

Service Manual

74MM500 / 02B / 02G / 05B

74SM500 / 02B / 02G / 05B

Main amplifier

Multi channel main amplifier MM500

Stereo main amplifier SM500

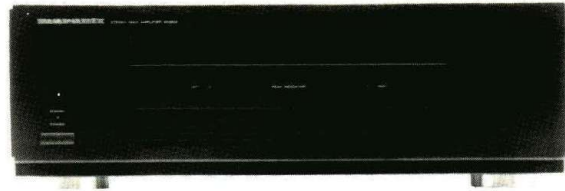


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4822 725 51074

marantz®

model MM500 / SM500

First issue : 1994/9

PCS 79 583

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 at our National Marantz Subsidiary or Agent.

MARANTZ EUROPE B.V.
P.O. Box 80002
Building SFF 2
5600 JB Eindhoven
The Netherlands
Phone : +31-40-732241
Fax : +31-40-735578

ORDERING PARTS

Parts can be ordered either by mail or by telex. In both cases, the 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 the 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.

ADDRESSES

AUSTRALIA MARANTZ AUSTRALIA Figtree Drive Australia Centre Homebush, NSW 2140 AUSTRALIA	FINLAND MARANTZ Kuortanegatan 1 00520 Helsingfors 52 Finland	ITALY MARANTZ ITALIANA SPA Piazza IV Novembre 3 20124 Milano Italy	NORWAY MARANTZ Postboks 7034 Assiden 3007 Drammen Norway	SPAIN MARANTZ SPAIN Martinez Villergas 2 Apartado 2065 Madrid 28027 Spain
AUSTRIA MARANTZ Hietzinger Kai 137a 1130 Wien Austria	FRANCE MARANTZ FRANCE 4 Rue Bernard Palissy 92600 Asnières France	JAPAN MARANTZ JAPAN INC. 35-1, 7-chome, Sagamiono Sagamihara-shi, Kanagawa Japan	PORTUGAL COREL Av. da Liberdade 211-2 Esq. 1200 Lisboa Portugal	SWEDEN MARANTZ Box 1324 17125 Solna Sweden
BELGIUM MARANTZ EUROPE B.V. Div. Benelux P.O.Box 80002 Building SFF 2 5600 JB Eindhoven The Netherlands	GERMANY MARANTZ GERMANY GmbH Kleine Heide 12 Postfach 4802 Halle-Westfalen Germany	KUWAIT AL ALAMIAH ELECTRONICS P.O.Box 8196 Salmiah 22052 Kuwait	SAUDI ARABIA AL ALAMIAH ELECTRONICS P.O.Box 5954 University Street Riyadh 11432 Saudi Arabia	SWITZERLAND MARANTZ SWITZERLAND Postfach 8010 Zürich-Müllingen Switzerland
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DENMARK MARANTZ Horsvinget 5 2630 Tastrup Denmark	GREECE ADAMCO ELECTR. SA P.O.Box 21025 Hippocrates Str. 188 Athens 11471 Greece			

All of the above locations are fully equipped to take care of your total service needs or can advice you. 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 above mentioned address.

1. TECHNICAL SPECIFICATIONS

Model SM500

Rated Power Output	80 W rms / ch. into 8 ohms 130 W rms / ch. into 4 ohms
Total Harmonic Distortion	< 0.05 % at 8 ohms < 0.09 % at 4 ohms
Input sensitivity / input impedance	0.5 V rms / 25 k ohms
Frequency Response (-1 dB at 1 W)	10 to 80 kHz
Signal to Noise ratio (A-weighted)	> 110 dB

Model MM500

Rated Power Output	75 W rms / ch. into 8 ohms 80 W rms at 1 kHz into 8 ohms 40 W rms / ch. at 1 kHz into 4 ohms
Total Harmonic Distortion	< 0.09 % at 8 ohms
Input Sensitivity / impedance	0.5 V rms / 2.5 k ohms
Frequency Responce (-1 dB at 1W)	10 to 80 kHz
Signal to Noise ratio (A-weight)	> 110 dB

Power Requirement

/ 02. version	230 V AC 50 Hz
/ KS version	230 V AC 50 Hz
K version	110 / 220 V AC 50 / 60 Hz
U version	120 V AC 60Hz

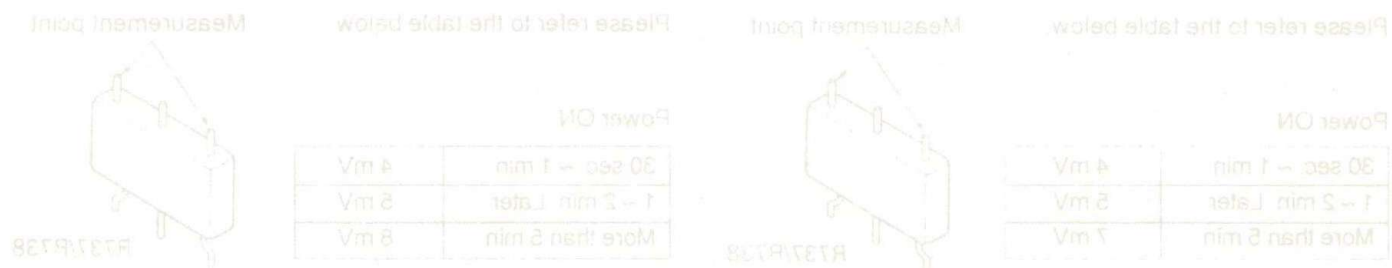
Dimensions

width	426 mm
Height	145 mm
Dipth	356 mm

Weight : SM 500	9.3 kg
MM500	9.4 kg

Supplied accessory Remote cable x 1

Design and Specifications subject to change without prior notice.



2. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing.

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 primary power to amplifier
Shorting Plug	Shorts amplifier input to eliminate noise pickup

3. IDLING CURRENT ADJUSTMENT

MM500

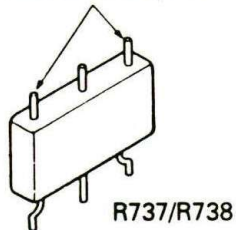
- Before switching the power ON, insert the short plug in the inputs terminals (L CH / R CH). Then, rotate the semi-fixed resistors R719 (L CH) and R720 (R CH) on the PC board PV04 fully counterclockwise.
- Connect a digital voltmeter, set for the DC voltage input to the pertinent test points (the marked ones of R737-R738) on the PC board PV04. (Positive: Left side, Negative: Right side)
- After the completion of the above setup. Switch the power ON and adjust the semi-fixed resistors R719 (L CH) and R720 (R CH) on the PC board PV04 according to the reading of the digital voltmeter. The setting values are 7 mV (19 mA) of the both channels.

Please refer to the table below.

Power ON

30 sec. ~ 1 min.	4 mV
1 ~ 2 min. Later	5 mV
More than 5 min.	7 mV

Measurement point



SM500

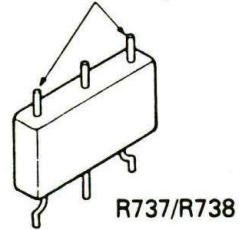
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- Connect a digital voltmeter, set for the DC voltage input to the pertinent test points (the marked ones of R737-R738) on the PC board PV04. (Positive: Left side, Negative: Right side)
- After the completion of the above setup. Switch the power ON and adjust the semi-fixed resistors R719 (L CH) and R720 (R CH) on the PC board PV04 according to the reading of the digital voltmeter. The setting values are 7 mV (19 mA) of the both channels.

Please refer to the table below.

Power ON

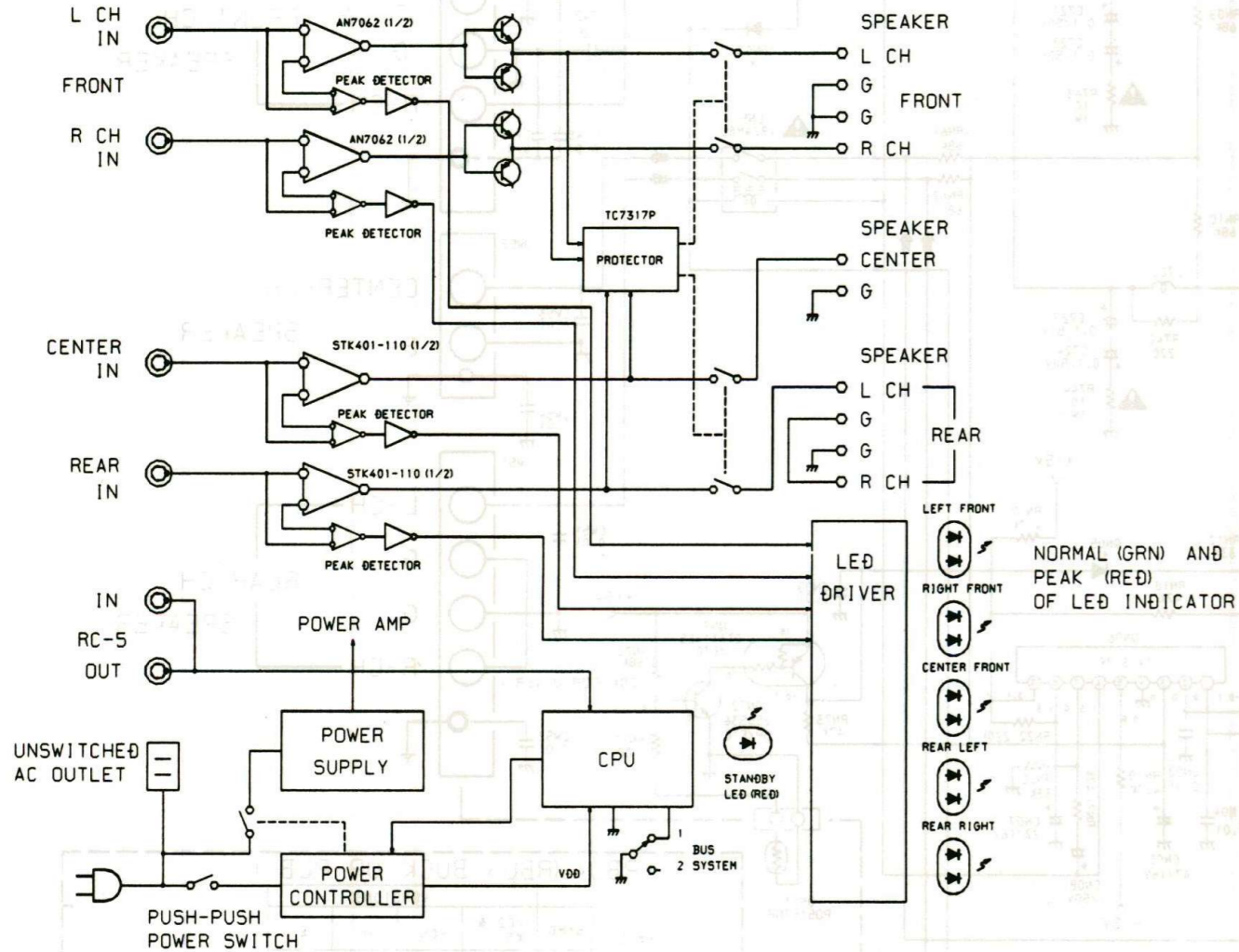
30 sec. ~ 1 min.	4 mV
1 ~ 2 min. Later	5 mV
More than 5 min.	8 mV

