Service Manual

74 EQ515/01B/02B/05B

Graphic egualizer spectrum analyzer

This service manual explains them by extracting the different specifications from those of the model EQ551, based on the model EQ551. For both electrical and mechanical information on the after-sales service which is not stated, all information is described in the model EQ551 service manual (Codenumber 045H855010).
The dispatch of the parts for after-sales service has to be referred to this service manual, with the first priority.
For this reason, please use this service manual with referring to the model EQ551 service manual, without fail.

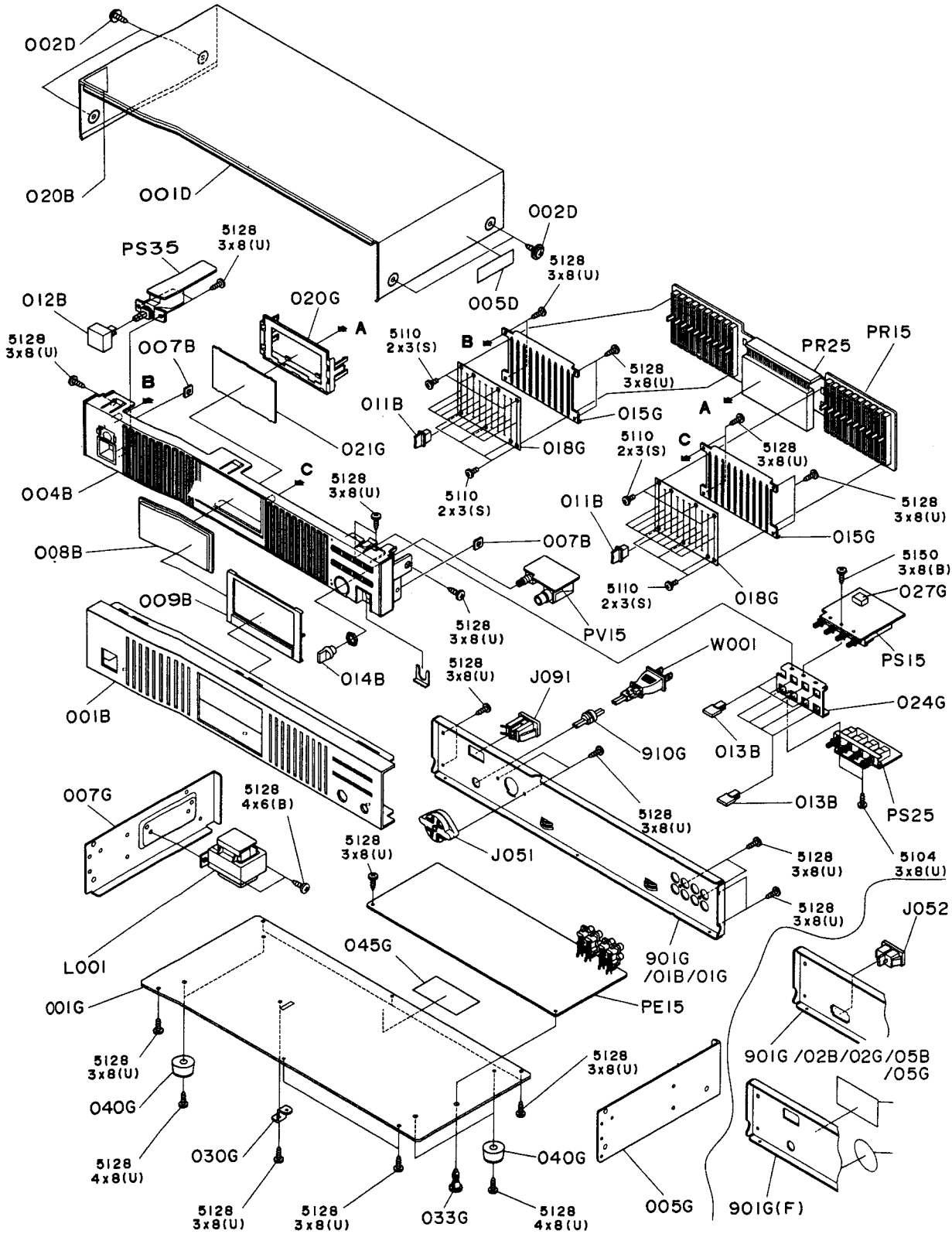
marantz®

model EQ515

First issue; 1991
4822 725 50941

MZ 2887

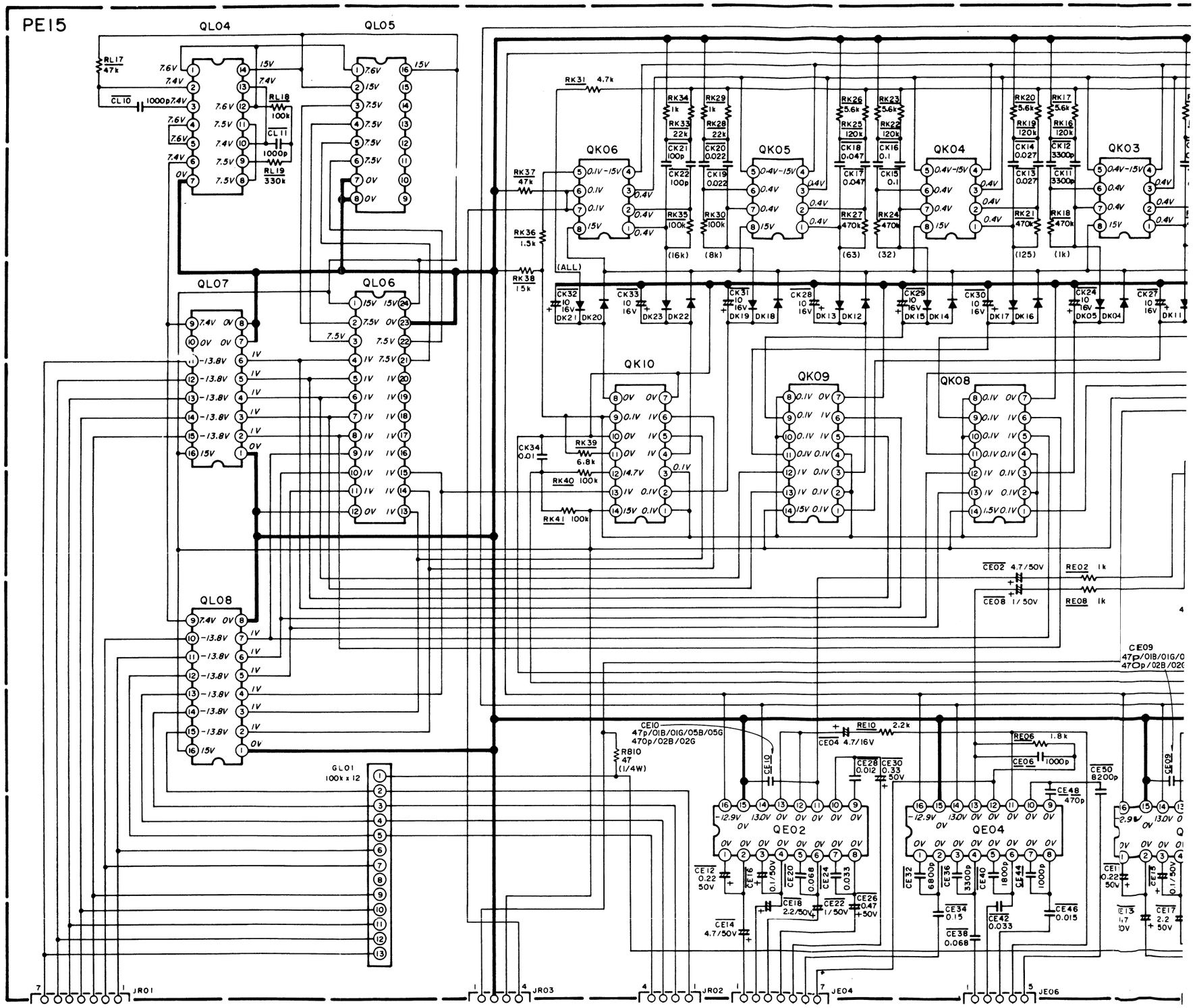
EXPLODED VIEW

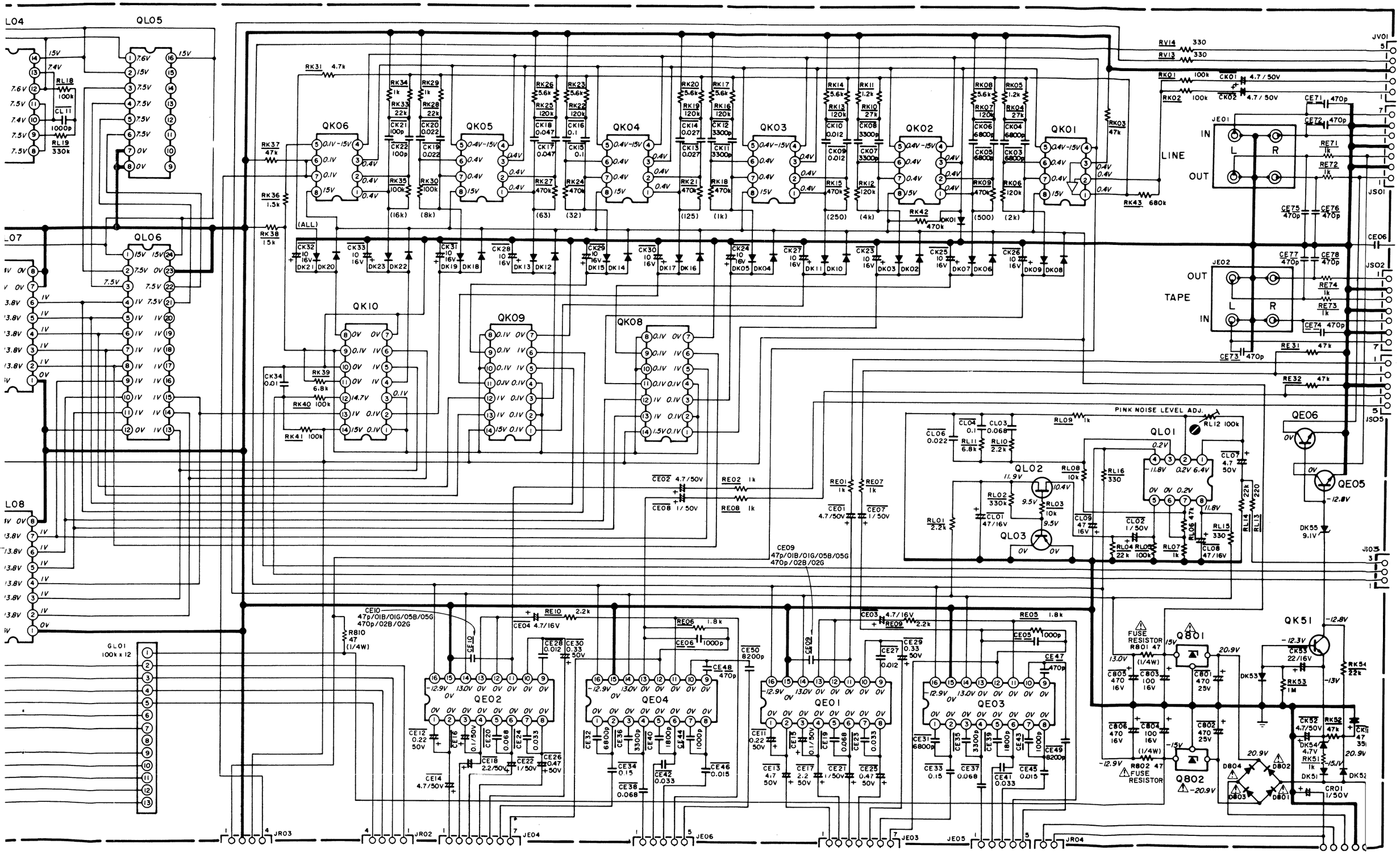


MECHANICAL PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION
001B	4822 426 20201	Front Panel Assy /01B/02B/05B
	4822 426 20202	Front Panel Assy /01G/02G/05G
004B	4822 464 70504	Front Chassis /01B/02B/05B
		Front Chassis /01G/02G/05G
008B	4822 459 40534	Window, FL
009B	4822 454 11973	Escutcheon, FL /01B/02B/05B
	4822 454 11822	Escutcheon, FL /01G/02G/05G
011B	4822 411 61769	Knob, Slide VR /01B/02B/05B
	4822 412 20097	Knob, Slide VR /01G/02G/05G
012B	4822 410 24514	Button, Power /01B/02B/05B
	4822 410 24509	Button, Power /01G/02G/05G
013B	4822 412 20059	Knob, Push /01B/02B/05B
	4822 412 20058	Knob, Push /01G/02G/05G
014B	4822 412 20985	Knob, Mic Level /01B/02B/05B
	4822 412 20972	Knob, Mic Level /01G/02G/05G
002D	4822 502 12501	Screw, B4 x 8
018G	4822 459 20416	Mask
020G	4822 256 90951	Holder, FL
021G	4822 459 20497	Mask, FL /01B/02B/05B
021G	4822	Mask, FL /01G/02G/05G
040G	4822 462 41799	Leg
910G	4822 532 51314	Bushing, AC Cord /01B/01G
⚠ J051	4822 272 10235	Voltage Selector /01B/01G
⚠ J052	4822 267 30986	Plug, AC inlet /02B/02G/05B/05G
⚠ J091	4822 267 20334	Jack, AC outlet /01B/01G
⚠ L001	4822 148 80766	Power Transformer /01B/01G
	4822 148 80643	Power Transformer /02B/02G/05B/05G
⚠ W001	4822 321 10249	AC Power Cord /02B/02G
	4822 321 10635	AC Power Cord /05B/05G
W011	4822 321 21438	Connective Cord, RCA Type
M001	4822 242 30135	Microphone, OMC-10Z
001T	4822 736 21064	User Manual

