

SERVICE
MANUAL

SR2000

marantz

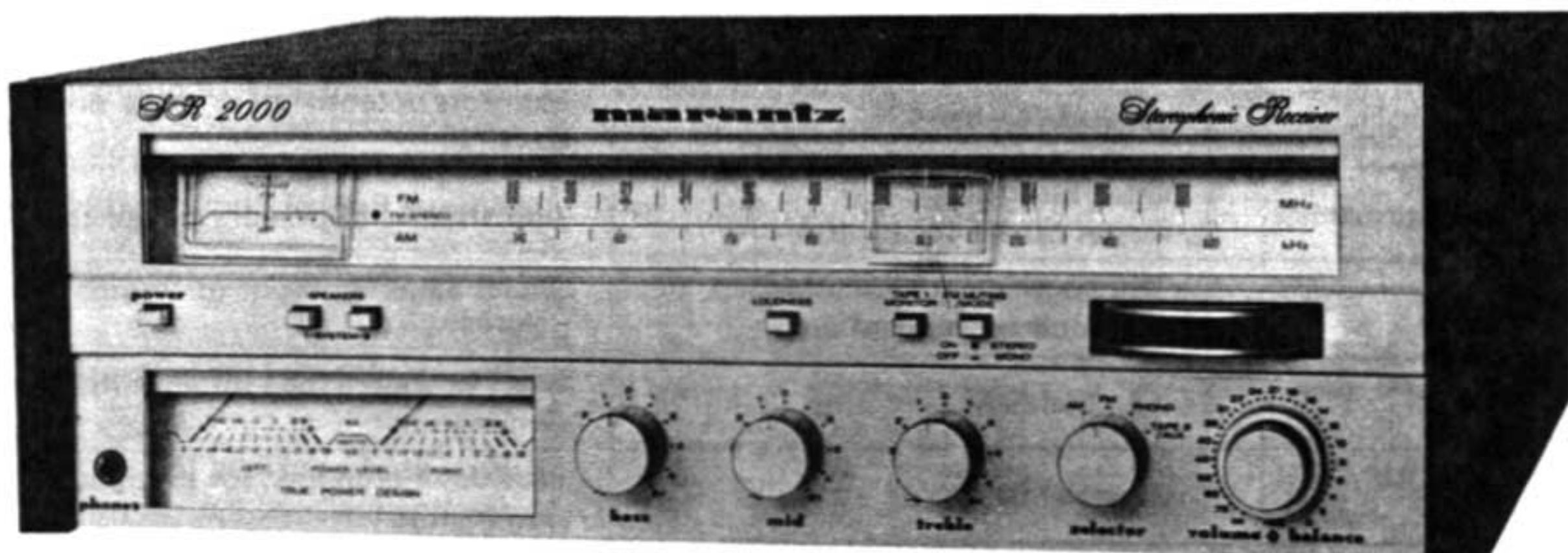
model SR2000

Stereophonic Receiver

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MODEL SR-2000 STEREOPHONIC RECEIVER



INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model SR-2000 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 SR-2000 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. Main Amp/Power Supply
. mounted on P.W. Board P700
3. Tone Amp mounted on P.W. Board PE00
4. Pushswitch mounted on P.W. Board PS00
5. Headphone Jack mounted on P.W. Board PW00
6. Power Meter/Speaker Switch
. mounted on P.W. Board PX00
7. Stereo LED mounted on P.W. Board PY00
8. Dial Pointer Lamp mounted on P.W. Board PZ00
9. Tuning Meter Lamp mounted on P.W. Board PZ50

2. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Model SR-2000 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. FM ALIGNMENT PROCEDURES

(Selector switch in the FM position)

3.1 TUNING METER ALIGNMENT

1. Set the FM signal generator to no signal.
2. Adjust the secondary core of L201 (A) so that the tuning meter may read zero (center position).

NOTE: Place the tuning pointer at 98 MHz adjacency.

3.2 FM 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 FM signal generator to 87.3 MHz and provide about 3 to 5 μV . Place the tuning pointer at the low frequency end by rotating the tuning knob and adjust the core of oscillator coil L105 (D) to obtain maximum audio output.
3. Set the FM signal 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 C114 (E) for maximum output.

NOTE: Keep the C114 at a half of satisfied capacitance.

4. Repeat steps 2 and 3 until no further adjustment is necessary.
5. Set the FM signal generator to 90 MHz and tune the receiver to the same frequency. Decrease signal generator output until the audio output level decreases with the decreasing generator output. Adjust the antenna coil L101 (B), RF coil L103 (C) for minimum audio distortion.

6. Set the FM signal generator to 106 MHz and tune the receiver to the same frequency. Adjust the trimming capacitors TC₁ (B) and TC₂ (C) for minimum distortion.
7. Repeat steps 5 and 6 until no further adjustment is necessary.

3.3 FM IF ALIGNMENT

1. Set the FM signal generator to 98 MHz and increase its usable output level and tune the receiver to the same frequency.
2. The L106 (E) should be adjusted for maximum output waveform with decreasing the FM signal generator input level so that the amount of noise should be the same on and beneath the waveform. Readjust the L201 for correct zero point as turning the L106 deviates zero point.

3.4 MONO DISTORTION ALIGNMENT

1. Set the FM signal generator to provide 60 dB at 98 MHz.
2. Set the modulation of FM signal generator to 1 kHz, 100%.
3. Place the tuning meter pointer at the center position.
4. Adjust the primary core (upper) of L201 (F) for minimum distortion.

3.5 STEREO DISTORTION ALIGNMENT

1. Set the FM signal generator to provide stereo composite signal and tune the receiver to the same frequency.
2. Adjust the L106 (E) for minimum distortion.
3. Repeat the adjustment of L201 so that the tuning meter may read zero.

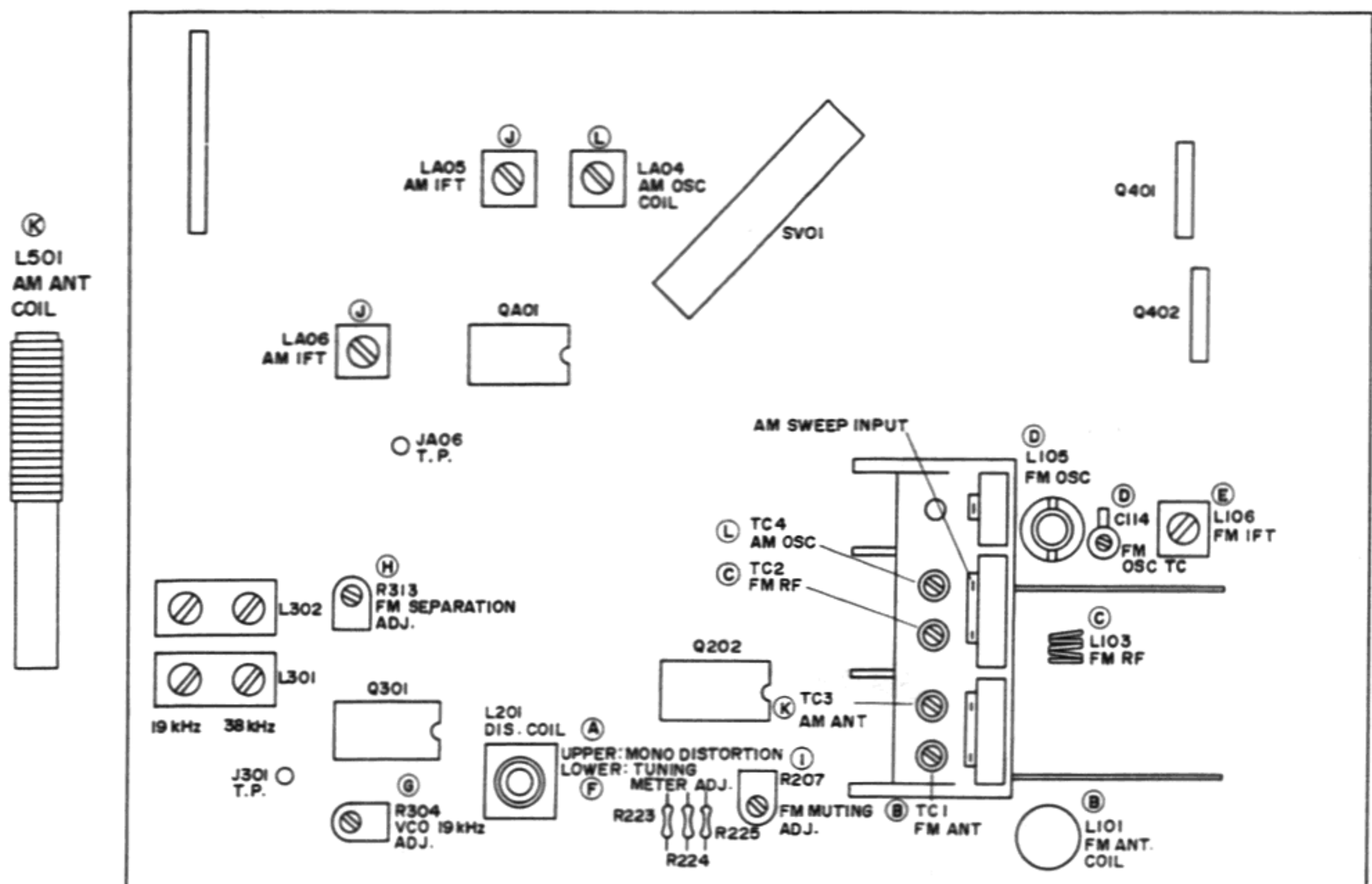


Figure 1. Adjustment Point Locations

3.6 MULTIPLEX ALIGNMENT

1. Connect a frequency counter to test point J301.
2. Set the FM signal generator to provide 60 dB (1 mV) at 98 MHz.
3. Tune the receiver to the same frequency so that the center tuning meter pointer indicates its center.
4. Turn off the modulation of the FM signal generator and adjust the R304 (G) so that the frequency counter may a precisely read 19.08 kHz.

3.7 STEREO SEPARATION ALIGNMENT

1. Set the FM signal generator to provide stereo composite signal and tune the receiver to the same frequency so that the center tuning meter pointer indicates its center.
2. Adjust the R313 (H) for maximum and same separation in both channels.

3.8 MUTING LEVEL ALIGNMENT

1. Set the FM signal generator to provide 22 dB (12.5 μ V) at 98 MHz.
2. Set the modulation of FM signal generator to 1 kHz, 100%.
3. Tune the receiver to the same frequency so that the center tuning meter pointer indicates its center.
4. Turn on FM MUTING pushswitch.
5. Turn the R207 (I) until the output waveform disappears and adjust it to a point where the waveform comes to appear again:

4. AM ALIGNMENT PROCEDURES

(Selector switch in the AM position)

4.1 AM IF ALIGNMENT

1. Connect a sweep generator to the tuning capacitor C120 (for AM oscillator) and an alignment scope to the test point JA06.
2. Rotate each core of IF transformers LA05 (J) and LA06 (J) for maximum height and flat top symmetrical response.

4.2 AM TRACKING ALIGNMENT

1. Set the AM signal generator to 520 kHz. Turn the tuning capacitor fully closed (place the tuning pointer at the low end) and adjust the oscillator coil LA04 (L) for maximum audio output.
2. Set the AM signal generator to 1650 kHz. Place the tuning pointer in the high frequency end and adjust the trimming capacitor TC₄ (L) for maximum audio output.
3. Repeat steps 1 and 2 until no further adjustment is necessary.
4. Set the AM signal generator to 600 kHz and tune the receiver to the same frequency and adjust a slug core of AM ferrite-rod antenna L051 (K) for maximum output.
5. Set the generator to 1400 kHz and tune the receiver to the same frequency and adjust the antenna trimming capacitor TC₃ (K) for maximum output.
6. Repeat steps 4 and 5 until no further adjustment is necessary.

NOTE: Use the loop for AM tracking alignment.

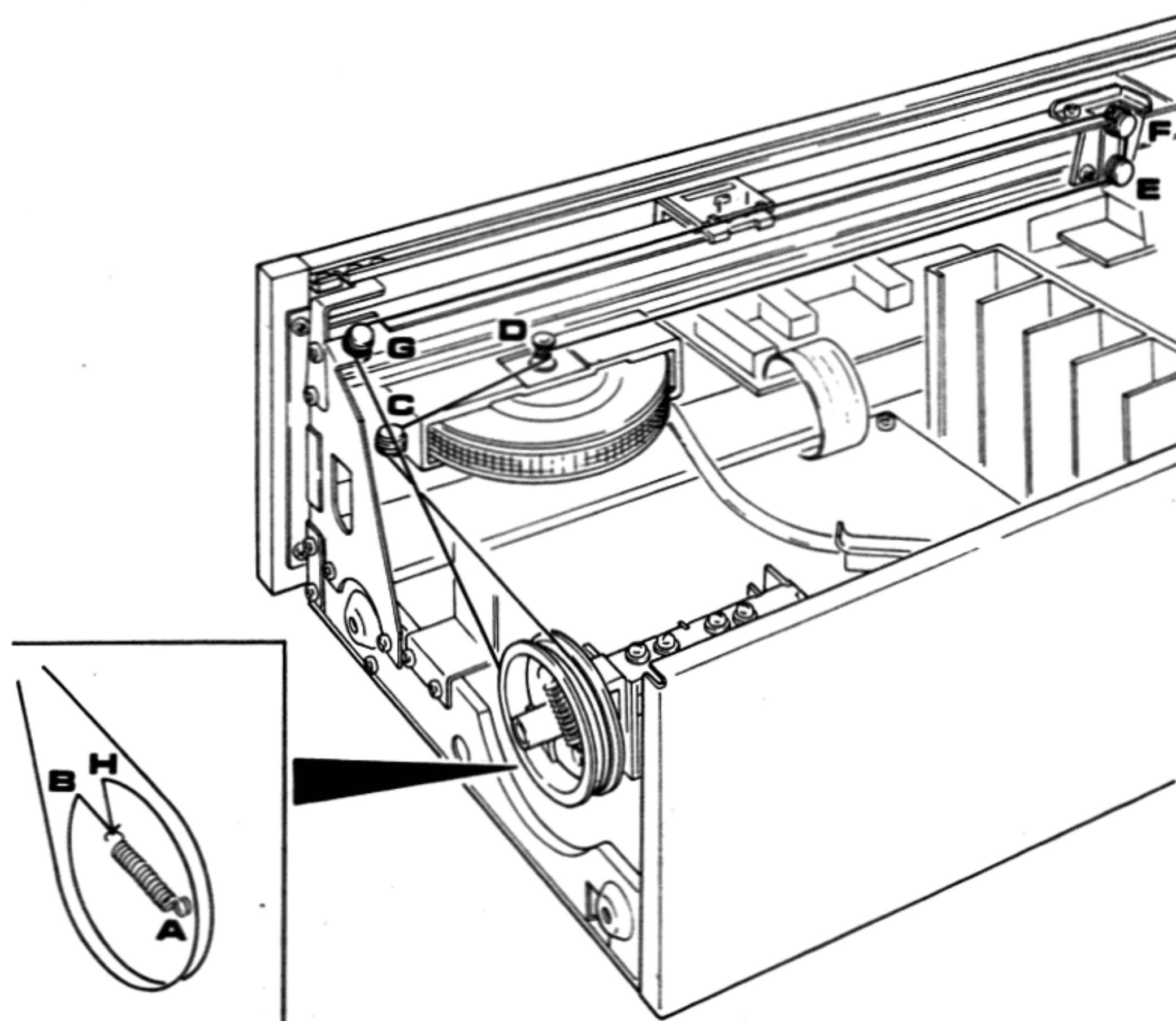


Figure 2. Dial Stringing

5. AUDIO ADJUSTMENT

5.1 VOLTAGE ADJUSTMENT

1. Turn on the POWER pushswitch and connect a DC voltmeter across the J825 and J831.
2. Check that DC voltmeter reading is 32 ± 1 V.

5.2 POWER METER CALIBRATION

Adjust the trimming resistors RX09 (M) and RX10 (M) so that the power meter reading is 0 dB (30 W) at 1 kHz, 30 W outputs (8 Ω load).

6. VOLTAGE CONVERSION

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE. DO NOT DISASSEMBLE THE VOLTAGE SELECTOR ABSOLUTELY.