Measurement point

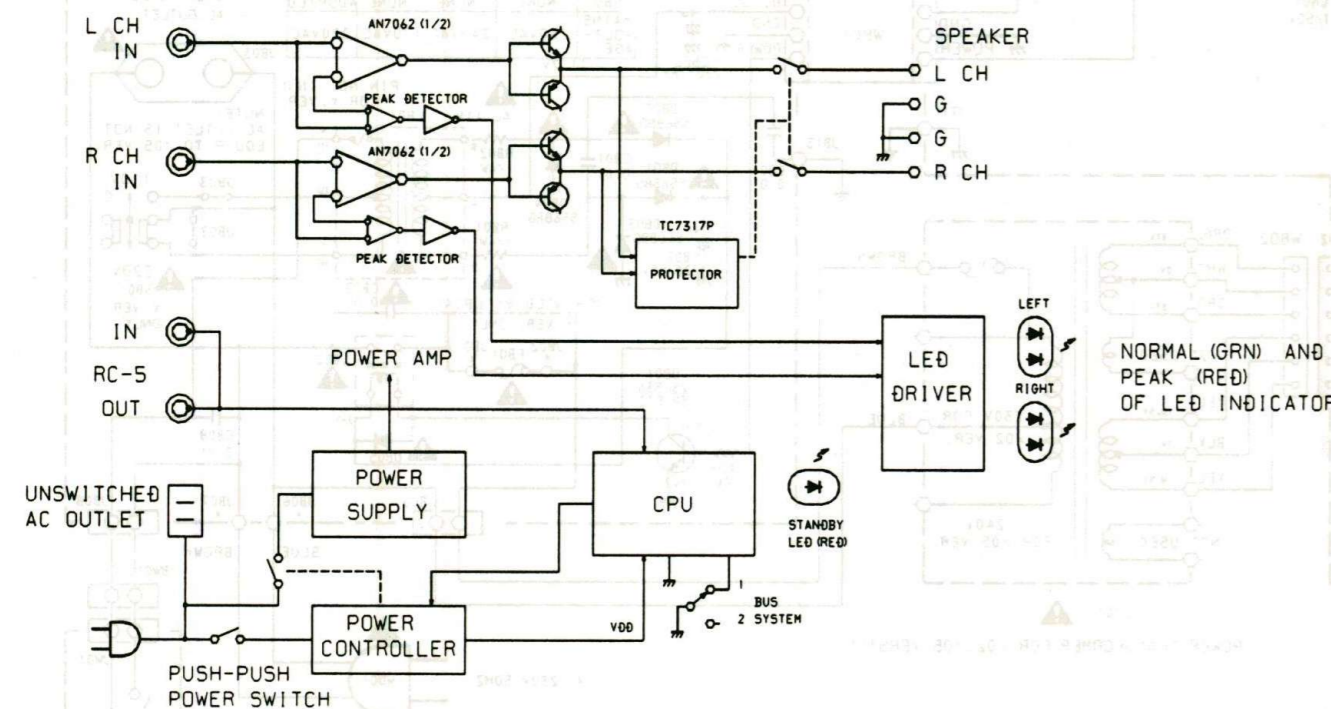


4. BLOCK DIAGRAM

MM500



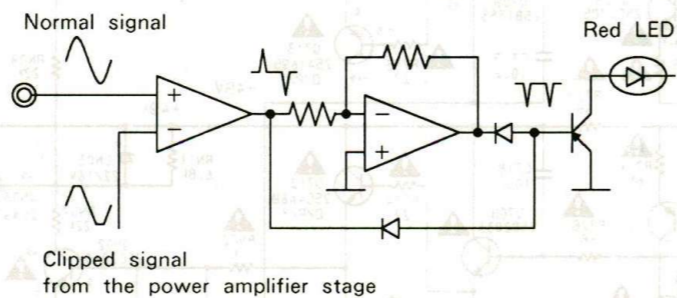
SM500



5. CIRCUIT DESCRIPTION

THE PRINCIPLE OF PEAK INDICATOR

When distortion in the channel power output which causes clipping is over 1%, the red indicator lights up as the following circuit diagram.



A principle of peak indicator

When the output power in the power amplifier is at the non-clipped level or no signal output, the green indicator lights up.

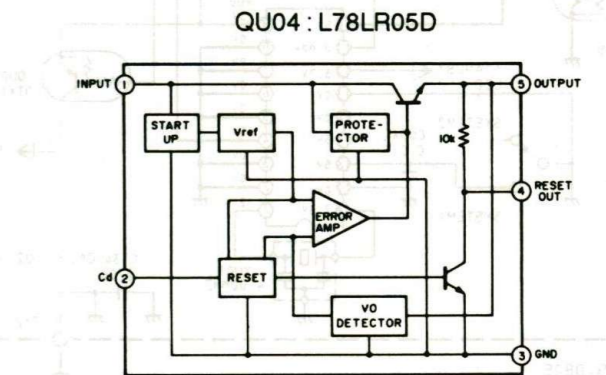
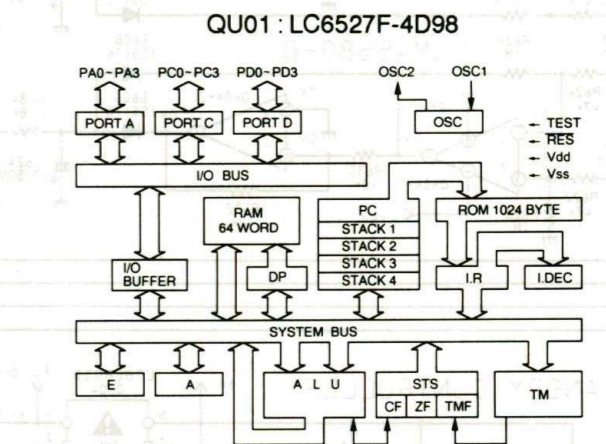
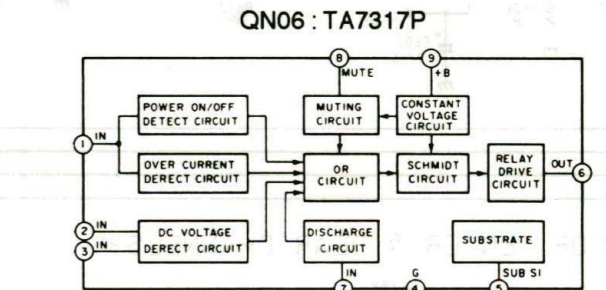
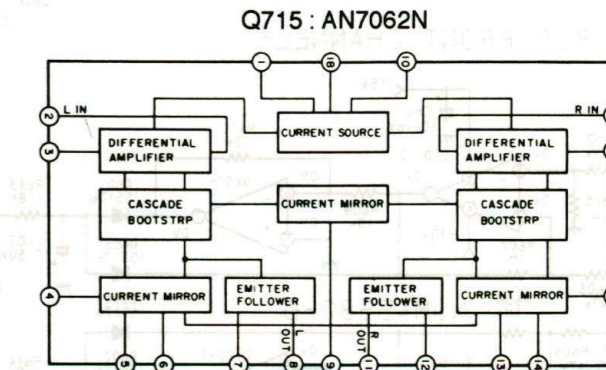
● PIN ASSIGNMENT TABLE

PIN NO.	PORT NAME	I/O	ACT	FUNCTION
1	OSC1	I	-	4.00MHz
2	TEST	-	-	GND
3	VSS	-	-	GND
4	RES	I	L	REST
5	PA0	-	-	GND
6	PA1	-	-	GND
7	PA2	-	-	GND
8	PA3	-	-	GND
9	VDD	-	-	+ 5V
10	PC0	I	L	RC-5 INPUT
11	PC1	O	L	POWER ON
12	PC2	O	L	STAND BY LED
13	PC3	O	-	RC-5 RECEIVE LED (NOT USED)
14	PD0	O	H	STAND BY OUT (NOT USED)
15	PD1	I	-	5V
16	PD2	I	L	LOW : *SYSTEM1 HIGH : **SYSTEM2
17	PD3	I	-	GND
18	OSC2	I	-	4.00MHz

