

SERVICE
MANUAL **PM520DC**



marantz®

model **PM520DC**

Stereo Pre Main Amplifier

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:

U.S.A.	CANADA	AUSTRALIA	JAPAN
MARANTZ COMPANY, INC. National Service Dept. P.O. Box 577 Chatsworth, CA 91311 U.S.A.	SUPERSCOPE CANADA, LTD. 3710 Nashua Drive Mississauga Ontario, Canada L4V1M5	MARANTZ AUSTRALIA 32 Cross Street Brookvale, NSW 2100 Australia	MARANTZ JAPAN, INC. 3622 Kamitsuruma Sagamihara-shi Kanagawa, Japan
EUROPE			
MARANTZ S.A. 326 Avenue Louise Bte 32 1050 Brussels Belgium	MARANTZ AUDIO U.K. LTD. Unit 15/16 Saxon Way Industrial Estate Motor Lane Harmondsworth UB7 OLW Great Britain	MARANTZ BELGIUM 45 Rue Auguste Van Zande 1080 Brussels Belgium	MARANTZ SVENSKA A.B. Svartviksvangen 56 Traneberg Box 12016 161 12 BROMMA SWEDEN
MARANTZ GERMANY GMBH Max-Planckstrasse 22 6072 Dreieich 1 West Germany	MARANTZ FRANCE 4 Rue Bernard Palissy 92600 Asnieres France	MARANTZ GMBH AUSTRIA Wiedner Hauptstrasse 98 1050 WIEN AUSTRIA	
	MARANTZ NORSKE A.S. Refstadalleen 13 Oslo 5 Norway	MARANTZ DENMARK Bregnerødvej 132b 3460 BIRKERØD DENMARK	

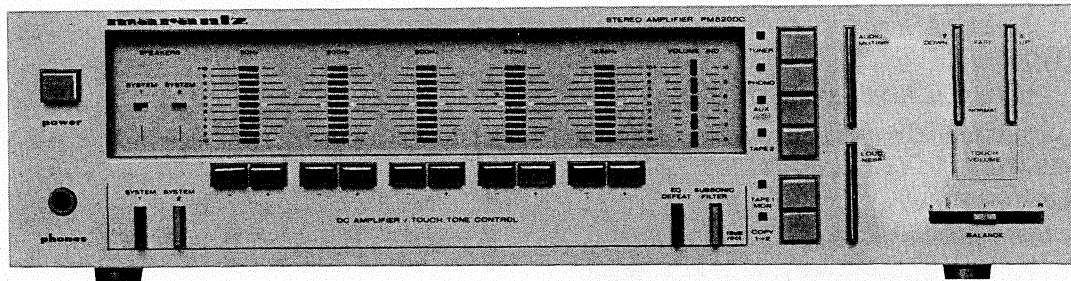
All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your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

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MODEL PM520DC STEREOPHONIC AMPLIFIER



INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for the Marantz Model PM520DC Stereo Console Amplifier. Servicing information and voltage data included in this manual are intended for use by knowledgeable and experienced personnel only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of circuitry operation.

The parts list furnishes complete ordering information. Most replacement parts should be ordered from the Marantz Company. However, a simple description is included for parts which can be obtained locally.

1. SHOCK, FIRE HAZARD SERVICE TEST

CAUTION: After servicing this appliance and prior to returning to customer, either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied and verified before return to user/customer.

Ref. UL Standard NO. 1270. Para. 66. 3. D (Mandatory Test after servicing Electrical Appliances, effective 7-1-83).

2. FUNCTION SELECTOR

Each signal applied to the AUX, TUNER, and TAPE 2 signal enters the electronic switch (QS01). The phono signal applied to the PHONO jacks is also applied to the electronic switch (QS01) after the signal is amplified by 35dB and RIAA-equalized in the EQ amplifier.

The TAPE 1 IN signal first enters the electronic switch (QS02), then controlled with QS01 and supplied to the common output line.

The TAPE 1 OUT is supplied from the COMMON output (IC PIN No. 14, 15) of QS01.

The TAPE 2 OUT is sent to the TAPE 2 OUT jack after it is switched over with QS03 which in turn is controlled by TAPE COPY control (QS04, QS05).

The TAPE COPY control consists of latch circuits QS04, QS05, level shift transistors QS07, QS08, and the switching transistor (QS09) that functions not to send the TAPE 2 OUT when the SELECTOR switch is placed in the TAPE 2 position.

The memory system is of a capacitor back-up type consisting of CS10 and QS06, and functions as a last channel memory that maintains the selector position set before the power was just turned off.

3. PRE-AMPLIFIER

Signals developed at the common terminal of the FUNCTION switch are applied to the graphic equalizer amplifier in passing through the Volume control (RG01) and the Balance control (RG81).

The Volume control (RG01) is of a motor-driven type and the motor is controlled in NORMAL and FAST mode by means of the UP/DOWN switches (SG51 ~ SG54) which, in turn, control the volume control DC amplifier (QG01).

The signals applied to the graphic amplifier stage is first amplified by 17dB in the flat amplifier QE01 (1/2) provided on the graphic equalizer amplifier stage, then led to the following EQ amplifier QE01 (2/2) and divided into five frequency groups, then each of five is controlled by the PUSH VR corresponding to the frequency. Thus equalized signals are subject to DEFEAT/EQ ON operation by means of EQ Defeat switch (ST51), then applied to the main amplifier.

4. MAIN AMPLIFIER

The signals applied are amplified in the Voltage amplifier (Q701), then led to the Output Amplifier (Q702), and finally sent to the Speaker Terminals through the protector relay (LN51) and after selected by the speaker switch (SU01).

- Audio Muting Switch (ST02): attenuates signal level at the main amplifier input circuit.
- Subsonic Filter Switch (ST51): provides frequency response of 12dB/OCT by switching in CR filter (6dB/OCT) in the graphic EQ amplifier output circuit and the NF capacitor (6dB/OCT) in the main amplifier simultaneously.

5. POWER AMPLIFIER ALIGNMENT

DC OFFSET ADJUSTMENT

1. Speaker Load: Open, Input: Open, Volume: MIN
2. Connect a DC voltmeter between the plus and minus speaker terminals.
3. Turn R709 (L ch), and R710 (R ch) until the DC voltage across the speaker terminals reduces to zero.

NOTE: Place the Subsonic Filter switch in the OFF position during the alignment above.

6. TEST EQUIPMENT REQUIRED FOR SERVICING

Table 1 lists the test equipment required for servicing the Model PM520DC Stereo Console Amplifier. The wattmeter, AC voltmeter, and variable autotransformer may be assembled as a test fixture as shown schematically in Figure 1. The load resistors and AC ammeter may be assembled into a second test fixture as shown in Figure 2.

7. PERFORMANCE VERIFICATION

TEST PROCEDURE

A. TEST EQUIPMENT

Refer to Table 1 for required test equipment.

B. PRELIMINARY PROCEDURES

1. Make the test setup shown in Figure 1 with the instrument controls set in the following positions:

Line Switch	OFF
Variable-line Switch	Variable
Wattmeter Switch	ON
Variable Autotransformer	0V (fully CCW)
Load	8 ohms (0.5mfd-OFF)
Audio Generator	1kHz
Output	5V range
Gain	Minimum
AC Voltmeter	30V range

2. Make sure that connections between the resistive load and the system terminals of the Model PM520DC have negligible resistance when compared with the resistance of the load itself. Appreciable resistance in wiring adds to the total load, resulting in inaccurate measurements of output power.
3. Connect amplifier output to load and connect AC cord to line power. Connect shorting plugs to the Phone input jacks of the Model PM520DC.

Table 1. Test Equipment Required for Servicing

Item	Manufacturer and Model No.	Use
Distortion Analyzer Audio Oscillator AC Voltmeter	Sound Technology Model 1700B	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
Circuit Tester		Trouble shooting
DC Voltmeter	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 ~ 10 A)	Monitors amplifier output under short circuit condition
Line Voltmeter	Simpson Model 1359	Monitors potential of primary power to amplifier
Variable Autotransformer	Seperior Electronic Co., Powerstet Model 116B-10A	Adjust level of primary power to amplifier
Shorting Plug	Use phono plug with 600 ohm across center pin and shell	Shorts amplifier input to eliminate noise Pickup
Output Load (8 ohms, $\pm 0.5\%$ 100W)	Commercial Grade	Provides 8-ohm load for amplifier output termination
Output Load (4 ohms, $\pm 0.5\%$ 100W)	Commercial Grade	Provides 4-ohm load for amplifier output termination
Output Load Capacitor (0.5 mfd)	Mylar	Provides capacitive load for instability checks
AC Power Control Box	Optional Item. Fabricate in accordance with Figure 1	Monitors and controls primary power for amplifier
Amplifier Output Load Box	Optional Item. Fabricate in accordance with Figure 2	Provides various amplifier loads and can monitor shorted output

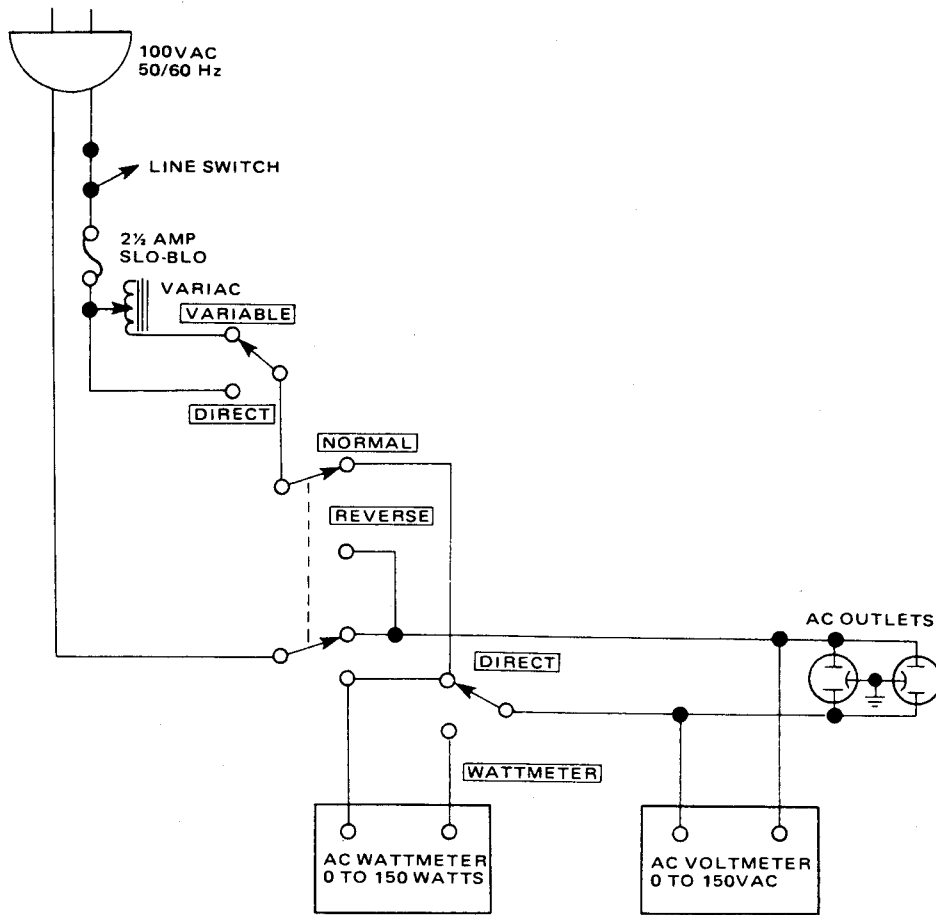


Figure1. AC Power Control Box Simplified Schematic

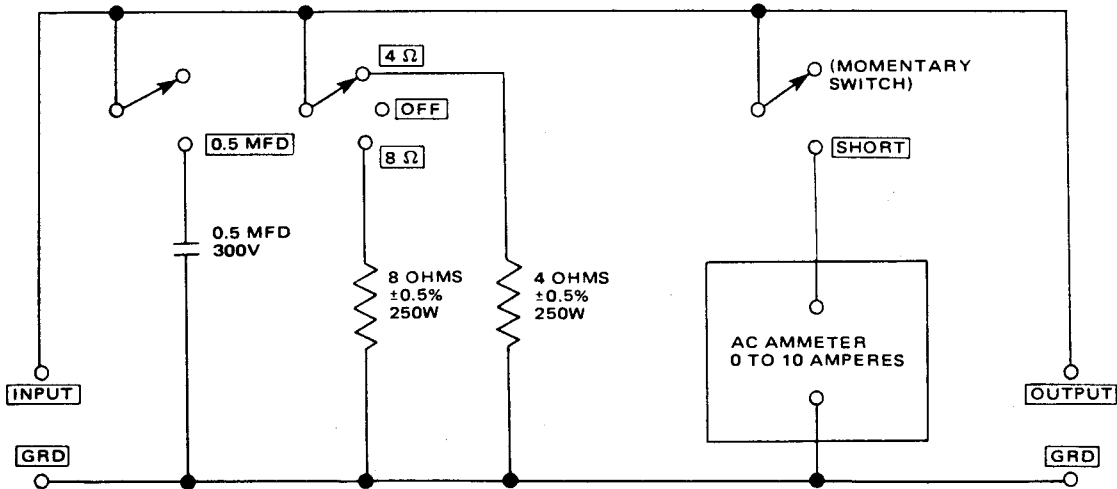


FIGURE 2. Amplifier Output Load Box Simplified Schematic

C. TOTAL HUM AND NOISE TEST

1. With shorting plugs connected to the Phono input jacks and an 8 ohm resistive load connected across the speaker system output terminals, connect a distortion analyzer across the load.

NOTE:

If the distortion analyzer does not contain a built-in voltmeter, an AC Voltmeter may be substituted.

2. Set the distortion analyzer controls for voltage measurements and apply power to the amplifier. Set the volume control fully CCW. Set the SELECTOR switch to PHONO.
3. If the distortion analyzer indicates more than 2.0mV refer to the trouble analysis section of this manual. Check capacitors, C801, C802, C803 and C804 and transistors, Q801, Q802, Q803 and Q804.
4. Set the volume control fully CW. If the distortion analyzer indicates more than 20mV, refer to the trouble analysis section of this manual. Check capacitors, C801, C802, C803 and C804 and transistors, Q801, Q802, Q803 and Q804.

D. MAXIMUM POWER OUTPUT

1. Connect the audio oscillator to the AUX input. Set audio oscillator frequency to 1 kHz. Set SELECTOR switch to AUX.
2. With the distortion analyzer connected across the output load (8-ohm), set the analyzer on the 30VAC scale.
3. Turn the analyzer on and increase the audio oscillator output to 150mV. The AC Voltmeter should read 18.9V AC or more.

Note on safety: Symbol \triangle Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol \triangle . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

E. HARMONIC DISTORTION TEST

1. Set the frequency of the audio oscillator and the distortion analyzer to 20kHz.
2. Set the controls of the analyzer for voltage measurement on the 30 volt scale.
3. Adjust the audio oscillator output level until the analyzer meter indicates 18.9VAC.
4. Switch the distortion analyzer to Set Level and adjust SENSITIVITY for full scale reading on 0 ~ 0.3% scale.
5. Measure the total harmonic distortion with the analyzer and verify it is less than 0.03%.

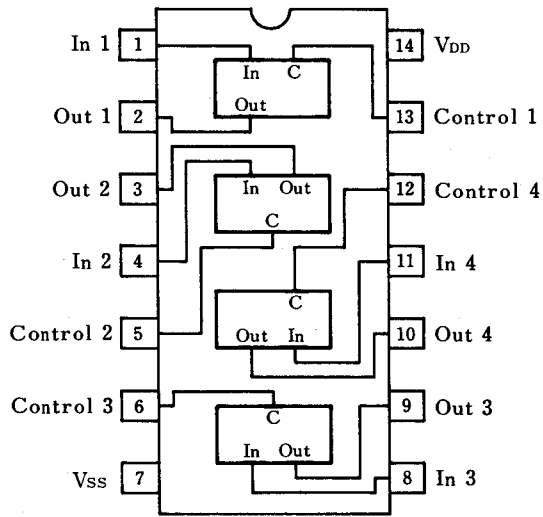
NOTE:

Any parasitic oscillation in the amplifier will be displayed on the oscilloscope when capacitance is switched into the load.

6. Switch the distortion analyzer back to SET LEVEL. (Do not readjust sensitivity of analyzer).
7. Change the frequency of the audio oscillator and distortion analyzer to 1 kHz. Adjust audio oscillator output for a full scale reading on the 0 ~ 1% scale.
8. Measure the distortion, verifying it is no greater than 0.03%.
9. Repeat steps 7 and 8, changing frequency to 20Hz. Distortion should be no more than 0.03%.
10. Check for parasitic oscillation; there should be none.

LC 4066B (QS02)

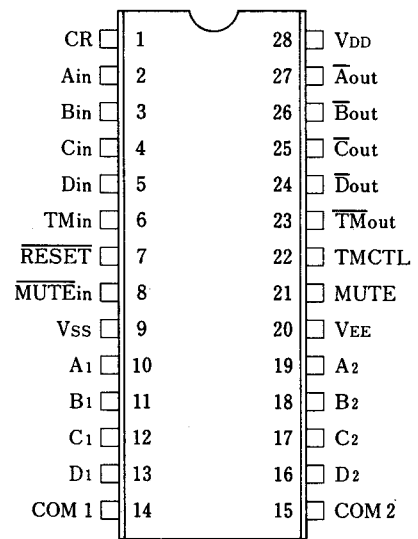
● Pin Terminal Diagram



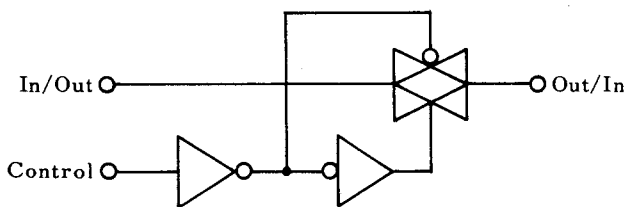
Top View

LC7815 (QS01)

