



SERVICE
MANUAL **2218**



marantz

model **2218**

Stereophonic Receiver

TABLE OF CONTENTS

SECTION	PAGE
1. INTRODUCTION	1
2. SERVICE NOTES	1
3. TEST EQUIPMENT REQUIRED FOR SERVICING	2
4. AM ALIGNMENT PROCEDURE	2
5. FM ALIGNMENT PROCEDURE	3
6. POWER AMPLIFIER ADJUSTMENT	3
7. VOLTAGE CONVERSION FOR EUROPEAN MODEL	4
8. FTZ REGULATION FOR EUROPEAN MODEL	4
9. DIAGRAM AND COMPONENT LOCATIONS	5
9.1 FM Front End Assembly (P100) Schematic Diagram and Component Location	5
9.2 Monitor, Hi-Filter, Loudness Switches Assembly (PH01) Schematic Diagram and Component Location	5
9.3 Phono Equalizer Amp. Assembly (P400) Schematic Diagram and Component Location	5
9.4 Dial Lamp Assembly (PZ01) Schematic Diagram and Component Location	6
9.5 Tuner Assembly (P200) Schematic Diagram and Component Location	6
9.6 Main Amp. & Power Supply Assembly (P700) Schematic Diagram and Component Location	7
9.7 Protector Assembly (PN01) Schematic Diagram and Component Location	8
9.8 Pre & Tone Amp. Assembly (PE01) Schematic Diagram and Component Location	8
10. BLOCK DIAGRAM	9
11. SCHEMATIC DIAGRAMS	10
12. EXPLODED MECHANICAL DIAGRAMS	12
12.1 Cabinet	12
12.2 Chassis	14
12.3 Rear Panel for U.S.A. & Canadian Model	16
12.4 Rear Panel for European Model	16
13. PACKING MATERIAL EXPLODED VIEW	17
14. PARTS LIST	18
15. TECHNICAL SPECIFICATIONS	26



MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ Company has created the ultimate in stereo sound. Only original MARANTZ parts can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ stereo are generally available within 72 hours throughout the nation via a toll-free line to our National Parts Depot in California. The sales professionals who take your call immediately refer to their own desk top computer terminal and can quickly determine the availability and price information you require. If for some reason, your order should exceed our available stock, we usually can instantly provide an alternate replacement part or current delivery information. When the order is placed and confirmed, the computer simultaneously generates "hard copy" orders at the distribution center. As hard copies come directly from the computer to the national parts depot, your requested stock is assembled and prepared for shipment and placed on the first available carrier for delivery to you.

ORDERING PARTS

Phone orders will eliminate mail delays, and we encourage the use of this method. If you order by mail, use MARANTZ parts order forms which are available from our National Parts Depot located at the following address:

SUPERSCOPE NATIONAL PARTS DEPARTMENT
20525 Nordhoff Street
Chatsworth, California 91311
Phone: 1-800-423-5108
1-213-998-9333

The following information must be supplied to eliminate delays in processing your order:

1. Complete address.
2. Complete part numbers.
3. Complete description of parts.
4. Model number for which part is required (indicate MARANTZ).
5. Account number (for account customers only).

Direct consumers will be provided with the current retail price quotation on available parts in order to advise them of the cost of the parts and shipping.

OVERSEAS PARTS ORDERING

Parts may also be ordered from the following overseas addresses:

CANADA

Superscope Canada, Ltd.
3710 Nashua Drive
Mississauga
Ontario, Canada L4V1M5

AUSTRALIA

Superscope (Australia) Pty., Ltd.
32 Cross Street (P.O. Box 604)
Brookvale 2100 N.S.W.
Australia

JAPAN

Marantz Japan, Inc.
3622 Kamitsuruma
Sagamihara Shi
Kanagawa, Japan

EUROPE

Superscope Europe, S.A.
Avenue Leopold III, 2
7120 Perennes-Lez-Binche
Belgium

Marantz France
Rue Louis Armand 9
92600 Asnieres
Hauts-de-Seine
France

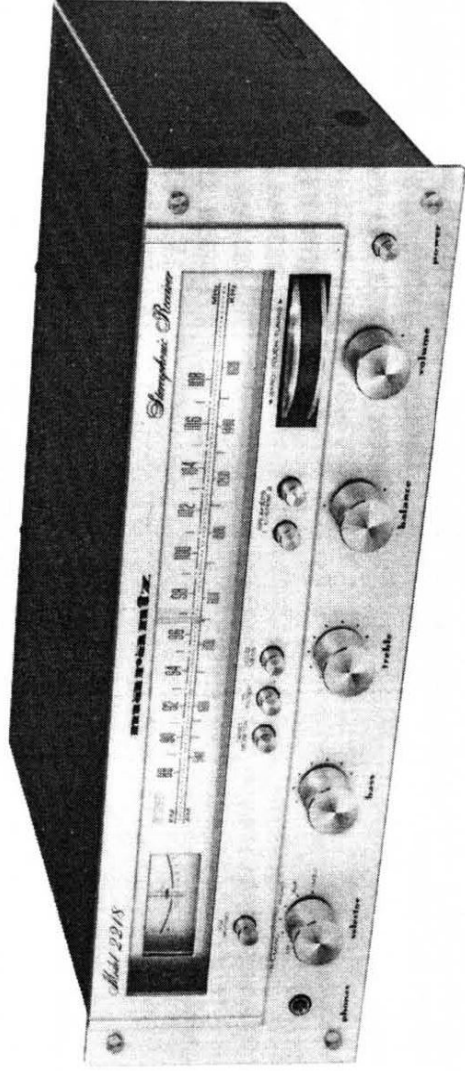
Marantz Audio U.K. Ltd.
London Road, 203
Staines
Middlesex
England

Superscope GmbH
Max-Planck-Strasse 22
D-6072 Dreieich 1
West Germany

All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please contact the nearest facility for the necessary assistance.



We sound better.



1. INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model 2218 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 part 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.

2. SERVICE NOTES

As can be seen from the circuit diagram, the chassis of Model 2218 consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

- 1. FM Front End mounted on P.W.B. P 100
- 2. Tuner mounted on P.W.B. P 200
- 3. Phono Equalizer Amp. mounted on P.W.B. P 400
- 4. Main Amp. & Power Supply mounted on P.W.B. P 700
- 5. Pre & Tone Amp. mounted on P.W.B. PE 01
- 6. Monitor, Hi Filter Loudness Switches mounted on P.W.B. PH01
- 7. Dial Lamp mounted on P.W.B. PZ01
- 8. Protector mounted on P.W.B. PN01

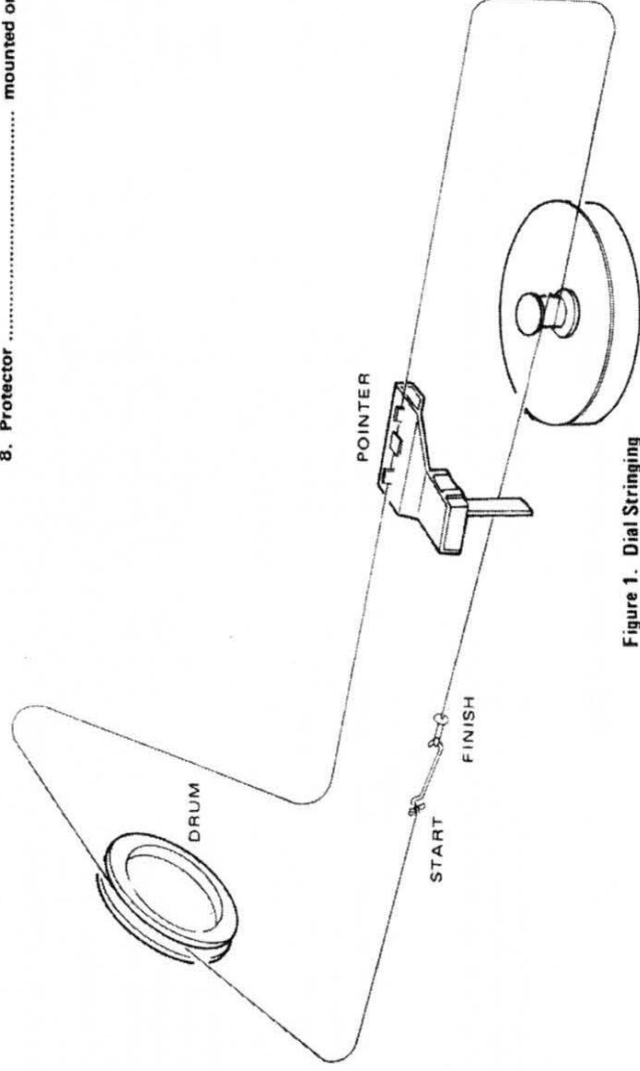


Figure 1. Dial Stringing

3. TEST EQUIPMENT REQUIRED FOR SERVICING

Table 1 lists the test equipment required for servicing the Model 221B 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, $\pm 0.5\%$, 100W)	Commercial Grade	Provides 8-ohm load for amplifier output termination
Output Load (4 ohms, $\pm 0.5\%$ 100W)	Commercial Grade	Provides 4-ohm load for amplifier output termination

4. AM ALIGNMENT PROCEDURE

4.1 AM IF Alignment

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

4.2 AM (MW) 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 receiver 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 receiver 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.

5. FM ALIGNMENT PROCEDURE

5.1 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 OUT jacks on the rear panel.
2. Set the 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 pitch of oscillator coil L107 to obtain maximum audio output.
3. Set the generator to 109 MHz and provide about 3 to 5 μV . 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 receiver 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 receiver to the same frequency. Decrease the signal generator output until the audio output level decreases with the decreasing generator output. Adjust the trimming capacitors of antenna and RF tuning circuits for 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 pointer 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 receiver 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.

5.2 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. 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.

5.3 Muting Threshold Adjustment

Set the FM signal generator output to provide 12.5 μV (IHF) at 98 MHz and tune receiver 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".)

5.4 FM Tape Out Level Adjustment

1. Set the FM signal generator to provide a 1000 Hz, 100% modulated 98 MHz mono signal, at 1 μV output. Precisely tune the receiver to 98 MHz.
2. Adjust R215 until the outputs of both channels are 1060 mV.

6. POWER AMPLIFIER ADJUSTMENT

Connect a VTVM between the test point (R731, R733) and adjust the trimming resistor R719 until the VTVM reads 9 mV DC. For the other channel, connect the VTVM between the test point (R732, R734) and adjust the R720 for the same reading.

7. VOLTAGE CONVERSION

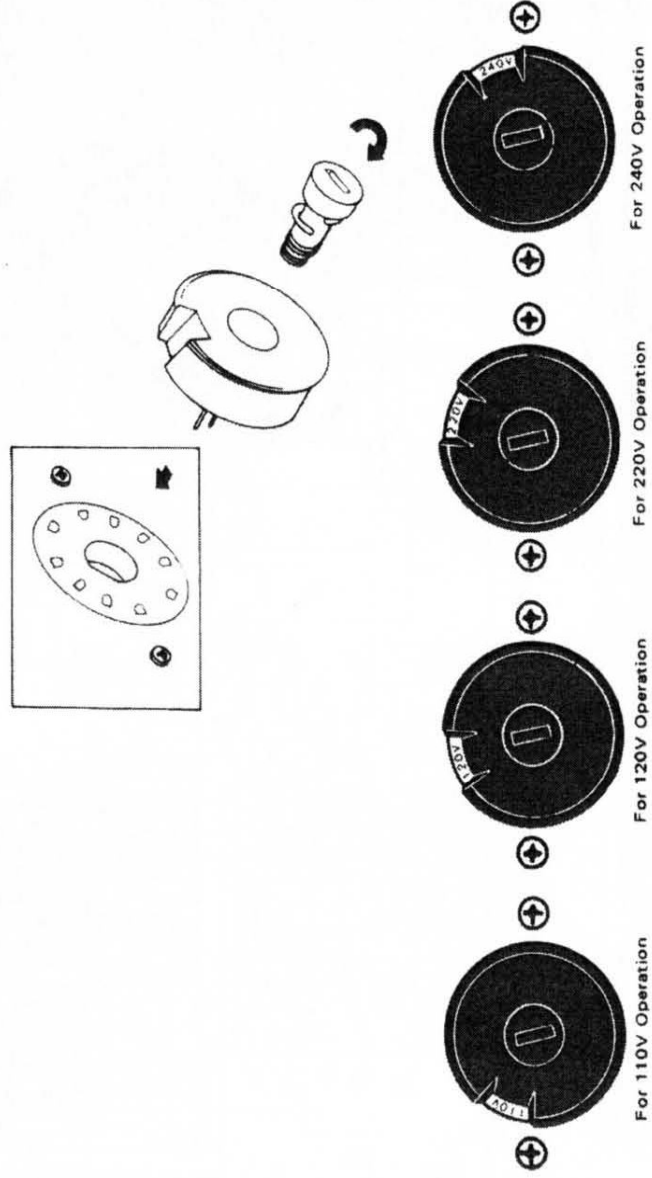
● EUROPEAN MODEL ONLY

The European version of the Model 2218 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 at shown in Figure 2.

CAUTION

DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.