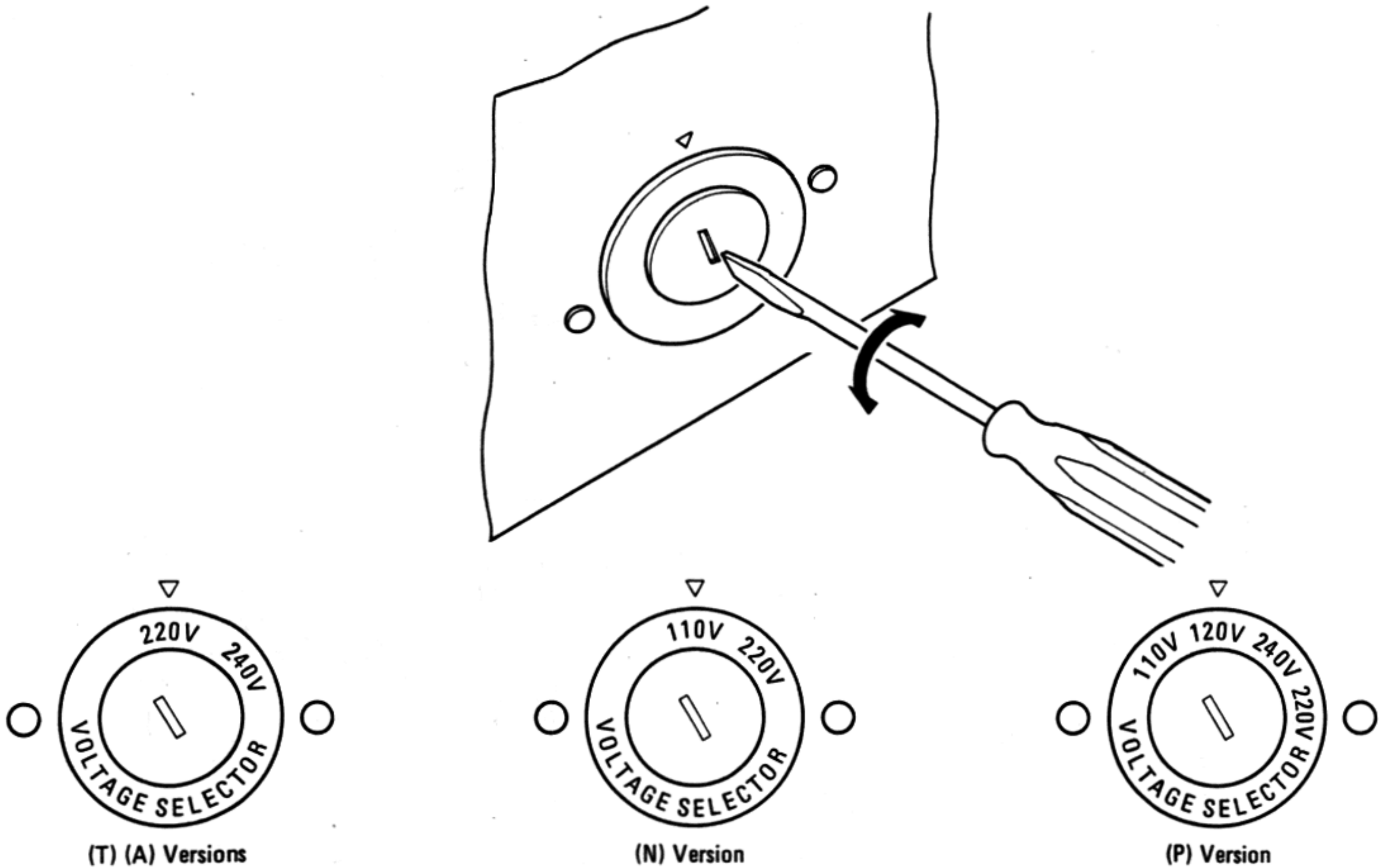


Figure 3. Voltage Conversion

NOTE ON SAFETY: THE PARTS MARKED WITH \triangle ARE IMPORTANT PARTS ON THE SAFETY. PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBERS WITHOUT FAIL.

FTZ REGULATION

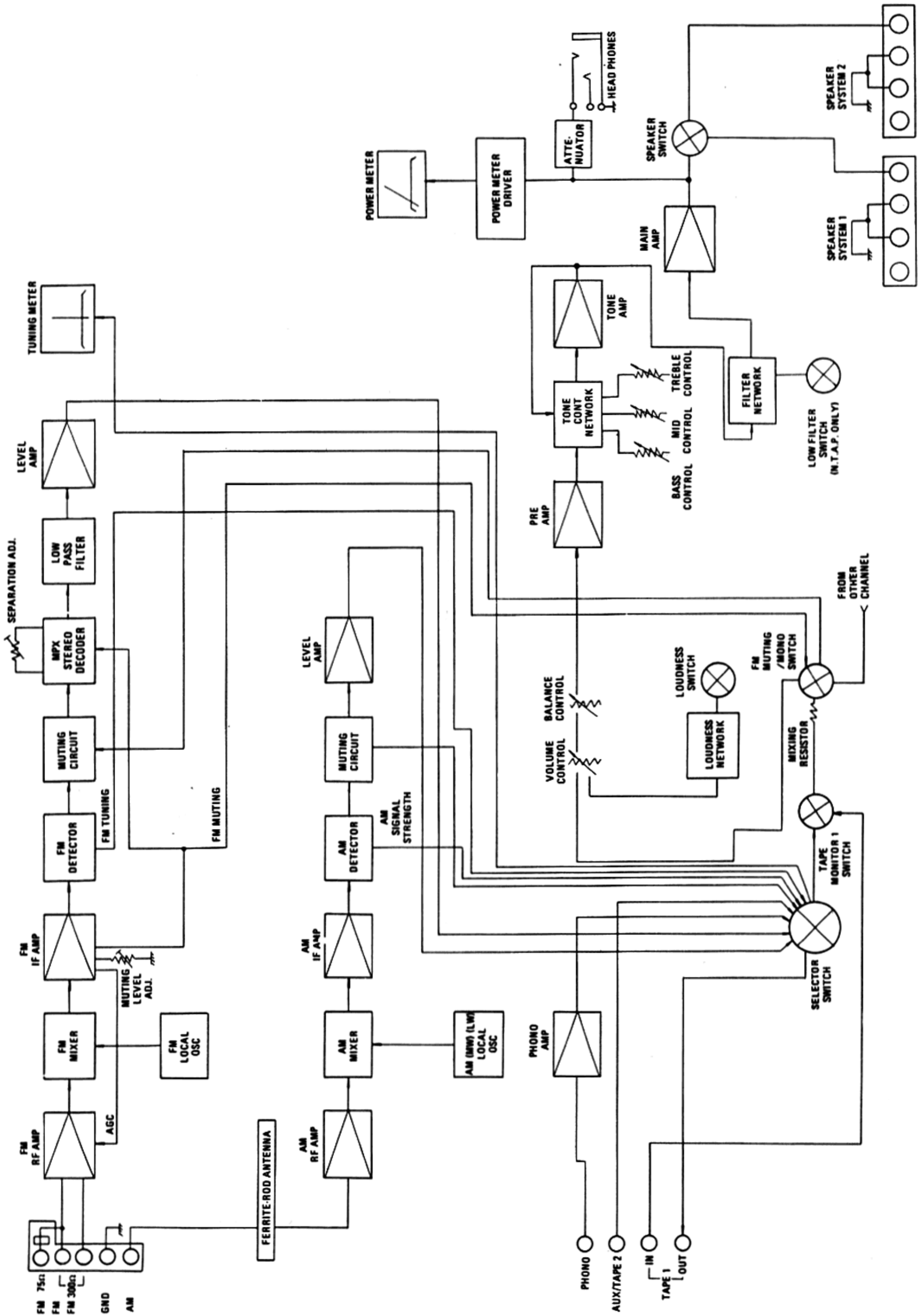
Instruction for the use in the range other than specified in FTZ codes.

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

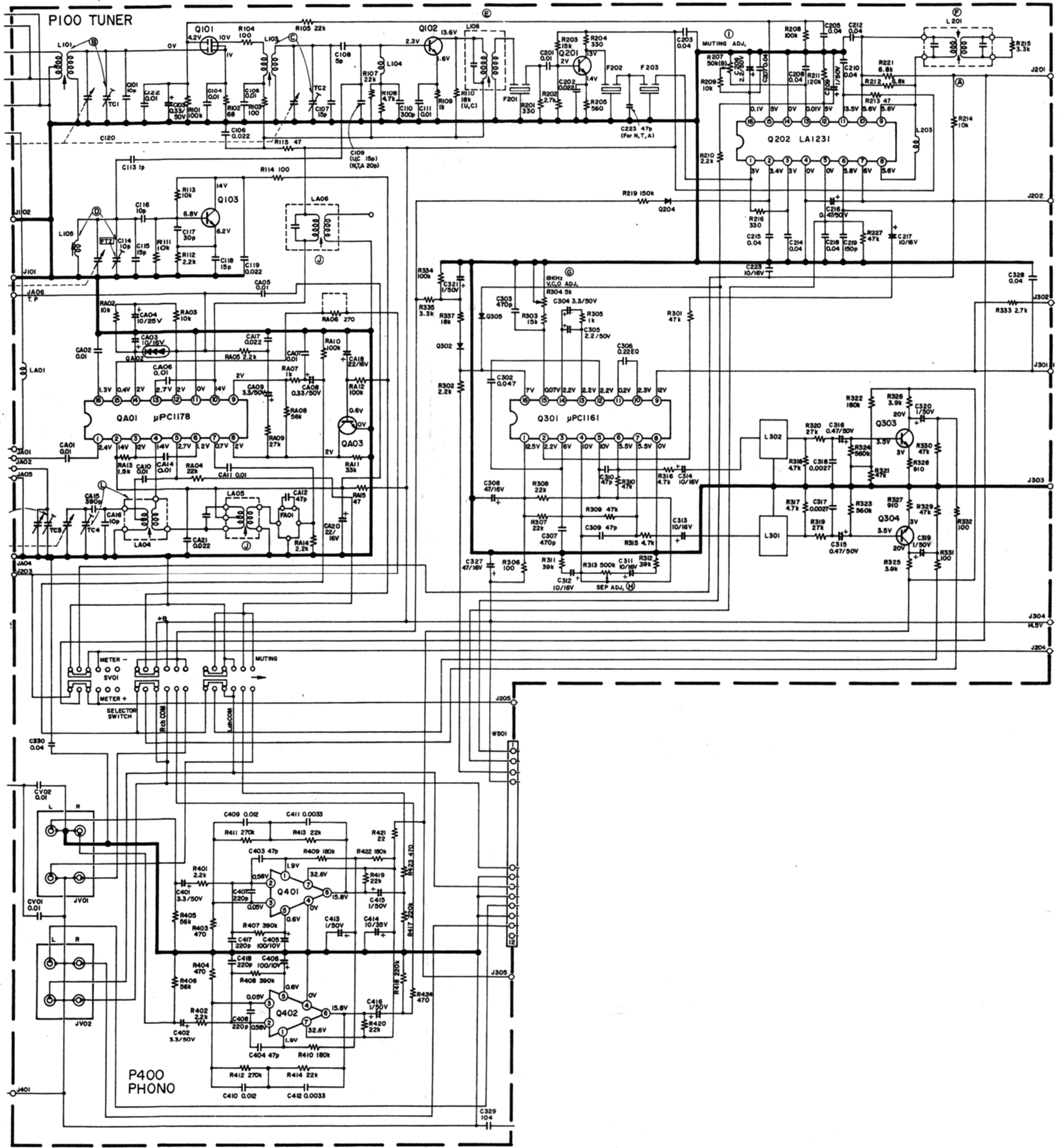
Sollte das Gerät auch für Frequenzen ausserhalb des in den FTZ-Bestimmungen angegebenen Bereiches empfangsbereit sein, bitten wir, den Bereich durch Nachstellen des Kernes in der Oszillatortspule (in der Abbildung mit "FTZ" gekennzeichnet) so zu korrigieren, dass er den Bestimmungen entspricht.

7. DIAGRAMS

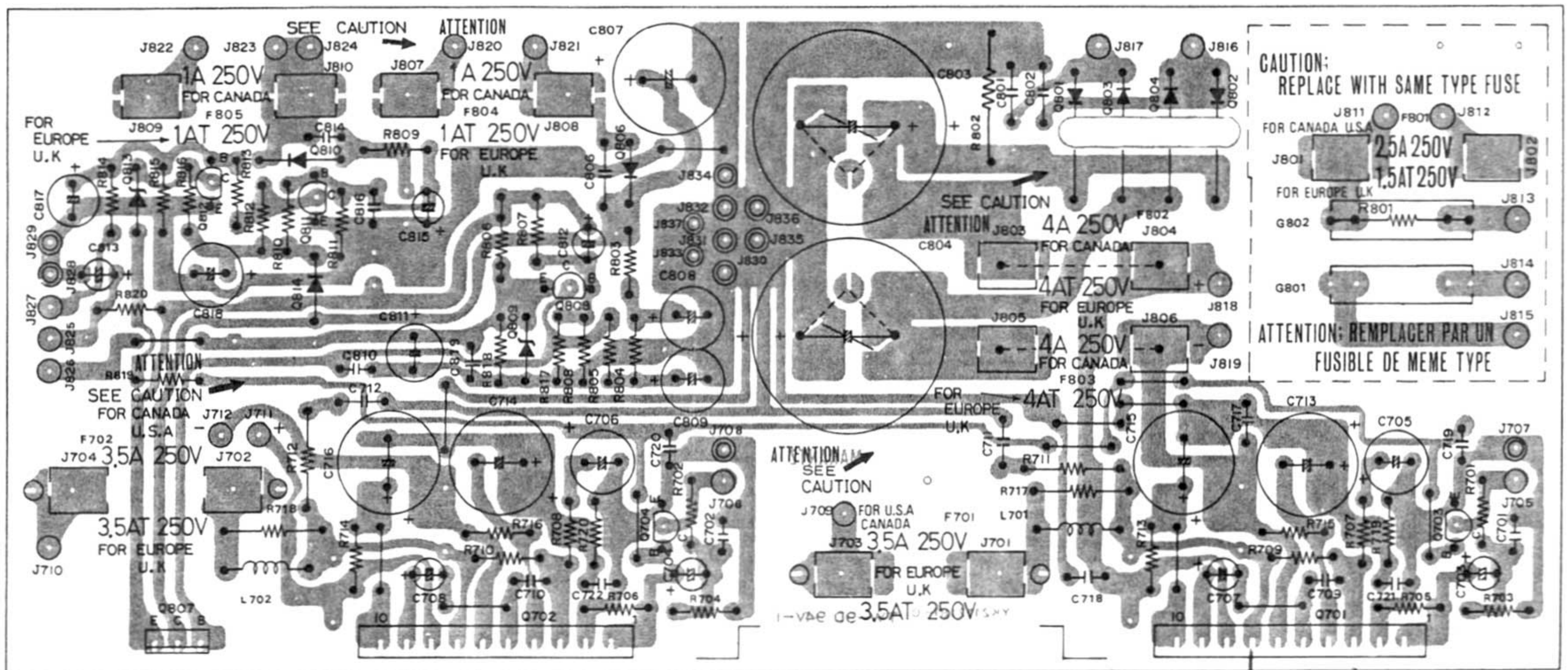
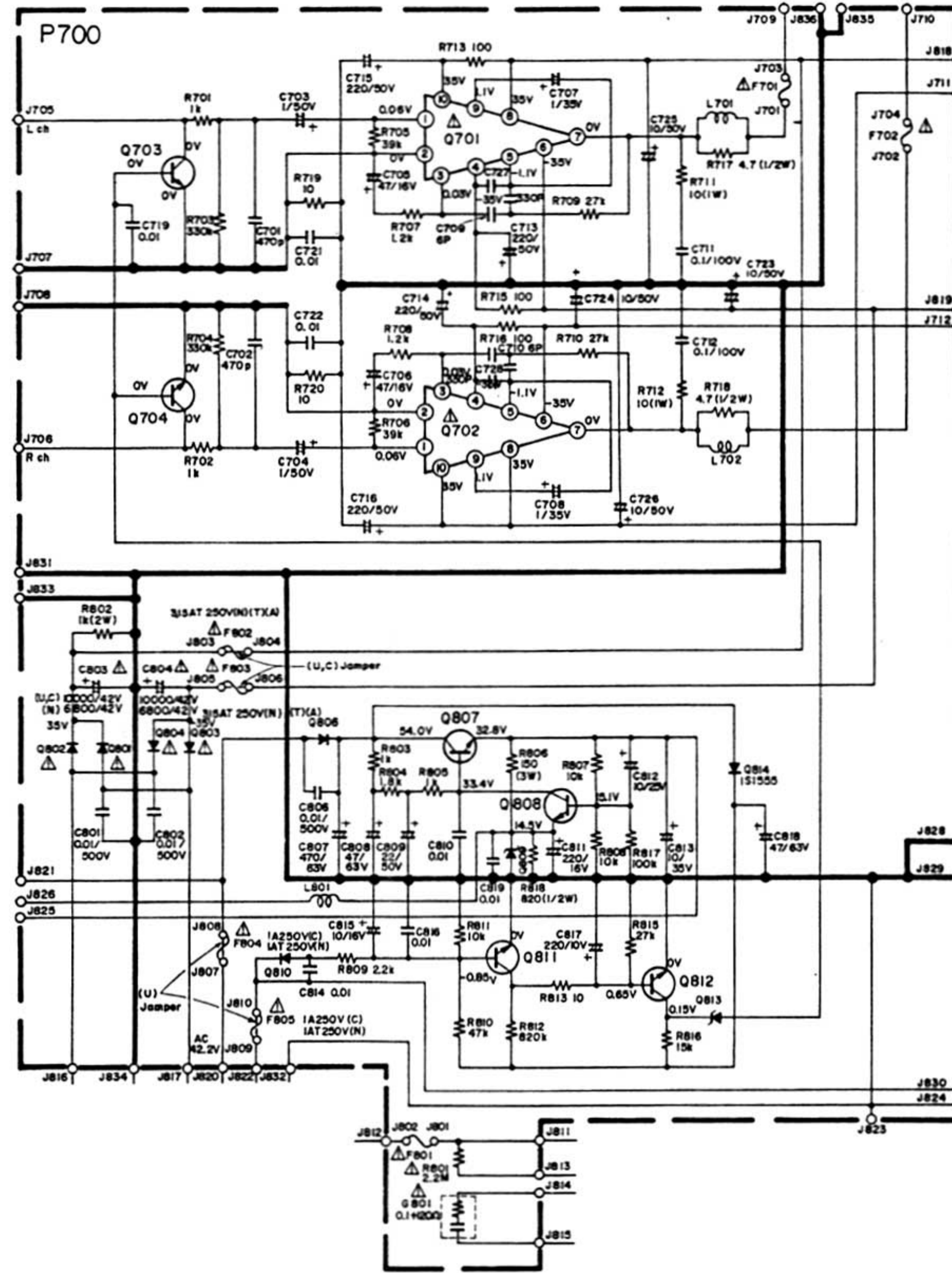
7.1 BLOCK DIAGRAM



