

SERVICE  
MANUAL

# PM65

4822 725 50852



**marantz®**

model PM-65AV

*Stereo 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 equipment are generally available to our National Marantz Subsidiary or Agent.

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Parts can be ordered either by mail or by telex. In both cases, correct part number has to be specified. The following information must be supplied to eliminate delays in processing your order:

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
6. Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

MARANTZ INTERNATIONAL  
Vestdijk 9  
5600 MD Eindhoven  
The Netherlands  
Phone: +31/40.758290  
Telefax: +31/40.75.82.99  
Telex: 35000 PHTC NL routing IND NLMTFAT

### PARTS ORDERING

Parts may be ordered at the following addresses:

<b>AUSTRIA</b> HORNYPHON Vertriebsgesellschaft GmbH Wienerbergstrasse 1 A 1101 Wien Austria Telex: 132.332	<b>FINLAND</b> MARANTZ DIVISION OF OY PHILIPS Ab Kaivokatu 8 00100 Helsinki Finland Telex: 124811	<b>GREAT BRITAIN</b> MARANTZ AUDIO U.K. Ltd Unit 15/16 Saxon Way Industrial Estate Moor Lane Harmondsworth UB7 OLW Great Britain Telex: 935196	<b>SAUDI ARABIA</b> AL ALAMIAH ELECTRONICS P.O.Box 5954 University Street Riyadh 11432 Saudi Arabia Telex: 401530	<b>SWITZERLAND</b> DYNVOX ELECTRONICS Route de Villars 105 1701 Fribourg Switzerland Telex: 942377
<b>BELGIUM</b> SVD DIVISION MARANTZ Industrialaan 1 1720 Groot-Bijgaarden Belgium Telex: 24466	<b>FRANCE</b> MARANTZ FRANCE 4 Rue Bernard Palissy 92600 Asnières France Telex: 611651	<b>GREECE</b> SHERTON ELECTRONICS S.A. P.O.Box 21025 Hippocrates Street 188 Athens 11471 Greece Telex: 216.795	<b>SOUTH AFRICA</b> MARANTZ DIVISION OF PHILIPS S.A. Main Road Martindale P.O. Box. 58088 Newville 21114 South Africa	<b>TURKEY</b> DOGRUOL Ltd. I.M.C. 6 Blok N°6310 Unkapani Istanbul Turkey Telex: 22085
<b>CHILE</b> MARANTZ DIVISION OF PHILIPS S.A. AV. Santa Maria, 0760 Casilla 2687 Santiago Telex: 240.239	<b>GERMANY</b> MARANTZ GERMANY GmbH Max-Planck-Strasse 22 6072 Dreieich 1 Germany Telex: 529821	<b>JAPAN</b> MARANTZ JAPAN, Inc. 35-1, 7-chome, Sagamiono Sagamihara-shi, Kanagawa Japan	<b>SPAIN</b> PHONO S.A. Ignacio Iglesias 10 Badalona (Barcelona) Spain Telex: 59355	<b>MALTA</b> CACHIA & GALEA Republic Street, 68D Valetta Telex: 1682
<b>DENMARK</b> MARANTZ DIVISION OF PHILIPS SERVICE A/S Prags Boulevard 80 Postbox 1919 DK-2300 København S Denmark Telex: 31201	<b>THE NETHERLANDS</b> Elpro Marantz Wint Hontlaan 28 3526 KV Utrecht The Netherlands Telex: 4748	<b>KUWAIT</b> AL ALAMIAH ELECTRONICS Ussama Building Fahd al Saleem Street P.O.Box 23781 Safat-Kuwait Telex: 22694	<b>SWEDEN</b> MARANTZ DIVISION OF PHILIPS Försäljning AB Tegeluddsvägen 1 S-115 84 Stockholm Sweden Telex: 14060	<b>PORTUGAL</b> MARANTZ Divisao philips S.A. service Oturela-carnaxide 2795 LinDA-A-VELHA Telex: 43906
	<b>NORWAY</b> MARANTZ DIVISION OF PHILIPS A/S Sandstuveien 40 0680 Oslo 6 Norway Telex: 72640	<b>ITALY</b> MARANTZ ITALIANA S.P.A. Via Chiese, 74 20126 Milano Italy		

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.

In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

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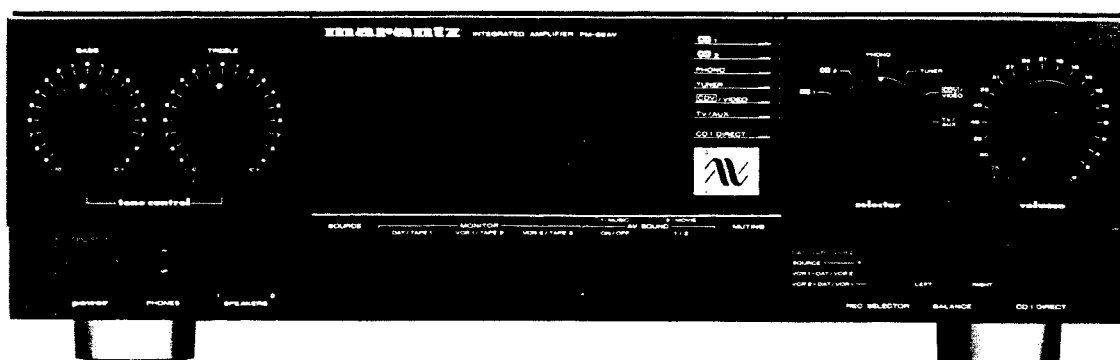
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### How to use this service manual

- The "Common parts" which Marantz Japan, Inc. has established are eliminated from this service manual.
- These "Common parts" are applied to all models in the service manuals arranged and issued by MJI.
- To indicate clearly the common parts in the schematic diagram, a line is drawn above or under the Ref. Desig. No. of applicable parts.
- "Common parts" can be supplied from the Marantz service center as ever.  
In case of ordering, please establish the parts number of 12 N/C'S following the procedure mentioned in this service manual "How to establish the parts number for common parts".

1) Please correctly write the parts number of 12 N/C'S following the rule.

## MODEL PM-65AV STEREO AMPLIFIER



### 1. P.W. BOARDS

As can be seen from the circuit diagram the chassis of Model PM-65AV 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. Tone Amp . . . . . mounted on P.W. Board PE01
2. Master Volume . . . . . mounted on P.W. Board PG01
3. Tape VCR Monitor . . . . . mounted on P.W. Board PJ01
4. Video Buffer Amp . . . . . mounted on P.W. Board PL01
5. Front Switch . . . . . mounted on P.W. Board PS01
6. TV Remocon out  
Jack . . . . . mounted on P.W. Board PT01
7. Input Selector,  
Phono . . . . . mounted on P.W. Board PV01
8. Headphone,  
Speaker Switch . . . . . mounted on P.W. Board PW01
9. Input Selector  
Indicator . . . . . mounted on P.W. Board PY01
10. Function LED  
Indicator . . . . . mounted on P.W. Board PY51
11. Main Amp . . . . . mounted on P.W. Board P701
12. Power Supply . . . . . mounted on P.W. Board P801
13. Power Switch . . . . . mounted on P.W. Board P901

### 2. MAIN AMP ADJUSTMENT PROCEDURE

1. Test Points  
Left channel: J705 (+), J707 (-)  
Right channel: J706 (+), J708 (-)
2. Adjustment Points  
Left channel: R719 2.2k ohm variable resistor  
Right channel: R720 2.2k ohm variable resistor
3. Adjustment Procedure
  - (1) Before turning on the set's power, turn variable resistors R719 and R720 in the direction in which the current does not flow (clockwise for R719, counterclockwise for R720).
  - (2) Connect the DC digital voltmeter to the test points with the proper polarities. (Adjust both channels at once.)
  - (3) Set the set's volume to minimum, the speaker terminals to no load, and the input to open.
  - (4) Set the following after turning on the power:  
After 30 seconds: 8 to 9 mV (22 to 25 mA)  
After 1 minute: 9 to 10 mV (25 to 27 mA)  
Be sure to set for 9 to 10 mV (25 to 27 mA) when the circuitry becomes stable.
4. Notes  
When readjusting sets which have been heated up for repairs, etc., conduct a heat run at an idle for about 10 minutes, then set for 9 to 10 mV (25 to 27 mA).

### 3. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Model PM-65AV Stereo Amplifier.

Item	Use
Distortion Analyzer	Distortion measurements
Audio Oscillator	Sinewave and squarewave signal source
ACVTVM	Voltage measurements (AC)
Oscilloscope	Waveform analysis and trouble shooting and ASO alignment
Circuit Tester	Trouble shooting
DCVTVM	Voltage measurements (DC)
AC Wattmeter	Monitors primary power to amplifier
Line Voltmeter	Monitors potential of primary power to amplifier
Variable Autotransformer	Adjust level of primery power to amplifier
Shorting Plug	Shorts amplifier input to eliminate noise pickup

