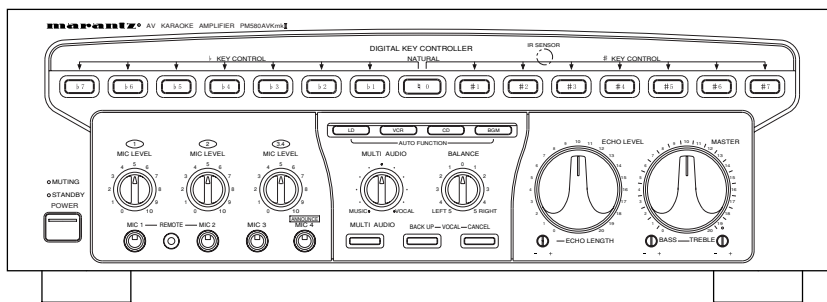


Service Manual

PM580A /K1G

AV Karaoke Amplifier



PM580AVKmkII

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Please use this service manual with referring to the user guide (D.F.U) without fail.

marantz®

PM580AVKmkII

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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 to our National Marantz Subsidiary or Agent.

ORDERING PARTS :

Parts can be ordered either by mail or by Fax.. 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 part is required
5. Way of shipment
6. Signature : any order form or Fax. must be signed, otherwise such part order will be considered as null and void.

USA

MARANTZ AMERICA, INC.
440 MEDINAH ROAD
ROSELLE, ILLINOIS 60172
USA
PHONE : 630 - 307 - 3100
FAX : 630 - 307 - 2687

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MARANTZ EUROPE B.V.
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THE NETHERLANDS
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FAX : +31 - 40 - 2735578

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CENTRO DE INFORMACOES AO
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MARANTZ PROFESSIONAL PRODUCTS
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FAX : 905 - 831 - 6936

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MT. WAVERLEY VIC 3149
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THAILAND

MRZ STANDARD CO.,LTD
746 - 754 MAHACHAI ROAD.,
WANGBURAPAPIROM, PHRANAKORN,
BANGKOK, 10200 THAILAND
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FAX : +66 - 2 - 224 6795

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WO KEE HONG DISTRIBUTION PTE LTD
130 JOO SENG ROAD
#03-02 OLIVINE BUILDING
SINGAPORE 368357
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FAX : +65 858 6078

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TAIPEI, 10429, TAIWAN R.O.C.
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FAX : +886 - 2 - 25630415

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WO KEE HONG ELECTRONICS SDN. BHD.
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NO. 33, JALAN SULTAN ISMAIL,
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PHONE : +60 3 - 2457677
FAX : +60 3 - 2458180

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東京都渋谷区恵比寿南1-11-9

KOREA

MK ENTERPRISES LTD.
ROOM 604/605, ELECTRO-OFFICETEL, 16-58,
3GA, HANGANG-RO, YONGSAN-KU, SEOUL
KOREA
PHONE : +822 - 3232 - 155
FAX : +822 - 3232 - 154

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 it is return to the user/customer.

Ref. UL Standard No. 1492.

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

1. TECHNICAL SPECIFICATIONS

AMPLIFIER

Practical maximum output	
Front	120 W + 120 W into 6 ohms, EIAJ
Total harmonic distortion	
Front: 1 kHz, 80 W, 8 ohms	0.01%
Input sensitivity / impedance [Input sensitivity selector: H (High) position]	
Line input	180 mV / 45 kohms
Mic input	1.8 mV / 4 kohms
Frequency response	
Line input	10 Hz to 40 kHz, -1 dB
Mic input	10 Hz to 25 kHz, -1 dB
S/N (IHFA)	
Line	80 dB
Echo delays time	160 msec.
Key controls pitch	60 cent.

VIDEO

Output level / impedance	1 Vp-p / 75 ohms
Video frequency response	5 Hz to 10 MHz, -3 dB

GENERAL

Power requirements	110 / 220 V AC, 50 / 60 Hz
Power consumption	300 W
Dimensions	
Panel Width	420 mm
Panel Height	132 mm
Depth	380 mm
Weight	9.1 kg

ACCESSORIES

Remote control unit RC680AVK	x 1
R06 (size "AA") dry cell battery	x 2
Plug adapter	x 1

Specifications subject to change without prior notice.

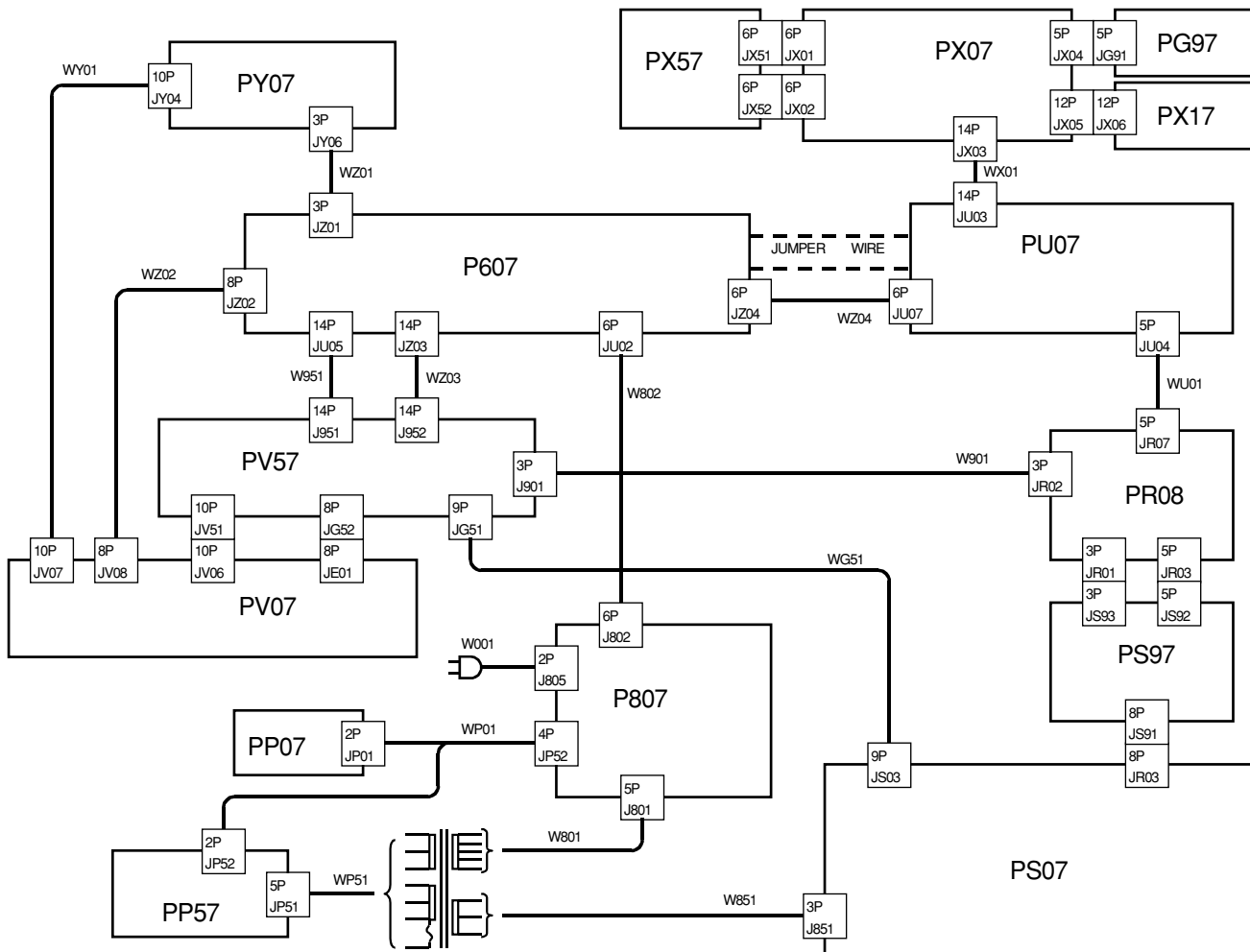
2. IDLING CURRENT ADJUSTMENT

- 1) With the power OFF, set the input volume control to the minimum position. Also set semi-fixed resistor R719 (R CH) and R720 (L CH) on the PC board (PS07) to the center positions.
- 2) Connect a digital multimeter, set for the DC V range, across the pins on the two ends of cement resistor R737 (L CH) or R738 (R CH) on the PC board (PS07).
- 3) After the above, adjust the idling current as follows:
Turn power ON, and adjust semi-fixed resistor R719 or R720 on the PC board (PS07) while observing the digital multimeter indication. The target value is 7 mV (19 mA).
[Reference] When the power of a set after idling current adjustment is turned ON with the set in cold condition, the currents increase gradually as shown in the following table.
If the idling current is adjusted in less than 5 minutes after turning power ON, adjust referring to the following table.

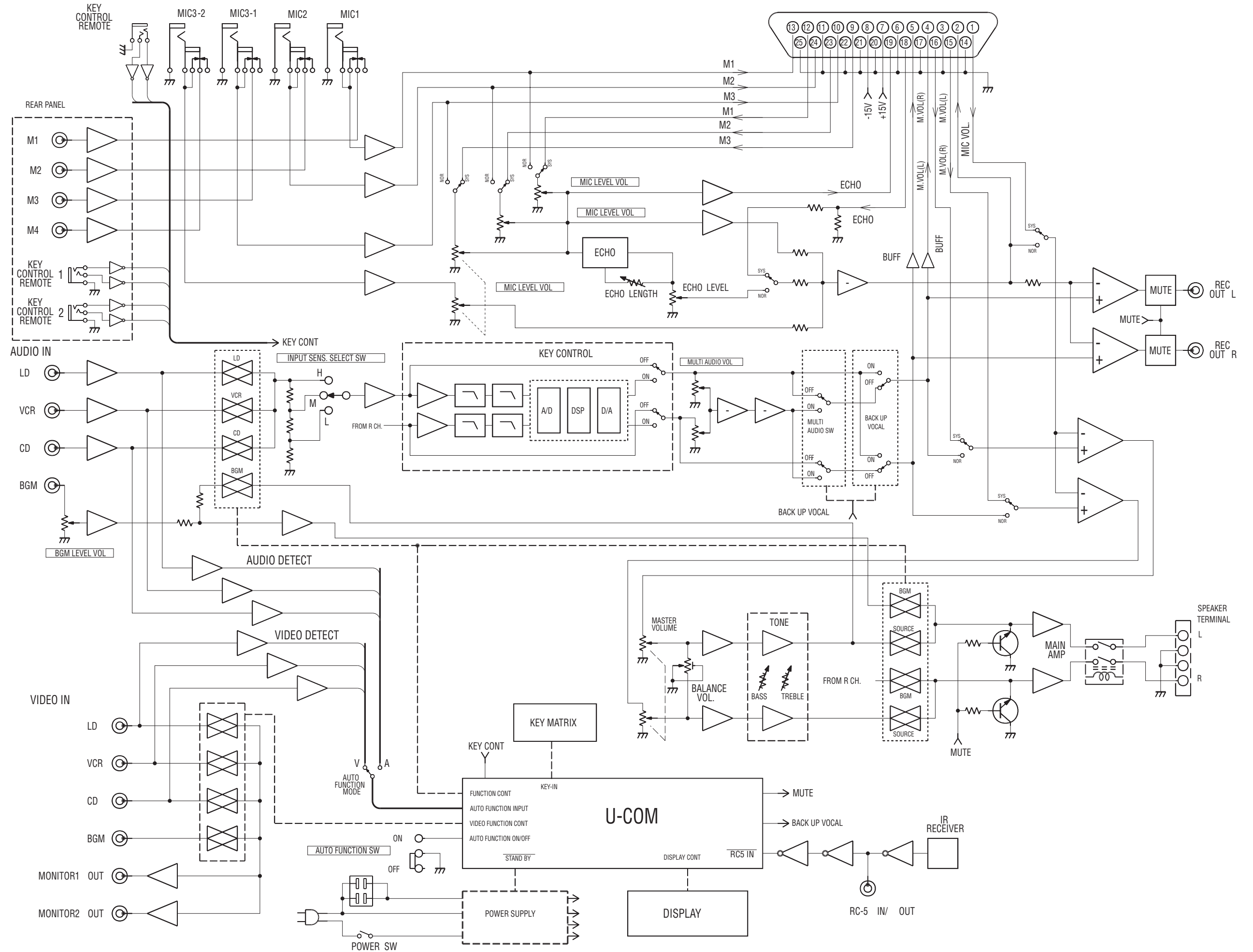
Period after power ON	Idling current values
30 sec. _ 1 min.	4.0 mV
1 min. _ 2 min.	5.0 mV
2 min. _ 3 min.	6.0 mV
5 min. or more	7.0 mV

- 4) If the adjustment is made after heat run, aging or servicing, leave the set with no signal, no load and power ON for 10 minutes, then adjust to the target value of 7 mV.

