

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

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PCS 79 583

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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.

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
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 Homebush, NSW 2140
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FINLAND
 MARANTZ
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 Kleine Heide 12
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 22052 Kuwait

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 AL ALAMIAH ELECTRONICS
 P.O.Box 5954
 University Street
 Riyadh 11432
 Saudi Arabia

SWITZERLAND
 MARANTZ SWITZERLAND
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 8010 Zürich-Müllingen
 Switzerland

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 MARANTZ DIVISION OF
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 Av.Santa Maria 0760
 Casilla 2687
 Santiago
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 MARANTZ HiFi UK Ltd.
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 Div. Benelux
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SOUTH AFRICA
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 10 Bond Street
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 Johannesburg 2000
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TRADING
 MARANTZ TRADING
 P.O.Box 20008
 Building SFF 2
 5600 JB Eindhoven
 The Netherlands

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 advise 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
 Front 75 W rms / ch. into 8 ohms
 Center 80 W rms at 1 kHz into 8 ohms
 Rear 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
 Hight 145 mm
 Diphth 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

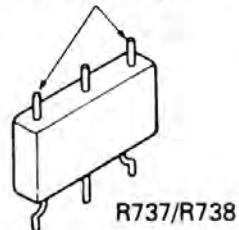
- Before switching the power ON, insert the short plug in the inputs terminals (L CH / R CH). Then, rotate the semi-fixed resistors R719 (L CH) and R720 (R CH) on the PC board PV04 fully counterclockwise.
- Connect a digital voltmeter, set for the DC voltage input to the pertinent test points (the marked 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

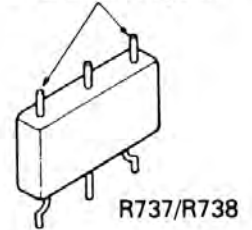
- Before switching the power ON, insert the short plug in the inputs terminals (L CH / R CH). Then, rotate the semi-fixed resistors R719 (L CH) and R720 (R CH) on the PC board PV04 fully counterclockwise.
- Connect a digital voltmeter, set for the DC voltage input to the pertinent test points (the marked 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

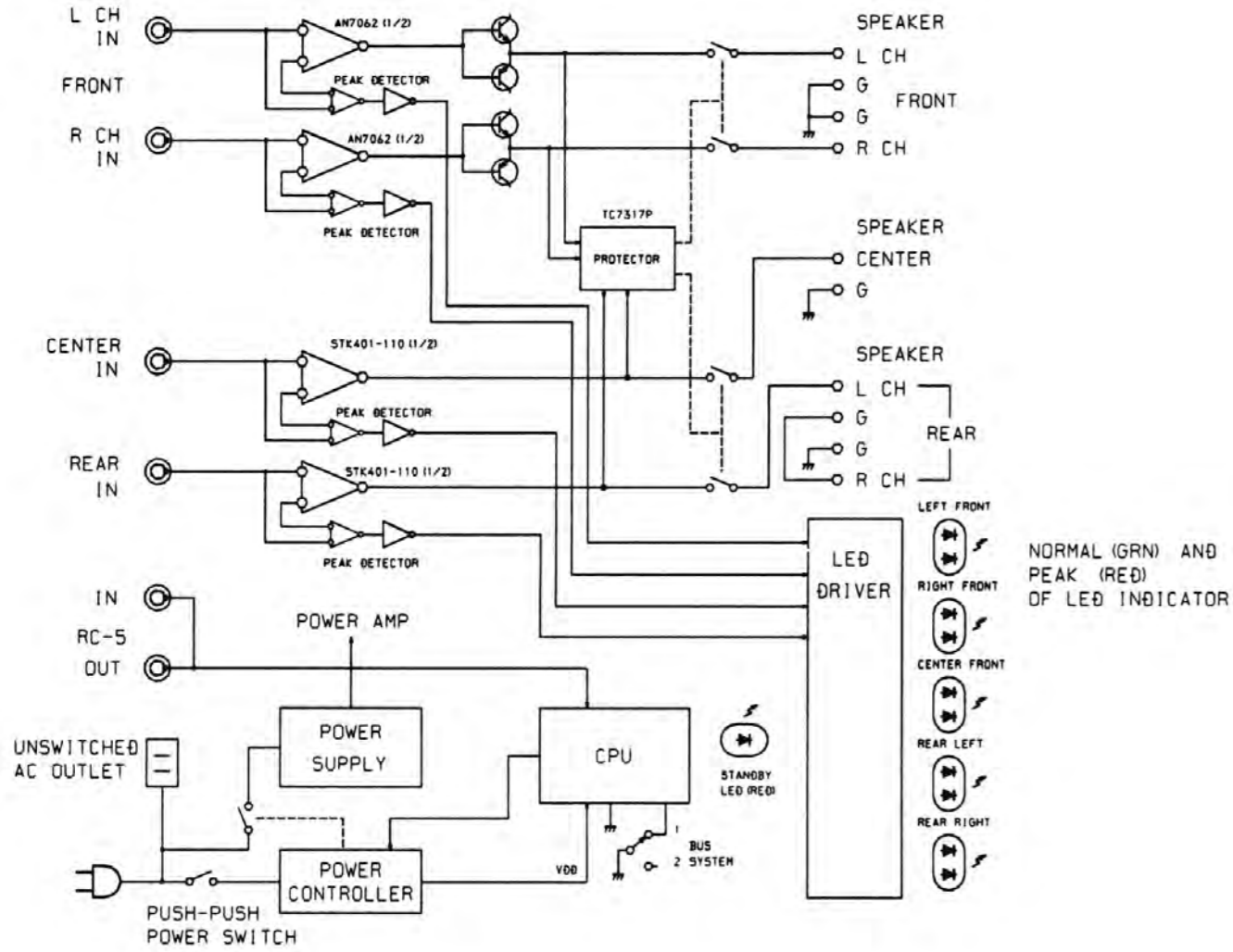
30 sec. ~ 1 min.	4 mV
1 ~ 2 min. Later	5 mV
More than 5 min.	8 mV

