

Service Manual

SR14A /N1G, /S1G, /U1G, /U1B
SR18A /K1G, /S1G, /U1G, /U1B
SR17A /F1N
AV Surround Receiver

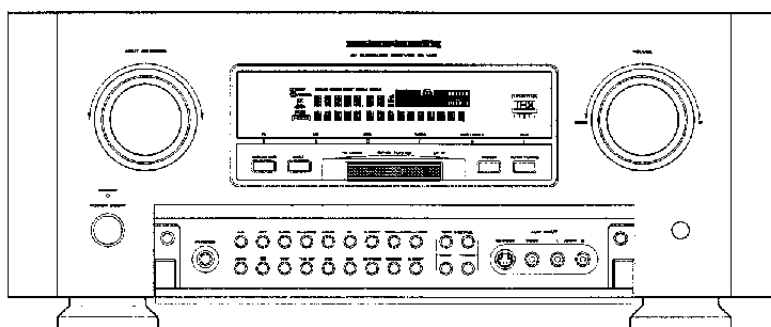


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Please use this service manual with referring to the user guide (D.F.U.) without fail.

marantz®

SR-14EX/SR-14mkII
SR-17EX/SR-18EX



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
PHONE : 630 - 307 - 3100
FAX : 630 - 307 - 2687

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BRAZIL

PHILIPS DA AMAZONIA IND. ELET. ITDA
CENTRO DE INFORMACOES AO
CEP 04698-970
SAO PAULO, SP, BRAZIL
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PROFESSIONAL AMERICAS

SUPERSCOPE TECHNOLOGIES, INC.
MARANTZ PROFESSIONAL PRODUCTS
2640 WHITE OAK CIRCLE, SUITE A
AURORA, ILLINOIS 60504 USA
PHONE : 630 - 820 - 4800
FAX : 630 - 820 - 8103

PROFESSIONAL AUSTRALIA

TECHNICAL AUDIO GROUP PTY, LTD
558 DARLING STREET,
BALMAIN, NSW 2041,
AUSTRALIA
PHONE : 61 - 2 - 9810 - 5300
FAX : 61 - 2 - 9810 - 5355

CANADA

LENBROOK INDUSTRIES LIMITED
633 GRANITE COURT,
PICKERING, ONTARIO L1W 3K1
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FAX : 905 - 831 - 6936

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24 LIONEL ROAD,
MT. WAVERLEY VIC 3149
AUSTRALIA
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FAX : +61 - (0)3 - 9543 - 3677

THAILAND

MRZ STANDARD CO.,LTD
746 - 754 MAHACHAI ROAD.,
WANGBURAPAPIROM, PHRANAKORN,
BANGKOK, 10200 THAILAND
PHONE : +66 - 2 - 222 9181
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SINGAPORE

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

NEW ZEALAND

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TAIWAN

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TAIPEI, 10429, TAIWAN R.O.C.
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MALAYSIA

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NO. 33, JALAN SULTAN ISMAIL,
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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 (K, N, S, U version)
	76.0 – 90.0 MHz (F version)
Usable Sensitivity	IHF 1.8 μ V / 16.4 dB
Signal to Noise Ratio	Mono / Stereo 76 / 72 dB
Distortion	Mono / Stereo 0.2 / 0.3 %
Stereo Separation	1 kHz 45 dB
Alternate Channel Selectivity	\pm 400 kHz 60 dB (F, U version)
	\pm 300 kHz 60 dB (K, N, S version)
Image Rejection	98 MHz 70 dB
Tuner Output Level	1 kHz, 75 kHz Dev 800 mV (F, U version)
	1 kHz, 40 kHz Dev 800 mV (K, N, S version)

AM/LW TUNER SECTION

Frequency Range	AM(MW) : 520 – 1710 kHz (U version)
	531 – 1602 or 520 – 1710 kHz (K version)
	531 – 1602 kHz (F, N, S version)
	LW : 152 – 282 kHz (N version)
Signal to Noise Ratio	50 dB
Usable Sensitivity	Loop 400 μ V
Distortion	400 Hz, 30 % Mod. 0.5 %
Selectivity	\pm 20 kHz 70 dB (U version)
	\pm 18 kHz 70 dB (K, N, S version)

AUDIO SECTION

Rated Power	
FRONT (20 Hz – 20 kHz)	8 ohms 140W / Ch
Center (20 Hz – 20 kHz)	8 ohms 140W / Ch
Surround (20 Hz – 20 kHz)	8 ohms 140W / Ch
THD Front (20 Hz – 20 kHz)	8 ohms 0.05%
Input Sensitivity / Impedance	
Linear	350 mV / 47 kohms
Signal to Noise Rate (IHF A)	
Linear	106 dB
Frequency Response	
(Analog Input / Source Direct)	8 Hz - 80 kHz (\pm 3 dB)
(Digital Input / 96 kHz PCM)	8 Hz - 45 kHz (\pm 3 dB)

VIDEO

Television Format	NTSC (F, U version)
	PAL/NTSC (K, N, S version)
Input Level / Impedance	1 Vp-p / 75 ohms
Output Level / Impedance	1 Vp-p / 75 ohms
Video Frequency Response	5 Hz to 8 MHz (- 1 dB)
S/N	60 dB

GENERAL

Power Requirement	AC 120V 60 Hz (U version)
	AC 220V 50 / 60 Hz (K version)
	AC 100V 50 / 60 Hz (F version)
	AC 230V 50 Hz (N, S version)
Power Consumption	530W
Dimension (MAX)	
Width	18 inches (458 mm)
Height	7- $\frac{1}{2}$ inches (190 mm)
Depth	19- $\frac{1}{2}$ inches (496 mm)
Weight (SR14A)	58.4 lds. (26.5 kg)
Weight (SR17A)	56.4 lds. (25.2 kg)
Weight (SR18A)	53.9 lds. (24.5 kg)

ACCESSORIES

Remote Control Unit	
RC5000i (SR14A)	1
RC-18SR (SR18A / SR17)	1

Dolby Digital(AC-3) SECTION

Output Level (Master Volume is set 0dB)	
Front L / R, CENTER, SURROUND L/R	
1 kHz, 20 dB FS INPUT	0.24V
SUBWOOFER	
40 Hz, 0 dB FS INPUT	7.5V

Frequency Response

Front L / R, CENTER, SURROUND L / R (LARGE)	
20 Hz – 20 kHz	-0.5 dB

Total Harmonic Distortion

Front L / R, CENTER, SURROUND L / R and	
SBL / SB (1 kHz)	0.01% or less
SUBWOOFER (40 Hz)	0.07% or less
Signal to Noise Ratio (IHF-A)	80 dB
Channel Separation (1 kHz)	95 dB

Specifications subject to change without prior notice.

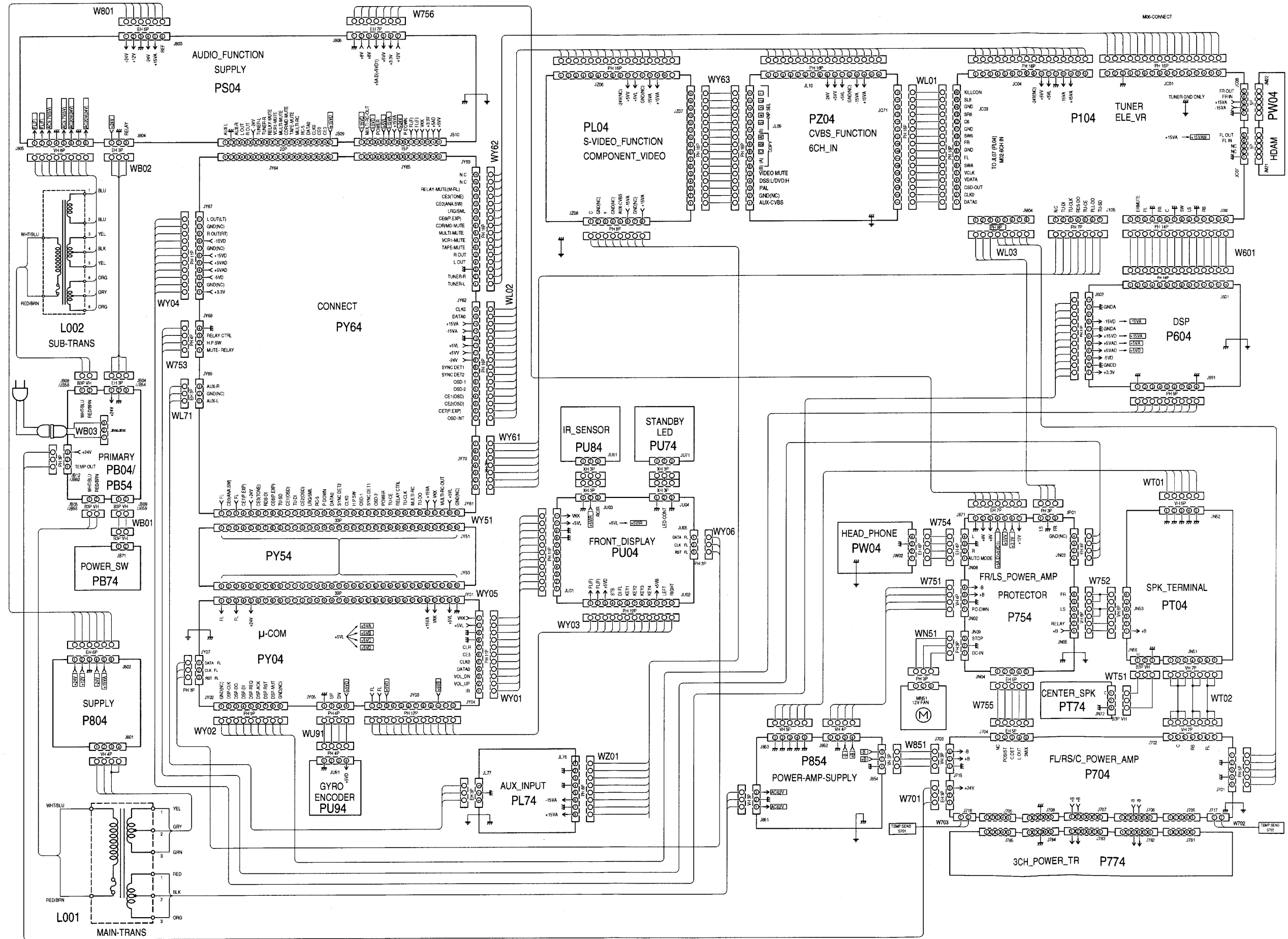
Remark : Bass signal output from Sub Woofer terminal for SR-14EX/SR-14mkII/SR-17EX/SR18-EX.

Sub woofer output is not active while all surround modes. Please refer to the following table.

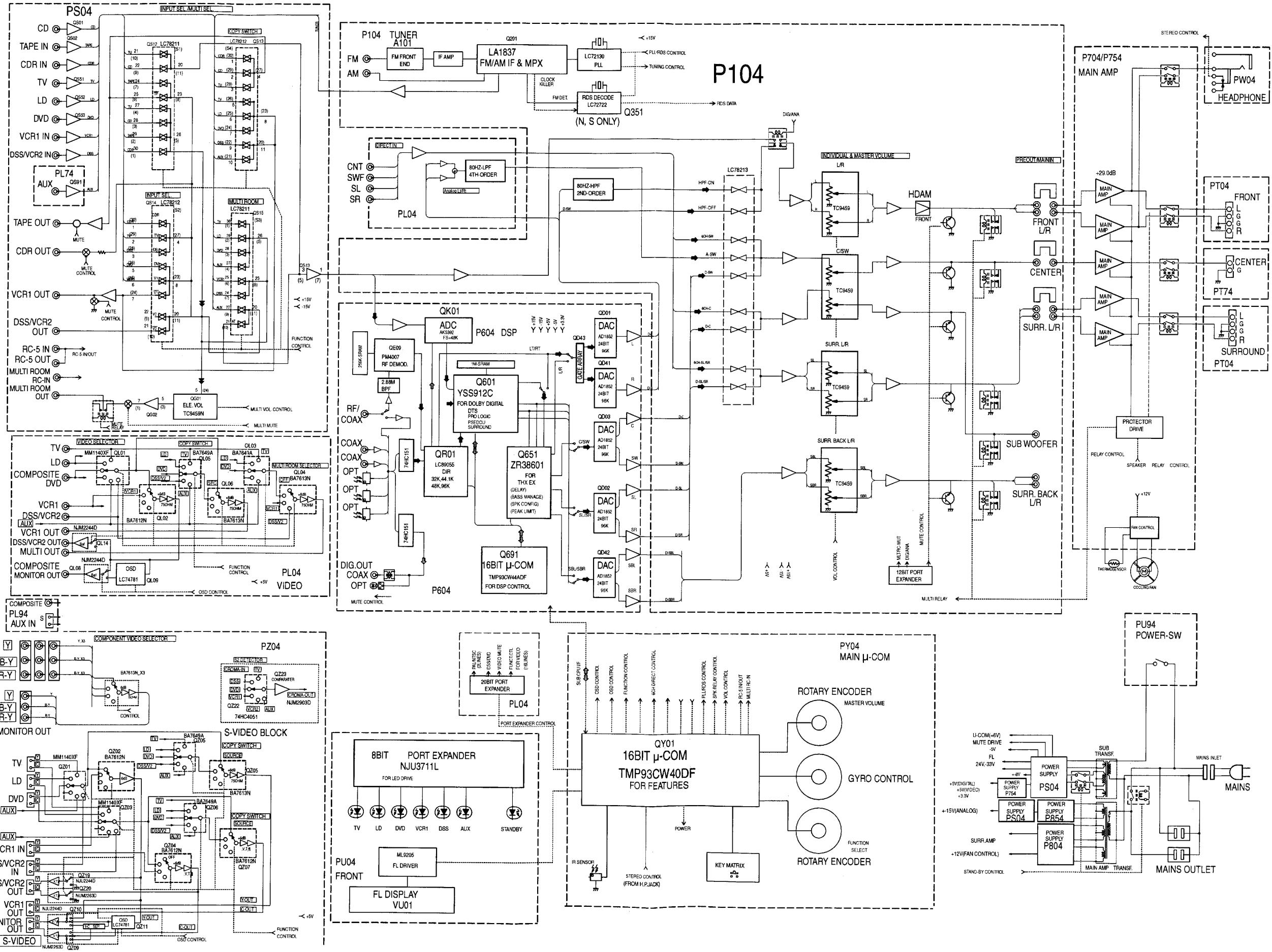
SPK SETUP for SR-14EX/SR-14mkII/SR-17EX/SR18-EX

