SERVICE MANUAL SR4000

marantz

model SR4000

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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We sound better.

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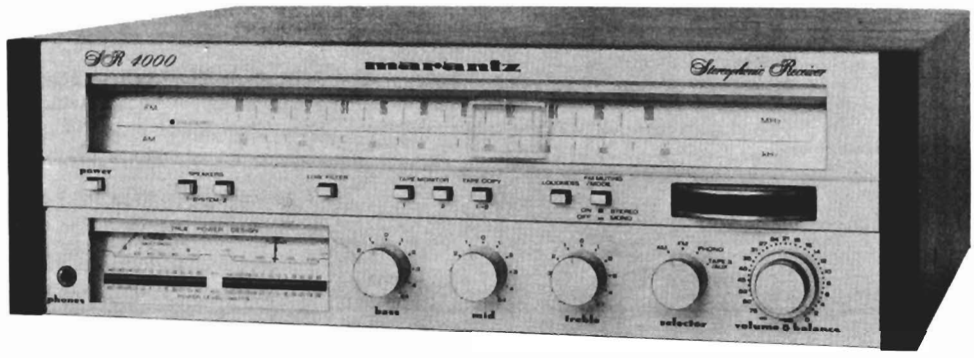
MODEL SR-4000 STEREOPHONIC RECEIVER



INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model SR 4000 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 4000 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/Phono . . . . . 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. Low Filter . . . . . mounted on P.W. Board PH00
5. LED Power Meter . . . . mounted on P.W. Board PK01
6. LED Power Meter Amp . . . . . mounted on P.W. Board PK02
7. Pushswitch . . . . . mounted on P.W. Board PS00
8. Speaker Switch . . . . . mounted on P.W. Board PT00
9. Headphone Jack . . . . . mounted on P.W. Board PW00
10. Speaker Terminal . . . . mounted on P.W. Board PW50
11. Stereo LED . . . . . mounted on P.W. Board PY00
12. Dial Pointer Lamp . . . mounted on P.W. Board PZ00

2. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Model SR 4000 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 (Ⓐ) 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 (Ⓓ) 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 (Ⓓ) 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 (Ⓑ), RF coil L103 (Ⓒ) 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 TC_1 (Ⓑ) and TC_2 (Ⓒ) 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 (Ⓔ) 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 (Ⓕ) 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 (Ⓔ) for minimum distortion.
3. Repeat the adjustment of L201 so that the tuning meter may read zero.

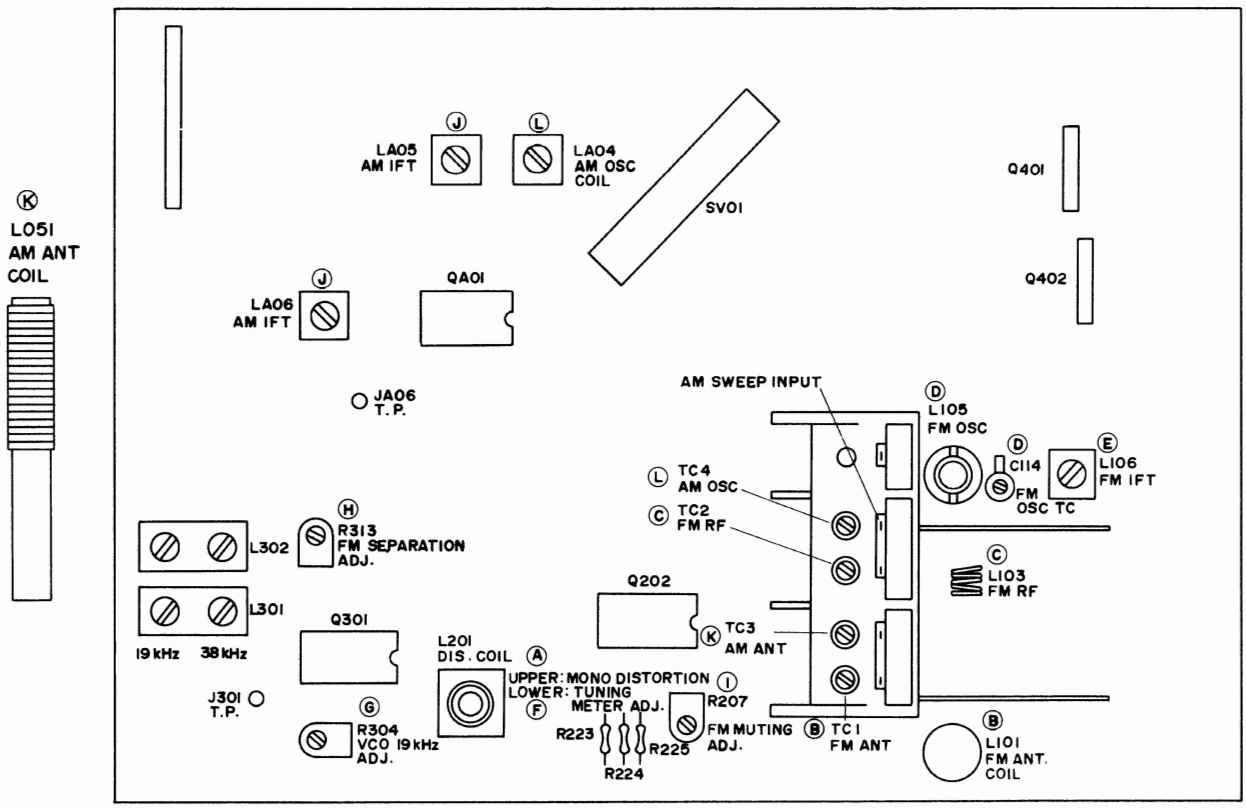


Figure 1. Adjustment Point Locations

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 (Ⓖ) 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 (Ⓗ) 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 μV) 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 (Ⓘ) until the output waveform disappears and adjust it to a point where the waveform comes to appear again.

3.9 FM SIGNAL STRENGTH METER ALIGNMENT

1. Set the FM signal generator to provide 60 dB (1 mV) 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. Check to insure that the pointer of signal strength meter deflects to 80% of the full scale. If over 80%, disconnect the R223 and R225 in this sequence.

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 (Ⓙ) and LA06 (Ⓙ) 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 (Ⓛ) for maximum audio output.
2. Set the AM signal generator to 1630 kHz. Place the tuning pointer in the high frequency end and adjust the trimming capacitor TC_4 (Ⓛ) 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 (Ⓚ) for maximum output.
5. Set the generator to 1400 kHz and tune the receiver to the same frequency and adjust the antenna trimming capacitor TC_3 (Ⓚ) for maximum output.
6. Repeat steps 4 and 5 until no further adjustment is necessary.

NOTE: Use the loop for AM tracking alignment.

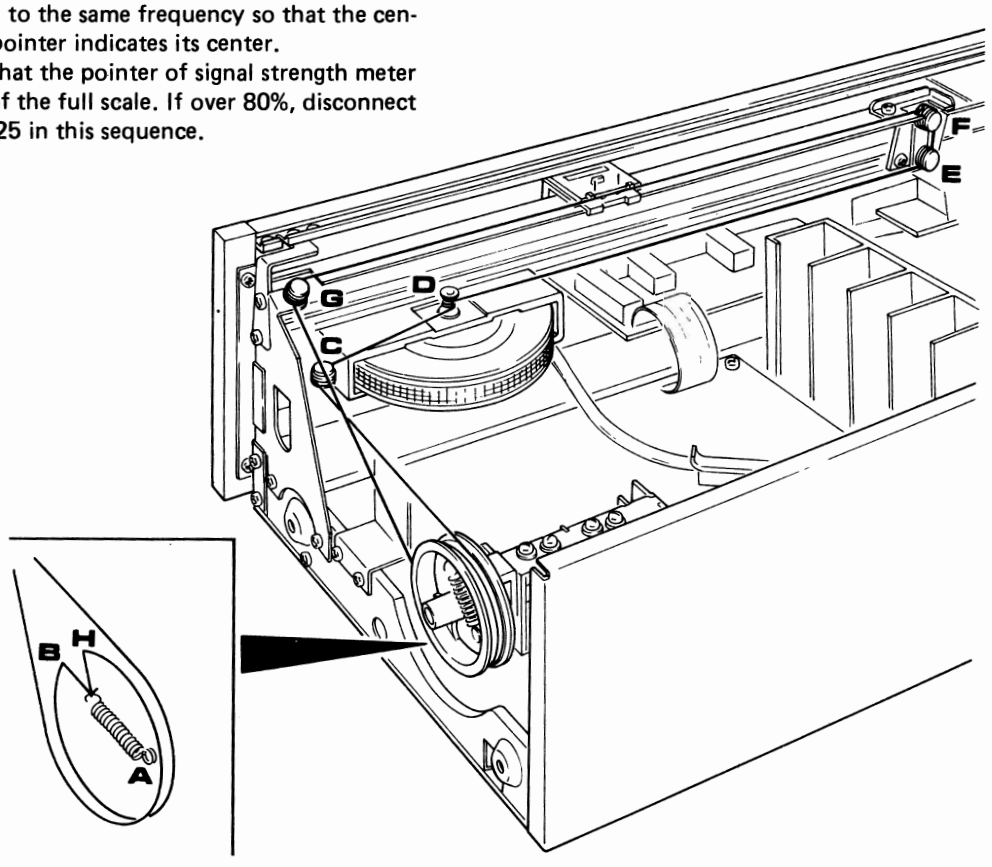


Figure 2. Dial Stringing

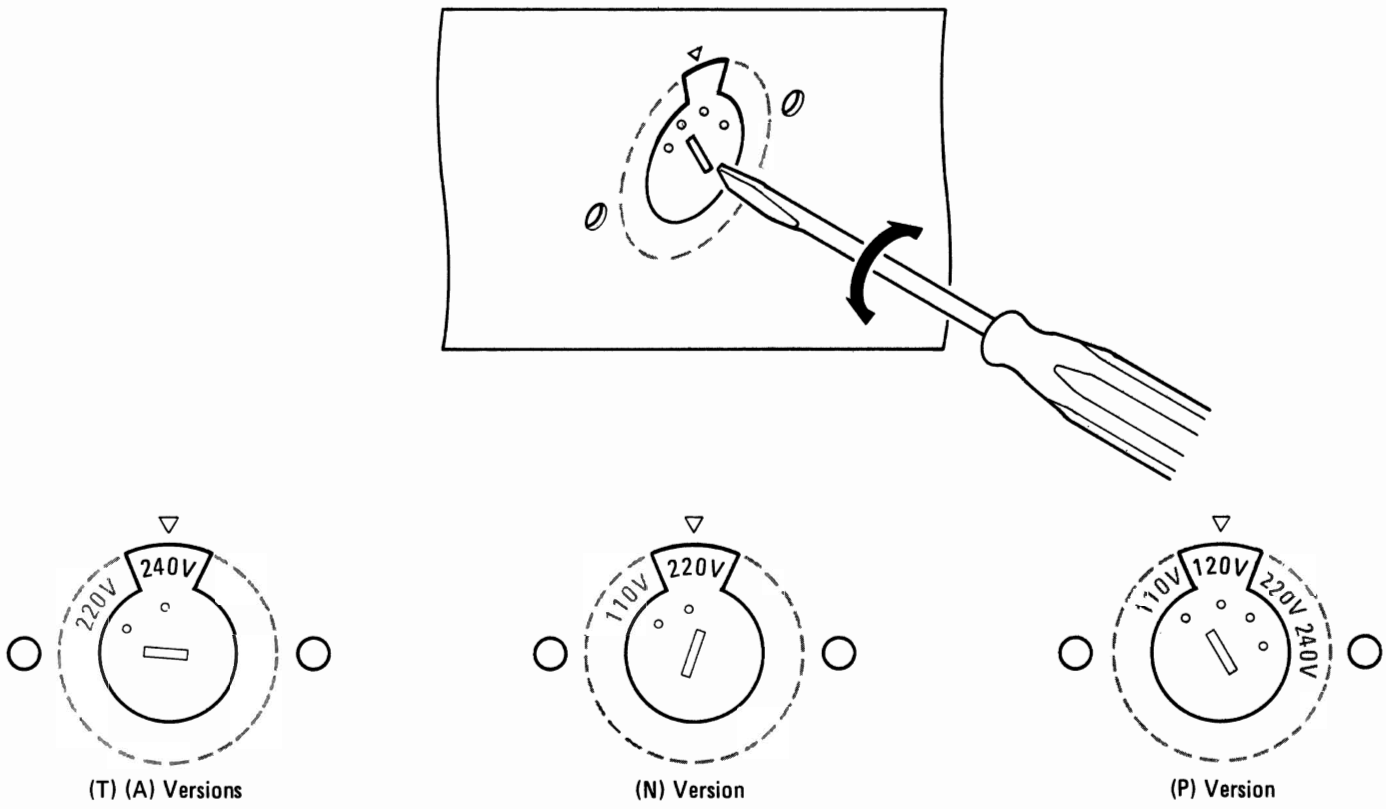
5. LED POWER METER CALIBRATION

1. Connect an 8Ω load across the SPEAKER terminal.
2. Connect a 1 kHz signal to the AUX terminal and adjust its level until the voltage across the 8Ω load is 20 V.
3. Connect the positive lead of a DC voltmeter set in 3 V range to JK07 (L-CH) or JK08 (R-CH) and the negative lead to JK03.
4. Adjust RK01 (L-CH) or RK02 (R-CH) until the DC voltmeter reads 2.25 V.
5. Further adjust RK01 or RK02 until the 50 W LED Power Meter illuminates.
6. Make certain that when no input signal is applied, the LED cannot light.

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.



(T) (A) Versions (N) Version (P) Version

Figure 3. Voltage Conversion

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

FTZ REGULATION

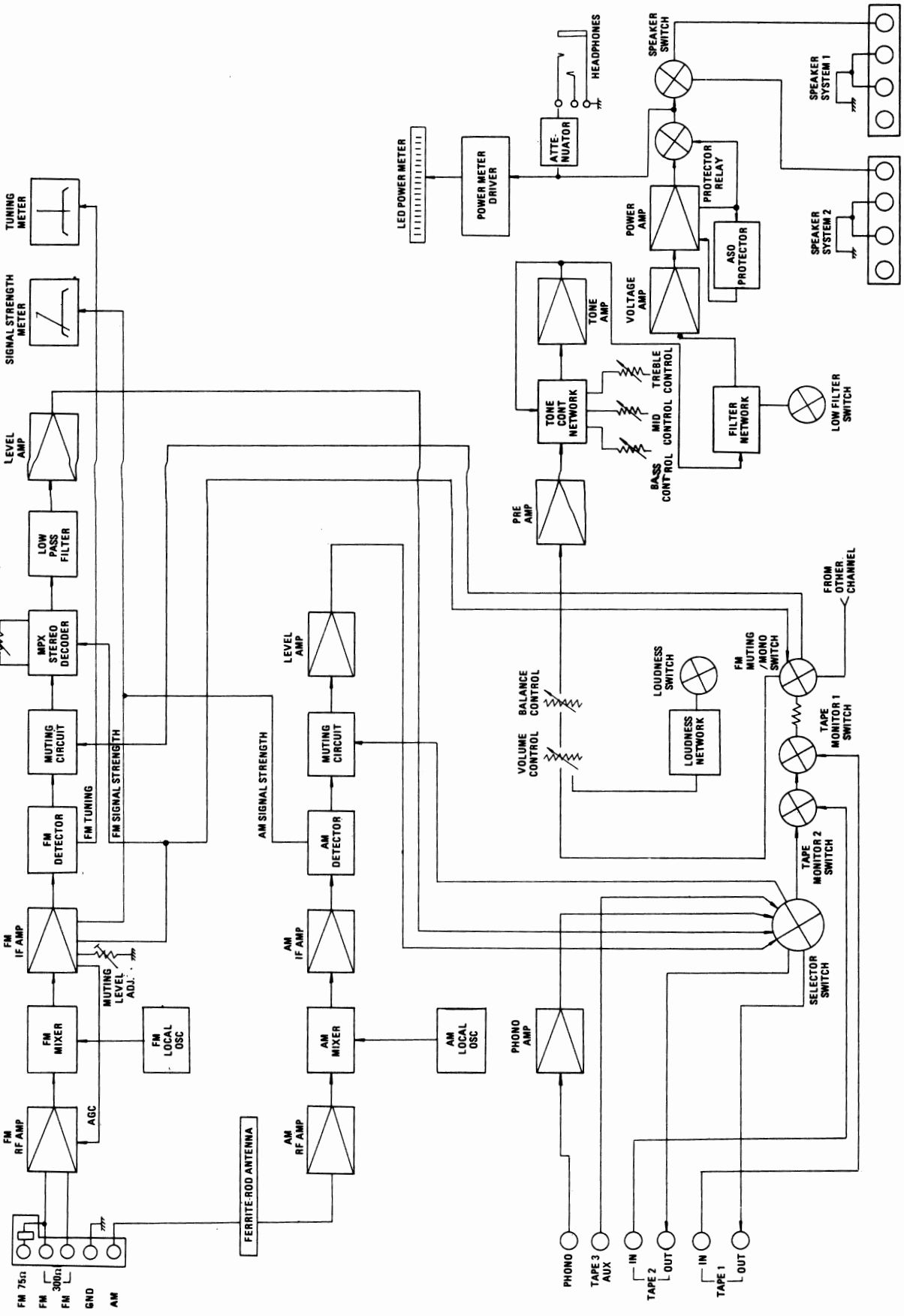
Instruction for the use in the range other than specified in FTZ codes.