Measurement point

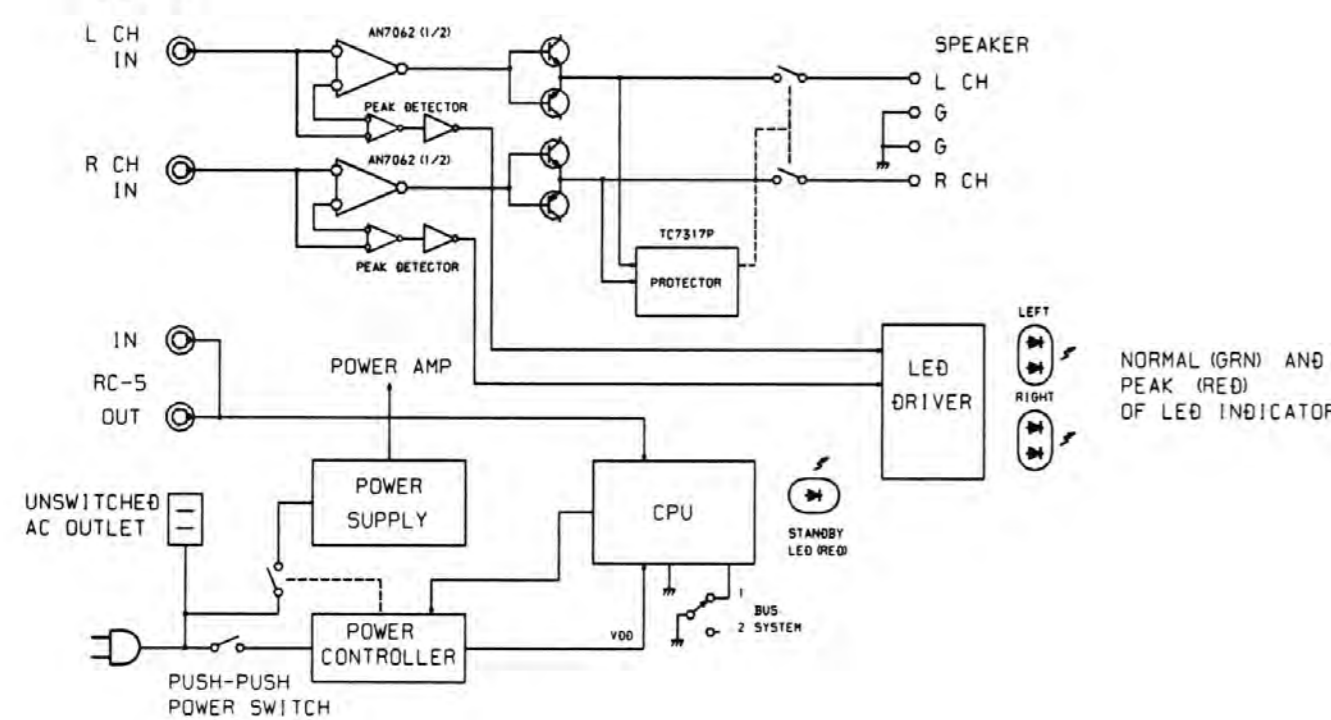


4. BLOCK DIAGRAM

MM500



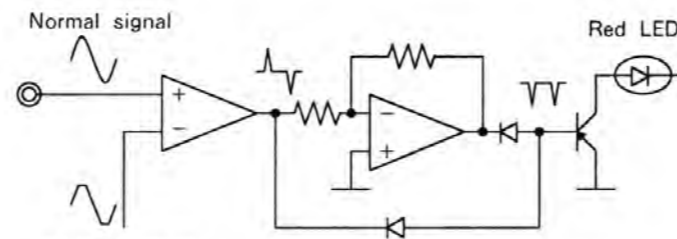
SM500



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.



Clipped signal from the power amplifier stage

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.

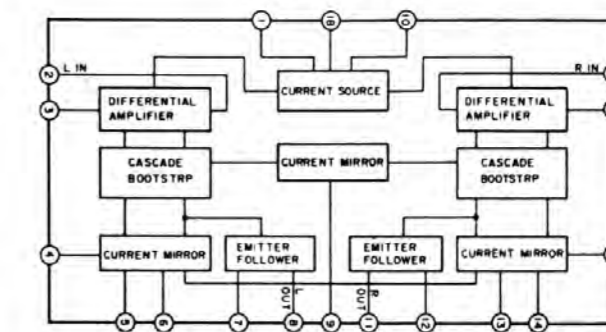
● PIN ASSIGNMENT TABLE

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

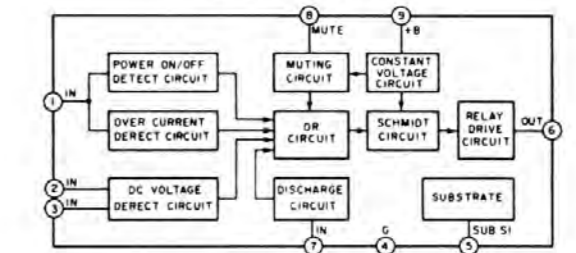
NOTE:

- 1)*SYSTEM1 is for the Remote Controller with Power SW(ex. Model 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.