Sub Woofer	SPK setup				ZP38601 Bass CFG #	SubWoofer Output by Surround mode						NOTES	No	
	Front	Center	Surr. L/R	Surr. B (L/R)		THX Surr EX	THX5.1, Dolby-D, DTS	THX4.0, Logic	Pro	Stargo	AUTO (PCM, Ana)			AUTO (AC-3, DTS)
ON	Large	Large	Large	Large	1	LFE	LFE	none		L+R	LFE	L+R	1	
			Small	Small	14	LFE+Sb	LFE							2
			Large	Large	3	LFE+SL+SR	LFE+SL+SR	none		L+R	LFE+SL+SR	L+R		3
			Small	Small	16	LFE+SL+SR+Sb	LFE+SL+SR			L+R	LFE	L+R		4
			None (prohibit)	None	1	LFE	LFE	none	C	L+R	LFE+C	L+R		5
			Large	Large	5	LFE+C	LFE+C			L+R	LFE+C	L+R		6
			Small	Small	18	LFE+C+Sb	LFE+C			L+R	LFE+C+Sb	L+R		7
			Large	Large	6	LFE+C+SL+SR	LFE+C+SL+SR	C		L+R	LFE+C+SL+SR	L+R		8
		Small	Small	21	LFE+C+SL+SR+Sb	LFE+C+SL+SR			L+R	LFE+C	L+R		9	
		None (prohibit)	None	5	LFE+C	LFE+C	C		L+R	LFE+C	L+R		10	
		None	Large	Large	1	LFE	LFE	none		L+R	LFE	L+R		11
			Small	Small	14	LFE+Sb	LFE			L+R	LFE+SL+SR	L+R		12
			Large	Large	3	LFE+SL+SR	LFE+SL+SR	none		L+R	LFE	L+R		13
			Small	Small	16	LFE+SL+SR+Sb	LFE+SL+SR			L+R	LFE	L+R		14
			None (prohibit)	None	1	LFE	LFE	none		L+R	LFE	L+R		15
			Large	Large	12	LFE+L+R	LFE+L+R	L+R		L+R	LFE+L+R	L+R		16
	Small		Small	25	LFE+L+R+Sb	LFE+L+R			L+R	LFE+L+R+Sb	L+R		17	
	Large		Large	11	LFE+L+R+SL+SR	LFE+L+R+SL+SR	L+R		L+R	LFE+L+R+SL+SR	L+R		18	
	Small	Large	Large	Large	Large	12	LFE+L+R	LFE+L+R	L+R	L+R	LFE+L+R	L+R		19
				Small	Small	24	LFE+L+R+SL+SR+Sb	LFE+L+R+SL+SR			L+R	LFE+L+R	L+R	
			Large	Large	10	LFE+L+R+C	LFE+L+R+C	L+R+C		L+R	LFE+L+R+C	L+R		21
			Small	Small	23	LFE+L+R+C+Sb	LFE+L+R+C			L+R	LFE+L+R+C	L+R		22
		Small	Large	Large	0	LFE+L+R+C+SL+SR	LFE+L+R+C+SL+SR	L+R+C		L+R	LFE+L+R+C+SL+SR	L+R		23
			Small	Small	13	LFE+L+R+C+SL+SR+Sb	LFE+L+R+C			L+R	LFE+L+R+C	L+R		24
		None	Large	Large	12	LFE+L+R	LFE+L+R	L+R		L+R	LFE+L+R	L+R		25
			Small	Small	25	LFE+L+R+Sb	LFE+L+R			L+R	LFE+L+R	L+R		26
	Large		Large	11	LFE+SL+SR	LFE+SL+SR	L+R		L+R	LFE+SL+SR	L+R		27	
	Small		Small	24	LFE+SL+SR+Sb	LFE+SL+SR			L+R	LFE+L+R	L+R		28	
	None (prohibit)	None	12	LFE+L+R	LFE+L+R	L+R		L+R	LFE+L+R	L+R		29		
	OFF												30	

