

Service Manual

PS2100/N1S, /C1S

AV Receiver

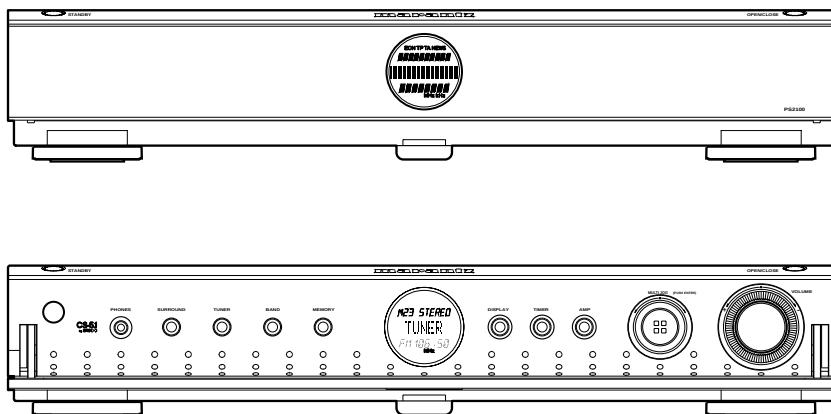


TABLE OF CONTENTS

1.	TECHNICAL SPECIFICATIONS	1
2.	SERVICE MODE	2
3.	TUNER ADJUSTMENT	3
4.	DLOCK DIAGRAM	5
5.	SCHEMATIC DIAGRAM AND PARTS LOCATION	7
6.	MICROPROCESSOR AND IC DATA	29
7.	SODA (Self-Oscillating class D Amplifier)	36
8.	EXPLODED VIEW AND PARTS LIST	37
9.	ELECTRICAL PARTS LIST	40

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

marantz®

PS2100

328J855010 AO
3120 785 22660
First Issue:2001.05

PS2100

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, **MARANTZ** company has created the ultimate in stereo sound. Only original **MARANTZ** parts can insure that your **MARANTZ** product will continue to perform to the specifications for which it is famous.

Parts for your **MARANTZ** equipment are generally available to our National Marantz Subsidiary or Agent.

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
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FAX : 630 - 307 - 2687

EUROPE / TRADING

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BRAZIL

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MARANTZ PROFESSIONAL PRODUCTS
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FAX : 630 - 820 - 8103

PROFESSIONAL AUSTRALIA

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FAX : 61 - 2 - 9810 - 5355

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MT. WAVERLEY VIC 3149
AUSTRALIA
PHONE : +61 - (0)3 - 9543 - 1522
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WANGBURAPAPIROM, PHRANAKORN,
BANGKOK, 10200 THAILAND
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FAX : +66 - 2 - 224 6795

SINGAPORE

WO KEE HONG DISTRIBUTION PTE LTD
130 JOO SENG ROAD
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SINGAPORE 368357
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NEW ZEALAND

WILDASH AUDIO SYSTEMS NZ
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TAIPEI, 10429, TAIWAN R.O.C.
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FAX : +886 - 2 - 25630415

MALAYSIA

WO KEE HONG ELECTRONICS SDN. BHD.
SUITE 8.1, LEVEL 8, MENARA GENESIS,
NO. 33, JALAN SULTAN ISMAIL,
50250 KUALA LUMPUR, MALAYSIA
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営業本部 〒150-0022
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

FM TUNER SECTION

Frequency Range	87.5 - 108.0 MHz
Usable Sensitivity	IHF 1.8 μ V / 16.4 dBf
Signal to Noise Ratio	Mono / Stereo 75 / 68 dB
Distortion	Mono / Stereo 0.2 / 0.5 %
Stereo Separation	45 dB at 1 kHz
Alternate Channel Selectivity	60 dB ($\pm$ 300 kHz)

AM TUNER SECTION

Frequency Range	531 - 1602 kHz
Signal to Noise Ratio	50 dB
Usable Sensitivity	Loop 400 μ V
Distortion	400 Hz, 30 % Mod. 0.5 %
Selectivity	$\pm$ 18 kHz 40 dB

AUDIO SECTION

Rated Output Power (5 channel drive)	30 W at 8 ohms load
Stereo mode	50 W + 50 W
Input Sensitivity/Impedance	300 mV / 47 k ohm

Video Selector

Input, Output Level/Impedance	1.0 Vp-p / 75 ohm
-------------------------------------	-------------------

GENERAL

Power Supply	AC 220 V 60 Hz - C1S
	AC 230 V 50 Hz - N1S
Power Consumption	280 W
Dimension (MAX)	
Width	420 mm
Height	76 mm
Depth	322 mm
Weight	5.5 Kg

ACCESSORIES

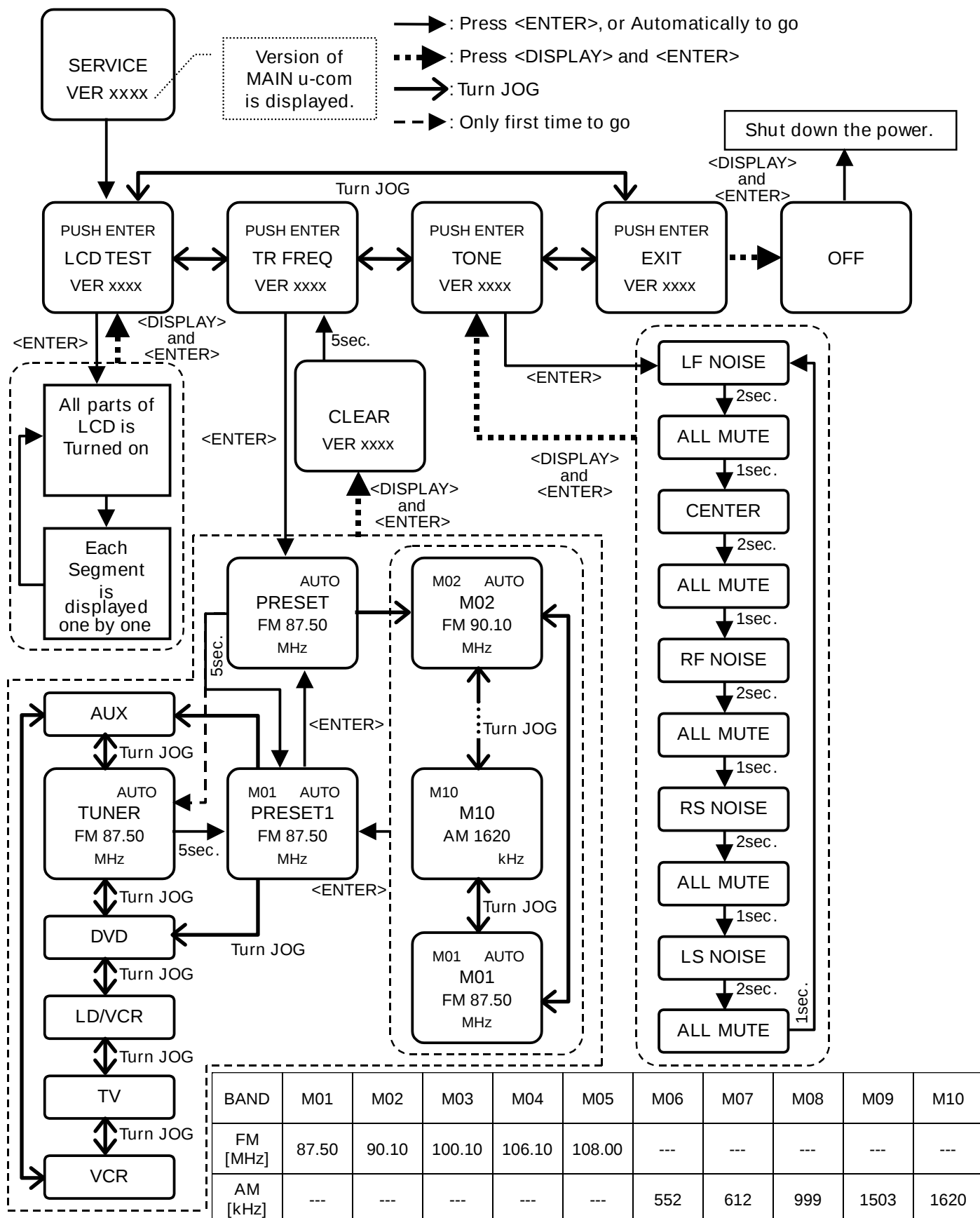
Remote Control Unit RC2100SR	1
AAA-size batteries	2
FM Feeder Antenna	1
AM Loop Antenna	1
Bus cable	1
AC cord	1

Specifications subject to change without prior notice.

2. SERVICE MODE

1.Trucking point memory of present memory / LCD segment luminous / check of speaker output

Connect an AC cable plug to mains while pressing <DISPLAY> and <ENTER>.



3. TUNER ADJUSTMENT

1. AM auto stop Level Check

Step	Input Signal Connection	Signal Frequency	Source Signal Output Level and Modulation	P-No.	Reception Frequency	Adjust. point	Adjustment Value
1	Signal generator output to transmission loop antenna. ('Standard required loop)	999 kHz	Level 54 dB/m (500µV/m)	M08	999 kHz	RA11	"TUNED" indicates on LCD
2			Level 60 dB/m (1000µV/m)	AUTO SCAN		Only Confirm	Stop scan and "TUNED" Indicates on LCD

*Set RA11 first TUNED OFF (disappear TUNED) and 2nd set to TUNED ON (appear TUNED).
*Auto scan mode activates that push and hold [▶▶] button on remote controller RC2100SR.

2. FM Adjustment

2.1 FM MONO. Distortion Adjustment.

Step	Input Signal Connection	Signal Frequency	Source Signal Output Level and Modulation	P-No.	Reception Frequency	Adjust. Point	Adjustment Value
1	Signal generator output to FM antenna terminal (75ohms)	100.1MHz	Level 500µV (54 dB) Mono 1kHz Dev. 75kHz 100%(C) Dev. 40kHz 53%(N)	M03 MONO	100.1MHz	L201	Distortion Level Minimum at VCR-OUT

2.2 FM Muting Threshold Check

First of all, check illuminates "AUTO" on LCD. If shows "MONO" on LCD, press [TUNER MODE] button on unit or remote that to set the AUTO mode. LCD shows "AUTO". Input the signal and receipt it.

Step	Input Signal Connection	Signal Frequency	Source Signal Output Level and Modulation	P-No.	Reception Frequency	Adjust. point	Adjustment Value
1	Signal generator output to FM antenna terminal (75ohms)	100.1MHz	Level 6.3µV(16dB) Mono 1kHz/ Dev. 75kHz (C) 40kHz (N)	M03	100.1MHz	---	"TUNED" indicates on LCD
2			Level 12µV(22dB)	AUTO SCAN		Only Confirm	Stop scan and "TUNED" Indicates on LCD

Remark: AUTO MODE: [MODE] button in tuner mode on remote.

2.3 FM STEREO Distortion Adjustment

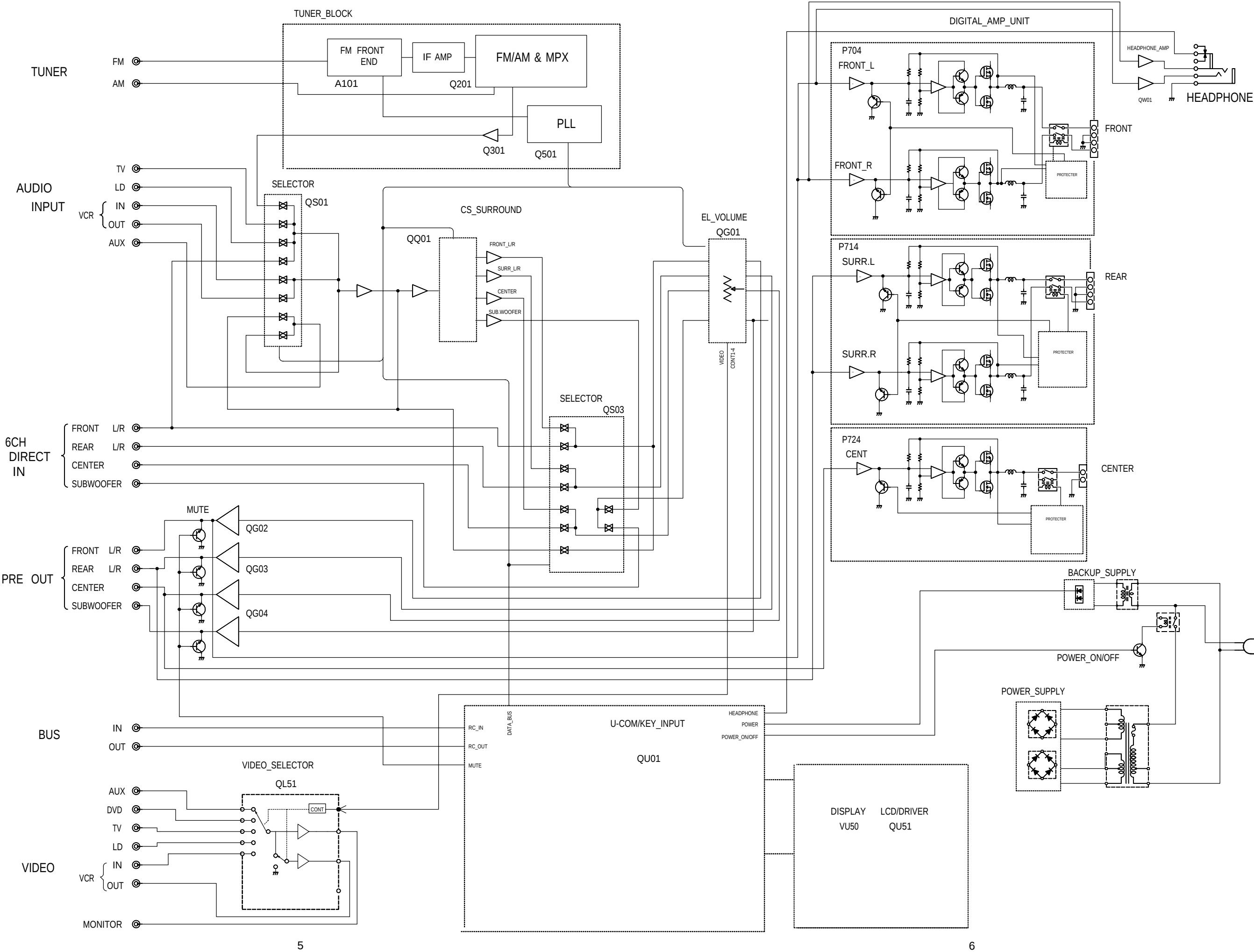
Adjust the L-channel with the RF signal modulated only L-channel first and confirm the R-channel with RF signal modulated only R-channel.

Step	Input Signal Connection	Signal Frequency	Source Signal Output Level and Modulation	P-No.	Reception Frequency	Adjust. point	Adjustment Value
1	Signal generator output to FM antenna terminal (75ohms)	100.1MHz	Level 500µV(54dB)	M03	100.1MHz	IF COIL in Front End	Distortion Level Minimum at VCR-OUT L-ch.
2			Only L-ch 1kHz/ Dev. 67.5kHz 90% (C) 40k Hz 53.3% (N) Pilot 19kHz/ Dec. 6.75kHz 9% (C) 6kHz 8% (N)				
3			Only R-ch			Only Confirm	Distortion Level Similar as L-ch at VCR-OUT R-ch.

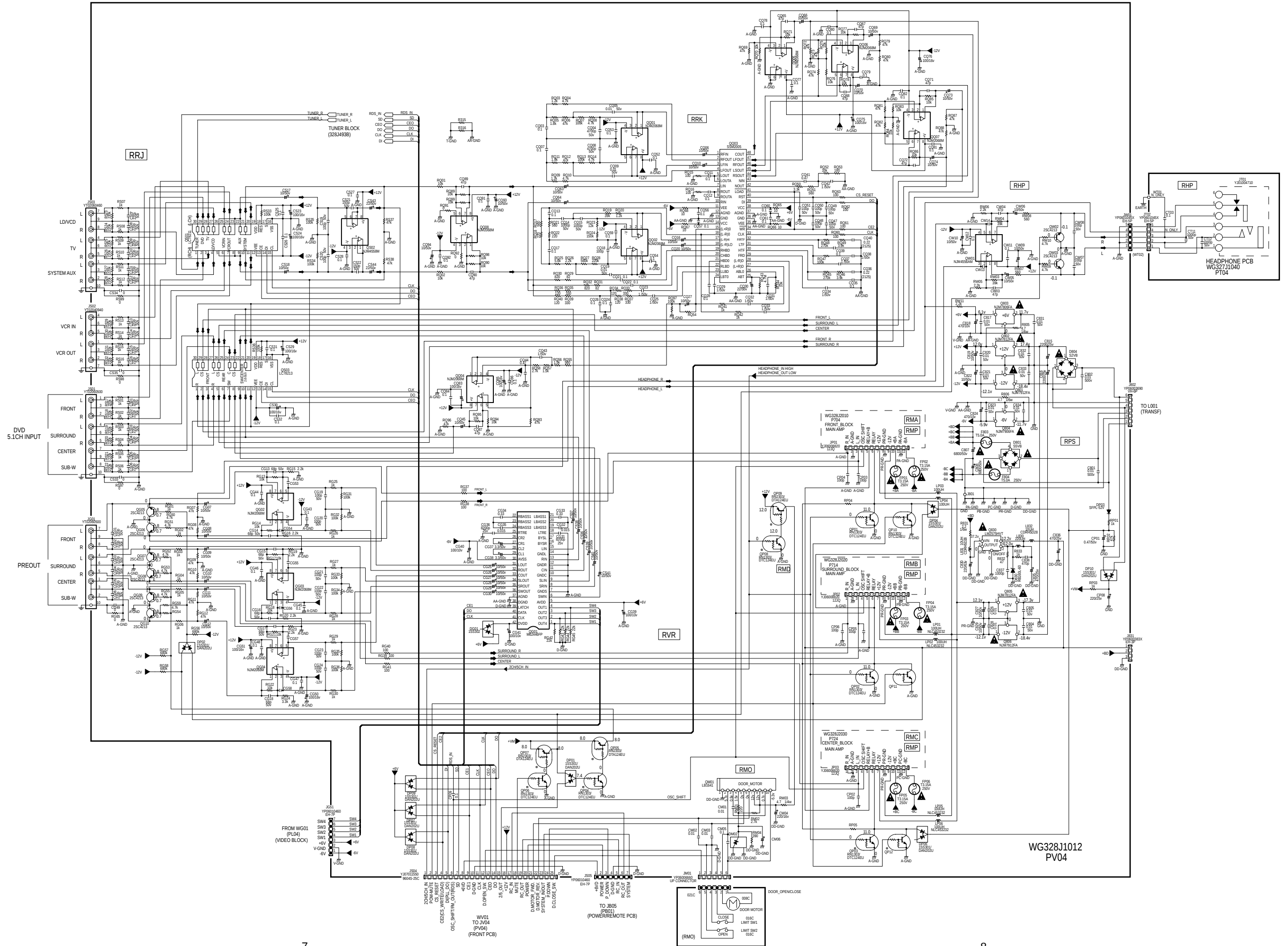
2.4 FM STEREO Separation Adjustment

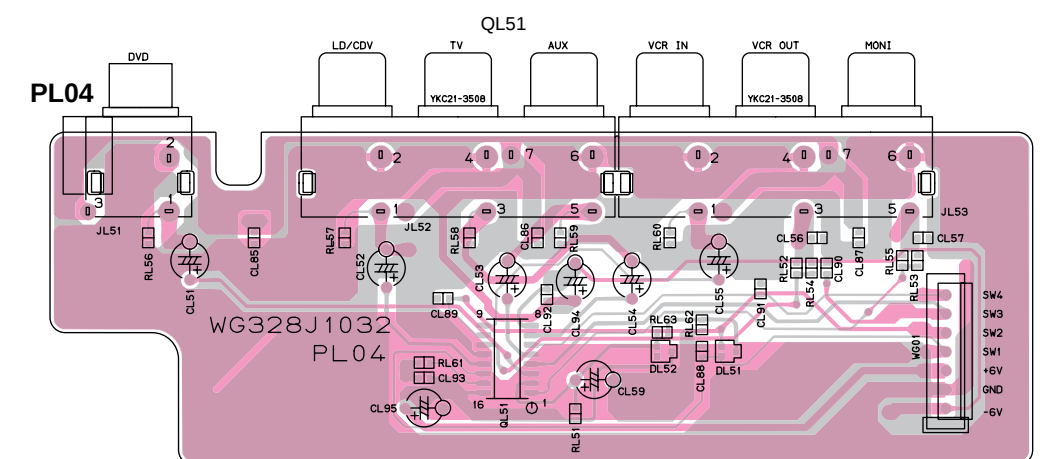
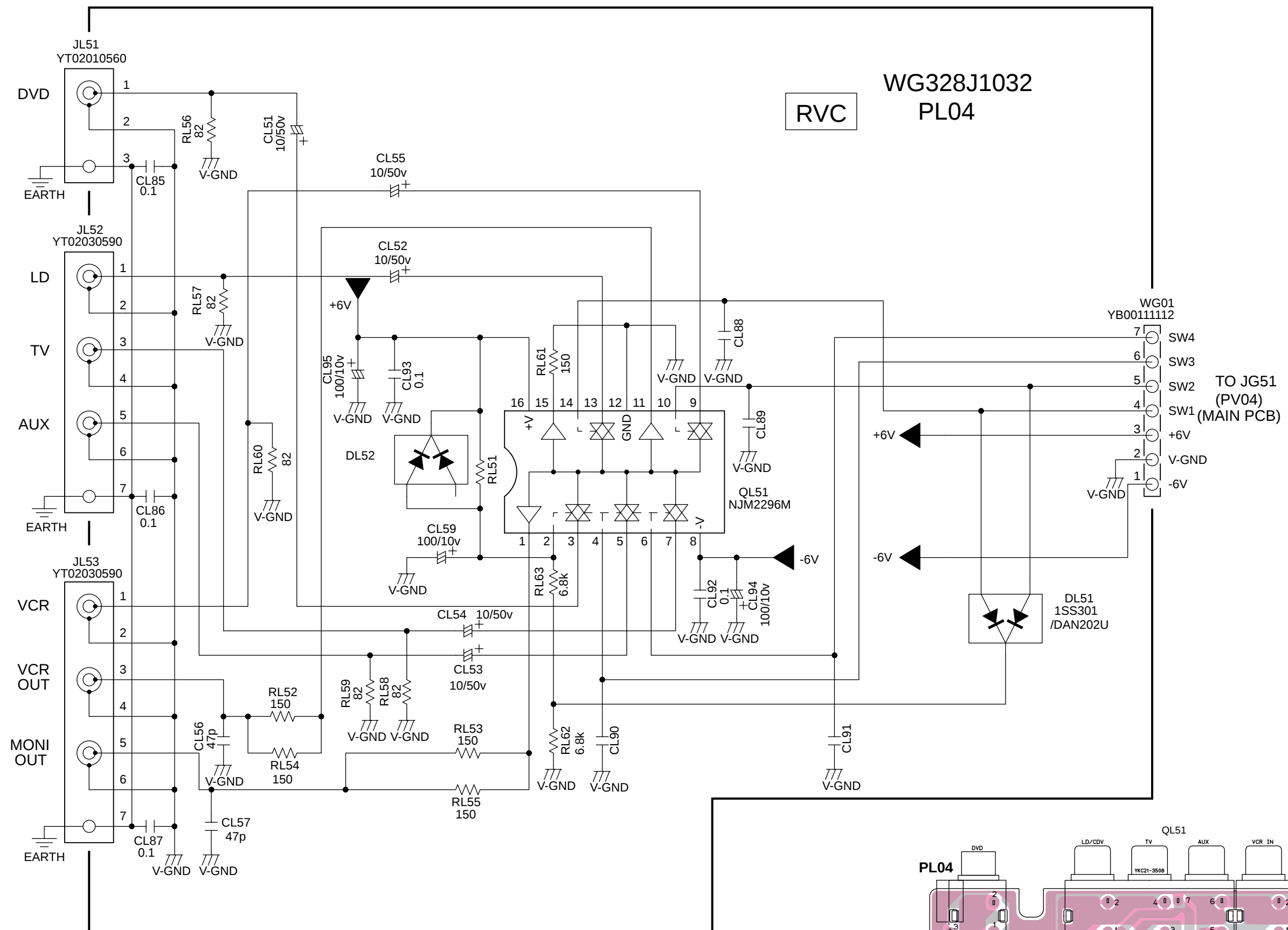
Step	Input Signal Connection	Signal Frequency	Source Signal Output Level and Modulation	P-No.	Reception Frequency	Adjust. point	Adjustment Value
1	Signal generator output to FM antenna terminal (75ohms)	100.1MHz	Level 500µV(54dB)	M03	100.1MHz	R211	Output Level Minimum at VCR-OUT R-ch.
2			Only L-ch 1kHz/ Dev. 67.5kHz 90% (C) 40k Hz 53.3% (N) Pilot 19kHz/ Dec. 6.75kHz 9% (C) 6kHz 8% (N)				
3			Only R-ch				Output Level Similar as R-ch at VCR-OUT L-ch.