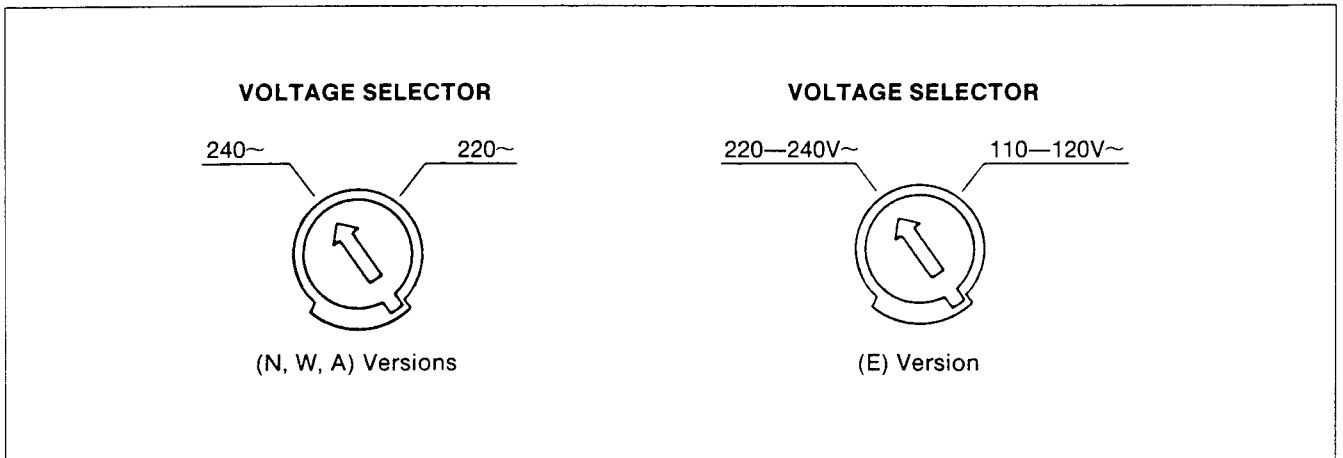
### 4. VOLTAGE CONVERSION

• **EUROPEAN MODEL ONLY**

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

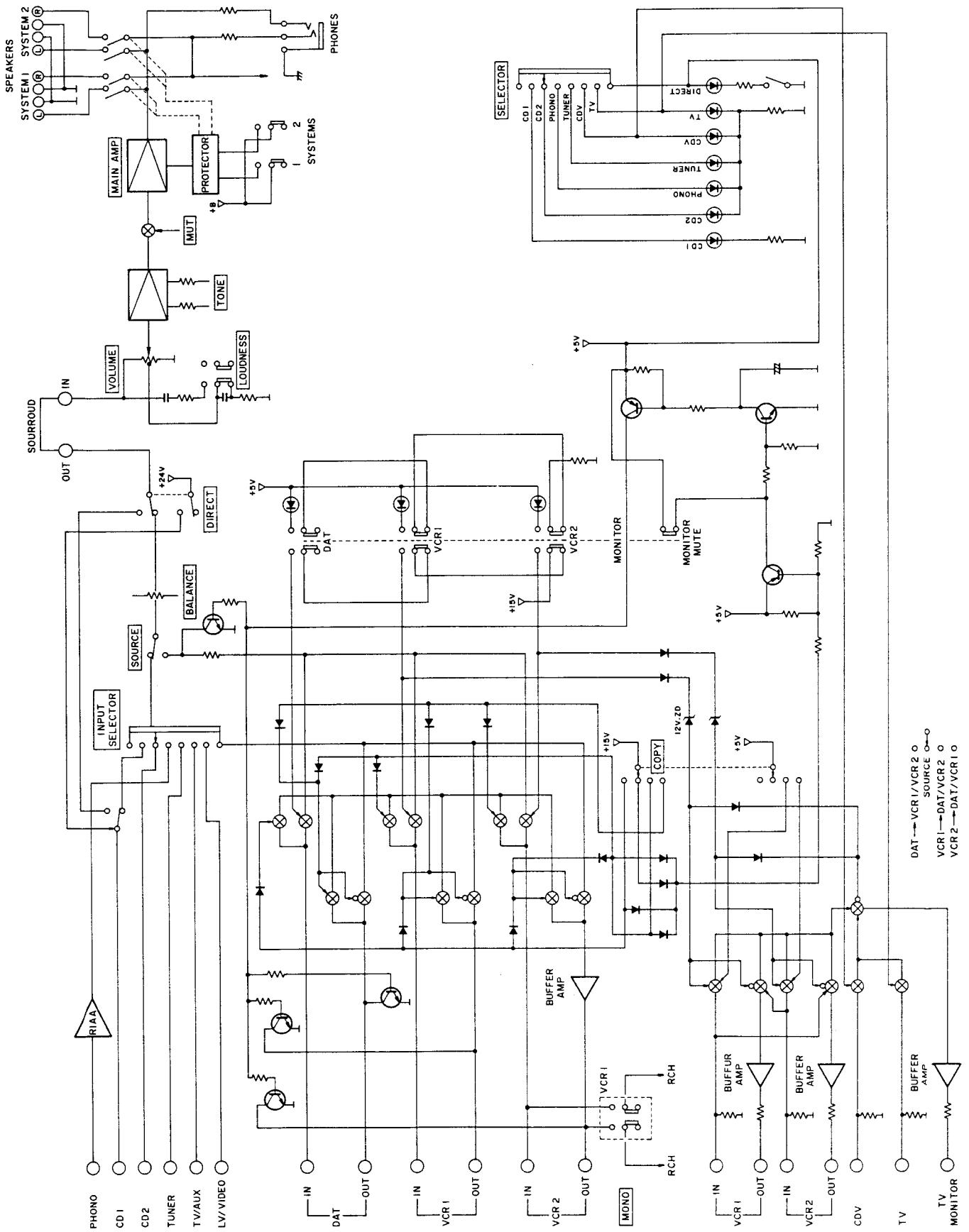
**CAUTION**  
DISCONNECT POWER SUPPLY CORD FROM AC  
OUTLET BEFORE CONCVERTING VOLTAGE.

**Voltage Conversion Chart**



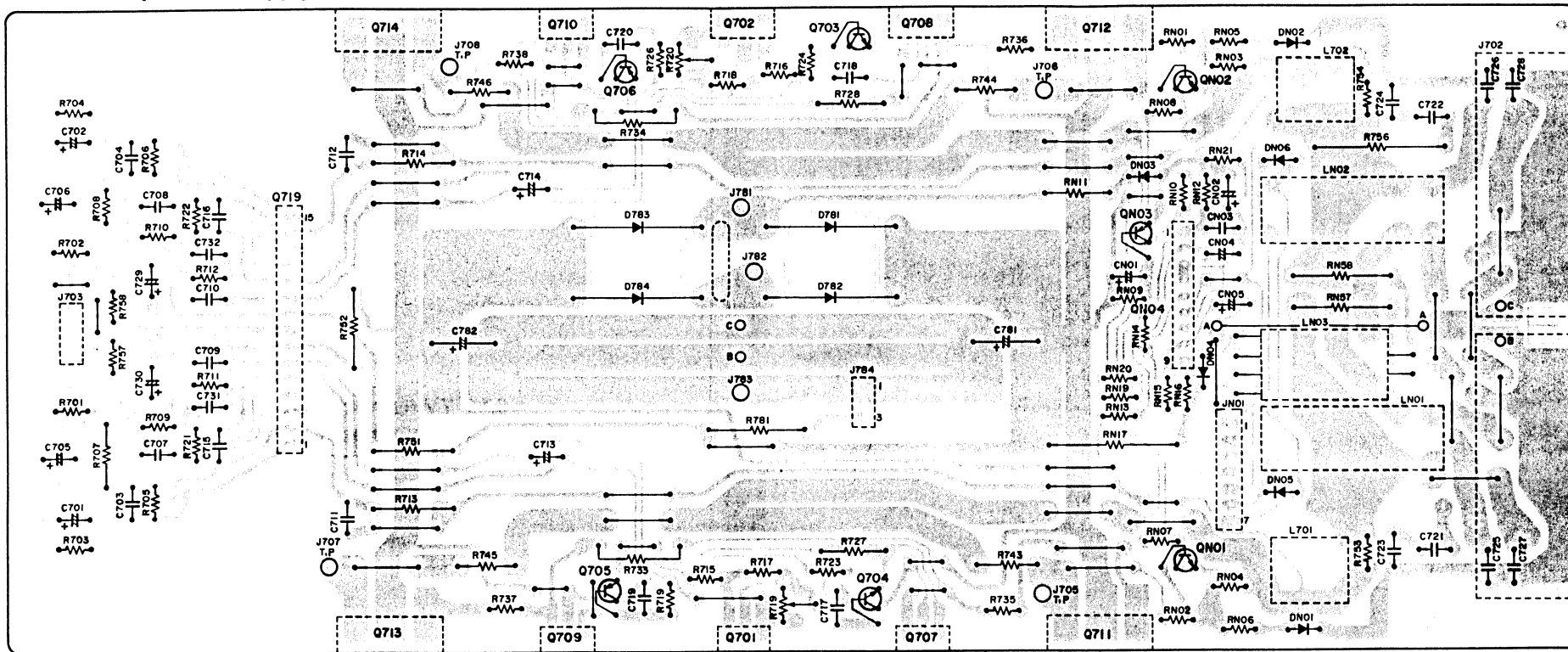
**Note on Safety:** Symbol  $\Delta$  Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol  $\Delta$ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

# 5. BLOCK DIAGRAM

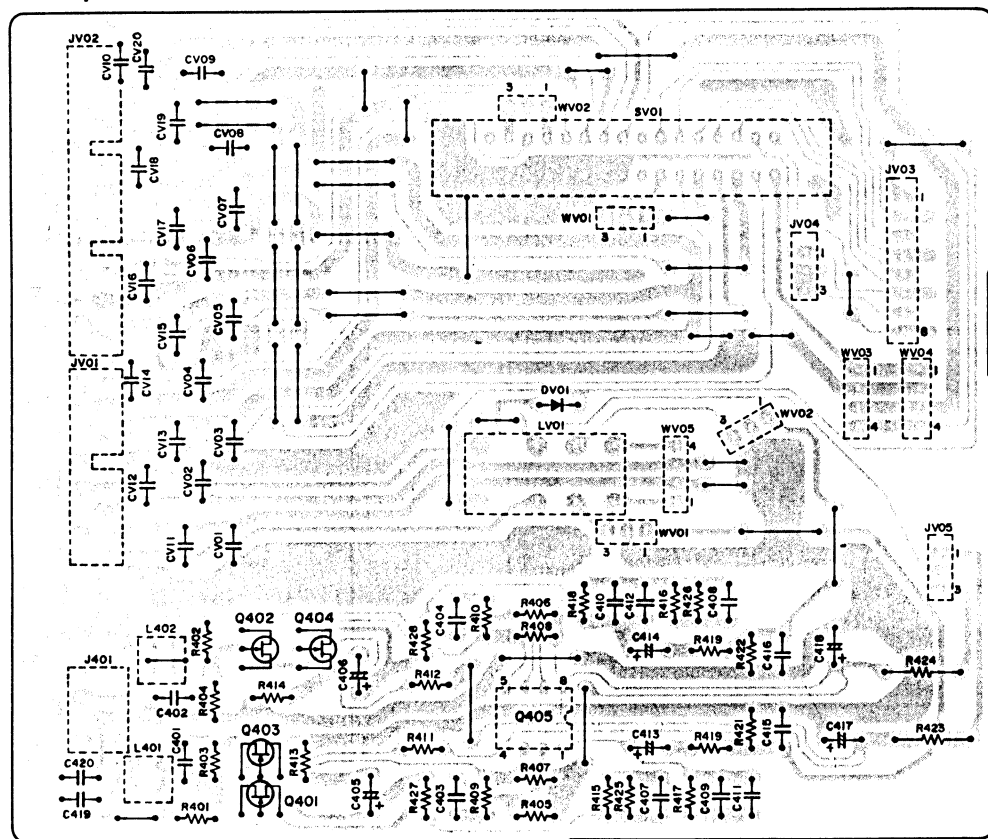


6. PARTS LOCATIONS (Pattern Side)

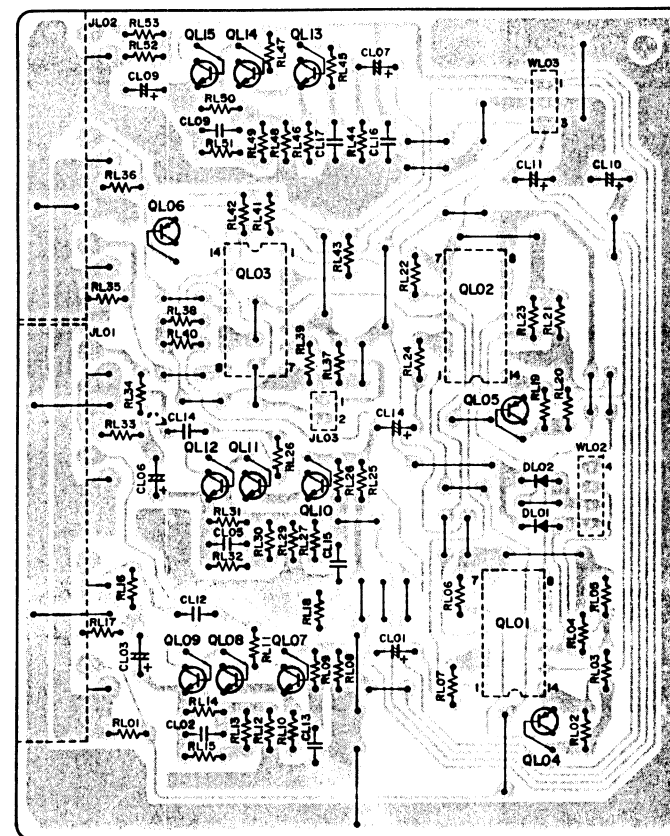
6.1 Main Amp/Power Supply Assembly (P701) Component Locations



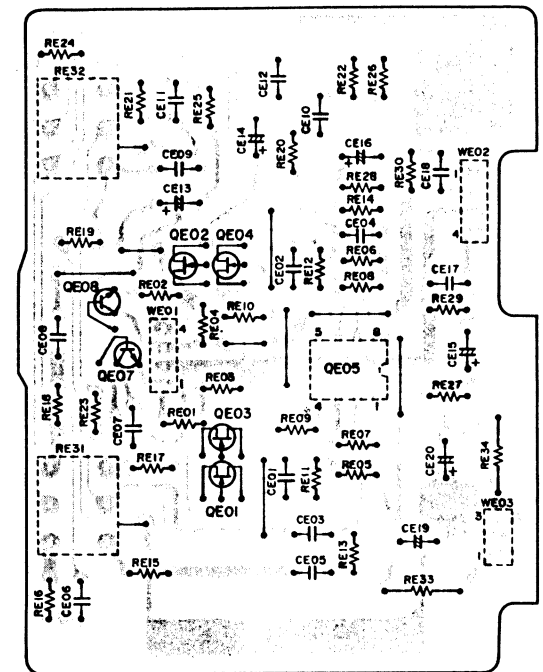
6.2 Input Selector Phono Assembly (PV01) Component Locations