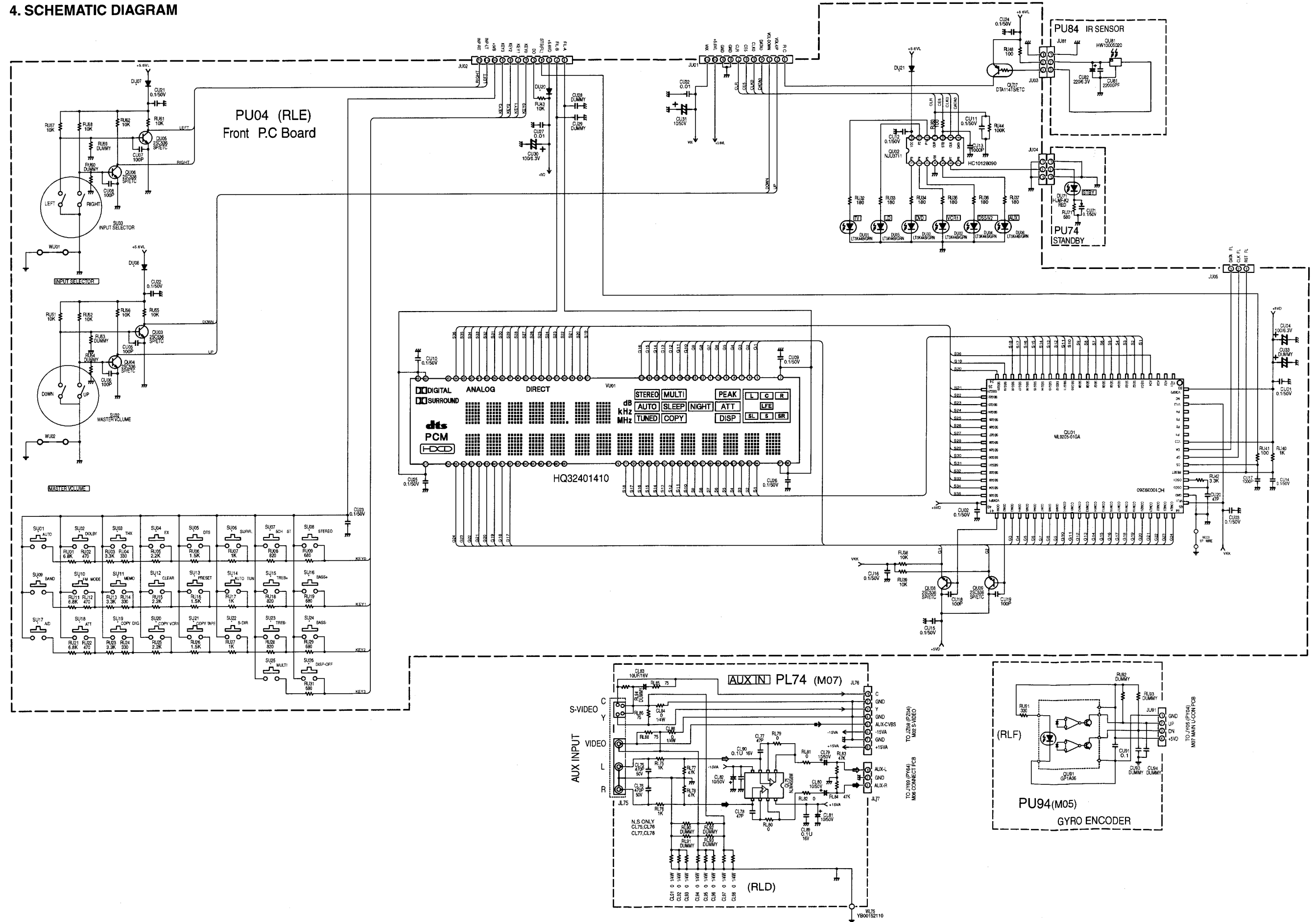
2. WIRING DIAGRAM

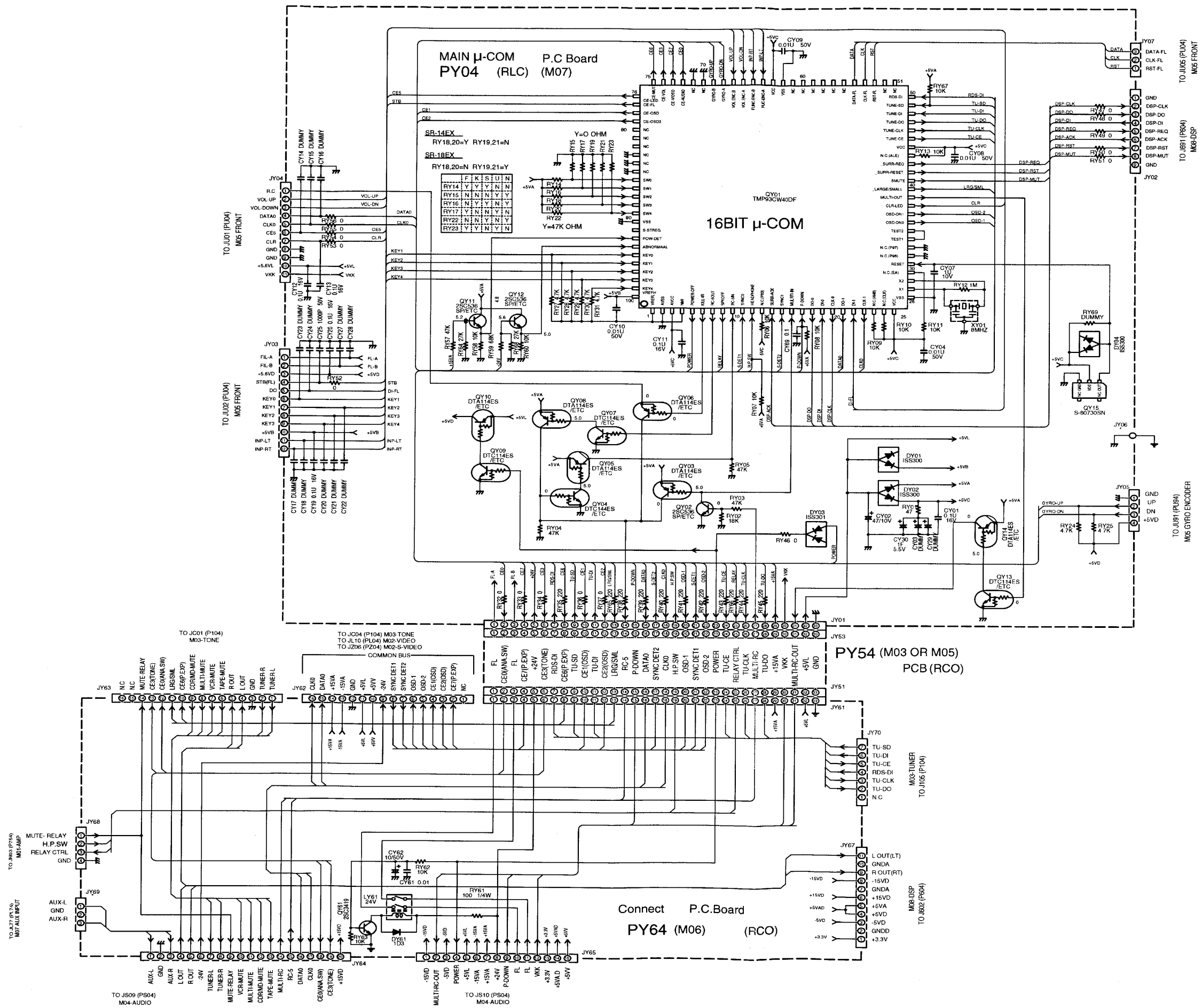


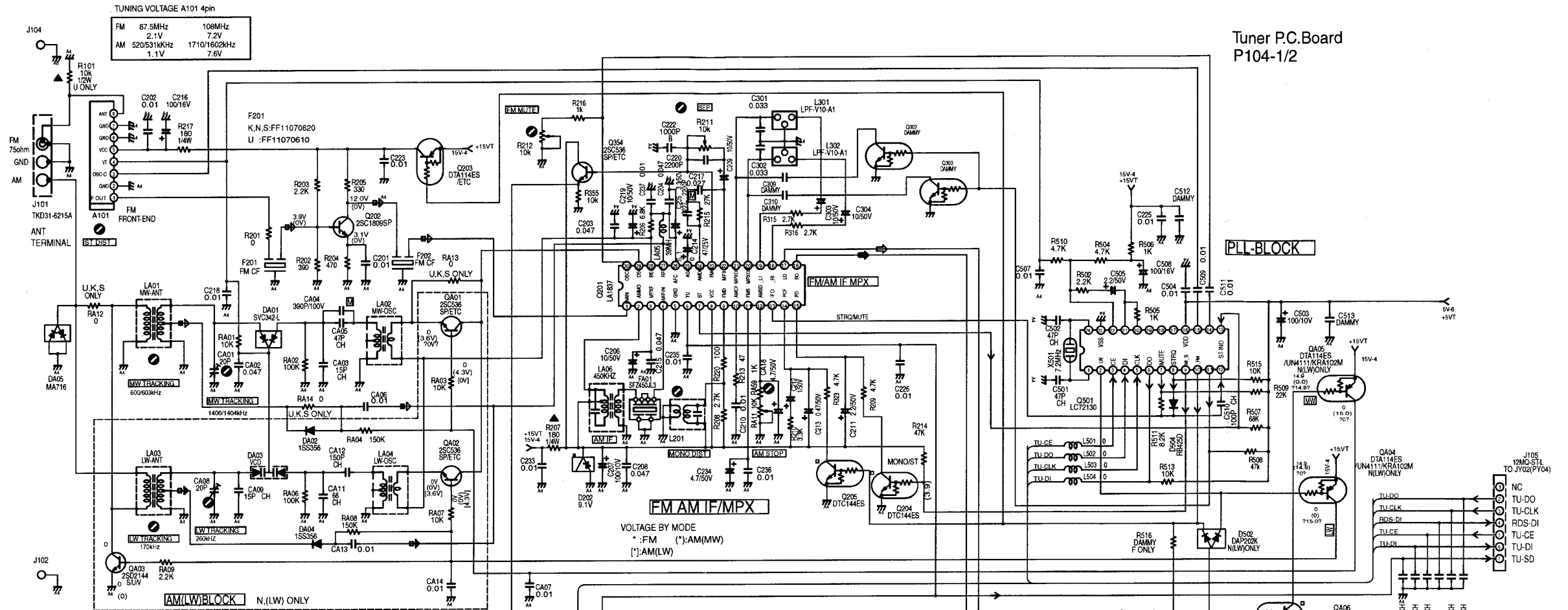
3. BLOCK DIAGRAM

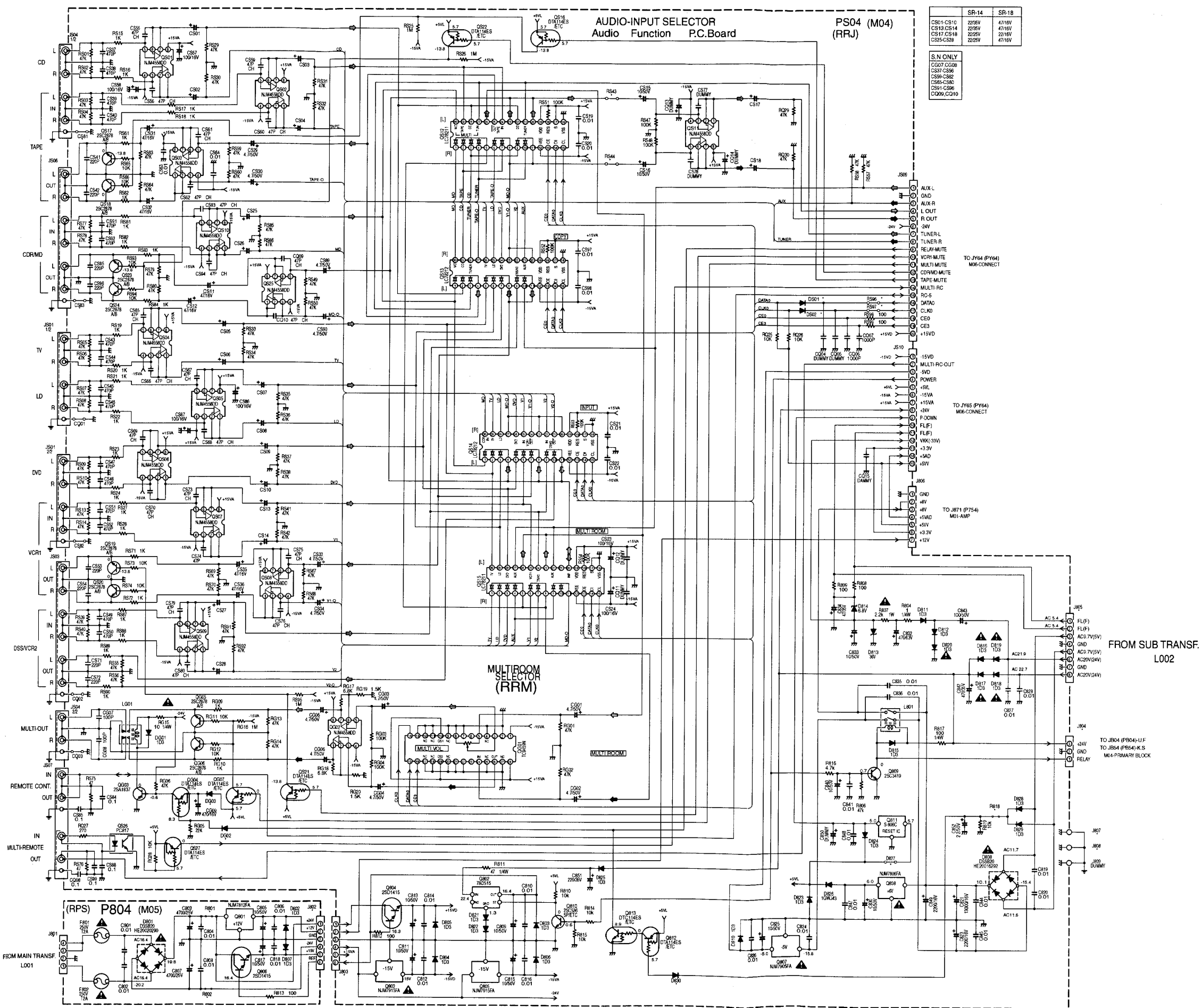


4. SCHEMATIC DIAGRAM





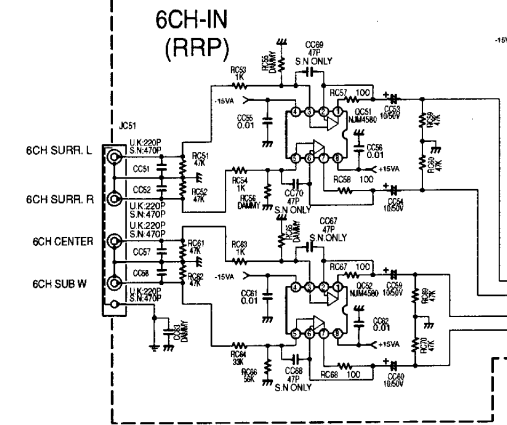
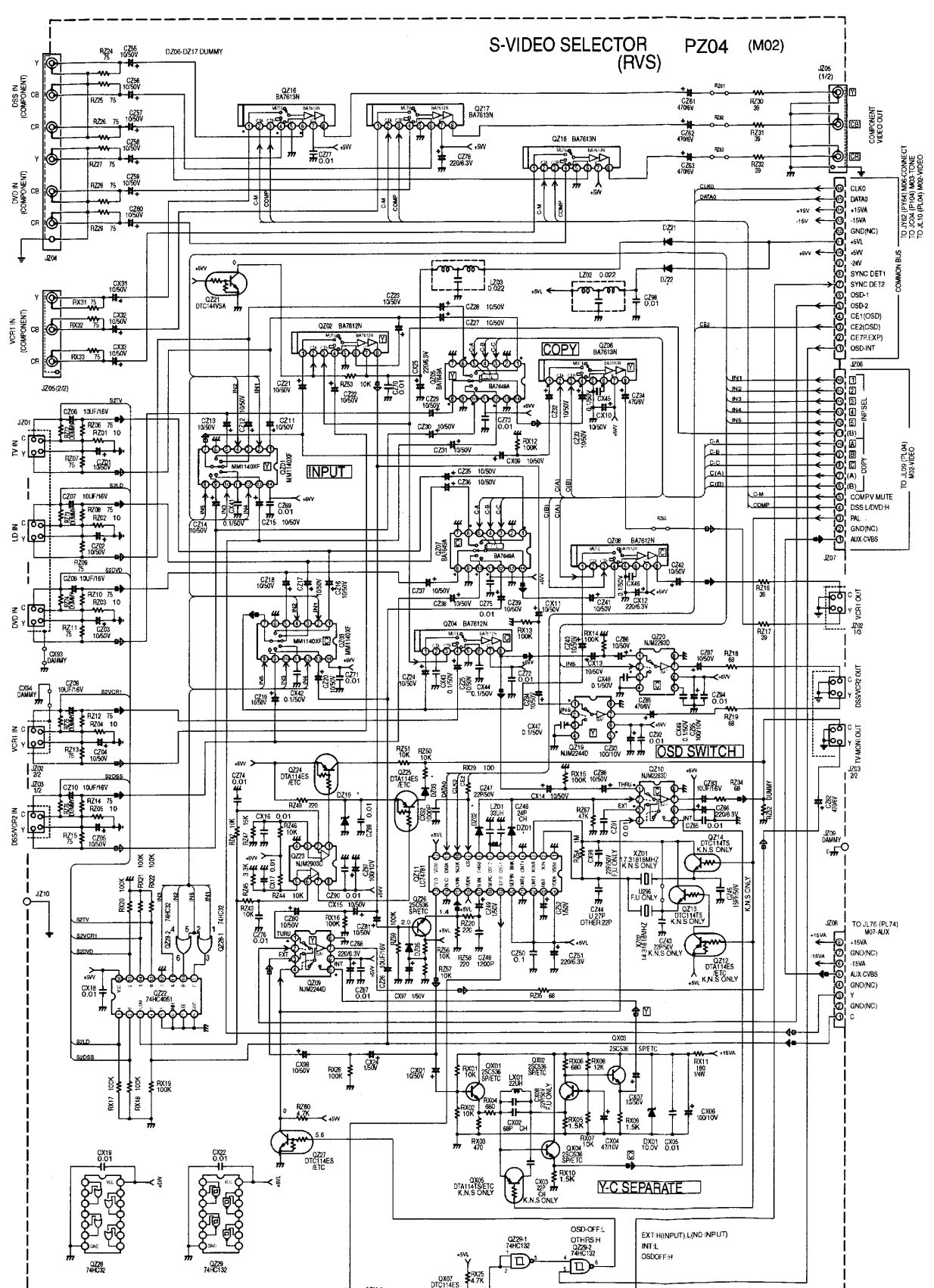
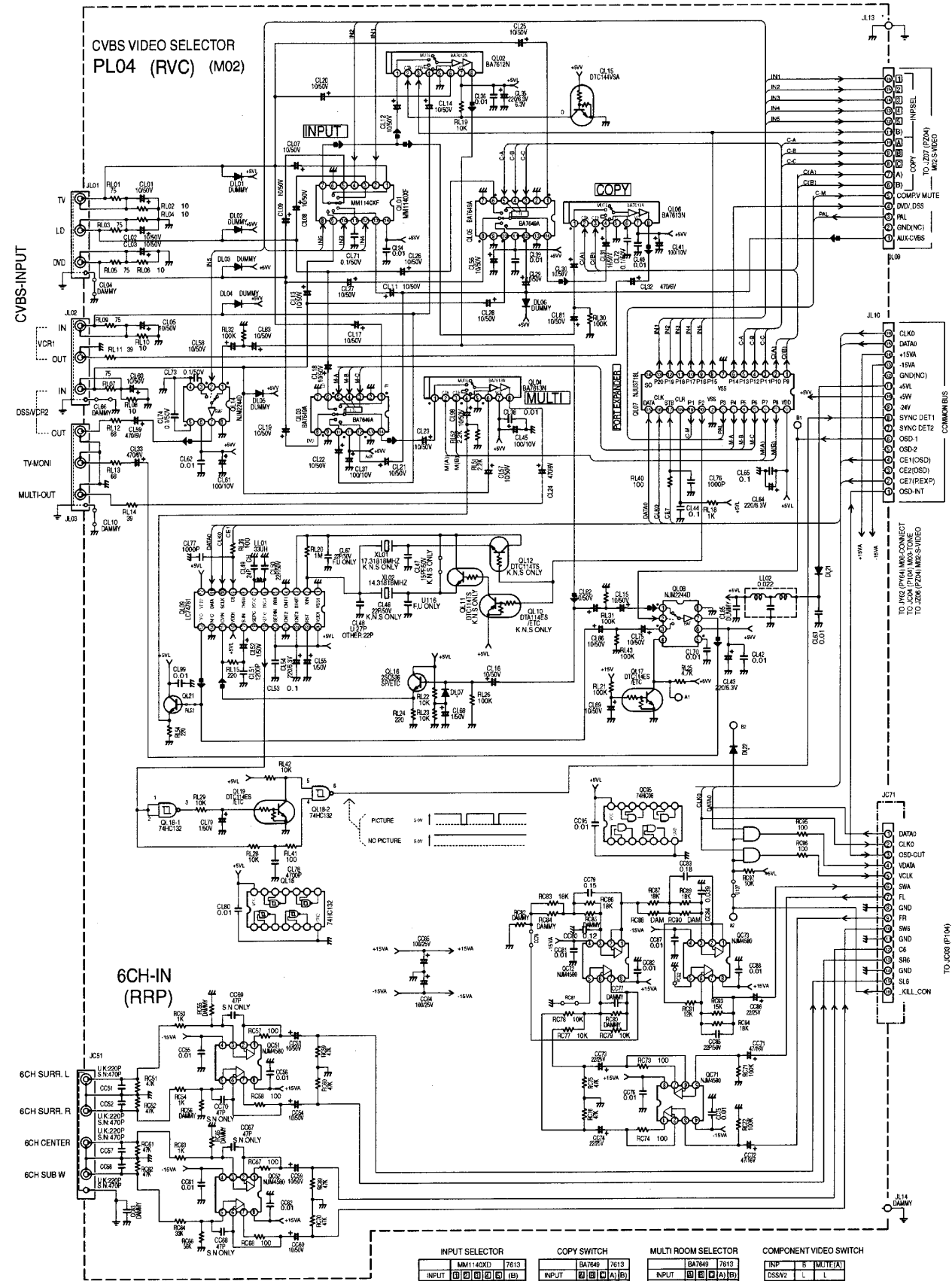




	SP-14	SP-18
CS01-CS16	225V	4716V
CS13-CS14	225V	4716V
CS17-CS18	225V	2216V
CS25-CS28	225V	4716V

S.N ONLY

C007-C008
CS37-CS38
CS39-CS40
CS41-CS42
CS43-CS44
CS45-CS46
C009,C010



INPUT SELECTOR				COPY SWITCH				MULTI ROOM SELECTOR				COMPONENT VIDEO SWITCH			
INPUT	TV	LD	DND	TV	LD	DND	OTHERS	INPUT	TV	LD	DND	TV	LD	DND	OTHERS
MM14003	L	L	L	BA7613	L	L	L	BA7613	L	L	L	BA7613	L	L	L
7613	L	L	L	7613	L	L	L	7613	L	L	L	7613	L	L	L
(A)	L	L	L	(A)	L	L	L	(A)	L	L	L	(A)	L	L	L
(B)	L	L	L	(B)	L	L	L	(B)	L	L	L	(B)	L	L	L
(C)	L	L	L	(C)	L	L	L	(C)	L	L	L	(C)	L	L	L
(D)	L	L	L	(D)	L	L	L	(D)	L	L	L	(D)	L	L	L
(E)	L	L	L	(E)	L	L	L	(E)	L	L	L	(E)	L	L	L
(F)	L	L	L	(F)	L	L	L	(F)	L	L	L	(F)	L	L	L
(G)	L	L	L	(G)	L	L	L	(G)	L	L	L	(G)	L	L	L
(H)	L	L	L	(H)	L	L	L	(H)	L	L	L	(H)	L	L	L
(I)	L	L	L	(I)	L	L	L	(I)	L	L	L	(I)	L	L	L
(J)	L	L	L	(J)	L	L	L	(J)	L	L	L	(J)	L	L	L
(K)	L	L	L	(K)	L	L	L	(K)	L	L	L	(K)	L	L	L
(L)	L	L	L	(L)	L	L	L	(L)	L	L	L	(L)	L	L	L
(M)	L	L	L	(M)	L	L	L	(M)	L	L	L	(M)	L	L	L
(N)	L	L	L	(N)	L	L	L	(N)	L	L	L	(N)	L	L	L
(O)	L	L	L	(O)	L	L	L	(O)	L	L	L	(O)	L	L	L
(P)	L	L	L	(P)	L	L	L	(P)	L	L	L	(P)	L	L	L
(Q)	L	L	L	(Q)	L	L	L	(Q)	L	L	L	(Q)	L	L	L
(R)	L	L	L	(R)	L	L	L	(R)	L	L	L	(R)	L	L	L
(S)	L	L	L	(S)	L	L	L	(S)	L	L	L	(S)	L	L	L
(T)	L	L	L	(T)	L	L	L	(T)	L	L	L	(T)	L	L	L
(U)	L	L	L	(U)	L	L	L	(U)	L	L	L	(U)	L	L	L
(V)	L	L	L	(V)	L	L	L	(V)	L	L	L	(V)	L	L	L
(W)	L	L	L	(W)	L	L	L	(W)	L	L	L	(W)	L	L	L
(X)	L	L	L	(X)	L	L	L	(X)	L	L	L	(X)	L	L	L
(Y)	L	L	L	(Y)	L	L	L	(Y)	L	L	L	(Y)	L	L	L
(Z)	L	L	L	(Z)	L	L	L	(Z)	L	L	L	(Z)	L	L	L