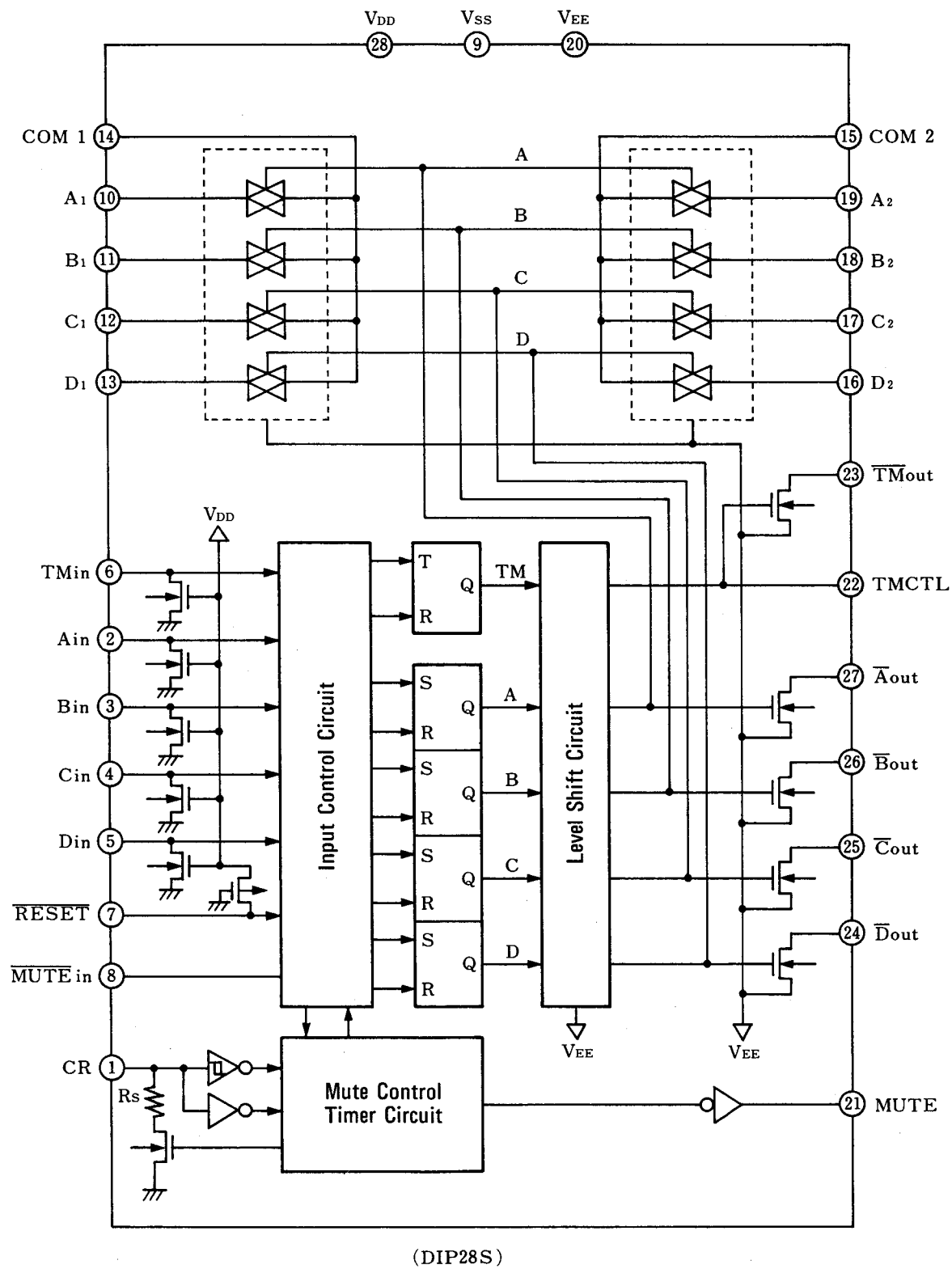
● Pin Terminal Diagram



● Block Diagram of Inside IC (1/4)



● Block Diagram of Inside IC



● Terminal Description

Name	No.	Description																										
V _{DD}	28	Power supply terminal																										
V _{SS}	9	⊕ When using one power supply: V _{SS} = V _{EE} = GND																										
V _{EE}	20	⊕ ⊖ When using two power supplies: V _{SS} = GND, V _{EE} = ⊖V																										
A _{in} , B _{in} C _{in} , D _{in}	2, 3 4, 5	★ Designated input terminal to make each analog switch turn ON ★ Priority level when pushed simultaneously (A _{in} > B _{in} > C _{in} > D _{in}) ★ Pulse noise erroneous operation prevention (Pulse width discrimination by mute delay time)																										
\bar{A} out, \bar{B} out \bar{C} out, \bar{D} out	27, 26 25, 24	★ LED driver output indicating ON state corresponding to each analog switch. ★ N channel open drain (source connected to V _{EE}).																										
A1, B1 C1, D1 A2, B2 C2, D2 COM1 COM2	10, 11 12, 13 19, 18 17, 16 14 15	★ A ~ D : Audio signal input terminals ★ COM : Audio signal output terminals ★ Input signals (A ~ D) are switched over with a designated input applied as shown in Table below:																										
		<table border="1"> <thead> <tr> <th>COM Output</th> <th>A_n</th> <th>B_n</th> <th>C_n</th> <th>D_n</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Designated input</td> <td>A_{in}</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>B_{in}</td> <td>*</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>C_{in}</td> <td>*</td> <td>*</td> <td>1</td> <td>0</td> </tr> <tr> <td>D_{in}</td> <td>*</td> <td>*</td> <td>*</td> <td>1</td> </tr> </tbody> </table> <p>* Don't care</p>	COM Output	A _n	B _n	C _n	D _n	Designated input	A _{in}	1	0	0	0	B _{in}	*	1	0	0	C _{in}	*	*	1	0	D _{in}	*	*	*	1
COM Output	A _n	B _n	C _n	D _n																								
Designated input	A _{in}	1	0	0	0																							
	B _{in}	*	1	0	0																							
	C _{in}	*	*	1	0																							
	D _{in}	*	*	*	1																							
TMin	6	★ Tape monitor mode ON/OFF designation input terminal ★ Provides OFF with monitor mode ON or ON with monitor mode OFF by detecting rising edge of input signal.																										
TMCTL	22	★ Output terminal that controls external analog switch (LC4066B) for tape monitor. ★ N channel transistor source of complimentary buffer output is connected to V _{EE} .																										
\bar{TM} out	23	★ Terminal used for both output which controls external analog switch (LC4066B) for tape monitor and LED driver which indicates tape monitor state. ★ \bar{TM} out is a inverted polarity output of TMCTL.																										
\bar{MUTE} in	8	★ Input terminal that forcefully triggers audio muting control signal (MUTE) externally. ★ MUTE output becomes "H" when fixed to "L".																										
MUTE	21	★ Audio muting control signal output terminal ★ When switching function or being applied with \bar{MUTE} in input provides pulse output, pulse width of which is determined by external components connected to CR terminal.																										
CR	1	★ Terminal for CR time constant that determines time period of audio muting control signal. ★ Time difference (mute delay) from rising of muting signal to switching timing of analog switch is determined by C · R _s time constant during TR turned on.																										
\bar{RESET}	7	★ Input terminal that makes all analog switches off or tape monitor flip-flop reset. ("L" level active)																										

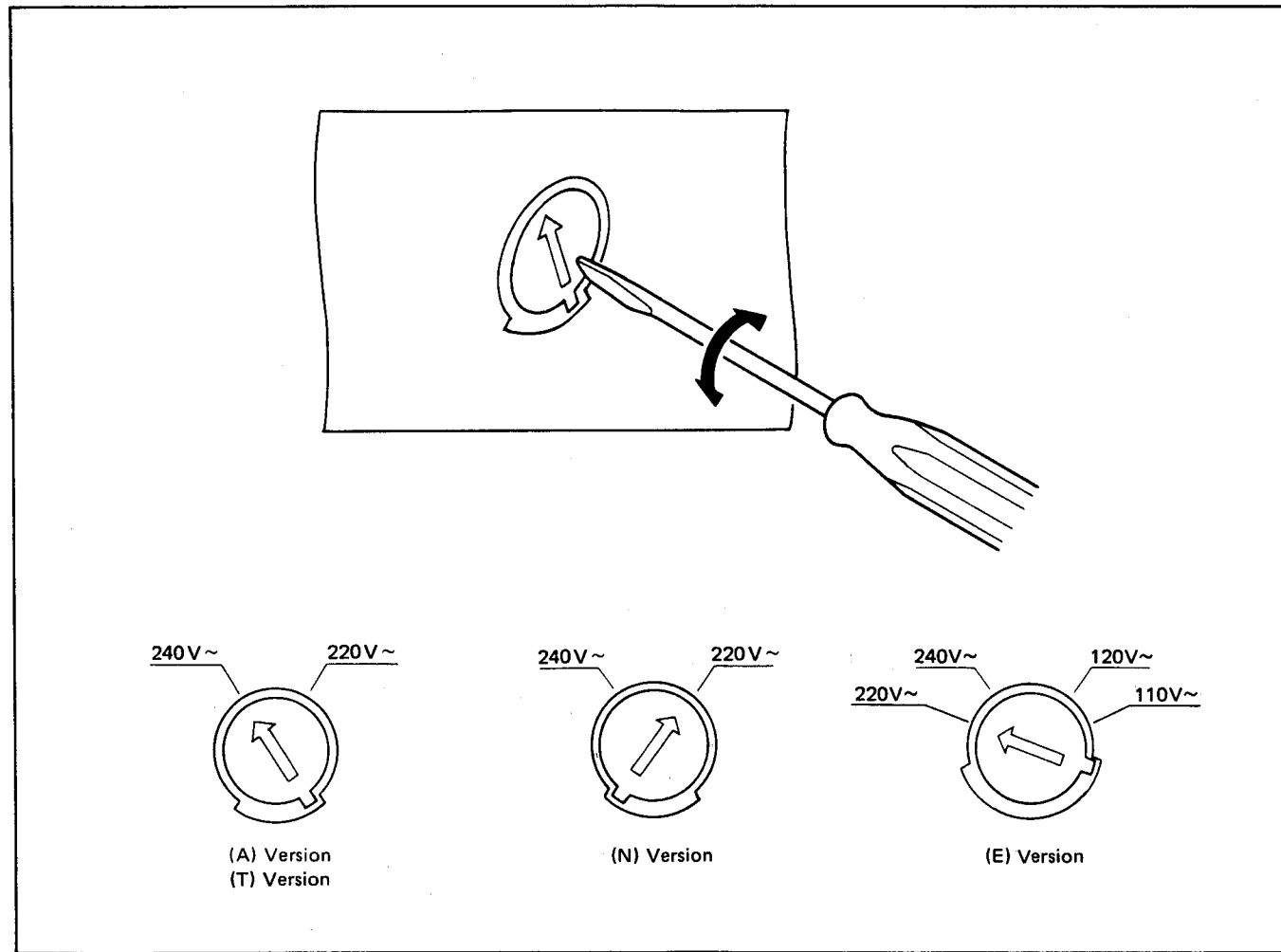
8. VOLTAGE CONVERSION

• EUROPEAN MODEL ONLY

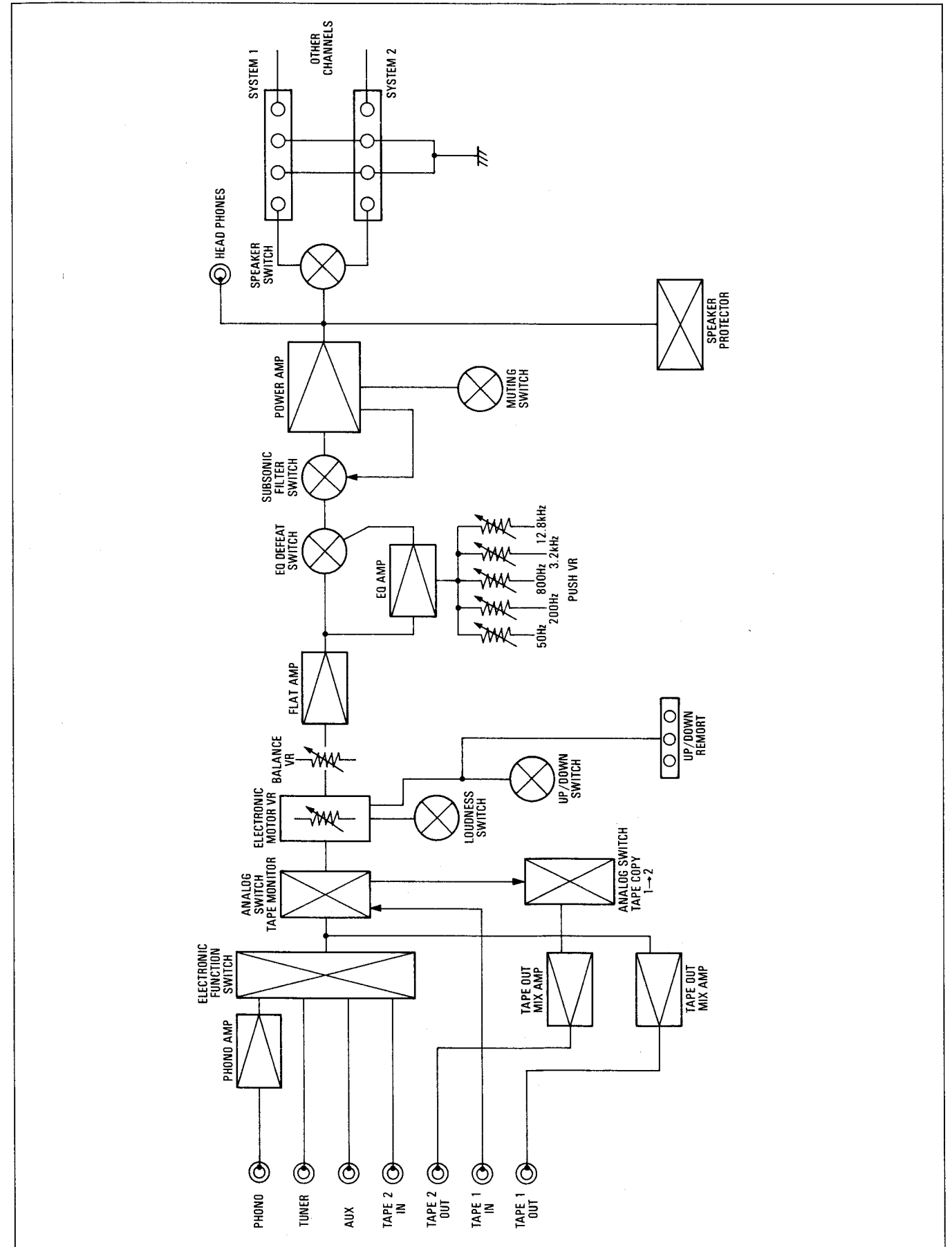
To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

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

Voltage Conversion Chart

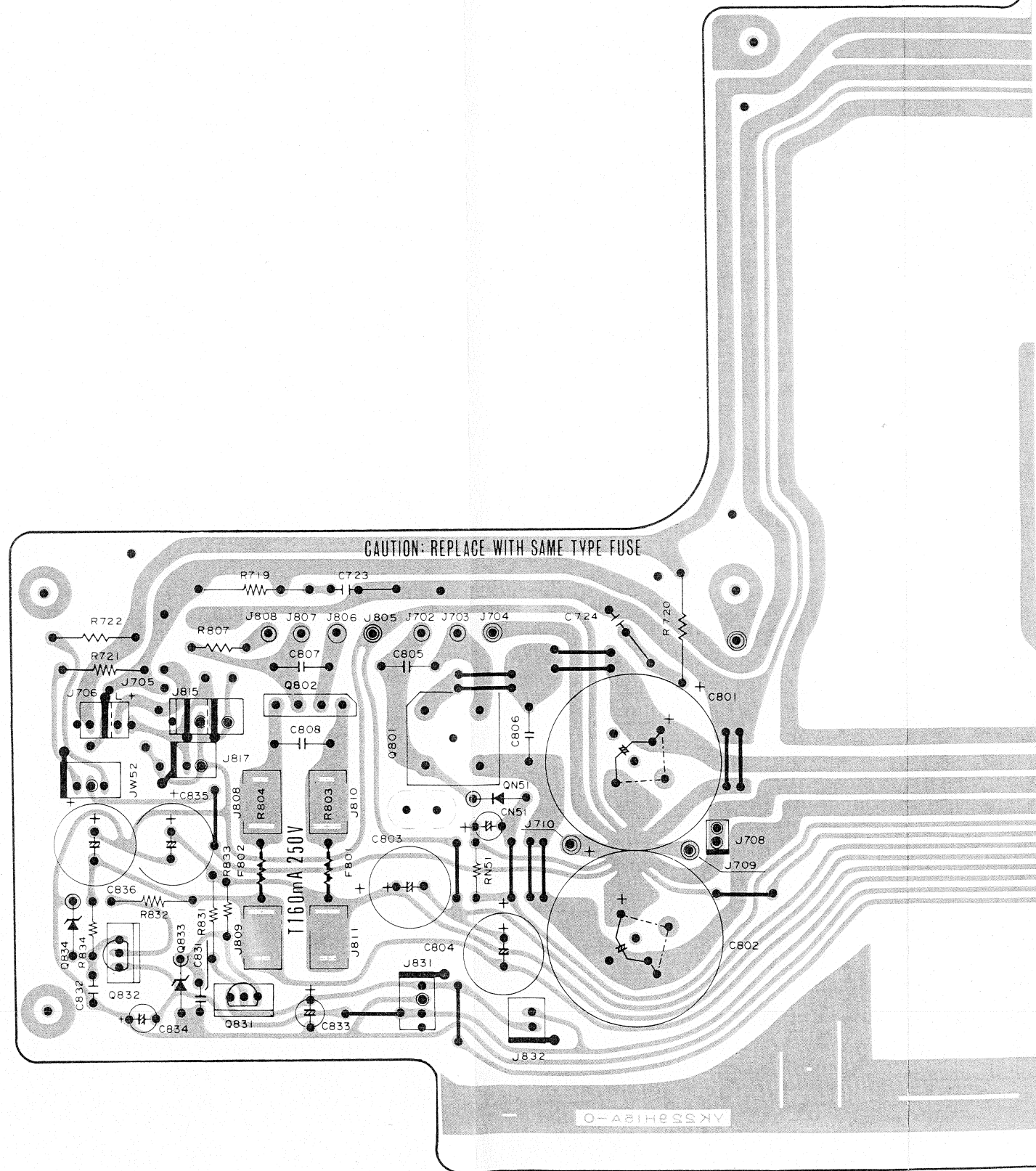
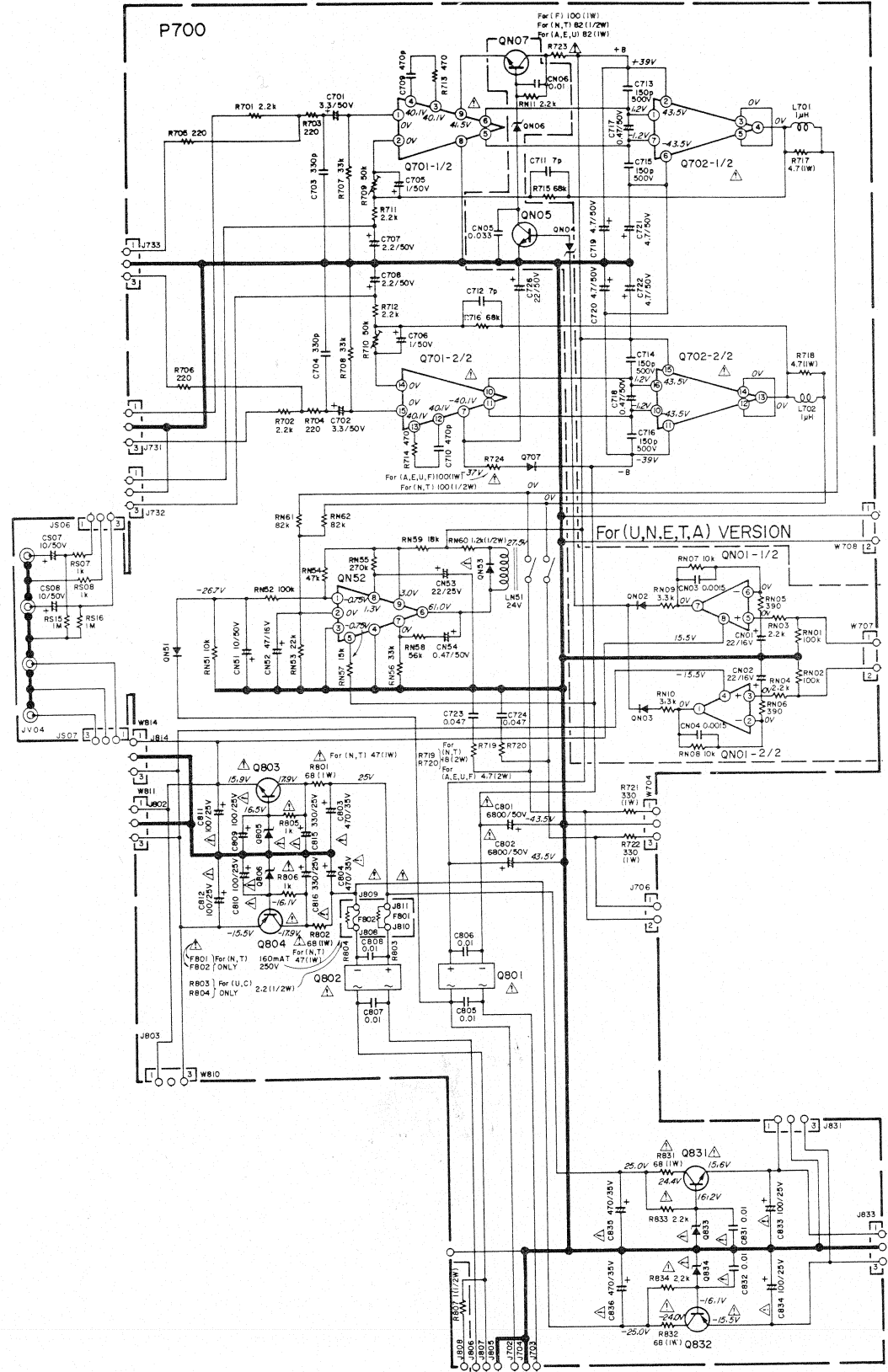