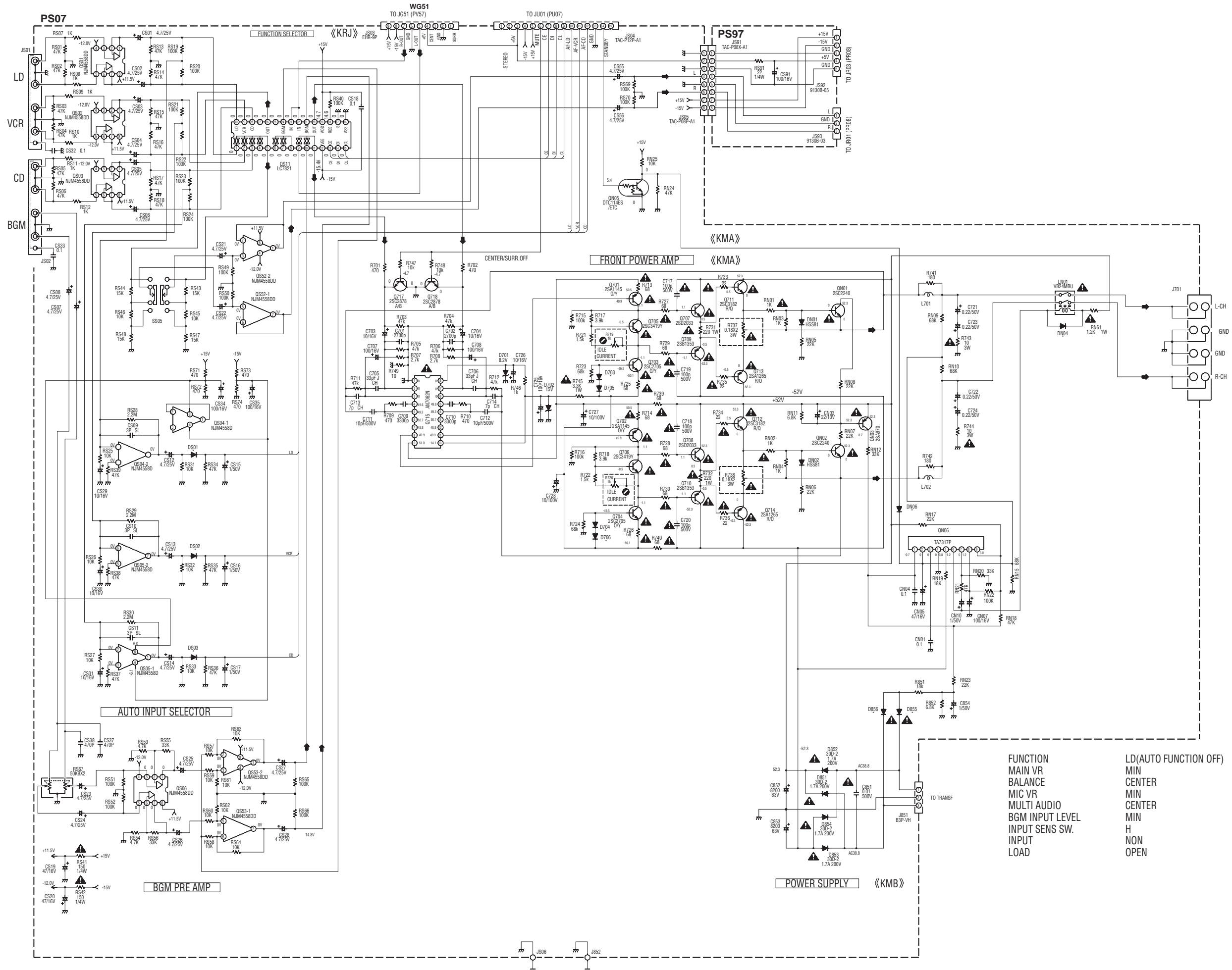
3. WIRING DIAGRAM

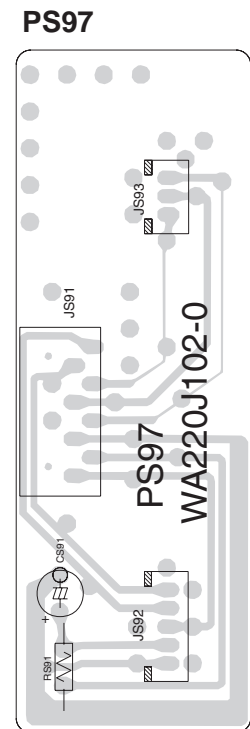
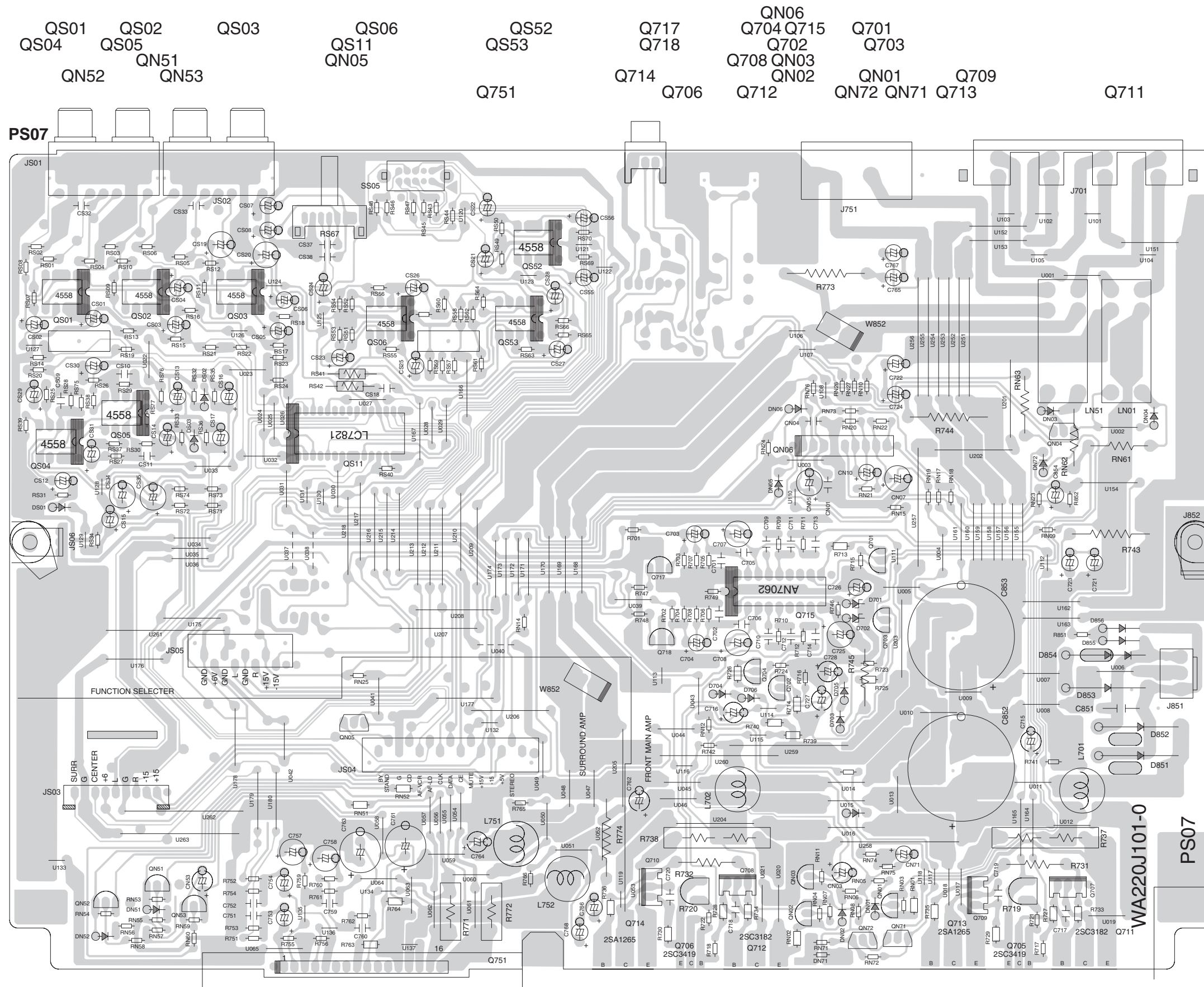


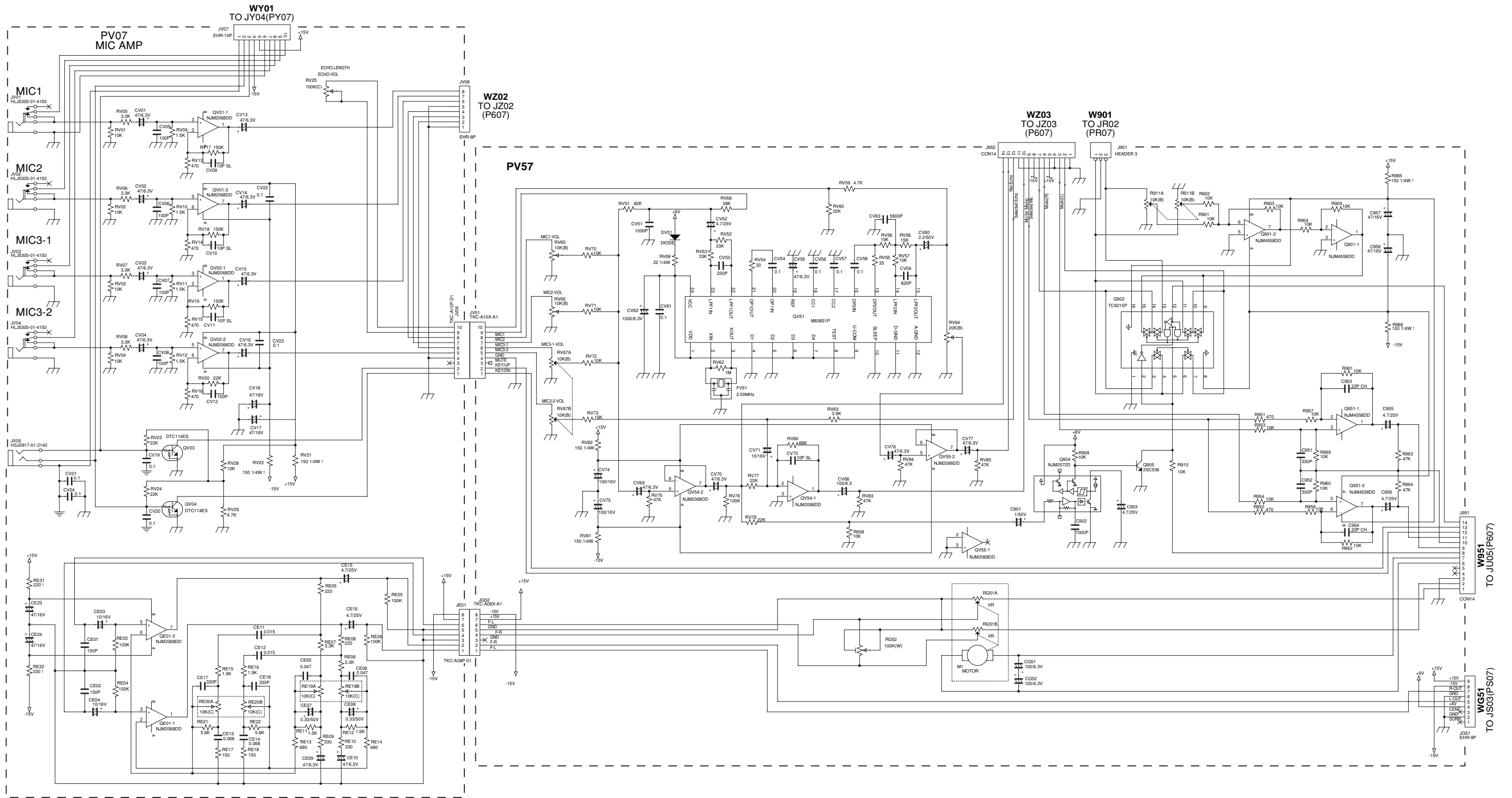
4. BLOCK DIAGRAM

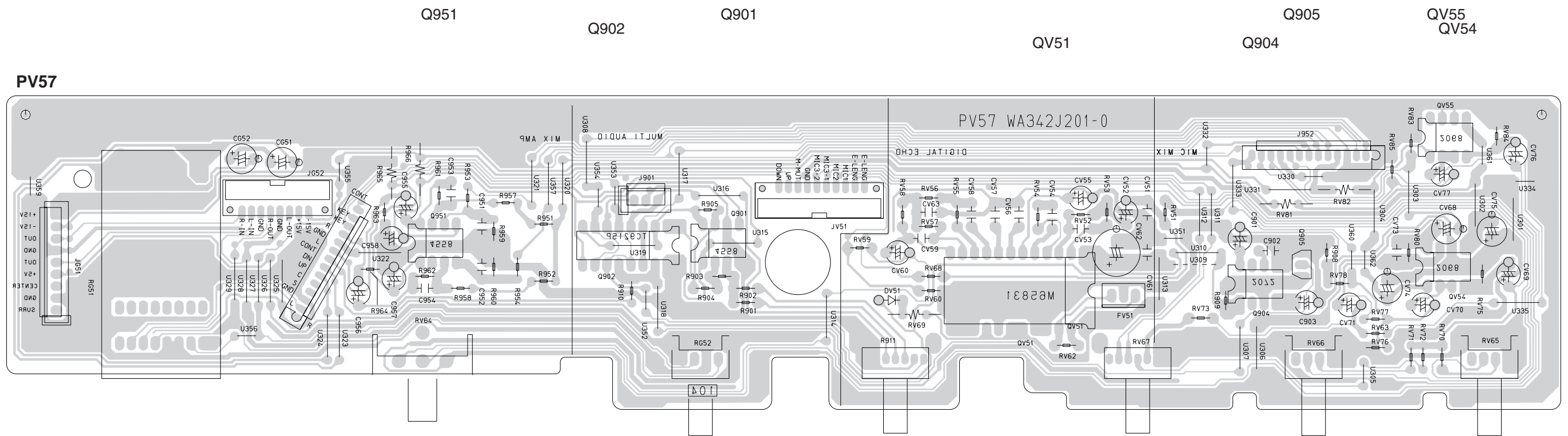
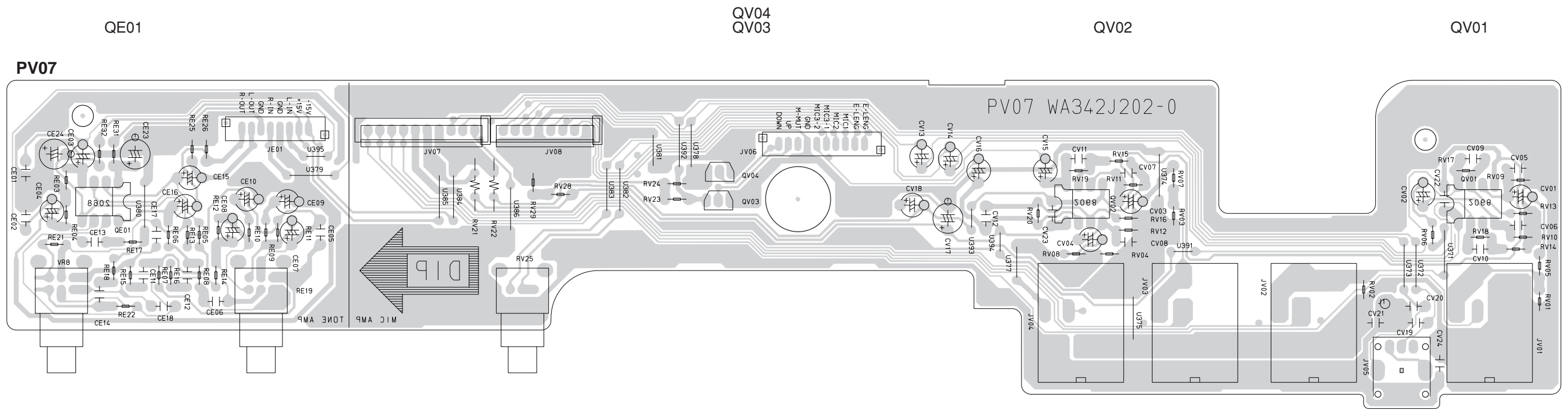