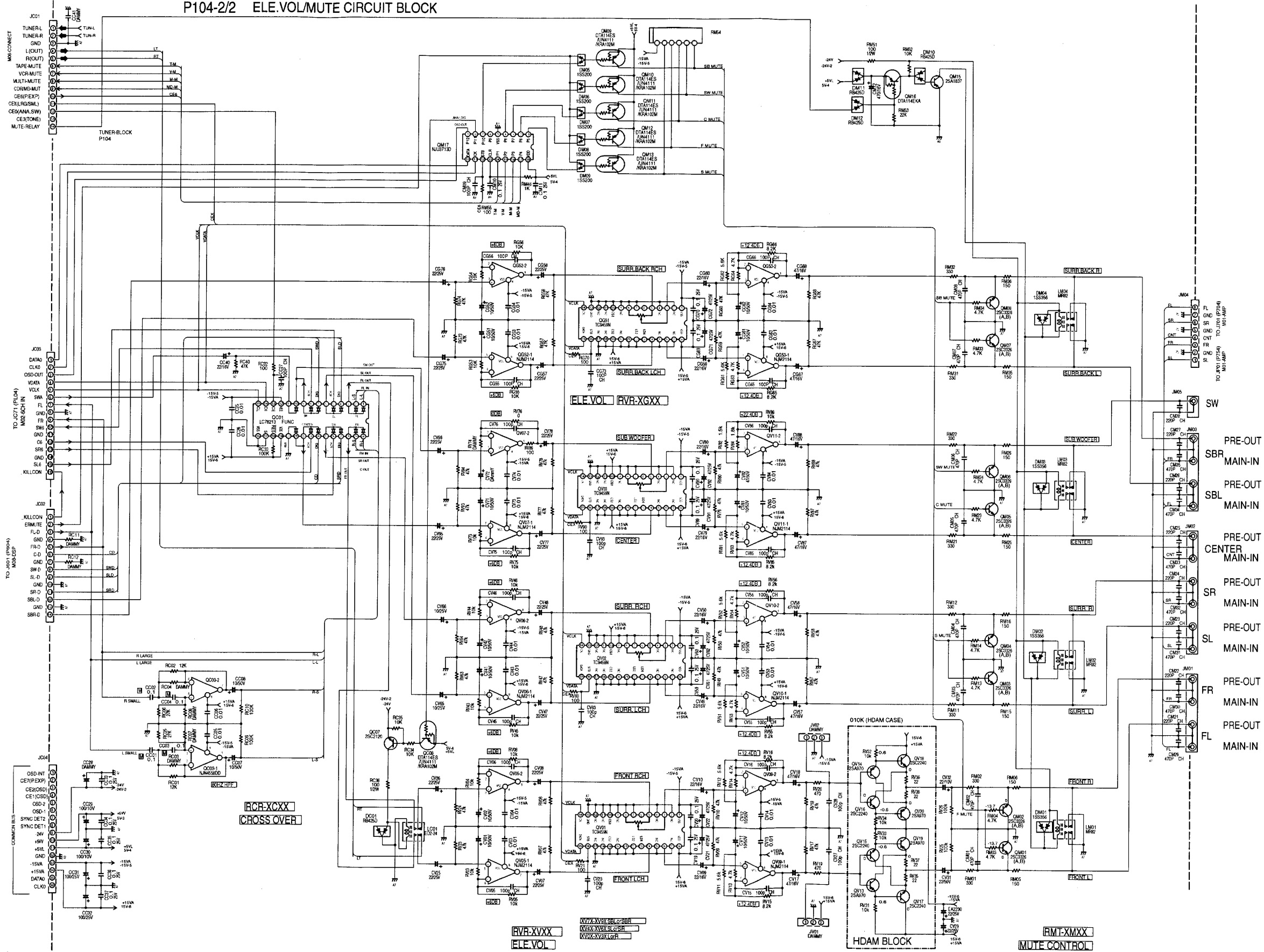
INPUT SELECTOR AND COPY SWITCH
:SAME DATA BETWEEN CVBS VIDEO AND S-VIDEO.
BA7612N/BA7613N
:SAME DATA BETWEEN BA7612N AND BA7613N

TO J162 (P164) M66 CONNECT TO J004 (P104) M08-TONE TO J10 (P104) M02 VIDEO TO J006 (P004) M02 S-VIDEO

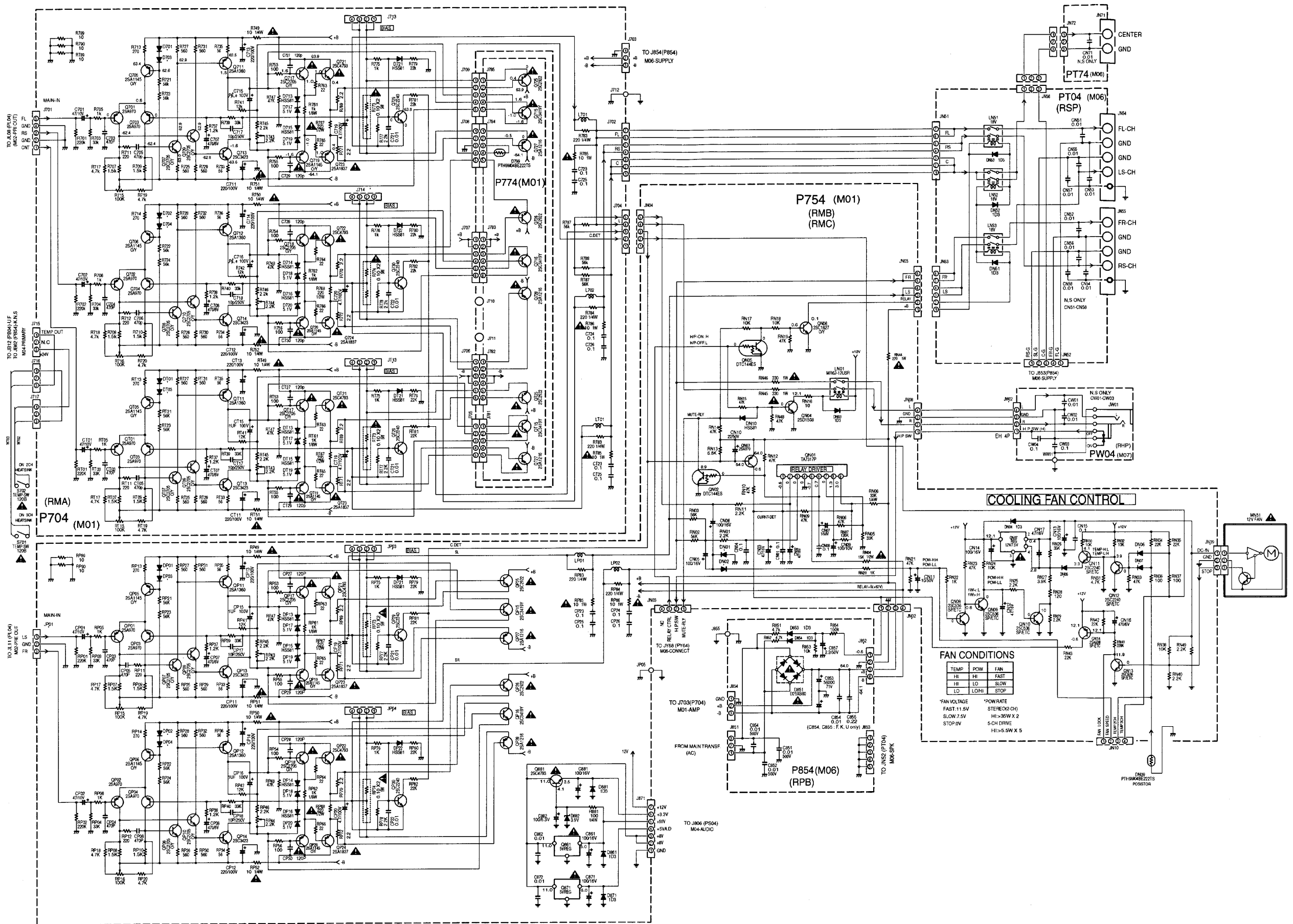
TO J162 (P164) M66 CONNECT TO J004 (P104) M08-TONE TO J10 (P104) M02 VIDEO TO J006 (P004) M02 S-VIDEO

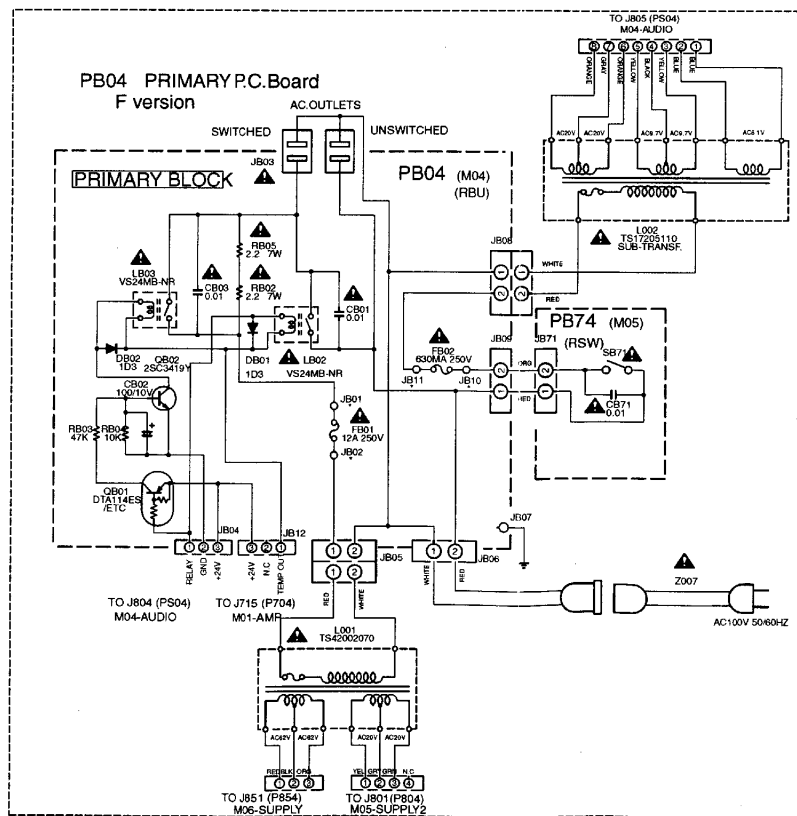
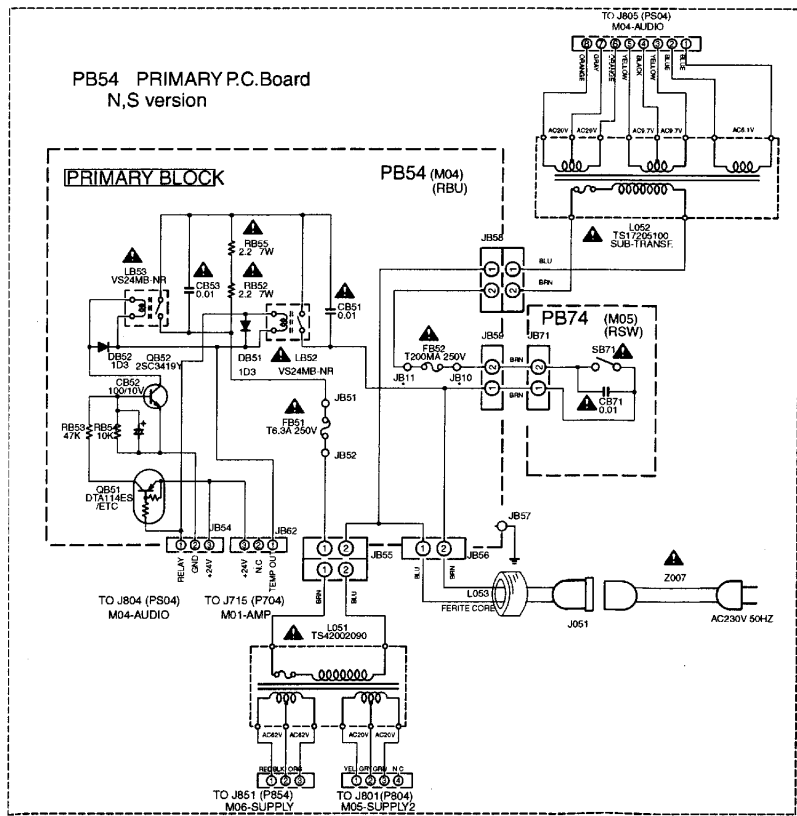
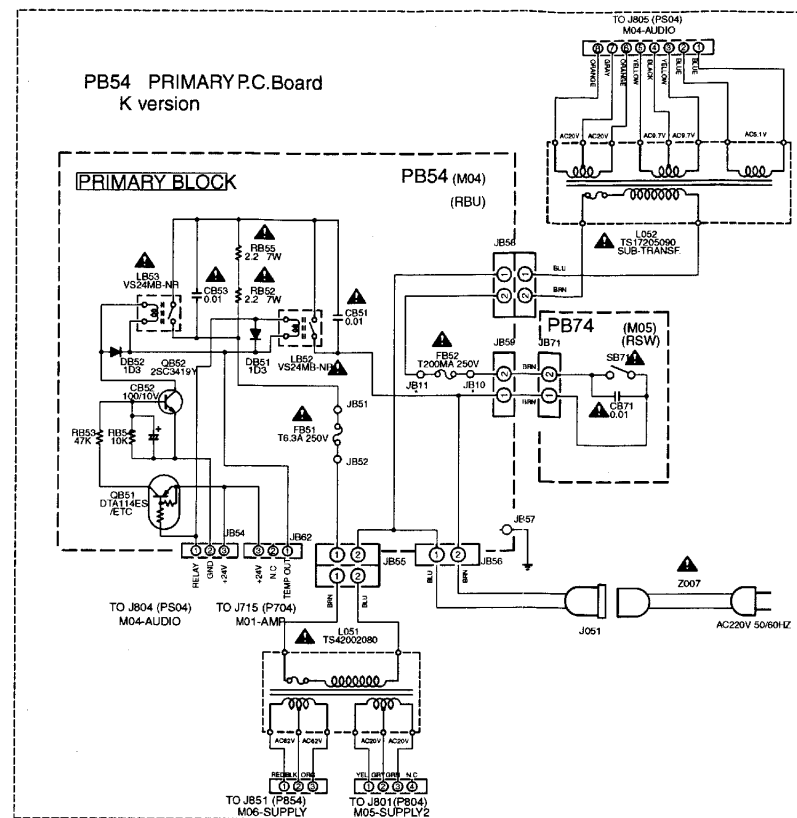
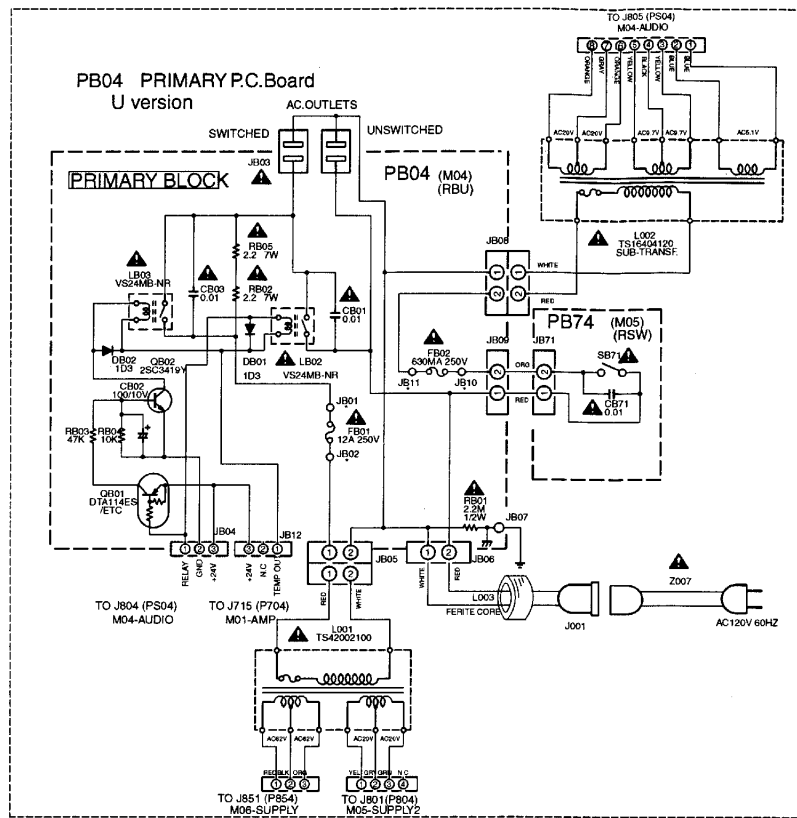
TO J162 (P164) M66 CONNECT TO J004 (P104) M08-TONE TO J10 (P104) M02 VIDEO TO J006 (P004) M02 S-VIDEO