Figure 2. Voltage Conversion Chart



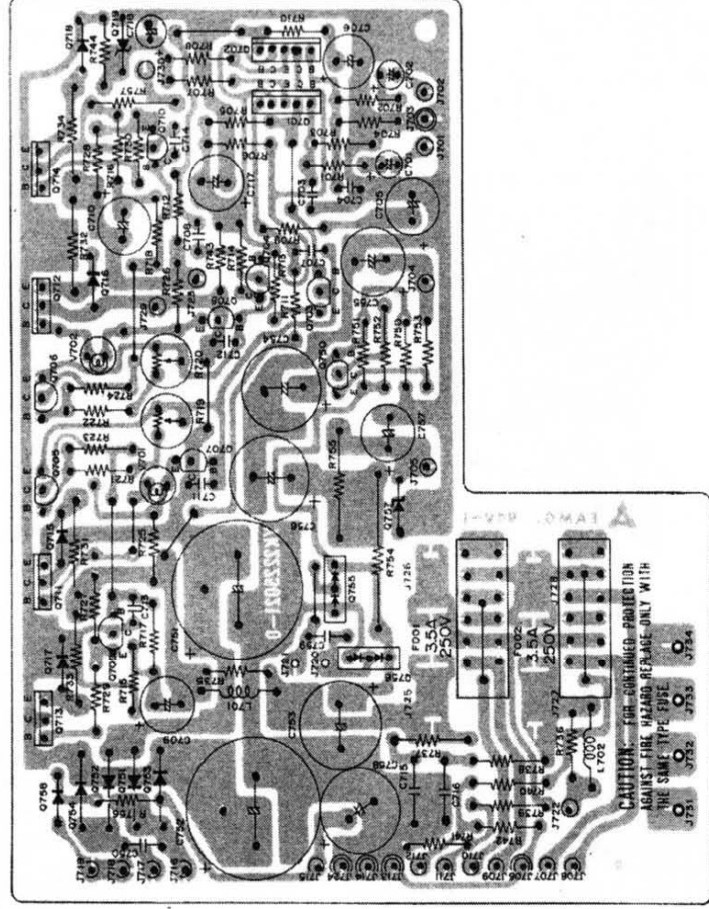
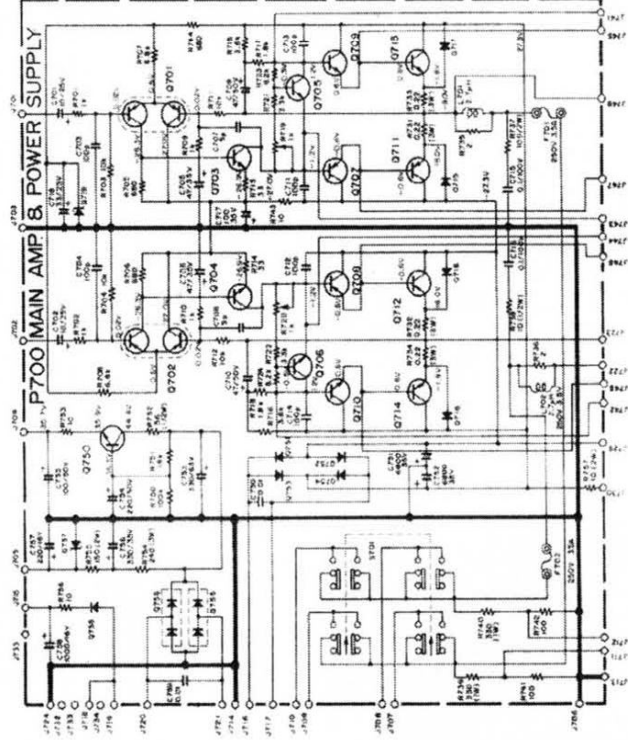
9. FTZ REGULATION

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

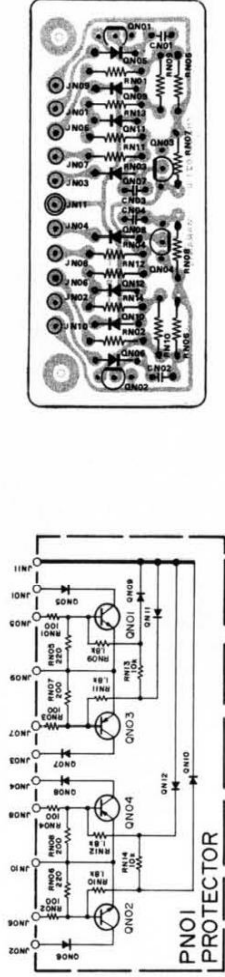
Achtung für die Leute, die in dem Gebiet wohnen,
wo die FTZ-Bestimmungen vorherrschend sind.

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 Oszillatordspule (in der Abbildung mit „FTZ“ gekennzeichnet) so zu korrigieren, daß er den Bestimmungen entspricht.

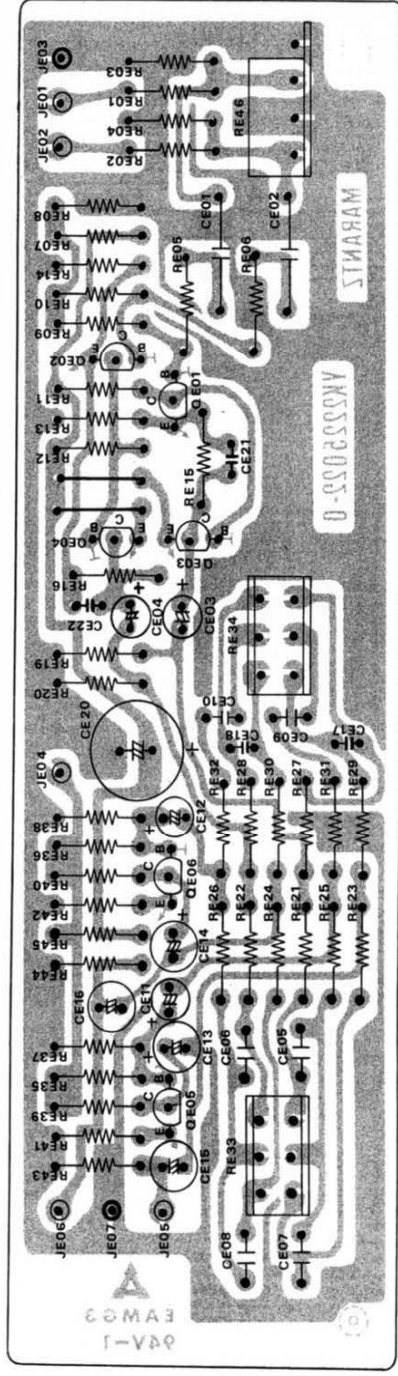
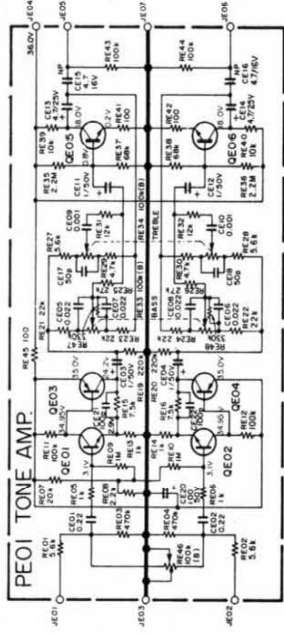
9.6 Main Amp. & Power Supply Assembly (P700) Schematic Diagram and Component Location



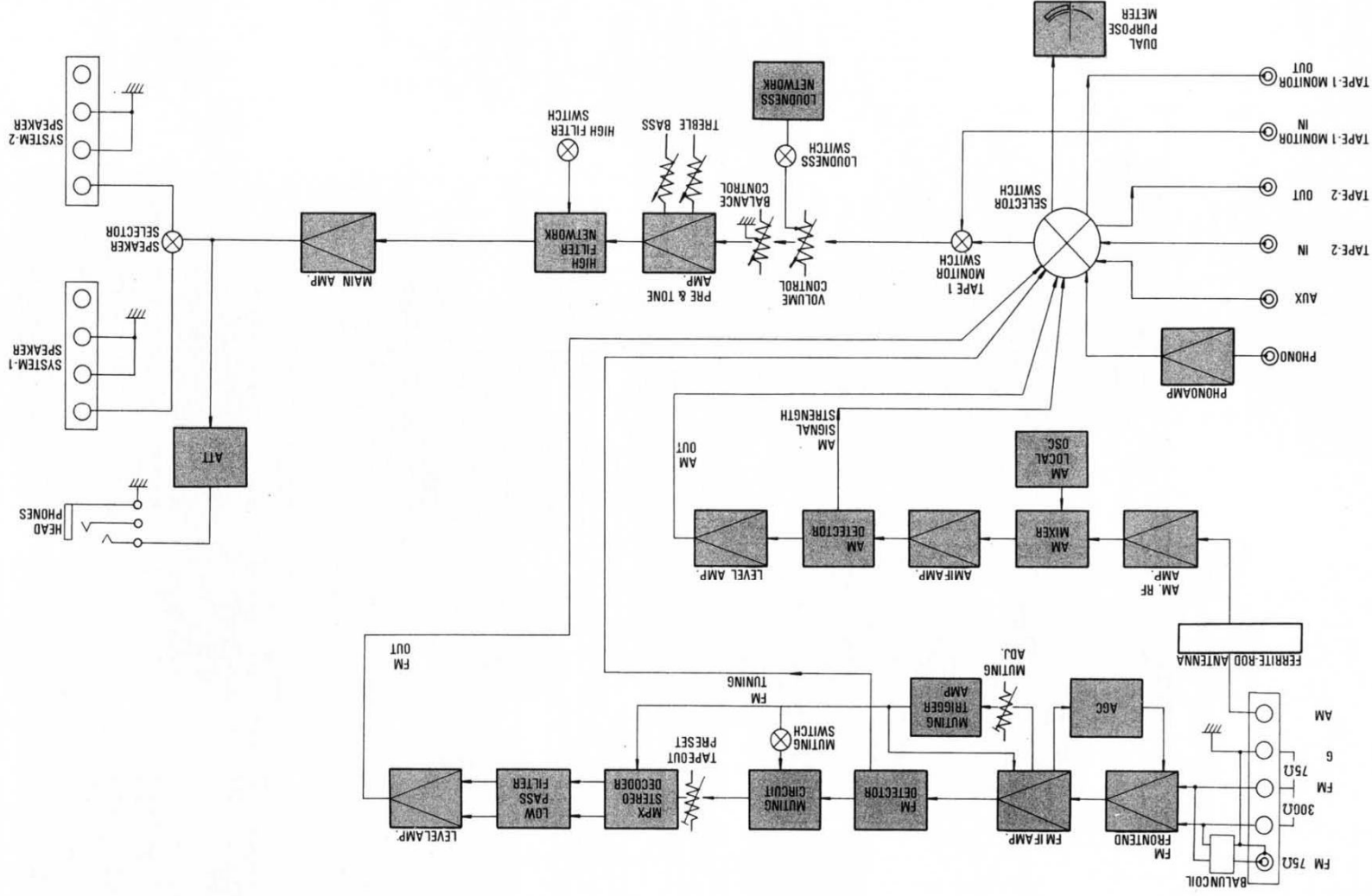
9.7 Protector Assembly (PN01) Schematic Diagram and Component Location



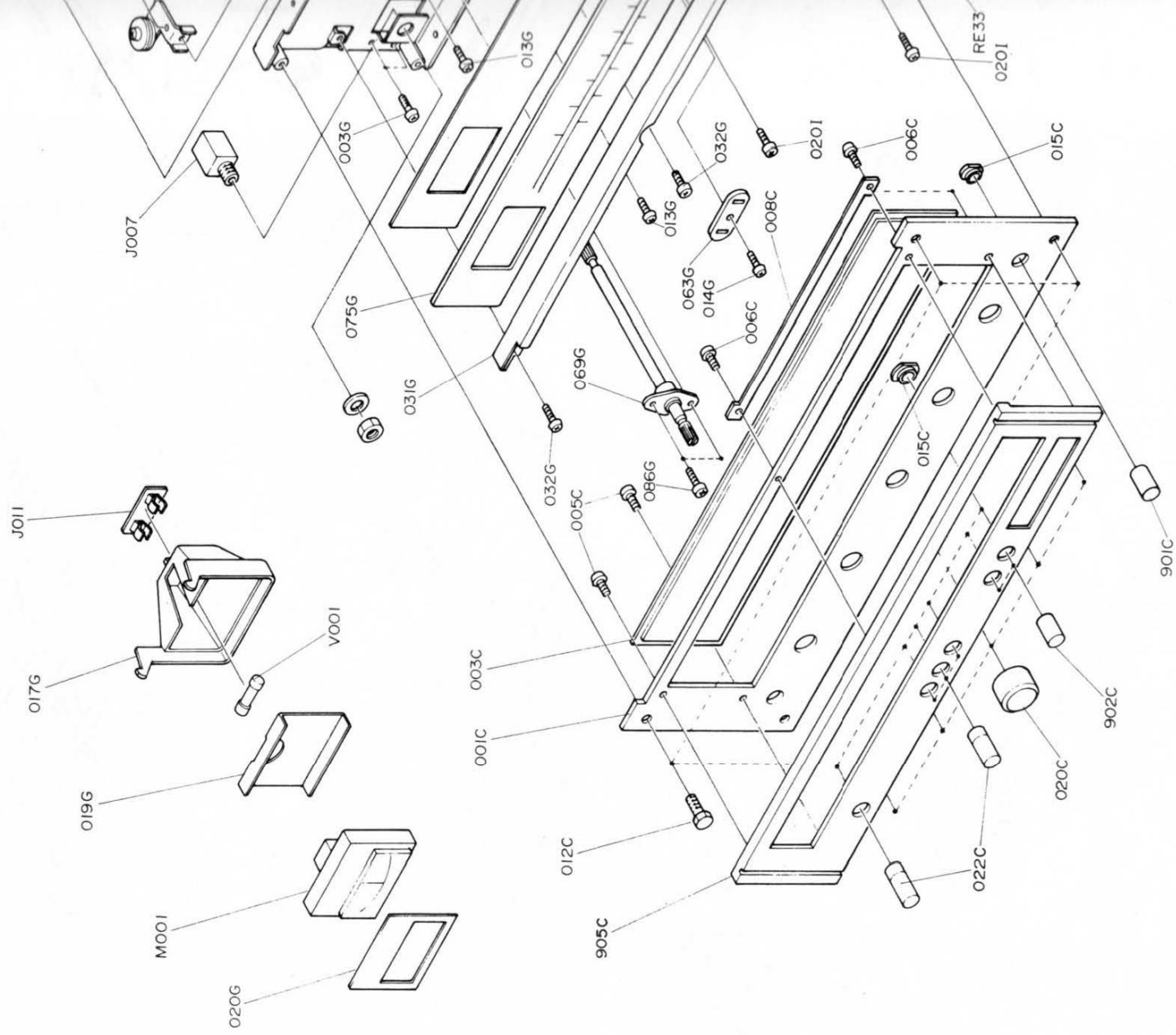
9.8 Pre & Tone Amp. Assembly (PE01) Schematic Diagram and Component Location