5. SCHEMATIC DIAGRAM AND PARTS LOCATION (Pattern side)

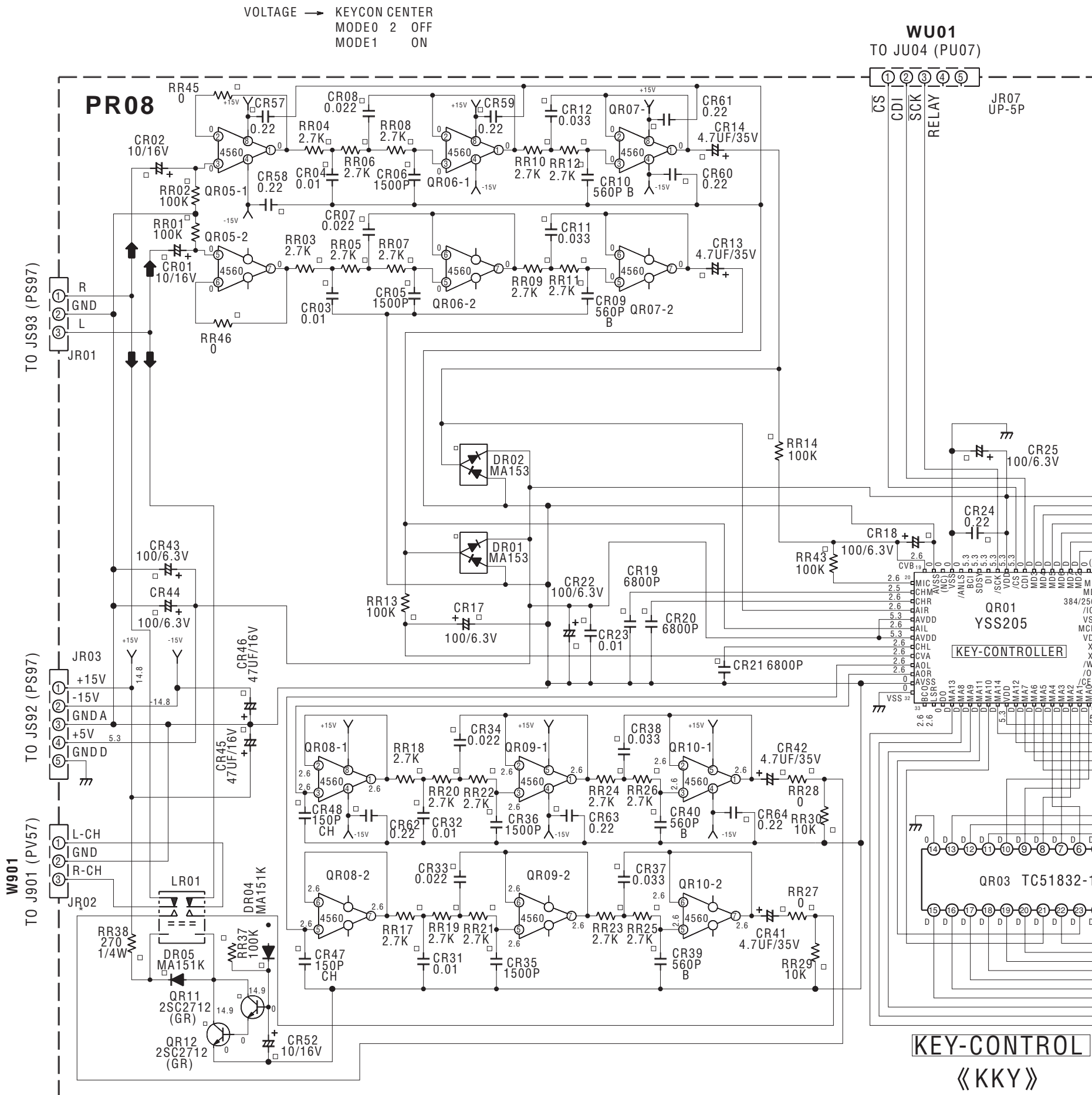




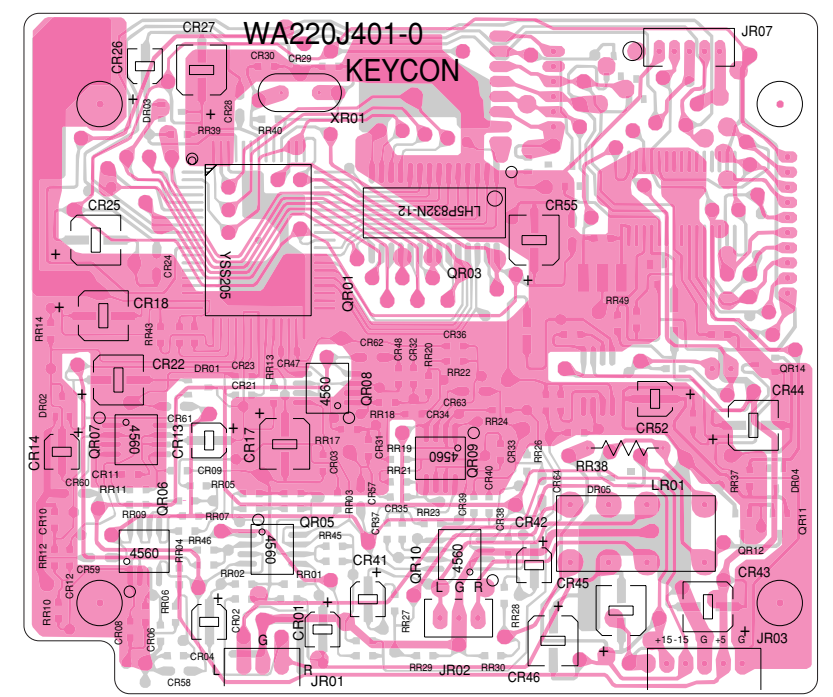




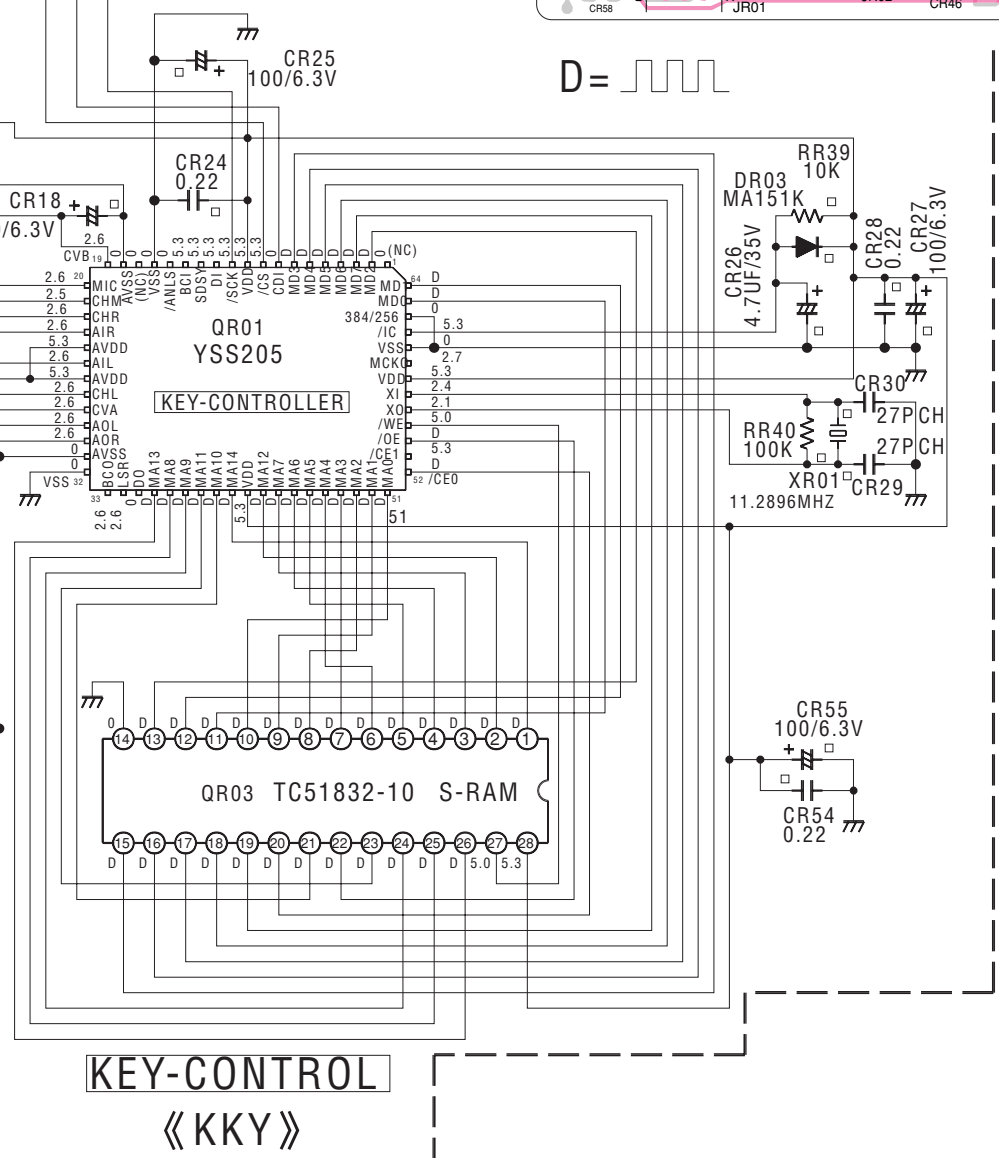
VOLTAGE → KEYCON CENTER
 MODE0 2 OFF
 MODE1 ON