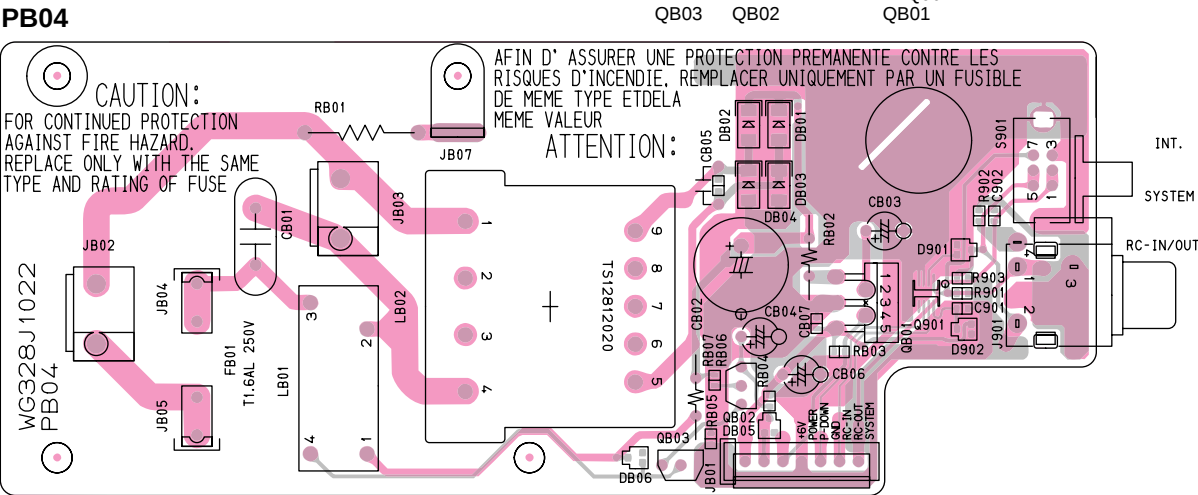
4. BLOCK DIAGRAM



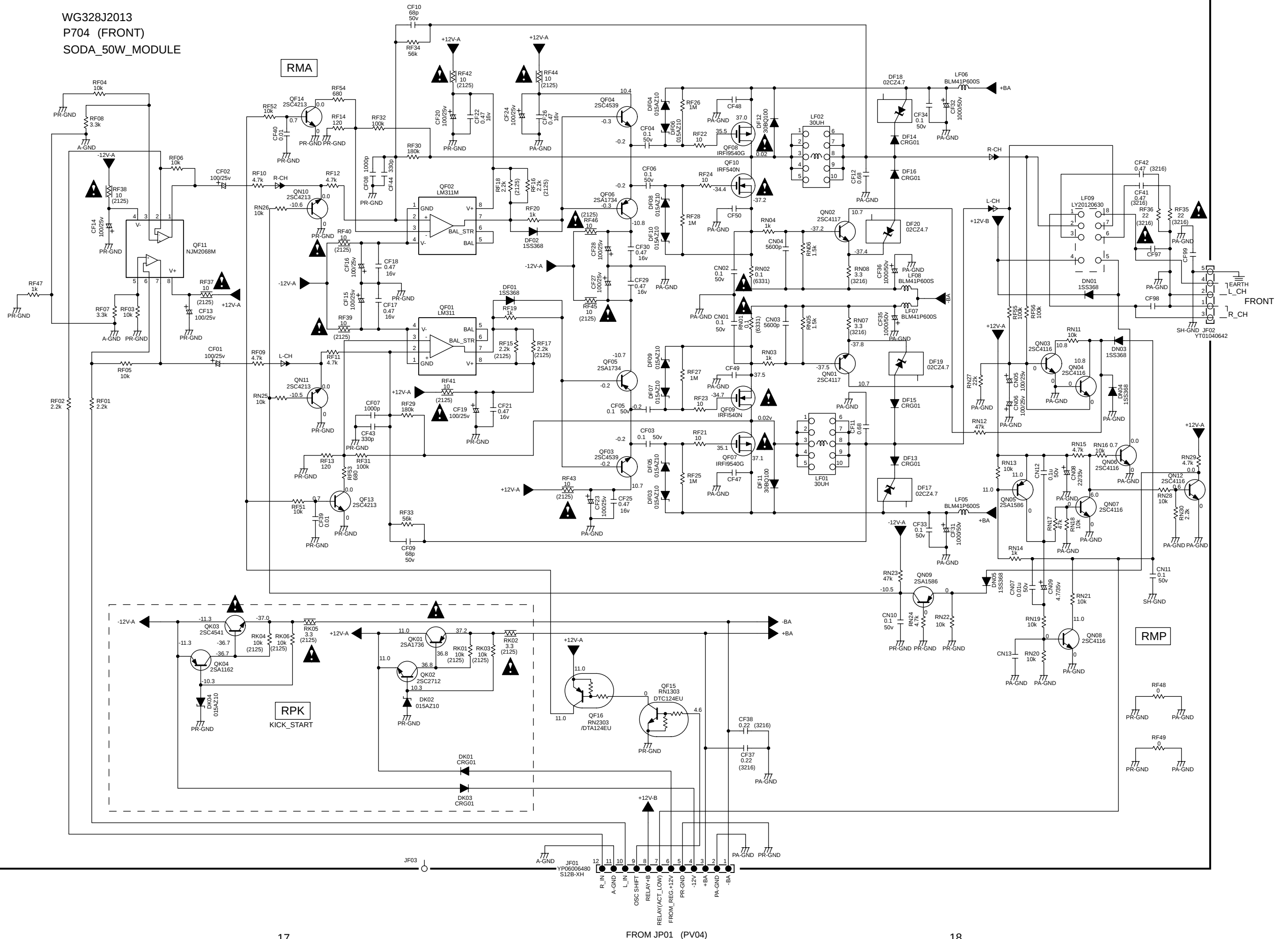
5. SCHEMATIC DIAGRAM AND PARTS LOCATION



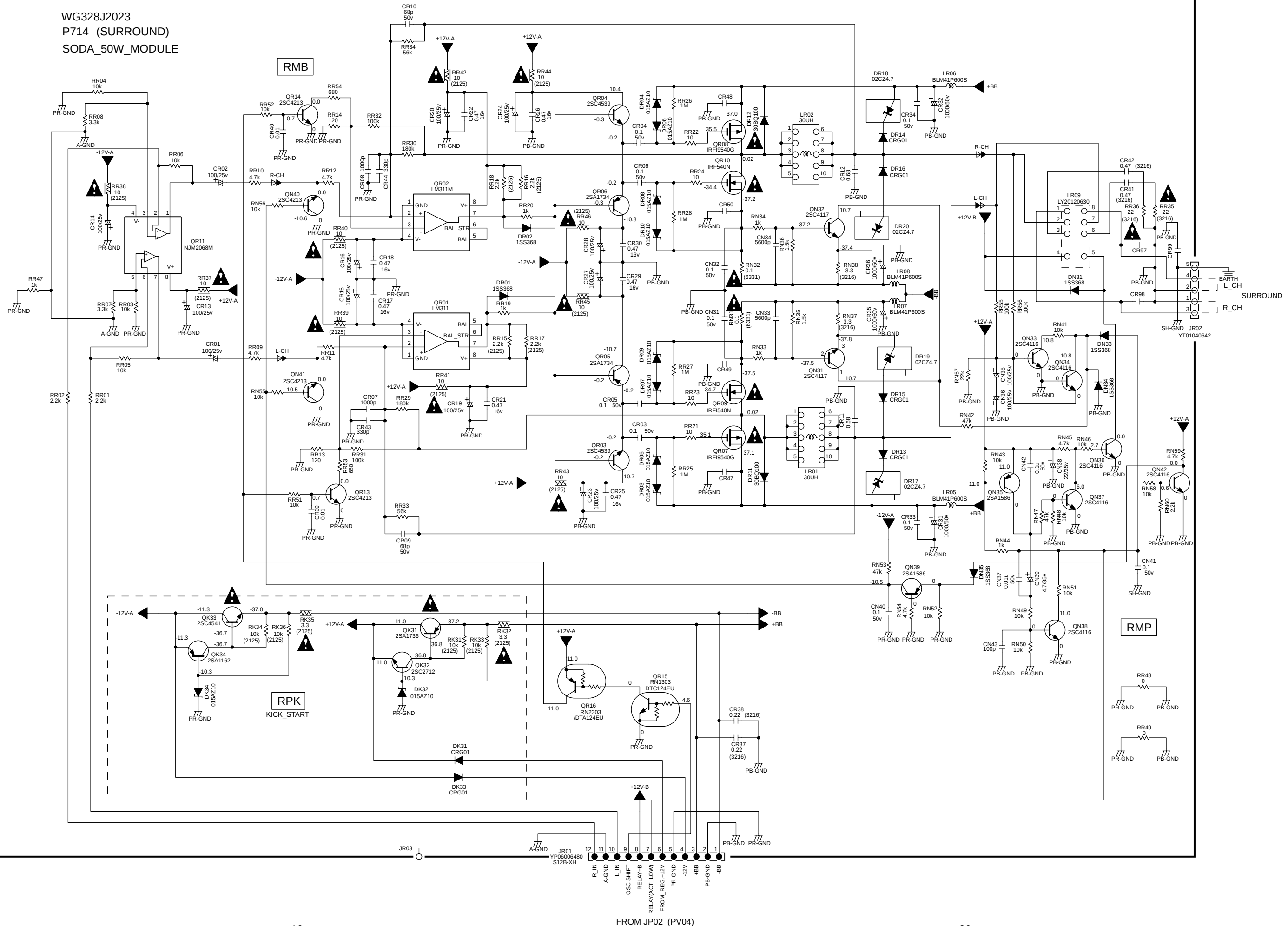




WG328J2013
P704 (FRONT)
SODA_50W_MODULE



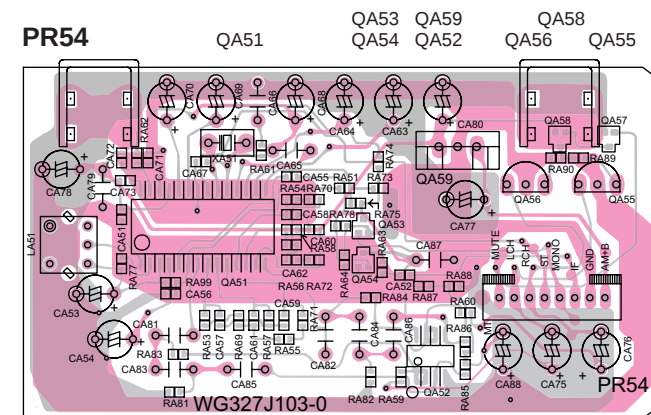
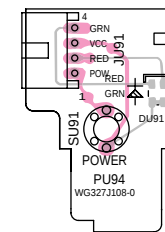
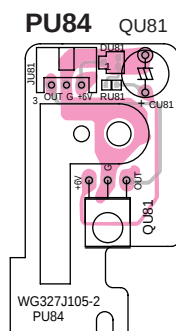
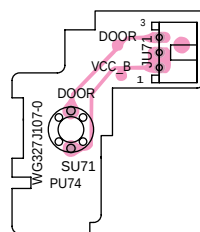
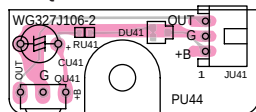
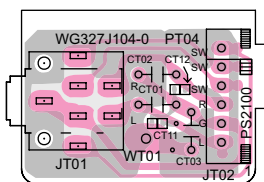
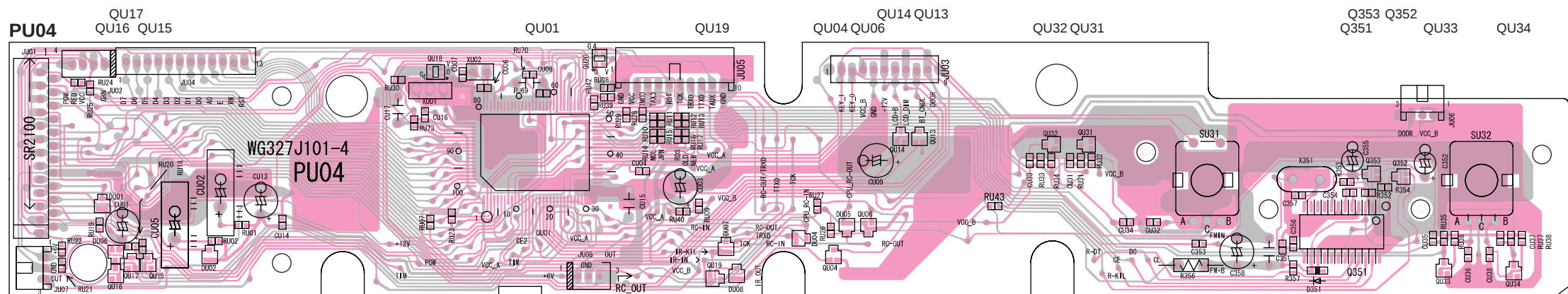
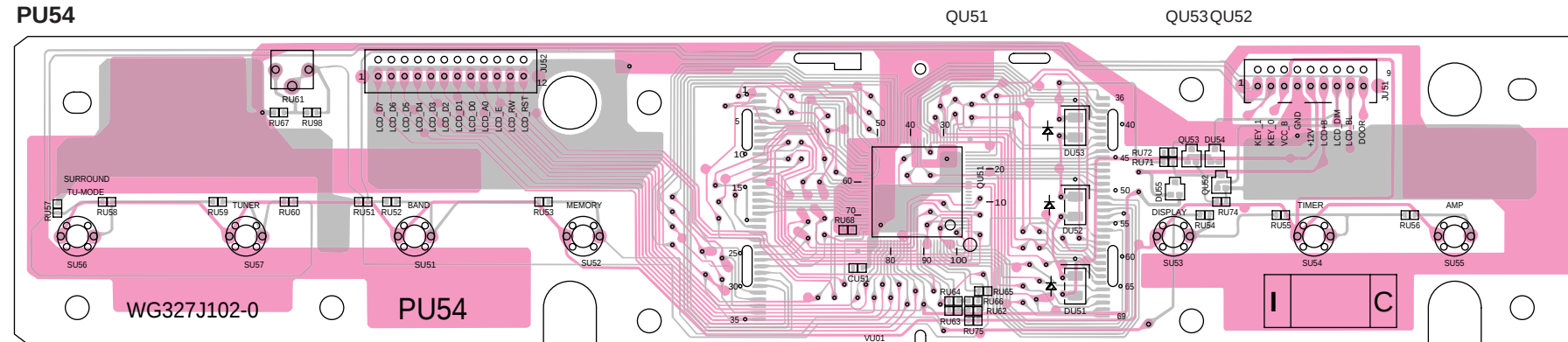
WG328J2023
P714 (SURROUND)
SODA_50W_MODULE

