215 | 1 | 1 | RT0568214 | 6.8K Ω |
| R216 | 1 | 1 | RT0515114 | 150 Ω |
| R217 | 1 | 1 | RT0512214 | 1.2K Ω |
| R218 | 1 | 1 | RT0568214 | 6.8K Ω |
| R219 | 1 | 1 | RT0515214 | 1.5K Ω |
| R220 | 1 | 1 | RT0562114 | 620 Ω |
| R221 | 1 | 1 | RT0527114 | 270 Ω |
| R222 | 1 | 1 | RT0515314 | 15K Ω |
| R223 | 1 | 1 | RT0510214 | 1K Ω |
| R224 | 1 | 1 | RT0510214 | 1K Ω |

P201 FM IF BOARD
All resistors are 5% and $\frac{1}{4}$ W, unless otherwise indicated.

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|-------------|---|---|-----------|-------------------------|
| R225 | 1 | 1 | RC0000012 | 0Ω |
| R226 | 1 | 1 | RT0556214 | 5.6KΩ |
| R227 | 1 | 1 | RT0547014 | 47Ω |
| R228 | 1 | 1 | RT0510214 | 1KΩ |
| R229 | 1 | 1 | RT0510214 | 1KΩ |
| R230 | 1 | 1 | RT0547014 | 47Ω |
| R231 | 1 | 1 | RT0515314 | 15KΩ |
| R232 | 1 | 1 | RT0547014 | 47Ω |
| R233 | 1 | 1 | RT0510214 | 1KΩ |
| R234 | 1 | 1 | RT0510214 | 1KΩ |
| R235 | 1 | 1 | RT0568214 | 6.8Ω |
| R236 | 1 | 1 | RT0510414 | 100KΩ |
| R237 | 1 | 1 | RT0533214 | 3.3KΩ |
| R238 | 1 | 1 | RT0533214 | 3.3KΩ |
| R239 | 1 | 1 | RT0510214 | 1KΩ |
| R240 | 1 | 1 | RT0510214 | 1KΩ |
| R241 | 1 | 1 | RT0547014 | 47Ω |
| R242 | 1 | 1 | RT0510214 | 1KΩ |
| R243 | 1 | 1 | RT0510214 | 1KΩ |
| R244 | 1 | 1 | RT0547014 | 47Ω |
| R245 | 1 | 1 | RT0515114 | 150Ω |
| R246 | 1 | 1 | RT0568214 | 6.8KΩ |
| R247 | 1 | 1 | RT0515314 | 15KΩ |
| R248 | 1 | 1 | RT0510214 | 1KΩ |
| R249 | 1 | 1 | RT0522114 | 220Ω |
| R250 | 1 | 1 | RT0582114 | 820Ω |
| R251 | 1 | 1 | RT0582114 | 820Ω |
| R252 | 1 | 1 | RT0510314 | 10KΩ |
| R253 | 1 | 1 | RT0510314 | 10KΩ |
| R254 | 1 | 1 | RT0510114 | 100Ω |
| R255 | 1 | 1 | RT0510414 | 100KΩ |
| R256 | 1 | 1 | RT0510414 | 100KΩ |
| R257 | 1 | 1 | RT0533314 | 33KΩ |
| R258 | 1 | 1 | RT0530314 | 30KΩ |
| R259 | 1 | 1 | RT0510114 | 100Ω |
| R260 | 1 | 1 | RT0510114 | 100Ω |
| R261 | 1 | 1 | RT0556214 | 5.6KΩ |
| R262 | 1 | 1 | RT0510414 | 100KΩ |
| R263 | 1 | 1 | RT0518414 | 180KΩ |
| R264 | 1 | 1 | RT0522214 | 2.2KΩ |
| R265 | 1 | 1 | RT0510114 | 100Ω |
| C201 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C202 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C203 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C204 | 1 | 1 | DK1810402 | Ceramic Cap, .0μF ±80% |
| C205 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C206 | 1 | 1 | DK1840302 | Ceramic Cap, .04μF ±20% |
| C207 | 1 | 1 | DK1840302 | Ceramic Cap, .04μF ±20% |
| C208 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C209 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C210 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C211 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C212 | 1 | 1 | DD1620101 | Ceramic Cap, 200PF ±10% |
| C213 | 1 | 1 | DK1840302 | Ceramic Cap, .04μF ±20% |
| C214 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C215 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C216 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C217 | 1 | 1 | DD1620101 | Ceramic Cap, 200PF ±10% |
| C218 | 1 | 1 | DK1840301 | Ceramic Cap, .04μF ±20% |
| C219 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C220 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C221 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C222 | 1 | 1 | DD1620101 | Ceramic Cap, 200P ±10% |

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|-------------|---|---|-----------|------------------------------|
| C223 | 1 | 1 | DK1840301 | Ceramic Cap, .04μF ±80% |
| C224 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C225 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C226 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C227 | 1 | 1 | DD1620101 | Ceramic Cap, 200PF ±10% |
| C228 | 1 | 1 | DK1840301 | Ceramic Cap, .04μF ±20% |
| C229 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C230 | 1 | 1 | DK1840301 | Ceramic Cap, .04μF ±20% |
| C231 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C232 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C233 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C234 | 1 | 1 | DK1840301 | Ceramic Cap, .04μF ±20% |
| C235 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C236 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C237 | 1 | 1 | DK1840301 | Ceramic Cap, .04μF ±20% |
| C238 | 1 | 1 | DK1620101 | Ceramic Cap, 200PF ±10% |
| C239 | 1 | 1 | DD1620101 | Ceramic Cap, 200PF ±10% |
| C240 | 1 | 1 | DD1610101 | Ceramic Cap, 100PF ±10% |
| C241 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C242 | 1 | 1 | DK1710301 | Ceramic Cap, .01μF ±20% |
| C243 | 1 | 1 | DK1840301 | Ceramic Cap, .04μF ±20% |
| C244 | 1 | 1 | EA1060169 | Electroly Cap, 10μF 16V |
| C245 | 1 | 1 | EA1060169 | Electroly Cap, 10μF 16V |
| C246 | 1 | 1 | EA1060169 | Electroly Cap, 10μF 16V |
| C247 | 1 | 1 | EA1060169 | Electroly Cap, 10μF 16V |
| C248 | 1 | 1 | EA1060169 | Electroly Cap, 10μF 16V |
| C249 | 1 | 1 | EA1060169 | Electroly Cap, 10μF 16V |
| C250 | 1 | 1 | EA1060169 | Electroly Cap, 10μF 16V |
| C251 | 1 | 1 | EA1060169 | Electroly Cap, 10μF 16V |
| C252 | 1 | 1 | EA1070169 | Electroly Cap, 100μF 16V |
| C253 | 1 | 1 | EA1050509 | Electroly Cap, 11μF 50V |
| C254 | 1 | 1 | EA4750359 | Electroly Cap, 4.7μF 35V |
| C255 | 1 | 1 | EA1060169 | Electroly Cap, 10μF 16V |
| C256 | 1 | 1 | EA1060169 | Electroly Cap, 10μF 16V |
| C257 | 1 | 1 | EA1060169 | Electroly Cap, 10μF 16V |
| C258 | 1 | 1 | EA3360109 | Electroly Cap, 33μF 10V |
| H201 | 1 | 1 | HT308291C | Transistor, 2SC829C |
| H202 | 1 | 1 | HT308291C | Transistor, 2SC829C |
| H203 | 1 | 1 | HT308291C | Transistor, 2SC829C |
| H204 | 1 | 1 | HT308291C | Transistor, 2SC829C |
| H205 | 1 | 1 | HC1000105 | IC, TA7060P |
| H206 | 1 | 1 | HC1000105 | IC, TA7060P |
| H207 | 1 | 1 | HC1000405 | IC, TA7060P |
| H208 | 1 | 1 | HC1000105 | IC, TA7060P |
| H209 | 1 | 1 | HC1000105 | IC, TA7060P |
| H210 | 1 | 1 | HT308291C | Transistor, 2SC829C |
| H211 | 1 | 1 | HT306441B | Transistor, 2SC644S |
| H212 | 1 | 1 | HD1000105 | Diode, IN60 |
| H213 | 1 | 1 | HD1000105 | Diode, IN60 |
| H214 | 1 | 1 | HD1000105 | Diode, IN60 |
| H215 | 1 | 1 | HD1000105 | Diode, IN60 |
| H216 | 1 | 1 | HD1000105 | Diode, IN60 |
| H217 | 1 | 1 | HD1000105 | Diode, IN60 |
| H218 | 1 | 1 | HD1000105 | Diode, IN60 |
| H219 | 1 | 1 | HD1000105 | Diode, IN60 |
| H220 | 1 | 1 | HD1000105 | Diode, IN60 |
| H221 | 1 | 1 | HD1000105 | Diode, IN60 |
| H222 | 1 | 1 | HD1000302 | Diode, 20A90M |
| H223 | 1 | 1 | HD1000302 | Diode, 20A90M |
| G201 | 1 | 1 | BF2230006 | Printed Compo, 1K + 0.022μF |
| G202 | 1 | 1 | BF1020001 | Printed Compo, 27K + 0.001μF |
| G203 | 1 | 1 | BF2230006 | Printed Compo, 1K + 0.022μF |
| G204 | 1 | 1 | BF2230007 | Printed Compo, 680 + 0.022μF |
| G205 | 1 | 1 | BF2230006 | Printed Compo, 1K + 0.022μF |