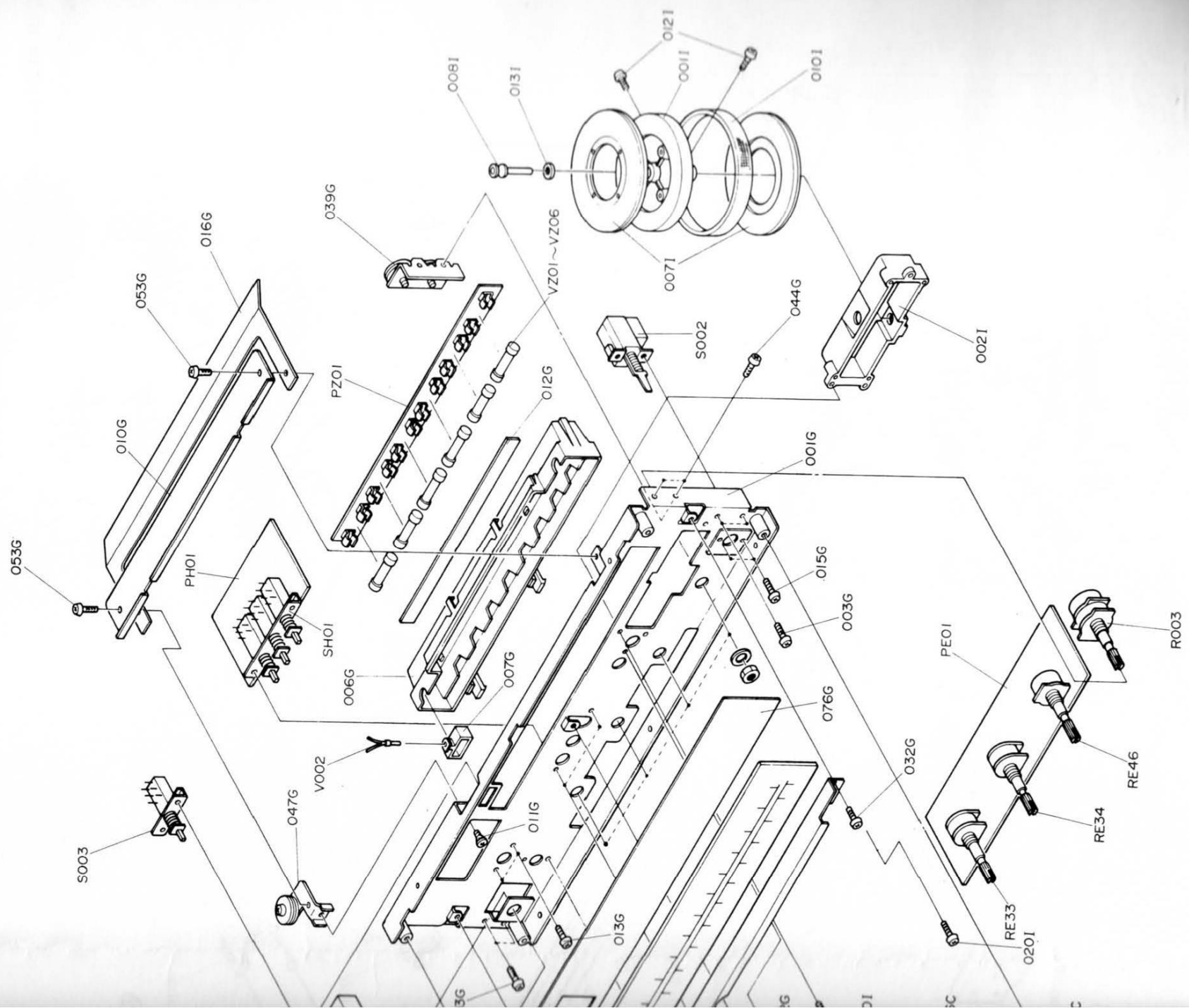


10. BLOCK DIAGRAM

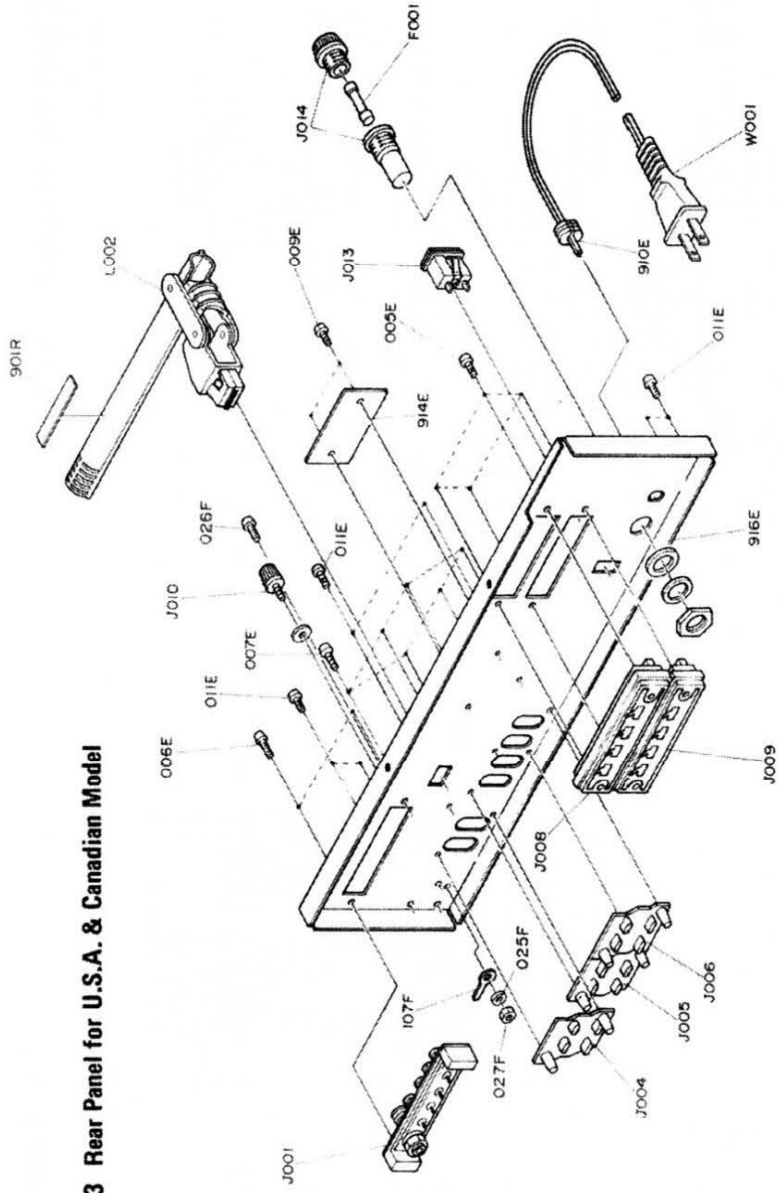


12.2 Chassis

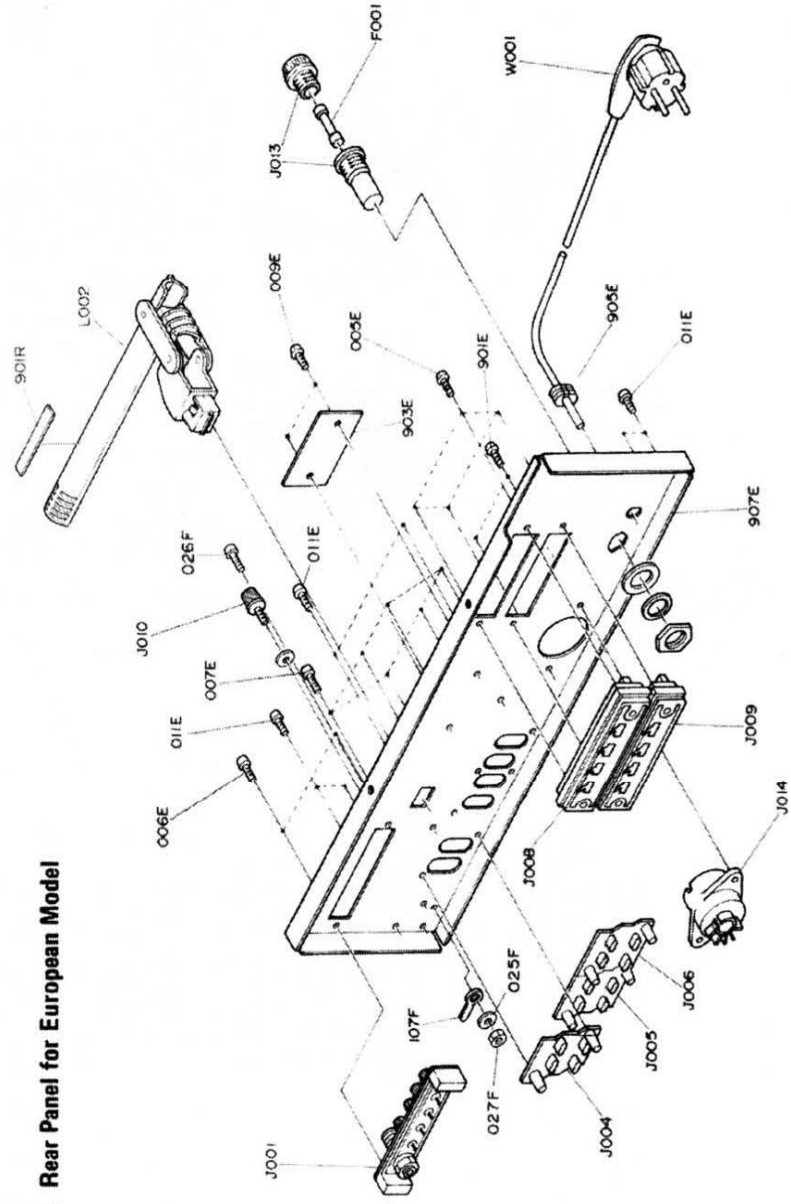




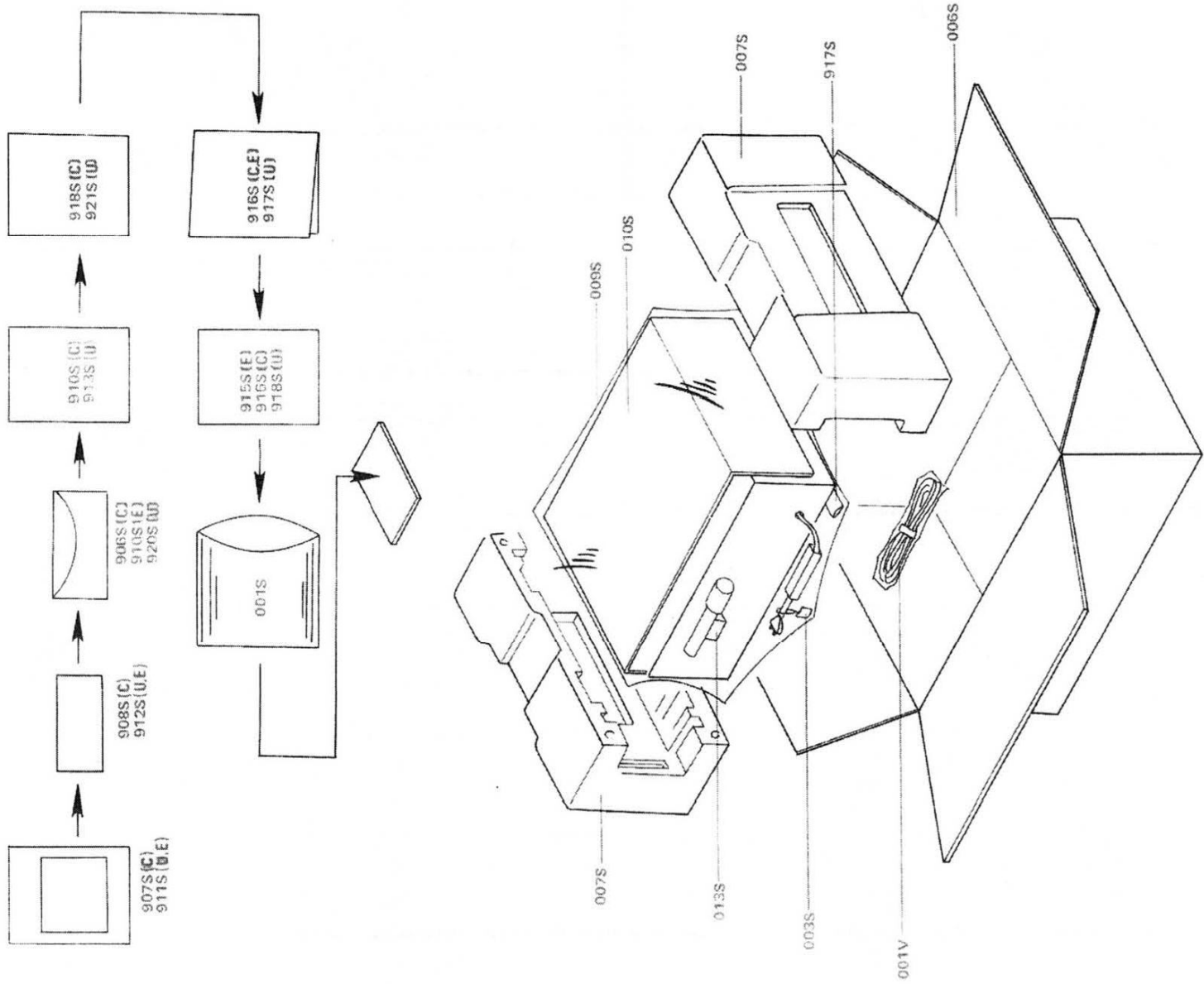
12.3 Rear Panel for U.S.A. & Canadian Model