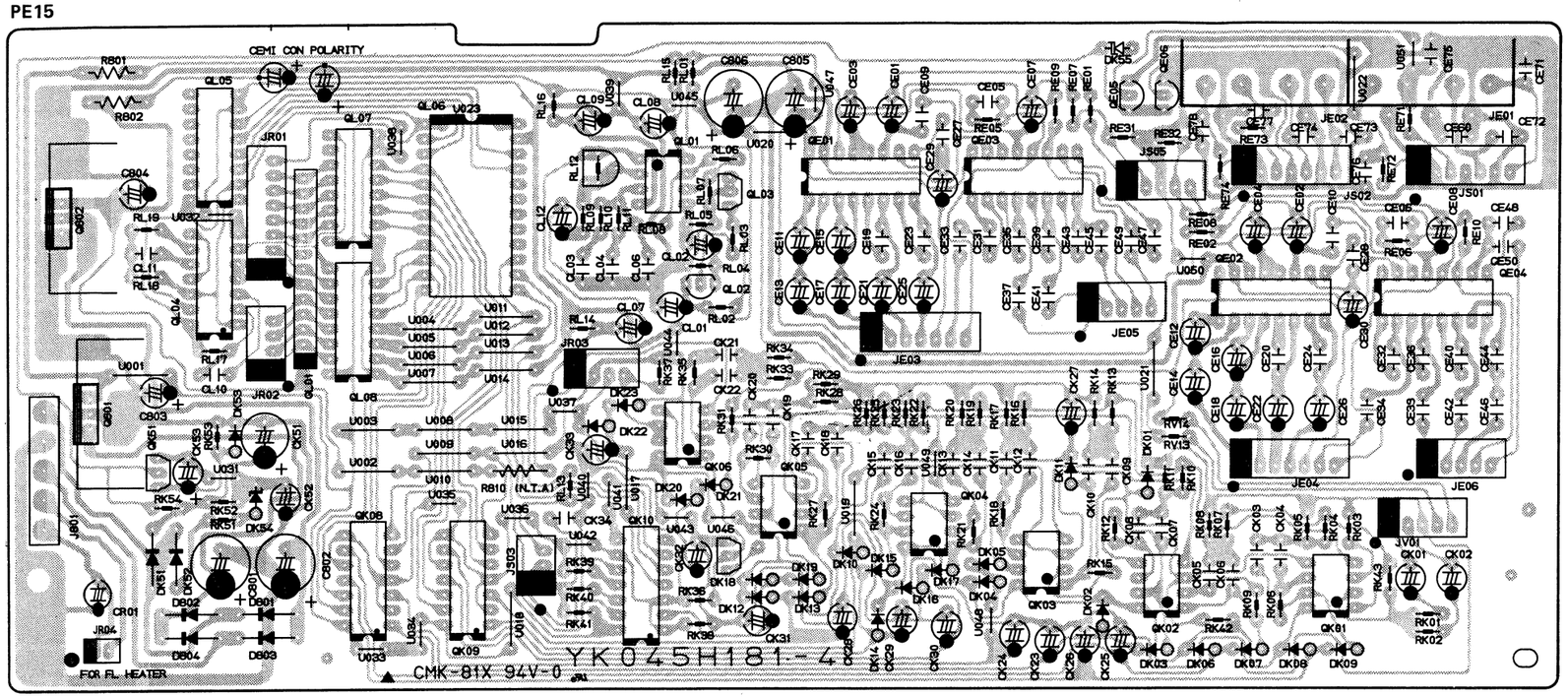
SCHEMATIC DIAGRAM




QL04
QL05
QL06
QL07
QL08
QK06
QK05
QK04
QK03
QK02
QK01
QK10
QK09
QK08
QL01
QL02
QL03
QE01
QE02
QE03
QE04
QE05
QE06
QK51
Q801
Q802
LINE
OUT
IN
TAPE
PINK NOISE LEVEL ADJ.
FUSE RESISTOR
JVO1
JSO1
JSO2
JSO3
JSO5
JE01
JE02
JE03
JE04
JE05
JE06
JR02
JR03
JR04
GL01

PRINTED CIRCUIT BOARDs

PE15



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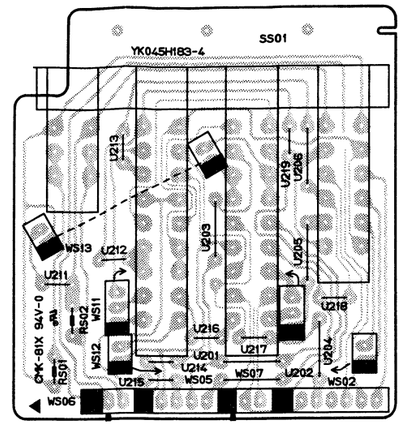
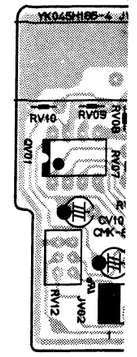


PV15



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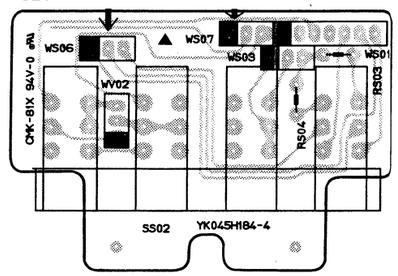

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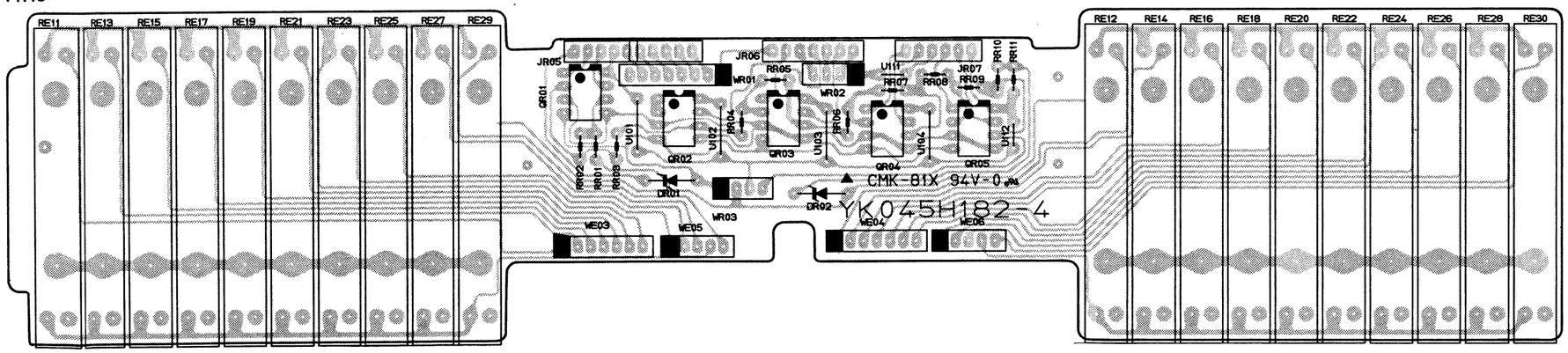

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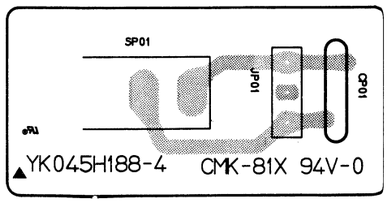

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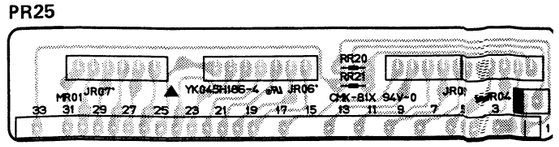

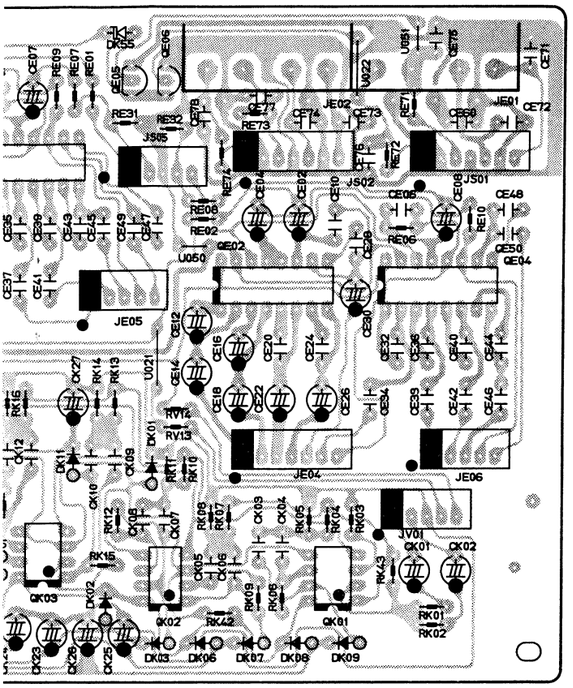

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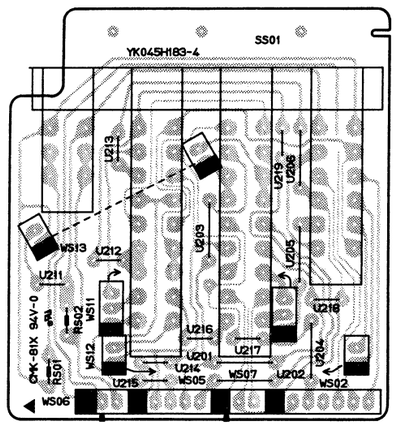
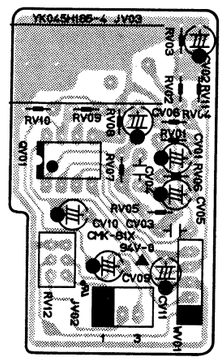
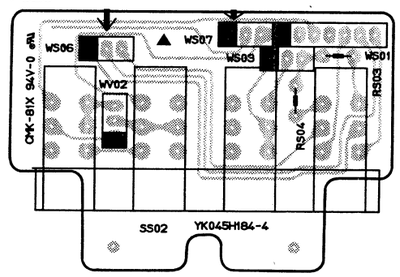
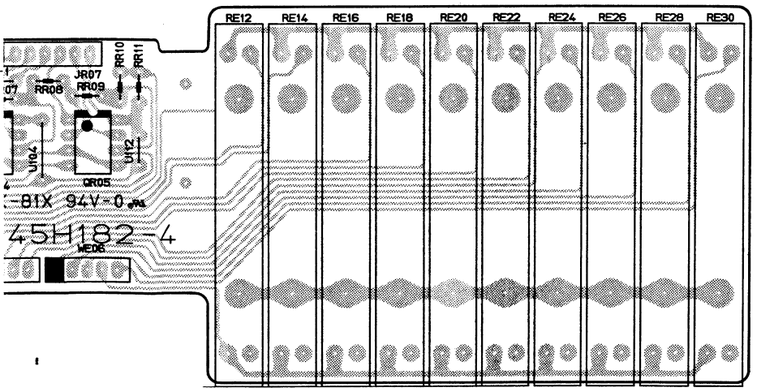


