

253

SERVICE MANUAL

marantz

model 2100

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 Marantz Model 2100 AM/FM Stereophonic Tuner.

Service 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 operations in the receiver.

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

1. P.W. BOARDS

As can be seen from the circuit diagram, the chassis of Model 2100 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. Front End mounted on P.W. Board P100
2. Tuner mounted on P.W. Board P200
3. Power Supply mounted on P.W. Board P800
4. Dial Lamp mounted on P.W. Board PZ01
5. Function Indicator mounted on P.W. Board PY01

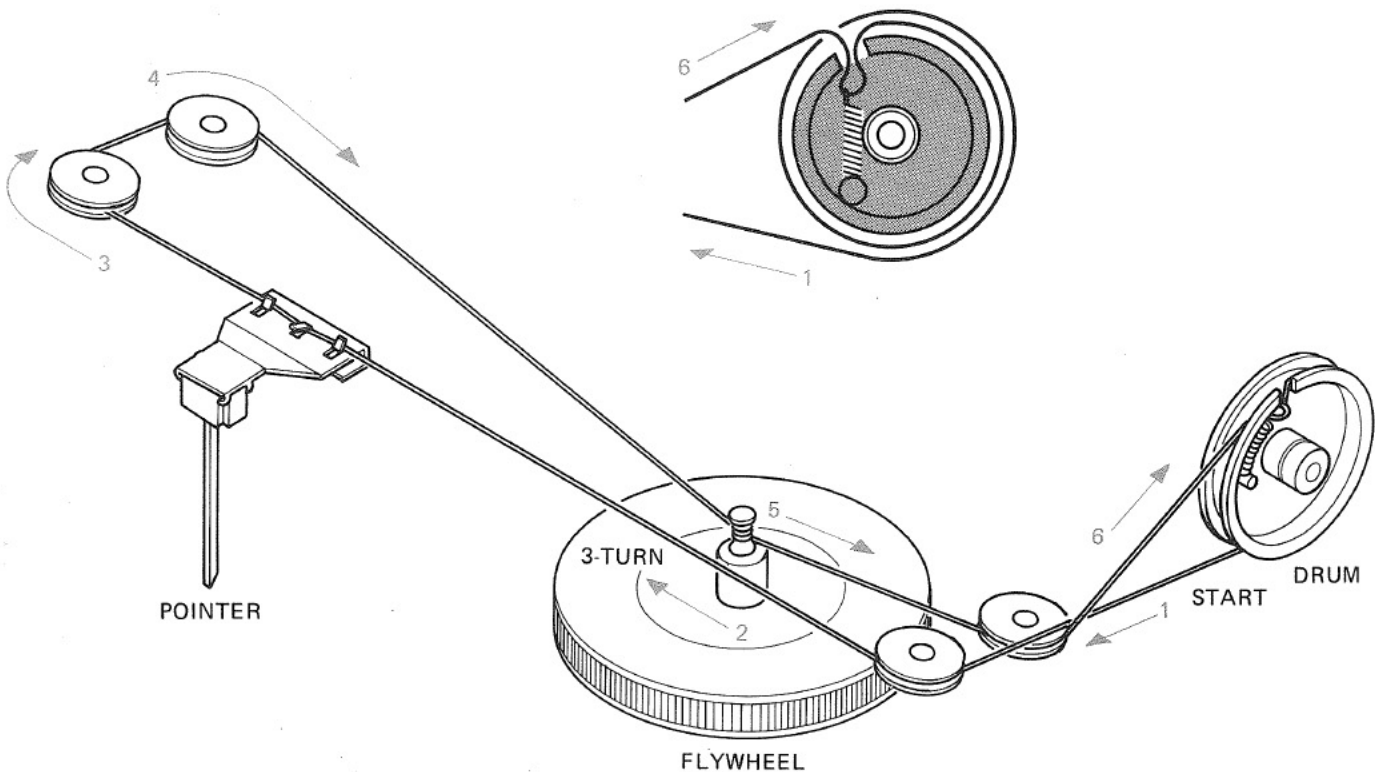


Figure 1. Dial Stringing

2. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Model 2100 Tuner.

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
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 tuner
Line Voltmeter	Simpson Model 1359	Monitors potential of primary power to tuner
Variable Autotransformer	Superior Electronic Co., Powerstat Model 116B-10A	Adjusts level of primary power to tuner

3. AM ALIGNMENT PROCEDURES

3.1 AM IF ALIGNMENT

1. Connect a sweep generator to the L153 and an alignment scope to the J233 (T.P.).
2. Rotate each core of IF transformers L155 and L156 for the maximum height and flat top symmetrical response.

3.2 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 L154 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 until no further adjustment is necessary.
4. Set the generator to 600 kHz, tune the tuner to the same frequency and adjust a slug core of AM ferrite-rod antenna L001 for maximum output.
5. Set the generator to 1400 kHz and tune the tuner to the same frequency and adjust the trimming capacitor on the antenna tuning capacitor 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.

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 OUTPUT jacks on the rear panel.
2. Set the generator to 87.4 MHz and provide about 3 to 5 μ V. Place the tuning pointer at the low frequency end by rotating the tuning knob and adjust the pitch of oscillator coil L107 to obtain maximum audio output.
3. Set the generator to 109 MHz and provide about 3 to 5 μ V. Rotate the tuning knob and place the tuning pointer at the high frequency end and adjust the trimming capacitor C121 for maximum output.
4. Repeat steps 2 and 3 until no further adjustment is necessary.
5. Set the generator to 90 MHz and tune the tuner to the same frequency. Decrease signal generator output until the audio output level decreases with the decreasing generator output. Adjust the pitch of antenna coil L102 and RF coil L104 for maximum output.
6. Set the generator to 106 MHz and tune the tuner 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 maximum output.
7. Repeat steps 5 and 6 until no further adjustment is necessary.
8. Adjust the primary core (lower core) of discriminator transformer L202 so that the center tuning meter point-

er indicates its center at no signal applied. Set the FM signal generator to 98 MHz and increase its output level 1 μV and tune the tuner to the same frequency so that the center tuning meter pointer indicates its center. Adjust the secondary core (upper core) of L202 for minimum distortion.

4.2 STEREO SEPARATION ALIGNMENT

1. Set the FM signal generator to provide 1 μV at 98 MHz. Tune the tuner to the same frequency so that the center tuning meter pointer indicates its center. Then turn off the modulation of the generator, connect a frequency counter to test point J229 and adjust R301 so that the frequency counter may precisely read 76 kHz.
2. Modulate the generator with stereo composite signal consisting of only L or R channel (of course a pilot signal must be included).
3. Adjust the trimming resistor R317 for maximum and same separation in both channels.

4.3 MUTING THRESHOLD ADJUSTMENT

1. Set the FM signal generator output to provide 12.5 μV (IHF) at 98 MHz and tune tuner to the same frequency.

Adjust the trimming resistor R212 for the threshold level of 12.5 μV . (During this adjustment turn the FM MUTING pushswitch "on").

4.4 FM 25 μS OUTPUT LEVEL ADJUSTMENT

1. Set the FM signal generator to provide a 400 Hz, 50% modulated 98 MHz mono signal, at 1 μV output. Precisely tune the tuner to 98 MHz.
2. Depress the FM 25 μS pushswitch, and adjust R215 until the outputs of both channels are 580 mV.

5. VOLTAGE CONVERSION FOR EUROPEAN MODEL

The European version of the Model 2100 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 2.