U: For U.S.A.
E: For Europe

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|-------------|----|----|-----------|--|
| G206 | 1 | .1 | BF1020001 | Printed Compo, 27K + 0.001 μ F |
| G207 | 1 | 1 | BF1020001 | Printed Compo, 27K + 0.001 μ F |
| G208 | 1 | 1 | BF1020001 | Printed Compo, 27K + 0.001 μ F |
| G209 | 1 | 1 | BF1020001 | Printed Compo, 27K + 0.001 μ F |
| F201 | 1 | 1 | FF3107002 | LC Filter, 10.7 MHz (6 pole) |
| F202 | 1 | 1 | FF3107001 | LC Filter, 10.7 MHz (4 pole) |
| F203 | 1 | 1 | FF3107001 | LC Filter, 10.7 MHz (4 pole) |
| F204 | 1 | 1 | FF3107001 | LC Filter, 10.7 MHz (4 pole) |
| L201 | 1 | 1 | LI1401623 | IFT, FM |
| L202 | 1 | 1 | LC1332002 | Choke Coil, 3.3 μ F |
| J201 | | | | |
| J213 | 13 | 13 | YP1000113 | Plug |
| | | | | P300 FM MPX BOARD All resistors are \pm 5% and $\frac{1}{4}$ W, unless otherwise indicated. |
| P300 | 1 | 1 | YD2909003 | P.W. Board |
| | 1 | 1 | ZZ2909003 | P.W. Board Assembly |
| R351 | 1 | 1 | RT0527214 | 2.7K Ω |
| R301 | 1 | 1 | RT0510114 | 100 Ω |
| R302 | 1 | 1 | RA0502020 | Trimming, 5K Ω B |
| R303 | 1 | 1 | RT0510314 | 10K Ω |
| R304 | 1 | 1 | RA0502020 | Trimming, 5K Ω B |
| R305 | 1 | 1 | RT0516314 | 16K Ω |
| R306 | 1 | 1 | RT0539214 | 3.9K Ω |
| R307 | 1 | 1 | RT0539214 | 3.9K Ω |
| R308 | 1 | 1 | RT0522314 | 22K Ω |
| R309 | 1 | 1 | RT0522414 | 220K Ω |
| R310 | 1 | 1 | RT0510214 | 1K Ω |
| R311 | 1 | 1 | RT0510214 | 1K Ω |
| R312 | 1 | 1 | RT0530314 | 30K Ω |
| R313 | 1 | 1 | RT0530314 | 30K Ω |
| R314 | 1 | 1 | RT0512414 | 120K Ω |
| R315 | 1 | 1 | RT0527114 | 270 Ω |
| R316 | 1 | 1 | RT0520114 | 200 Ω |
| R317 | 1 | 1 | RT0512414 | 120K Ω |
| R318 | 1 | 1 | RT0510214 | 1K Ω |
| R319 | 1 | 1 | RT0522214 | 2.2K Ω |
| R320 | 1 | 1 | RT0533314 | 3.3K Ω |
| R321 | 1 | 1 | RT0530214 | 3K Ω |
| R322 | 1 | 1 | RT0522414 | 220K Ω |
| R323 | 1 | 1 | RT0522414 | 220K Ω |
| R324 | 1 | 1 | RT0510214 | 1K Ω |
| R325 | 1 | 1 | RT0510214 | 1K Ω |
| R326 | 1 | 1 | RT0510114 | 100 Ω |
| R327 | 1 | 1 | RT0510114 | 100 Ω |
| R328 | 1 | 1 | RT0556214 | 5.6K Ω |
| R329 | 1 | 1 | RT0510414 | 100K Ω |
| R330 | 1 | 1 | RT0527314 | 27K Ω |
| R331 | 1 | 1 | RT0510214 | 1K Ω |
| R332 | 1 | 1 | RT0510114 | 100 Ω |
| R333 | 1 | 1 | RT0527314 | 27K Ω |
| R334 | 1 | 1 | RT0533314 | 33K Ω |
| R335 | 1 | 1 | RT0522114 | 220 Ω |
| R336 | 1 | 1 | RT0547014 | 47 Ω |
| R337 | 1 | 1 | RT0522414 | 220K Ω |
| R338 | 1 | 1 | RT0522414 | 220K Ω |
| R339 | 1 | 1 | RT0533314 | 33K Ω |
| R340 | 1 | 1 | RA0103025 | Trimming Resist, 10K Ω B |
| R341 | 1 | 1 | RT0539314 | 39K Ω |

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|-------------|---|---|-----------|--|
| R342 | 1 | 1 | RT0556414 | 560K Ω |
| R343 | 1 | 1 | RT0510114 | 100 Ω |
| R344 | 1 | 1 | RT0512414 | 120K Ω |
| R345 | 1 | 1 | RT0515314 | 15K Ω |
| R346 | 1 | 1 | RT0533314 | 33K Ω |
| R347 | 1 | 1 | RT0533214 | 3.3K Ω |
| R348 | 1 | 1 | RC0000012 | 0 Ω |
| R349 | 1 | 1 | RC0000012 | 0 Ω |
| R350 | 1 | 1 | RC0000012 | 0 Ω |
| C301 | 1 | 1 | DF1622205 | Film Cap, 2200PF \pm 10% |
| C302 | 1 | 1 | EA1060169 | Electroly Cap, 10 μ F 16V |
| C303 | 1 | 1 | DF5547101 | Film Cap, 470PF \pm 5% |
| C304 | 1 | 1 | EQ2240501 | Electroly Cap, .22 μ F \pm 20% 35V |
| C305 | 1 | 1 | EQ4740501 | Electroly Cap, .47 μ F \pm 20% 35V |
| C306 | 1 | 1 | EQ2240501 | Electroly Cap, .22 μ F \pm 20% 35V |
| C307 | 1 | 1 | DF1747301 | Film Cap, .047 μ F \pm 20% |
| C308 | 1 | 1 | DF1515205 | Film Cap, 1500PF \pm 5% |
| C309 | 1 | 1 | DF1515205 | Film Cap, 1500PF \pm 5% |
| C310 | 1 | 1 | DD1536101 | Ceramic Cap, 360PF \pm 5% |
| C311 | 1 | 1 | DD1536101 | Ceramic Cap, 360PF \pm 5% |
| C312 | 1 | 1 | DF1533205 | Film Cap, 3300PF \pm 5% |
| C313 | 1 | 1 | DF1533205 | Film Cap, 3300PF \pm 5% |
| C314 | 1 | 1 | DF1515205 | Film Cap, 1500PF \pm 5% |
| C315 | 1 | 1 | DF1515205 | Film Cap, 1500PF \pm 5% |
| C316 | 1 | 1 | DF1522205 | Film Cap, 2200PF \pm 5% |
| C317 | 1 | 1 | DF1522205 | Film Cap, 2200PF \pm 5% |
| C318 | 1 | 1 | DF1510205 | Film Cap, 1000PF \pm 5% |
| C319 | 1 | 1 | DF1510205 | Film Cap, 1000PF \pm 5% |
| C320 | 1 | 1 | EV2240351 | Film Cap, 22 μ F 35V |
| C321 | 1 | 1 | EV2240351 | Film Cap, 22 μ F 35V |
| C322 | 1 | 1 | EA1060169 | Electroly Cap, 10 μ F 16V |
| C323 | 1 | 1 | EA1060169 | Electroly Cap, 10 μ F 16V |
| C324 | 1 | 1 | EV1040251 | Electroly Cap, 1 μ F 25V |
| C325 | 1 | 1 | EV1040251 | Electroly Cap, 1 μ F 25V |
| C326 | 1 | 1 | EA4750359 | Electroly Cap, 4.7 μ F 35V |
| C327 | 1 | 1 | DF1668205 | Film Cap, 6800PF \pm 10% |
| C328 | 1 | 1 | DF1668205 | Film Cap, 6800PF \pm 10% |
| C329 | 1 | 1 | EV1050352 | Electroly Cap, 1 μ F 35V |
| C330 | 1 | 1 | EV1050352 | Electroly Cap, 1 μ F 35V |
| C331 | 1 | 1 | DK1840302 | Ceramic Cap, .04 μ F \pm 80% |
| C332 | 1 | 1 | EA4760169 | Electroly Cap, 47 μ F 16V |
| C333 | 1 | 1 | EA2270169 | Electroly Cap, 220 μ F 16V |
| C334 | 1 | 1 | DK1840302 | Ceramic Cap, .04 μ F \pm 80% |
| C335 | 1 | 1 | DD1210001 | Ceramic Cap, 10PF \pm 10% |
| C336 | 1 | 1 | DF1668301 | Film Cap, .068 μ F \pm 10% |
| C337 | 1 | 1 | DF1740301 | Film Cap, .04 μ F \pm 80% |
| C338 | 1 | 1 | DK1810402 | Film Cap, .1 μ F \pm 80% |
| C339 | 1 | 1 | DK1840302 | Ceramic Cap, .04 μ F \pm 80% |
| C340 | 1 | 1 | DK1840302 | Ceramic Cap, .04 μ F \pm 80% |
| C341 | 1 | 1 | DK1840302 | Ceramic Cap, .04 μ F \pm 80% |
| C342 | 1 | 1 | EA1050509 | Electroly Cap, 1 μ F 50V |
| H301 | 1 | 1 | HC1000401 | IC, IC HA1156 |
| H302 | 1 | 1 | HC1000901 | IC, IC HA1149 |
| H303 | 1 | 1 | HT308281D | Transistor, 2SC828S |
| H304 | 1 | 1 | HT308281D | Transistor, 2SC828S |
| H305 | 1 | 1 | HT308281D | Transistor, 2SC828S |
| H306 | 1 | 1 | HT308281D | Transistor, 2SC828S |
| H307 | 1 | 1 | HT308281D | Transistor, 2SC828S |
| H308 | 1 | 1 | HT308281D | Transistor, 2SC828S |
| H309 | 1 | 1 | HT308281D | Transistor, 2SC828S |
| H310 | 1 | 1 | HD1000105 | Diode, IN60 |
| H311 | 1 | 1 | HD1000105 | Diode, IN60 |

