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SERVICE
MANUAL

1550/MR250/MR255

marantz

model 1550/MR250/MR255

Stereophonic Receiver

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 (Australasia) 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 Peronnes-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

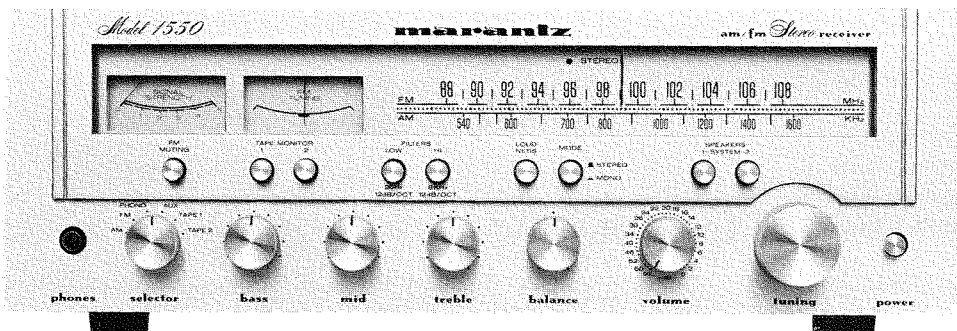
Superscope GmbH
Max-Planck-Strasse 22
D-6072 Dreieich 1
West Germany

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.

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MODEL 1550/MR250/MR255 STEREOPHONIC RECEIVER



INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model 1550/MR250/MR255 Stereophonic Receiver.

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

The parts list furnishes information by which replacement 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 1550/MR250/MR255 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. Tuner mounted on P.W. Board P100
2. Phono Amp mounted on P.W. Board P400
3. Main Amp & Power Supply mounted on P.W. Board P700
4. Antenna Input mounted on P.W. Board PC00
5. Tone Amp mounted on P.W. Board PE00
6. Power Transistor mounted on P.W. Board PN01
7. Fuse mounted on P.W. Board PP01
8. Filter & Switch mounted on P.W. Board PS00
9. LED mounted on P.W. Board PY01

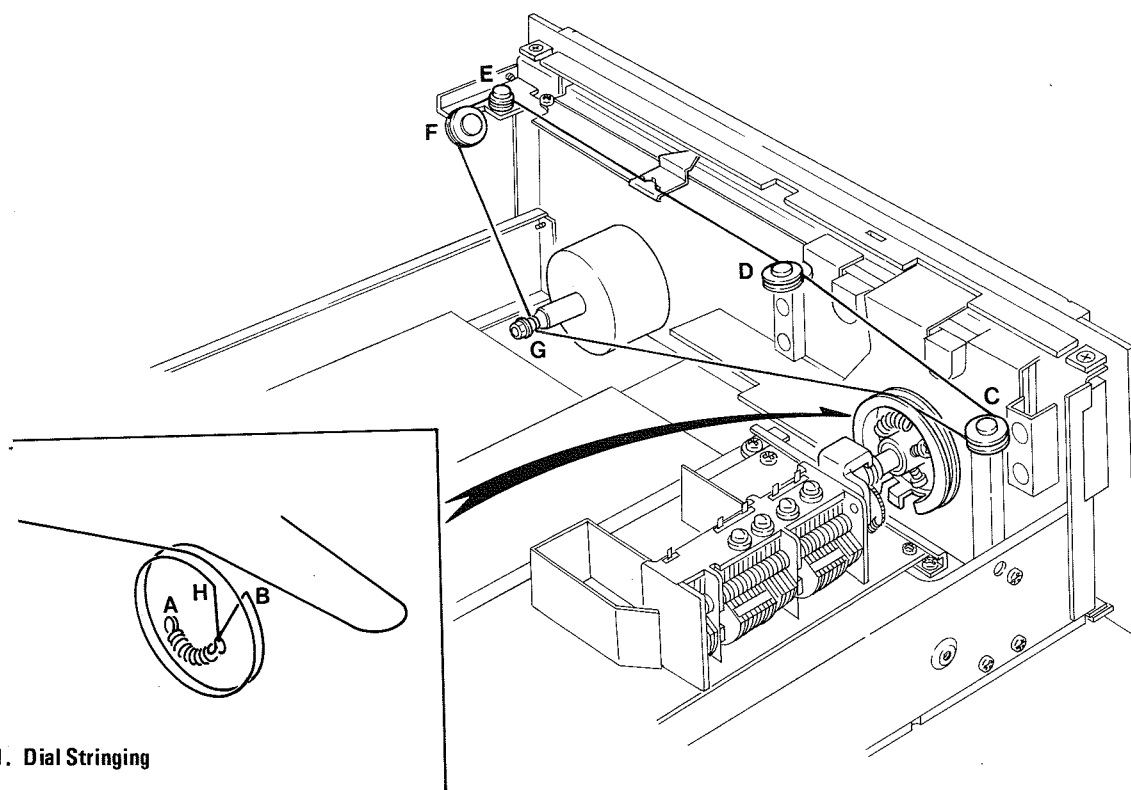


Figure 1. Dial Stringing

2. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Model 1550/MR250/MR255 Receiver.

Item	Manufacturer and Model No.	Use
AM Signal Generator		Signal source for AM alignment
Test Loop		Use with AM Signal Generator
FM Signal Generator MPX Signal Generator	Sound Technology Model 1000A	Signal source for FM alignment Stereo separation alignment and trouble shooting
Distortion Analyzer Audio Oscillator AC VTVM	Sound Technology Model 1700A	Distortion measurements Sinewave and squarewave signal source Voltage measurements (AC)
Oscilloscope	Tektronix Model T932 Philips Model 3232	Waveform analysis and trouble shooting and ASO alignment
Frequency Counter	Fluke Model 1900A	MPX Oscillator adjustment (VCO)
Circuit Tester		Trouble shooting
DC VTVM	Fluke Model 8000 "Digital" Simpson Model 313, Triplet Model 801	Voltage measurements (DC)
AC Wattmeter	Simpson Model 1379	Monitors primary power to amplifier
AC Ammeter	Commercial Grade (1-10A)	Monitors amplifier output under short circuit condition
Line Voltmeter	Simpson Model 1359	Monitors potential of primary power to amplifier
Variable Autotransformer	Superior Electronic Co., Powerstat Model 116B-10A	Adjusts level of primary power to amplifier
Shorting Plug	Use phono plug with 600-ohm across center pin and shell	Shorts amplifier input to eliminate noise pickup
Output Load (8 ohms, ±0.5%, 100W)	Commercial Grade	Provides 8-ohm load for amplifier output termination
Output Load (4 ohms, ±0.5%, 100W)	Commercial Grade	Provides 4-ohm load for amplifier output termination

3. ALIGNMENT PROCEDURES

* A dummy resistor of 47 kohms must be connected across the tape output terminals before alignment.

3.1 FM ALIGNMENT PROCEDURES

(Selector switch in the "FM" position)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set Dial Pointer to:	Adjust:
FM IF ALIGNMENT					
1	Sweep generator to point (B) through 5pF capacitor	10.7 MHz market at 10.6, 10.7 and 10.8 MHz	Oscilloscope to point (C)	Quiet point on band.	L104 for maximum and symmetric response.
2			Oscilloscope to point (D)		L201 for straight and symmetric "S" curve response.
3	Repeat steps 1 and 2.				
FM RF ALIGNMENT					
1	RF generator to FM antenna terminals (A) through matching network (300 ohms, balanced) Maintain RF level below limit.)	87.4 MHz	VTVM to L or R channel output (W002)	87.4 MHz with tuning gang closed.	L103 for maximum output.
2		100 MHz		109 MHz with tuning gang open.	C119 for maximum output.
3		90 MHz		90 MHz	L101, L102 for maximum output.
4		106 MHz		106 MHz	Ant. RF trimmer for maximum output.
5	Repeat steps 1 to 4.				
6	Check overall response curve and repeat above steps as necessary to obtain maximum sensitivity.				
7	No connection	No signal	DC VTVM 1-volt range to (D)	—	L201 primary core (bottom) for "0" voltage reading.
8	RF generator 1 mV output to FM antenna terminals (A) through matching network (300 ohms, balanced)	98 MHz	Distortion meter to (D)	98 MHz	L201 secondary core (upper) for minimum distortion.
9			—		R232 so that signal strength meter M001 may read 85%.
MUTING CIRCUIT ALIGNMENT					
1	RF generator 12.5μV output to FM antenna terminals (A) through matching network (300 ohms, balanced)	98 MHz	VTVM to R or L channel output (W002)	98 MHz	R233 for 12.5μV threshold level. (During the adjustment turn the muting pushswitch "ON").

3.2 MULTIPLEX ALIGNMENT PROCEDURES

(Selector switch in the "FM" position)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set Dial Pointer to:	Adjust:
1	RF generator to FM antenna terminals (A) through matching network (300 ohms, balanced), with 1mV FM stereo simulator RF level and 100% modulation (pilot 9%)	No modulation	Frequency counter to point (E) (J140)	98 MHz	R326 so that frequency counter may precisely read 19 kHz.
2		Stereo, left (1,000 Hz)	VTVM to right channel output (W002, White)		R316 for maximum output and same separation in both channels.
3		Stereo, right (1,000 Hz)	VTVM to left channel output terminal (H) (J123) (W002, Red)		
4	Repeat steps 2 and 3.				

3.3 AM ALIGNMENT PROCEDURES

(Selector switch in the "AM" position)

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Set Dial Pointer to:	Adjust:
AM IF ALIGNMENT					
1	No connection	No signal	—	—	R228 to that signal strength meter M001 may read 0.
2	Sweep generator to point (F)	455 kHz marker	Oscilloscope to point (G) (J141)	Quiet point on band.	L154 for maximum and symmetric response.
AM RF ALIGNMENT					
1	RF generator to AM antenna terminals through IHF dummy	515 kHz	VTVM to L or R channel output (W002)	515 kHz with tuning gang closed.	L153 for maximum output.
2		1,650 kHz		1,650 kHz with tuning gang open.	OSC. trimmer for maximum output.
3		600 kHz		600 kHz	L001 for maximum output.
4		1,400 kHz		1,400 kHz	Ant. trimmer for maximum output.
5	Repeat steps 1 to 4 as necessary to obtain maximum sensitivity.				

4. MAIN AMP ADJUSTMENT

1. Idling current

Turn the POWER switch on without input signal. Adjust the semifixed resistor R731 (R732) until the DC voltage across J708 (positive) and J709 (ground) [J710 and J711] is 24 mV.

2. Offset voltage

Adjust R711 (R712) without input signal until the DC voltage across the speaker output terminals is 0 V.

5. VOLTAGE CONVERSION

The Model 1550/MR250/MR255 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.

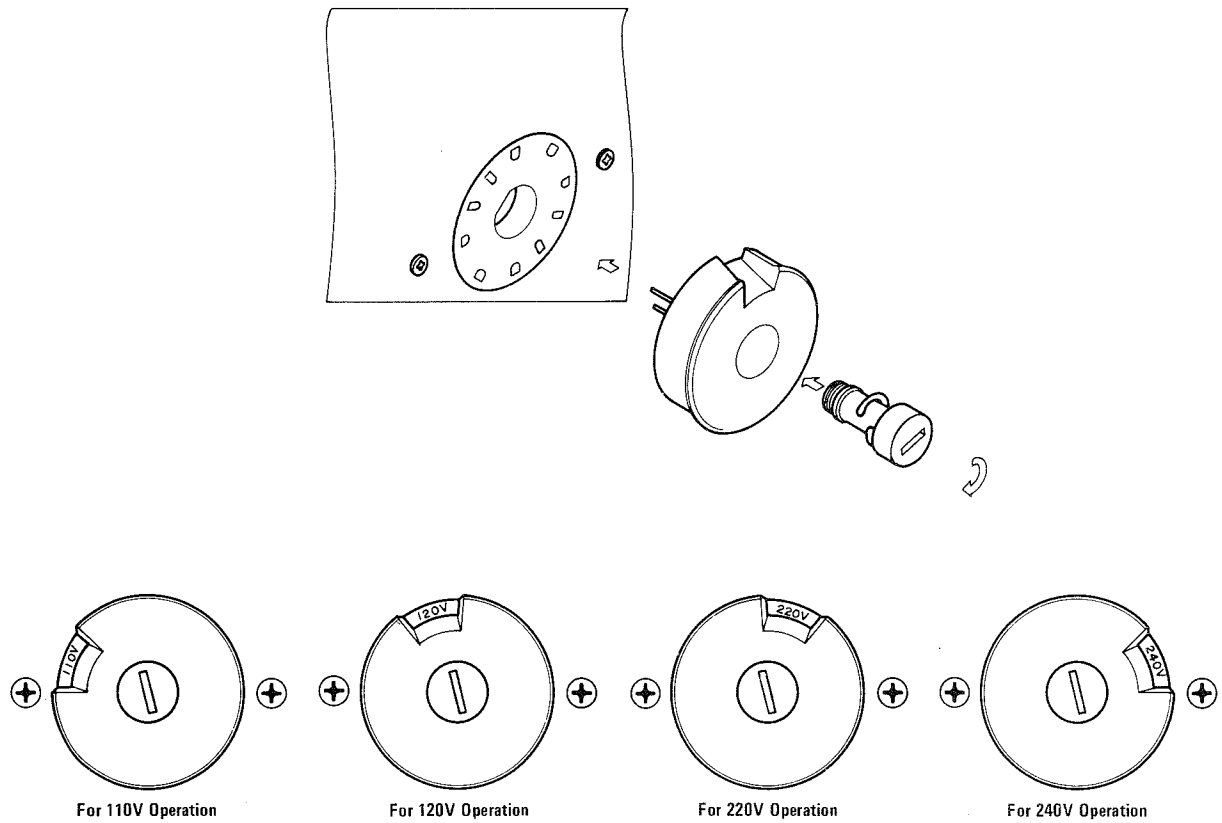


Figure 2. Voltage Conversion Chart

FTZ REGULATION

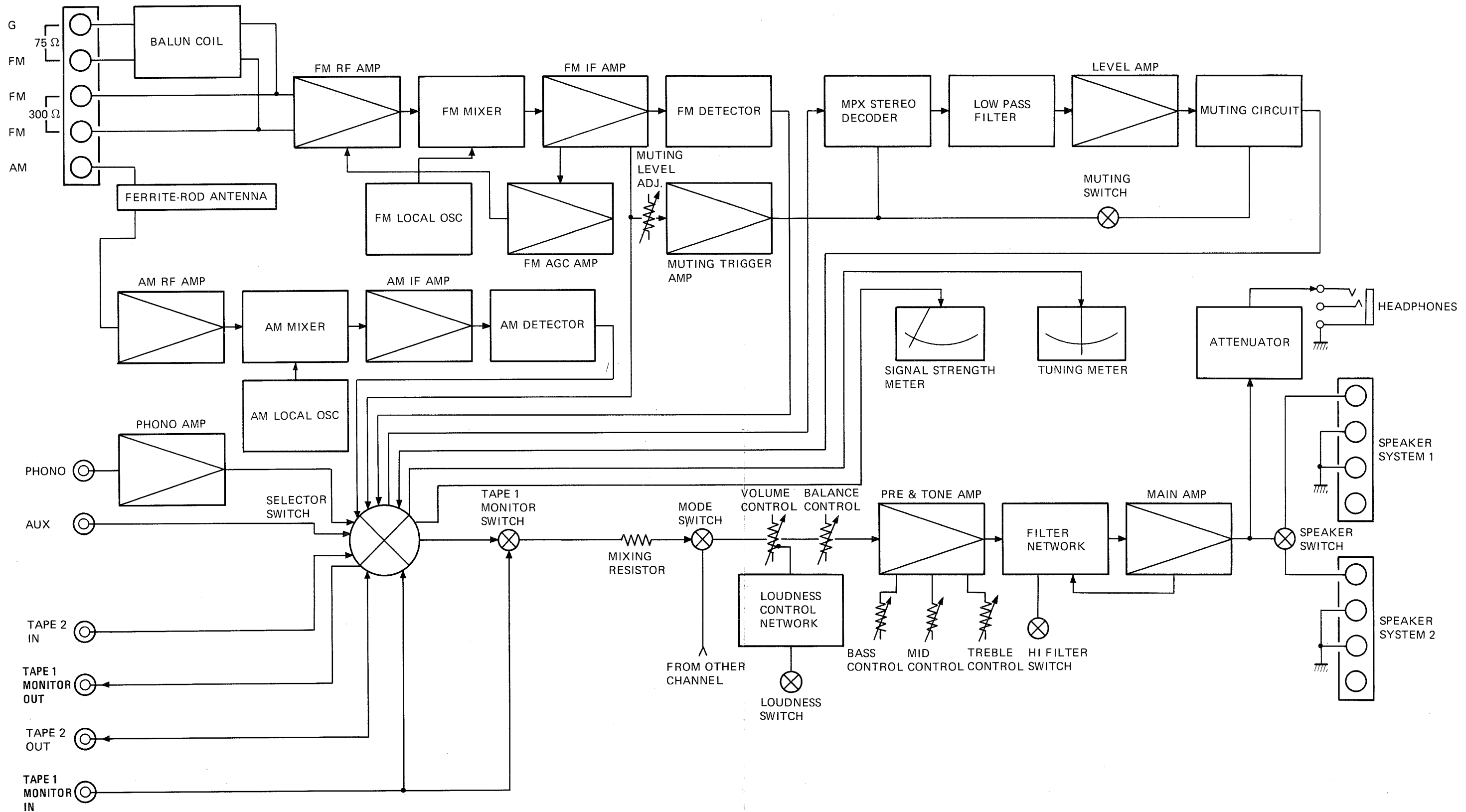
Instruction for the use in the range other than specified in FTZ codes.