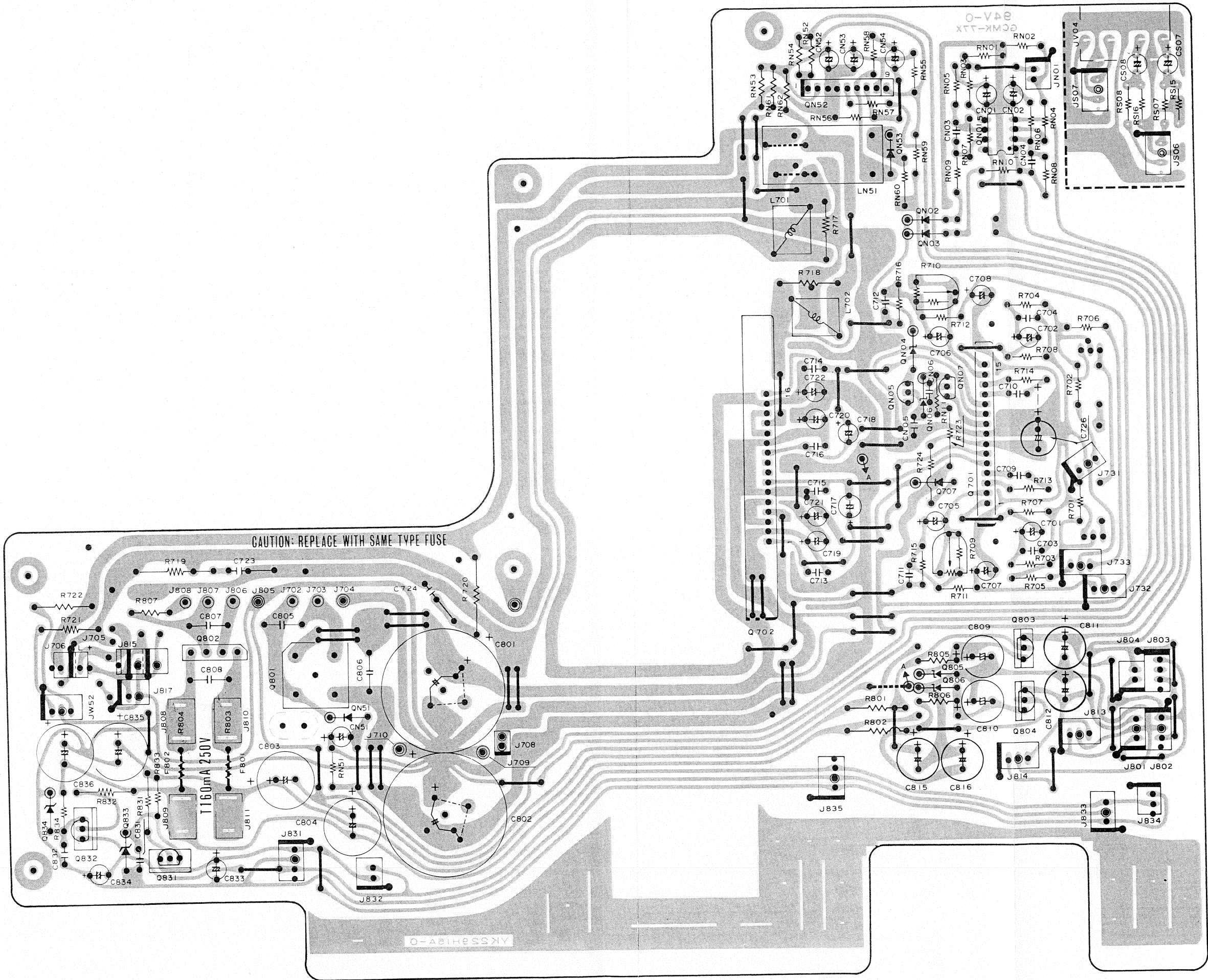
9. BLOCK DIAGRAM



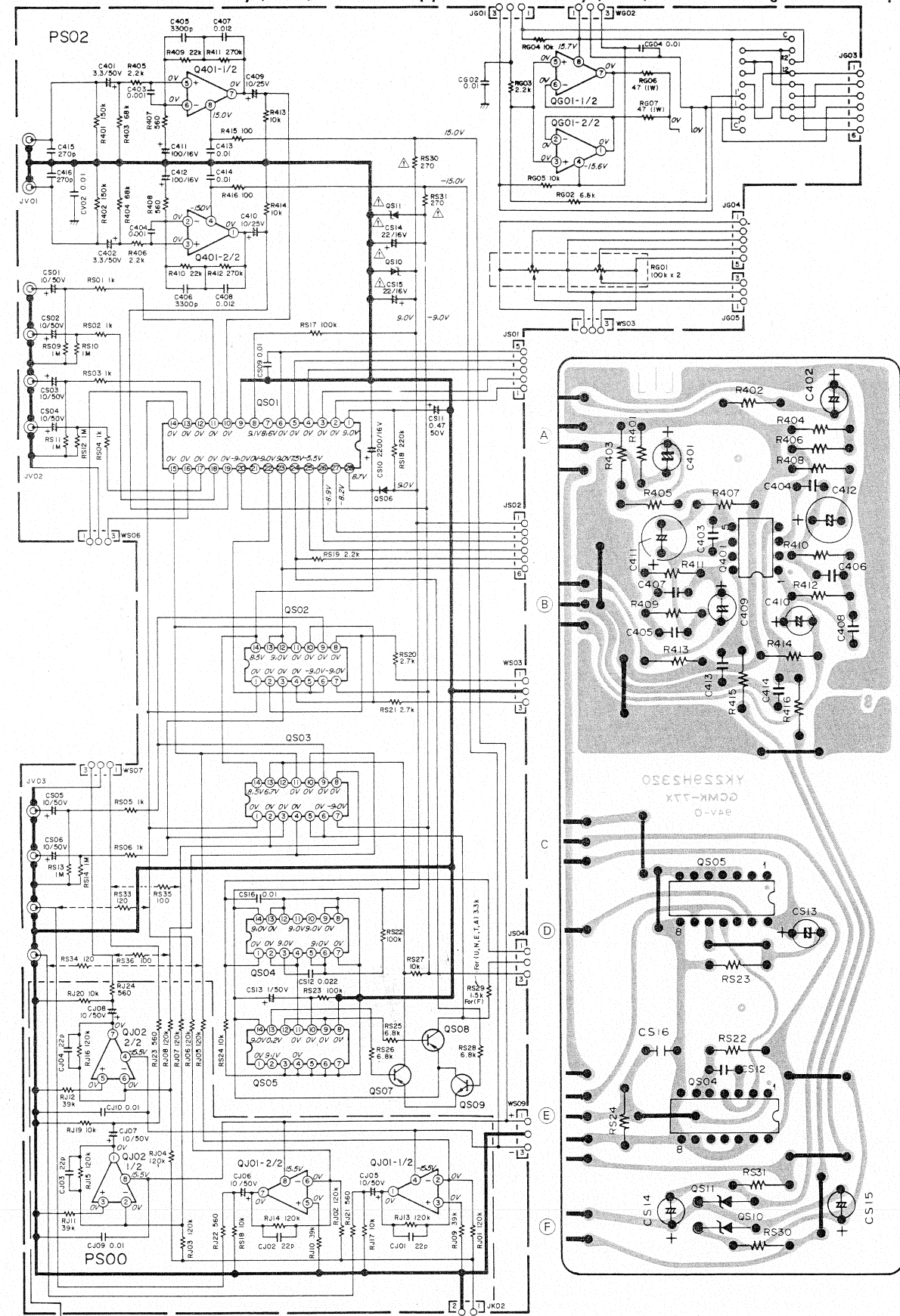
10. DIAGRAM AND COMPONENT LOCATIONS

10.1 Main Amp. & Power Supply Assembly (P700) Schematic Diagram and Component Locations

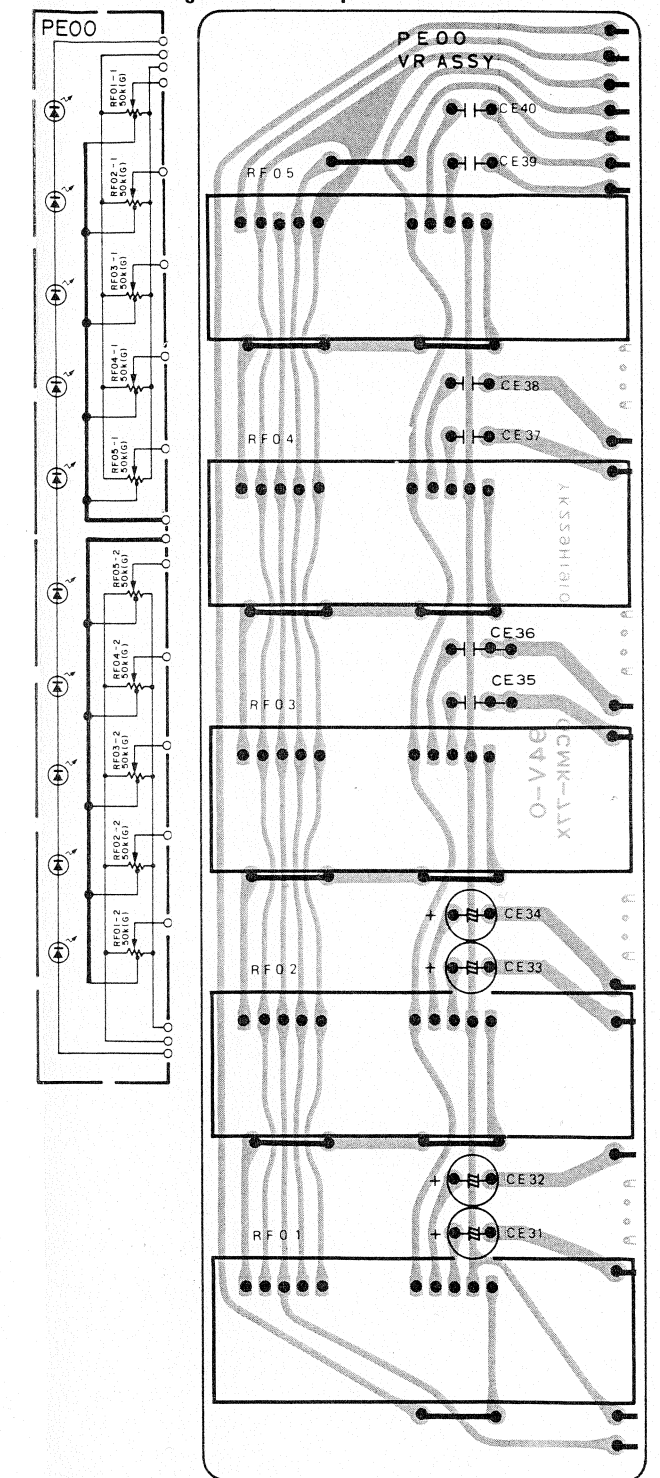




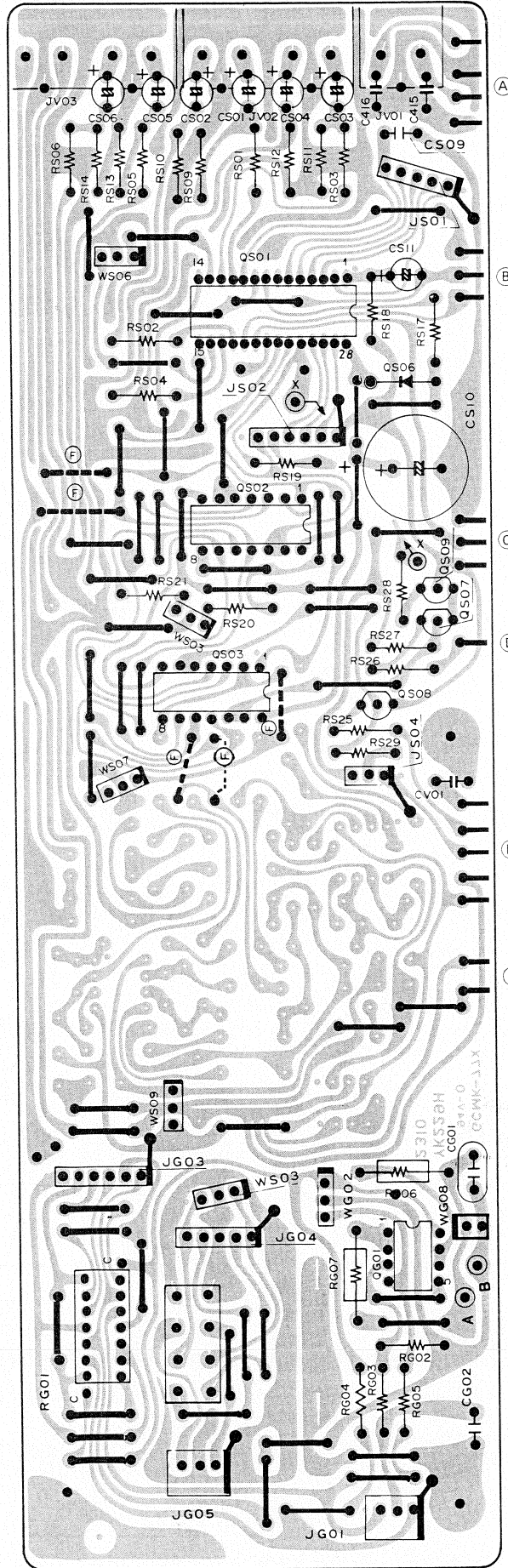
10.2 Function SW. Assembly (PS00) & Phono/Copy Control Assembly (PS02) Schematic Diagram and Component Locations



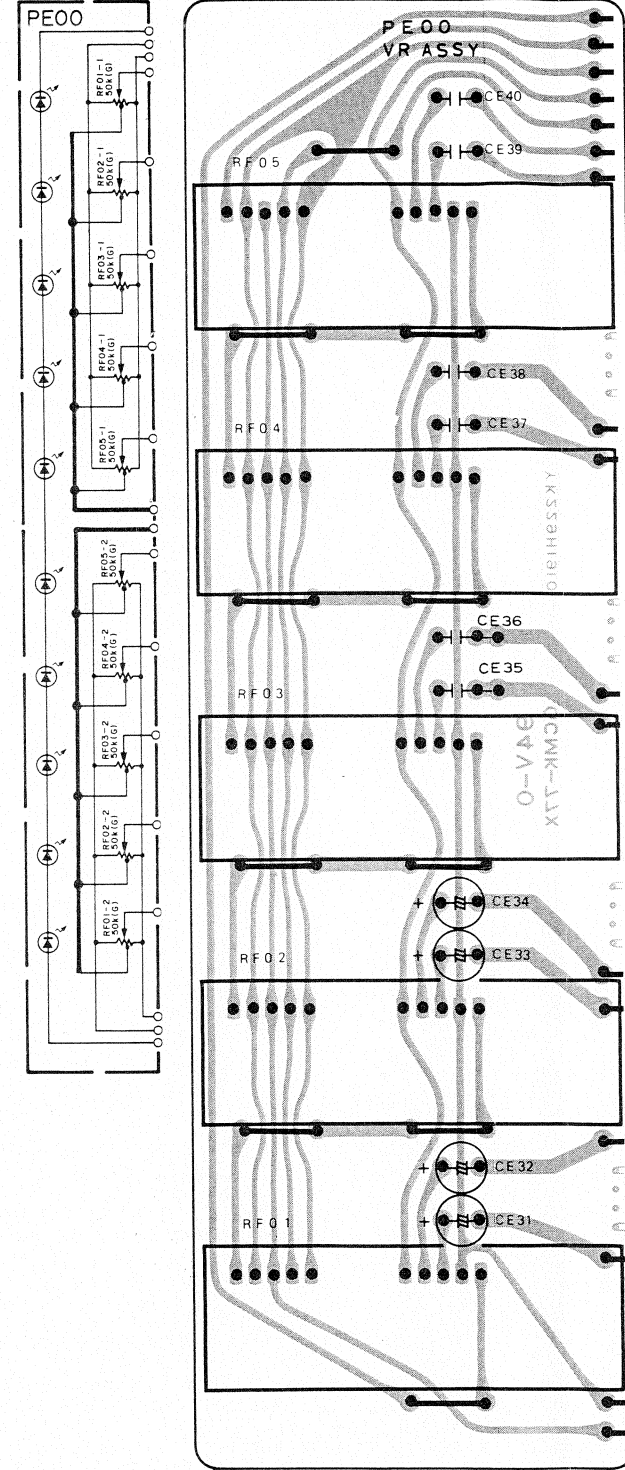
10.3 Graphic EQ. VR. Assembly (PE00) Schematic Diagram and Component Locations