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

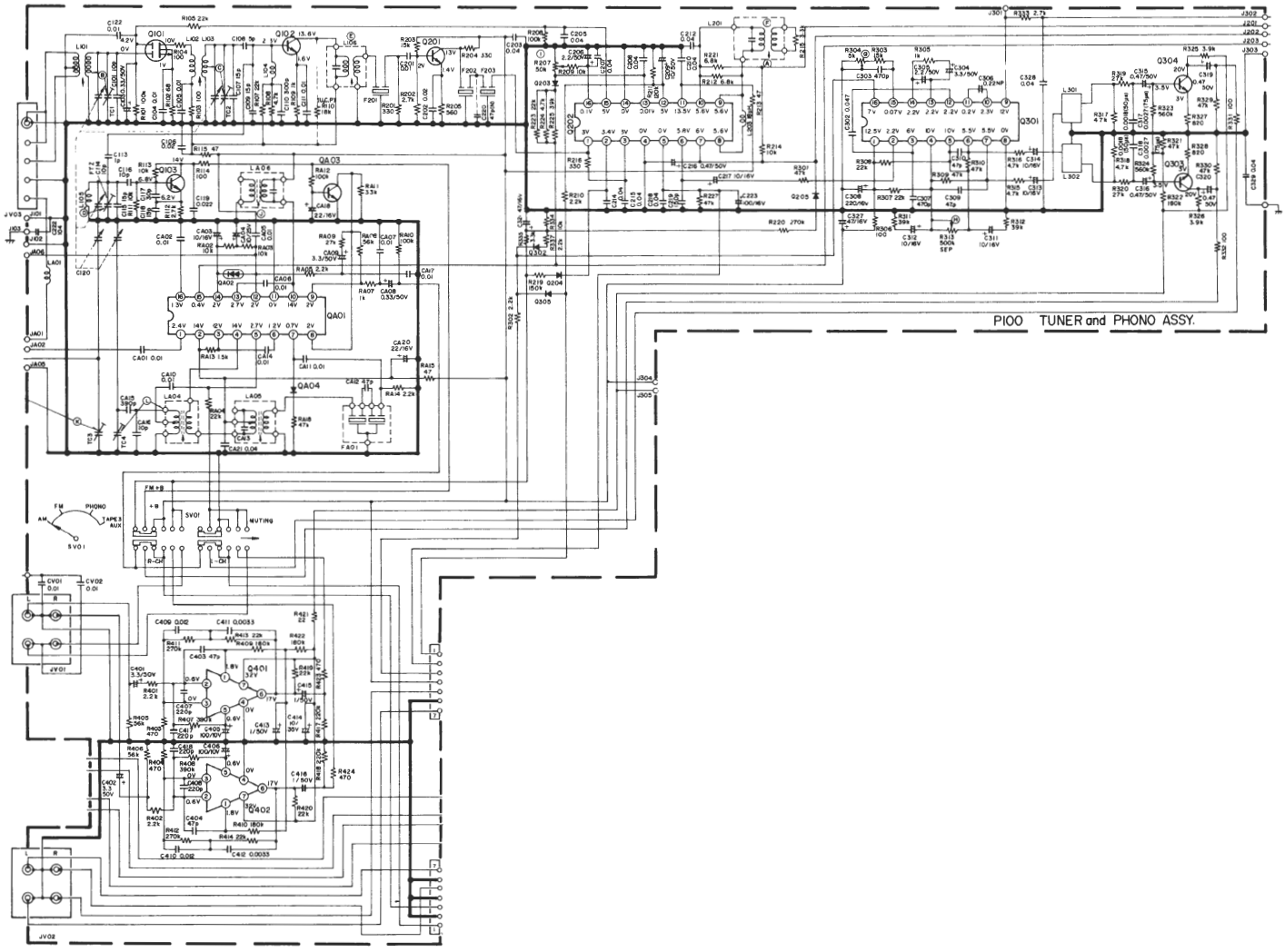
Sollte das Gerät auch für Frequenzen auszerhalb des in den FTZ-Bestimmungen angegebenen Bereiches empfangebereit sein, bitten wir, den Bereich durch Nachstellen des Kernes in der Oszillatorspule (in der Abbildung mit "FTZ" gekennzeichnet) so zu korrigieren, dass er den Bestimmungen entspricht.

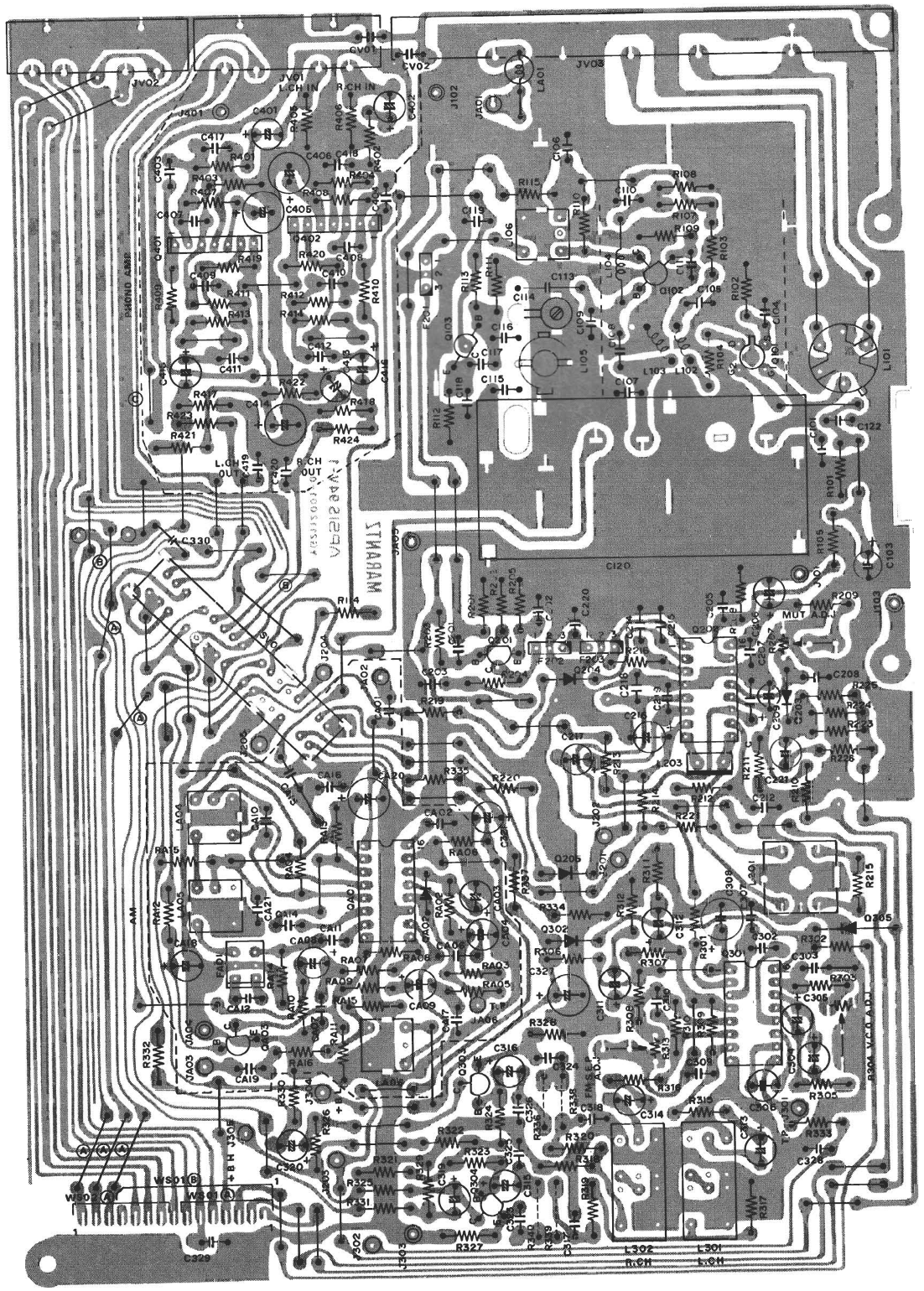
7. DIAGRAMS

7.1 BLOCK DIAGRAM

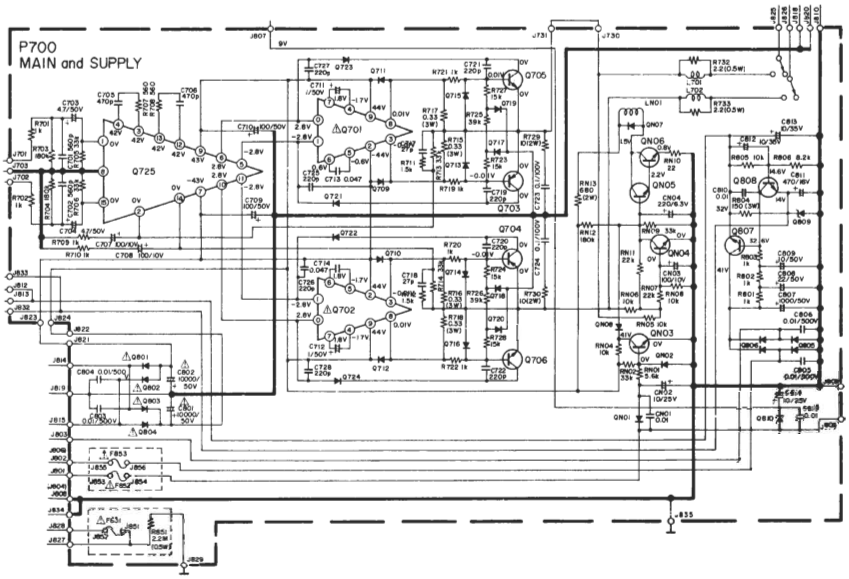


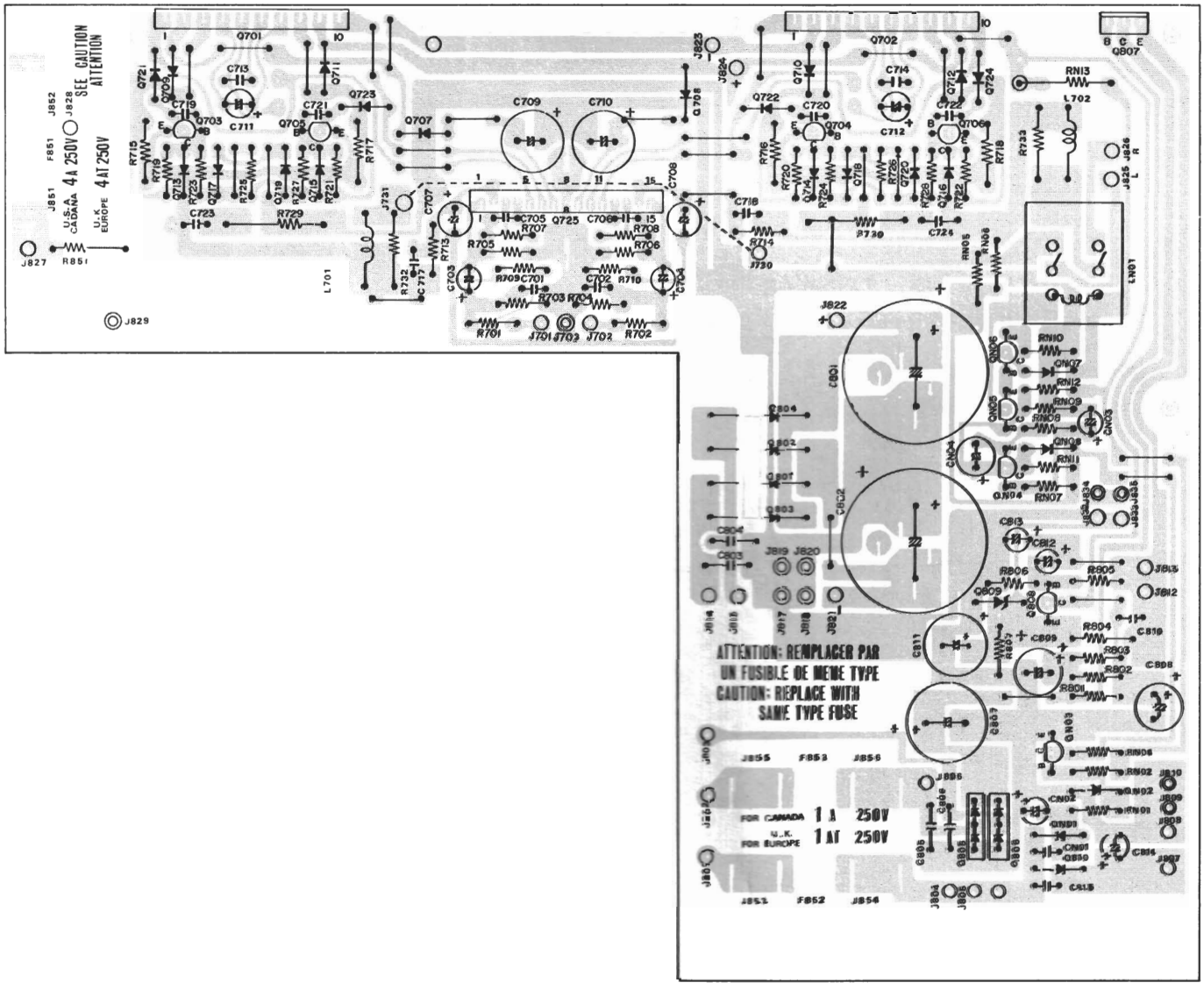
7.2 TUNER/PHONO BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P100



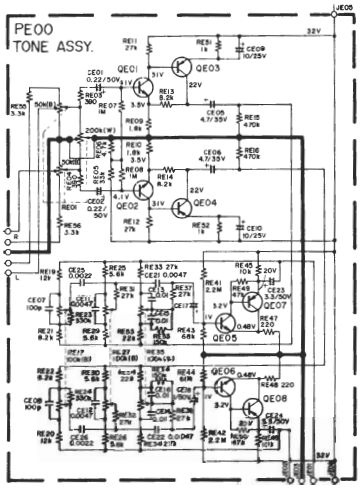


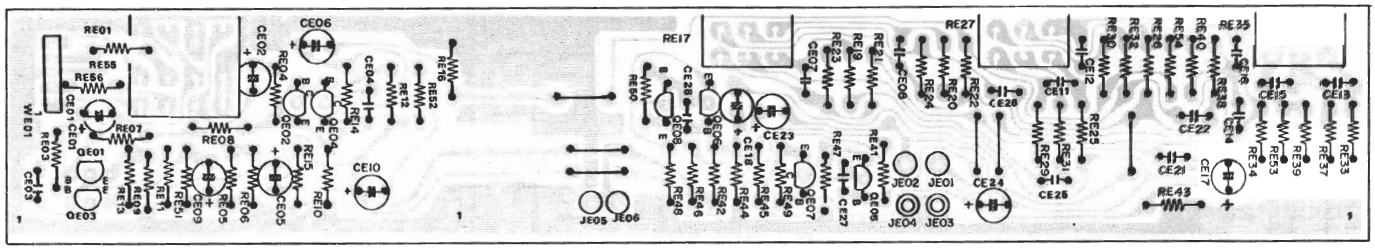
7.3 MAIN AMP/POWER SUPPLY BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P700



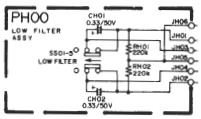


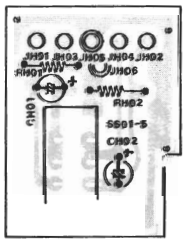
7.4 TONE AMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PE00