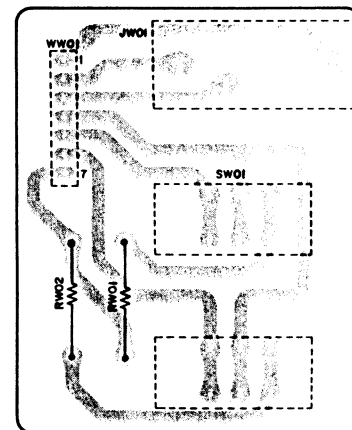
6.3 Video Buffer Amp Assembly (PL01) Component Locations



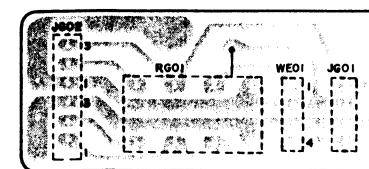
6.4 Tone Amp Assembly (PE01) Component Location



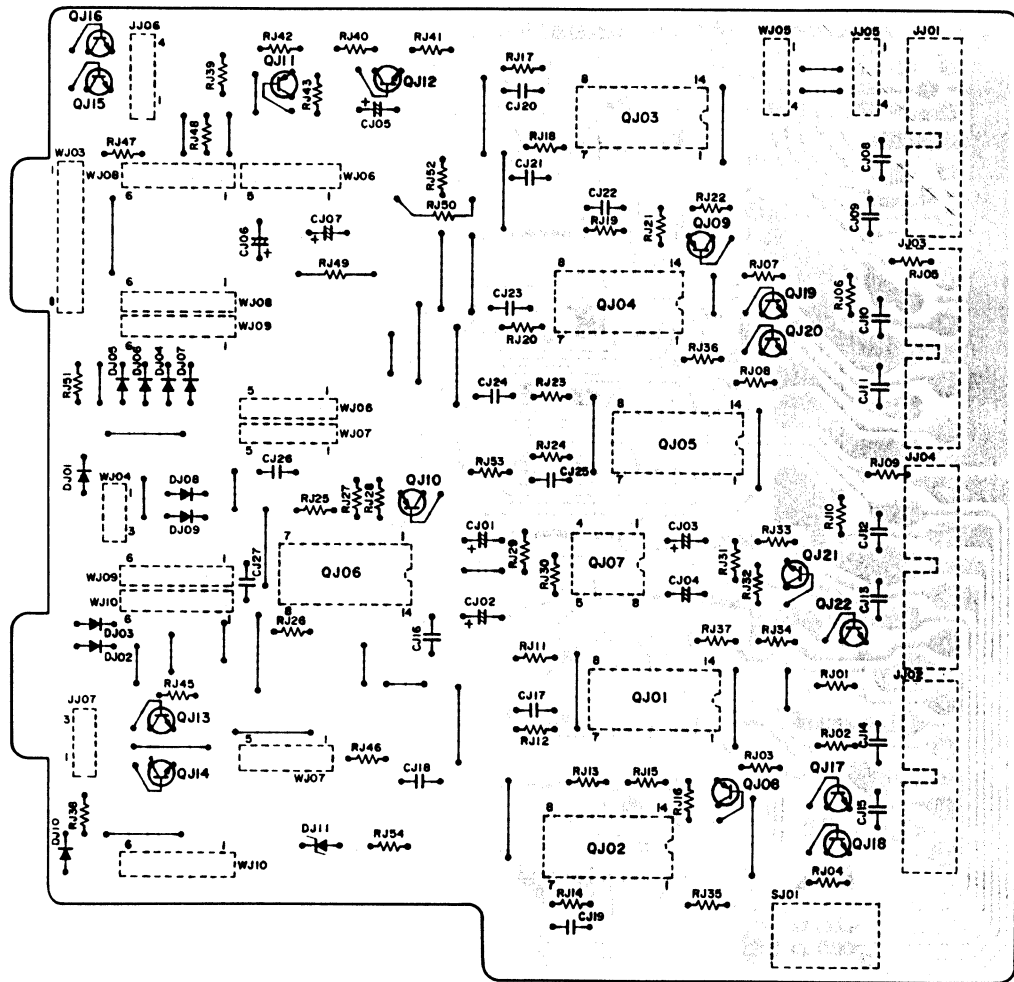
6.5 Headphone Speaker Switch Assembly (PW01) Component Locations



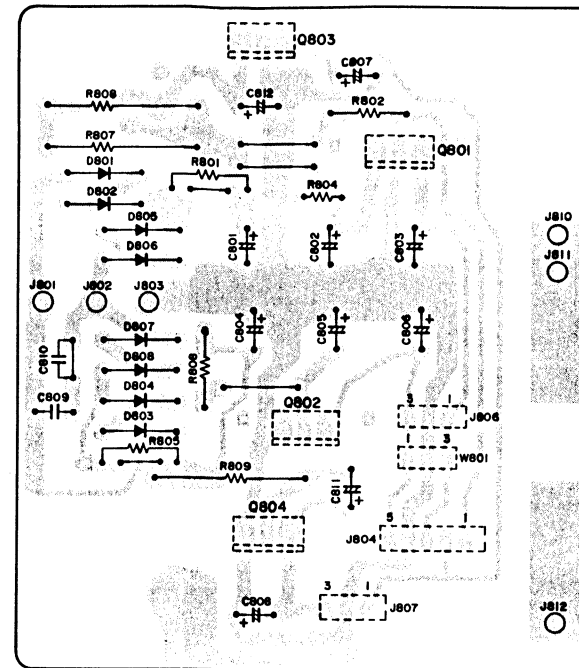
6.6 Master Volume Assembly (PG01) Component Locations



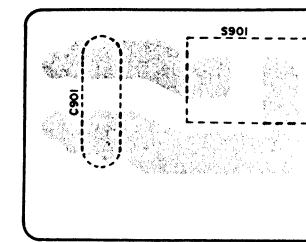
6.7 Tape VCR Monitor Assembly (PJ01) Component Locations



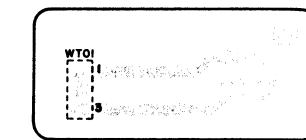
6.9 Power Supply Assembly (P801) Component Locations



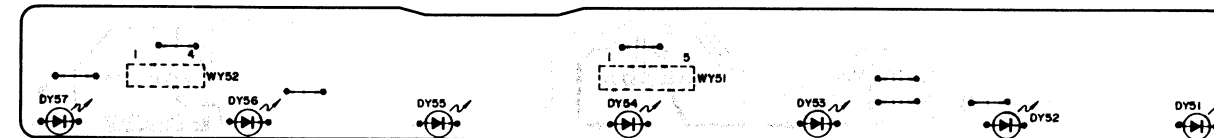
6.10 Power Switch Assembly (P901) Component Locations



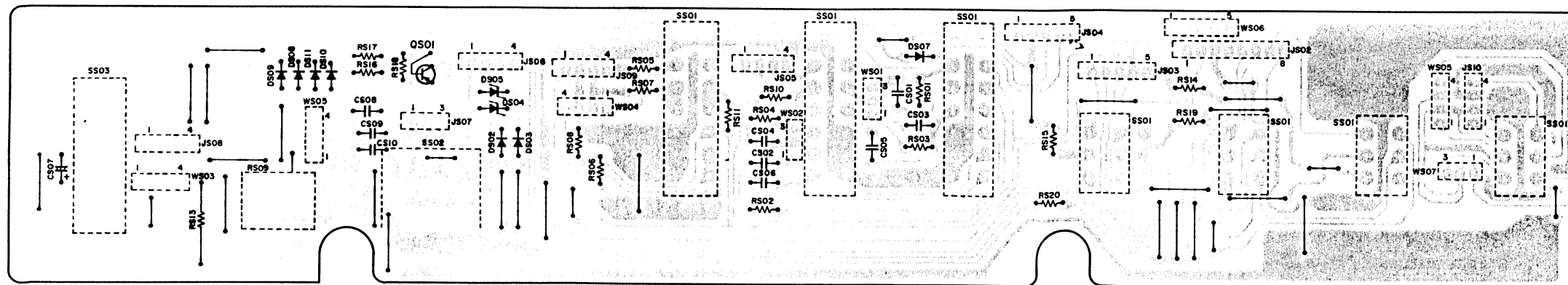
6.11 TV Remocon Out Jack Assembly (PT01) Component Locations



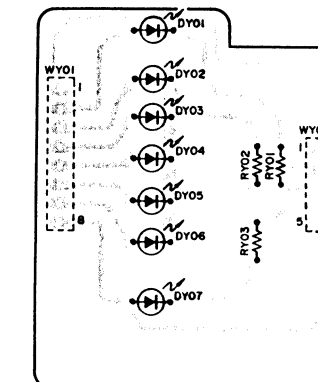
6.12 Function LED Indicator Assembly (PY51) Component Locations



