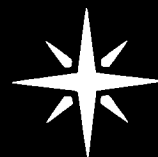


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SERVICE
MANUAL **2330B**



marantz

model 2330B

Stereophonic Receiver

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INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for the Marantz Model 2330B Stereophonic Receiver.

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

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

1. P.W. BOARDS

As can be seen from the circuit diagram, the chassis of the Model 2330B consists of the following units. Each unit mounted on a printed circuit board is drawn within bold dotted-line block on the circuit diagram.

1. AM/FM Front End . . . Mounted on P.W. Board P100
2. AM/FM IF & MPX . . . Mounted on P.W. Board P200
3. Phono Amplifier Mounted on P.W. Board P400
4. Main Amplifier Mounted on P.W. Board P700
5. Power Supply & Protection
Relay Circuit Mounted on P.W. Board P800
6. Pre & Tone Amplifier . Mounted on P.W. Board PE01
7. Filter, Tape Monitor &
Tape Copy Switches . . Mounted on P.W. Board PH01
8. Dolby Socket Mounted on P.W. Board PK01
9. Function Lamp Mounted on P.W. Board PY01
10. Dial Lamp Mounted on P.W. Board PZ01
11. FM Muting, Multipath &
Speaker Switches Mounted on P.W. Board PU01
12. FM Antenna Balun &
Muting Level Mounted on P.W. Board PC01
13. Fuse Mounted on P.W. Board PP01

2. TEST EQUIPMENT REQUIRED FOR SERVICING

Table 1 lists the test equipment required for servicing the Model 2330B Stereophonic 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 MPX Signal Generator	Sound Technology Model 1000A	Signal source for FM alignment Stereo separation alignment and trouble shooting
Distortion Analyzer Audio Oscillator AC VTVM	Sound Technology Model 1700A	Distortion measurements Sinewave and squarewave signal source Voltage measurements (AC)
Oscilloscope	Tektronix Model T932 Philips Model 3232	Waveform analysis and trouble shooting and ASO alignment
Frequency Counter	Fluke Model 1900A	MPX Oscillator adjustment (VCO)
Circuit Tester		Trouble shooting
DC VTVM	Fluke Model 8000 "Digital" Simpson Model 313, Triplet Model 801	Voltage measurements (DC)
AC Wattmeter	Simpson Model 1379	Monitors primary power to amplifier
AC Ammeter	Commercial Grade (1-10A)	Monitors amplifier output under short circuit condition
Line Voltmeter	Simpson Model 1359	Monitors potential of primary power to amplifier
Variable Autotransformer	Superior Electronic Co., Powerstat Model 116B-10A	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

Table 1. Test Equipment Required for Servicing

3. AM ALIGNMENT PROCEDURES

3.1 AM IF ALIGNMENT

1. Connect a sweep generator to the J155 and an alignment scope to the test point B.
2. Rotate each core of IF transformers L155 and L156 for maximum height and flat top symmetrical response.

3.2 AM FREQUENCY RANGE AND TRACKING ALIGNMENT

1. Set an 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 L153 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 steps 1 and 2 above until no further adjustment is necessary.
4. Set the generator to 600 kHz and tune the receiver to the same frequency and adjust a slug core of AM ferrite-rod antenna L001 and RF coil L152 for maximum output.
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 steps 4 and 5 until no further adjustment is necessary.

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

3.3 AM SIGNAL STRENGTH METER ALIGNMENT

Set an AM signal generator to 1000 kHz at 5 μV , and adjust R157 so that the signal strength meter may read 90% of the full scale.

4. FM ALIGNMENT PROCEDURES

4.1 FM FREQUENCY RANGE AND TRACKING ALIGNMENT

1. Connect an FM signal generator to the FM ANTENNA terminals and an oscilloscope and an audio distortion analyzer to the TAPE MONITOR OUT jacks on the rear panel.
2. Set the signal generator to 87.4 MHz and provide about 3 to 5 μV . Place the tuning pointer at the low frequency end by rotating the tuning knob and adjust the core of oscillator coil L105 to obtain maximum audio output.
3. Set the signal generator to 109 MHz and provide about 3 to 5 μV output. Rotate the tuning knob and place the tuning pointer at the high frequency end and adjust the trimming capacitor CF04 for maximum output.
4. Repeat steps 2 and 3 above until no further adjustment is necessary.
5. Set the signal generator 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 coils L102, L103 and L104 and IF transformer L106 for minimum audio distortion.