PV15



PS25





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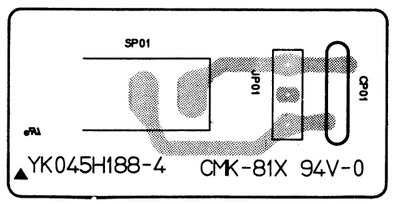

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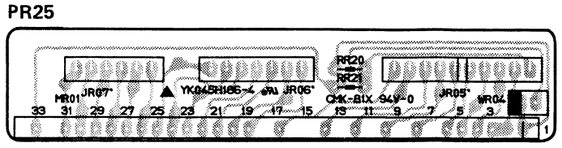


ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R***: (1) GD05---140, Carbon film fixed resistor, ±5%, 1/4W
R***: (2) GD05---160, Carbon film fixed resistor, ±5%, 1/6W
① — Resistance value

Examples
① Resistance value

0.1Ω...001	10Ω...100	1kΩ...102	100kΩ...104
0.5Ω...005	18Ω...180	2.7kΩ...272	680kΩ...684
1Ω...010	100Ω...101	10kΩ...103	1MΩ...105
6.8Ω...068	390Ω...391	22kΩ...223	4.7MΩ...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)
±0.25pF...0
±0.5pF...1
±5%...5
* Tolerance of COMMON PARTS handled here are as follows:
0.5pF ~ 5pF...±0.25pF
6pF ~ 10pF...±0.5pF
12pF ~ 560pF...±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. (⧺), FILM CAP. (⫩)
(1) EA-----10, Electrolytic condenser
One-way lead type, Tolerance ±20%
①② — Dielectric strength, Capacity value

Examples
① Capacity value

0.1μF...104	4.7μF...475	100μF...107
0.33μF...334	10μF...106	330μF...337
1μF...105	22μF...226	1100μF...108
		2200μF...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 ±5% 50V
① — Capacity value

Examples
① Capacity value

0.001μF (1000pF)...102	0.1μF...104
0.0018μF...182	0.56μF...564
0.01μF...103	1μF...105
0.015μF...153	

ELECTRICAL PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION
		PE15-MAIN CIRCUIT BOARD
		PE15-CAPACITORS
CE09	4822 122 31205	Ceramic 47pF ±5% /01B/01G/05B/05G
CE10	4822 122 31205	Ceramic 47pF ±5% /01B/01G/05B/05G
CE60	4822 122 32486	Ceramic 0.01μF +80% −20%
CK34	4822 122 32486	Ceramic 0.01μF +80% −20%
		PE15-RESISTORS
▲ R801	4822 116 60295	47Ω ±5% ¼W, Fusible
▲ R802	4822 116 60295	47Ω ±5% ¼W, Fusible
▲ R810	4822 116 60295	47Ω ±5% ¼W, Fusible
RL12	4822 100 11471	100KΩ, Trimming
GL01	4822 111 90608	100KΩx12, Composite
		PE15-SEMICONDUCTORS
▲ D801 ~ ▲ D804	4822 130 32508	Diode DSF10C
DK01 ~ DK23	4822 130 33305	Diode, Substitute
DK51	4822 130 32508	Diode DSF10C
DK52	4822 130 32508	Diode DSF10C
DK53	4822 130 33305	Diode, Substitute
DK54	4822 130 33759	Zener 4.7V
DK55	4822 130 80319	Zener 9.1V
▲ Q801	4822 209 82829	IC NJM78M15FA
▲ Q802	4822 209 61526	IC NJM79M15FA
QE01 ~ QE04	4822 209 83691	IC M5227P
QE05	4822 130 43818	Transistor 2SC2878(A)
QE06	4822 130 43818	Transistor 2SC2878(A)
QK01 ~ QK06	4822 209 80401	IC NJM4558D
QK08	4822 209 83067	IC 4066
QK09	4822 209 83067	IC 4066
QK10	4822 209 83067	IC 4066
QK51	4822 130 42298	Transistor 2SC536SP, 2SC2458 ETC
QL01	4822 209 80401	IC NJM4558D
QL02	4822 130 42836	F.E.T. 2SK246(Y, GR)
QL03	4822 130 61665	Transistor 2SA1310(R, S)
QL04	4822 209 83843	IC 4069
QL05	4822 209 70219	IC 4520
QL06	4822 209 70218	IC 4514
QL07	4822 209 70217	IC TC5064BP
QL08	4822 209 70217	IC TC5064BP
		PE15-MISCELLANEOUS
JE01	4822 265 30397	Terminal, 4P; RCA Pin
JE02	4822 267 30493	Terminal, 4P; RCA Pin
		PR15-BAR DRIVE/VOLUME CIRCUIT BOARD
		PR15-RESISTORS
RE11 ~ RE30	4822 105 10835	100KΩ, Variable

REF. DESIG.	PART NO.	DESCRIPTION
		PR15-SEMICONDUCTORS
DR01	4822 130 33374	Zener MA1033M
DR02	4822 130 33113	Zener RD9.1E-B1
QR01 ~ QR05	4822 209 80401	IC NJM4558D
		PR15-MISCELLANEOUS
MR01	4822 130 90342	Display Unit
		PS15-INPUT SWITCH CIRCUIT BOARD
SS01	4822 276 60248	Push Switch
		PS25-DISPLAY SWITCH CIRCUIT BOARD
SS02	4822 276 20419	Push Switch
		PS35-POWER SWITCH CIRCUIT BOARD
▲ CP01	4822 122 40305	Ceramic Cap. 0.01μF 400V
▲ SP01	4822 276 11645	Push Switch, Power
		PV15-MIC AMP CIRCUIT BOARD
		PV15-CAPACITORS
CV03	5322 122 31626	Ceramic 100pF ±5%
CV06	4822 124 21983	Elect 4.7μF 50V
		PV15-RESISTOR
RV12	4822 102 10201	50KΩ(A), Variable
		PV15-SEMICONDUCTOR
QV01	4822 209 80401	IC NJM4558D
		PV15-MISCELLANEOUS
JV03	4822 267 30756	Jack, Mic /01B/02B/05B
	4822 267 31343	Jack, Mic /01G/02G/05G

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

SERVICE MANUAL EQ551

marantz®

model EQ551

Graphic Equalizer

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.

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

ORDERING PARTS:

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.

PARTS ORDERING

Parts may be ordered at the following addresses:

AUSTRIA
MARANTZ
Hietzinger Kai 137a
1130 Wien

BELGIUM
SVD DIVISION MARANTZ
Industrialaan 1
1720 Groot-Bijgaarden
Belgium
Telex: 24466

CHILE
MARANTZ
DIVISION OF PHILIPS S.A.
AV. Santa Maria, 0760
Casilla 2687
Santiago
Telex: 240.239

DENMARK
MARANTZ
Horsvinget 5
2630 Tastrup

NORWAY
MARANTZ
Postboks 7034
Assiden
3007 Drammen

FRANCE
MARANTZ FRANCE
4 Rue Bernard Palissy
92600 Asnières
France
Telex: 611651

GERMANY
MARANTZ GERMANY GmbH
Alexanderstrasse 1
2000 Hamburg
Germany

THE NETHERLANDS
Elpro Marantz
Wint Hontlaan 28
3526 KV Utrecht
The Netherlands
Telex: 4748

SWEDEN
MARANTZ
Box 1324
171 25 Solna

FINLAND
MARANTZ
Kuortanegatan 1
00520 Helsingfors 52

GREAT BRITAIN
MARANTZ HiFi U.K. Ltd
Kingsbridge House
Padbury oaks
575-583 Bath Road
Long ford
Middlesex UB7 OEH
Faxnr.: 0753 680 428

GREECE
SHERTON ELECTRONICS S.A.
P.O.Box 21025
Hippocratus Street 188
Athens 11471
Greece
Telex: 216.795

JAPAN
MARANTZ JAPAN, Inc.
35-1, 7-chome, Sagamiono
Sagamihara-shi, Kanagawa
Japan

KUWAIT
AL ALAMIAH ELECTRONICS
Ussama Building
Fahd al Saleem Street
P.O.Box 23781
Safat-Kuwait
Telex: 22694

ITALY
MARANTZ ITALIANA S.P.A.
Via Chiese, 74
20126 Milano
Italy

SAUDI ARABIA
AL ALAMIAH ELECTRONICS
P.O.Box 5954
University Street
Riyadh 11432
Saudi Arabia
Telex: 401530

SOUTH AFRICA
MARANTZ
DIVISION OF PHILIPS S.A.
Main Road Martindale
P.O. Box. 58088
Newville 21114
South Africa

SPAIN
Euroservice S.A.
Bernardo obrëgón, 26
28012 Madrid
faxnr.: 3412 306 198

SWITZERLAND
MARANTZ
Technischer Service
Duenstrasse 3
3186 Düdingen
Switzerland

TURKEY
DOGRUOL Ltd.
I.M.C.
6 Blok N°6310
Unkapani
Istanbul
Turkey
Telex: 22085

MALTA
CACHIA & GALEA
Republic Street, 68D
Valetta
Telex: 1682

PORTUGAL
MARANTZ
Divisao philips S.A. servic
Outurela-carnaxide
2795 LinDA-A-VELHA
Telex: 43906

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.

TABLE OF CONTENTS

How to use this service manual

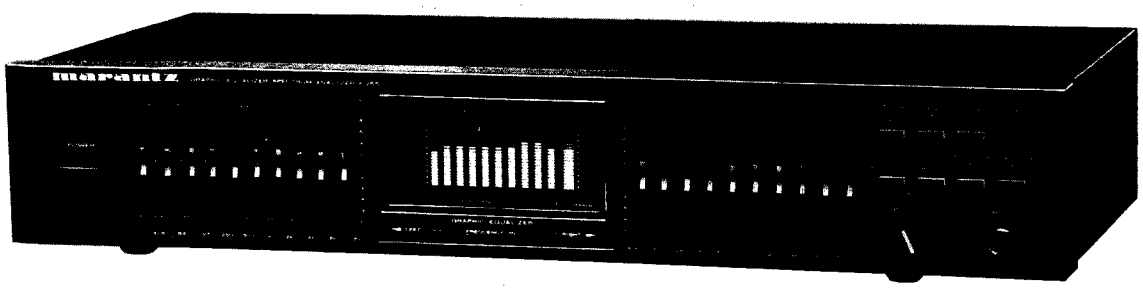
- The "Common parts" which Marantz Japan, Inc. has established are eliminated from this service manual.
- These "Common parts" are applied to all models in the service manuals arranged and issued by MJI.
- To indicate clearly the common parts in the schematic diagram, a line is drawn above or under the 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 10 figures following the procedure mentioned in this service manual "How to establish the parts number for common parts".

(NOTE)
When you order parts to the Marantz parts center, please take notice of the following points.

1) Please correctly write the parts number of 10 figures following the rule.
2) Since ordering parts by the Ref. Desig. No. or ratings indicated in the schematic diagram does not satisfy the above conditions, the Marantz parts supply system does not work properly.
   As this case is apt to cause a trouble, please pay attention to it.

M3169

MODEL EQ551 GRAPHIC EQUALIZER SPECTRUM ANALYZER



INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model EQ551 Graphic Equalizer Spectrum Analyzer.

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

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can usually be obtained through local suppliers.