6.8 Front Switch Assembly (PS01) Component Locations

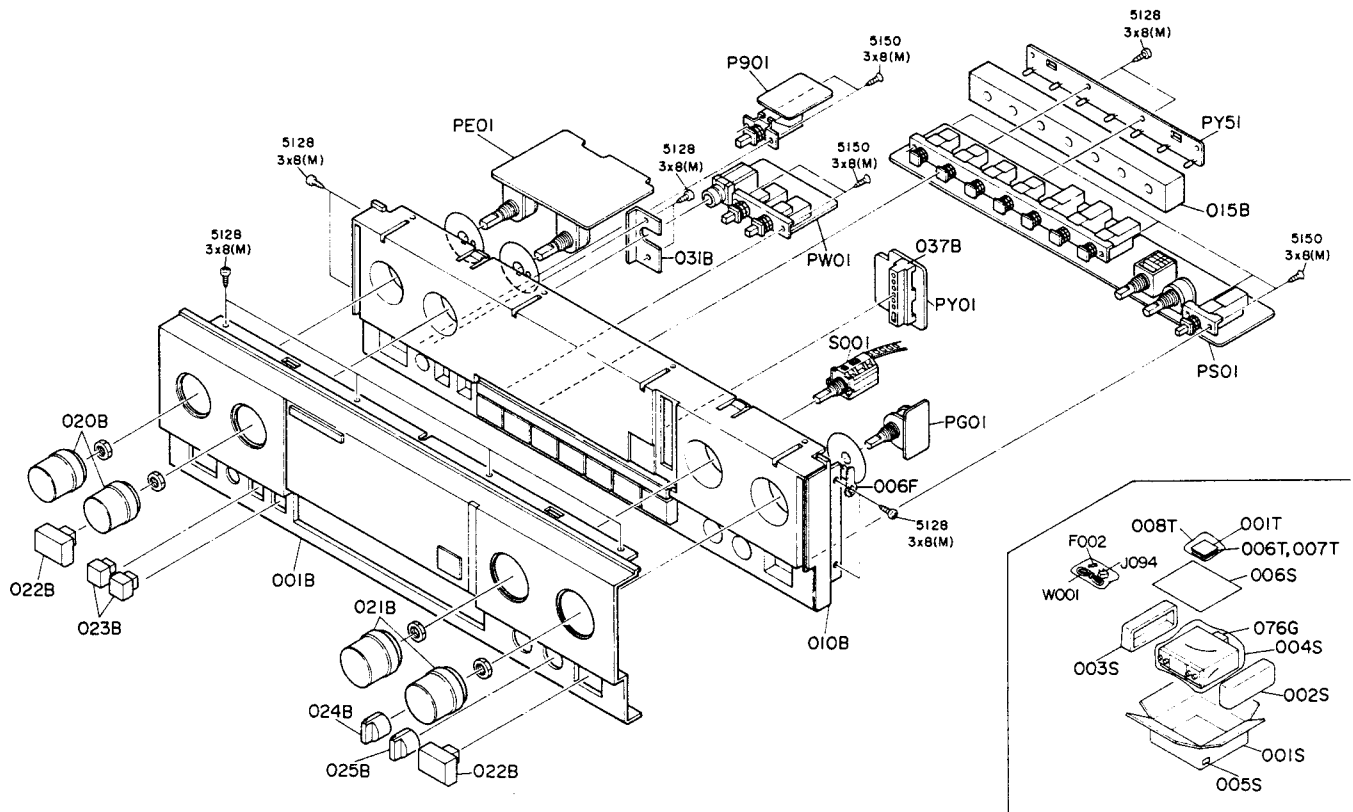


6.13 Input Selector Indicator Assembly (PY01) Component Locations



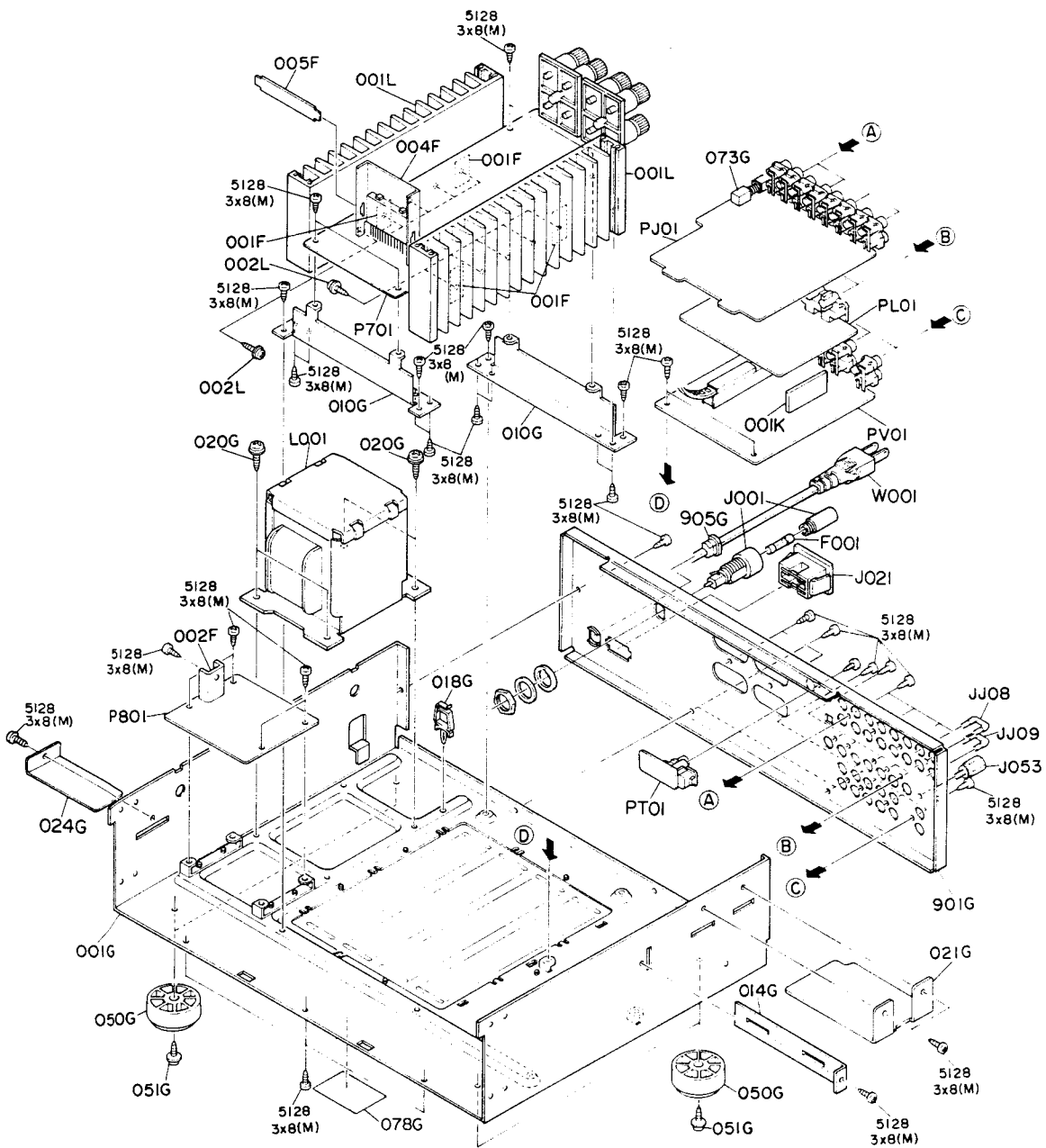
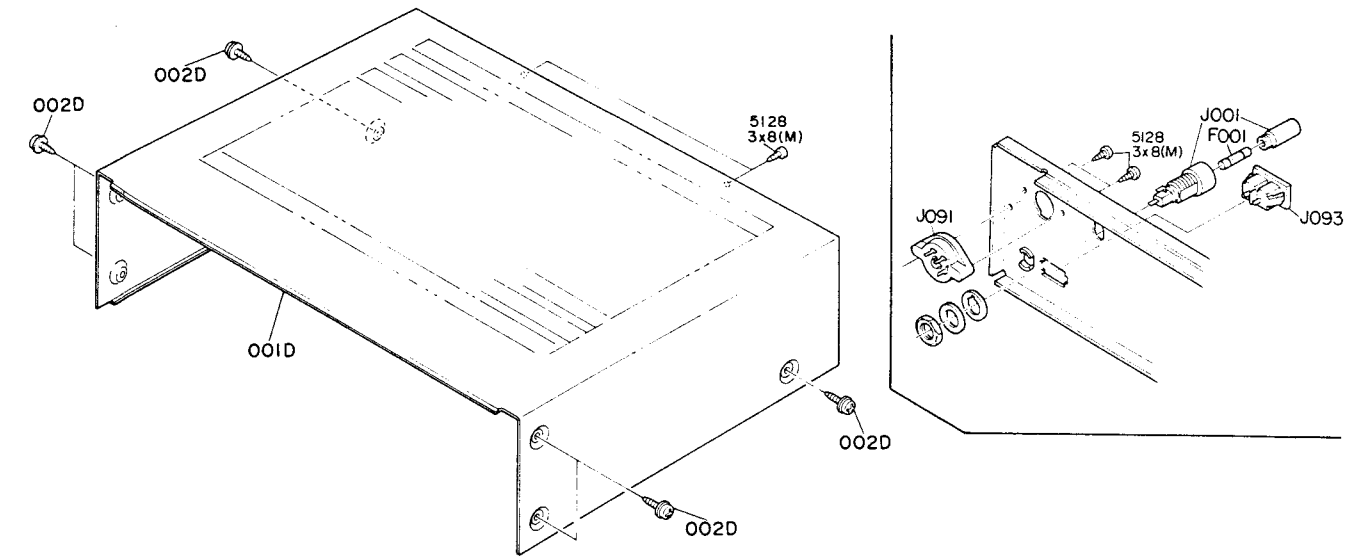


## 7. EXPLODED VIEW AND PARTS LIST



REF. DESIG.	PART NO.	DESCRIPTION
001B	4822 426 51286	Front Panel Assembly
010B	4822 426 51287	Front Panel Assembly, Chassis
015B	4822 459 40633	Mask
020B	4822 412 20984	Knob, Tone Control
021B	4822 412 20983	Knob, Volume/Selector
022B	4822 410 24635	Button, Power/Direct
023B	4822 410 24636	Button, Speaker
024B	4822 410 26468	Knob, Rec Selector
025B	4822 412 20157	Knob, Balance
031B	4822 256 91306	Retainer, Headphone
037B	4822 380 20311	Reflector, LED
006F	4822 290 30266	Lug, Volume Earth
S001	4822 273 10171	Rotary Switch

REF. DESIG.	PART NO.	DESCRIPTION
001T	4822 736 13909	<b>PACKING</b> User Manual
008T	4822 600 70363	Polyethylene Bag
076G	4822 530 20609	Sleeve AC Cord [E]
▲ F002	4822 253 30027	Fuse T3.15A 250V [E]
▲ J094	4822 265 10092	Jack, AC Adapter [E]
▲ W001	4822 321 10418	A.C. Power Cord [A]
	4822 321 21123	A.C. Power Cord [N, W]



REF. DESIG.	PART NO.	DESCRIPTION
001D	4822 426 60548	Lid, Top Cover
002D	4822 501 11008	B.T. Screw B4 x 8
001F	4822 466 92249	Insulator (Q711~Q714)
002F	4822 255 40764	Heatsink (Q803)
004F	4822 255 40867	Heatsink (Q719)
005F	4822 492 63973	Spring
018G	4822 459 80343	Clamper, Wire
020G	4822 501 11008	B.T. Screw B4 x 8
050G	4822 462 71481	Leg
051G	4822 501 11008	B.T. Screw B4 x 8
073G	4822 412 20506	Knob, Mono/Stereo
078G	4822 600 70229	Label, Caution
901G	4822 426 20167	Rear Panel [E]
905G	4822 532 51704	Bushing, AC Power Cord [E]
001K	4822 454 12142	Shield
002L	4822 502 12512	B.T. Screw B3 x 12
△F001	4822 253 30191	Fuse T1.6A 250V
△J001	4822 256 30233	Jack, Fuse Holder
△J021	4822 267 40663	Jack, AC Outlet [E]
J053	4822 290 40297	Terminal, GND
JJ08	4822 264 10111	Shote Plug, Surround
JJ09	4822 264 10111	Shote Plug, Surround
△L001	4822 130 61184	Power Transformer [E]
△W001	4822 321 10427	A.C. Power Cord [E]
△J091	4822 272 10227	Voltage Selector [E]
	4822 272 10236	Voltage Selector [N, A, W]
△J093	4822 265 20222	Plug, AC Inlet [N, A, W]

## 8. ELECTRICAL PARTS LIST

### ASSIGNMENT OF COMMON PARTS CODES.

#### RESISTOR

- R\*\*\***: (1) GD05 --- 140, Carbon film fixed resistor,  $\pm 5\%$ , 1/4W  
**R\*\*\***: (2) GD05 --- 160, Carbon film fixed resistor,  $\pm 5\%$ , 1/6W

① — Resistance value

#### Examples

① Resistance value	0.1 $\Omega$ ...001	10 $\Omega$ ...100	1k $\Omega$ ...102	100k $\Omega$ ...104
	0.5 $\Omega$ ...005	18 $\Omega$ ...180	2.7k $\Omega$ ...272	680k $\Omega$ ...684
	1 $\Omega$ ...010	100 $\Omega$ ...101	10k $\Omega$ ...103	1Mk $\Omega$ ...105
	6.8 $\Omega$ ...068	390 $\Omega$ ...391	22k $\Omega$ ...223	4.7Mk $\Omega$ ...475

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

#### C\*\*\*: CERAMIC CAP.

- (1) DD1 --- 370, Ceramic condenser  
 Disc type  
 Temp. coeff. P350 ~ N1000, 50V
- ①②  
 Capacity value  
 Tolerance

#### Examples

- ① Tolerance (Capacity deviation)  
 $\pm 0.25\text{pF}$ ...0  
 $\pm 0.5\text{pF}$ ...1  
 $\pm 5\%$ ...5

\* Tolerance of COMMON PARTS handled here are as follows:

- 0.5pF ~ 5pF... $\pm 0.25\text{pF}$   
 6pF ~ 10pF... $\pm 0.5\text{pF}$   
 12pF ~ 560pF... $\pm 5\%$

② Capacity value

0.5pF...005	3pF...030	100pF...101
1pF...010	10pF...100	220pF...221
1.5pF...015	47pF...470	560pF...561