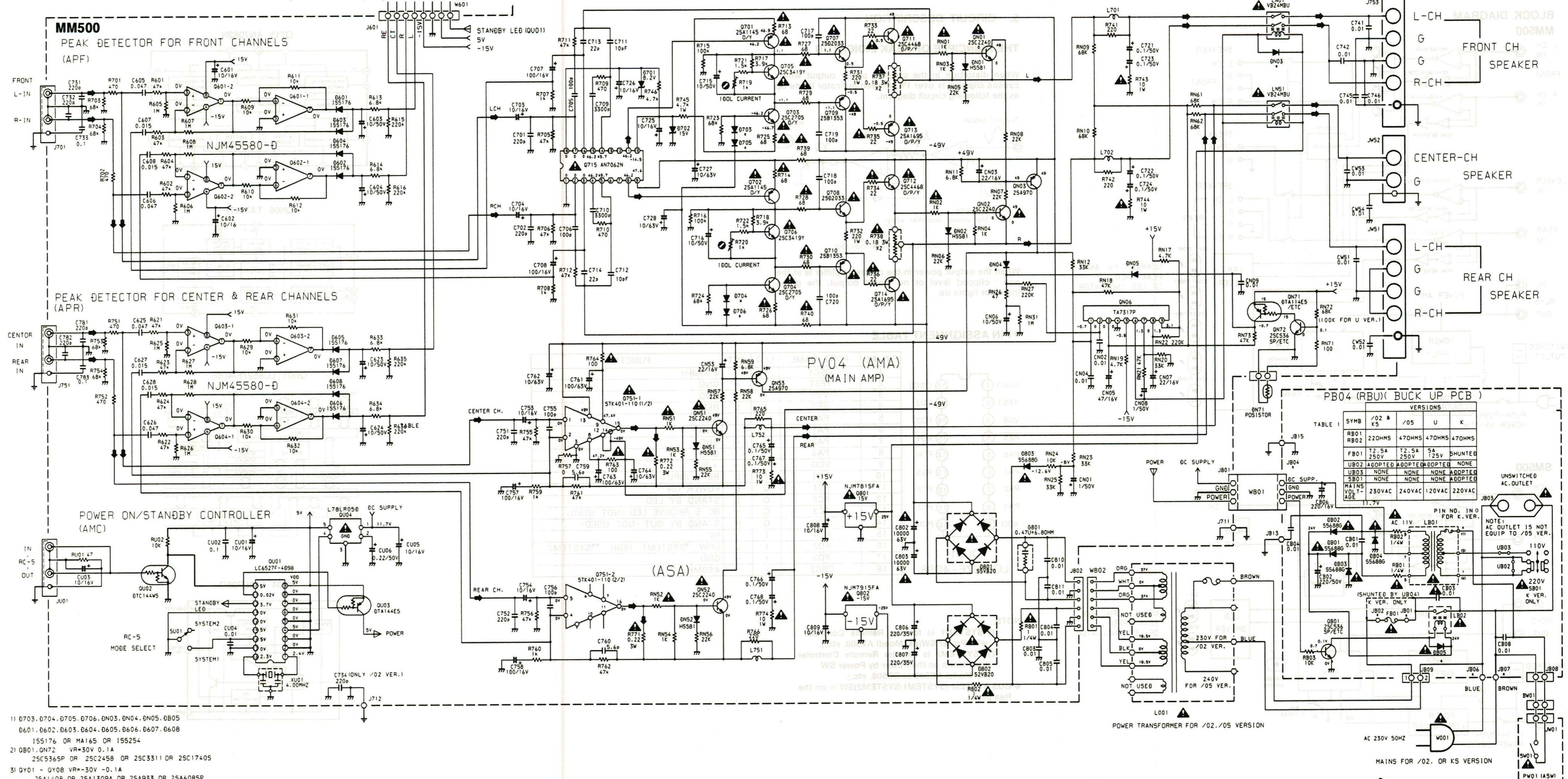
NOTE:

- 1)*SYSTEM1 is for the Remote Controller with Power SW(ex. Moedl AV500, etc.).
- 2)**SYSTEM2 is for the Remote Controller that turns on the Power by Power SW (ex. Model AC500 or EC500, etc.).

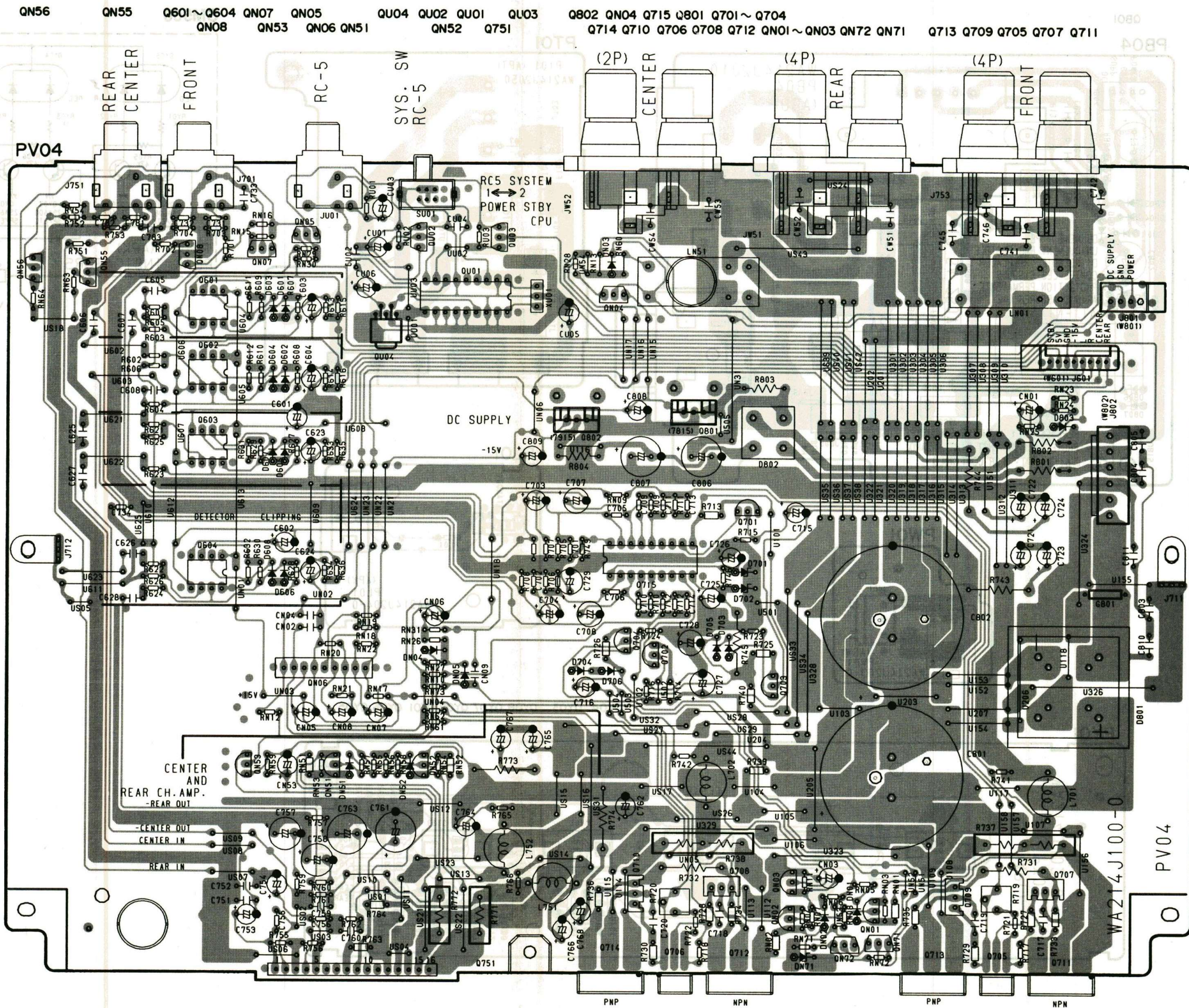
◆ BUS SYSTEM (SYSTEM1/SYSTEM2)SW is on the Rea panel.