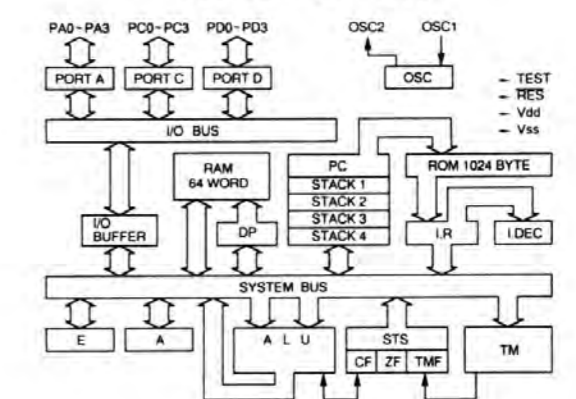
Q715 : AN7062N



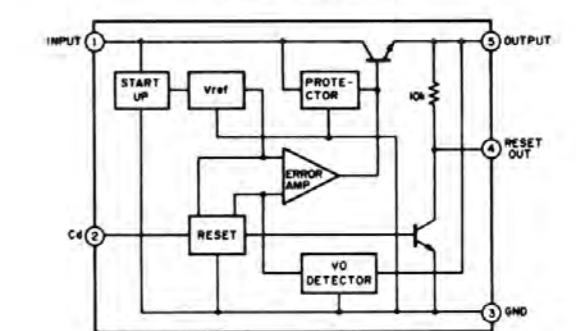
QN06 : TA7317P



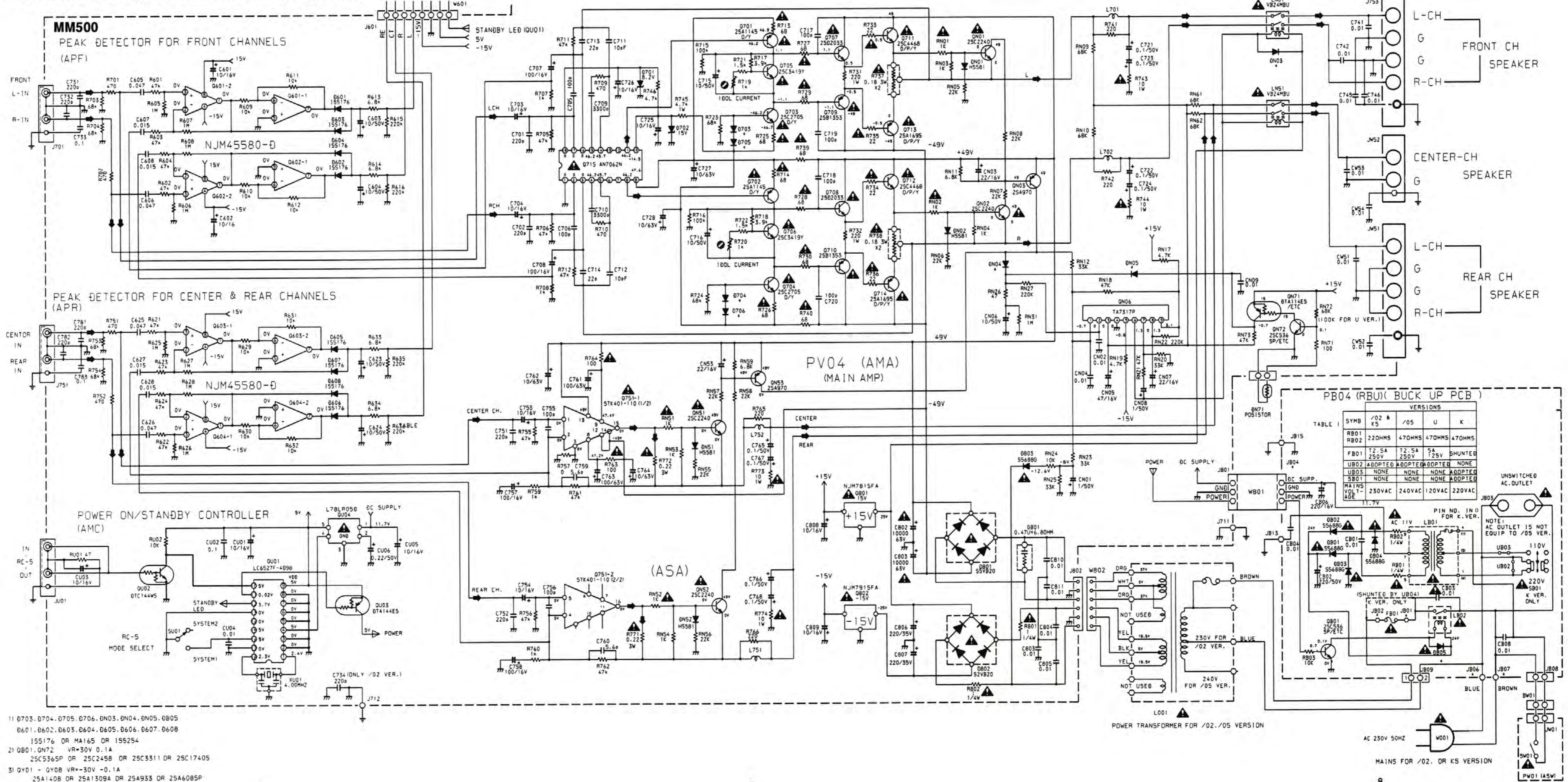
QU01 : LC6527F-4D98



QU04 : L78LR05D