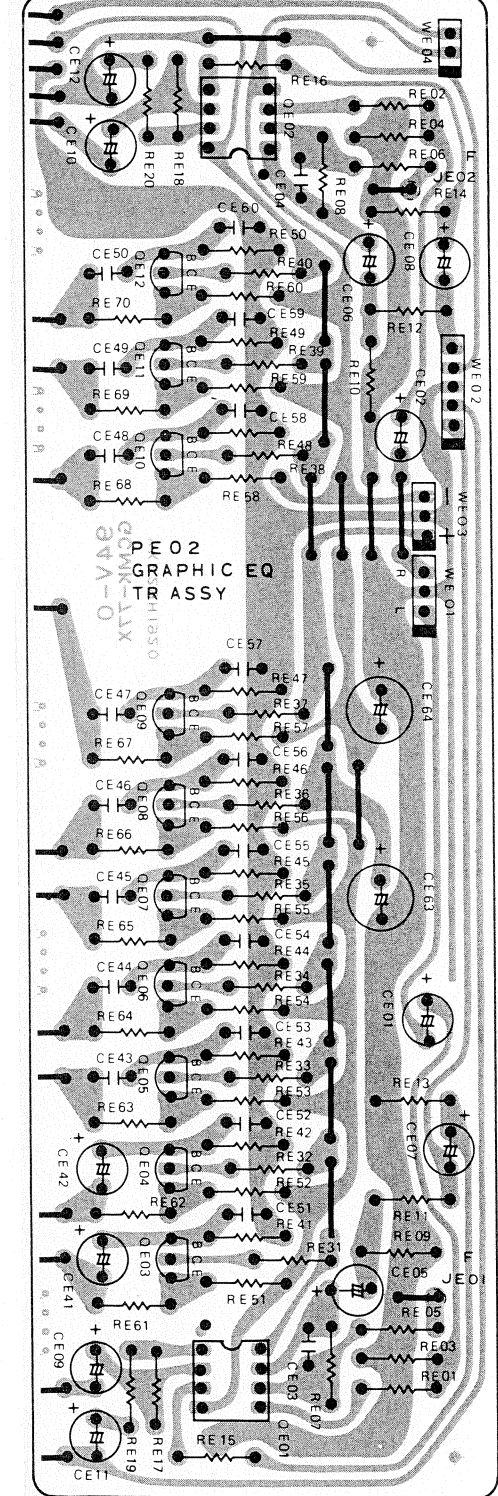
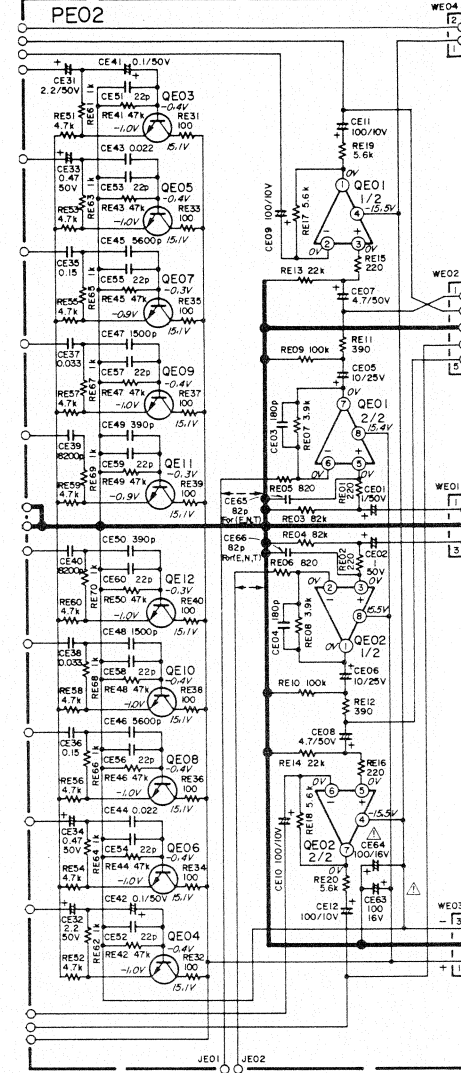
Component Locations



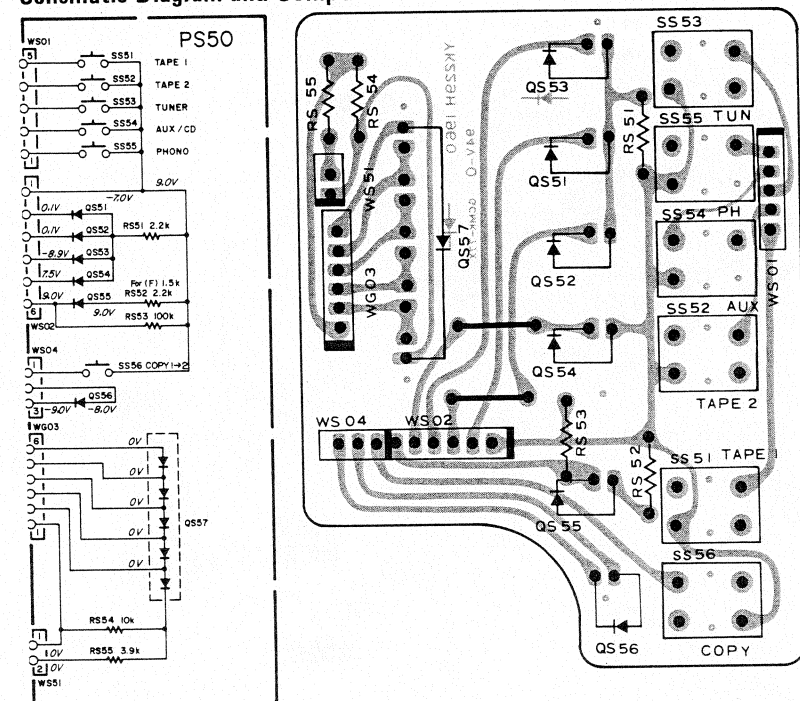
10.3 Graphic EQ. VR. Assembly (PE00)
Schematic Diagram and Component Locations



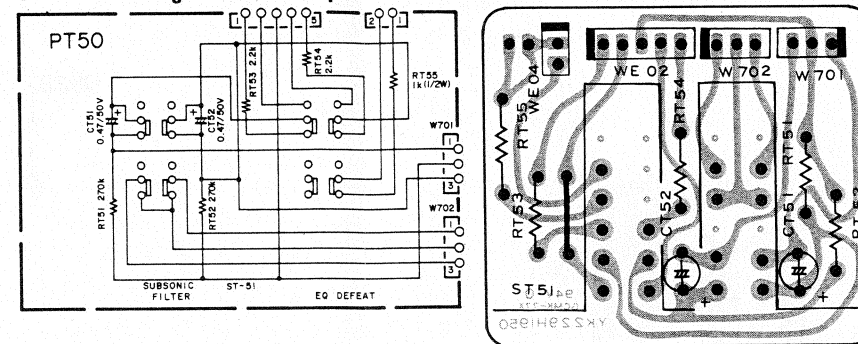
10.4 Graphic EQ Amp. Assembly (PE02) Schematic Diagram and Component Locations



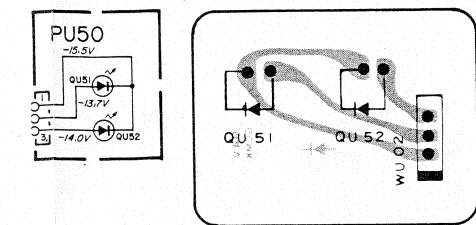
10.5 Function SW. Sub Assembly (PS50)
Schematic Diagram and Component Locations



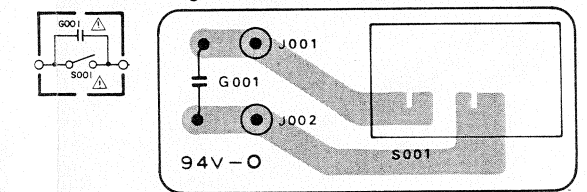
10.8 EQ Defeat/Subsonic Filter Assembly (PT50)
Schematic Diagram and Component Locations



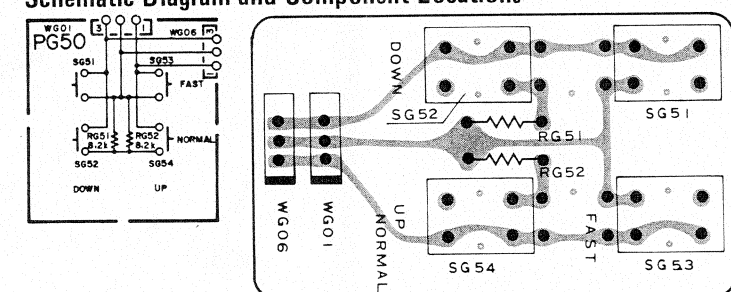
10.13 Speaker LED Assembly (PU50)
Schematic Diagram and Component Locations



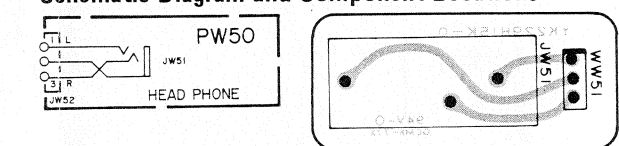
10.14 Power SW. Assembly (P000)
Schematic Diagram and Component Locations



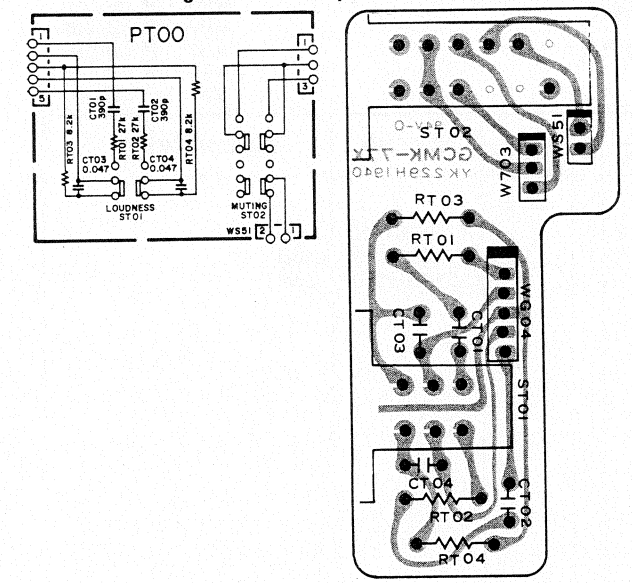
10.9 Volume UP/DOWN SW. Assembly (PG50)
Schematic Diagram and Component Locations



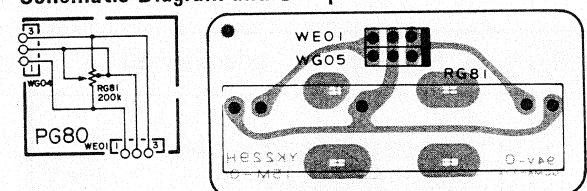
10.15 Headphone Assembly (PW50)
Schematic Diagram and Component Locations



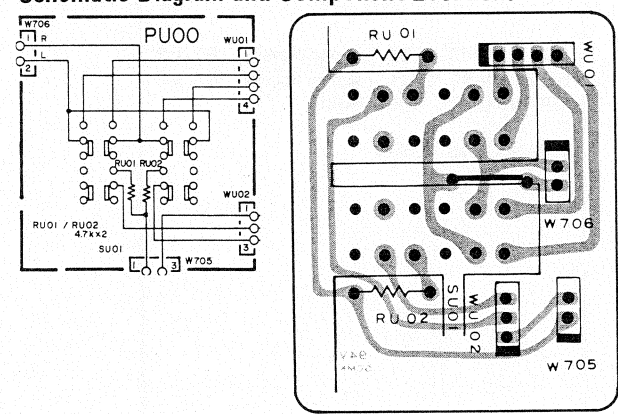
10.6 Loudness/Muting Assembly (PT00)
Schematic Diagram and Component Locations



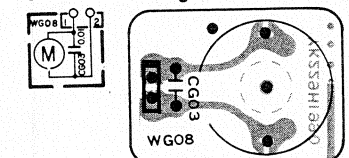
10.10 Balance VR. Assembly (PG80)
Schematic Diagram and Component Locations



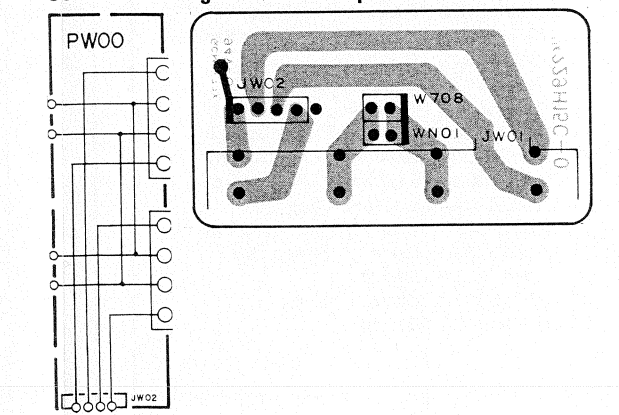
10.12 Speaker SW. Assembly (PU00)
Schematic Diagram and Component Locations



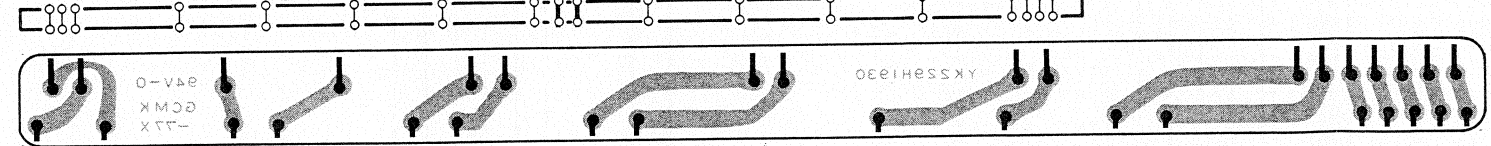
10.11 Volume Assembly (PG90)
Schematic Diagram and Component Locations



10.16 Speaker Terminal Assembly (PW00)
Schematic Diagram and Component Locations

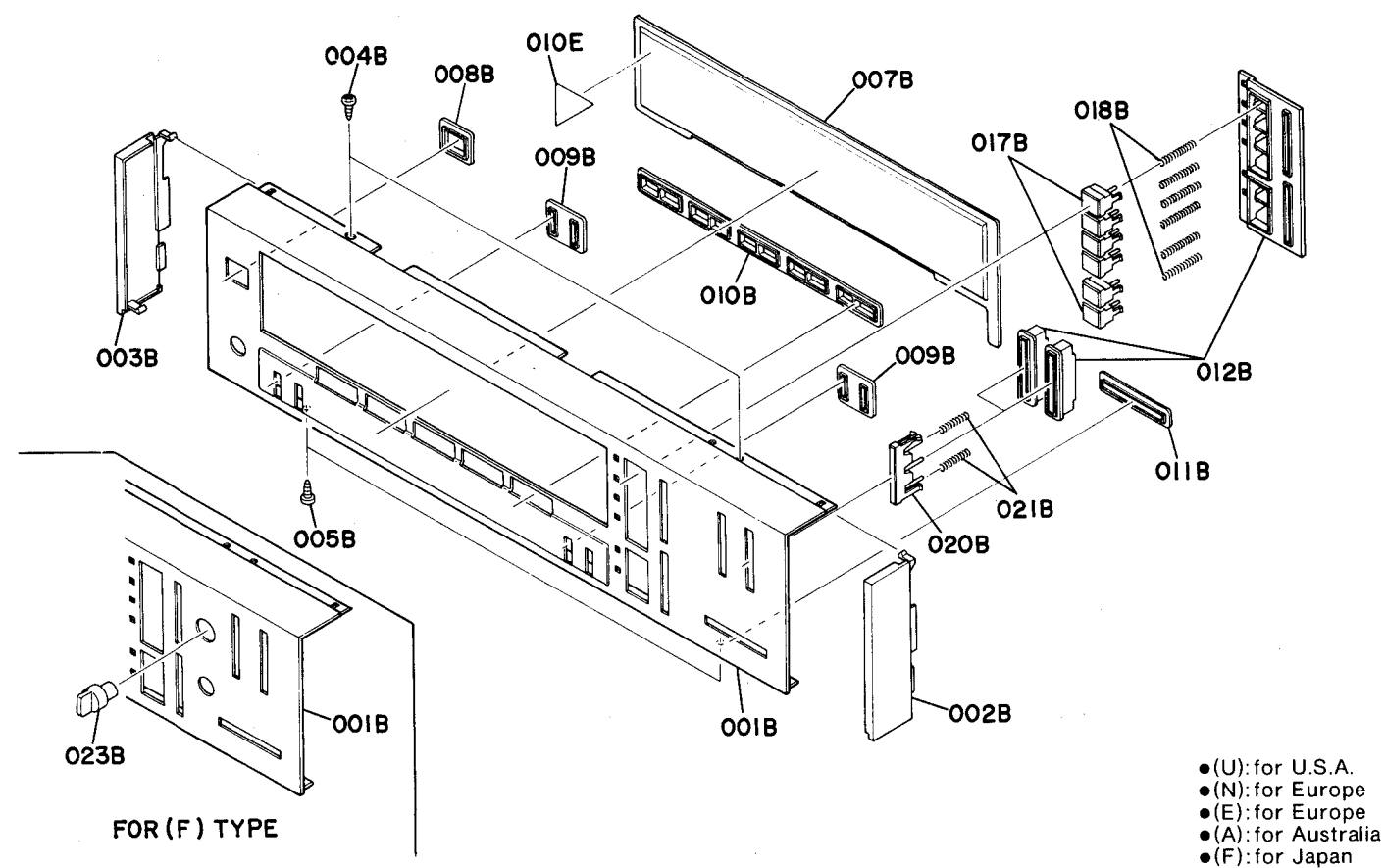


10.7 Graphic EQ Connect Assembly (PE03) Schematic Diagram and Component Locations



11. EXPLODED VIEW AND PARTS LIST

• [C01-99] Front Panel

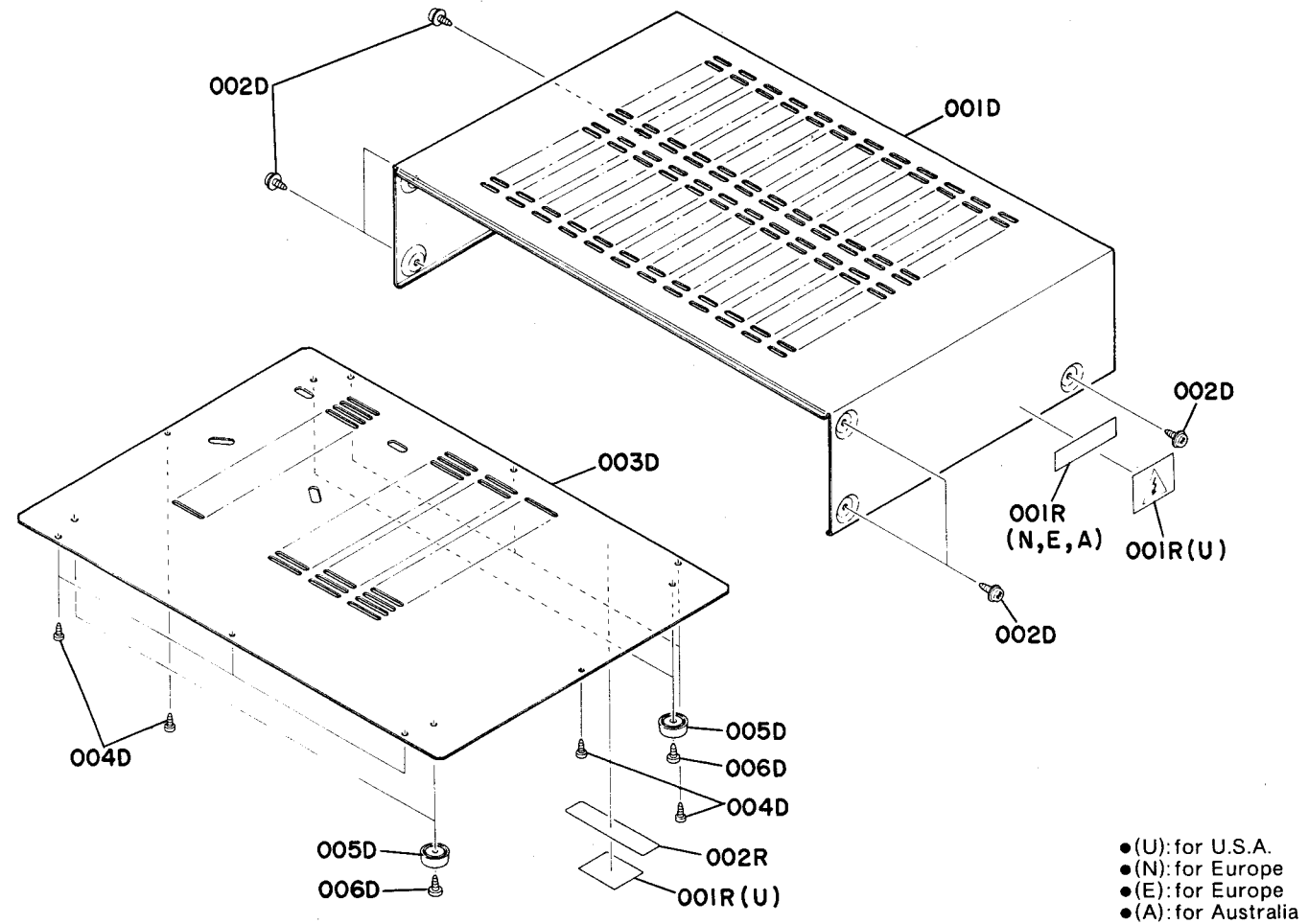


- (U): for U.S.A.
- (N): for Europe
- (E): for Europe
- (A): for Australia
- (F): for Japan