#### C\*\*\*: CERAMIC CAP.

- (1) DK16 --- 300, High dielectric constant ceramic condenser  
 Disc type  
 Temp. chara. 2B4, 50V
- ①  
 Capacity value

#### Example

② Capacity value

100pF...101	1000pF...102	10000pF...103
470pF...471	2200pF...222	

#### C\*\*\*: ELECTROLY CAP. ( $\text{---}$ ), FILM CAP. ( $\text{---}$ )

- (1) EA --- 10, Electrolytic condenser  
 One-way lead type, Tolerance  $\pm 20\%$
- ①②  
 Dielectric strength  
 Capacity value

#### Examples

① Capacity value

0.1 $\mu\text{F}$ ...104	4.7 $\mu\text{F}$ ...475	100 $\mu\text{F}$ ...107
0.33 $\mu\text{F}$ ...334	10 $\mu\text{F}$ ...106	330 $\mu\text{F}$ ...337
1 $\mu\text{F}$ ...105	22 $\mu\text{F}$ ...226	1100 $\mu\text{F}$ ...108
		2200 $\mu\text{F}$ ...228

② Working voltage

6.3V...006	25V...025
10V...010	35V...035
16V...016	50V...050

- (2) DF15 --- 350, Plastic film condenser  
 One-way type, Mylar  $\pm 5\%$  50V
- ①  
 Capacity value

#### Examples

① Capacity value

0.001 $\mu\text{F}$ (1000pF) ...102	0.1 $\mu\text{F}$ ...104
0.0018 $\mu\text{F}$ ...182	0.56 $\mu\text{F}$ ...564
0.01 $\mu\text{F}$ ...103	1 $\mu\text{F}$ ...105
0.015 $\mu\text{F}$ ...153	

REF. DESIG.	PART NO.	DESCRIPTION
		<b>PE01-TONE AMP CIRCUIT BOARD</b>
		<b>PE01-CAPACITORS</b>
CE01	4822 121 42758	Film 1800pF $\pm 5\%$
CE02	4822 121 42758	Film 1800pF $\pm 5\%$
CE03	4822 121 43135	Film 39pF $\pm 5\%$
CE04	4822 121 43135	Film 39pF $\pm 5\%$
CE05	4822 121 42757	Film 0.015 $\mu\text{F}$ $\pm 5\%$
CE06	4822 121 42757	Film 0.015 $\mu\text{F}$ $\pm 5\%$
CE09	4822 121 42764	Film 0.047 $\mu\text{F}$ $\pm 5\%$
CE10	4822 121 42764	Film 0.047 $\mu\text{F}$ $\pm 5\%$
CE13	4822 124 41539	Elect 4.7 $\mu\text{F}$ 16V
CE14	4822 124 41539	Elect 4.7 $\mu\text{F}$ 16V
CE15	4822 124 90358	Elect 22 $\mu\text{F}$ 16V
CE16	4822 124 90358	Elect 22 $\mu\text{F}$ 16V
CE17	4822 121 42762	Film 3300pF $\pm 5\%$
CE18	4822 121 42762	Film 3300pF $\pm 5\%$
CE19	4822 124 90365	Elect 220 $\mu\text{F}$ 25V
CE20	4822 124 90365	Elect 220 $\mu\text{F}$ 25V
		<b>PE01-RESISTORS</b>
RE31	4822 100 20687	10K $\Omega$ (C), Variable; Treble
RE32	4822 100 20687	10K $\Omega$ (C), Variable; Bass
$\Delta$ RE33	4822 113 90119	22 $\Omega$ $\pm 2\%$ $\frac{1}{4}$ W, Fuse
$\Delta$ RE34	4822 113 90119	22 $\Omega$ $\pm 2\%$ $\frac{1}{4}$ W, Fuse
		<b>PE01-SEMICONDUCTORS</b>
QE01	4822 130 42839	F.E.T. 2SK369(BL)
QE02	4822 130 42839	F.E.T. 2SK369(BL)
QE03	4822 130 42839	F.E.T. 2SK369(BL)
QE04	4822 130 42839	F.E.T. 2SK369(BL)
QE05	4822 209 81565	IC NJM2041D-D
QE07	4822 130 43818	Transistor 2SC2878(A)
QE08	4822 130 43818	Transistor 2SC2878(A)
		<b>PE01-MISCELLANEOUS</b>
WE03	4822 323 10074	Jumper Lead, 3P
		<b>PG01-MASTOR VOLUME CIRCUIT BOARD</b>
RG01	4822 100 20685	Variable Resistor 50K $\Omega$
JG01	4822 265 30482	Plug, 4P
JG02	4822 265 10063	Jack, 6P
		<b>PJ01-TAPE/VCR MONITOR CIRCUIT BOARD</b>
		<b>PJ01-CAPACITORS</b>
CJ01	4822 124 22274	Elect 4.7 $\mu\text{F}$ 50V
CJ02	4822 124 22274	Elect 4.7 $\mu\text{F}$ 50V
CJ03	4822 124 41534	Elect 10 $\mu\text{F}$ 25V
CJ04	4822 124 41534	Elect 10 $\mu\text{F}$ 25V
CJ05	4822 124 41543	Elect 1 $\mu\text{F}$ 50V
CJ06	4822 124 41535	Elect 100 $\mu\text{F}$ 25V
CJ07	4822 124 41535	Elect 100 $\mu\text{F}$ 25V
CJ08	?	
CJ15	4822 122 32486	Ceramic 0.01 $\mu\text{F}$ +80% -20%

REF. DESIG.	PART NO.	DESCRIPTION
RJ49	4822 113 90119	<b>PJ01-RESISTORS</b> 22Ω ±2% ¼W, Fuse [N, E, W]
RJ50	4822 113 90119	
		<b>PJ01-SEMICONDUCTORS</b>
DJ01	4822 130 33305	Diode 1SS133, etc.
DJ10		
DJ11	4822 130 80322	Zener RD15JB3
QJ01	4822 209 83804	IC LC4966
QJ06		
QJ07	4822 209 83631	IC NJM4558D-D
QJ08	4822 130 42591	Transistor 2SA1175(FF, EF)
QJ11		
QJ12	4822 130 42052	Transistor 2SC2785(FF, EF)
QJ15	4822 130 43818	Transistor 2SC2878(A)
QJ22		
		<b>PJ01-MISCELLANEOUS</b>
JJ01	4822 266 30284	Terminal, 4P; Surround IN/OUT
JJ02	4822 267 20353	Terminal, 4P; DAT IN/OUT
JJ03	4822 267 20353	Terminal, 4P; VCR1 IN/OUT
JJ04	4822 267 20353	Terminal, 4P; VCR2 IN/OUT
JJ05	4822 265 30482	Plug, 4P
JJ06	4822 265 10105	Jack, 4P
JJ07	4822 265 10062	Jack, 3P
JJ08	4822 264 10111	Shote Plug, Surround IN/OUT
JJ09	4822 264 10111	Shote Plug, Surround IN/OUT
SJ01	4822 276 12427	Push Switch, Mono/Stereo
WJ03	4822 323 10233	Jumper Lead, 8P
WJ04	4822 323 10079	Jumper Lead, 3P
WJ06	4822 323 10053	Jumper Lead, 5P
WJ07	4822 323 10053	Jumper Lead, 5P
WJ08	4822 323 10169	Jumper Lead, 6P
WJ09	4822 323 10169	Jumper Lead, 6P
WJ10	4822 323 10169	Jumper Lead, 6P
		<b>PL01-VIDEO BUFFER AMP CIRCUIT BOARD</b>
		<b>PL01-CAPACITORS</b>
CL01	4822 124 90353	Elect 100μF 10V
CL03	4822 124 41544	Elect 470μF 6.3V
CL04	4822 124 90353	Elect 100μF 10V
CL06	4822 124 41544	Elect 470μF 6.3V
CL07	4822 124 90353	Elect 100μF 10V
CL09	4822 124 41544	Elect 470μF 6.3V
CL10	4822 124 41537	Elect 220μF 6.3V
CL11	4822 124 41537	Elect 220μF 6.3V
		<b>PL01-SEMICONDUCTORS</b>
DL01	4822 130 33305	Diode 1SS133, etc.
DL02	4822 130 33305	Diode 1SS133, etc.

REF. DESIG.	PART NO.	DESCRIPTION
QL01	4822 209 81801	IC LC4066B-H
QL02	4822 209 81801	IC LC4066B-H
QL03	4822 209 81801	IC LC4066B-H
QL04	4822 130 42591	Transistor 2SA1175(FF, EF)
QL05	4822 130 42591	Transistor 2SA1175(FF, EF)
QL06	4822 130 42591	Transistor 2SA1175(FF, EF)
QL07	4822 130 42052	Transistor 2SC2785(FF, EF)
QL15		
		<b>PL01-MISCELLANEOUS</b>
JL01	4822 267 20352	Terminal, 4P; RCA
JL02	4822 267 20351	Terminal, 3P; RCA
JL03	4822 265 10171	Jack, 2P
WL01	4822 323 10162	Jumper Lead, 2P
WL02	4822 323 10143	Jumper Lead, 4P
WL03	4822 323 10225	Jumper Lead, 3P
		<b>PS01-FRONT SWITCH CIRCUIT BOARD</b>
		<b>PS01-CAPACITORS</b>
CS01	4822 121 42861	Film 1000pF ±5%
CS02	4822 121 42861	Film 1000pF ±5%
CS08	4822 122 32486	Ceramic 0.01μF +80% -20%
CS09	4822 122 32486	Ceramic 0.01μF +80% -20%
CS10	4822 122 32486	Ceramic 0.01μF +80% -20%
RS09	4822 100 20682	100KΩ(MN), Variable; Balance
RS13	4822 116 60331	1KΩ ±5% 1W
		<b>PS01-SEMICONDUCTORS</b>
DS02	4822 130 33305	Diode 1SS133, etc.
DS03	4822 130 33305	Diode 1SS133, etc.
DS04	4822 130 80091	Zener 12V
DS05	4822 130 80091	Zener 12V
DS07	4822 130 33305	Diode 1SS133, etc.
DS11		
QS01	4822 130 42591	Transistor 2SA1175(FF, EF)
		<b>PS01-MISCELLANEOUS</b>
JS02	4822 265 10059	Jack, 8P
JS03	4822 265 10061	Jack, 5P
JS04	4822 265 10061	Jack, 5P
JS05	4822 265 10105	Jack, 4P
JS06	4822 265 10105	Jack, 4P
JS07	4822 265 10062	Jack, 3P
JS08	4822 265 10181	Jack, 4P
JS09	4822 265 10105	Jack, 4P
JS10	4822 265 30482	Plug, 4P
SS01	4822 276 12341	Push Switch, Monitor/AV/Mute
SS02	4822 276 10172	Rotary Switch, Tape Copy
SS03	4822 276 12429	Push Switch, CD Direct
WS01	4822 323 10079	Jumper Lead, 3P
WS02	4822 323 10079	Jumper Lead, 3P
WS06	4822 323 10094	Jumper Lead, 5P
WS07	4822 323 10281	Jumper Lead, 3P