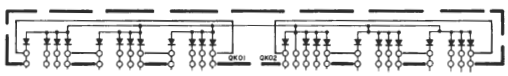


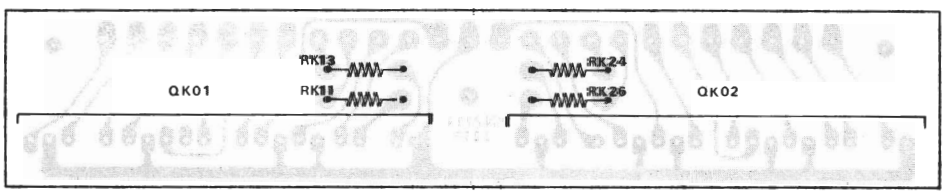
7.5 LOW FILTER BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PH00



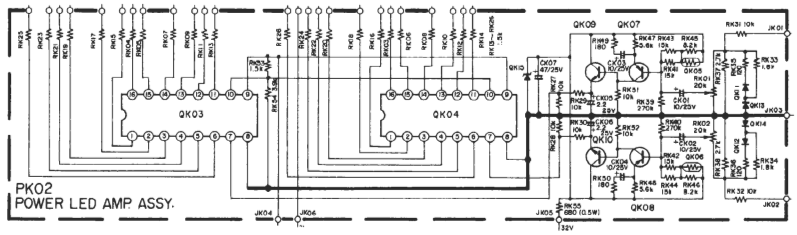


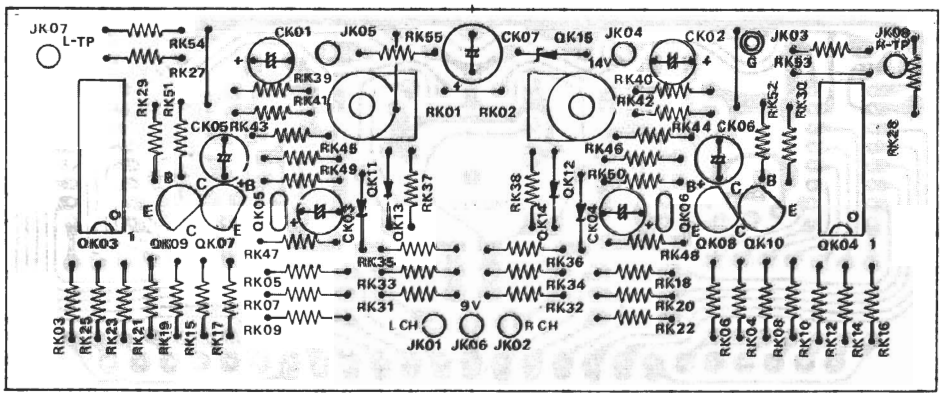
7.6 LED POWER METER BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PK01



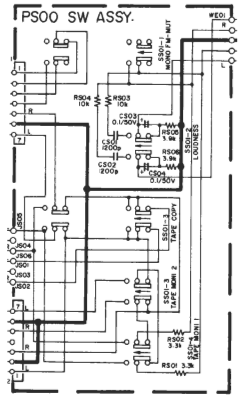


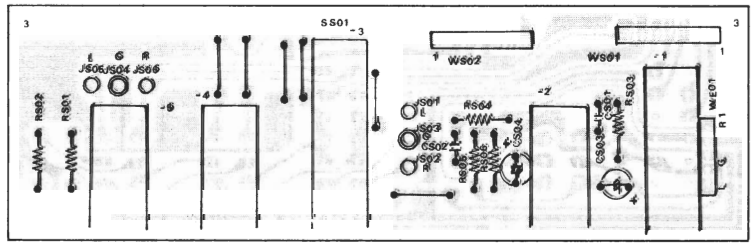
7.7 LED POWER METER AMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PK02



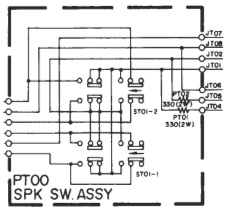


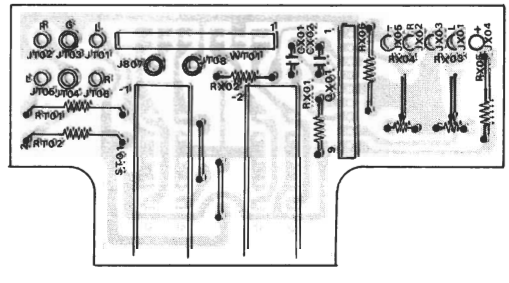
7.8 PUSHSWITCH BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PS00



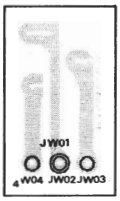


7.9 SPEAKER SWITCH BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PT00

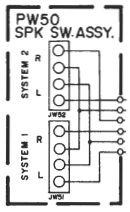


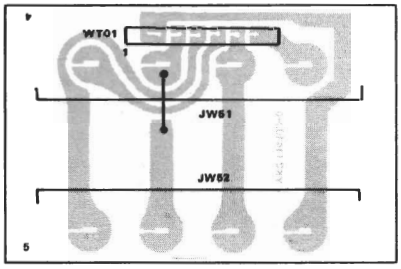


7.10 HEADPHONE JACK BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PW00

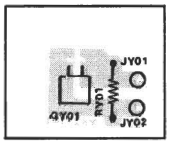


7.11 SPEAKER TERMINAL BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PW50

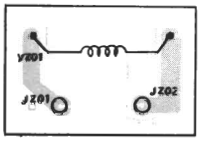




7.12 STEREO LED BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PY00

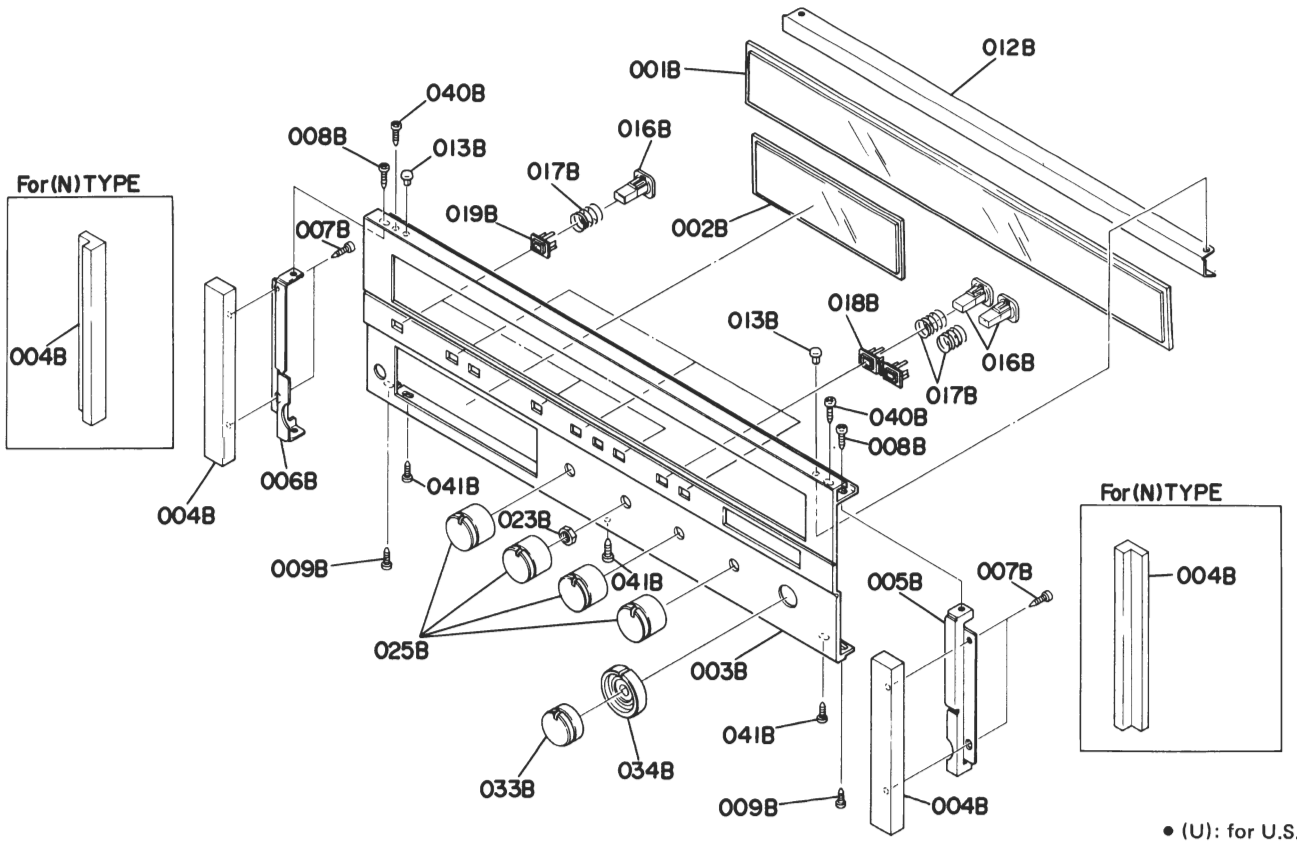


7.13 DIAL POINTER LAMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PZ00



8. EXPLODED VIEWS AND PARTS LIST

8.1 [C01-99] FRONT PANEL

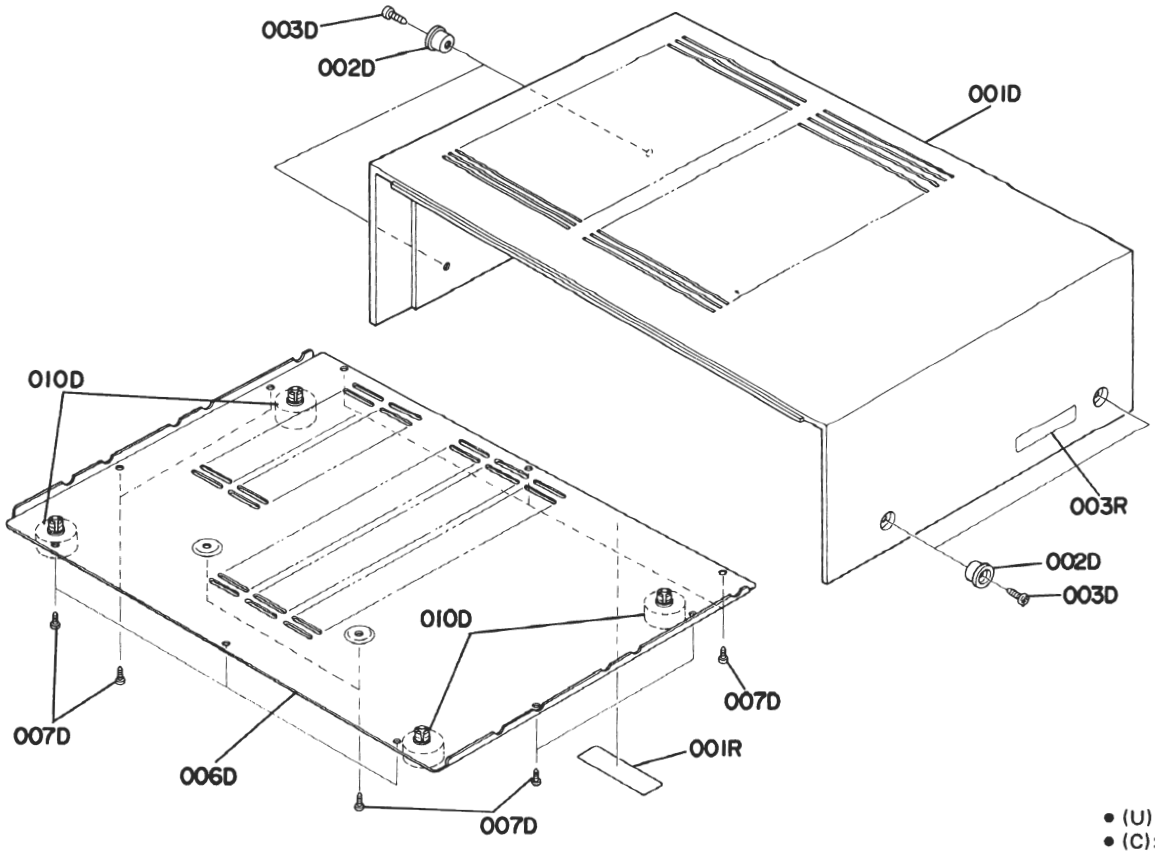


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
A	1	1		2114063400	Front Panel Assembly
A1			1	2114063410	Front Panel Assembly
001B	1	1		2112158110	Window, Dial
001B			1	2112158010	Window, Dial
002B	1	1		2112158120	Window, Meter
002B			1	2112158020	Window, Meter
003B	1	1	1	2114063012	Escutcheon
004B	2	2		2112063044	Escutcheon, Wood
004B			2	2112063052	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	51280308B0	B.H. Tapped Screw B3 x 8
012B	1	1	1	2112303010	Mask
013B	2	2	2	2276005050	Clamper
018B	3	3	3	2112259020	Bushing
019B	3	3	3	2112259030	Bushing

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
016B	9	9	9	2112154010	Knob
017B	9	9	9	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	51280308B0	B.H. Tapped Screw B3 x 8
041B	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8

8.2 [C02-99] TOP COVER

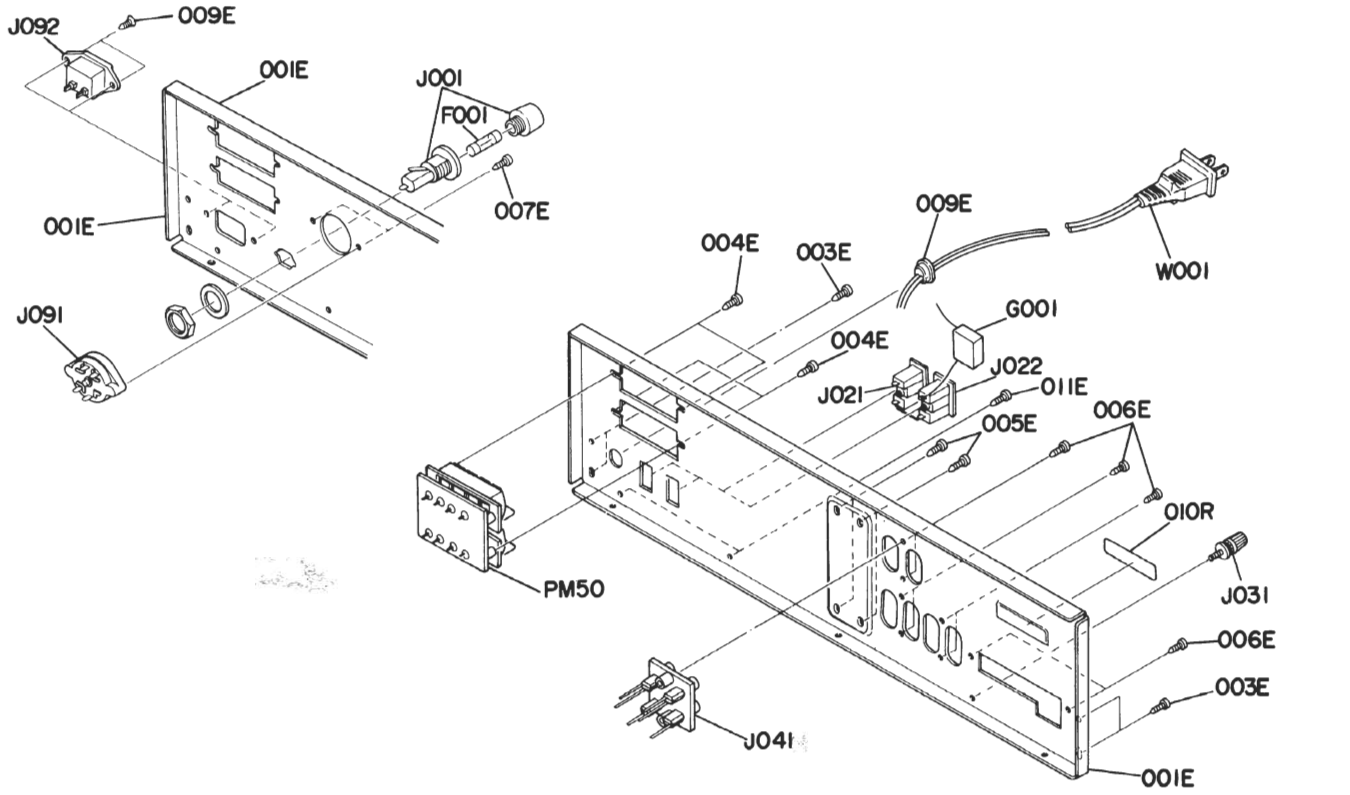


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
001D	1	1	1	2116064012	Case, Wood
002D	4	4	4	3906259010	Bushing
003D	4	4	4	51280414U0	B.H. Tapped Screw B4 x 14
006D	1	1	1	2112257010	Lid, Bottom Cover
007D	10	10	10	51280408B0	B.H. Tapped Screw B4 x 8
010D	4	4	4	2259057012	Leg