6. SCHEMATIC DIAGRAM AND PARTS LOCATION (Pattern side)



- 1) D703, D704, D705, D706, DN03, DN04, DN05, DB05, DB01, DB02, DB03, DB04, DB05, DB06, DB07, DB08 155176 OR MA165 OR 155254
- 2) DB01, DN72 VR=30V 0.1A 25C5365P OR 25C2458 OR 25C3311 OR 25C17405
- 3) QY01 - QY08 VR=-30V -0.1A 25A1408 OR 25A1309A OR 25A933 OR 25A6085P



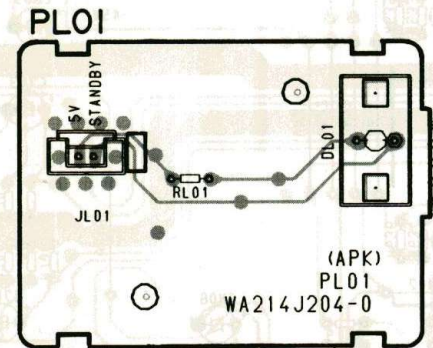
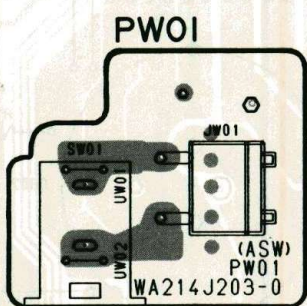
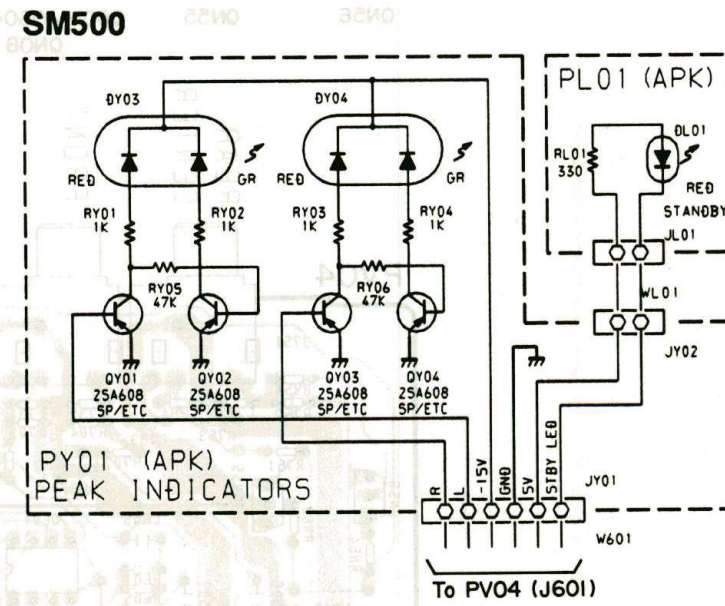
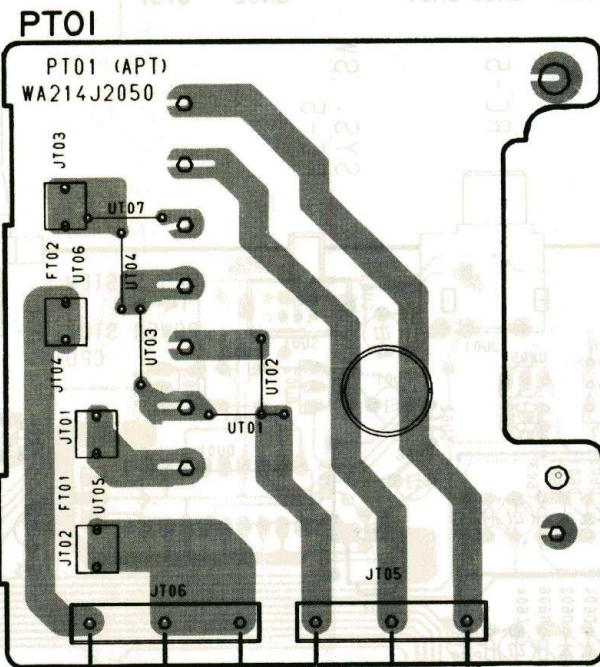
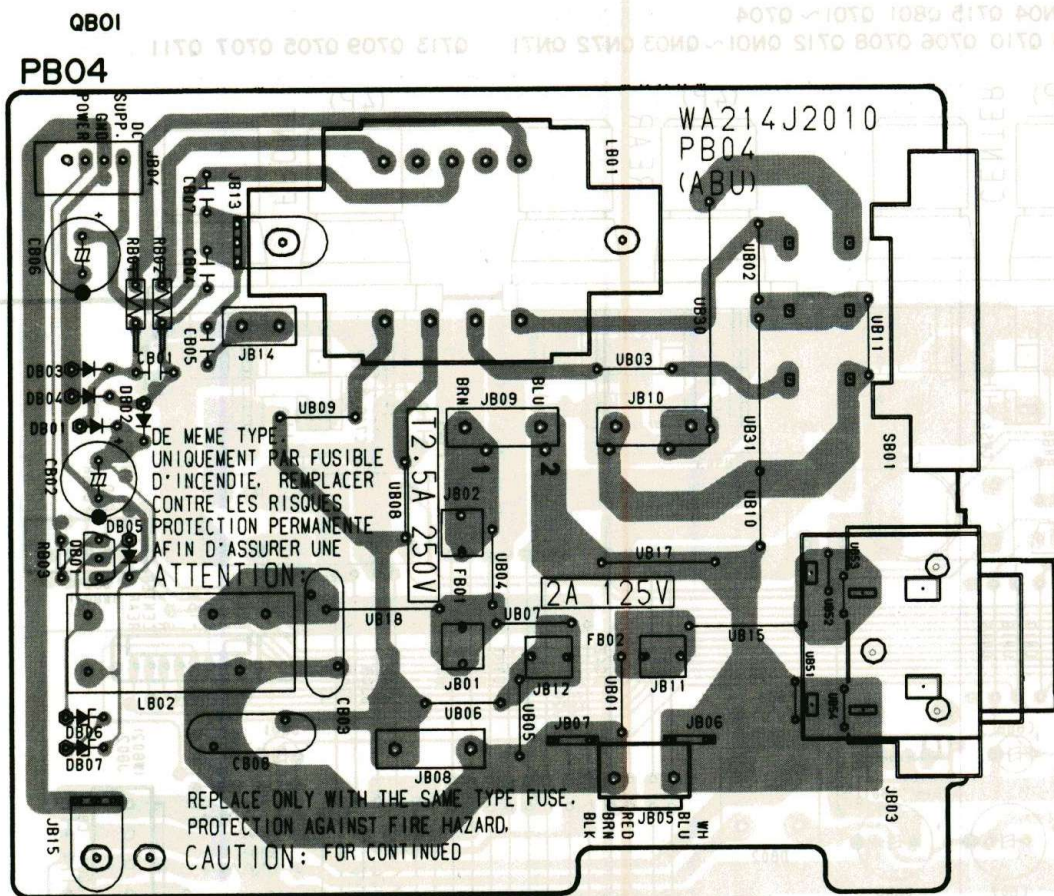
QN56 QN55 Q601~Q604 QN07 QN05 QU04 QU02 QU01 QU03 Q802 QN04 Q715 Q801 Q701~Q704 Q801 Q701~Q704 Q714 Q710 Q706 Q708 Q712 QN01~QN03 QN72 QN71 Q713 Q709 Q705 Q707 Q711