REF. DESIG.	PART NO.	DESCRIPTION
		<b>PT01-TV REMOCON CIRCUIT BOARD</b>
JT01	4822 267 20349	Terminal, 1P; RCA
WT01	4822 323 10079	Jumper Lead
		<b>PV01-INPUT SELECTOR/PHONO CIRCUIT BOARD</b>
		<b>PV01-CAPACITORS</b>
C401	4822 121 51037	Film 150pF ±5%
C402	4822 121 51037	Film 150pF ±5%
C403	4822 121 41518	Film 470pF ±5%
C404	4822 121 41518	Film 470pF ±5%
C405	4822 124 41539	Elect 47μF 16V
C406	4822 124 41539	Elect 47μF 16V
C407	4822 121 42764	Film 0.047μF ±5%
C408	4822 121 42764	Film 0.047μF ±5%
C409	4822 121 42755	Film 0.012μF ±5%
C410	4822 121 42755	Film 0.012μF ±5%
C411	4822 121 42758	Film 1800pF ±5%
C412	4822 121 42758	Film 1800pF ±5%
C413	4822 124 90358	Elect 22μF 16V
C414	4822 124 90358	Elect 22μF 16V
C415	4822 121 42763	Film 3900pF ±5%
C416	4822 121 42763	Film 3900pF ±5%
C417	4822 124 90365	Elect 220μF 25V
C418	4822 124 90365	Elect 220μF 25V
C419	4822 122 32486	Ceramic 0.01μF +80% -20%
C420	4822 122 32486	Ceramic 0.01μF +80% -20%
CV01 }	4822 122 32486	Ceramic 0.01μF +80% -20%
CV10		
		<b>PV01-RESISTORS</b>
R405	4822 116 53691	4.64KΩ ±1% 1/6W
R406	4822 116 53691	4.64KΩ ±1% 1/6W
R407	4822 116 53691	4.64KΩ ±1% 1/6W
R408	4822 116 53691	4.64KΩ ±1% 1/6W
R411	4822 116 53691	4.64KΩ ±1% 1/6W
R412	4822 116 53691	4.64KΩ ±1% 1/6W
± R423	4822 113 90119	22Ω ±2% ¼W, Fuse [N, E, W]
± R424	4822 113 90119	22Ω ±2% ¼W, Fuse [N, E, W]
		<b>PV01-SEMICONDUCTORS</b>
DV01	4822 130 33305	Diode 1SS133, etc.
Q401	4822 130 42839	F.E.T. 2SK369(BL)
Q402	4822 130 42839	F.E.T. 2SK369(BL)
Q403	4822 130 42839	F.E.T. 2SK369(BL)
Q404	4822 130 42839	F.E.T. 2SK369(BL)
Q405	4822 209 81565	IC NJM2041D-D
		<b>PV01-MISCELLANEOUS</b>
JV01	4822 267 20348	Terminal, 4P; CD1/CD2
JV02	4822 266 30285	Terminal, 6P; Tuner/TV
JV03	4822 265 10059	Jack, 8P
JV04	4822 265 10062	Jack, 3P
JV05	4822 265 10062	Jack, 3P
J401	4822 266 30282	Terminal, 2P; Phono
L401	4822 156 11019	Choke Coil, 320μH [N]
L402	4822 156 11019	Choke Coil, 320μH [N]
LV01	4822 280 20195	Relay

REF. DESIG.	PART NO.	DESCRIPTION
SV01	4822 277 20832	Slide Switch
WV01	4822 323 10106	Jumper Lead, 3P
WV02	4822 323 10076	Jumper Lead, 3P
WV03	4822 323 10133	Jumper Lead, 4P
WV05	4822 323 10143	Jumper Lead, 4P
		<b>PW01-HEADPHONE/SPEAKER SW. CIRCUIT BOARD</b>
RW01	4822 116 60331	Resistor 1KΩ ±5% 1W
RW02	4822 116 60331	Resistor 1KΩ ±5% 1W
JW01	4822 267 30617	Jack, Headphone
SW01	4822 276 12428	Push Switch, Speaker
		<b>PY01-INPUT SELECTOR IND. CIRCUIT BOARD</b>
DY01 }	4822 130 80326	L.E.D. LT3D8B
DY06		
DY07	4822 130 80327	L.E.D. LT3G8B
WY01	4822 323 10062	Jumper Lead, 8P
WY02	4822 323 10094	Jumper Lead, 5P
		<b>PY51-FUNCTION LED IND. CIRCUIT BOARD</b>
DY51 }	4822 130 80326	L.E.D. LT3D8B
DY57		
WY51	4822 323 10054	Jumper Lead, 5P
WY52	4822 323 10109	Jumper Lead, 4P
		<b>P701-MAIN AMP CIRCUIT BOARD</b>
		<b>P701-CAPACITORS</b>
CN01	4822 124 41543	Elect 1μF 50V
CN02	4822 124 22273	Elect 0.47μF 50V
CN04	4822 124 22275	Elect 47μF 10V
CN05	4822 124 22275	Elect 47μF 10V
C701	4822 124 22571	Elect 10μF 50V [N, E, A]
	4822 124 90386	Elect 10μF 25V [W]
C702	4822 124 22571	Elect 10μF 50V [N, E, A]
	4822 124 90386	Elect 10μF 25V [W]
C703	4822 121 51036	Film 100pF ±5% [N, E, A]
	4822 121 51008	Film 100pF ±5% [W]
C704	4822 121 51036	Film 100pF ±5% [N, E, A]
	4822 121 51008	Film 100pF ±5% [W]
C705	4822 124 90354	Elect 100μF 16V
C706	4822 124 90354	Elect 100μF 16V
C707	4822 121 42756	Film 1500pF ±5%
C708	4822 121 42756	Film 1500pF ±5%
C713	4822 124 90354	Elect 100μF 16V
C714	4822 124 90354	Elect 100μF 16V
C715	4822 121 43129	Film 15pF ±10% [N, E, A]

REF. DESIG.	PART NO.	DESCRIPTION	
C716	4822 121 43129	Film	15pF ±10% [N, E, A]
C717	4822 121 51036	Film	100pF ±5%
C718	4822 121 51036	Film	100pF ±5%
C719	4822 121 51036	Film	100pF ±5%
C720	4822 121 51036	Film	100pF ±5%
C725	4822 122 32486	Ceramic	0.01μF +80% -20% [N]
C726	4822 122 32486	Ceramic	0.01μF +80% -20% [N]
C727	4822 122 32486	Ceramic	0.01μF +80% -20% [N]
C728	4822 122 32486	Ceramic	0.01μF +80% -20% [N]
C729	4822 124 22572	Elect	100μF 63V
C730	4822 124 22572	Elect	100μF 63V
C781	4822 124 41533	Elect	8200μF 56V
C782	4822 124 41533	Elect	8200μF 56V
C783	4822 122 30043	Ceramic	0.01μF +80% -20%
<b>P701-RESISTORS</b>			
RN01	4822 111 91257	1KΩ	±5% 1/6W
RN02	4822 111 91257	1KΩ	±5% 1/6W
△ RN11	4822 116 60318	22Ω	±5% ¼W, Fusible
△ RN17	4822 116 80654	270Ω	±5% 3W, Metal
△ RN57	4822 116 60455	270Ω	±5% 2W, Metal
△ RN58	4822 116 60455	270Ω	±5% 2W, Metal
R713	4822 116 53083	15KΩ	±5% ¼W
R714	4822 116 53083	15KΩ	±5% ¼W
R719	4822 100 20538	2.2KΩ	Trimming
R720	4822 100 20538	2.2KΩ	Trimming
R723	4822 111 91285	100Ω	±5% 1/6W
R724	4822 111 91285	100Ω	±5% 1/6W
R725	4822 111 91285	100Ω	±5% 1/6W
R726	4822 111 91285	100Ω	±5% 1/6W
△ R727	4822 116 80652	1KΩ	±2% ¼W, Fuse
△ R728	4822 116 80652	1KΩ	±2% ¼W, Fuse
△ R733	4822 116 60317	180Ω	±5% ¼W, Fusible
△ R734	4822 116 60317	180Ω	±5% ¼W, Fusible
R735	4822 116 52348	2.2Ω	±5% ¼W
R736	4822 116 52348	2.2Ω	±5% ¼W
R737	4822 111 91424	2.2Ω	±5% 1/6W
R738	4822 111 91424	2.2Ω	±5% 1/6W
△ R743	4822 116 80153	0.18Ω	±10% 5W
△ R744	4822 116 80153	0.18Ω	±10% 5W
△ R745	4822 116 80153	0.18Ω	±10% 5W
△ R746	4822 116 80153	0.18Ω	±10% 5W
△ R751	4822 116 80653	22Ω	±5% ¼W, Fusible
△ R752	4822 116 80653	22Ω	±5% ¼W, Fusible
R753	4822 111 91405	220Ω	±5% 1/6W
R754	4822 111 91405	220Ω	±5% 1/6W
R755	4822 111 90726	10Ω	±5% 2W
R756	4822 111 90726	10Ω	±5% 2W
R781	4822 116 60331	1KΩ	±5% 1W
<b>P701-SEMICONDUCTORS</b>			
DN01	4822 130 80837	Diode	HSS81
DN02	4822 130 80837	Diode	HSS81
DN03	4822 130 80839	Diode	S5688G
DN04	4822 130 33305	Diode	1SS133, etc.
DN05	4822 130 33305	Diode	1SS133, etc.
DN06	4822 130 33305	Diode	1SS133, etc.
△ D781	4822 130 33864	Diode	30D2FC
△ D782	4822 130 33864	Diode	30D2FC
△ D783	4822 130 33864	Diode	30D2FC
△ D784	4822 130 33864	Diode	30D2FC

REF. DESIG.	PART NO.	DESCRIPTION	
QN01	4822 130 43233	Transistor	2SC2240(GR, BL)
QN02	4822 130 43233	Transistor	2SC2240(GR, BL)
QN03	4822 130 42951	Transistor	2SA970(GR, BL)
QN04	4822 209 83312	IC	TA7317P
Q701	4822 130 60526	Transistor	2SD1508
Q702	4822 130 60526	Transistor	2SD1508
Q703	4822 130 43233	Transistor	2SC2240(GR, BL)
Q704	4822 130 43233	Transistor	2SC2240(GR, BL)
Q705	4822 130 42951	Transistor	2SA970(GR, BL)
Q706	4822 130 42951	Transistor	2SA970(GR, BL)
Q707	4822 130 60525	Transistor	2SC3298(O, Y)
Q708	4822 130 60525	Transistor	2SC3298(O, Y)
Q709	4822 130 60524	Transistor	2SA1306(O, Y)
Q710	4822 130 60524	Transistor	2SA1306(O, Y)
△ Q711	4822 130 60116	Transistor	2SC3280(R, O)
△ Q712	4822 130 60116	Transistor	2SC3280(R, O)
△ Q713	4822 130 60109	Transistor	2SA1301(R, O)
△ Q714	4822 130 60109	Transistor	2SA1301(R, O)
Q719	4822 209 73065	IC	STK3062
<b>P701-MISCELLANEOUS</b>			
JN01	4822 265 10064	Jack, 7P	
J701	4822 266 30281	Terminal, Speaker	
J702	4822 266 30279	Terminal, Speaker	
J703	4822 265 30482	Plug, 4P	
J784	4822 265 10062	Jack, 3P	
LN01	4822 280 70354	Relay	
LN02	4822 280 70354	Relay	
LN03	4822 280 20196	Relay	
L701	4822 157 51739	Coil	
L702	4822 157 51739	Coil	
<b>P801-POWER SUPPLY CIRCUIT BOARD</b>			
<b>P801-CAPACITORS</b>			
C801	4822 124 41538	Elect	220μF 35V
C803	4822 124 41534	Elect	10μF 25V
C804	4822 124 41538	Elect	220μF 35V
C806	4822 124 41534	Elect	10μF 25V
C807	4822 124 41534	Elect	10μF 25V
C808	4822 124 41534	Elect	10μF 25V
C809	4822 122 32486	Ceramic	0.01μF +80% -20%
C810	4822 122 32486	Ceramic	0.01μF +80% -20%
		[N, A, W]	
C811	4822 124 41543	Elect	1μF 50V
<b>P801-RESISTORS</b>			
△ R801	4822 116 60309	2.2Ω	±5% ¼W, Fusible
△ R802	4822 113 90141	220Ω	±2% ¼W, Fuse
△ R804	4822 115 90166	10Ω	±2% ¼W, Fuse [N, E, W]
△ R805	4822 116 60309	2.2Ω	±2% ¼W, Fusible
△ R806	4822 115 90166	10Ω	±2% ¼W, Fuse [N, E, W]
△ R807	4822 116 60349	270Ω	±5% 2W [E]
△ R808	4822 116 60349	270Ω	±5% 2W [E]
△ R809	4822 116 60246	220Ω	±5% 1W [E]