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

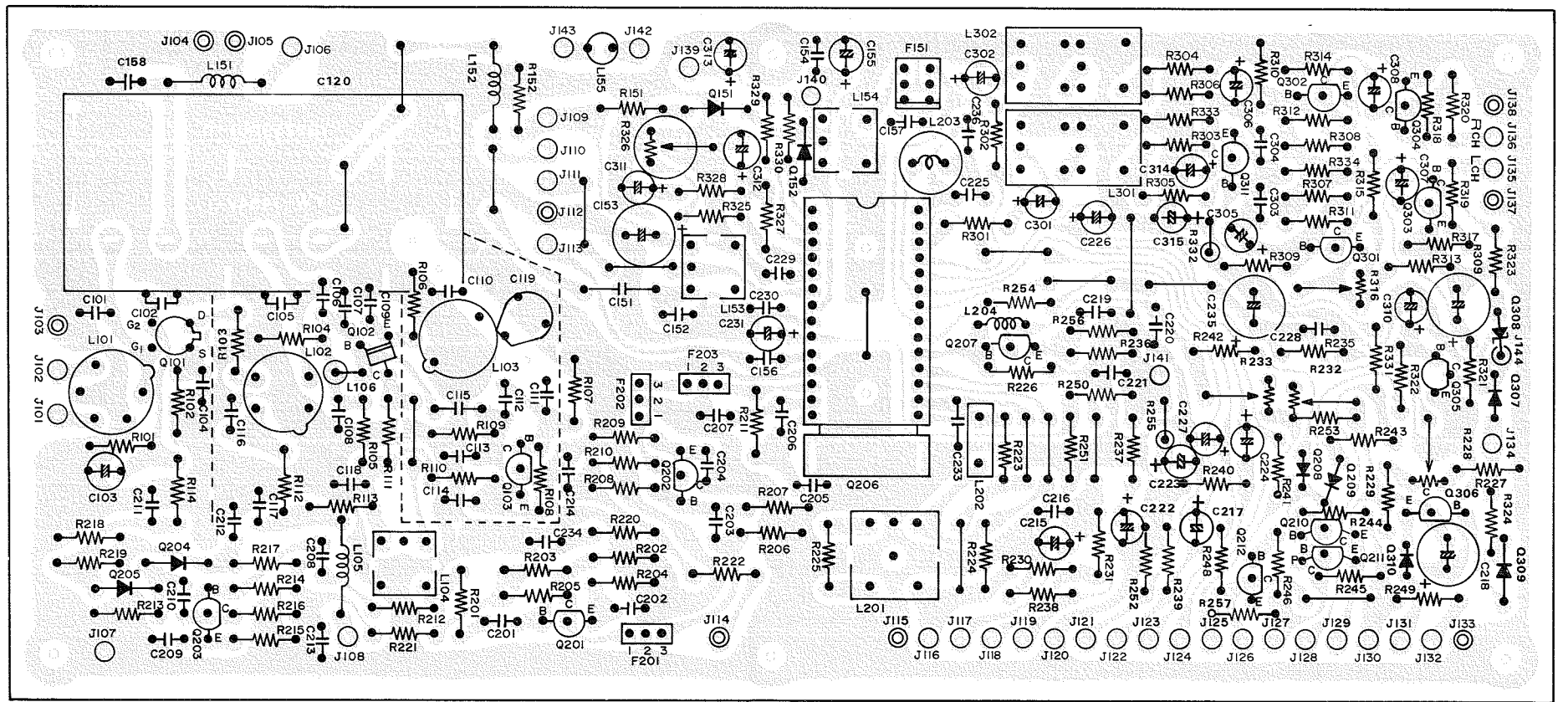
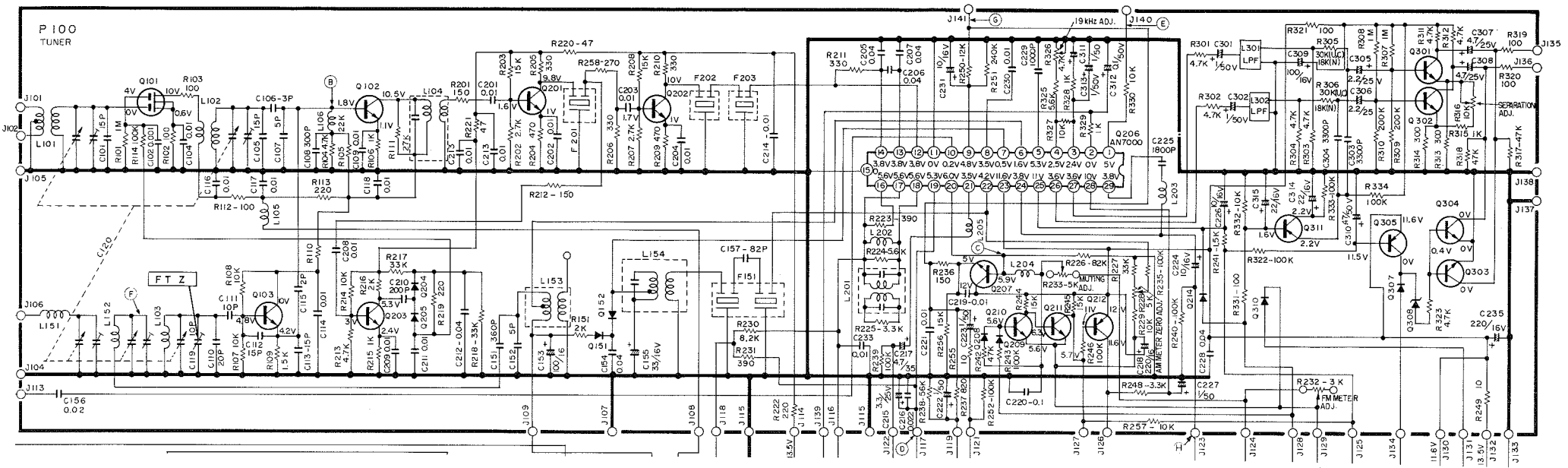
Sollte das Gerät auch für Frequenzen ausserhalb des in den FTZ-Bestimmungen angegebenen Bereiches empfangsbereit sein, bitten wir, den Bereich durch Nachstellen des Kernes in der Oszillatorschleife (in der Abbildung mit "FTZ" gekennzeichnet) so zu korrigieren, dass er den Bestimmungen entspricht.

6. DIAGRAMS

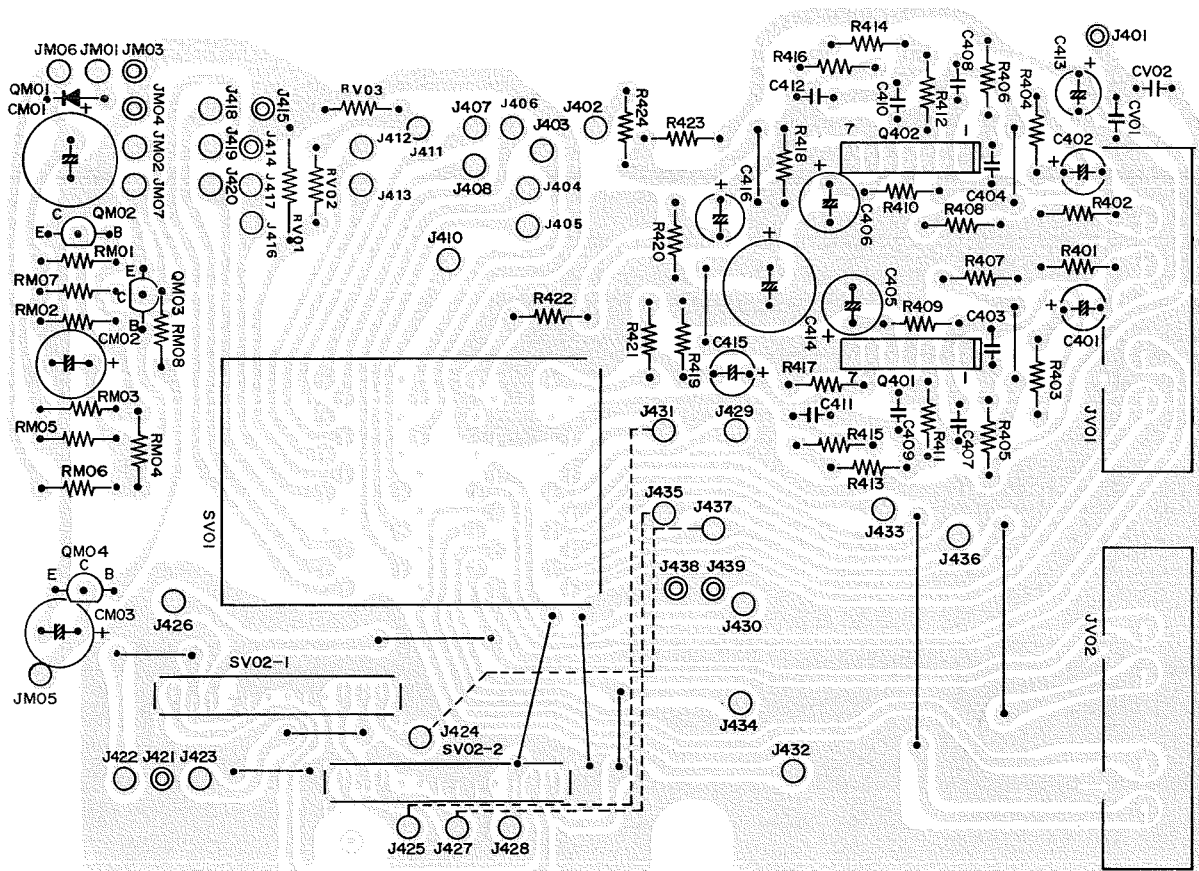
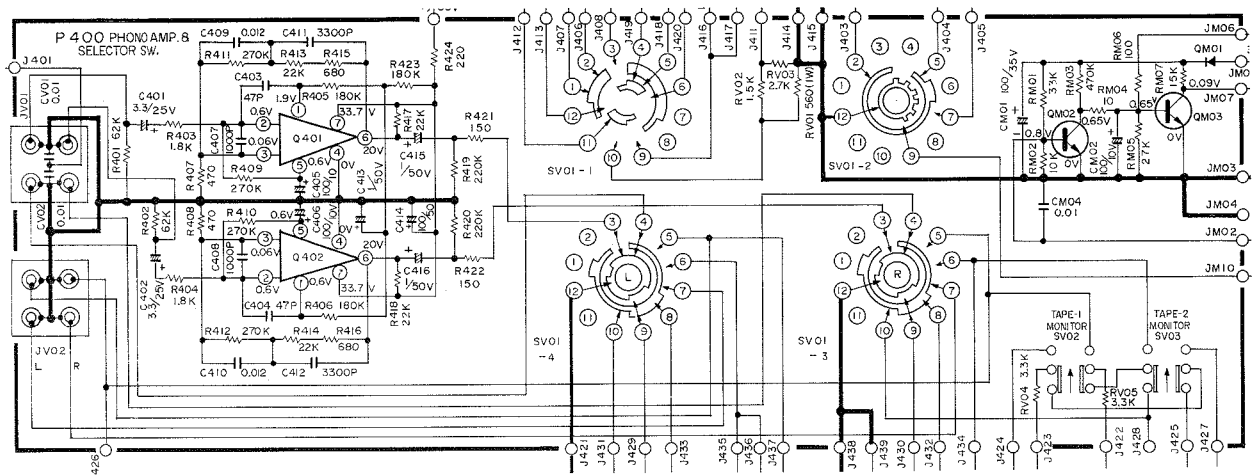
6.1 BLOCK DIAGRAM