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

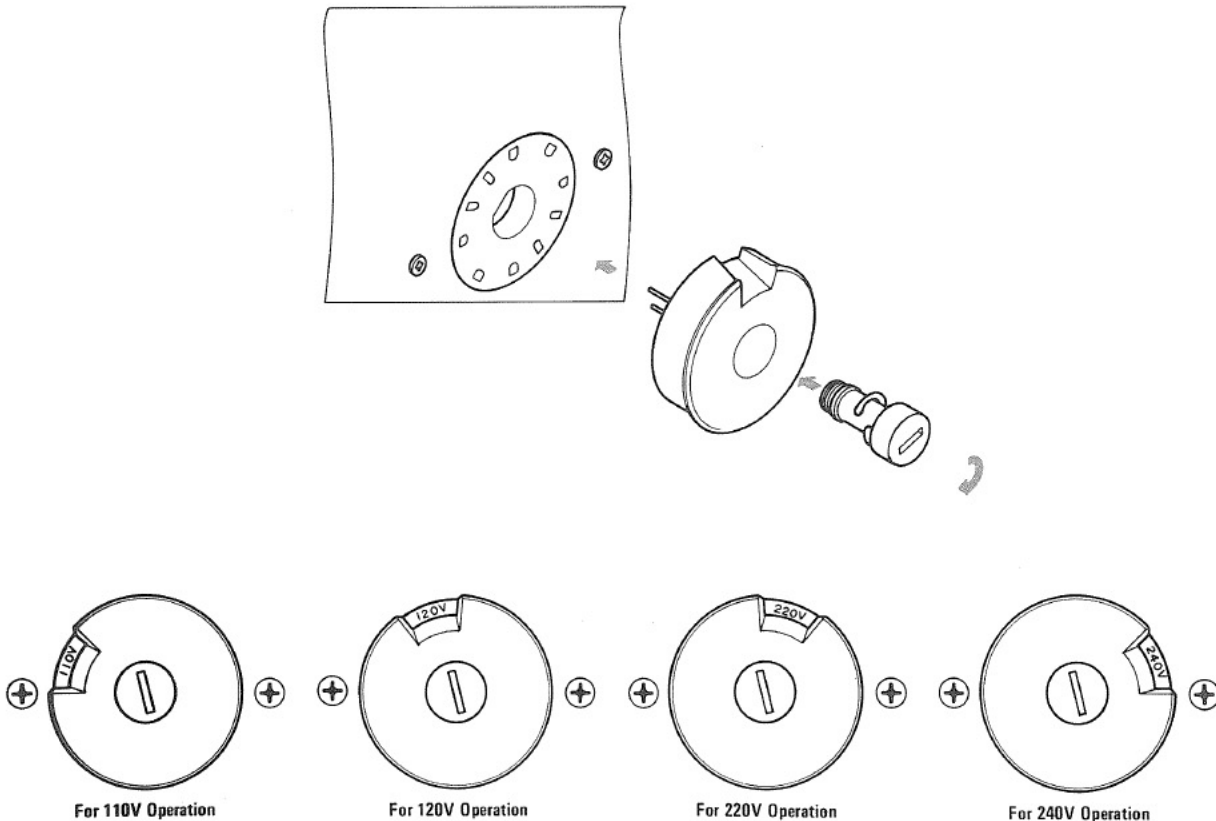


Figure 2. Voltage Conversion Chart

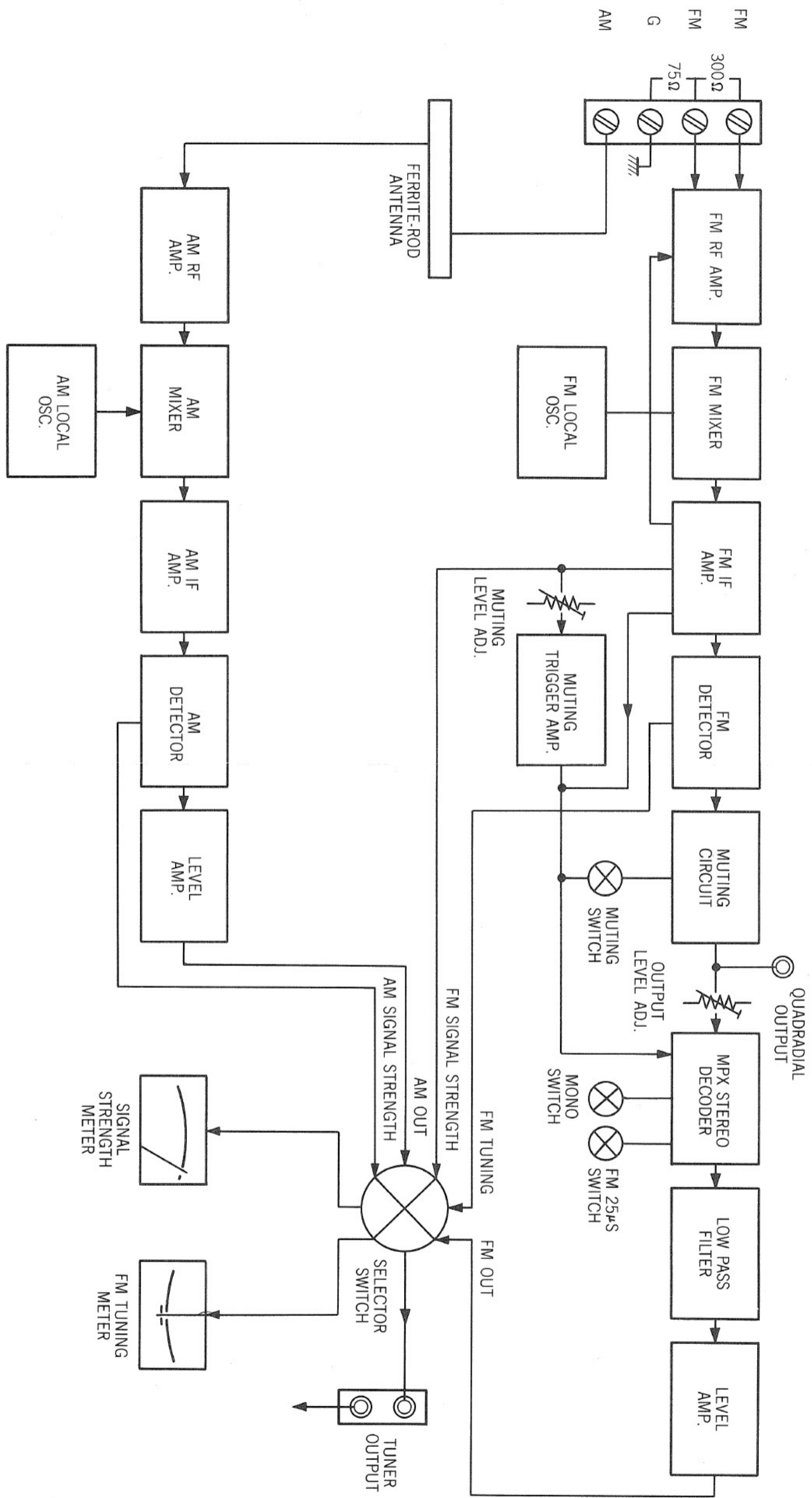
FTZ REGULATION

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

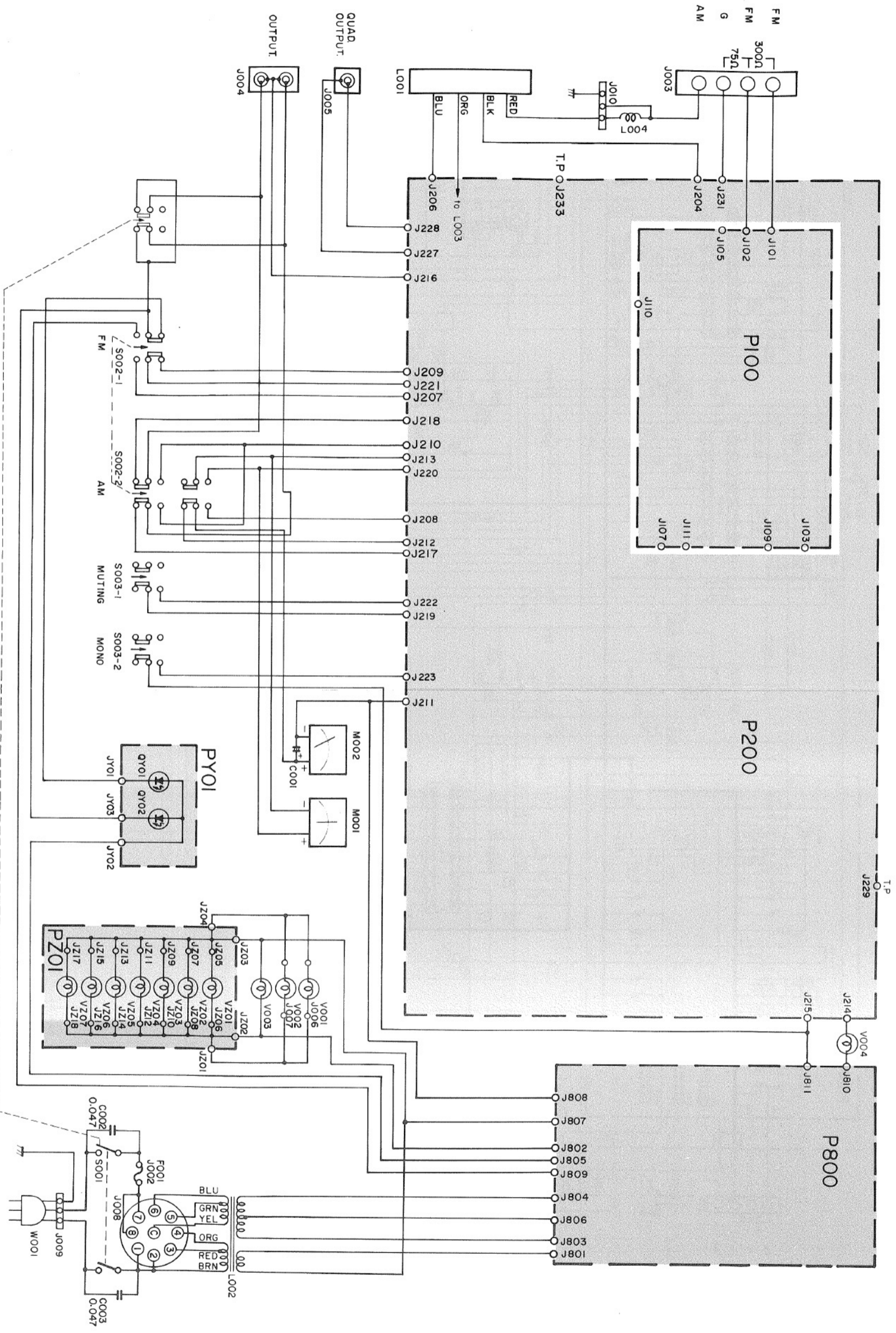
Achtung für die Leute, die in dem Gebiet wohnen, wo die FTZ-Bestimmungen vorherrschend sind.

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 Oszillatospule (in der Abbildung mit "FTZ" gekennzeichnet) so zu korrigieren, dass er den Bestimmungen entspricht.