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

8.3 [C03-99] REAR PANEL

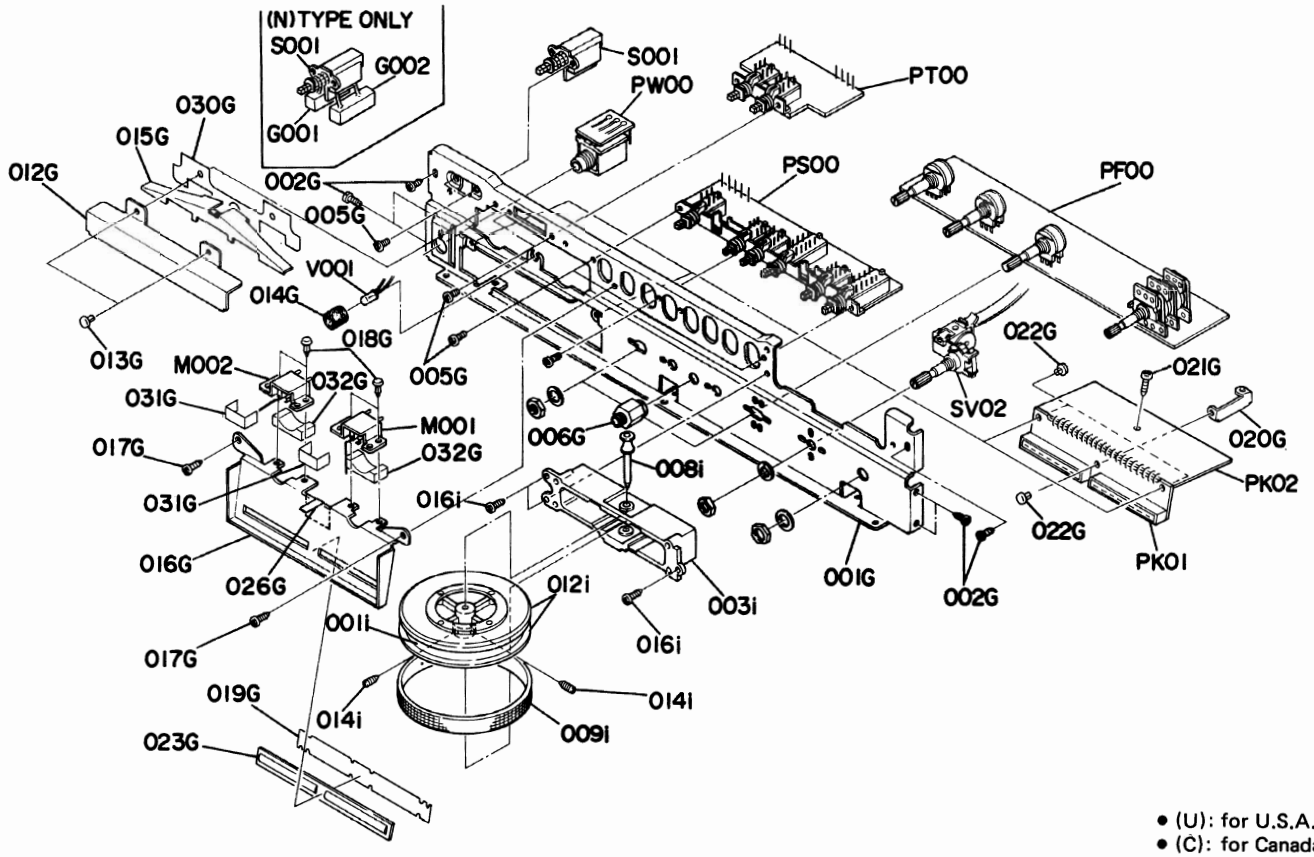


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
001E	1			2114160210	Bracket
001E		1		2114160230	Bracket
001E			1	2114160220	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	4	4	4	51280308U0	B.H. Tapped Screw B3 x 8
006E	8	8	8	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
011E	2	2	2	51280308U0	B.H. Tapped Screw B3 x 8

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
⚠F001			1	FS10250800	Fuse 2.5AT 250V
⚠J001			1	YJ08000290	Jack, Fuse Holder
⚠J021	1	1		YJ04000560	Jack, AC Outlet
⚠J022	1	1		YJ04000560	Jack, AC Outlet
J031	1	1	1	YL03010240	Terminal, Ground
J091			1	BY05080012	Plug, Voltage Selector
J092			1	YP04000590	Plug, AC Inlet
⚠W001	1	1		YC01900070	A.C. Power Cord
010R	1	1	1	2112265010	Indicator
⚠G001	1			BF10400030	Cap. Comp. 0.1μF + 120Ω
⚠G001		1		BF10400050	Cap. Comp. 0.1μF + 120Ω
⚠J041	1	1	1	YT02040300	Terminal

8.4 [P01-99] FRONT CHASSIS AND GENERAL PARTS

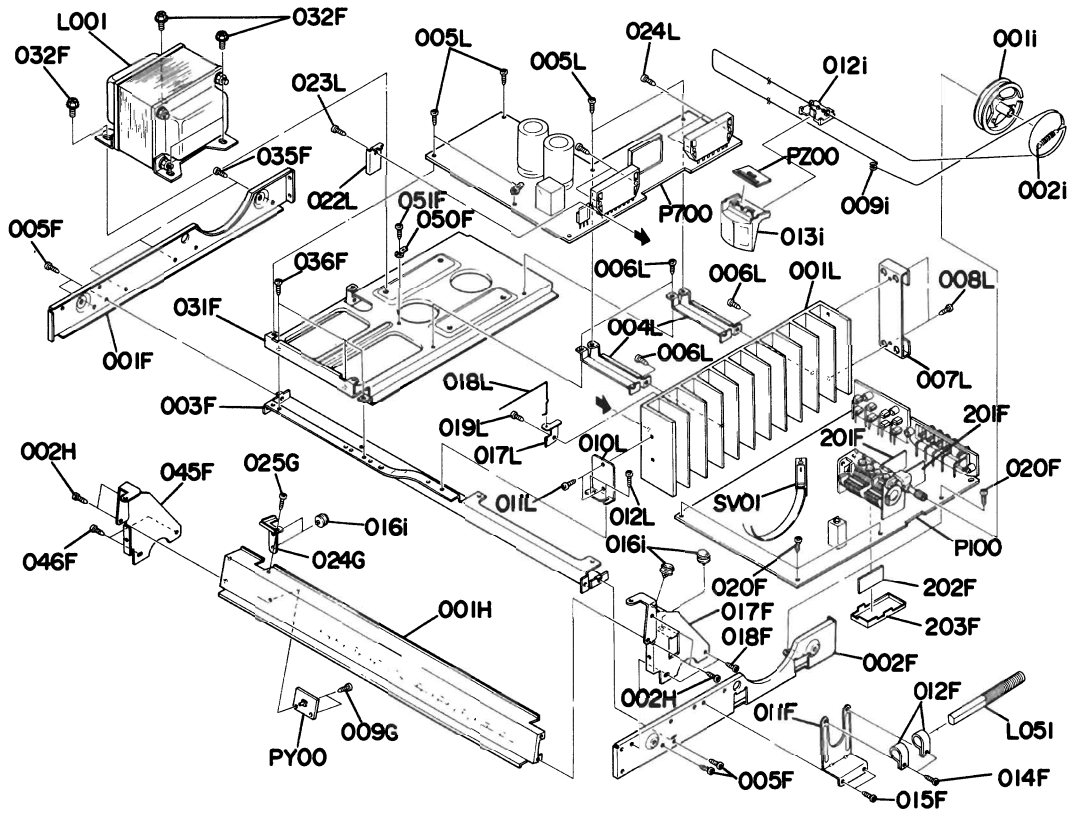


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
001G	1	1	1	2112160010	Bracket, Front Chassis
002G	6	6	6	5128030880	B.H. Tapped Screw B3 x 8
005G	6	6	6	51100308A9	B.H.M. Screw B3 x 8
006G	1	1	1	2112114010	Stopper
012G	1	1	1	2112303020	Mask
013G	2	2	2	2276005050	Clamper
014G	1	1	1	2417259010	Bushing
015G	1	1	1	2112274030	Reflector
016G	1	1	1	2114302022	Dial, Meter
017G	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
018G	4	4	4	2276005050	Clamper
019G	1	1	1	2116303010	Mask
020G	1	1	1	2116160080	Bracket
021G	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
022G	1	1	1	2276005050	Clamper
023G	1	1	1	2116355013	Lens
026G	1	1	1	2112303040	Mask
030G	1	1	1	2112053020	Cover
031G	2	2	2	2112053010	Cover
032G	2	2	2	2112053030	Cover

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
B	1	1	1	2219273410	Flywheel Assembly
001i	1	1	1	2219273012	Flywheel
009i	1	1	1	2215353010	Ring
012i	2	2	2	2219063030	Escutcheon
014i	2	2	2	5169030609	Socket Screw 3 x 6
003i	1	1	1	2112104500	Retainer
008i	1	1	1	2219112012	Shaft
016i	3	3	3	51280308B0	B.H. Tapped Screw B3 x 8
M001	1	1	1	IM11000010	D.C. Meter
M002	1	1	1	IM11000020	D.C. Meter
⚠S001	1	1		SP01010240	Push Switch, Power
⚠S001			1	SP02010330	Push Switch, Power
V001	1	1	1	IN10080510	Lamp 100mA 8V
SV02	1	1	1	SR00040030	Rotary Switch
⚠G001			1	DF17223800	Film Cap. 0.022μF ±20%
⚠G002			1	DF17223800	Film Cap. 0.022μF ±20%

8.5 [P02-99] CHASSIS AND OTHER PARTS

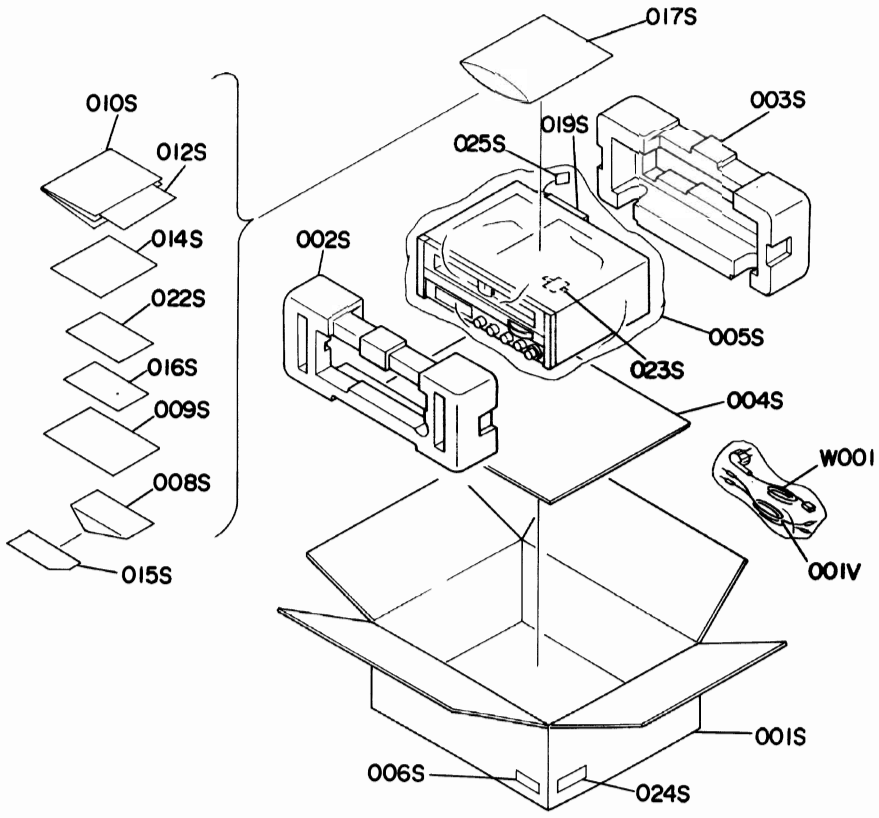


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION	
001F	1	1	1	2116126010	Stay (L)	
002F	1	1	1	2116126020	Stay (R)	
003F	1	1	1	2116126030	Stay, Center	
005F	4	4	4	51280308B0	B.H. Tapped Screw	B3 x 8
011F	1	1	1	2112271010	Holder	
012F	2	2	2	1502271010	Holder	
014F	2	2	2	51260310B0	B.H. Tapped Screw	B3 x 10
015F	2	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
017F	1	1	1	2116160050	Bracket	
018F	2	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
020F	4	4	4	51280308B0	B.H. Tapped Screw	B3 x 8
031F	1	1	1	2114105010	Chassis	
032F	4	4	4	52040510A0	H. Head Bolt, S.F	H5 x 10
035F	3	3	3	51280308B0	B.H. Tapped Screw	B3 x 8
036F	3	3	3	51280308B0	B.H. Tapped Screw	B3 x 8
045F	1	1	1	2116160060	Bracket	
046F	2	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
050F	1	1	1	62030049W0	Lug	
051F	1	1	1	51280308B0	B.H. Tapped Screw	B3 x 8
201F	2	2	2	2259109040	Shield	
202F	1	1	1	2259109062	Shield	
203F	1	1	1	2112109012	Shield	
009G	2	2	2	51282605B0	B.H. Tapped Screw	B2.6 x 5
024G	1	1	1	2112160072	Bracket	
025G	1	1	1	51280308B0	B.H. Tapped Screw	B3 x 8
001H	1	1	1	2112302010	Dial	
002H	4	4	4	51280308B0	B.H. Tapped Screw	B3 x 8

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION	
001i	1	1	1	2112159010	Drum	
002i	1	1	1	71101689L0	Spring	
009i	1	1	1	72040805A0	String (180)	
012i	1	1	1	2112103012	Pointer	
013i	1	1	1	2112103020	Pointer	
016i	2	2	2	2276262500	Pulley, (K)	
020i	1	1	1	2112303030	Mask	
021i	2	2	2	2276262500	Pulley, (K)	
001L	1	1	1	2114267012	Heatsink	
004L	2	2	2	2114160020	Bracket	
005L	5	5	5	51280308B0	B.H. Tapped Screw	B3 x 8
006L	4	4	4	51280308B0	B.H. Tapped Screw	B3 x 8
007L	1	1	1	2116160070	Bracket	
008L	2	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
010L	1	1	1	2276160040	Bracket	
011L	2	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
012L	2	2	2	51280308B0	B.H. Tapped Screw	B3 x 8
017L	1	1	1	2112271020	Holder	
018L	1	1	1	2114272010	Pole	
019L	1	1	1	51280308B0	B.H. Tapped Screw	B3 x 8
022L	1	1	1	2207267020	Heatsink	
023L	1	1	1	51280310B0	B.H. Tapped Screw	B3 x 10
024L	4	4	4	51260316B0	B.H. Tapped Screw	B3 x 16
⚠L001	1			TS18610040	Power Transformer	
⚠L001		1		TS18610050	Power Transformer	
⚠L001			1	TS19612010	Power Transformer	
L051	1			LF11000250	Antenna Coil	
L051		1	1	LF11000240	Antenna Coil	
SV01	1	1	1	SS04040020	Slide Switch	

8.6 [H01-99] PACKING MATERIALS



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

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
001S			1	2114801040	Packing Case
001S	1	1		2114801012	Packing Case
002S	1	1	1	2112809012	Cushion
003S	1	1	1	2112809020	Cushion
004S	1	1	1	2918107130	Sheet
005S	1	1	1	9090909040	Polyethy Sheet
006S	3			9526019010	Serial NO. Card
006S		3		9526019020	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			2114851020	Instructions
012S		1		2114851050	Instructions
012S			1	2114851030	Instructions