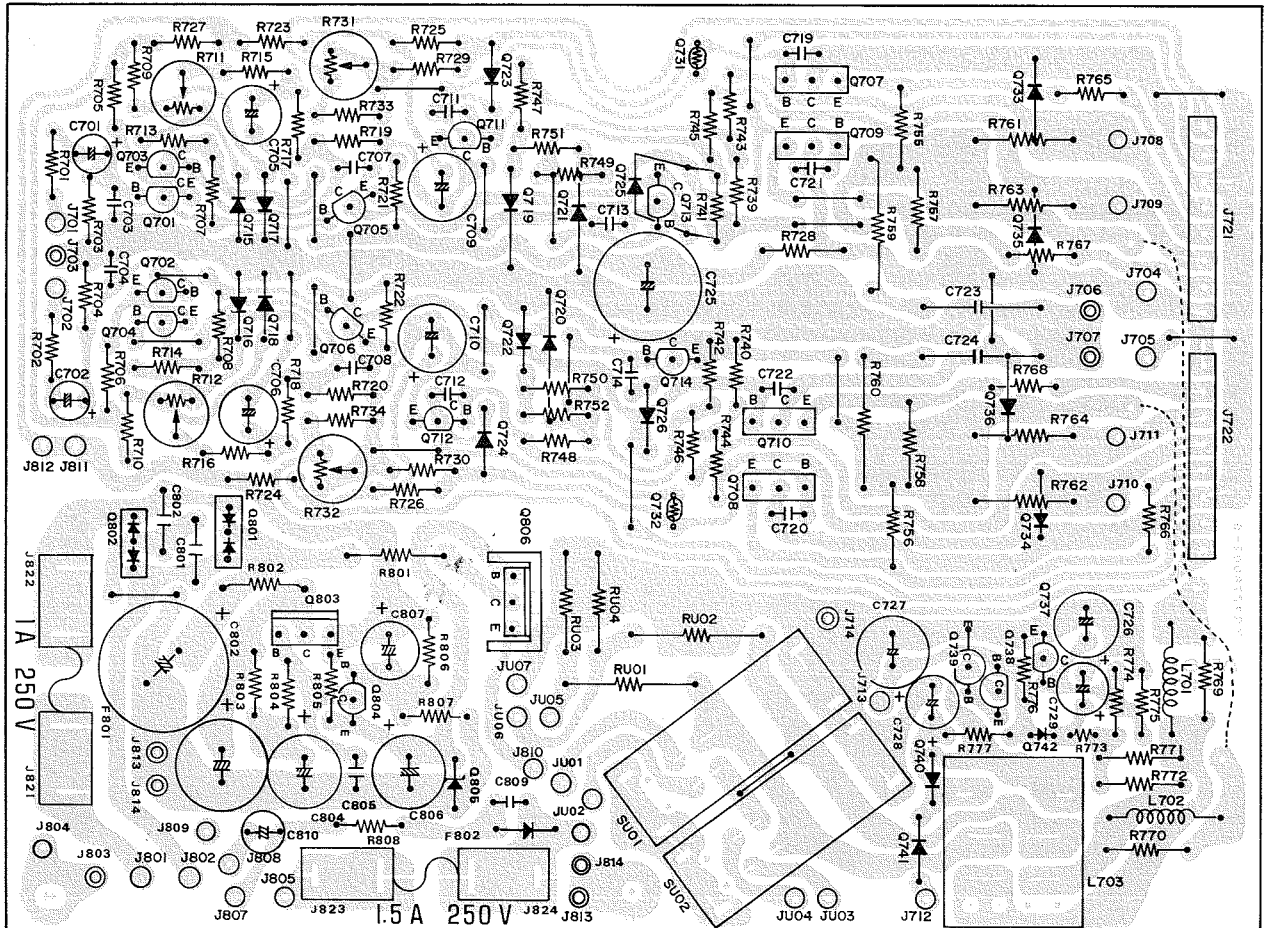
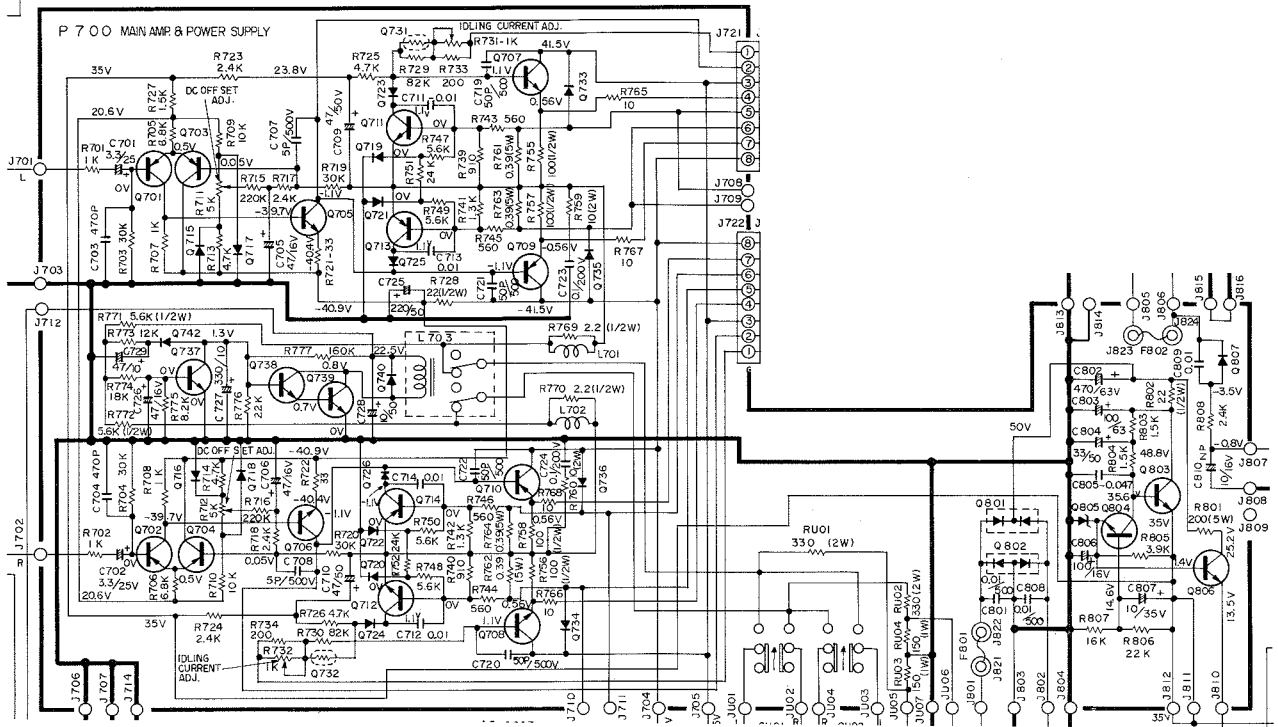
6.2 TUNER BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P100

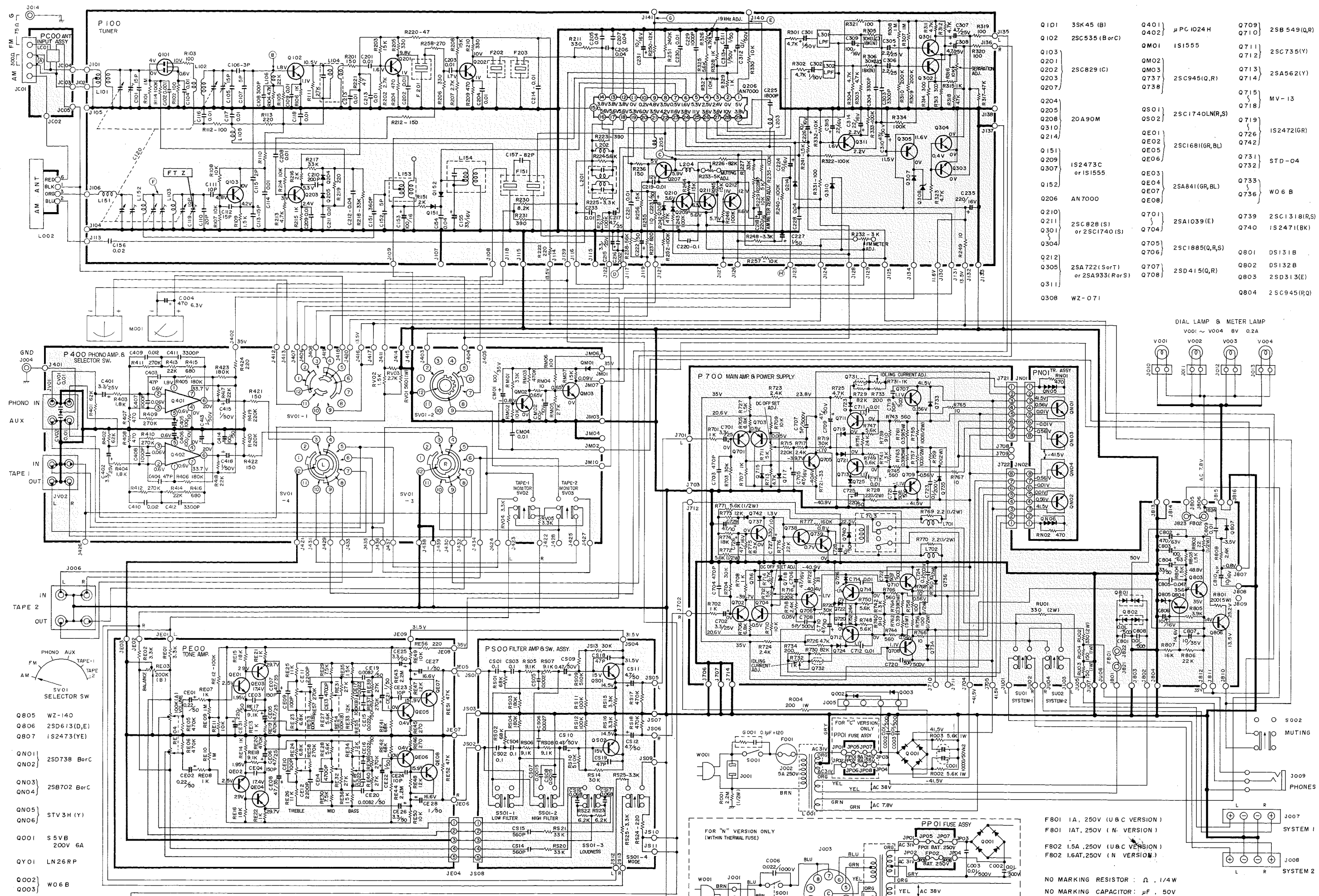


6.3 PHONO AMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P400



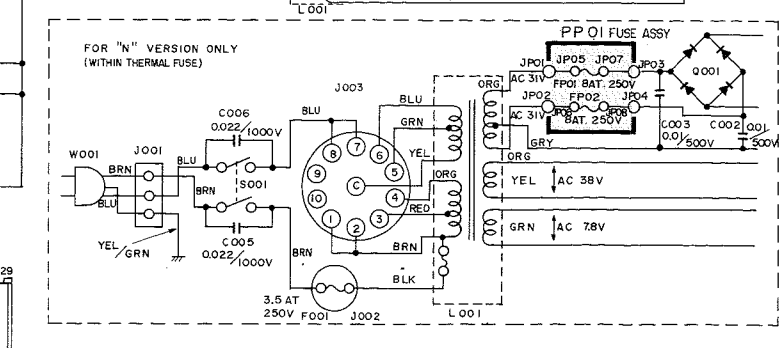
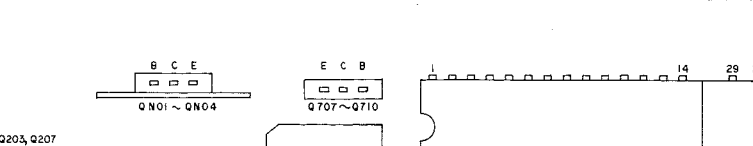
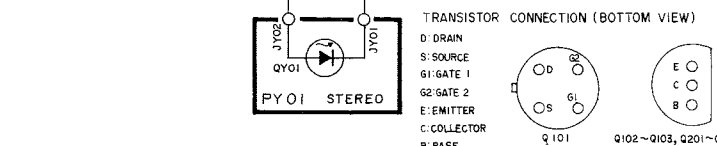
6.4 MAIN AMP & POWER SUPPLY BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P700



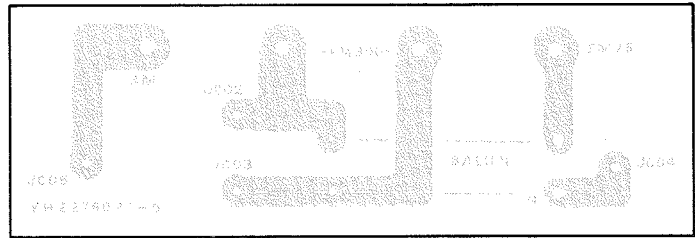
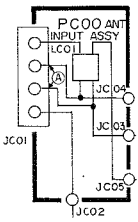


- Q805 WZ-140
- Q806 2SD613(D,E)
- Q807 1S2473(YE)
- QN01 2SD738 B or C
- QN02 2SD738 B or C
- QN03 2SB702 B or C
- QN04 STV 3H (Y)
- QN05
- QN06
- QO01 S5VB 200V 6A
- QY01 LN26RP
- QO02
- QO03 W06 B

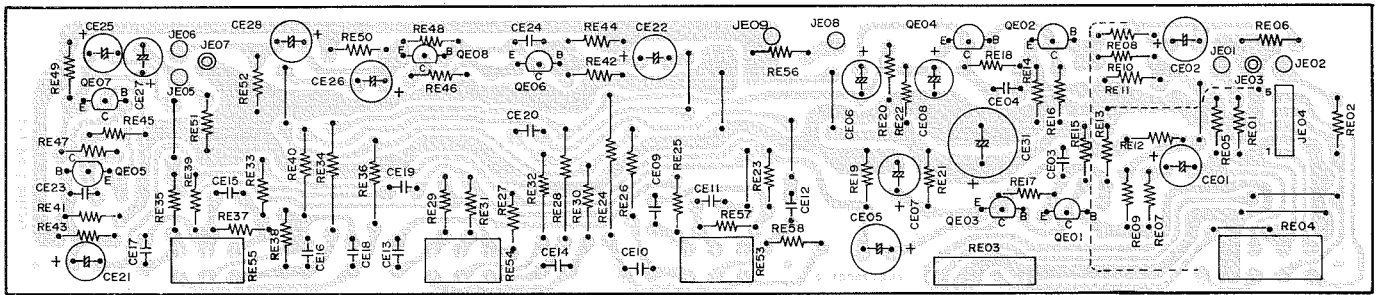
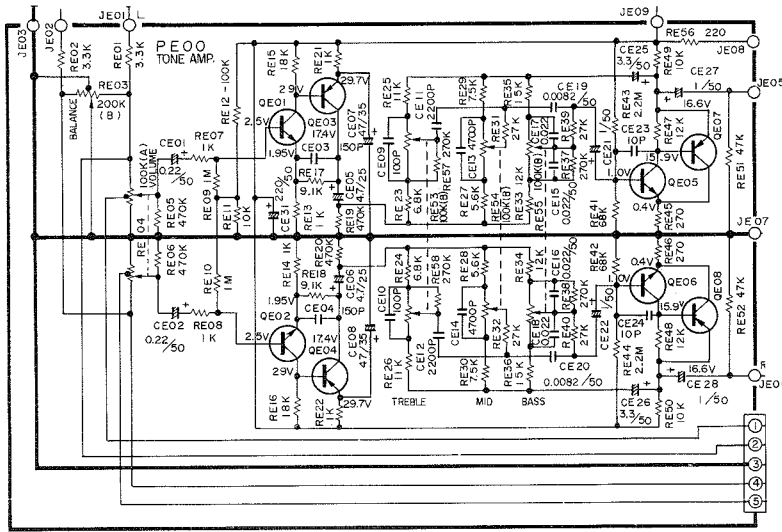
- F801 1A, 250V (U & C VERSION)
- F801 1AT, 250V (N VERSION)
- F802 1.5A, 250V (U & C VERSION)
- F802 1.6AT, 250V (N VERSION)
- NO MARKING RESISTOR: Ω, 1/4W
- NO MARKING CAPACITOR: μF, 50V



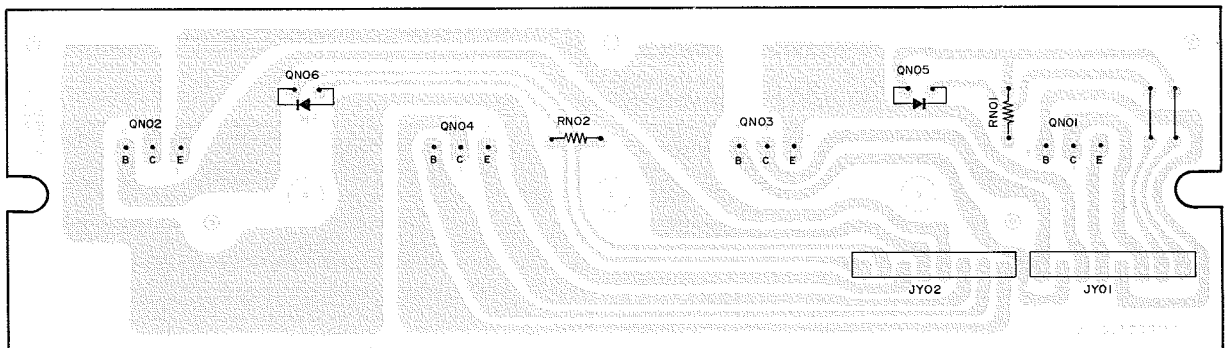
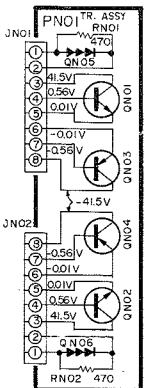
6.5 ANTENNA INPUT BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PC00