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|--------------------------------|----|----|-----------|----------------------------|
| L301 | 1 | 1 | LS1029004 | MPX Coil, 56mH |
| L302 | 1 | 1 | LS1029004 | MPX Coil, 56mH |
| L303 | 1 | 1 | LS1029005 | MPX Coil, 43mH |
| L304 | 1 | 1 | LS1029005 | MPX Coil, 43mH |
| L305 | 1 | 1 | LC2105001 | Choke Coil, 1mH |
| J301 | 21 | 21 | YP1000113 | Plug |
| ~ | | | | |
| J322 | | | | |
| 1027 | 1 | 1 | 290910903 | Shield |
| P400 PCWER SUPPLY BOARD | | | | |
| P400 | 1 | 1 | YD2884005 | P.W. Board |
| | 1 | 1 | ZZ2909105 | P.W. Board Assembly |
| R401 | 1 | 1 | RC1033212 | Resistor, 3.3KΩ ±10% ½W |
| R402 | 1 | 1 | RC1012012 | Resistor, 1ZΩ ±10% ½W |
| R403 | 1 | 1 | RC1027112 | Resistor, 270Ω ±10% ½W |
| R404 | 1 | 1 | RC1015312 | Resistor, 15KΩ ±10% ½W |
| R405 | 1 | 1 | RC1033312 | Resistor, 33KΩ ±10% ½W |
| R406 | 1 | 1 | RC1012012 | Resistor, 12Ω ±10% ½W |
| R407 | 1 | 1 | RC1015212 | Resistor, 1.5KΩ ±10% ½W |
| R408 | 1 | 1 | GS1010105 | Resistor, 100Ω ±10% 5W |
| R427 | 1 | 1 | RT0510214 | Resistor, 1KΩ ±5% ¼W |
| R428 | 1 | 1 | RT0510214 | Resistor, 1KΩ ±5% ¼W |
| R429 | 1 | 1 | RT0515314 | Resistor, 15KΩ ±5% ¼W |
| R430 | 1 | 1 | RC0000012 | Resistor, 0Ω |
| R413 | 1 | 1 | RT0539114 | Resistor, 390Ω ±5% ¼W |
| R414 | 1 | 1 | RT0539114 | Resistor, 390Ω ±5% ¼W |
| R415 | 1 | 1 | RT0510514 | Resistor, 1MΩ ±5% ¼W |
| R416 | 1 | 1 | RT0510514 | Resistor, 1MΩ ±5% ¼W |
| R417 | 1 | 1 | RT0510514 | Resistor, 1MΩ ±5% ¼W |
| R418 | 1 | 1 | RT0510514 | Resistor, 1MΩ ±5% ¼W |
| R419 | 1 | 1 | RT0515114 | Resistor, 150Ω ±5% ¼W |
| R420 | 1 | 1 | RT0515114 | Resistor, 150Ω ±5% ¼W |
| R421 | 1 | 1 | RT0510214 | Resistor, 1KΩ ±5% ¼W |
| R422 | 1 | 1 | RT0510214 | Resistor, 1KΩ ±5% ¼W |
| R423 | 1 | 1 | RT0510414 | Resistor, 100KΩ ±5% ¼W |
| R424 | 1 | 1 | RT0510414 | Resistor, 100KΩ ±5% ¼W |
| R425 | 1 | 1 | RT0510414 | Resistor, 100KΩ ±5% ¼W |
| R426 | 1 | 1 | RT0510414 | Resistor, 100KΩ ±5% ¼W |
| C401 | 1 | 1 | DK1810351 | Ceramic Cap, .01μF +100% |
| C402 | 1 | 1 | DK1810351 | Ceramic Cap, .01μF +100% |
| C403 | 1 | 1 | EA3370509 | Electroly Cap, 330μF 50V |
| C404 | 1 | 1 | EA3370509 | Electroly Cap, 330μF 50V |
| C405 | 1 | 1 | EA1070259 | Electroly Cap, 100μF 25V |
| C406 | 1 | 1 | EA1070259 | Electroly Cap, 100μF 25V |
| C407 | 1 | 1 | EA4760509 | Electroly Cap, 47μF 50V |
| C408 | 1 | 1 | EA4760509 | Electroly Cap, 47μF 50V |
| C409 | 1 | 1 | EV2240351 | Electroly Cap, .22μF 35V |
| C410 | 1 | 1 | EV2240351 | Electroly Cap, .22μF 35V |
| C411 | 1 | 1 | EV1050352 | Electroly Cap, 1μF 35V |
| C412 | 1 | 1 | EV1050352 | Electroly Cap, 1μF 35V |
| C413 | 1 | 1 | EA1070359 | Electroly Cap, 100μF 35V |
| H401 | 1 | 1 | HT313441E | Transistor, 2SC1344(E) |
| H402 | 1 | 1 | HT313441E | Transistor, 2SC1344(E) |
| H403 | 1 | 1 | HT312132A | Transistor, 2SC1213A(B)(C) |
| H404 | 1 | 1 | HD3003209 | Diode, CZ-142 |
| H405 | 1 | 1 | HD2000501 | Diode, W06B |
| H406 | 1 | 1 | HD2000501 | Diode, W06B |
| H407 | 1 | 1 | HT403154A | Transistor 2SC315(C,D,E,E) |
| T401 | 1 | 1 | 273026702 | Heat Sink |
| J401 | 11 | 11 | YP1000113 | Plug |
| ~ | | | | |
| J413 | | | | |