1. SHOCK, FIRE HAZARD SERVICE TEST

CAUTION: After servicing this appliance and prior to returning to customer, measure the resistance between 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. P.W. BOARDS

As can be seen from the circuit diagram the chassis of Model EQ551 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. Main . . . . . mounted on P.W. Board PE 15
2. Power Indicator . . . . . mounted on P.W. Board PL 15
3. Bar Drive/Volume . . . . mounted on P.W. Board PR 15
4. FL Set . . . . . mounted on P.W. Board PR25
5. Input Switch . . . . . mounted on P.W. Board PS 15
6. Display Switch . . . . . mounted on P.W. Board PS25
7. Power Switch . . . . . mounted on P.W. Board PS35
8. Mic Amp. . . . . mounted on P.W. Board PV15

H3170

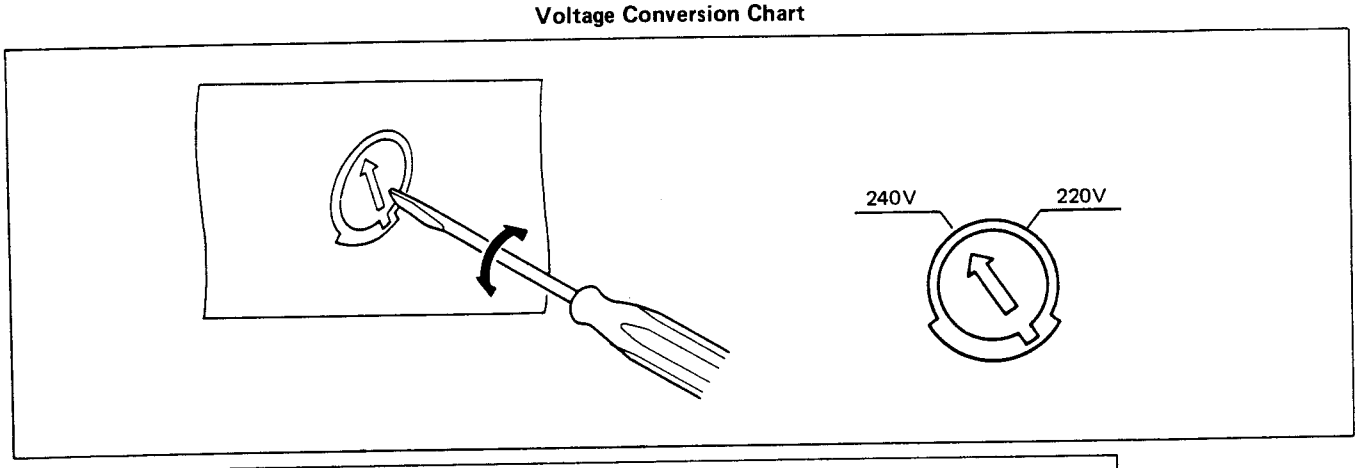
3. VOLTAGE CONVERSION

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

- **EUROPEAN MODEL ONLY**

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

Voltage Conversion Chart

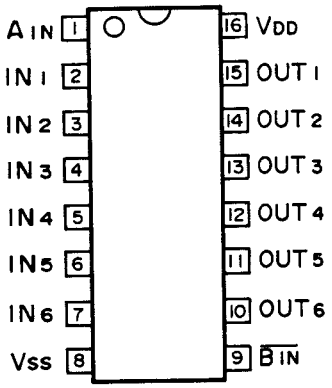


Note on safety: Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

4. CIRCUIT DESCRIPTION

MOS DIGITAL INTEGRATED CIRCUIT TC5064BP (QL07, QL08)

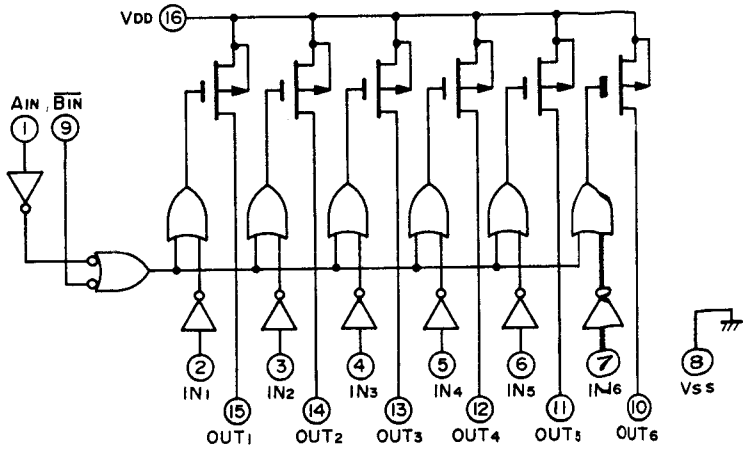
- **Pin assignment**



- **Maximum Ratings**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{DD}	V_{SS} −0.5 ~ V_{SS} +20	V
Input Voltage	V_{IN}	V_{SS} −0.5 ~ V_{DD} +0.5	V
Output Voltage	V_{OUT}	V_{DD} −50 ~ V_{DD} +0.5	V
Power Dissipation	P_D	300	mW
Input Current	I_{IN}	±10	mA
Storage Temperature	T_{stg}	−65 ~ 150	°C

- **Logic Diagram**

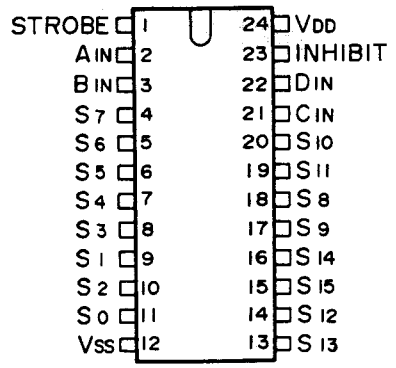


H3171

MOS DIGITAL INTEGRATED CIRCUIT 4514 (QL06)

IC 4514 is a decoder which converts 4-bit binary input signals into hexadecimal output signals, and has a decode inhibit input and a latch function.

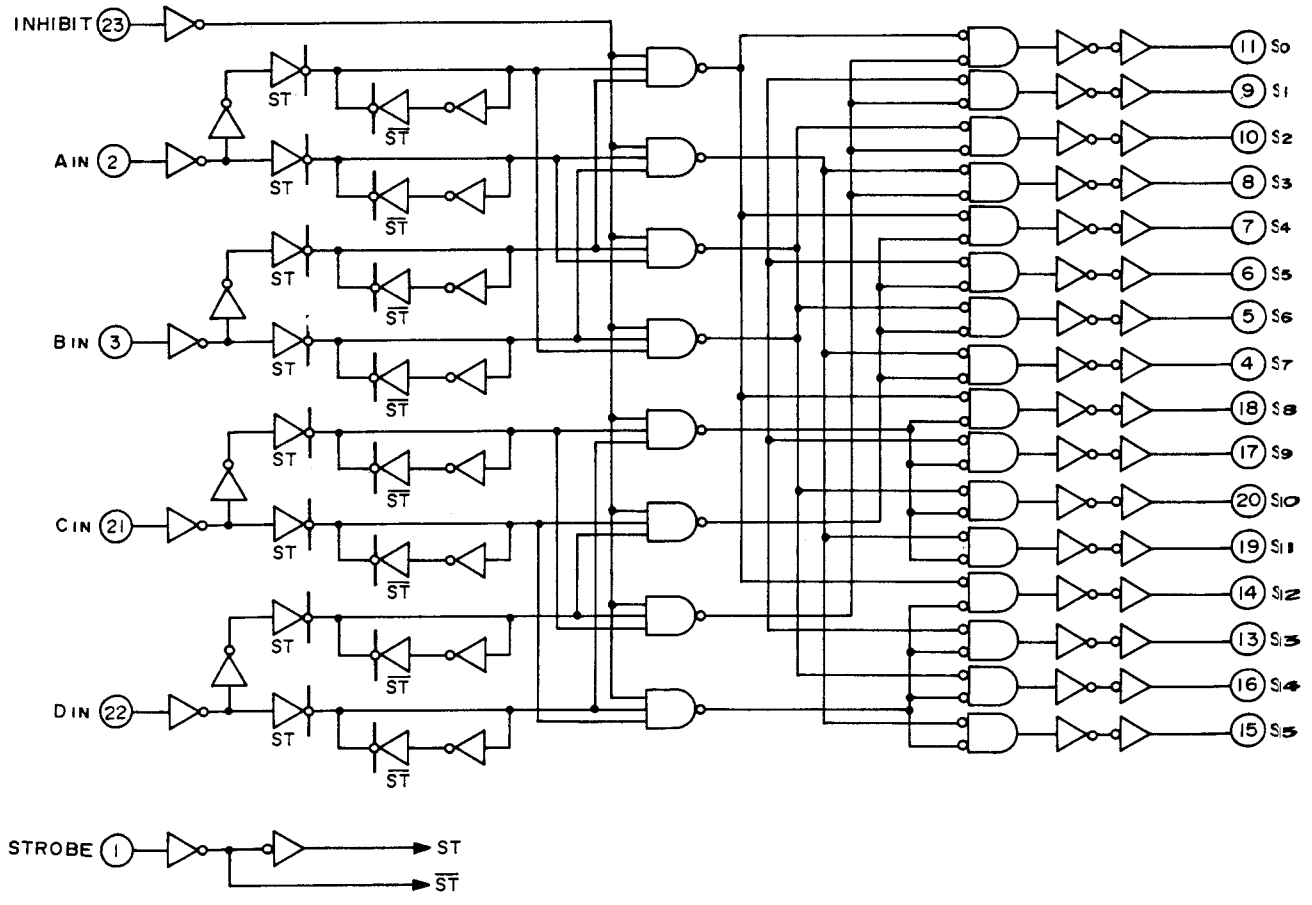
- **Pin assignment**



- **Maximum Ratings**

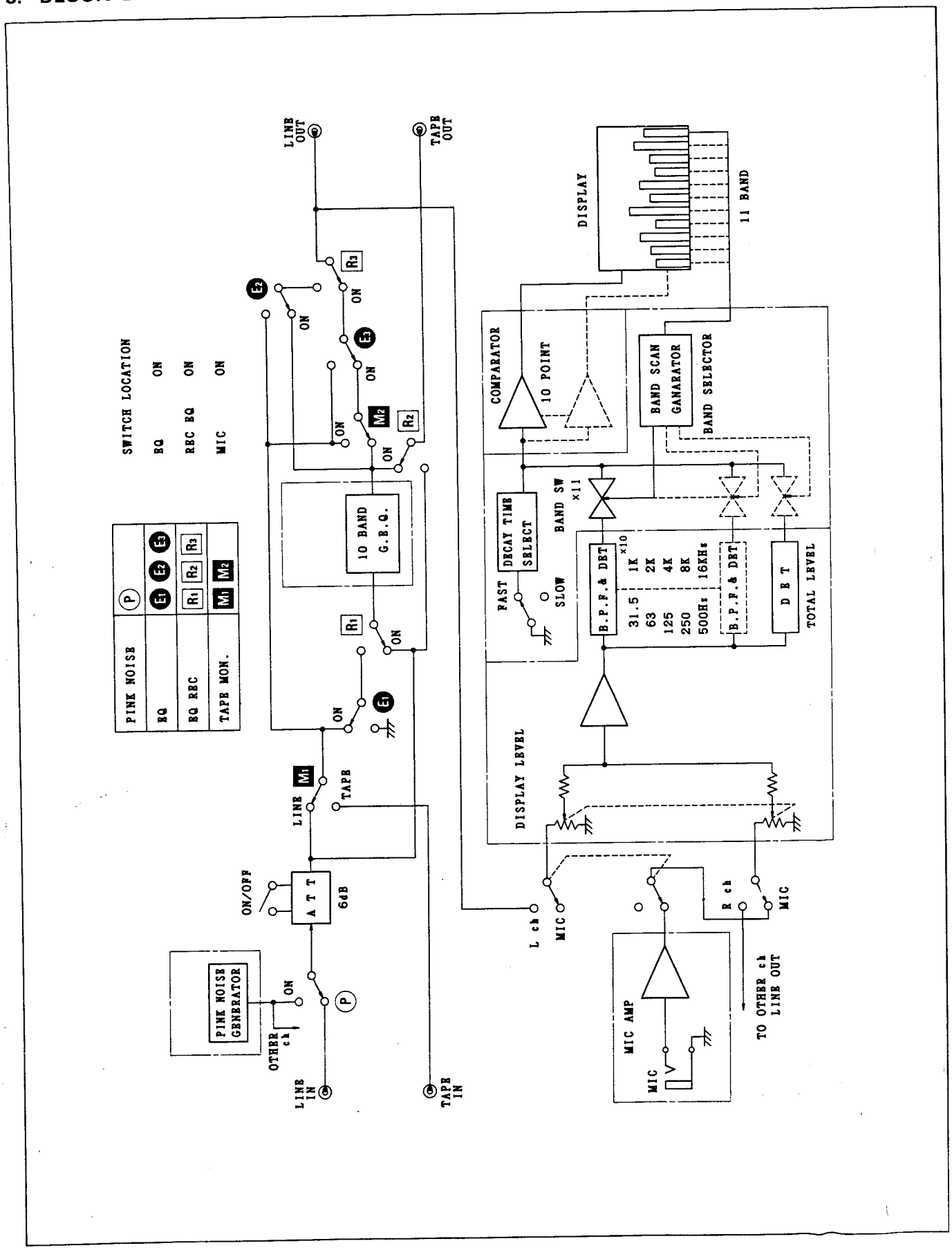
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{DD}	V_{SS} −0.5 ~ V_{SS} +20	V
Input Voltage	V_{IN}	V_{SS} −0.5 ~ V_{DD} +0.5	V
Output Voltage	V_{OUT}	V_{SS} −0.5 ~ V_{DD} +0.5	V
Input Current	I_{IN}	±10	mA
Power Dissipation	P_D	300	mW
Storage Temperature	T_{stg}	−65 ~ 150	°C
Lead Temperature - Time	T_{sol}	260°C · 10 sec	