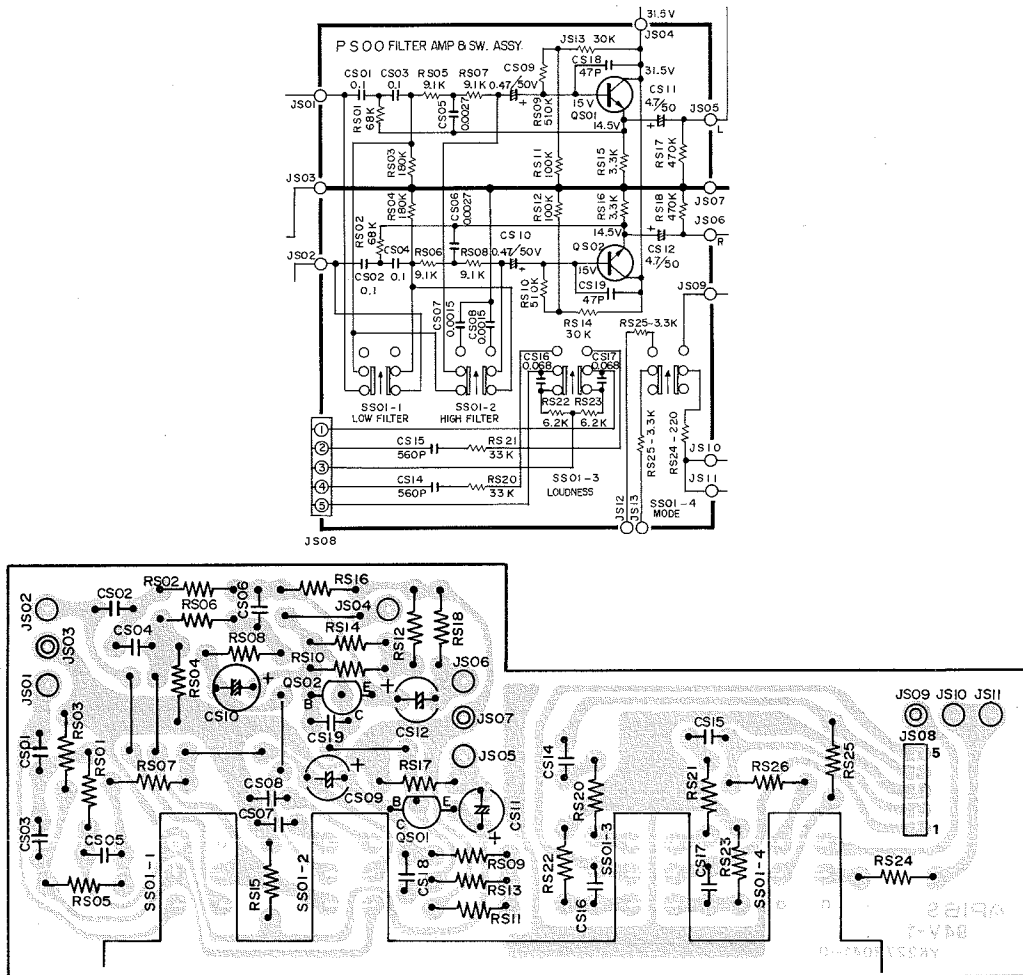
6.6 TONE AMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PE00



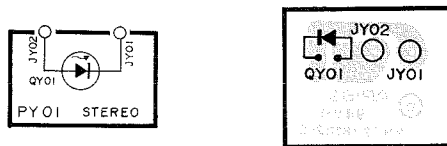
6.7 POWER TRANSISTOR BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PN01



6.8 FILTER & SWITCH BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PS00

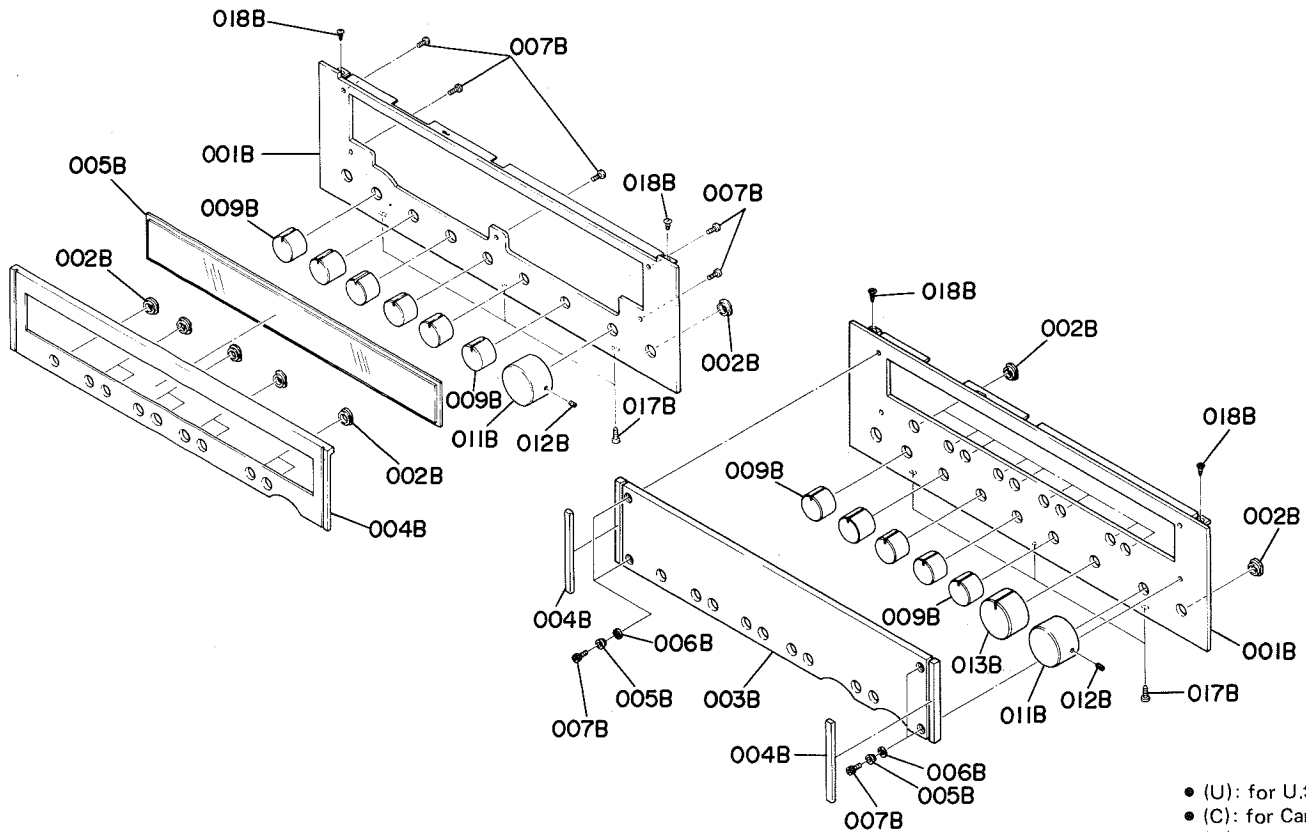


6.9 LED BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PY01



7. EXPLODED VIEWS AND PARTS LIST

7.1 [C01-99] FRONT PANEL

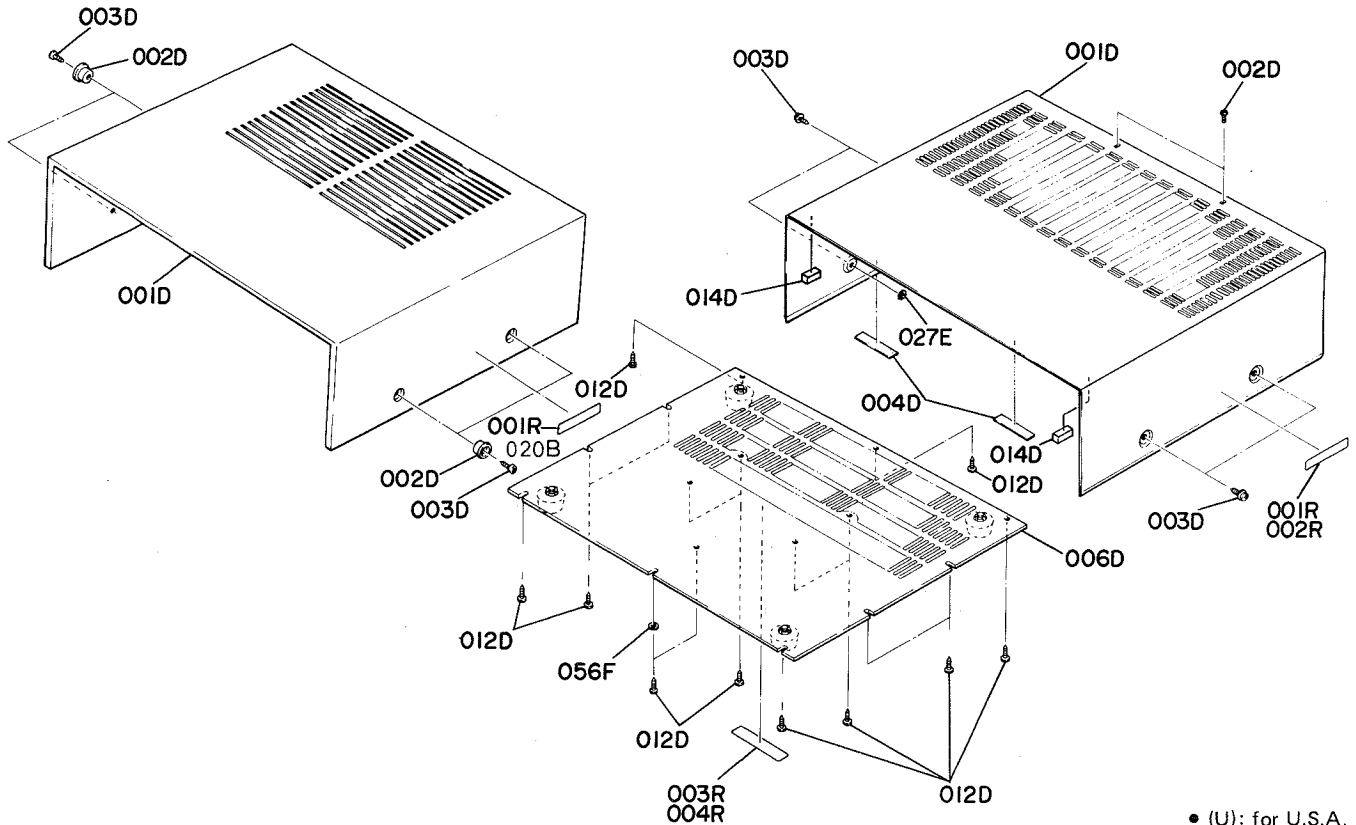


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
M1550, ONLY					
A	1	1	1	2278063400	Front Panel Assembly
001B	1	1	1	2278063012	Escutcheon, Main
002B	10	10	10	2978259012	Bushing
004B	1	1	1	2278063020	Escutcheon, Sub
005B	1	1	1	2211158110	Window
007B	5	5	5	51100305A9	B.H.M. Screw B3 x 5
MR250, ONLY					
A			1	2470063400	Front Panel Assembly
001B			1	2470063010	Escutcheon, Main
002B			10	2978259012	Bushing
003B			1	2470158012	Window
004B			2	2276067010	Cap
005B			4	2470055010	Collar
006B			4	4214107010	Sheet
007B			4	52730308S9	H.S. Head Bolt H3 x 8
MR255, ONLY					
A	1			2278063410	Front Panel Assembly
001B	1			2278063012	Escutcheon, Main
002B	10			2978259012	Bushing
004B	1			2278063130	Escutcheon, Sub
005B	1			221115811D	Window
007B	5			51100305A9	B.H.M. Screw B3 x 5

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
009B	6	6	6	2276154010	Knob (M1550, ONLY)
009B			5	2276154010	Knob (MR250, ONLY)
011B	1	1	1	2279154040	Knob, Tuning
012B	1	1	1	51690306Q0	Socket Screw, HP 3 x 6
013B			1	2276154030	Knob, Volume (MR250, ONLY)
017B	3	3	3	51280308U0	B.H. Tapped Screw B3 x 8
018B	2	2	2	51340306B0	F.H. Tapped Screw F3 x 6
M1550 (U)(C)(N) MR250 (N), ONLY MR255 (U), ONLY					

7.2 [C02-99] LID (TOP COVER)

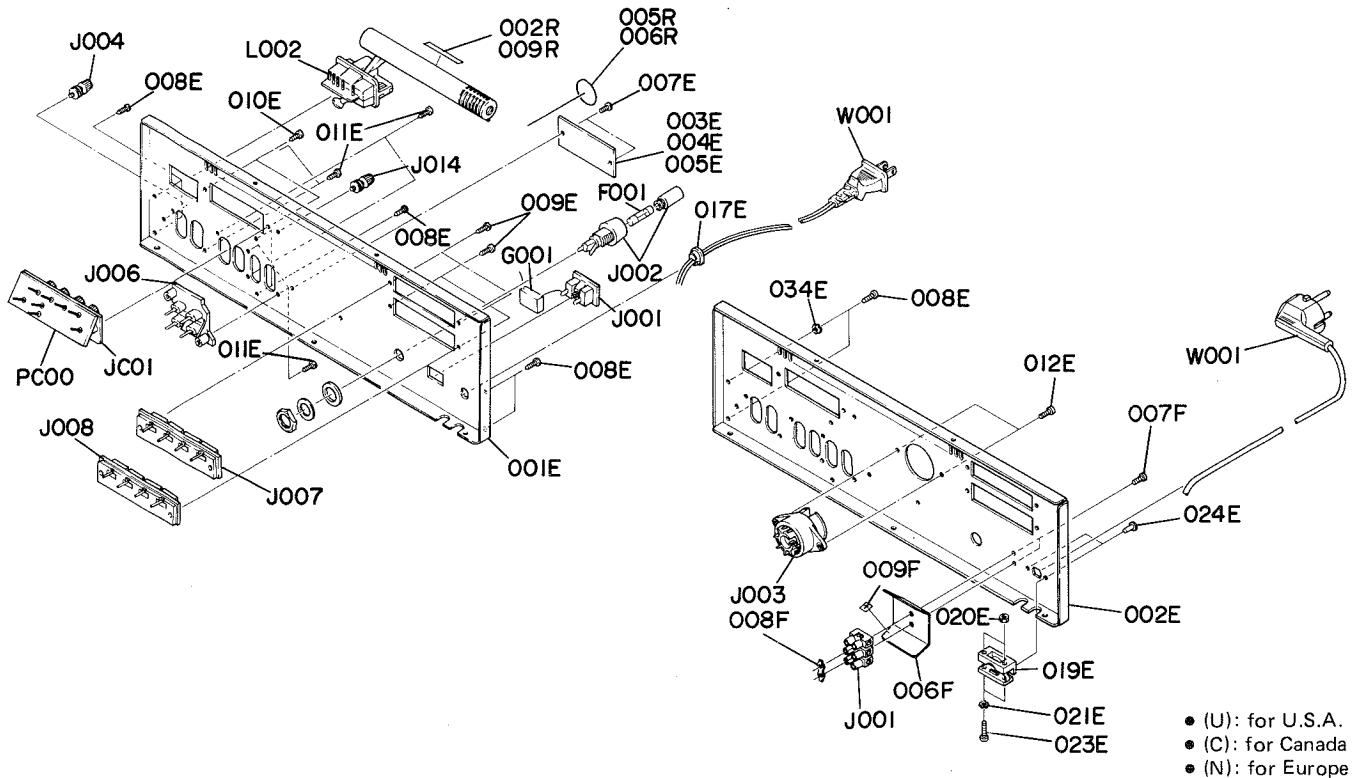


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
					M1550, ONLY
001D	1	1	1	2278257020	Lid, Metal Case
002D	2	2	2	51280306U0	B.H. Tapped Screw B3 x 6
003D	4	4	4	51260408U0	F. Washer Screw F4 x 8
004D	2	2	2	2965118010	Spacer
014D	2	2	2	3358118080	Spacer
					MR250 (U), M255(U), ONLY
001D	1		1	2278064012	Case, Wood
002D	4		4	3906259010	Bushing
003D	4		4	51280412U0	B.H. Tapped Screw B4 x 12
020B	1			2818861010	Label