12.4 Rear Panel for European Model



13. PACKING MATERIAL EXPLODED VIEW



14. PARTS LIST

- (U) for U.S.A.
- (C) for Canada
- (N) for Europe

REF. DESIG.	QTY			PART NO.	DESCRIPTION	REF. DESIG.	QTY			PART NO.	DESCRIPTION
	U	C	N				U	C	N		
A	1	1	1	2287063400	Front Panel Assembly	001H	1	1	1	2991103500	Pointer
A1	1	1	1	2287063410	Front Panel Assembly (Gold)	001I	1	1	1	2219273010	Flywheel
A2	1	1	1	2287063420	Front Panel Assembly (Black)	001S	1	1	1	9013025010	Polyethylene Bag
001C	1	1	1	2225063014	Escutcheon, Main (Gold)	001V	1	1	1	ZA02000070	Ext. Antenna, FM
001C	1	1	1	2225063210	Escutcheon, Main (Black)	002E	1	1	1	2218271070	Holder
003C	1	1	1	2287158010	Window	002G	1	1	1	2991861010	Label
005C	3	3	3	51100305A9	B.3 x 5	002H	1	1	1	2991103010	Pointer
006C	2	2	2	51100306S9	B.H.M. Screw, B3 x 6	002I	1	1	1	2213104500	Retainer
008C	1	1	1	2213160172	Bracket	003C	1	1	1	2287158010	Window
015C	7	7	7	2978259012	Bushing	003D	4	4	4	51480406S9	F. Washer Screw, F4 x 6
905C	1	1	1	2287063012	Escutcheon, Sub (Gold)	003F	1	1	1	2225126010	Stay
905C	1	1	1	2287063022	Escutcheon, Sub (Gold)	003G	4	4	4	51280308B0	B.H. Tapped Screw, B3 x 8
905C	1	1	1	2287063122	Escutcheon, Sub (Black)	003H	1	1	1	2218103010	Pointer
B	1	1	1	2219273400	Flywheel Assembly	003I	1	1	1	2213104012	Retainer
001I	1	1	1	2219273012	Flywheel	003S	1	1	1	2864804010	Sleeve
007I	2	2	2	2219063030	Escutcheon	004F	1	1	1	225126020	Stay
008I	1	1	1	2219112012	Shaft	004H	1	1	1	2218118010	Spacer
010I	1	1	1	2215353010	Ring	004J	2	2	2	2219106010	Sustainer
012I	2	2	2	51690306O9	Socket Screw	005C	3	3	3	51100305A9	B.H.M. Screw, B3 x 5
						005E	4	4	4	51280308U0	B.H. Tapped Screw, B3 x 8
PE08	2	2	2	2933118020	Spacer	005F	1	1	1	2225126033	Stay
PE12	2	2	2	75061251P0	Jumper	005H	1	1	1	2218152010	Tube
PN07	28	28	28	3444118050	Spacer	005I	1	1	1	2219106020	Sustainer
P208	12	12	12	2933118020	Spacer	006C	2	2	2	51100306S9	B.H.M. Screw, B3 x 6
P211	9	9	9	75061251P0	Jumper	006E	2	2	2	51280308U0	B.H. Tapped screw, B3 x 8
P212	1	1	1	75061001P0	Jumper	006G	1	1	1	2225259010	Bushing
P408	2	2	2	2933118020	Spacer	006G	1	1	1	2215274100	Reflector
P707	22	22	22	3444118050	Spacer	006H	1	1	1	2218280010	Housing
P708	2	2	2	2933118020	Spacer	006S	1	1	1	2287801010	Packing Case
P709	8	8	8	2933118010	Spacer	006S	1	1	1	2287801150	Packing Case
P711	2	2	2	75061001P0	Jumper	007E	6	6	6	51280308U0	B.H. Tapped Screw, B3 x 8
P712	5	5	5	75061251P0	Jumper	007F	9	9	9	51280308B0	B.H. Tapped Screw, B3 x 8
P713	1	1	1	75061501P0	Jumper	007G	1	1	1	2211274300	Reflector
P714	2	2	2	75061751P0	Jumper	007S	2	2	2	2219063030	Escutcheon
P715	1	1	1	75062001P0	Jumper	007T	2	2	2	221803010	Partitioner
P757	8	8	8	3444118050	Spacer	008C	1	1	1	2213160170	Bracket
P758	5	5	5	2933118020	Spacer	008I	1	1	1	2219112010	Shaft
P759	8	8	8	2225118020	Spacer	009E	2	2	2	51760306B0	OS Tapped Screw, O3 x 6
P760	1	1	1	2933118010	Spacer	009F	6	6	6	51280308B0	B.H. Tapped Screw, B3 x 8
P761	1	1	1	75061001P0	Jumper	009S	1	1	1	9014538350	Polyethylene Bag
R729	1	1	1	75061251P0	Jumper	010G	1	1	1	2225051010	Guide
P730	1	1	1	75061251P0	Jumper	010I	1	1	1	2215353010	Ring
001C	1	1	1	2225063014	Escutcheon (Gold)	010S	1	1	1	2918107150	Sheet
001C	1	1	1	2225063210	Escutcheon	011D	4	4	4	2932057010	Leg
001D	1	1	1	2225257010	Lid	011E	6	6	6	51280308U0	B.H. Tapped Screw, B3 x 8
001E	1	1	1	2218271060	Holder	011F	2	2	2	51280308B0	B.H. Tapped Screw, B3 x 8
001F	1	1	1	2225105016	Chassis	011G	1	1	1	51042608A0	F.H.M. Screw, F2.6 x 8
001G	1	1	1	2225160010	Bracket	012C	4	4	4	52017069J0	H. Head Bolt
						012D	4	4	4	51570410S0	P. Tapped Screw, P4 x 10
						012G	1	1	1	2225118010	Spacer
						012I	2	2	2	51690306O9	Socket Screw, HP
						012S	1	1	1	9013025010	Polyethylene Bag
						013F	2	2	2	51280308B0	B.H. Tapped Screw, B3 x 8
						013G	4	4	4	51100306A9	B.H.M. Screw, B3 x 6
						013I	1	1	1	59031405G9	Washer
						013S	1	1	1	2819056010	Buffer
						014F	1	1	1	62030039W0	Lug

• (U) for U.S.A.
 • (C) for Canada
 • (N) for Europe

REF. DESIG.	QTY		PART NO.	DESCRIPTION	REF. DESIG.	QTY		PART NO.	DESCRIPTION
	U	C				U	C		
014G	1	1	51280308B0	B.H. Tapped Screw, B3 x 8	062G	2	2	2891271010	Holder
015C	7	7	2978259010	Bushing	063F	1	1	2991262010	Pulley
015F	2	2	51280308B0	B.H. Tapped Screw, B3 x 8	063G	1	1	2205259010	Bushing
015G	2	2	51100306A9	B.H.M. Screw, B3 x 6	064F	1	1	51103029A0	B.H.M. Screw
016F	1	1	59030805P0	Washer	064G	1	1	51280308B0	B.H. Tapped Screw, B3 x 8
016G	1	1	2225120010	Insulator	066F	2	2	51280308B0	B.H. Tapped Screw, B3 x 8
017F	2	2	51280308B0	B.H. Tapped Screw, B3 x 8	069G	1	1	2205262530	Shaft
017G	2	2	2225274204	Reflector	070F	1	1	2225112010	Pulley
019F	1	1	62030049W0	Lug	070G	1	1	2225112010	Shaft
019G	1	1	2213053020	Cover	071G	1	1	2205262530	Pulley
020C	5	5	2221154230	Knob	071G	2	2	64000400R0	RG Ring, E
020G	1	1	2991107020	Sheet	072F	1	1	2991262010	Pulley
020I	3	3	51280308B0	B.H. Tapped Screw, B3 x 8	072G	1	1	2204106010	Sustainer
021F	2	2	2956160050	Bracket	073F	1	1	51103029A0	B.H.M. Screw
022C	4	4	2205154030	Knob	075G	1	1	2225302016	Dial
022F	4	4	54020401A0	Flat Washer, P.	077G	2	2	51100306A9	B.H.M. Screw, B3 x 6
023F	4	4	54040402A0	Spring Washer	086G	2	2	51280308B0	B.H. Tapped Screw, B3 x 8
024F	4	4	53110403A9	Hexagon Nut	091F	1	1	2219159010	Drum
025C	4	4	53118219G0	Hexagon Nut	092F	1	1	71101689L0	Spring
025F	1	1	54040302N0	Spring Washer	093F	2	2	51064019A9	P.H.M. Screw
026F	1	1	51100308B9	B.H.M. Screw, B3 x 8	098F	1	1	1202258010	Hook
027F	1	1	53110303E9	Hexagon Nut	100F	1	1	72071605A0	String (150 cm)
031D	1	1	225257020	Lid	103F	1	1	56332040G0	Eyelet
031F	2	2	28866005060	Clamper	106F	1	1	2963125010	Joint
031G	1	1	2205269015	Protector	107F	1	1	62030049W0	Lug
032D	7	7	51280408U0	B.H. Tapped Screw, B4 x 8	109F	1	1	2871005010	Clamper
032F	1	1	28866005020	Clamper	110F	1	1	51100306A9	B.H.M. Screw, B3 x 6
032G	3	3	51280306B0	B.H. Tapped Screw, B3 x 6	111F	1	1	54050300R0	T.L. Washer, OR
033F	1	1	28866005050	Clamper	120F	1	1	2287160020	Bracket
036D	2	2	2965118010	Spacer	121F	2	2	51280306B0	B.H. Tapped Screw, B3 x 6
037F	1	1	2287267010	Heatsink	122F	2	2	51280308B0	B.H. Tapped Screw, B3 x 8
038D	4	4	51280306U0	B.H. Tapped Screw, B3 x 6	125F	1	1	2887005110	Clamper
038F	2	2	2287267020	Heatsink	126F	1	1	51280308B0	B.H. Tapped Screw, B3 x 8
039F	2	2	51280310B0	B.H. Tapped Screw, B3 x 10	128F	1	1	2481118010	Spacer
039G	1	1	2205262510	Pulley	135F	1	1	2991109010	Shield
040F	1	1	2225160030	Bracket	136F	1	1	2991053110	Cover
040G	1	1	2205160070	Bracket	901C	1	1	2963154020	Knob
041F	1	1	2225160040	Bracket	901C	1	1	2970154010	Knob
041G	2	2	2991262010	pulley	901E	2	2	51100308S9	B.H.M. Screw, B3 x 8
042G	2	2	51103029A0	B.H.M. Screw	901F	1	1	2854160030	Bracket
043F	4	4	51280308B0	B.H. Tapped Screw, B3 x 8	901R	1	1	2506265062	Indicator
044F	4	4	51280308B0	B.H. Tapped Screw, B3 x 8	901R	1	1	2911861170	Label
044G	2	2	51280308B0	B.H. Tapped Screw, B3 x 8	902C	2	2	2218154020	Knob
045F	2	2	51100316A9	B.H.M. Screw, B3 x 16	902C	2	2	2970154010	Knob
046F	4	4	51280308B0	B.H. Tapped Screw, B3 x 8	902F	1	1	51100306A0	B.H.M. Screw, B3 x 6
047G	1	1	2205262500	Pulley	902R	1	1	2578861010	Label
048F	1	1	2225005010	Clamper	902R	1	1	2911861110	Label
048G	1	1	2205160100	Bracket	903E	1	1	2287265030	Indicator
049F	2	2	2874118010	Spacer	903F	2	2	51280308B0	B.H. Tapped Screw, B3 x 8
049G	1	1	2577262010	Pulley	903R	1	1	2932861010	Label
050F	2	2	54040302N0	Spring Washer	903R	1	1	9510601020	Label
050G	1	1	51103029A0	B.H.M. Screw	904R	1	1	2225861010	Label
051F	1	1	3917118010	Spacer	904R	1	1	2882861020	Label
053G	2	2	51290308B0	Pulley	905E	1	1	1455259050	Bushing
061F	1	1	2225262500	Shaft					
061G	2	2	2225112020	Bracket					
062F	1	1	2225160020	Bracket					