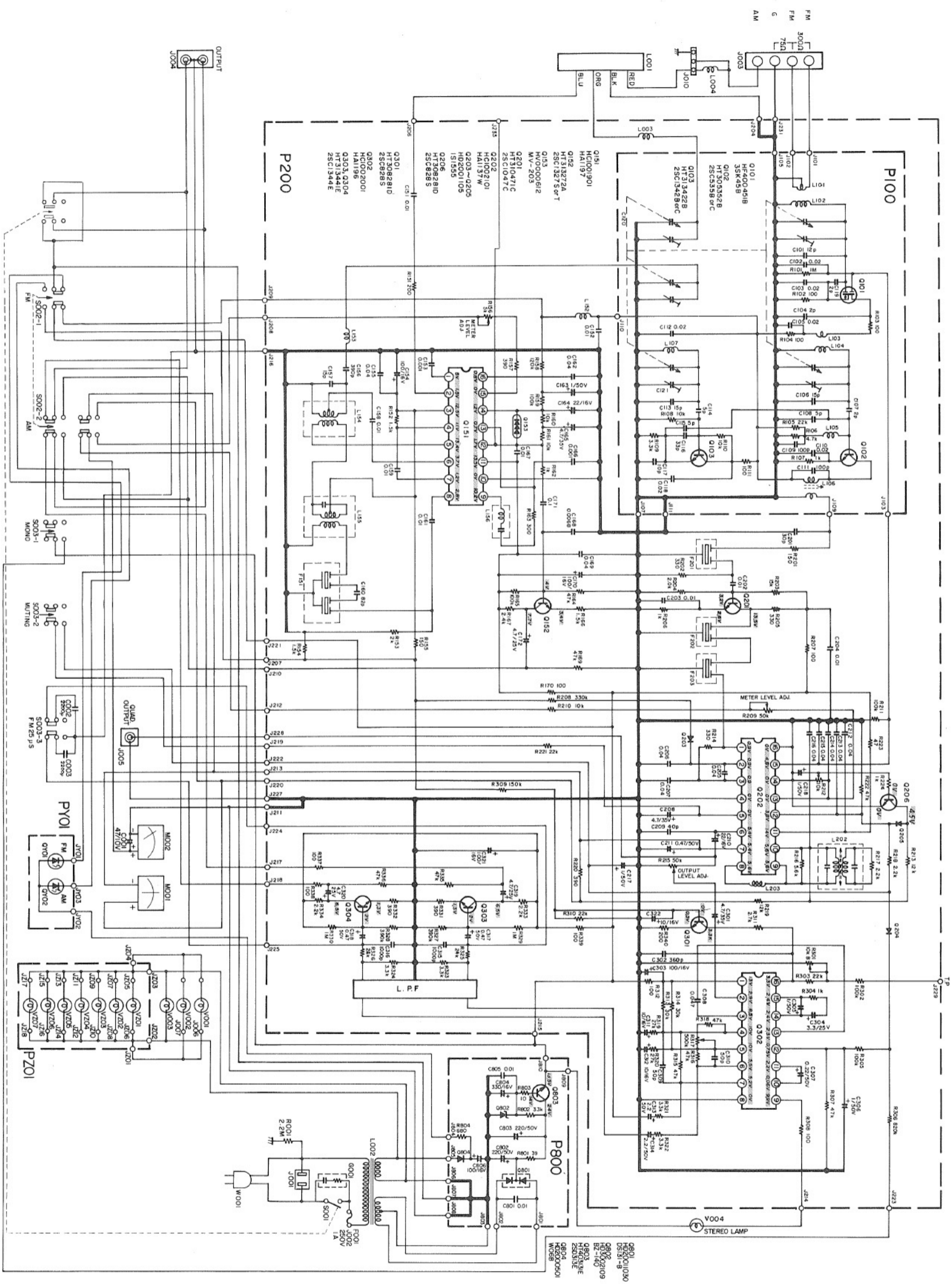
6. DIAGRAMS
6.1 BLOCK DIAGRAM

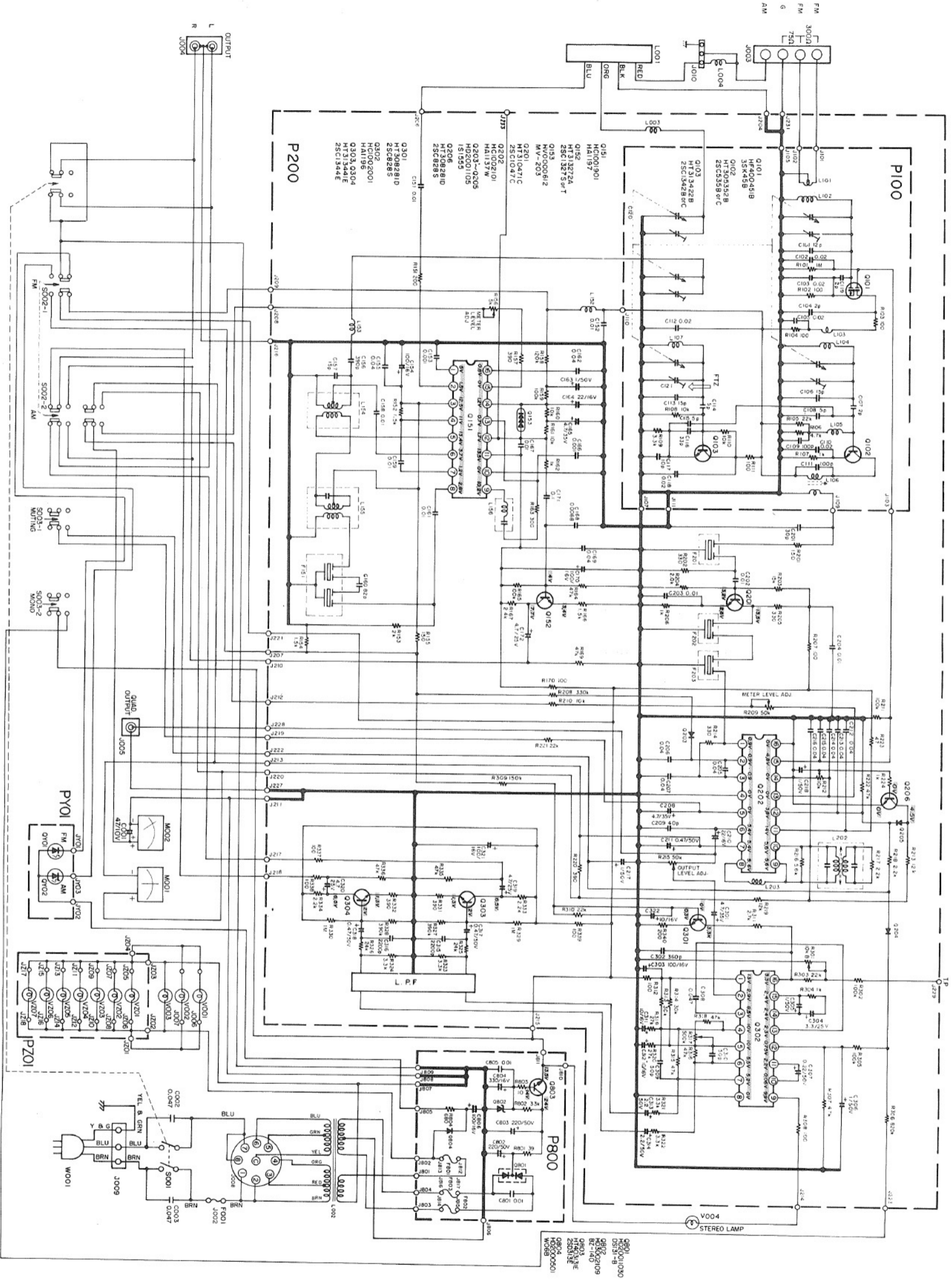


6.3 CONNECTION DIAGRAM - EUROPE

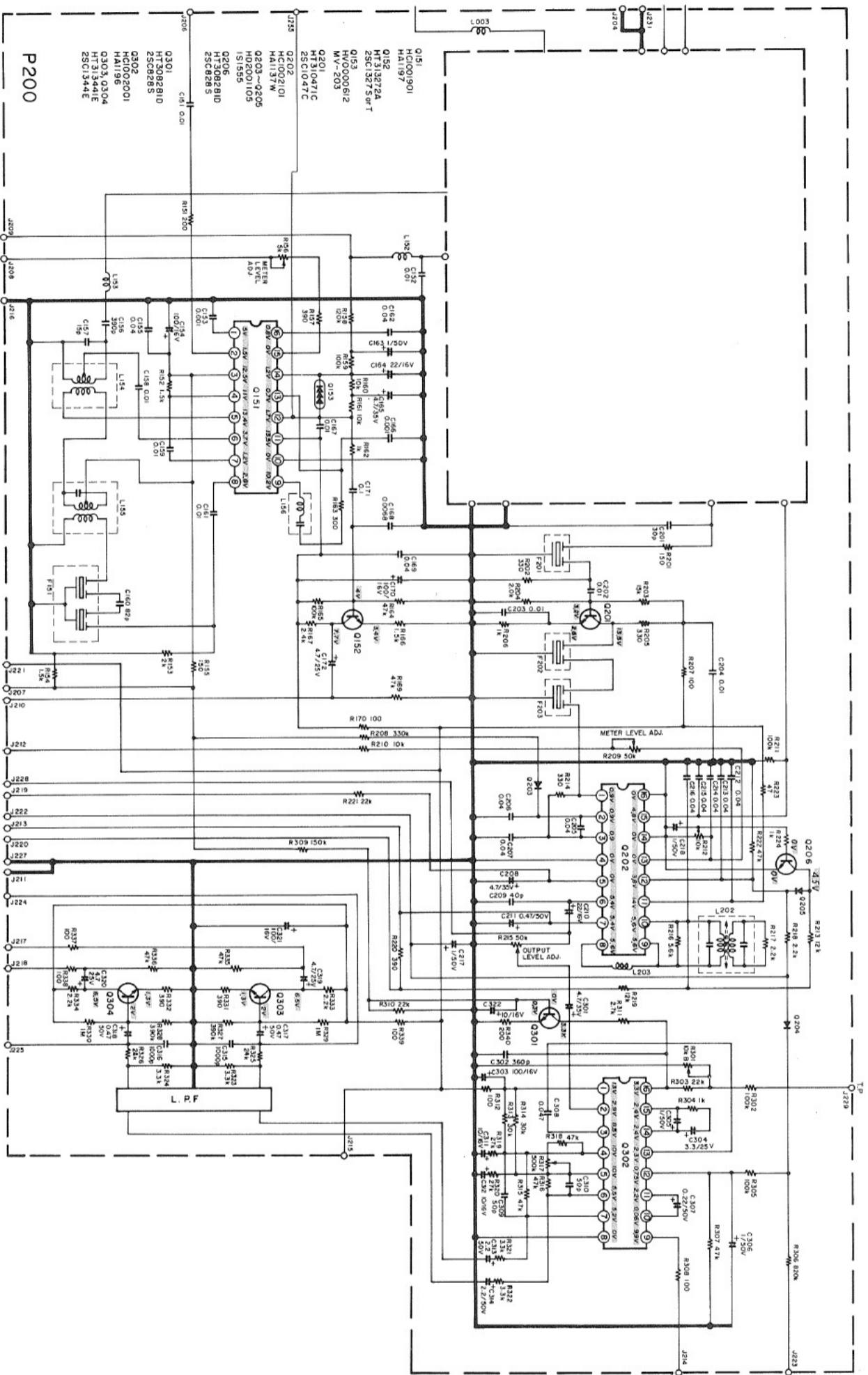


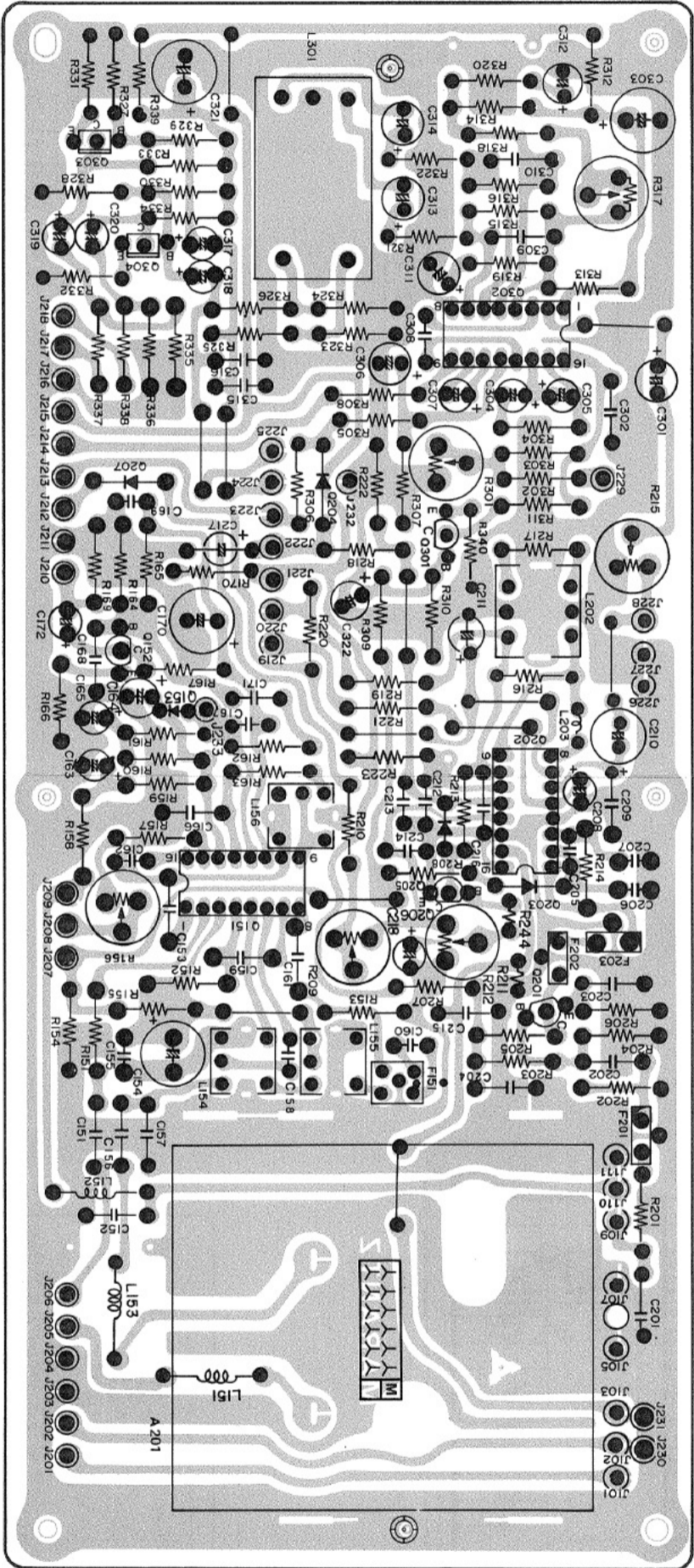
6.4 SCHEMATIC DIAGRAM - U.S.A. & CANADA



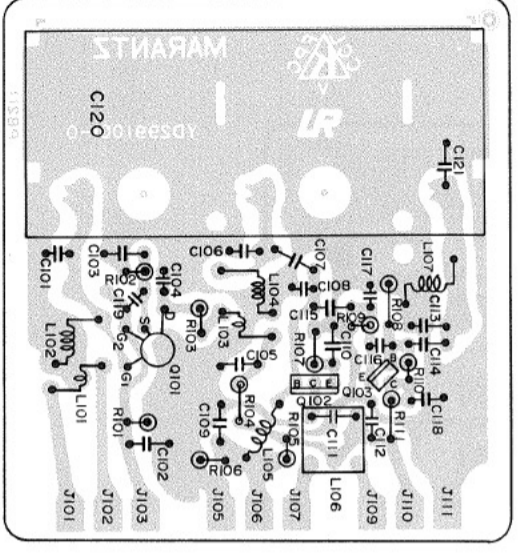
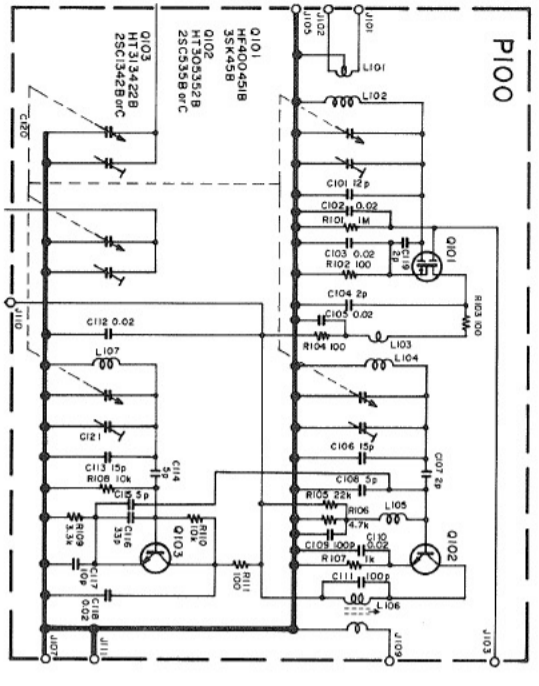


6.6 TUNER BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P200

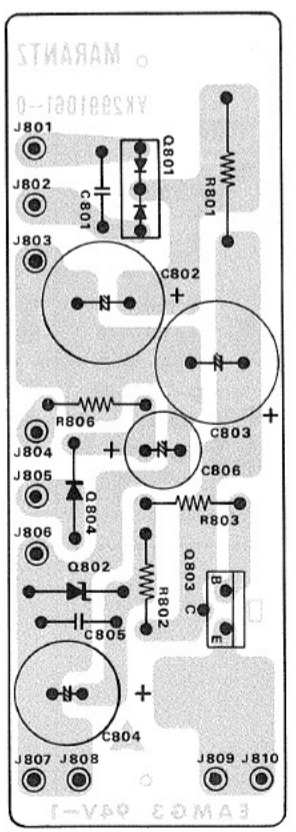
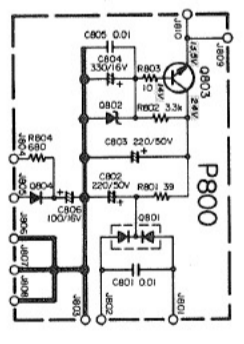




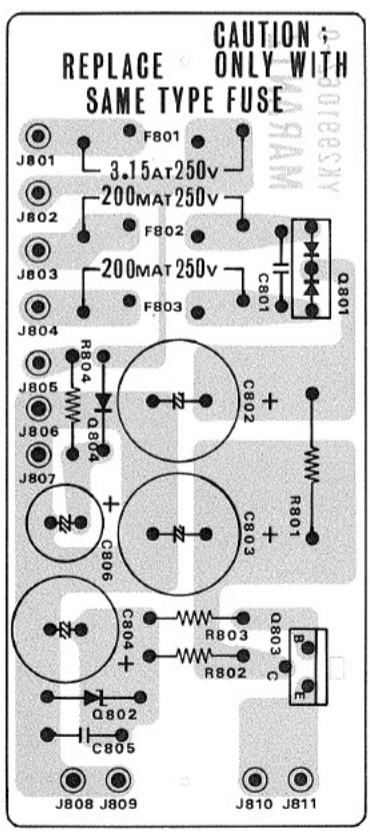
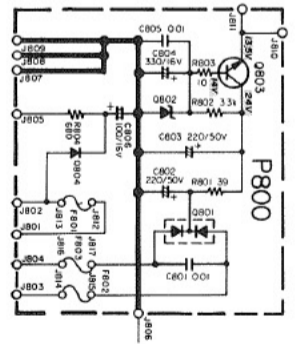
6.7 FRONT END BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P100



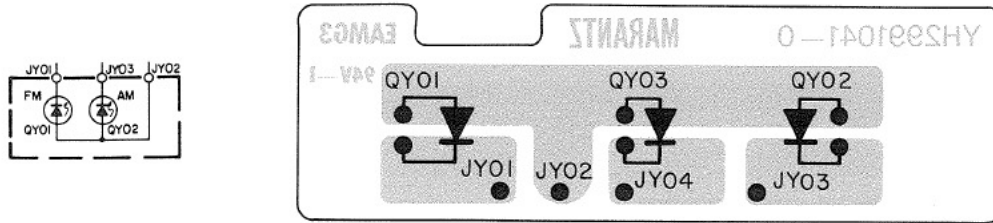
6.8 POWER SUPPLY BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P800 - U.S.A. & CANADA