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
006D	1	1	1	2278257503	Lid, Bottom
012D	15	15	15	51280410U0	B.H. Tapped Screw B4 x 10
001R	1		1	2932861012	Label
002R		1		2911861143	Label
003R	1		1	2578861010	Label
004R		1		2911861112	Label
027E		1		54050400R0	T.L. Washer or (M1550, ONLY)
					M1550 (U)(C)(N)
					MR250 (N), ONLY
					MR255 (U), ONLY

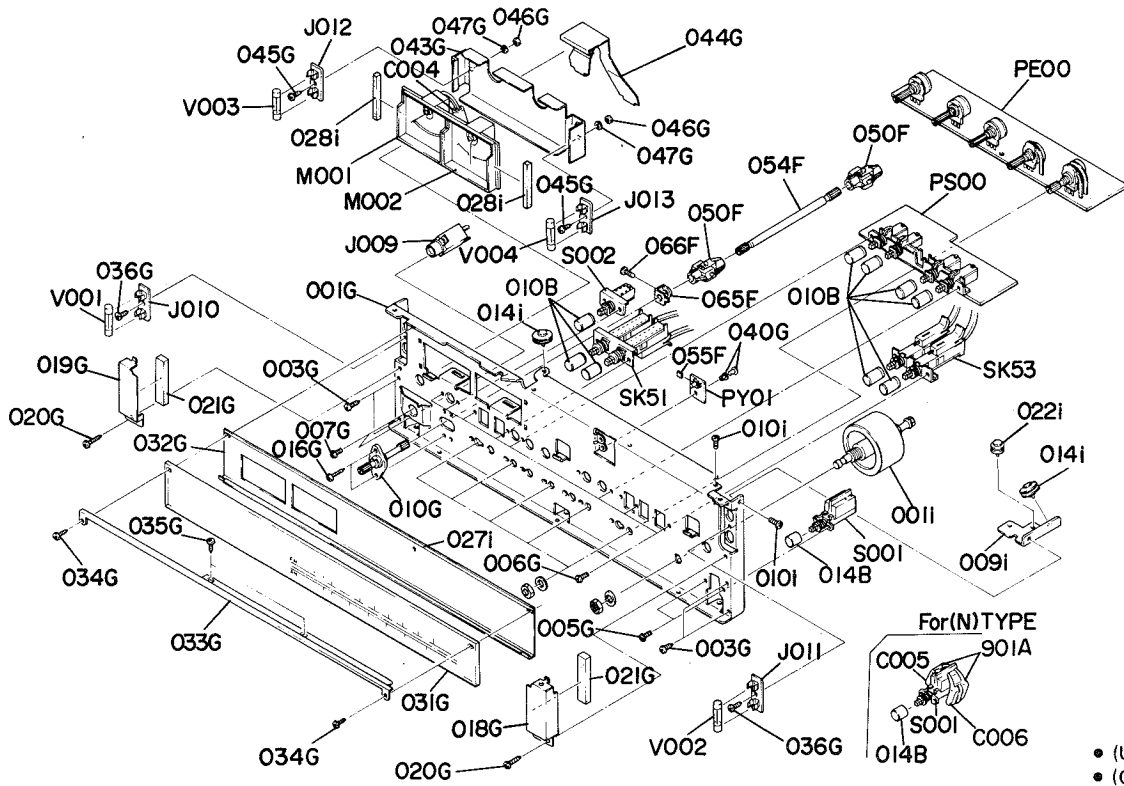
7.3 [C03-99] REAR PANEL



REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
001E	1	1		2278160213	Bracket, Rear Panel
002E			1	2278160223	Bracket, Rear Panel
003E	1			2278265040	Indicator
004E		1		2278265020	Indicator
005E		1		2278265030	Indicator (M1550, ONLY)
005E		1		2470265010	Indicator (MR250, ONLY)
007E	2	2	2	51760306B0	OS. Tapped Screw 3 x 6
008E	6	6	6	51280308U0	B.H. Tapped Screw B3 x 8
009E	4	4	4	51280308U0	B.H. Tapped Screw B3 x 8
010E	2	2	2	51280308U0	B.H. Tapped Screw B3 x 8
011E	6	6	6	51280308U0	B.H. Tapped Screw B3 x 8
012E		2		51100308S9	B.H.M. Screw B3 x 8
017E	1	1		1455259030	Bushing
019E		1		2821259010	Bushing
020E		2		53110303A9	Hexagon Nut
021E		2		54050300R0	T.L. Washer OR
023E		2		51060316A9	P.H.M. Screw P3 x 16
024E		2		55060305S0	T.R. Rivet
026E		1		54050300R0	T.L. Washer OR
003E	1			2278265040	Indicator
006F		1		3953120030	Insulator
007F		2		51100316S9	B.H.M. Screw B3 x 16
008F		1		2970005010	Clamper
009F		1		2882861020	Label
					M1550 (U)(C)(N)
					MR250 (N), ONLY
					MR255 (U), ONLY

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
002R			1	2506265062	Indicator
005R	1			9511101020	Label
006R		1		2457861040	Label
009R	1			2506265062	Indicator
009R		1		2911861172	Indicator
F001	1	1		FS10500040	Fuse 5A 250V
F001		1		FS10350800	Fuse 3.5AT 250V
G001	1			BF10400030	Cap. Comp 0.1μF + 120Ω
G001		1		BF10400050	Cap. Comp 0.1μF + 120Ω
J001	1	1		YJ04000560	Jack, AC Outlet
J001		1		YL09030010	Terminal (3P)
J002	1			YJ08000120	Jack, Huse Holder
J002		1		YJ08000230	Jack, Huse Holder
J002		1		YJ08000220	Jack, Huse Holder
J003		1		BY03110010	Plug, Voltage Selector
J004	1	1	1	YL03010240	Terminal, Ground
J006	1	1	1	YT02040140	Terminal, Tape, 2
J007	1	1	1	YT03040160	Terminal, Speaker
J008	1	1	1	YT03040160	Terminal, Speaker
J014	1	1	1	YL03010240	Terminal, Ant. Ground
L002	1	1	1	LF11200620	Antenna Coil
W001	1	1		YC02000150	A.C. Power Cord
W001		1		YC01900030	A.C. Power Cord
PC00	1	1	1	YH22760210	P.W. Board, Antenna
	1	1	1	ZZ22760210	P.W. Board Assembly
JC01	1	1	1	YT01040182	Terminal

7.4 [P01-99] FRONT CHASSIS AND GENERAL PARTS

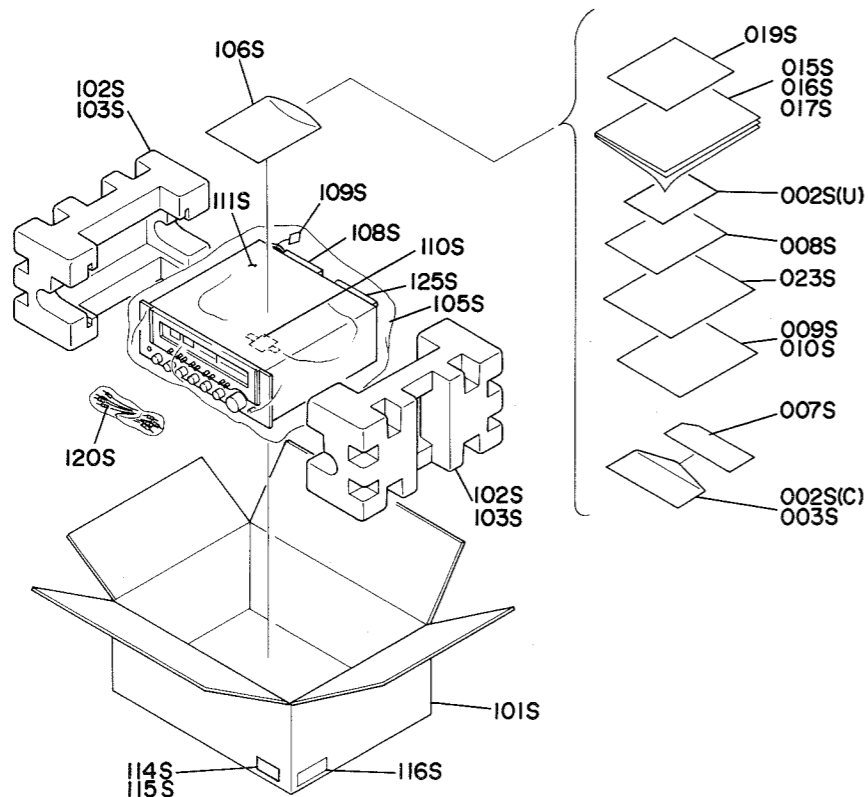


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
010B	9	9	9	2276154120	Knob
014B	1	1	1	2276154040	Knob, Power
050F	2	2	2	2258125510	Joint
054F	1	1	1	2278112010	Shaft
055F	1	1	1	2481118020	Spacer
065F	1	1	1	2278114010	Stopper
066F	1	1	1	51064019A9	P.H.M. Screw
001G	1	1	1	2276160012	Bracket
003G	4	4	4	51280308B0	B.H. Tapped Screw B3 x 8
005G	2	2	2	51100306A9	B.H.M. Screw B3 x 6
006G	8	8	8	51100306A9	B.H.M. Screw B3 x 6
007G	2	2	2	51100306A9	B.H.M. Screw B3 x 6
010G	1	1	1	2276112510	Shaft
016G	2	2	2	51280314B0	B.H. Tapped Screw B3 x 14
018G	1	1	1	2276053010	Cover, Dial Lamp (R)
019G	1	1	1	2276053020	Cover, Dial Lamp (L)
020G	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
021G	2	2	2	2276118010	Spacer
031G	1	1	1	2276302014	Dial
032G	1	1	1	2276063022	Escutcheon
033G	1	1	1	2276005020	Clamper
034G	2	2	2	51280310B0	B.H. Tapped Screw B3 x 10
035G	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
036G	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
040G	1	1	1	2276005050	Clamper
043G	1	1	1	2278063030	Escutcheon
044G	1	1	1	2276005010	Clamper
045G	2	2	2	51100306A9	B.H.M. Screw B3 x 6
046G	2	2	2	53110303A9	Hexagon Nut
047G	2	2	2	54040302A0	Spring Washer

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
001i	1	1	1	2276273503	Flywheel
009i	1	1	1	2276160020	Bracket
010i	2	2	2	51100306A9	B.H.M. Screw B3 x 6
014i	2	2	2	2259262500	Pulley
022i	1	1	1	2259262520	Pulley
027i	1	1	1	2276107010	Sheet
028i	2	2	2	2276118030	Spacer
901A			2	3926120010	Insulator
C004	1	1	1	EA47700690	Elect Cap. 470μF 6.3V
C005			1	DF17223800	Film Cap. 0.022μF ±20% 1000V
C006			1	DF17223800	Film Cap. 0.022μF ±20% 1000V
J009	1	1	1	YJ01001200	Jack, Headphone
J010	1	1	1	YJ08000190	Jack
J011	1	1	1	YJ08000190	Jack
J012	1	1	1	YJ08000190	Jack
J013	1	1	1	YJ08000190	Jack
M001	1	1	1	IM11055230	D.C. Meter, Signal
M002	1	1	1	IM11055220	D.C. Meter, Tuning
S001	1	1		SP01010240	Push Switch, Power
S001			1	SP02010330	Push Switch, Power
S002	1	1	1	SP02010340	Push Switch, Muting
V001	1	1	1	IN10080420	Lamp 0.2A 8V
V002	1	1	1	IN10080420	Lamp 0.2A 8V
V003	1	1	1	IN10080420	Lamp 0.2A 8V
V004	1	1	1	IN10080420	Lamp 0.2A 8V
SK51	1	1	1	SP04020240	Push Switch, Tape 1, 2
SK53	1	1	1	SP02020410	Push Switch, Speaker

7.6 [H01-99] PACKING MATERIALS



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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
002S	1			2225813010	Envelope
002S		1		2918813012	Envelope
003S			1	2818813010	Envelope
007S		1	1	9630000180	Guarantee Card
008S		1		9650000053	S. Station Card
009S	1			2818854024	Guarantee Card
010S		1		2818854042	Guarantee Card
015S	1			2276851012	Instructions
016S			1	2276851310	Instructions (M1550, ONLY)
016S			1	2468851310	Instructions (MR250, ONLY)
017S		1		2276851012	Instructions
019S	1	1		2278851020	Instructions
019S			1	2470851030	Instructions
023S		1		2886851100	Instructions
101S	1		1	2278801010	Packing Case
101S		1		2278801150	Packing Case
101S		1		2470801010	Packing Case (MR250, ONLY)
102S		2		2276809020	Cushion (M1550, ONLY)
102S		2		2276809010	Cushion (MR250, ONLY)
103S	2	2		2276809020	Cushion
019S	1			2278851122	Instructions (MR255, ONLY)
101S	1			2278801020	Packing Case (MR255, ONLY)
103S	2			2276809010	Cushion (MR255, ONLY)

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
105S	1	1	1	9014838380	Polyethy Bag
106S	1	1	1	9013025010	Polyethy Bag
108S	1	1		2864804010	Sleeve
109S			1	9560000043	Hagn Tag
110S			1	2731821010	Silicagel
111S	1	1	1	2918107130	Sheet
114S		3		9526019010	Serial No. Card
114S		3		9526019020	Serial No. Card
115S		3		9526019060	Serial No. Card
116S		2		9510901020	Label
120S	1	1	1	ZA02000070	EXT. Antenna
125S	1			2819056010	Buffer
					M1550 (U)(C)(N)
					MR250 (N), ONLY
					MR255 (U), ONLY

7.7 ELECTRICAL PARTS

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
P100	1	1	1	YG22590012	M1550, ONLY
				ZZ22590010	P100-TUNER CIRCUIT BOARD
				ZZ22788010	P.W. Board, Tuner
P100			1		P.W. Board Assembly
P100			1	YG22590012	MR250, ONLY
				ZZ24708010	P100-TUNER CIRCUIT BOARD
					P.W. Board, Tuner
					P.W. Board Assembly
C101	1	1	1	DD11070370	P100-CAPACITORS
C102	1	1	1	DK16102300	Ceramic 7pF ±0.5pF
C104	1	1	1	DK17103300	Ceramic 0.001μF ±10%
C105	1	1	1	DD15180370	Ceramic 0.01μF ±20%
C106	1	1	1	DD10030370	Ceramic 18pF ±5%
C107	1	1	1	DD10050370	Ceramic 3pF ±0.5pF
C108	1	1	1	DD15301360	Ceramic 5pF ±0.25pF
C109	1	1	1	DK17103300	Ceramic 300pF ±5%
C110	1	1	1	DD15200330	Ceramic 0.01μF ±20%
C111	1	1	1	DD11100300	Ceramic 20pF ±5%
C112	1	1	1	DD15150300	Ceramic 10pF ±0.5pF
C113	1	1	1	DD15150300	Ceramic 15pF ±5%
C114	1	1	1	DK17103300	Ceramic 15pF ±5%
C115	1	1	1	DD10020370	Ceramic 0.01μF ±20%
C116	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C117	1	1	1	DK17103300	Ceramic 2pF ±0.25pF
C118	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C119	1	1	1	CT11000080	Ceramic 0.01μF ±20%
C120	1	1	1	CA32400090	Ceramic 0.01μF ±20%
C122	1	1	1	DD11100370	Trimming 10pF ±0.5pF
					Variable C752J
C151	1	1	1	DF55361090	Ceramic 10pF ±0.5pF
C152	1	1	1	DD10050370	Film 360pF ±5%
C153	1	1	1	EA10701690	Ceramic 5pF ±0.25pF
C154	1	1	1	DK18403320	Elect 100μF 16V
C155	1	1	1	EA33601690	Ceramic 0.04μF +80% -20%
C156	1	1	1	DK18223310	Elect 33μF 16V
C157	1	1	1	DD15820370	Ceramic 0.022μF +80% -20%
C201	1	1	1	DK17103300	Ceramic 82pF ±5%
C202	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C203	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C204	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C205	1	1	1	DK18403320	Ceramic 0.04μF +80% -20%
C206	1	1	1	DK18403320	Ceramic 0.04μF +80% -20%
C207	1	1	1	DK18403320	Ceramic 0.04μF +80% -20%
C208	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C209	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C210	1	1	1	DD15201360	Ceramic 200pF ±5%
C211	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C212	1	1	1	DK18403320	Ceramic 0.04μF +80% -20%
C213	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C214	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C215	1	1	1	EA33502590	Elect 3.3μF 25V
C216	1	1	1	DK18223310	Ceramic 0.022μF +80% -20%
C217	1	1	1	EA47503590	Elect 4.7μF 35V
C218	1	1	1	EA22701690	Elect 220μF 16V
C219	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C220	1	1	1	DK8104020	Ceramic 0.1μF ±20%