P104-2/2 ELE.VOL/MUTE CIRCUIT BLOCK



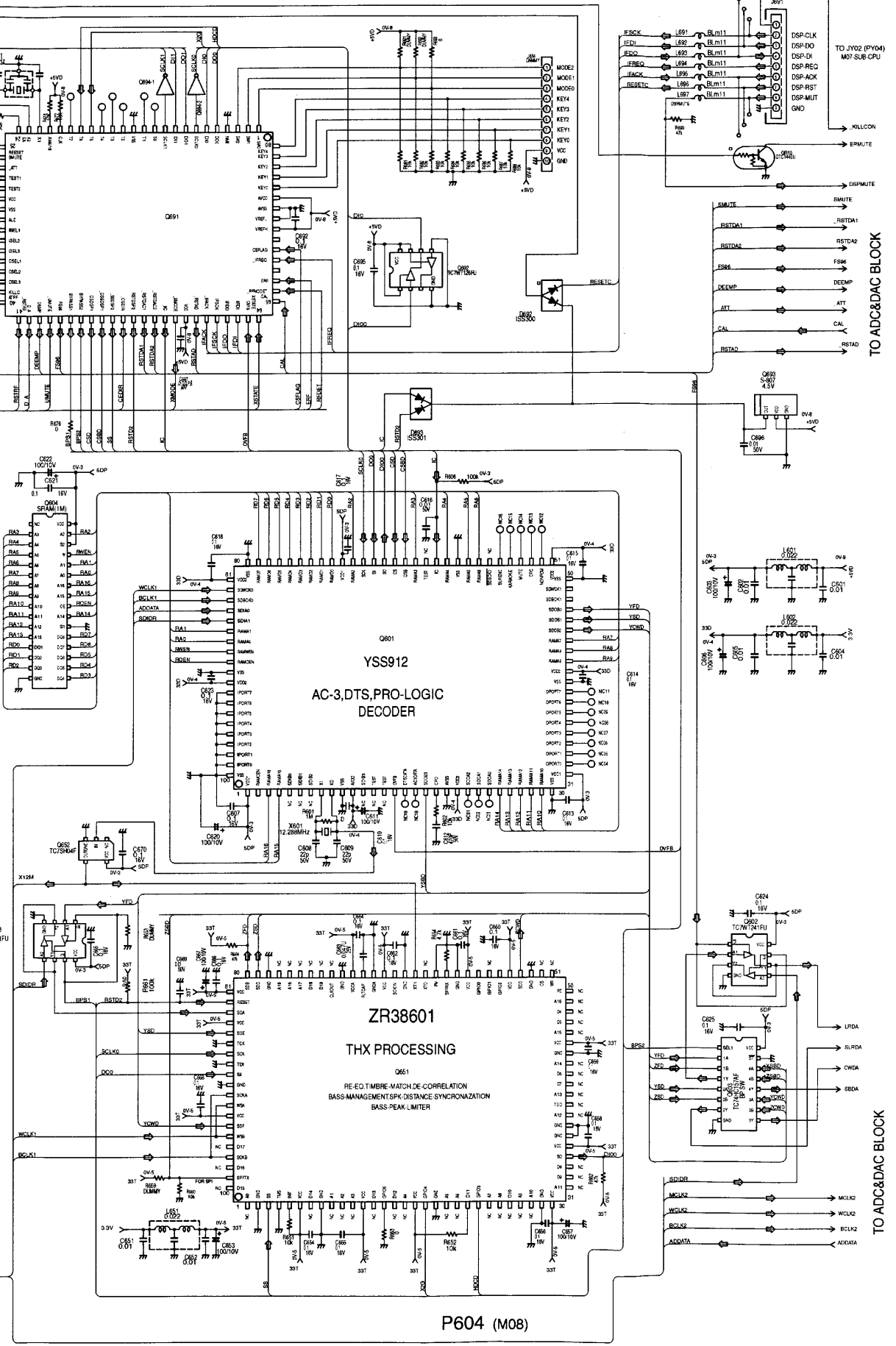
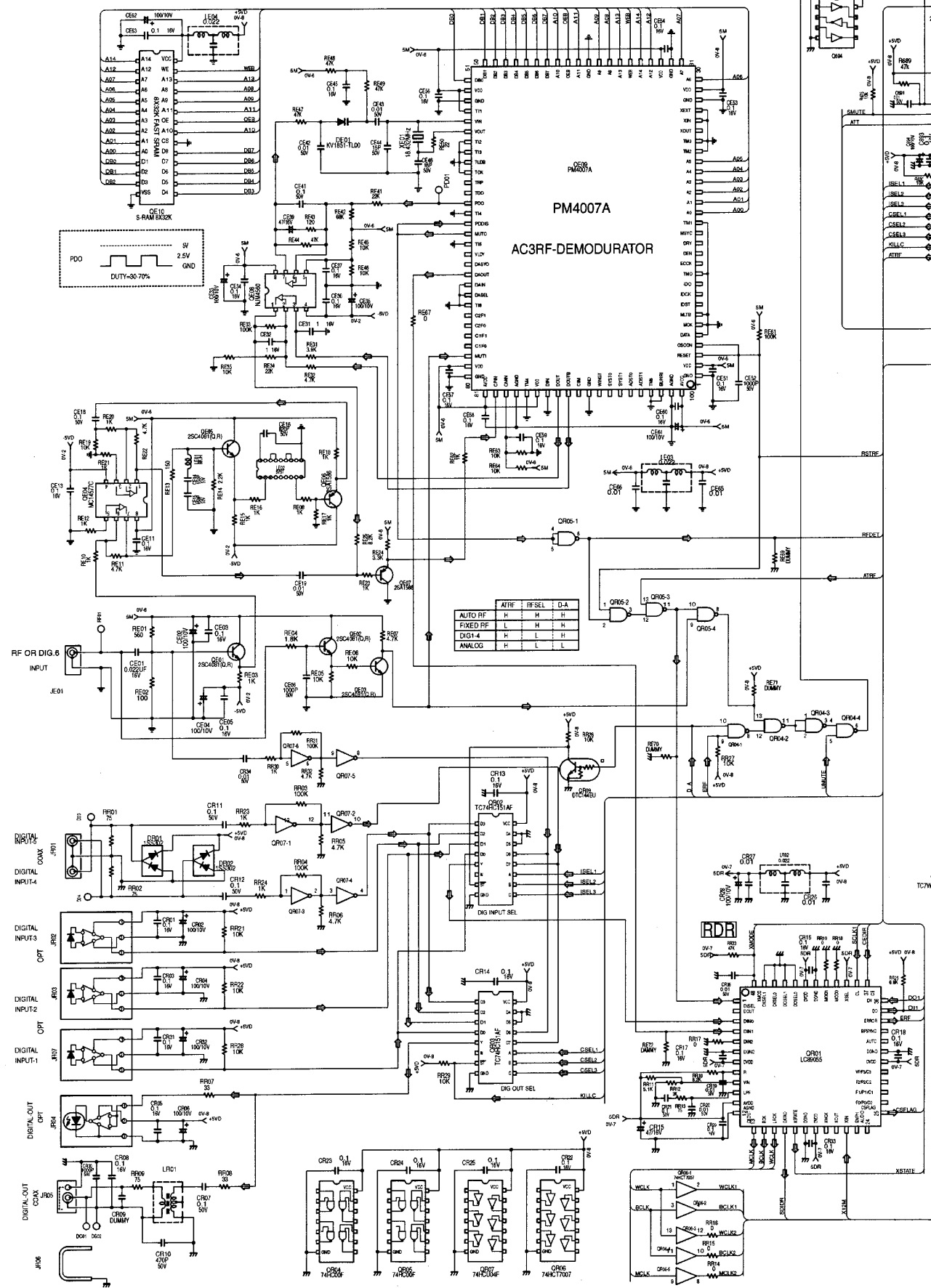
- PRE-OUT
- SBR
- MAIN-IN
- PRE-OUT
- SBL
- MAIN-IN
- PRE-OUT
- CENTER
- MAIN-IN
- PRE-OUT
- SR
- MAIN-IN
- PRE-OUT
- SL
- MAIN-IN
- PRE-OUT
- FR
- MAIN-IN
- PRE-OUT
- FL
- MAIN-IN