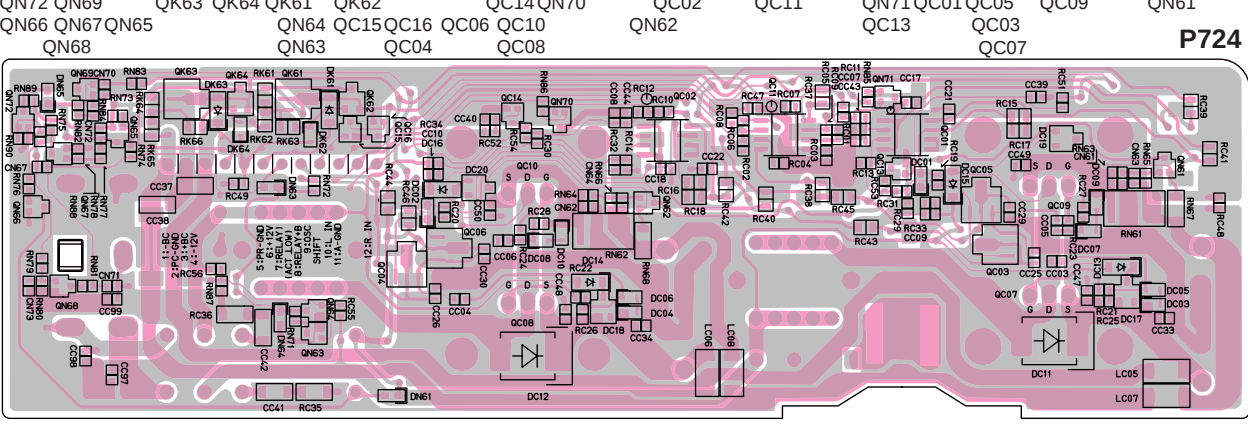
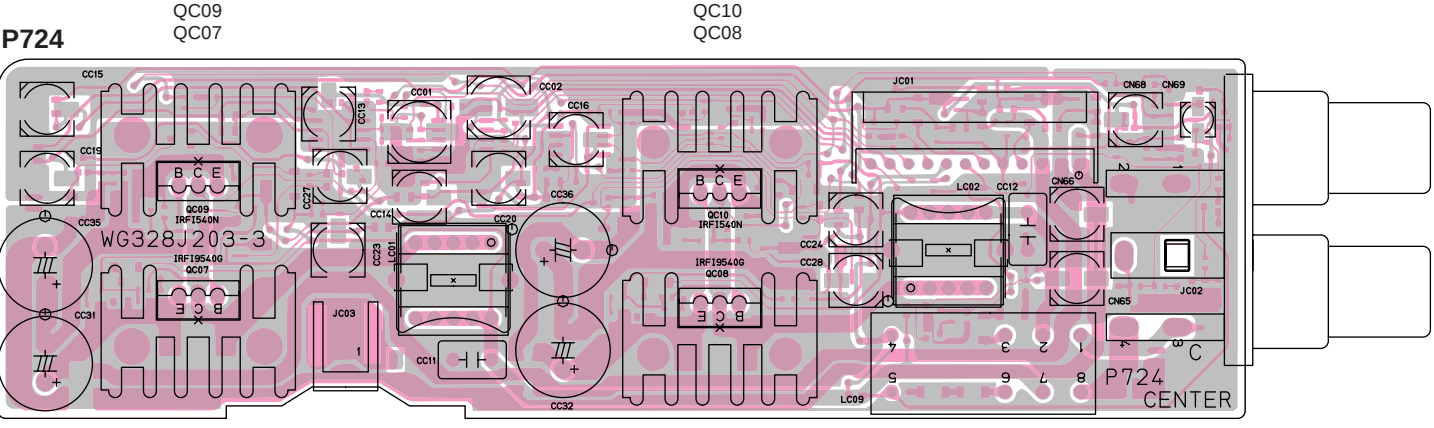
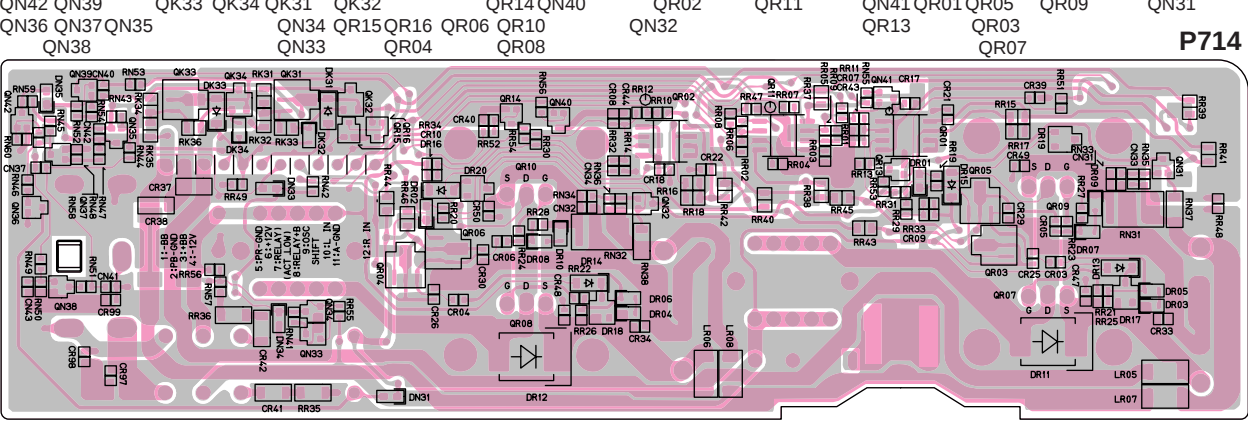
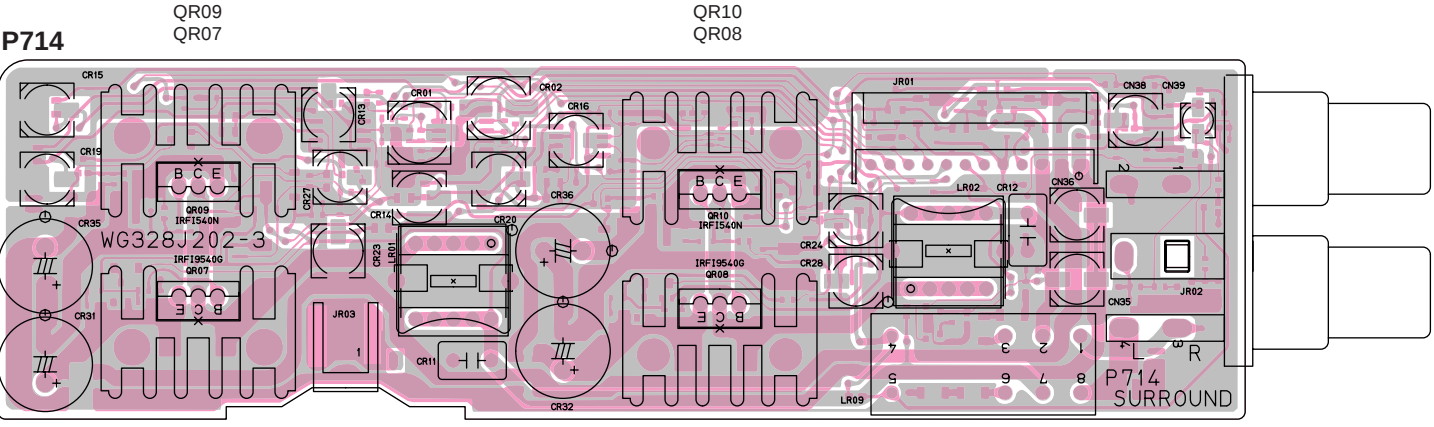
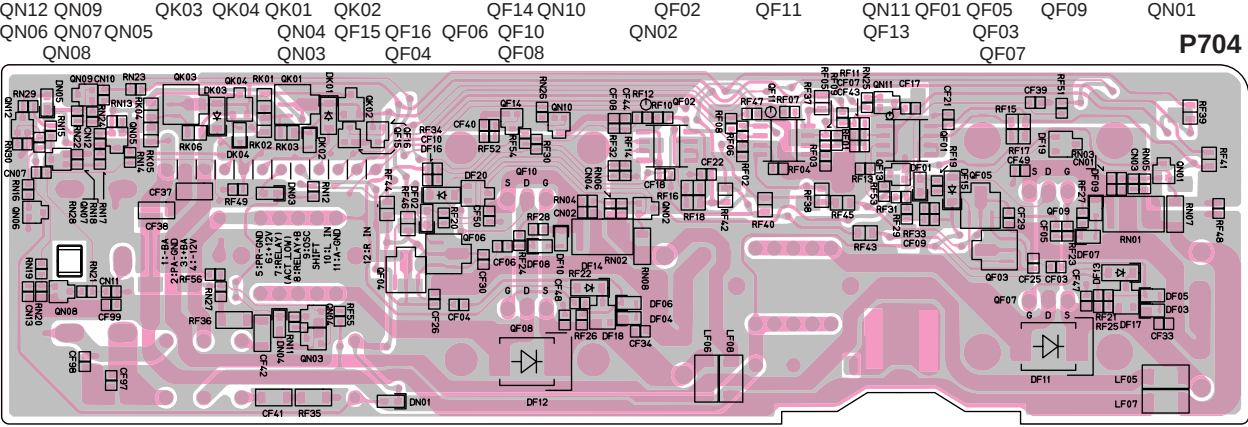
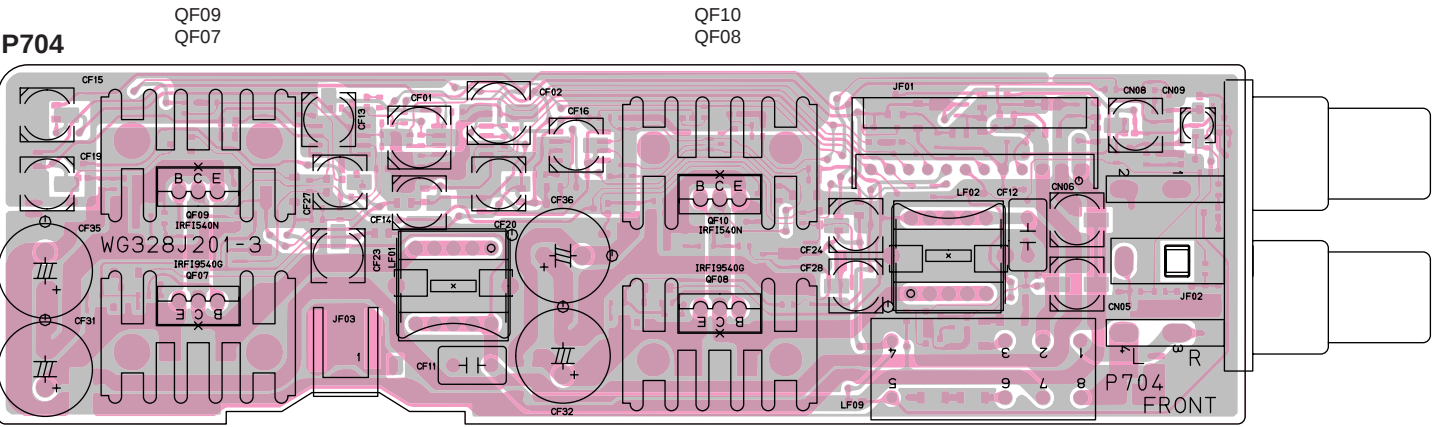


RMC

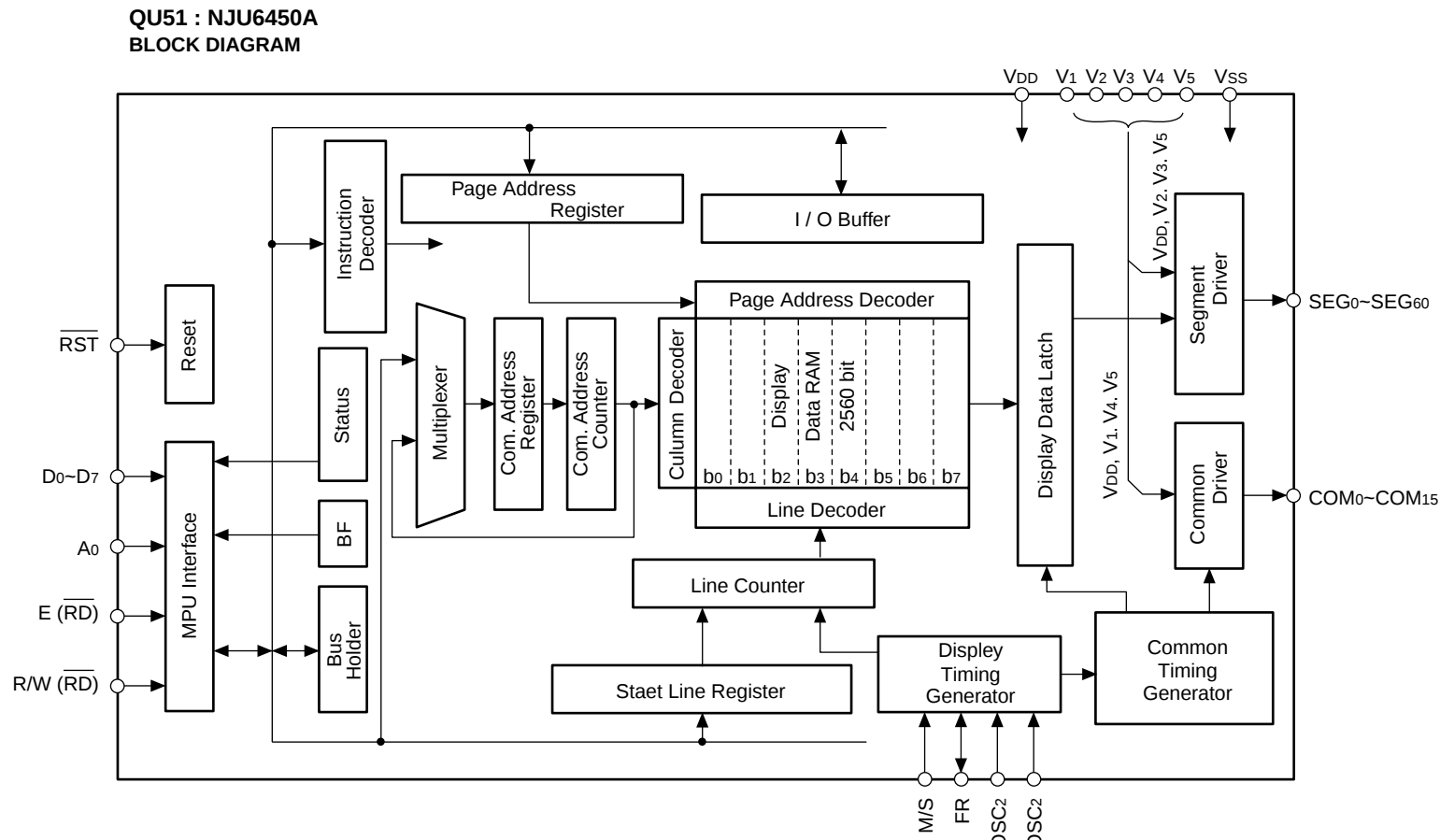




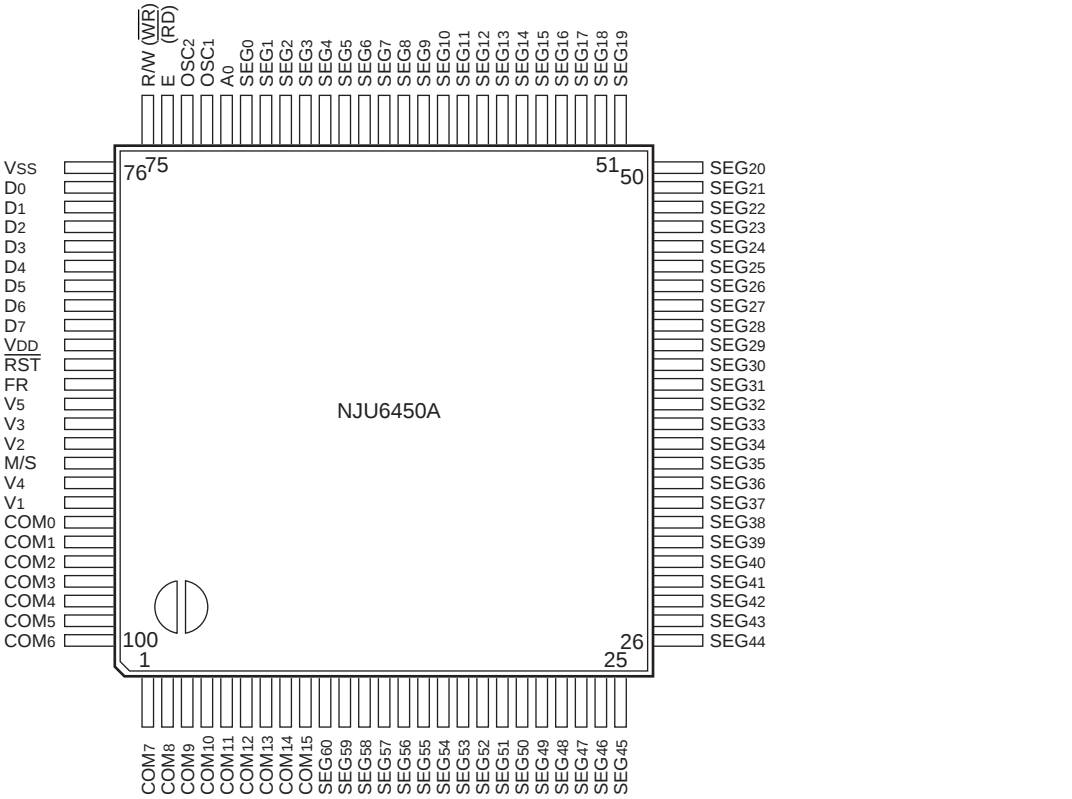




6. MICROPROCESSOR AND IC DATA



PIN CONFIGURATION



PIN FUNCTION

No.	Terminal Name	X=(um)	Y=(um)
1	COM ₅	-2130	-1865
2	COM ₆	-1970	-1865
3	COM ₇	-1810	-1865
4	COM ₈	-1650	-1865
5	COM ₉	-1490	-1865
6	COM ₁₀	-1330	-1865
7	COM ₁₁	-1190	-1865
8	COM ₁₂	-1050	-1865
9	COM ₁₃	- 910	-1865
10	COM ₁₄	- 770	-1865
11	COM ₁₅	- 630	-1865
12	SEG ₆₀	- 490	-1865
13	SEG ₅₉	- 350	-1865
14	SEG ₅₈	- 210	-1865
15	SEG ₅₇	- 70	-1865
16	SEG ₅₆	70	-1865
17	SEG ₅₅	210	-1865
18	SEG ₅₄	350	-1865
19	SEG ₅₃	490	-1865
20	SEG ₅₂	630	-1865
21	SEG ₅₁	770	-1865
22	SEG ₅₀	910	-1865
23	SEG ₄₉	1050	-1865
24	SEG ₄₈	1190	-1865
25	SEG ₄₇	1330	-1865
26	SEG ₄₆	1490	-1865
27	SEG ₄₅	1650	-1865
28	SEG ₄₄	1810	-1865
29	SEG ₄₃	1970	-1865
30	SEG ₄₂	2130	-1865
31	SEG ₄₁	2213	-1354
32	SEG ₄₀	2213	-1214
33	SEG ₃₉	2213	-1074
34	SEG ₃₈	2213	- 934
35	SEG ₃₇	2213	- 794
36	SEG ₃₆	2213	- 654
37	SEG ₃₅	2213	- 514
38	SEG ₃₄	2213	- 374
39	SEG ₃₃	2213	- 234
40	SEG ₃₂	2213	- 94
41	SEG ₃₁	2213	46
42	SEG ₃₀	2213	186
43	SEG ₂₉	2213	326
44	SEG ₂₈	2213	466
45	SEG ₂₇	2213	606
46	SEG ₂₆	2213	746
47	SEG ₂₅	2213	886
48	SEG ₂₄	2213	1026
49	SEG ₂₃	2213	1166
50	SEG ₂₂	2213	1306

* Pad Size 92um x 92um

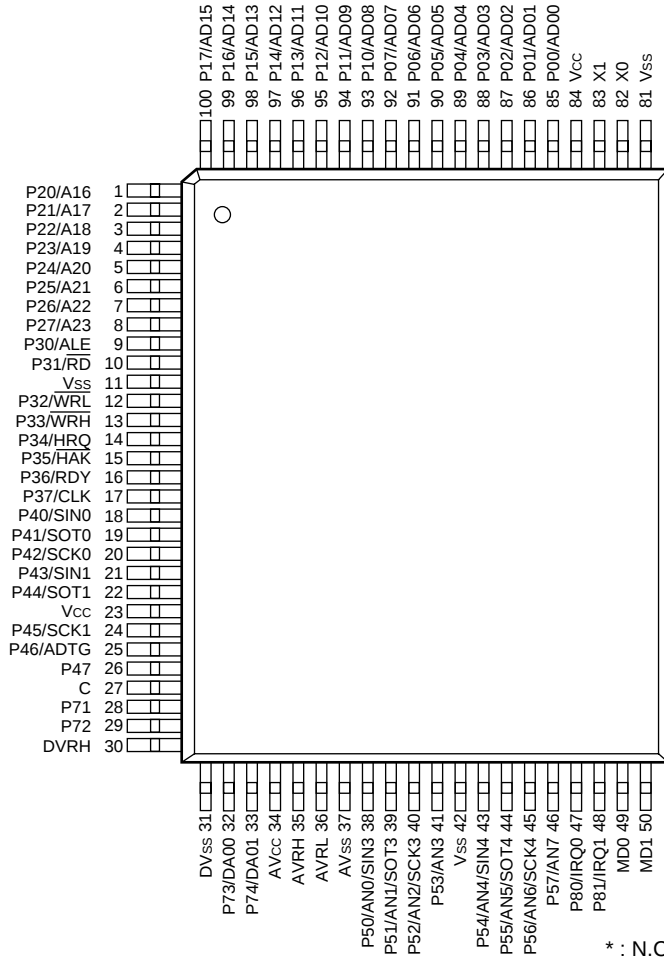
Chip Size 4860um x 4160um(Chip Center X=0um,Y=0um)

No.	Terminal Name	X=(um)	Y=(um)
51	SEG ₂₁	2130	1865
52	SEG ₂₀	1970	1865
53	SEG ₁₉	1810	1865
54	SEG ₁₈	1650	1865
55	SEG ₁₇	1490	1865
56	SEG ₁₆	1330	1865
57	SEG ₁₅	1190	1865
58	SEG ₁₄	1050	1865
59	SEG ₁₃	910	1865
60	SEG ₁₂	770	1865
61	SEG ₁₁	630	1865
62	SEG ₁₀	490	1865
63	SEG ₉	350	1865
64	SEG ₈	210	1865
65	SEG ₇	70	1865
66	SEG ₆	- 70	1865
67	SEG ₅	- 210	1865
68	SEG ₄	- 350	1865
69	SEG ₃	- 490	1865
70	SEG ₂	- 630	1865
71	SEG ₁	- 770	1865
72	SEG ₀	- 910	1865
73	A ₀	-1050	1865
74	OSC ₁	-1190	1865
75	OSC ₂	-1330	1865
76	E	-1490	1865
77	R/W	-1650	1865
78	V _{SS}	-1810	1865
79	DB ₀	-1970	1865
80	DB ₁	-2130	1865
81	DB ₂	-2213	1330
82	DB ₃	-2213	1190
83	DB ₄	-2213	1050
84	DB ₅	-2213	910
85	DB ₆	-2213	770
86	DB ₇	-2213	630
87	V _{DD}	-2213	490
88	RST	-2213	350
89	FR	-2213	210
90	V ₅	-2213	70
91	V ₃	-2213	- 70
92	V ₂	-2213	- 210
93	M/S	-2213	- 350
94	V ₄	-2213	- 490
95	V ₁	-2213	- 630
96	COM ₀	-2213	- 770
97	COM ₁	-2213	- 910
98	COM ₂	-2213	-1050
99	COM ₃	-2213	-1190
100	COM ₄	-2213	-1330