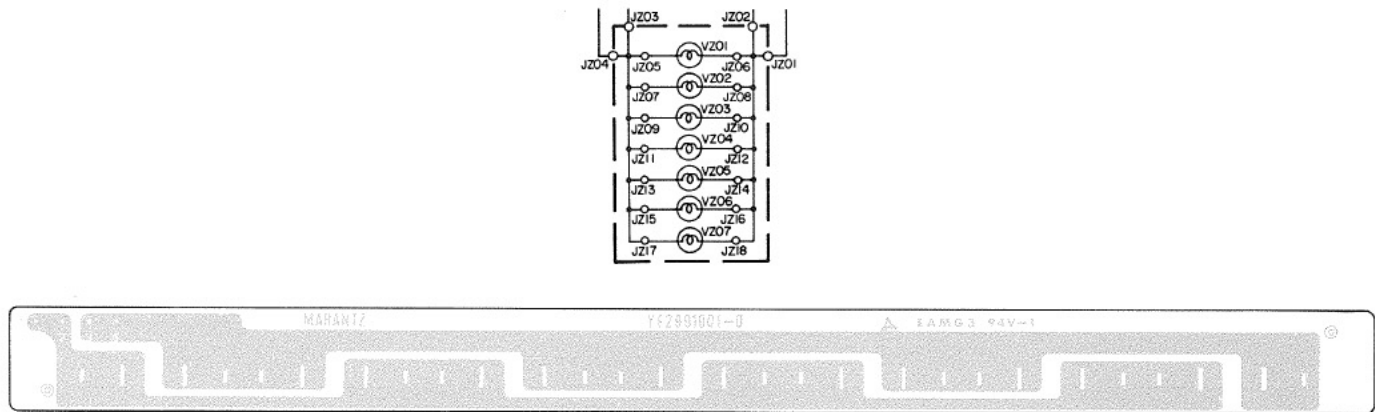
6.9 POWER SUPPLY BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P800 - EUROPE



6.10 FUNCTION INDICATOR BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PY01

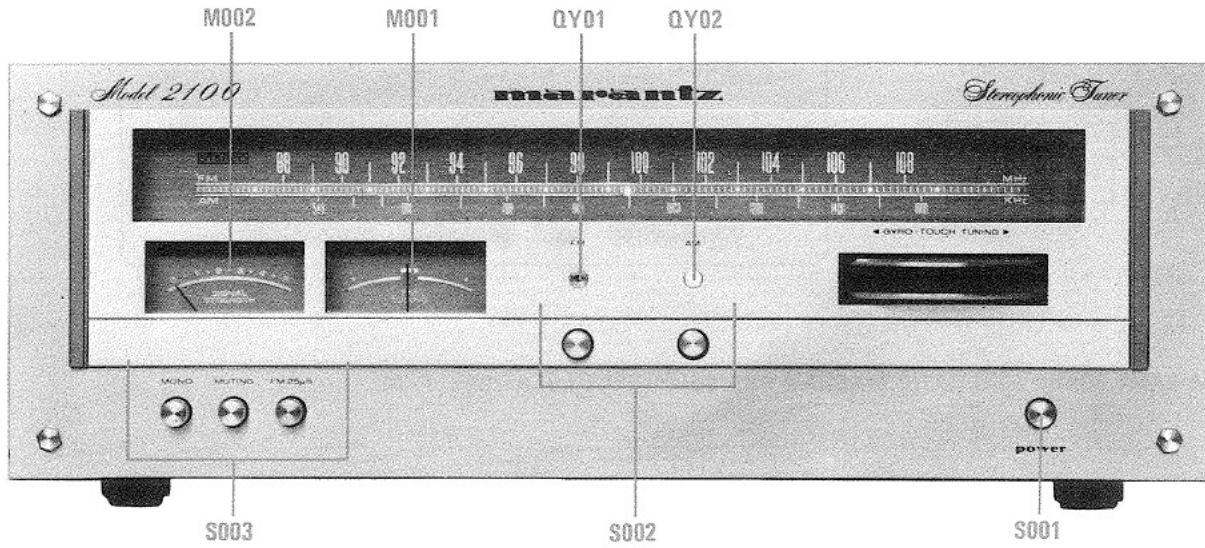


6.11 DIAL LAMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PZ01

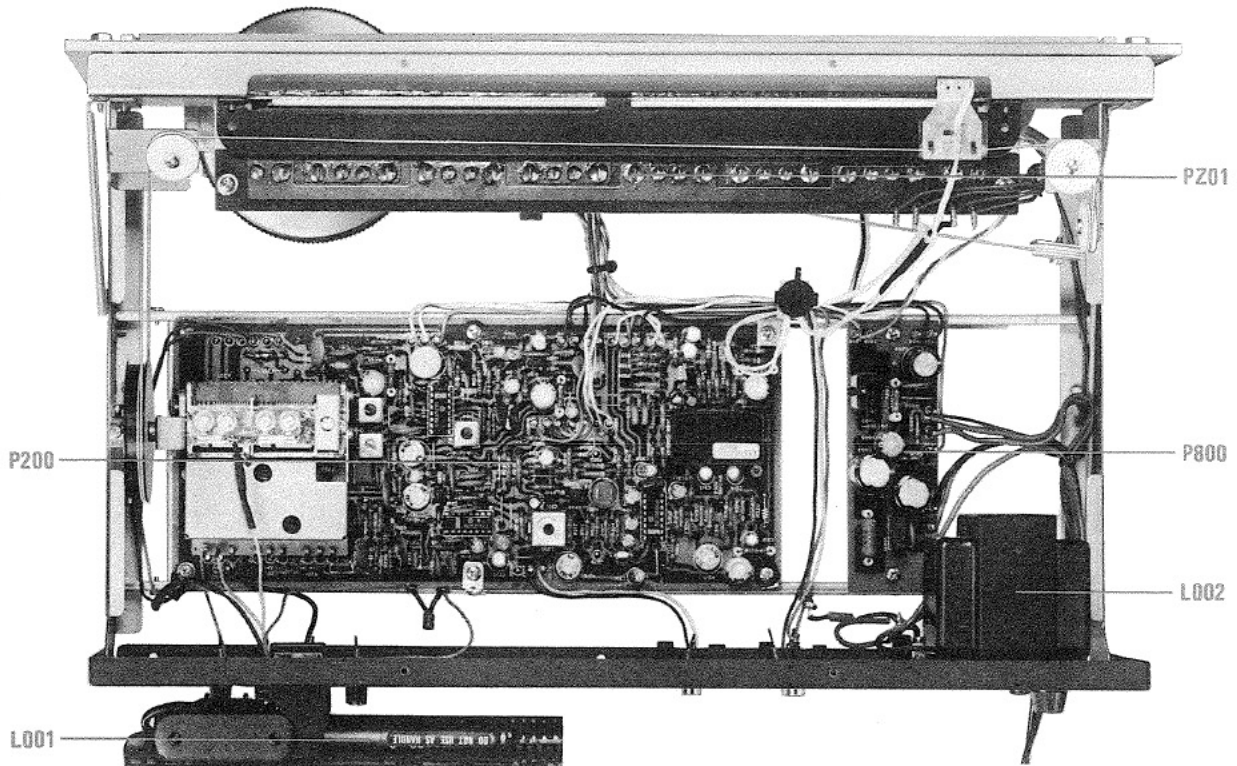


7. MAJOR COMPONENT LOCATIONS

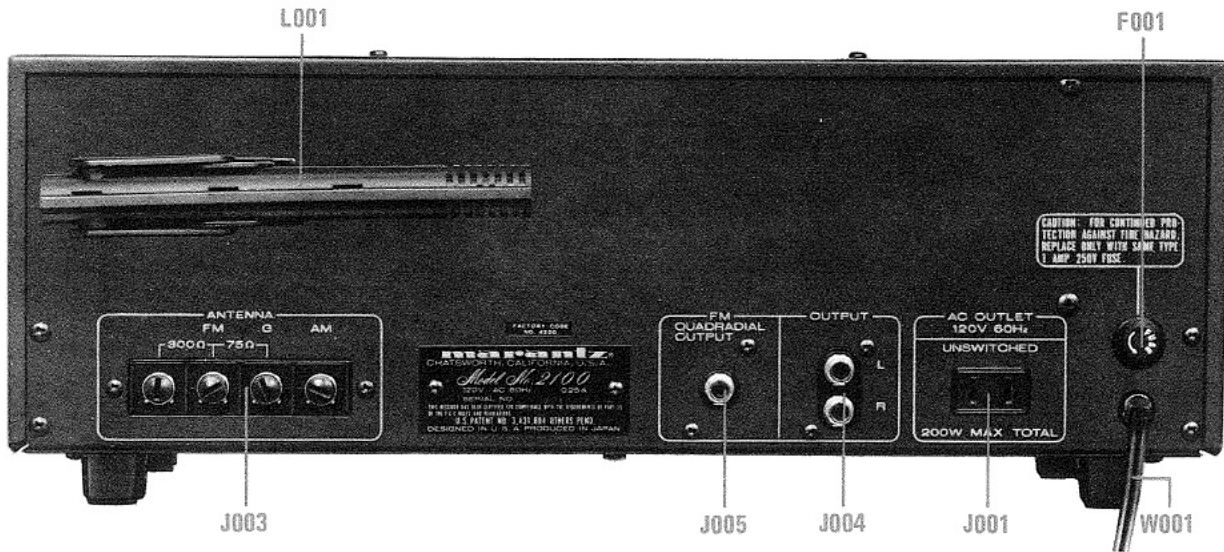
7.1 CABINET - FRONT VIEW - U.S.A. & CANADA



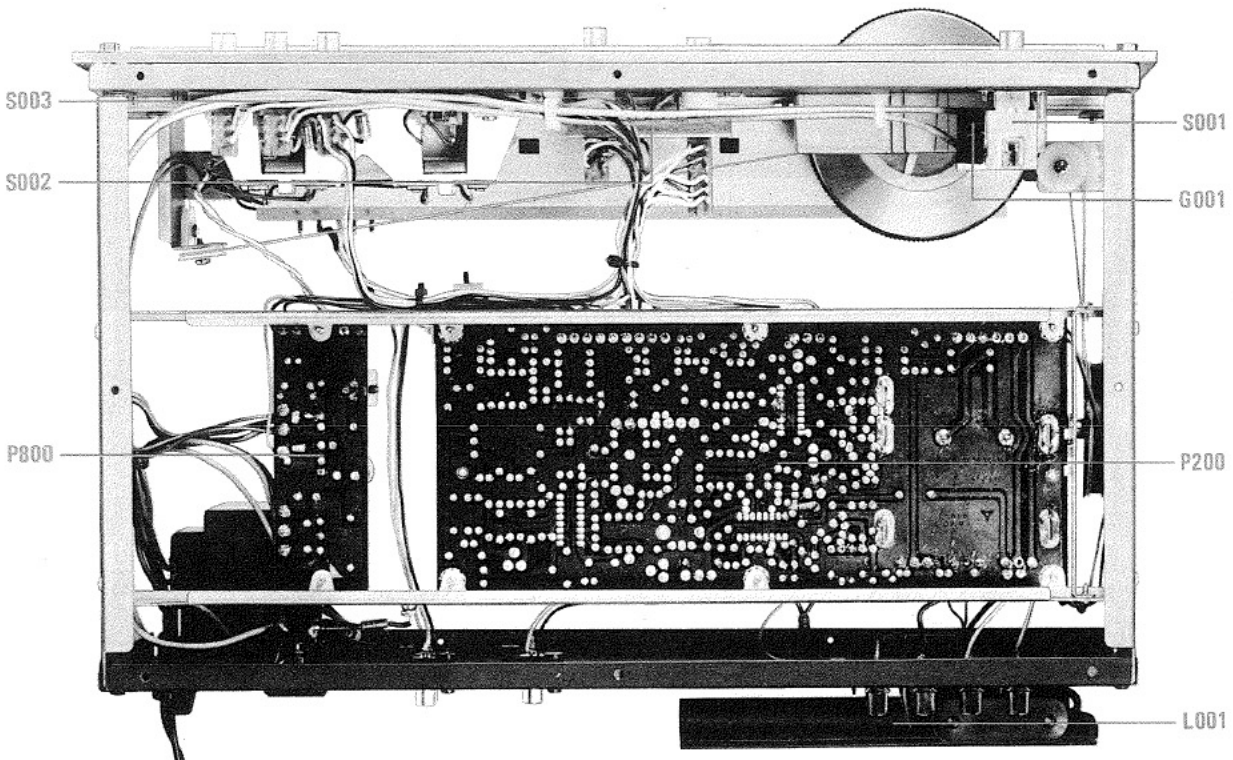
7.2 CHASSIS - TOP VIEW - U.S.A. & CANADA