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
014S	1			2225813010	Envelope
015S		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 U	Q'TY C	Q'TY N	PART NO.	DESCRIPTION
					P100-TUNER CIRCUIT BOARD
P100	1	1	1	YG21120010	P.W. Board, Tuner/Phone
	1	1		ZZ21121010	P.W. Board Assembly
			1	ZZ21127010	P.W. Board Assembly
					P100-CAPACITORS
CA01	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
CA02	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
CA03	1	1	1	EA10601690	Elect 10μF 16V
CA04	1	1	1	EA10602530	Elect 10μF 25V
CA05	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
CA06	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
CA07	1	1	1	DF17103300	Film 0.01μF ±20%
CA08	1	1	1	EA33405030	Elect 0.33μF 50V
CA09	1	1	1	EA33505090	Elect 3.3μF 50V
CA10	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
CA11	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
CA12	1	1	1	DD15470370	Ceramic 47pF ±5%
CA14	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
CA15	1	1	1	DF55391090	Film 390pF ±5%
CA16	1	1	1	DD11100370	Ceramic 10pF ±0.5pF
CA17	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
CA18	1	1	1	EA22601690	Elect 22μF 16V
CA20	1	1	1	EA22601690	Elect 22μF 16V
CA21	1	1	1	DK18223320	Ceramic 0.022μF +80%–20%
CV01	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
CV02	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
C101	1	1	1	DD11100300	Ceramic 10pF ±0.5pF
C103	1	1	1	EA33405030	Elect 0.33μF 50V
C104	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
C105	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
C106	1	1	1	DK18223320	Ceramic 0.022μF +80%–20%
C107	1	1	1	DD15150300	Ceramic 15pF ±5%
C108	1	1	1	DD10050370	Ceramic 5pF ±0.25pF
C109	1	1		DD15150370	Ceramic 15pF ±5%
C109			1	DD15200300	Ceramic 20pF ±5%
C110	1	1	1	DD15301360	Ceramic 300pF ±5%
C111	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
C113	1	1	1	DD10010300	Ceramic 1pF ±0.25pF
C114	1	1	1	CT11000080	Trimming 10pF ±0.5pF
C115	1	1	1	DD15150340	Ceramic 15pF ±5%
C116	1	1	1	DD11100300	Ceramic 10pF ±0.5pF
C117	1	1	1	DD15300300	Ceramic 30pF ±5%
C118	1	1	1	DD15150300	Ceramic 15pF ±5%
C119	1	1	1	DK18223320	Ceramic 0.022μF +80%–20%
C120	1	1	1	CA32400100	Variable, FM-3, AM-2
C122	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
C201	1	1	1	DK18103320	Ceramic 0.01μF +80%–20%
C202	1	1	1	DK18223320	Ceramic 0.022μF +80%–20%
C203	1	1	1	DK18403320	Ceramic 0.04μF +80%–20%
C205	1	1	1	DK18403320	Ceramic 0.04μF +80%–20%
C206	1	1	1	EA22505030	Elect 2.2μF 50V
C207	1	1	1	DK18403320	Ceramic 0.04μF +80%–20%
C208	1	1	1	DK18403320	Ceramic 0.04μF +80%–20%
C209	1	1	1	EA10505030	Elect 1μF 50V
C210	1	1	1	DK18403320	Ceramic 0.04μF +80%–20%
C212	1	1	1	DK18403320	Ceramic 0.04μF +80%–20%
C214	1	1	1	DK18403320	Ceramic 0.04μF +80%–20%
C215	1	1	1	DK18403320	Ceramic 0.04μF +80%–20%
C216	1	1	1	EA47405030	Elect 0.47μF 50V
C217	1	1	1	EA10602530	Elect 10μF 25V
C218	1	1	1	DK18403320	Ceramic 0.04μF +80%–20%
C219	1	1	1	DD15151370	Ceramic 150pF ±5%
C220			1	DD15470370	Ceramic 47pF ±5%
C302	1	1	1	DF17473300	Film 0.047μF ±20%
C303	1	1	1	DF55471090	Film 470pF ±5%
C304	1	1	1	EA33505090	Elect 3.3μF 50V
C305	1	1	1	EA22505030	Elect 2.2μF 50V
C306	1	1	1	EQ22405010	Elect 0.22μF ±20%
C307	1	1	1	DD15471360	Ceramic 470pF ±5%
C308	1	1	1	EA47601690	Elect 47μF 16V
C309	1	1	1	DD15470370	Ceramic 47pF ±5%
C310	1	1	1	DD15470370	Ceramic 47pF ±5%
C311	1	1	1	EA10602530	Elect 10μF 25V
C312	1	1	1	EA10601690	Elect 10μF 16V
C313	1	1	1	EA10602530	Elect 10μF 25V
C314	1	1	1	EA10602530	Elect 10μF 25V
C315	1	1	1	EA47405030	Elect 0.47μF 50V
C316	1	1	1	EA47405030	Elect 0.47μF 50V
C317	1	1		DF16272300	Film 2700pF ±10%
C317			1	DF16182300	Film 1800pF ±10%
C318	1	1		DF16272300	Film 2700pF ±10%
C818			1	DF16182300	Film 1800pF ±10%
C319	1	1	1	EA10505030	Elect 1μF 50V
C320	1	1	1	EA10505030	Elect 1μF 50V
C321	1	1	1	EA10505030	Elect 1μF 50V
C327	1	1	1	EA47601690	Elect 47μF 16V
C328	1	1	1	DK18403320	Ceramic 0.04μF +80%–20%
C329	1	1	1	DK18403320	Ceramic 0.04μF +80%–20%
C330	1	1	1	DK18403320	Ceramic 0.04μF +80%–20%
C401	1	1	1	EA33505030	Elect 3.3μF 50V
C402	1	1	1	EA33505030	Elect 3.3μF 50V
C403	1	1	1	DD15470370	Ceramic 47pF ±5%
C404	1	1	1	DD15470370	Ceramic 47pF ±5%
C405	1	1	1	EA10701090	Elect 100μF 10V
C406	1	1	1	EA10701090	Elect 100μF 10V
C407	1	1	1	DK16221300	Ceramic 220pF ±5%
C408	1	1	1	DK16221300	Ceramic 220pF ±5%
C409	1	1	1	DF16123350	Film 0.012μF ±10%
C410	1	1	1	DF16123350	Film 0.012μF ±10%
C411	1	1	1	DF16332300	Film 0.0033μF ±10%
C412	1	1	1	DF16332300	Film 0.0033μF ±10%
C413	1	1	1	EA10505090	Elect 1μF 50V
C414	1	1	1	EA10603590	Elect 10μF 35V
C415	1	1	1	EA10505030	Elect 1μF 50V
C416	1	1	1	EA10505030	Elect 1μF 50V
C417	1	1	1	DK16221300	Ceramic 220pF ±10%
C418	1	1	1	DK16221300	Ceramic 220pF ±10%

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

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
					P100-RESISTORS
					(All Resistors are ±5% and ¼W)
RA02	1	1	1	GD05103140	10KΩ
RA03	1	1	1	GD05103140	10KΩ
RA04	1	1	1	GD05223140	22KΩ
RA05	1	1	1	GD05222140	2.2KΩ
RA07	1	1	1	GD05102140	1KΩ
RA08	1	1	1	GD05563140	56KΩ
RA09	1	1	1	GD05273140	27KΩ
RA10	1	1	1	GD05104140	100KΩ
RA11	1	1	1	GD05333140	33KΩ
RA12	1	1	1	GD05104140	100KΩ
RA13	1	1	1	GD05102140	1KΩ
RA14	1	1	1	GD05222140	2.2KΩ
RA15	1	1	1	GG05470140	47Ω
RA18	1	1	1	GD05473140	47KΩ
R101	1	1	1	GD05104140	100KΩ
R102	1	1	1	GD05680140	68Ω
R103	1	1	1	GD05101140	100Ω
R104	1	1	1	GD05101140	100Ω
R105	1	1	1	GD05223140	22KΩ
R107	1	1	1	GD05223140	22KΩ
R108	1	1	1	GD05472140	4.7KΩ
R109	1	1	1	GD05102140	1KΩ
R110	1	1		GG05183140	18KΩ
R111	1	1	1	GD05103140	10KΩ
R112	1	1	1	GD05272140	2.7KΩ
R113	1	1	1	GD05103140	10KΩ
R114	1	1	1	GD05101140	100Ω
R115	1	1	1	GG05470140	47Ω
R201	1	1	1	GD05331140	330Ω
R202	1	1	1	GD05272140	2.7KΩ
R203	1	1	1	GD05153140	15KΩ
R204	1	1	1	GD05331140	330Ω
R205	1	1	1	GD05561140	560Ω
R207	1	1	1	RA05030090	50KΩ (B) Trimming
R208	1	1	1	GD05104140	100KΩ
R209	1	1	1	GD05103140	10KΩ
R210	1	1	1	GD05222140	2.2KΩ
R211	1	1	1	GD05124140	120KΩ
R212	1	1	1	GD05682140	6.8KΩ
R213	1	1	1	GG05470140	47Ω
R214	1	1	1	GD05103140	10KΩ
R215	1	1	1	GD05332140	3.3KΩ
R216	1	1	1	GD05331140	330Ω
R219	1	1	1	GD05154140	150KΩ
R220	1	1	1	GD05274140	270KΩ
R221	1	1	1	GD05682140	6.8KΩ
R223	1	1		GD05183140	18KΩ
R223			1	GD05223140	22KΩ
R224	1	1		GD05822140	8.2KΩ
R224			1	GD05472140	4.7KΩ
R225	1	1		GD05123140	12KΩ
R225			1	GD05393140	39KΩ
R227	1	1	1	GD05473140	47KΩ
R301	1	1	1	GD05473140	47KΩ
R302	1	1	1	GD05222140	2.2KΩ
R303	1	1	1	GD05153140	15KΩ

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
R304	1	1	1	RA05020160	5KΩ (B) Trimming
R305	1	1	1	GD05102140	1KΩ
R306	1	1	1	GG05101140	100Ω
R307	1	1	1	GD05223140	22KΩ
R308	1	1	1	GD05223140	22KΩ
R309	1	1	1	GD05473140	47KΩ
R310	1	1	1	GD05473140	47KΩ
R311	1	1	1	GD05393140	39KΩ
R312	1	1	1	GD05393140	39KΩ
R313	1	1	1	RA05040090	500KΩ (B) Trimming
R315	**1**	**1**	**1**	GD05472140	4.7KΩ
R316	**1**	**1**	**1**	GD05472140	4.7KΩ
R317	**1**	**1**	**1**	GD05472140	4.7KΩ
R318	**1**	**1**	**1**	GD05472140	4.7KΩ
R319	**1**	**1**	**1**	GD05273140	27KΩ
R320	**1**	**1**	**1**	GD05273140	27KΩ
R321	**1**	**1**	**1**	GD05473140	47KΩ
R322	**1**	**1**	**1**	GD05184140	180KΩ
R323	**1**	**1**	**1**	GD05564140	560KΩ
R324	**1**	**1**	**1**	GD05564140	560KΩ
R325	**1**	**1**	**1**	GD05392140	**3.9KΩ**
R326	**1**	**1**	**1**	GD05392140	**3.9KΩ**
R327	**1**	**1**	**1**	GD05102140	**1KΩ**
R328	**1**	**1**	**1**	GD05102140	**1KΩ**
R329	1	1	1	GD05473140	47KΩ
R330	1	1	1	GD05473140	47KΩ
R331	1	1	1	GD05101140	100Ω
R332	1	1	1	GD05101140	100Ω
R333	1	1	1	GD05272140	2.7KΩ
R334	1	1	1	GD05104140	100KΩ
R335	1	1	1	GD05332140	3.3KΩ
R337	1	1	1	GD05183140	18KΩ
R401	1	1	1	GD05222140	2.2KΩ
R402	1	1	1	GD05222140	2.2KΩ
R403	1	1	1	GD05471140	470Ω
R404	1	1	1	GD05471140	470Ω
R405	1	1	1	GD05563140	56KΩ
R406	1	1	1	GD05563140	56KΩ
R407	1	1	1	GD05394140	390KΩ
R408	1	1	1	GD05394140	390KΩ
R409	1	1	1	GD05184140	180KΩ
R410	1	1	1	GD05184140	180KΩ
R411	1	1	1	GD05274140	270KΩ
R412	1	1	1	GD05274140	270KΩ
R413	1	1	1	GD05223140	22KΩ
R414	1	1	1	GD05223140	22KΩ
R417	1	1	1	GD05224140	220KΩ
R418	1	1	1	GD05224140	220KΩ
R419	1	1	1	GD05223140	**22KΩ**
R420	1	1	1	GD05223140	**22KΩ**
R421	1	1	1	GG05220140	**22Ω**
R422	1	1	1	GD05184140	**180KΩ**
R423	1	1	1	GD05471140	**470Ω**
R424	1	1	1	GD05471140	**470Ω**

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

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
					P100-SEMICONDUCTORS
QA01	1	1	1	HC10025060	IC μPC1178C
QA02	1	1	1	HV00006120	Varistor MV-203
QA03	1	1	1	HT326342B0	Transistor 2SC2634(S or T)
Q101	1	1	1	HF400451B0	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
Q203	1	1	1	HV00006120	Varistor MV-203
Q204	1	1	1	HD20011050	Diode 1S1555
Q205	1	1	1	HD20010050	Diode 1S1555
Q301	1	1	1	HC10024060	IC μPC1161C
Q302	1	1	1	HD20011050	Diode 1S1555
Q303	1	1	1	HT326342B0	Transistor 2SC2634(S or T)
Q304	1	1	1	HT326342B0	Transistor 2SC2634(S or T)
Q305	1	1	1	HD20011050	Diode 1S1555
Q401	1	1	1	HC10012060	IC μPC1024H
Q402	1	1	1	HC10012060	IC μPC1024H
					P100-MISCELLANEOUS
FA01	1	1	1	FF10045200	Ceramic Filter 450KHz
F201	1	1		FF11070050	Ceramic Filter 10.7MD1
F202	1	1		FF11070050	Ceramic Filter 10.7MD1
F203	1	1		FF11070050	Ceramic Filter 10.7MD1
JV01	1	1	1	YT02040282	Terminal, RCA Phono/Aux
JV02	1	1	1	YT02040282	Terminal, RCA Tape In/Out
JV03	1	1	1	YT01050010	Terminal, Antenna
LA01	1	1	1	LC11540020	Choke Coil 150μH
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		LK11800030	Coil
L104	1	1	1	LC17510010	Choke Coil 0.75μH
L105	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 18μH
L301	1	1	1	LS20013010	M.P.X. Coil
L302	1	1	1	LS20013010	M.P.X. Coil
KS00	1	1	1	SR04040150	Rotary Switch, Selector
					P700-MAIN AMP./POWER SUPPLY CIRCUIT BOARD
P700	1	1	1	YK211410B0	P.W. Board, Main Amp./Power Supply
	1			ZZ211410B0	P.W. Board Assembly
		1		ZZ211420B0	P.W. Board Assembly
			1	ZZ211480B0	P.W. Board Assembly
					P700-CAPACITORS
CN01	1	1	1	DK18103320	Ceramic 0.01μF +80%—20%
CN02	1	1	1	EA10602530	Elect 10μF 25V
CN03	1	1	1	EA10701030	Elect 100μF 10V
CN04	1	1	1	EA10701030	Elect 100μF 10V

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
C701	1	1	1	DK16561300	Ceramic 560pF ±10%
C702	1	1	1	DK16561300	Ceramic 560pF ±10%
C703	1	1	1	EA47505030	Elect 4.7μF 50V
C704	1	1	1	EA47505030	Elect 4.7μF 50V
C705	1	1	1	DK16221300	Ceramic 220pF ±10%
C706	1	1	1	DK16221300	Ceramic 220pF ±10%
C707	1	1	1	EA10701030	Elect 100μF 10V
C708	1	1	1	EA10701030	Elect 100μF 10V
C709	1	1	1	EA10705090	Elect 100μF 50V
C710	1	1	1	EA10705090	Elect 100μF 50V
C711	1	1	1	EA10505030	Elect 1μF 50V
C712	1	1	1	EA10505030	Elect 1μF 50V
C713	1	1	1	DF17473300	Film 0.047μF ±20%
C714	1	1	1	DF17473300	Film 0.047μF ±20%
C717	1	1	1	DD10050370	Ceramic 5pF ±0.25pF
C718	1	1	1	DD10050370	Ceramic 5pF ±0.25pF
C719	1	1	1	DK16221300	Ceramic 220pF ±10%
C720	1	1	1	DK16221300	Ceramic 220pF ±10%
C721	1	1	1	DK16221300	Ceramic 220pF ±10%
C722	1	1	1	DK16221300	Ceramic 220pF ±10%
C723	1	1	1	DF17104540	Film 0.1μF ±20%
C724	1	1	1	DF17104540	Film 0.1μF ±20%
⚠C801	1	1	1	EB10905020	Elect 1000μF 50V
⚠C802	1	1	1	EB10905020	Elect 1000μF 50V
C803	1	1	1	DK18103510	Ceramic 0.01μF +80%—20%
C804	1	1	1	DK18103510	Ceramic 0.01μF +80%—20%
C805	1	1	1	DK18103510	Ceramic 0.01μF +80%—20%
C806	1	1	1	DK18103510	Ceramic 0.01μF +80%—20%
C807	1	1	1	EA47705090	Elect 470μF 50V
C808	1	1	1	EA22605030	Elect 22μF 50V
C809	1	1	1	EA10605030	Elect 10μF 50V
C810	1	1	1	DK18103320	Ceramic 0.01μF +80%—20%
C811	1	1	1	EA47701690	Elect 470μF 16V
C812	1	1	1	EA10603590	Elect 10μF 35V
C813	1	1	1	EA10603530	Elect 10μF 35V
C814	1	1	1	EA10602530	Elect 10μF 25V
C815	1	1	1	DK18103320	Ceramic 0.01μF +80%—20%
					P700-RESISTORS (All Resistors are ±5% and ¼W)
RN01	1	1	1	GD05682140	6.8KΩ
RN02	1	1	1	GD05333140	33KΩ
RN04	1	1	1	GD05103140	10KΩ
RN05	1	1	1	GD05103140	10KΩ
RN06	1	1	1	GD05103140	10KΩ
RN07	1	1	1	GD05223140	22KΩ
RN08	1	1	1	GD05103140	10KΩ
RN09	1	1	1	GD05333140	33KΩ
RN10	1	1	1	GG05220140	22Ω
RN11	1	1	1	GD05223140	22KΩ
RN12	1	1	1	GD05184140	180KΩ
RN13	1	1	1	GA05681020	680Ω 2W
R701	1	1	1	GD05102140	1KΩ
R702	1	1	1	GD05102140	1KΩ
R703	1	1	1	GD05184140	180KΩ
R704	1	1	1	GD05184140	180KΩ
R705	1	1	1	GD05333140	33KΩ