REF. DESIG.	QTY					PART NO.	DESCRIPTION
	U	N	E	A	F		
A	1	1	1	1	1	229H063400	Front Panel Assembly
A1					1	229H063410	Front Panel Assembly
001B	1	1	1	1	1	229H063020	Escutcheon, Front Panel
001B					1	229H063010	Escutcheon, Front Panel
002B	1	1	1	1	1	229H067010	Cap, Right Side
003B	1	1	1	1	1	229H067020	Cap, Left Side
007B	1	1	1	1	1	229H158010	Window
008B	1	1	1	1	1	415H259010	Bushing, Power Switch
009B	2	2	2	2	2	229H259020	Bushing, SPK/Subsonic
010B	1	1	1	1	1	229H259030	Bushing, Tone Control
011B	1	1	1	1	1	228H259040	Bushing, Slide Vol.
012B	1	1	1	1	1	229H259010	Bushing, Function/Vol.
017B	6	6	6	6	6	420H154010	Knob, Function SW.
018B	6	6	6	6	6	416H115010	Spring
020B	2	2	2	2	2	416H154030	Knob, Volum
021B	4	4	4	4	4	416H115020	Spring

REF. DESIG.	QTY					PART NO.	DESCRIPTION
	U	N	E	A	F		
004B	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
005B	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
023B					1	124T154010	Knob Mixing
010E	1					105H861010	Label

• [C02-99] Lid (Top and Bottom Cover)

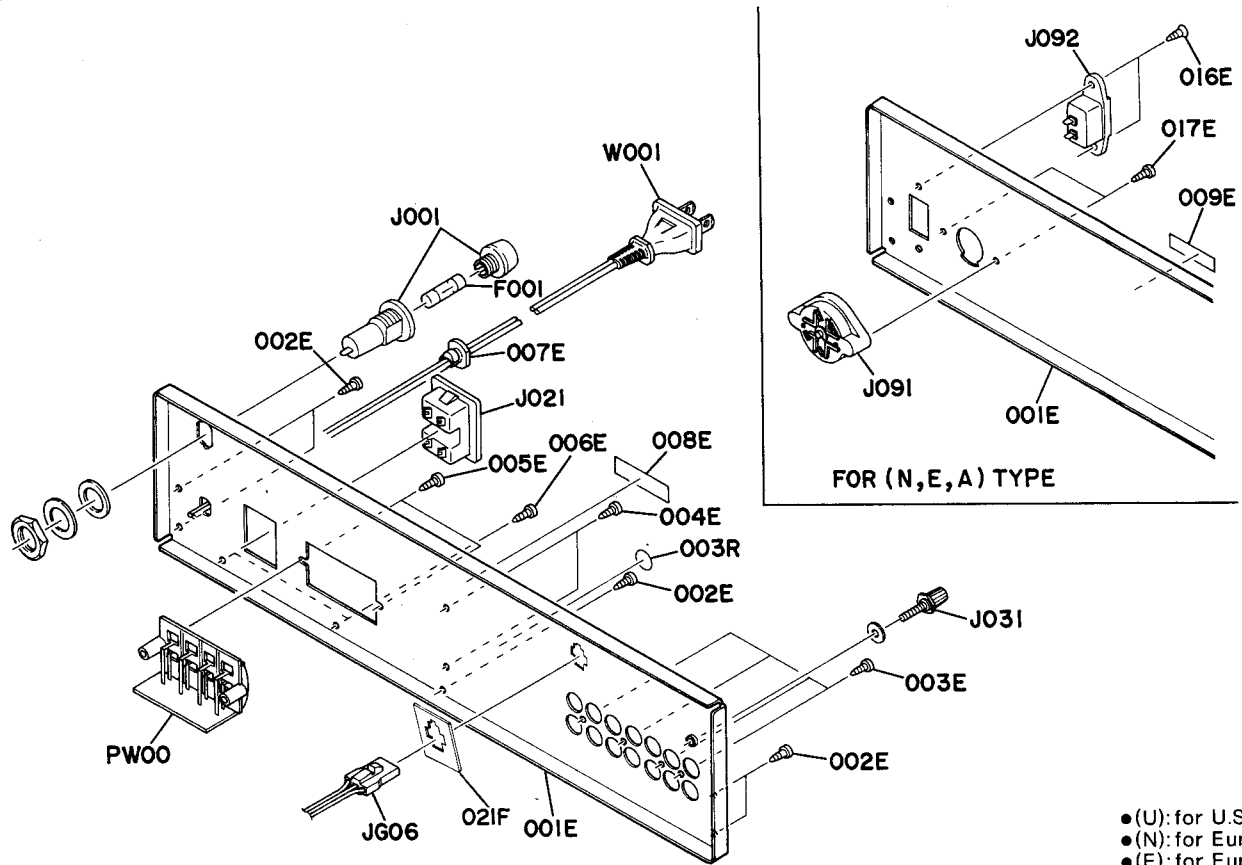


- (U): for U.S.A.
- (N): for Europe
- (E): for Europe
- (A): for Australia
- (F): for Japan

REF. DESIG.	QTY					PART NO.	DESCRIPTION
	U	N	E	A	F		
001D	1	1	1	1	1	229H257010	Lid, Top Cover
002D	6					51260408Z0	B.T. Screw B4 x 8
002D		6	6	6	6	51260408U0	B.T. Screw B4 x 8
003D	1	1	1	1	1	228H257020	Lid, Bottom Cover
004D	8	8	8	8	8	51280308B0	B.H. Tapped Screw B3 x 8
005D	4	4	4	4	4	416H057010	Leg
006D	4	4	4	4	4	51280408U0	B.H. Tapped Screw B4 x 8

REF. DESIG.	QTY					PART NO.	DESCRIPTION
	U	N	E	A	F		
001R	2					117H861010	Label
001R		1	1	1		2932861110	Label
002R		1	1	1		2578861010	Label

● [C03-99] Rear Panel

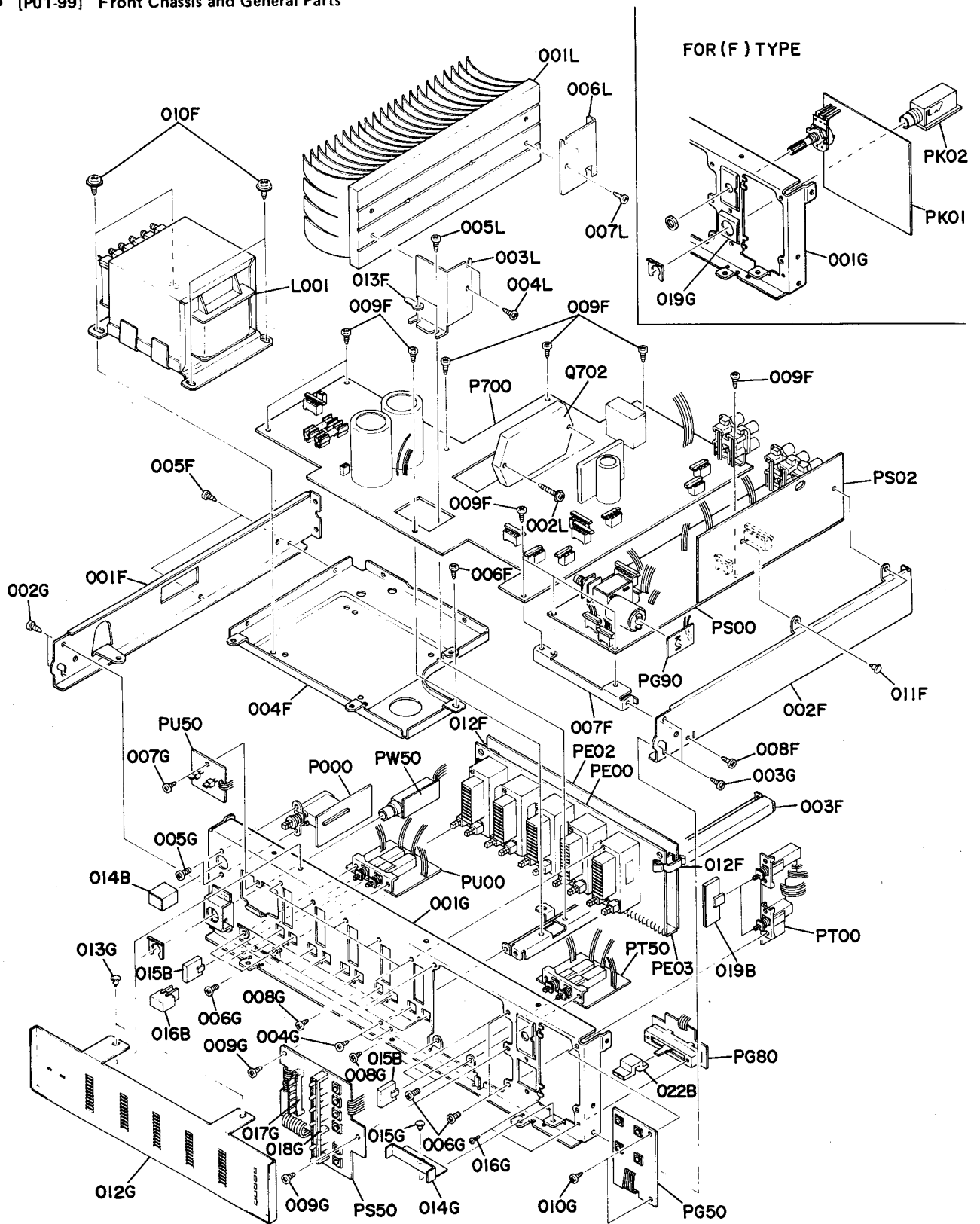


- (U): for U.S.A.
- (N): for Europe
- (E): for Europe
- (A): for Australia
- (F): for Japan

REF. DESIG.	Q'TY					PART NO.	DESCRIPTION
	U	N	E	A	F		
△F001	1					FS10350500	Fuse 3.5A 250V
△F001		1		1		FS10140800	Fuse T1.4A 250V
△F001			1			FS10250900	Fuse 2.5A
△F001					1	FS10400600	Fuse 4A 250V
△J001	1				1	YJ08000340	Jack, Fuse Holder
△J001		1	1	1		YJ08000290	Jack, Fuse Holder
△J021	1					YJ04001020	Jack, AC Outlet
△J021					1	YJ04001010	Jack, AC Outlet
J031	1	1	1	1	1	YL03010250	Terminal, GND
△J091			1			BY05030040	Voltage Selector
△J091				1		BY05080040	Voltage Selector
△J092		1	1	1		YP04000610	Plug, AC Inlet
JG06	1	1	1	1	1	YB00300600	Connective Cord, (3P)
△W001	1					YC01800260	A.C. Power Cord
△W001					1	YC01800190	A.C. Power Cord
O21F	1	1	1	1	1	228H118030	Spacer

REF. DESIG.	Q'TY					PART NO.	DESCRIPTION
	U	N	E	A	F		
001E	1					229H160210	Bracket, Rear Panel
001E		1		1		229H160220	Bracket, Rear Panel
001E			1			229H160240	Bracket, Rear Panel
001E					1	229H160230	Bracket, Rear Panel
002E	5	5	5	5	5	51280308B0	B.H. Tapped Screw B3 x 8
003E	4	4	4	4	4	51280308B0	B.H. Tapped Screw B3 x 8
004E	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
005E	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
006E	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
007E	1				1	1455259090	Bushing, AC Power Cord
008E	1	1	1	1	1	2112265010	Indicator
009E	1	1	1			4581861010	Label
016E	2	2	2			51870308U0	O.C.H. Tapped Screw O3 x 8
017E	2	2	2			51280308B0	B.H. Tapped Screw B3 x 8
003R	1					9511101070	Label, UL

● [P01-99] Front Chassis and General Parts

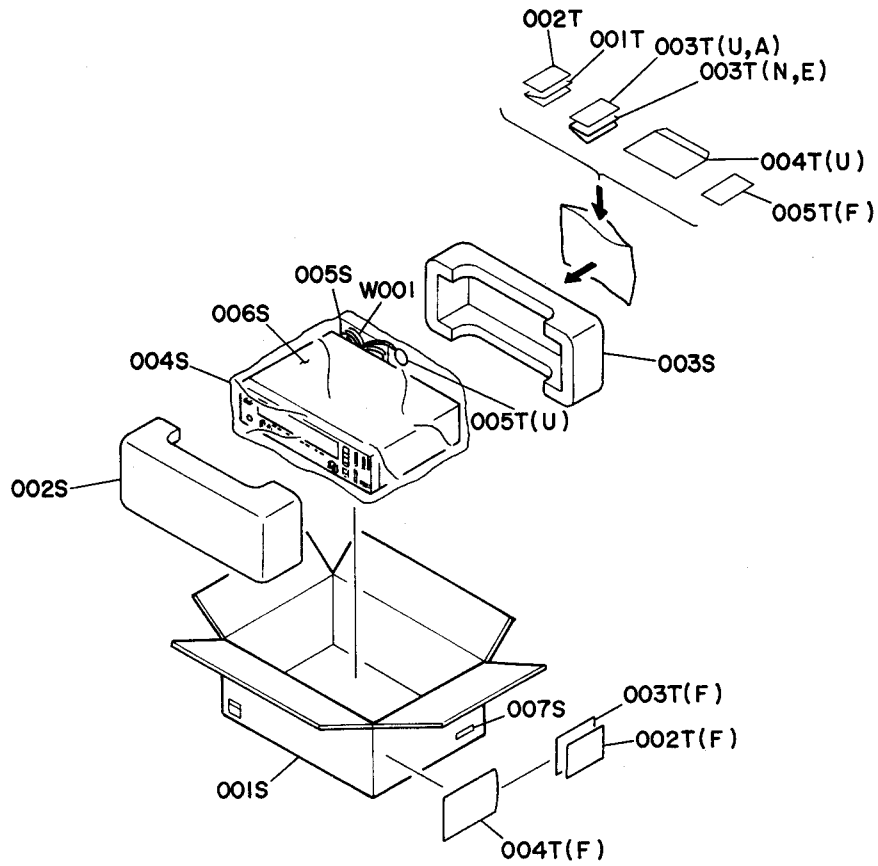


- (U): for U.S.A.
- (N): for Europe
- (E): for Europe
- (A): for Australia
- (F): for Japan

REF. DESIG.	Q'TY					PART NO.	DESCRIPTION
	U	N	E	A	F		
014B	1	1	1	1	1	415H154010	Knob, Power
015B	4	4	4	4	4	226H154140	Knob, SPK./Subsonic
016B	10	10	10	10	10	229H154010	Knob, Tone Control
019B	2	2	2	2	2	228H154010	Knob, Muting/Loudness
022B	1	1	1	1	1	228H154030	Knob, Balance
001F	1	1	1	1	1	228H126010	Stay, Left
002F	1	1	1	1	1	228H126020	Stay, Right
003F	1	1	1	1	1	228H126030	Stay, Center
004F	1	1	1	1	1	228H004010	Table, Transformer
005F	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
006F	1	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
007F	1	1	1	1	1	228H160030	Bracket
008F	1	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
009F	10	10	10	10	10	51280308B0	B.H. Tapped Screw B3 x 8
010F	4	4	4	4	4	51260408B0	B.T. Screw B4 x 8
011F	2	2	2	2	2	2912259020	Clamper
012F	2	2	2	2	2	2139271020	Holder
013F	1	1	1	1	1	62030039W0	Lug, Earth
001G	1	1	1	1	1	229H160010	Bracket, Front Chassis
001G					1	229H160110	Bracket, Front Chassis
002G	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
003G	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
004G	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
005G	2	2	2	2	2	51100306A9	B.H.M. Screw B3 x 6
006G	6	6	6	6	6	51100306A9	B.H.M. Screw B3 x 6
007G	1	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
008G	10	10	10	10	10	51280308B0	B.H. Tapped Screw B3 x 8
009G	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
010G	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
012G	1	1	1	1	1	229H302010	Dial
013G	2	2	2	2	2	2912259020	Bushing
014G	1	1	1	1	1	228H303010	Mask
015G	1	1	1	1	1	2912259020	Bushing
016G	2	2	2	2	2	51100204A0	B.H.M. Screw B2 x 4
017G	1	1	1	1	1	228H118010	Spacer
018G	1	1	1	1	1	228H118020	Spacer
019G					1	2127118020	Spacer

REF. DESIG.	Q'TY					PART NO.	DESCRIPTION
	U	N	E	A	F		
001L	1	1	1	1	1	229H267010	Heatsink
002L	2	2	2	2	2	51780315B0	Fin Neck B.T. Screw B3 x 15
003L	1	1	1	1	1	228H160030	Bracket
004L	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
005L	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
006L	1	1	1	1	1	228H160040	Bracket
007L	2	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
ΔL001	1					TS17624040	Power Transformer
ΔL001		1		1		TS17624010	Power Transformer
ΔL001			1			TS17624020	Power Transformer
ΔL001					1	TS17624030	Power Transformer
ΔQ702	1	1	1	1	1	HC10089030	IC STK2240

• [H01-99] Packing Materials



- (U): for U.S.A.
- (N): for Europe
- (E): for Europe
- (A): for Australia
- (F): for Japan

REF. DESIG.	Q'TY					PART NO.	DESCRIPTION
	U	N	E	A	F		
001S	1					229H801090	Packing Case
001S		1	1			229H801020	Packing Case
001S					1	229H801030	Packing Case
002S	1	1	1	1	1	229H809010	Cushion, Front
003S	1	1	1	1	1	229H809020	Cushion, Rear
004S	1	1	1	1	1	9090909030	Polyethylene Sheet
005S	1				1	2918107370	Sheet
006S	1	1	1	1	1	2918107350	Sheet
007S	2					9526019010	Serial No. Card
007S		4	4			9526019060	Serial No. Card
007S				4		9526019030	Serial No. Card
007S					4	9526019040	Serial No. Card

REF. DESIG.	Q'TY					PART NO.	DESCRIPTION
	U	N	E	A	F		
001T	1					228H851210	Instructions
001T		1	1	1		228H851310	Instructions
001T					1	229H851110	Instructions
002T	1					229H851220	Instructions, Spec
002T		1	1	1		229H851320	Instructions, Spec
002T					1	9631000110	Guarantee Card
003T	1					103H854010	Guarantee Card
003T		1	1			229H856010	Circuit Diagram
003T					1	9631000090	Guarantee Card
003T					1	2976851040	Instructions
004T	1					2225813010	Envelope
004T					1	2976813020	Envelope
005T	1					9560000100	Hang Tag
005T					1	9650000030	S. Station Card
△W001		1	1			ZC01805030	A.C. Power Cord
△W001					1	ZC02006030	A.C. Power Cord
001T	1					2818854040	Guarantee Card (Canada)
004T	1					9650000050	S. Station Card (Canada)

- (U): for U.S.A.
- (N): for Europe
- (E): for Europe
- (A): for Australia
- (F): for Japan