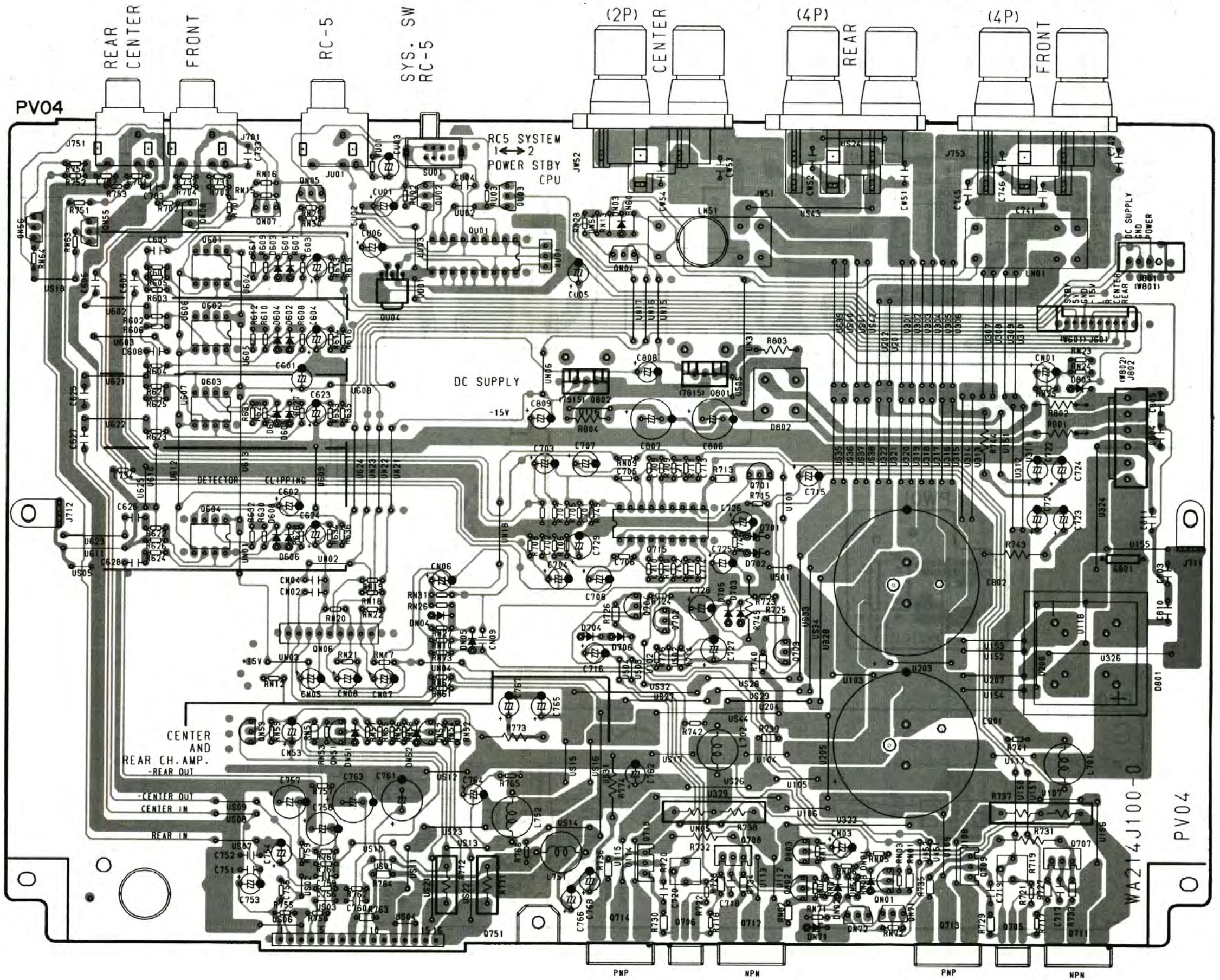


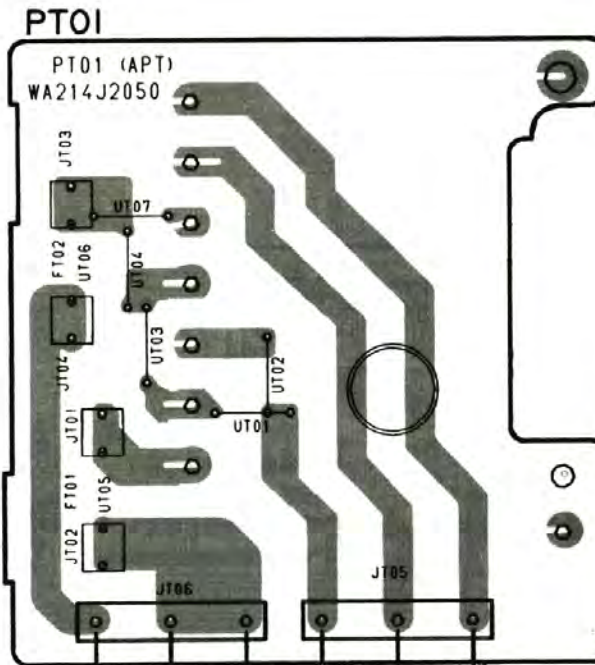
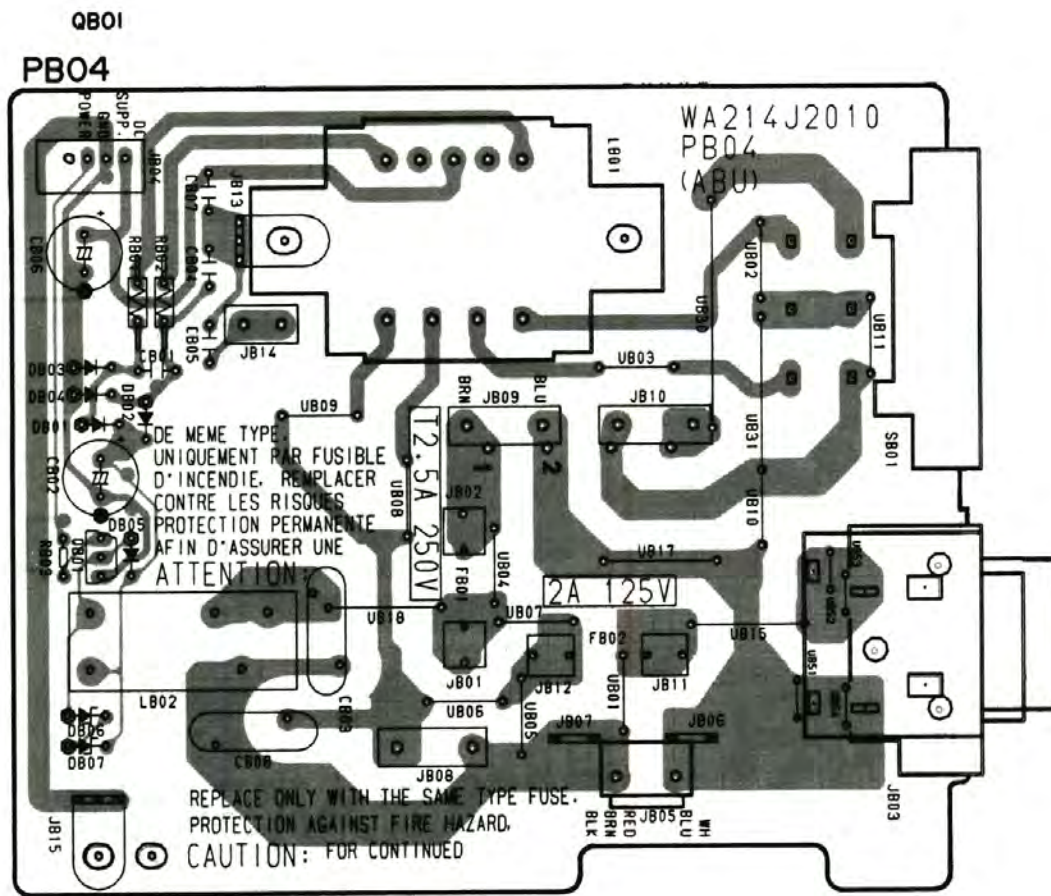
6. SCHEMATIC DIAGRAM AND PARTS LOCATION (Pattern side)