- (U) for U.S.A.
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REF. DESIG.	Q'TY		PART NO.	DESCRIPTION	REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	U	C				U	C		
905F	1		2911861143	Label	CE21	1	1	DD16101010	Ceramic Cap., 100pF ±10% 50V
905R	1		9511101020	Label	CE22	1	1	DD16101010	Ceramic Cap., 100pF ±10% 50V
905S	3		9526019020	Serial No. Card	JE01	7	7	YP10001130	Plug
906F	1		5128031480	B.H. Tapped Screw, B3 x 14					
906S	1		2918813010	Envelope					
907E	1		2225160224	Bracket					
907F	1		4113120010	Insulator					
907R	1		2457861040	Label					
908E	1		2211123110	Contacto					
908E	1		3941120020	Insulator					
908F	2		3926120010	Insulator					
908R	1		2911861010	LABEL	PE01	1	1	YK22250220	PE01 PRE & TONE AMP. BOARD
908S	3		9526019010	Serial No. Card					
908S	1		9560000043	Hang Tag					
908S	1		9630000180	Guarantee Card					
909S	3		9526019060	Serial No. Card					
909S	1		9650000050	S. Station Card					
910E	1		1455259030	Bushing					
910F	1		2225861020	Label					
910R	1		2911861260	Label					
910S	1		2818813010	Envelope	RE05	1	1	RT05102140	Resistor, 1kΩ ±5% ¼W
910S	1		2818854040	Guarantee Card	RE06	1	1	RT05102140	Resistor, 1kΩ ±5% ¼W
911F	1		62030049W0	Lug	RE07	1	1	RT05203140	Resistor, 20kΩ ±5% ¼W
912S	1		9630000180	Guarantee Card	RE08	1	1	RT05222140	Resistor, 2.2kΩ ±5% ¼W
913S	1		2818854024	Guarantee Card	RE09	1	1	RT05105140	Resistor, 1MΩ ±5% ¼W
914E	1		2287265020	Indicator	RE10	1	1	RT05105140	Resistor, 1MΩ ±5% ¼W
914E	1		2287851030	Indicator	RE11	1	1	RT05104140	Resistor, 100kΩ ±5% ¼W
915E	1		2287851030	Instructions	RE12	1	1	RT05104140	Resistor, 100kΩ ±5% ¼W
916E	1		2225160212	Bracket	RE13	1	1	RT05102140	Resistor, 1kΩ ±5% ¼W
916S	1		2287851312	Instructions	RE14	1	1	RT05102140	Resistor, 1kΩ ±5% ¼W
917S	1		2287851012	Instructions	RE15	1	1	RN05752140	Resistor, 7.5kΩ ±5% ¼W
917S	1		2287851050	Instructions	RE16	1	1	RN05752140	Resistor, 7.5kΩ ±5% ¼W
918S	1		2731821010	Silicagel	RE19	1	1	RT05224140	Resistor, 220kΩ ±5% ¼W
918S	1		2287851020	Instructions	RE20	1	1	RT05224140	Resistor, 220kΩ ±5% ¼W
918S	1		2886851100	Instructions	RE21	1	1	RT05223140	Resistor, 22kΩ ±5% ¼W
920E	1		62030049W0	Lug	RE22	1	1	RT05223140	Resistor, 22kΩ ±5% ¼W
920S	2		9510901090	Label	RE23	1	1	RT05223140	Resistor, 22kΩ ±5% ¼W
921S	1		2225813010	Envelope	RE24	1	1	RT05223140	Resistor, 22kΩ ±5% ¼W
CE01	1		DF17224050	Film Cap., 0.22μF ±20% 50V	RE25	1	1	RT05273140	Resistor, 27kΩ ±5% ¼W
CE02	1		DF17224050	Film Cap., 0.22μF ±20% 50V	RE26	1	1	RT05273140	Resistor, 27kΩ ±5% ¼W
CE03	1		EE10505010	Electrolytic Cap., 1μF ±20% 50V	RE27	1	1	RT05562140	Resistor, 5.6kΩ ±5% ¼W
CE04	1		EE10505010	Electrolytic Cap., 1μF ±20% 50V	RE28	1	1	RT05562140	Resistor, 5.6kΩ ±5% ¼W
CE05	1		DF16223050	Film cap., 0.022μF ±10% 50V	RE29	1	1	RT05472140	Resistor, 4.7kΩ ±5% ¼W
CE06	1		DF16223050	Film Cap., 0.022μF ±10% 50V	RE30	1	1	RT05472140	Resistor, 4.7kΩ ±5% ¼W
CE07	1		DF16223050	Film Cap., 0.022μF ±10% 50V	RE31	1	1	RT05123140	Resistor, 12kΩ ±5% ¼W
CE08	1		DF16223050	Film Cap., 0.022μF ±10% 50V	RE32	1	1	RT05123140	Resistor, 12kΩ ±5% ¼W
CE09	1		DF16102050	Film Cap., 0.001μF ±10% 50V	RE33	1	1	RM01040150	Variable Resistor, 100kΩ (B)
CE10	1		DF16102050	Film Cap., 0.001μF ±10% 50V	RE34	1	1	RM01040150	Variable Resistor, 100kΩ (B)
CE11	1		EE10505010	Electrolytic Cap., 1μF ±20% 50V	RE35	1	1	RT05225140	Resistor, 2.2MΩ ±5% ¼W
CE12	1		EE10505010	Electrolytic Cap., 1μF ±20% 50V	RE36	1	1	RT05225140	Resistor, 2.2MΩ ±5% ¼W
CE13	1		EE47502510	Electrolytic Cap., 4.7μF ±20% 25V	RE37	1	1	RT05683140	Resistor, 68kΩ ±5% ¼W
CE14	1		E047501610	Electrolytic Cap., 4.7μF ±30% 16V	RE38	1	1	RT05683140	Resistor, 68kΩ ±5% ¼W
CE15	1		E047501610	Electrolytic Cap., 4.7μF ±30% 16V	RE39	1	1	RT05103140	Resistor, 10kΩ ±5% ¼W
CE16	1		E047501610	Electrolytic Cap., 4.7μF ±30% 16V	RE40	1	1	RT05103140	Resistor, 10kΩ ±5% ¼W
CE17	1		DD16500010	Ceramic Cap., 50pF ±10% 50V	RE41	1	1	RT05101140	Resistor, 100Ω ±5% ¼W
CE18	1		DD16500010	Ceramic Cap., 50pF ±10% 50V	RE42	1	1	RT05101140	Resistor, 100Ω ±5% ¼W
CE20	1		EA10705090	Electrolytic Cap., 100μF ±10% 50V	RE43	1	1	RT05104140	Resistor, 100kΩ ±5% ¼W
					RE44	1	1	RT05104140	Resistor, 100kΩ ±5% ¼W



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REF. DESIG.	Q'TY		PART NO.	DESCRIPTION	REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	U	C				U	C		
RE45	1	1	RT05101140	Resistor, 100Ω ±5%	RN10	1	GF05182140	Resistor, 1.8kΩ ±5%	
RE46	1	1	RK01040160	Variable Resistor, 100kΩ (B)	RN11	1	GF05182140	Resistor, 1.8kΩ ±5%	
RE47	1	1	RT05334140	Resistor, 330kΩ ±5%	RN12	1	GF05182140	Resistor, 1.8kΩ ±5%	
RE48	1	1	RT05334140	Resistor, 330kΩ ±5%	RN13	1	GF05103140	Resistor, 10kΩ ±5%	
CH01	1	1	DF16273050	Film Cap., 0.027μF ±10%	RN14	1	GF05103140	Resistor, 10kΩ ±5%	
CH01	1	1	DF16273050	Film Cap., 0.033μF ±10%	FPO1	1	FS10400800	Fuse, 4AT (SEMKO)	
CH02	1	1	DF16273050	Film Cap., 0.027μF ±10%	FPO2	1	FS10100800	Fuse, 1AT (SEMKO)	
CH02	1	1	DF16333050	Film Cap., 0.033μF ±10%	JP01	1	YP10001130	Plug	
CH03	1	1	DF16104010	Film Cap., 0.1μF ±10%	JP04	4			
CH03	1	1	DF16104010	Film Cap., 0.1μF ±10%	JP05	4			
CH05	1	1	DK16681010	Ceramic Cap., 680pF ±10%	JP05	4			
CH06	1	1	DK16681010	Ceramic Cap., 680pF ±10%	JP08	4			
JH01	17	17	YP10001130	Plug					
JH17	1	1							
PH01	1	1	YK22250410	PH01 FILTER/LOUDNESS/MONITOR BOARD P.W. Board	PP01	1	YF22250020	PP01 FUSE BOARD P.W. Board	
	1	1	ZZ22250410	P.W. Board		1	ZZ22250020	P.W. Board Assembly	
	1	1	ZZ22258410	P.W. Board Assembly					
RH01	1	1	GD05104140	Resistor, 100kΩ ±5%	JZ01	12	YJ08000170	Jack, Lamp Holder	
RH01	1	1	RT05102140	Resistor, 1kΩ ±5%	JZ12	1	YP10001130	Plug	
RH02	1	1	GD05104140	Resistor, 100kΩ ±5%	JZ13	1	YP10001130	Plug	
RH02	1	1	RT05102140	Resistor, 1kΩ ±5%	JZ14	1	YP10001130	Plug	
RH03	1	1	RT05225140	Resistor, 2.2MΩ ±5%					
RH04	1	1	RT05225140	Resistor, 2.2MΩ ±5%					
RH05	1	1	RT05302140	Resistor, 3kΩ ±5%					
RH06	1	1	RT05302140	Resistor, 3kΩ ±5%					
RH07	1	1	RT05153140	Resistor, 15kΩ ±5%					
RH08	1	1	RT05153140	Resistor, 15kΩ ±5%					
SH01	1	1	SPO2030020	Pushswitch					
PN01	1	1	YH22870210	PN01 PROTECTOR BOARD P.W. Board	PZ01	1	YF22250010	PZ01 DIAL LAMP BOARD P.W. Board	
	1	1	ZZ22870210	P.W. Board Assembly		1	ZZ22250010	P.W. Board Assembly	
QN01	1	1	HT309452A0	Transistor, 2SC945 (Q, R)	VZ01	1	IN10080070	lamp, 200mA	
QN02	1	1	HT309452A0	Transistor, 2SC945 (Q, R)	VZ02	1	IN10080070	Lamp, 200mA	
QN03	1	1	HT107332B0	Transistor, 2SA733 (Q, R)	VZ03	1	IN10080070	Lamp, 200mA	
QN04	1	1	HT107332B0	Transistor, 2SA733 (Q, R)	VZ04	1	IN10080070	Lamp, 200mA	
QN05	1	1	HD20001210	Diode, 1S2473C (YE) 40V	VZ05	1	IN10080070	Lamp, 200mA	
QN06	1	1	HD20001210	Diode, 1S2473C (YE) 40V	VZ06	1	IN10080070	Lamp, 200mA	
QN07	1	1	HD20001210	Diode, 1S2473C (YE) 40V	C001	1	DK18103010	Ceramic Cap., 0.01μF ±20%	
QN08	1	1	HD20001210	Diode, 1S2473C (YE) 40V	C002	1	DK18103010	Ceramic Cap., 0.01μF ±20%	
QN09	1	1	HD20002210	Diode, 1S2472 (GR) 55V	C003	1	DF17223800	Film Cap., 0.022μF ±20%	
QN10	1	1	HD20002210	Diode, 1S2472 (GR) 55V	C004	1	DF17223800	Film Cap., 0.022μF ±20%	
QN11	1	1	HD20002210	Diode, IS2472 (GR) 55V	F001	1	FS10160800	Fuse, SEMKO 1.6AT	
QN12	1	1	HD20002210	Diode, IS2472 (GR) 55V	F001	1	FS10200060	Fuse, 250V	
RN01	1	1	GF05101140	Resistor, 100Ω ±5%	G001	1	BF10400030	Cap. Comp., Spark Killer (UL)	
RN02	1	1	GF05101140	Resistor, 100Ω ±5%	G001	1	BF10400030	Cap. Comp., Spark Killer (UL)	
RN03	1	1	GF05101140	Resistor, 100Ω ±5%	J001	1	BY04050010	Terminal, 4P Screw, 75Ω Coax. Ant.	
RN04	1	1	GF05101140	Resistor, 100Ω ±5%	J001	1	BY04050020	Terminal, 4P Screw, 75Ω Coax. Ant.	
RN05	1	1	GF05221140	Resistor, 220Ω ±5%	J002	1	YL01020080	Terminal, 2P	
RN06	1	1	GF05221140	Resistor, 220Ω ±5%	J004	1	YT02040140	Terminal, 4P RCA for Phono, Aux In	
RN07	1	1	GF05201140	Resistor, 200Ω ±5%	J005	1	YT02040140	Terminal, 4P RCA for Tape 1	
RN08	1	1	GF05201140	Resistor, 200Ω ±5%	J006	1	YT02040140	Terminal, 4P RCA for Tape 2	
RN09	1	1	GF05182140	Resistor, 1.8kΩ ±5%	J007	1	JY01001080	Jack, Headphones	
					J008	1	YT03040160	Terminal, Spkr Out System-1	
					J009	1	YT03040160	Terminal, Spkr Out System-2	
					J010	1	YL03010240	Terminal, Ground	
					J011	1	YJ08000250	Jack, Meter Lamp Holder	
					J013	1	YJ04000560	Jack, AC Outlet	
					J013	1	YJ08000220	Jack, Fuse Holder	
					J014	1	BY03110010	Plug, Voltage Selector	
					J014	1	YJ08000120	Jack, Fuse Holder	
					J014	1	YJ08000230	Jack, Fuse Holder	