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|---------------------------------|----|----|------------|----------------------------|
| 0502 | 1 | 1 | 288416050 | Bracket K |
| 0508 | 1 | 1 | 290926250 | Pulley K |
| 0513 | 2 | 2 | 51100306A | B H M Screw, B 3 x 6 |
| 0515 | 1 | 1 | 288420101 | Partitioner |
| 0516 | 2 | 2 | 51570306B | P H Tapt Screw, P 3 x 6 ST |
| 0522 | 4 | 4 | 51100306A | B H M Screw, B 3 x 6 |
| 0523 | 2 | 2 | 51100306A | B H M Screw, B 3 x 6 |
| 0534 | 2 | 2 | 51102606A | B H M Screw, B 2.6 x 6 |
| 0535 | 2 | 2 | 51042606S | F H M Screw, F 2.6 x 6 |
| 0613 | 4 | 4 | 51042606S | F H M Screw, F 2.6 x 6 |
| 0614 | 2 | 2 | 53112603E | Hexagon Nut |
| 0615 | 2 | 2 | 54022601E | Flat Washer P |
| 0706 | 2 | 2 | 51470306A | B H M Screw S |
| 0709 | 1 | 1 | 257710602 | Bearing |
| 0710 | 1 | 1 | 141511801 | Spacer |
| 0712 | 2 | 2 | 51040306A | F H M Screw, F 3 x 6 |
| 0715 | 4 | 4 | 51570306B | P H Tapt Screw, P 3 x 6 ST |
| 0806 | 1 | 1 | .28191200S | Insulator |
| R002 | 1 | 1 | RM0104008 | Variable Resist, 100KΩx2 |
| S002 | 1 | 1 | SR0304006 | Rotary Switch |
| S001 | 1 | 1 | SP0101010 | Push Switch, |
| S001 | 1 | 1 | SP0101016 | Push Switch, |
| PT01 MONO HI-BLEND BOARD | | | | |
| PT01 | 1 | 1 | YD2909007 | P.W. Board, MONO H1-Blend |
| | 1 | 1 | ZZ2909007 | P.W. Board Assembly |
| RT01 | 1 | 1 | RT0510214 | Resistor, 1KΩ ±5% ¼W |
| CT01 | 1 | 1 | DF1622301 | Film Cap, 0.022μF ±10% |
| ST01 | 1 | 1 | SP0202008 | Push Switch, MONO H1-BLEND |
| JT01 | 8 | 8 | YP1000113 | Plug |
| ~ | | | | |
| JT08 | | | | |
| PS01 SELECTOR SW BOARD | | | | |
| PS01 | 1 | 1 | YD2909006 | P.W. Board, SELECTOR-SW |
| | 1 | 1 | ZZ2909006 | P.W. Board Assembly |
| | 1 | 1 | ZZ2909806 | P.W. Board Assembly |
| RS01 | 1 | 1 | RC1003312 | Resistor, 3.3Ω 10% ½W |
| RS02 | 1 | 1 | RC1003312 | Resistor, 3.3Ω 10% ½W |
| RS03 | 1 | 1 | RC0000012 | Resistor, 0 Ω |
| CS01 | 1 | 1 | EA3360109 | Electroly Cap, 33μF 10V |
| CS02 | 1 | 1 | DF1522205 | Film Cap, 2200PF ±5% |
| CS03 | 1 | 1 | DF1522205 | Film Cap, 2200PF ±5% |
| CS02 | 1 | 1 | DF1510205 | Film Cap, 1000PF ±5% |
| CS03 | 1 | 1 | DF1510205 | Film Cap, 1000PF ±5% |
| SS01 | 1 | 1 | SP0603009 | Push Switch |
| JS01 | 45 | 45 | YP1000113 | Plug |
| ~ | | | | |
| JS45 | | | | |
| 1112 | 1 | 1 | 62030039W | Plug |
| 0602 | 1 | 1 | 288427401 | Reflector |
| 0603 | 1 | 1 | 288427101 | Holder |
| 0604 | 1 | 1 | 288427102 | Holder |
| 0606 | 3 | 3 | 51570306B | P H Tapt Screw, P 3 x 6 ST |
| 0607 | 2 | 2 | 51100306A | B H M Screw, B 3 x 6 |
| 0609 | 2 | 2 | 51480306A | B H M Screw F |
| 0610 | 2 | 2 | 51570306B | P H Tapt Screw, P 3 x 6 ST |

U: For U.S.A.
E: For Europe

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|-------------|---|---|-----------|-------------------------------------|
| PZ01 | 1 | 1 | YD2884003 | PZ01 DIAL LAMP P.W. Board |
| | 1 | 1 | ZZ2884003 | P.W. Board Assembly |
| MZ01 | 1 | 1 | IN1008007 | Lamp, DIAL ILL |
| MZ02 | 1 | 1 | IN1008007 | Lamp, DIAL ILL |
| MZ03 | 1 | 1 | IN1008007 | Lamp, DIAL ILL |
| MZ04 | 1 | 1 | IN1008007 | Lamp, DIAL ILL |
| MZ05 | 1 | 1 | IN1008007 | Lamp, DIAL ILL |
| JZ01 | | | | |
| ~ | 4 | 4 | YP1000113 | Plug |
| JZ04 | | | | |
| 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 | 1 | 1 | YJ0800017 | Socket |
| JZ12 | 1 | 1 | YJ0800017 | Socket |
| JZ13 | 1 | 1 | YJ0800017 | Socket |
| JZ14 | 1 | 1 | YJ0800017 | Socket |
| | | | | PY01 INDICATOR LAMP |
| PY01 | 1 | 1 | YD2909005 | P.W. Board |
| | 1 | 1 | ZZ2909005 | P.W. Board Assembly |
| MY01 | 1 | 1 | IN1006301 | Lamp, FM DOLBY |
| MY02 | 1 | 1 | IN1006301 | Lamp, FM |
| MY03 | 1 | 1 | IN1006301 | Lamp, AM |
| MY04 | 1 | 1 | IN1006301 | Lamp, NUT |
| MY05 | 1 | 1 | IN1006301 | Lamp, HI BLEND |
| MY06 | 1 | 1 | IN1012011 | Lamp, STEREO |
| JY01 | | | | |
| ~ | 9 | 9 | YP1000113 | Plug |
| JY09 | | | | |
| 0721 | 1 | 1 | 290905101 | Guide |
| 0722 | 1 | 1 | 290926251 | Pulley K |
| 0726 | 2 | 2 | 51100306A | B-H M Screw, B 3 x 6 |
| 0518 | 1 | 1 | 121000501 | Clamper |
| 0532 | 1 | 1 | 288610701 | Sheet |
| M001 | 1 | 1 | IM1104210 | DC Meter |
| 0531 | 1 | 1 | 288610701 | Sheet |
| M002 | 1 | 1 | IM1104202 | DC Meter, TUNING |
| 0526 | 1 | 1 | 288427402 | Reflector |
| 0527 | 1 | 1 | 288427103 | Holder |
| 0528 | 2 | 2 | 51570306B | P H Tapt Screw, P 3 x 6 ST |
| 0529 | 1 | 1 | 51100306A | B H M Screw, B 3 x 6 |
| M003 | 1 | 1 | IN1008007 | Lamp |
| M004 | 1 | 1 | IN1008007 | Lamp |
| J006 | 1 | 1 | YJ0800019 | Socket |
| J007 | 1 | 1 | YJ0800019 | Socket |
| 0714 | 4 | 4 | 138200503 | Clamper |
| 4136 | 1 | 1 | 62030039W | Lug |

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|-------------|---|---|------------|--------------------------|
| 0631 | 1 | 1 | 281810650 | Bearing K |
| 0702 | 1 | 1 | 51640412D | Set Screw C R |
| 0703 | 1 | 1 | 53110403E | Hexagon Nut |
| 0704 | 1 | 1 | 54040402N | Spring Washer |
| 0303 | 1 | | 290916021 | Bracket |
| 0304 | 1 | | 290916022 | Bracket |
| 0321 | 3 | 3 | 51100306S | B H M Screw S, B 3 x 6 |
| 0324 | 1 | 1 | 289210107 | Support |
| 0325 | 2 | 2 | 51100306S | B H M Screw, B 3 x 6 |
| 0326 | 1 | 1 | 53110303E | Hexagon Nut |
| 4336 | 4 | 4 | 5110030459 | B H M Screw, B 3 |
| 0328 | 4 | 4 | 51100306S | B H M Screw, B 3 x 6 |
| 0329 | 4 | 4 | 53110303E | Hexagon Nut |
| 0333 | 2 | 2 | 51100305S | B H M Screw, B 3 x 6 |
| 0411 | 2 | | 145525903 | Bush |
| 0413 | | 1 | 284906702 | Cap |
| 0415 | | 1 | 282125901 | Bush |
| 0416 | | 2 | 53110303E | Hexagon Nut |
| 0417 | | 2 | 54050300R | T L Washer PR |
| 0418 | | 2 | 51060316A | P H M Screw, P 3 x 16 |
| 0419 | | 2 | 55060305S | T R Rivet |
| 0422 | 2 | 2 | 51100308S | B H M Screw, B 3 x 8 |
| 0423 | 2 | 2 | 53110303E | Hexagon Nut |
| 0424 | 2 | 2 | 54050300R | T L Washer PR |
| C003 | | 1 | DF1722380 | Film Cap, 0.022μF 100V |
| G001 | | 1 | BF1040003 | Printing Compo |
| F001 | | 1 | FS1005009 | Fuse, 250 V 0.5 A UL |
| J001 | 1 | 1 | YJ0400048 | Socket, AC OUTLET |
| J002 | 1 | 1 | YJ0800012 | Socket, FUSE HOLDER |
| J004 | 1 | 1 | YT0201009 | Terminal, QUAD OUTPUT |
| J005 | 1 | 1 | YT0202011 | Terminal, OUTPUT |
| W001 | 1 | 1 | YC0240010 | AC Coard |
| W001 | 1 | 1 | YC0180006 | AC Coard |
| JU01 | 1 | 1 | JT0304009 | Terminal, ANT |
| | | | | PU01 ANT ATT |
| PU01 | 1 | 1 | YD2909008 | P.W. Board, ANT. BOARD |
| | 1 | 1 | ZZ2909008 | P.W. Board Assembly |
| RU01 | 1 | 1 | RC1068012 | Resistor, 68Ω ±10% 1/4W |
| RU02 | 1 | 1 | RC1068012 | Resistor, 68Ω ±10% 1/4W |
| RU03 | 1 | 1 | RC1008212 | Resistor, 8.2Ω ±10% 1/4W |
| SU01 | 1 | 1 | SS0202038 | Slidé Switch, FM ANT ATT |
| LU01 | 1 | 1 | LB3007526 | Balum Coil |
| LU02 | 1 | 1 | LC1154002 | Chocke Coil, 150μH |
| JU02 | | | | |
| ~ | 5 | 5 | YP1000113 | Plug |
| JU06 | | | | |
| L001 | 1 | 1 | LF1120038 | ANT Coil |
| 0309 | 1 | 1 | 257816052 | Bracet K |