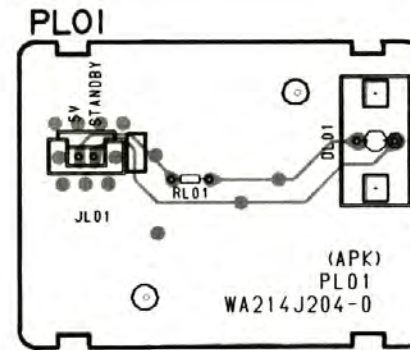
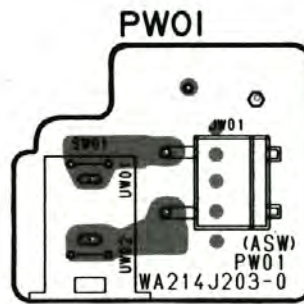
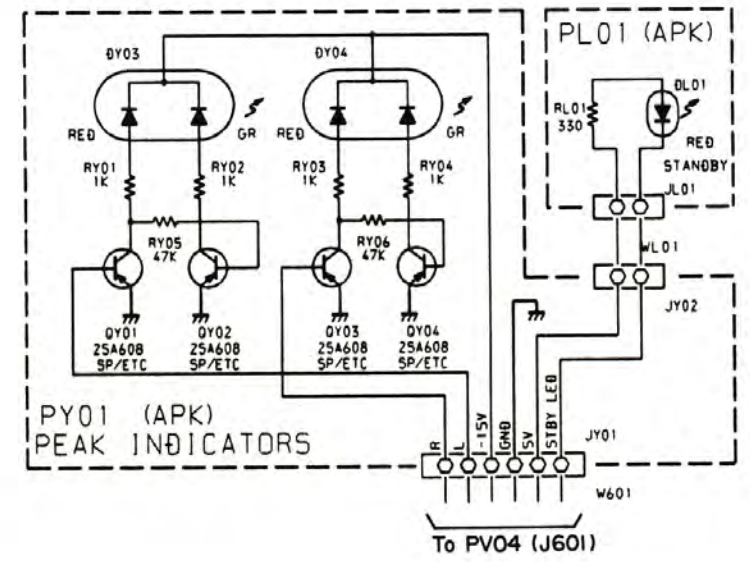
1) D703, D704, D705, D706, DN03, DN04, DN05, DN05, DN05
 D601, D602, D603, D604, D605, D606, D607, D608
 155176 OR MA165 OR 155254
 2) DB01, DN72 VR=30V 0.1A
 25C5365P OR 25C245B OR 25C3311 OR 25C17405
 3) DY01 - DY08 VR=-30V 0.1A
 25A1408 OR 25A1309A OR 25A933 OR 25A6085P

QN56 QN55 Q601~Q604 QN07 QN05 QU04 QU02 QU01 QU03 QB02 QN04 Q715 Q801 Q701~Q704
 QN08 QN53 QN06 QN51 QN52 Q751 Q714 Q710 Q706 Q708 Q712 QN01~QN03 QN72 QN71 Q713 Q709 Q705 Q707 Q711