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	U	C				U	C		
J015	1	1	Y.L09030010	Terminal,	C166	1	1	DK17102010	Ceramic Cap., 0.001 μ F \pm 20%
L001	1	1	LB30075260	Ballun Coil	C167	1	1	DK18103010	Ceramic Cap., 0.01 μ F
L002	1	1	LF11200522	Ant. Coil,	C168	1	1	DK16682010	Ceramic Cap., 0.0068 μ F \pm 10%
L003	1	1	LC11540040	Choke Coil,	C169	1	1	DK18403020	Ceramic Cap., 0.04 μ F
L004	1	1	TS18603080	Power Transformer	C170	1	1	EA10701690	Electrolytic Cap., 100 μ F 16V
L004	1	1	TS18603090	Power Transformer	C171	1	1	DF16104010	Film Cap., 0.1 μ F \pm 10%
M001	1	1	IM11055073	D.C. Meter,	C172	1	1	EE47502510	Electrolytic Cap., 4.7 μ F 25V
Q001	1	1	HD20001210	Diode,	C173	1	1	DK17103040	Ceramic Cap., 0.01 μ F \pm 20%
R001	1	1	GF05102120	Resistor,	F151	1	1	FF10045160	Ceramic Filter, AM CF SFD455D
R002	1	1	RC10225120	Resistor,	J101	1	1	YP10001510	Plug
R003	1	1	RM05030740	Variable Resistor, 50k Ω (B)	J102	1	1	YP10001510	Plug
R004	1	1	GF05680140	Resistor,	J103	1	1	YP10001510	Plug
S001	1	1	SR09060030	Rotary Switch,	J105	1	1	YP10001510	Plug
S002	1	1	SP02010270	Pushswitch,	J107	1	1	YP10001510	Plug
S002	1	1	SP04010250	Pushswitch,	J109	1	1	YP10001510	Plug
S003	1	1	SP02010090	Pushswitch,	J110	1	1	YP10001510	Plug
V001	1	1	IN10080430	Lamp,	J111	1	1	YP10001510	Plug
V002	1	1	IN10080340	Lamp,	L105	1	1	LC12220010	Choke Coil
V003	1	1	IN10080410	Lamp,	L106	1	1	LI10239010	I.F.T.
W001	1	1	YC01900030	AC Power Cord	L151	1	1	LC13320020	Choke Coil,
W001	1	1	YC02000140	AC Power Cord	L152	1	1	LC13320020	Choke Coil,
C101	1	1	DD16120020	Ceramic Cap., 12pF \pm 10%	L153	1	1	LC13320020	Choke Coil,
C102	1	1	DK18203030	Ceramic Cap., 0.02 μ F	L154	1	1	LO10010480	Osc. Coil,
C103	1	1	DK18203030	Ceramic Cap., 0.02 μ F	L155	1	1	LI10015010	I.F.T.,
C104	1	1	DD11020010	Ceramic Cap., 2pF	L156	1	1	LI10015060	I.F.T.,
C105	1	1	DK18203030	Ceramic Cap., 0.02 μ F					
C106	1	1	DD16150040	Ceramic Cap., 15pF \pm 10%					
C107	1	1	DD11020010	Ceramic Cap., 2pF					
C108	1	1	DD12050010	Ceramic Cap., 5pF					
C109	1	1	DD16101010	Ceramic Cap., 100pF \pm 10%					
C110	1	1	DK18203030	Ceramic Cap., 0.02 μ F					
C111	1	1	DD16101010	Ceramic Cap., 100pF \pm 10%					
C112	1	1	DK18203030	Ceramic Cap., 0.02 μ F					
C113	1	1	DD15150020	Ceramic Cap., 15pF \pm 5%					
C114	1	1	DD10050030	Ceramic Cap., 5pF					
C115	1	1	DD12050010	Ceramic Cap., 5pF					
C116	1	1	DD16330020	Ceramic Cap., 33pF \pm 10%					
C117	1	1	DD12100060	Ceramic Cap., 10pF					
C118	1	1	DK18203030	Ceramic Cap., 0.02 μ F					
C119	1	1	DD11020010	Ceramic Cap., 2pF					
C120	1	1	CA32400080	Variable Cap.					
C121	1	1	CT14200010	Trimming Cap.					
C151	1	1	DK17103010	Ceramic Cap., 0.01 μ F \pm 20%					
C152	1	1	DK17103010	Ceramic Cap., 0.01 μ F \pm 20%					
C153	1	1	DK17102010	Ceramic Cap., 0.001 μ F \pm 20%					
C154	1	1	EA10701690	Electrolytic Cap., 100 μ F 16V					
C155	1	1	DK18403020	Ceramic Cap., 0.04 μ F					
C156	1	1	DF65391010	Film Cap., 390pF					
C157	1	1	DD16150010	Ceramic Cap., 15pF \pm 10%					
C158	1	1	DK18103010	Ceramic Cap., 0.01 μ F					
C159	1	1	DK17103010	Ceramic Cap., 0.01 μ F \pm 20%					
C160	1	1	DD16820010	Ceramic Cap., 82pF \pm 10%					
C161	1	1	DK17103010	Ceramic Cap., 0.01 μ F \pm 20%					
C162	1	1	DK18403020	Ceramic Cap., 0.04 μ F					
C163	1	1	EA10505090	Electrolytic Cap., 1 μ F					
C164	1	1	EA10601690	Electrolytic Cap., 10 μ F					
C165	1	1	EA47503590	Electrolytic Cap., 4.7 μ F					
C166	1	1	Y.L09030010	Terminal,	Q101	1	1	HF40045180	F.E.T., 3SK45 B
C167	1	1	LB30075260	Ballun Coil	Q102	1	1	HT30535280	Transistor, 2SC535 B or C
C168	1	1	LF11200522	Ant. Coil,	Q103	1	1	HT313422B0	Transistor, 2SC1342 B or C
C169	1	1	LC11540040	Choke Coil,	Q151	1	1	HC10019010	IC, HA1197
C170	1	1	TS18603080	Power Transformer	Q152	1	1	HT313272A0	Transistor, 2SC1327 S or T
C171	1	1	TS18603090	Power Transformer	Q153	1	1	HV00006120	Varistor, MV-203
C172	1	1	IM11055073	D.C. Meter,	R101	1	1	GD05105140	Resistor, 1M Ω \pm 5% $\frac{1}{4}$ W
C173	1	1	HD20001210	Diode,	R102	1	1	GD05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
C174	1	1	GF05102120	Resistor,	R103	1	1	GD05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
C175	1	1	RC10225120	Resistor,	R104	1	1	GD05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
C176	1	1	RM05030740	Variable Resistor, 50k Ω (B)	R105	1	1	GD05223140	Resistor, 22k Ω \pm 5% $\frac{1}{4}$ W
C177	1	1	GF05680140	Resistor,	R106	1	1	GD05472140	Resistor, 4.7k Ω \pm 5% $\frac{1}{4}$ W
C178	1	1	SR09060030	Rotary Switch,	R107	1	1	GD05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
C179	1	1	SP02010270	Pushswitch,	R108	1	1	GD05103140	Resistor, 10k Ω \pm 5% $\frac{1}{4}$ W
C180	1	1	SP04010250	Pushswitch,	R109	1	1	GD05332140	Resistor, 3.3k Ω \pm 5% $\frac{1}{4}$ W
C181	1	1	SP02010090	Pushswitch,	R110	1	1	GD05103140	Resistor, 10k Ω \pm 5% $\frac{1}{4}$ W
C182	1	1	IN10080430	Lamp,	R111	1	1	GD05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
C183	1	1	IN10080340	Lamp,	R151	1	1	RT05201140	Resistor, 200 Ω \pm 5% $\frac{1}{4}$ W
C184	1	1	IN10080410	Lamp,	R152	1	1	RT05152140	Resistor, 1.5k Ω \pm 5% $\frac{1}{4}$ W
C185	1	1	YC01900030	AC Power Cord	R153	1	1	RT05202140	Resistor, 2k Ω \pm 5% $\frac{1}{4}$ W
C186	1	1	YC02000140	AC Power Cord	R154	1	1	RT05152140	Resistor, 1.5k Ω \pm 5% $\frac{1}{4}$ W
C187	1	1	DD16120020	Ceramic Cap., 12pF \pm 10%	R155	1	1	RT05151140	Resistor, 150 Ω \pm 5% $\frac{1}{4}$ W
C188	1	1	DK18203030	Ceramic Cap., 0.02 μ F	R156	1	1	RA05020200	Trimming Resistor, 5k Ω
C189	1	1	DK18203030	Ceramic Cap., 0.02 μ F	R157	1	1	RT05391140	Resistor, 390 Ω \pm 5% $\frac{1}{4}$ W
C190	1	1	DD11020010	Ceramic Cap., 2pF	R158	1	1	RT05124140	Resistor, 120k Ω \pm 5% $\frac{1}{4}$ W
C191	1	1	DK18203030	Ceramic Cap., 0.02 μ F	R159	1	1	RT05104140	Resistor, 100k Ω \pm 5% $\frac{1}{4}$ W
C192	1	1	DD16150040	Ceramic Cap., 15pF \pm 10%	R160	1	1	RT05103140	Resistor, 10k Ω \pm 5% $\frac{1}{4}$ W
C193	1	1	DD11020010	Ceramic Cap., 2pF	R161	1	1	RT05103140	Resistor, 10k Ω \pm 5% $\frac{1}{4}$ W
C194	1	1	DD12050010	Ceramic Cap., 5pF					
C195	1	1	DD16101010	Ceramic Cap., 100pF \pm 10%					
C196	1	1	DK18203030	Ceramic Cap., 0.02 μ F					
C197	1	1	DD16101010	Ceramic Cap., 100pF \pm 10%					
C198	1	1	DK18203030	Ceramic Cap., 0.02 μ F					
C199	1	1	DD16101010	Ceramic Cap., 100pF \pm 10%					
C200	1	1	CA32400080	Variable Cap.					
C201	1	1	CT14200010	Trimming Cap.					
C202	1	1	DK17103010	Ceramic Cap., 0.01 μ F \pm 20%					
C203	1	1	DK17103010	Ceramic Cap., 0.01 μ F \pm 20%					
C204	1	1	DK17102010	Ceramic Cap., 0.001 μ F \pm 20%					
C205	1	1	EA10701690	Electrolytic Cap., 100 μ F 16V					
C206	1	1	DK18403020	Ceramic Cap., 0.04 μ F					
C207	1	1	DF65391010	Film Cap., 390pF					
C208	1	1	DD16150010	Ceramic Cap., 15pF \pm 10%					
C209	1	1	DK18103010	Ceramic Cap., 0.01 μ F					
C210	1	1	DK17103010	Ceramic Cap., 0.01 μ F \pm 20%					
C211	1	1	DD16820010	Ceramic Cap., 82pF \pm 10%					
C212	1	1	DK17103010	Ceramic Cap., 0.01 μ F \pm 20%					
C213	1	1	DK18403020	Ceramic Cap., 0.04 μ F					
C214	1	1	EA10505090	Electrolytic Cap., 1 μ F					
C215	1	1	EA10601690	Electrolytic Cap., 10 μ F					
C216	1	1	EA47503590	Electrolytic Cap., 4.7 μ F					

• (U) for U.S.A.
 • (C) for Canada
 • (N) for Europe

REF. DESIG.	QTY	PART NO.	DESCRIPTION	REF. DESIG.	QTY	PART NO.	DESCRIPTION
U	C	N		U	C	N	
R162	1	RT05102140	Resistor, 1kΩ ±5%	Q202	1	HC10021010	IC, HA1137W
R163	1	RT05301140	Resistor, 300Ω ±5%	Q203	1	HD20011050	Diode, 1S1555
R164	1	RT05663140	Resistor, 56kΩ ±5%	Q204	1	HD20011050	Diode, 1S1555
R165	1	RT05154140	Resistor, 150kΩ ±5%	Q205	1	HD20011050	Diode, 1S1555
R166	1	RT05112140	Resistor, 1.1kΩ ±5%	Q206	1	HT308281D0	Transistor, 2SC828 S
R167	1	RT05242140	Resistor, 2.4kΩ ±5%	R201	1	RT05151140	Resistor, 150Ω ±5%
R169	1	RT05473140	Resistor, 47kΩ ±5%	R202	1	RT05331140	Resistor, 330Ω ±5%
R170	1	RT05101140	Resistor, 100Ω ±5%	R203	1	RT05153140	Resistor, 15kΩ ±5%
A201	1	AV01202060	V.H.F. Tuner, FM Front End	R204	1	RT05272140	Resistor, 2.7kΩ ±5%
C201	1	DD15300010	Ceramic Cap., 300F ±5%	R205	1	RT05331140	Resistor, 330Ω ±5%
C202	1	DK17103010	Ceramic Cap., 0.01μF ±20%	R206	1	RT05511140	Resistor, 510Ω ±5%
C203	1	DK17103010	Ceramic Cap., 0.01μF ±20%	R207	1	RT05101140	Resistor, 100Ω ±5%
C204	1	DK17103010	Ceramic Cap., 0.01μF ±20%	R208	1	RT05334140	Resistor, 330kΩ ±5%
C205	1	DK18403020	Ceramic Cap., 0.04μF	R211	1	RT05104140	Resistor, 100kΩ ±5%
C206	1	DK18403020	Ceramic Cap., 0.04μF	R212	1	RA01030250	Trimming Resistor, 10kΩ B
C207	1	DK18403020	Ceramic Cap., 0.04μF	R213	1	RT05123140	Resistor, 1.2kΩ ±5%
C208	1	EA47503590	Electrolytic Cap., 4.7μF 35V	R214	1	RT05331140	Resistor, 330Ω ±5%
C209	1	DD15400040	Ceramic Cap., 40pF	R215	1	RA05030120	Trimming Resistor, 50kΩ B
C210	1	EA22601690	Electrolytic Cap., 22μF 16V	R216	1	RT05562140	Resistor, 5.6kΩ ±5%
C211	1	EA47405010	Electrolytic Cap., 0.47μF 50V	R217	1	RT05272140	Resistor, 2.7kΩ ±5%
C212	1	DK18403010	Ceramic Cap., 0.04μF	R218	1	RT05222140	Resistor, 2.2kΩ ±5%
C213	1	DK18403010	Ceramic Cap., 0.04μF	R219	1	RT05123140	Resistor, 1.2kΩ ±5%
C214	1	DK18403010	Ceramic Cap., 0.04μF	R220	1	RT05152140	Resistor, 15kΩ ±5%
C215	1	DK18403010	Ceramic Cap., 0.04μF	R221	1	RT05223140	Resistor, 22kΩ ±5%
C216	1	DK18403010	Ceramic Cap., 0.04μF	R222	1	RT05473140	Resistor, 47kΩ ±5%
C217	1	EA10505090	Electrolytic Cap., 1μF 50V	R223	1	RT05102140	Resistor, 10kΩ ±5%
C218	1	EA10505090	Electrolytic Cap., 1μF 50V	R224	1	RT05102140	Resistor, 10kΩ ±5%
C219	1	EE10505010	Electrolytic Cap., 1μF 50V	C301	1	EA47503590	Electrolytic Cap., 4.7μF 35V
F201	1	FF11070050	Ceramic Filter, FM CF SFE10.7MD1	C302	1	DF65361500	Film Cap., 360pF ±5%
F202	1	FF11070050	Ceramic Filter, FM CF SFE10.7MD1	C303	1	EA10701690	Electrolytic Cap., 100μF 25V
F203	1	FF11070050	Ceramic Filter, FM CF SFE10.7 MD1	C304	1	EE33502510	Electrolytic Cap., 3.3μF 25V
J201	1	YP10001130	Plug	C305	1	EE10505010	Electrolytic Cap., 1μF 50V
J202	1	YP10001130	Plug	C306	1	EA10505090	Electrolytic Cap., 1μF 50V
J204	7	YP10001130	Plug	C307	1	EQ22405010	Electrolytic Cap., 0.22μF 50V
J210	7	YP10001130	Plug	C308	1	DF17473010	Film Cap., 0.047μF ±20%
J213	1	YP10001130	Plug	C309	1	DD15500050	Ceramic Cap., 50pF ±5%
J214	1	YP10001130	Plug	C310	1	DD15500050	Ceramic Cap., 50pF ±5%
J215	1	YP10001130	Plug	C311	1	EA10601690	Electrolytic Cap., 10μF 16V
J217	7	YP10001130	Plug	C312	1	EA10601690	Electrolytic Cap., 10μF 16V
J223	7	YP10001130	Plug	C313	1	EA22505090	Electrolytic Cap., 2.2μF 50V
J227	1	YP10001130	Plug	C314	1	EA22505090	Electrolytic Cap., 2.2μF 50V
J228	1	YP10001130	Plug	C315	1	DF15222050	Film Cap., 2200pF ±5%
J229	1	YP10001130	Plug	C316	1	DF15332050	Film Cap., 3300pF ±5%
J231	1	YP10001130	Plug	C317	1	DF15222050	Film Cap., 2200pF ±5%
J233	1	YP10001130	Plug	C318	1	DF15332050	Film Cap., 3300pF ±5%
J234	1	YP10001130	Plug	C319	1	EA47405010	Electrolytic Cap., 0.47μF 50V
L202	1	L114019010	I.F.T., FM	C320	1	EE47502510	Electrolytic Cap., 4.7μF 25V
L203	1	LC11830010	Choke Coil, 18μH	C321	1	EA10701690	Electrolytic Cap., 100μF 16V
P200	1	YG22870010	P200 TUNER BOARD	C322	1	EE10601610	Electrolytic Cap., 10μF 16V
	1	ZZ22870010	P.W. Board	L301	1	LS35010020	M.P.X. Coil, L.P.F.
	1	ZZ22878010	P.W. Board Assembly	Q301	1	HT308281D0	Transistor, 2SC828 S
	1	HT310471C0	Transistor, 2SC1047 C	Q302	1	HC10020010	IC, HA1196
Q201	1	HT310471C0	Transistor, 2SC1047 C	Q303	1	HT313441E0	Transistor, 2SC1344 E
	1			Q304	1	HT313441E0	Transistor, 2SC1344 E
	1			R301	1	RA01030310	Trimming Resistor, 10kΩ B