6. Set the signal generator to 106 MHz and tune the receiver to the same frequency. After the trimming capacitor CF01, CF02 and CF03 for minimum distortion.
7. Repeat steps 5 and 6 above until no further adjustment is necessary.
8. Adjust the primary core (lower) of discriminator transformer L203 until the center tuning meter pointer indicates its center with no signal applied. Set the FM signal generator to 98 MHz and increase its output level to 1 μV and tune the receiver to the same frequency so that the center tuning meter pointer indicates its center. Adjust the secondary core (upper) of L203 for minimum distortion.
9. Set the signal generator to 98 MHz at 100 μV , and adjust R227 so that the signal strength meter may read 90% of the full scale.

4.2 STEREO SEPARATION ALIGNMENT

1. Set the FM signal generator to provide 1 μV at 98 MHz. Tune the receiver to the same frequency so that the center tuning meter pointer indicates its center.
2. Turn the signal generator modulation off (with the pilot signal turned off), connect a frequency counter to test point J318, and adjust R307 until the frequency counter may precisely read 76 kHz.
3. Modulate the signal generator with stereo composite signal consisting only of subchannel signal (of course, a pilot signal must be included).
4. Adjust the trimming resistor R316 for maximum and same separation in both channels.

4.3 MUTING CIRCUIT ALIGNMENT

1. Set the FM signal generator to provide 30 μV or more at 98 MHz and tune the receiver to the same frequency correctly.
2. Set the semifixed resistor RC01 to maximum position.
3. Depress the FM MUTING pushswitch.
4. Adjust the semifixed resistor RC02 for muting "on".

4.4 DOLBY FM TAPE OUTPUT SETTING

1. Set the modulation of the FM signal generator to 400 Hz, 50% (± 37.5 kHz Dev.).
2. Set the signal generator to provide 1 μV at 98 MHz. Tune the receiver to the same frequency so that the center tuning meter pointer indicates its center.
3. Turn the SELECTOR switch to the FM 25 μS position. Set the semifixed resistors R332 and R333 so that the output of the TAPE MONITOR OUT jacks R and L become 580 mV at VTVM.

5. AUDIO ADJUSTMENT

1. Main Amplifier DC off-set alignment
Connect a DC voltmeter with 0.5 or 1 V range between the speaker terminals and adjust the trimming resistor R726 for "zero" DC output on the meter. Similarly, adjust R776 for the other channel.

NOTE: During this alignment no load should be connected to the speaker terminals.

2. Idle-current adjustment

Connect a VTVM between pin terminals J741 and J742.
Next, adjust the trimming resistor R727 so that the VTVM reads 16 mV DC.

3. Connect a VTVM between pin terminals J743 and J744.
Similarly, adjust R777 for the other channel.

6. VOLTAGE CONVERSION FOR EUROPEAN MODEL

The European version of the Model 2330B is equipped with a universal power transformer that may be adjusted to operate at 110 V, 120 V, 220 V, or 240 V AC at 50 to 60 Hz. To convert the unit to a different power source voltage, reposition conversion plug as shown in Figure 1.