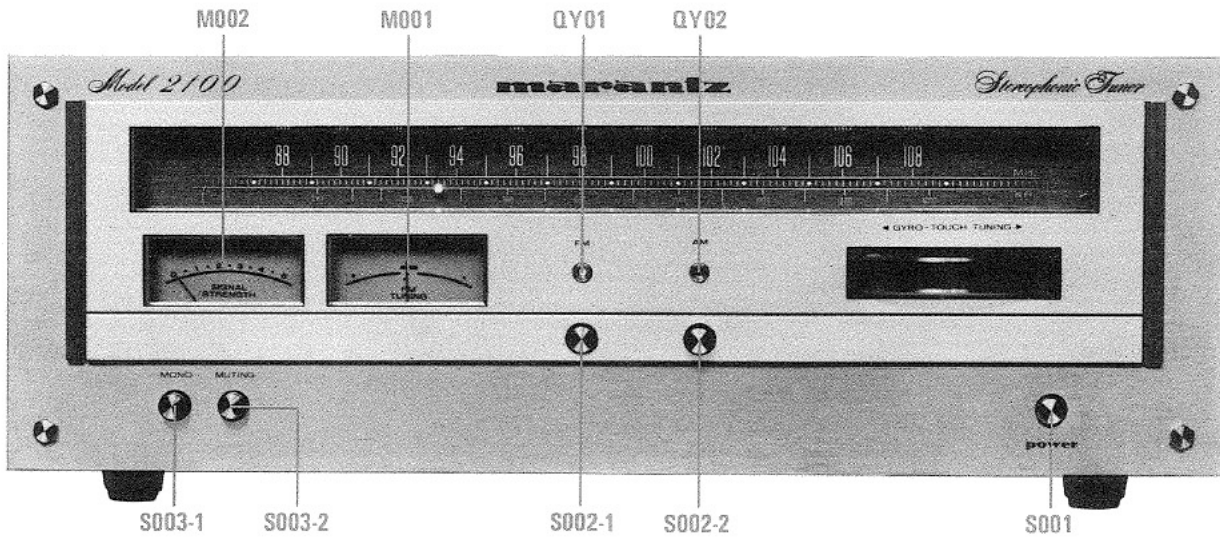
7.3 CABINET - REAR VIEW - U.S.A. & CANADA



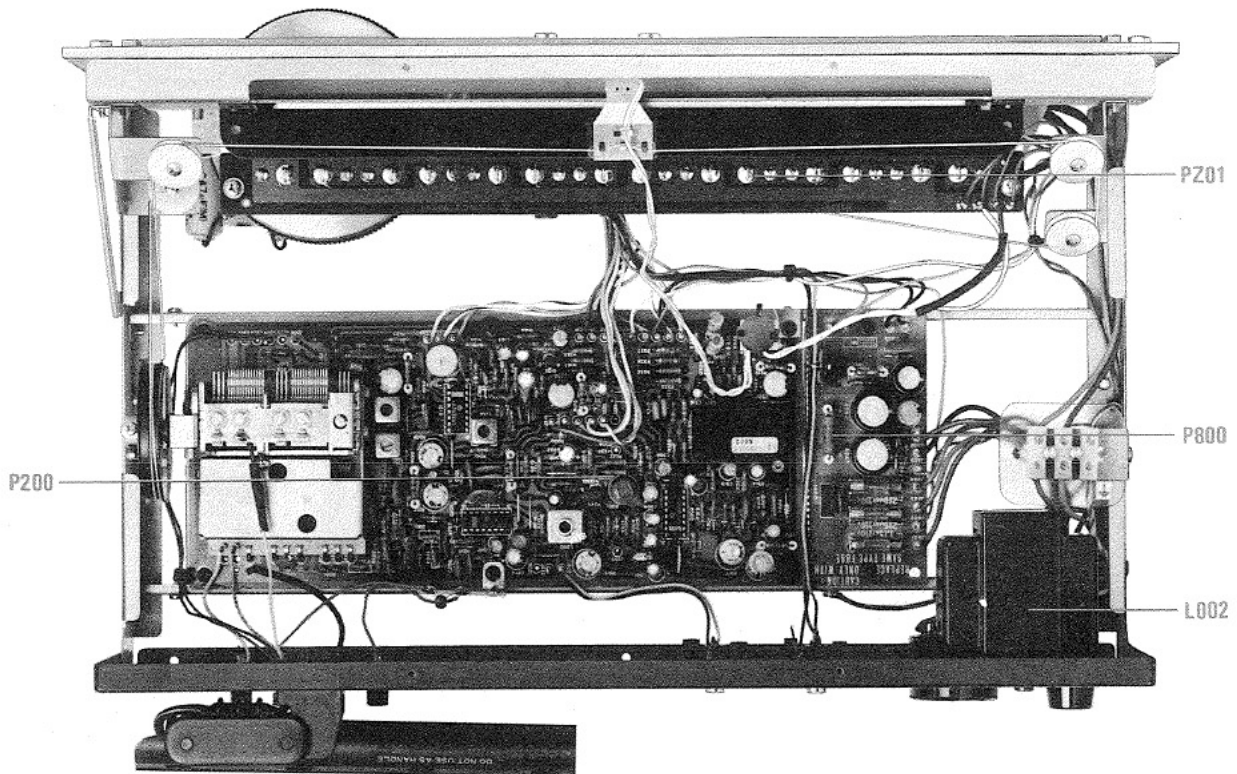
7.4 CHASSIS - BOTTOM VIEW - U.S.A. & CANADA