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|-------------|----|----|-----------|--|
| 0314 | 1 | 1 | 281927103 | Holder |
| 0322 | 1 | 1 | 318827102 | Holder |
| 0316 | 2 | 2 | 51100310S | B H M Screw, B 3 x 10 |
| 0317 | 2 | 2 | 53110303E | Hexagon Nut |
| 0318 | 2 | 2 | 51100308S | B H M Screw, B 3 x 8 |
| 0319 | 2 | 2 | 53110303E | Hexagon Nut |
| 0320 | 2 | 2 | 54050300R | T L Washer OR |
| R001 | 1 | | GT0522512 | Resistor, 22M Ω \pm 5% $\frac{1}{4}$ W |
| 4936 | 1 | | 62030039W | Lug |
| | | | | PW01 TRIMMING RESISTOR BOARD |
| PW01 | 1 | 1 | YD2909004 | P.W. Board |
| | 1 | 1 | ZZ2909004 | P.W. Board Assembly |
| RW01 | 1 | 1 | RA0104018 | Trimming Resist, 100K Ω B |
| RW02 | 1 | 1 | RA0104018 | Trimming Resist, 100K Ω B |
| RW03 | 1 | 1 | RA0104018 | Trimming Resist, 100K Ω B |
| RW04 | 1 | 1 | RA0104018 | Trimming Resist, 100K Ω B |
| RW05 | 1 | 1 | RA0104018 | Trimming Resist, 100K Ω B |
| RW06 | 1 | 1 | RT0510414 | Resistor, 100K Ω \pm 5% $\frac{1}{4}$ W |
| JW01 | | | | |
| ~ | 9 | 9 | YP1000113 | Plug |
| JW09 | | | | |
| 0802 | 1 | 1 | 290930201 | Dial |
| 0811 | 1 | | 288410701 | Sheet |
| J008 | 1 | 1 | YL0103018 | Terminal |
| R003 | 1 | 1 | RT0510114 | Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W |
| C002 | 1 | 1 | DK1710301 | Ceramic Cap, 0.01 μ F \pm 2% |
| 1032 | 2 | | 51570312B | P H Tapt Screw, P 3 x 12 ST |
| 1033 | 5 | | 54060300R | T L Washer IR |
| 1034 | 1 | | 290916006 | Bracket |
| J009 | 1 | | YL0106004 | Terminal, AC SELECT |
| 1029 | 1 | | 285216006 | Bracket |
| 1031 | 3 | | 51062606E | P H M Screw, P 2.6 x 6 |
| J010 | 1 | | YJ0800009 | Socket |
| J011 | 1 | | YJ0800009 | Socket |
| J012 | 1 | | YJ0800009 | Socket |
| 0123 | 4 | 4 | 275905701 | Leg |
| 0124 | 4 | 4 | 51490410S | B H M Screw FS |
| 0230 | 1 | 1 | 290886101 | Label |
| 0233 | 1 | 1 | 282726514 | Indicator |
| 0404 | 10 | 10 | 51100306S | B H M Screw, B 3 x 6 |
| 0506 | 6 | 6 | 51100406A | B H M Screw, B 4 x 6 |
| 0913 | 4 | 4 | 51570306B | P H Tapt Screw, P 3 x 6 ST |
| 0914 | 3 | 3 | 51100305B | B H B Screw, B 3 x 5 |
| 0915 | 3 | 3 | 54050300R | T L Washer OR |
| 0917 | 2 | 2 | 290916005 | Bracket |
| 0918 | 4 | 4 | 51570306B | P H Tapt Screw, P 3 x 6 ST |
| 1002 | 1 | 1 | 290910501 | Chassis |
| 1003 | 1 | 1 | 290916001 | Bracket |
| 1004 | 1 | 1 | 290916002 | Bracket |
| 1005 | 6 | 6 | 51100306A | B H M Screw, B 3 x 6 |
| 1007 | 2 | 2 | 281810107 | Support x 2 |
| 1008 | 2 | 2 | 51100305S | B H M Screw, B 3 x 5 |
| 1009 | 2 | 2 | 54040302A | Spring Washer |

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|-------------|---|---|-----------|---|
| 1016 | 1 | 1 | 289010103 | Support |
| 1018 | 2 | 2 | 51570408S | P H Tapt Screw, P 4 x 8 ST |
| 1019 | 2 | 2 | 54020401S | Flat Washer P |
| 1020 | 2 | 2 | 54040402N | Spring Washer |
| 1023 | 4 | 4 | 51570306S | P H Tapt Screw, P 3 x 6 ST |
| 1024 | 4 | 4 | 51570306S | P H Tapt Screw, P 3 x 6 ST |
| 1025 | 6 | 6 | 51570306S | P H Tapt Screw, P 3 x 6 ST |
| 1026 | 4 | 4 | 51570306S | P H Tapt Screw, P 3 x 6 ST |
| 1030 | 2 | 2 | 51570306B | P H Tapt Screw, P 3 x 6 ST |
| 1035 | 2 | 2 | 51570306B | P H Tapt Screw, P 3 x 6 ST |
| 1106 | 1 | 1 | 288600504 | Clamper |
| 1107 | 2 | 2 | 288600505 | Clamper |
| 1108 | 4 | 4 | 288600506 | Clamper |
| 1110 | 1 | 1 | 51570306B | P H Tapt Screw, P 3 x 6 ST |
| 1111 | 1 | 1 | 54050300R | T L Washer PR |
| 1113 | 3 | 3 | 51570306B | P H Tapt Screw, P 3 x 6 ST |
| 1116 | 4 | 4 | 288700501 | Clamper |
| 1117 | 4 | 4 | 51570305B | P H Tapt Screw, P 3 x 5 ST |
| A001 | 1 | 1 | AV0120203 | F M Front End Assembly |
| R101 | 1 | 1 | GD0510414 | Resistor, 100K Ω γ 5% $\frac{1}{4}$ W |
| R102 | 1 | 1 | GD0510514 | Resistor, 1M Ω \pm 5% $\frac{1}{4}$ W |
| R103 | 1 | 1 | GD0510414 | Resistor, 100K Ω \pm 5% $\frac{1}{4}$ W |
| R104 | 1 | 1 | GD0547014 | Resistor, 47 Ω \pm 5% $\frac{1}{4}$ W |
| R105 | 1 | 1 | GD0510414 | Resistor, 100K Ω \pm 5% $\frac{1}{4}$ W |
| R106 | 1 | 1 | GD0522114 | Resistor, 220 Ω \pm 5% $\frac{1}{4}$ W |
| R107 | 1 | 1 | GD0510314 | Resistor, 10K Ω \pm 5% $\frac{1}{4}$ W |
| R108 | 1 | 1 | GD0547214 | Resistor, 4.7K Ω \pm 5% $\frac{1}{4}$ W |
| R109 | 1 | 1 | GD0582114 | Resistor, 820 Ω \pm 5% $\frac{1}{4}$ W |
| R110 | 1 | 1 | GD0510114 | Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W |
| R111 | 1 | 1 | GD0510114 | Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W |
| C101 | 1 | 1 | CT1100001 | Trimming Cap, 1.5~10PF NPO |
| C102 | 1 | 1 | CT1100001 | Trimming Cap, 1.5~10PF NPO |
| C103 | 1 | 1 | CT1100001 | Trimming Cap, 1.5~10PF NPO |
| C104 | 1 | 1 | CT1100001 | Trimming Cap, 1.5~10PF NPO |
| C105 | 1 | 1 | CT1050003 | Trimming Cap, 3PF~8PF |
| C106 | 1 | 1 | CA5000002 | Variable Cap |
| C107 | 1 | 1 | DD1608201 | Ceramic Cap, 8.2PF \pm 10% |
| C108 | 1 | 1 | DD1633002 | Ceramic Cap, 33PF \pm 10% |
| C109 | 1 | 1 | DD1210006 | Ceramic Cap, 10PF \pm 10% |
| C110 | 1 | 1 | DD1210006 | Ceramic Cap, 10PF \pm 10% |
| C111 | 1 | 1 | DD8500350 | Ceramic Cap, 0.3PF \pm 5% |
| C112 | 1 | 1 | DD1606001 | Ceramic Cap, 6PF \pm 10% |
| C113 | 1 | 1 | DD8501550 | Ceramic Cap, 1.5PF \pm 5% |
| C114 | 1 | 1 | DD1612002 | Ceramic Cap, 12PF \pm 10% |
| C115 | 1 | 1 | DD1612003 | Ceramic Cap, 12PF \pm 10% |
| C116 | 1 | 1 | DD1647002 | Ceramic Cap, 47PF |
| C117 | 1 | 1 | DD1615003 | Ceramic Cap, 15PF \pm 10% |
| C118 | 1 | 1 | DC1810250 | Ceramic Cap, 1000PF 500VDC \pm 10% |
| C119 | 1 | 1 | DC1810250 | Ceramic Cap, 1000PF 500VDC \pm 10% |
| C120 | 1 | 1 | DC1810250 | Ceramic Cap, 1000PF 500VDC \pm 10% |
| C121 | 1 | 1 | DC1810250 | Ceramic Cap, 1000PF 500VDC \pm 10% |
| C122 | 1 | 1 | DC1810250 | Ceramic Cap, 1000PF 500DC \pm 10% |
| C123 | 1 | 1 | DC1810250 | Ceramic Cap, 1000PF 500DC \pm 10% |