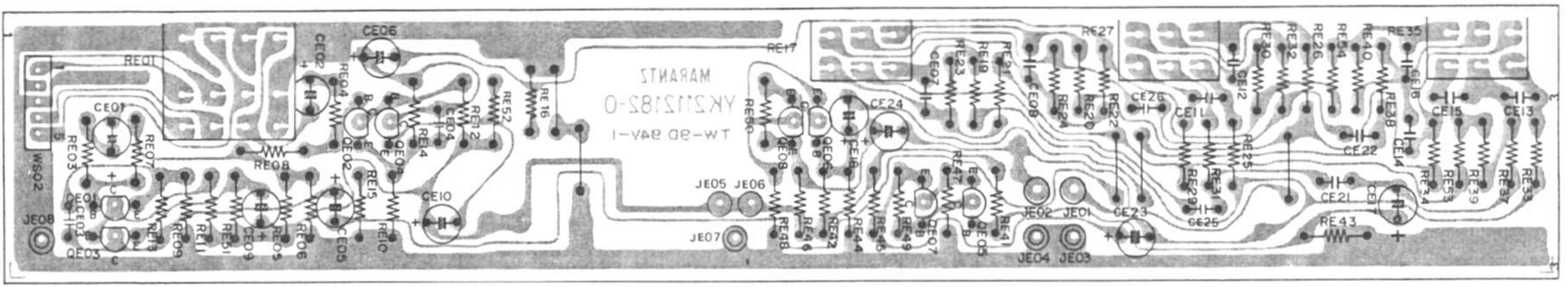
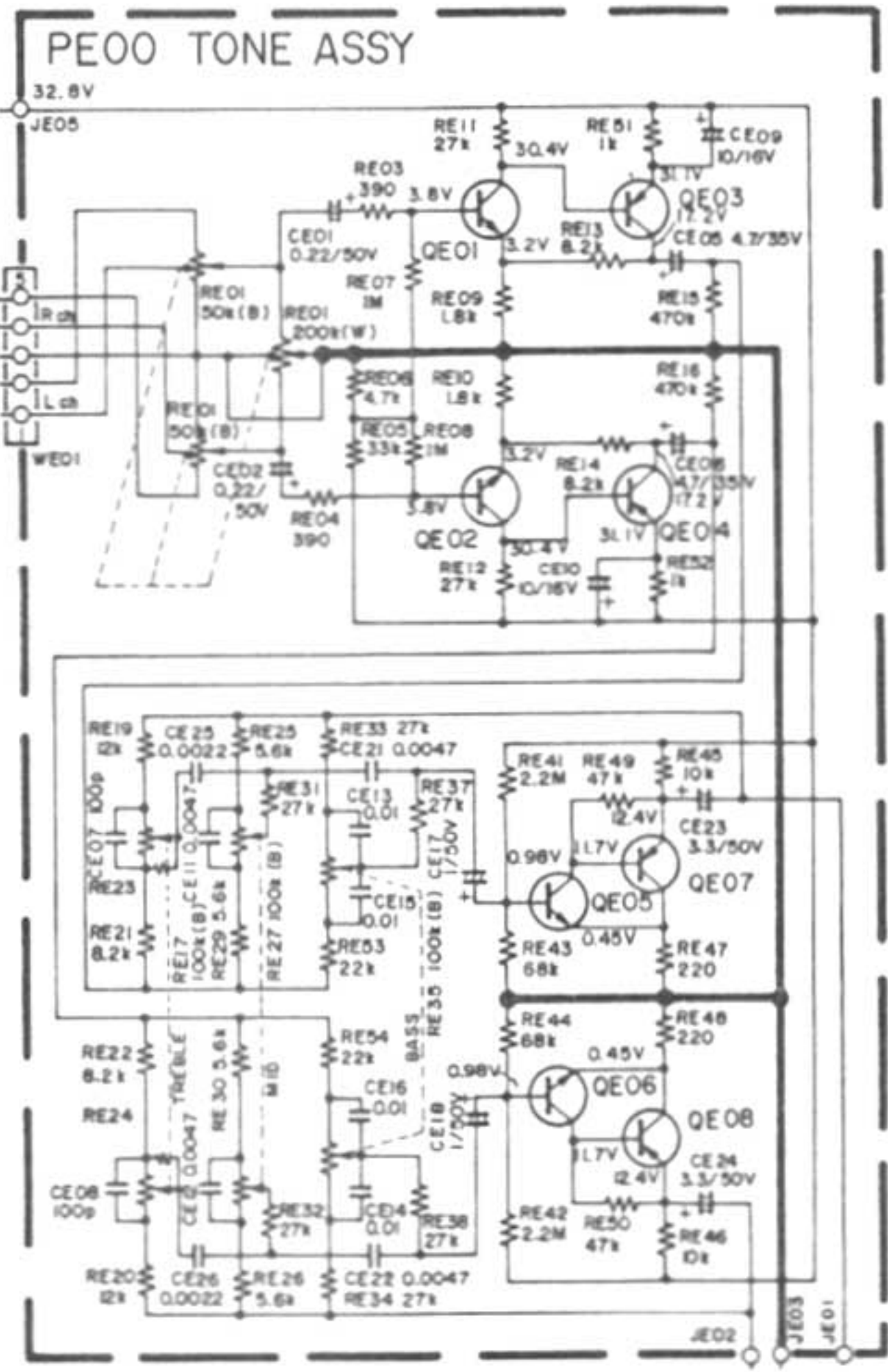
7.2 TUNER BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS – P100



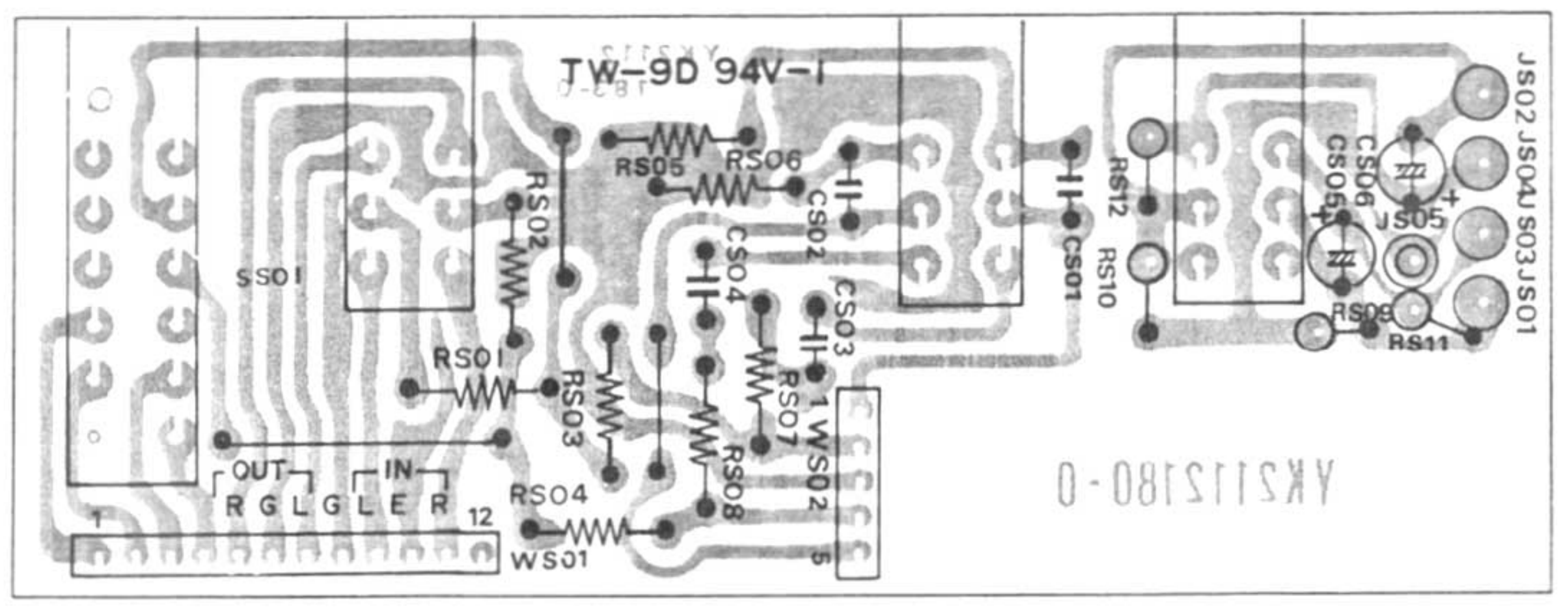
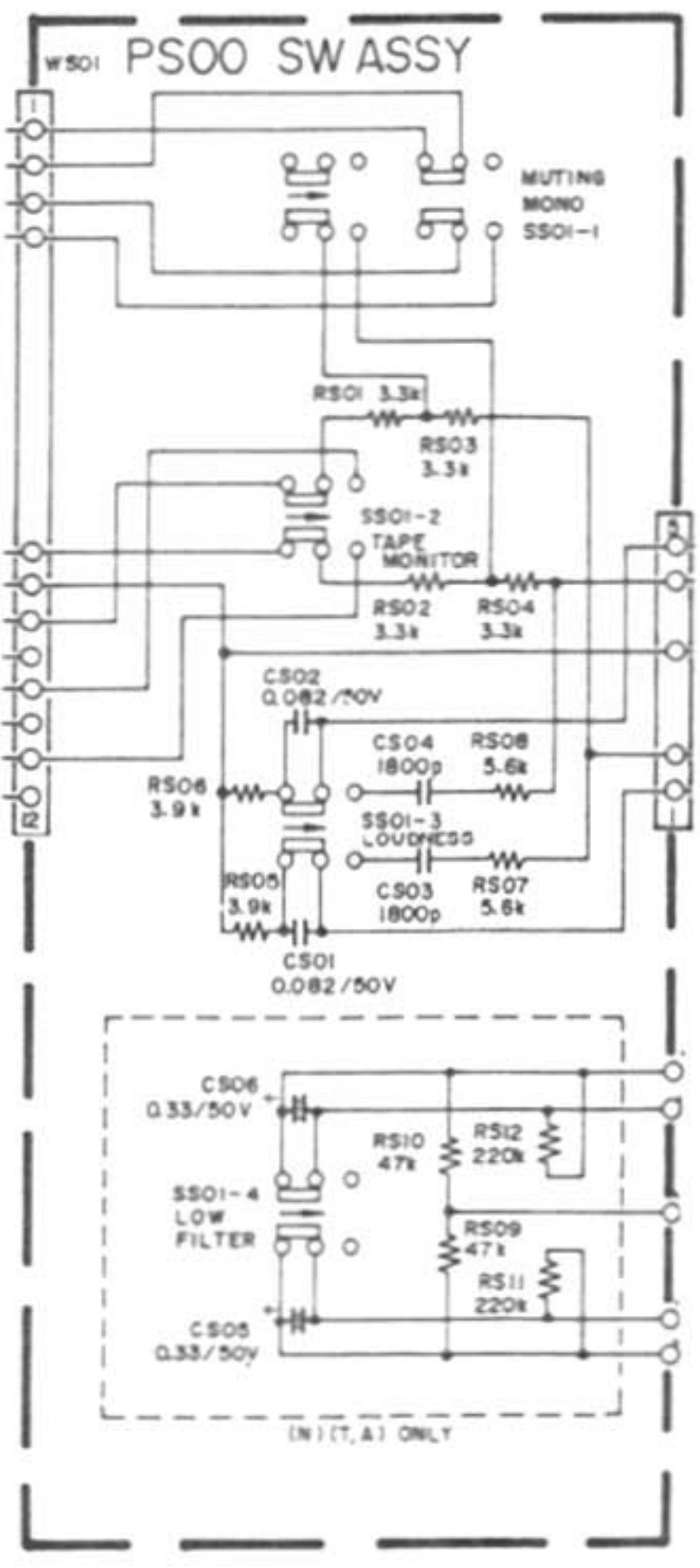
7.3 MAIN AMP/POWER SUPPLY BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS – P700



7.4 TONE AMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS – PE00

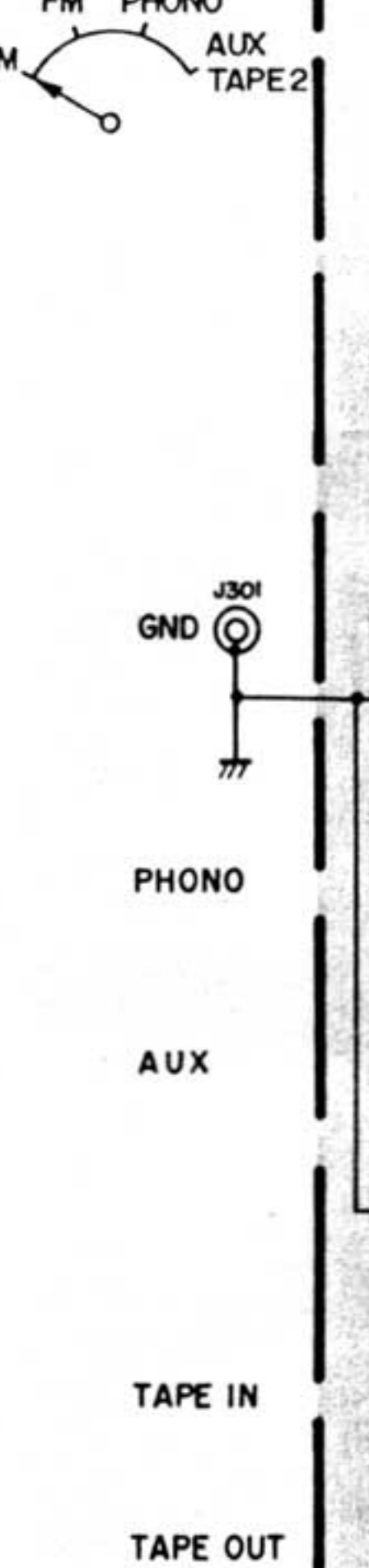
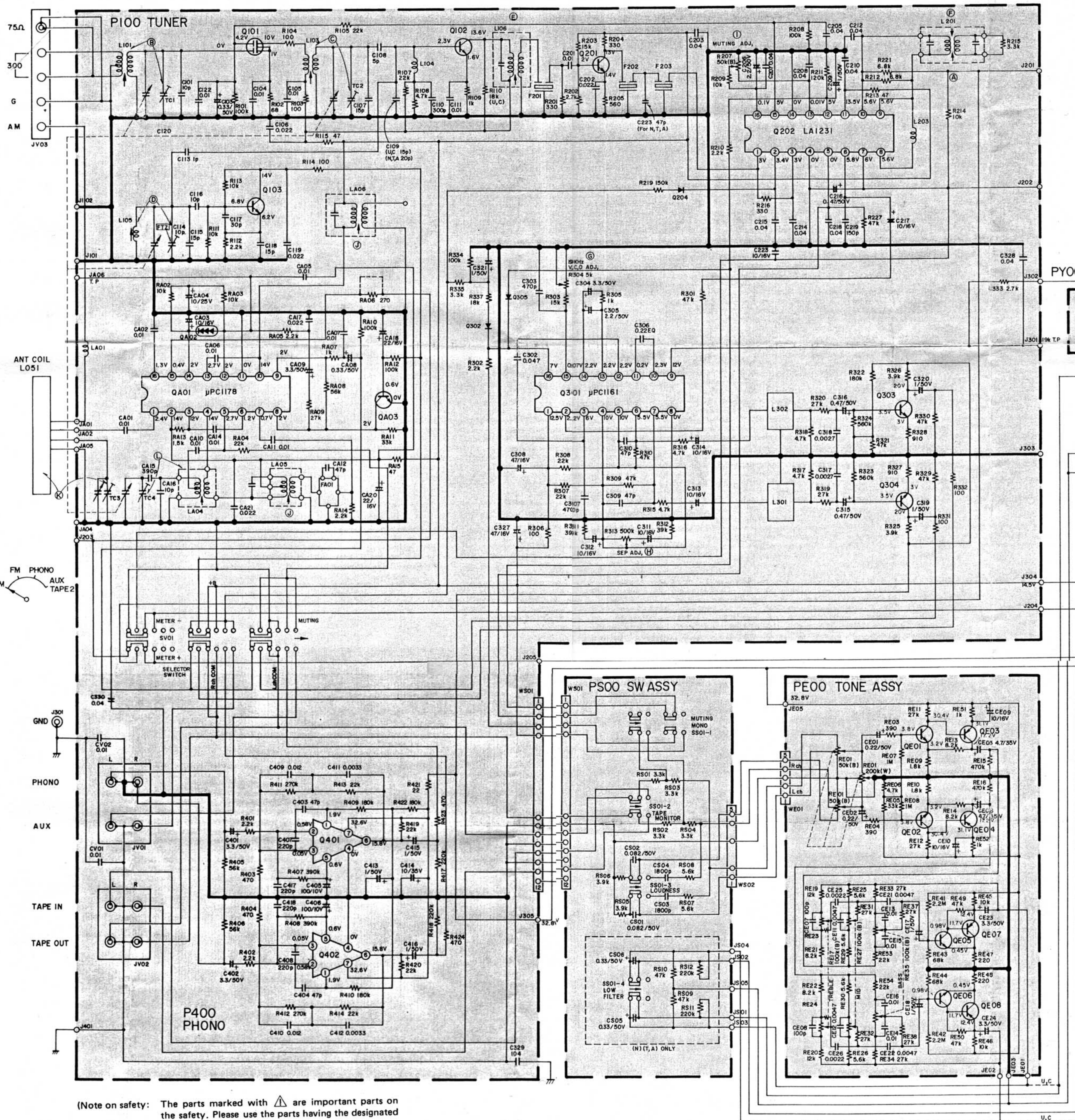