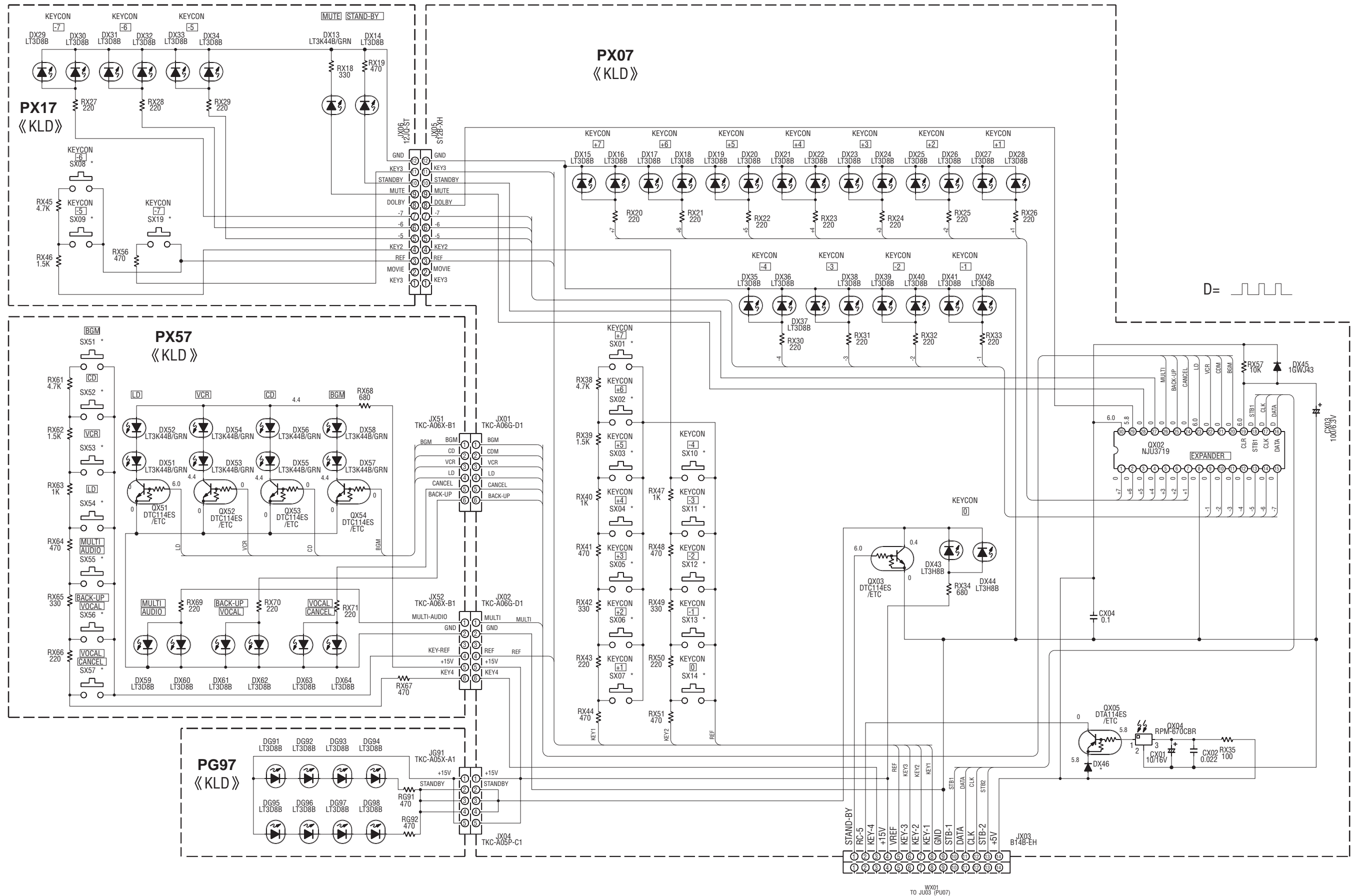


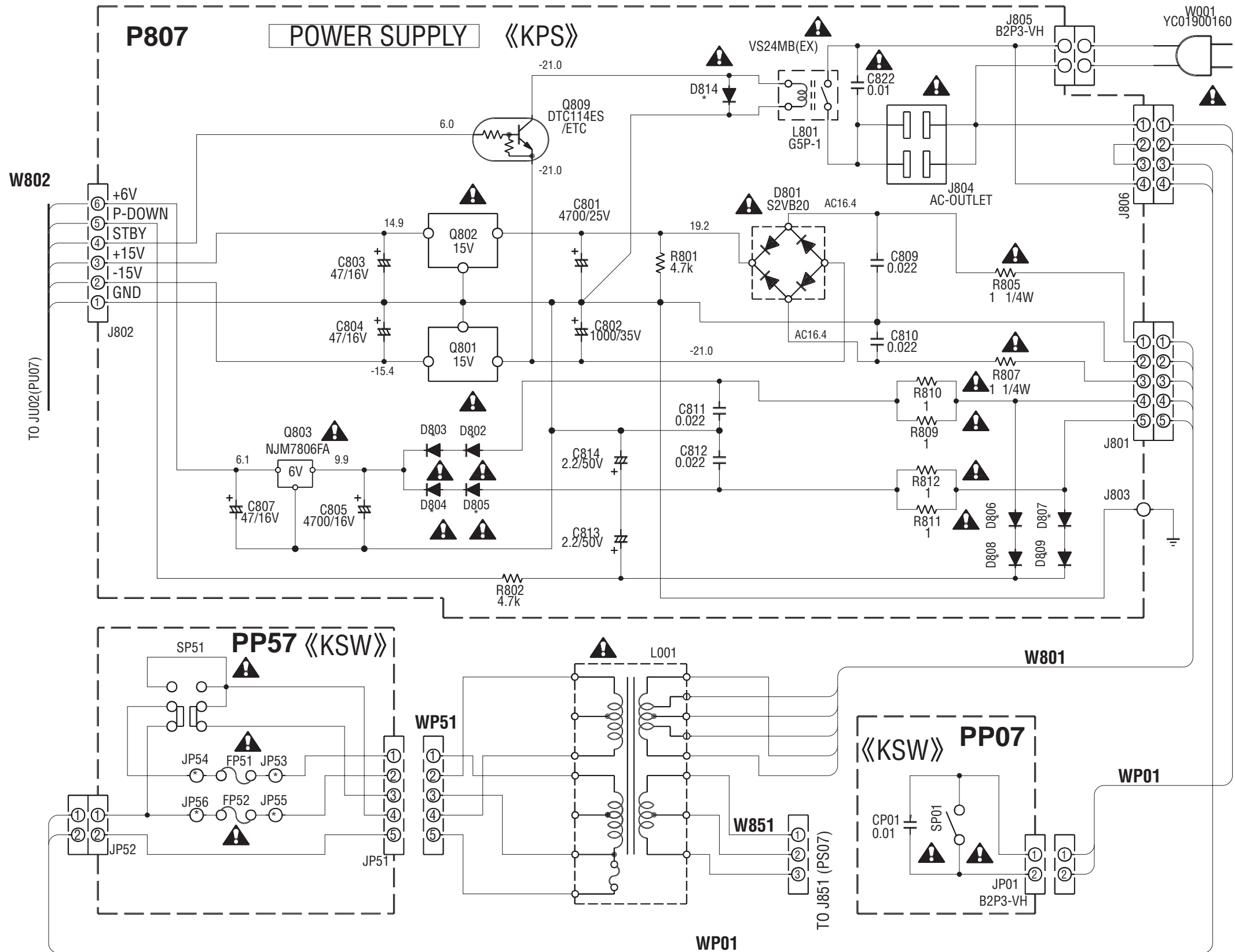
QR01 QR03
 QR08 QR09
 QR06 QR10
 QR07 QR11
 QR12

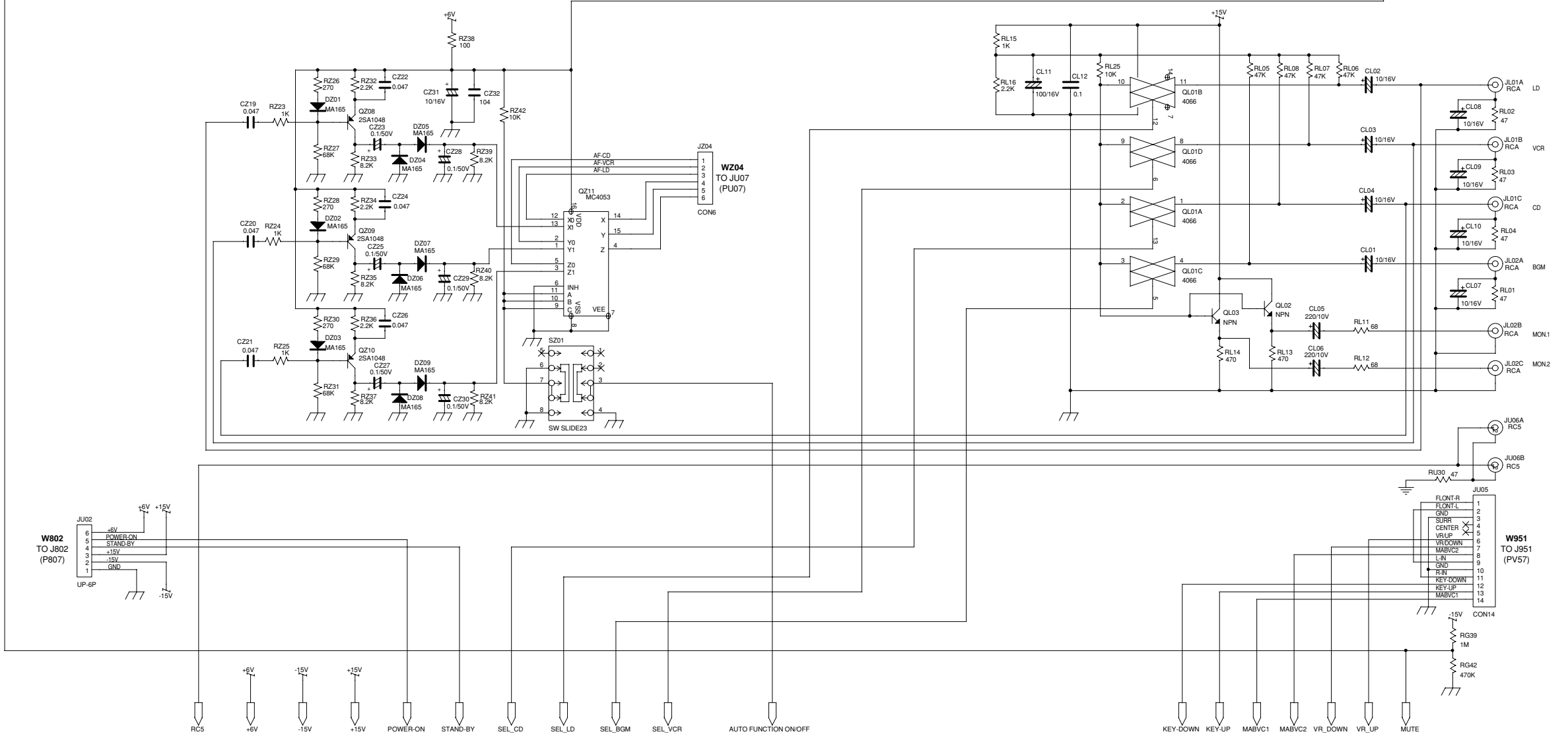
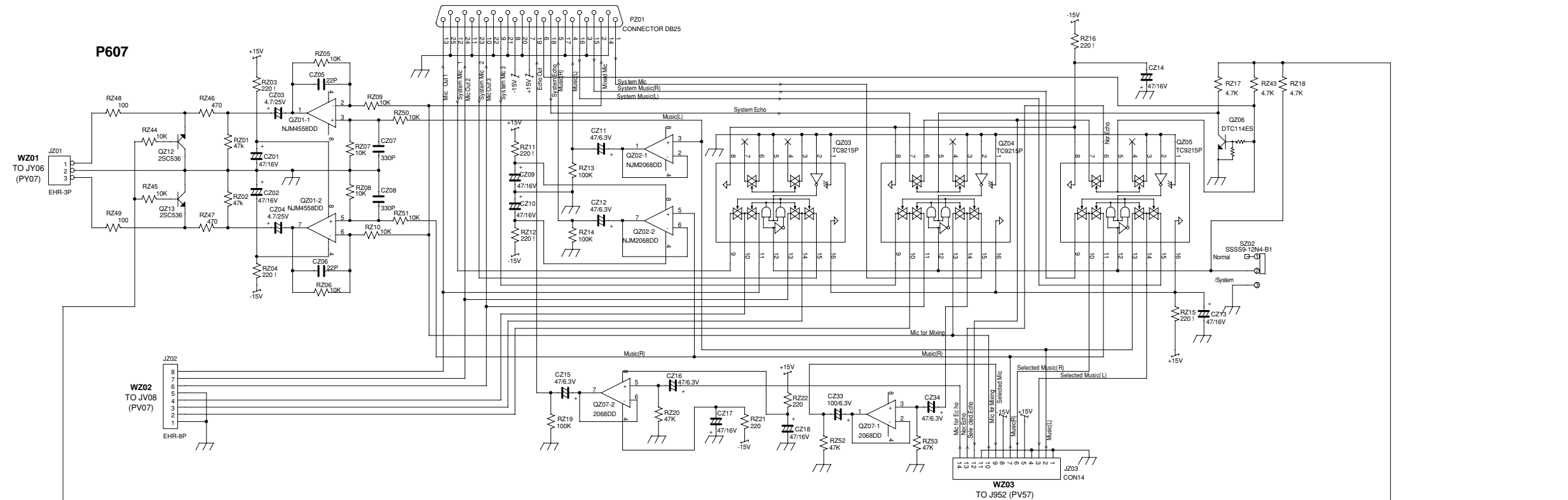