QU01 : MB90583B
PIN FUNCTION

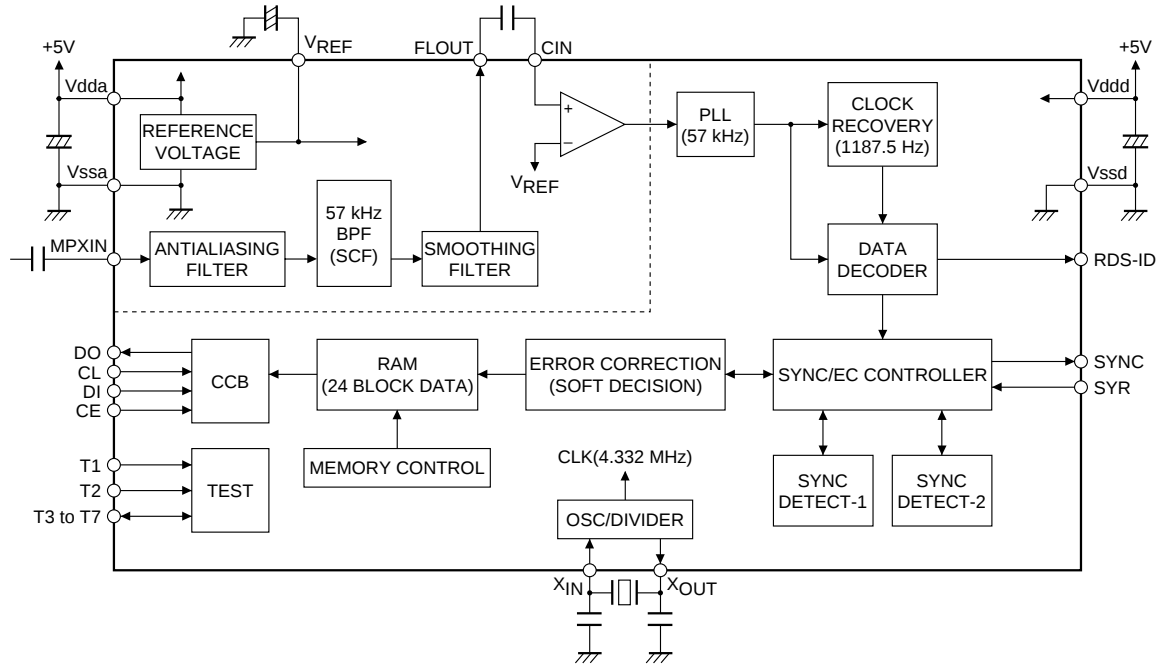
Pin	PORT	Name of port	I/O	Description	
1	P20/A16	P-DOWN	I	Power Detect , LOW:SUB-CLOCK	Power Detect=H
2	P21/A17	CLK	O	ANA.SW/PLL/RDS CLOCK	Active H
3	P22/A18	DO	O	ANA.SW/PLL/RDS DATA OUT	Active H
4	P23/A19	CE0	O	ANA.SW/PLL.RDS CE	Active H
5	P24/A20	SYS_SW	I	System Switch INPUT	SYSTEM =L, INT=H
6	P25/A21	SD	I	TUNER SD INPUT	Active L
7	P26/A22	CE1	O	ELE.VOLUME CE	Active H
8	P27/A23	RDS-KIL	O	RDS DECODER OSC KILLER	Active L
9	P30/ALE	PLL-DI	I	DATA INPUT FROM PLL	
10	P31/RD	RDS-DI	I	DATA INPUT FROM RDS	
11	VSS	GND			
12	P32/WRL	LCD_DIM	O	LCD BACK LIGHT DIMMER	DARK:L,NORMAL:H
13	P33/WRH	AM BEAT CANCEL (AM_BT_CNCL)	O	AM BEAT CANCEL	NORM : H, ON : L for PS2100
14	P34/HRQ	CE2	O	CS WRITE	Active : L for PS2100
15	P35/HAK	Timer-LED	O	Timer-LED,TIMER:ACTIVE	Active :H
16	P36/RDY	POWER_ON	O	Power Control	Power ON; H
17	P37/CLK	IR-KILL	O	IR Sensor KILLER	KILL=L
18	P40/SIN0	TTXD	I	Flash Writer Connection	
19	P41/SOT0	RC-OUT TRXD	O	REMOTE Control bus Output Flash Writer Connection	
20	P42/SCK0	TCK	I	Flush Writer Connection	
21	P43/SIN1	RC-IN	O	REMOTE Control bus(U-ART)INPUT	
22	P44/SOT1	N.C			
23	VCC	+5STB	--	Vcc	
24	P45/SCK1	CS RESET	O	CS RESET Output	Active H for PS2100
25	P46/ADTG	CS Load	O	CS Load Output	Active L for PS2100
26	P47	N.C.			
27	C				
28	P71	N.C			
29	P72	N.C			
30	DVRH	GND	I		
31	DVSS	GND	I		
32	P73/DA00	N.C.			
33	P74/DA01	2/5 OUT	O	2CH/5CH CONTROL Output	5CH:H,2CH:L for PS2100
34	AVCC	+5STB	--	Vcc	
35	AVRH	+5STB	--	Vcc	
36	AVRL	GND			
37	AVSS	GND			
38	P50/AN0/SIN3	KEY_IN_0	I	KEY_0 Input	
39	P51/AN1/SOT3	KEY_IN_1	I	KEY_1 Input	
40	P52/AN2/SCK3	OLD/NEW	I	OLD/NEW mode set	H:OLD PCB
41	P53/AN3	RDS	I	RDS mode set	H:RDS
42	VSS	GND			
43	P54/AN4/SIN4	JPN	I	JAPAN Destination .set	H:JAPAN
44	P55/AN5/SOT4	MODEL	I	SR/PS MODEL set	H:PS2100
45	P56/AN6/SCK4	N.C.	I		
46	P57/AN7	N.C.	I		
47	P80/IRQ0	ROT_V_A	I	Rotary Encoder(Volume) Input A	Active H
48	P81/IRQ1	ROT_V_B	I	Rotary Encoder(Volume) Input B	Active H
49	MD0	TMODE	I	CPU mode set_Flush Writer connection	
50	MD1	MD1	I	CPU mode set	Fixed High
51	MD2	TAUX3	I/O	CPU mode set, Flush Writer connection	
52	HST	HST	I	Hardware standby_HOLD	LOW:STOP
53	P82/IRQ2	D_MOTOR_REV	O	Door REV.Motor ON	Active H
54	P83/IRQ3	D_MOTOR_FWD	O	Door FWD.Motor ON	Active H
55	P84/IRQ4	D_OPEN_SW	I	Door Open detect	Active L
56	P85/IRQ5	D_CLOSE_SW	I	Door Close detect	Active L
57	P86/IRQ6	ROT_J_A	I	Rotary Encoder(JOG) Input A	Active H
58	P87/IRQ7	ROT_J_B	I	Rotary Encoder(JOG) Input B	Active H
59	P60/SIN2	H.P_SW	I	Mode set by Headphone Switch	L:Normal, H:2ch
60	P61/SOT2	MUTE	O	Audio Mute output	ON:H
61	P62/SCK2	CE3	O	RDS Decoder CE output	Active H
62	P63/PPG1	N.C.	I		
63	P64/PPG0	N.C	I		
64	P65/CKOT	N.C.	I		
65	TX	N.C.	O		
66	RX	N.C.	I		Fixed LOW
67	P90/TIN0/IN0	RC_IN	I	IR/RC5 INPUT	
68	P91/TIN1/IN1	N.C.	I		
69	P92/TIN2/IN2	N.C.	I		
70	P93/TOT0/IN3	N.C.	I		
71	P94/TOT1/OUT0	N.C.	I		
72	P95/TOT2/OUT1	N.C.	I		
73	P96/PWC	N.C.	I		
74	P97/POT	N.C.	I		
75	PA0	N.C.	I		
76	PA1	N.C.	I		
77	RST	RST	I	CPU RESET	Low:RESET
78	PA2	N.C.	I		
79	X1A	32kHz X'tal	--	32kHz X-tal Connect.	
80	X0A	32kHz X'tal	--	32kHz X-tal Connect.	
81	VSS	GND			
82	X0	8MHz X'tal	--	8MHz Ceramic Resonator Connect	
83	X1	8MHz X'tal	--	8MHz Ceramic Resonator Connect	
84	VCC	+5STB	--	Vcc	
85	P00/AD00	TAUX	I/O	Flush Writer Connection	
86	P01/AD01	---	I	CPU mode set	Fixed High
87	P02/AD02	RST	O	LCD Driver RESET	Active L
88	P03/AD03	LCD_RW	O	LCD Driver RW	Active L
89	P04/AD04	LCD_RD	O	LCD Driver RD	Active L
90	P05/AD05	A0	O	LCD Driver mode set	Refer NJU6450 data sheet
91	P06/AD06	N.C	I		
92	P07/AD07	N.C	I		
93	P10/AD08	D0	I/O	LCD Driver data set	
94	P11/AD09	D1	I/O	LCD Driver data set	
95	P12/AD10	D2	I/O	LCD Driver data set	
96	P13/AD11	D3	I/O	LCD Driver data set	
97	P14/AD12	D4	I/O	LCD Driver data set	
98	P15/AD13	D5	I/O	LCD Driver data set	
99	P16/AD14	D6	I/O	LCD Driver data set	
100	P17/AD15	D7	I/O	LCD Driver data set	

QU01 : PIN CONFIGURATION

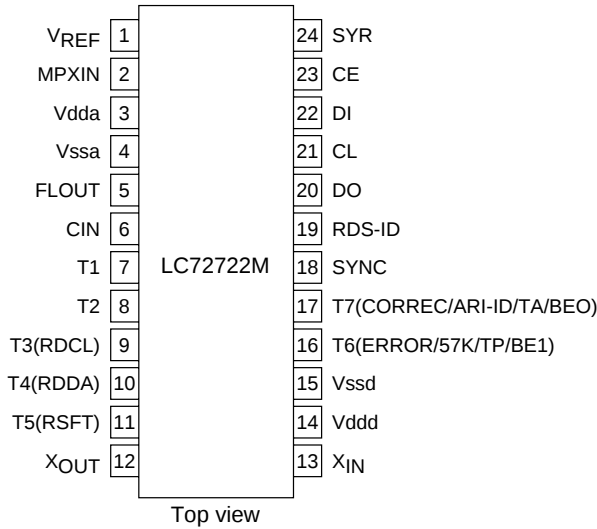


* : N.C. pin on the MB90587

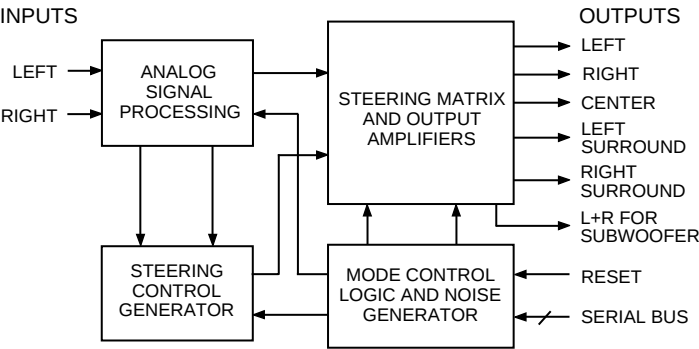
Q351 : LC72722M
BLOCK DIAGRAM



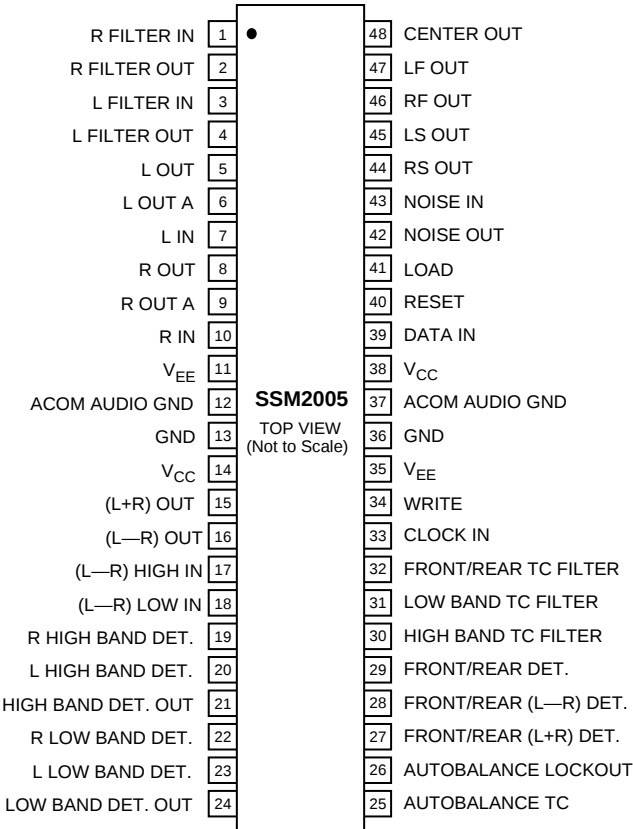
Q351 : PIN CONFIGURATION



QQ03 : SSM2005
BLOCK DIAGRAM



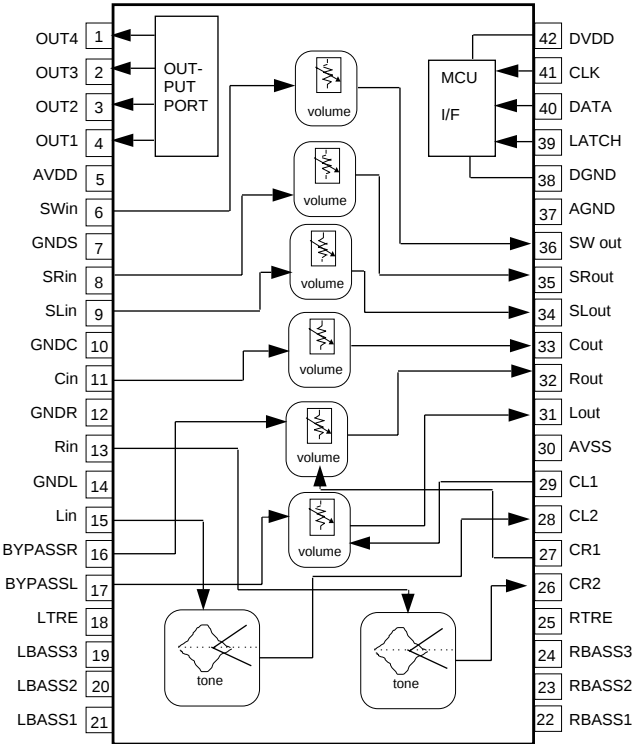
PIN CONFIGURATION



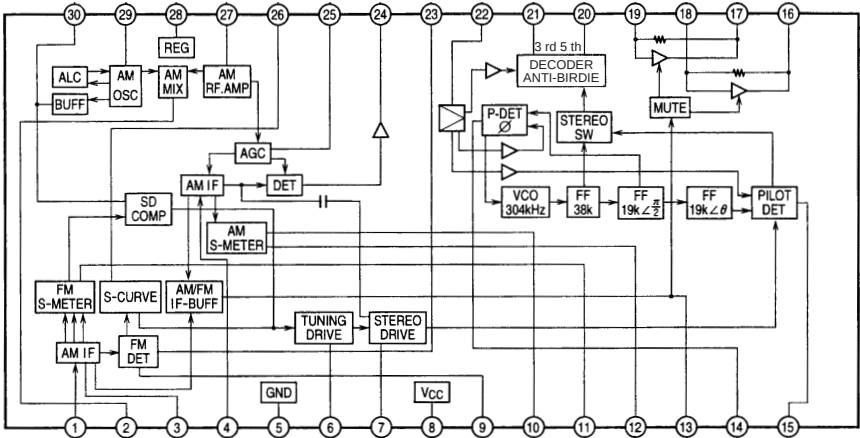
PIN FUNCTION

Pin #	Name	Connected to / Function:
1	R Filter In	3-Pole Active Low-Pass Filter Output; used for Center Cancelling Correction
2	R Filter Out	3-Pole Active Low-Pass Filter Input
3	L Filter In	3-Pole Active Low-Pass Filter Output; used for Center Cancelling Correction
4	L Filter Out	3-Pole Active Low-Pass Filter Input
5	L Out	Connect to Pin 6
6	L Out A	Connect to Pin 5
7	L In	Left Stereo Source Line Input; Should be 0 dBd (300 mV rms)
8	R Out	Connect to Pin 9
9	R Out A	Connect to Pin 8
10	R In	Right Stereo Source Line Input; Should be 0 dBd (300 mV rms)
11	VEE	Negative Supply
12	ACOM Audio GND	Audio Ground
13	GND	Power Ground
14	VCC	Positive Supply
15	(L+R) Out	RC to Front/Rear Detector Input
16	(L-R) Out	RC to Front/Rear Detector Input and Input of Crossover
17	(L-R)High In	Output of High-Pass Crossover
18	(L-R)Low In	Output of Low-Pass Crossover
19	R High Band Det.	RC Network Fed by Right Stereo Source Line Input
20	L High Band Det.	RC Network Fed by Left Stereo Source Line Input
21	High Band Det. Out	Capacitor to ACOM; Controls Rear High Frequency Output Steering
22	R Low Band Det.	Right Input, used for Autobalance and Low Band Steering
23	L Low Band Det.	Left Input, used for Autobalance and Low Band Steering
24	Low Band Det. Out	Capacitor to ACOM; Controls Left-to-Right Output Steering
25	Autobalance TC	RC Network to ACOM
26	Autobalance Lockout	RC Network to ACOM
27	Front/Rear (L+R) Det.	RC Network Fed by (L+R) Out (Pin 15)
28	Front/Rear (L-R)Det.	RC Network Fed by (L-R) Out (Pin 16)
29	Front/Rear Det.	Capacitor to ACOM; Controls Front-to-Back Output Steering
30	High Band TC Filter	RC Network to ACOM
31	Low Band TC Filter	RC Network to ACOM
32	Front/Rear TC Filter	RC Network to ACOM
33	Clock In	Clock from Serial Bus
34	WRITE	Chip Select from Serial Bus
35	VEE	Negative Supply
36	GND	Power Ground
37	ACOM Audio GND	Audio Ground
38	VCC	Positive supply
39	Data In	Data from Serial Bus
40	Reset	Reset from Serial Bus
41	LOAD	Load from Serial Bus
42	Noise Out	Connect to RC Filter; White Noise Output
43	Noise In	Connect to RC Filter Output; Filtered White Noise
44	RS Out	Connect to Right Surround (Rear) Amplifier Input
45	LS Out	Connect to Left Surround (Rear) Amplifier Input
46	RF Out	Connect to Right Front Amplifier Input
47	LF Out	Connect to Left Front Amplifier Input
48	Center Out	Connect to Center Amplifier Input

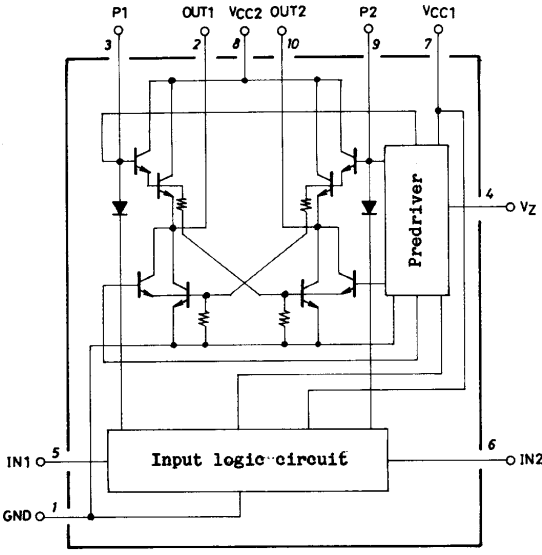
QG01 : M62446



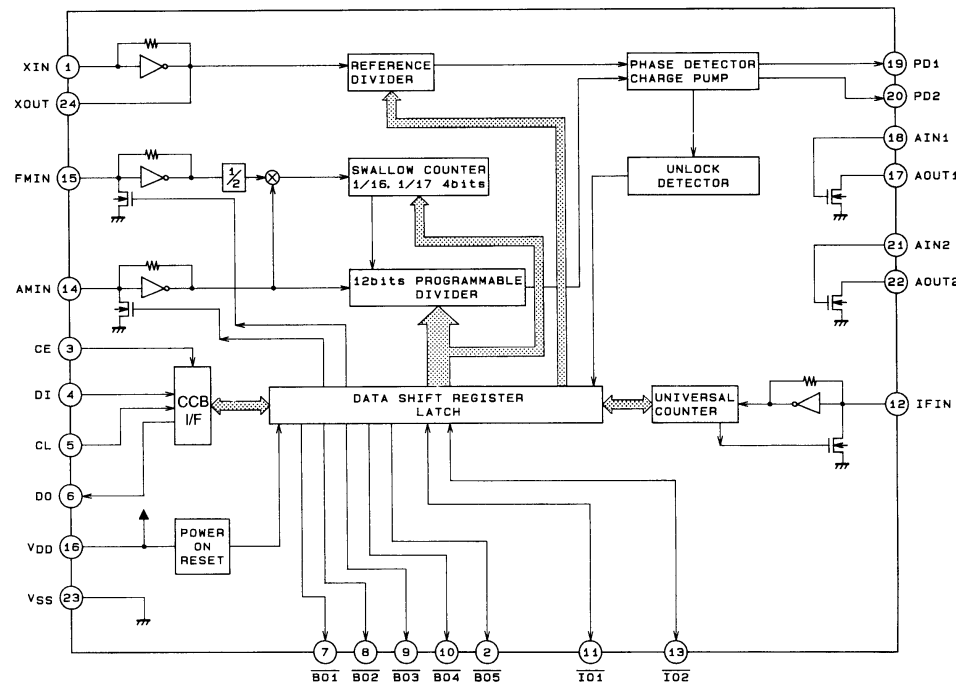
Q201 : LA1837



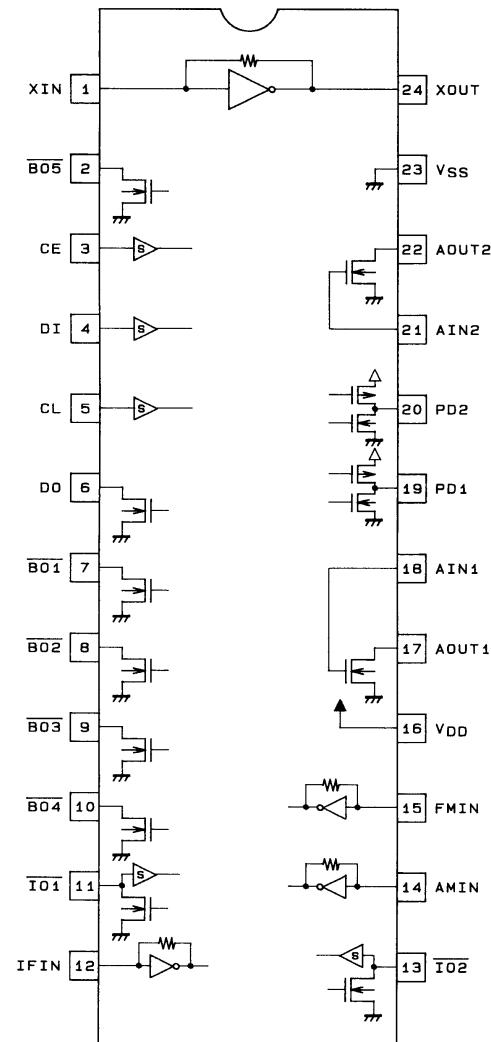
QM01 : LB1641



Q501 : LC72130M BLOCK DIAGRAM



PIN CONFIGURATION

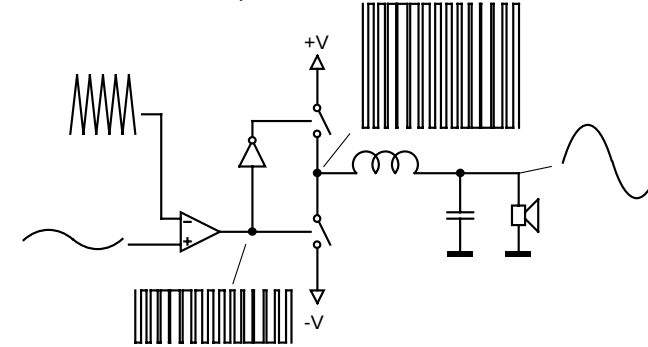


7. SODA (Self-Oscillating class D Amplifier)

7.1 Explanation of class D

7.1.1 Principle

Shown below is the basic schematic of a straight-through standard class D amplifier:



A triangle wave oscillator feeds a computer which acts as a slicer for the audio signal, taking the triangle wave as a reference. The result is a square wave voltage with the same frequency as the oscillator's but with a duty cycle varying proportionally with the audio input voltage. A power buffer consisting of 2 switches reproduces the same signal with a larger amplitude (i.e. switching between the power supply rails). A LP filter passes only the average of the output wave, which is an amplified version of the input signal.