U: For U.S.A.
E: For Europe

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|-------------|---|---|-----------|-------------------------------------|
| C124 | 1 | 1 | DC1810250 | Ceramic Cap, 1000PF 500VDC ±10% |
| C125 | 1 | 1 | DC1810250 | Ceramic Cap, 1000PF 500VDC ±10% |
| C126 | 1 | 1 | DC1810250 | Ceramic Cap, 1000PF 500VDC ±10% |
| C127 | 1 | 1 | DC1001050 | Ceramic Cap, 1PF 500VDC ± 0.25PF |
| C128 | 1 | 1 | DC1001050 | Ceramic Cap, 1PF 500VDC ± 0.25PF |
| C129 | 1 | 1 | DC1001050 | Ceramic Cap, 1PF 500VDC ± 0.25PF |
| C130 | 1 | 1 | DC1001050 | Ceramic Cap, 1PF 500VDC ± 0.25PF |
| 1621 | 1 | 1 | 290910911 | Shield |
| 1622 | 3 | 3 | 290910912 | Shield |
| 1623 | 1 | 1 | 290910913 | Shield |
| H101 | 1 | 1 | HF400453A | F E T, 33K45 |
| H102 | 1 | 1 | HF400403A | F E T, 33K40 |
| H103 | 1 | 1 | HT312152A | Transistor, 2SC1215 |
| C001 | 1 | 1 | CA0330003 | Variable Cap |
| L002 | 1 | | TS1601501 | Power Transf. |
| L002 | | 1 | TS1601502 | Power Transf. |
| F001 | 1 | | FS1030004 | Fuse, 250V 3A |
| F002 | 1 | | FS1005003 | Fuse, 250V 0.5A |
| F003 | 1 | | FS1005003 | Fuse, 250V 0.5A |
| J013 | | 1 | YL0103018 | Terminal |
| 0109 | 4 | 4 | 52017039J | H Head Bolt |
| 0111 | 1 | 1 | 290415404 | Knob |
| 0112 | 5 | 5 | 281815401 | Knob |
| 0113 | 2 | 2 | 282815401 | Knob |
| 0115 | 1 | 1 | 282625701 | Lid |
| 0116 | 2 | 2 | 290911801 | Spacer |
| 0117 | 4 | 4 | 51480406S | B H M Screw F |
| 0119 | 1 | 1 | 282625702 | Lid |
| 0121 | 8 | 8 | 51100406S | B H M Screw, B 4 x 6 |
| 0202 | 1 | | 290926501 | Indicator |
| 0204 | | 1 | 290926503 | Indicator |
| 0210 | 2 | 2 | 51100305S | B H M Screw, B 3 x 5 |
| 0211 | 1 | 1 | 257886101 | Label, UL Caution |
| 0212 | 1 | 1 | 257886102 | Label, Do Not Remove ----- |
| 0213 | 1 | 1 | 257886103 | Label, See Marking ----- |
| 0214 | 1 | 1 | 250626506 | Indicator, Do Not Use As ----- |
| 0219 | 1 | 1 | 951091101 | Label |
| 0221 | 1 | | 951091102 | Label, Factory NO |
| 0224 | 1 | | 951110103 | Label, UL |
| 0628 | 1 | 1 | 285011202 | Shaft |
| 0629 | 1 | 1 | 54040402N | Spring Washer |
| 0706 | 2 | 2 | 51470306A | B H M Screw S |
| 0807 | 1 | 1 | 288400701 | Striv |
| 0808 | 2 | 2 | 287105302 | Cover |
| 0809 | 1 | 1 | 288411802 | Spacer |
| 0811 | 1 | 1 | 288410701 | Sheet |
| 0910 | 1 | 1 | 56382540G | Eyelet |

| REF. DESIG. | U | E | PART NO. | DESCRIPTION |
|-------------|---|---|-----------|----------------------------------|
| 0916 | 1 | 1 | 290910904 | Shield |
| 0919 | 5 | 5 | 51570306S | Shield |
| 1010 | 1 | 1 | 288410903 | Shield |
| 1011 | 4 | 4 | 51570306S | P H Tapt Screw, P 3 x 6 ST |
| 1012 | 1 | 1 | 290910901 | Shield |
| 1013 | 4 | 4 | 51570306S | P H Tapt Screw, P 3 x 6 ST |
| 1014 | 1 | 1 | 290910902 | Shield |
| 1015 | 4 | 4 | 51570306S | P H Tapt Screw, P 3 x 6 ST |
| 1017 | 1 | 1 | 51100306S | B H M Screw, B 3 x 6 |
| 1102 | 1 | 1 | 290825901 | Bush |
| 1202 | 1 | | 290985101 | Instructions, Set |
| 1203 | | 1 | 290985102 | Instructions, Set |
| 1209 | 1 | | 290985601 | Schematic |
| 1210 | | 1 | 290985602 | Schematic |
| 1217 | 1 | 1 | 281885104 | Instructions, Packing |
| 1218 | 1 | 1 | 288785108 | Instructions, Accessories |
| 1219 | | 1 | 288785110 | Instructions, Accessories |
| 1220 | 1 | 1 | 282685107 | Instructions, Cabinet Mounting |
| 1224 | 1 | 1 | 257785401 | Guarantee Card |
| 1225 | 1 | 1 | 257785102 | Instructions, Red Tag |
| 1226 | 1 | | 257781301 | Envelope |
| 1231 | | 1 | 281881301 | Envelope |
| 1302 | 1 | 1 | 290980101 | Packing Case, Inner |
| 1303 | 1 | 1 | 290980111 | Packing Case, Outer |
| 1308 | 1 | 1 | 288480301 | Partitioner Upper |
| 1312 | 1 | 1 | 901433533 | Polyethylen Bag Set |
| 1314 | 1 | 1 | 901302501 | Polyethylen Bag Printed Material |
| 1315 | 1 | 1 | 901302501 | Polyethylen Bag Accessories |
| 1317 | 1 | 1 | 102980401 | Sleeve |
| 1318 | | 1 | 956000004 | Hang Tag, Power Card |
| 1319 | 2 | 2 | 273182101 | Silicagel |
| 1320 | 1 | 1 | 281905601 | Buffer |
| 1322 | 4 | | 952281501 | Serial No Card |
| 1324 | | 4 | 952301511 | Serial No Card |
| 1331 | 1 | 1 | ZA0200007 | Ext Antenna FM |
| 1333 | 1 | 1 | ZD0120006 | Connective Cord |

TECHNICAL SPECIFICATIONS**FM SECTION:**

| | |
|--|--------|
| Tuning Frequency Range | 88-108 |
| IHF M Usable Sensitivity (Alternate Channel) | 1.9uV |
| IHF M Selectivity | >80dB |
| Capture Ratio | 1.25 |
| Image Rejection Ratio at 106MHz | >100dB |
| Signal to Noise Ratio (Mono) | 70dB |
| Signal to Noise Ratio (Stereo) | 60dB |
| Total Harmonic Distortion (Mono) | .15% |
| Total Harmonic Distortion (Stereo) | .30% |
| Frequency Response (ref. 75u sec. de-emphasis) | ±1dB |
| Stereo Separation at 1KHz | 42dB |

AM SECTION:

| | |
|--|-------------|
| Tuning Frequency Range | 515-1650 |
| Usable Sensitivity | 20uV |
| Selectivity (Alternate Channel) | >45dB |
| Image Rejection Ratio | >65dB |
| Signal to Noise Ratio | 50dB |
| Frequency Response, -3dB down | 50Hz-2.5KHz |
| Total Harmonic Distortion (30% Mod.) | 1% |

GENERAL:

| | |
|------------------------------|---------------------|
| Power Requirements | 120V AC, 50 to 60Hz |
| Power Consumption | 25 Watts |
| Dimensions Panel Width | 15-3/8 inches |
| Panel Height | 5-3/4 inches |
| Depth | 11-7/8 inches |
| Weight Unit alone | 17.2 lbs. |
| Packed for shipment | 23.8 lbs. |

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

SERVICE INFORMATION FOR EUROPEAN MODEL

The information contained here in includes the rear panel and main chassis component locations, schematic diagram, voltage conversion and FTZ regulation.
For the circuit description, alignment method and repairing hints, refer to the original service manual.