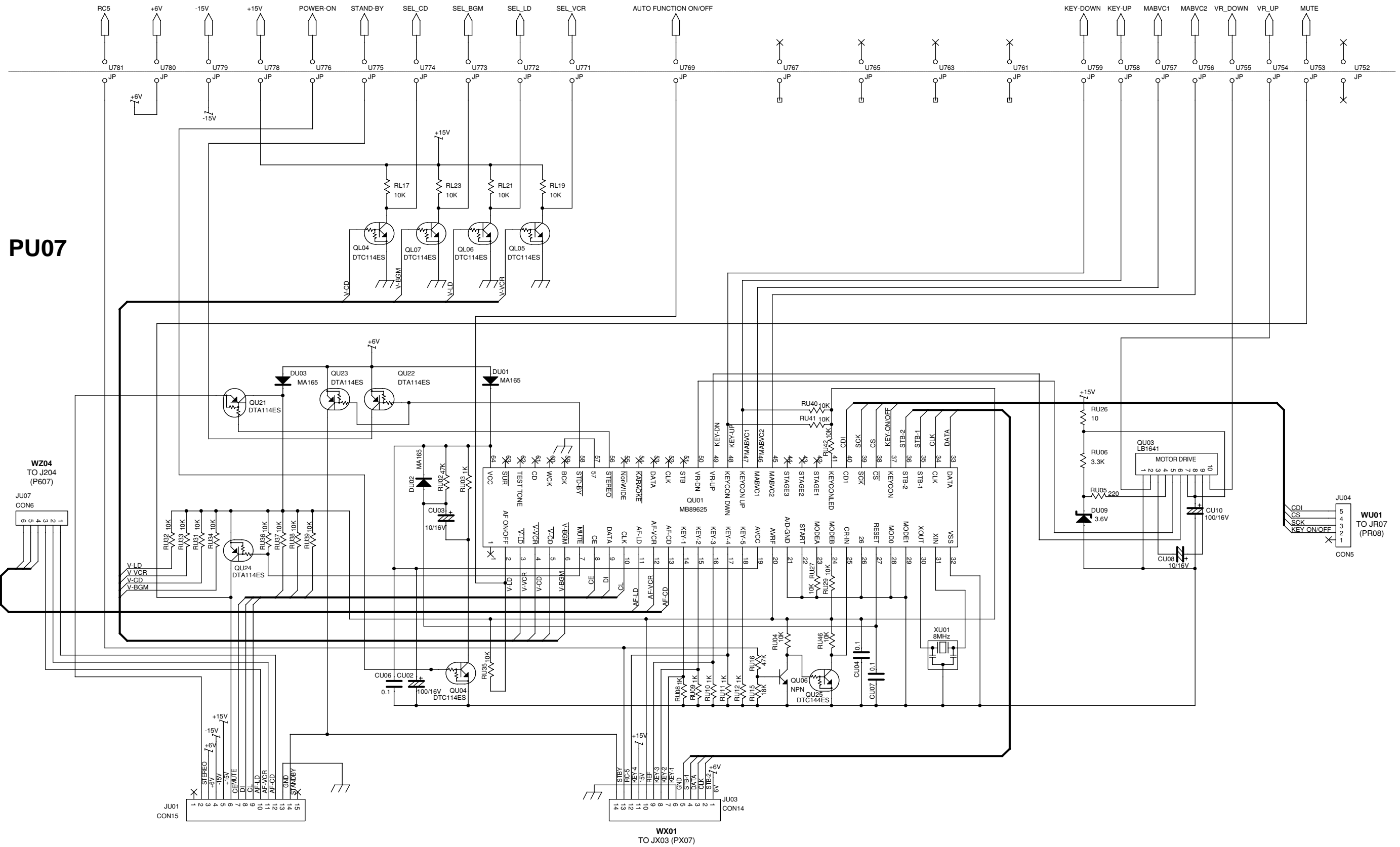
D =











PU07

6. IC DATA

QR01: YSS205B

■ PIN DESCRIPTION

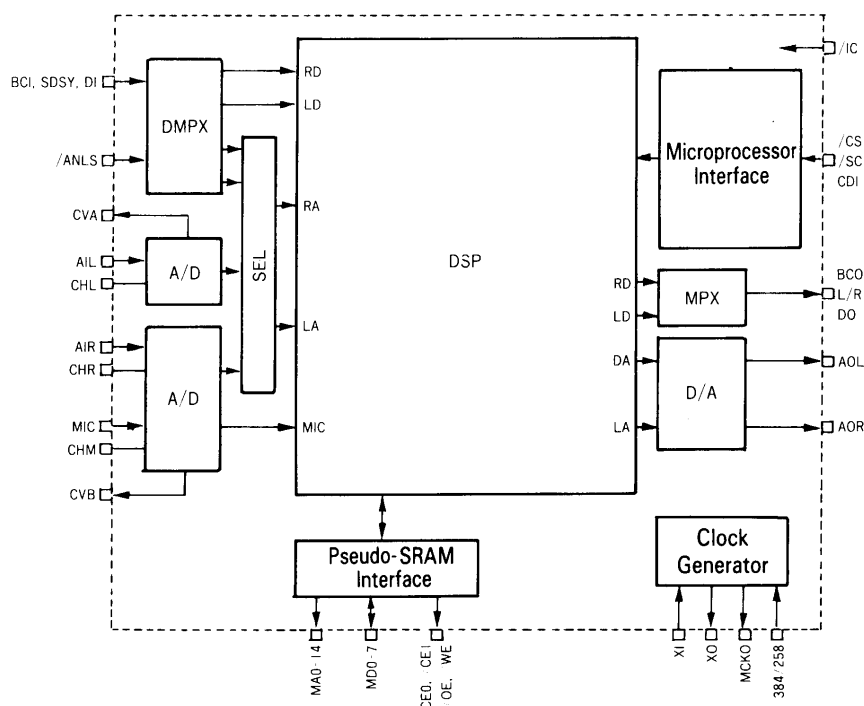
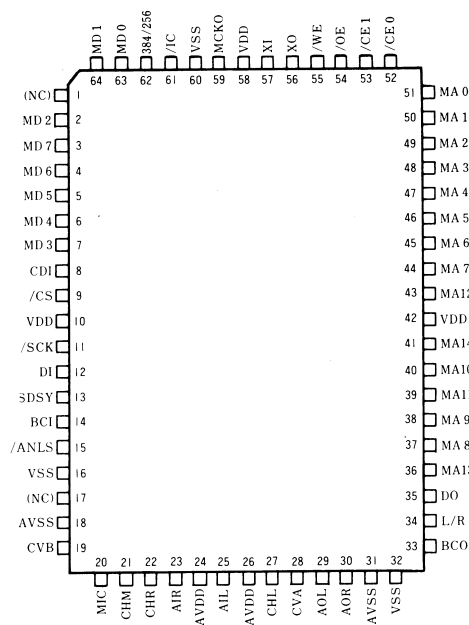
No.	Name	I/O	Function
1	(NC)		(Do not connect externally.)
2	MD2	I/O	External pseudo-SRAM interface data terminal
3	MD7	I/O	External pseudo-SRAM interface data terminal
4	MD6	I/O	External pseudo-SRAM interface data terminal
5	MD5	I/O	External pseudo-SRAM interface data terminal
6	MD4	I/O	External pseudo-SRAM interface data terminal
7	MD3	I/O	External pseudo-SRAM interface data terminal
8	CDI	I	Microprocessor interface serial data
9	/CS	I	Microprocessor interface chip select
10	VDD	—	+5V power supply (for digital block)
11	/SCK	I	Microprocessor interface serial clock
12	DI	I+	Digital audio signal input serial data
13	SDSY	I+	Digital audio signal input L/R clock
14	BCI	I+	Digital audio signal input bit clock
15	/ANLS	I+	YM7110 interface serial data
16	VSS	—	Ground (for digital block)
17	(NC)		(Do not connect externally.)
18	AVSS	A—	Ground (for A/D, D/A converters, Connect with VSS externally.)
19	CVB	A—	ADC center voltage for R and MIC channels
20	MIC	AI	Analog audio signal MIC channel ADC input
21	CHM	A—	Connecting terminal for MIC input sample/hold capacitor
22	CHR	A—	Connecting terminal for AIR input sample/hold capacitor
23	AIR	AI	Analog audio signal R channel ADC input
24	AVDD	A—	+5V power supply (for A/D, D/A converters, Connect with VDD externally.)
25	AIL	AI	Analog audio signal L channel ADC input
26	AVDD	A—	+5V power supply (for A/D, D/A converters, Connect with VDD externally.)
27	CHL	A—	Connecting terminal for AIL input sample/hold capacitor
28	CVA	A—	ADC center voltage for L channel
29	AOL	AO	Analog audio signal L channel DAC output
30	AOR	AO	Analog audio signal R channel DAC output
31	AVSS	A—	Ground (for A/D, C/A converters, Connect with VSS externally.)
32	VSS	—	Ground (for digital block)
33	BCO	O	Digital audio signal output bit clock
34	L/R	O	Digital audio signal output L/R clock
35	DO	O	Digital audio signal output serial data
36	MA13	O	External pseudo-SRAM interface address terminal
37	MA8	O	External pseudo-SRAM interface address terminal
38	MA9	O	External pseudo-SRAM interface address terminal
39	MA11	O	External pseudo-SRAM interface address terminal
40	MA10	O	External pseudo-SRAM interface address terminal

No.	Name	I/O	Function
41	MA14	O	External pseudo-SRAM interface address terminal
42	VDD	—	GND (for digital block)
43	MA12	O	External pseudo-SRAM interface address terminal
44	MA7	O	External pseudo-SRAM interface address terminal
45	MA6	O	External pseudo-SRAM interface address terminal
46	MA5	O	External pseudo-SRAM interface address terminal
47	MA4	O	External pseudo-SRAM interface address terminal
48	MA3	O	External pseudo-SRAM interface address terminal
49	MA2	O	External pseudo-SRAM interface address terminal
50	MA1	O	External pseudo-SRAM interface address terminal
51	MA0	O	External pseudo-SRAM interface address terminal
52	/CE0	O	External pseudo-SRAM interface chip select #0
53	/CE1	O	External pseudo-SRAM interface chip select #1 (available when connecting two pseudo-SRAM)
54	/OE	O	External pseudo-SRAM interface OE terminal
55	/WE	O	External pseudo-SRAM interface WE terminal
56	XO	O	Connecting terminal for crystal oscillator
57	XI	I	Connecting terminal for crystal oscillator or external clock input terminal
58	VDD	—	+5V power supply (for digital block)
59	MCKO	O	Master clock (XI clock) output
60	VSS	—	Ground (for digital block)
61	/IC	I	Initial clear terminal
62	384/256	I+	Master clock rate switching ('H' = 384fs, 'L' = 256fs)
63	MD0	I/O	External pseudo-SRAM interface data terminal
64	MD1	I/O	External pseudo-SRAM interface data terminal

Note) +: Pulled-up terminal, A : Analog terminal

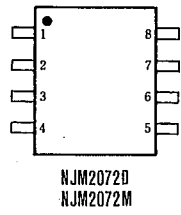
■ PIN CONFIGURATION

■ BLOCK DIAGRAM



Q904: NJM2072

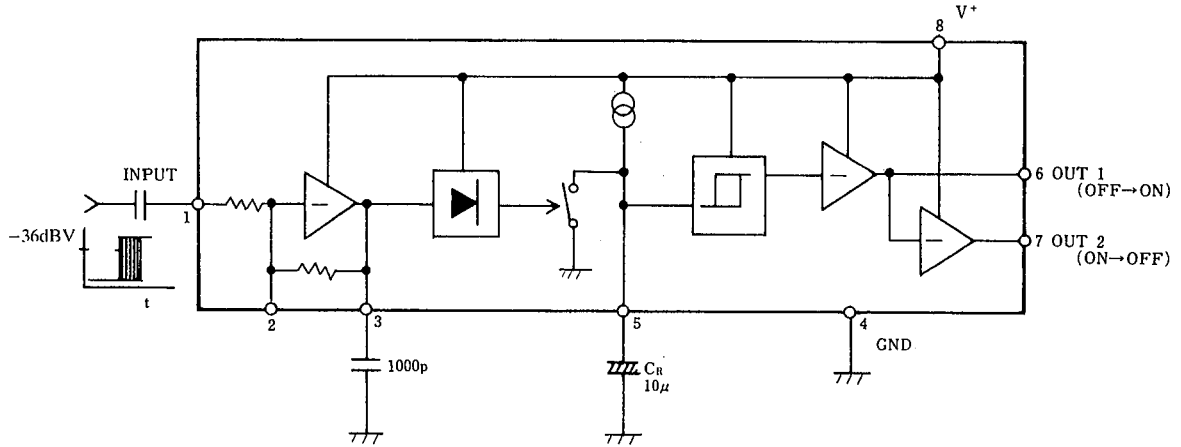
■ PIN CONFIGURATION



PIN FUNCTION

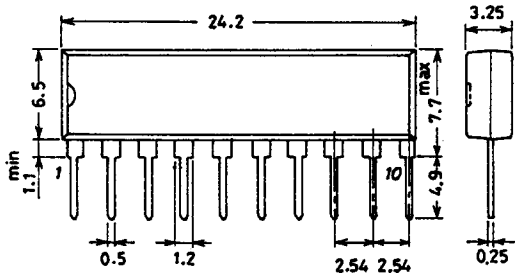
1. INPUT
2. Gain Control
3. Amp. Output
4. GND
5. Capacitor for Recovery time
6. OUT1
7. OUT2
8. V⁺

■ BLOCK DIAGRAM

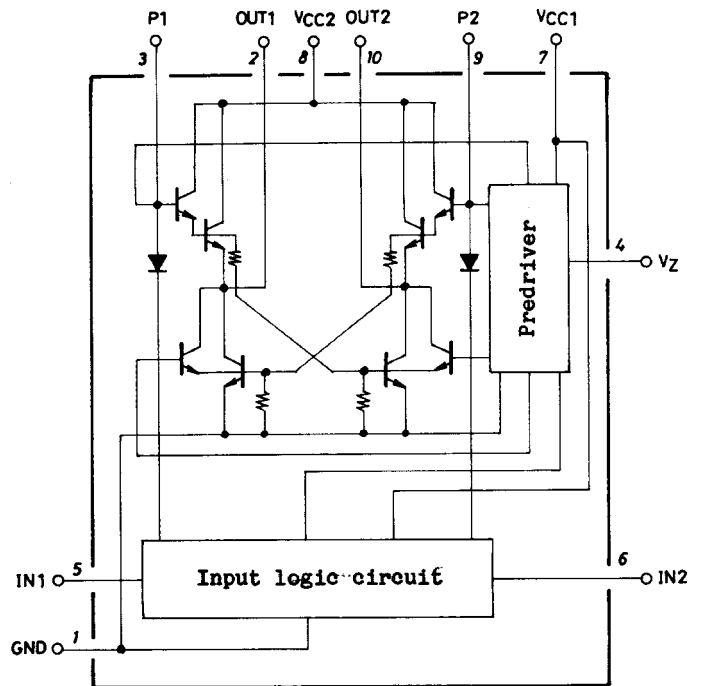


QU03: LB1641

■ PACKAGE DIMENSIONS



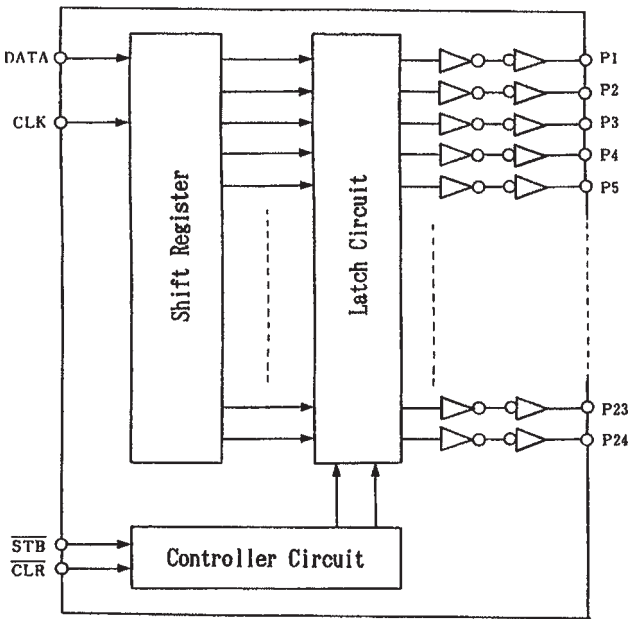
■ BLOCK DIAGRAM



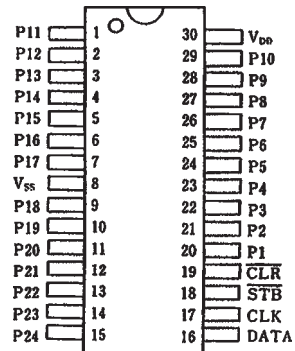
■ TERMINAL DESCRIPTION

NO.	SYMBOL	FUNCTION	NO.	SYMBOL	FUNCTION
1	P11	Parallel Converts Data Output Terminals	16	DATA	Serial Data Input Terminal
2	P12		17	CLK	Clock Signal Input Terminal
3	P13		18	$\overline{\text{STB}}$	Strobe Signal Input Terminal
4	P14		19	$\overline{\text{CLR}}$	Clear Signal Input Terminal
5	P15		20	P1	Parallel Converts Data Output Terminals
6	P16		21	P2	
7	P17		22	P3	
8	V _{SS}	GND	23	P4	
9	P18	24	P5		
10	P19	25	P6		
11	P20	26	P7		
12	P21	27	P8		
13	P22	28	P9		
14	P23	29	P10		
15	P24	30	V _{DD}	Power Supply Terminal	