- **Logic Diagram**



M3172

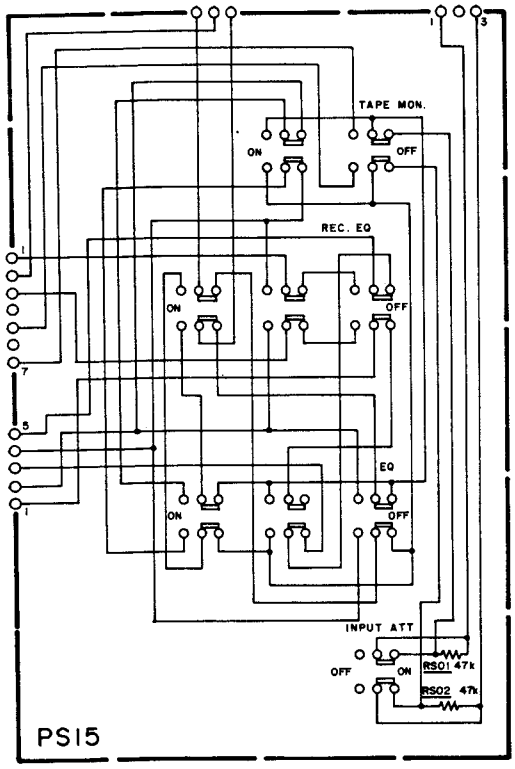
5. BLOCK DIAGRAM

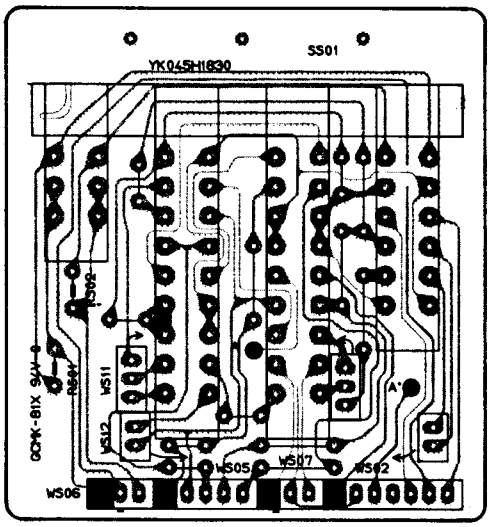


M3173

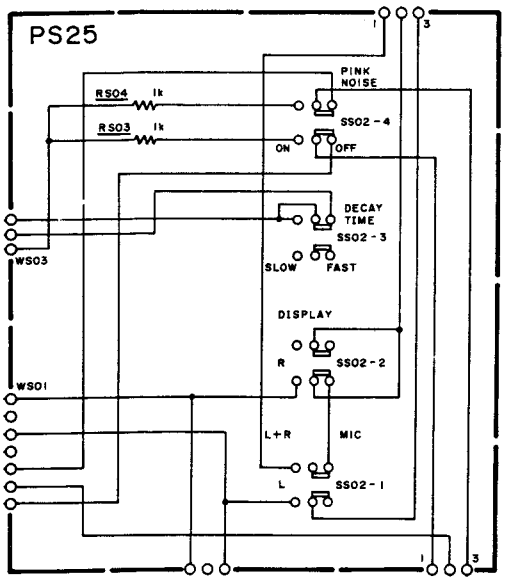
6. SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS

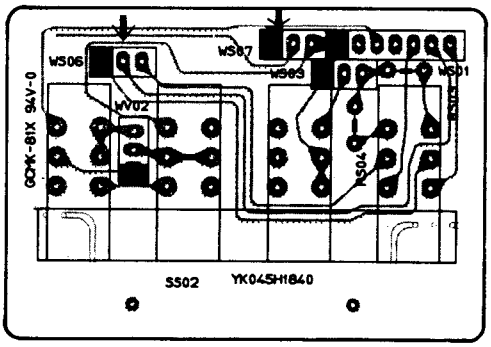
6.1 Input Switch Assembly (PS15) Schematic Diagram and Component Locations





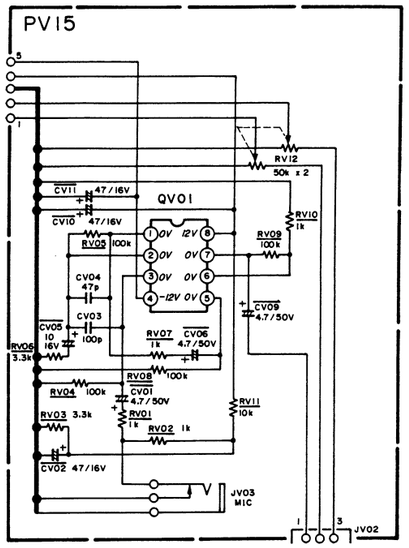
6.2 Display Switch Assembly (PS25) Schematic Diagram and Component Locations