REF. DESIG.	PART NO.	DESCRIPTION
<b>P801-SEMICONDUCTORS</b>		
△ D801	4822 130 32508	Diode RL103E, etc.
△ D802	4822 130 32508	Diode RL103E, etc. [N, A, W]
△ D803	4822 130 32508	Diode RL103E, etc.
△ D804	4822 130 32508	Diode RL103E, etc. [N, A, W]
△ D805	4822 130 32508	Diode RL103E, etc.
△ D806	4822 130 32508	Diode RL103E, etc. [N, A, W]
△ D807	4822 130 32508	Diode RL103E, etc.
△ D808	4822 130 32508	Diode RL103E, etc. [N, A, W]
△ Q801	4822 209 80675	IC NJM78M18A
△ Q802	4822 209 83829	IC NJM79M18A
△ Q803	4822 209 73096	IC NJM78M05A
△ Q804	4822 209 71041	IC NJM79M05A
<b>P801-MISCELLANEOUS</b>		
J804	4822 265 10061	Jack, 5P
J805	4822 290 40296	Terminal, Earth
J806	4822 265 10062	Jack, 3P
J807	4822 265 10062	Jack, 3P
<b>P901-POWER SWITCH CIRCUIT BOARD</b>		
⚠ C901	4822 122 33276	Ceramic Cap. 0.01μF ±20% 400V
⚠ S901	4822 276 11898	Push Switch, Power

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

**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.



## 9. TECHNICAL SPECIFICATIONS

### Audio Section

#### IHF Dynamic Power

2 Ohms	180 W
4 Ohms	140 W
8 Ohms	95 W

#### Power Output per Channel

DIN 4 Ohms at 1 kHz	120 W
RMS 4 Ohms	90 W
DIN 8 Ohms at 1 kHz	85 W
RMS 8 Ohms	75 W

**Total Harmonic Distortion at RMS 8 Ohms** ..... 0.02%

**I.M. Distortion** ..... 0.02%

**Damping Factor 8 Ohms (1 kHz)** ..... 100

#### MM Cartridge Input

Frequency Response (IEC RIAA)	±0.5dB
Signal to Noise Ratio (A weighted)	86dB
Input Impedance	47kOhms
Input Capacitance	200pF
Input Sensitivity	2.5mV

#### CD-Tuner-Tape Input

Input Impedance	47kOhms
Input Sensitivity	150mV
Frequency Response	15Hz-70kHz
Signal To Noise Ratio (A weighted)	96dB

#### Output Voltage and Impedance

Tape Out [ PHONO (MM) 5.0 mV 1 kHz Input ] ..... 300 mV/220 Ohms

**Channel Separation [CD Input]** ..... >80dB

### Video Section

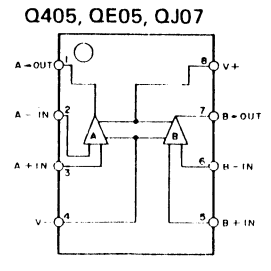
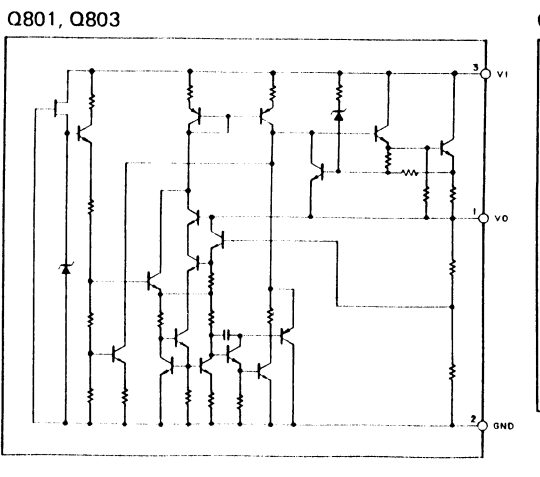
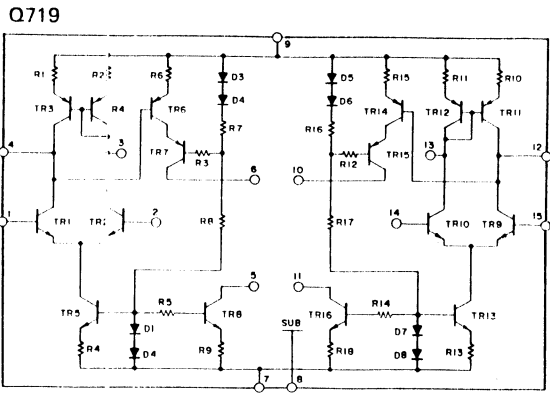
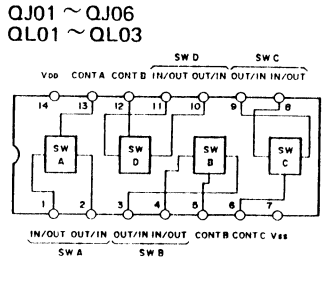
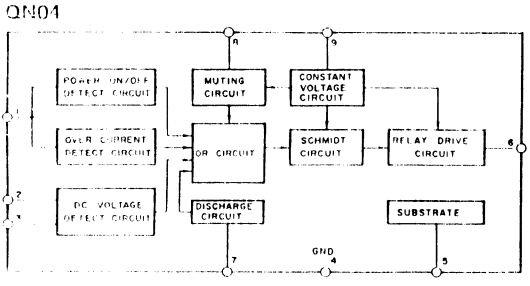
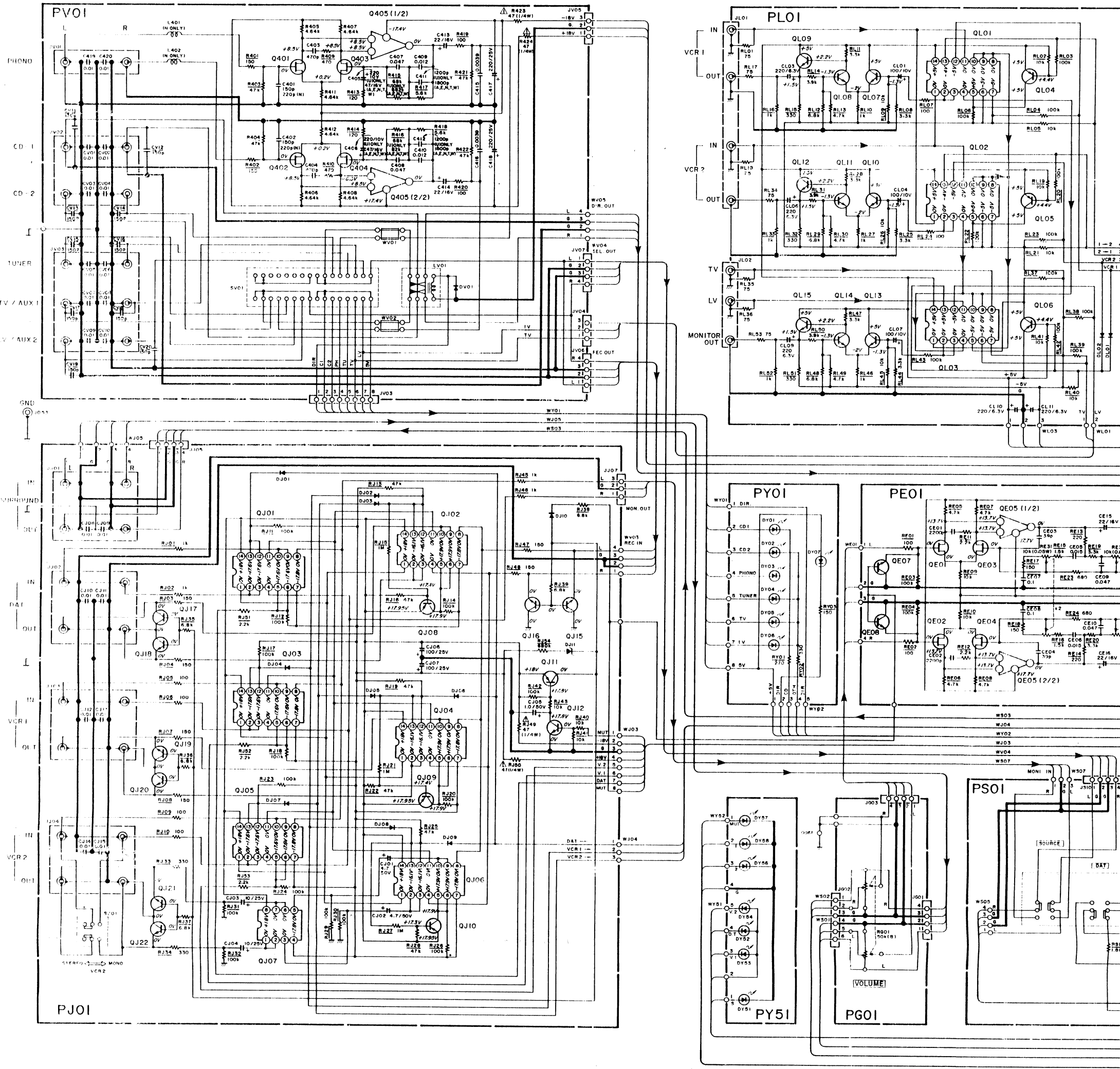
Input Sensitivity/Impedance	1V P-P/75 Ohms
Output Level/Impedance	1V P-P/75 Ohms
S/N Ratio	75 dB

### General

Power Requirements N and T versions	220/240 V AC, 50/60 Hz
E version	110/120/220/240 V AC, 50/60 Hz
Power Consumption at Rated Output, both Channels operating	200 W
Dimensions	
Panel Width	420 mm
Panel Height	136 mm
Depth	366 mm
Weight	
Unit alone	10 kg