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
C221	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C222	1	1	1	EA10505090	Elect 1μF 50V
C223	1	1	1	EA47405090	Elect 0.047μF 50V
C224	1	1	1	EA10601690	Elect 10μF 16V
C225	1	1	1	DF15182300	Film 1800pF ±5%
C226	1	1	1	EA10601690	Elect 10μF 16V
C227	1	1	1	EA10505090	Elect 1μF 50V
C228	1	1	1	DK18403320	Ceramic 0.04μF +80% -20%
C229	1	1	1	DF55102090	Film 1000pF ±5%
C230	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C231	1	1	1	EA10601690	Elect 10μF 16V
C233	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C234	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C235	1	1	1	EA22701690	Elect 220μF 16V
C301	1	1	1	EE10505050	Elect 1μF 50V
C302	1	1	1	EE10505050	Elect 1μF 50V
C303	1	1	1	DF15332300	Film 0.0033μF ±5%
C304	1	1	1	DF15332300	Film 0.0033μF ±5%
C305	1	1	1	EA22502590	Elect 2.2μF 25V
C306	1	1	1	EA22502590	Elect 2.2μF 25V
C307	1	1	1	EE47502590	Elect 4.7μF 25V
C308	1	1	1	EE47502590	Elect 4.7μF 25V
C309	1	1	1	EA10701690	Elect 100μF 16V
C310	1	1	1	EA47405090	Elect 0.47μF 50V
C311	1	1	1	EE10505050	Elect 1μF 50V
C312	1	1	1	EE10405050	Elect 0.1μF 50V
C313	1	1	1	EA10505090	Elect 1μF 50V
C314	1	1	1	EA22601690	Elect 22μF 16V
C315	1	1	1	EA10601690	Elect 10μF 16V
R101	1	1	1	GD05105140	P100-RESISTORS (All Resistors are ±5% and ¼W) 1MΩ
R102	1	1	1	GD05101140	100Ω
R103	1	1	1	GD05101140	100Ω
R104	1	1	1	GD05472140	4.7KΩ
R105	1	1	1	GD05223140	22KΩ
R106	1	1	1	GD05102140	1KΩ
R107	1	1	1	GD05103140	10KΩ
R108	1	1	1	GD05103140	10KΩ
R109	1	1	1	GD05152140	1.5KΩ
R110	1	1	1	GD05101140	100Ω
R111	1	1	1	GD05273140	27KΩ
R112	1	1	1	GG05101140	100Ω
R113	1	1	1	GD05221140	220Ω
R114	1	1	1	GD05104140	100KΩ
R151	1	1	1	GD05202140	2KΩ
R201	1	1	1	GD05151140	150Ω
R202	1	1	1	GD05272140	2.7KΩ
R203	1	1	1	GD05153140	15KΩ
R204	1	1	1	GD05471140	470Ω
R205	1	1	1	GD05331140	330Ω
R206	1	1	1	GD05331140	330Ω
R207	1	1	1	GD05272140	2.7KΩ
R208	1	1	1	GD05153140	15KΩ
R209	1	1	1	GD05471140	470Ω
R210	1	1	1	GD05331140	330Ω

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION	
	U	C	N			
R211	1	1	1	GD05331140	330Ω	
R212	1	1	1	GD05151140	150Ω	
R213	1	1	1	GD05472140	4.7KΩ	
R214	1	1	1	GD05103140	10KΩ	
R215	1	1	1	GD05102140	1KΩ	
R216	1	1	1	GD05202140	2KΩ	
R217	1	1	1	GD05563140	56KΩ	
R218	1	1	1	GD05333140	33KΩ	
R219	1	1	1	GD05224140	220KΩ	
R220	1	1	1	GD05470140	47Ω	
R221	1	1	1	GD05470140	47Ω	
R222	1	1	1	GD05221140	220Ω	
R223	1	1	1	GD05391140	390Ω	
R224	1	1	1	GD05562140	5.6KΩ	
R225	1	1	1	GD05332140	3.3KΩ	
R226	1	1	1	GD05823140	82KΩ	
R227	1	1	1	GD05333140	33KΩ	
R228	1	1	1	RA02030060	Trimming	20KΩ
R229	1	1	1	GD05472140	4.7KΩ	
R230	1	1	1	GD05822140	8.2KΩ	
R231	1	1	1	GD05391140	390Ω	
R232	1	1	1	RA03020030	Trimming	3KΩ (B)
R233	1	1	1	RA05020160	Trimming	5KΩ
R235	1	1	1	GD05473140	47KΩ	
R236	1	1	1	GD05151140	150Ω	
R237	1	1	1	GD05821140	820Ω	
R237	1	1	1	GD05561140	560Ω	
R238	1	1	1	GD05563140	56KΩ	
R239	1	1	1	GD05104140	100KΩ	
R240	1	1	1	GD05104140	100KΩ	
R241	1	1	1	GD05152140	1.5KΩ	
R242	1	1	1	GD05473140	47KΩ	
R243	1	1	1	GD05104140	100KΩ	
R244	1	1	1	GD05153140	15KΩ	
R245	1	1	1	GD05153140	15KΩ	
R246	1	1	1	GD05104140	100KΩ	
R248	1	1	1	GD05222140	2.2KΩ	
R249	1	1	1	GG05100140	10Ω	
R250	1	1	1	GD05123140	12KΩ	
R251	1	1	1	GD05244140	240KΩ	
R252	1	1	1	GD05104140	100KΩ	
R255	1	1	1	GD05100140	10Ω	
R256	1	1	1	GD05153140	15KΩ	
R257	1	1	1	GD05103140	10KΩ	
R258	1	1	1	GD05271140	270Ω	
R301	1	1	1	GD05472140	2.7KΩ	
R302	1	1	1	GD05472140	2.7KΩ	
R303	1	1	1	GD05472140	2.7KΩ	
R304	1	1	1	GD05472140	2.7KΩ	
R305	1	1	1	GD05303140	30KΩ	
R305	1	1	1	GD05183140	18KΩ	
R306	1	1	1	GD05303140	30KΩ	
R306	1	1	1	GD05183140	18KΩ	
R307	1	1	1	GD05105140	1MΩ	
R308	1	1	1	GD05105140	1MΩ	

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION	
	U	C	N			
R309	1	1	1	GD05204140	200KΩ	
R309	1	1	1	GD05154140	150KΩ	
R310	1	1	1	GD05204140	200KΩ	
R310	1	1	1	GD05154140	150KΩ	
R311	1	1	1	GD05472140	4.7KΩ	
R312	1	1	1	GD05472140	4.7KΩ	
R313	1	1	1	GD05301140	300Ω	
R313	1	1	1	GD05241140	240Ω	
R314	1	1	1	GD05301140	300Ω	
R314	1	1	1	GD05241140	240Ω	
R315	1	1	1	GD05102140	1KΩ	
R316	1	1	1	RA01030260	Trimming	10KΩ
R317	1	1	1	GD05473140	47KΩ	
R318	1	1	1	GD05473140	47KΩ	
R319	1	1	1	GD05101140	100Ω	
R320	1	1	1	GD05101140	100Ω	
R321	1	1	1	GD05101140	100Ω	
R322	1	1	1	GD05104140	100KΩ	
R323	1	1	1	GD05333140	33KΩ	
R325	1	1	1	GD05562140	5.6KΩ	
R326	1	1	1	RA04720050	Trimming	4.7KΩ (B)
R327	1	1	1	GD05103140	10KΩ	
R328	1	1	1	GD05102140	1KΩ	
R329	1	1	1	GD05102140	1KΩ	
R330	1	1	1	GD05103140	10KΩ	
R331	1	1	1	GD05101140	100Ω	
R332	1	1	1	GD05103140	10KΩ	
R333	1	1	1	GD05104140	100KΩ	
R334	1	1	1	GD05104140	100KΩ	
Q101	1	1	1	HF400451B0	F.E.T.	3SK45 (B)
Q102	1	1	1	HT305352B0	Transistor	2SC535 (B or C)
Q013	1	1	1	HT308291C0	Transistor	2SC829 (C)
Q151	1	1	1	HD20001210	Diode	1S2473C
Q152	1	1	1	HD20001210	Diode	1S2473C
Q201	1	1	1	HT308291C0	Transistor	2SC829 (C)
Q202	1	1	1	HT308291C0	Transistor	2SC829 (C)
Q203	1	1	1	HT308291C0	Transistor	2SC829 (C)
Q204	1	1	1	HD10003020	Diode	20A90M
Q205	1	1	1	HD10003020	Diode	20A90M
Q206	1	1	1	HC10009020	IC	AN7000
Q207	1	1	1	HT308291C0	Transistor	2SC829 (C)
Q208	1	1	1	HD10003020	Diode	20A90M
Q209	1	1	1	HD20001210	Diode	1S2473C
Q210	1	1	1	HT308281D0	Transistor	2SC828 (S)
Q211	1	1	1	HT308281D0	Transistor	2SC828 (S)
Q212	1	1	1	HT107222A0	Transistor	2SA722 (S or T)
Q214	1	1	1	HD10003020	Diode	20A90M
Q301	1	1	1	HT308281D0	Transistor	2SC828 (S)
Q302	1	1	1	HT308281D0	Transistor	2SC828 (S)
Q303	1	1	1	HT308281D0	Transistor	2SC828 (S)
Q304	1	1	1	HT308281D0	Transistor	2SC828 (S)
Q305	1	1	1	HT107222A0	Transistor	2SA722 (S or T)
Q307	1	1	1	HD20001210	Diode	1S2473C
Q308	1	1	1	HD30023090	Zener	WZ-071

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
P100-MISCELLANEOUS					
F151	1	1	1	FF10045180	Ceramic Filter AM
F201	1	1	1	FF11070050	Ceramic Filter FM SFE10.7MD1
F202	1	1	1	FF11070050	Ceramic Filter FM SFE10.7MD1
F203	1	1	1	FF11070050	Ceramic Filter FM SFE10.7MD1
L101	1	1	1	LA12028040	Ant. Coil FM
L102	1	1	1	LA12028050	Ant. Coil FM
L103	1	1	1	LO12036010	OSC Coil FM
L104	1	1	1	LI10016010	I.F.T. FM
L105	1	1	1	LC13320020	Choke Coil 3.3 μ H
L106	1	1	1	LC17510010	Choke Coil 0.75 μ H
L151	1	1	1	LC13320020	Choke Coil 3.3 μ H
L152	1	1	1	LC13320020	Choke Coil 3.3 μ H
L153	1	1	1	LO10013150	OSC Coil AM
L154	1	1	1	LI10013200	I.F.T. AM
L201	1	1	1	LI14016240	I.F.T. FM Det
L202	1	1	1	LC11830020	Choke Coil 18 μ H
L203	1	1	1	LC23960020	Choke Coil 39mH
L204	1	1	1	LC12250030	Choke Coil 2200 μ H
L205	1	1	1	LC11030020	Choke Coil 10 μ H
L301	1	1	1	LS20013010	M.P.X. Coil
L302	1	1	1	LS20013010	M.P.X. Coil
P400-PHONO CIRCUIT BOARD					
P400	1	1	1	YG22780010	P.W. Board, Phono
	1	1	1	ZZ22780010	P.W. Board Assembly
P400-CAPACITORS					
CV01	1	1	1	DK17103300	Ceramic 0.01 μ F \pm 20%
CV02	1	1	1	DK17103300	Ceramic 0.01 μ F \pm 20%
C401	1	1	1	EE33502550	Elect 3.3 μ F 25V
C402	1	1	1	EE33502550	Elect 3.3 μ F 25V
C403	1	1	1	DD15470360	Ceramic 47pF \pm 5%
C404	1	1	1	DD15470360	Ceramic 47pF \pm 5%
C405	1	1	1	EA10701090	Elect 100 μ F 10V
C406	1	1	1	EA10701090	Elect 100 μ F 10V
C407	1	1	1	DK16221300	Ceramic 220pF \pm 10%
C408	1	1	1	DK16221300	Ceramic 220pF \pm 10%
C409	1	1	1	DF15123300	Film 0.012 μ F \pm 5%
C410	1	1	1	DF15123300	Film 0.012 μ F \pm 5%
C411	1	1	1	DF15332300	Film 3300pF \pm 5%
C412	1	1	1	DF15332300	Film 3300pF \pm 5%
C313	1	1	1	EA10505090	Elect 1 μ F 50V
C414	1	1	1	EA10705090	Elect 100 μ F 50V
C415	1	1	1	EA10505090	Elect 1 μ F 50V
C416	1	1	1	EA10505090	Elect 1 μ F 50V
C417	1	1	1	DD15220360	Ceramic 22pF \pm 5%
C418	1	1	1	DD15220360	Ceramic 22pF \pm 5%
C419	1	1	1	DK16332300	Ceramic 0.0033 μ F \pm 10%
C420	1	1	1	DK16332300	Ceramic 0.0033 μ F \pm 10%
CM01	1	1	1	EA47605090	Elect 47 μ F 50V
CM02	1	1	1	EA10701090	Elect 100 μ F 10V
CM04	1	1	1	DK17103300	Ceramic 0.01 μ F \pm 20%

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
P400-RESISTORS (All Resistors are \pm 5% and $\frac{1}{4}$ W)					
RV01	1	1	1	GA05561010	560 Ω 1W
RV02	1	1	1	GD05152140	1.5K Ω
RV03	1	1	1	GD05272140	2.7K Ω
RV04	1	1	1	GD05332140	3.3K Ω
RV05	1	1	1	GD05332140	3.3K Ω
R401	1	1	1	GD05623140	62K Ω
R402	1	1	1	GD05623140	62K Ω
R403	1	1	1	GD05182140	1.8K Ω
R404	1	1	1	GD05182140	1.8K Ω
R405	1	1	1	GD05184140	180K Ω
R406	1	1	1	GD05184140	180K Ω
R407	1	1	1	GD05471140	470 Ω
R408	1	1	1	GD05471140	470 Ω
R409	1	1	1	GD05274140	270K Ω
R410	1	1	1	GD05274140	270K Ω
R411	1	1	1	GD05274140	270K Ω
R412	1	1	1	GD05274140	270K Ω
R413	1	1	1	GD05223140	22K Ω
R414	1	1	1	GD05223140	22K Ω
R415	1	1	1	GD05681140	680 Ω
R416	1	1	1	GD05681140	680 Ω
R417	1	1	1	GD05223140	22K Ω
R418	1	1	1	GD05223140	22K Ω
R419	1	1	1	GD05224140	220K Ω
R420	1	1	1	GD05224140	220K Ω
R421	1	1	1	GD05151140	150 Ω
R422	1	1	1	GD05151140	150 Ω
R423	1	1	1	GD05184140	180K Ω
R424	1	1	1	GD05221140	220 Ω
RM01	1	1	1	GD05333140	33K Ω
RM02	1	1	1	GD05103140	10K Ω
RM03	1	1	1	GD05474140	470K Ω
RM04	1	1	1	GD05100140	10 Ω
RM05	1	1	1	GD05273140	27K Ω
RM06	1	1	1	GD05101140	100 Ω
RM07	1	1	1	GD05153140	15K Ω
P400-SEMICONDUCTORS					
Q401	1	1	1	HC10012060	IC μ PC1024H
Q402	1	1	1	HC10012060	IC μ PC1024H
QM01	1	1	1	HD20011050	Diode 1S1555
QM02	1	1	1	HT309452A0	Transistor 2SC945 (Q or R)
QM03	1	1	1	HT309452A0	Transistor 2SC945 (Q or R)
P400-MISCELLANEOUS					
JV01	1	1	1	YT02040260	Terminal, Phono Aux
JV02	1	1	1	YT02040260	Terminal, Tape I
SV01	1	1	1	SR10060180	Rotary Switch
SK51	1	1	1	SP04020240	Push Switch, Tape 1.2