7.5 PUSH SWITCH BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS – PS00

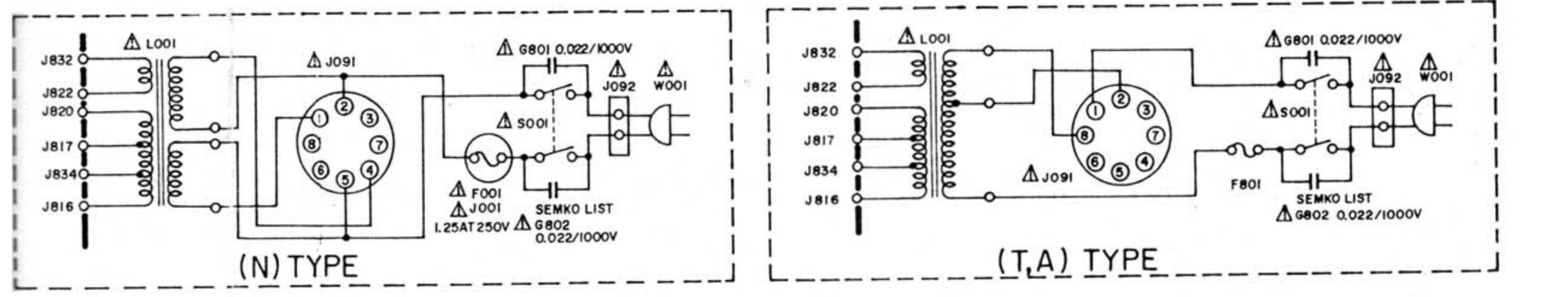
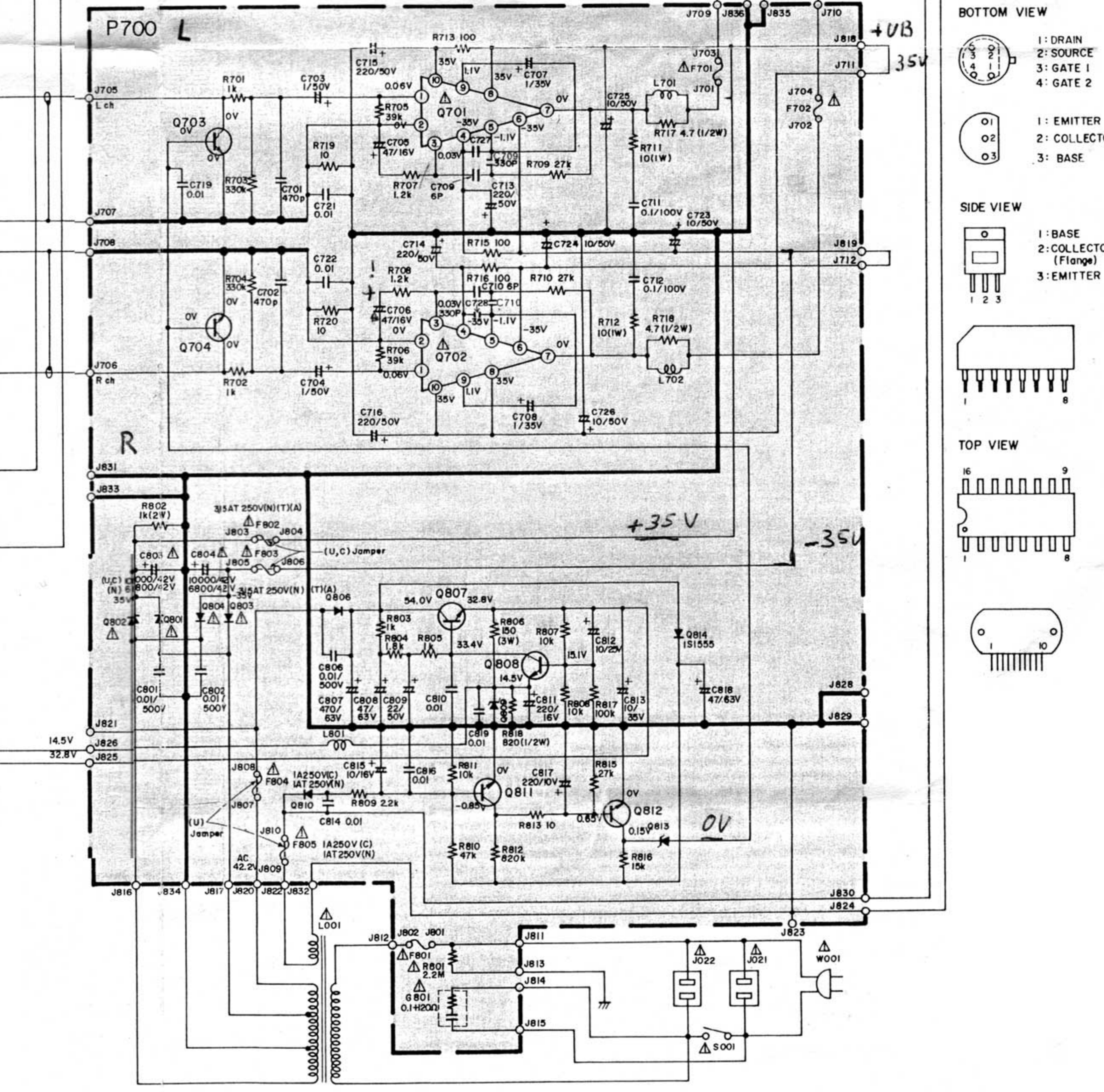
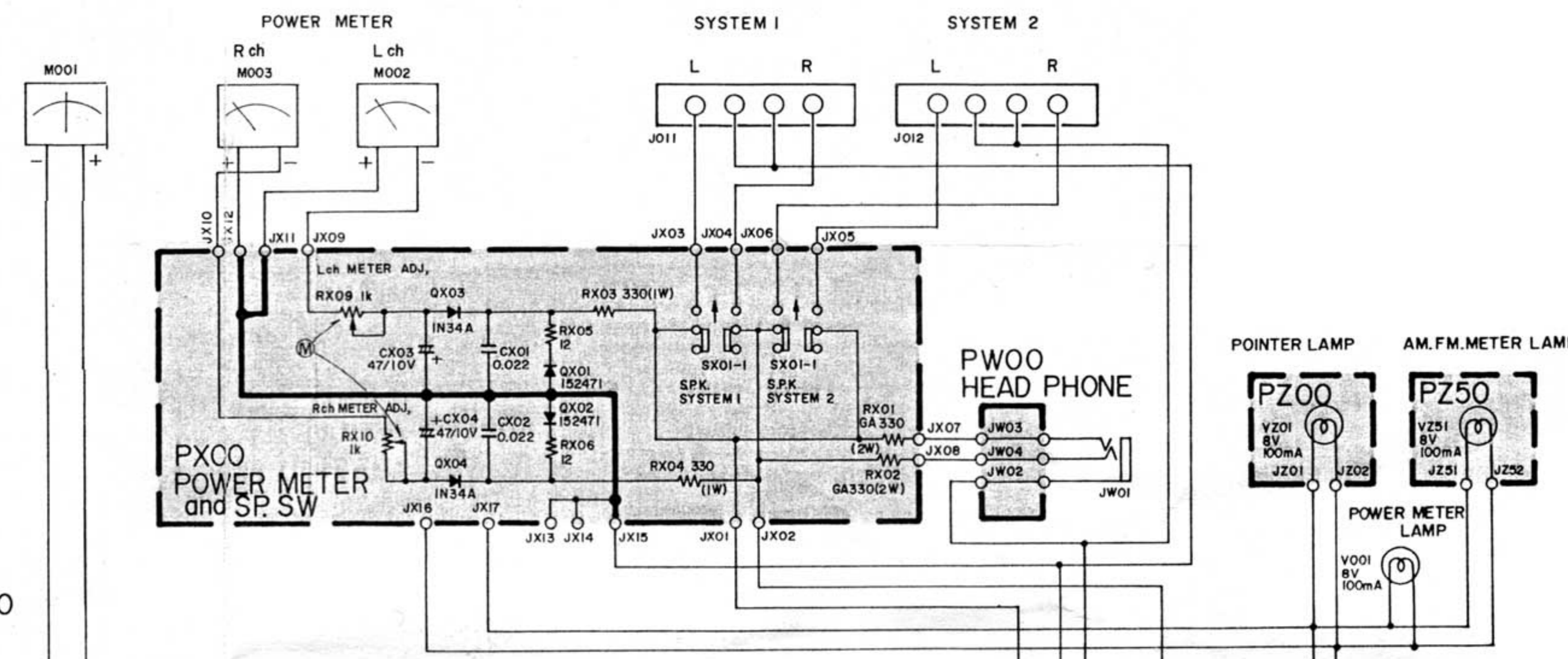


SCHEMATIC DIAGRAM

Q101 35K45 B Q102 25C1047 C Q103 25C829 C Q201 25C829 C Q204,Q302,Q305 1S1555 Q303,Q304 25C2634 S,T Q401,Q402 μPC1024H Q701,Q702 STK-0806 Q703,Q704 25C2634 S or T Q801~Q804 52V-20 Q806 W06B Q807 25D313E Q808,Q811,Q812 25C2634 S or T Q809 BZ-140 Q810,Q814 1S1555 Q813 WZ-090 QA02 MV-203 QA03 25C2634 S,T QE01,QE02,QE05,QE06 25C2634 S or T QE03,QE04,QE07,QE08 25A1127 S or T

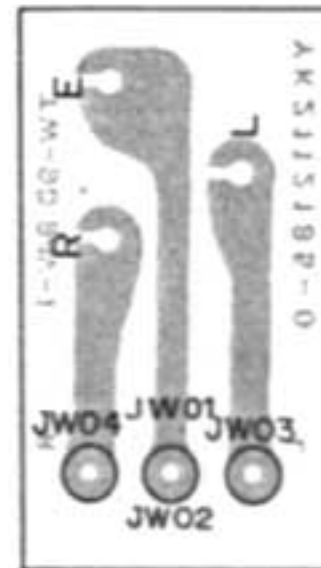
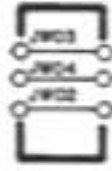


(Note on safety: The parts marked with ⚠ are important parts on the safety. Please use the parts having the designated parts number without fail.)

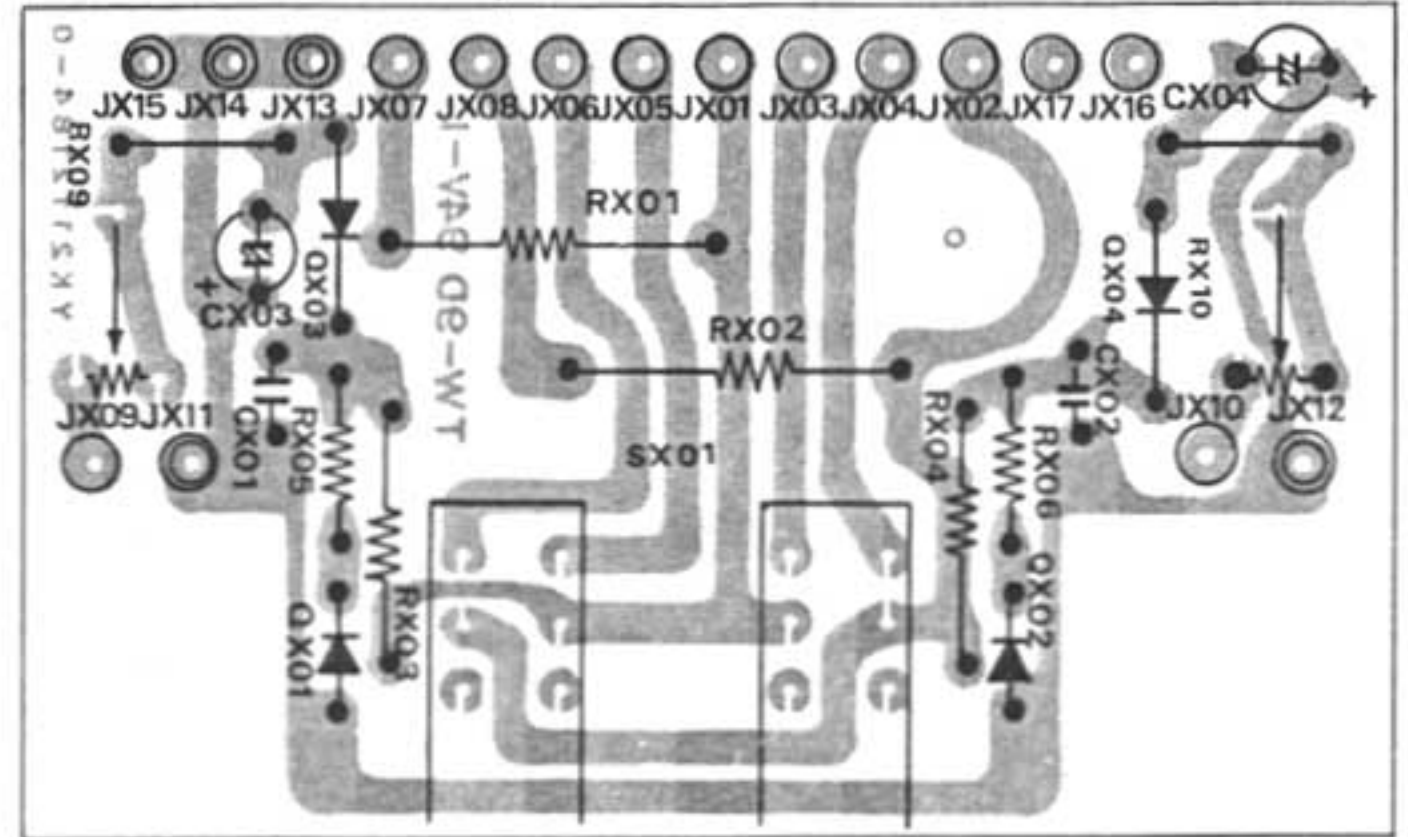
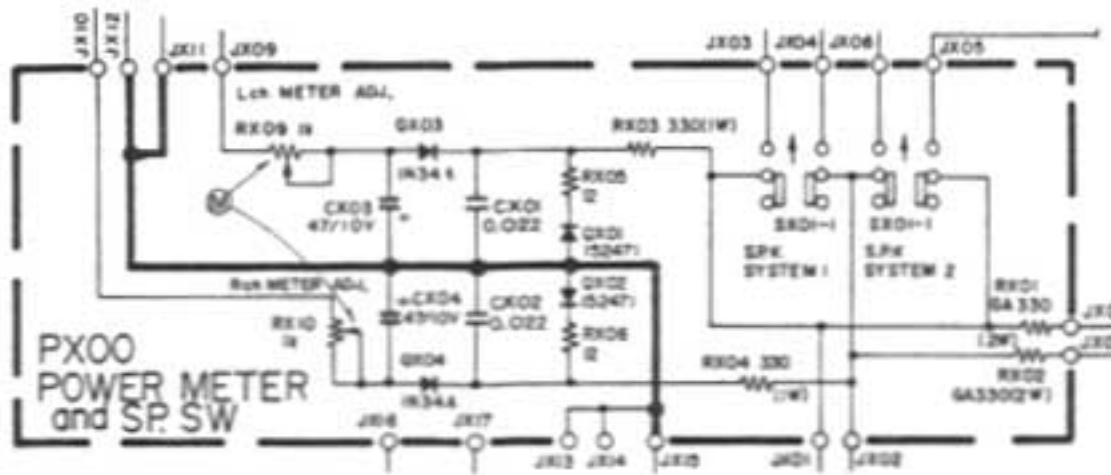