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

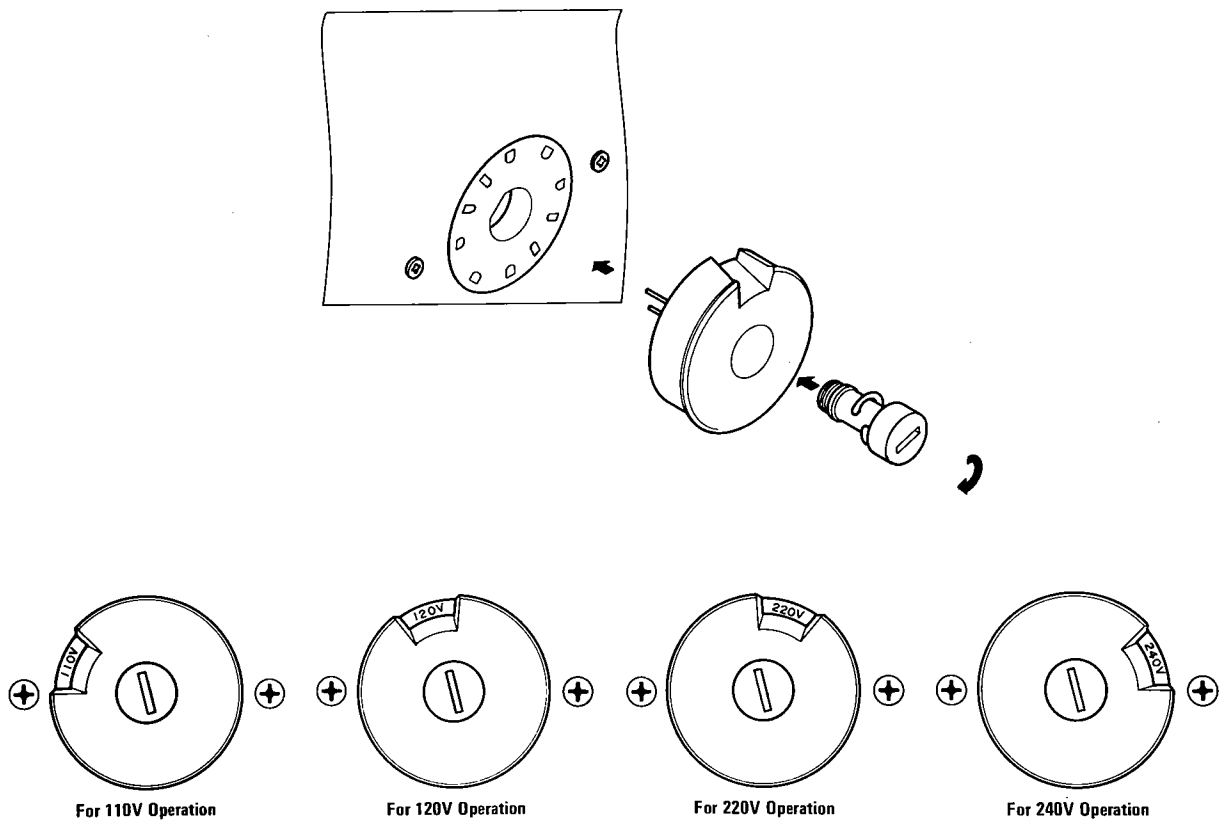


Figure 1. Voltage Conversion Chart

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 empfangebereit sein, bitten wir, den Bereich durch Nachstellen des Kernes in der Oszillatorspule (in der Abbildung mit "FTZ" gekennzeichnet) so zu korrigieren, dass er den Bestimmungen entspricht.