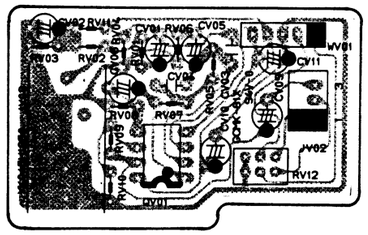




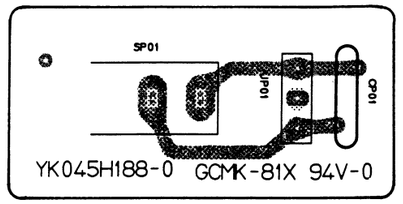
H/317 4

6.3 Mic Amp. Assembly (PV15) Schematic Diagram and Component Locations

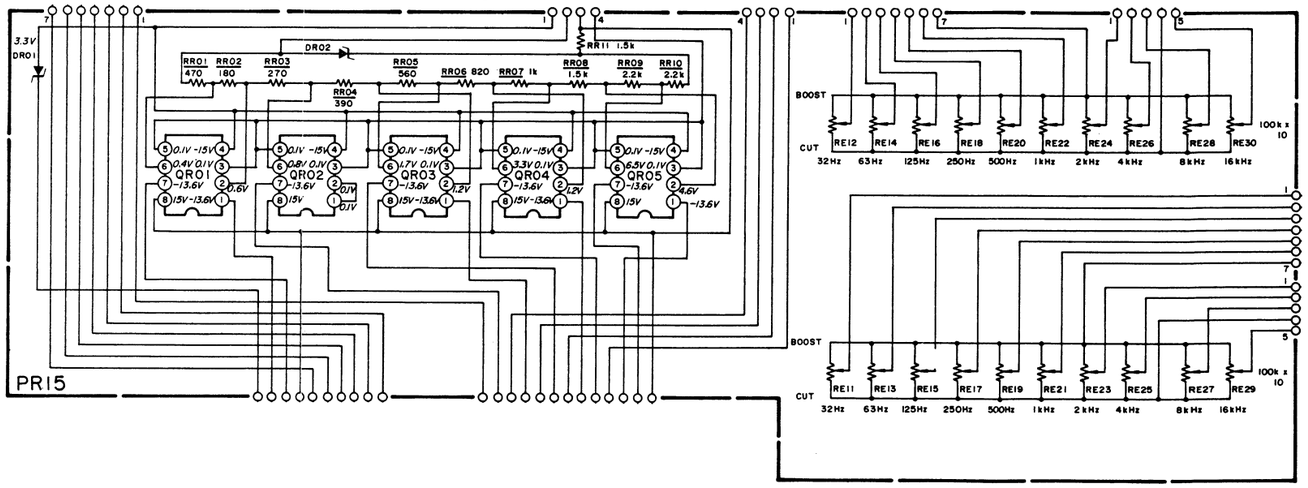


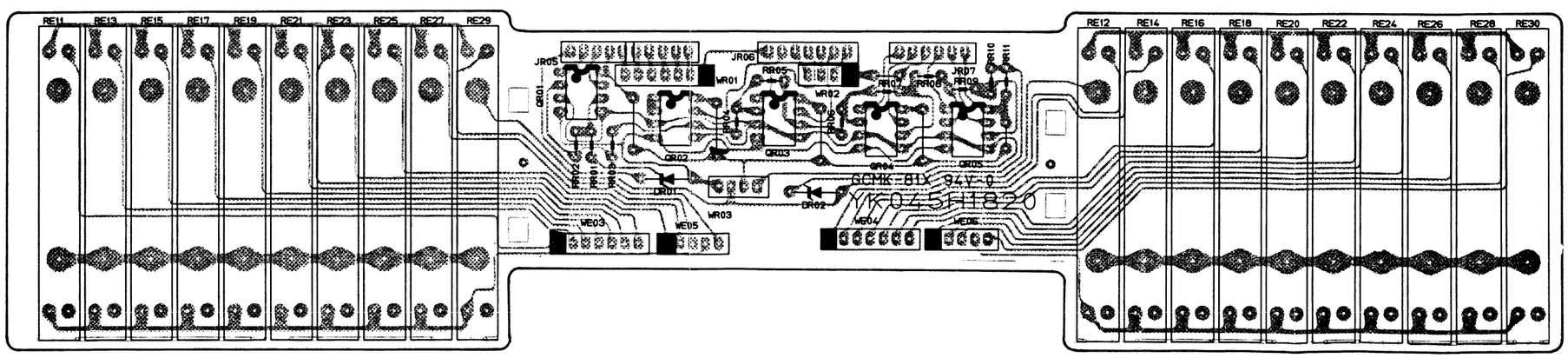


6.4 Power Switch Assembly (PS35) Schematic Diagram and Component Locations



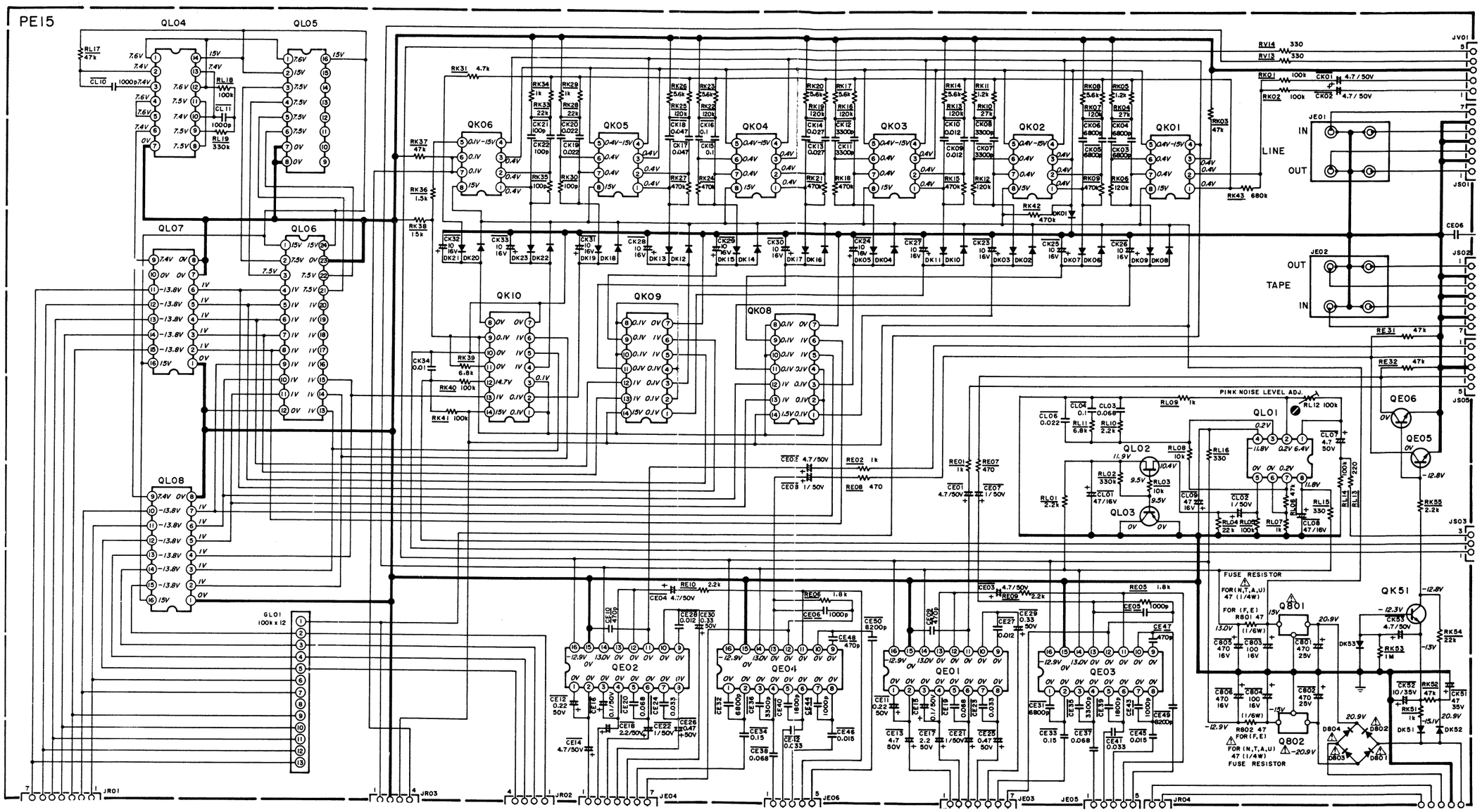
6.5 Bar Drive/Volume Assembly (PR15) Schematic Diagram and Component Locations



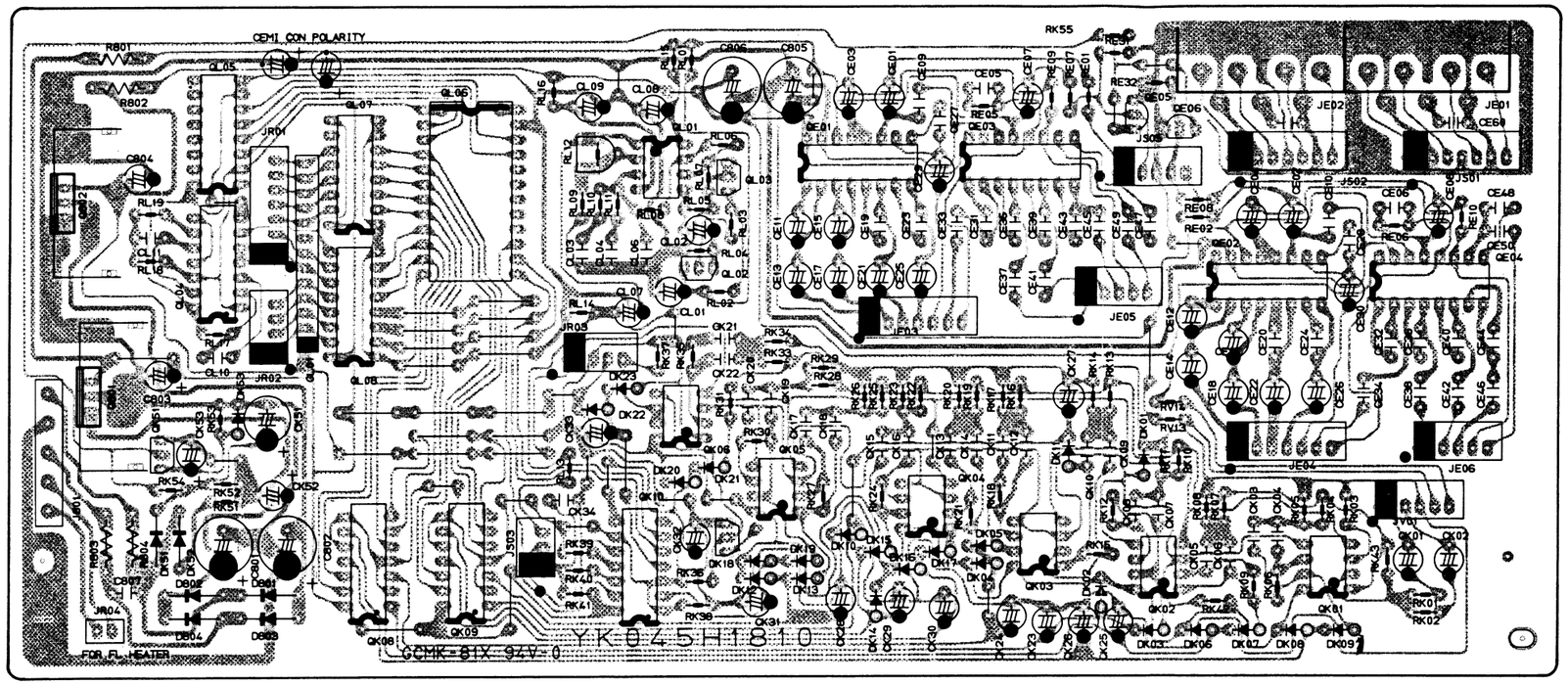


H3175

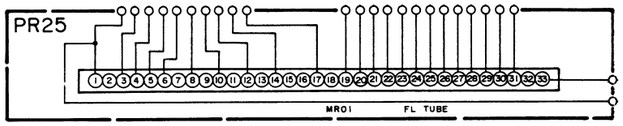
6.6 Main Assembly (PE15) Schematic Diagram and Component Locations

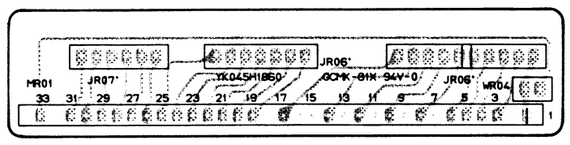


H3176



6.7 FL Set Assembly (PR25) Schematic Diagram and Component Locations





7. TECHNICAL SPECIFICATIONS

AUDIO SECTION

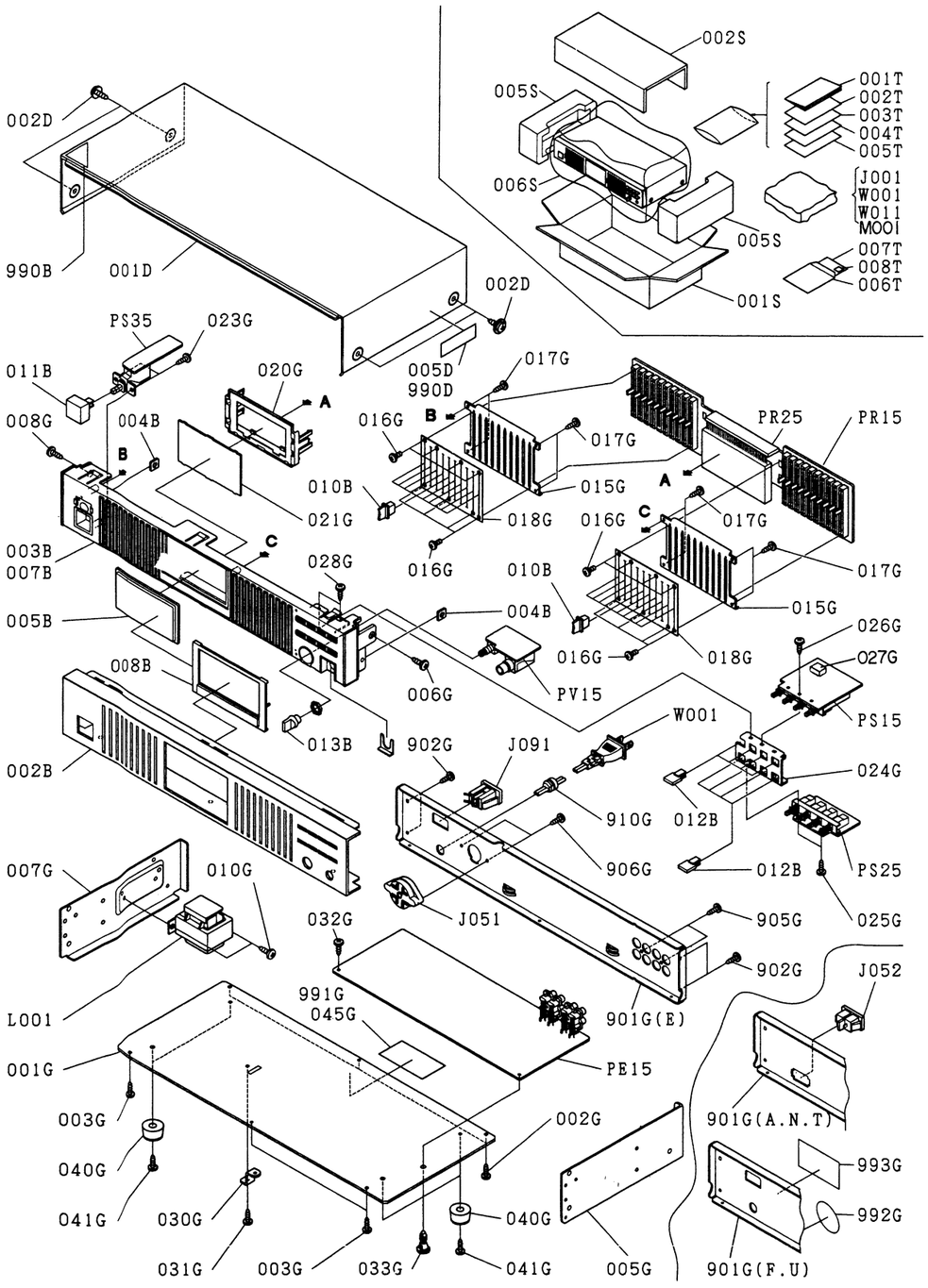
RATED OUTPUT . . . . . 1 V
TOTAL HARMONIC DISTORTION
AT RATED OUTPUT, 20 Hz TO 20 kHz 0.005%
I.M. DISTORTION AT RATED OUTPUT
(250 Hz AND 8 kHz MIXED,
AMPLITUDE RATIO 4:1) 0.005%

Frequency Response (±1 dB) . . . . . 10 Hz ~50 kHz
Signal-to-Noise Ratio (A weighted) . . . . . 110 dB
Input Terminals
LINE IN: Input Impedance . . . . . 47 k ohms
Channel Balance
LINE . . . . . ±1 dB
Inter Channel Crosstalk (1 kHz)
LINE . . . . . 60 dB
Output Voltage (1 kHz)
LINE . . . . . 7 V
Output Impedance (1 kHz)
LINE OUT . . . . . 600 ohms
EQ Action (31.5 Hz, 63 Hz, 125 Hz, 250 Hz,
500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz) . . . ±10 dB