REAR CENTER FRONT RC-5 SYS. SW RC-5 (2P) CENTER (4P) REAR (4P) FRONT

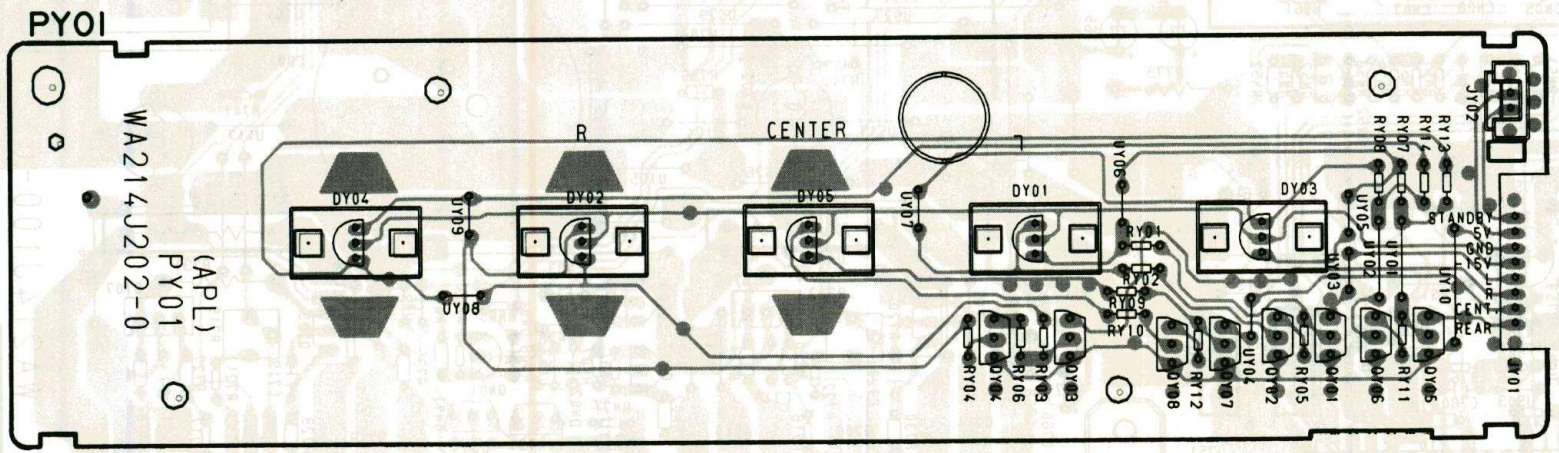
CENTER AND REAR CH. AMP. -REAR OUT -CENTER OUT CENTER IN REAR IN

WA214J100-0 PV04

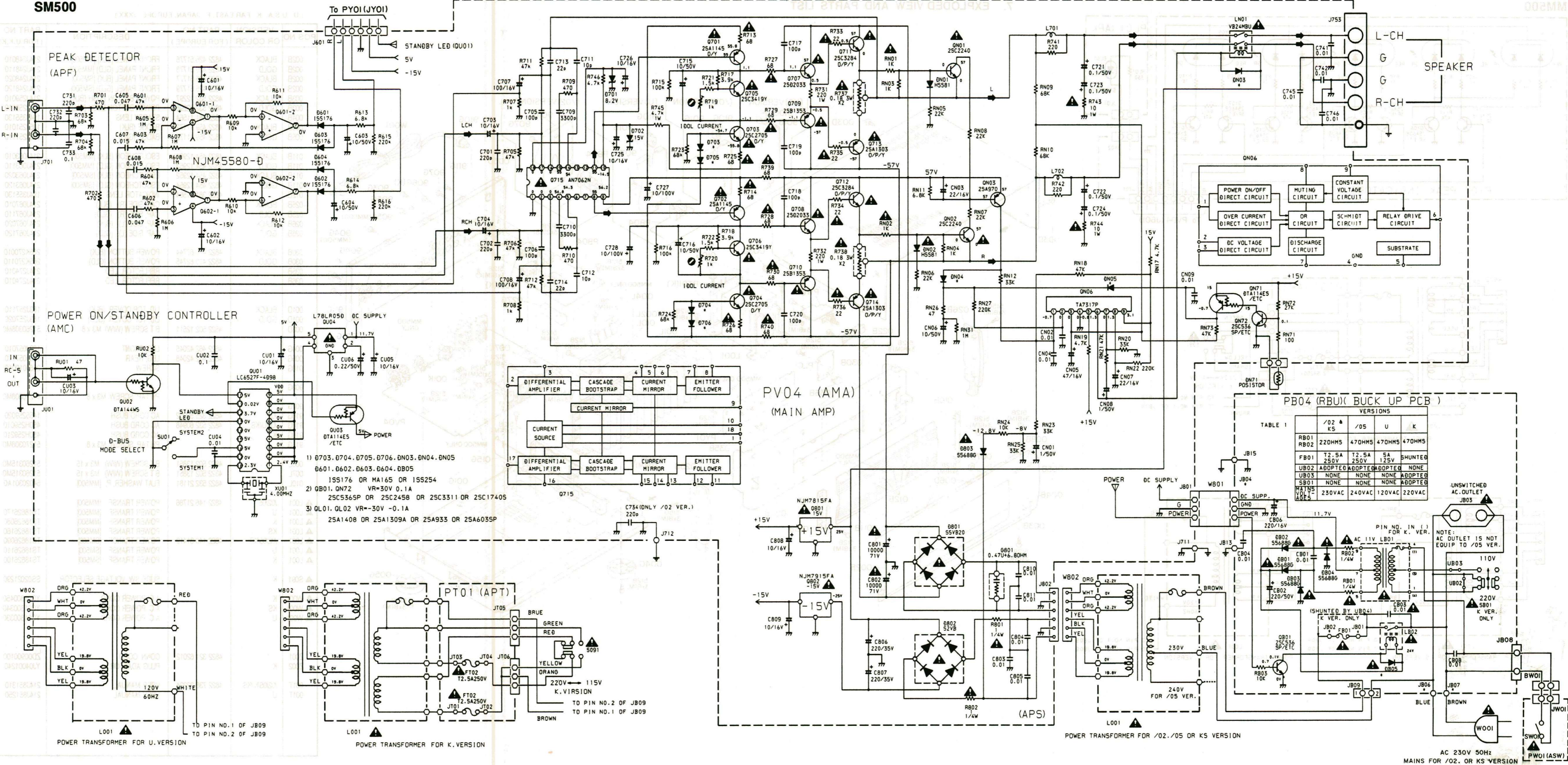
PNP NPN PNP NPN



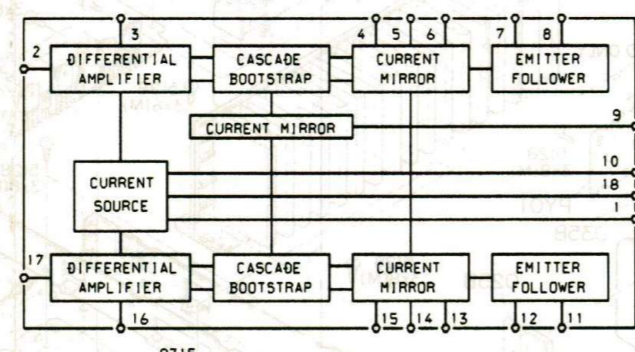
QY04 QY03 QY08 QY07 QY02 QY01 QY06 QY05



SM500



- 1) 0703, 0704, 0705, 0706, 0N03, 0N04, 0N05
0601, 0602, 0603, 0604, 0B05
1S5176 OR MA165 OR 1S5254
- 2) 0B01, 0N72 VR=30V 0.1A
25C5365P OR 25C2458 OR 25C3311 OR 25C1740S
- 3) 0L01, 0L02 VR=-30V -0.1A
25A1408 OR 25A1309A OR 25A933 OR 25A6035P



PB04 (RBU) BUCK UP PCB

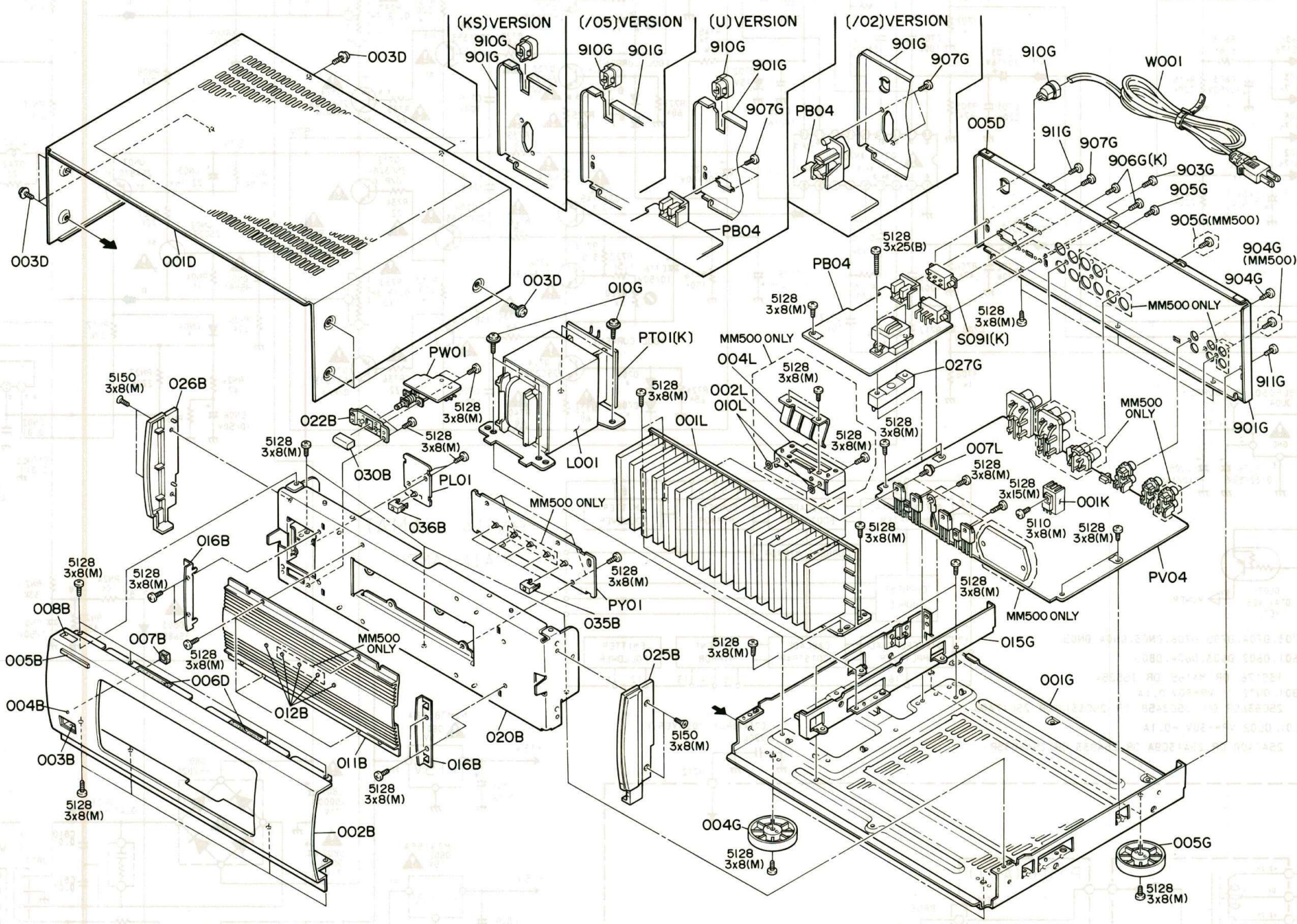
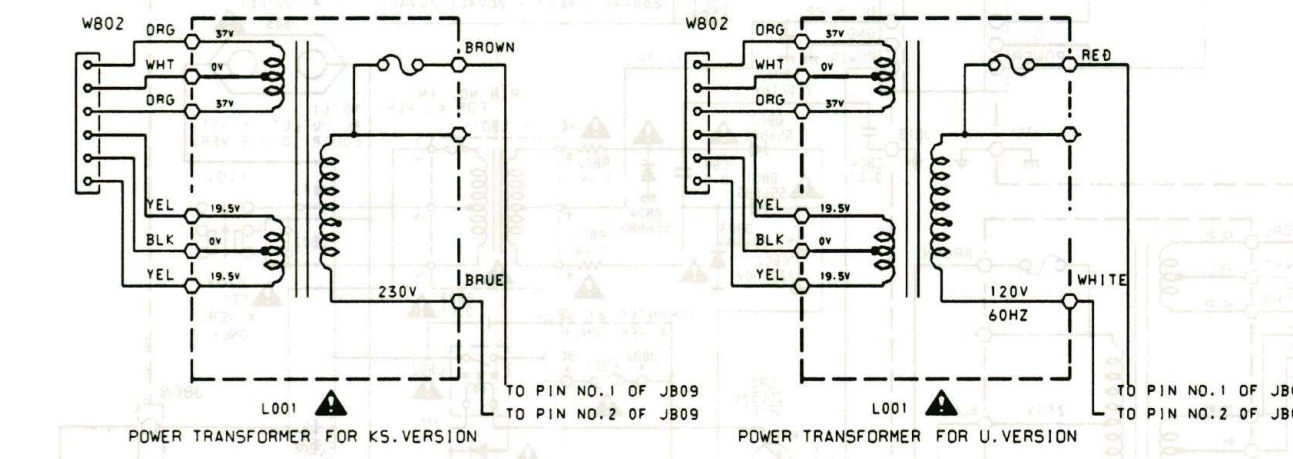
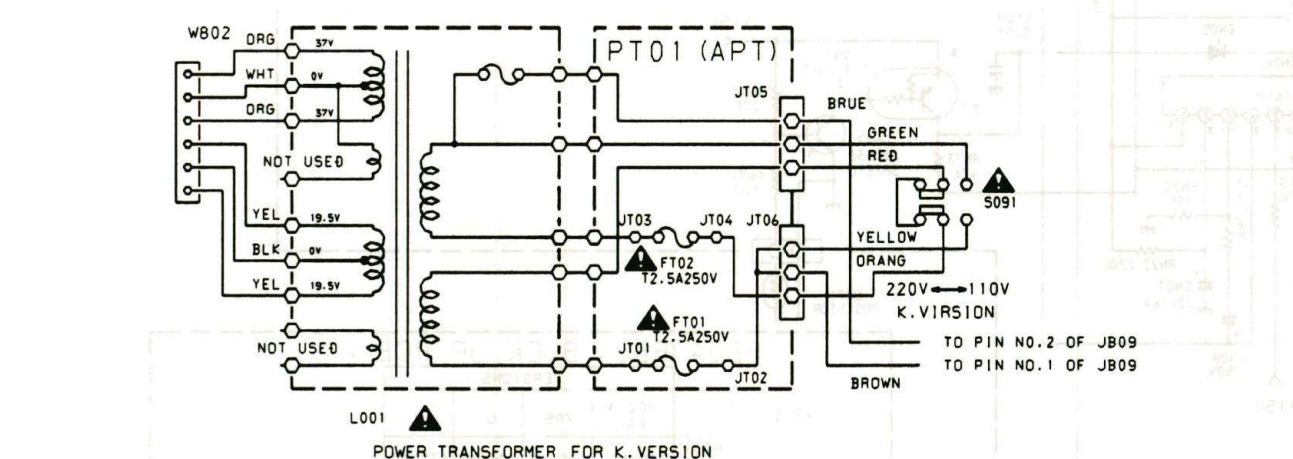
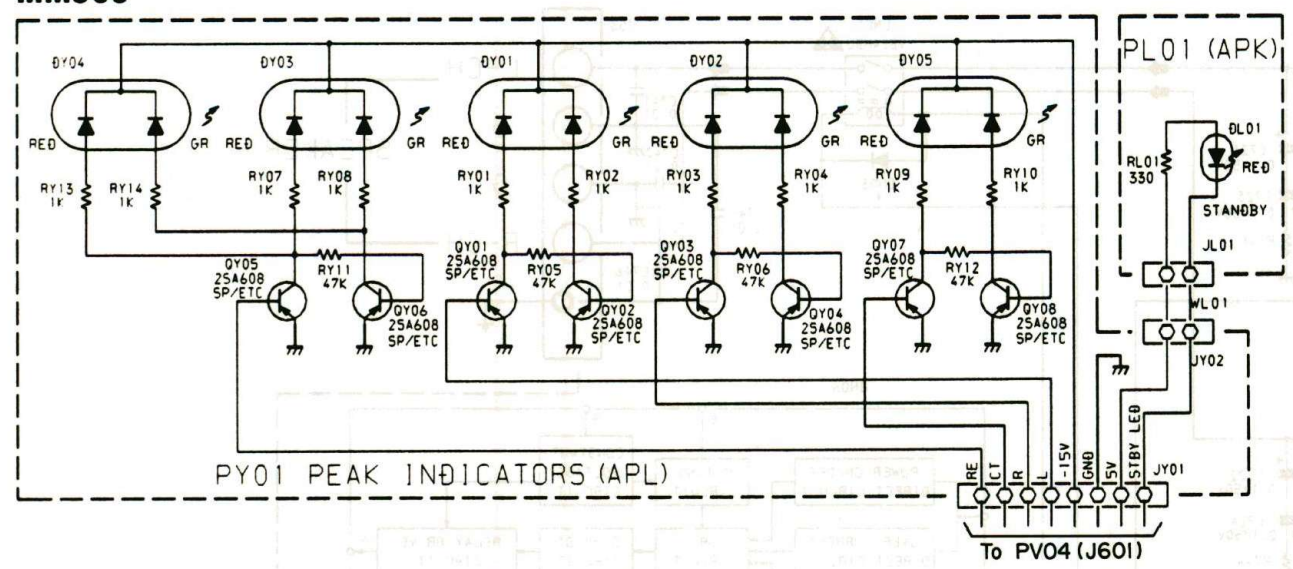
VERSIONS