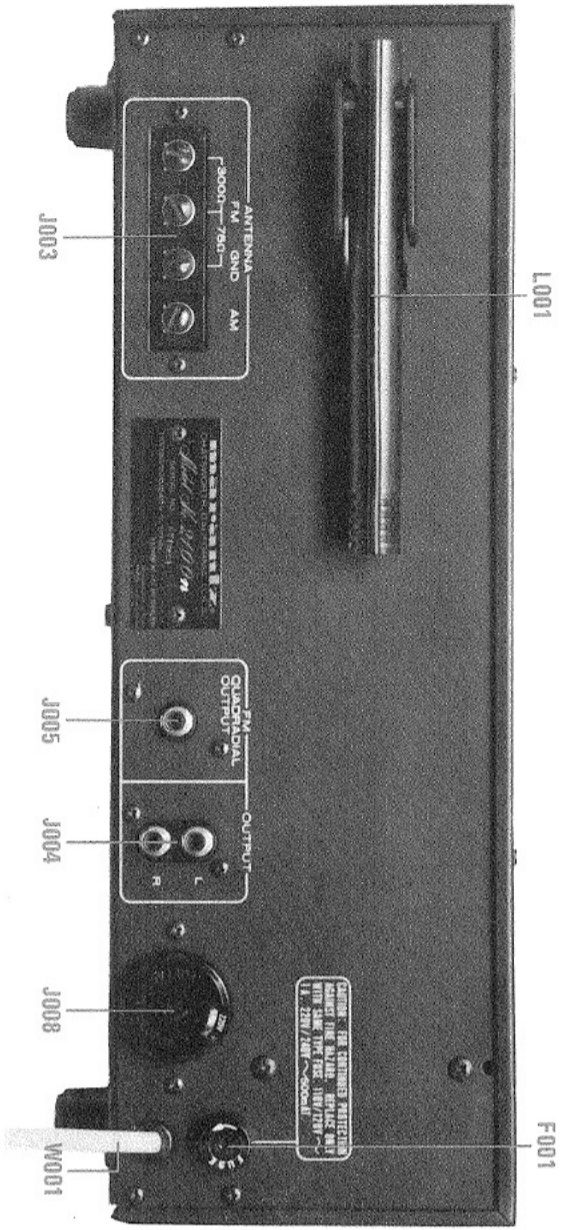
7.5 CABINET - FRONT VIEW - EUROPE



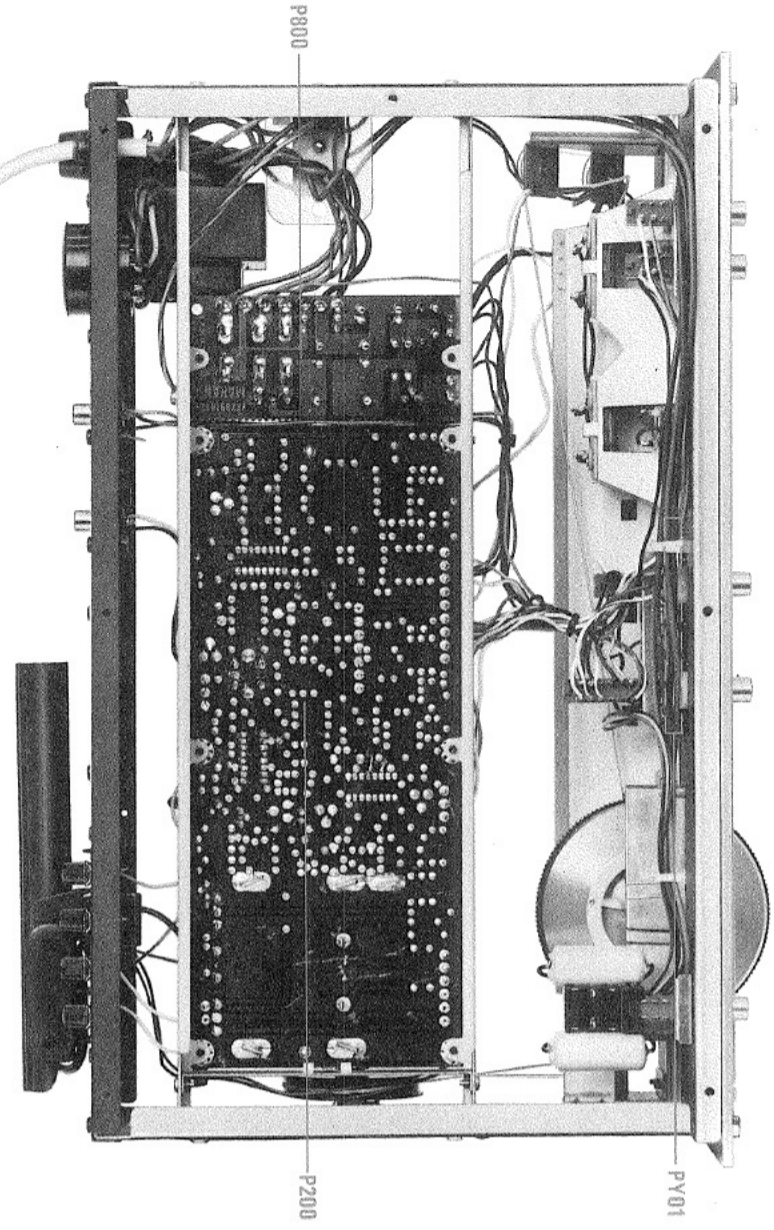
7.6 CHASSIS - TOP VIEW - EUROPE



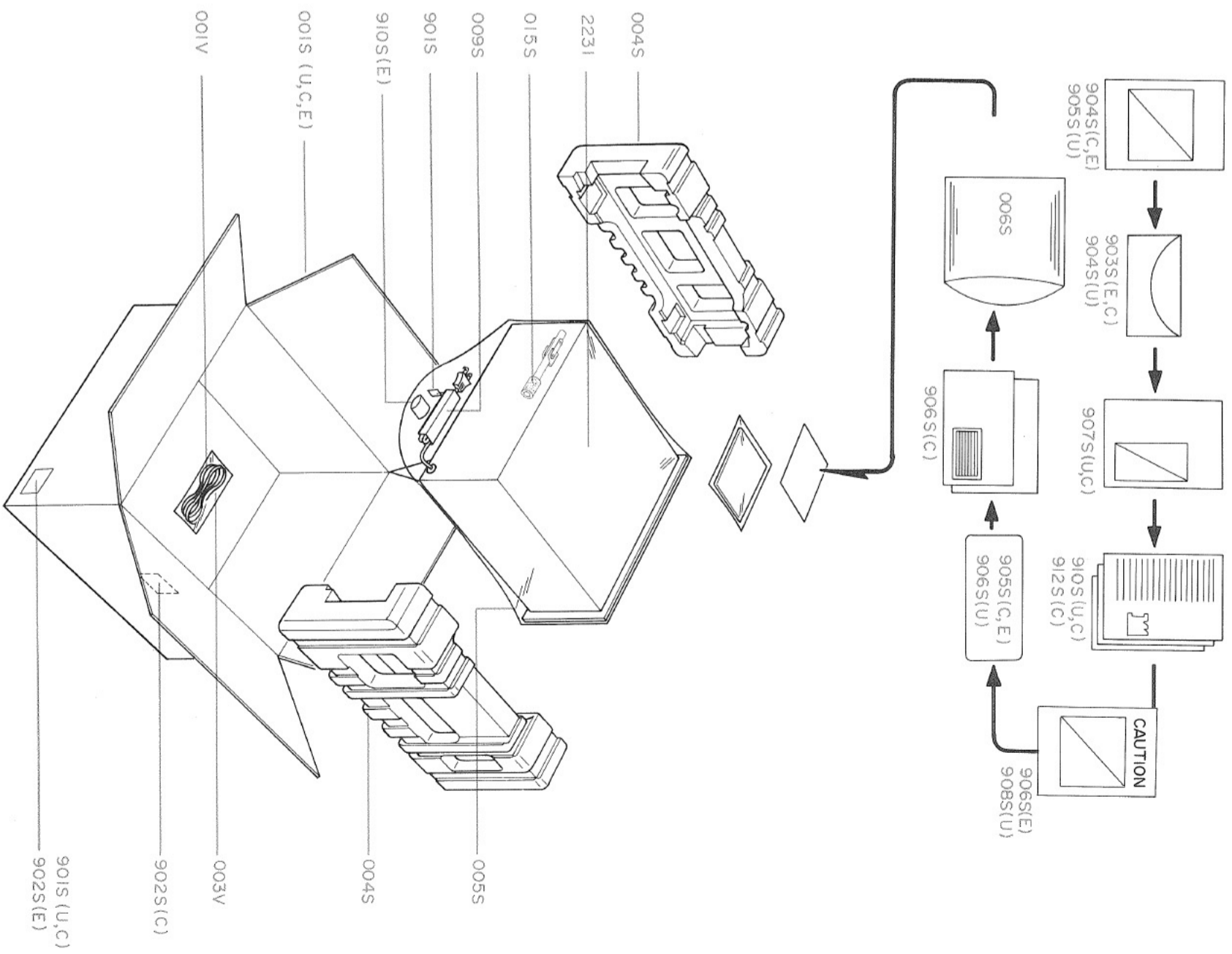
7.7 CABINET - REAR VIEW - EUROPE



7.8 CHASSIS - BOTTOM VIEW - EUROPE



8. EXPLODED VIEWS
8.1 PACKING MATERIAL EXPLODED VIEW



9. PARTS LIST

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
A	1	1		2991063400	Front Panel Assembly
A1			1	2991063410	Front Panel Assembly
003B	1	1	1	2991063024	Escutcheon
004B	1	1	1	2991158110	Window
005B	1	1	1	2991158120	Window
006B	2	2	2	2979259022	Bushing
009B	2	2	2	2965063050	Escutcheon
011B	9	9	9	51480306A9	F. Washer Screw
021B	2	2	2	2979259012	Bushing
920B			1	2991063013	Escutcheon
920B	1	1		2991063110	Escutcheon
921B			1	2991053010	Cover
921B	1	1		2991053110	Cover
922B	4	4	3	2978259010	Bushing
B	1	1	1	2219273400	Flywheel Assembly
0011	1	1	1	2219273010	Flywheel
0071	2	2	2	2219063030	Escutcheon
0101	1	1	1	2219353010	Ring
0121	1	1	1	51820206B0	P.H.M. Screw, P2x6
C	1	1	1	2991159400	Drum Assembly
107F	1	1	1	2991159010	Drum
108F	2	2	2	51064019A0	P.H.M. Screw, P4x19
109F	1	1	1	71101569M0	Spring
MECHANICAL PARTS					
P208	12	12	12	2933118020	Spacer
P211	13	13	13	75061251P0	Jumper Wire
P808	5	5	5	2933118020	Spacer
001F	1	1	1	2991160015	Bracket
001S	1	1	1	2991801010	Packing Case
001V	1	1	1	ZA02000070	External Antenna, FM
0021	1	1	1	2991104500	Retainer
002V	1	1	1	ZD00150160	Connective Cord
003F	4	4	4	51280306B0	B.H. Tapped Screw, B3x6ST
003V	1	1	1	9013025010	Polyethylene Bag, Accessories
004S	2	2	2	2970809010	Cushion
005B	1	1	1	2991158120	Window
005F	1	1	1	2991274013	Reflector
005S	1	1	1	9014335330	Polyethylene Bag, Set
006F	2	2	2	51480308A9	F. Washer Screw
006S	1	1	1	9013025010	Polyethylene Bag, Printed Matter
007F	2	2	2	53110303E9	Hexagon Nut
0081	1	1	1	2219112010	Shaft
009B	2	2	2	2965063050	Escutcheon
009F	1	1	1	2218274032	Reflector
009S	1	1	1	2864804010	Sleeve
011F	1	1	1	2991051012	Guide
012F	2	2	2	51042608A0	F.H.M. Screw, F2.6x8
0131	1	1	1	59031405G9	Washer
014B	4	4	4	52017069J0	H. Head Bolt
015F	6	6	6	51100306A9	B.H.M. Screw, B3x6
015S	1	1	1	2819056010	Buffer
016F	2	2	2	51280306B0	B.H. Tapped Screw, B3x6ST
0171	4	4	4	51470306A9	L. Washer Screw
021F	1	1	1	2991107010	Sheet

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
022B	2	2	2	2979115012	Spring
031B	4	4	4	2932057010	Leg
031F	1	1	1	2991269015	Protector
032B	4	4	4	51570410S9	P. Tapped Screw, P4x10ST
032F	3	3	3	51280306B0	B.H. Tapped Screw, B3x6ST
035B	1	1	1	2970257012	Lid
035F	1	1	1	2991160053	Bracket
036B	4	4	4	51280306U0	B.H. Tapped Screw, B3x6ST
036F	4	4	4	51280306B0	B.H. Tapped Screw, B3x6ST
037B	4	4	4	51480406S9	F. Washer Screw
038B	6	6	6	2979259030	Bushing
039F	1	1	1	2218274022	Reflector
040B	1	1	1	2978257023	Lid
040F	2	2	2	51280306B0	B.H. Tapped Screw, B3x6ST
041B	8	8	8	51280408U0	B.H. Tapped Screw, B4x8ST
041F	1	1	1	2991107020	Sheet
042F	1	1	1	2991107020	Sheet
047B	4	4	4	51280308U0	B.H. Tapped Screw, B3x8ST
048B	2	2	2	51280308U0	B.H. Tapped Screw, B3x8ST
048F	1	1	1	2991262503	Pulley
049B	2	2	2	51280306U0	B.H. Tapped Screw, B3x6ST
051B	2	2	2	51100408S9	B.H.M. Screw, B4x8
052B	2	2	2	2922005010	Clamper
053F	2	2	2	51280306B0	B.H. Tapped Screw, B3x6ST
054B	4	4	4	51280306U0	B.H. Tapped Screw, B3x6ST
061F	1	1	1	2991262512	Pulley
065F	2	2	2	51280306B0	B.H. Tapped Screw, B3x6ST
069F	1	1	1	2886005060	Clamper
070F	1	1	1	2886005050	Clamper
072F	1	1	1	2991005010	Clamper
073F	1	1	1	2908259010	Bushing
077F	1	1	1	2991126014	Stay
078F	1	1	1	2991126024	Stay
079F	1	1	1	2991126033	Stay
080F	1	1	1	2991126043	Stay
081F	1	1	1	2991126050	Stay
082F	1	1	1	2991126060	Stay
083F	8	8	8	51280306B0	B.H. Tapped Screw, B3x6ST
091F	6	6	6	51280306B0	B.H. Tapped Screw, B3x6ST
093F	2	2	2	51280306B0	B.H. Tapped Screw, B3x6ST
096F	1	1	1	1382005030	Clamper
099F	1	1	1	2915267020	Heatsink
100F	1	1	1	51100306A9	B.H.M. Screw, B3x6
104F	1	1	1	51280306B0	B.H. Tapped Screw, B3x6ST
105F	1	1	1	62030039W0	Lug
109F	1	1	1	71101569M0	Spring
110F	2	2	2	72071605A0	String
111F	2	2	2	56382540G0	Eyelet
121F	1	1	1	2991103500	Pointer
135F	1	1	1	2991109010	Shield
136F	1	1	1	2991053110	Cover
901B	3	3	4	2970154032	Knob
901F			1	2991160090	Bracket
901F	1	1	1	2991302013	Dial
901S	3			9522815010	Serial No. Card
901S		3		9523015120	Serial No. Card
901S			1	9560000042	Hang Tag
902B	2	2	2	2979154022	Knob
902F			1	51280306B0	B.H. Tapped Screw, B3x6ST
902S		2		9510901020	Label
902S			3	9523015110	Serial No. Card
903B	1	1		2963154030	Knob
903S			1	2818813010	Envelope

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
903S		1		2918813012	Envelope
904F			1	4113120010	Insulator
904S	1			2577813010	Envelope
904S		1	1	2818851120	Instructions, Important
905B	1	1		2991160213	Bracket
905B			1	2991160223	Bracket
905F			2	51280314B0	B.H. Tapped Screw, B3x14ST
905S	1			2577851020	Instructions, Important
905S		1	1	9630000180	Guarantee Card
906S	1			2577854012	Guarantee Card
906S			1	2818851140	Instructions, Caution
906S		1		9650000050	Service Station Card
907B	1	1		1455259030	Bushing
907S	1			2818854023	Guarantee Card
907S			1	2818854042	Guarantee Card
908S	1			2818851040	Instructions, Caution
908S			1	2818854140	Guarantee Card
908S			1	2991851310	Instructions, Set
909B			1	1455259050	Bushing
909B	1			2991265010	Indicator
909B			1	2991265020	Indicator
910S			1	2731821010	Silicagel
910S	1			2991851010	Instructions, Set
910S			1	2991851310	Instructions, Set
911B			1	2991265082	Indicator
912B	1			2506265060	Indicator
912B			1	2911861170	Label
912S			1	2886851100	Instructions, Set
913B	1			2578861010	Label
913B			1	2911861110	Label
914B			1	2911861140	Label
914B	1			2932861010	Label
915B			1	2506265060	Indicator
915B			1	9510911010	Label
915B	1			9510911020	Label
916B			1	2578861010	Label
916B	1			9511101030	Label
917B			1	2911861190	Label
917B			1	2932861010	Label
917B	1			2991861010	Label
918B			1	2911861290	Label
919B			2	51100308S9	B.H.M. Screw, B3x8
923B			1	2882861020	Label
ELECTRICAL PARTS					
JY01	1	1	1	YP10001130	Plug
JY02	1	1	1	YP10001130	Plug
JY03	1	1	1	YP10001130	Plug
PY01	1	1	1	YH29910410	P.W. Board, Function Indicator
	1	1	1	ZZ29910050	P.W. Board Assembly
QY01	1	1	1	HI10004030	L.E.D., FM
QY02	1	1	1	HI10004030	L.E.D., AM
JZ01	1	1	1	YP10001130	Plug
JZ02	1	1	1	YP10001130	Plug
JZ03	1	1	1	YP10001130	Plug
JZ04	1	1	1	YP10001130	Plug
JZ05	1	1	1	YJ08000170	Jack, Lamp Holder
JZ06	1	1	1	YJ08000170	Jack, Lamp Holder
JZ07	1	1	1	YJ08000170	Jack, Lamp Holder
JZ08	1	1	1	YJ08000170	Jack, Lamp Holder
JZ09	1	1	1	YJ08000170	Jack, Lamp Holder

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
JZ10	1	1	1	YJ08000170	Jack, Lamp Holder
JZ11	1	1	1	YJ08000170	Jack, Lamp Holder
JZ12	1	1	1	YJ08000170	Jack, Lamp Holder
JZ13	1	1	1	YJ08000170	Jack, Lamp Holder
JZ14	1	1	1	YJ08000170	Jack, Lamp Holder
JZ15	1	1	1	YJ08000170	Jack, Lamp Holder
JZ16	1	1	1	YJ08000170	Jack, Lamp Holder
JZ17	1	1	1	YJ08000170	Jack, Lamp Holder
JZ18	1	1	1	YJ08000170	Jack, Lamp Holder
PZ01	1	1	1	YF29910010	P.W. Board, Dial Lamp
	1	1	1	ZZ29910040	P.W. Board Assembly
VZ01	1	1	1	IN10080070	Lamp, Dial, 8V 200mA
VZ02	1	1	1	IN10080070	Lamp, Dial, 8V 200mA
VZ03	1	1	1	IN10080070	Lamp, Dial, 8V 200mA
VZ04	1	1	1	IN10080070	Lamp, Dial, 8V 200mA
VZ05	1	1	1	IN10080070	Lamp, Dial, 8V 200mA
VZ06	1	1	1	IN10080070	Lamp, Dial, 8V 200mA
VZ07	1	1	1	IN10080070	Lamp, Dial, 8V 200mA
C001	1	1	1	EA47601090	Cap., Elect., 47 μ F, 10V
C002	1	1		DF15222050	Cap., Film, 2200pF
C002			1	DO07473540	Cap., Oil-Paper, 0.047 μ F
C003	1	1		DF15222050	Cap., Film, 2200pF
C003			1	DO07473540	Cap., Oil-Paper, 0.047 μ F
F001			1	FS10050800	Fuse, 250V 500mA, SEMKO
F001	1	1		FS10100080	Fuse, 250V 1A, UL
G001	1			BF10400040	Printed Comp.
G001			1	BF33300020	Printed Comp.
J001	1	1		YJ04000560	Jack, AC Outlet
J002	1	1		YJ08000120	Jack, Fuse Holder
J002			1	YJ08000220	Jack, Fuse Holder
J003	1	1	1	YT01040180	Terminal, Antenna
J004	1	1	1	YT02020140	Terminal, Output
J005	1	1	1	YT02010130	Terminal, Quadradial Output
J006	1	1	1	YJ08000190	Jack, Meter Lamp Holder
J007	1	1	1	YJ08000190	Jack, Meter Lamp Holder
J008			1	BY03110010	Plug, Voltage Conversion
J009			1	YL09030010	Terminal, 3P
J010	1	1	1	YL01030230	Terminal, 3P Lug
L001	1	1	1	LF11200520	Antenna Coil, AM
L002	1	1		TS16015050	Power Transformer
L002			1	TS16015060	Power Transformer
L003	1	1	1	LC13320020	Choke Coil, 3.3 μ H
L004	1	1	1	LC11540020	Choke Coil, 150 μ H
M001	1	1	1	IM11055010	Meter, FM Tuning
M002	1	1	1	IM11055020	Meter, Signal Strength
R001	1	1		GT05225120	Res., Fixed, 2.2M Ω \pm 5%, 1/2W
S001	1	1		SP01010180	Pushswitch, Power
S001			1	SP04010250	Pushswitch, Power
S002	1	1	1	SP04020190	Pushswitch, Selector
S003			1	SP02020260	Pushswitch, Mono/Muting
S003	1	1		SP02030070	Pushswitch, Mono/Muting/FM 25 μ S
V001	1	1	1	IN10080070	Lamp, Meter, 8V 200mA
V002	1	1	1	IN10080070	Lamp, Meter, 8V 200mA
V003	1	1	1	IN10080410	Lamp, 8V 50mA
V004	1	1	1	IN10080340	Lamp, Stereo, 8V 60mA
W001			1	YC01900030	AC Power Cord
W001	1	1		YC02400220	AC Power Cord
C101	1	1	1	DD16120020	Cap., Ceramic, 12pF
C102	1	1	1	DK18203030	Cap., Ceramic, 0.02 μ F
C103	1	1	1	DK18203030	Cap., Ceramic, 0.02 μ F
C104	1	1	1	DD11020010	Cap., Ceramic, 2pF