■ BLOCK DIAGRAM



■ PIN CONFIGURATION

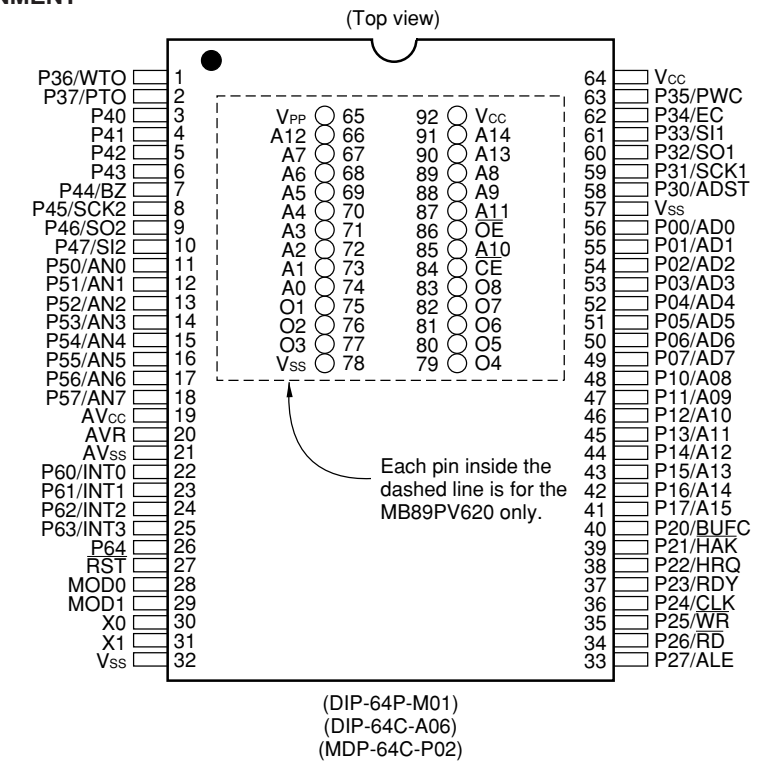


■ PIN DESCRIPTION

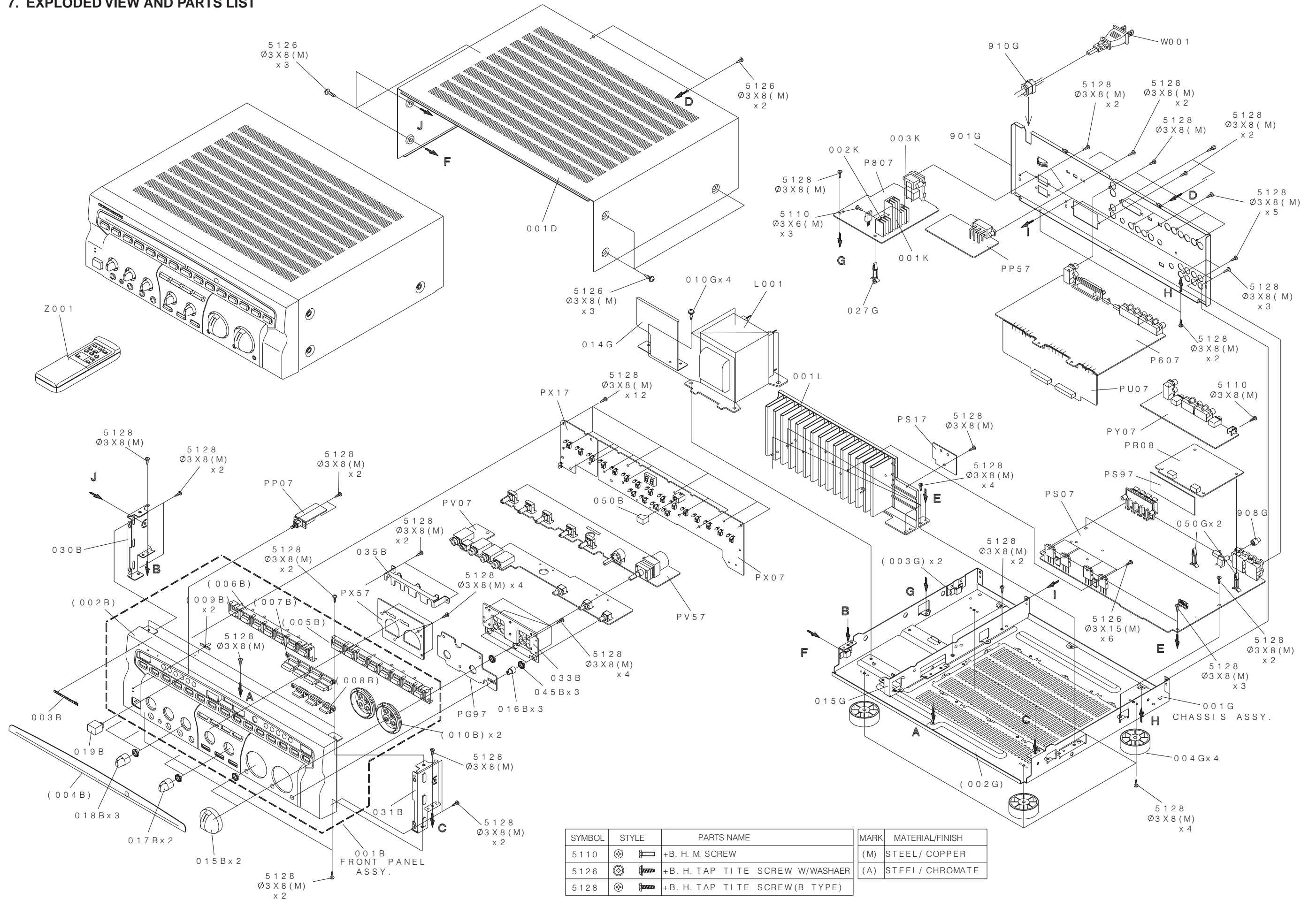
PORT	PIN NO.	I/O	ACT H/L	DESCRIPTION
P36	1			
P37	2	I	H	AUTO FUNCTION ON/OFF SELECT ("H"=AUTO FUNCTION)
P40	3	O	L	VIDEO FUNCTION (LC4066) CONTROL LD
P41	4	O	L	VIDEO FUNCTION (LC4066) CONTROL VCR
P42	5	O	L	VIDEO FUNCTION (LC4066) CONTROL CD
P43	6	O	L	VIDEO FUNCTION (LC4066) CONTROL BGM
P44	7	O	L	PRE MUTE OUT PUT
P45	8	O	H	AUDIO FUNCTION IC (LC7821) CONTROL (CE)
P46	9	O	H	AUDIO FUNCTION IC (LC7821) CONTROL (DATA)
P47	10	O	H	AUDIO FUNCTION IC (LC7821) CONTROL (CLOCK)
P50/A0	11	I	H	AUTO FUNCTION SOURCE INPUT (LD)
P51/A1	12	I	H	AUTO FUNCTION SOURCE INPUT (VCR)
P52/A2	13	I	H	AUTO FUNCTION SOURCE INPUT (CD)
P53/A3	14	I	H	KEY (TACT SW) INPUT-1
P54/A4	15	I	H	KEY (TACT SW) INPUT-2
P55/A5	16	I	H	KEY (TACT SW) INPUT-3
P56/A6	17	I	H	KEY (TACT SW) INPUT-4
P57/A7	18	I	H	KEY (TACT SW) INPUT-5
AVCC	19			
AVR	20			
AVSS	21			
P60	22	I	H	START
P61	23	I	H	MODE SELECT SW A (MODEL SEL CONTROL)
P62	24	I	H	MODE SELECT SW B (MODEL SEL CONTROL)
P63	25	I	L	REMOTE CONTROL INPUT (RC-5 INPUT)
P64	26			
RST	27			
MOD0	28			
MOD1	29			
X0	30			
XI	31			
VSS	32			
P27	33	O	H	PORT EXP (NJU3719) CONTROL (DATA)
P26	34	O	H	PORT EXP (NJU3719) CONTROL (CLK)
P25	35	O	H	PORT EXP (NJU3719) CONTROL (STB-1)
P24	36	O	H	PORT EXP (NJU3719) CONTROL (STB-2)
P23	37	O	L	KEY-CON ON/OFF CONTROL (KEY-CON "0", VOCAL CANCEL OFF)
P22	38	O	H	KEY-CON IC (YSS205) CONTROL (CS)
P21	39	O	H	KEY-CON IC (YSS205) CONTROL (CSK)
P20	40	O	H	KEY-CON IC (YSS205) CONTROL (CDI)
P17	41	I	H	KEY-CON LED CONTROL (L-POINT, H-SEGMENT)
P16	42	O	L	STAGE 1 LED CONTROL
P15	43	O	L	STAGE 2 LED CONTROL
P14	44	O	L	STAGE 3 LED CONTROL
P13	45	O	H	MULTI AUDIO/BACK UP VOCAL CONTROL-2
P12	46	O	H	MULTI AUDIO/BACK UP VOCAL CONTROL-1

PORT	PIN NO.	I/O	ACT H/L	DESCRIPTION
P11	47	I	H	EXTERNAL KEY-CONTROL (UP)
P10	48	I	H	EXTERNAL KEY-CONTROL (DOWN)
P07	49	O	H	MASTER VR (TC921 3P) CONTROL (UP)
P06	50	O	H	MASTER VR (TC921 3P) CONTROL (DOWN)
P05	51	O	H	ELECTRIC VR (TC921 3P) CONTROL (STB)
P04	52	O	H	ELECTRIC VR (TC921 3P) CONTROL (CLOCK)
P03	53	O	H	ELECTRIC VR (TC921 3P) CONTROL (DATA)
P02	54	O	L	KARAOKE MODE ON/OFF CONTROL (ON="L")
P01	55	O	H	CENTER MODE NORMAL/WIDE CONTROL (H=WIDE, L=NOR/PHANTM)
P00	56	O	H	DSP MODE STEREO CONTROL (H=STEREO)
VSS	57			
P30	58	O	L	POWER STANDBY OUTPUT CONTROL (H=STANDBY)
P31	59	O	H	DOLBY IC (YM7306) CONTROL (BCK)
P32	60	O	H	DOLBY IC (YM7306) CONTROL (WCK)
P33	61	O	H	DOLBY IC (YM7306) CONTROL (CD)
P34	62	O	H	TEST TONE CONTROL (H=TEST TONE ON)
P35	63	O	H	DSP MODE DOLBY/SURROUND CONTROL (DOLBY=H, SURROUND=L)
VCC	64			

■ PIN ASSIGNMENT



7. EXPLODED VIEW AND PARTS LIST



SYMBOL	STYLE	PARTS NAME	MARK	MATERIAL/FINISH
5110	⊕	+B. H. M. SCREW	(M)	STEEL/ COPPER
5126	⊕	+B. H. TAP TITE SCREW W/WASHAER	(A)	STEEL/ CHROMATE
5128	⊕	+B. H. TAP TITE SCREW(B TYPE)		

POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)
001B			FRONT PANEL ASSY (GOLD)	342J248510
003B		4822 454 11825	MARANTZ BADGE	274H251020
004B			WINDOW	220J158110
005B			BUTTON KEYCON L	220J270010
006B			BUTTON KEYCON R	220J270020
007B			BUTTON AUTO FUNCTION	220J270030
008B			BUTTON VOCAL	220J270040
009B			LENS VOL. RING	133J355010
010B			LENS LED	391H355110
015B			KNOB VOL.&ECHO GOLD	133J154110
016B		4822 413 41847	KNOB VOL.&ECHO SMALL	191S154050
017B			KNOB MULTI AUDIO/BALANCE GREEN	133J154140
018B			KNOB MIC LEVEL RED	133J154130
019B			BUTTON POWER (GOLD)	220J270150
045B			NUT FOR VOLUME	023J011010
050B			IR SENSOR COVER	220J053010
003G		4822 462 71716	STOPPER	030J114010
004G		4822 462 41477	LEG(GOLD HOT STAMP)	176H057570
010G		4822 502 21583	SCREW TRANSF + CHASSIS	216J010010
908G		4822 413 41847	KNOB INPUT LEVEL	191S154050
▲ L001			MAINS TRANSF. 110/220V 50/60HZ	TS18626130
▲ W001			MAINS CORD FOR CHINA	YC01800880
			PACKING	
001T			USER GUIDE PM580AVK2(ENG/C)	342J851350
Z001			REMOTE CONTROLLER RC580AVK	ZK219J0010
			NOT STANDARD SPARE PARTS	
001S			PACKING CASE	342J801010
002S			SIDE CUSHION(R)	220J809010
003S			SIDE CUSHION(L)	220J809020

NOTE : *nsp* PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

7. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTORS

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.

CAPACITORS

C*** : CERAMIC CAP.

3) DD1 x x x x 370, Ceramic capacitor
 ↓
 Disc type
 Temp. coeff. P350~N1000, 50V
 ↓
 ③ Capacity value
 ↓
 ② Tolerance

Examples

② Tolerance (Capacity deviation)

±0.25 pF 0
 ±0.5 pF 1
 ±5% 5

Tolerance of COMMON PARTS handled here are as follows :

0.5 pF - 5 pF ± 0.25 pF
 6 pF - 10 pF ± 0.5 pF
 12 pF - 560 pF ... ± 5%

③ Capacity value

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

C*** : CERAMIC CAP.

4) DK16 x x x 300, High dielectric constant ceramic capacitor
 ↓
 Disc type
 Temp. chara. 2B4, 50V
 ↓
 ④ Capacity value

Examples

④ Capacity value

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

C*** : 5) ELECTROLY CAP. (), 6) FILM CAP ()

5) EA x x x x x 10, Electrolytic capacitor
 ↓
 One-way lead type, Tolerance ±20%
 ↓
 ⑥ Working voltage
 ↓
 ⑤ Capacity value

Examples

⑤ 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

⑥ Working voltage

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

6) 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
 ↓
 ⑦ Capacity value

Examples

⑦ Capacity value

0.001 μF (1000 pF) 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 (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.(MJI)	Type No.(KOA)	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(0.1Ω - 10k Ω)

2. Matsushita Electronic Components Co., Ltd

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

* 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

ANT. : ANTENNA	BATT. : BATTERY
CAP. : CAPACITOR	CER. : CERAMIC
CONN. : CONNECTING	DIG. : DIGITAL
HP : HEADPHONE	MIC. : MICROPHONE
μ-PRO : MICROPROCESSOR	REC. : RECORDING
RES. : RESISTOR	SPK : SPEAKER
SW : SWITCH	TRANSF. : TRANSFORMER
TRIM. : TRIMMING	TRS. : TRANSISTOR
VAR. : VARIABLE	X' TAL : CRYSTAL

NOTE ON SAFETY:

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

安全上の注意 :