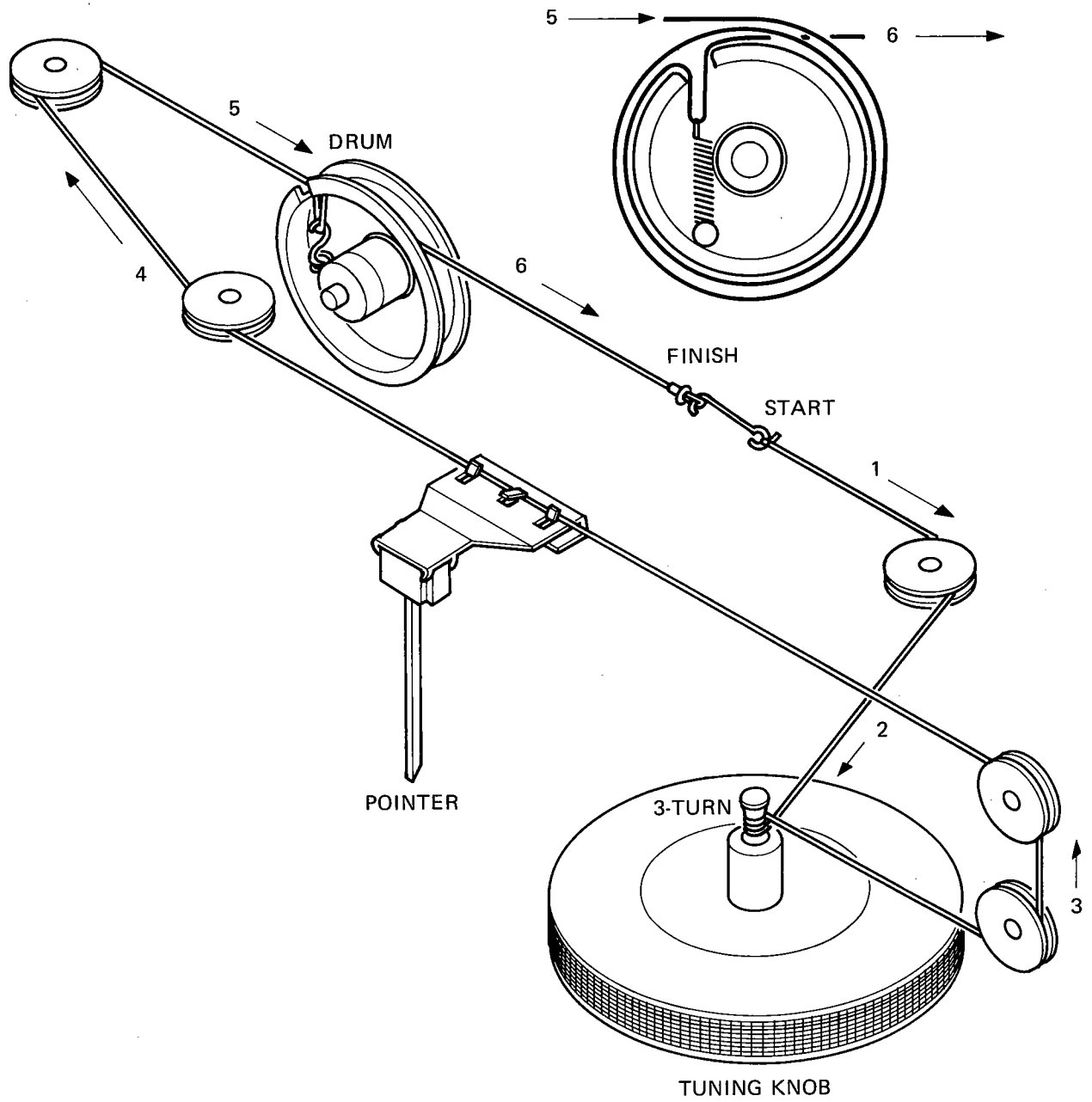
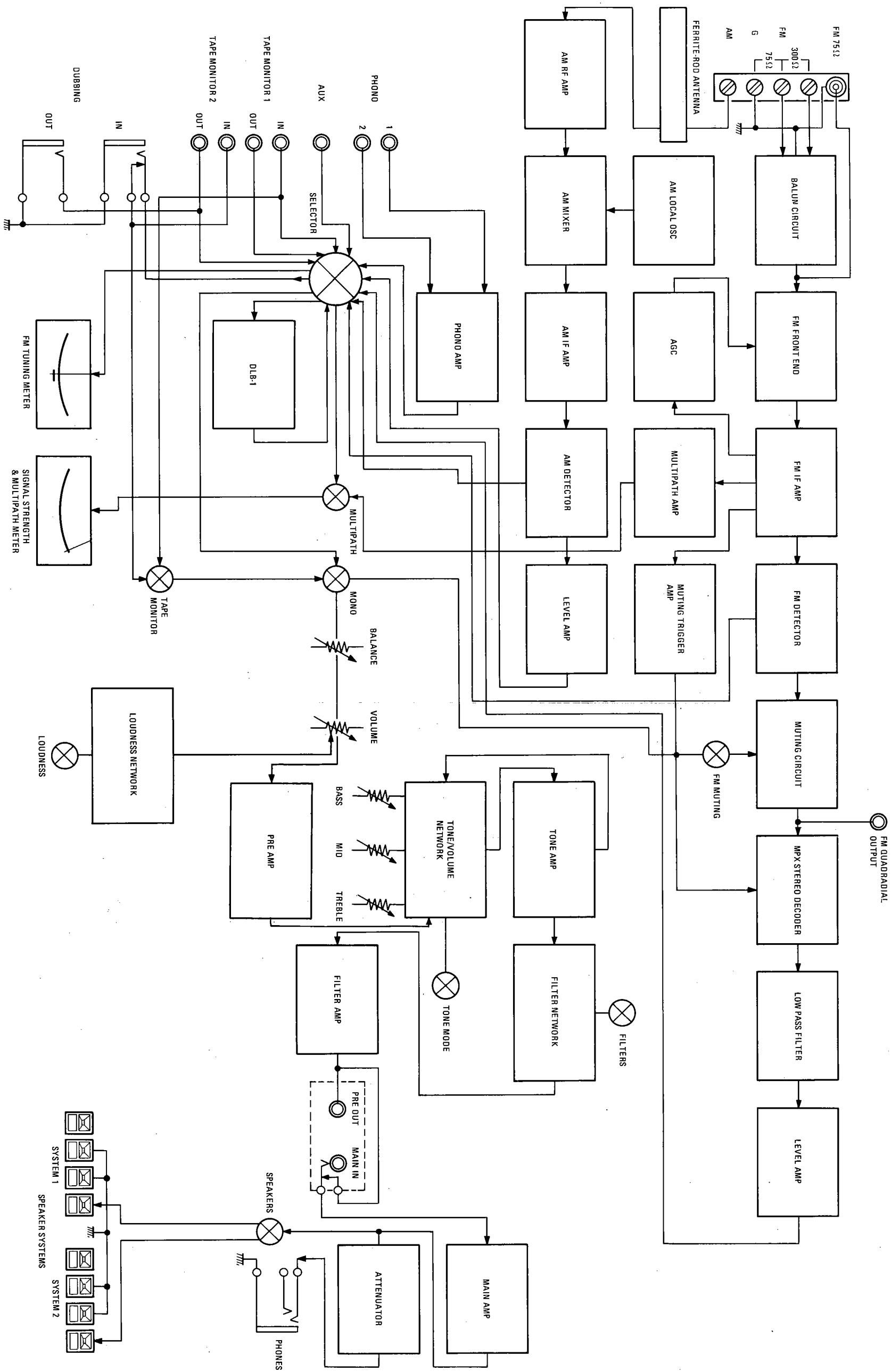
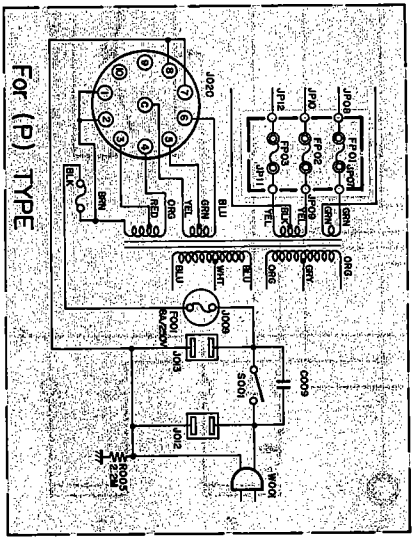