The gain may be expressed as $G = \frac{V_{su,p}}{V_{i,r,p}}$. It is clear that any power supply variations will cause equal variations in gain, which is intolerable.

This may be countered by scaling the amplitude of the triangle wave exactly with the power supply voltage, thus keeping the above ratio constant.

An amplifier as shown here will have some 1% distortion. In order to keep this distortion low, negative feedback is usually applied. Unlike with standard linear amplifiers this is quite a difficult thing to do.

When the output signal is fed back to the comparator the switching frequency should not be present.

If it is, it will cause the comparator to switch slightly too early or too late (depending on the phase shift imparted by the feedback loop), thus causing more distortion than it cures. A low-pass filter is absolutely necessary but this will decrease the effectiveness of the feedback loop.

The necessary trade-off can be determined using a simple rule of thumb: the switching ripple from the output must be attenuated such to a level of n dB below the audio input signal, where n is the distortion figure envisaged.

One workaround is to build the feedback loop such that the ripple fed back to the input somewhat resembles a triangle wave, so that the timing error varies linearly with the audio signal and thus cause only a minor gain error, not distortion. This is what makes most class D amplifiers work satisfactorily, although mostly their designers are quite unaware of it.

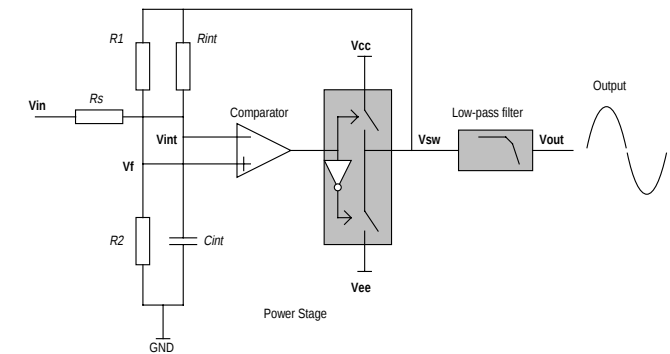
7.1.2 Concept

"Everything should be as simple as possible, but no simpler."
Sir Isaac Newton.

With regard to cost, how simple can one make a class D amplifier without sacrificing performance?

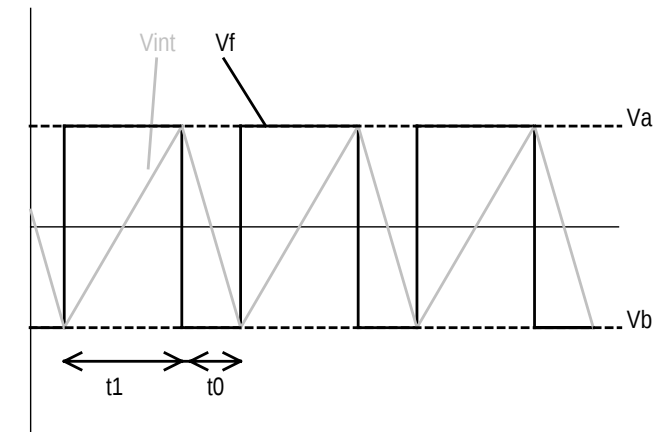
Power stage: the cheapest thinkable output stage is a pair of complementary MOSFETs, AC coupled to the driver stage with DC restoration. This eliminates the need for dead time circuitry and level shifters. The driver stage is a complementary pair of emitter followers, in turn driven directly by a low cost comparator.

PWM generation: given that feedback will be necessary (in order to have PSRR and useful distortion figures) and that feedback is an unusually complex thing to do, a new oscillator/PWM topology is in order. The solution was found to be building a "free running multivibrator" around the comparator+output stage (the latter two being topologically equivalent to a comparator simply) and injecting the audio signal into the integrating feedback node. This effectively results in a Self-Oscillating class D Amplifier (dubbed SODA) which behaves like an inverting amplifier with feedback around it.



R1 and R2 provide positive feedback to create a hysteresis. This should be set to about 100mVpp. Rint and Cint form an integrating negative feedback loop. The circuit will start oscillating as the comparator changes state each time the voltage across Cint exceeds the hysteresis loop.

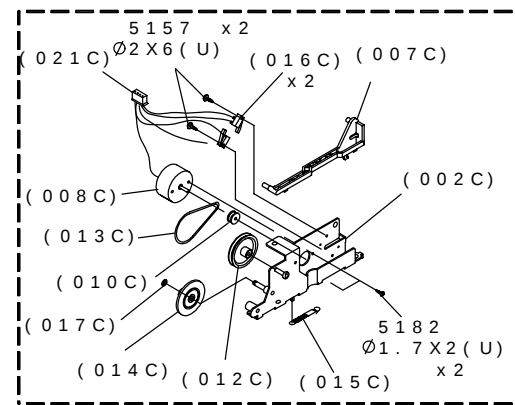
The graph below shows the operation of the circuit, with a negative voltage on Vin.



V_f is V_{sw} divided down by R1 and R2, i.e.

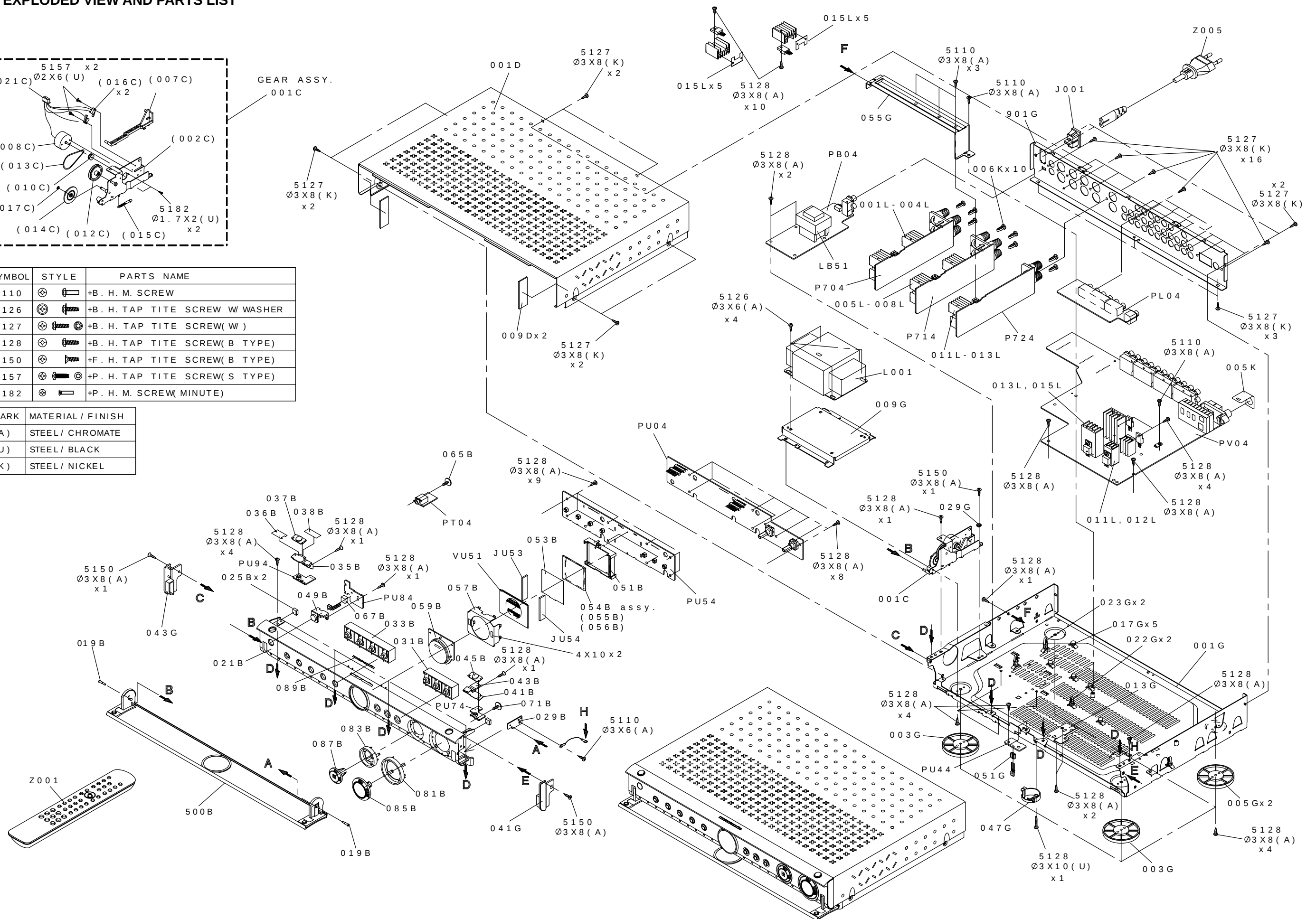
$$V_f = V_{sw} \times \frac{R_2}{R_2 + R_2} = k \times V_{sw}$$

8. EXPLODED VIEW AND PARTS LIST



SYMBOL	STYLE	PARTS NAME
5110		+B. H. M. SCREW
5126		+B. H. TAP TITE SCREW W/ WASHER
5127		+B. H. TAP TITE SCREW(W/)
5128		+B. H. TAP TITE SCREW(B TYPE)
5150		+F. H. TAP TITE SCREW(B TYPE)
5157		+P. H. TAP TITE SCREW(S TYPE)
5182		+P. H. M. SCREW(MINUTE)

MARK	MATERIAL / FINISH
(A)	STEEL / CHROMATE
(U)	STEEL / BLACK
(K)	STEEL / NICKEL



POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)
019B		9965 000 08209	SCREW FOR ESCUTCHEON	327J010110
021B		9965 000 09275	FRONT PANEL	328J248010
025B		4822 526 20213	MAGNET KIT	271K305500
031B		9965 000 08292	BUTTON (L) FOR PANEL	327J270050
033B		9965 000 08293	BUTTON (R) FOR PANEL	327J270060
035B		9965 000 08205	BUTTON (STANDBY) PANEL	327J270010
037B		9965 000 08206	LENS (STANDBY) 035B BUTTON	327J355010
041B		9965 000 08207	BUTTON (OPEN) FOR PANEL	399K270040
045B		9965 000 08208	LENS (OPEN) FOR 041B BUTTON	327J355020
049B		9965 000 08211	LENS FOR IR UPPER	327J355030
059B		9965 000 08300	WINDOW FOR LCD COVER	327J158010
081B		9965 000 08301	RING (VOLUME) FOR PANEL	327J353010
083B		9965 000 08302	RING (PUSH) FOR PANEL	327J353020
085B		9965 000 08303	KNOB (VOLUME) FOR PANEL	327J154010
087B		9965 000 08304	KNOB (PUSH) FOR PANEL	327J154020
089B		9965 000 08212	BADGE FOR PANEL	327J251110
500B		9965 000 09276	ESCUTCHEON DOOR PANEL ASSY	328J063500
001C		4822 522 33389	GEAR ASSY	446T058500
007C		4822 404 21283	LEVER	446T354010
008C		9965 000 00694	D.C MOTOR ASSY	*MM000630R
012C		4822 528 40363	PULLEY	446T262020
013C		4822 358 31264	BELT	446T264010
014C		4822 522 33388	GEAR	446T058010
015C		4822 492 33411	SPRING	446T115010
016C		4822 271 30768	MINI SWITCH LEAF SW	SM01011530
017C		4822 462 71954	STOPPER WASHER	204K114210
003G		9965 000 08217	LEG (FRONT) FOR CHASSIS	271K057270
005G		9965 000 08218	LEG (REAR) FOR CHASSIS	271K057280
041G		9965 000 08215	BUSH (R) FOR PANEL	327J259010
043G		9965 000 08216	BUSH (L) FOR PANEL	327J259020
047G		9965 000 01079	LENS FOR PANEL UNDER	282J355020
J001		4822 265 20222	PLUG AC INLET S-16453	YP04000580
▲ L001		9965 000 09221	MAINS TRANSF. 230V 50/60Hz	TS17207010
PACKING				
001T	C		USER GUIDE PS2100 (C)	328J851350
001T	N	9965 000 09278	USER GUIDE PS2100 (N)	328J851310
001Z		9965 000 08331	REMOTE CONTROLLER RC2100SR	ZK327J0010
▲ Z005	C		MAINS CORD KOREA 250V	ZC02009020
▲ Z005	N	4822 321 11211	MAINS CORD EUROPE 250V 2.5A	ZC02003150
NOT STANDARD SPARE PARTS				
001S			PACKING CASE	328J801010
003S			CUSHION (L)	327J809010
005S			CUSHION (R)	327J809020
013S			CUSHION FOR SET TOP SIDE	327J809110

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

9. 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 370, Ceramic capacitor
 Disc type
 Temp.coef. 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

0.1μ F 104 4.7μ F 475 100μ F 107
 0.33μ F 334 10μ F 106 330μ F 337
 1μ F 105 22μ F 226 1100μ F 118
 2200μ F 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

0.001μ F (1000 pF) 102 0.1μ F 104
 0.0018μ F 182 0.56μ F 564
 0.01μ F 103 1μ F 105
 0.015μ F 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 RESIST OR :

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		
NF02 x x x 140	ERD-2FCG x x x	(±2% 1/4W)
RF02 x x x 140		

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。

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)	
RU15	C	4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610	Q351	N	9965 000 06293	IC LC72722M RDS DECODER	HC10404030	
RU16		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610	Q352	N	4822 130 42593	SEMICON.COMP	BA12303000	
RU17		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610	Q353	N	4822 130 61553	DTA124EU RN2303	BA21303000	
RU18		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610				SEMICON.COMP		
RU19		4822 051 30181	CHIP 180 Ω ±5% 1/16W	NN05181610				DTC124EU RN1303		
RU20		4822 051 30479	CHIP 47 Ω ±5% 1/16W	NN05470610	XU01		4822 242 72066	PU04-MISCELLANEOUS	FQ08004010	
RU21		4822 117 12139	CHIP 22 Ω ±5% 1/16W	NN05220610				SERAMIC VIB. CST8.0MHz		
RU22		4822 051 30221	CHIP 220 Ω ±5% 1/16W	NN05221610				CRYSTAL DT-38 32.768KHz		
RU23		}	4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	XU02	N	4822 242 72236	CRYSTAL 4.332MHz X-TAL	XO001001T2
RU30						X351		4822 242 10857		JX04003260
RU31						CU41			PU44-IR SENSOR (BOTTOM)	EJ47600610
RU32		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610	CIRCUIT BOARD					
RU33		4822 051 30153	CHIP 15k Ω ±5% 1/16W	NN05153610	ELECT CAP. 47μF 6.3V					
RU34		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610	RU41		4822 051 30101	CHIP RES. 100 Ω ±5% 1/16W	NN05101610	
RU35		4822 051 30153	CHIP 15k Ω ±5% 1/16W	NN05153610						
RU36		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610						
RU37		4822 051 30153	CHIP 15k Ω ±5% 1/16W	NN05153610	QU41		4822 130 11515	PHOTO UNIT 36KHz	HW10005210	
RU38		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610						
RU39		4822 051 30153	CHIP 15k Ω ±5% 1/16W	NN05153610						
RU40		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	CU51		4822 126 14417	PU54-LCD TACT SW	DK96103300	
RU42		4822 051 30103	CHIP 10k Ω J 1/16W	NN05103610				CIRCUIT BOARD		
RU43		4822 051 30103	CHIP 10k Ω J 1/16W	NN05103610				PU54-CAPACITOR		
RU70		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	RU39		4822 117 12925	CER. 0.01μF ±10% 50V	NN05473610	
RU73		4822 117 13632	CHIP 100k Ω ±5% 1/16W	NN05104610				PU54-RESISTORS		
R352	N	4822 117 13632	CHIP 100k Ω ±5% 1/16W	NN05104610				CHIP 47k Ω ±5% 1/16W		
R353	N	4822 051 30474	CHIP 470k Ω ±5% 1/16W	NN05474610	RU51		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	
R354	N	4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	RU52		4822 051 30152	CHIP 1.5k Ω ±5% 1/16W	NN05152610	
R356	N	4822 051 30103	470 Ω ±5% 1/4W	GG05471140	RU53		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610	
R357	N		CHIP 10k Ω ±5% 1/16W	NN05103610	RU54		4822 051 30332	CHIP 3.3k Ω ±5% 1/16W	NN05332610	
PU04-SEMICONDUCTORS					RU55		4822 051 30682	CHIP 6.8k Ω ±5% 1/16W	NN05682610	
DU01	N	4822 130 80522	CHIP DIODE 1SS300 DAP202U	HZ21006000	RU56		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	
DU02		4822 130 80522	CHIP DIODE 1SS300 DAP202U	HZ21006000	RU57		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	
DU04		4822 130 80522	CHIP DIODE 1SS300 DAP202U	HZ21006000	RU58		4822 051 30152	CHIP 1.5k Ω ±5% 1/16W	NN05152610	
DU05		4822 130 80522	CHIP DIODE 1SS300 DAP202U	HZ21006000	RU59		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610	
DU06		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000	RU60		4822 051 30332	CHIP 3.3k Ω ±5% 1/16W	NN05332610	
DU07		4822 130 80522	CHIP DIODE 1SS300 DAP202U	HZ21006000	RU62		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	
DU08		4822 130 80522	CHIP DIODE 1SS300 DAP202U	HZ21006000	RU65					
DU41		4822 130 80522	CHIP DIODE 1SS300 DAP202U	HZ21006000	RU66					
DU81		4822 130 80522	CHIP DIODE 1SS300 DAP202U	HZ21006000	RU67		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610	
D351		9322 127 99685	CHIP DIODE UDZ5.1B	HZ30004210	RU68		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610	
QU01		9965 000 09237	IC MB90F583B 16BIT (PROGRAMMED)	*HS328JFOR	RU71		4822 051 30105	CHIP 1M Ω ±5% 1/16W	NN05105610	
QU04		4822 130 61553	SEMICON.COMP	BA21303000	RU72		4822 051 30101	CHIP 470 Ω ±5% 1/16W	NN05471610	
QU06		4822 130 61553	DTC124EU RN1303	BA21303000	RU74		4822 051 30101	CHIP 100 Ω ±5% 1/16W	NN05101610	
QU13		4822 130 61553	SEMICON.COMP	BA21303000	RU75		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610	
QU14		4822 130 42593	SEMICON.COMP	BA12303000	RU98		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	
QU15		4822 130 61553	DTA124EU RN2303	BA21303000	DU51		9965 000 08222	PU54-SEMICONDUCTORS	HI10002980	
QU16		4822 130 61553	SEMICON.COMP	BA21303000				L.E.D. NSCW100		
QU17		4822 130 63496	DTC124EU RN1303	BA21311000				L.E.D. NSCW100		
QU18		9965 000 08322	SEMICON.COMP	BA21303000				L.E.D. NSCW100		
QU19		4822 130 61553	RN1311 DTC114TU	BA21303000				CHIP DIODE 1SS300 DAP202U		
QU20		9965 000 08323	IC S-80825ANNP-EDN 2.5V RESET	HC10097530	DU55		4822 130 81324	CHIP DIODE 1SS302	HZ21006000	
QU31		4822 130 61541	SEMICON.COMP	BA21303000	QU51		9965 000 08223	IC NJU6450A	HC10215090	
QU32		4822 130 61541	DTC124EU RN1303	BA21303000	QU53		4822 130 61553	SEMICON.COMP	BA21303000	
QU33		4822 130 61541	IC S-80843ALNP-EA7-T2 4.3V RESET	HC10098530	SU31		9965 000 05915	DTC124EU RN1303		
QU34		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0						
					SU32		9965 000 08324	PU54-MISCELLANEOUS	SR03030030	
					SU51		4822 276 13732	ROTARY SWITCH EC11B		
					SU57			ROT.ENCODER WITH PUSH.		
					VU51		9965 000 08325	ROTARY SWITCH	SR03030050	
								ENCODER 16PULSE		
					SU57		4822 276 13732	PUSH SWITCH SKQNAE	SP01013310	
					VU51		9965 000 08325	DISPLAY UNIT RECEIVER LCD	HQ21001800	