 がついている部品は、安全上重要な部品です。必ず指定されている部品番号の部品を使用して下さい。

POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)
R***			PG97-VOLUME LED CIRCUIT BOARD PG97-RESISTORS(COMMON) Carbon Film Fixed Resistor ±5% : RG91 RG92		CR45		4822 124 41842	TANTAL CHIP 47µF16V	EY47601620
DG91 }		4822 130 80326	L.E.D. LT3D8B RED	HI10062320	CR46		4822 124 41842	TANTAL CHIP 47µF16V	EY47601620
DG98			PG97-SEMICONDUCTORS		CR47		5322 122 33538	CER. 150pF CH 50	DD55151300
▲ CP01			PP07-POWER SW CIRCUIT BOARD CER. CAP. 0.01µF M	DK17103900	CR48		5322 122 33538	CER. 150pF CH 50	DD55151300
▲ SP01			PUSH SWITCH ESB-82136V TV-5	SP01012260	CR52			TANTAL CHIP 10µF16V	EY10601620
▲ F801		4822 070 32001	PP57-VOL-SEL CIRCUIT BOARD FUSE 2.0A 250V BS LISTED	FS10200850	CR55		4822 124 10772	TANTAL CHIP 100µF 6.3V	EY10700620
▲ F802		4822 070 32001	FUSE 2.0A 250V BS LISTED	FS10200850				PR08-CAPACITORS(COMMON) High Dielectric Constant Ceramic Capacitor 50V : CR24 CR28 CR54 CR57-CR64	
▲ SP51		4822 277 21825	SLIDE SWITCH SDKGA4	SS02021510				PR08-RESISTORS	
CR01			PR08-KEY CON CIRCUIT BOARD		RR01		4822 111 90896	CHIP 100k Ω J 1/10W	NI05104110
CR02			PR08-CAPACITORS		RR02		4822 111 90896	CHIP 100k Ω J 1/10W	NI05104110
CR03	5322 122 34098		TANTAL CHIP 10µF16V	EY10601620	RR03		9965 000 03405	CHIP 2.7k Ω J 1/10W	NI05272110
CR04	5322 122 34098		TANTAL CHIP 10µF16V	EY10601620	RR12				
CR05	5322 122 32922		CER. 0.01µF W5R 50	DK56103300	RR13		4822 111 90896	CHIP 100k Ω J 1/10W	NI05104110
CR06	4822 122 32922		CER. 0.01µF W5R 50	DK56103300	RR14		4822 111 90896	CHIP 100k Ω J 1/10W	NI05104110
CR07	4822 122 32702		CER. 1500pF R 50	DK56152300	RR17		9965 000 03405	CHIP 2.7k Ω J 1/10W	NI05272110
CR08	4822 122 32922		CER. 1500pF R 50	DK56152300	RR26		4822 111 90892	CHIP 0 Ω ±5% 1/10W	NI05000110
CR09	5322 122 32654		CER. 0.022µF B 50	DK56223300	RR27		4822 111 90892	CHIP 0 Ω ±5% 1/10W	NI05000110
CR10	5322 122 32654		CER. 0.022µF B 50	DK56223300	RR28		4822 111 90892	CHIP 0 Ω ±5% 1/10W	NI05000110
CR11	4822 122 33137		CER. 560pF ±10%	DK56561300	RR29		4822 111 90895	CHIP 10k Ω J 1/10W	NI05103110
CR12	4822 122 33137		CER. 560pF ±10%	DK56561300	RR30		4822 111 90895	CHIP 10k Ω J 1/10W	NI05103110
CR13	4822 122 32702		CER. 0.033µF F 50	DK58333300	RR37		4822 111 90896	CHIP 100k Ω J 1/10W	NI05104110
CR14	4822 122 32702		CER. 0.033µF F 50	DK58333300	▲RR38		4822 111 30823	270 Ω J 1/4W	GG05271140
CR17	4822 124 11229		TANTAL CHIP 4.7µF 35V	EY47503520	RR39		4822 111 90895	CHIP 10k Ω 1J/10W	NI05103110
CR18	4822 124 11229		TANTAL CHIP 4.7µF 35V	EY47503520	RR40		4822 111 90896	CHIP 100k Ω J 1/10W	NI05104110
CR19	4822 124 10772		TANTAL CHIP 100µF 6.3V	EY10700620	RR43		4822 111 90896	CHIP 100k Ω J 1/10W	NI05104110
CR20	4822 124 10772		TANTAL CHIP 100µF 6.3V	EY10700620	RR45		4822 111 90892	CHIP 0 Ω ±5% 1/10W	NI05000110
CR21	4822 122 33713		CER. 6800pF B 50	DK56682300	RR46		4822 111 90892	CHIP 0 Ω ±5% 1/10W	NI05000110
CR22	4822 122 33713		CER. 6800pF B 50	DK56682300				PR08-SEMICONDUCTORS	
CR23	4822 124 10772		TANTAL CHIP 100µF 6.3V	EY10700620	DR01		4822 130 32868	CHIP DIODE MA153 TW	HZ20005020
CR25	5322 122 34098		CER. 0.01µF W5R 50	DK56103300	DR02		4822 130 32868	CHIP DIODE MA153 TW	HZ20005020
CR26	4822 124 10772		TANTAL CHIP 100µF 6.3V	EY10700620	DR03		4822 130 32635	CHIP DIODE MA151K TW	HZ20003020
CR27	4822 124 11229		TANTAL CHIP 4.7µF 35V	EY47503520	DR04		4822 130 32635	CHIP DIODE MA151K TW	HZ20003020
CR29	4822 124 10772		TANTAL CHIP 100µF 6.3V	EY10700620	DR05		4822 130 32635	CHIP DIODE MA151K TW	HZ20003020
CR30	5322 122 31946		CER. 27pF CH 50	DD55270300	QR01		4822 209 31485	IC YSS205 KAROKE DSP LSI	HC10003640
CR31	5322 122 31946		CER. 27pF CH 50	DD55270300	QR03			IC HY62256ALJ-70 (32K.8PIT)	HC10073990
CR32	5322 122 34098		CER. 0.01µF W5R 50	DK56103300	QR05		4822 209 83357	IC NJM4560M	HC10029090
CR33	5322 122 34098		CER. 0.01µF W5R 50	DK56103300	QR10				
CR34	5322 122 32654		CER. 0.022µF B 50	DK56223300	QR11		4822 130 43398	CHIP TRS.2SC2712 QR	HX327121A0
CR35	5322 122 32654		CER. 0.022µF B 50	DK56223300	QR12		4822 130 43398	CHIP TRS.2SC2712 GR	HX327121A0
CR36	4822 122 32922		CER. 1500pF R 50	DK56152300	LR01			PR08-MISCELLANEOUS	
CR37	4822 122 32702		CER. 0.033µF F 50	DK58333300				RELAY MR602-12USR 12V	LY20120500
CR38	4822 122 32702		CER. 0.033µF F 50	DK58333300	XR01		4822 242 72395	CRYSTAL 11.2896MHz	JX11001260
CR39	4822 122 33137		CER. 560pF ±10%	DK56561300				PS07-POWER AMP CIRCUIT BOARD	
CR40	4822 122 33137		CER. 560pF ±10%	DK56561300				PS07-CAPACITORS	
CR41	4822 124 11229		TANTAL CHIP 4.7µF 35V	EY47503520	CN01		4822 122 40617	CER. 0.1µF +80 -20% 50V	DD38104010
CR42	4822 124 11229		TANTAL CHIP 4.7µF 35V	EY47503520	CN03		4822 124 23055	ELECT 22µF 10V	EJ22601010
CR43	4822 124 10772		TANTAL CHIP 100µF 6.3V	EY10700620	CN04		4822 122 40617	CER. 0.1µF +80 -20%5 0V	DD38104010
CR44	4822 124 10772		TANTAL CHIP 100µF 6.3V	EY10700620	CN05		4822 124 23056	ELECT 47µF 16V	EJ47601610
					CN10		4822 124 23053	ELECT 1µF 50V	EJ10505010
					CS01				
					CS08		4822 124 21899	ELECT 4.7µF 25V	EJ47502510
					CS12		4822 124 21899	ELECT 4.7µF 25V	EJ47502510
					CS13		4822 124 21899	ELECT 4.7µF 25V	EJ47502510

NOTE : "nsp" PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)
CS14		4822 124 21899	ELECT 4.7μF 25V	EJ47502510	▲ R732		4822 053 10221	220 Ω J 1W	GA05221010
CS15		4822 124 23053	ELECT 1μF 50V	EJ10505010	▲ R733		4822 052 10229	22 Ω J 1/6W	GG05220160
CS16		4822 124 23053	ELECT 1μF 50V	EJ10505010	}		4822 052 10229	22 Ω J 1/6W	GG05220160
CS17		4822 124 23053	ELECT 1μF 50V	EJ10505010	▲ R736		4822 052 10229	22 Ω J 1/6W	GG05220160
CS18		4822 122 40617	CER. 0.1μF 50V	DD38104010	▲ R737		4822 116 82049	FIXED (0.18Ω X 2 3W)	BZ10182010
CS19		4822 124 23056	ELECT 47μF 16V	EJ47601610	▲ R738		4822 116 82049	FIXED (0.18Ω X 2 3W)	BZ10182010
CS20		4822 124 23056	ELECT 47μF 16V	EJ47601610	▲ R739		4822 050 26809	68 Ω J 1/6W	GG05680160
CS21					▲ R740		4822 050 26809	68 Ω J 1/6W	GG05680160
}		4822 124 21899	ELECT 4.7μF 25V	EJ47502510	▲ R743		4822 116 83353	METAL 10 Ω ±5% 3W	NK05100030
CS28					▲ R744		4822 116 83353	METAL 10 Ω ±5% 3W	NK05100030
CS29		4822 124 21894	ELECT 10μF 16V	EJ10601610	▲ R745		4822 053 10332	3.3k Ω J 1W	GA05332010
CS30		4822 124 21894	ELECT 10μF 16V	EJ10601610					
CS31		4822 124 21894	ELECT 10μF 16V	EJ10601610					
CS32		4822 122 40617	CER. 0.1μF 50V	DD38104010					
CS33		4822 122 40617	CER. 0.1μF 50V	DD38104010	R***				
CS55		4822 124 21899	ELECT 4.7μF 25V	EJ47502510					
CS56		4822 124 21899	ELECT 4.7μF 25V	EJ47502510					
C703		4822 124 21894	ELECT 10μF 16V	EJ10601610					
C704		4822 124 21894	ELECT 10μF 16V	EJ10601610					
C705		5322 122 32072	CER. 33pF J CH 50	DD15330300					
C706		5322 122 32072	CER. 33pF J CH 50	DD15330300					
▲ C711		4822 126 10797	CER. 10pF SL 500V	DD11100560	DN01		4822 130 80837	DIODE HSS81	HD20027010
▲ C712		4822 126 10797	CER. 10pF SL 500V	DD11100560	DN02		4822 130 80837	DIODE HSS81	HD20027010
C713		4822 122 40367	CER. 7pF CH 50V	DD11070300	DN04		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
C714		4822 122 40367	CER. 7pF CH 50V	DD11070300					
▲ C717					DN05		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
}		5322 122 32265	CER. 100pF J 500V	DD15101560					
▲ C720				DD15101560	DN06		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
C721									
}		4822 124 21895	ELECT 0.22μF 50V	EJ22405010	DS01		4822 130 32362	DIODE SUBSTITUTE	HD20002000
C724					DS02		4822 130 32362	DIODE SUBSTITUTE	HD20002000
C726		4822 124 21894	ELECT 10μF 16V	EJ10601610	DS03		4822 130 32362	DIODE SUBSTITUTE	HD20002000
C727		4822 124 80649	ELECT 10μF 100V	EA10610010					
C728		4822 124 80649	ELECT 10μF 100V	EA10610010	D701		4822 130 80273	ZENER DIODE NTJ8.2C 8.2V	HD30821000
▲ C851		4822 126 12453	CER. 0.01μF Z 500	DK18103560	D702		4822 130 80322	ZENER DIODE NTJ15B 15.0V	HD31501000
C852			ELECT 8200μF 63V 25XL60	EB82806370	D703				
C853			ELECT 8200μF 63V 25XL60	EB82806370	}		4822 130 32362	DIODE SUBSTITUTE	HD20002000
C854		4822 124 23053	ELECT 1μF 50V	EJ10505010	D706				
			PS07-CAPACITORS(COMMON)		▲ D851				
C***			Ceramic Capacitor 50V : CS09-CS11		}		4822 130 33864	DIODE 30D-2 JAPAN INTER 1.7A 200V	HD20030100
					▲ D854				
C***			High Dielectric Constant Ceramic Capacitor 50V : CS37 CS38 C701 C702 C709 C710		▲ D855		4822 130 32508	DIODE RL103E (RECTRON) /DSF10C	HD20003000
					▲ D856		4822 130 32508	DIODE RL103E (RECTRON) /DSF10C	HD20003000
C***			Electrolytic Capacitor ±20% : CN07 CS34 CS35 C707 C708 C725		▲ QN01		4822 130 43233	TRS .2SC2240	HT322402A0
					▲ QN02		4822 130 43233	TRS .2SC2240	HT322402A0
					▲ QN03		4822 130 42949	TRS .2SA970	HT109702A0
					▲ QN04		4822 130 43313	TRS .2SC3312 R/S	HT333122A0
					QN05		4822 130 60588	SEMICON.COMP	BA20001000
▲ RN01		4822 052 10102	1k Ω J 1/6W	GG05102160	QN06		4822 209 83312	DTC114ES/UN4211 10K 10K IC TA7317P	HC10042050
▲ RN02		4822 052 10102	1k Ω J 1/6W	GG05102160	QS01				
▲ RN61		4822 116 60335	1.2k Ω ±5% 1W	GA05122010	}		4822 209 83631	IC NJM4558DD	HC10008090
▲ RS41		4822 050 21501	150 Ω ±5% 1/4W	GG05151140	QS06				
▲ RS42		4822 050 21501	150 Ω ±5% 1/4W	GG05151140	QS11		4822 209 32552	IC LC78211	HC10308030
RS67			VARIABLE RK14K12A0 10k Ω (BGM VR)	RM05031580	QS52		4822 209 83631	IC NJM4558DD	HC10008090
					QS53		4822 209 83631	IC NJM4558DD	HC10008090
▲ R713		4822 050 26809	68 Ω J 1/6W	GG05680160	▲ Q701		4822 130 42999	TRS .2SA1145 O/Y	HT111452A0
▲ R714		4822 050 26809	68 Ω J 1/6W	GG05680160	▲ Q702		4822 130 42999	TRS .2SA1145 O/Y	HT111452A0
R719		4822 100 11386	TRIMMING 1k Ω RH0683C13R	RA01020780	▲ Q703		4822 130 43283	TRS .2SC2705 O/Y	HT327052A0
R720		4822 100 11386	TRIMMING 1k Ω RH0683C13R	RA01020780	▲ Q704		4822 130 43283	TRS .2SC2705 O/Y	HT327052A0
▲ R725					▲ Q705		4822 130 60117	TRS .2SC3419 Y	HT334191Y0
}		4822 050 26809	68 Ω J 1/6W	GG05680160	▲ Q706		4822 130 60117	TRS .2SC3419 Y	HT334191Y0
▲ R730					Q707				
▲ R731		4822 053 10221	220 Ω J 1W	GA05221010	▲ Q708				