GENERAL

Power Requirement . . . . . 220 ~240 V AC, 50/60 Hz
Power Consumption at Rated Output,
both Channels Operating . . . . . 8 W
Dimensions
Panel Width . . . . . 420 mm
Panel Height . . . . . 73 mm
Depth . . . . . 194 mm
Weight
Unit alone . . . . . 2.7 kg

i. EXPLODED VIEW AND PARTS LIST



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

REF. DESIG.	PART NO.	DESCRIPTION
002B	045H248010	Front Panel (BLK)
	045H248110	Front Panel (GLD)
003B	045H105010	Chassis, Front (BLK)
004B	045H160020	Bracket, Front Chassis Side
005B	045H158010	Window, FL
007B	045H105500	Chassis, Front (K) (GLD)
008B	045H063010	Escutcheon, FL (BLK)
	045H063110	Escutcheon, FL (GLD)
010B	198T154120	Knob, Slide VR (BLK)
	198T154020	Knob, Slide VR (GLD)
011B	158T270110	Button, Power (BLK)
	158T270010	Button, Power (GLD)
012B	129T154130	Knob, Push (BLK)
	129T154030	Knob, Push (GLD)
013B	124T154210	Knob, Mic Level (BLK)
	124T154310	Knob, Mic Level (GLD)
990B	105H861010	Label, 3 Year
001D	403H257110	Lid, Top Cover (BLK)
	403H257310	Lid, Top Cover (GLD)
002D	51260408U0	B.T. Screw B4 x 8
005D	2911861140	Label, Caution [N, A]
990D	117H861020	Label, Caution [U]
001G	045H257010	Lid, Bottom Cover
002G	51280308U0	B.H. Tapped Screw B3 x 8
003G	51280308U0	B.H. Tapped Screw B3 x 8
005G	008H126010	Stay, Right
006G	51280308U0	B.H. Tapped Screw B3 x 8
007G	403H126020	Stay, Left
008G	51280308U0	B.H. Tapped Screw B3 x 8
010G	51280406U0	B.H. Tapped Screw B4 x 6
015G	045H104010	Retainer, Slide Volume
016G	51100203S0	B.H.M. Screw B2 x 3
017G	51280308U0	B.H. Tapped Screw B3 x 8
018G	045H303020	Mask
020G	045H271010	Holder, FL
021G	045H303010	Mask, FL (BLK)
	045H303110	Mask, FL (GLD)
023G	51280308U0	B.H. Tapped Screw B3 x 8
024G	045H160010	Bracket, Push Switch
025G	51280308U0	B.H. Tapped Screw B3 x 8
026G	51280308U0	B.H. Tapped Screw B3 x 8
027G	147T118010	Spacer
028G	51280308U0	B.H. Tapped Screw B3 x 8
030G	471H160040	Bracket, Main P.W. Board
031G	51280308U0	B.H. Tapped Screw B3 x 8
032G	51280308U0	B.H. Tapped Screw B3 x 8
033G	045H118010	Spacer, Main P.W. Board
040G	011T057010	Leg
041G	51280408U0	B.H. Tapped Screw B4 x 8
045G	2911861110	Label, Caution [A, N, E]
901G	045H250040	Rear Panel [U]
	045H250010	Rear Panel [N, A]
	045H250020	Rear Panel [E]
	045H250030	Rear Panel [F]

REF. DESIG.	PART NO.	DESCRIPTION
902G	51280308U0	B.H. Tapped Screw B3 x 8
905G	51280308U0	B.H. Tapped Screw B3 x 8
906G	51280308U0	B.H. Tapped Screw B3 x 8 [E]
910G	1455259030	Bushing, AC Power Cord [U, E, F]
991G	117H861020	Label, Caution [U]
992G	9511101070	Label, UL [U]
993G	2457861040	Label, CSA [U]
⚠J051	BY05060040	Voltage Selector [E]
⚠J052	YP04000580	Plug, AC Inlet [N, A]
⚠J091	YJ04001220	Jack, AC Outlet [U, E, F]
⚠L001	TS14138050	Power Transformer [U]
	TS14138040	Power Transformer [N, A]
	TS14138070	Power Transformer [E]
	TS14138060	Power Transformer [F]
⚠W001	YC01900100	A.C. Power Cord [U]
	YC01900080	A.C. Power Cord [E, F]
		PACKING
001S	045H801030	Packing Case [U]
	045H801010	Packing Case [N, A, F]
	045H801020	Packing Case [E]
002S	009H807010	Reinforcing [E]
005S	001H809010	Cushion
006S	9014312230	Polyethylene Bag
001T	045H851210	User Manual [U]
	045H851310	User Manual [N, E, A]
	045H851110	User Manual [F]
002T	045H851220	User Manual, Spec [U]
	045H851320	User Manual, Spec [N, E, A]
003T	045H856010	Circuit Diagram [N, E]
004T	103H854010	Warranty Card [U]
	9631000090	Warranty Card [A]
005T	9631000130	Warranty Card [F]
006T	128T854010	Warranty Card [F]
007T	9611000050	User's Card [F]
008T	9540000010	License
⚠J001	YJ04001240	Jack, AC Adapter [E]
⚠W001	ZC01805010	A.C. Power Cord [N]
	ZC02006020	A.C. Power Cord [A]
W011	ZD01000170	Connective Cord
M001	MP50000200	Microphone

H3178

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

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

① — Resistance value

Examples

① Resistance value

0.1Ω...001	10Ω...100	1kΩ...102	100kΩ...104
0.5Ω...005	18Ω...180	2.7kΩ...272	680kΩ...684
1Ω...010	100Ω...101	10kΩ...103	1MkΩ...105
6.8Ω...068	390Ω...391	22kΩ...223	4.7MkΩ...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
①② Temp. coeff. P350 ~ N1000, 50V
② — Capacity value
① — Tolerance

Examples

① Tolerance (Capacity deviation)
±0.25pF...0
±0.5pF...1
±5%...5

* Tolerance of COMMON PARTS handled here are as follows:
0.5pF ~ 5pF...±0.25pF
6pF ~ 10pF...±0.5pF
12pF ~ 560pF...±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
① Temp. chara. 2B4, 50V
① — Capacity value

Example

② Capacity value

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

C***: ELECTROLY CAP. (⫢), FILM CAP. (⫨)
(1) EA ------ 10, Electrolytic condenser
One-way lead type, Tolerance ±20%
①② Dielectric strength
① — Capacity value

Examples

① Capacity value

0.1μF...104	4.7μF...475	100μF...107
0.33μF...334	10μF...106	330μF...337
1μF...105	22μF...226	1100μF...108
		2200μF...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 ±5% 50V
① — Capacity value

Examples

① Capacity value

0.001μF (1000pF)...102	0.1μF...104
0.0018μF.....182	0.56μF...564
0.01μF.....103	1μF...105
0.015μF.....153	

H3179

7. ELECTRICAL PARTS LIST

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

REF. DESIG.	PART NO.	DESCRIPTION
		PE15-MAIN CIRCUIT BOARD
PE15	YK045H1810	P.W. Board, Main
	ZZ045H1810	P.W. Board Assembly [U]
	ZZ045H8810	P.W. Board Assembly [N, A]
	ZZ045H7810	P.W. Board Assembly [E]
		PE15-CAPACITORS
CE60	DK18103310	Ceramic 0.01μF +80% −20%
CK34	DK18103310	Ceramic 0.01μF +80% −20%
		PE15-RESISTORS
⚠R801	NH05470140	47Ω ±5% ¼W, Fusible [U,N,A]
⚠R802	NH05470140	47Ω ±5% ¼W, Fusible [U,N,A]
RL12	RA01040600	100KΩ, Trimming
GL01	BW05104020	100KΩx12, Composite
		PE15-SEMICONDUCTORS
⚠D801 ~ ⚠D804	HD20022030	Diode DSF10C
DK01 ~ DK23	HD20002000	Diode, Substitute
DK51	HD20022030	Diode DSF10C
DK52	HD20022030	Diode DSF10C
DK53	HD20022030	Diode DSF10C
⚠Q801	HC38515090	IC NJM78M15A
⚠Q802	HC38515090	IC NJM78M15A
QE01 ~ QE04	HC10036200	IC M5227P
QE05	HT328781A0	Transistor 2SC2878(A)
QE06	HT328781A0	Transistor 2SC2878(A)
QK01 ~ QK06	HC10008090	IC NJM4558D-D
QK08	HC406600B0	IC 4066
QK09	HC406600B0	IC 4066
QK10	HC406600B0	IC 4066
QK51	HT30001000	Transistor 2SC536SP, 2SC2458 ETC
QL01	HC10008090	IC NJM4558D-D
QL02	HF202462B0	F.E.T. 2SK246(Y, GR)
QL03	HT113092B0	Transistor 2SA1309(R, S)
QL04	HC406905B0	IC 4069
QL05	HC452000B0	IC 4520
QL06	HC45140B0	IC 4514
QL07	HC10158050	IC TC5064BP
QL08	HC10158050	IC TC5064BP
		PE15-MISCELLANEOUS
J801	YP06001050	Plug, 5P
JE01	YT02040610	Terminal, 4P; RCA Pin
JE02	YT02040500	Terminal, 4P; RCA Pin
JE03	YJ06002460	Jack, 7P
JE04	YJ06002460	Jack, 7P
JE05	YJ06002390	Jack, 5P
JE06	YJ06002390	Jack, 5P
JR01	YJ06002460	Jack, 7P
JR02	YJ06002440	Jack, 4P
JR03	YJ06002440	Jack, 4P
JR04	YJ06001520	Jack, 2P
JS01	YJ06002460	Jack, 7P
JS02	YJ06002460	Jack, 7P
JS03	YJ06002430	Jack, 3P
JS05	YJ06002390	Jack, 5P
JV01	YJ06002390	Jack, 5P

REF. DESIG.	PART NO.	DESCRIPTION
		PR15-BAR DRIVE/VOLUME CIRCUIT BOARD
PR15	YK045H1820	P.W. Board, Bar Drive/Volume
	ZZ045H1820	P.W. Board Assembly
		PR15-RESISTORS
RE11 ≀ RE30	RX01040130	100KΩ, Variable
		PR15-SEMICONDUCTORS
DR01	HD30001020	Zener MA1033M
DR02	HD30044060	Zener RD9.1E-B1
QR01 ≀ QR05	HC10008090	IC NJM4558D-D
		PR15-MISCELLANEOUS
JR05	YP07001600	Plug, 10P
JR06	YP07001570	Plug, 7P
JR07	YP07001560	Plug, 6P
MR01	HQ31101410	Display Unit
WE03	YU07280260	Jumper Lead, 7P
WE04	YU07240260	Jumper Lead, 7P
WE05	YU05280260	Jumper Lead, 5P
WE06	YU05240260	Jumper Lead, 5P
WR01	YU07220260	Jumper Lead, 7P
WR02	YU04200260	Jumper Lead, 4P
WR03	YU04160260	Jumper Lead, 4P
		PR25-FL SET CIRCUIT BOARD
PR25	YK045H1860	P.W. Board, FL Set
	ZZ045H1860	P.W. Board Assembly
WR04	YU02160260	Jumper Lead, 2P
		PS15-INPUT SWITCH CIRCUIT BOARD
PS15	YK045H1830	P.W. Board, Input Switch
	ZZ045H1830	P.W. Board Assembly
SS01	SP06040090	Push Switch
WS02	YU07140260	Jumper Lead, 7P
WS05	YU05140260	Jumper Lead, 5P
WS06	YU03060260	Jumper Lead, 3P
WS07	YU03060260	Jumper Lead, 3P
WS11	YU03080260	Jumper Lead, 3P
WS12	YU02080260	Jumper Lead, 2P