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
C105	1	1	1	DK18203030	Cap., Ceramic, 0.02 μ F
C106	1	1	1	DD16150040	Cap., Ceramic, 15pF
C107	1	1	1	DD11020010	Cap., Ceramic, 2pF
C108	1	1	1	DD12050010	Cap., Ceramic, 5pF
C109	1	1	1	DD16101010	Cap., Ceramic, 100pF
C110	1	1	1	DK18203030	Cap., Ceramic, 0.02 μ F
C111	1	1	1	DD16101010	Cap., Ceramic, 100pF
C112	1	1	1	DK18203030	Cap., Ceramic, 0.02 μ F
C113	1	1	1	DD15150020	Cap., Ceramic, 15pF
C114	1	1	1	DD10050030	Cap., Ceramic, 5pF
C115	1	1	1	DD12050010	Cap., Ceramic, 5pF
C116	1	1	1	DD16330020	Cap., Ceramic, 33pF
C117	1	1	1	DD12100060	Cap., Ceramic, 10pF
C118	1	1	1	DK18203030	Cap., Ceramic, 0.02 μ F
C119	1	1	1	DD11020010	Cap., Ceramic, 2pF
C120	1	1	1	CA32400080	Cap., Variable
C121	1	1	1	CT14200010	Cap., Trimmer
C151	1	1	1	DK17103010	Cap., Ceramic, 0.01 μ F
C152	1	1	1	DK17103010	Cap., Ceramic, 0.01 μ F
C153	1	1	1	DK17102010	Cap., Ceramic, 0.001 μ F
C154	1	1	1	EA10701690	Cap., Elect., 100 μ F, 16V
C155	1	1	1	DK18403020	Cap., Ceramic, 0.04 μ F
C156	1	1	1	DF65391010	Cap., Film, 390pF
C157	1	1	1	DD16150010	Cap., Ceramic, 15pF
C158	1	1	1	DK18103010	Cap., Ceramic, 0.01 μ F
C159	1	1	1	DK17103010	Cap., Ceramic, 0.01 μ F
C160	1	1	1	DD16820010	Cap., Ceramic, 82pF
C161	1	1	1	DK17103010	Cap., Ceramic, 0.01 μ F
C162	1	1	1	DK18403020	Cap., Ceramic, 0.04 μ F
C163	1	1	1	EA10505090	Cap., Elect., 1 μ F, 50V
C164	1	1	1	EA22601690	Cap., Elect., 22 μ F, 16V
C165	1	1	1	EA47503590	Cap., Elect., 4.7 μ F, 35V
C166	1	1	1	DK17102010	Cap., Ceramic, 0.001 μ F
C167	1	1	1	DK18103010	Cap., Ceramic, 0.01 μ F
C168	1	1	1	DK16682010	Cap., Ceramic, 0.0068 μ F
C169	1	1	1	DK18403020	Cap., Ceramic, 0.04 μ F
C170	1	1	1	EA10701690	Cap., Elect., 100 μ F, 16V
C171	1	1	1	DF16104010	Cap., Film, 0.1 μ F
C172	1	1	1	EE47502510	Cap., Elect., 4.7 μ F, 25V
F151	1	1	1	FF10045160	Ceramic Filter, AM, SFD455D
J101	1	1	1	YP10001510	Plug
J102	1	1	1	YP10001510	Plug
J103	1	1	1	YP10001510	Plug
J105	1	1	1	YP10001510	Plug
J107	1	1	1	YP10001510	Plug
J109	1	1	1	YP10001510	Plug
J110	1	1	1	YP10001510	Plug
J111	1	1	1	YP10001510	Plug
L105	1	1	1	LC12220010	Choke Coil
L106	1	1	1	LI10239010	IFT
L152	1	1	1	LC13320020	Choke Coil, 3.3 μ H
L153	1	1	1	LC13320020	Choke Coil, 3.3 μ H
L154	1	1	1	LO10010480	OSC Coil, AM
L155	1	1	1	LI10015010	IFT, AM
L156	1	1	1	LI10015060	IFT, AM
P100	1	1	1	YD29910010	P.W. Board, Front End
A201	1	1	1	AV01202060	Front End Assembly
Q101	1	1	1	HF400451B0	FET, 3SK45 B
Q102	1	1	1	HT305352B0	Transistor, 2SC535 B or C
Q103	1	1	1	HT313422B0	Transistor, 2SC1342 B or C
Q151	1	1	1	HC10019010	IC, HA1197
Q152	1	1	1	HT313272A0	Transistor, 2SC1327 S or T
Q153	1	1	1	HV00006120	Varistor, MV-203

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
R101	1	1	1	GD05105140	Res., Fixed, 1M Ω \pm 5%, $\frac{1}{4}$ W
R102	1	1	1	GD05101140	Res., Fixed, 100 Ω \pm 5%, $\frac{1}{4}$ W
R103	1	1	1	GD05101140	Res., Fixed, 100 Ω \pm 5%, $\frac{1}{4}$ W
R104	1	1	1	GD05101140	Res., Fixed, 100 Ω \pm 5%, $\frac{1}{4}$ W
R105	1	1	1	GD05223140	Res., Fixed, 22k Ω \pm 5%, $\frac{1}{4}$ W
R106	1	1	1	GD05472140	Res., Fixed, 4.7k Ω \pm 5%, $\frac{1}{4}$ W
R107	1	1	1	GD05102140	Res., Fixed, 1k Ω \pm 5%, $\frac{1}{4}$ W
R108	1	1	1	GD05103140	Res., Fixed, 10k Ω \pm 5%, $\frac{1}{4}$ W
R109	1	1	1	GD05332140	Res., Fixed, 3.3k Ω \pm 5%, $\frac{1}{4}$ W
R110	1	1	1	GD05103140	Res., Fixed, 10k Ω \pm 5%, $\frac{1}{4}$ W
R111	1	1	1	GD05101140	Res., Fixed, 100 Ω \pm 5%, $\frac{1}{4}$ W
R151	1	1	1	RT05201140	Res., Fixed, 200 Ω \pm 5%, $\frac{1}{4}$ W
R152	1	1	1	RT05152140	Res., Fixed, 1.5k Ω \pm 5%, $\frac{1}{4}$ W
R153	1	1	1	RT05202140	Res., Fixed, 2k Ω \pm 5%, $\frac{1}{4}$ W
R154	1	1	1	RT05152140	Res., Fixed, 1.5k Ω \pm 5%, $\frac{1}{4}$ W
R155	1	1	1	RT05151140	Res., Fixed, 150 Ω \pm 5%, $\frac{1}{4}$ W
R156	1	1	1	RA05020200	Res., Semifixed, 5k Ω
R157	1	1	1	RT05391140	Res., Fixed, 390 Ω \pm 5%, $\frac{1}{4}$ W
R158	1	1	1	RT05124140	Res., Fixed, 120k Ω \pm 5%, $\frac{1}{4}$ W
R159	1	1	1	RT05104140	Res., Fixed, 100k Ω \pm 5%, $\frac{1}{4}$ W
R160	1	1	1	RT05103140	Res., Fixed, 10k Ω \pm 5%, $\frac{1}{4}$ W
R161	1	1	1	RT05103140	Res., Fixed, 10k Ω \pm 5%, $\frac{1}{4}$ W
R162	1	1	1	RT05102140	Res., Fixed, 1k Ω \pm 5%, $\frac{1}{4}$ W
R163	1	1	1	RT05301140	Res., Fixed, 300 Ω \pm 5%, $\frac{1}{4}$ W
R164	1	1	1	RT05473140	Res., Fixed, 47k Ω \pm 5%, $\frac{1}{4}$ W
R165	1	1	1	RT05104140	Res., Fixed, 100k Ω \pm 5%, $\frac{1}{4}$ W
R166	1	1	1	RT05152140	Res., Fixed, 1.5k Ω \pm 5%, $\frac{1}{4}$ W
R167	1	1	1	RT05242140	Res., Fixed, 2.4k Ω \pm 5%, $\frac{1}{4}$ W
R169	1	1	1	RT05473140	Res., Fixed, 47k Ω \pm 5%, $\frac{1}{4}$ W
R170	1	1	1	RT05101140	Res., Fixed, 100 Ω \pm 5%, $\frac{1}{4}$ W
C201	1	1	1	DD15300010	Cap., Ceramic, 30pF
C202	1	1	1	DK17103010	Cap., Ceramic, 0.01 μ F
C203	1	1	1	DK17103010	Cap., Ceramic, 0.01 μ F
C204	1	1	1	DK17103010	Cap., Ceramic, 0.01 μ F
C205	1	1	1	DK18403020	Cap., Ceramic, 0.04 μ F
C206	1	1	1	DK18403020	Cap., Ceramic, 0.04 μ F
C207	1	1	1	DK18403020	Cap., Ceramic, 0.04 μ F
C208	1	1	1	EA47503590	Cap., Elect., 4.7 μ F, 35V
C209	1	1	1	DD15400040	Cap., Ceramic, 40pF
C210	1	1	1	EA22601690	Cap., Elect., 22 μ F, 16V
C211	1	1	1	EA47405010	Cap., Elect., 0.47 μ F, 50V
C212	1	1	1	DK18403010	Cap., Ceramic, 0.04 μ F
C213	1	1	1	DK18403010	Cap., Ceramic, 0.04 μ F
C214	1	1	1	DK18403010	Cap., Ceramic, 0.04 μ F
C215	1	1	1	DK18403010	Cap., Ceramic, 0.04 μ F
C216	1	1	1	DK18403010	Cap., Ceramic, 0.04 μ F
C217	1	1	1	EA10505090	Cap., Elect., 1 μ F, 50V
C218	1	1	1	EA10505090	Cap., Elect., 1 μ F, 50V
F201	1	1	1	FF11070050	Ceramic Filter, SFE10.7MD1
F202	1	1	1	FF11070050	Ceramic Filter, SFE10.7MD1
F203	1	1	1	FF11070050	Ceramic Filter, SFE10.7MD1
J201	?	29	29	YP10001130	Plug
J229					
J231	1	1	1	YP10001130	Plug
L202	1	1	1	LI14019010	IFT, FM
L203	1	1	1	LC11830010	Choke Coil, 18 μ H
P200	1	1	1	YD22042012	P.W. Board, Tuner
	1	1	1	ZZ29912010	P.W. Board Assembly
			1	ZZ29918010	P.W. Board Assembly
Q201	1	1	1	HT310471C0	Transistor, 2SC1047 C
Q202	1	1	1	HC10021010	IC, HA1137W