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
P700	1	1	1	YG22780020	P700-MAIN AMP./POWER SUPPLY CIRCUIT BOARD P.W. Board, Main Amp./ Power Supply
	1	1		ZZ22780020	P.W. Board Assembly
			1	ZZ22788020	P.W. Board Assembly
P700-CAPACITORS					
C701	1	1	1	EE33502550	Elect 3.3 μ F 25V
C702	1	1	1	EE33502550	Elect 3.3 μ F 25V
C703	1	1	1	DD15471370	Ceramic 470pF \pm 10%
C704	1	1	1	DD15471370	Ceramic 470pF \pm 10%
C705	1	1	1	EE47601650	Elect 47 μ F 16V
C706	1	1	1	EE47601650	Elect 47 μ F 16V
C707	1	1	1	DD11050500	Ceramic 5pF \pm 0.5pF
C708	1	1	1	DD11050500	Ceramic 5pF \pm 0.5pF
C709	1	1	1	EA47605090	Elect 47 μ F 50V
C710	1	1	1	EA47605090	Elect 47 μ F 50V
C711	1	1	1	DF16103300	Film 0.01 μ F \pm 10%
C712	1	1	1	DF16103300	Film 0.01 μ F \pm 10%
C713	1	1	1	DF16103300	Film 0.01 μ F \pm 10%
C714	1	1	1	DF16103300	Film 0.01 μ F \pm 10%
C719	1	1	1	DD15500500	Ceramic 50pF \pm 5% 500V
C720	1	1	1	DD15500500	Ceramic 50pF \pm 5% 500V
C721	1	1	1	DD15500500	Ceramic 50pF \pm 5% 500V
C722	1	1	1	DD15500500	Ceramic 50pF \pm 5% 500V
C723	1	1	1	DF17104520	Film 0.1 μ F \pm 20% 200V
C724	1	1	1	DF17104520	Film 0.1 μ F \pm 20% 200V
C725	1	1	1	EA22705090	Elect 220 μ F 50V
C726	1	1	1	EA47601690	Elect 47 μ F 16V
C727	1	1	1	EA33701090	Elect 330 μ F 10V
C728	1	1	1	EA10605090	Elect 10 μ F 50V
C729	1	1	1	EA47601090	Elect 47 μ F 10V
C801	1	1	1	DK18103510	Ceramic 0.01 μ F \pm 20% 500V
C802	1	1	1	EA47706310	Elect 470 μ F 63V
C803	1	1	1	EA10706310	Elect 100 μ F 63V
C804	1	1	1	EA33605090	Elect 33 μ F 63V
C805	1	1	1	DF17473300	Film 0.047 μ F \pm 20%
C806	1	1	1	EA10701690	Elect 100 μ F 16V
C807	1	1	1	EA10603590	Elect 10 μ F 35V
C808	1	1	1	DK18103510	Ceramic 0.01 μ F +100% -0
C809	1	1	1	DK17103300	Ceramic 0.01 μ F \pm 20%
C810	1	1	1	EQ10601610	Elect 10 μ F 16V
P700-RESISTORS (All Resistors are \pm 5% and $\frac{1}{4}$ W)					
RU01	1	1	1	GA05331020	330 Ω 2W
RU02	1	1	1	GA05331020	330 Ω 2W
RU03	1	1	1	GA05151010	150 Ω 1W
RU04	1	1	1	GA05151010	150 Ω 1W
R701	1	1	1	GD05102140	1K Ω
R702	1	1	1	GD05102140	1K Ω
R703	1	1	1	GD05303140	30K Ω
R704	1	1	1	GD05303140	30K Ω
R705	1	1	1	GD05682140	6.8K Ω
R706	1	1	1	GD05682140	6.8K Ω
R707	1	1	1	GD05102140	1K Ω
R708	1	1	1	GD05102140	1K Ω
R709	1	1	1	GD05103140	10K Ω
R710	1	1	1	GD05103140	10K Ω

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
R711	1	1	1	RA05020200	Trimming 5K Ω (B)
R712	1	1	1	RA05020200	Trimming 5K Ω (B)
R713	1	1	1	GD05472140	4.7K Ω
R714	1	1	1	GD05472140	4.7K Ω
R715	1	1	1	GD05224140	220K Ω
R716	1	1	1	GD05224140	220K Ω
R717	1	1	1	GD05242140	2.4K Ω
R718	1	1	1	GD05242140	2.4K Ω
R719	1	1	1	GD05303140	30K Ω
R720	1	1	1	GD05303140	30K Ω
R721	1	1	1	GG05330140	33 Ω
R722	1	1	1	GG05330140	33 Ω
R723	1	1	1	GD05242140	2.4K Ω
R724	1	1	1	GD05242140	2.4K Ω
R725	1	1	1	GD05472140	4.7K Ω
R726	1	1	1	GD05472140	4.7K Ω
R727	1	1	1	GD05152140	1.5K Ω
R728	1	1	1	GG05220120	22 Ω $\frac{1}{2}$ W
R729	1	1	1	GD05823140	82K Ω
R730	1	1	1	GD05823140	82K Ω
R731	1	1	1	RA01020210	Trimming 1K Ω (B)
R732	1	1	1	RA01020210	Trimming 1K Ω (B)
R733	1	1	1	GG05201140	200 Ω
R734	1	1	1	GG05201140	200 Ω
R739	1	1	1	GG05911140	910 Ω
R740	1	1	1	GG05911140	910 Ω
R741	1	1	1	GG05132140	1.3K Ω
R742	1	1	1	GG05132140	1.3K Ω
R743	1	1	1	GG05561140	560 Ω
R744	1	1	1	GG05561140	560 Ω
R745	1	1	1	GG05561140	560 Ω
R746	1	1	1	GG05561140	560 Ω
R747	1	1	1	GG05562140	5.6K Ω
R748	1	1	1	GG05562140	5.6K Ω
R749	1	1	1	GG05562140	5.6K Ω
R750	1	1	1	GG05562140	5.6K Ω
R751	1	1	1	GG05243140	24K Ω
R752	1	1	1	GG05243140	24K Ω
R755	1	1	1	GG05101140	100 Ω
R756	1	1	1	GG05101140	100 Ω
R757	1	1	1	GG05101140	100 Ω
R758	1	1	1	GG05101140	100 Ω
R759	1	1	1	GA05100020	10 Ω 2W
R760	1	1	1	GA05100020	10 Ω 2W
R761	1	1	1	GN10392050	0.39 Ω \pm 10% 5W
R762	1	1	1	GN10392050	0.39 Ω \pm 10% 5W
R763	1	1	1	GN10392050	0.39 Ω \pm 10% 5W
R764	1	1	1	GN10392050	0.39 Ω \pm 10% 5W
R765	1	1	1	GG05100140	10 Ω
R766	1	1	1	GG05100140	10 Ω
R767	1	1	1	GG05100140	10 Ω
R768	1	1	1	GG05100140	10 Ω
R769	1	1	1	RC10022120	2.2 Ω \pm 10% $\frac{1}{2}$ W
R770	1	1	1	RC10022120	2.2 Ω \pm 10% $\frac{1}{2}$ W
R771	1	1	1	RC10562120	5.6K Ω \pm 10% $\frac{1}{2}$ W

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
R772	1	1	1	RC10562120	5.6KΩ ±10% ½W
R773	1	1	1	GD05123140	12KΩ
R774	1	1	1	GD05183140	18KΩ
R775	1	1	1	GD05822140	8.2KΩ
R776	1	1	1	GD05223140	22KΩ
R777	1	1	1	GD05164140	160KΩ
R801	1	1	1	GP05201050	200Ω 5W
R802	1	1	1	GG05220120	22Ω ½W
R803	1	1	1	GG05152140	1.5KΩ
R804	1	1	1	GG05152140	1.5KΩ
R805	1	1	1	GD05392140	3.9KΩ
R806	1	1	1	GD05223140	22KΩ
R807	1	1	1	GD05163140	16KΩ
R808	1	1	1	GD05242140	2.4KΩ
P700-SEMICONDUCTORS					
Q701	1	1	1	HT110391E0	Transistor 2SA1039 (E)
Q702	1	1	1	HT110391E0	Transistor 2SA1039 (E)
Q703	1	1	1	HT110391E0	Transistor 2SA1039 (E)
Q704	1	1	1	HT110391E0	Transistor 2SA1039 (E)
Q705	1	1	1	HT318853B0	Transistor 2SC1885 (Q, R or S)
Q706	1	1	1	HT318853B0	Transistor 2SC1885 (Q, R or S)
Q707	1	1	1	HT404152B0	Transistor 2SD415 (Q or R)
Q708	1	1	1	HT404152B0	Transistor 2SD415 (Q or R)
Q709	1	1	1	HT205492B0	Transistor 2SB549 (Q or R)
Q710	1	1	1	HT205492B0	Transistor 2SB549 (Q or R)
Q711	1	1	1	HT307351C0	Transistor 2SC735 (Y)
Q712	1	1	1	HT307351C0	Transistor 2SC735 (Y)
Q713	1	1	1	HT105621C0	Transistor 2SA562 (Y)
Q714	1	1	1	HT105621C0	Transistor 2SA562 (Y)
Q715	1	1	1	HV00003120	Varistor MV-13
Q716	1	1	1	HV00003120	Varistor MV-13
Q717	1	1	1	HV00003120	Varistor MV-13
Q718	1	1	1	HV00003120	Varistor MV-13
Q719	1	1	1	HD20002210	Diode 1S2472 (GR)
Q720	1	1	1	HD20002210	Diode 1S2472 (GR)
Q721	1	1	1	HD20002210	Diode 1S2472 (GR)
Q722	1	1	1	HD20002210	Diode 1S2472 (GR)
Q723	1	1	1	HD20002210	Diode 1S2472 (GR)
Q724	1	1	1	HD20002210	Diode 1S2472 (GR)
Q725	1	1	1	HD20002210	Diode 1S2472 (GR)
Q726	1	1	1	HD20002210	Diode 1S2472 (GR)
Q731	1	1	1	HH00003030	Thermistor STD-04
Q732	1	1	1	HH00003030	Thermistor STD-04
Q733	1	1	1	HD20005010	Diode W06B
Q734	1	1	1	HD20005010	Diode W06B
Q735	1	1	1	HD20005010	Diode W06B
Q736	1	1	1	HD20005010	Diode W06B
Q737	1	1	1	HT309452A0	Transistor 2SC945 (Q or R)
Q738	1	1	1	HT309452A0	Transistor 2SC945 (Q or R)
Q739	1	1	1	HT313182C0	Transistor 2SC1318 (R or S)
Q740	1	1	1	HD20003210	Diode 1S2471 (BK)
Q741	1	1	1	75061001P0	Jumper (10 mm)
Q742	1	1	1	HD20002210	Diode 1S2472 (GR)
Q801	1	1	1	HD20011030	Diode DS-131B
Q802	1	1	1	HD20012030	Diode DS-132B

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
Q803	1	1	1	HT403131Q0	Transistor 2SD313 (E)
Q804	1	1	1	HT309452A0	Transistor 2SC945 (P or Q)
Q805	1	1	1	HD30027090	Zener WZ-140
Q806	1	1	1	HT406132B0	Transistor 2SD613 (D or E)
Q807	1	1	1	HD20001210	Diode 1S2473 (YE)
P700-MISCELLANEOUS					
J721	1	1	1	YJ06001860	Jack
J722	1	1	1	YJ06001860	Jack
L701	1	1	1	LC22620010	Choke Coil 2.6μH
L702	1	1	1	LC22620010	Choke Coil 2.6μH
L703	1	1	1	LY40240070	Relay
SK53	1	1	1	SP02020410	Push Switch, Speaker
F801	1	1		FS10100080	Fuse 1A 250V
F801			1	FS10100800	Fuse 1AT 250V
F802	1	1		FS10150050	Fuse 1.5A 250V
F802			1	FS10160800	Fuse 1.6AT 250V
J821					
?	4	4		YJ08000170	Jack, Fuse Holder
J824					
J821					
?			4	YJ08000270	Jack, Fuse Holder
J824					
PC00-ANTENNA CIRCUIT BOARD					
PC00	1	1	1	YH22760210	P.W. Board, Antenna
	1	1	1	ZZ22760210	P.W. Board Assembly
JC01	1	1	1	YT01040182	Terminal
LC01	1	1	1	LB30075260	Balun Coil
PE00-TONE AMP. CIRCUIT BOARD					
PE00	1	1	1	YK22780210	P.W. Board, Tone Amp.
	1	1	1	ZZ22780210	P.W. Board Assembly
PE00-CAPACITORS					
CE01	1	1	1	EE22405050	Elect 0.22μF 50V
CE02	1	1	1	EE22405050	Elect 0.22μF 50V
CE03	1	1	1	DD15151370	Ceramic 150pF ±5%
CE04	1	1	1	DD15151370	Ceramic 150pF ±5%
CE05	1	1	1	EE47502550	Elect 4.7μF 25V
CE06	1	1	1	EE47502550	Elect 4.7μF 25V
CE07	1	1	1	EA47603590	Elect 47μF 35V
CE08	1	1	1	EA47603590	Elect 47μF 35V
CE09	1	1	1	DD15101370	Ceramic 100pF ±5%
CE10	1	1	1	DD15101370	Ceramic 100pF ±5%
CE11	1	1	1	DF16222300	Film 2200pF ±10%
CE12	1	1	1	DF16222300	Film 2200pF ±10%
CE13	1	1	1	DF16472300	Film 4700pF ±10%
CE14	1	1	1	DF16472300	Film 4700pF ±10%
CE15	1	1	1	DF16223300	Film 0.022μF ±10%
CE16	1	1	1	DF16223300	Film 0.022μF ±10%
CE17	1	1	1	DF16223300	Film 0.022μF ±10%
CE18	1	1	1	DF16223300	Film 0.022μF ±10%
CE19	1	1	1	DF16822300	Film 8200pF ±10%
CE20	1	1	1	DF16822300	Film 8200pF ±10%