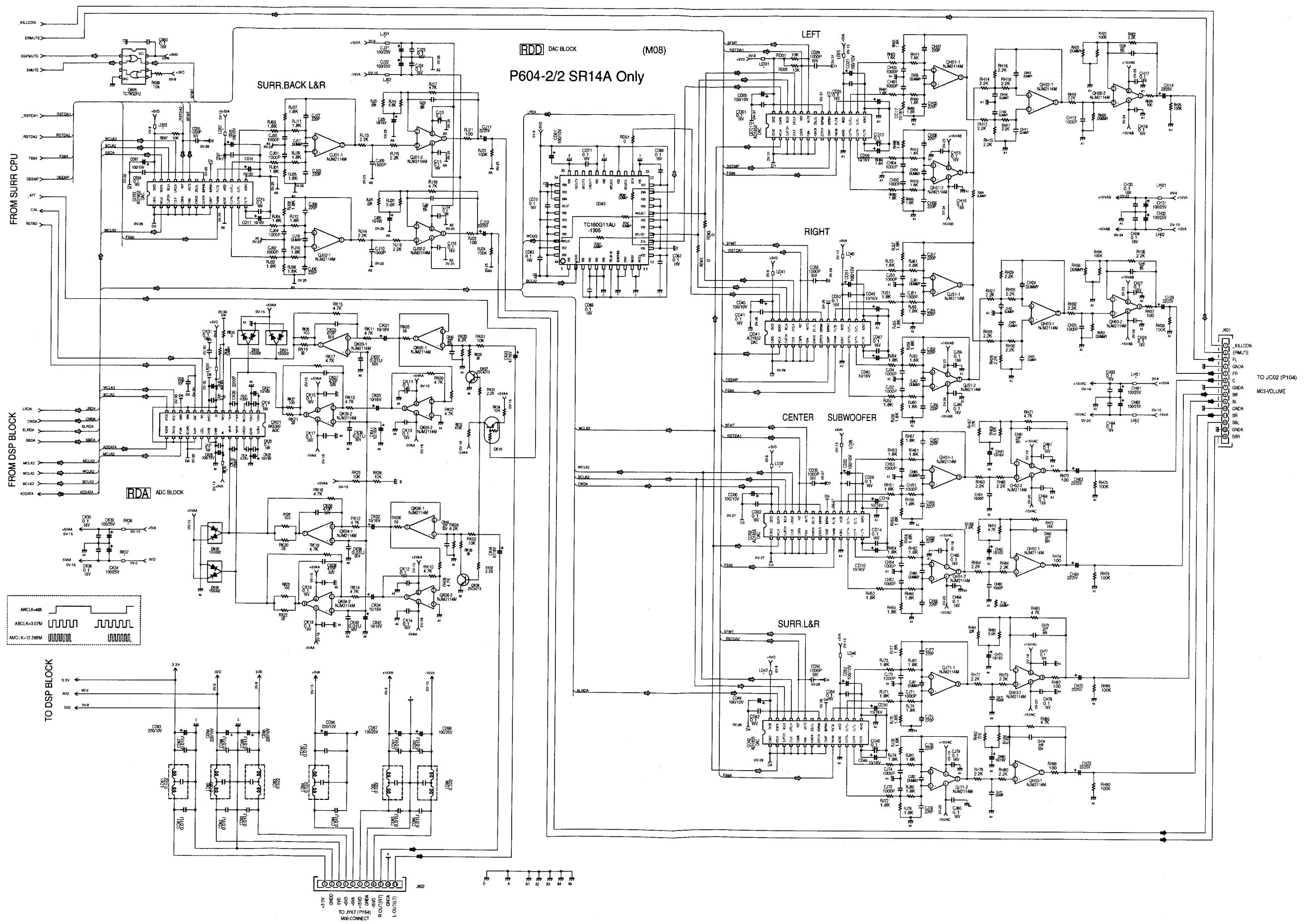




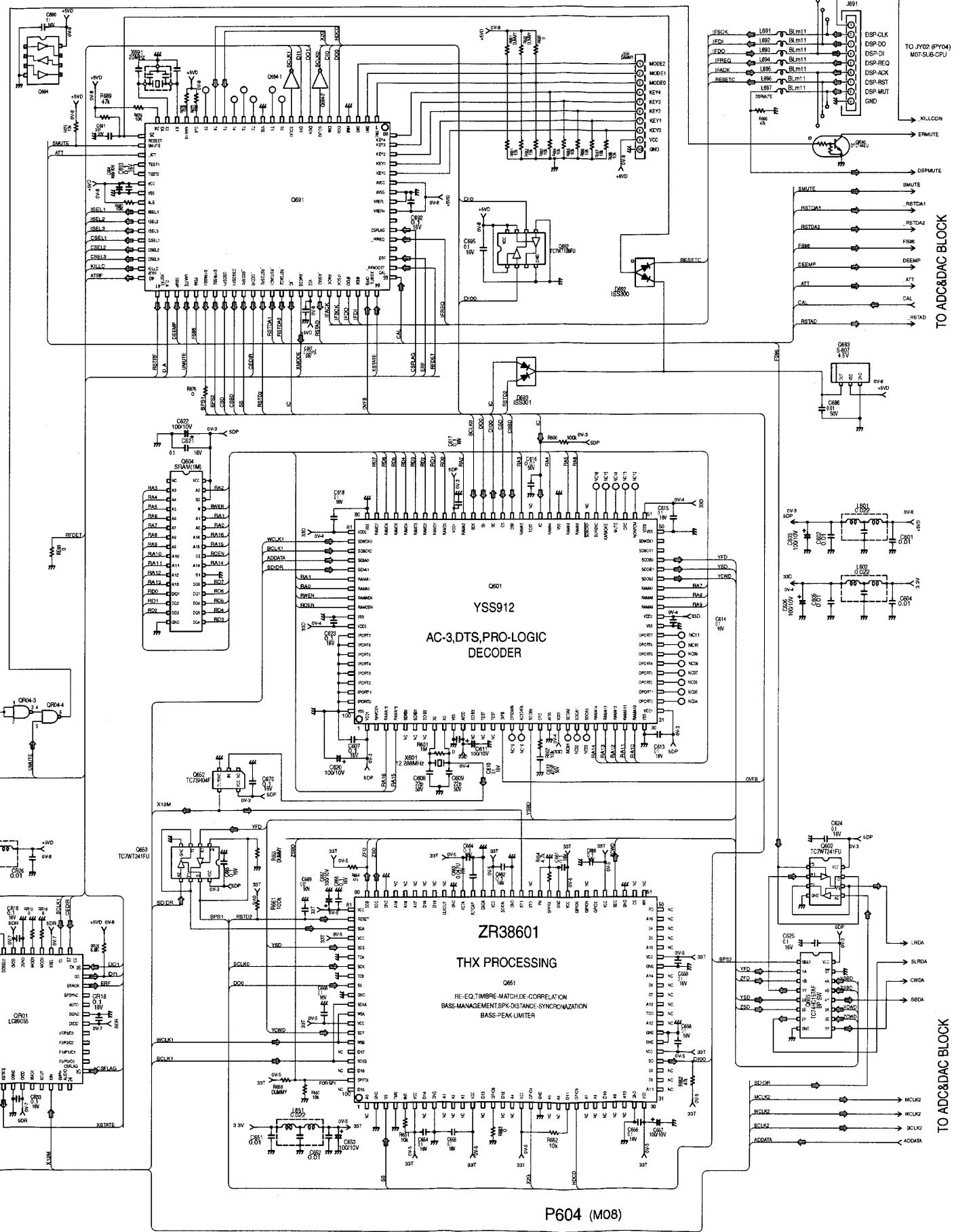
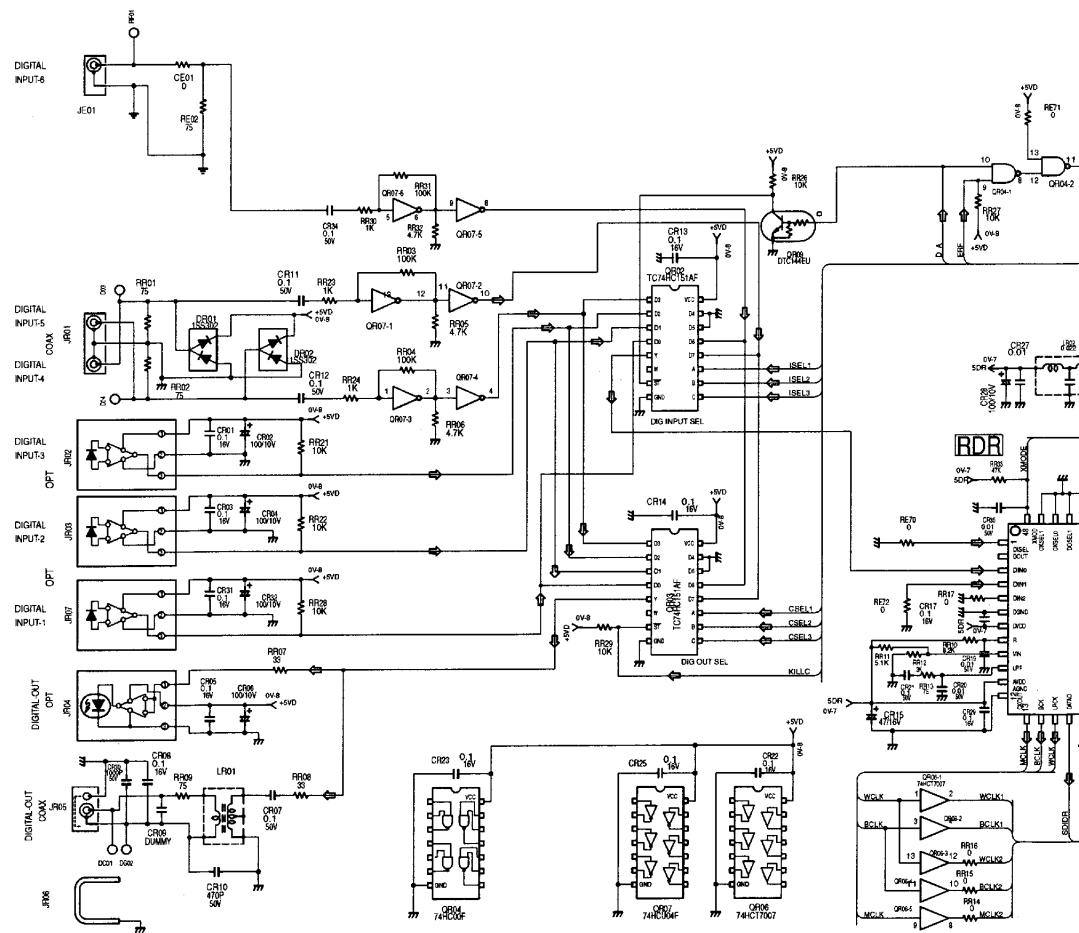
P604-1/2 SR14A Only

RDM DEMODURATOR BLOCK

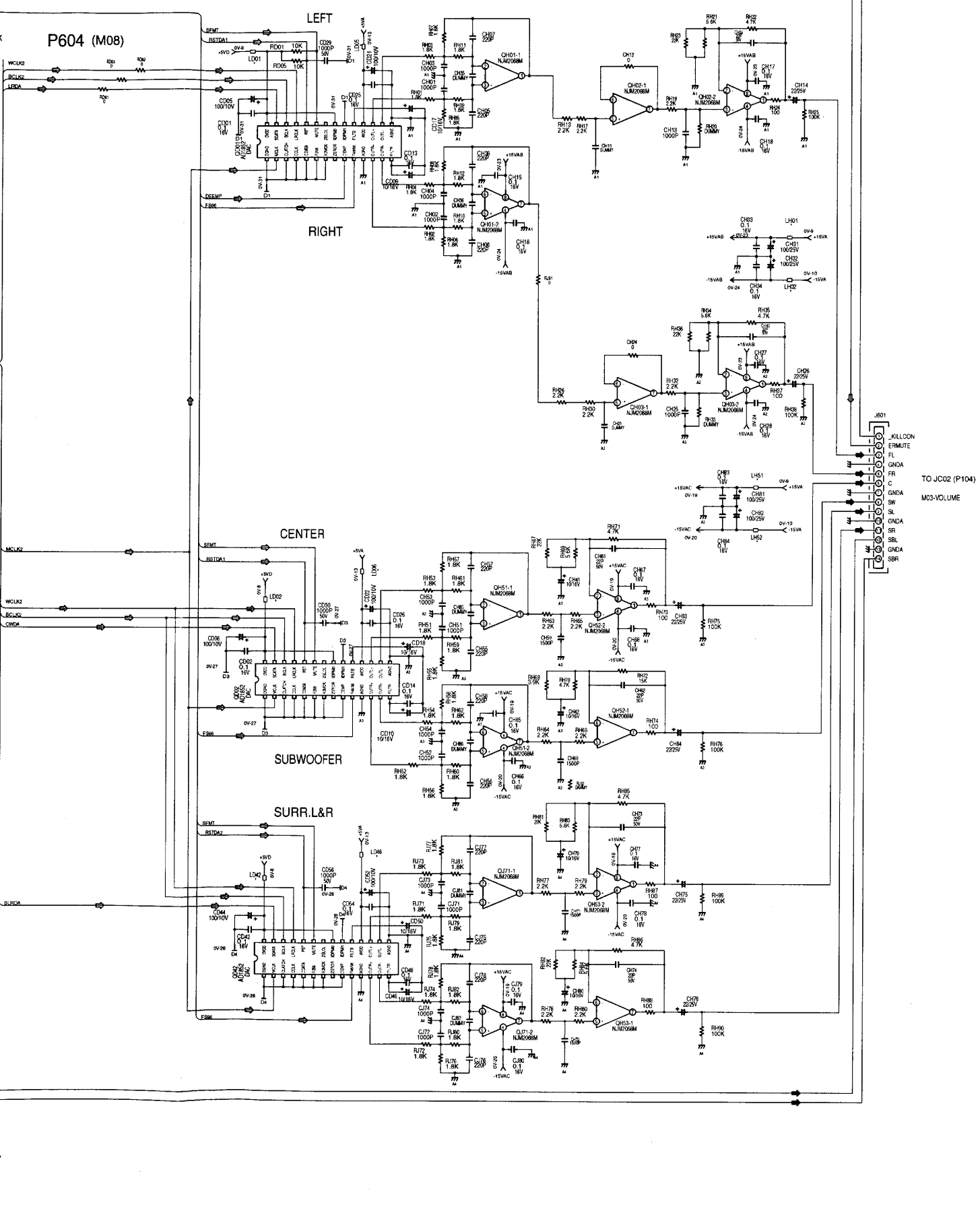
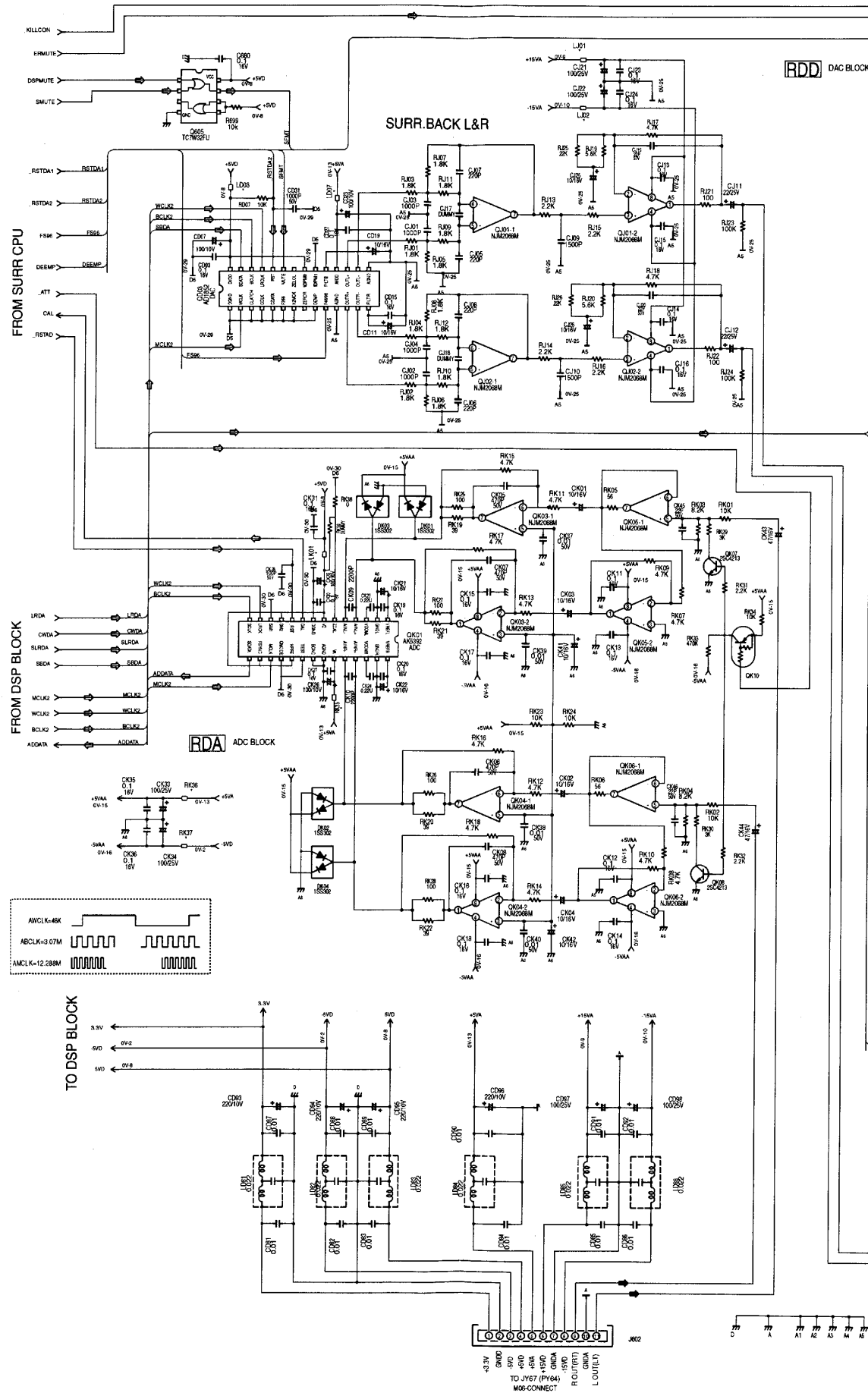