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
Q203	1	1	1	HD20011050	Diode, 1S1555
Q204	1	1	1	HD20011050	Diode, 1S1555
Q205	1	1	1	HD20011050	Diode 1S1555
Q206	1	1	1	HT308281D0	Transistor, 2SC828 S
R201	1	1	1	RT05151140	Res., Fixed, 150Ω ±5%, ¼W
R202	1	1	1	RT05331140	Res., Fixed, 330Ω ±5%, ¼W
R203	1	1	1	RT05153140	Res., Fixed, 15kΩ ±5%, ¼W
R204	1	1	1	RT05202140	Res., Fixed, 2kΩ ±5%, ¼W
R205	1	1	1	RT05331140	Res., Fixed, 330Ω ±5%, ¼W
R206	1	1	1	RT05102140	Res., Fixed, 1kΩ ±5%, ¼W
R207	1	1	1	RT05101140	Res., Fixed, 100Ω ±5%, ¼W
R208	1	1	1	RT05334140	Res., Fixed, 330kΩ ±5%, ¼W
R209	1	1	1	RA05030120	Res., Semifixed, 50kΩ (B)
R210	1	1	1	RT05103140	Res., Fixed, 10kΩ ±5%, ¼W
R211	1	1	1	RT05104140	Res., Fixed, 100kΩ ±5%, ¼W
R212	1	1	1	RA01030250	Res., Semifixed, 10kΩ (B)
R213	1	1	1	RT05123140	Res., Fixed, 12kΩ ±5%, ¼W
R214	1	1	1	RT05331140	Res., Fixed, 330Ω ±5%, ¼W
R215	1	1	1	RA05030120	Res., Semifixed, 50kΩ (B)
R216	1	1	1	RT05562140	Res., Fixed, 5.6kΩ ±5%, ¼W
R217	1	1	1	RT05222140	Res., Fixed, 2.2kΩ ±5%, ¼W
R218	1	1	1	RT05222140	Res., Fixed, 2.2kΩ ±5%, ¼W
R219	1	1	1	RT05123140	Res., Fixed, 12kΩ ±5%, ¼W
R220	1	1	1	RT05391140	Res., Fixed, 390Ω ±5%, ¼W
R221	1	1	1	RT05223140	Res., Fixed, 22kΩ ±5%, ¼W
R222	1	1	1	RT05473140	Res., Fixed, 47kΩ ±5%, ¼W
R223	1	1	1	RT05470140	Res., Fixed, 47Ω ±5%, ¼W
R224	1	1	1	RT05102140	Res., Fixed, 1kΩ ±5%, ¼W
C301	1	1	1	EA47503590	Cap., Elect., 4.7μF, 35V
C302	1	1	1	DF65361500	Cap., Film, 360pF
C303	1	1	1	EA10701690	Cap., Elect., 100μF, 16V
C304	1	1	1	EE33502510	Cap., Elect., 3.3μF, 25V
C305	1	1	1	EE10505010	Cap., Elect., 1μF, 50V
C306	1	1	1	EA10505090	Cap., Elect., 1μF, 50V
C307	1	1	1	EQ22405010	Cap., Elect., 0.22μF, 50V
C308	1	1	1	DF17473010	Cap., Film, 0.047μF
C309	1	1	1	DD15500050	Cap., Ceramic, 50pF
C310	1	1	1	DD15500050	Cap., Ceramic, 50pF
C311	1	1	1	EA10601690	Cap., Elect., 10μF, 16V
C312	1	1	1	EA10601690	Cap., Elect., 10μF, 16V
C313	1	1	1	EA22505090	Cap., Elect., 2.2μF, 50V
C314	1	1	1	EA22505090	Cap., Elect., 2.2μF, 50V
C315	1	1	1	DF15102050	Cap., Film, 1000pF
C315	1	1	1	DF15222050	Cap., Film, 2200pF
C316	1	1	1	DF15102050	Cap., Film, 1000pF
C316	1	1	1	DF15222050	Cap., Film, 2200pF
C317	1	1	1	EA47405010	Cap., Elect., 0.47μF, 50V
C318	1	1	1	EA47405010	Cap., Elect., 0.47μF, 50V
C319	1	1	1	EE47502510	Cap., Elect., 4.7μF, 25V
C320	1	1	1	EE47502510	Cap., Elect., 4.7μF, 25V
C321	1	1	1	EA10701690	Cap., Elect., 100μF, 16V
C322	1	1	1	EE10601640	Cap., Elect., 10μF, 16V
L301	1	1	1	LS35025010	MPX Coil
Q301	1	1	1	HT308281D0	Transistor, 2SC828 S
Q302	1	1	1	HC10020010	IC, HA1196
Q303	1	1	1	HT313441E0	Transistor, 2SC1344 E
Q304	1	1	1	HT313441E0	Transistor, 2SC1344 E
R301	1	1	1	RA01030310	Res., Semifixed, 10kΩ (B)
R302	1	1	1	RT05104140	Res., Fixed, 100kΩ ±5%, ¼W
R303	1	1	1	RT05223140	Res., Fixed, 22kΩ ±5%, ¼W
R304	1	1	1	RT05102140	Res., Fixed, 1kΩ ±5%, ¼W
R305	1	1	1	RT05104140	Res., Fixed, 100kΩ ±5%, ¼W
R306	1	1	1	RT05824140	Res., Fixed, 820kΩ ±5%, ¼W

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
R307	1	1	1	RT05473140	Res., Fixed, 47kΩ ±5%, ¼W
R308	1	1	1	RT05101140	Res., Fixed, 100Ω ±5%, ¼W
R309	1	1	1	RT05154140	Res., Fixed, 150kΩ ±5%, ¼W
R310	1	1	1	RT05223140	Res., Fixed, 22kΩ ±5%, ¼W
R311	1	1	1	RT05272140	Res., Fixed, 2.7kΩ ±5%, ¼W
R312	1	1	1	RT05101140	Res., Fixed, 100Ω ±5%, ¼W
R313	1	1	1	RT05303140	Res., Fixed, 30kΩ ±5%, ¼W
R314	1	1	1	RT05303140	Res., Fixed, 30kΩ ±5%, ¼W
R315	1	1	1	RT05473140	Res., Fixed, 47kΩ ±5%, ¼W
R316	1	1	1	RT05473140	Res., Fixed, 47kΩ ±5%, ¼W
R317	1	1	1	RA05040080	Res., Semifixed, 500kΩ (B)
R318	1	1	1	RT05473140	Res., Fixed, 47kΩ ±5%, ¼W
R319	1	1	1	RT05273140	Res., Fixed, 27kΩ ±5%, ¼W
R320	1	1	1	RT05273140	Res., Fixed, 27kΩ ±5%, ¼W
R321	1	1	1	RT05332140	Res., Fixed, 3.3kΩ ±5%, ¼W
R322	1	1	1	RT05332140	Res., Fixed, 3.3kΩ ±5%, ¼W
R323	1	1	1	RT05332140	Res., Fixed, 3.3kΩ ±5%, ¼W
R324	1	1	1	RT05332140	Res., Fixed, 3.3kΩ ±5%, ¼W
R325	1	1	1	RT05243140	Res., Fixed, 24kΩ ±5%, ¼W
R326	1	1	1	RT05243140	Res., Fixed, 24kΩ ±5%, ¼W
R327	1	1	1	RT05394140	Res., Fixed, 390kΩ ±5%, ¼W
R328	1	1	1	RT05394140	Res., Fixed, 390kΩ ±5%, ¼W
R329	1	1	1	RT05105140	Res., Fixed, 1MΩ ±5%, ¼W
R330	1	1	1	RT05105140	Res., Fixed, 1MΩ ±5%, ¼W
R331	1	1	1	RT05391140	Res., Fixed, 390Ω ±5%, ¼W
R332	1	1	1	RT05391140	Res., Fixed, 390Ω ±5%, ¼W
R333	1	1	1	RT05222140	Res., Fixed, 2.2kΩ ±5%, ¼W
R334	1	1	1	RT05222140	Res., Fixed, 2.2kΩ ±5%, ¼W
R335	1	1	1	RT05473140	Res., Fixed, 47kΩ ±5%, ¼W
R336	1	1	1	RT05473140	Res., Fixed, 47kΩ ±5%, ¼W
R337	1	1	1	RT05101140	Res., Fixed, 100Ω ±5%, ¼W
R338	1	1	1	RT05101140	Res., Fixed, 100Ω ±5%, ¼W
R339	1	1	1	RT05101140	Res., Fixed, 100Ω ±5%, ¼W
R340	1	1	1	RT05201140	Res., Fixed, 200Ω ±5%, ¼W
C801	1	1	1	DK18103510	Cap., Ceramic, 0.01μF
C802	1	1	1	EA22705090	Cap., Elect., 220μF, 50V
C803	1	1	1	EA22705090	Cap., Elect., 220μF, 50V
C804	1	1	1	EA33701690	Cap., Elect., 330μF, 16V
C805	1	1	1	DK18103510	Cap., Ceramic, 0.01μF
C806	1	1	1	EA10701690	Cap., Elect., 100μF, 16V
F801	1	1	1	FS10315800	Fuse, 3.15AT, SEMKO
F802	1	1	1	FS10020800	Fuse, 200mAT, SEMKO
F803	1	1	1	FS10020800	Fuse, 200mAT, SEMKO
J801	1	1	1	YP10001130	Plug
J802	1	1	1	YP10001130	Plug
J803	1	1	1	YP10001130	Plug
J804	1	1	1	YP10001130	Plug
J805	1	1	1	YP10001130	Plug
J806	1	1	1	YP10001130	Plug
J807	1	1	1	YP10001130	Plug
J808	1	1	1	YP10001130	Plug
J809	1	1	1	YP10001130	Plug
J810	1	1	1	YP10001130	Plug
J811	1	1	1	YP10001130	Plug
J812	1	1	1	YJ08000200	Jack
J813	1	1	1	YJ08000200	Jack
J814	1	1	1	YJ08000200	Jack
J815	1	1	1	YJ08000200	Jack
J816	1	1	1	YJ08000200	Jack
J817	1	1	1	YJ08000200	Jack
P800	1	1	1	YK29910610	P.W. Board, Power Supply
P800	1	1	1	ZZ29910020	P.W. Board Assembly
P800	1	1	1	YK29910620	P.W. Board, Power Supply

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
			1	ZZ29918030	P.W. Board Assembly
Q801	1	1	1	HD20011030	Diode, DS131-B
Q802	1	1	1	HD30021090	Zener, BZ-140
Q803	1	1	1	HT403131E0	Transistor, 2SD313E
Q804	1	1	1	HD20005010	Diode, W06B
R801	1	1	1	GJ05390020	Res., Fixed, 39 Ω \pm 5%, 2W
R802	1	1	1	RT05332140	Res., Fixed, 3.3k Ω \pm 5%, 1/4W
R803	1	1	1	RT05100140	Res. Fixed, 10 Ω \pm 5%, 1/4W
R804	1	1	1	RT05681140	Res., Fixed, 680 Ω \pm 5%, 1/4W

10. TECHNICAL SPECIFICATIONS

FM TUNER SECTION:

Sensitivity	
IHF Usable	10.3 dBf (1.8 μ V)
IHF 50 dB Quieting (Mono)	13.2 dBf (2.5 μ V)
(Stereo)	37.3 dBf (40 μ V)
DIN Sensitivity (Mono, 26 dB S/N, 300 ohms input)	1.6 μ V
(Stereo, 46 dB S/N, 300 ohms input)	50 μ V
Quieting Slope (Mono)	
RF Input for 30 dB Quieting	9.3 dBf (1.6 μ V)
Quieting at:	
20 dBf (5.5 μ V)	58 dB
25 dBf (10 μ V)	62 dB
40 dBf (55 μ V)	70 dB
65 dBf (1000 μ V)	74 dB
Quieting Slope (Stereo)	
Quieting at:	
30 dBf (17 μ V)	42 dB
40 dBf (55 μ V)	53 dB
50 dBf (173 μ V)	58 dB
65 dBf (1000 μ V)	65 dB
Distortion (Mono) at 65 dBf (1000 μ V)	
100 Hz	0.25%
1000 Hz	0.15%
6000 Hz	0.3%
Distortion (Stereo) at 65 dBf (1000 μ V)	
100 Hz	0.35%
1000 Hz	0.3%
6000 Hz	0.5%
Distortion (Mono and Stereo)	
at 50 dB Quieting, 1000 Hz	0.6%
Hum and Noise	
at 65 dBf (1000 μ V)	
Mono	72 dB
Frequency Response	
30 Hz to 15 kHz	
Mono	+0.2, -1.5 dB
Stereo	+0.2, -1.5 dB
Capture Ratio	
at 45 dBf (100 μ V)	1.5 dB
at 65 dBf (1000 μ V)	1.0 dB
Alternate Channel Selectivity	70 dB
Spurious Response Rejection	90 dB
Image Response Rejection	60 dB
I.F. Rejection (Balanced)	80 dB
A.M. Suppression	50 dB
Stereo Separation	
100 Hz	40 dB
1000 Hz	45 dB
10 kHz	40 dB
Subcarrier Rejection	60 dB

AM TUNER SECTION:

IHF Usable Sensitivity	15 μ V
Distortion (THD), 30% Modulation	0.5%
Signal-to-Noise Ratio	50 dB
Frequency Response (\pm 3 dB)	40 Hz to 2.3 kHz

Alternate Channel Selectivity	46 dB
Image Rejection	45 dB
Spurious Response Rejection	60 dB
I.F. Rejection	40 dB

GENERAL:

Power Requirements	120 V AC, 60 Hz (U.S.A. and Canadian Versions) 220 V AC, 50 Hz (European Version)
	(This unit can be converted by a qualified technician to operate on 110/120/240 V AC, 50/60 Hz.)

Power Consumption	23 W
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Semiconductor Complement:

Integrated Circuits	3
Transistors	9
Diodes	7
Dual Gate MOSFET	1

Dimensions:

Panel Width	416 mm (16-3/8 inches)
Panel Height	146 mm (5-3/4 inches)
Depth	239 mm (9-3/8 inches)

Weight:

Unit alone	6.0 kg (13.2 lbs)
Packed for shipment	7.4 kg (16.3 lbs)

ORIGINAL



marantz

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