- (U) for U.S.A.
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- (N) for Europe

REF. DESIG.	QTY		PART NO.	DESCRIPTION	REF. DESIG.	QTY		PART NO.	DESCRIPTION
	U	C				U	C		
R302	1	1	RT05104140	Resistor, 100kΩ ±5% ½W	J404	5	5	YP10001130	Plug
R303	1	1	RT05223140	Resistor, 22kΩ ±5% ½W	J408	1	1		
R304	1	1	RT05102140	Resistor, 1kΩ ±5% ½W					
R305	1	1	RT05104140	Resistor, 100kΩ ±5% ½W					
R306	1	1	RT05824140	Resistor, 820kΩ ±5% ½W					
R307	1	1	RT05473140	Resistor, 47kΩ ±5% ½W					
R309	1	1	RT05154140	Resistor, 150kΩ ±5% ½W					
R310	1	1	RT05223140	Resistor, 22kΩ ±5% ½W					
R311	1	1	RT05272140	Resistor, 27kΩ ±5% ½W					
R312	1	1	RT05101140	Resistor, 100Ω ±5% ½W					
R313	1	1	RT05303140	Resistor, 30kΩ ±5% ½W					
R314	1	1	RT05303140	Resistor, 30kΩ ±5% ½W					
R315	1	1	RT05473140	Resistor, 47kΩ ±5% ½W					
R316	1	1	RT05473140	Resistor, 47kΩ ±5% ½W					
R317	1	1	RA05040080	Trimming Resistor, 500kΩ ±5% ½W					
R318	1	1	RT05473140	Resistor, 47kΩ ±5% ½W					
R319	1	1	RT05273140	Resistor, 27kΩ ±5% ½W					
R320	1	1	RT05273140	Resistor, 27kΩ ±5% ½W					
R321	1	1	RT05102140	Resistor, 1kΩ ±5% ½W					
R322	1	1	RT05102140	Resistor, 1kΩ ±5% ½W					
R323	1	1	RT05472140	Resistor, 4.7kΩ ±5% ½W					
R324	1	1	RT05472140	Resistor, 4.7kΩ ±5% ½W					
R325	1	1	RT05243140	Resistor, 24kΩ ±5% ½W					
R326	1	1	RT05243140	Resistor, 24kΩ ±5% ½W					
R327	1	1	RT05394140	Resistor, 390kΩ ±5% ½W					
R328	1	1	RT05394140	Resistor, 390kΩ ±5% ½W					
R329	1	1	RT05105140	Resistor, 1MΩ ±5% ½W					
R330	1	1	RT05105140	Resistor, 1MΩ ±5% ½W					
R331	1	1	RT05681140	Resistor, 680Ω ±5% ½W					
R332	1	1	RT05681140	Resistor, 680Ω ±5% ½W					
R333	1	1	RT05222140	Resistor, 2.2kΩ ±5% ½W					
R334	1	1	RT05222140	Resistor, 2.2kΩ ±5% ½W					
R335	1	1	RT05473140	Resistor, 47kΩ ±5% ½W					
R336	1	1	RT05473140	Resistor, 47kΩ ±5% ½W					
R337	1	1	RT05101140	Resistor, 100Ω ±5% ½W					
R338	1	1	RT05101140	Resistor, 100Ω ±5% ½W					
R339	1	1	RT05101140	Resistor, 100Ω ±5% ½W					
R340	1	1	RT05201140	Resistor, 200Ω ±5% ½W					
C401	1	1	EV33502560	Electrolytic Cap., 3.3μF ±20% 25V					
C402	1	1	EV33502560	Electrolytic Cap., 3.3μF ±20% 25V					
C403	1	1	DD16680010	Ceramic Cap., 68pF ±10% 50V					
C404	1	1	DD16680010	Ceramic Cap., 68pF ±10% 50V					
C405	1	1	EA10701090	Electrolytic Cap., 100μF ±10% 10V					
C406	1	1	EA10701090	Electrolytic Cap., 100μF ±10% 10V					
C407	1	1	DK17102010	Ceramic Cap., 0.001μF ±20% 50V					
C408	1	1	DK17102010	Ceramic Cap., 0.001μF ±20% 50V					
C409	1	1	DF15123010	Film Cap., 0.012μF ±5% 50V					
C410	1	1	DF15123010	Film Cap., 0.012μF ±5% 50V					
C411	1	1	DF15332010	Film Cap., 0.0033μF ±5% 50V					
C412	1	1	DF15332010	Film Cap., 0.0033μF ±5% 50V					
C413	1	1	EA10505090	Electrolytic Cap., 1μF ±15% 50V					
C415	1	1	EE10505040	Electrolytic Cap., 1μF ±20% 50V					
C416	1	1	EA10505040	Electrolytic Cap., 1μF ±20% 50V					
C417	1	1	EA10705090	Electrolytic Cap., 100μF ±10% 50V					
J401	1	1	YP10001130	Plug					
J402	1	1	YP10001130	Plug					
P400	1	1	YK22250610	P400 PHONO AMP. BOARD					
	1	1	ZZ22250610	P.W. Board					
	1	1		P.W. Board Assembly					
Q401	1	1	HC10012060	IC, UPC1024H					
Q402	1	1	HC10012060	IC, UPC1024H					
R401	1	1	GD05182140	Resistor, 1.8kΩ ±5% ½W					
R402	1	1	GD05182140	Resistor, 1.8kΩ ±5% ½W					
R403	1	1	GD05431140	Resistor, 430Ω ±5% ½W					
R404	1	1	GD05431140	Resistor, 430Ω ±5% ½W					
R405	1	1	GD05563140	Resistor, 56kΩ ±5% ½W					
R406	1	1	GD05563140	Resistor, 56kΩ ±5% ½W					
R407	1	1	GD05274140	Resistor, 270kΩ ±5% ½W					
R408	1	1	GD05274140	Resistor, 270kΩ ±5% ½W					
R409	1	1	GD05184140	Resistor, 180kΩ ±5% ½W					
R410	1	1	GD05184140	Resistor, 180kΩ ±5% ½W					
R411	1	1	GD05274140	Resistor, 270kΩ ±5% ½W					
R412	1	1	GD05274140	Resistor, 270kΩ ±5% ½W					
R413	1	1	GD05223140	Resistor, 22kΩ ±5% ½W					
R414	1	1	GD05223140	Resistor, 22kΩ ±5% ½W					
R415	1	1	GD05681140	Resistor, 680Ω ±5% ½W					
R416	1	1	GD05681140	Resistor, 680Ω ±5% ½W					
R417	1	1	GD05473140	Resistor, 47kΩ ±5% ½W					
R418	1	1	GD05473140	Resistor, 47kΩ ±5% ½W					
R419	1	1	GD05223140	Resistor, 22kΩ ±5% ½W					
R420	1	1	GD05223140	Resistor, 22kΩ ±5% ½W					
R421	1	1	GD05221140	Resistor, 220Ω ±5% ½W					
R422	1	1	GD05184140	Resistor, 180kΩ ±5% ½W					
C701	1	1	EE10602540	Electrolytic Cap., 10μF ±20% 25V					
C702	1	1	EE10602540	Electrolytic Cap., 10μF ±20% 25V					
C703	1	1	DD16101010	Ceramic Cap., 100pF ±10% 25V					
C704	1	1	DD16101010	Ceramic Cap., 100pF ±10% 25V					
C705	1	1	EE47603550	Electrolytic Cap., 47μF ±20% 35V					
C706	1	1	EE47603550	Electrolytic Cap., 47μF ±20% 35V					
C707	1	1	DD11050500	Ceramic Cap., 5pF ±25pF 500V					
C708	1	1	DD11050500	Ceramic Cap., 5pF ±25pF 500V					
C709	1	1	EA47605090	Electrolytic Cap., 47μF ±10% 50V					
C710	1	1	EA47605090	Electrolytic Cap., 47μF ±10% 50V					
C711	1	1	DK16101500	Ceramic Cap., 100pF ±10% 500V					
C712	1	1	DK16101500	Ceramic Cap., 100pF ±10% 500V					
C713	1	1	DK16101500	Ceramic Cap., 100pF ±10% 500V					
C714	1	1	DK16101500	Ceramic Cap., 100pF ±10% 500V					
C715	1	1	DF16104050	Film Cap., 0.1μF ±10% 100V					
C716	1	1	DF16104050	Film Cap., 0.1μF ±10% 100V					
C717	1	1	EA10703590	Electrolytic Cap., 100μF ±10% 35V					
C718	1	1	EA33602590	Electrolytic Cap., 33μF ±10% 25V					
C750	1	1	DK18103510	Ceramic Cap., 0.01μF ±20% 500V					
C751	1	1	EB68803520	Electrolytic Cap., 6800μF ±20% 35V					
C752	1	1	EB68803520	Electrolytic Cap., 6800μF ±20% 35V					
C753	1	1	EA33706310	Electrolytic Cap., 330μF ±10% 63V					
C754	1	1	EA22705090	Electrolytic Cap., 220μF ±10% 50V					
C755	1	1	EA10705090	Electrolytic Cap., 100μF ±10% 50V					
C756	1	1	EA33703590	Electrolytic Cap., 330μF ±10% 35V					
C757	1	1	EA22701690	Electrolytic Cap., 220μF ±10% 16V					

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REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
U	C	N	
C758	1	EA10801690	Electrolytic Cap., 1000 μ F $\pm 5\%$ 16V
C759	1	DK18103510	Ceramic Cap., 0.01 μ F $\pm 20\%$ 500V
F701	1	FS10350800	Fuse, SPKR 3.5AT 250V (SEMKO)
F701	1	FS20350910	Fuse, 3.5A 250V
F702	1	FS10350800	Fuse, SPKR 3.5AT 250V (SEMKO)
F702	1	FS20350910	Fuse, 3.5A 250V
J701	24	YP10001130	Plug
J724	24	YP10001130	Plug
J725	1	YJ08000270	Jack, SP. Fuse Holder
J726	1	YJ08000270	Jack, SP. Fuse Holder
J727	1	YJ08000270	Jack, SP. Fuse Holder
J728	1	YJ08000270	Jack, SP. Fuse Holder
J729	6	YP10001130	Plug
J734	1	LC22720010	Choke Coil, 2.7 μ H
L701	1	LC22720010	Choke Coil, 2.7 μ H
L702	1	LC22720010	Choke Coil, 2.7 μ H
P700	1	YK22250212	P700 MAIN AMP. & POWER SUPPLY BOARD
	1	ZZ22871210	P.W. Board
	1	ZZ22878210	P.W. Board Assembly
Q701	1	HT107982A0	Transistor, 2SA 798 (F,G) Dual
Q702	1	HT107982A0	Transistor, 2SA 798 (F,G) Dual
Q703	1	HT318853B0	Transistor, 2SC1885 (Q,R,S) Dual
Q704	1	HT318853B0	Transistor, 2SC1885 (Q,R,S) Dual
Q705	1	HT30945100	Transistor, 2SC1895 (Q,R,S)
Q706	1	HT30945100	Transistor, 2SC 945 (Q)
Q707	1	HT107772A0	Transistor, 2SC 945 (Q)
Q708	1	HT107772A0	Transistor, 2SA 777 (P,Q)
Q709	1	HT315092A0	Transistor, 2SC1509 (P,Q)
Q710	1	HT315092A0	Transistor, 2SC1509 (P,Q)
Q711	1	HT107712B0	Transistor, 2SA 771 (Q,Y)
Q712	1	HT107712B0	Transistor, 2SA 771 (Q,Y)
Q713	1	HT319862B0	Transistor, 2SC1986 (O,Y)
Q714	1	HT319862B0	Transistor, 2SC1986 (O,Y)
Q715	1	HD20005010	Diode, W06B
Q716	1	HD20005010	Diode, W06B
Q717	1	HD20005010	Diode, W06B
Q718	1	HD20005010	Diode, W06B
Q719	1	HD30030090	Zener, WZ-177
Q750	1	HT313842B0	Transistor, 2SC1384 (Q,R)
Q751	1	HD20007290	Diode, S3V10
Q752	1	HD20007290	Diode, S3V10
Q753	1	HD20007290	Diode, S3V10
Q754	1	HD20007290	Diode, S3V10
Q755	1	HD20008030	Diode, DS-133A
Q756	1	HD20008030	Diode, DS-133A
Q757	1	HD30021090	Zener, BZ-140
Q758	1	HD20005010	Diode, W06B
R701	1	RT05392140	Resistor, 3.9k Ω $\pm 5\%$ $\frac{1}{4}$ W
R702	1	RT05392140	Resistor, 3.9k Ω $\pm 5\%$ $\frac{1}{4}$ W
R703	1	RT05333140	Resistor, 33k Ω $\pm 5\%$ $\frac{1}{4}$ W
R704	1	RT05333140	Resistor, 33k Ω $\pm 5\%$ $\frac{1}{4}$ W
R705	1	RT05102140	Resistor, 1k Ω $\pm 5\%$ $\frac{1}{4}$ W
R706	1	RT05102140	Resistor, 1k Ω $\pm 5\%$ $\frac{1}{4}$ W