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)
SU71		4822 276 13732	PU74-DOOR TACT SW CIRCUIT BOARD PUSH SWITCH SKQNAE	SP01013310	CQ03		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CU81			PU84-IR SENSOR (LEFT) CIRCUIT BOARD ELECT CAP. 100μF 6.3V	EJ10700610	CQ04		4822 126 11685	CER. 4700pF ±10% B 50V	DK96472300
RU81		4822 051 30101	CHIP RES. 100 Ω ±5% 1/16W	NN05101610	CQ05		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
QU81		4822 130 11494	PHOTO UNIT RPM6936-V4	HW10004210	CQ06		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020
DU91		4822 130 70023	PU94-POWER TACT SW/LED CIRCUIT BOARD L.E.D. SML-020MVT89	HI10096210	CQ07		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
SU91		4822 276 13732	PUSH SWITCH SKQNAE	SP01013310	CQ08		4822 126 11685	CER. 4700pF ±10% B 50V	DK96472300
CA01		4822 126 14417	PV04-MAIN CIRCUIT BOARD PV04-CAPACITORS CER. 0.01μF ±10% 50V	DK96103300	CQ09		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CA03		9965 000 09268	CER. 9pF ±0.5pF CH 50V	DD91090300	CQ10		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020
CA18		4822 124 80067	ELECT 4.7μF M 50V RA-2	OA47505020	CQ11		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG01		4822 122 10172	CER. 220pF ±10%	DK96221300	CQ12		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG06		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	CQ13		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG07		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	CQ14		5322 126 11578	CER. 1000pF ±10% B 50V	DK96102300
CG12		4822 126 13956	CER. 68pF ±5%	DD95680300	CQ15		5322 126 11578	CER. 1000pF ±10% B 50V	DK96102300
CG13		4822 122 31765	CER. 100pF ±5% CG 50V	DD95101300	CQ16		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020
CG18		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	CQ17		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG19		4822 126 13956	CER. 68pF ±5%	DD95680300	CQ18		4822 122 31765	CER. 100pF ±5% CG 50V	DD95101300
CG24		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	CQ19		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CG25		4822 122 31765	CER. 100pF ±5% CG 50V	DD95101300	CQ20		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020
CG30		4822 126 13302	CER. 8200pF ±10%	DK96822200	CQ21		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG31		4822 124 42182	ELECT 3.3μF M 50V RA-2	OA33505020	CQ22		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG32		4822 124 42182	ELECT 3.3μF M 50V RA-2	OA33505020	CQ23		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG33		4822 124 90353	ELECT 100μF M 10V RA-2	OA10701020	CQ24		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG34		4822 124 90353	ELECT 100μF M 10V RA-2	OA10701020	CQ25		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG35		4822 124 90353	ELECT 100μF M 10V RA-2	OA10701020	CQ26		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG36		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	CQ27		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020
CG37		4822 116 82487	CHIP RES. 0 Ω ±5% 1/16W	NN05000610	CQ28		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG38		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620	CQ29		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG39		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620	CQ30		4822 124 90362	ELECT 22μF M 50V RA-2	OA22605020
CG40		4822 126 14417	CER. 0.01μF ±10%	DK96103300	CQ31		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG41		4822 126 14417	CER. 0.01μF ±10%	DK96103300	CQ32		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG42		4822 126 14417	CER. 0.01μF ±10%	DK96103300	CQ33		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG43		4822 124 12404	ELECT 220μF M 16V RA-2	OA22701620	CQ34		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG44		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	CQ35		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG48		4822 124 22273	ELECT 0.47μF M 50V RA-2	OA47405020	CQ36		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG49		4822 122 31765	CER. 100pF ±5% CG 50V	DD95101300	CQ37		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG50		4822 124 90365	ELECT 220μF M 25V RA-2	OA22702520	CQ38		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CG51		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	CQ39		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CM01		4822 126 14417	CER. 0.01μF ±10%	DK96103300	CQ40		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CM02		4822 126 14417	CER. 0.01μF ±10%	DK96103300	CQ41		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CM03		4822 126 14417	CER. 0.01μF ±10%	DK96103300	CQ42		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CM04		4822 124 12404	ELECT 220μF M 16V RA-2	OA22701620	CQ43		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CM05		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	CQ44		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CP01		4822 124 22273	ELECT 0.47μF M 50V RA-2	OA47405020	CQ45		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CP02		4822 122 31765	CER. 100pF ±5% CG 50V	DD95101300	CQ46		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CP06		4822 124 90365	ELECT 220μF M 25V RA-2	OA22702520	CQ47		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CP08		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	CQ48		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
CP09		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	CQ49		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ50		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ51		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ52		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ53		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ54		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ55		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ56		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ57		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ58		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ59		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ60		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ61		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ62		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ63		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ64		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ65		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ66		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ67		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ68		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ69		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ70		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ71		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ72		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ73		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ74		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200
					CQ75		4822 126 13837	CER. 0.1μF ±10% B 10V	DK96104200

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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)
CQ76		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620	C216		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620
CQ77					C217	C		CER. 0.027μF ±10% R 16V	DK96273200
}		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	C217	N	4822 126 14581	CER. 0.015μF ±10% X7R 16V W5R	DK96153200
CQ82					C218		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CQ83		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620	C219		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020
CQ84		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	C220		4822 126 12339	CER. 2200pF ±10%	DK96222300
CQ85		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620	C221	N	4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CQ86		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	C222		4822 126 12495	CER. 1500pF ±10%	DK96152300
CQ87		4822 122 33777	CER. 47pF ±5% CG 50V	DD95470300	C223		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CQ89		4822 122 33777	CER. 47pF ±5% CG 50V	DD95470300	C226		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CQ90		4822 122 33777	CER. 47pF ±5% CG 50V	DD95470300	C227	C	4822 126 12339	CER. 2200pF ±10%	DK96222300
CQ91		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	C233		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620
CQ92		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	C234		4822 124 80067	ELECT 4.7μF M 50V RA-2	OA47505020
CQ93		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	C235		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CQ94		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	C236		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
					C237		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CS01					C301	C		FILM 0.047μF J N 50V	DF15473350
}		4822 122 10172	CER. 220pF ±10%	DK96221300	C301	N		FILM 0.033μF J N 50V	DF15333350
CS16					C302	C		FILM 0.047μF J N 50V	DF15473350
CS17		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	C302	N		FILM 0.033μF J N 50V	DF15333350
CS18		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	C303		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020
CS19		4822 122 31765	CER. 100pF ±5% CG 50V	DD95101300	C304		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020
CS20		4822 122 31765	CER. 100pF ±5% CG 50V	DD95101300	C305		4822 124 80067	ELECT 4.7μF M 50V RA-2	OA47505020
CS21		4822 122 33753	CER. 150pF ±5% CG 50V	DD95151300	C306		4822 124 80067	ELECT 4.7μF M 50V RA-2	OA47505020
CS22		4822 122 33753	CER. 150pF ±5% CG 50V	DD95151300	C307		4822 126 12339	CER. 2200pF ±10%	DK96222300
CS23		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620	C308		4822 126 12339	CER. 2200pF ±10%	DK96222300
CS24		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620	C309		5322 124 21731	ELECT 10μF M 50V	OA10605020
CS25					C310		5322 124 21731	ELECT 10μF M 50V	OA10605020
}		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	C311			FILM 0.0027μF J M 50V D=9	DF15272350
CS28					C312			FILM 0.0027μF J M 50V D=9	DF15272350
CS29		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620	C315		4822 126 14417	CER. 0.01μF Z 50V	DK96103300
CS30		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620	C316		4822 126 14417	CER. 0.01μF Z 50V	DK96103300
CS31		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	C317		4822 126 13909	CER. 680pF ±10%	DK96681300
CS32		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200	C318		4822 126 13909	CER. 680pF ±10%	DK96681300
CS33		4822 116 82487	CHIP RES. 0 Ω ±5% 1/16W	NN05000610	C319		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620
CS34		4822 116 82487	CHIP RES. 0 Ω ±5% 1/16W	NN05000610	C320		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620
CS35		4822 116 82487	CHIP RES. 0 Ω ±5% 1/16W	NN05000610					
CS36					C501		4822 122 33777	CER. 47pF ±5% CG 50V	DD95470300
}		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	C502		4822 122 33777	CER. 47pF ±5% CG 50V	DD95470300
CS41					C503		4822 124 90353	ELECT 100μF M 10V RA-2	OA10701020
CS43		4822 124 90362	ELECT 22μF M 50V RA-2	OA22605020	C504		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CS44		4822 124 90362	ELECT 22μF M 50V RA-2	OA22605020	C505		4822 124 40763	ELECT 2.2μF M 50V RA-2	OA22505020
					C507		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CW03		4822 122 33777	CER. 47pF ±5% CG 50V	DD95470300	C508		4822 124 90354	ELECT 100μF M 16V RA-2	OA10701620
CW04		4822 122 33777	CER. 47pF ±5% CG 50V	DD95470300	C509		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CW05		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	C510		4822 122 31765	CER. 100pF ±5% CG 50V	DD95101300
CW06		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	C511		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CW07		4822 122 31765	CER. 100pF ±5% CG 50V	DD95101300					
CW08		4822 122 31765	CER. 100pF ±5% CG 50V	DD95101300	▲ C801			CER. 0.01μF Z E 500V	DK18103560
CW09		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	▲ C802			CER. 0.01μF Z E 500V	DK18103560
CW10		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	C804		4822 126 14417	CER. 0.01μF Z 50V	DK96103300
CW11		4822 126 11687	CER. 0.1μF +80%-20	DK98104200	C805		4822 126 14417	CER. 0.01μF Z 50V	DK96103300
CW12		4822 126 11687	CER. 0.1μF +80%-20	DK98104200	▲ C807		9965 000 09259	ELECT 6800μF 50V	EB68805090
					▲ C808		9965 000 09259	ELECT 6800μF 50V	EB68805090
C201		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300	▲ C815		4822 124 21511	ELECT 2200μF M 25V RA-2	OA22802520
C202		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300	▲ C816		4822 124 21511	ELECT 2200μF M 25V RA-2	OA22802520
C203		4822 126 13396	CER. 0.047μF ±10% X7R 16V	DK96473200	C817		4822 126 14417	CER. 0.01μF Z 50V	DK96103300
C204		4822 126 13396	CER. 0.047μF ±10% X7R 16V	DK96473200	C818		4822 124 90371	ELECT 470μF M 10V RA-2	OA47701020
C205		4822 124 41543	ELECT 1μF M 50V RA-2	OA10505020	C819		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020
C206		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	C820		4822 126 14417	CER. 0.01μF Z 50V	DK96103300
C207		4822 124 90354	ELECT 100μF M 16V	OA10701620	C821		4822 126 14417	CER. 0.01μF Z 50V	DK96103300
C208		4822 126 13396	CER. 0.047μF ±10% X7R 16V	DK96473200	C822		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020
C209		4822 124 41543	ELECT 1μF M 50V RA-2	OA10505020	C823		4822 126 14417	CER. 0.01μF Z 50V	DK96103300
C210		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300	C824		4822 124 90371	ELECT 470μF M 10V RA-2	OA47701020
C211		4822 124 40763	ELECT 2.2μF M 50V RA-2	OA22505020	C826		4822 126 14417	CER. 0.01μF Z 50V	DK96103300
C212		4822 124 41543	ELECT 1μF M 50V RA-2	OA10505020	C827		5322 124 21731	ELECT 10μF M 50V	OA10605020
C213		4822 124 22273	ELECT 0.47μF M 50V RA-2	OA47405020	C828		4822 126 14417	CER. 0.01μF Z 50V	DK96103300
C214		4822 124 41539	ELECT 47μF M 16V RA-2	OA47601620					
C215		4822 126 13396	CER. 0.047μF ±10% X7R 16V	DK96473200					

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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)
C829		5322 124 21731	ELECT 10μF M 50V RA-2	OA10605020	RQ04		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610
C830		4822 124 23068	ELECT 220μF M 63V RA-2	OA22706320	RQ05		4822 116 83211	CHIP 1.8k Ω ±5% 1/16W	NN05182610
C831					RQ06		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610
}		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300	RQ07		4822 117 13632	CHIP 100k Ω ±5% 1/16W	NN05104610
C834					RQ08		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610
C835		4822 124 23649	ELECT 470μF 25V M RA-2	OA47702520	RQ09		4822 117 11817	CHIP 1.2k Ω ±5% 1/16W	NN05122610
C836		4822 124 23649	ELECT 470μF 25V M RA-2	OA47702520	RQ10		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610
C837		5322 126 11578	CER. 1000pF ±10% B 50V	DK96102300	RQ11		4822 116 83211	CHIP 1.8k Ω ±5% 1/16W	NN05182610
C838		4822 126 11568	CER. 470pF ±10%	DK96471300	RQ12		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610
			PV04-RESISTORS		RQ13		4822 117 13632	CHIP 100k Ω ±5% 1/16W	NN05104610
RA01		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	RQ14		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610
RA02		4822 117 13632	CHIP 100k Ω ±5% 1/16W	NN05104610	RQ15		4822 051 30101	CHIP 100 Ω ±5% 1/16W	NN05101610
RA11		4822 100 11351	TRIMMING 10k Ω RH0638CJ4R	RA01030780	RQ16		4822 051 30101	CHIP 100 Ω ±5% 1/16W	NN05101610
					RQ17		4822 051 30561	CHIP 560 Ω ±5% 1/16W	NN05561610
RG01					RQ18		4822 051 30221	CHIP 220 Ω ±5% 1/16W	NN05221610
}		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610	RQ19		4822 051 30393	CHIP 39k Ω ±5% 1/16W	NN05393610
RG06					RQ20		4822 117 11817	CHIP 1.2k Ω ±5% 1/16W	NN05122610
RG07									
}		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610	RQ21		4822 051 30561	CHIP 560 Ω ±5% 1/16W	NN05561610
RG12					RQ22		4822 051 30221	CHIP 220 Ω ±5% 1/16W	NN05221610
RG13		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	RQ23		4822 051 30123	CHIP 12k Ω ±5% 1/16W	NN05123610
RG14		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	RQ24		4822 051 30154	CHIP 150k Ω ±5% 1/16W	NN05154610
RG15		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610	RQ25		4822 051 30562	CHIP 5.6k Ω ±5% 1/16W	NN05562610
RG16		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610	RQ26		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610
RG17		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	RQ27		9965 000 09003	CHIP 560k Ω ±5% 1/16W	NN05564610
RG18		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	RQ28		4822 117 12891	CHIP 220k Ω ±5% 1/16W	NN05224610
RG19		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610	RQ29		9965 000 09267	CHIP 82 Ω ±5% 1/16W	NN05820610
RG20		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610	RQ30		4822 117 12968	CHIP 820 Ω ±5% 1/16W	NN05821610
RG21		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	RQ31		9965 000 09267	CHIP 82 Ω ±5% 1/16W	NN05820610
RG22		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	RQ32		4822 117 12968	CHIP 820 Ω ±5% 1/16W	NN05821610
RG23		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610	RQ33		4822 051 30331	CHIP 330 Ω ±5% 1/16W	NN05331610
RG24		4822 051 30332	CHIP 3.3k Ω ±5% 1/16W	NN05332610	RQ34		4822 051 30121	CHIP 120 Ω ±5% 1/16W	NN05121610
RG25					RQ35		4822 051 30331	CHIP 330 Ω ±5% 1/16W	NN05331610
}		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610	RQ36		4822 051 30121	CHIP 120 Ω ±5% 1/16W	NN05121610
RG30					RQ37		4822 051 30331	CHIP 330 Ω ±5% 1/16W	NN05331610
RG31					RQ38		4822 051 30121	CHIP 120 Ω J 1/16W	NN05121610
}		4822 117 13632	CHIP 100k Ω ±5% 1/16W	NN05104610	RQ39		4822 051 30331	CHIP 330 Ω J 1/16W	NN05331610
RG36					RQ40		4822 051 30121	CHIP 120 Ω J 1/16W	NN05121610
RG37									
}		4822 051 30101	CHIP 100 Ω ±5% 1/16W	NN05101610	RQ41		4822 051 30102	CHIP 1k Ω J 1/16W	NN05102610
RG41					RQ42		4822 051 30102	CHIP 1k Ω J 1/16W	NN05102610
RG42					RQ43		4822 051 30475	CHIP 4.7M Ω ±5% 1/16W	NN05475610
}		4822 051 30223	CHIP 22k Ω ±5% 1/16W	NN05223610	RQ44		4822 051 30103	CHIP 10k Ω J 1/16W	NN05103610
RG45					RQ45		4822 117 12889	CHIP 270k Ω J 1/16W	NN05274610
RG50					RQ46		4822 051 30392	CHIP 3.9k Ω J 1/16W	NN05392610
}		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610	RQ47		4822 117 13632	CHIP 100k Ω J 1/16W	NN05104610
RG53					RQ48		4822 117 12889	CHIP 270k Ω J 1/16W	NN05274610
RG55		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610	RQ49		4822 051 30392	CHIP 3.9k Ω ±5% 1/16W	NN05392610
RG56		4822 051 30684	CHIP 680k Ω ±5% 1/16W	NN05684610	RQ50		4822 051 30332	CHIP 3.3k Ω J 1/16W	NN05332610
RG57		4822 051 30684	CHIP 680k Ω ±5% 1/16W	NN05684610					
RG58		4822 051 30684	CHIP 680k Ω ±5% 1/16W	NN05684610	RQ51		4822 051 30561	CHIP 560 Ω J 1/16W	NN05561610
RG59		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610	RQ52		4822 051 30333	CHIP 33k Ω J 1/16W	NN05333610
RG65		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610	RQ53		4822 051 30181	CHIP 180 Ω J 1/16W	NN05181610
					RQ55		4822 051 30561	CHIP 560 Ω ±5% 1/16W	NN05561610
RM01		4822 051 30221	CHIP 220 Ω ±5% 1/16W	NN05221610	RQ56		4822 051 30152	CHIP 1.5k Ω ±5% 1/16W	NN05152610
RM02		4822 051 30272	CHIP 2.7k Ω ±5% 1/16W	NN05272610	RQ57		4822 051 30152	CHIP 1.5k Ω ±5% 1/16W	NN05152610
RM03		4822 111 90967	FUSE 4.7 Ω J 1/4W	NF05047140	RQ58		4822 051 30272	CHIP 2.7k Ω ±5% 1/16W	NN05272610
RM04		4822 051 30391	CHIP 390 Ω ±5% 1/16W	NN05391610	RQ60				
					}		4822 051 30101	CHIP 100 Ω J 1/16W	NN05101610
RP01		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610	RQ63				
RP02		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610	RQ65				
RP03		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610	}		4822 051 30109	CHIP 10 Ω ±5% 1/16W	NN05100610
RP04		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610	RQ68				
RP05		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610	RQ69		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610
					RQ70		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
RQ01		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	RQ71		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
RQ02		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	RQ72		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610
RQ03		4822 117 11817	CHIP 1.2k Ω ±5% 1/16W	NN05122610	RQ73		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610
					RQ74		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610