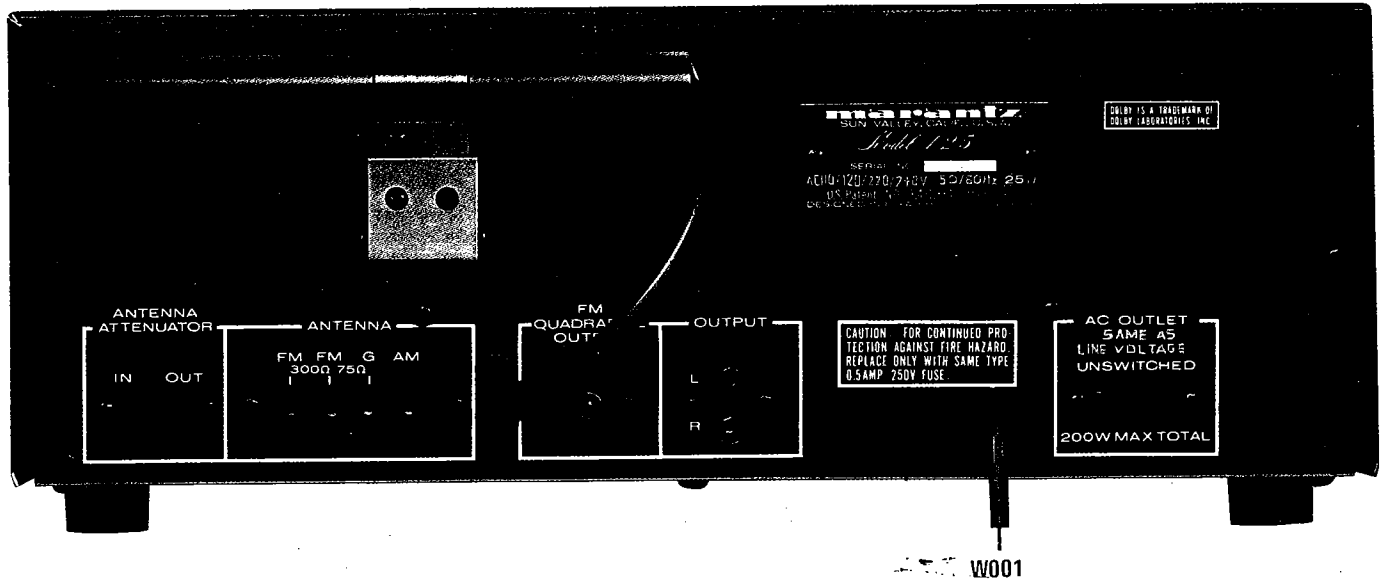


Figure 19. Rear Panel Adjustment and Component Locations

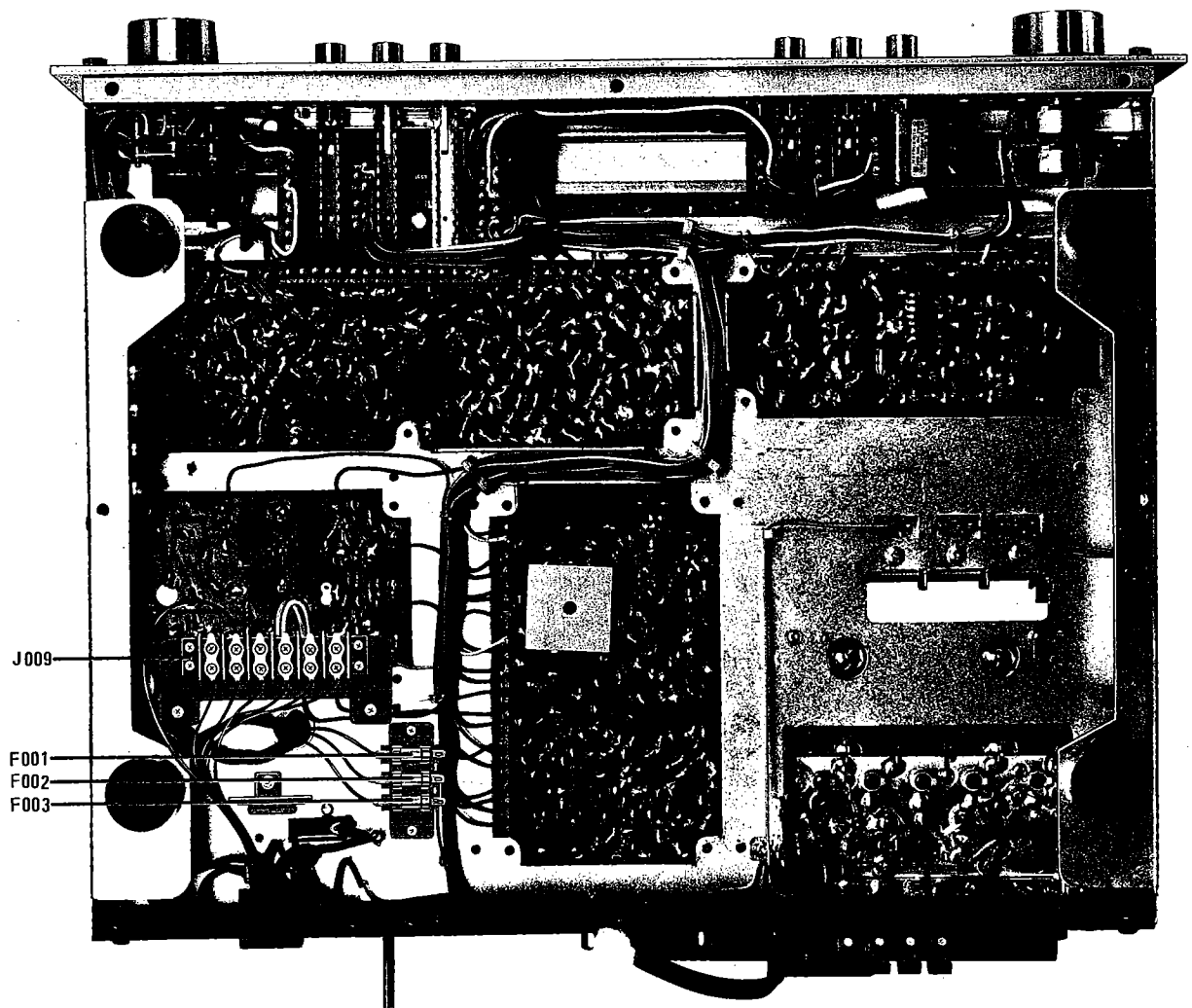


Figure 20. Main Chassis Component Locations (Bottom View)

VOLTAGE CONVERSION

This model is equipped with a universal power transformer to permit operation at 110, 120, 220 and 240V AC 50 to 60Hz.

To convert the unit to the required voltage perform the following steps:

- (1) Remove the cover.
- (2) Change the jumper wires as illustrated below for the required AC voltage.

CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.