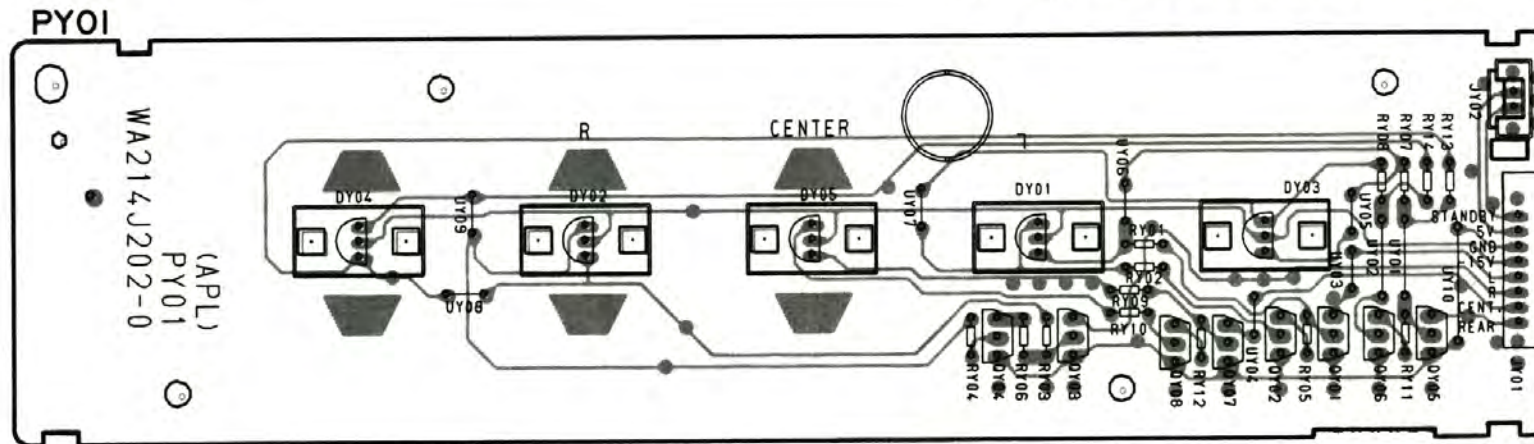


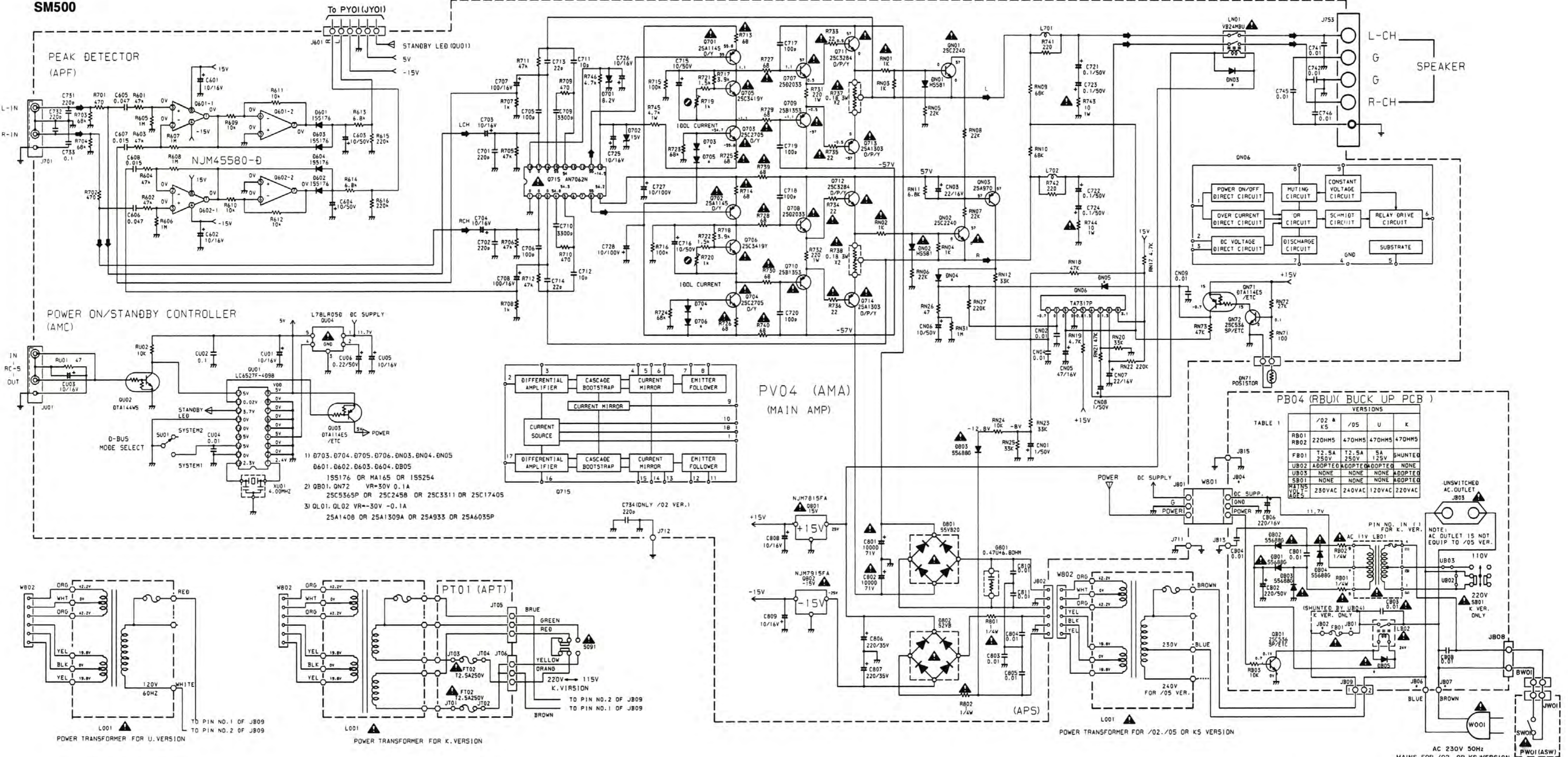


SM500



QY04 QY03 QY08 QY07 QY02 QY01 QY06 QY05





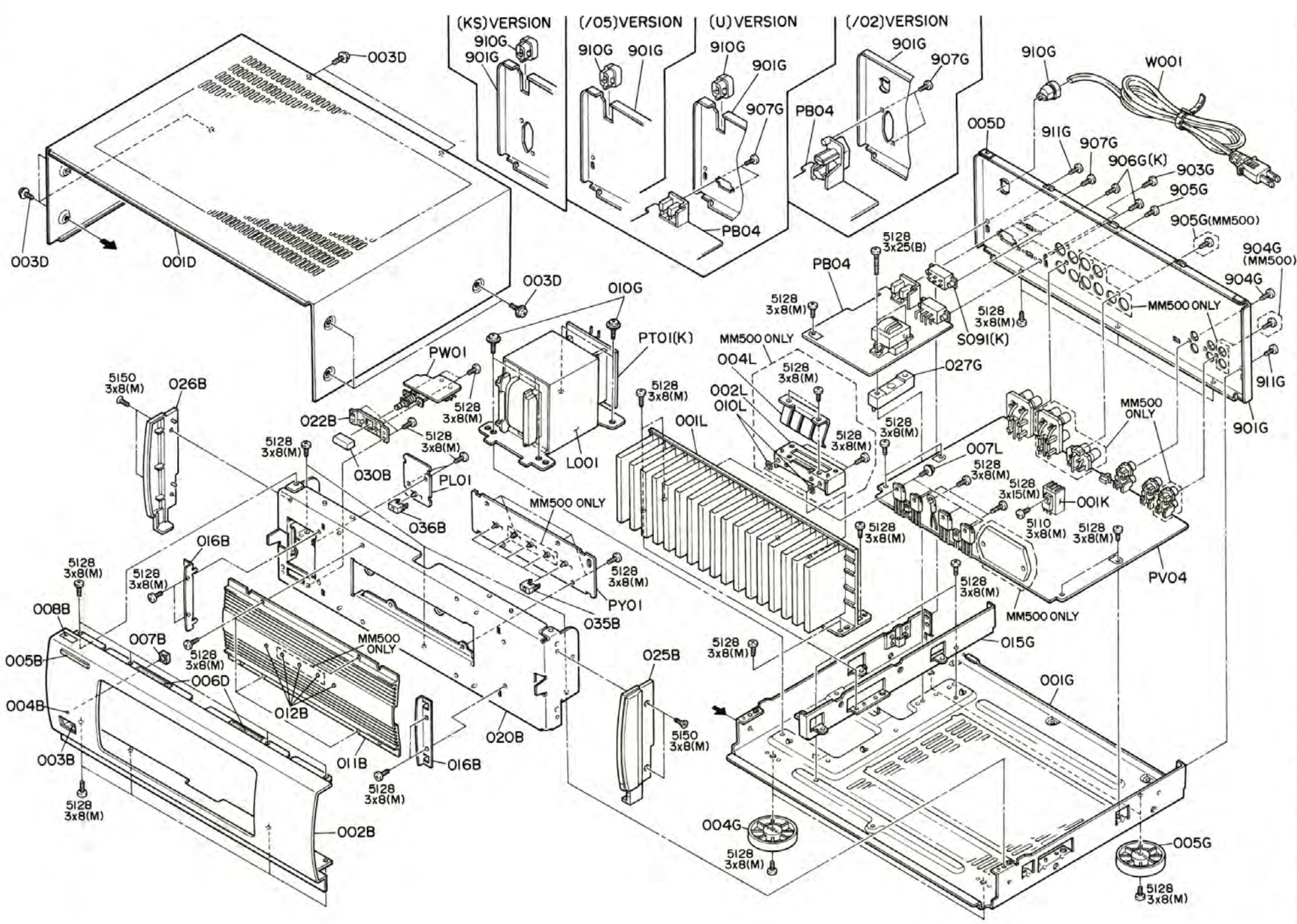
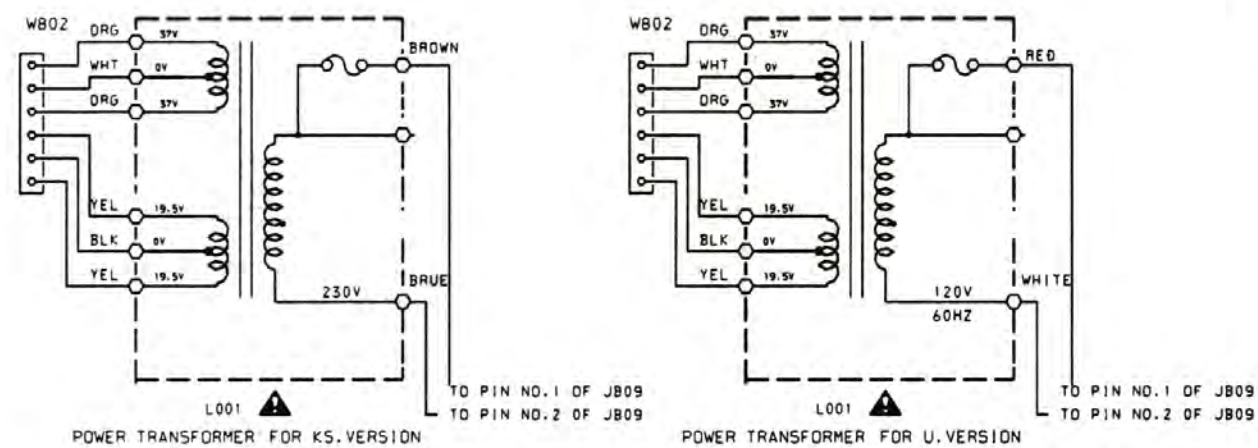
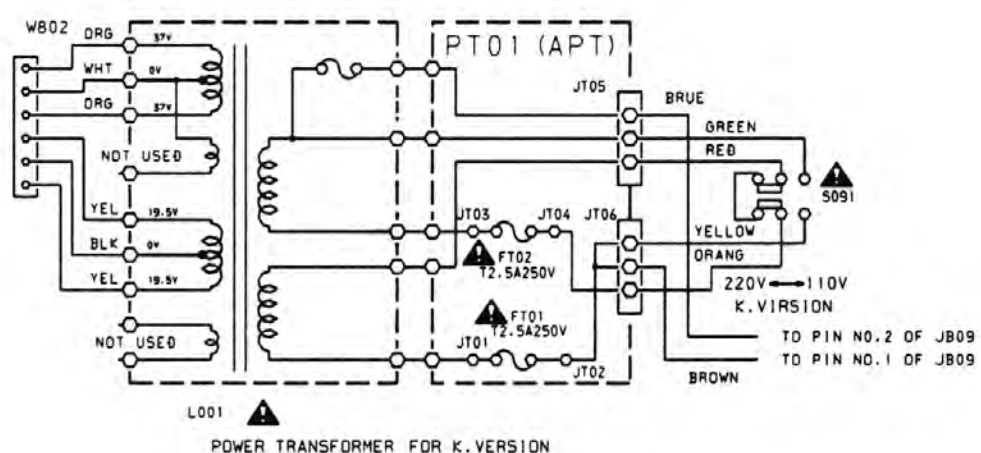
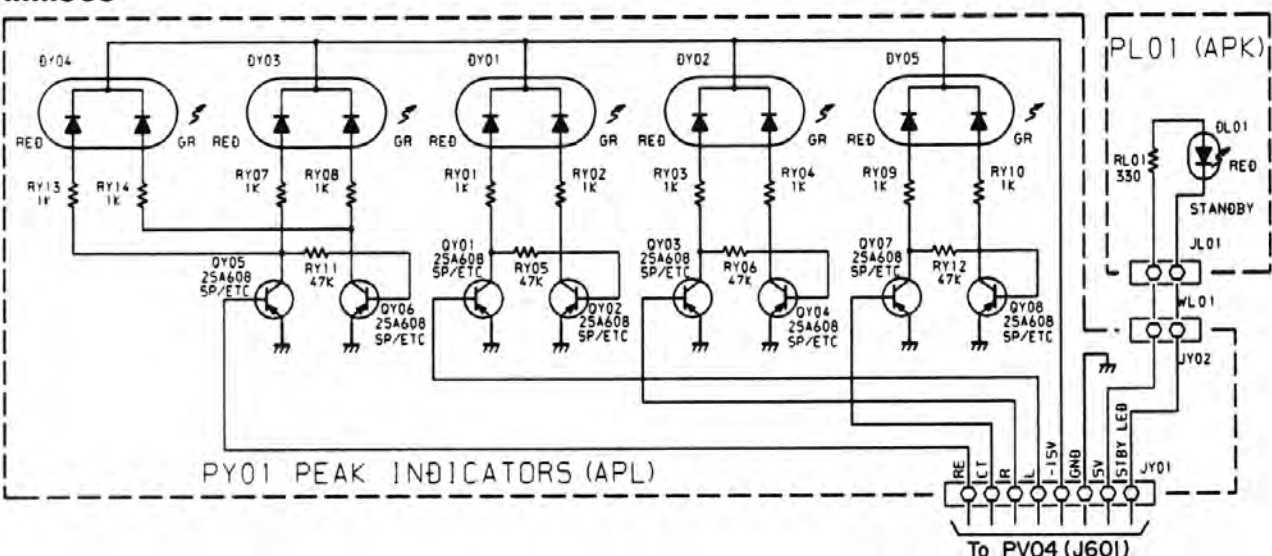
- 1) D703, D704, D705, D706, D707, D708, D709, D710, D711, D712, D713, D714, D715, D716, D717, D718, D719, D720, D721, D722, D723, D724, D725, D726, D727, D728, D729, D730, D731, D732, D733, D734, D735, D736, D737, D738, D739, D740, D741, D742, D743, D744, D745, D746, D747, D748, D749, D750, D751, D752, D753, D754, D755, D756, D757, D758, D759, D760, D761, D762, D763, D764, D765, D766, D767, D768, D769, D770, D771, D772, D773, D774, D775, D776, D777, D778, D779, D780, D781, D782, D783, D784, D785, D786, D787, D788, D789, D790, D791, D792, D793, D794, D795, D796, D797, D798, D799, D800, D801, D802, D803, D804, D805, D806, D807, D808, D809, D810, D811, D812, D813, D814, D815, D816, D817, D818, D819, D820, D821, D822, D823, D824, D825, D826, D827, D828, D829, D830, D831, D832, D833, D834, D835, D836, D837, D838, D839, D840, D841, D842, D843, D844, D845, D846, D847, D848, D849, D850, D851, D852, D853, D854, D855, D856, D857, D858, D859, D860, D861, D862, D863, D864, D865, D866, D867, D868, D869, D870, D871, D872, D873, D874, D875, D876, D877, D878, D879, D880, D881, D882, D883, D884, D885, D886, D887, D888, D889, D890, D891, D892, D893, D894, D895, D896, D897, D898, D899, D900, D901, D902, D903, D904, D905, D906, D907, D908, D909, D910, D911, D912, D913, D914, D915, D916, D917, D918, D919, D920, D921, D922, D923, D924, D925, D926, D927, D928, D929, D930, D931, D932, D933, D934, D935, D936, D937, D938, D939, D940, D941, D942, D943, D944, D945, D946, D947, D948, D949, D950, D951, D952, D953, D954, D955, D956, D957, D958, D959, D960, D961, D962, D963, D964, D965, D966, D967, D968, D969, D970, D971, D972, D973, D974, D975, D976, D977, D978, D979, D980, D981, D982, D983, D984, D985, D986, D987, D988, D989, D990, D991, D992, D993, D994, D995, D996, D997, D998, D999, D1000.
- 2) Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q19, Q20, Q21, Q22, Q23, Q24, Q25, Q26, Q27, Q28, Q29, Q30, Q31, Q32, Q33, Q34, Q35, Q36, Q37, Q38, Q39, Q40, Q41, Q42, Q43, Q44, Q45, Q46, Q47, Q48, Q49, Q50, Q51, Q52, Q53, Q54, Q55, Q56, Q57, Q58, Q59, Q60, Q61, Q62, Q63, Q64, Q65, Q66, Q67, Q68, Q69, Q70, Q71, Q72, Q73, Q74, Q75, Q76, Q77, Q78, Q79, Q80, Q81, Q82, Q83, Q84, Q85, Q86, Q87, Q88, Q89, Q90, Q91, Q92, Q93, Q94, Q95, Q96, Q97, Q98, Q99, Q100.
- 3) R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100.