- BOTTOM VIEW**
- 1: DRAIN
 - 2: SOURCE
 - 3: GATE 1
 - 4: GATE 2
- TOP VIEW**
- 1: EMITTER
 - 2: COLLECTOR
 - 3: BASE
- SIDE VIEW**
- 1: BASE
 - 2: COLLECTOR (Flange)
 - 3: EMITTER
- Q101**
- Q102, Q103, Q201, Q303, Q304, Q703, Q704, Q808, Q811, Q812, Q813, Q814, Q815, Q816, Q817, Q818, Q819, Q820, Q821, Q822, Q823, Q824, Q825, Q826, Q827, Q828, Q829, Q830, Q831, Q832, Q833, Q834, Q835, Q836, Q837, Q838, Q839, Q840, Q841, Q842, Q843, Q844, Q845, Q846, Q847, Q848, Q849, Q850, Q851, Q852, Q853, Q854, Q855, Q856, Q857, Q858, Q859, Q860, Q861, Q862, Q863, Q864, Q865, Q866, Q867, Q868, Q869, Q870, Q871, Q872, Q873, Q874, Q875, Q876, Q877, Q878, Q879, Q880, Q881, Q882, Q883, Q884, Q885, Q886, Q887, Q888, Q889, Q890, Q891, Q892, Q893, Q894, Q895, Q896, Q897, Q898, Q899, Q900
- Q807**
- Q808, Q809, Q810, Q811, Q812, Q813, Q814, Q815, Q816, Q817, Q818, Q819, Q820, Q821, Q822, Q823, Q824, Q825, Q826, Q827, Q828, Q829, Q830, Q831, Q832, Q833, Q834, Q835, Q836, Q837, Q838, Q839, Q840, Q841, Q842, Q843, Q844, Q845, Q846, Q847, Q848, Q849, Q850, Q851, Q852, Q853, Q854, Q855, Q856, Q857, Q858, Q859, Q860, Q861, Q862, Q863, Q864, Q865, Q866, Q867, Q868, Q869, Q870, Q871, Q872, Q873, Q874, Q875, Q876, Q877, Q878, Q879, Q880, Q881, Q882, Q883, Q884, Q885, Q886, Q887, Q888, Q889, Q890, Q891, Q892, Q893, Q894, Q895, Q896, Q897, Q898, Q899, Q900
- Q401**
- Q402, Q403, Q404, Q405, Q406, Q407, Q408, Q409, Q410, Q411, Q412, Q413, Q414, Q415, Q416, Q417, Q418, Q419, Q420, Q421, Q422, Q423, Q424, Q425, Q426, Q427, Q428, Q429, Q430, Q431, Q432, Q433, Q434, Q435, Q436, Q437, Q438, Q439, Q440, Q441, Q442, Q443, Q444, Q445, Q446, Q447, Q448, Q449, Q450, Q451, Q452, Q453, Q454, Q455, Q456, Q457, Q458, Q459, Q460, Q461, Q462, Q463, Q464, Q465, Q466, Q467, Q468, Q469, Q470, Q471, Q472, Q473, Q474, Q475, Q476, Q477, Q478, Q479, Q480, Q481, Q482, Q483, Q484, Q485, Q486, Q487, Q488, Q489, Q490, Q491, Q492, Q493, Q494, Q495, Q496, Q497, Q498, Q499, Q500
- Q701**
- Q702, Q703, Q704, Q705, Q706, Q707, Q708, Q709, Q710, Q711, Q712, Q713, Q714, Q715, Q716, Q717, Q718, Q719, Q720, Q721, Q722, Q723, Q724, Q725, Q726, Q727, Q728, Q729, Q730, Q731, Q732, Q733, Q734, Q735, Q736, Q737, Q738, Q739, Q740, Q741, Q742, Q743, Q744, Q745, Q746, Q747, Q748, Q749, Q750, Q751, Q752, Q753, Q754, Q755, Q756, Q757, Q758, Q759, Q760, Q761, Q762, Q763, Q764, Q765, Q766, Q767, Q768, Q769, Q770, Q771, Q772, Q773, Q774, Q775, Q776, Q777, Q778, Q779, Q780, Q781, Q782, Q783, Q784, Q785, Q786, Q787, Q788, Q789, Q790, Q791, Q792, Q793, Q794, Q795, Q796, Q797, Q798, Q799, Q800

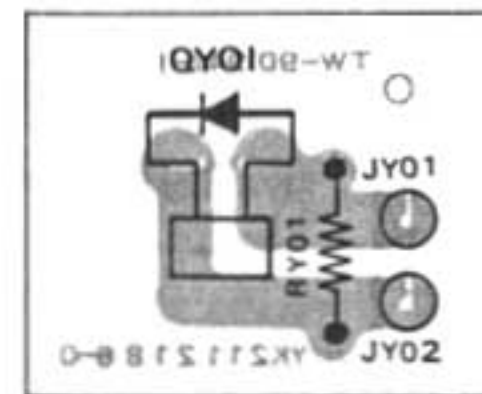
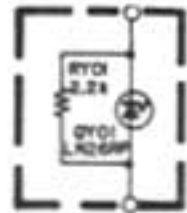
7.6 HEADPHONE JACK BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS – PW00



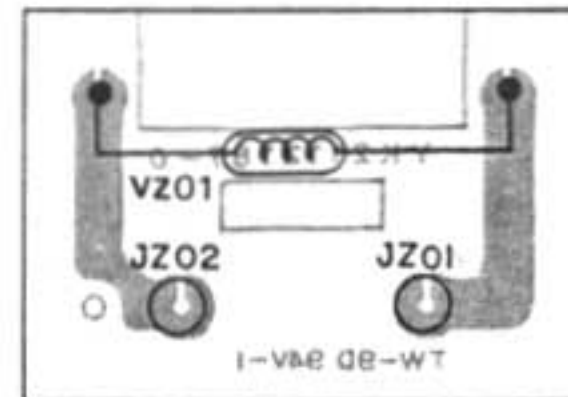
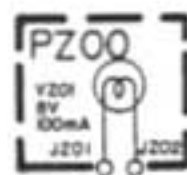
7.7 POWER METER/SPEAKER SWITCH BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS – PX00



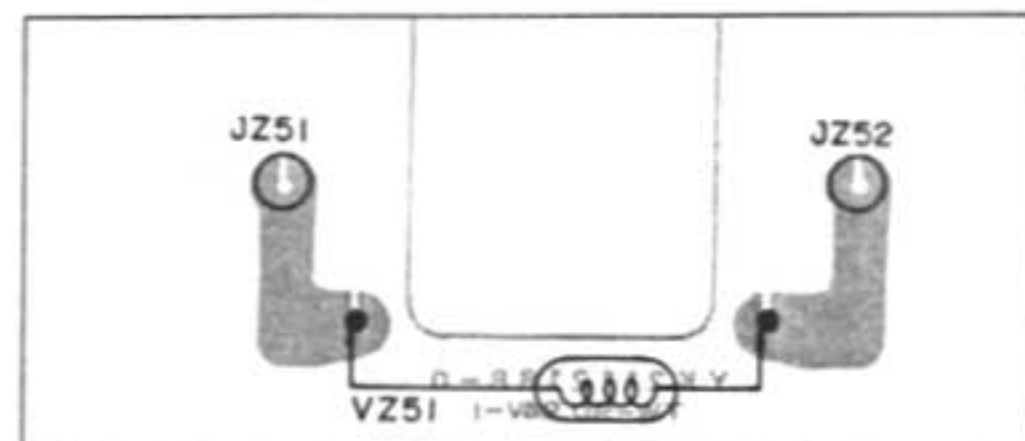
7.8 STEREO LED BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS – PY00



7.9 DIAL POINTER LAMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS – PZ00

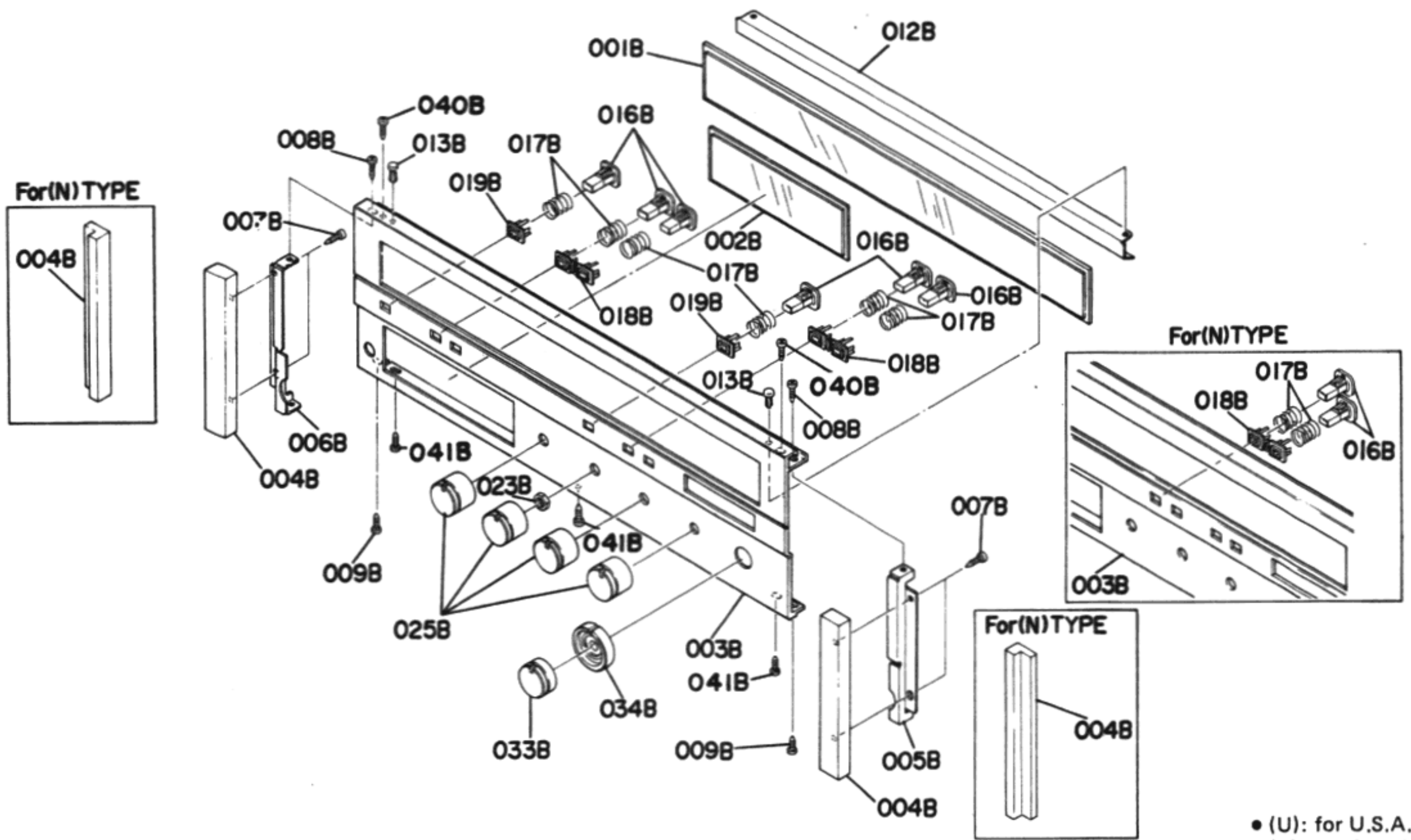


7.10 TUNING METER LAMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS – PZ50



8. EXPLODED VIEWS AND PARTS LIST

8.1 [C01-99] FRONT PANEL

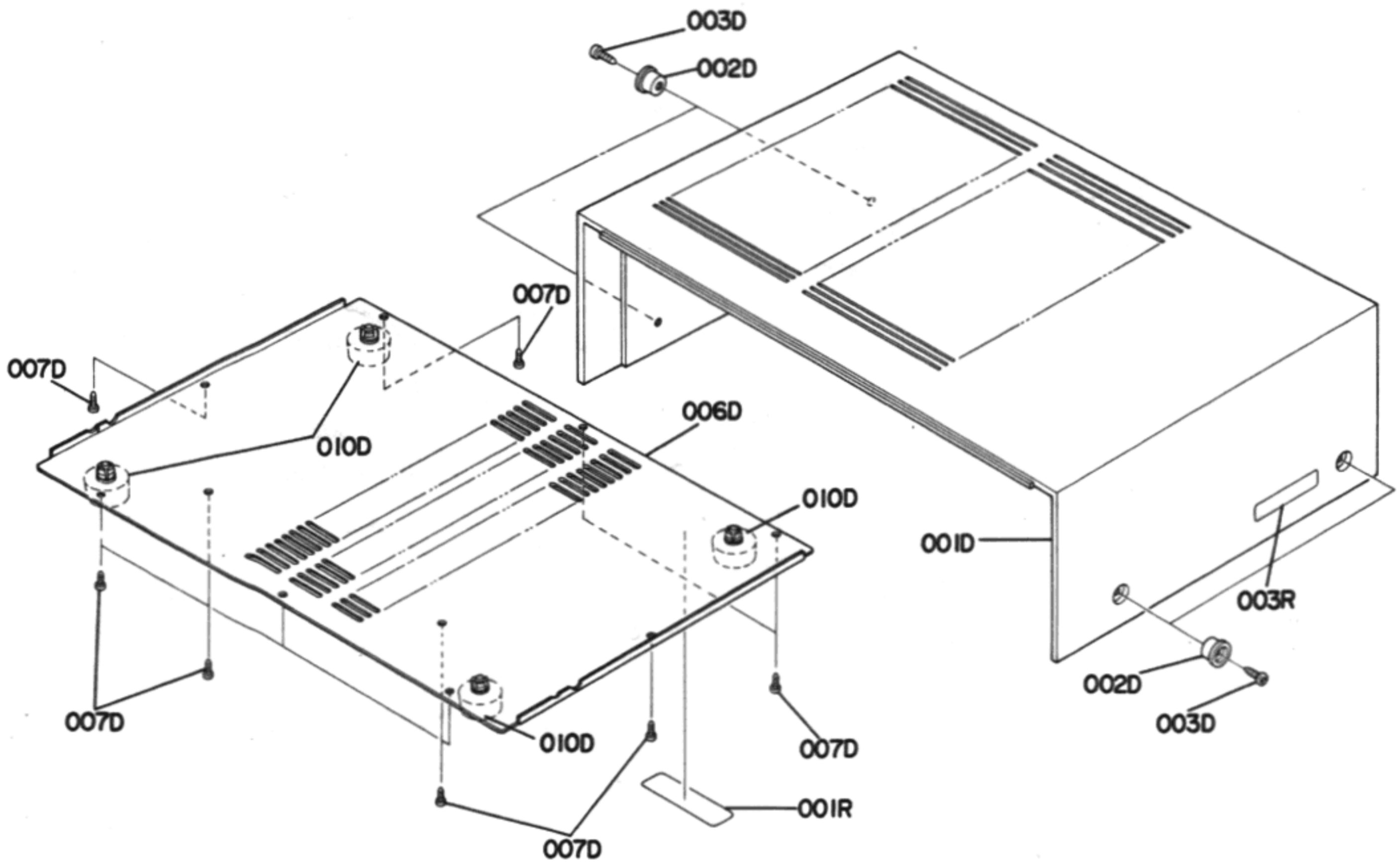


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
A	1	1		2112063400	Front Panel Assembly
A1			1	2112063410	Front Panel Assembly
001B	1	1	1	2112158110	Window, Dial
002B	1	1	1	2112158120	Window, Meter
003B	1	1		2112063010	Escutcheon
003B			1	2112063110	Escutcheon, Low Filter
004B	2	2		2112063040	Escutcheon, Wood
004B			2	2112063050	Escutcheon, AL
005B	1	1	1	2112160020	Bracket (R)
006B	1	1	1	2112160030	Bracket (L)
007B	4	4		51400310A0	B.H. Tapped Screw B3 x 10
007B			4	51280306B0	B.H. Tapped Screw B3 x 6
008B	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
009B	2	2	2	41280308B0	B.H. Tapped Screw B3 x 8
012B	1	1	1	2112303010	Mask
013B	2	2	2	2276005050	Clamper
018B	2	2	3	2112259020	Bushing
019B	2	2	1	2112259030	Bushing