12. ELECTRICAL PARTS LIST

REF. DESIG.	Q'TY					PART NO.	DESCRIPTION
	U	N	E	A	F		
P700	1	1	1	1	1	YK229H15A0	P700-MAIN AMP & POWER SUPPLY CIRCUIT BOARD P.W. Board, Main Amp & Power Supply
	1					ZZ229H15A0	P.W. Board Assembly
		1				ZZ229H85A0	P.W. Board Assembly
			1			ZZ229H75A0	P.W. Board Assembly
P700-CAPACITORS							
CN01	1	1	1	1		EA22601630	Elect 22μF 16V
CN02	1	1	1	1		EA22601630	Elect 22μF 16V
CN03	1	1	1	1		DF16102300	Film 1000pF ±10%
CN04	1	1	1	1		DF16102300	Film 1000pF ±10%
CN05	1	1	1	1		DF16333540	Film 0.033μF ±10%
CN06	1	1	1	1		DK18103510	Ceramic 0.01μF
CN51	1	1	1	1	1	EA10505030	Elect 1μF 50V
CN52	1	1	1	1	1	EA47601630	Elect 47μF 16V
CN53	1	1	1	1	1	EA22602530	Elect 22μF 25V
CN54	1	1	1	1	1	EA47405030	Elect 0.47μF 50V
CS07	1	1	1	1	1	EA10605030	Elect 10μF 50V
CS08	1	1	1	1	1	EA10605030	Elect 10μF 50V
C701	1	1	1	1	1	EA33505030	Elect 3.3μF 50V
C702	1	1	1	1	1	EA33505030	Elect 3.3μF 50V
C703	1	1	1	1	1	DK16331300	Ceramic 330pF ±10%
C704	1	1	1	1	1	DK16331300	Ceramic 330pF ±10%
C705	1	1	1	1	1	EA10505030	Elect 1μF 50V
C706	1	1	1	1	1	EA10505030	Elect 1μF 50V
C707	1	1	1	1	1	EA47505030	Elect 4.7μF 50V
C708	1	1	1	1	1	EA47505030	Elect 4.7μF 50V
C709	1	1	1	1	1	DK16471300	Ceramic 470pF ±10%
C710	1	1	1	1	1	DK16471300	Ceramic 470pF ±10%
C711	1	1	1	1	1	DD11070300	Ceramic 7pF ±0.5pF
C712	1	1	1	1	1	DD11070300	Ceramic 7pF ±0.5pF
C713	1	1	1	1	1	DK16151550	Ceramic 150pF ±10%
C714	1	1	1	1	1	DK16151550	Ceramic 150pF ±10%
C715	1	1	1	1	1	DK16151550	Ceramic 150pF ±10%
C716	1	1	1	1	1	DK16151550	Ceramic 150pF ±10%
C717	1	1	1	1	1	EA47405030	Elect 0.47μF 50V
C718	1	1	1	1	1	EA47405030	Elect 0.47μF 50V
C719	1	1	1	1	1	EA47505030	Elect 4.7μF 50V
C720	1	1	1	1	1	EA47505030	Elect 4.7μF 50V
C721	1	1	1	1	1	EA47505030	Elect 4.7μF 50V
C722	1	1	1	1	1	EA47505030	Elect 4.7μF 50V
C723	1	1	1	1	1	DF16473540	Film 0.047μF ±10%
C724	1	1	1	1	1	DF16473540	Film 0.047μF ±10%
C726	1	1	1	1	1	EA22605030	Elect 22μF 50V
ΔC801	1	1	1	1	1	EB68805010	Elect 6800μF 50V
ΔC802	1	1	1	1	1	EB68805010	Elect 6800μF 50V
ΔC803	1	1	1	1	1	EA47703530	Elect 470μF 35V
ΔC804	1	1	1	1	1	EA47703530	Elect 470μF 35V
C805	1	1	1	1	1	DK18103510	Ceramic 0.01μF
C806	1	1	1	1	1	DK18103510	Ceramic 0.01μF
C807	1	1	1	1	1	DK18103510	Ceramic 0.01μF
C808	1	1	1	1	1	DK18103510	Ceramic 0.01μF
ΔC809	1	1	1	1	1	EA10702530	Elect 100μF 25V
ΔC810	1	1	1	1	1	EA10702530	Elect 100μF 25V

REF. DESIG.	Q'TY					PART NO.	DESCRIPTION
	U	N	E	A	F		
ΔC811	1	1	1	1	1	EA10702530	Elect 100μF 25V
ΔC812	1	1	1	1	1	EA10702530	Elect 100μF 25V
ΔC815	1	1	1	1	1	EA33702530	Elect 330μF 25V
ΔC816	1	1	1	1	1	EA33702530	Elect 330μF 25V
ΔC831	1	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
ΔC832	1	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
ΔC833	1	1	1	1	1	EA10702530	Elect 100μF 25V
ΔC834	1	1	1	1	1	EA10702530	Elect 100μF 25V
ΔC835	1	1	1	1	1	EA47703530	Elect 470μF 35V
ΔC836	1	1	1	1	1	EA47703530	Elect 470μF 35V
P700-RESISTORS (All Resistors are ±5% & ¼W)							
RN01	1	1	1	1	1	GD05104140	100KΩ
RN02	1	1	1	1	1	GD05104140	100KΩ
RN03	1	1	1	1	1	GD05222140	2.2KΩ
RN04	1	1	1	1	1	GD05222140	2.2KΩ
RN05	1	1	1	1	1	GD05121140	120Ω
RN06	1	1	1	1	1	GD05121140	120Ω
RN07	1	1	1	1	1	GD05103140	10KΩ
RN08	1	1	1	1	1	GD05103140	10KΩ
RN09	1	1	1	1	1	GD05332140	3.3KΩ
RN10	1	1	1	1	1	GD05332140	3.3KΩ
RN11	1	1	1	1	1	GD05222140	2.2KΩ
RN51	1	1	1	1	1	GD05103140	10KΩ
RN52	1	1	1	1	1	GD05104140	100KΩ
RN53	1	1	1	1	1	GD05223140	22KΩ
RN54	1	1	1	1	1	GD05473140	47KΩ
RN55	1	1	1	1	1	GD05274140	270KΩ
RN56	1	1	1	1	1	GD05333140	33KΩ
RN57	1	1	1	1	1	GD05153140	15KΩ
RN58	1	1	1	1	1	GD05563140	56KΩ
RN59	1	1	1	1	1	GD05183140	18KΩ
RN60	1	1	1	1	1	GG05122120	1.2KΩ ¼W
RN61	1	1	1	1	1	GD05823140	82KΩ
RN62	1	1	1	1	1	GD05823140	82KΩ
RS07	1	1	1	1	1	GD05102140	1KΩ
RS08	1	1	1	1	1	GD05102140	1KΩ
RS15	1	1	1	1	1	GD05105140	1MΩ
RS16	1	1	1	1	1	GD05105140	1MΩ
R701	1	1	1	1	1	GD05222140	2.2KΩ
R702	1	1	1	1	1	GD05222140	2.2KΩ
R703	1	1	1	1	1	GD05221140	220Ω
R704	1	1	1	1	1	GD05221140	220Ω
R705	1	1	1	1	1	GD05221140	220Ω
R706	1	1	1	1	1	GD05221140	220Ω
R707	1	1	1	1	1	GD05333140	33KΩ
R708	1	1	1	1	1	GD05333140	33KΩ
R709	1	1	1	1	1	RA05030800	50KΩ, Trimming
R710	1	1	1	1	1	RA05030800	50KΩ, Trimming
R711	1	1	1	1	1	GD05222140	2.2KΩ
R712	1	1	1	1	1	GD05222140	2.2KΩ
R713	1	1	1	1	1	GD05471140	470Ω
R714	1	1	1	1	1	GD05471140	470Ω
R715	1	1	1	1	1	GD05683140	68KΩ
R716	1	1	1	1	1	GD05683140	68KΩ
R717	1	1	1	1	1	GA05047010	4.7Ω 1W
R718	1	1	1	1	1	GA05047010	4.7Ω 1W
R719	1	1	1	1	1	GA05047020	4.7Ω 2W
R720	1	1	1	1	1	GA05047020	4.7Ω 2W
R721	1	1	1	1	1	GA05331010	330Ω 1W
R722	1	1	1	1	1	GA05331010	330Ω 1W
ΔR723	1	1	1	1	1	GA05101010	100Ω 1W
ΔR724	1	1	1	1	1	GA05101010	100Ω 1W
R725	1	1	1	1	1	GD05102140	1KΩ

- (U): for U.S.A.
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REF. DESIG.	QTY					PART NO.	DESCRIPTION
	U	N	E	A	F		
△R801	1	1	1	1	1	GA05680010	68Ω 1W
△R802	1	1	1	1	1	GA05680010	68Ω 1W
△R805	1	1	1	1	1	GD05102140	1KΩ
△R806	1	1	1	1	1	GD05102140	1KΩ
△R831	1	1	1	1	1	GA05820010	82Ω 1W
△R832	1	1	1	1	1	GA05820010	82Ω 1W
△R833	1	1	1	1	1	GD05222140	2.2KΩ
△R834	1	1	1	1	1	GD05222140	2.2KΩ
P700-SEMICONDUCTORS							
QN01	1	1	1	1	1	HC10007090	IC NJM4560D
QN02	1	1	1	1	1	HD20011050	Diode 1S1555
QN03	1	1	1	1	1	HD20011050	Diode 1S1555
QN04	1	1	1	1	1	HD30076090	Zener
QN05	1	1	1	1	1	HT309452B0	Transistor 2SC945(P or Q)
QN06	1	1	1	1	1	HT30064090	Zener
QN07	1	1	1	1	1	HT309452B0	Transistor 2SC945 (P or Q)
QN51	1	1	1	1	1	HD20015030	Diode DS135D
QN52	1	1	1	1	1	HC10042050	IC TA7317P
△QN53	1	1	1	1	1	HD20002210	Diode 1S2473
△Q701	1	1	1	1	1	HC10087030	IC STK3042-2
△Q702	1	1	1	1	1	HC10089030	IC STK2240
Q707	1	1	1	1	1	HD20015030	Diode DS135D
△Q801	1	1	1	1	1	HD20008290	Diode S4VB20
△Q802	1	1	1	1	1	HD20021290	Diode S1VB20
△Q803	1	1	1	1	1	HT405712B0	Transistor 2SD571(L or K)
△Q804	1	1	1	1	1	HT206052B0	Transistor 2SB605(L or K)
△Q805	1	1	1	1	1	HD30014010	Zener HZ16L
△Q806	1	1	1	1	1	HD30014010	Zener HZ16L
△Q831	1	1	1	1	1	HT309452B0	Transistor 2SC945(P or Q)
△Q832	1	1	1	1	1	HT107332B0	Transistor 2SA733(P or Q)
△Q833	1	1	1	1	1	HD30014010	Zener HZ16L
△Q834	1	1	1	1	1	HD30014010	Zener HZ16L
P700-MISCELLANEOUS							
LN51	1	1	1	1	1	LY20240190	Relay, 24V
L701	1	1	1	1	1	LL23905120	Coil, 1μH
L702	1	1	1	1	1	LL23905120	Coil, 1μH
△F801	1					FS10020500	Fuse 200mA 250V
△F801	1	1				FS10016800	Fuse 160mA 250V
△F802	1					FS10020500	Fuse 200mA 250V
△F802	1	1				FS10016800	Fuse 160mA 250V
J706	1	1	1	1	1	YJ06002430	Jack, (3P)
J731	1	1	1	1	1	YJ06002430	Jack, (3P)
J732	1	1	1	1	1	YJ06002430	Jack, (3P)
J733	1	1	1	1	1	YJ06002430	Jack, (3P)
J801	1	1	1	1	1	YJ06002430	Jack, (3P)
J803	1	1	1	1	1	YJ06002430	Jack, (3P)
J808							
?	4					YJ08000170	Jack, Fuse Clip
J811							
J808							
?	4					YJ08000270	Jack, Fuse Clip
J811							
J814	1	1	1	1	1	YJ06002430	Jack, (3P)
J831	1	1	1	1	1	YJ06002430	Jack, (3P)
J833	1	1	1	1	1	YJ06002430	Jack, (3P)
JV04	1					YT02040480	Terminal, (4P)
JV04	1	1	1	1	1	YT02040470	Terminal, (4P)
W701	1	1	1	1	1	YU03180260	Jumper Lead, (3P)
W702	1	1	1	1	1	YU03140260	Jumper Lead, (3P)
W703	1	1	1	1	1	YU03160260	Jumper Lead, (3P)
W705	1	1	1	1	1	YU02100260	Jumper Lead, (2P)
W706	1	1	1	1	1	YU02100240	Jumper Lead, (2P)
W707	1	1	1	1	1	YU02200260	Jumper Lead, (2P)
W708	1	1	1	1	1	YU02240240	Jumper Lead, (2P)

REF. DESIG.	QTY					PART NO.	DESCRIPTION
	U	N	E	A	F		
PE00	1	1	1	1	1	YK229H1910 ZZ229H1910	PE00-GRAPHIC EQ VR. CIRCUIT BOARD P.W. Board, Graphic EQ VR. P.W. Board Assembly
RF01	1	1	1	1	1	RY05030030	Variable Resistor 50KΩ(G)x2
RF02	1	1	1	1	1	RY05030030	Variable Resistor 50KΩ(G)x2
RF03	1	1	1	1	1	RY05030030	Variable Resistor 50KΩ(G)x2
RF04	1	1	1	1	1	RY05030030	Variable Resistor 50KΩ(G)x2
RF05	1	1	1	1	1	RY05030030	Variable Resistor 50KΩ(G)x2
PE02	1	1	1	1	1	YK229H1920 ZZ229H1920	PE02-GRAPHIC EQ AMP. CIRCUIT BOARD P.W. Board, Graphic EQ Amp. P.W. Board Assembly
PE02-CAPACITORS							
CE01	1	1	1	1	1	EA10505030	Elect 1μF 50V
CE02	1	1	1	1	1	EA10505030	Elect 1μF 50V
CE03	1	1	1	1	1	DK16181300	Ceramic 180pF ±10%
CE04	1	1	1	1	1	DK16181300	Ceramic 180pF ±10%
CE05	1	1	1	1	1	EA10602530	Elect 10μF 25V
CE06	1	1	1	1	1	EA10602530	Elect 10μF 25V
CE07	1	1	1	1	1	EA47505030	Elect 4.7μF 50V
CE08	1	1	1	1	1	EA47505030	Elect 4.7μF 50V
CE09	1	1	1	1	1	EA10701030	Elect 100μF 10V
CE10	1	1	1	1	1	EA10701030	Elect 100μF 10V
CE11	1	1	1	1	1	EA10701030	Elect 100μF 10V
CE12	1	1	1	1	1	EA10701030	Elect 100μF 10V
CE31	1	1	1	1	1	EA22505030	Elect 2.2μF 50V
CE32	1	1	1	1	1	EA22505030	Elect 2.2μF 50V
CE33	1	1	1	1	1	EA47405030	Elect 0.47μF 50V
CE34	1	1	1	1	1	EA47405030	Elect 0.47μF 50V
CE35	1	1	1	1	1	DF17154300	Film 0.15μF ±20%
CE36	1	1	1	1	1	DF17154300	Film 0.15μF ±20%
CE37	1	1	1	1	1	DF17333300	Film 0.033μF ±20%
CE38	1	1	1	1	1	DF17333300	Film 0.033μF ±20%
CE39	1	1	1	1	1	DF17822300	Film 8200pF ±20%
CE40	1	1	1	1	1	DF17822300	Film 8200pF ±20%
CE41	1	1	1	1	1	EA10405030	Elect 0.1μF 50V
CE42	1	1	1	1	1	EA10405030	Elect 0.1μF 50V
CE43	1	1	1	1	1	DF17223300	Film 0.022μF ±20%
CE44	1	1	1	1	1	DF17223300	Film 0.022μF ±20%
CE45	1	1	1	1	1	DF17562300	Film 5600pF ±20%
CE46	1	1	1	1	1	DF17562300	Film 5600pF ±20%
CE47	1	1	1	1	1	DF17152300	Film 1500pF ±20%
CE48	1	1	1	1	1	DF17152300	Film 1500pF ±20%
CE49	1	1	1	1	1	DK16391300	Ceramic 390pF ±10%
CE50	1	1	1	1	1	DK16391300	Ceramic 390pF ±10%
CE51	1	1	1	1	1	DD15220370	Ceramic 22pF ±5%
CE52	1	1	1	1	1	DD15220370	Ceramic 22pF ±5%
CE53	1	1	1	1	1	DD15220370	Ceramic 22pF ±5%
CE54	1	1	1	1	1	DD15220370	Ceramic 22pF ±5%
CE55	1	1	1	1	1	DD15220370	Ceramic 22pF ±5%
CE56	1	1	1	1	1	DD15220370	Ceramic 22pF ±5%
CE57	1	1	1	1	1	DD15220370	Ceramic 22pF ±5%
CE58	1	1	1	1	1	DD15220370	Ceramic 22pF ±5%
CE59	1	1	1	1	1	DD15220370	Ceramic 22pF ±5%
CE60	1	1	1	1	1	DD15220370	Ceramic 22pF ±5%
△CE63	1	1	1	1	1	EA10701630	Elect 100μF 16V
△CE64	1	1	1	1	1	EA10701630	Elect 100μF 16V

- (U): for U.S.A.
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REF. DESIG.	QTY					PART NO.	DESCRIPTION
	U	N	E	A	F		
PE02-RESISTORS (All Resistors are $\pm 5\%$ & $\frac{1}{4}W$)							
RE01	1	1	1	1	1	GD05221140	220 Ω
RE02	1	1	1	1	1	GD05221140	220 Ω
RE03	1	1	1	1	1	GD05823140	82K Ω
RE04	1	1	1	1	1	GD05823140	82K Ω
RE05	1	1	1	1	1	GD05821140	820 Ω
RE06	1	1	1	1	1	GD05821140	820 Ω
RE07	1	1	1	1	1	GD05392140	3.9K Ω
RE08	1	1	1	1	1	GD05392140	3.9K Ω
RE09	1	1	1	1	1	GD05104140	100K Ω
RE10	1	1	1	1	1	GD05104140	100K Ω
RE11	1	1	1	1	1	GD05391140	390 Ω
RE12	1	1	1	1	1	GD05391140	390 Ω
RE13	1	1	1	1	1	GD05223140	22K Ω
RE14	1	1	1	1	1	GD05223140	22K Ω
RE15	1	1	1	1	1	GD05221140	220 Ω
RE16	1	1	1	1	1	GD05221140	220 Ω
RE17	1	1	1	1	1	GD05562140	5.6K Ω
RE18	1	1	1	1	1	GD05562140	5.6K Ω
RE19	1	1	1	1	1	GD05562140	5.6K Ω
RE20	1	1	1	1	1	GD05562140	5.6K Ω
RE31	1	1	1	1	1	GD05101140	100 Ω
RE32	1	1	1	1	1	GD05101140	100 Ω
RE33	1	1	1	1	1	GD05101140	100 Ω
RE34	1	1	1	1	1	GD05101140	100 Ω
RE35	1	1	1	1	1	GD05101140	100 Ω
RE36	1	1	1	1	1	GD05101140	100 Ω
RE37	1	1	1	1	1	GD05101140	100 Ω
RE38	1	1	1	1	1	GD05101140	100 Ω
RE39	1	1	1	1	1	GD05101140	100 Ω
RE40	1	1	1	1	1	GD05101140	100 Ω
RE41	1	1	1	1	1	GD05473140	47K Ω
RE42	1	1	1	1	1	GD05473140	47K Ω
RE43	1	1	1	1	1	GD05473140	47K Ω
RE44	1	1	1	1	1	GD05473140	47K Ω
RE45	1	1	1	1	1	GD05473140	47K Ω
RE46	1	1	1	1	1	GD05473140	47K Ω
RE47	1	1	1	1	1	GD05473140	47K Ω
RE48	1	1	1	1	1	GD05473140	47K Ω
RE49	1	1	1	1	1	GD05473140	47K Ω
RE50	1	1	1	1	1	GD05473140	47K Ω
RE51	1	1	1	1	1	GD05472140	4.7K Ω
RE52	1	1	1	1	1	GD05472140	4.7K Ω
RE53	1	1	1	1	1	GD05472140	4.7K Ω
RE54	1	1	1	1	1	GD05472140	4.7K Ω
RE55	1	1	1	1	1	GD05472140	4.7K Ω
RE56	1	1	1	1	1	GD05472140	4.7K Ω
RE57	1	1	1	1	1	GD05472140	4.7K Ω
RE58	1	1	1	1	1	GD05472140	4.7K Ω
RE59	1	1	1	1	1	GD05472140	4.7K Ω
RE60	1	1	1	1	1	GD05472140	4.7K Ω
RE61	1	1	1	1	1	GD05102140	1K Ω
RE62	1	1	1	1	1	GD05102140	1K Ω
RE63	1	1	1	1	1	GD05102140	1K Ω
RE64	1	1	1	1	1	GD05102140	1K Ω
RE65	1	1	1	1	1	GD05102140	1K Ω
RE66	1	1	1	1	1	GD05102140	1K Ω
RE67	1	1	1	1	1	GD05102140	1K Ω
RE68	1	1	1	1	1	GD05102140	1K Ω
RE69	1	1	1	1	1	GD05102140	1K Ω
RE70	1	1	1	1	1	GD05102140	1K Ω