NOTE : *nsp* PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)
▲ Q709			TRS. 2SB1353	HT213531E0	QU04		4822 130 60588	SEMICON.COMP	BA20001000
▲ Q710			TRS. 2SB1353	HT213531E0				DTC114ES/UN4211 10K 10K	
▲ Q711		4822 130 43306	TRS. 2SC3182 R OR O	HT331822A0	QU06		4822 130 41947	TRS. 2SC536SP/ETC	HT30001000
▲ Q712		4822 130 43306	TRS. 2SC3182 R OR O	HT331822A0	QU21		4822 130 61227	SEMICON.COMP	BA10001000
▲ Q713		4822 130 43019	TRS. 2SA1265 R OR O	HT112652A0				DTA114ES/UN4111 10K 10K	
▲ Q714		4822 130 43019	TRS. 2SA1265 R OR O	HT112652A0	QU22		4822 130 42682	SEMICON.COMP	BA10002000
▲ Q715		4822 209 83732	IC AN7062 V-AMP	HC10066020				DTA144ES/UN4113 47K 47K	
Q717		4822 130 43818	TRS. 2SC2878 A/B	HT328782A0	QU23		4822 130 42682	SEMICON.COMP	BA10002000
Q718		4822 130 43818	TRS. 2SC2878 A/B	HT328782A0	QU24		4822 130 61227	SEMICON.COMP	BA10001000
			PS07-MISCELLANEOUS		QU25		4822 130 42594	SEMICON.COMP	BA20002000
JS01		4822 290 81723	TERMINAL YKC21-3108	YT02041070				DTC144ES/UN4213 47K 47K	
JS02		4822 290 81723	TERMINAL YKC21-3108	YT02041070				PU07-MISCELLANEOUS	
J701		4822 267 50424	TERMINAL 8P SP	YT03080020	XU01		4822 242 72066	SERAMIC VIB. CERALOCK	FQ08004010
								CST 8.00MHZ(MT)	
▲ LN01		4822 280 70354	RELAY VB 24MBU-510	LY20240310				PV07-MIC TONE	
L701		4822 157 70022	AIR COIL SPK CHOCK	ML08010030				CIRCUIT BOARD	
L702		4822 157 70022	AIR COIL SPK CHOCK	ML08010030	CE03		4822 124 21894	ELECT 10μF 16V	EJ10601610
			VERTICAL		CE04		4822 124 21894	ELECT 10μF 16V	EJ10601610
SS05		4822 277 21718	SLIDE SWITCH SSSS9-23Z	SS02030560	CE07		4822 124 40748	ELECT 0.33μF 50V	EJ33405010
			(INPUT ATT)		CE08		4822 124 40748	ELECT 0.33μF 50V	EJ33405010
			PS97-CONNECT		CE09		4822 124 21901	ELECT 47μF 6.3V	EJ47600610
			CIRCUIT BOARD		CE10		4822 124 21901	ELECT 47μF 6.3V	EJ47600610
			PS97-CAPACITORS(COMMON)		CE15		4822 124 21899	ELECT 4.7μF 25V	EJ47502510
			Electrolytic Capacitor ±20% :		CE16		4822 124 21899	ELECT 4.7μF 25V	EJ47502510
			CS91		CE23		4822 124 23056	ELECT 47μF 16V	EJ47601610
			PS97-RESISTOR		CE24		4822 124 23056	ELECT 47μF 16V	EJ47601610
			22 Ω ±5% 1/4W	GG05220140	CV01				
▲ RS91		4822 050 22209			}		4822 124 21901	ELECT 47μF 6.3V	EJ47600610
			PU07-U-COM CIRCUIT BOARD		CV04				
			PU07-CAPACITORS		CV13				
CU03		4822 124 21894	ELECT 10μF 16V	EJ10601610	}		4822 124 21901	ELECT 47μF 6.3V	EJ47600610
CU04		4822 122 40617	CER. 0.1μF +80 -20% 50V	DD38104010	CV16				
CU06		4822 122 40617	CER. 0.1μF +80 -20% 50V	DD38104010	CV17		4822 124 23056	ELECT 47μF 16V	EJ47601610
CU07		4822 122 40617	CER. 0.1μF +80 -20% 50V	DD38104010	CV18		4822 124 23056	ELECT 47μF 16V	EJ47601610
CU08		4822 124 21894	ELECT 10μF 16V	EJ10601610	CV19				
			PU07-CAPACITORS(COMMON)		}		4822 122 40617	CER. 0.1μF +80 -20% 50V	DD38104010
			Electrolytic Capacitor ±20% :		CV24				
			CU02 CU10					PV07-CAPACITORS(COMMON)	
			PU07-RESISTOR					Ceramic Capacitor 50V :	
▲ RU26		4822 052 10109	10 Ω J 1/6W	GG05100160				CV09-CV11	
			PS07-RESISTORS(COMMON)					High Dielectric Constant	
			Carbon Film Fixed Resistor					Ceramic Capacitor 50V : CE01	
			±5% : RU02-RU06 RU08-RU12					CE02 CE17 CE18 CV05-CV08	
			RU15 RU16 RU27 RU29					CV12	
			RU31-RU42					Electrolytic Capacitor ±20% :	
			PU07-SEMICONDUCTORS					CE05 CE06 CE11-CE14	
DU01		4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000	RE19			PV07-RESISTORS	
			30V 0.1A					VARIABLE RK09L1220 10k Ω	RM01030960
DU02		4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000	RE20			(C)	
			30V 0.1A					VARIABLE RK09L1220 10k Ω	RM01030960
DU03		4822 130 32508	DIODE SUBSTITUTE	HD20003000	▲ RE31		4822 052 10221	220 Ω J 1/6W	GG05221160
DU09		4822 130 80316	ZENER DIODE NTJ3.6A 3.6V	HD30361000	▲ RE32		4822 052 10221	220 Ω J 1/6W	GG05221160
QL04					▲ RV21		4822 050 21501	150 Ω J 1/4W	GG05151140
}		4822 130 60588	SEMICON.COMP	BA20001000	▲ RV22		4822 050 21501	150 Ω J 1/4W	GG05151140
QL07			DTC114ES/UN4211 10K 10K		RV25			VARIABLE ECHO LENGTH	RK01040710
QU01			MICROPROCESSOR U-COM	HU220JF100				100k Ω	
QU03		4822 209 30193	IC LB1641 MOTOR DRIVER	HC10279030					

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POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)
R***			PV07-RESISTORS(COMMON) Carbon Film Fixed Resistor ±5% : RE03-RE18 RE21 RE22 RE25 RE26 RV01-RV20 RV23 RV24 RV26-RV34		RV67			VARIABLE MIC 3 VR 10k Ω	RM01030940
					▲ RV69		4822 050 22209	22 Ω J 1/4W	GG05220140
					▲ RV81		4822 050 21501	150 Ω J 1/4W	GG05151140
					▲ RV82		4822 050 21501	150 Ω J 1/4W	GG05151140
					R911			VARIABLE MALTI AUDIO 10k Ω	RM01030950
QE01		4822 209 73064	IC NJM2068DD	HC10053090	▲ R965		4822 050 21501	150 Ω J 1/4W	GG05151140
QV01		4822 209 73064	IC NJM2068DD	HC10053090	▲ R966		4822 050 21501	150 Ω J 1/4W	GG05151140
QV02		4822 209 73064	IC NJM2068DD	HC10053090					
QV03		4822 130 60588	SEMICON.COMP DTC114ES/UN4211 10K 10K	BA20001000					
QV04		4822 130 60588	SEMICON.COMP DTC114ES/UN4211 10K 10K	BA20001000	R***			PV57-RESISTORS(COMMON) Carbon Film Fixed Resistor ±5% : RV51-RV60 RV62 RV63 RV68 RV70-RV73 RV75-RV78 RV80 RV83-RV85 R901-R905 R908-R910 R951-R954 R957-R964	
JV01			PV07-MISCELLANEOUS JACK HLJ5305-01-4150 W/SW MIC	YJ01003710					
JV02			JACK HLJ5305-01-4150 W/SW MIC	YJ01003710	DV51		4822 130 32362	PV57-SEMICONDUCTORS DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
JV03			JACK HLJ5305-01-4150 W/SW MIC	YJ01003710					
JV04			JACK HLJ5305-01-4150 W/SW MIC	YJ01003710	QV54		4822 209 73064	IC NJM2068DD	HC10053090
					QV55		4822 209 73064	IC NJM-2068-DD	HC10053090
					QV51			IC M65831P DIGITAL ECHO	HC10175200
					Q901		4822 209 83631	IC NJM4558DD	HC10008090
					Q902		4822 209 62784	IC TC9215P	HC10262050
					Q904		4822 209 33329	IC NJM2072 LEVEL SENSOR	HC10051090
					Q905		4822 130 41947	TRS. 2SC536SP/ETC	HT30001000
					Q951		4822 209 83631	IC NJM4558DD	HC10008090
CG51		4822 126 10935	ELECT 100μF 6.3V	EJ10700610	FV51		4822 242 81525	PV57-MISCELLANEOUS SERAMIC VIB. CST2.00MG040	FQ02004030
CG52		4822 126 10935	ELECT 100μF 6.3V	EJ10700610					
CV52		4822 124 21899	ELECT 4.7μF 25V	EJ47502510				PX07-FRONT CIRCUIT BOARD PX07-CAPACITORS	
CV55		4822 124 21901	ELECT 47μF 6.3V	EJ47600610	CX01		4822 124 21894	ELECT 10μF 16V	EJ10601610
CV60		4822 124 40786	ELECT 2.2μF M 50V	EJ22505010	CX02		4822 122 30103	CER. 0.022μF 50V	DK18223310
CV61		4822 122 40617	CER. 0.1μF +80 -20% 50V	DD38104010	CX03		4822 126 10935	ELECT 100μF 6.3V	EJ10700610
CV68		4822 126 10935	ELECT 100μF 6.3V	EJ10700610	CX04		4822 122 40617	CER. 0.1μF 50V	DD38104010
CV69		4822 124 21901	ELECT 47μF 6.3V	EJ47600610				PX07-RESISTORS(COMMON) Carbon Film Fixed Resistor ±5% : RX20-RX26 RX30-RX35 RX38-RX44 RX47-RX51 RX57	
CV70		4822 124 21901	ELECT 47μF 6.3V	EJ47600610					
CV71		4822 124 21894	ELECT 10μF 16V	EJ10601610					
CV76		4822 124 21901	ELECT 47μF 6.3V	EJ47600610					
CV77		4822 124 21901	ELECT 47μF 6.3V	EJ47600610					
C901		4822 124 23053	ELECT 1μF 50V	EJ10505010					
C903		4822 124 21899	ELECT 4.7μF 25V	EJ47502510	R***				
C953		5322 122 32143	CER. 22pF J CH 50	DD15220300					
C954		5322 122 32143	CER. 22pF J CH 50	DD15220300					
C955		4822 124 21899	ELECT 4.7μF 25V	EJ47502510					
C956		4822 124 21899	ELECT 4.7μF 25V	EJ47502510					
C957		4822 124 23056	ELECT 47μF 16V	EJ47601610	DX15				
C958		4822 124 23056	ELECT 47μF 16V	EJ47601610	§		4822 130 80326	L.E.D. LT3D8B RED	HI10062320
					DX28				
					DX35				
C***			PV57-CAPACITORS(COMMON) Ceramic Capacitor 50V : CV73 High Dielectric Constant Ceramic Capacitor 50V : CV51 CV53 CV59 C902 C951 C952		§		4822 130 80326	L.E.D. LT3D8B RED	HI10062320
					DX42				
					DX43		4822 130 80325	L.E.D. LT3H8B YELLOW 30	HI10064320
					DX44		4822 130 80325	L.E.D. LT3H8B YELLOW 30	HI10064320
					DX45			DIODE 1GWJ43	HD20031050
C***			Electrolytic Capacitor ±20% : CV62 CV74 CV75		DX46		4822 130 32362	DIODE 1SS176 MA165	HD20002000
C***			Plastic Film Capacitor ±5% 50V : CV54 CV56-CV58 CV63		QX02		4822 209 16847	IC NJU3719L	HC10142090
					QX03		4822 130 60588	SEMICON.COMP DTC114ES/UN4211 10K 10K	BA20001000
					QX04		4822 130 83519	PHOTO UNIT IR RECIVER	HW10001210
RG51			PV57-RESISTORS VARIABLE MASTER VOL WITH MOTER 100k Ω	RY01040290	QX05		4822 130 61227	SEMICON.COMP DTA114ES/UN4111 10K 10K	BA10001000
RG52			VARIABLE BALANCE 100k Ω	RK01040700					
RV64			VARIABLE ECHO VR 20k Ω	RK02030990	SX01		9965 000 00373		
RV65			VARIABLE MIC 1 VR 10k Ω	RK01031400	§		9965 000 00373	PUSH SWITCH TACT	SP01013370
RV66			VARIABLE MIC 2 VR 10k Ω	RK01031400	SX07		9965 000 00373		

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POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)
R***			P607-RESISTORS(COMMON) Carbon Film Fixed Resistor ±5% : RL01-L19 RL21 RL23 RL25 RU30 RZ01 RZ02 RZ05-RZ10 RZ13 RZ14 RZ17-RZ20 RZ23-RZ52	
			P607-SEMICONDUCTORS	
DZ01 }		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
QL01		4822 209 83067	IC C-MOS 4066	HC406600B0
QL02		4822 130 41947	TRS. 2SC536SP/ETC	HT30001000
QL03		4822 130 41947	TRS. 2SC536SP/ETC	HT30001000
QZ01		4822 209 83631	IC NJM4558DD	HC10008090
QZ02		4822 209 73064	IC NJM2068DD	HC10053090
QZ03		4822 209 62784	IC TC9215P	HC10262050
QZ04		4822 209 62784	IC TC9215P	HC10262050
QZ05		4822 209 62784	IC TC9215P	HC10262050
QZ06		4822 130 60588	SEMICON.COMP DTC114ES/UN4211 10K 10K	BA20001000
QZ07		4822 209 73064	IC NJM2068DD	HC10053090
QZ08		4822 130 42715	TRS. 2SA1048 A933S A1267 ETC	HT10001000
QZ09		4822 130 42715	TRS. 2SA1048 A933S A1267 ETC	HT10001000
QZ10		4822 130 42715	TRS. 2SA1048 A933S A1267 ETC	HT10001000
QZ11		4822 209 83839	IC C-MOS 4053	HC405300B0
QZ12		4822 130 43818	TRS. 2SC2827 A/B	HT328782A0
			P607-MISCELLANEOUS	
JL01			TERMINAL T6190-CAAC 3P YELLOW AU	YT02030490
JL02			TERMINAL T6190-CAAC 3P YELLOW AU	YT02030490
PZ01		4822 265 11401	PLUG CONNECTOR DB25	YP11000180
SZ01		4822 277 21718	SLIDE SWITCH SSSS92	SS02030560
SZ02			SLIDE SWITCH SSSS9-12N4-B1	SS01020810
SU01			SLIDE SWITCH SSSS9-12N4-B1	SS01020810
			P807-SUPPLY CIRCUIT BOARD	
			P807-CAPACITORS	
C801		4822 124 81133	ELECT 4700µF 25V	OA47802520
C803		4822 124 23056	ELECT 47µF 16V	EJ47601610
C804		4822 124 23056	ELECT 47µF 16V	EJ47601610
C807		4822 124 23056	ELECT 47µF 16V	EJ47601610
C809				
}		4822 122 30103	CER. 0.022µF Z 50V	DK18223310
C812				
C813		4822 124 40786	ELECT 2.2µF 50V	EJ22505010
C814		4822 124 40786	ELECT 2.2µF 50V	EJ22505010
▲ C822			CER. 0.01µF M	DK17103900
			P807-CAPACITORS(COMMON)	
C***			Electrolytic Capacitor ±20% : C802 C805	
			P807-RESISTORS	
▲ R805		4822 117 10158	1 Ω ±5% 1/4W	GG05010140
▲ R807		4822 117 10158	1 Ω ±5% 1/4W	GG05010140
▲ R809				
}		4822 116 82805	1 Ω ±5% 1/6W	GG05010160
▲ R812				

POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)
R***			P807-RESISTORS(COMMON) Carbon Film Fixed Resistor ±5% : R801 R802	
			P807-SEMICONDUCTORS	
▲ D801		4822 130 33057	DIODE	HE20011290
▲ D802				
}		4822 130 32508	DIODE RL103E(RECTRON)/DSF10C	HD20003000
▲ D805				
D806				
}		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
D809				
▲ D814		4822 130 32508	DIODE RL103E(RECTRON)/DSF10C	HD20003000
QZ13		4822 130 43818	TRS. 2SC2827 A/B	HT328782A0
▲ Q801		4822 209 31864	IC NJM7915FA	HC39915090
▲ Q802		4822 209 33819	IC UPC24M15HF 15V 0.5A REG	HC36515060
▲ Q803		4822 209 61533	IC NJM7806FA +6W 1A	HC38906090
Q809		4822 130 60588	SEMICON.COMP DTC114ES/UN4211 10K 10K	BA20001000
			P807-MISCELLANEOUS	
▲ L801		4822 280 20517	RELAY VS24MB UL/CSA	LY10240190

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