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
016B	6	6	7	2112154010	Knob
017B	6	6	7	2112115010	Spring
023B	1	1	1	53118169A0	Hexagon Nut
025B	4	4	4	2112154020	Knob
033B	1	1	1	2112154030	Knob
034B	1	1	1	2112154040	Knob
040B	2	2	2	51100308A9	B.H.M. Screw B3x8
041B	3	3	3	51280308B0	B.H. Tapped Screw B3x8

8.2 [C02-99] TOP COVER

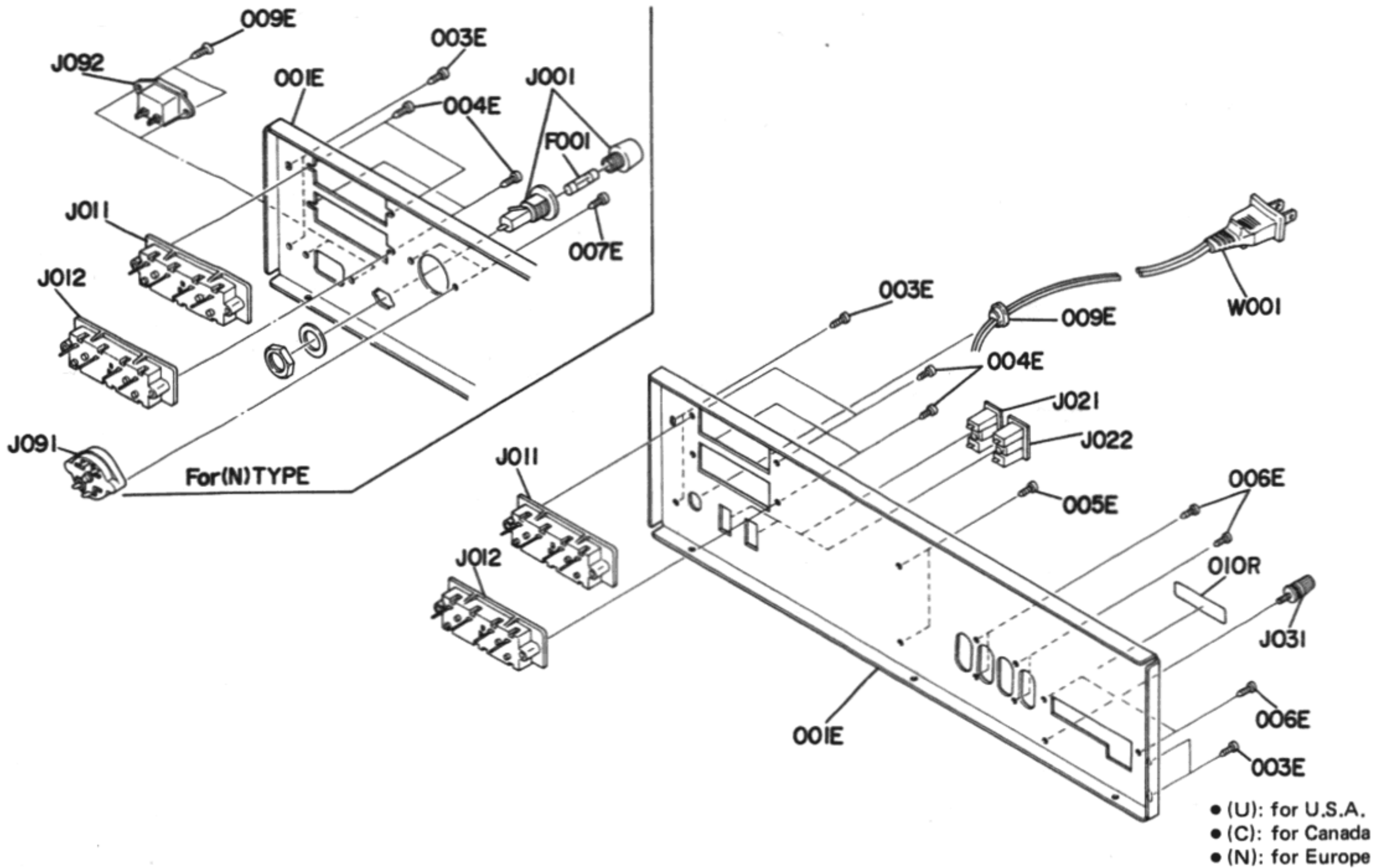


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
001D	1	1	1	2112064012	Case, Wood
002D	4	4	4	3906259010	Bushing
003D	4	4	4	51280414U0	B.H. Tapped Screw B4 x 14
006D	1	1	1	2112257022	Lid, Bottom Cover
007D	10	10	10	51280412B0	B.H. Tapped Screw B4 x 12
010D	4	4	4	2259057012	Leg

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
001R	1		1	2578861010	Label
001R		1		2911861112	Label
003R	1		1	2932861012	Label
003R		1		2911861143	Label

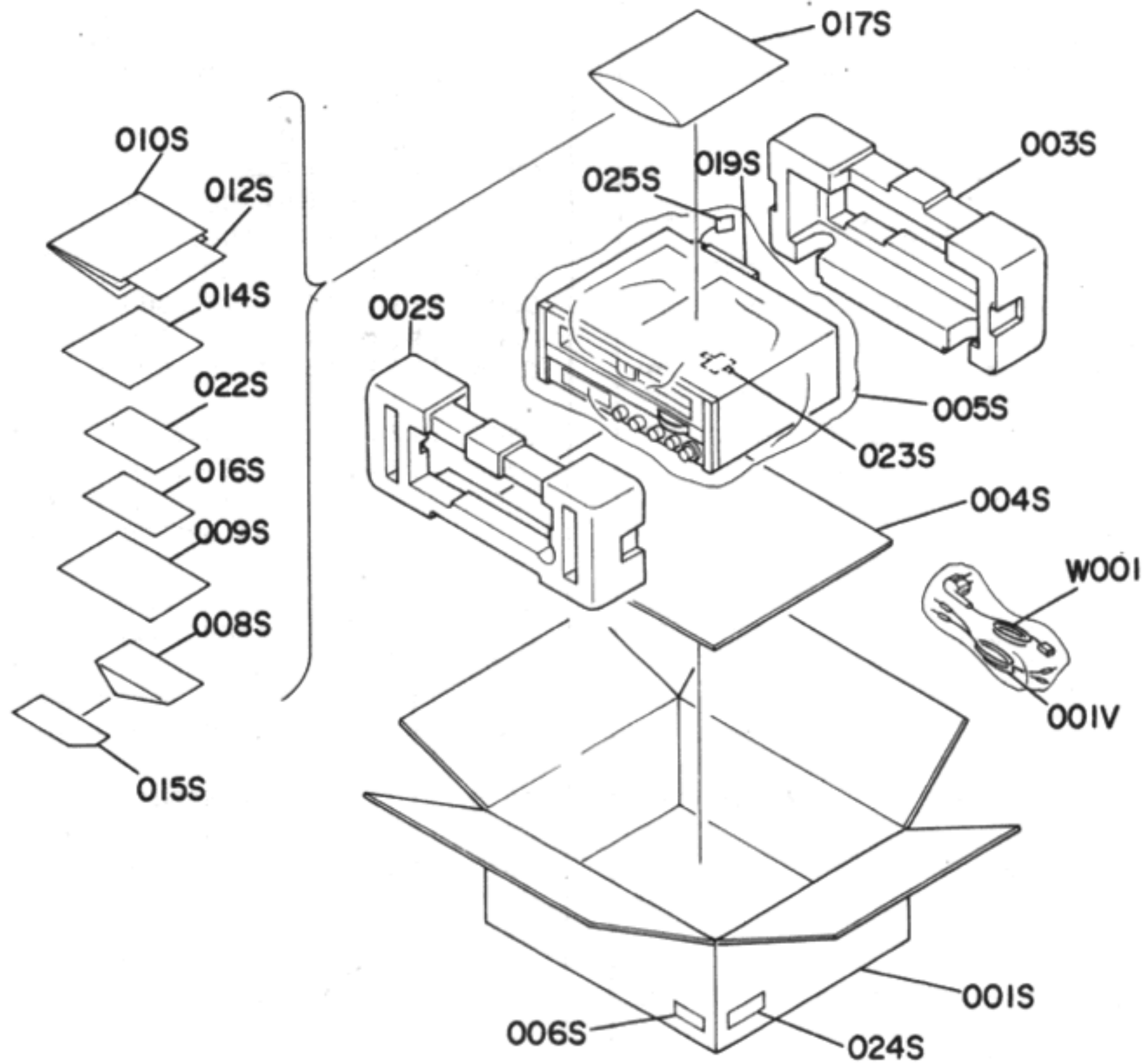
8.3 [C03-99] REAR PANEL



REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
001E	1			2112160210	Bracket
001E		1		2112160260	Bracket
001E			1	2112160220	Bracket
003E	4	4	4	51280308U0	B.H. Tapped Screw B3 x 8
004E	4	4	4	51280308U0	B.H. Tapped Screw B3 x 8
005E	2	2	2	51280308U0	B.H. Tapped Screw B3 x 8
006E	6	6	6	51280308U0	B.H. Tapped Screw B3 x 8
007E			2	51280308U0	B.H. Tapped Screw B3 x 8
009E	1	1		1455259030	Bushing
009E			2	51420308T0	O.C.H. Tapped Screw 3 x 8

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
△F001			1	FS10125800	Fuse 1.25AT 250V
△J001			1	YJ08000290	Jack, Fuse Holder
J011	1	1	1	YT03040170	Terminal, Speaker
J012	1	1	1	YT03040170	Terminal, Speaker
△J021	1	1		YJ04000560	Jack, AC Outlet
△J022	1	1		YJ04000560	Jack, AC Outlet
△J031	1	1	1	YL03010240	Terminal, Ground
△J091			1	BY05060010	Plug, Voltage Selector
△J092			1	YP04000590	Plug, AC Inlet
△W001	1	1		YC02000150	A.C. Power Cord
O10R	1	1	1	2112265010	Indicator

8.6 [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		
001S	1		1	2112801010	Packing Case
001S		1		2112801150	Packing Case
002S	1	1	1	2112809010	Cushion
003S	1	1	1	2112809020	Cushion
004S	1	1	1	2918107180	Sheet
005S	1	1	1	9090909040	Polyethy Sheet
006S	3			9526019010	Serial NO. Card
006S		3		9226019020	Serial NO. Card
006S			3	9526019060	Serial NO. Card
008S		1		2918813012	Envelope
008S			1	2818813010	Envelope
009S	1			2818854026	Guarantee Card
009S		1		2818854042	Guarantee Card
010S	1			2112851010	Instructions
010S		1	1	2112851310	Instructions
012S	1			2112851020	Instructions
012S		1		2112851050	Instructions
012S			1	2112851030	Instructions

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
014S	1			2225813010	Envelope
014S			1	2112856010	Circuit Diagram
015S		1	1	9630000180	Guarantee Card
016S		1		9650000053	S. Station Card
017S	1	1	1	9013025010	Polyethy Bag
019S	1	1	1	2864804010	Sleeve
022S		1		2886851100	Instruction
023S			1	2731821010	Silicagel
024S		2		9510901020	Label
025S			1	9560000043	Hang Tag
001V	1	1	1	ZA02000070	EXT. Antenna
W001			1	ZC01805020	A.C. Power Cord

8.7 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	YG21120010	P100-TUNER CIRCUIT BOARD P.W. Board, Tuner
	1	1		ZZ21120010	P.W. Board Assembly
			1	ZZ21128010	P.W. Board Assembly
P100-CAPACITORS					
CA01	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
CA02	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
CA03	1	1	1	EA10601690	Elect 10 μ F 16V
CA04	1	1	1	EA10602530	Elect 10 μ F 25V
CA05	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
CA06	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
CA07	1	1	1	DF17103300	Film 0.01 μ F \pm 20%
CA08	1	1	1	EA33405030	Elect 0.33 μ F 50V
CA09	1	1	1	EA33505090	Elect 3.3 μ F 50V
CA10	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
CA11	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
CA12	1	1	1	DD15470370	Ceramic 47pF \pm 5%
CA14	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
CA15	1	1	1	DF55391090	Film 390pF \pm 5%
CA16	1	1	1	DD11100370	Ceramic 10pF \pm 0.5pF
CA17	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
CA18	1	1	1	EA22601690	Elect 22 μ F 16V
CA20	1	1	1	EA22601690	Elect 22 μ F 16V
CA21	1	1	1	DK18223320	Ceramic 0.022 μ F +80% -20%
CV01	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
CV02	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C101	1	1	1	DD11100300	Ceramic 10pF \pm 0.5pF
C103	1	1	1	EA33405030	Elect 0.33 μ F 50V
C104	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C105	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C106	1	1	1	DK18223320	Ceramic 0.022 μ F +80% -20%
C107	1	1	1	DD15150300	Ceramic 15pF \pm 5%
C108	1	1	1	DD10050370	Ceramic 5pF \pm 0.25pF
C109	1	1	1	DD11100370	Ceramic 10pF \pm 0.5pF
C110	1	1	1	DD15301360	Ceramic 300pF \pm 5%
C111	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C113	1	1	1	DD10010300	Ceramic 1pF \pm 0.25pF
C114	1	1	1	CT110000B0	Trimming 10pF \pm 0.5pF
C115	1	1	1	DD15150350	Ceramic 15pF \pm 5%
C116	1	1	1	DD11100300	Ceramic 10pF \pm 0.5pF
C117	1	1	1	DD15300300	Ceramic 30pF \pm 5%
C118	1	1	1	DD15150300	Ceramic 15pF \pm 5%
C119	1	1	1	DK18223320	Ceramic 0.022 μ F +80% -20%
C120	1	1	1	CA32400100	Variable, FM-3, AM-2
C122	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C201	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C202	1	1	1	DK18223320	Ceramic 0.022 μ F +80% -20%
C203	1	1	1	DK18403320	Ceramic 0.04 μ F +80% -20%
C205	1	1	1	DK18403320	Ceramic 0.04 μ F +80% -20%
C206	1	1	1	EA22505030	Elect 2.2 μ F 50V
C207	1	1	1	DK18403320	Ceramic 0.04 μ F +80% -20%
C208	1	1	1	DK18403320	Ceramic 0.04 μ F +80% -20%
C209	1	1	1	EA10505090	Elect 1 μ F 50V
C210	1	1	1	DK18403320	Ceramic 0.04 μ F +80% -20%
C212	1	1	1	DK18403320	Ceramic 0.04 μ F +80% -20%