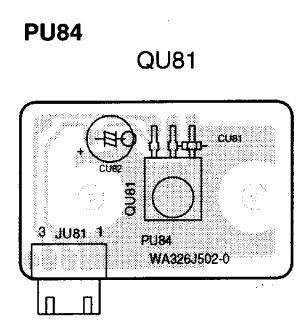
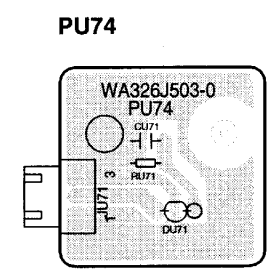
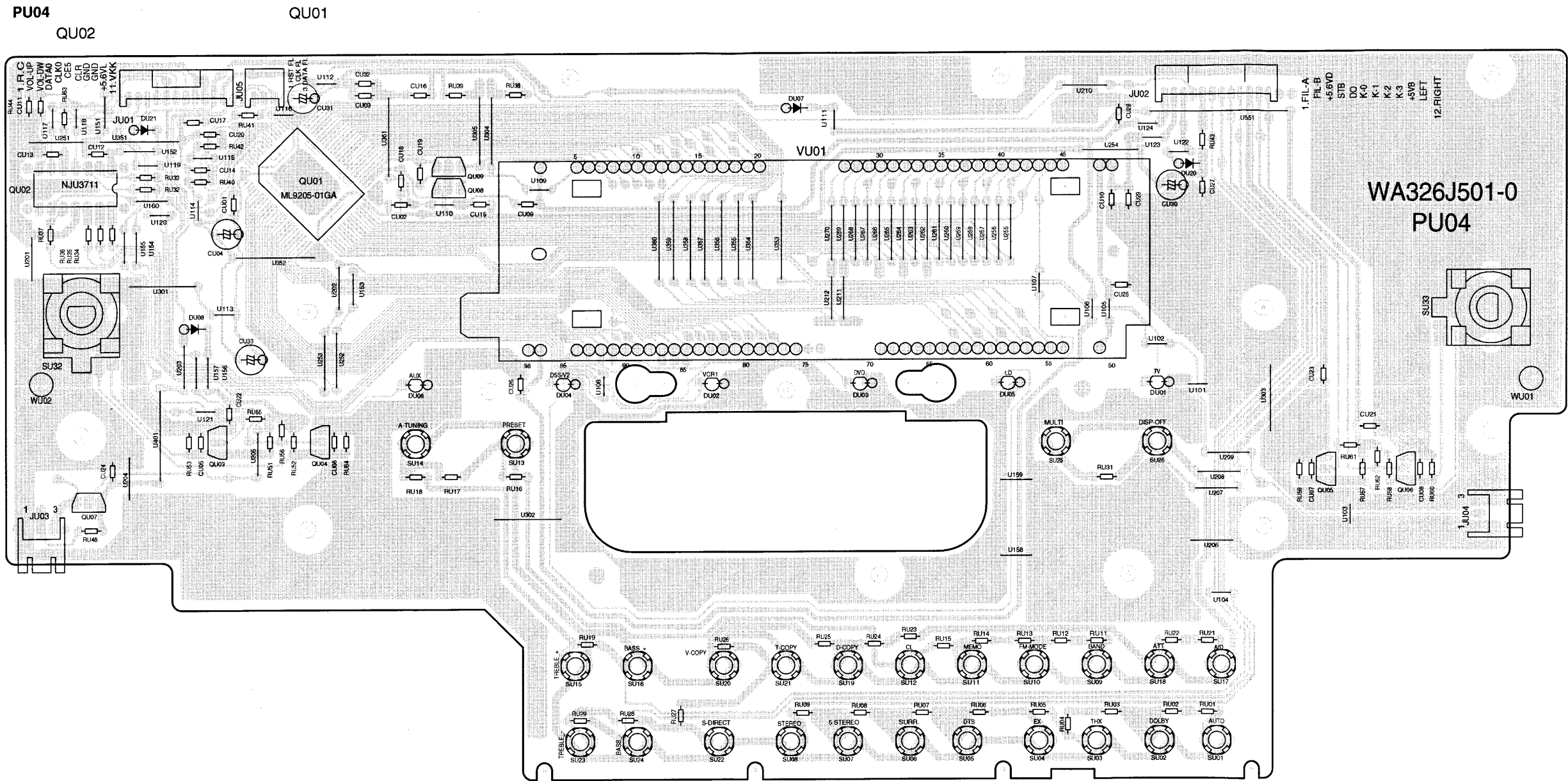
P604 -1/2 SR18A / SR17 only