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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)
RQ75 }		4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610	R221 R222	N N	4822 117 13632	CHIP 100k Ω $\pm 5\%$ 1/16W	NN05104610
RQ78 RQ79 }		4822 117 12925	CHIP 47k Ω $\pm 5\%$ 1/16W	NN05473610	R301 R302		4822 051 30272	CHIP 2.7k Ω $\pm 5\%$ 1/16W	NN05272610
RQ82 RQ83 }		4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610	R303 R304		4822 051 30102	CHIP 1k Ω J 1/16W	NN05102610
RQ86 RQ87 RQ88		4822 117 12925	CHIP 47k Ω $\pm 5\%$ 1/16W	NN05473610	R305 R306		4822 051 30103	CHIP 10k Ω J 1/16W	NN05103610
RQ89		4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610	R307 R308		4822 117 12925	CHIP 47k Ω J 1/16W	NN05473610
RQ90		4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610	R309		4822 051 30221	CHIP 220 Ω J 1/16W	NN05221610
RQ91		4822 116 82487	CHIP 0 Ω $\pm 5\%$ 1/16W	NN05000610	R310		4822 051 30221	CHIP 220 Ω J 1/16W	NN05221610
RQ92		4822 116 82487	CHIP 0 Ω $\pm 5\%$ 1/16W	NN05000610	R311		4822 051 30103	CHIP 10k Ω J 1/16W	NN05103610
RQ93		4822 117 12925	CHIP 47k Ω $\pm 5\%$ 1/16W	NN05473610	R312		4822 051 30103	CHIP 10k Ω J 1/16W	NN05103610
RQ94		4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610	R313		4822 117 12925	CHIP 47k Ω J 1/16W	NN05473610
RQ95		4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610	R314		4822 117 12925	CHIP 47k Ω J 1/16W	NN05473610
RQ96		4822 117 12925	CHIP 47k Ω $\pm 5\%$ 1/16W	NN05473610					
RQ97		4822 117 13632	CHIP 100k Ω $\pm 5\%$ 1/16W	NN05104610	R502		4822 051 30222	CHIP 2.2k Ω $\pm 5\%$ 1/16W	NN05222610
RQ98		4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610	R504		4822 051 30472	CHIP 4.7k Ω $\pm 5\%$ 1/16W	NN05472610
RQ99		4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610	R505		4822 051 30102	CHIP 1k Ω $\pm 5\%$ 1/16W	NN05102610
RS01 }		4822 051 30102	CHIP 1k Ω $\pm 5\%$ 1/16W	NN05102610	R506		4822 051 30102	CHIP 1k Ω $\pm 5\%$ 1/16W	NN05102610
RS16 RS17 }		4822 117 12891	CHIP 220k Ω $\pm 5\%$ 1/16W	NN05224610	R507		4822 051 30683	CHIP 68k Ω $\pm 5\%$ 1/16W	NN05683610
RS32 RS33 }		4822 117 13632	CHIP 100k Ω $\pm 5\%$ 1/16W	NN05104610	R508		4822 117 12925	CHIP 47k Ω $\pm 5\%$ 1/16W	NN05473610
RS36 RS37		4822 117 12925	CHIP 47k Ω $\pm 5\%$ 1/16W	NN05473610	R509		4822 051 30223	CHIP 22k Ω $\pm 5\%$ 1/16W	NN05223610
RS38		4822 117 12925	CHIP 47k Ω $\pm 5\%$ 1/16W	NN05473610	R510		4822 051 30472	CHIP 4.7k Ω $\pm 5\%$ 1/16W	NN05472610
RS97		4822 116 82487	CHIP 0 Ω $\pm 5\%$ 1/16W	NN05000610	R511		4822 117 12902	CHIP 8.2k Ω $\pm 5\%$ 1/16W	NN05822610
RS98		4822 116 82487	CHIP 0 Ω $\pm 5\%$ 1/16W	NN05000610	R513		4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610
RS99		4822 116 82487	CHIP 0 Ω $\pm 5\%$ 1/16W	NN05000610	R515		4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610
RW03		4822 051 30393	CHIP 39k Ω $\pm 5\%$ 1/16W	NN05393610	▲ R805		4822 052 10478	4.7 Ω $\pm 5\%$ 1/6W	GG05047160
RW04		4822 051 30393	CHIP 39k Ω $\pm 5\%$ 1/16W	NN05393610	▲ R806		4822 052 10478	4.7 Ω $\pm 5\%$ 1/6W	GG05047160
RW05		4822 051 30222	CHIP 2.2k Ω $\pm 5\%$ 1/16W	NN05222610	▲ R831		4822 052 10228	2.2 Ω $\pm 5\%$ 1/6W	GG05022160
RW06		4822 051 30222	CHIP 2.2k Ω $\pm 5\%$ 1/16W	NN05222610	R832		4822 051 30479	CHIP 47 Ω $\pm 5\%$ 1/16W	NN05470610
RW07		4822 051 30561	CHIP 560 Ω $\pm 5\%$ 1/16W	NN05561610	R833		4822 051 30102	CHIP 1k Ω $\pm 5\%$ 1/16W	NN05102610
RW08		4822 051 30561	CHIP 560 Ω $\pm 5\%$ 1/16W	NN05561610					
RW09		4822 051 30472	CHIP 4.7k Ω $\pm 5\%$ 1/16W	NN05472610	DA06		4822 130 81324	CHIP DIODE 1SS302	HZ20018050
RW10		4822 051 30472	CHIP 4.7k Ω $\pm 5\%$ 1/16W	NN05472610	DG01		4822 130 81324	CHIP DIODE 1SS302	HZ20018050
RW11		4822 051 30222	CHIP 2.2k Ω $\pm 5\%$ 1/16W	NN05222610	DP01		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000
R201		4822 116 82487	CHIP 0 Ω $\pm 5\%$ 1/16W	NN05000610	DP02		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000
R202		4822 051 30391	CHIP 390 Ω $\pm 5\%$ 1/16W	NN05391610	▲ DP03		4822 130 82019	CHIP DIODE SFPL-52 200V/0.9A	HZ20002080
R203		4822 051 30152	CHIP 1.5k Ω $\pm 5\%$ 1/16W	NN05152610	DP04		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000
R204		4822 051 30471	CHIP 470 Ω $\pm 5\%$ 1/16W	NN05471610	DP06		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000
R205		4822 051 30331	CHIP 330 Ω $\pm 5\%$ 1/16W	NN05331610	}				
R206		4822 051 30682	CHIP 6.8k Ω $\pm 5\%$ 1/16W	NN05682610	DP10		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000
R207			100 Ω $\pm 5\%$ 1/4W	GG05101140	D201		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000
R208		4822 051 30272	CHIP 2.7k Ω $\pm 5\%$ 1/16W	NN05272610	D202		9965 000 03403	CHIP ZENER 02C29.1-X	HZ30031050
R209		4822 051 30472	CHIP 4.7k Ω $\pm 5\%$ 1/16W	NN05472610	D504		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000
R210		4822 051 30332	CHIP 3.3k Ω $\pm 5\%$ 1/16W	NN05332610	D505		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000
R211	C	4822 100 11351	TRIMMING 10k Ω RH-638CS3R	RA01030780	▲ D801		4822 130 30984	DIODE S5VB20 FORMING 6A 200V	HE20009290
R211	N	4822 100 11352	TRIMMING 22k Ω RH0638CJ4R	RA02230780	▲ D804		4822 130 33057	DIODE S2VB-20	HE20011290
R212		4822 051 30472	CHIP 4.7k Ω $\pm 5\%$ 1/16W	NN05472610	D830		9965 000 09260	CHIP DIODE 60V 1A RW	HZ21304210
R213		4822 051 30479	CHIP 47 Ω $\pm 5\%$ 1/16W	NN05470610	QG01		9965 000 09272	IC M62446FP 6CH ELEVOL TONECON	HC10258200
R214		4822 117 12925	CHIP 47k Ω $\pm 5\%$ 1/16W	NN05473610	QG02		4822 209 17155	IC NJM2068M	HC10102090
R215	C	4822 051 30273	CHIP 27k Ω $\pm 5\%$ 1/16W	NN05273610	QG03		4822 209 17155	IC NJM2068M	HC10102090
R215	N	4822 051 30683	CHIP 68k Ω $\pm 5\%$ 1/16W	NN05683610	QG04		4822 209 17155	IC NJM2068M	HC10102090
R216		4822 051 30273	CHIP 27k Ω $\pm 5\%$ 1/16W	NN05273610	QG05				
R218		4822 051 30472	CHIP 4.7k Ω $\pm 5\%$ 1/16W	NN05472610	}		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
R219	N	4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610	QG10				
R220		4822 051 30101	CHIP 100 Ω $\pm 5\%$ 1/16W	NN05101610	QM01		4822 209 30193	IC LB1641 MOTOR DRIVER	HC10279030
					QP01				
					}		4822 130 61553	SEMICON.COMP DTC124EU RN1303	BA21303000
					QP04				
					QP05		4822 130 42593	SEMICON.COMP DTA124EU RN2303	BA12303000

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)
QP06		4822 130 61553	SEMICON.COMP DTC124EU RN1303	BA21303000	LA01		9965 000 09269	ANT COIL 7RBW-3702 AM RF BLOCK	LA70635010
QP07		4822 130 42593	SEMICON.COMP DTA124EU RN2303	BA12303000	LA05 LA06		4822 157 53589	CHOKE COIL TL-8 393J I.F.T. COIL AM IFT K7-H5 FOR SFP450D	LC23960710 LI70033510
QP08		4822 130 61553	SEMICON.COMP DTC124EU RN1303	BA21303000	LP01 }		4822 157 11135	CHIP INDUCTANCE NLC453232T-101K	LU13104010
QP09		4822 130 42593	SEMICON.COMP DTA124EU RN2303	BA12303000	LP06				
QP10		4822 130 61553	SEMICON.COMP DTC124EU RN1303	BA21303000	L201			I.F.T. COIL FM DET M292BEAS-5968Z	LI70376010
QQ01		4822 209 17155	IC NJM2068M	HC10102090	L301		9965 000 08329	M.P.X. COIL 19 38KHz	LS70425010
QQ02		4822 209 17155	IC NJM2068M	HC10102090	L302		9965 000 08329	M.P.X. COIL 19 38KHz	LS70425010
QQ03		9965 000 09266	IC SSM2005 CS-5.1DECORDER SSOP	HC10069840	L830		9965 000 09262	CHIP INDUCTANCE CDRH74 220μH	LU80224010
QQ04 }		4822 209 17155	IC NJM2068M	HC10102090	L831		9965 000 01917	CHIP INDUCTANCE CDRH5D28 10μH ±30%	LU83103030
QQ08					L832		9965 000 01917	CHIP INDUCTANCE CDRH5D28 10μH ±30%	LU83103030
QS01		4822 209 32552	IC LC78211	HC10308030					
QS02		4822 209 83631	IC NJM4558MD	HC10035090					
QS03		4822 209 32554	IC LC78213	HC10310030					
QW01		4822 209 31378	IC NJM4556AM	HC10045090	X501		4822 242 72333	CRYSTAL AD0618CTB 7.2MHz	JX07001260
QW02		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0				P704-SODA-1 (FRONT) CIRCUIT BOARD	
QW03		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0				P704-CAPACITORS	
Q201		9965 000 01369	IC LA1837 AM/FM IC SMT	HC10409030	CF01		9965 000 09238	TANTAL CHIP 100μF 25V	EY10702560
Q202		9965 000 09270	CHIP TRS. 2SC2714Y	HX327141C0	CF02		9965 000 09238	TANTAL CHIP 100μF 25V	EY10702560
Q203		4822 130 61903	SEMICON.COMP DTA114EU	BA10026210	CF03				
Q204		4822 130 61906	SEMICON.COMP DTC114EU	BA20035210	}		9965 000 08352	CER. 0.1μF 50V F	DK98104300
Q206	N	4822 130 61541	CHIP TRS. 2SC4116	HX341162B0	CF06				
Q301		4822 209 83631	IC NJM4558MD	HC10035090	CF07		9965 000 09239	CER. 680pF ±5% CH 25V	DD95681200
Q501		9965 000 09271	IC LC72130M PLL SYNTHESIZR	HC10407030	CF08		9965 000 09239	CER. 680pF ±5% CH 25V	DD95681200
▲ Q801		4822 209 73954	IC NJM7912FA -12V 1A	HC39912090	CF09		4822 126 13956	CER. 68pF ±10%	DD95680300
▲ Q802		4822 209 70084	IC NJM7812FA	HC38912090	CF10		4822 126 13956	CER. 68pF ±10%	DD95680300
▲ Q803		4822 209 73674	IC NJM7806FA	HC38906090	CF11			FILM 0.68μF J 50V	DF15684350
▲ Q804		9965 000 09263	IC NJM7906FA	HC39906090	CF12			FILM 0.68μF J 50V	DF15684350
▲ Q805		4822 209 70084	IC NJM7812FA	HC38912090	CF13				
▲ Q806		4822 209 73954	IC NJM7912FA	HC39912090	}		9965 000 09240	CHIP ELECT 100μF 25V RV3	EL10702510
▲ Q830		9965 000 09264	IC LM2575HVS-12	HC10053360	CF16				
			PV04-MISCELLANEOUS		CF17		9965 000 09241	CER. 0.47μF F 16V	DK98474200
▲ A101		9965 000 03387	VHF TUNER FM FRONT END EF415-G23	AV01202270	CF18		9965 000 09241	CER. 0.47μF F 16V	DK98474200
FA01			CER. FILTER SFZ450JL3	FF10045410	CF19		9965 000 09240	CHIP ELECT 100μF 25V RV3	EL10702510
▲ FP01					CF20		9965 000 09240	CHIP ELECT 100μF 25V RV3	EL10702510
}					CF21		9965 000 09241	CER. 0.47μF F 16V	DK98474200
▲ FP06		9965 000 09253	FUSE T3.15A 250V	FS20315200	CF22		9965 000 09241	CER. 0.47μF F 16V	DK98474200
					CF23		9965 000 09240	CHIP ELECT 100μF 25V RV3	EL10702510
F201	C		CER. FILTER SFF10.7MA8-A	FF11070610	CF24		9965 000 09240	CHIP ELECT 100μF 25V RV3	EL10702510
F201	N		CER. FILTER SFE10.7MS3-A	FF11070620	CF25		9965 000 09241	CER. 0.47μF F 16V	DK98474200
F202			CER. FILTER SFE10.7MS3-A	FF11070620	CF26		9965 000 09241	CER. 0.47μF F 16V	DK98474200
▲ F803		9965 000 09261	FUSE T5.0A/250V TR5 NO.19372 (TP)	FS20500200	CF27		9965 000 09240	CHIP ELECT 100μF 25V RV3	EL10702510
▲ F804		9965 000 09261	FUSE T5.0A/250V TR5 NO.19372 (TP)	FS20500200	CF28		9965 000 09240	CHIP ELECT 100μF 25V RV3	EL10702510
					CF29		9965 000 09241	CER. 0.47μF F 16V	DK98474200
					CF30		9965 000 09241	CER. 0.47μF F 16V	DK98474200
JG01		9965 000 09265	TERMINAL YKC21-3232 RCA PIN JACK BLK	YT02060500	CF31		9965 000 09242	ELECT 1000μF 50V RE-3	EA10805070
JP01			JACK 12JQ-BT 12P	YJ06008820	CF32		9965 000 09242	ELECT 1000μF 50V RE-3	EA10805070
JP02			JACK 12JQ-BT 12P	YJ06008820	CF33		9965 000 08352	CER. 0.1μF 50V F	DK98104300
JP03			JACK 12JQ-BT 12P	YJ06008820	CF34		9965 000 08352	CER. 0.1μF 50V F	DK98104300
JS01		9965 000 09265	TERMINAL YKC21-3232	YT02060500	CF35		9965 000 09242	ELECT 1000μF 50V RE-3	EA10805070
JS02		4822 267 31823	TERMINAL RCA PIN JACK RA2L4P YKC21-3049	YT02040940	CF36		9965 000 09242	ELECT 1000μF 50V RE-3	EA10805070
JS03		4822 265 10748	TERMINAL 14X14 RA 2L6P W/R	YT02060460	CF37			CER. 0.22μF	DK48224300
			NI FLM-GND		CF38			CER. 0.22μF	DK48224300
J101		4822 290 81632	TERMINAL YKD31-0215A FM/AM ANT PAL	YT03030020	CF39		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
					CF40		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
					CF41			CER. 0.47μF 50V	DK48474200
					CF42			CER. 0.47μF 50V	DK48474200
					CF43		9965 000 09239	CER. 680pF ±5% CH 25V	DD95681200
					CF44		9965 000 09239	CER. 680pF ±5% CH 25V	DD95681200

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POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)
CN01		9965 000 08352	CER. 0.1μF 50V F	DK98104300
CN02		9965 000 08352	CER. 0.1μF 50V F	DK98104300
CN03		4822 126 14528	CER. 5600pF ±10% B 50V	DK96562300
CN04		4822 126 14528	CER. 5600pF ±10% B 50V	DK96562300
CN05		9965 000 09240	CHIP ELECT 100μF 25V RV3	EL10702510
CN06		9965 000 09240	CHIP ELECT 100μF 25V RV3	EL10702510
CN07		4822 126 14417	CER. 0.01μF ±10% 50V	DK96103300
CN08		9965 000 08949	TANTALCHIP 22μF 35V	EY22603520
CN09		4822 124 11229	TANTALCHIP 4.7μF 35V	EY47503520
CN10		9965 000 08352	CER. 0.1μF 50V F	DK98104300
CN11		9965 000 08352	CER. 0.1μF 50V F	DK98104300
CN12		9965 000 08352	CER. 0.1μF 50V F	DK98104300
P704-RESISTORS				
RF01		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610
RF02		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610
RF03				
RF06		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
RF07		4822 051 30332	CHIP 3.3k Ω ±5% 1/16W	NN05332610
RF08		4822 051 30332	CHIP 3.3k Ω ±5% 1/16W	NN05332610
RF09				
RF12		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610
RF13		4822 051 30121	CHIP 120 Ω ±5% 1/16W	NN05121610
RF14		4822 051 30121	CHIP 120 Ω ±5% 1/16W	NN05121610
RF15				
RF18		4822 117 11449	CHIP 2.2k Ω ±5% 1/10W	NI05222110
RF19		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610
RF20		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610
RF21				
RF24		4822 051 30109	CHIP 10 Ω ±5% 1/16W	NN05100610
RF25				
RF28		4822 051 30105	CHIP 1M Ω ±5% 1/16W	NN05105610
RF29		4822 051 30184	CHIP 180k Ω ±5% 1/16W	NN05184610
RF30		4822 051 30184	CHIP 180k Ω ±5% 1/16W	NN05184610
RF31		4822 117 13632	CHIP 100k Ω ±5% 1/16W	NN05104610
RF32		4822 117 13632	CHIP 100k Ω ±5% 1/16W	NN05104610
RF33		4822 051 30563	CHIP 56k Ω ±5% 1/16W	NN05563610
RF34		4822 051 30563	CHIP 56k Ω ±5% 1/16W	NN05563610
RF35			CHIP 22 Ω ±5% 1/8W	RI05220180
RF36			CHIP 22 Ω ±5% 1/8W	RI05220180
RF37				
RF46		4822 116 82124	FUSIBLE CHIP 10 Ω	NH85100110
RF47		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610
RF48		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610
RF49		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610
RF51		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
RF52		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
RF53		4822 051 30681	CHIP 680 Ω ±5% 1/16W	NN05681610
RF54		4822 051 30681	CHIP 680 Ω ±5% 1/16W	NN05681610
RF55		4822 117 13632	CHIP 100k Ω ±5% 1/16W	NN05104610
RF56		4822 117 13632	CHIP 100k Ω ±5% 1/16W	NN05104610
RK01		4822 117 10833	CHIP 10k Ω ±5% 1/10W	NI05103110
▲ RK02		4822 051 20338	FUSIBLE 3.3 Ω ±5% 1/10W	NH85033110
RK03		4822 117 10833	CHIP 10k Ω ±5% 1/10W	NI05103110
RK04		4822 117 10833	CHIP 10k Ω ±5% 1/10W	NI05103110
▲ RK05		4822 051 20338	FUSIBLE 3.3 Ω ±5% 1/10W	NH85033110
RK06		4822 117 10833	CHIP 10k Ω ±5% 1/10W	NI05103110
RN01		9965 000 09256	0.1Ω ±1% 1W	RH01102010
RN02		9965 000 09256	0.1Ω ±1% 1W	RH01102010
RN03		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610
RN04		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610

POS. NO	VERS. COLOR	PART NO. (PCS)	DESCRIPTION	PART NO. (MJI)
RN05		4822 051 30152	CHIP 1.5k Ω ±5% 1/16W	NN05152610
RN06		4822 051 30152	CHIP 1.5k Ω ±5% 1/16W	NN05152610
RN07			CHIP 3.3 Ω ±5% 1/8W	RI05033180
RN08			CHIP 3.3 Ω ±5% 1/8W	RI05033180
RN11		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
RN12		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610
RN13		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
RN14		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610
RN15		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610
RN16		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
RN17		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610
RN18				
RF22		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
RN23		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610
RN24		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610
RN25		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
RN26		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
RN27		4822 051 30223	CHIP 22k Ω ±5% 1/16W	NN05223610
RN28		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
RN29		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610
RN30		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610
P704-SEMICONDUCTORS				
DF01		4822 130 11516	CHIP DIODE 1SS368	HZ20068050
DF02		4822 130 11516	CHIP DIODE 1SS368	HZ20068050
DF03				
DF10		9965 000 09243	CHIP DIODE 015AZ10 ZENER 10V	HZ30036050
DF11		9965 000 09244	CHIP DIODE 30BQ100 100V 3A	HZ20001990
DF12		9965 000 09244	CHIP DIODE 30BQ100 100V 3A	HZ20001990
DF13				
DF16		9965 000 09245	CHIP DIODE CRG01	HZ20067050
DF17				
DF20		4822 130 11514	CHIP DIODE 02CZ4.7Z	HZ30017050
DK01		9965 000 09245	CHIP DIODE CRG01	HZ20067050
DK02		9965 000 09243	CHIP DIODE 015AZ10 ZENER 10V	HZ30036050
DK03		9965 000 09245	CHIP DIODE CRG01	HZ20067050
DK04		9965 000 09243	CHIP DIODE 015AZ10 ZENER 10V	HZ30036050
DN01		4822 130 11516	CHIP DIODE 1SS368	HZ20068050
DN03		4822 130 11516	CHIP DIODE 1SS368	HZ20068050
DN04		4822 130 11516	CHIP DIODE 1SS368	HZ20068050
DN05		4822 130 11516	CHIP DIODE 1SS368	HZ20068050
QF01		9965 000 09249	IC LM311 COMPARATOR SOP8	HC10098000
QF02		9965 000 09249	IC LM311 COMPARATOR SOP8	HC10098000
QF03		9965 000 09250	CHIP TRS. 2SC4539	HX34539000
QF04		9965 000 09250	CHIP TRS. 2SC4539	HX34539000
QF05		9965 000 09251	CHIP TRS. 2SA1734	HX11734000
QF06		9965 000 09251	CHIP TRS. 2SA1734	HX11734000
QF07		9965 000 09252	F.E.T. IRFI9540G 100V 13A	HF60005000
QF08		9965 000 09252	F.E.T. IRFI9540G 100V 13A	HF60005000
QF09		5322 130 63791	F.E.T. IRFI540N 100V 13A	HF70010000
QF10		5322 130 63791	F.E.T. IRFI540N 100V 13A	HF70010000
QF11		4822 209 17155	IC NJM2068M	HC10102090
QF13		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
QF14		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
QF15		4822 130 61553	SEMICON.COMP DTC124EU RN1303	BA21303000
QF16		4822 130 42593	SEMICON.COMP DTA124EU RN2303	BA12303000
QK01		9965 000 09257	CHIP TRS. 2SA1736 -50V -3A	HX117361A0
QK02		4822 130 11386	CHIP TRS. 2SC2712 BL	HX32712180