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
C213	1	1	1	EA47405030	Elect 0.47 μ F 50V
C214	1	1	1	DK18403320	Ceramic 0.04 μ F +80% -20%
C215	1	1	1	DK18403320	Ceramic 0.04 μ F +80% -20%
C216	1	1	1	EA47405030	Elect 0.47 μ F 50V
C217	1	1	1	EA10601690	Elect 10 μ F 16V
C218	1	1	1	EA10505090	Elect 1 μ F 50V
C219	1	1	1	DD15330370	Ceramic 33pF \pm 5%
C302	1	1	1	DF17473300	Film 0.047 μ F \pm 20%
C303	1	1	1	DF55471090	Film 470pF \pm 5%
C304	1	1	1	EA33505090	Elect 3.3 μ F 50V
C305	1	1	1	EA22505030	Elect 2.2 μ F 50V
C306	1	1	1	EQ22405010	Elect 0.22 μ F \pm 20%
C307	1	1	1	DD15471360	Ceramic 470pF \pm 5%
C308	1	1	1	EA47601690	Elect 47 μ F 16V
C309	1	1	1	DD15470370	Ceramic 47pF \pm 5%
C310	1	1	1	DD15470370	Ceramic 47pF \pm 5%
C311	1	1	1	EA10601690	Elect 10 μ F 16V
C312	1	1	1	EA10601690	Elect 10 μ F 16V
C313	1	1	1	EA10602530	Elect 10 μ F 25V
C314	1	1	1	EA10601690	Elect 10 μ F 16V
C315	1	1	1	EA47405030	Elect 0.47 μ F 50V
C316	1	1	1	EA47405030	Elect 0.47 μ F 50V
C317	1	1		DF16272300	Film 2700pF \pm 10%
C317			1	DF16182300	Film 1800pF \pm 10%
C318	1	1		DF16272300	Film 2700pF \pm 10%
C318			1	DF16182300	Film 1800pF \pm 10%
C319	1	1	1	EA10505030	Elect 1 μ F 50V
C320	1	1	1	EA10505090	Elect 1 μ F 50V
C327	1	1	1	EA47601690	Elect 47 μ F 16V
C328	1	1	1	DK18403320	Ceramic 0.04 μ F +80% -20%
C329	1	1	1	DK18403320	Ceramic 0.04 μ F +80% -20%
C330	1	1	1	DK18403320	Ceramic 0.04 μ F +80% -20%
C401	1	1	1	EA33505030	Elect 3.3 μ F 50V
C402	1	1	1	EA33505030	Elect 3.3 μ F 50V
C403	1	1	1	DD15470370	Ceramic 47pF \pm 5%
C404	1	1	1	DD15470370	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 5%
C408	1	1	1	DK16221300	Ceramic 220pF \pm 5%
C409	1	1	1	DF16123300	Film 0.012 μ F \pm 10%
C410	1	1	1	DF16123300	Film 0.012 μ F \pm 10%
C411	1	1	1	DF16332300	Film 0.0033 μ F \pm 10%
C412	1	1	1	DF16332300	Film 0.0033 μ F \pm 10%
C413	1	1	1	EA10505090	Elect 1 μ F 50V
C414	1	1	1	EA10603590	Elect 10 μ F 35V
C415	1	1	1	EA10505030	Elect 1 μ F 50V
C416	1	1	1	EA10505030	Elect 1 μ F 50V
C417	1	1	1	DD15220370	Ceramic 22pF \pm 5%
C418	1	1	1	DD15220370	Ceramic 22pF \pm 5%
C419	1	1	1	DK17332300	Ceramic 0.0033 μ F \pm 20%
C420	1	1	1	DK17332300	Ceramic 0.0033 μ F \pm 20%
C321	1	1	1	EA10505030	Elect 1 μ F 50V

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
P100-RESISTORS (All Resistors are $\pm 5\%$ and $\frac{1}{4}W$)					
RA02	1	1	1	GD05103140	10K Ω
RA03	1	1	1	GD05103140	10K Ω
RA04	1	1	1	GD05223140	22K Ω
RA05	1	1	1	GD05222140	2.2K Ω
RA06	1	1	1	GD05271140	270 Ω
RA07	1	1	1	GD05102140	1K Ω
RA08	1	1	1	GD05563140	56K Ω
RA09	1	1	1	GD05273140	27K Ω
RA10	1	1	1	GD05104140	100K Ω
RA11	1	1	1	GD05333140	33K Ω
RA12	1	1	1	GD05104140	100K Ω
RA13	1	1	1	GD05102140	1K Ω
RA14	1	1	1	GD05222140	2.2K Ω
RA15	1	1	1	GD05470140	47 Ω
R101	1	1	1	GD05104140	100K Ω
R102	1	1	1	GD05680140	68 Ω
R103	1	1	1	GD05101140	100 Ω
R104	1	1	1	GD05101140	100 Ω
R105	1	1	1	GD05223140	22K Ω
R107	1	1	1	GD05223140	22K Ω
R108	1	1	1	GD05472140	4.7K Ω
R109	1	1	1	GD05102140	1K Ω
R110	1	1	1	GG05183140	18K Ω
R111	1	1	1	GD05103140	10K Ω
R112	1	1	1	GD05272140	2.7K Ω
R113	1	1	1	GD05103140	10K Ω
R114	1	1	1	GD05101140	100 Ω
R115	1	1	1	GG05470140	47 Ω
R201	1	1	1	GD05331140	330 Ω
R202	1	1	1	GD05272140	2.7K Ω
R203	1	1	1	GD05153140	15K Ω
R204	1	1	1	GD05331140	330 Ω
R205	1	1	1	GD05561140	560 Ω
R207	1	1	1	RA05030090	50K Ω (B) Trimming
R208	1	1	1	GD05104140	100K Ω
R209	1	1	1	GD05103140	10K Ω
R210	1	1	1	GD05222140	2.2K Ω
R211	1	1	1	GD05124140	120K Ω
R212	1	1	1	GD05682140	6.8K Ω
R213	1	1	1	GG05470140	47 Ω
R214	1	1	1	GD05103140	10K Ω
R215	1	1	1	GD05332140	3.3K Ω
R216	1	1	1	GD05331140	330 Ω
R219	1	1	1	GD05154140	150K Ω
R221	1	1	1	GD05682140	6.8K Ω
R301	1	1	1	GD05473140	47K Ω
R302	1	1	1	GD05222140	2.2K Ω
R303	1	1	1	GD05153140	15K Ω

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
R304	1	1	1	RA05020160	5K Ω (B) Trimming
R305	1	1	1	GD05102140	1K Ω
R306	1	1	1	GG05101140	100 Ω
R307	1	1	1	GD05223140	22K Ω
R308	1	1	1	GD05223140	22K Ω
R309	1	1	1	GD05473140	47K Ω
R310	1	1	1	GD05473140	47K Ω
R311	1	1	1	GD05393140	39K Ω
R312	1	1	1	GD05393140	39K Ω
R313	1	1	1	RA05040090	500K Ω (B) Trimming
R315	1	1	1	GD05472140	4.7K Ω
R316	1	1	1	GD05472140	4.7K Ω
R317	1	1	1	GD05472140	4.7K Ω
R318	1	1	1	GD05472140	4.7K Ω
R319	1	1	1	GD05273140	27K Ω
R320	1	1	1	GD05273140	27K Ω
R321	1	1	1	GD05473140	47K Ω
R322	1	1	1	GD05184140	180K Ω
R323	1	1	1	GD05564140	560K Ω
R324	1	1	1	GD05564140	560K Ω
R325	1	1	1	GD05392140	3.9K Ω
R326	1	1	1	GD05392140	3.9K Ω
R327	1	1	1	GD05102140	1K Ω
R328	1	1	1	GD05102140	1K Ω
R329	1	1	1	GD05473140	47K Ω
R330	1	1	1	GD05473140	47K Ω
R331	1	1	1	GD05101140	100 Ω
R332	1	1	1	GD05101140	100 Ω
R333	1	1	1	GD05272140	2.7K Ω
R334	1	1	1	GD05104140	100K Ω
R335	1	1	1	GD05332140	3.3K Ω
R337	1	1	1	GD05183140	18K Ω
R401	1	1	1	GD05222140	2.2K Ω
R402	1	1	1	GD05222140	2.2K Ω
R403	1	1	1	GD05471140	470 Ω
R404	1	1	1	GD05471140	470 Ω
R405	1	1	1	GD05563140	56K Ω
R406	1	1	1	GD05563140	56K Ω
R407	1	1	1	GD05394140	390K Ω
R408	1	1	1	GD05394140	390K Ω
R409	1	1	1	GD05184140	180K Ω
R410	1	1	1	GD05184140	180K 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
R417	1	1	1	GD05224140	220K Ω
R418	1	1	1	GD05224140	220K Ω
R419	1	1	1	GD05223140	22K Ω
R420	1	1	1	GD05223140	22K Ω
R421	1	1	1	GG05220140	22 Ω
R422	1	1	1	GD05184140	180K Ω
R423	1	1	1	GD05471140	470 Ω
R424	1	1	1	GD05471140	470 Ω

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
P100-SEMICONDUCTORS					
QA01	1	1	1	HC10025060	IC μ PC1178C
QA02	1	1	1	HV00006120	Varistor MV-203
QA03	1	1	1	HT32634280	Transistor 2SC2634(S or T)
Q101	1	1	1	HF40045180	F.E.T. 3SK45(B)
Q102	1	1	1	HT310471C0	Transistor 2SC1047(C)
Q103	1	1	1	HT308291C0	Transistor 2SC829(C)
Q201	1	1	1	HT308291C0	Transistor 2SC829(C)
Q202	1	1	1	HC10028030	IC LA1231
Q204	1	1	1	HD20011050	Diode 1S1555
Q301	1	1	1	HC10024060	IC μ PC11610
Q302	1	1	1	HD20011050	Diode 1S1555
Q303	1	1	1	HT32634280	Transistor 2SC2634(S or T)
Q304	1	1	1	HT32634280	Transistor 2SC2634(S or T)
Q305	1	1	1	HD20011050	Diode 1S1555
Q401	1	1	1	HC10012060	IC μ PC1024H
Q402	1	1	1	HC10012060	IC μ PC1024H
P100-MISCELLANEOUS					
FA01	1	1	1	FF10045200	Ceramic Filter 450KHz
F201	1	1	1	FF11070050	Ceramic Filter SFE10.7MD1
F202	1	1	1	FF11070050	Ceramic Filter SFE10.7MD1
F203	1	1	1	FF11070050	Ceramic Filter SFE10.7MD1
JV01	1	1	1	YT02040280	Terminal, RCA Phono/Aux
JV02	1	1	1	YT02040280	Terminal, RCA Tape In/Out
JV03	1	1	1	YT01050010	Terminal, Antenna
LA01	1	1	1	LC11540020	Choke Coil 150 μ H
LA04	1	1	1	LO10010480	OSC Coil
LA05	1	1	1	LI10010730	I.F.T. 450KHz
LA06	1	1	1	LI10010740	I.F.T. 450KHz
L101	1	1	1	LA12028040	Ant. Coil
L102	1	1	1	LL24800030	Coil
L103	1	1	1	LK11800030	Coil
L104	1	1	1	LC17510010	Choke Coil 0.75 μ H
L105	1	1	1	LO12036010	OSC Coil
L106	1	1	1	LI10016010	I.F.T.
L201	1	1	1	LI14016240	I.F.T.
L203	1	1	1	LC11830010	Choke Coil 18 μ H
L301	1	1	1	LS20013010	M.P.X. Coil
L302	1	1	1	LS20013010	M.P.X. Coil
KS00	1	1	1	SR06040130	Rotary Switch, Selector
P700-MAIN AMP./POWER SUPPLY CIRCUIT BOARD					
P700	1	1	1	YK21121810	P.W. Board, Main Amp./Power Supply
	1			ZZ21121810	P.W. Board Assembly
		1		ZZ21123810	P.W. Board Assembly
			1	ZZ21128810	P.W. Board Assembly
P700-CAPACITORS					
C701	1	1	1	DD15471370	Ceramic 470pF \pm 5%
C702	1	1	1	DD15471370	Ceramic 470pF \pm 5%
C703	1	1	1	EA10505030	Elect 1 μ F 50V
C704	1	1	1	EA10505030	Elect 1 μ F 50V
C705	1	1	1	EA47601690	Elect 47 μ F 16V
C706	1	1	1	EA47601690	Elect 47 μ F 16V
C707	1	1	1	EA10505030	Elect 1 μ F 50V
C708	1	1	1	EA10505030	Elect 1 μ F 50V
C709	1	1	1	DD11060370	Ceramic 6pF \pm 0.5pF
C710	1	1	1	DD11060370	Ceramic 6pF \pm 0.5pF

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
C711	1	1	1	DF16473540	Film 0.047 μ F \pm 10%
C712	1	1	1	DF16473540	Film 0.047 μ F \pm 10%
C713	1	1	1	EA22705090	Elect 220 μ F 50V
C714	1	1	1	EA22705090	Elect 220 μ F 50V
C715	1	1	1	EA22705090	Elect 220 μ F 50V
C716	1	1	1	EA22705090	Elect 220 μ F 50V
C717	1	1	1	DF17104300	Film 0.1 μ F \pm 20%
C718	1	1	1	DF17104300	Film 0.1 μ F \pm 20%
C719	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C720	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C801	1	1	1	DK18103510	Ceramic 0.01 μ F +80% -20%
C802	1	1	1	DK18103510	Ceramic 0.01 μ F +80% -20%
Δ C803	1	1		EB10904210	Elect 10000 μ F 42V
Δ C803			1	EB68804210	Elect 6800 μ F 42V
Δ C804	1	1		EB10904210	Elect 10000 μ F 42V
Δ C804			1	EB68804210	Elect 6800 μ F 42V
C806	1	1	1	DK18103510	Ceramic 0.01 μ F +80% -20%
C807	1	1	1	EA47706390	Elect 470 μ F 63V
C808	1	1	1	EA47605090	Elect 47 μ F 50V
C809	1	1	1	EA22605090	Elect 22 μ F 50V
C810	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C811	1	1	1	EA22701690	Elect 220 μ F 16V
C812	1	1	1	EA10602530	Elect 10 μ F 25V
C813	1	1	1	EA10603530	Elect 10 μ F 35V
C814	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C815	1	1	1	EA10602530	Elect 10 μ F 25V
C816	1	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C818	1	1	1	EA47606390	Elect 47 μ F 63V
C817	1	1	1	EA22701090	Elect 220 μ F 10V
P700-RESISTORS					
(All Resistors are \pm 5% and $\frac{1}{2}$ W)					
R701	1	1	1	GD05102140	1K Ω
R702	1	1	1	GD05102140	1K Ω
R703	1	1	1	GD05334140	330K Ω
R704	1	1	1	GD05334140	330K Ω
R705	1	1	1	GD05393140	39K Ω
R706	1	1	1	GD05393140	39K Ω
R707	1	1	1	GD05122140	1.2K Ω
R708	1	1	1	GD05122140	1.2K Ω
R709	1	1	1	GD05273140	27K Ω
R710	1	1	1	GD05273140	27K Ω
R711	1	1	1	GA05047010	4.7 Ω 1W
R712	1	1	1	GA05047010	4.7 Ω 1W
R713	1	1	1	GG05101140	100 Ω
R714	1	1	1	GG05101140	100 Ω
R715	1	1	1	GG05101140	100 Ω
R716	1	1	1	GG05101140	100 Ω
R717	1	1	1	RC10047120	4.7 Ω \pm 10% $\frac{1}{2}$ W
R718	1	1	1	RC10047120	4.7 Ω \pm 10% $\frac{1}{2}$ W
R719	1	1	1	GD05100140	10 Ω
R720	1	1	1	GD05100140	10 Ω

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION		
	U	C	N				
△R801	1	1	1	RC10225120	2.2MΩ	±10%	½W
R802	1	1	1	GA05102020	1KΩ		2W
R803	1	1	1	GG05102140	1KΩ		
R804	1	1	1	GG05182140	1.8KΩ		
R805	1	1	1	GG05102140	1KΩ		
R806	1	1	1	GP05151030	150Ω		3W
R807	1	1	1	GD05103140	10KΩ		
R808	1	1	1	GD05822140	8.2KΩ		
R809	1	1	1	GD05222140	2.2KΩ		
R810	1	1	1	GD05473140	47KΩ		
R811	1	1	1	GD05103140	10KΩ		
R812	1	1	1	GD05824140	820KΩ		
R813	1	1	1	GD05100140	10Ω		
R814	1	1	1	GD05272140	2.7KΩ		
R815	1	1	1	GD05273140	27KΩ		
R816	1	1	1	GD05153140	15KΩ		
P700-SEMICONDUCTORS							
△Q701	1	1	1	HC10029030	IC	STK080G	
△Q702	1	1	1	HC10029030	IC	STK080G	
Q703	1	1	1	HT326342B0	Transistor	2SC2634(S or T)	
Q704	1	1	1	HT326342B0	Transistor	2SC2634(S or T)	
△Q801	1	1	1	HD20009290	Diode	S2V-20	
△Q802	1	1	1	HD20009290	Diode	S2V-20	
△Q803	1	1	1	HD20009290	Diode	S2V-20	
△Q804	1	1	1	HD20009290	Diode	S2V-20	
Q806	1	1	1	HD20005010	Diode	W06B	
Q807	1	1	1	HT40313100	Transistor	2SD313(E)	
Q808	1	1	1	HT326342B0	Transistor	2SC2634(S or T)	
Q809	1	1	1	HD30021090	Zener	BZ-140	
Q810	1	1	1	HD20011050	Diode	1S1555	
Q811	1	1	1	HT326342B0	Transistor	2SC2634(S or T)	
Q812	1	1	1	HT326342B0	Transistor	2SC2634(S or T)	
Q813	1	1	1	HD30029090	Zener	WZ-090	
Q814	1	1	1	HD20011050	Diode	1S1555	
P700-MISCELLANEOUS							
F701	1	1		FS20350910	Fuse	3.5A	250V
F701			1	FS10350800	Fuse	3.5AT	250V
F702	1	1		FS20350910	Fuse	3.5A	250V
F702			1	FS10350800	Fuse	3.5AT	250V
△F801	1			FS10250050	Fuse	2.5A	250V
△F801		1		FS10250040	Fuse	2.5A	250V
△F802			1	FS10400800	Fuse	3.15AT	250V
△F803			1	FS10400800	Fuse	3.15AT	250V
△F804		1		FS10100090	Fuse	1A	250V
△F804			1	FS10100800	Fuse	1AT	250V
△F805		1		FS10100090	Fuse	1A	250V
△F805			1	FS10100800	Fuse	1AT	250V
△G801	1			BF10400030	Cap. Comp.	0.1μF + 120Ω	
△G801		1		BF10400050	Cap. Comp.	0.1μF + 120Ω	