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
CE21	1	1	1	EE10505050	Elect 1 μ F 50V
CE22	1	1	1	EE10505050	Elect 1 μ F 50V
CE23	1	1	1	DD11100370	Ceramic 10pF \pm 0.5pF
CE24	1	1	1	DD11100370	Ceramic 10pF \pm 0.5pF
CE25	1	1	1	EE33505050	Elect 3.3 μ F 50V
CE26	1	1	1	EE33505050	Elect 3.3 μ F 50V
CE27	1	1	1	EE10505050	Elect 1 μ F 50V
CE28	1	1	1	EE10505050	Elect 1 μ F 50V
CE31	1	1	1	EA22705090	Elect 220 μ F 50V
PE00-RESISTORS (All Resistors are \pm 5% and $\frac{1}{4}$ W)					
RE01	1	1	1	GD05332140	3.3K Ω
RE02	1	1	1	GD05332140	3.3K Ω
RE03	1	1	1	RK02040072	Variable 200K Ω (B)
RE04	1	1	1	RM01040200	Variable 100K Ω (B)
RE05	1	1	1	GD05474140	470K Ω
RE06	1	1	1	GD05474140	470K Ω
RE07	1	1	1	GD05102140	1K Ω
RE08	1	1	1	GD05102140	1K Ω
RE09	1	1	1	GD05105140	1M Ω
RE10	1	1	1	GD05105140	1M Ω
RE11	1	1	1	GD05103140	10K Ω
RE12	1	1	1	GD05104140	100K Ω
RE13	1	1	1	GD05102140	1K Ω
RE14	1	1	1	GD05102140	1K Ω
RE15	1	1	1	GD05183140	18K Ω
RE16	1	1	1	GD05183140	18K Ω
RE17	1	1	1	GD05912140	9.1K Ω
RE18	1	1	1	GD05912140	9.1K Ω
RE19	1	1	1	GD05474140	470K Ω
RE20	1	1	1	GD05474140	470K Ω
RE21	1	1	1	GD05102140	1K Ω
RE22	1	1	1	GD05102140	1K Ω
RE23	1	1	1	GD05682140	6.8K Ω
RE24	1	1	1	GD05682140	6.8K Ω
RE25	1	1	1	GD05113140	11K Ω
RE26	1	1	1	GD05113140	11K Ω
RE27	1	1	1	GD05562140	5.6K Ω
RE28	1	1	1	GD05562140	5.6K Ω
RE29	1	1	1	GD05752140	7.5K Ω
RE30	1	1	1	GD05752140	7.5K Ω
RE31	1	1	1	GD05273140	27K Ω
RE32	1	1	1	GD05273140	27K Ω
RE33	1	1	1	GD05123140	12K Ω
RE34	1	1	1	GD05123140	12K Ω
RE35	1	1	1	GD05153140	15K Ω
RE36	1	1	1	GD05153140	15K Ω
RE37	1	1	1	GD05274140	270K Ω
RE38	1	1	1	GD05274140	270K Ω
RE39	1	1	1	GD05273140	27K Ω
RE40	1	1	1	GD05273140	27K Ω

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
RE41	1	1	1	GD05683140	68K Ω
RE42	1	1	1	GD05683140	68K Ω
RE43	1	1	1	GD05225140	2.2M Ω
RE44	1	1	1	GD05225140	2.2M Ω
RE45	1	1	1	GD05271140	270 Ω
RE46	1	1	1	GD05271140	270 Ω
RE47	1	1	1	GD05123140	12K Ω
RE48	1	1	1	GD05123140	12K Ω
RE49	1	1	1	GD05103140	10K Ω
RE50	1	1	1	GD05103140	10K Ω
RE51	1	1	1	GD05473140	47K Ω
RE52	1	1	1	GD05473140	47K Ω
RE53	1	1	1	RM01040210	Variable 100K Ω (B)
RE54	1	1	1	RM01040210	Variable 100K Ω (B)
RE55	1	1	1	RM01040210	Variable 100K Ω (B)
RE56	1	1	1	GG05221140	220 Ω
RE57	1	1	1	GD05274140	270K Ω
RE58	1	1	1	GD05274140	270K Ω
PE00-SEMICONDUCTORS					
QE01	1	1	1	HT316812A0	Transistor 2SC1681 (GR, BL)
QE02	1	1	1	HT316812A0	Transistor 2SC1681 (GR, BL)
QE03	1	1	1	HT108412A0	Transistor 2SA841 (GR, BL)
QE04	1	1	1	HT108412A0	Transistor 2SA841 (GR, BL)
QE05	1	1	1	HT316812A0	Transistor 2SC1681 (GR, BL)
QE06	1	1	1	HT316812A0	Transistor 2SC1681 (GR, BL)
QE07	1	1	1	HT108412A0	Transistor 2SA841 (GR, BL)
QE08	1	1	1	HT108412A0	Transistor 2SA841 (GR, BL)
PE00-MISCELLANEOUS					
JE01	1	1	1	YU05130010	Jumper Lead (5P)
PN01-POWER TRANSISTOR CIRCUIT BOARD					
PN01	1	1	1	YH22781210	P.W. Board, Power Transistor
	1	1	1	ZZ22781210	P.W. Board Assembly
PN01-RESISTORS					
RN01	1	1	1	GD05471140	470 Ω \pm 5% $\frac{1}{4}$ W
RN02	1	1	1	GD05471140	470 Ω \pm 5% $\frac{1}{4}$ W
PN01-SEMICONDUCTORS					
QN01	1	1	1	HT407382B0	Transistor 2SD738 (B or C)
QN02	1	1	1	HT407382B0	Transistor 2SD738 (B or C)
QN03	1	1	1	HT207022B0	Transistor 2SB702 (B or C)
QN04	1	1	1	HT207022B0	Transistor 2SB702 (B or C)
QN05	1	1	1	HV00005080	Varistor STV-3H (Y)
QN06	1	1	1	HV00005080	Varistor STV-3H (Y)
PN01-PLUG					
JN01	1	1	1	YP06001590	Plug
JN02	1	1	1	YP06001590	Plug

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
PP01	1			YF22780010	PP01-FUSE CIRCUIT BOARD P.W. Board, Fuse
	1			ZZ22781010	P.W. Board Assembly
PP01		1		YF22780022	M1550, ONLY P.W. Board, Fuse
		1		ZZ22788120	P.W. Board Assembly
PP01		1		YF22780022	MR250, ONLY P.W. Board, Fuse
		1		ZZ22780020	P.W. Board Assembly
FP01	1			FS10800900	Fuse 8A 125V
FP01	1	1		FS10500800	Fuse 5AT 250V
FP02	1			FS10800900	Fuse 8A 125V
FP02	1	1		FS10500800	Fuse 5AT 250V
JP05 JP08	4	4		YJ08000200	PP01-JACK Jack, Fuse Holder
PS00	1	1	1	YK22780410	PS00-FILTER SWITCH CIRCUIT BOARD P.W. Board, Filter Switch
	1	1	1	ZZ22780410	P.W. Board Assembly
CS01 CS02 CS03 CS04 CS05 CS06 CS07 CS08 CS09 CS10	1	1	1	DF15104300	PS00-CAPACITORS Film 0.1 μ F \pm 5%
	1	1	1	DF15104300	Film 0.1 μ F \pm 5%
	1	1	1	DF15104300	Film 0.1 μ F \pm 5%
	1	1	1	DF15104300	Film 0.1 μ F \pm 5%
	1	1	1	DF15272300	Film 0.0027 μ F \pm 5%
	1	1	1	DF15272300	Film 0.0027 μ F \pm 5%
	1	1	1	DF15152300	Film 0.0015 μ F \pm 5%
	1	1	1	DF15152300	Film 0.0015 μ F \pm 5%
	1	1	1	EE47405050	Elect 0.47 μ F 50V
	1	1	1	EE47405050	Elect 0.47 μ F 50V
CS11 CS12 CS14 CS15 CS16 CS17 CS18 CS19	1	1	1	EE47505050	Elect 4.7 μ F 50V
	1	1	1	EE47505050	Elect 4.7 μ F 50V
	1	1	1	DD15561370	Ceramic 560pF \pm 5%
	1	1	1	DD15561370	Ceramic 560pF \pm 5%
	1	1	1	DF15683300	Film 0.068 μ F \pm 5%
	1	1	1	DF15683300	Film 0.068 μ F \pm 5%
	1	1	1	DD15470360	Ceramic 47pF \pm 5%
	1	1	1	DD15470360	Ceramic 47pF \pm 5%

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
RS01 RS02 RS03 RS04 RS05 RS06 RS07 RS08 RS09 RS10	1	1	1	GD05683140	PS00-RESISTORS (All Resistors are \pm 5% and $\frac{1}{4}$ W) 68K Ω
	1	1	1	GD05683140	68K Ω
	1	1	1	GD05184140	180K Ω
	1	1	1	GD05184140	180K Ω
	1	1	1	GD05912140	9.1K Ω
	1	1	1	GD05912140	9.1K Ω
	1	1	1	GD05912140	9.1K Ω
	1	1	1	GD05912140	9.1K Ω
	1	1	1	GD05514140	510K Ω
	1	1	1	GD05514140	510K Ω
RS11 RS12 RS13 RS14 RS15 RS16 RS17 RS18 RS20 RS21 RS22 RS23 RS24	1	1	1	GD05104140	100K Ω
	1	1	1	GD05104140	100K Ω
	1	1	1	GD05303140	30K Ω
	1	1	1	GD05303140	30K Ω
	1	1	1	GD05332140	3.3K Ω
	1	1	1	GD05332140	3.3K Ω
	1	1	1	GD05474140	470K Ω
	1	1	1	GD05474140	470K Ω
	1	1	1	GD05333140	33K Ω
	1	1	1	GD05333140	33K Ω
	1	1	1	GD05622140	6.2K Ω
	1	1	1	GD05622140	6.2K Ω
	1	1	1	GD05221140	220 Ω
QS01 QS02	1	1	1	HT317402D0	PS00-SEMICONDUCTORS Transistor 2SC1740LN (R or S)
	1	1	1	HT317402D0	Transistor 2SC1740LN (R or S)
SS01	1	1	1	SP02040060	PS00-SWITCH Push Switch
PY01	1	1	1	YH22781220	PY01-LED CIRCUIT BOARD P.W. Board, LED
	1	1	1	ZZ22781220	P.W. Board Assembly
QY01	1	1	1	HI10009020	L.E.D. Stereo Indicator
					M1550 (U)(C)(N) MR250 (N), ONLY

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

8. TECHNICAL SPECIFICATIONS [U.S.A. & CANADIAN MODELS ONLY]

AMPLIFIER SECTION:

Minimum Continuous Watts per Channel, both Channels Driven	
into 8 ohms	50 W
into 4 ohms	55 W
Power Band	
at 8 ohms	20 Hz - 20 kHz
at 4 ohms	20 Hz - 20 kHz
Total Harmonic Distortion	
at 8 ohms	0.05%
at 4 ohms	0.1%
I.M. Distortion	
(I.H.F. method, 20 Hz and 7 kHz mixed 4:1 at rated power output)	
at 8 ohms	0.05%
Damping Factor at 20 Hz	30

PREAMPLIFIER SECTION:

Phono	
Input Overload at 1 kHz	120 mV
Equivalent Input Noise, "A" weighted	2 μ V
Input Sensitivity (Input Impedance, 47 kohms)	2.8 mV
Frequency Response (RIAA, 20 Hz to 20 kHz)	\pm 0.75 dB
High Level Inputs (Aux and Tape)	
Input Sensitivity	180 mV
Input Impedance	20 kohms

AM/FM TUNER SECTION:

Sensitivity	
IHF Usable (Mono)	10.8 dBf (1.9 μ V)
IHF 50 dB Quietening	
Mono	14.5 dBf (2.9 μ V)
Stereo	37.7 dBf (42 μ V)
Distortion, Mono and (Stereo) at 65 dBf	
1000 Hz	0.2% (0.35%)
Hum and Noise at 65 dBf (1000 μ V)	
Mono	-70 dB
Capture Ratio at 65 dBf (1000 μ V)	1.0 dB
Alternate Channel Selectivity	65 dB
Spurious Response Rejection	90 dB
Image Response Rejection	50 dB
IF Rejection (Balanced)	90 dB
AM Suppression	50 dB
Stereo Separation 1000 Hz	45 dB
AM Usable Sensitivity (IHF)	20 μ V
AM Distortion (THD) at 30% Modulation	1.0%
AM Signal-to-Noise Ratio	50 dB

GENERAL:

Power Requirements	120 V AC, 60 Hz
Power Consumption at rated output, both channels operating	215 W
Idling Power (Volume Control at zero)	32 W
Dimensions	
Panel Width	17-1/4" (440 mm)
Panel Height	5-3/8" (137 mm)
Depth	14-1/16" (357 mm)

Weight

Unit alone	12 kg (26.4 lbs.)
Packed for shipment	13.5 kg (29.7 lbs.)

[EUROPEAN MODEL ONLY]

AUDIO SECTION:

POWER OUTPUT, DIN, 4 OHM, PER CHANNEL	98 W
POWER OUTPUT, FTC AMERICAN STANDARDS, 4 OHM, PER CHANNEL	55 W
TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT	0.1%
I.M. DISTORTION AT RATED POWER OUTPUT (250 Hz AND 8 kHz MIXED, AMPLITUDE RATIO 4:1)	0.1%
POWER BANDWIDTH	10 Hz ~ 40 kHz
POWER OUTPUT, DIN, 8 OHM, PER CHANNEL	64 W
POWER OUTPUT, FTC AMERICAN STANDARDS, 8 OHM, PER CHANNEL	50 W
TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT	0.05%
I.M. DISTORTION AT RATED POWER OUTPUT (250 Hz AND 8 kHz MIXED, AMPLITUDE RATIO 4:1)	0.05%
POWER BANDWIDTH	10 Hz ~ 40 kHz
	(40 Hz) (1 kHz) (12.5 kHz)
DAMPING FACTOR 8 OHM	77 77 41

Frequency Response

Phono (RIAA)	±1.0 dB
Aux (±1 dB)	18 Hz ~ 30 kHz

Signal-to-Noise Ratio

Phono	72 dB
Aux	80 dB

Input Terminals

Phono: Input Impedance	47 kohms
Input Sensitivity	2.8 mV
Overload Margin	30 dB
Aux: Input Impedance	20 kohms
Input Sensitivity	180 mV
Overload Margin	35 dB

Phono Equivalent Input Noise

Phono Dynamic Range (Ratio of input overload to equivalent input noise)	100 dB
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Channel Balance (0 to -40 dB/40 Hz ~ 16 kHz)

Phono	2.5 dB
Aux	2.0 dB

Interchannel Crosstalk

Phono 1 kHz	35 dB
Aux 1 kHz	43 dB
Tape 1 kHz	55 dB

Intersource Crosstalk (Worst Point)

1 kHz	51 dB
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Output Voltage, 1 kHz

Tape Out	500 mV
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Output Impedance, 1 kHz

Tape Out	200 ohms
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Headphone Jack Load Impedance

8 ohms

FM TUNER SECTION:

Frequency Range	87.4 ~ 109 MHz
Usable Sensitivity 40 kHz Deviation, 98 MHz	
Mono, S/N 26 dB	1.7 μV
Stereo, S/N 46 dB	48 μV
Alternate Channel Selectivity, 98 MHz ±300 kHz	36 dB
Image Response Rejection, 98 MHz	50 dB
IF Rejection, 98 MHz	100 dB
Spurious Response Rejection, 98 MHz	110 dB
AM Suppression, 98 MHz	52 dB

Signal-to-Noise Ratio, 98 MHz	
Unweighted: Mono	62 dB
Stereo	55 dB
Weighted: Mono	66 dB
Stereo	60 dB
Pilot Signal & Subcarrier Rejection	
19 kHz	58 dB
38 kHz	58 dB
Total Harmonic Distortion, 98 MHz	
Mono	0.1%
Stereo	0.2%
Frequency Response	
30 Hz ~ 15 kHz	+0.5 dB, -2.0 dB
Separation	
Stereo	45 dB
Channel Balance	0.5 dB
Output Voltage, 1 kHz	600 μ V
Output Impedance, 1 kHz	4.4 kohms
Acceptable Load Impedance, 1 kHz	47 kohms
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)	30 μ V
Selectivity, 1 MHz \pm 9 kHz	20 dB
Image Rejection, 1 MHz	41 dB
IF Rejection, 1 MHz	55 dB
Spurious Response Rejection, 1 MHz	38 dB
Signal-to-Noise Ratio, 1 MHz	43 dB
Frequency Response, 1 MHz \pm 3 dB	40 Hz ~ 2.2 kHz
Total Harmonic Distortion, 1 MHz	1.0%

GENERAL:

Power Requirements	220 V AC, 50 Hz
(N version is 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, Both Channels Operating	215 W
Idling Power	32 W
Semiconductor Complement	
Integrated Circuits	3
Transistors	51
Diodes	38
Field Effect Transistor	1
Dimensions	
Panel Width	17-3/8" (440 mm)
Panel Height	5-3/8" (137 mm)
Depth	14-1/8" (358 mm)
Weight	
Unit alone	26.4 lbs (12.0 kg)
Packed for shipment	29.7 lbs (13.5 kg)



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