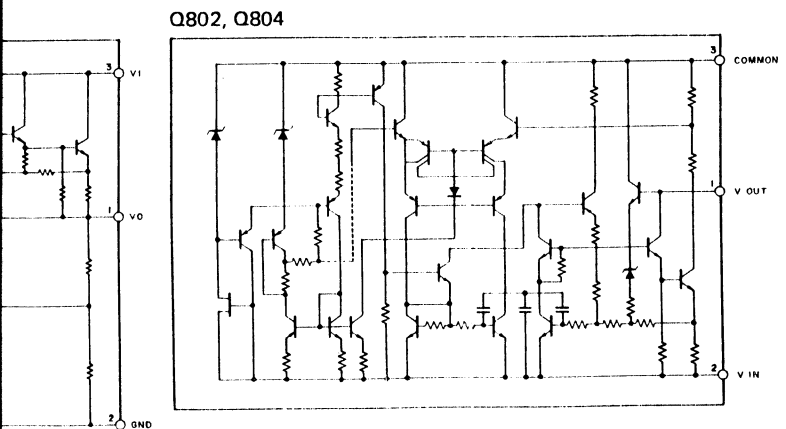
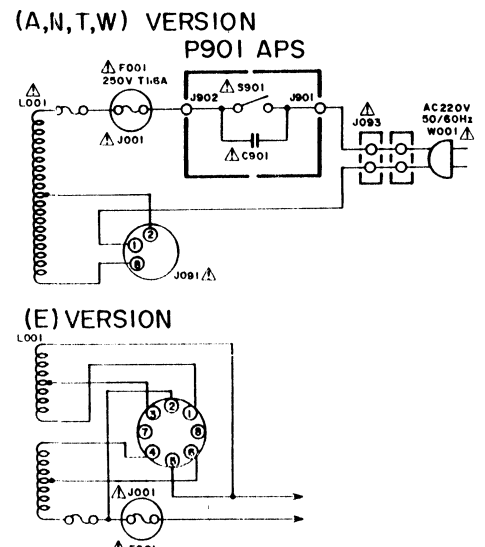
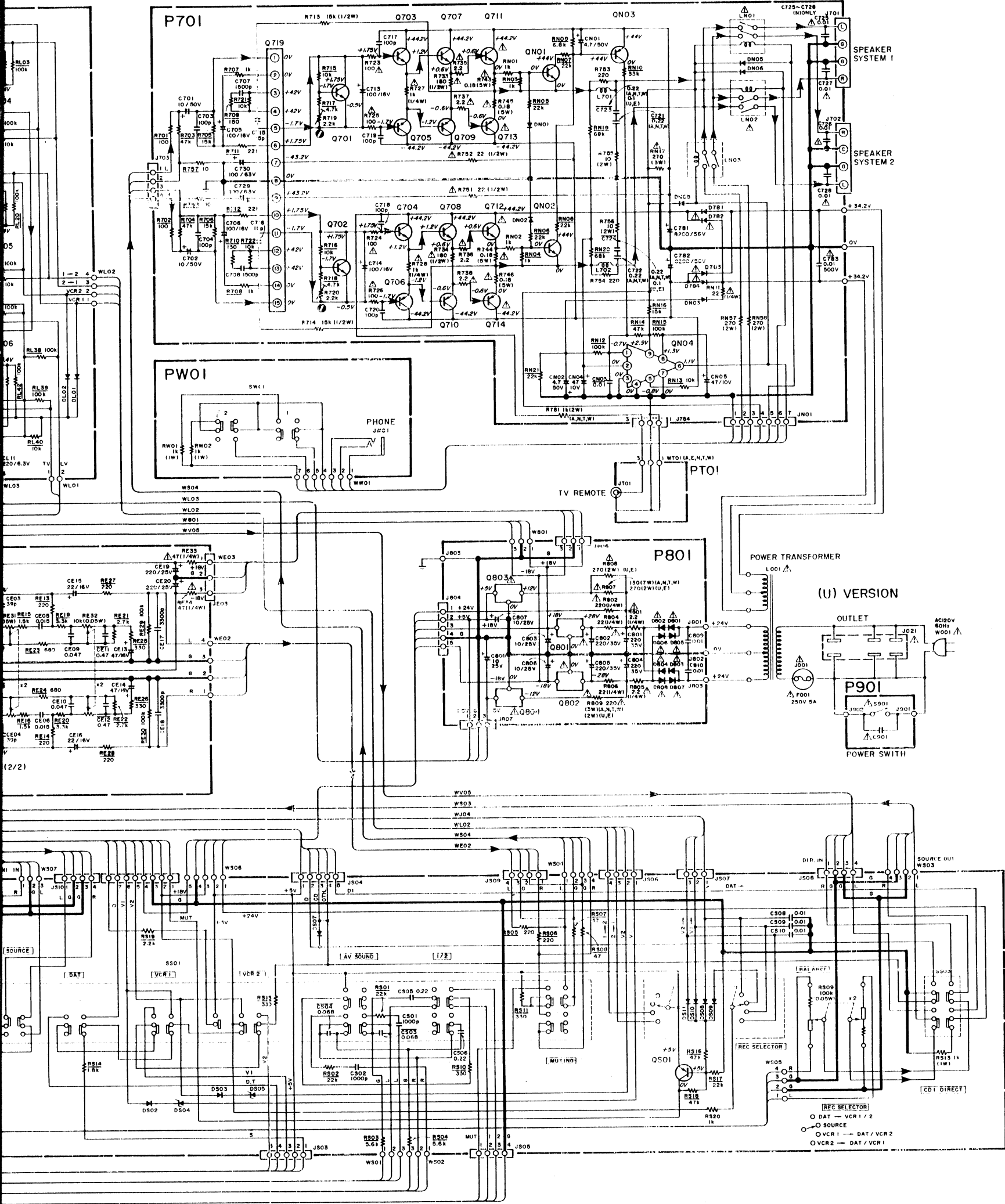
Specifications and appearance are subject to change for modification without notice.

10. 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.



**"SERVICE INFORMATION IS FOR USE BY QUALIFIED PERSONNEL ONLY — ANY MISADJUSTMENT OR MISALIGNMENT MAY BE TREATED AS A NON-WARRANTY REPAIR BY ANY MARANTZ SERVICE CENTRE —"**

**Kind of Common Parts**

**RESISTOR**

- R\*\*\* (1) GD05 .... 140, Carbon film fixed resistor, ±5% 1/4W
- R\*\*\* (2) GD05 .... 160, Carbon film fixed resistor, ±5% 1/6W

**C\*\*\* : CERAMIC CAP.**

- (1) DD1 ..... 370, Ceramic condenser, disc type (titan condenser) Temp. coeff. P350 to N1000 50V

**C\*\*\* : CERAMIC CAP.**

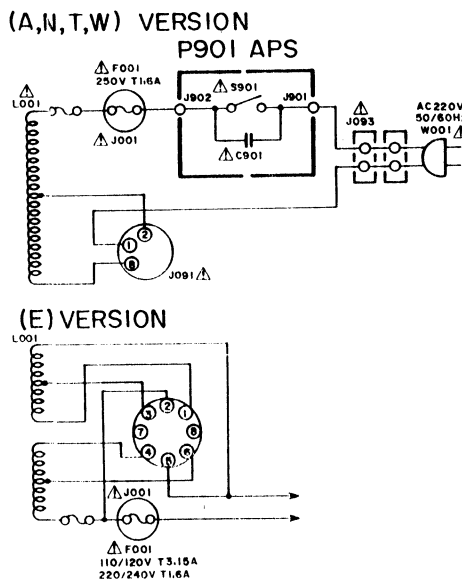
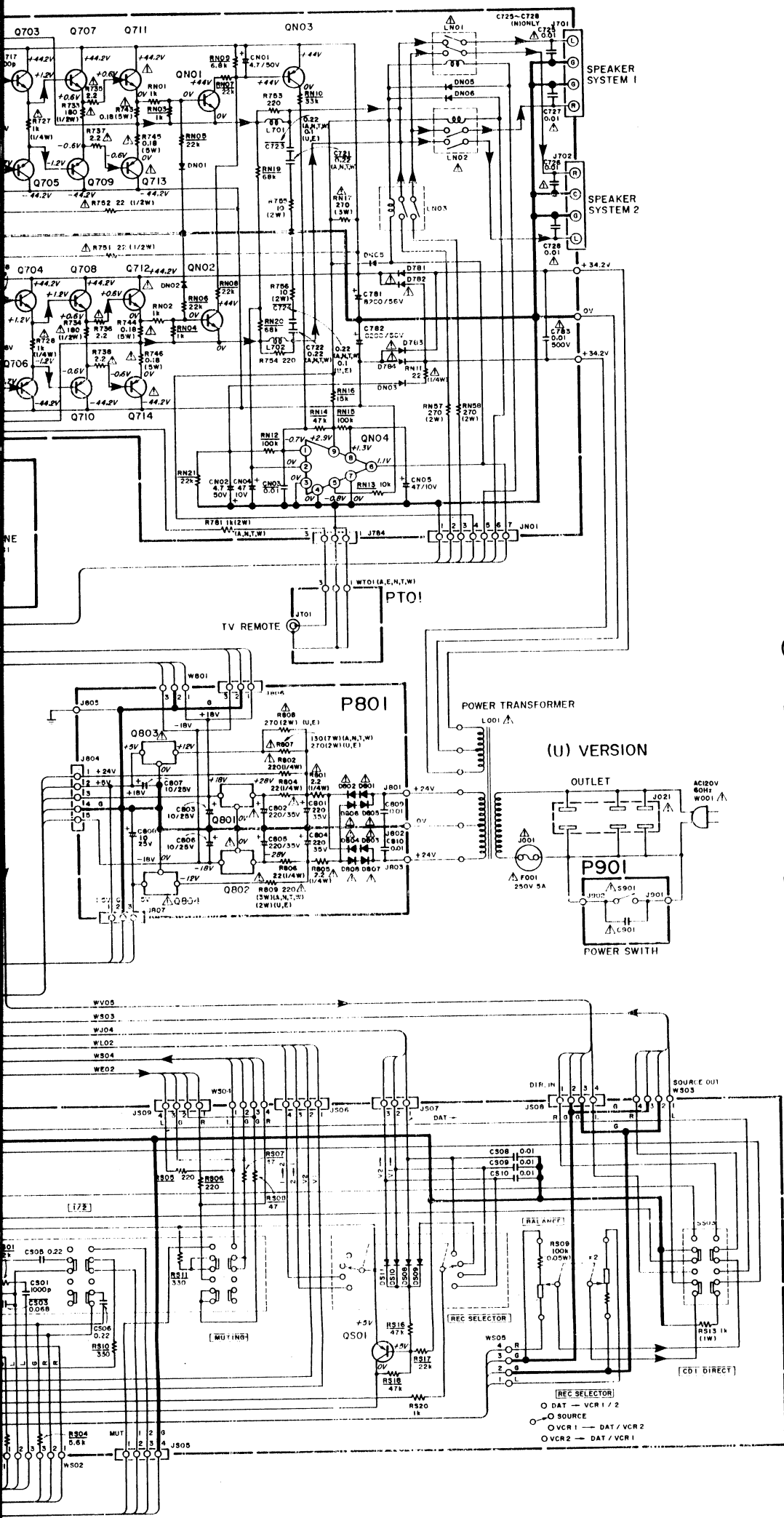
- (1) DK16 .... 300, High dielectric constant ceramic condenser, disc type (titan variable) Temp. chara. 2B4 50V

**C\*\*\* : ELECTROLYTIC CAP.**

- (1) EA ..... 10,
- (2) DF15 ..... 350,

\* In case of ordering the parts number of 10 fig COMMON PARTS CO

# Model P.M-65AV



QEO1-QEO4, Q401-Q404	Q803	
2SK369(BL)	NJM78M05A	
QE05, Q405	Q804	
NJM2041D-C	NJM78M05A	
QJ01-QJ06		
LC4966		
QJ07		
NJM4558D-D		
QJ08-QJ11, Q104-Q106		
Q501		
2SA1175(FF,EF)		
QJ12, Q107-Q115		
2SC2785(FF,EF)		
QE07, QE08		
QJ15-QJ22		
2SC2878(A)		
QLO1-QLO3		
LC4066B-H		
QN01, QN02, Q703, Q704		
2SC2240(GP, BL)		
QN03, Q705, Q706		
2SA970(GR, BL)		
QN04		
TA7317P		
Q701, Q702		
2SD1508		
Q707, Q708		
2SC3298(O, Y)		
Q709, Q710		
2SA1306(O, Y)		
Q711, Q712		
2SC3280(R, O)		
Q713, Q714		
2SA1301(R, O)		
Q719		
STK3062		
Q801		
NJM78M18A		
Q802		
NJM79M18A		

**"SERVICE INFORMATION IS FOR USE BY QUALIFIED PERSONNEL ONLY — ANY MISADJUSTMENT OR MISALIGNMENT MAY BE TREATED AS A NON-WARRANTY REPAIR BY ANY MARANTZ SERVICE CENTRE —"**

### Kind of Common Parts

#### RESISTOR

- R\*\*\* (1) GD05 .... 140, Carbon film fixed resistor, ±5% 1/4W
- R\*\*\* (2) GD05 .... 160, Carbon film fixed resistor, ±5% 1/6W

#### CERAMIC CAP.

- (1) DD1 ..... 370, Ceramic condenser, disc type (titan condenser) Temp. coeff. P350 to N1000 50V

#### CERAMIC CAP.

- (1) DK16 ..... 300, High dielectric constant ceramic condenser, disc type (titan variable) Temp. chara. 2B4 50V

#### ELECTROLY. CAP. (E) / FILM CAP. (F)

- (1) EA ..... 10, Electrolytic condenser, one-way lead type, tolerance ±20%
- (2) DF15 ..... 350, Plastic film condenser, one-way type, Mylar, ±5% 50V

\* In case of ordering the common parts, please establish the correct parts number of 10 figures by the procedure "ASSIGNMENT OF COMMON PARTS CODES"