REF. DESIG.	QTY					PART NO.	DESCRIPTION
	U	N	E	A	F		
PE02-SEMICONDUCTORS							
QE01	1	1	1	1	1	HC10007090	IC NJM4560
QE02	1	1	1	1	1	HC10007090	IC NJM4560
QE03	1	1	1	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE04	1	1	1	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE05	1	1	1	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE06	1	1	1	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE07	1	1	1	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE08	1	1	1	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE09	1	1	1	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE10	1	1	1	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE11	1	1	1	1	1	HT323622B0	Transistor 2SC2362(G or H)
QE12	1	1	1	1	1	HT323622B0	Transistor 2SC2362(G or H)
PE02-MISCELLANEOUS							
WE02	1	1	1	1	1	YU05120260	Jumper Lead, (5P)
WE03	1	1	1	1	1	YU03220260	Jumper Lead, (3P)
WE04	1	1	1	1	1	YU02140260	Jumper Lead, (2P)
PE03-GRAPHIC EQ CONNECT CIRCUIT BOARD							
PE03	1	1	1	1	1	YK229H1930	P.W. Board, Graphic EQ Connet
	1	1	1	1	1	ZZ229H1930	P.W. Board Assembly
PG50-VOLUME UP/DOWN SW. CIRCUIT BOARD							
PG50	1	1	1	1	1	YK229H2330	P.W. Board, Volume Up/Down SW.
	1	1	1	1	1	ZZ229H2330	P.W. Board Assembly
RG51	1	1	1	1	1	GD05822140	Resistor 8.2K Ω $\pm 5\%$ $\frac{1}{4}W$
RG52	1	1	1	1	1	GD05822140	Resistor 8.2K Ω $\pm 5\%$ $\frac{1}{4}W$
SG51	1	1	1	1	1	SP01010580	Push Switch
SG52	1	1	1	1	1	SP01010580	Push Switch
SG53	1	1	1	1	1	SP01010580	Push Switch
SG54	1	1	1	1	1	SP01010580	Push Switch
WG01	1	1	1	1	1	YU03100260	Jumper Lead, (3P)
PG80-BALANCE VR. CIRCUIT BOARD							
PG80	1	1	1	1	1	YK229H15M0	P.W. Board, Balance VR.
	1	1	1	1	1	ZZ229H15M0	P.W. Board Assembly
RG81	1	1	1	1	1	RX02040020	Variable Resistor 200K Ω (B)
WG05	1	1	1	1	1	YU03100260	Jumper Lead, (3P)
PG90-VOLUME CIRCUIT BOARD							
PG90	1	1	1	1	1	YK229H1990	P.W. Board, Volume
	1	1	1	1	1	ZZ229H1990	P.W. Board Assembly
CG04	1	1	1	1	1	DK17103300	Ceramic Cap. 0.01 μ F $\pm 20\%$
RG01	1	1	1	1	1	RY11040010	Variable Resistor 100K Ω
WG08	1	1	1	1	1	YU02060260	Jumper Lead, (2P)

- (U): for U.S.A.
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REF. DESIG.	Q'TY					PART NO.	DESCRIPTION
	U	N	E	A	F		
PK01					1	YK229H1970	PK01-MIC AMP. CIRCUIT BOARD P.W. Board, Mic Amp.
							PK01-CAPACITORS
CK01					1	EA33505030	Elect 3.3 μ F 50V
CK02					1	EA47505030	Elect 4.7 μ F 50V
CK03					1	DK16331300	Ceramic 330pF \pm 10%
CK05					1	DF16123300	Film 0.012 μ F \pm 10%
CK06					1	DF16102300	Film 1000pF \pm 10%
CK07					1	EA33505030	Elect 3.3 μ F 50V
CK08					1	DK16101300	Ceramic 100pF \pm 10%
CK09					1	DK16101300	Ceramic 100pF \pm 10%
CK10					1	EA33505030	Elect 3.3 μ F 50V
CK12					1	EA10602530	Elect 10 μ F 25V
CK13					1	EA10602530	Elect 10 μ F 25V
CK14					1	EA47601630	Elect 47 μ F 16V
CK15					1	EA47601630	Elect 47 μ F 16V
							PK01-RESISTORS (All Resistors are \pm 5% & $\frac{1}{4}$ W)
RK01					1	GD05223140	22K Ω
RK02					1	GD05223140	22K Ω
RK03					1	GD05222140	2.2K Ω
RK04					1	GD05182140	1.8K Ω
RK05					1	GD05103140	10K Ω
RK06					1	GD05122140	1.2K Ω
RK07					1	GD05682140	6.8K Ω
RK08					1	GD05821140	820 Ω
RK09					1	GD05222140	2.2K Ω
RK10					1	RK01040200	100K Ω , Variable
RK11					1	GD05222140	2.2K Ω
RK12					1	GD05222140	2.2K Ω
RK13					1	GD05472214	4.7K Ω
RK14					1	GD05472214	4.7K Ω
RK15					1	GD05563140	56K Ω
RK16					1	GD05822140	8.2K Ω
RK17					1	GD05103140	10K Ω
							PK01-SEMICONDUCTORS
QK01					1	HC10007090	IC NJM4560D
QK02					1	HC10007090	IC NJM4560D
							PK01-MISCELLANEOUS
JK02					1	YJ06002430	Jack, (3P)
WK01					1	YU03160260	Jumper Lead, (3P)
WK02					1	YU02140260	Jumper Lead, (2P)
WK03					1	YU02070260	Jumper Lead, (2P)
							PK02-MIC JACK CIRCUIT BOARD
PK02					1	YK229H1980	P.W. Board, Mic Jack
CK51					1	DK17103300	Ceramic Cap. 0.01 μ F \pm 20%
JK51					1	YJ01001780	Jack, Mic

REF. DESIG.	Q'TY					PART NO.	DESCRIPTION
	U	N	E	A	F		
PO00	1	1	1	1	1	YK229H15B0	PO00-POWER SWITCH CIRCUIT BOARD P.W. Board, Power Switch
						ZZ229H15B0	P.W. Board Assembly
						ZZ229H85B0	P.W. Board Assembly
						ZZ229H75B0	P.W. Board Assembly
							PO00-CAPACITORS
Δ G001	1					DK18103530	Ceramic 0.01 μ F 250V
Δ G001		1				DK18103840	Ceramic 0.01 μ F 250V
Δ G001			1	1	1	DK18103850	Ceramic 0.01 μ F 250V
							PO00-MISCELLANEOUS
Δ S001	1					SP01010420	Push Switch, Power
Δ S001		1	1	1		SP01010390	Push Switch, Power
Δ S001					1	SP01010430	Push Switch, Power
							PS00-FUNCTION SW. CIRCUIT BOARD
PS00	1	1	1	1	1	YK229H2310	P.W. Board, Function SW.
						ZZ229H2310	P.W. Board Assembly
							PS00-CAPACITORS
CG02	1	1	1	1	1	DK17103300	Ceramic 0.01 μ F \pm 20%
CG03	1	1	1	1	1	DF16103300	Film 0.01 μ F \pm 10%
CG04	1	1	1	1	1	DK18103300	Ceramic 0.01 μ F
CJ01					1	DD15220300	Ceramic 22pF \pm 5%
CJ02					1	DD15220300	Ceramic 22pF \pm 5%
CJ03					1	DD15220300	Ceramic 22pF \pm 5%
CJ04					1	DD15220300	Ceramic 22pF \pm 5%
CJ05					1	EA10602530	Elect 10 μ F 25V
CJ06					1	EA10602530	Elect 10 μ F 25V
CJ07					1	EA10602530	Elect 10 μ F 25V
CJ08					1	EA10602530	Elect 10 μ F 25V
CJ09					1	DK17103300	Ceramic 0.01 μ F \pm 20%
CJ10					1	DK17103300	Ceramic 0.01 μ F \pm 20%
CS01	1	1	1	1	1	EA10605030	Elect 10 μ F 25V
CS02	1	1	1	1	1	EA10605030	Elect 10 μ F 25V
CS03	1	1	1	1	1	EA10605030	Elect 10 μ F 25V
CS04	1	1	1	1	1	EA10605030	Elect 10 μ F 25V
CS05	1	1	1	1	1	EA10605030	Elect 10 μ F 25V
CS06	1	1	1	1	1	EA10605030	Elect 10 μ F 25V
CS09	1	1	1	1	1	DF16103300	Film 0.01 μ F \pm 10%
CS10	1	1	1	1	1	EA22801630	Elect 2200 μ F 16V
CS11	1	1	1	1	1	EA47405030	Elect 0.47 μ F 50V
CS16	1	1	1	1	1	DF16103300	Film 0.01 μ F \pm 10%
CV01	1	1	1	1	1	DK17103300	Ceramic 0.01 μ F \pm 20%
CV02	1	1	1	1	1	DK18103300	Ceramic 0.01 μ F
							PS00-RESISTORS (All Resistors are \pm 5% & $\frac{1}{4}$ W)
RG02	1	1	1	1	1	GD05682140	6.8K Ω
RG03	1	1	1	1	1	GD05222140	2.2K Ω
RG04	1	1	1	1	1	GD05103140	10K Ω
RG05	1	1	1	1	1	GD05103140	10K Ω
RG06	1	1	1	1	1	GA05470010	47 Ω 1W
RG07	1	1	1	1	1	GA05470010	47 Ω 1W
RJ01					1	GD05124140	120K Ω
RJ02					1	GD05124140	120K Ω
RJ03					1	GD05124140	120K Ω
RJ04					1	GD05124140	120K Ω
RJ05					1	GD05124140	120K Ω

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REF. DESIG.	QTY					PART NO.	DESCRIPTION
	U	N	E	A	F		
RJ06					1	GD05124140	120KΩ
RJ07					1	GD05124140	120KΩ
RJ08					1	GD05124140	120KΩ
RJ09					1	GD05393140	39KΩ
RJ10					1	GD05393140	39KΩ
RJ11					1	GD05393140	39KΩ
RJ12					1	GD05393140	39KΩ
RJ13					1	GD05124140	120KΩ
RJ14					1	GD05124140	120KΩ
RJ15					1	GD05124140	120KΩ
RJ16					1	GD05124140	120KΩ
RJ17					1	GD05103140	10KΩ
RJ18					1	GD05103140	10KΩ
RJ19					1	GD05103140	10KΩ
RJ20					1	GD05103140	10KΩ
RJ21					1	GD05561140	560Ω
RJ22					1	GD05561140	560Ω
RJ23					1	GD05104140	100KΩ
RJ24					1	GD05561140	560Ω
RS01	1	1	1	1	1	GD05102140	1KΩ
RS02	1	1	1	1	1	GD05102140	1KΩ
RS03	1	1	1	1	1	GD05102140	1KΩ
RS04	1	1	1	1	1	GD05102140	1KΩ
RS05	1	1	1	1	1	GD05102140	1KΩ
RS06	1	1	1	1	1	GD05102140	1KΩ
RS09	1	1	1	1	1	GD05105140	1MΩ
RS10	1	1	1	1	1	GD05105140	1MΩ
RS11	1	1	1	1	1	GD05105140	1MΩ
RS12	1	1	1	1	1	GD05105140	1MΩ
RS13	1	1	1	1	1	GD05105140	1MΩ
RS14	1	1	1	1	1	GD05105140	1MΩ
RS17	1	1	1	1	1	GD05104140	100KΩ
RS18	1	1	1	1	1	GD05224140	220KΩ
RS19	1	1	1	1	1	GD05222140	2.2KΩ
RS20	1	1	1	1	1	GD05272140	2.7KΩ
RS21	1	1	1	1	1	GD05272140	2.7KΩ
RS25	1	1	1	1	1	GD05682140	6.8KΩ
RS26	1	1	1	1	1	GD05682140	6.8KΩ
RS27	1	1	1	1	1	GD05103140	10KΩ
RS28	1	1	1	1	1	GD05682140	6.8KΩ
RS29	1	1	1	1	1	GD05332140	3.3KΩ
RS29					1	GD05152140	1.5KΩ
PS00-SEMICONDUCTORS							
QG01	1	1	1	1	1	HC10016090	IC NJM4556
QJ01					1	HC10007090	IC NJM4560
QJ02					1	HC10007090	IC NJM4560
QS01	1	1	1	1	1	HC10085030	IC LC7815
QS02	1	1	1	1	1	HC406603B0	IC LC4066B
QS03	1	1	1	1	1	HC406603B0	IC LC4066B
QS06	1	1	1	1	1	HD20011050	Diode 1S1555
QS07	1	1	1	1	1	HT107332B0	Transistor 2SA733(P or Q)
QS08	1	1	1	1	1	HT107332B0	Transistor 2SA733(P or Q)
QS09	1	1	1	1	1	HT309452B0	Transistor 2SC945(P or Q)
PS00-MISCELLANEOUS							
JG01	1	1	1	1	1	YJ06002430	Jack, (3P)
JG03	1	1	1	1	1	YJ06002450	Jack, (6P)
JG04	1	1	1	1	1	YJ06002390	Jack, (5P)
JG05	1	1	1	1	1	YJ06002430	Jack, (3P)
JK02					1	YJ06002430	Jack, (3P)
JS01	1	1	1	1	1	YJ06002390	Jack, (5P)
JS02	1	1	1	1	1	YJ06002450	Jack, (6P)
JS04	1	1	1	1	1	YJ06002430	Jack, (3P)
JS06	1	1	1	1	1	YJ06002430	Jack, (3P)
JS07	1	1	1	1	1	YJ06002430	Jack, (3P)

REF. DESIG.	QTY					PART NO.	DESCRIPTION
	U	N	E	A	F		
JV01	1					YT02020290	Terminal, (2P)
JV01		1	1	1	1	YT02020280	Terminal, (2P)
JV02	1					YT02040480	Terminal, (4P)
JV02		1	1	1	1	YT02040470	Terminal, (4P)
JV03	1					YT02040480	Terminal, (2P)
JV03		1	1	1	1	YT02040470	Terminal, (4P)
WG02	1	1	1	1	1	YU03140060	Jumper Lead, (3P)
WG03	1	1	1	1	1	YU06220260	Jumper Lead, (6P)
WG04	1	1	1	1	1	YU05160260	Jumper Lead, (5P)
WS01	1	1	1	1	1	YU05400260	Jumper Lead, (5P)
WS02	1	1	1	1	1	YU06400260	Jumper Lead, (6P)
WS03	1	1	1	1	1	YU03120260	Jumper Lead, (3P)
WS04	1	1	1	1	1	YU03360260	Jumper Lead, (3P)
WS06	1	1	1	1	1	YU03070260	Jumper Lead, (3P)
WS07	1	1	1	1	1	YU03160260	Jumper Lead, (3P)
WS09	1	1	1	1	1	YU03100260	Jumper Lead, (3P)
PS02-PHONO/COPY CONTROL CIRCUIT BOARD							
PS02	1	1	1	1	1	YK229H2320	P.W. Board, Phono/Copy Control
		1	1	1	1	ZZ229H2320	P.W. Board Assembly
PS02-CAPACITORS							
C401	1	1	1	1	1	EA33505030	Elect 3.3μF 50V
C402	1	1	1	1	1	EA33505030	Elect 3.3μF 50V
C403	1	1	1	1	1	DD15470300	Ceramic 47pF ±5%
C404	1	1	1	1	1	DD15470300	Ceramic 47pF ±5%
C405	1	1	1	1	1	DF16332300	Film 3300pF ±10%
C406	1	1	1	1	1	DF16332300	Film 3300pF ±10%
C407	1	1	1	1	1	DF16123300	Film 0.012μF ±10%
C408	1	1	1	1	1	DF16123300	Film 0.012μF ±10%
C409	1	1	1	1	1	EA10602530	Elect 10μF 25V
C410	1	1	1	1	1	EA10602530	Elect 10μF 25V
C411	1	1	1	1	1	EA10701630	Elect 100μF 16V
C412	1	1	1	1	1	EA10701630	Elect 100μF 16V
C413	1	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C414	1	1	1	1	1	DK17103300	Ceramic 0.01μF ±20%
C415	1	1	1	1	1	DK16271300	Ceramic 270pF ±10%
C416	1	1	1	1	1	DK16271300	Ceramic 270pF ±10%
CS12	1	1	1	1	1	DF16223300	Film 0.022μF ±10%
CS13	1	1	1	1	1	EA10505030	Elect 1μF 50V
ΔCS14	1	1	1	1	1	EA22601630	Elect 22μF 16V
ΔCS15	1	1	1	1	1	EA22601630	Elect 22μF 16V
PS02-RESISTORS (All Resistors are ±5% & ¼W)							
R401	1	1	1	1	1	GD05154140	150KΩ
R402	1	1	1	1	1	GD05154140	150KΩ
R403	1	1	1	1	1	GD05683140	68KΩ
R404	1	1	1	1	1	GD05683140	68KΩ
R405	1	1	1	1	1	GD05222140	2.2KΩ
R406	1	1	1	1	1	GD05222140	2.2KΩ
R407	1	1	1	1	1	GD05561140	560Ω
R408	1	1	1	1	1	GD05561140	560Ω
R409	1	1	1	1	1	GD05223140	22KΩ
R410	1	1	1	1	1	GD05223140	22KΩ
R411	1	1	1	1	1	GD05274140	270KΩ
R412	1	1	1	1	1	GD05274140	270KΩ
R413	1	1	1	1	1	GD05103140	10KΩ
R414	1	1	1	1	1	GD05103140	10KΩ
R415	1	1	1	1	1	GG05101140	100Ω
R416	1	1	1	1	1	GG05101140	100Ω

- (U): for U.S.A.
- (N): for Europe
- (E): for Europe
- (A): for Australia
- (F): for Japan