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

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION		
R706	1	1	1	GD05333140	33KΩ		
R707	1	1	1	GD05561140	560Ω		
R708	1	1	1	GD05561140	560Ω		
R709	1	1	1	GD05102140	1KΩ		
R710	1	1	1	GD05102140	1KΩ		
R713	1	1	1	GD05333140	33KΩ		
R714	1	1	1	GD05333140	33KΩ		
R715	1	1	1	GN10332030	0.33Ω	±10%	3W
R716	1	1	1	GN10332030	0.33Ω	±10%	3W
R717	1	1	1	GN10332030	0.33Ω	±10%	3W
R718	1	1	1	GN10332030	0.33Ω	±10%	3W
R719	1	1	1	GG05102140	1KΩ		
R720	1	1	1	GG05102140	1KΩ		
R721	1	1	1	GG05102140	1KΩ		
R722	1	1	1	GG05102140	1KΩ		
R723	1	1	1	GD05153140	15KΩ		
R724	1	1	1	GD05153140	15KΩ		
R725	1	1	1	GD05393140	39KΩ		
R726	1	1	1	GD05393140	39KΩ		
R727	1	1	1	GD05153140	15KΩ		
R728	1	1	1	GD05153140	15KΩ		
R729	1	1	1	GA05100020	10Ω		2W
R730	1	1	1	GA05100020	10Ω		2W
R732	1	1	1	RC10022120	2.2Ω	±10%	½W
R733	1	1	1	RC10022120	2.2Ω	±10%	½W
R801	1	1	1	GG05102140	1KΩ		
R802	1	1	1	GG05102140	1KΩ		
R803	1	1	1	GG05102140	1KΩ		
R804	1	1	1	GP05151030	150Ω		3W
R805	1	1	1	GD05103140	10KΩ		
R806	1	1	1	GD05822140	8.2KΩ		
R851	1	1		RC10225120	2.2MΩ	±10%	½W
					P700-SEMICONDUCTORS		
QN01	1	1	1	HD20005010	Diode	W06B	
QN02	1	1	1	HD20011050	Diode	1S1555	
QN03	1	1	1	HT326342B0	Transistor	2SC2634(S or T)	
QN04	1	1	1	HT326342B0	Transistor	2SC2634(S or T)	
QN05	1	1	1	HT326342B0	Transistor	2SC2634(S or T)	
QN06	1	1	1	HT309452B0	Transistor	2SC945(Q or R)	
QN07	1	1	1	HD20011050	Diode	1S1555	
QN08	1	1	1	HD20010050	Diode	1S1555	
⚠Q701	1	1	1	HC10031030	IC	STK00502	
⚠Q702	1	1	1	HC10031030	IC	STK00502	
Q703	1	1	1	HT107332B0	Transistor	2SA733(Q or R)	
Q704	1	1	1	HT107332B0	Transistor	2SA733(Q or R)	
Q705	1	1	1	HT309452B0	Transistor	2SC945(Q or R)	
Q706	1	1	1	HT309452B0	Transistor	2SC945(Q or R)	
Q707	1	1	1	HD20011050	Diode	1S1555	
Q708	1	1	1	HD20011050	Diode	1S1555	
Q709	1	1	1	HD20005010	Diode	W06B	
Q710	1	1	1	HD20005010	Diode	W06B	
Q711	1	1	1	HD20005010	Diode	W06B	
Q712	1	1	1	HD20005010	Diode	W06B	
Q713	1	1	1	HD20011050	Diode	1S1555	
Q714	1	1	1	HD20011050	Diode	1S1555	
Q715	1	1	1	HD20011050	Diode	1S1555	
Q716	1	1	1	HD20011050	Diode	1S1555	
Q717	1	1	1	HD20011050	Diode	1S1555	
Q718	1	1	1	HD20011050	Diode	1S1555	
Q719	1	1	1	HD20011050	Diode	1S1555	
Q720	1	1	1	HD20011050	Diode	1S1555	

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION		
Q721	1	1	1	HD20011050	Diode	1S1555	
Q722	1	1	1	HD20011050	Diode	1S1555	
Q723	1	1	1	HD20011050	Diode	1S1555	
Q724	1	1	1	HD20011050	Diode	1S1555	
Q725	1	1	1	HC10030030	IC	STK3062	
⚠Q801	1	1	1	HD20011290	Diode	S3V20	
⚠Q802	1	1	1	HD20011290	Diode	S3V20	
⚠Q803	1	1	1	HD20011290	Diode	S3V20	
⚠Q804	1	1	1	HD20011290	Diode	S3V20	
Q805	1	1	1	HE10001030	Diode	DS133B	
Q806	1	1	1	HE10001030	Diode	DS133B	
Q807	1	1	1	HT403131Q0	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	HD20005010	Diode	W06B	
					P700-MISCELLANEOUS		
LN01	1	1	1	LY20240140	Relay		
L701	1	1	1	LL23915120	Coil		
L702	1	1	1	LL23915120	Coil		
⚠F851	1			FS10400050	Fuse	4A	250V
⚠F851		1		FS10400020	Fuse	4A	250V
⚠F852		1		FS10100090	Fuse	1A	250V
⚠F852			1	FS10100800	Fuse	1AT	250V
⚠F853		1		FS10100090	Fuse	1A	250V
⚠F853			1	FS10100800	Fuse	1AT	250V
J851	1	1		YJ08000170	Jack, Fuse Holder		
J852	1	1		YJ08000170	Jack, Fuse Holder		
J853 ≀ J856		4		YJ08000170	Jack, Fuse Holder		
J853 ≀ J856			4	YJ08000270	Jack, Fuse Holder		
					PE00-TONE AMP CIRCUIT BOARD		
PE00	1	1	1	YK211410A0	P.W. Board, Tone Amp.		
	1	1	1	ZZ211410A0	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	EA47503530	Elect	4.7μF	35V
CE07	1	1	1	DD15101370	Ceramic	100pF ±5%	
CE08	1	1	1	DD15101370	Ceramic	100pF ±5%	
CE09	1	1	1	EA10602590	Elect	10μF	25V
CE10	1	1	1	EA10602530	Elect	10μF	25V
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	EA33505090	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 U	C	N	PART NO.	DESCRIPTION
					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	GD05473140	47KΩ
RE50	1	1	1	GD05473140	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
RE55	1	1	1	GD05332140	3.3KΩ
RE56	1	1	1	GD05332140	3.3KΩ
					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 U	C	N	PART NO.	DESCRIPTION
					PH00-LOW FILTER CIRCUIT BOARD
PH00	1	1	1	YK211410D0	P.W. Board, Low Filter
	1	1	1	ZZ211410D0	P.W. Board Assembly
					PH00-CAPACITORS
CH01	1	1	1	EA33405030	Elect 0.33μF 50V
CH02	1	1	1	EA33405030	Elect 0.33μF 50V
					PH00-RESISTORS
RH01	1	1	1	GD05224140	220KΩ ±50% ¼W
RH02	1	1	1	GD05224140	220KΩ ±50% ¼W
					PH00-SWITCH
SS01	1	1	1	SP04060110	Push Switch, Low Filter(SS01-5)
					PK01-LED POWER METER CIRCUIT BOARD
PK01	1	1	1	YN21142210	P.W. Board, Led Power Meter
	1	1	1	ZZ21142210	P.W. Board Assembly
					PK01-LED
QK01	1	1	1	HI11202320	L.E.D GL-112R4
QK02	1	1	1	HI11202320	L.E.D GL-112R4
					PK02-LED POWER METER AMP. CIRCUIT BOARD
PK02	1	1	1	YN21142220	P.W. Board, Led Power Meter Amp.
	1	1	1	ZZ21142220	P.W. Board Assembly
					PK02-CAPACITORS
CK01	1	1	1	EA10602530	Elect 10μF 25V
CK02	1	1	1	EA10602530	Elect 10μF 25V
CK03	1	1	1	EA10602530	Elect 10μF 25V
CK04	1	1	1	EA10602530	Elect 10μF 25V
CK05	1	1	1	EA10602530	Elect 10μF 25V
CK06	1	1	1	EA10602530	Elect 10μF 25V
CK07	1	1	1	EA10702590	Elect 100μF 25V
					PK02-RESISTORS
					(All Resistors are ±5% and ¼W)
RK01	1	1	1	RA02030060	20KΩ(B) Trimming
RK02	1	1	1	RA02030060	20KΩ(B) Trimming
RK03	1	1	1	GD05152140	1.5KΩ
RK04	1	1	1	GD05152140	1.5KΩ
RK05	1	1	1	GD05152140	1.5KΩ
RK06	1	1	1	GD05152140	1.5KΩ
RK07	1	1	1	GD05152140	1.5KΩ
RK08	1	1	1	GD05152140	1.5KΩ
RK09	1	1	1	GD05152140	1.5KΩ
RK10	1	1	1	GD05152140	1.5KΩ
RK11	1	1	1	GD05152140	1.5KΩ
RK12	1	1	1	GD05152140	1.5KΩ
RK13	1	1	1	GD05152140	1.5KΩ
RK14	1	1	1	GD05152140	1.5KΩ
RK15	1	1	1	GD05152140	1.5KΩ
RK16	1	1	1	GD05152140	1.5KΩ
RK17	1	1	1	GD05152140	1.5KΩ
RK18	1	1	1	GD05152140	1.5KΩ
RK19	1	1	1	GD05152140	1.5KΩ
RK20	1	1	1	GD05152140	1.5KΩ

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

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
RK21	1	1	1	GD05152140	1.5KΩ
RK22	1	1	1	GD05152140	1.5KΩ
RK23	1	1	1	GD05152140	1.5KΩ
RK24	1	1	1	GD05152140	1.5KΩ
RK25	1	1	1	GD05152140	1.5KΩ
RK26	1	1	1	GD05152140	1.5KΩ
RK27	1	1	1	GD05103140	10KΩ
RK28	1	1	1	GD05103140	10KΩ
RK29	1	1	1	GD05103140	10KΩ
RK30	1	1	1	GD05103140	10KΩ
RK31	1	1	1	GD05103140	10KΩ
RK32	1	1	1	GD05103140	10KΩ
RK33	1	1	1	GD05182140	1.8KΩ
RK34	1	1	1	GD05182140	1.8KΩ
RK35	1	1	1	GD05121140	120Ω
RK36	1	1	1	GD05121140	120Ω
RK37	1	1	1	GD05272140	2.7KΩ Trimming
RK38	1	1	1	GD05272140	2.7KΩ
RK39	1	1	1	GD05274140	270KΩ
RK40	1	1	1	GD05274140	270KΩ
RK41	1	1	1	GD05153140	15KΩ
RK42	1	1	1	GD05153140	15KΩ
RK44	1	1	1	GD05153140	15KΩ
RK45	1	1	1	GD05822140	8.2KΩ
RK46	1	1	1	GD05822140	8.2KΩ
RK47	1	1	1	GD05562140	5.6KΩ
RK48	1	1	1	GD05562140	5.6KΩ
RK49	1	1	1	GD05181140	180Ω
RK50	1	1	1	GD05181140	180Ω
RK51	1	1	1	GD05103140	10KΩ
RK52	1	1	1	GD05103140	10KΩ
RK53	1	1	1	GD05153140	15KΩ
RK54	1	1	1	GD05392140	3.9KΩ
RK55	1	1	1	GG05681120	680Ω ½W
					PK02-SEMICONDUCTORS
QK03	1	1	1	HC10002320	IC IR2418A
QK04	1	1	1	HC10002320	IC IR2418A
QK05	1	1	1	HH00008030	Thermistor SDT-1000
QK06	1	1	1	HH00008030	Thermistor SDT-1000
QK07	1	1	1	HT111272A0	Transistor 2SA1127(R or S)
QK08	1	1	1	HT111272A0	Transistor 2SA1127(R or S)
QK09	1	1	1	HT326342A0	Transistor 2SC2634(R or S)
QK10	1	1	1	HT326342A0	Transistor 2SC2634(R or S)
QK11	1	1	1	HD20011050	Diode 1S1555
QK12	1	1	1	HD20011050	Diode 1S1555
QK13	1	1	1	HD20011050	Diode 1S1555
QK14	1	1	1	HD20011050	Diode 1S1555
QK15	1	1	1	HD30059090	Zener XZ-185
					PS00-SWITCH CIRCUIT BOARD
PS00	1	1	1	YK21141050	P.W. Board, Switch
	1	1	1	ZZ21141050	P.W. Board Assembly
					PS00-CAPACITORS
CS01	1	1	1	DF17122300	Film 1200pF ±20%
CS02	1	1	1	DF17122300	Film 1200pF ±20%
CS03	1	1	1	EA10405030	Elect 0.1μF 50V
CS04	1	1	1	EA10405030	Elect 0.1μF 50V

REF. DESIG.	Q'TY U	C	N	PART NO.	DESCRIPTION
					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	GD05103140	10KΩ
RS04	1	1	1	GD05103140	10KΩ
RS05	1	1	1	GD05392140	3.9KΩ
RS06	1	1	1	GD05392140	3.9KΩ
					PS00-SWITCH
SS01	1	1	1	SP04060110	Push Switch (SS01-1~SS01-5)
					PT00-SPEAKER SWITCH CIRCUIT BOARD
PT00	1	1	1	YK21141010	P.W. Board, Speaker Switch
	1	1	1	ZZ21141010	P.W. Board Assembly
					PT00-RESISTORS
RT01	1	1	1	GA05331020	330Ω ±5% 2W
RT02	1	1	1	GA05331020	330Ω ±5% 2W
					PT00-SWITCH
ST01	1	1	1	SP04020200	Push Switch, Speaker
					PW00-HEADPHONE JACK CIRCUIT BOARD
PW00	1	1	1	YK211410E0	P.W. Board, Headphone Jack
	1	1	1	ZZ211410E0	P.W. Board Assembly
JW01	1	1	1	YJ01001340	Jack, Headphone
					PW50-SPEAKER TERMINAL CIRCUIT BOARD
PW50	1	1	1	YK211410J0	P.W. Board, Speaker Terminal
	1	1	1	ZZ211410J0	P.W. Board Assembly
JW51	1	1	1	YT03040180	Terminal
JW52	1	1	1	YT03040180	Terminal
					PY00-STEREO LED CIRCUIT BOARD
PY00	1	1	1	YK211410F0	P.W. Board, Stereo Led
	1	1	1	ZZ211410F0	P.W. Board Assembly
QY01	1	1	1	HI10009020	L.E.D. LN26RP
					PZ00-DIAL POINTER LAMP CIRCUIT BOARD
PZ00	1	1	1	YK211410G0	P.W. Board, Dial Pointer Lamp
	1	1	1	ZZ211410G0	P.W. Board Assembly
VZ01	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 . . . . . 63 W
POWER BAND . . . . . 20 Hz to 20 kHz
TOTAL HORMONIC DISTORTION 0.05%
LOAD IMPEDANCE . . . . . 4 OHMS
RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER
PER CHANNEL, BOTH CHANNELS DRIVEN . . . . . 50 W
POWER BAND . . . . . 20 Hz to 20 kHz
TOTAL HARMONIC DISTORTION 0.025%
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 0.025%
at 4 ohm load impedance 0.05%
Damping Factor (at 20 Hz) 50