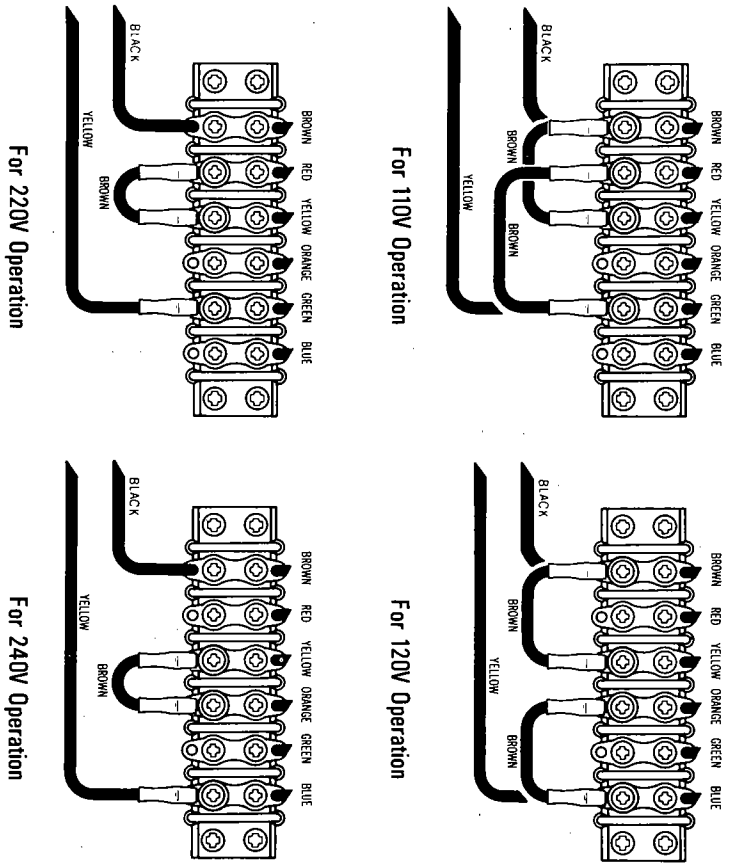


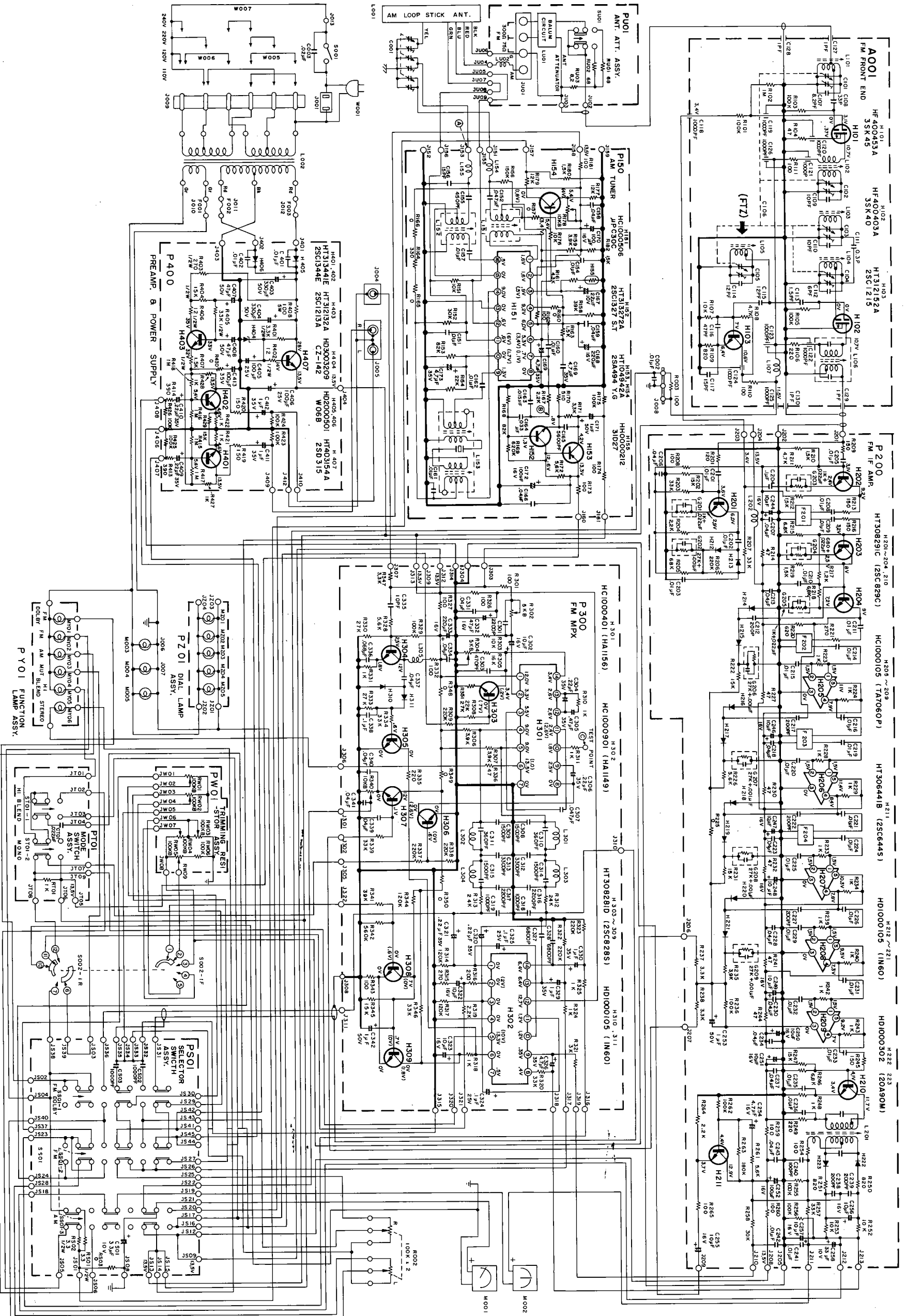
Figure 21. Voltage Conversion Chart

FTZ REGULATION

Instruction for the use in the range other than specified in FTZ codes

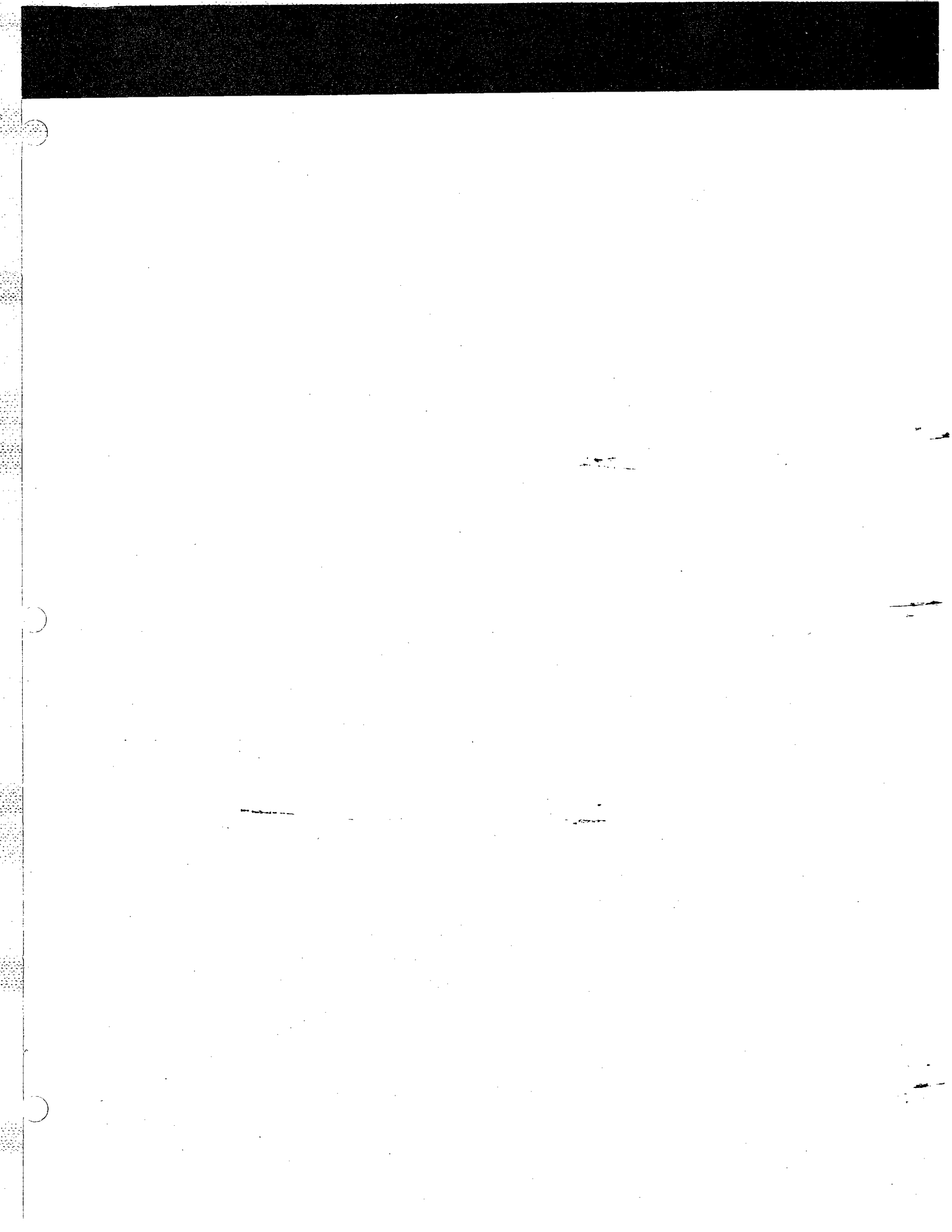
Achtung für die Leute, die in dem Gebiet wohnen, wo die FTZ-Bestimmungen vorherrschend sind.

Sollte das Gerät auch für Frequenzen ausserhalb des in den FTZ-Bestimmungen angegebenen Bereiches empfangsbereit sein, bitten wir, den Bereich durch Nachstellen des Kernes in der Oszillatortspule (in der Abbildung mit "FTZ" gekennzeichnet) so zu korrigieren, dass er den Bestimmungen entspricht.



Model 125 NOTE: This schematic diagram applied to units manufactured for the European market.

Figure 22. Schematic Diagram





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