REF. DESIG.	Q'TY					PART NO.	DESCRIPTION
	U	N	E	A	F		
RS22	1	1	1	1	1	GD05104140	100K Ω
RS23	1	1	1	1	1	GD05273140	27K Ω
RS24	1	1	1	1	1	GD05103140	10K Ω
Δ RS30	1	1	1	1	1	GG05271140	270 Ω
Δ RS31	1	1	1	1	1	GG05271140	270 Ω
PS02-SEMICONDUCTORS							
Q401	1	1	1	1	1	HC10007090	IC NJM4560
QS04	1	1	1	1	1	HC400100B0	IC LC4001B
QS05	1	1	1	1	1	HC401303B0	IC LC4013B
Δ QS10	1	1	1	1	1	HD30029090	Zener WZ090
Δ QS11	1	1	1	1	1	HD30029090	Zener WZ090
PS50-FUNCTION SW. SUB CIRCUIT BOARD							
PS50	1	1	1	1	1	YK229H1960	P.W. Board, Function SW. Sub
	1	1	1	1	1	ZZ229H1960	P.W. Board Assembly
PS50-RESISTORS (All Resistors are $\pm 5\%$ & $\frac{1}{4}W$)							
RS51	1	1	1	1	1	GD05222140	2.2K Ω
RS52	1	1	1	1	1	GD05222140	2.2K Ω
RS52	1	1	1	1	1	GD05152140	1.5K Ω
RS53	1	1	1	1	1	GD05104140	100K Ω
RS54	1	1	1	1	1	GD05103140	10K Ω
RS55	1	1	1	1	1	GD05392140	3.9K Ω
PS50-SEMICONDUCTORS							
QS51	1	1	1	1	1	HI10022020	L.E.D. LN28RP
QS52	1	1	1	1	1	HI10022020	L.E.D. LN28RP
QS53	1	1	1	1	1	HI10022020	L.E.D. LN28RP
QS54	1	1	1	1	1	HI10022020	L.E.D. LN28RP
QS55	1	1	1	1	1	HI10022020	L.E.D. LN28RP
QS55	1	1	1	1	1	HI10035020	L.E.D. LN38GP
QS56	1	1	1	1	1	HI10022020	L.E.D. LN28RP
QS56	1	1	1	1	1	HI10035020	L.E.D. LN38GP
QS57	1	1	1	1	1	HI10034020	L.E.D. LN05202P x 5
PS50-MISCELLANEOUS							
SS51	6	6	6	6	6	SP01010580	Push Switch, EVQ-QJ104K
SS56							
WS51	1	1	1	1	1	YU02180260	Jumper Lead, (2P)
PT00-LOUDNESS/MUTING CIRCUIT BOARD							
PT00	1	1	1	1	1	YK229H1940	P.W. Board, Loudness/Muting
	1	1	1	1	1	ZZ229H1940	P.W. Board Assembly
PT00-CAPACITORS							
CT01	1	1	1	1	1	DK16391300	Ceramic 390pF $\pm 10\%$
CT02	1	1	1	1	1	DK16391300	Ceramic 390pF $\pm 10\%$
CT03	1	1	1	1	1	DF16473300	Film 0.047 μ F $\pm 10\%$
CT04	1	1	1	1	1	DF16473300	Film 0.047 μ F $\pm 10\%$
PT00-RESISTORS							
RT01	1	1	1	1	1	GD05273140	27K Ω $\pm 5\%$ $\frac{1}{4}W$
RT02	1	1	1	1	1	GD05273140	27K Ω $\pm 5\%$ $\frac{1}{4}W$
RT03	1	1	1	1	1	GD05822140	8.2K Ω $\pm 5\%$ $\frac{1}{4}W$
RT04	1	1	1	1	1	GD05822140	8.2K Ω $\pm 5\%$ $\frac{1}{4}W$
PT00-MISCELLANEOUS							
ST01	1	1	1	1	1	SP02010870	Push Switch, 2-2
ST02	1	1	1	1	1	SP04010410	Push Switch, 4-2

(W01-99) (T01-99) (X01-00)	Assembly and Wiring Adjustment Correction
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REF. DESIG.	Q'TY					PART NO.	DESCRIPTION
	U	N	E	A	F		
PT50	1	1	1	1	1	YK229H1950	PT50-EQ DIFEAT/ SUBSONIC FILTER CIRCUIT BOARD P.W. Board, EQ Difeat/ Subsonic Filter
	1	1	1	1	1	ZZ229H1950	P.W. Board Assembly
PT50-CAPACITORS							
CT51	1	1	1	1	1	EA47405030	Elect 0.47 μ F 50V
CT52	1	1	1	1	1	EA47405030	Elect 0.47 μ F 50V
PT50-RESISTORS							
RT51	1	1	1	1	1	GD05274140	270K Ω $\pm 5\%$ $\frac{1}{4}W$
RT52	1	1	1	1	1	GD05274140	270K Ω $\pm 5\%$ $\frac{1}{4}W$
RT53	1	1	1	1	1	GD05222140	2.2K Ω $\pm 5\%$ $\frac{1}{4}W$
RT54	1	1	1	1	1	GD05222140	2.2K Ω $\pm 5\%$ $\frac{1}{4}W$
RT55	1	1	1	1	1	GG05102120	1K Ω $\pm 5\%$ $\frac{1}{4}W$
PT50-MISCELLANEOUS							
ST51	1	1	1	1	1	SP04020330	Push Switch, 2-4-2
PU00-SPEAKER SW. CIRCUIT BOARD							
PU00	1	1	1	1	1	YK229H1500	P.W. Board, Speaker SW.
	1	1	1	1	1	ZZ229H1500	P.W. Board Assembly
RU01	1	1	1	1	1	GD05472140	Resistor 4.7K Ω $\pm 5\%$ $\frac{1}{4}W$
RU02	1	1	1	1	1	GD05472140	Resistor 4.7K Ω $\pm 5\%$ $\frac{1}{4}W$
SU01	1	1	1	1	1	SP04020320	Push Switch, 4-2
WU01	1	1	1	1	1	YU04400240	Jumper Lead, (4P)
WU02	1	1	1	1	1	YU03120260	Jumper Lead, (3P)
PU50-SPEAKER LED CIRCUIT BOARD							
PU50	1	1	1	1	1	YK229H15N0	P.W. Board, Speaker LED
	1	1	1	1	1	ZZ229H15N0	P.W. Board Assembly
QU51	1	1	1	1	1	HI10030020	L.E.D. LN224RP
QU52	1	1	1	1	1	HI10030020	L.E.D. LN224RP
PW00-SPEAKER TERMINAL CIRCUIT BOARD							
PW00	1	1	1	1	1	YK229H15C0	P.W. Board, Speaker Terminal
	1	1	1	1	1	ZZ229H15C0	P.W. Board Assembly
JW01	1	1	1	1	1	YT03080020	Terminal, (8P)
JW01	1	1	1	1	1	YJ06002440	Jack, (4P)
PW50-HEADPHONE CIRCUIT BOARD							
PW50	1	1	1	1	1	YK229H15K0	P.W. Board, Headphone
	1	1	1	1	1	ZZ229H15K0	P.W. Board Assembly
JW51	1	1	1	1	1	YJ01001790	Jack, Headphone
JW52	1	1	1	1	1	YJ06002430	Jack, (3P)
WW51	1	1	1	1	1	YU03120240	Jumper Lead, (3P)

Note on safety:

Symbol Δ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol Δ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

13. TECHNICAL SPECIFICATIONS

AUDIO SECTION

POWER OUTPUT PER CHANNEL

DIN 4 OHMS 1kHz	85W
RMS 4 OHMS 1kHz	79W
DIN 8 OHMS 1kHz	62W
RMS 8 OHMS 1kHz	75W
TOTAL HARMONIC DISTORTION AT RMS 8 OHMS	0.03%
I. M. DISTORTION	0.03%
DAMPING FACTOR 8 OHMS (1kHz)	40

MM CARTRIDGE INPUT

Frequency Response (RIAA)	±0.5dB
Signal-to-Noise Ratio	80dB
Input Impedance	47k ohms
Input Capacitance	100pF
Input Sensitivity	2.8mV
Equivalent Input Noise	1.5µV
Dynamic Range	100dB

AUX. INPUT

Input Impedance	28k ohms
Input Sensitivity	150mV
Frequency Response	10Hz – 40kHz
Signal-to-Noise Ratio	90dB

OUTPUT VOLTAGE

Tape Out	400mV
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OUTPUT IMPEDANCE

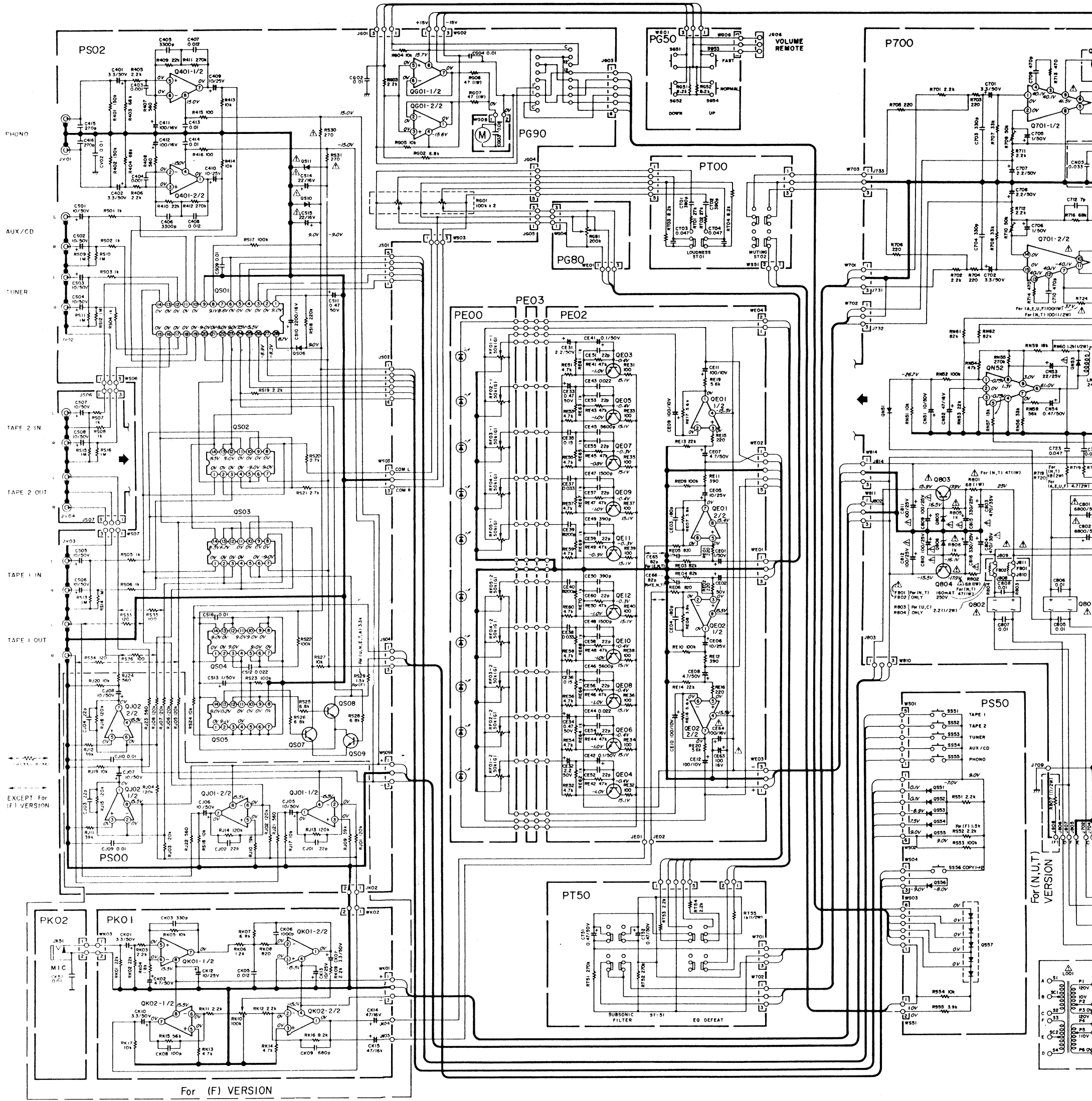
Tape Out	500 ohms
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GENERAL

Power Requirement	
N version	220/240V AC, 50/60Hz
T version	220/240V AC, 50/60Hz
E version	110/120/220/240V AC, 50/60Hz
Power Consumption at Rated Output, both Channels Driven	390W
Dimensions	
Panel Width	416mm
Panel Height	100mm
Depth	300mm
Weight	
Unit Alone	7.5kg

MEMORANDUM

14. SCHEMATIC DIAGRAM

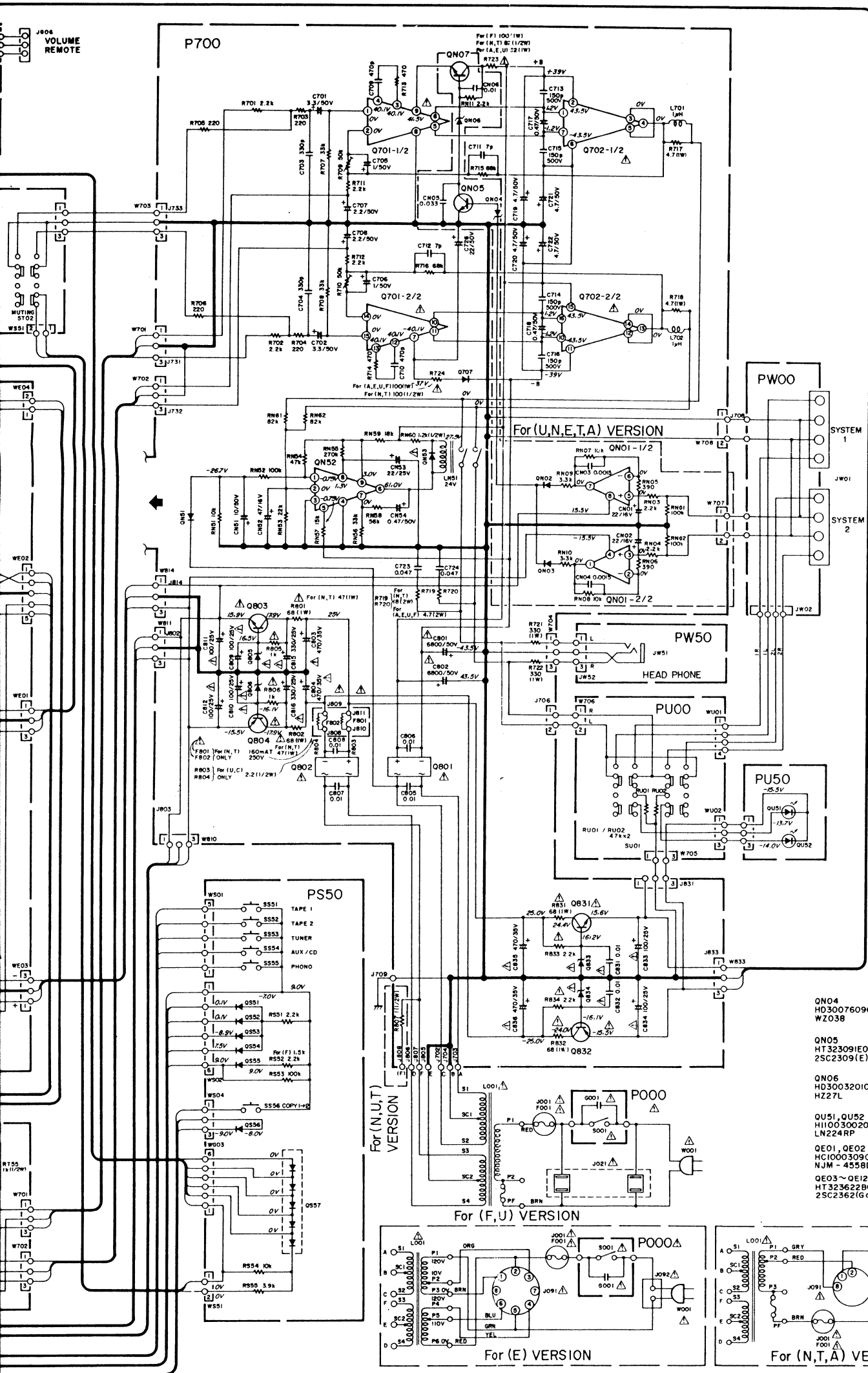


Note on safety:

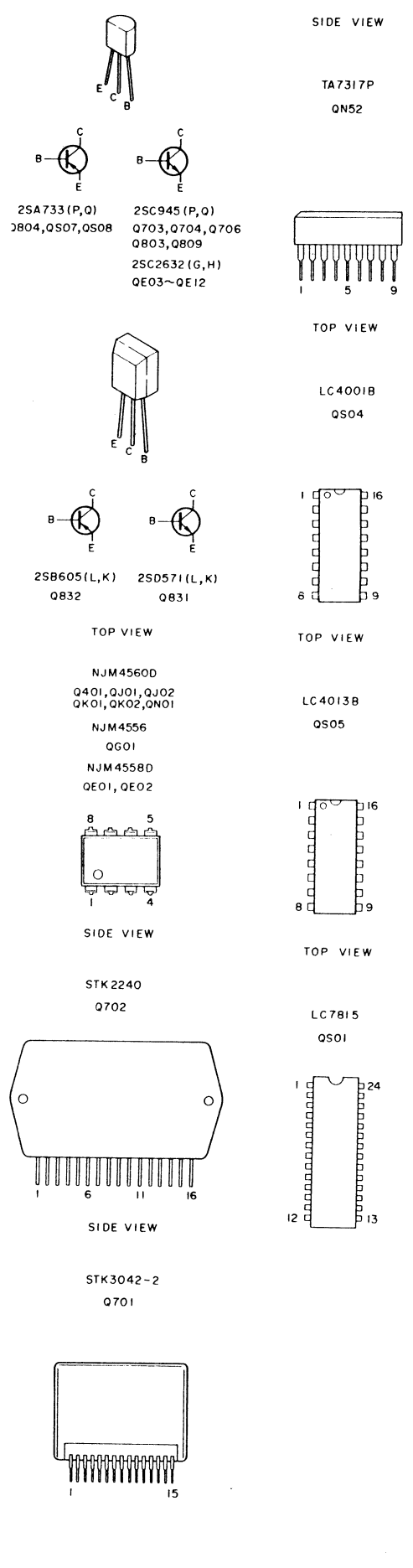
Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

Components and wiring are subject to change for modification without notice

Model PM520DC



- Q401
HC10008090
NJM - 4558D - D
- QJ01, QJ02
QK01, QK02, QN01
HC10007090
NJM - 4560D
- Q701
HC10087030
STK3042 - 2
- Q702
HC10097030
STK2250
- Q703, Q704, Q706
Q509, QN07
HT30945280
25C945 (For Q)
- Q705
HD30070090
WZ270
- Q707, QN51
HD20015030
DS135D
- Q801
HD20008290
S4VB20
- Q802
HD20021290
S1VB20
- Q803
HT40571280 } For (U, F, E, A
2SD571(L or K) } VERSION
HT403132P0 } For (N, T)
2SD313 (D or E) } VERSION
- Q804
HT20605280 } For (U, F, E, A
25B605(L or K) } VERSION
HT205072P0 } For (N, T)
25B507(D or E) } VERSION
- Q807, Q808
HT10733280
2SA733 (For Q)
- Q805, Q806
HD30029090
WZ090
- Q831
HT406672F0
2SD667 (C or D)
- Q832
HT206472F0
25B647 (C or D)
- Q833, Q834
HD30014010
HZ16L
- Q801
HC10016090
NJM - 4556
- Q802, Q803, Q806
HD20011050
IS1555
- Q801
HC10085030
LC7815
- Q802, Q803
HC10086030
LC4066B
- Q804
HC40010080
LC4001B
- Q805
HC10093030
LC4013B
- Q810, Q811
HD30023090
WZ071
- Q851 ~ Q854
H110022020
LN28RP
- Q855, Q856
H110035020 } For (U, N, E, T, A)
LN28RP } VERSION
H110035020 } For (F)
LN38GP } VERSION
- Q857
H110034020
LN05202P
- QN04
HD30076090
WZ03B
- QN05
HT323091E0
25C2309(E)
- QN06
HD30032010
HZ27L
- QU51, QU52
H110030020
LN224RP
- QE01, QE02
HC10003090
NJM - 4558D
- QE03 ~ QE12
HT32362280
25C2362(G or H)



and wiring are subject to change for modification without notice.