PREAMPLIFIER SECTION

Phono
Imput Oeverload at 1 kHz . . . . . 130 mV
Equivalent Input Noise ("A" Weighted) . . . . . 0.3 μV
Dynamic Range
(Dynamic Range is the ratio of input overload to equivalent input noise) . . . . . .113 dB
Input Sensitivity . . . . . 2.7 mV
Input Impedance . . . . . 47 kohms
Input Capacitance . . . . . 220 pF
Frequency Response, RIAA 20 Hz to 20 kHz . . . . . ±0.3 dB
Signal-to-Noise Ratio ("A" Weighted)
(at rated output and 10 mV input) . . . . . 88 dB
High Level (Aux and Tape)
Input Sensitivity . . . . . 160 mV
Input Impedance . . . . . 20 kohms
Frequency Response
(includes power amp) . . . . . 10 Hz to 60 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 . . . . . 10.3 dBf (1.8 μV)
IHF 50 dB Quieting (Mono) . . . . . 13.9 dBf (2.5 μV)
(Stereo) . . . . . 36.8 dBf (38 μV)
Quieting Slope (Mono)
RF Input for 30 dB Quieting . . . . . 8.2 dBf (1.4 μV)
Quieting at:
20 dBf (5.5 μV) . . . . . 55 dB
25 dBf (10 μV) . . . . . 60 dB
40 dBf (55 μV) . . . . . 74 dB
65 dBf (1000 μV) . . . . . 78 dB

Quieting Slope (Stereo)
Quieting at:
30 dBf (17 μV) . . . . . 40 dB
40 dBf (55 μV) . . . . . 52 dB
50 dBf (173 μV) . . . . . 62 dB
65 dBf (1000 μV) . . . . . 70 dB
Distortion (Mono) at 65 dBf (1000 μV)
100 Hz 0.2%
1000 Hz 0.15%
6000 Hz 0.2%
Distortion (Stereo) at 65 dBf (1000 μV)
100 Hz 0.25%
1000 Hz 0.25%
6000 Hz 0.35%
Frequency Response
30 Hz to 15 kHz
Mono and Stereo . . . . . +0.5 dB, −1.0 dB
Capture Ratio at 65 dBf (1000 μV) . . . . . 1.0 dB
Alternate Channel Selectivity . . . . . 65 dB
Spurious Response Rejection . . . . . 90 dB
Image Response Rejection . . . . . 55 dB
I.F. Rejection (Balanced) . . . . . 85 dB
A.M. Suppression . . . . . 55 dB
Stereo Separation at 1 kHz . . . . . 45 dB
Subcarrier Rejection . . . . . 65 dB

AM TUNER SECTION

IHF Usable Sensitivity . . . . . 20 μV
Signal-to-Noise Ratio . . . . . 50 dB
Alternate Channel Selectivity . . . . . 45 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 . . . . . 215 W
Idling Power (Volume Control at zero) . . . . . 30 W
Dimensions:
Panel Width . . . . . 466 mm (18-3/8")
Panel Height . . . . . 140 mm (5-1/2")
Depth . . . . . 353 mm (13-7/8")
Weight:
Unit alone . . . . . 10 kg (22 lbs)
Packed for Shipment . . . . . 12 kg (26.4 lbs)

[FOR EUROPE]

AUDIO SECTION

POWER OUTPUT, DIN, 4 OHM, PER CHANNEL ..... **96 W**
POWER OUTPUT, FTC AMERICAN STANDARDS, 4 OHM, PER CHANNEL ..... **63 W**
TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT **0.06%**
I.M. DISTORTION AT RATED POWER OUTPUT
(250 Hz AND 8 kHz MIXED, AMPLITUDE RATIO 4:1) **0.06%**
POWER OUTPUT, DIN, 8 OHM, PER CHANNEL ..... **73 W**
POWER OUTPUT, FTC AMERICAN STANDARDS, 8 OHM, PER CHANNEL ..... **50 W**
TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT **0.03%**
I.M. DISTORTION AT RATED POWER OUTPUT
(250 Hz AND 8 kHz MIXED, AMPLITUDE RATIO 4:1) **0.03%**
POWER BANDWIDTH ..... **10 Hz ~ 40 kHz**

	(40 Hz)	(1 kHz)	(12.5 kHz)
DAMPING FACTOR 8 OHM	**60**	**60**	**55**

Frequency Response
Phono (RIAA) ..... ±1.0 dB
Aux (±1 dB) ..... 10 Hz ~ 40 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 ..... 1.2 μV
Phono Dynamic Range (Ratio of input overload to equivalent input noise) ..... 102 dB
Channel Balance (0 to −40 dB/40 Hz ~ 16 kHz)
Phono ..... 2.0 dB
Aux ..... 1.5 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 ..... 1.5 μV
Stereo, S/N 46 dB ..... 43 μV
Alternate Channel Selectivity, 98 MHz±300 kHz ..... 60 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

Signal-to-Noise Ratio, 98 MHz	
Unweighted: Mono	72 dB
Stereo	65 dB
Weighted: Mono	62 dB
Stereo	55 dB
Pilot Signal & Subcarrier Rejection	
19 kHz	60 dB
38 kHz	60 dB
Total Harmonic Distortion, 98 MHz	
Mono	0.1%
Stereo	0.2%
Frequency Response	
30 Hz ~ 15 kHz	+0.3 dB, −1.0 dB
Separation	
Stereo	45 dB
Channel Balance	0.5 dB
Output Voltage, 1 kHz	600 mV
Output Impedance, 1 kHz	3 k ohms
Acceptable Load Impedance, 1 kHz	47 k ohms
Antenna Terminals	
Balanced	300 ohms
Unbalanced	75 ohms

AM TUNER SECTION

Frequency Range	515 ~ 1650 kHz
Usable Sensitivity (26 dB S/N 30% Mod., 1 MHz)	15 μV
Selectivity, 1 kHz±9 kHz	26 dB
Image Rejection, 1 MHz	50 dB
IF Rejection, 1 MHz	40 dB
Spurious Response Rejection, 1 MHz	46 dB
Siganl-to-Noise Ratio, 1 MHz	44 dB
Frequency Response, 1 MHz±3 dB	35 Hz ~ 1.8 kHz
Total Harmonic Distortion, 1 MHz	0.8%

GENERAL

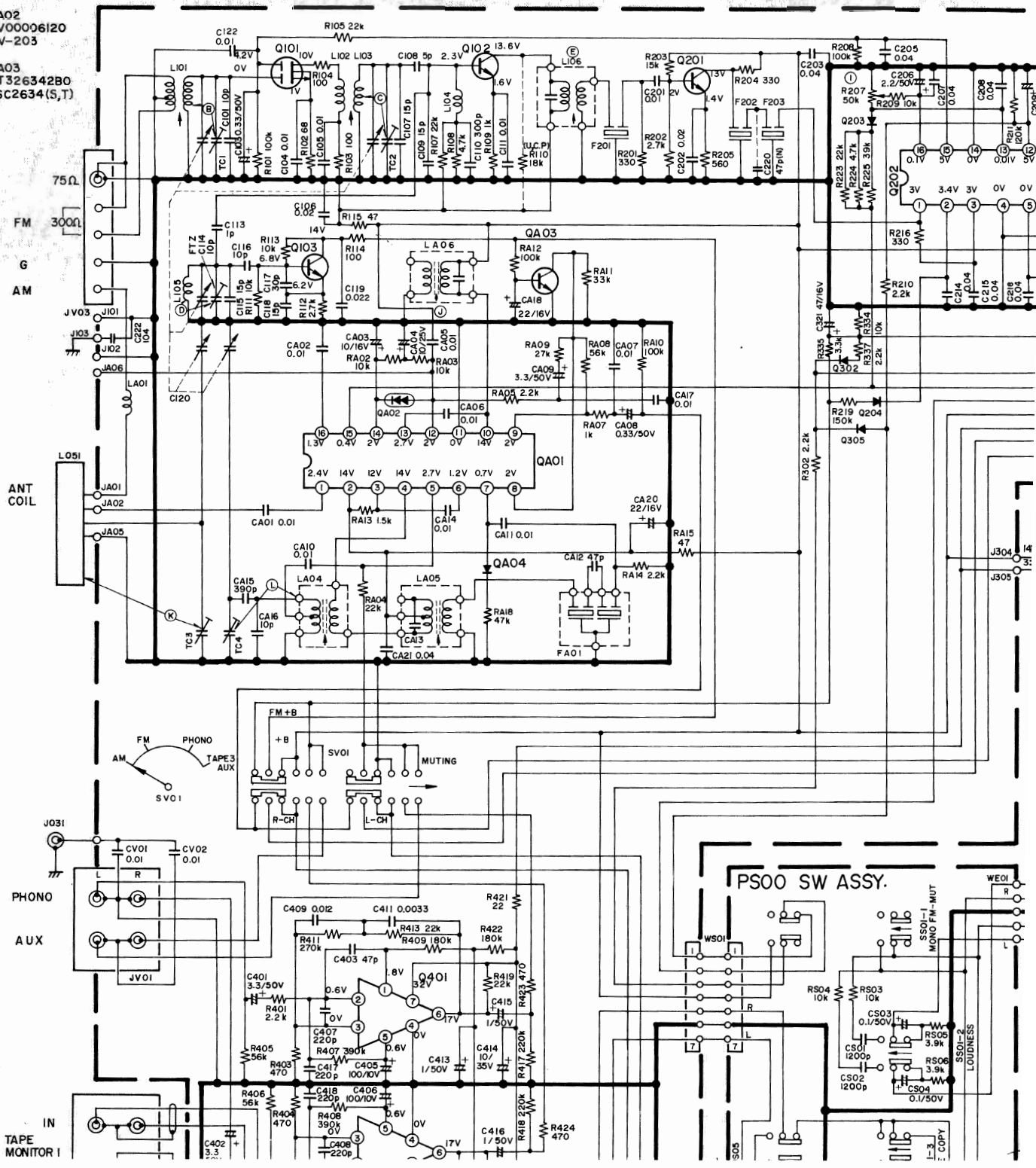
Power Requirements	220 V AC, 50 Hz
	(N version is featuring an external voltage selector for use on 110 V. Other versions can be converted by a qualified technician to operate on 240 V.)
Power Consumption at Rated Output, Both Channels Operating	215 W
Idling Power	30 W
Semiconductor Complement	
Integrated Circuits	10
Transistors	28
Diodes	38
Field Effect Transistors	1
Dimensions	
Panel Width	18-3/8" (466 mm)
Panel Height	5-1/2" (140 mm)
Depth	13-7/8" (353 mm)
Weight	
Unit alone	22.0 lbs (10.0 kg)
Packed for shipment	26.4 lbs (12.0 kg)

SCHEMATIC DIAGRAM

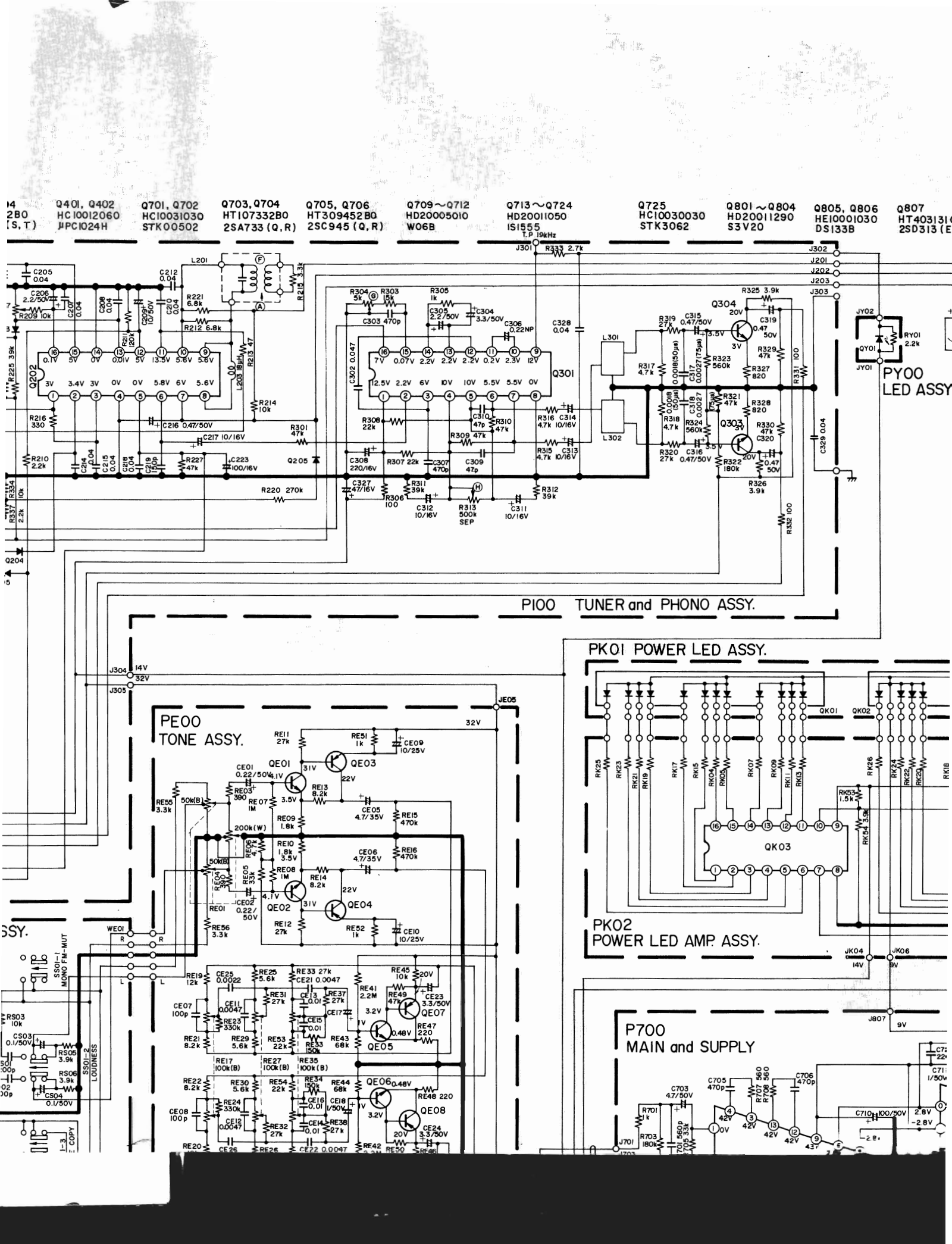
QA01, Q203	Q101	Q102	Q103, Q201	Q202	Q204, Q205, Q302, Q305	Q301	Q303, Q304	Q401, Q402
HC10025060	HF400451B0	HT31047IC0	HT30829IC0	HC10028030	HD20011050	HC10024060	HT326342B0	HC10012060
μPC1178C(AM)	3SK45B	2SC1047C	2SC829C	LA1231	IS1555	μPC1161C	2SC2634 (S,T)	μPC1024H

QA02
HV00006120
MV-203

QA03
HT326342B0
2SC2634(S,T)