	/02 & K5	/05	U	K
RB01	220HM5	470HM5	470HM5	470HM5
FB01	T2.5A 250V	T2.5A 250V	5A 125V	5A 125V
UB02	ADOPTED	ADOPTED	ADOPTED	NONE
UB03	NONE	NONE	NONE	ADOPTED
SB01	NONE	NONE	NONE	ADOPTED
WT15S	230VAC	240VAC	120VAC	220VAC
WT15S	AGES			

MM500

7. EXPLODED VIEW AND PARTS LIST

(U : U.S.A., K : FAR EAST, F : JAPAN, EUROPE : /XXX)



POS.NO	VERSION OR COLOR	PART NO. (FOR EUROPE)	DESCRIPTION	PART NO. (FOR U.K.KS)
002B	BLACK	4822 426 51776	FRONT PANEL (BLK) [MM500]	214J248010
002B	GOLD	4822 426 51778	FRONT PANEL (GLD) [MM500]	214J248110
002B	BLACK	4822 426 51777	FRONT PANEL (BLK) [SM500]	214J248020
002B	GOLD	4822 426 51779	FRONT PANEL (GLD) [SM500]	214J248120
003B	BLACK	4822 532 12297	POWER BUTTON BUSH (BLK)	214J259010
003B	GOLD	4822 532 12298	POWER BUTTON BUSH (GLD)	214J259110
004B		4822 381 11564	STADBY LENS	194J355130
005B	BLACK	4822 459 11172	BADGE (BLK)	185J251010
005B	GOLD	4822 459 11173	BADGE (GLD)	185J251110
011B	BLACK	4822 454 12951	ESCUTCHEON (BLK) [MM500]	214J063010
011B	GOLD	4822 454 12953	ESCUTCHEON (GLD) [MM500]	214J063110
011B	BLACK	4822 454 12952	ESCUTCHEON (BLK) [SM500]	214J063020
011B	GOLD	4822 454 12954	ESCUTCHEON (GLD) [SM500]	214J063120
012B		4822 381 11564	INDICATOR LENS	194J355130
025B	BLACK		CAP. SIDE (R) (BLK)	214J067010
025B	GOLD		CAP. SIDE (R) (GLD)	214J067110
026B	BLACK		CAP. SIDE (L) (BLK)	214J067020
026B	GOLD		CAP. SIDE (L) (GLD)	214J067120
030B	BLACK	4822 410 62744	POWER BUTTON (BLK)	285K270010
030B	GOLD	4822 410 62745	POWER BUTTON (GLD)	285K270110
035B			REFLECTOR, LED	214J274010
036B			REFLECTOR, LED	214J274010
001D	BLACK		LID, TOP COVER (BLK)	183J257110
001D	GOLD		LID, TOP COVER (GLD)	183J257020
003D		4822 502 12511	B.T.SCREW (WWW) M3 x 8	51260308M0
004G		4822 462 42045	LEG, FRONT	183J057010
005G		4822 462 42048	LEG, REAR	183J057110
010G			SCREW	216J10010
903G			PH.TAP. SCREW M3 x 8	51270308M0
907G			PH.TAP. SCREW M3 x 8	51270308M0
910G	/02	4822 325 50202	AC CORD BUSH	1455259020
910G	/05/U/KS	4822 532 60948	AC CORD BUSH	450H259010
910G	K		AC CORD BUSH	450H259210
911G			PH.TAP. SCREW M3 x 8	51270308M0
006L		4822 502 13851	B.T.SCREW (WWW) M3 x 15	51260315M0
007L		4822 502 13851	B.T.SCREW (WWW) M3 x 15	51260315M0
010L		4822 532 21181	FLAT WASHER, P. [MM500]	54020301A0
▲ L001	/02/05	4822 146 21786	POWER TRANSF. [MM500]	
▲ L001	U		POWER TRANSF. [MM500]	TS18626170
▲ L001	K		POWER TRANSF. [MM500]	TS18626080
▲ L001	KS		POWER TRANSF. [MM500]	TS18626160
▲ L001	/02/05/KS	4822 146 31419	POWER TRANSF. [SM500]	TS18626090
▲ L001	U		POWER TRANSF. [SM500]	TS18626110
▲ L001	K		POWER TRANSF. [SM500]	TS18626100
▲ S091	K		SLIDE SW, VOLTAGE SELECTOR	SS02021290
▲ W001	K		A.C. POWER CORD	YC01800450
▲ W001	KS		A.C. POWER CORD	YC01800340
▲ W001	U		A.C. POWER CORD	YC01800330
Z001		4822 321 62012	CONN. CORD	ZD00900100
Z002	K		PLUG ADAPTOR	YJ04001240
001T	/02/05/K/KS	4822 736 22224	USER MANUAL	214J851310
001T	U		USER MANUAL	214J851250

8. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

- R***: 1) GD05 x x x 140, Carbon film fixed resistor, ± 5% 1/4W
- R***: 2) GD05 x x x 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 x x x x 370, Ceramic capacitor Disc type Temp.coef.P350~N1000,50V
- (1) (2) 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 x x x 300, High dielectric constant ceramic capacitor Disc type Temp.chara. 2B4, 50V
- (1) Capacity value

Examples

(2) Capacity value		
100pF...101	1000pF...102	10000pF...103
470pF...471	2200pF...222	

C***: ELECTROLY CAP. (⏏), FILM CAP. (⏏)

- 1) EA x x x x x 10, Electrolytic capacitor One-way lead type, Tolerance ± 20%

(1) (2) Working voltage Capacity value

Examples

(1) Capacity value		
0.1 μF...104	4.7 μF...475	100 μF...107
0.33 μF...334	10 μF...106	330 μF...337
1 μF...105	22 μF...226	1100 μF...118
		2200 μF...228

(2) Working voltage

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

- 2) DF15 x x x 350 } Plastic film capacitor
- DF15 x x x 310 } One-way type, Mylar ± 5% 50V
- DF16 x x x 310 } Plastic film capacitor
- One-way type, Mylar ± 10% 50V

(1) Capacity value

Examples

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

- NOTE** : 1) The above CODES (R***, R***, C***, C*** and C***) are omitted on the schematic diagram in some case.
- 2) On the occasion, be confirmed the common parts on the parts list.
- 3) Refer to "Common Parts List" for the other common parts(RI05, DD4, DK4).

NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors are as follows :

1. KOA Corporation

Part No.	Type No.	Description
NH05 x x x 140	RF25S x x x x Ω J	(± 5% 1/4W)
NH05 x x x 120	RF50S x x x x Ω J	(± 5% 1/2W)
NH85 x x x 110	RF73B2A x x x x Ω J	(± 5% 1/10W)
NH95 x x x 140	RF73B2E x x x x Ω J	(± 5% 1/4W)

* Resistance value Resistance value (0.1 - 10kΩ)

2. Matsushita Electronic Components Co., Ltd

Part No.	Type No.	Description
NF05 x x x 140	ERD-2FCJ x x x	(± 5% 1/4W)
RF05 x x x 140		
NF02 x x x 140	ERD-2FCG x x x	(± 2% 1/4W)
RF02 x x x 140		

* Resistance value * Resistance value

Examples :

* 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

ABBREVIATION AND MARKS

1	ANT. : ANTENNA	2	BATT. : BATTERY
3	CAP. : CAPACITOR	4	CER. : CERAMIC
5	CONN. : CONNECTING	6	DIG. : DIGITAL
7	HP : HEADPHONE	8	MIC. : MICROPHONE
9	μ-PRO : MICROPROCESSOR	10	REC. : RECORDING
11	RES. : RESISTOR	12	SPK : SPEAKER
13	SW : SWITCH	14	TRANSF. : TRANSFORMER
15	TRIM. : TRIMMING	16	TRS. : TRANSISTOR
17	VAR. : VARIABLE	18	X'TAL : CRYSTAL
19		20	
21		22	
23		24	
25		26	
27		28	
29		30	

NOTE ON SAFETY :

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

[VERS. : VERSION. U : U.S.A. F : Japan, K : Far East, /XX : Europe]

POS. NO.	VER. COLOR	PART NO. (For Europe)	DESCRIPTION	PART NO. (For U,K,KS)
			PB04-BACKUP TRANSF. / AC OUTLET CIRCUIT BOARD	
CB01		4822 122 30043	CER. 0.01μF +80% -20% 50V	DK18103310
CB02		4822 124 90366	ELECT 220μF	OA22705020
CB03		4822 122 33276	CER. 0.01μF ±20%	DK17103840
CB04		4822 122 30043	CER. 0.01μF +80% -20% 50V	DK18103310
CB06		4822 124 90365	ELECT 220μF	OA22702520
CB08		4822 122 33276	CER. 0.01μF ±20%	DK17103840
			PB04-CAPACITORS	
			PB04-RESISTORS	
RB01	/02/KS	4822 113 90119	22 Ω ±2% 1/4W, FUSE	NF02220140
RB01	/05/U/K	4822 111 90731	47 Ω ±2% 1/4W, FUSE	NF02470140
RB02	/02/KS	4822 113 90119	22 Ω ±2% 1/4W, FUSE	NF02220140
RB02	/05/U/K	4822 111 90731	47 Ω ±2% 1/4W, FUSE	NF02470140
			PB04-RESISTORS (COMMON) CARBON FILM FIXED RESISTOR, ±5% 1/6W : RB03	
			PB04-SEMICONDUCTORS	
DB01		4822 130 80839	DIODE S5688G	HD20029050
DB04		4822 130 33305	DIODE 1SS176, etc.	HD20002000
DB05		4822 130 33305	DIODE 1SS176, etc.	HD20002000
QB01		4822 130 42298	TRS. 2SC536SP, etc.	HT30001000
			PB04-MISCELLANEOUS	
▲FB01	/02/05/KS	4822 253 40166	FUSE T2.5A 250V	FS10250850
▲FB01	U		FUSE 5.0A 125V	FS10500350
▲JB03	/02/KS	4822 267 31194	JACK, AC OUTLET	
▲JB03	U/K		JACK, AC OUTLET	YJ04001780
▲LB01	/02/05/KS	4822 146 30709	POWER TRANSF. BACKUP	TS13516020
▲LB01	U		POWER TRANSF. BACKUP	TS13516080
▲LB01	K		POWER TRANSF. BACKUP	TS13516060
▲LB02		4822 280 20534	RELAY GSP-1 24V	LY10240220
▲SB01	K		SLIDE SW, VOL_SEL [MM500]	SS02021510
▲SB01	K		SLIDE SW, VOL_SEL [SM500]	SS02021240
			PL01-STANDBY LED CIRCUIT BOARD	
			PL01-RESISTORS (COMMON) CARBON FILM FIXED RESISTOR, ±5% 1/6W : RL01	
DL01		4822 130 80326	L.E.D. LT3D8B (RED)	HI10062320
			PT01-FUSE CIRCUIT BOARD	
▲FT01	K		FUSE T2.5A 250V	FS10250850
▲FT02	K		FUSE T2.5A 250V	FS10250850
			PV04-POWER AMP. / POWER CLIPPING DETEC. CIRCUIT BOARD	
			PV04-CAPACITORS	
CN01		4822 124 41543	ELECT 1μF	OA10505020
CN02		4822 122 40586	CER. 0.01μF ±20%	DA17103110
CN03		4822 124 90358	ELECT 22μF	OA22601620
CN04		4822 122 40586	CER. 0.01μF ±20%	DA17103110
CN05		4822 124 41539	ELECT 47μF	OA47601620
CN06		4822 124 22571	ELECT 10μF	OA10605020
CN07		4822 124 90358	ELECT 22μF	OA22601620
CN08		4822 124 41543	ELECT 1μF	OA10505020
CN09		4822 122 30043	CER. 0.01μF +80% -20% 50V	DK18103310
CN53		4822 124 90358	ELECT 22μF 16V [MM500]	OA22601620

POS. NO.	VER. COLOR	PART NO. (For Europe)	DESCRIPTION	PART NO. (For U,K,KS)
CU01		4822 124 90352	ELECT 10μF	OA10601620
CU02		4822 122 40617	CER. 0.1μF +80% -20%	DD38104010
CU03		4822 124 90352	ELECT 10μF	OA10601620
CU04		4822 122 40586	CER. 0.01μF ±20%	DA17103110
CU05		4822 124 90352	ELECT 10μF	OA10601620
CU06		4822 124 22703	ELECT 0.22μF	OA22405020
			PV04-CAPACITORS (COMMON) PLASTIC FILM CAPACITOR ±5% 50V: C605-C608, (C625-C628 [MM500])	
CW51	/02	4822 122 30043	CER. 0.01μF +80% -20% 50V [MM500]	DA18103310
CW54				
C601		4822 124 90352	ELECT 10μF	OA10601620
C604				
C623		4822 124 90352	ELECT 10μF 16V [MM500]	OA10601620
C624		4822 124 90352	ELECT 10μF 16V [MM500]	OA10601620
C701		4822 126 10408	CER. 220pF ±10%	DA16221110
C702		4822 126 10408	CER. 220pF ±10%	DA16221110
C703		4822 124 90352	ELECT 10μF	OA10601620
C704		4822 124 90352	ELECT 10μF	OA10601620
C705		4822 126 10364	CER. 100pF ±10%	DA16101110
C706		4822 126 10364	CER. 100pF ±10%	DA16101110
C707		4822 124 90354	ELECT 100μF	OA10701620
C708		4822 124 90354	ELECT 100μF	OA10701620
C709		4822 122 33794	CER. 3300pF ±20%	DA17332110
C710		4822 122 33794	CER. 3300pF ±20%	DA17332110
C711		4822 126 11125	CER. 10pF ±5%	DA15100110
C712		4822 126 11125	CER. 10pF ±5%	DA15100110
C713		4822 126 10362	CER. 22pF ±5%	DA15220110
C714		4822 126 10362	CER. 22pF ±5%	DA15220110
C715		4822 124 22571	ELECT 10μF 50V [MM500]	OA10605020
C715		4822 124 90352	ELECT 10μF 16V [SM500]	OA10601620
C716		4822 124 22571	ELECT 10μF 50V [MM500]	OA10605020
C716		4822 124 90352	ELECT 10μF 16V [SM500]	OA10601620
C717				
?		4822 126 10364	CER. 100pF ±10%	DA16101110
C720				
C721		4822 124 90351	ELECT 0.1μF	OA10405020
C724				
C725		4822 124 90352	ELECT 10μF	OA10601620
C726		4822 124 90352	ELECT 10μF	OA10601620
C727		4822 124 22693	ELECT 10μF 63V [MM500]	OA10606320
C727		4822 124 23562	ELECT 10μF 100V [SM500]	OA10610020
C728		4822 124 22693	ELECT 10μF 63V [MM500]	OA10606320
C728		4822 124 23562	ELECT 10μF 100V [SM500]	OA10610020
C731		4822 126 10408	CER. 220pF ±10%	DA16221110
C732		4822 126 10408	CER. 220pF ±10%	DA16221110
C733		4822 122 40617	CER. 0.1μF +80% -20%	DD38104010
C734		4822 126 10408	CER. 220pF ±10%	DA16221110
C741	/02	4822 122 30043	CER. 0.01μF +80% -20% 50V	DK18103310
C742	/02	4822 122 30043	CER. 0.01μF +80% -20% 50V	DK18103310
C745	/02	4822 122 30043	CER. 0.01μF +80% -20% 50V	DK18103310
C746	/02	4822 122 30043	CER. 0.01μF +80% -20% 50V	DK18103310
C751		4822 126 10408	CER. 220pF ±10%	DA16221110
C752		4822 126 10408	CER. 220pF ±10%	DA16221110
C753		4822 124 90352	ELECT 10μF 16V [MM500]	OA10601620
C754		4822 124 90352	ELECT 10μF 16V [MM500]	OA10601620
C755	/02	4822 126 10364	CER. 100pF ±10%	DA16101110
C756	/02	4822 126 10364	CER. 100pF ±10%	DA16101110
C757		4822 124 90354	ELECT 100μF 16V [MM500]	OA10701620
C758		4822 124 90354	ELECT 100μF 16V [MM500]	OA10701620
C759		4822 126 11126	CER. 5.6pF ±10%	DA16056110
C760		4822 126 11126	CER. 5.6pF ±10%	DA16056110
C761		4822 124 22572	ELECT 100μF 63V [MM500]	OA10706320
C762		4822 124 22693	ELECT 10μF 63V [MM500]	OA10606320
C763		4822 124 22572	ELECT 100μF 63V [MM500]	OA10706320
C764		4822 124 22693	ELECT 10μF 63V [MM500]	OA10606320