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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)
QK03		9965 000 09258	CHIP TRS. 2SC4541 50V 3A	HX345411A0	CR28		9965 000 09240	CHIP ELECT 100µF 25V RV3	EL10702510
QK04		4822 130 42733	CHIP TRS. 2SA1162-GR	HX111621A0	CR29		9965 000 09241	CER. 0.47µF F 16V	DK98474200
QN01		9965 000 09255	CHIP TRS. 2SC4117-GR 120V 0.1A	HX341171A0	CR30		9965 000 09241	CER. 0.47µF F 16V	DK98474200
QN02		9965 000 09255	CHIP TRS. 2SC4117-GR 120V 0.1A	HX341171A0	CR31		9965 000 09242	ELECT 1000µF 50V RE-3	EA10805070
QN03		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0	CR32		9965 000 09242	ELECT 1000µF 50V RE-3	EA10805070
QN04		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0	CR33		9965 000 08352	CER. 0.1µF 50V F	DK98104300
QN05		4822 130 61554	CHIP TRS. 2SA1586 Y OR GR	HX115862B0	CR34		9965 000 08352	CER. 0.1µF 50V F	DK98104300
QN06		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0	CR35		9965 000 09242	ELECT 1000µF 50V RE-3	EA10805070
QN07		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0	CR36		9965 000 09242	ELECT 1000µF 50V RE-3	EA10805070
QN08		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0	CR37			CER. 0.22µF	DK48224300
QN09		4822 130 61554	CHIP TRS. 2SA1586 Y OR GR	HX115862B0	CR38			CER. 0.22µF	DK48224300
QN10		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0	CR39		4822 126 14417	CER. 0.01µF ±10% 50V	DK96103300
QN11		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0	CR40		4822 126 14417	CER. 0.01µF ±10% 50V	DK96103300
QN12		4822 130 61541	CHIP TRS. 2SC4116	HX341162B0	CR41			CER. 0.47µF 50V	DK48474200
					CR42			CER. 0.47µF 50V	DK48474200
					CR43		9965 000 09239	CER. 680pF ±5% CH 25V	DD95681200
					CR44		9965 000 09239	CER. 680pF ±5% CH 25V	DD95681200
JF02		4822 290 81646	TERMINAL LTS0410-2006 SPK 4P	YT01040640				P714-RESISTORS	
LF01		9965 000 09246	CHOKE COIL 30µH EP1311	LC13030010	RK31		4822 117 10833	CHIP 10k Ω ±5% 1/10W	NI05103110
LF02		9965 000 09246	CHOKE COIL 30µH EP1311	LC13030010	▲ RK32		4822 051 20338	FUSIBLE 3.3 Ω ±5% 1/10W	NH85033110
LF05					RK33		4822 117 10833	CHIP 10k Ω ±5% 1/10W	NI05103110
}		9965 000 09247	BLM41P600S PT	FN31060010	RK34		4822 117 10833	CHIP 10k Ω ±5% 1/10W	NI05103110
LF08					▲ RK35		4822 051 20338	FUSIBLE 3.3 Ω ±5% 1/10W	NH85033110
LF09		9965 000 09248	RELAY VB-12 TBU-5 TRANSFER	LY20120630	RK36		4822 117 10833	CHIP 10k Ω ±5% 1/10W	NI05103110
			P714-SODA-2 (SURROUND) CIRCUIT BOARD						
			P714-CAPACITORS						
CN31		9965 000 08352	CER. 0.1µF 50V F	DK98104300	RN31		9965 000 09256	0.1Ω ±1% 1W	RH01102010
CN32		9965 000 08352	CER. 0.1µF 50V F	DK98104300	RN32		9965 000 09256	0.1Ω ±1% 1W	RH01102010
CN33		4822 126 14528	CER. 5600pF ±10% B 50V	DK96562300	RN33		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610
CN34		4822 126 14528	CER. 5600pF ±10% B 50V	DK96562300	RN34		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610
CN35		9965 000 09240	CHIP ELECT 100µF 25V RV3	EL10702510	RN35		4822 051 30152	CHIP 1.5k Ω ±5% 1/16W	NN05152610
CN36		9965 000 09240	CHIP ELECT 100µF 25V RV3	EL10702510	RN36		4822 051 30152	CHIP 1.5k Ω ±5% 1/16W	NN05152610
CN37		4822 126 14417	CER. 0.01µF ±10% 50V	DK96103300	RN37			CHIP 3.3 Ω ±5% 1/8W	RI05033180
CN38		9965 000 08949	TANTAL CHIP 22µF 35V	EY22603520	RN38			CHIP 3.3 Ω ±5% 1/8W	RI05033180
CN39		4822 124 11229	TANTAL CHIP 4.7µF 35V	EY47503520	RN41		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
CN40		9965 000 08352	CER. 0.1µF 50V F	DK98104300	RN42		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610
CN41		9965 000 08352	CER. 0.1µF 50V F	DK98104300	RN43		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
CN42		9965 000 08352	CER. 0.1µF 50V F	DK98104300	RN44		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610
					RN45		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610
CR01		9965 000 09238	TANTAL CHIP 100µF 25V	EY10702560	RN46		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
CR02		9965 000 09238	TANTAL CHIP 100µF 25V	EY10702560	RN47		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610
CR03					RN48				
}		9965 000 08352	CER. 0.1µF 50V F	DK98104300	}		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
CR06					RN52				
CR07		9965 000 09239	CER. 680pF ±5% CH 25V	DD95681200	RN53		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610
CR08		9965 000 09239	CER. 680pF ±5% CH 25V	DD95681200	RN54		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610
CR09		4822 126 13956	CER. 68pF ±10%	DD95680300	RN55		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
CR10		4822 126 13956	CER. 68pF ±10%	DD95680300	RN56		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
CR11			FILM 0.68µF J 50V	DF15684350	RN57		4822 051 30223	CHIP 22k Ω ±5% 1/16W	NN05223610
CR12			FILM 0.68µF J 50V	DF15684350	RN58		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
CR13					RN59		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610
}		9965 000 09240	CHIP ELECT 100µF	EL10702510	RN60		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610
CR16									
CR17		9965 000 09241	CER. 0.47µF F 16V	DK98474200	RR01		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610
CR18		9965 000 09241	CER. 0.47µF F 16V	DK98474200	RR02		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610
CR19		9965 000 09240	CHIP ELECT 100µF 25V RV3	EL10702510	RR03				
CR20		9965 000 09240	CHIP ELECT 100µF 25V RV3	EL10702510	}		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610
CR21		9965 000 09241	CER. 0.47µF F 16V	DK98474200	RR06				
CR22		9965 000 09241	CER. 0.47µF F 16V	DK98474200	RR07		4822 051 30332	CHIP 3.3k Ω ±5% 1/16W	NN05332610
CR23		9965 000 09240	CHIP ELECT 100µF 25V RV3	EL10702510	RR08		4822 051 30332	CHIP 3.3k Ω ±5% 1/16W	NN05332610
CR24		9965 000 09240	CHIP ELECT 100µF 25V RV3	EL10702510	RR09				
CR25		9965 000 09241	CER. 0.47µF F 16V	DK98474200	}		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610
CR26		9965 000 09241	CER. 0.47µF F 16V	DK98474200	RR12				
CR27		9965 000 09240	CHIP ELECT 100µF 25V RV3	EL10702510	RR13		4822 051 30121	CHIP 120 Ω ±5% 1/16W	NN05121610
					RR14		4822 051 30121	CHIP 120 Ω ±5% 1/16W	NN05121610
					RR15				
					}		4822 117 11449	CHIP 2.2k Ω ±5% 1/10W	NI05222110
					RR18				
					RR19		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610

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)
RR20		4822 051 30102	CHIP 1k Ω $\pm 5\%$ 1/16W	NN05102610	QN39		4822 130 61554	CHIP TRS. 2SA1586 Y OR GR	HX115862B0
RR21					QN40		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
}		4822 051 30109	CHIP 10 Ω $\pm 5\%$ 1/16W	NN05100610	QN41		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
RR24					QN42		4822 130 61541	CHIP TRS. 2SC4116	HX341162B0
RR25					QR01		9965 000 09249	IC LM311 COMPARATOR SOP8	HC10098000
}		4822 051 30105	CHIP 1M Ω $\pm 5\%$ 1/16W	NN05105610	QR02		9965 000 09249	IC LM311 COMPARATOR SOP8	HC10098000
RR28									
RR29		4822 051 30184	CHIP 180k Ω $\pm 5\%$ 1/16W	NN05184610	QR03		9965 000 09250	CHIP TRS. 2SC4539	HX34539000
RR30		4822 051 30184	CHIP 180k Ω $\pm 5\%$ 1/16W	NN05184610	QR04		9965 000 09250	CHIP TRS. 2SC4539	HX34539000
RR31		4822 117 13632	CHIP 100k Ω $\pm 5\%$ 1/16W	NN05104610	QR05		9965 000 09251	CHIP TRS. 2SA1734	HX11734000
RR32		4822 117 13632	CHIP 100k Ω $\pm 5\%$ 1/16W	NN05104610	QR06		9965 000 09251	CHIP TRS. 2SA1734	HX11734000
RR33		4822 051 30563	CHIP 56k Ω $\pm 5\%$ 1/16W	NN05563610	QR07		9965 000 09252	F.E.T. IRFI9540G 100V 13A	HF60005000
RR34		4822 051 30563	CHIP 56k Ω $\pm 5\%$ 1/16W	NN05563610	QR08		9965 000 09252	F.E.T. IRFI9540G 100V 13A	HF60005000
RR35			CHIP 22 Ω $\pm 5\%$ 1/8W	RI05220180	QR09		5322 130 63791	F.E.T. IRFI540N 100V 13A	HF70010000
RR36			CHIP 22 Ω $\pm 5\%$ 1/8W	RI05220180	QR10		5322 130 63791	F.E.T. IRFI540N 100V 13A	HF70010000
RR37					QR11		4822 209 17155	IC NJM2068M	HC10102090
}		4822 116 82124	FUSIBLE CHIP 10 Ω	NH85100110	QR13		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
RR46					QR14		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
RR47		4822 051 30102	CHIP 1k Ω $\pm 5\%$ 1/16W	NN05102610	QR15		4822 130 61553	SEMICON.COMP DTC124EU RN1303	BA21303000
RR48		4822 116 82487	CHIP 0 Ω $\pm 5\%$ 1/16W	NN05000610					
RR49		4822 116 82487	CHIP 0 Ω $\pm 5\%$ 1/16W	NN05000610	QR16		4822 130 42593	SEMICON.COMP DTA124EU RN2303	BA12303000
RR51		4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610					
RR52		4822 051 30103	CHIP 10k Ω $\pm 5\%$ 1/16W	NN05103610					
RR53		4822 051 30681	CHIP 680 Ω $\pm 5\%$ 1/16W	NN05681610	JR01			P714-MISCELLANEOUS PLUG S12B-XH-A 12P	YP06006480
RR54		4822 051 30681	CHIP 680 Ω $\pm 5\%$ 1/16W	NN05681610	JR02		4822 290 81646	TERMINAL SPK 4P	YT01040640
RR55		4822 117 13632	CHIP 100k Ω $\pm 5\%$ 1/16W	NN05104610	JR03			TERMINAL GND	YL01010140
RR56		4822 117 13632	CHIP 100k Ω $\pm 5\%$ 1/16W	NN05104610	LR01		9965 000 09246	CHOKE COIL 30 μ H	LC13030010
			P714-SEMICONDUCTORS		LR02		9965 000 09246	CHOKE COIL 30 μ H	LC13030010
DK31		9965 000 09245	CHIP DIODE CRG012.6*1.6	HZ20067050	LR05				
DK32		9965 000 09243	CHIP DIODE 015AZ10 ZENER 10V	HZ30036050	}		9965 000 09247	BLM41P600S PT	FN31060010
DK33		9965 000 09245	CHIP DIODE CRG012.6*1.6	HZ20067050	LR08				
DK34		9965 000 09243	CHIP DIODE 015AZ10 ZENER 10V	HZ30036050	LR09		9965 000 09248	RELAY VB-12 TBU-5 TRANSFER	LY20120630
DN31		4822 130 11516	CHIP DIODE 1SS368	HZ20068050				P724-SODA-3 (CENTER) CIRCUIT BOARD	
DN33		4822 130 11516	CHIP DIODE 1SS368	HZ20068050				P724-CAPACIORS	
DN34		4822 130 11516	CHIP DIODE 1SS368	HZ20068050	CC01		9965 000 09238	TANTAL CHIP 100 μ F 25V	EY10702560
DN35		4822 130 11516	CHIP DIODE 1SS368	HZ20068050	CC03		9965 000 08352	CER. 0.1 μ F 50V F	DK98104300
DR01		4822 130 11516	CHIP DIODE 1SS368	HZ20068050	CC05		9965 000 08352	CER. 0.1 μ F 50VF	DK98104300
DR02		4822 130 11516	CHIP DIODE 1SS368	HZ20068050	CC07		9965 000 09239	CER. 680pF $\pm 5\%$ CH 25V	DD95681200
DR03					CC09		4822 126 13956	CER. 68pF $\pm 10\%$	DD95680300
}		9965 000 09243	CHIP DIODE 015AZ10 ZENER 10V	HZ30036050	CC11			FILM 0.68 μ F J 50V	DF15684350
DR10					CC13		9965 000 09240	CHIP ELECT 100 μ F 25V RV3	EL10702510
DR11		9965 000 09244	CHIP DIODE 30BQ100 SCHOTTKY 100 V 3A	HZ20001990	CC14		9965 000 09240	CHIP ELECT 100 μ F 25V RV3	EL10702510
DR12		9965 000 09244	CHIP DIODE 30BQ100 SCHOTTKY 100 V 3A	HZ20001990	CC15		9965 000 09240	CHIP ELECT 100 μ F 25V RV3	EL10702510
DR13					CC17		9965 000 09241	CER. 0.47 μ F F 16V	DK98474200
}		9965 000 09245	CHIP DIODE CRG01	HZ20067050	CC19		9965 000 09240	CHIP ELECT 100 μ F 25V RV3	EL10702510
DR16					CC21		9965 000 09241	CER. 0.47 μ F F 16V	DK98474200
DR17					CC23		9965 000 09240	CHIP ELECT 100 μ F 25V RV3	EL10702510
}		4822 130 11514	CHIP DIODE 02CZ4.7Z	HZ30017050	CC25		9965 000 09241	CER. 0.47 μ F F 16V	DK98474200
DR20					CC27		9965 000 09240	CHIP ELECT 100 μ F 25V RV3	EL10702510
					CC29		9965 000 09241	CER. 0.47 μ F F 16V	DK98474200
QK31		9965 000 09257	CHIP TRS. 2SA1736 -50V -3A	HX117361A0	CC31		9965 000 09242	ELECT 1000 μ F 50V RE-3	EA10805070
QK32		4822 130 11386	CHIP TRS. 2SC2712 BL	HX327121B0	CC33		9965 000 08352	CER. 0.1 μ F 50V F	DK98104300
QK33		9965 000 09258	CHIP TRS. 2SC4541 50V 3A	HX345411A0	CC35		9965 000 09242	ELECT 1000 μ F 50V RE-3	EA10805070
QK34		4822 130 42733	CHIP TRS. 2SA1162-GR	HX111621A0	CC37			CER. 0.22 μ F +80%-20%	DK48224300
QN31		9965 000 09255	CHIP TRS. 2SC4117-GR 120V 0.1A	HX341171A0	CC38			CER. 0.22 μ F +80%-20%	DK48224300
QN32		9965 000 09255	CHIP TRS. 2SC4117-GR 120V 0.1A	HX341171A0	CC39		4822 126 14417	CER. 0.01 μ F $\pm 10\%$ 50V	DK96103300
					CC41			CER. 0.47 μ F 50V	DK48474200
QN33		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0	CC43		9965 000 09239	CER. 680pF $\pm 5\%$ CH 25V	DD95681200
QN34		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0	CN61		9965 000 08352	CER. 0.1 μ F 50V F	DK98104300
QN35		4822 130 61554	CHIP TRS. 2SA1586 Y OR GR	HX115862B0	CN63		4822 126 14528	CER. 5600pF $\pm 10\%$ B 50V	DK96562300
QN36		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0	CN65		9965 000 09240	CHIP ELECT 100 μ F 25V RV3	EL10702510
QN37		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0	CN66		9965 000 09240	CHIP ELECT 100 μ F 25V RV3	EL10702510
QN38		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0	CN67		4822 126 14417	CER. 0.01 μ F $\pm 10\%$ 50V	DK96103300

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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)
CN68		9965 000 08949	TANTALCHIP 22μF 35V	EY22603520	DC01		4822 130 11516	P724-SEMICONDUCTORS	
CN69		4822 124 11229	TANTALCHIP 4.7μF 35V	EY47503520	DC03		9965 000 09243	CHIP DIODE 1SS368	HZ20068050
CN70		9965 000 08352	CER. 0.1μF 50V F	DK98104300				CHIP DIODE 015AZ10 ZENER 10V	HZ30036050
CN71		9965 000 08352	CER. 0.1μF 50V F	DK98104300	DC05		9965 000 09243	CHIP DIODE 015AZ10 ZENER 10V	HZ30036050
CN72		9965 000 08352	CER. 0.1μF 50V F	DK98104300	DC07		9965 000 09243	CHIP DIODE 015AZ10 ZENER 10V	HZ30036050
			P724-RESISTORS		DC09		9965 000 09243	CHIP DIODE 015AZ10 ZENER 10V	HZ30036050
RC01		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610	DC11		9965 000 09244	CHIP DIODE 30BQ100 100 V 3A	HZ20001990
RC02		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610	DC13		9965 000 09245	CHIP DIODE CRG01	HZ20067050
RC03		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	DC15		9965 000 09245	CHIP DIODE CRG01	HZ20067050
RC05		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	DC17		4822 130 11514	CHIP DIODE 02CZ4.7Z	HZ30017050
RC07		4822 051 30332	CHIP 3.3k Ω ±5% 1/16W	NN05332610	DC19		4822 130 11514	CHIP DIODE 02CZ4.7Z	HZ30017050
RC08		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610	DK61		9965 000 09245	CHIP DIODE CRG01	HZ20067050
RC09		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610	DK62		9965 000 09243	CHIP DIODE 015AZ10 ZENER 10V	HZ30036050
RC11		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610	DK63		9965 000 09245	CHIP DIODE CRG01	HZ20067050
RC13		4822 051 30121	CHIP 120 Ω ±5% 1/16W	NN05121610	DK64		9965 000 09243	CHIP DIODE 015AZ10 ZENER 10V	HZ30036050
RC15		4822 117 11449	CHIP 2.2k Ω ±5% 1/10W	NI05222110	DN61		4822 130 11516	CHIP DIODE 1SS368	HZ20068050
RC17		4822 117 11449	CHIP 2.2k Ω ±5% 1/10W	NI05222110	DN63		4822 130 11516	CHIP DIODE 1SS368	HZ20068050
RC19		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610	DN64		4822 130 11516	CHIP DIODE 1SS368	HZ20068050
RC21		4822 051 30109	CHIP 10 Ω ±5% 1/16W	NN05100610	DN65		4822 130 11516	CHIP DIODE 1SS368	HZ20068050
RC23		4822 051 30109	CHIP 10 Ω ±5% 1/16W	NN05100610	QC01		9965 000 09249	IC LM311 COMPARATOR SOP8	HC10098000
RC25		4822 051 30105	CHIP 1M Ω ±5% 1/16W	NN05105610	QC03		9965 000 09250	CHIP TRS. 2SC4539	HX34539000
RC27		4822 051 30105	CHIP 1M Ω ±5% 1/16W	NN05105610	QC05		9965 000 09251	CHIP TRS. 2SA1734	HX11734000
RC29		4822 051 30184	CHIP 180k Ω ±5% 1/16W	NN05184610	QC07		9965 000 09252	F.E.T. IRF19540G 100V 13A	HF60005000
RC31		4822 117 13632	CHIP 100k Ω ±5% 1/16W	NN05104610	QC09		5322 130 63791	F.E.T. IRF1540N 100V 13A	HF70010000
RC33		4822 051 30563	CHIP 56k Ω ±5% 1/16W	NN05563610	QC11		4822 209 17155	IC NJM2068M	HC10102090
RC35			CHIP 22 Ω ±5% 1/8W	RI05220180	QC13		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
RC37		4822 116 82124	FUSIBLE CHIP 10 Ω	NH85100110	QC15		4822 130 61553	SEMICON.COMP DTC124EU RN1303	BA21303000
RC38		4822 116 82124	FUSIBLE CHIP 10 Ω	NH85100110	QC16		4822 130 42593	SEMICON.COMP DTA124EU RN2303	BA12303000
RC39		4822 116 82124	FUSIBLE CHIP 10 Ω	NH85100110	QK61		9965 000 09257	CHIP TRS. 2SA1736 -50V -3A	HX117361A0
RC41		4822 116 82124	FUSIBLE CHIP 10 Ω	NH85100110	QK62		4822 130 11386	CHIP TRS. 2SC2712 BL	HX327121B0
RC43		4822 116 82124	FUSIBLE CHIP 10 Ω	NH85100110	QK63		9965 000 09258	CHIP TRS. 2SC4541 50V 3A	HX345411A0
RC45		4822 116 82124	FUSIBLE CHIP 10 Ω	NH85100110	QK64		4822 130 42733	CHIP TRS. 2SA1162-GR	HX111621A0
RC47		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610	QN61		9965 000 09255	CHIP TRS. 2SC4117-GR 120V 0.1A	HX341171A0
RC48		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610	QN63		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0
RC49		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610	QN64		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0
RC51		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610	QN65		4822 130 61554	CHIP TRS. 2SA1586 Y OR GR	HX115862B0
RC53		4822 051 30681	CHIP 680 Ω ±5% 1/16W	NN05681610	QN66		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0
RC55		4822 117 13632	CHIP 100k Ω ±5% 1/16W	NN05104610	QN67		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0
					QN68		4822 130 61541	CHIP TRS. 2SC4116 Y OR GR	HX341162B0
RK61		4822 117 10833	CHIP 10k Ω ±5% 1/10W	NI05103110	QN69		4822 130 61554	CHIP TRS. 2SA1586 Y OR GR	HX115862B0
!RK62		4822 051 20338	FUSIBLE 3.3 Ω ±5% 1/10W	NH85033110	QN71		4822 130 63601	CHIP TRS. 2SC4213	HX342132A0
RK63		4822 117 10833	CHIP 10k Ω ±5% 1/10W	NI05103110	QN72		4822 130 61541	CHIP TRS. 2SC4116	HX341162B0
RK64		4822 117 10833	CHIP 10k Ω ±5% 1/10W	NI05103110	JC01			P724-MISCELLANEOUS	
▲RK65		4822 051 20338	FUSIBLE 3.3 Ω ±5% 1/10W	NH85033110	JC02		4822 290 81686	PLUG S12B-XH-A 12P	YP06006480
RK66		4822 117 10833	CHIP 10k Ω ±5% 1/10W	NI05103110	JC03			TERMINAL 2P SPK	YT01020230
								TERMINAL GND	YL01010140
RN61		9965 000 09256	0.1 Ω ±1% 1W	RH01102010	LC01		9965 000 09246	CHOKE COIL 30μH EP1311	LC13030010
RN63		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610	LC05		9965 000 09247	BLM41P600S PT	FN31060010
RN65		4822 051 30152	CHIP 1.5k Ω ±5% 1/16W	NN05152610	LC07		9965 000 09247	BLM41P600S PT	FN31060010
RN67			CHIP 3.3 Ω ±5% 1/8W	RI05033180	LC09		9965 000 09248	RELAY VB-12 TBU-5 TRANSFER	LY20120630
RN71		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610					
RN72		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610					
RN73		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610					
RN74		4822 051 30102	CHIP 1k Ω ±5% 1/16W	NN05102610					
RN75		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610					
RN76		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610					
RN77		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610					
RN78									
∫		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610					
RN82									
RN83		4822 117 12925	CHIP 47k Ω ±5% 1/16W	NN05473610					
RN84		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610					
RN85		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610					
RN87		4822 051 30223	CHIP 22k Ω ±5% 1/16W	NN05223610					
RN88		4822 051 30103	CHIP 10k Ω ±5% 1/16W	NN05103610					
RN89		4822 051 30472	CHIP 4.7k Ω ±5% 1/16W	NN05472610					
RN90		4822 051 30222	CHIP 2.2k Ω ±5% 1/16W	NN05222610					

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