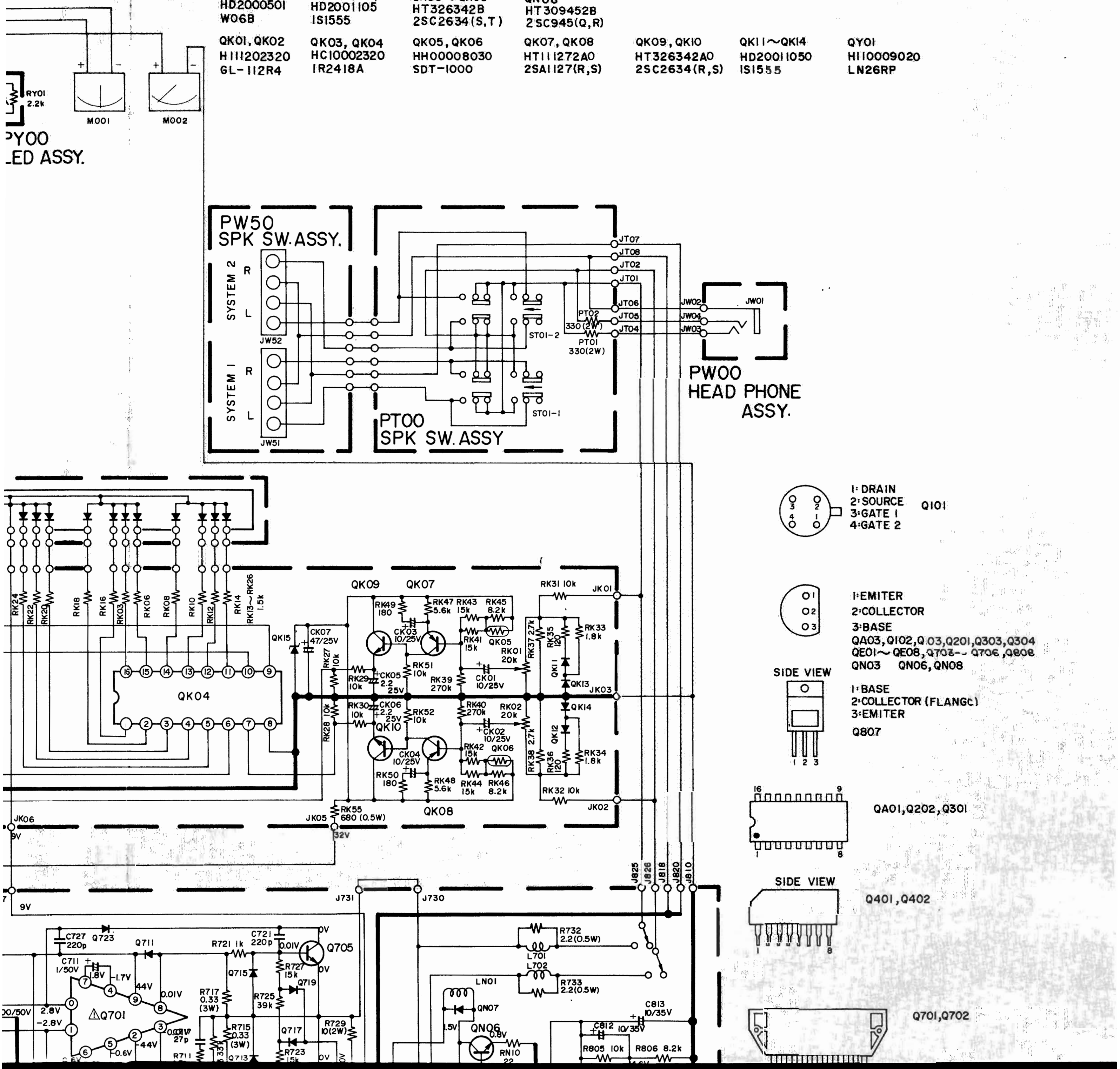


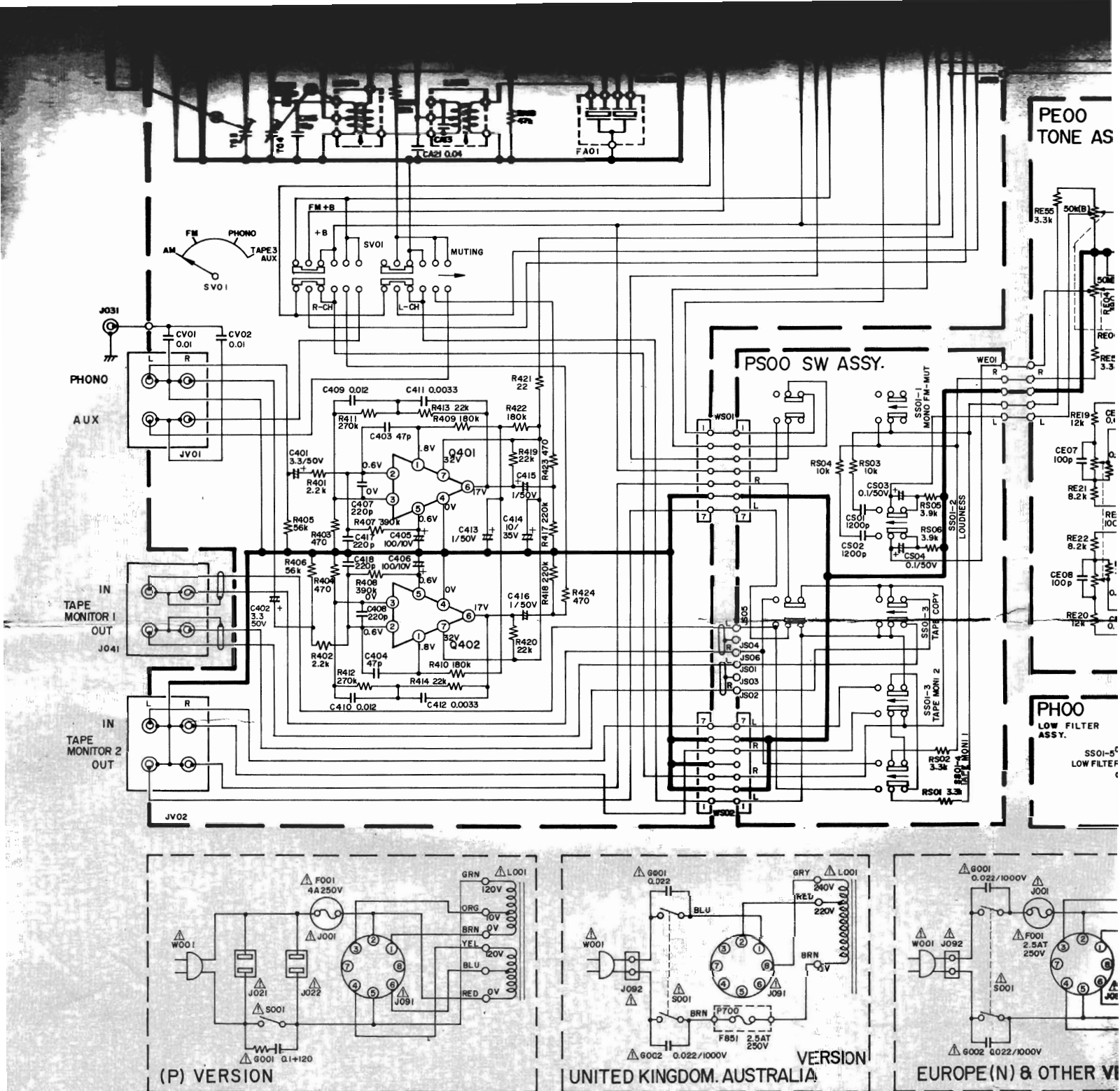
	Q401, Q402	Q701, Q702	Q703, Q704	Q705, Q706	Q709～Q712	Q713～Q724	Q725	Q801～Q804	Q805, Q806	Q807
)4 2B0 (S, T)	HC10012060 μPC1024H	HC10031030 STK00502	HT107332B0 2SA733 (Q, R)	HT309452B0 2SC945 (Q, R)	HD20005010 W06B	HD20011050 IS1555	HC10030030 STK3062	HD20011290 S3V20	HE10001030 DS133B	HT403131(2SD313 (E

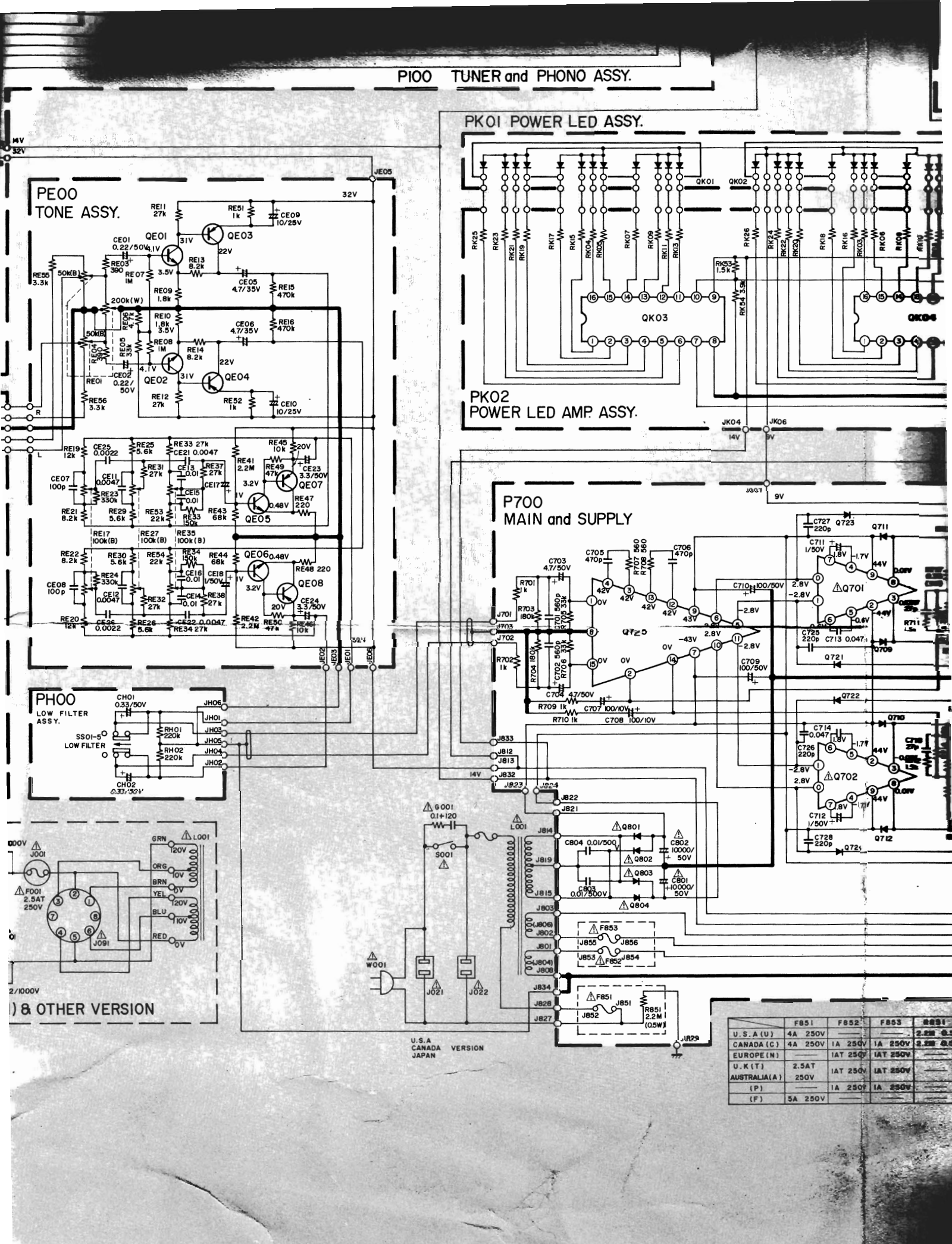


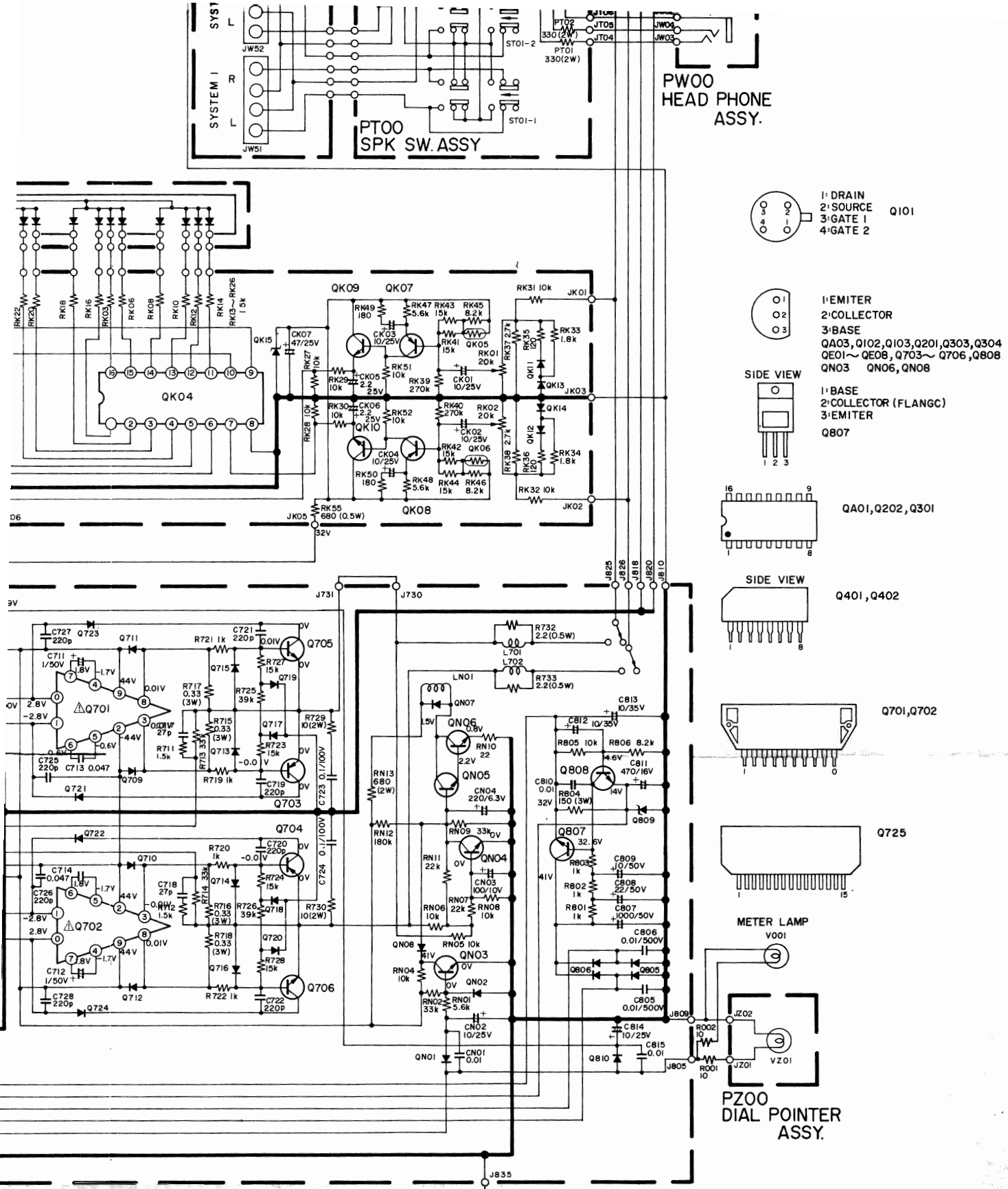
MODEL SR 4000

Q807 HT403131Q0 2SD313 (E)
Q808 HT326342B0 2SC2634 (S,T)
Q809 HD30021090 BZ-140
Q810 HD20005010 W06B
QE01, QE02, QE05, QE06 HT326342B 2SC2634(S,T)
QE03, QE04, QE07, QE08 HT111272B 2SA1127(S,T)
QN01 HD2000501 W06B
QN08, QN02, QN07 HD2001105 1S1555
QN03～QN05 HT326342B 2SC2634(S,T)
QN06 HT309452B 2SC945(Q,R)
QK01, QK02 H111202320 GL-112R4
QK03, QK04 HC10002320 IR2418A
QK05, QK06 HH00008030 SDT-1000
QK07, QK08 HT111272A0 2SA1127(R,S)
QK09, QK10 HT326342A0 2SC2634(R,S)
QK11～QK14 HD20011050 1S1555
QY01 H110009020 LN26RP




PE00
TONE AS
PS00 SW ASSY.
PH00
LOW FILTER ASSY.
FM+B
+8
SV01
MUTING
FM
PHONO
AM
TAPE3 AUX
R-CH
L-CH
J031
CV01 0.01
CV02 0.01
PHONO
AUX
JV01
IN TAPE MONITOR 1 OUT
J041
IN TAPE MONITOR 2 OUT
JV02
Q401
Q402
WS01
WS02
WE01
SS01-1 MONO FM-MUT
SS01-2 LOUDNESS
SS01-3 TAPE COPY
SS01-3 TAPE MONI 2
SS01-4 TAPE MONI 1
SS01-5 LOW FILTER
F001 4A250V
J001
W001
J021
J022
S001
G001 0.1+120
GRN
ORG
BRN
YEL
BLU
RED
L001
120V
0V
(P) VERSION
G001 0.022
J092
J091
P700
F851 2.5AT 250V
G002 0.022/1000V
GRY
240V
220V
VERSION
UNITED KINGDOM. AUSTRALIA
G001 0.022/1000V
F001 2.5AT 250V
EUROPE(N) & OTHER


P100 TUNER and PHONO ASSY.
PK01 POWER LED ASSY.
PK02
POWER LED AMP. ASSY.
PE00
TONE ASSY.
P700
MAIN and SUPPLY
PH00
LOW FILTER
ASSY.
& OTHER VERSION
U.S.A
CANADA
JAPAN
VERSION
F851
F852
F853
U.S.A (U)
4A 250V
CANADA (C)
4A 250V
1A 250V
1A 250V
EUROPE (N)
1AT 250V
U.K (T)
AUSTRALIA (A)
2.5AT 250V
1AT 250V
1AT 250V
(P)
1A 250V
1A 250V
(F)
5A 250V



	F851	F852	F853	R851
)	4A 250V	——	——	2.2M 0.5W
C)	4A 250V	1A 250V	1A 250V	2.2M 0.5W
N)	——	1AT 250V	1AT 250V	——
	2.5AT 250V	1AT 250V	1AT 250V	——
	——	1A 250V	1A 250V	——
	5A 250V	——	——	2.2M 0.5W

NOTE ON SAFETY: THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY. PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBER WITHOUT FAIL.

model SR4000

marantz

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