TABLE 1

	/02 & K5	/05	U	K
RB01	220HMS	470HMS	470HMS	470HMS
RB02	220HMS	470HMS	470HMS	470HMS
FB01	T2.5A 250V	T2.5A 250V	5A 125V	SHUNTED
UB02	ADOPTED	ADOPTED	ADOPTED	NONE
UB03	NONE	NONE	NONE	ADOPTED
SB01	NONE	NONE	NONE	ADOPTED
WT1	250VAC	240VAC	120VAC	220VAC
WT2	250VAC	240VAC	120VAC	220VAC

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	BLACK	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	BLACK	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	216J010010
903G			PH.TAP. SCREW M3 x 8	51270308M0
907G				
910G	/02	4822 325 50202	AC CORD BUSH	1455259020
910G	/05U/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, $\pm 5\%$ 1/4W
 R***: 2) GD05 x x x 160, Carbon film fixed resistor, $\pm 5\%$ 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.coef1.P350~N1000,50V
 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 x x x 300, High dielectric constant ceramic capacitor
 Disc type
 Temp.chara. 2B4, 50V
 Capacity value

Examples:

(2) Capacity value

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

C***: ELECTROLY CAP. (E), FILM CAP. (F)

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

(1) Working voltage
 (2) 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...118
		2200μF...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 $\pm 5\%$ 50V
 DF16 x x x 310 } Plastic film capacitor
 One-way type, Mylar $\pm 10\%$ 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	

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(R105, 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	($\pm 5\%$ 1/4W)
NH05 x x x 120	RF50S x x x x Ω J	($\pm 5\%$ 1/2W)
NH85 x x x 110	RF73B2A x x x x Ω J	($\pm 5\%$ 1/10W)
NH95 x x x 140	RF73B2E x x x x Ω J	($\pm 5\%$ 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	($\pm 5\%$ 1/4W)
RF05 x x x 140		
NF02 x x x 140	ERD-2FCG x x x	($\pm 2\%$ 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.

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 31864	IC NJM7915FA	HC39915090
JU01		4822 267 41009	PV04-MISCELLANEOUS 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	
R***			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 ? QY04 QY05 ? QY08		4822 130 42715	TRS. 2SA608SP, etc.	HT10001000
		4822 130 42715	TRS. 2SA608SP, etc. [MM500]	HT10001000

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.