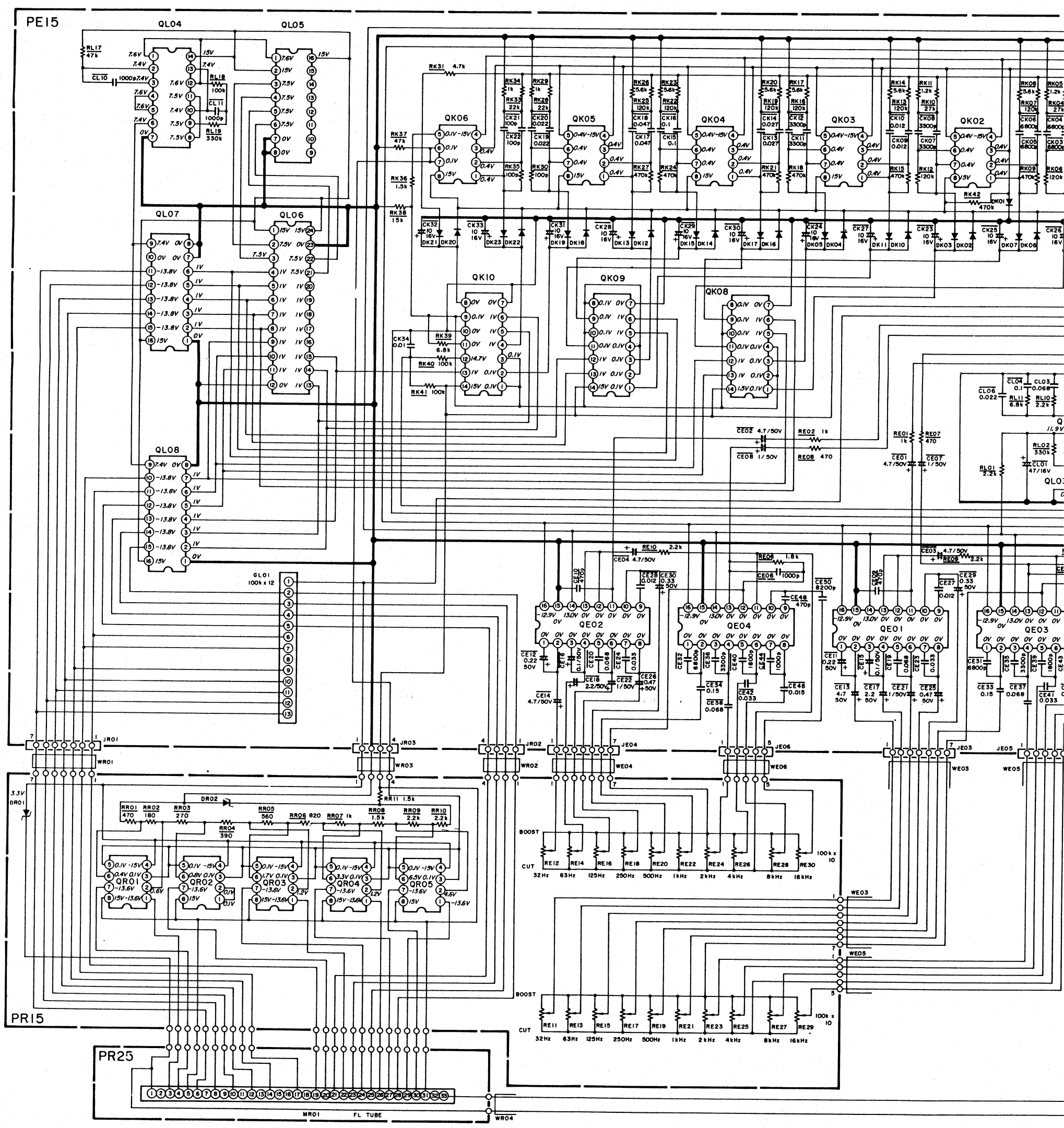
REF. DESIG.	PART NO.	DESCRIPTION
		PS25-DISPLAY SWITCH CIRCUIT BOARD
PS25	YK045H1840	P.W. Board, Display Switch
	ZZ045H1840	P.W. Board Assembly
SS02	SP02040390	Push Switch
WS01	YU07140260	Jumper Lead, 7P
WS03	YU03260260	Jumper Lead, 3P
WV02	YU03080260	Jumper Lead, 3P
		PS35-POWER SWITCH CIRCUIT BOARD
PS35	YK045H1880	P.W. Board, Power Switch
	ZZ045H1880	P.W. Board Assembly
⚠CP01	DK18103840	Ceramic Cap. 0.01μF 400V
JP01	YP06001040	Plug, 3P
⚠SP01	SP01010660	Push Switch, Power
		PV15-MIC AMP CIRCUIT BOARD
PV15	YK045H1850	P.W. Board, Mic Amp
	ZZ045H1850	P.W. Board Assembly (Black)
	ZZ045H8850	P.W. Board Assembly (Gold)
		PV15-CAPACITORS
CV03	DD15101300	Ceramic 100pF ±5%
CV04	DD15470300	Ceramic 47pF ±5%
		PV15-RESISTOR
RV12	RM05031190	50KΩ(A), Variable
		PV15-SEMICONDUCTOR
QV01	HC10008090	IC NJM4558D-D
		PV15-MISCELLANEOUS
JV02	YJ06002430	Jack, 3P
JV03	YJ01001780	Jack, Mic (Gold)
	YJ01002110	Jack, Mic (Black)
WV01	YU05100260	Jumper Lead, 5P

(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.

M3180

10. SCHEMATIC DIAGRAM

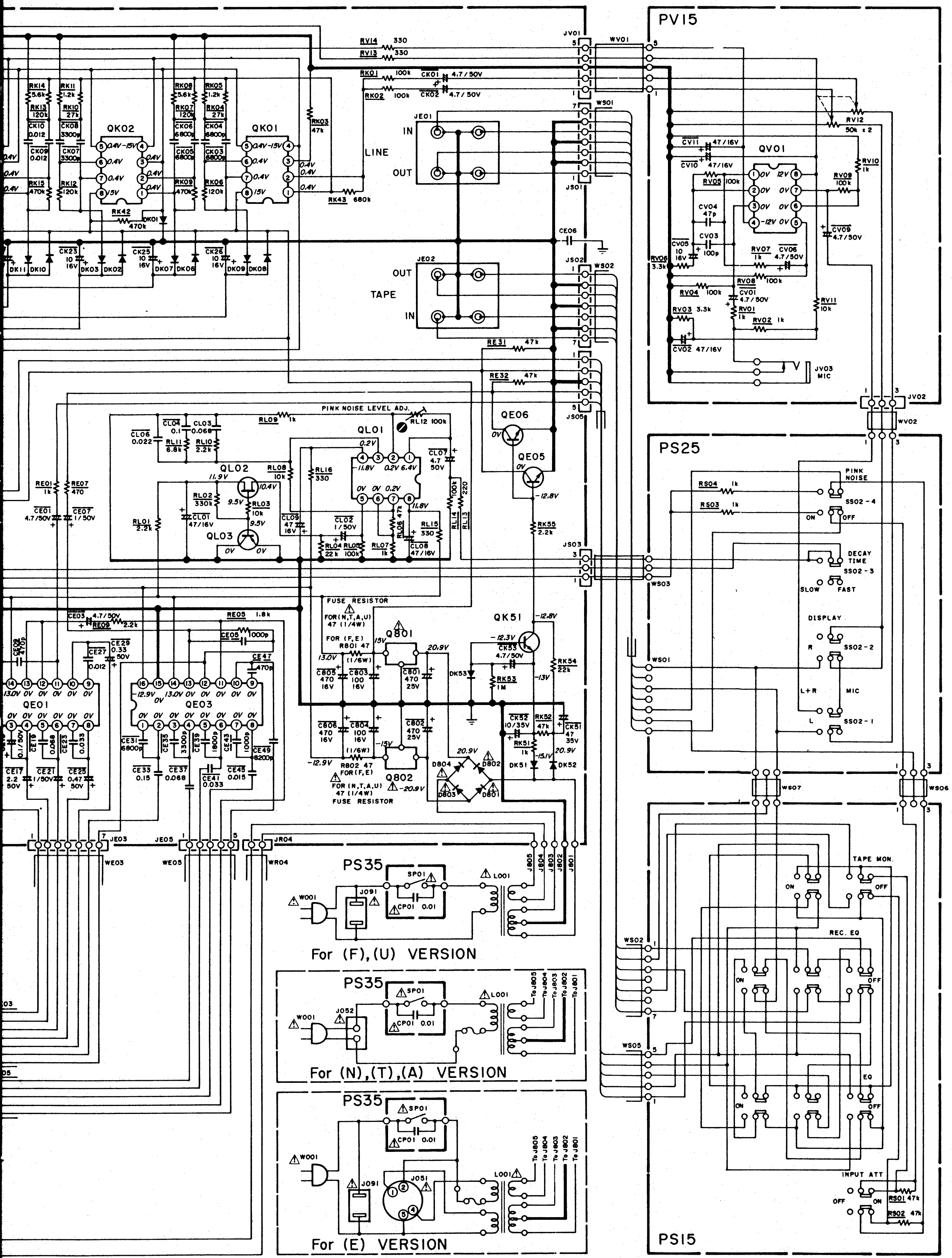


L001	TS14138040	POWER TRANSF. [N, A]
L001	TS14138070	POWER TRANSF. [E]
RL12	RA01040600	TRIMMING 100KΩ
SP01	SP01010660	PUSH SWITCH POWER
MR01	HQ31101410	DISPLAY UNIT
RE11 ~ RE30	RX01040130	VARIABLE 100KΩ
SS01	SP06040090	PUSH SWITCH
SS02	SP02040390	PUSH SWITCH
RV12	RM05031190	VARIABLE 50KΩ

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.

M2181



Q801
HC38515090
NJM78M15A

Q802
HC39515090
NJM79M15A

QR01 ~ QR05,QV01
QK01 ~ QK06,QL01
HC10008090
NJM4558D-D

QK08 ~ QK10
HC406600B0
4066

QL04
HC406905B0
4069

QL05
HC452000B0
4520

QL06
HC451400B0
4514

QL07, QL08
HC10158050
TC5064BP

QE01 ~ QE04
HC10036200
M5227P

QE05,QE06
HT328781A0
2SC2878A

QL02
HF202462B0
2SK246

QL03
HT113092B0
2SA1309

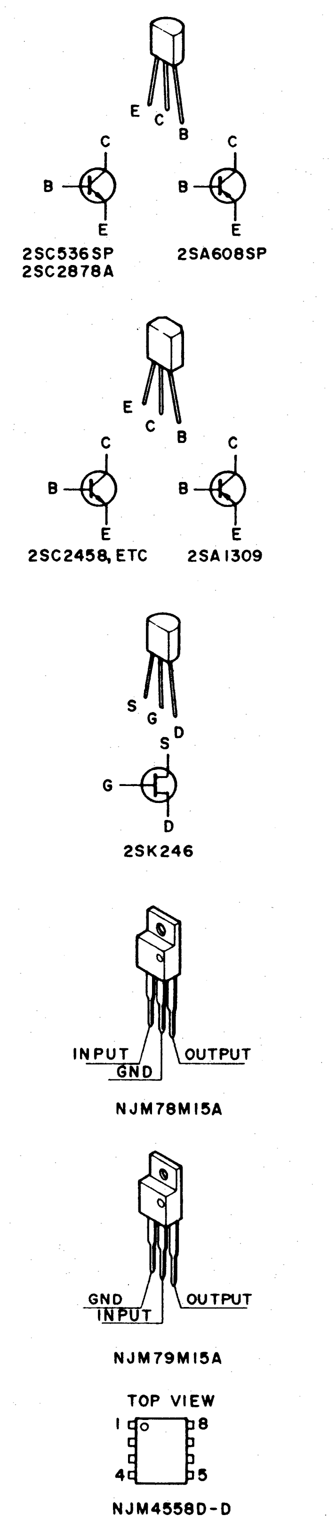
QK51
HT30001000
2SC536SP
2SC2458,ETC

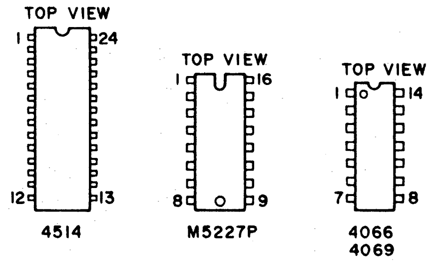
DK01 ~ DK26
DK53
HD20002000
1SS133, MA165,ETC

D801 ~ D804
DK51, DK52
HD20022030
DSF10C

DR01
HD30001020
MA1033M

DR02
HD30044060
RD9.1E





**"SERVICE INFORMATION IS FOR USE BY QUALIFIED RERSONNEL 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 ~ N1000 50V

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

C*** : **ELECTROLY CAP. (╪) / FILM CAP. (╪)**
(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"

cation without notice.

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