REF. DESIG.	Q'TY	PART NO.	DESCRIPTION
U	C	N	
R707	1	RT05752140	Resistor, 7.5k Ω $\pm 5\%$ $\frac{1}{4}$ W
R708	1	RT05752140	Resistor, 7.5k Ω $\pm 5\%$ $\frac{1}{4}$ W
R709	1	RT05122140	Resistor, 1.2k Ω $\pm 5\%$ $\frac{1}{4}$ W
R710	1	RT05122140	Resistor, 1.2k Ω $\pm 5\%$ $\frac{1}{4}$ W
R711	1	RT05123140	Resistor, 12k Ω $\pm 5\%$ $\frac{1}{4}$ W
R712	1	RT05123140	Resistor, 12k Ω $\pm 5\%$ $\frac{1}{4}$ W
R713	1	GF05330140	Resistor, 33 Ω $\pm 5\%$ $\frac{1}{4}$ W
R714	1	GF05330140	Resistor, 33 Ω $\pm 5\%$ $\frac{1}{4}$ W
R715	1	GF05432140	Resistor, 4.3k Ω $\pm 5\%$ $\frac{1}{4}$ W
R716	1	GF05432140	Resistor, 4.3k Ω $\pm 5\%$ $\frac{1}{4}$ W
R717	1	RT05182140	Resistor, 1.8k Ω $\pm 5\%$ $\frac{1}{4}$ W
R718	1	RT05182140	Resistor, 1.8k Ω $\pm 5\%$ $\frac{1}{4}$ W
R719	1	RA01020150	Trimming Resistor, 1k B
R720	1	RA01020150	Trimming Resistor, 1k B
R721	1	RT05332140	Resistor, 3.3k Ω $\pm 5\%$ $\frac{1}{4}$ W
R722	1	RT05332140	Resistor, 3.3k Ω $\pm 5\%$ $\frac{1}{4}$ W
R723	1	RT05822140	Resistor, 8.2k Ω $\pm 5\%$ $\frac{1}{4}$ W
R724	1	RT05822140	Resistor, 8.2k Ω $\pm 5\%$ $\frac{1}{4}$ W
R731	1	GX10222030	Resistor, 0.22 Ω $\pm 10\%$ 3W
R732	1	GX10222030	Resistor, 0.22 Ω $\pm 10\%$ 3W
R733	1	GX10222030	Resistor, 0.22 Ω $\pm 10\%$ 3W
R734	1	GX10222030	Resistor, 0.22 Ω $\pm 10\%$ 3W
R735	1	RC10020120	Resistor, 2 Ω $\pm 10\%$ $\frac{1}{4}$ W
R736	1	RC10020120	Resistor, 2 Ω $\pm 10\%$ $\frac{1}{4}$ W
R737	1	RC10100120	Resistor, 10 Ω $\pm 10\%$ $\frac{1}{4}$ W
R738	1	RC10100120	Resistor, 10 Ω $\pm 10\%$ $\frac{1}{4}$ W
R739	1	GJ05331010	Resistor, 330 Ω $\pm 5\%$ 1W
R740	1	GJ05331010	Resistor, 330 Ω $\pm 5\%$ 1W
R741	1	GF05101140	Resistor, 100 Ω $\pm 5\%$ $\frac{1}{4}$ W
R742	1	GF05101140	Resistor, 100 Ω $\pm 5\%$ $\frac{1}{4}$ W
R743	1	GF05100140	Resistor, 10 Ω $\pm 5\%$ $\frac{1}{4}$ W
R744	1	GF05681140	Resistor, 680 Ω $\pm 5\%$ $\frac{1}{4}$ W
R750	1	RT05104140	Resistor, 100k Ω $\pm 5\%$ $\frac{1}{4}$ W
R751	1	RT05183140	Resistor, 18k Ω $\pm 5\%$ $\frac{1}{4}$ W
R752	1	GF05560120	Resistor, 56 Ω $\pm 5\%$ $\frac{1}{4}$ W
R753	1	GF05100140	Resistor, 10 Ω $\pm 5\%$ $\frac{1}{4}$ W
R754	1	GJ05241030	Resistor, 240 Ω $\pm 5\%$ 3W
R755	1	GJ05151020	Resistor, 150 Ω $\pm 5\%$ 2W
R756	1	GF05100140	Resistor, 10 Ω $\pm 5\%$ $\frac{1}{4}$ W
R757	1	GF05100030	Resistor, 10 Ω $\pm 5\%$ 3W
S701	1	SP04020200	Pushswitch, SPKR

15. TECHNICAL SPECIFICATIONS

FOR U.S.A. MODEL ONLY

RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER PER CHANNEL, BOTH CHANNELS DRIVEN 18 W
TOTAL HARMONIC DISTORTION 20 Hz to 20 kHz
LOAD IMPEDANCE 0.08%
 8 OHMS

RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER PER CHANNEL, BOTH CHANNELS DRIVEN 24 W
TOTAL HARMONIC DISTORTION 20 Hz to 20 kHz
LOAD IMPEDANCE 0.15%
 4 OHMS

I.M. Distortion

(I.H.F. method, 60 Hz and 7 kHz mixed 4:1 at rated power output)
 at 8 ohm load impedance 0.15%
 at 4 ohm load impedance 0.3%
 Damping Factor 40

PREAMPLIFIER SECTION:

Phono

Input Overload at 1 kHz 100 mV
 Equivalent Input Noise 2.5 μ V
 Dynamic Range
 (Dynamic Range is the ratio of input overload to equivalent input noise) 92 dB
 Input Sensitivity 2.5 mV
 Input Impedance 47 k ohms
 Frequency Response, RIAA 20 Hz to 20 kHz 100 PF
 Signal-to-Noise Ratio ± 1.0 dB

(at rated output and 7.75 mV input)

High Level (Aux and Tape) 74 dB

Input Sensitivity 180 mV
 Input Impedance 20 k ohms
 Frequency Response

(includes power amp)

Signal-to-Noise Ratio 20 Hz to 60 kHz ± 1.5 dB

(ref. to rated output and 775 mV input)

Output Levels 85 dB

Tape Out (ref. 7.75 mV at Phono inputs)

Output Impedance 525 mV

Tape Out 120 ohms

FM TUNER SECTION:

Sensitivity

IHF Usable

IHF 50 dB Quieting (Mono) 10.8 dBf (1.9 μ V)

(Stereo) 14.2 dBf (2.8 μ V)

Quieting Slope (Mono)

RF Input for 30 dB Quieting

Quieting at:

20 dBf (5.5 μ V) 9.3 dBf (1.6 μ V)

25 dBf (10 μ V) 55 dB

40 dBf (55 μ V) 60 dB

65 dBf (1000 μ V) 70 dB

. 75 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	0.3 %
1000 Hz	0.2 %
6000 Hz	0.35%
Distortion (Stereo) at 65 dBf (1000 μ V)	
100 Hz	0.5 %
1000 Hz	0.4 %
6000 Hz	0.5 %
Distortion (Mono and Stereo) at 50 dB Quieting, 1000 Hz	
Hum and Noise at 65 dBf (1000 μ V)	0.6%

Frequency Response Mono 70 dB

30 Hz to 15 kHz

Mono

Stereo +0.2 dB, - 1.5 dB

..... \pm 1.5 dB

Capture Ratio at 65 dBf (1000 μ V)

Alternate Channel Selectivity 1.0 dB

Spurious Response Rejection 70 dB

Image Response Rejection 90 dB

I.F. Rejection (Balanced) 55 dB

A.M. Suppression 90 dB

Stereo Separation 50 dB

100 Hz 40 dB

1000 Hz 45 dB

10 kHz 40 dB

Subcarrier Rejection 65 dB

AM TUNER SECTION:

IHF Usable Sensitivity 15 μ V

Distortion (THD), 30% Modulation 0.5%

Signal-to-Noise Ratio 50 dB

Alternate Channel Selectivity 40 dB

Image Rejection 45 dB

Spurious Response Rejection 60 dB

I.F. Rejection 40 dB

GENERAL:

Power Requirements 120 VAC, 60 Hz

Power Consumption at rated output, both channels operating 97 W

Idle Power (Volume Control at zero) 27 W

Dimensions:

Panel Width 440 mm (17-5/16 inches)

Panel Height 137 mm (5-3/8 inches)

Depth 293 mm (11-7/16 inches)

Weight:

Unit alone 9 kg (19.8 lbs)

Packed for Shipment 10.5 kg (23.1 lbs)

FOR EUROPEAN MODEL ONLY

AUDIO SECTION

POWER OUTPUT, DIN, 4 OHM, PER CHANNEL 37 W
 POWER OUTPUT, FTC AMERICAN STANDARDS, 4 OHM, PER CHANNEL 22 W
 TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT 0.3%
 I.M. DISTORTION AT RATED POWER OUTPUT
 (250 Hz AND 8 kHz MIXED, AMPLITUDE RATIO 4:1) 0.3%
 POWER BANDWIDTH 8 Hz ~ 30 kHz

POWER OUTPUT, DIN, 8 OHM, PER CHANNEL 28 W
 POWER OUTPUT, FTC AMERICAN STANDARDS, 8 OHM, PER CHANNEL 18 W
 TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT 0.08%
 I.M. DISTORTION AT RATED POWER OUTPUT
 (250 Hz AND 8 kHz MIXED, AMPLITUDE RATIO 4:1) 0.3%

POWER BANDWIDTH 8 Hz ~ 30 kHz
 (40 Hz) 30
 (1 kHz) 30
 (12.5 kHz) 25
DAMPING FACTOR 8 OHMS 0.3%
 (40 Hz) 30
 (1 kHz) 30
 (12.5 kHz) 25

Frequency Response

Phono (\pm 2 dB) 20 Hz ~ 20 kHz
 Aux (\pm 1.5 dB) 15 Hz ~ 35 kHz
 Signal to Noise Ratio

Phono 75 dB
 Aux 50 dB
Input Terminals

Phono: Input Impedance 47 k ohms
 Input Capacitance 100 pF
 Input Sensitivity 2.7 mV
 Overload Margin 30 dB
 Aux: Input Impedance 20 k ohms
 Input Sensitivity 180 mV
 Overload Margin 40 dB

Phono Equivalent Input Noise

Phono Dynamic Range 2.5 μ V
 Channel Balance (0 to -40 dB/40 Hz ~ 16 kHz)

Phono 90 dB
 Aux 2.5 dB
 Interchannel Crosstalk 2.0 dB

Phono, 1 kHz

Aux, 1 kHz 35 dB
 Tape, 1 kHz

Intersource Crosstalk, 1 kHz

Output Voltage, 1 kHz 43 dB
 Tape Out 43 dB

Output Impedance, 1 kHz

Tape Out 0.18 V

..... 120 ohms

FM TUNER SECTION

Frequency Range

Usable Sensitivity 40 kHz Deviation, 98 MHz 87.5 ~ 108 MHz

Mono S/N 26 dB

Stereo S/N 46 dB

Alternate Channel Selectivity 98 MHz, \pm 300 kHz 1.6 μ V

Image Response Rejection, 98 MHz 47 μ V

IF Rejection, 98 MHz 50 dB

Spurious Response Rejection, 98 MHz 60 dB

AM Suppression, 98 MHz 80 dB

..... 80 dB

..... 50 dB

Signal to Noise Ratio at 98 MHz		
Unweighted Mono	.....	65 dB
Unweighted Stereo	.....	58 dB
Weighted Mono	.....	68 dB
Weighted Stereo	.....	62 dB
Pilot and Subcarrier Rejection		
19 kHz	.....	60 dB
38 kHz	.....	65 dB
Total Harmonic Distortion		
Mono	.....	0.2%
Stereo	.....	0.4%
Frequency Response (30 Hz ~ 15 kHz)	.....	+0.2 dB, -2.0 dB
Stereo Separation	.....	40 dB
Channel Balance	.....	0.5 dB
Output Voltage, 1 kHz	.....	565 mV
Output Impedance, 1 kHz	.....	2.3 k ohms
Acceptable Load Impedance, 1 kHz	.....	47 k ohms
Antenna Terminals		
Balanced	.....	300 ohms
Unbalanced	.....	75 ohms

AM TUNER SECTION

Frequency Range	.....	515 ~ 1650 kHz
Usable Sensitivity (26 dB S/N, 30% Mod., 1 MHz)	.....	25 μ V
Selectivity, 1 MHz, \pm 9 kHz	.....	20 dB
Image Rejection, 1 MHz	.....	18 dB
I.F. Rejection, 1 MHz	.....	3 dB
Spurious Response Rejection, 1 MHz	.....	60 dB
Signal to Noise Ratio, 1 MHz	.....	52 dB
Frequency Response, 1 MHz, \pm 3 dB	.....	40 Hz ~ 2.3 kHz
Total Harmonic Distortion, 1 MHz	.....	0.5%

GENERAL

Power Requirements	.....	220 V AC, 50 Hz
(E and N versions are featuring an external voltage selector for use on 110/120/240 V. Other versions can be converted by a qualified technician to operate on 110/120/240 V.)		
Power Consumption at Rated Output, 2 Channels Driven	.....	105W \pm 15W
Idling Power	.....	27 W \pm 5W
Semiconductor Complement		
Integrated Circuits	.....	5
Transistors	.....	29
Diodes	.....	18
Field Effect Transistors	.....	1
Dimensions		
Panel Width	.....	440 mm (17-5/16 inches)
Panel Height	.....	137 mm (5-25/64 inches)
Depth	.....	293 mm (11-17/32 inches)
Weight		
Unit Alone	9.0 kg (19.8 lbs)
Packed for Shipment	10.5 kg (23.1 lbs)

Send to: Marantz Electronic Co. Inc.
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Model 2218