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POS. NO.	VER. COLOR	PART NO. (For Europe)	DESCRIPTION	PART NO. (For U,K,KS)
C765		4822 124 90351	ELECT 0.1μF 50V [MM500]	OA10405020
?				
C768				
C781		4822 126 10408	CER. 220pF ±10% 50V [MM500]	DA16221110
C782		4822 126 10408	CER. 220pF ±10% 50V [MM500]	DA16221110
C783		4822 122 40617	CER. 0.1μF +80% -20% 50V [MM500]	DD38104010
▲C801	/02/05/U/K	4822 124 81011	ELECT 10000μF 63V [MM500]	EB10906360
▲C801	KS	4822 124 23081	ELECT 15000μF 56V [MM500]	EB15905610
▲C801		4822 124 23927	ELECT 10000μF 71V [SM500]	EB10907140
▲C802	/02/05/U/K	4822 124 81011	ELECT 10000μF 63V [MM500]	EB10906360
▲C802	KS	4822 124 23081	ELECT 15000μF 56V [MM500]	EB15905610
▲C802		4822 124 23927	ELECT 10000μF 71V [SM500]	EB10907140
C803		4822 122 30043	CER. 0.01μF +80% -20% 50V	DK18103310
C804		4822 122 30043	CER. 0.01μF +80% -20% 50V	DK18103310
C805		4822 122 30043	CER. 0.01μF +80% -20% 50V	DK18103310
C806		4822 124 41538	ELECT 220μF	OA22703520
C807		4822 124 41538	ELECT 220μF	OA22703520
C808		4822 124 90352	ELECT 10μF	OA10601620
C809		4822 124 90352	ELECT 10μF	OA10601620
C810		4822 122 30043	CER. 0.01μF +80% -20% 50V	DK18103310
C811		4822 122 30043	CER. 0.01μF +80% -20% 50V	DK18103310
G801		4822 126 11235	CER.COMP 0.47μF +6.8 Ω	BF47400020
			PV04-CAPACITORS (COMMON) PLASTIC FILM CAPACITOR ±5% 50V: C605-C608, (C625-C628 [MM500])	
			PV04-RESISTORS	
▲RN01		4822 052 10102	1K Ω ±5% 1/6W	GG05102160
▲RN02		4822 052 10102	1K Ω ±5% 1/6W	GG05102160
▲RN51		4822 052 10102	1K Ω ±5% 1/6W [MM500]	GG05102160
▲RN52		4822 052 10102	1K Ω ±5% 1/6W [MM500]	GG05102160
▲R713		4822 050 26809	68 Ω ±5% 1/6W	GG05680160
▲R714		4822 050 26809	68 Ω ±5% 1/6W	GG05680160
R719		4822 100 11386	1K Ω TRIM.	RA01020780
R720		4822 100 11386	1K Ω TRIM.	RA01020780
▲R725				
?		4822 050 26809	68 Ω ±5% 1/6W	GG05680160
▲R730				
R731		4822 053 10221	220 Ω ±5% 1W	GA05221010
R732		4822 053 10221	220 Ω ±5% 1W	GA05221010
▲R733				
?		4822 052 10229	220 Ω ±5% 1/6W	GA05221060
▲R736				
▲R737		4822 116 82049	0.18 Ω x 2 3W	BZ10182010
▲R738		4822 116 82049	0.18 Ω x 2 3W	BZ10182010
▲R739		4822 050 26809	68 Ω ±5% 1/6W	GG05680160
▲R740		4822 050 26809	68 Ω ±5% 1/6W	GG05680160
▲R743		4822 053 10109	10 Ω ±5% 1W	GA05100010
▲R744		4822 053 10109	10 Ω ±5% 1W	GA05100010
▲R745		4822 053 10472	4.7K Ω ±5% 1W	GA05472010
▲R763		4822 052 10101	100 Ω ±5% 1/6W [MM500]	GG05101160
▲R764		4822 052 10101	100 Ω ±5% 1/6W [MM500]	GG05101160
▲R771		4822 113 80363	0.22 Ω ±10% 3W [MM500]	GO10222030
▲R772		4822 113 80363	0.22 Ω ±10% 3W [MM500]	GO10222030
▲R773		4822 053 10109	10 Ω ±5% 1W [MM500]	GA05100010
▲R774		4822 053 10109	10 Ω ±5% 1W [MM500]	GA05100010
▲R801		4822 116 60307	1 Ω ±5% 1/4W, FUSE	NH05010140
▲R802		4822 116 60307	1 Ω ±5% 1/4W, FUSE	NH05010140
			PV04-RESISTORS (COMMON) CARBON FILM FIXED RESISTOR, ±5% 1/6W : RN03-RN12, RN17-RN27, RN31, (RN53-RN59	

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POS. NO.	VER. COLOR	PART NO. (For Europe)	DESCRIPTION	PART NO. (For U.K.KS)
▲Q801		4822 209 83317	IC NJM7815FA	HC38915090
▲Q802		4822 209 81864	IC NJM7915FA	HC39915090
			PV04-MISCELLANEOUS	
JU01		4822 267 41009	TERMINAL, 2P RCA JACK	YT02020890
JW51		4822 290 61215	TERMINAL, 4P REAR SPK. [MM500]	YT01040630
JW52		4822 290 61219	TERMINAL, 2P CENTER SPK.[MM500]	YT01020220
J701		4822 290 61216	TERMINAL, 2P RCA JACK	YT02020950
J751		4822 290 61216	TERMINAL, 2P RCA JACK [MM500]	YT02020950
J753		4822 290 61215	TERMINAL, 4P SPK.	YT01040630
▲LN01		4822 280 70354	RELAY VB24MBU	LY20240310
▲LN51		4822 280 70354	RELAY VB24MBU [MM500]	LY20240310
L701		4822 157 70022	AIR COIL	ML08010030
L702		4822 157 70022	AIR COIL	ML08010030
L751		4822 157 70022	AIR COIL [MM500]	ML08010030
L752		4822 157 70022	AIR COIL [MM500]	ML08010030
SU01		4822 277 21712	SLIDE SW, MODE	SS02021470
XU01		4822 242 72527	CER. RESONATOR 4.00MHz	FQ04004030
			PW01-MAINS SWITCH	
			CIRCUIT BOARD	
▲SW01		4822 276 11798	PUSH SW, POWER	SP01011030
			PY01-POWER CLIPPING IND.	
			CIRCUIT BOARD	
			PY04-RESISTORS (COMMON)	
			CARBON FILM FIXED RESISTOR,	
			±5% 1/6W :	
			RY01~RY06, (RY07~RY14 [MM500])	
			PY01-SEMICONDUCTORS	
DY01		4822 130 82159	L.E.D. GL3DE8 [MM500]	HI10099320
DY02		4822 130 82159	L.E.D. GL3DE8 [MM500]	HI10099320
DY03		4822 130 82159	L.E.D. GL3DE8	HI10099320
DY04		4822 130 82159	L.E.D. GL3DE8	HI10099320
DY05		4822 130 82159	L.E.D. GL3DE8 [MM500]	HI10099320
QY01				
?		4822 130 42715	TRS. 2SA608SP, etc.	HT10001000
QY04				
QY05				
?		4822 130 42715	TRS. 2SA608SP, etc. [MM500]	HT10001000
QY08				

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