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION		
	U	C	N				
J701							
?			4	YJ08000270	Jack, Fuse Holder		
J704							
J801	1	1		YJ08000170	Jack, Fuse Holder		
J802	1	1		YJ08000170	Jack, Fuse Holder		
J803							
?		8		YJ08000170	Jack, Fuse Holder		
J810							
J803							
?			8	YJ08000270	Jack, Fuse Holder		
J810							
L701	1	1	1	LL23915120	Coil		
L702	1	1	1	LL23915120	Coil		
L801	1	1	1	LC13320050	Choke Coil	3.3μH	
PE00-TONE AMP. CIRCUIT BOARD							
PE00	1	1	1	YK21121820	P.W. Board, Tone Amp.		
	1	1	1	ZZ21121820	P.W. Board Assembly		
PE00-CAPACITORS							
CE01	1	1	1	EA22405030	Elect	0.22μF	50V
CE02	1	1	1	EA22405030	Elect	0.22μF	50V
CE03	1	1	1	DD15221370	Ceramic	220pF ±5%	
CE04	1	1	1	DD15221370	Ceramic	220pF ±5%	
CE05	1	1	1	EA47503590	Elect	4.7μF	35V
CE06	1	1	1	EA47503590	Elect	4.7μF	35V
CE07	1	1	1	DD15101370	Ceramic	100pF ±5%	
CE08	1	1	1	DD15101370	Ceramic	100pF ±5%	
CE09	1	1	1	EA10601690	Elect	10μF	16V
CE10	1	1	1	EA10601690	Elect	10μF	16V
CE11	1	1	1	DF17472300	Film	0.0047μF ±20%	
CE12	1	1	1	DF17472300	Film	0.0047μF ±20%	
CE13	1	1	1	DF17103300	Film	0.01μF ±20%	
CE14	1	1	1	DF17103300	Film	0.01μF ±20%	
CE15	1	1	1	DF17103300	Film	0.01μF ±20%	
CE16	1	1	1	DF17103300	Film	0.01μF ±20%	
CE17	1	1	1	EA10505030	Elect	1μF	50V
CE18	1	1	1	EA10505030	Elect	1μF	50V
CE21	1	1	1	DF17472300	Film	0.0047μF ±20%	
CE22	1	1	1	DF17472300	Film	0.0047μF ±20%	
CE23	1	1	1	EA33505030	Elect	3.3μF	50V
CE24	1	1	1	EA33505030	Elect	3.3μF	50V
CE25	1	1	1	DF17222300	Film	0.0022μF ±20%	
CE26	1	1	1	DF17222300	Film	0.0022μF ±20%	

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
PE00-RESISTORS (All Resistors are ±5% and ¼W)					
RE01	1	1	1	RQ02040020	50KΩ(B) x 2, 200KΩ Variable
RE03	1	1	1	GD05391140	390Ω
RE04	1	1	1	GD05391140	390Ω
RE05	1	1	1	GD05333140	33KΩ
RE06	1	1	1	GD05472140	4.7KΩ
RE07	1	1	1	GD05105140	1MΩ
RE08	1	1	1	GD05105140	1MΩ
RE09	1	1	1	GD05182140	1.8KΩ
RE10	1	1	1	GD05182140	1.8KΩ
RE11	1	1	1	GD05273140	27KΩ
RE12	1	1	1	GD05273140	27KΩ
RE13	1	1	1	GD05822140	8.2KΩ
RE14	1	1	1	GD05822140	8.2KΩ
RE15	1	1	1	GD05474140	470KΩ
RE16	1	1	1	GD05474140	470KΩ
RE17	1	1	1	RM01040150	100KΩ(B) x 2 Variable
RE19	1	1	1	GD05123140	12KΩ
RE20	1	1	1	GD05123140	12KΩ
RE21	1	1	1	GD05822140	8.2KΩ
RE22	1	1	1	GD05822140	8.2KΩ
RE25	1	1	1	GD05562140	5.6KΩ
RE26	1	1	1	GD05562140	5.6KΩ
RE27	1	1	1	RM01040150	100KΩ(B) x 2 Variable
RE29	1	1	1	GD05562140	5.6KΩ
RE30	1	1	1	GD05562140	5.6KΩ
RE31	1	1	1	GD05273140	27KΩ
RE32	1	1	1	GD05273140	27KΩ
RE33	1	1	1	GD05273140	27KΩ
RE34	1	1	1	GD05273140	27KΩ
RE35	1	1	1	RM01040150	100KΩ(B) x 2 Variable
RE37	1	1	1	GD05273140	27KΩ
RE38	1	1	1	GD05273140	27KΩ
RE41	1	1	1	GD05225140	2.2MΩ
RE42	1	1	1	GD05225140	2.2MΩ
RE43	1	1	1	GD05683140	68KΩ
RE44	1	1	1	GD05683140	68KΩ
RE45	1	1	1	GD05103140	10KΩ
RE46	1	1	1	GD05103140	10KΩ
RE47	1	1	1	GD05221140	220Ω
RE48	1	1	1	GD05221140	220Ω
RE49	1	1	1	GD05473141	47KΩ
RE50	1	1	1	GD05473141	47KΩ
RE51	1	1	1	GD05102140	1KΩ
RE52	1	1	1	GD05102140	1KΩ
RE53	1	1	1	GD05223140	22KΩ
RE54	1	1	1	GD05223140	22KΩ
PE00-SEMICONDUCTORS					
QE01	1	1	1	HT326342B0	Transistor 2SC2634(S or T)
QE02	1	1	1	HT326342B0	Transistor 2SC2634(S or T)
QE03	1	1	1	HT111272B0	Transistor 2SA1127(S or T)
QE04	1	1	1	HT111272B0	Transistor 2SA1127(S or T)
QE05	1	1	1	HT326342B0	Transistor 2SC2634(S or T)
QE06	1	1	1	HT326342B0	Transistor 2SC2634(S or T)
QE07	1	1	1	HT111272B0	Transistor 2SA1127(S or T)
QE08	1	1	1	HT111272B0	Transistor 2SA1127(S or T)

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
PS00-PUSH SWITCH CIRCUIT BOARD					
PS00	1	1	1	YK21121830	P.W. Board, Push Switch
	1	1		ZZ21121830	P.W. Board Assembly
			1	ZZ21127830	P.W. Board Assembly
PS00-CAPACITORS					
CS01	1	1	1	DF17823300	Film 0.082μF ±20%
CS02	1	1	1	DF17823300	Film 0.082μF ±20%
CS03	1	1	1	DF17182300	Film 0.0018μF ±20%
CS04	1	1	1	DF17182300	Film 0.0018μF ±20%
CS05			1	EA33405030	Elect 0.33μF 50V
CS06			1	EA33405030	Elect 0.33μF 50V
PS00-RESISTORS (All Resistors are ±5% and ¼W)					
RS01	1	1	1	GD05332140	3.3KΩ
RS02	1	1	1	GD05332140	3.3KΩ
RS03	1	1	1	GD05332140	3.3KΩ
RS04	1	1	1	GD05332140	3.3KΩ
RS05	1	1	1	GD05392140	3.9KΩ
RS06	1	1	1	GD05392140	3.9KΩ
RS07	1	1	1	GD05562140	5.6KΩ
RS08	1	1	1	GD05562140	5.6KΩ
RS09			1	GD05473140	47KΩ
RS10			1	GD05473140	47KΩ
RS11			1	GD05224140	220KΩ
RS12			1	GD05224140	220KΩ
PS00-SWITCHES					
SS01	1	1		SP04030160	Push Switch
SS01			1	SP04040210	Push Switch
PW00-HEADPHONE JACK CIRCUIT BOARD					
PW00	1	1	1	YK21121850	P.W. Board, Headphone Jack
	1	1	1	ZZ21121850	P.W. Board Assembly
JW01	1	1	1	YJ01001340	Jack, Headphone
PX00-POWER METER/SPK SW CIRCUIT BOARD					
PX00	1	1	1	YK21121840	P.W. Board, Power Meter/SPK SW
	1	1	1	ZZ21121840	P.W. Board Assembly
PX00-CAPACITORS					
CX01	1	1	1	DF17223300	Film 0.022μF ±20%
CX02	1	1	1	DF17223300	Film 0.022μF ±20%
CX03	1	1	1	EA47601090	Elect 47μF 10V
CX04	1	1	1	EA47601090	Elect 47μF 10V

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

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
PX00-RESISTORS (All Resistors are $\pm 5\%$ and $\frac{1}{4}W$)					
RX01	1	1	1	GA05331020	330 Ω 2W
RX02	1	1	1	GA05331020	330 Ω 2W
RX03	1	1	1	GA05331010	330 Ω 1W
RX04	1	1	1	GA05331010	330 Ω 1W
RX05	1	1	1	GG05120140	12 Ω
RX06	1	1	1	GG05120140	12 Ω
RX07	1	1	1	GD05271140	270 Ω
RX08	1	1	1	GD05271140	270 Ω
RX09	1	1	1	RA01020110	1K Ω (B) Trimming
RX10	1	1	1	RA01020110	1K Ω (B) Trimming
PX00-SEMICONDUCTORS					
QX01	1	1	1	HD20003210	Diode 1S2471
QX02	1	1	1	HD20003210	Diode 1S2471
QX03	1	1	1	HD10001010	Diode 1N34A
QX04	1	1	1	HD10001010	Diode 1N34A
PX00-SWITCH					
SX01	1	1	1	SP02020420	Push Switch, Speaker
PY00-STEREO LED CIRCUIT BOARD					
PY00	1	1	1	YK21121860	P.W. Board, Stereo LED
	1	1	1	ZZ21121860	P.W. Board Assembly
RY01	1	1	1	GD05222140	Resistor 2.2K Ω $\pm 5\%$ $\frac{1}{4}W$
QY01	1	1	1	HI10009020	L.E.D. LN26RP

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	N		
PZ00-DIAL POINTER LAMP CIRCUIT BOARD					
PZ00	1	1	1	YK21121870	P.W. Board, Dial Pointer Lamp
	1	1	1	ZZ21121870	P.W. Board Assembly
VZ01	1	1	1	IN10080460	Lamp 100mA 8V
PZ50-TUNING METER LAMP CIRCUIT BOARD					
PZ50	1	1	1	YK21101880	P.W. Board, Tuning Meter Lamp
	1	1	1	ZZ21101880	P.W. Board Assembly
VZ51	1	1	1	IN10080460	Lamp 100mA 8V

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

9. TECHNICAL SPECIFICATIONS

[FOR U.S.A. & CANADA]

AMPLIFIER SECTION

RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER PER CHANNEL, BOTH CHANNELS DRIVEN	38 W
POWER BAND	20 Hz to 20 kHz
TOTAL HARMONIC DISTORTION	0.08%
LOAD IMPEDANCE	4 OHMS
RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER PER CHANNEL, BOTH CHANNELS DRIVEN	30 W
POWER BAND	20 Hz to 20 kHz
TOTAL HARMONIC DISTORTION	0.04%
LOAD IMPEDANCE	8 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	0.04%
at 4 ohm load impedance	0.08%
Damping Factor (at 20 Hz)	36

PREAMPLIFIER SECTION

Phono

Input Overload at 1 kHz	110 mV
Equivalent Input Noise ("A" Weighted)	2.5 μ V
Dynamic Range	
(Dynamic Range is the ratio of input overload to equivalent input noise)	93 dB
Input Sensitivity	2.7 mV
Input Impedance	47 kohms
Input Capacitance	220 pF
Frequency Response, RIAA 20 Hz to 20 kHz	± 0.5 dB
Signal-to-Noise Ratio ("A" Weighted)	
(at rated output and 10 mV input)	86 dB
High Level (Aux and Tape)	
Input Sensitivity	160 mV
Input Impedance	20 kohms
Frequency Response	
(includes power amp)	15 Hz to 50 kHz ± 1.0 dB
Signal-to-Noise Ratio ("A" Weighted)	
(ref. to rated output and 775 mV input)	98 dB
Output Levels	
Tape Out (ref. 10 mV at Phone inputs)	580 mV
Output Impedance	
Tape Out	500 ohms

FM TUNER SECTION

Sensitivity

IHF Usable	10.8 dBf (1.9 μ V)
IHF 50 dB Quieting (Mono)	14.2 dBf (2.8 μ V)
(Stereo)	37.3 dBf (40 μ V)
Quieting Slope (Mono)	
RF Input for 30 dB Quieting	10.8 dBf (1.9 μ V)
Quieting at:	
20 dBf (5.5 μ V)	55 dB
25 dBf (10 μ V)	60 dB
40 dBf (55 μ V)	72 dB
65 dBf (1000 μ V)	75 dB

Quieting Slope (Stereo)

Quieting at:

30 dBf (17 μ V)	40 dB
40 dBf (55 μ V)	52 dB
50 dBf (173 μ V)	60 dB
65 dBf (1000 μ V)	70 dB

Distortion (Mono) at 65 dBf (1000 μ V)

100 Hz	0.2%
1000 Hz	0.15%
6000 Hz	0.2%

Distortion (Stereo) at 65 dBf (1000 μ V)

100 Hz	0.3%
1000 Hz	0.25%
6000 Hz	0.4%

Frequency Response

30 Hz to 15 kHz

Mono and Stereo	+0.5 dB, -1.0 dB
---------------------------	------------------

Capture Ratio at 65 dBf (1000 μ V)	1.0 dB
Alternate Channel Selectivity	62 dB
Spurious Response Rejection	90 dB
Image Response Rejection	50 dB
I.F. Rejection (Balanced)	90 dB
A.M. Suppression	50 dB
Stereo Separation at 1 kHz	45 dB
Subcarrier Rejection	60 dB

AM TUNER SECTION

IHF Usable Sensitivity	20 μ V
Signal-to-Noise Ratio	50 dB
Alternate Channel Selectivity	44 dB
Image Rejection	45 dB
Spurious Response Rejection	55 dB
I.F. Rejection	40 dB

GENERAL

Power Requirements	120 VAC, 60 Hz
Power Consumption at rated output, both channels operating	150 W
Idling Power (Volume Control at zero)	28 W
Dimensions:	
Panel Width	466 mm (18-3/8")
Panel Height	140 mm (5-1/2")
Depth	323 mm (12-3/4")
Weight:	
Unit alone	8.0 kg (17.6 lbs)
Packed for Shipment	10.5 kg (23.1 lbs)

[FOR EUROPE]

AUDIO SECTION

POWER OUTPUT, DIN, 4 OHM, PER CHANNEL	38 W
POWER OUTPUT, FTC AMERICAN STANDARDS, 4 OHM, PER CHANNEL	40 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 OUTPUT, DIN, 8 OHM, PER CHANNEL	46 W
POWER OUTPUT, FTC AMERICAN STANDARDS, 8 OHM, PER CHANNEL	30 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	55 55 53
Frequency Response	
Phono (RIAA)	±1.0 dB
Aux (±1 dB)	18 Hz ~ 30 kHz
Signal-to-Noise Ratio	
Phono	70 dB
Aux	80 dB
Input Terminals	
Phono: Input Impedance	47 k ohms
Input Capacitance	100 pF
Input Sensitivity	2.7 mV
Overload Margin	35 dB
Aux: Input Impedance	20 k ohms
Input Sensitivity	160 mV
Phono Equivalent Input Noise	1.3 µV
Phono Dynamic Range (Ratio of input overload to equivalent input noise)	101 dB
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	50 dB
Tape 1 kHz	50 dB
Intersource Crosstalk (Worst Point)	
1 kHz	50 dB
Output Voltage, 1 kHz	
Tape Out	450 mV
Output Impedance, 1 kHz	
Tape Out	500 ohms
Headphone Jack Load Impedance	8 ohms

FM TUNER SECTION

Frequency Range	87.5 ~ 108 MHz
Usable Sensitivity 40 kHz Deviation, 98 MHz	
Mono, S/N 26 dB	1.6 µV
Stereo, S/N 46 dB	44 µV
Alternate Channel Selectivity, 98 MHz±300 kHz	36 dB
Image Response Rejection, 98 MHz	54 dB
IF Rejection, 98 MHz	100 dB
Spurious Response Rejection, 98 MHz	90 dB
AM Suppression, 98 MHz	57 dB