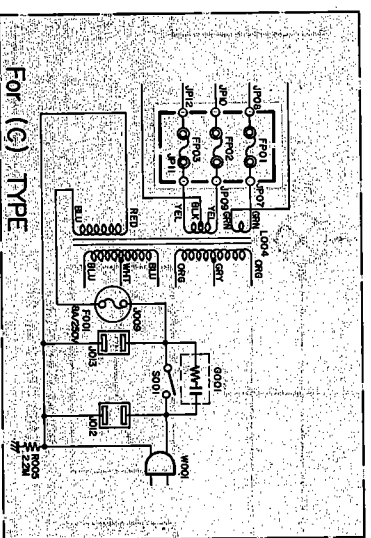
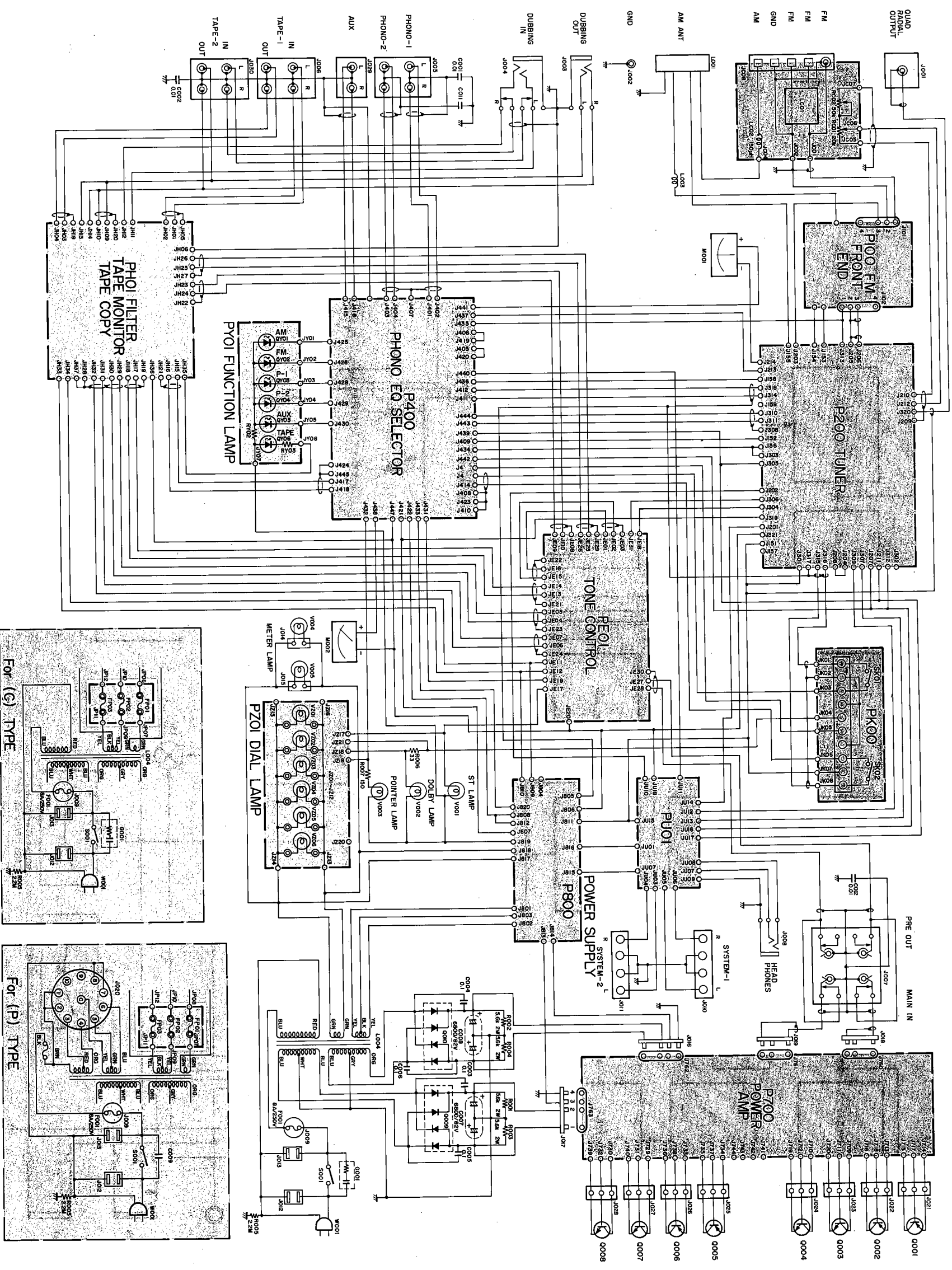


Figure 2. Dial Stringing

7. DIAGRAMS
7.1 BLOCK DIAGRAM



7.2 CONNECTION DIAGRAM - U.S.A. & CANADA



7.3 CONNECTION DIAGRAM - EUROPE