P604 -2/2 SR18A / SR17 only

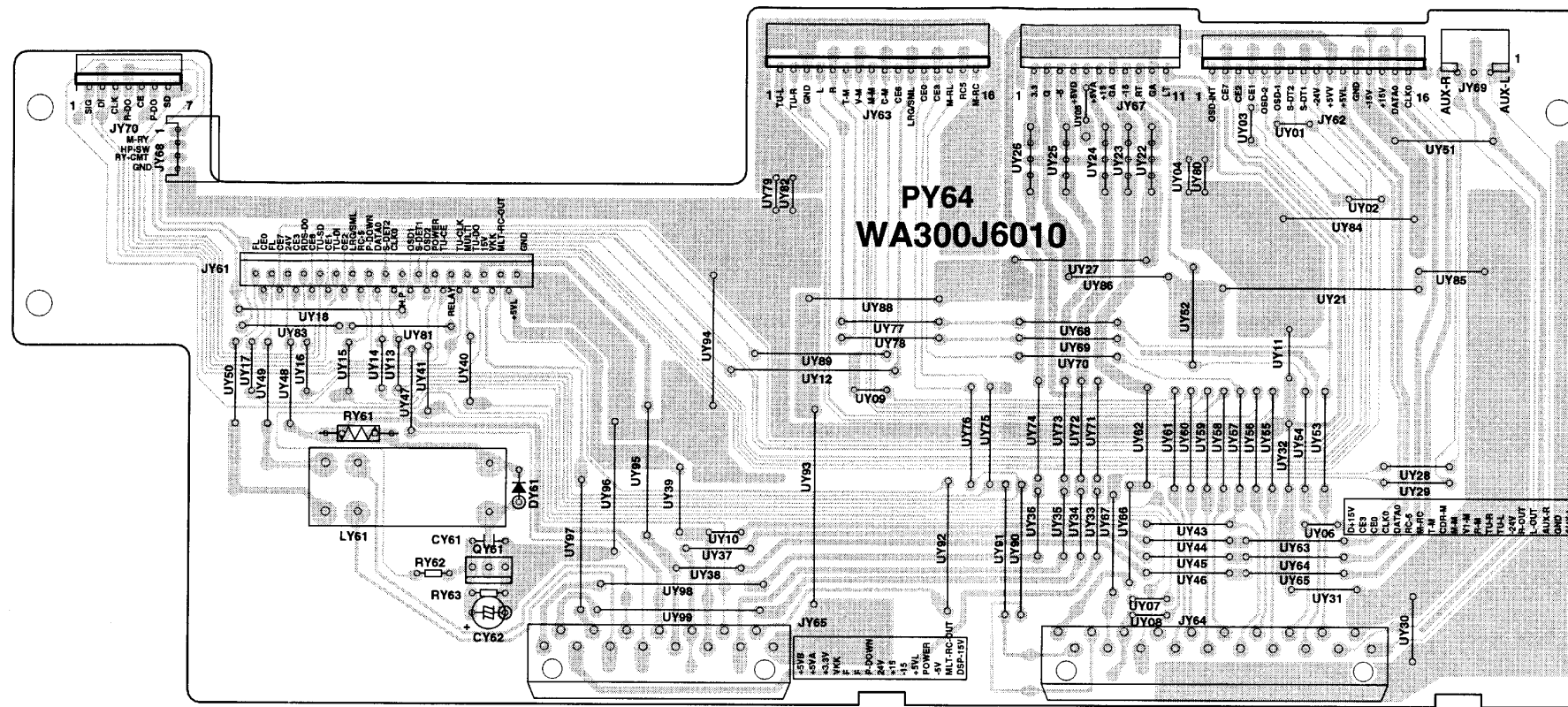


5. PARTS LOCATION (Pattern Side)



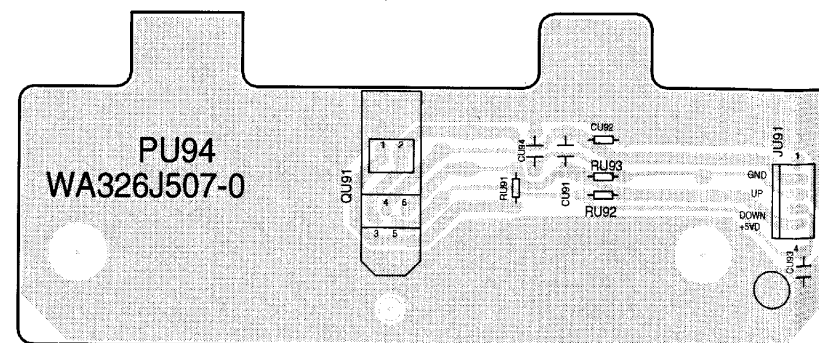
PY64

QY61



PU94

QU91



PS04
WA300J401-0

Q811

Q803

Q805

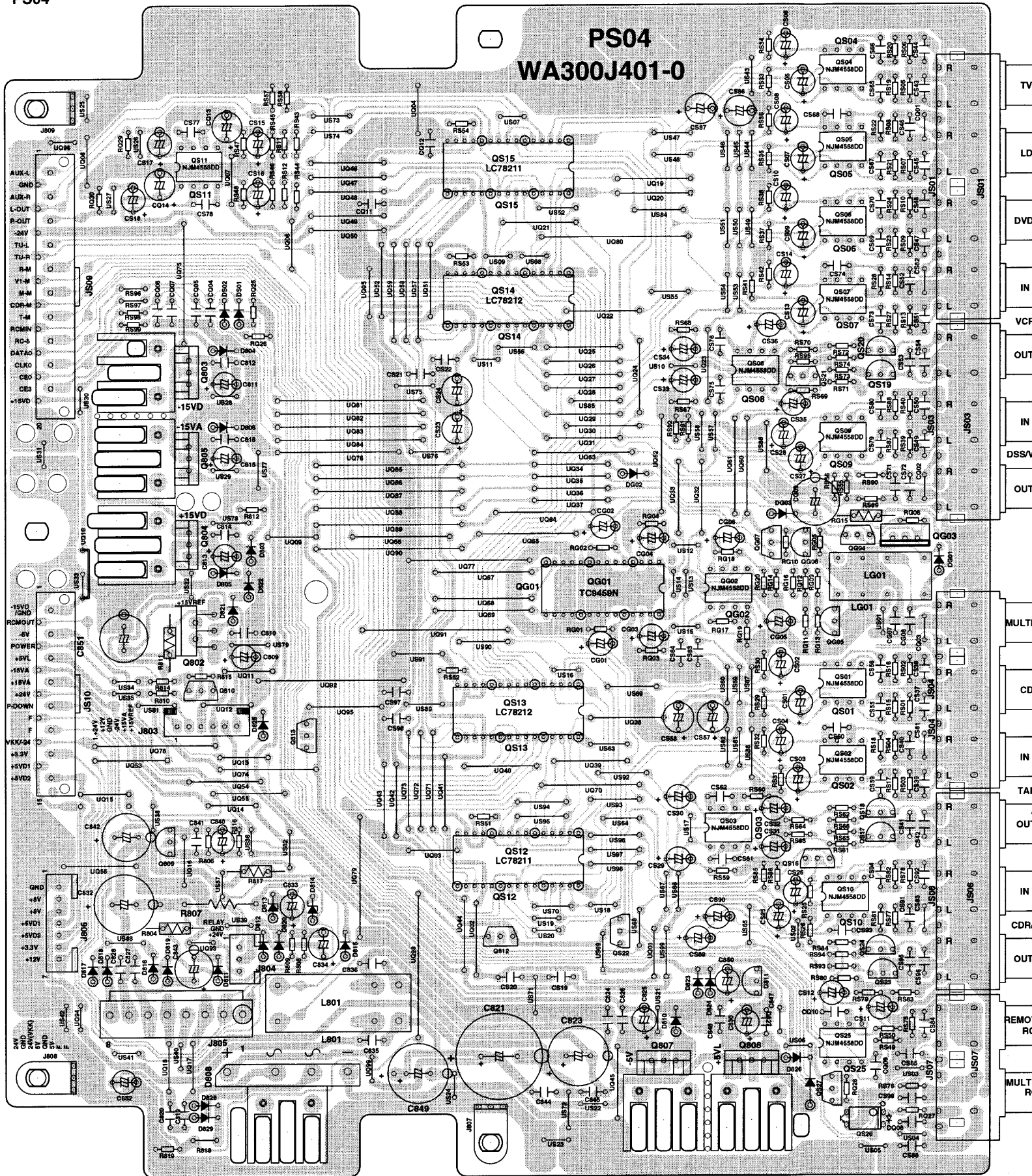
Q804

Q802

Q810

Q813

Q809



QS04

QS05

QS06

QS07

QS20

QS08 QS21 QS19

QS09

QG04 QG03

QG07 QG06

QG01 QG02

QG05

QS01

QS13

QS02

QS18

QS03

QS17

QS12

QS16

QS10

QS24

QS23

QS25

QS27

QS26

TV

LD

DVD

IN

VCR1

OUT

IN

DSS/VCR2

OUT

MULTI

CD

IN

TAPE

OUT

IN

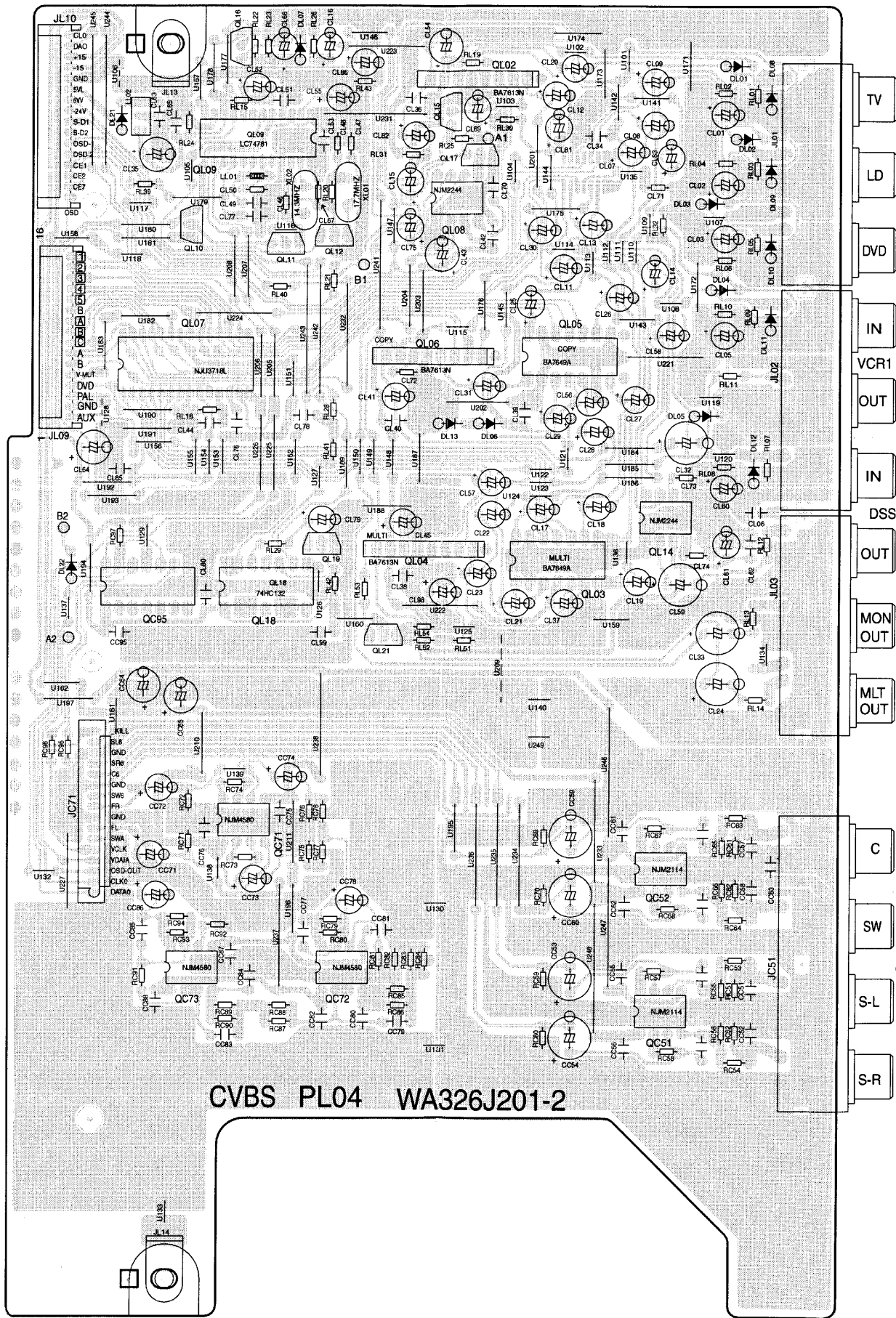
CDR/MD

OUT

REMOTE

RC

PL04

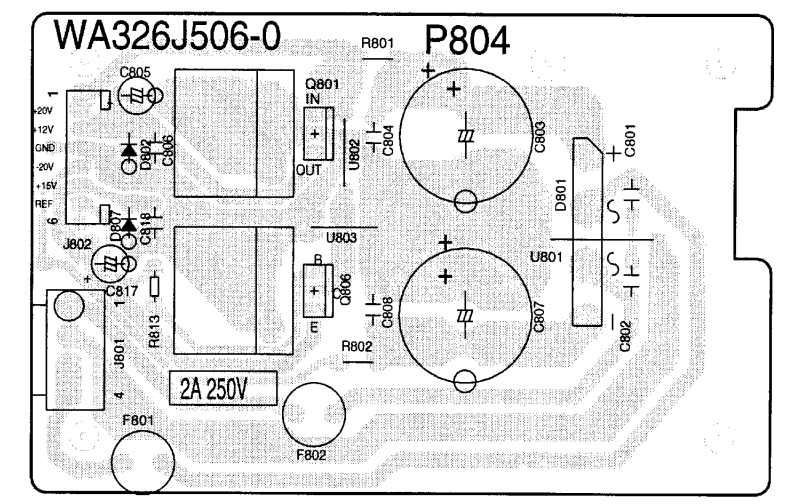


- TV
- LD
- DVD
- IN
- VCR1
- OUT
- IN
- DSS
- OUT
- MON OUT
- MLT OUT
- C
- SW
- S-L
- S-R

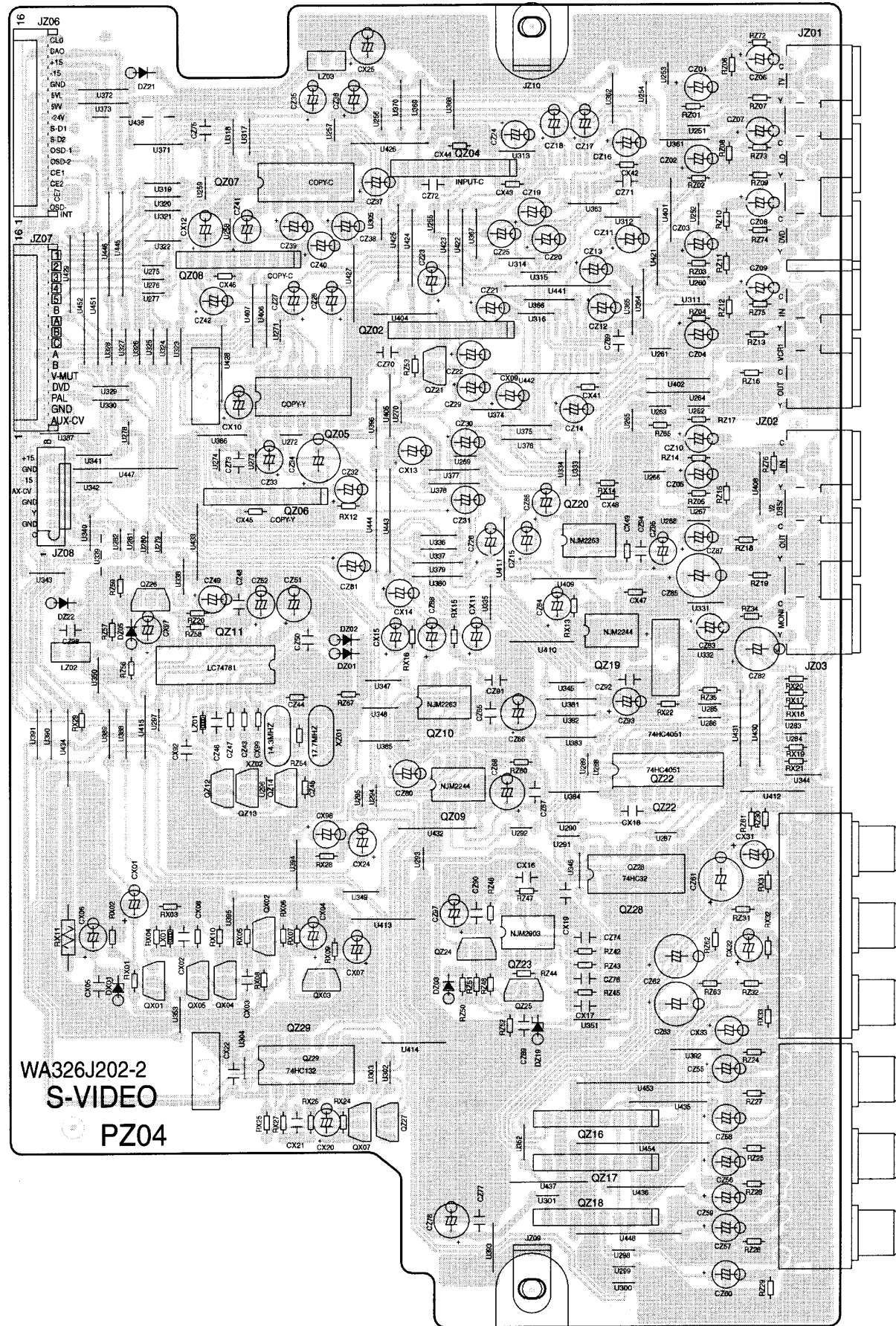
QL16
QL02
QL09 QL15 QL17
QL08
QL10
QL11 QL12
QL07 QL06 QL05
QL14
QL19 QL04 QL03
QC95 QL18
QL21
QC71
QV52
QC73 QC72
QV51

P804

Q801
Q806

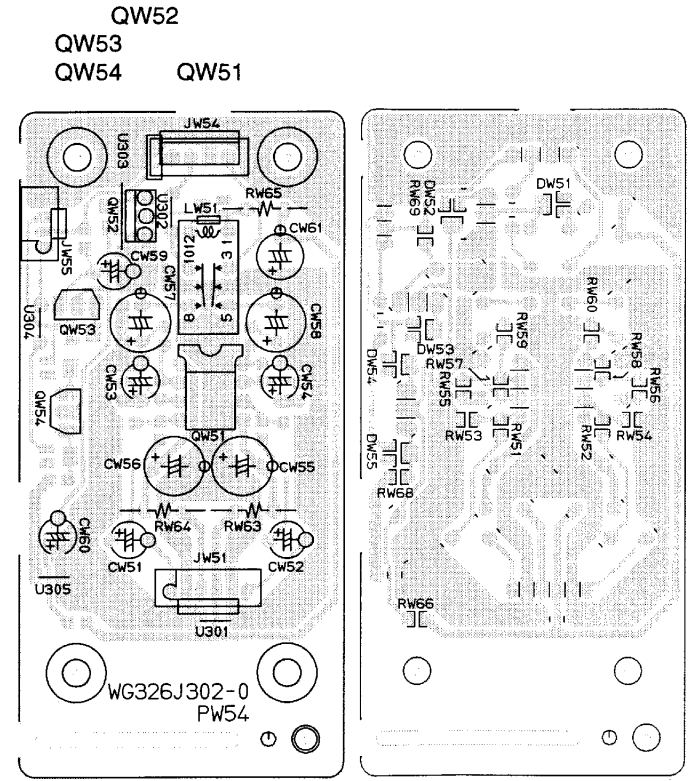


PZ04



- QZ07 QZ04
- QZ08
- QZ02
- QZ21
- QZ05
- QZ06
- QZ20
- QZ26
- QZ19
- QZ11
- QZ10
- QZ22
- QZ12 QZ13 QZ14 QZ09
- QZ28
- QX02 QZ19
- QX03 QZ24
- QX01 QX05 QX04 QZ25
- QZ29
- QX07 QX27 QZ16
- QZ17
- QZ18

PW54



P104

Q205 Q203

Q501

Q353 - Q351

QA03

Q202

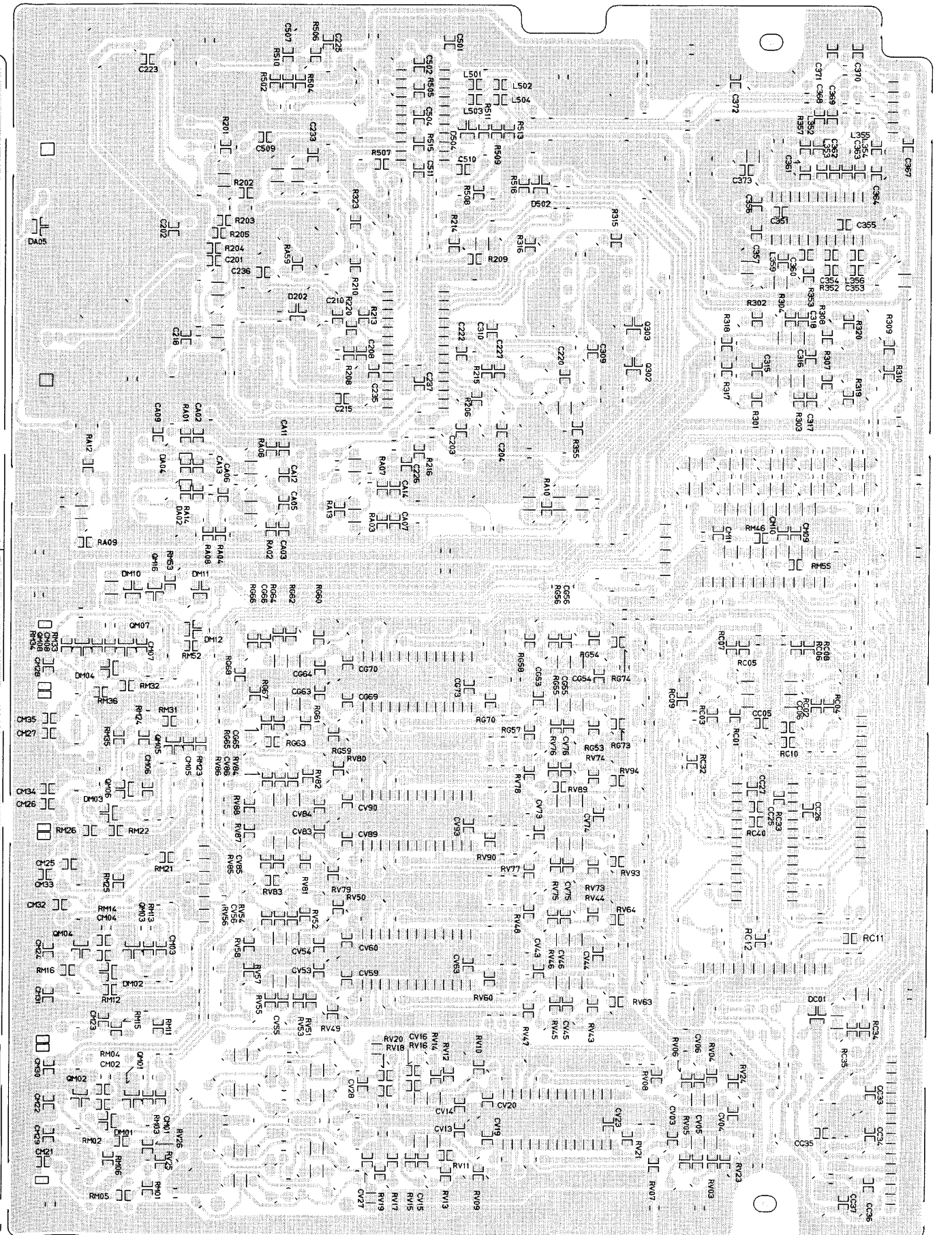
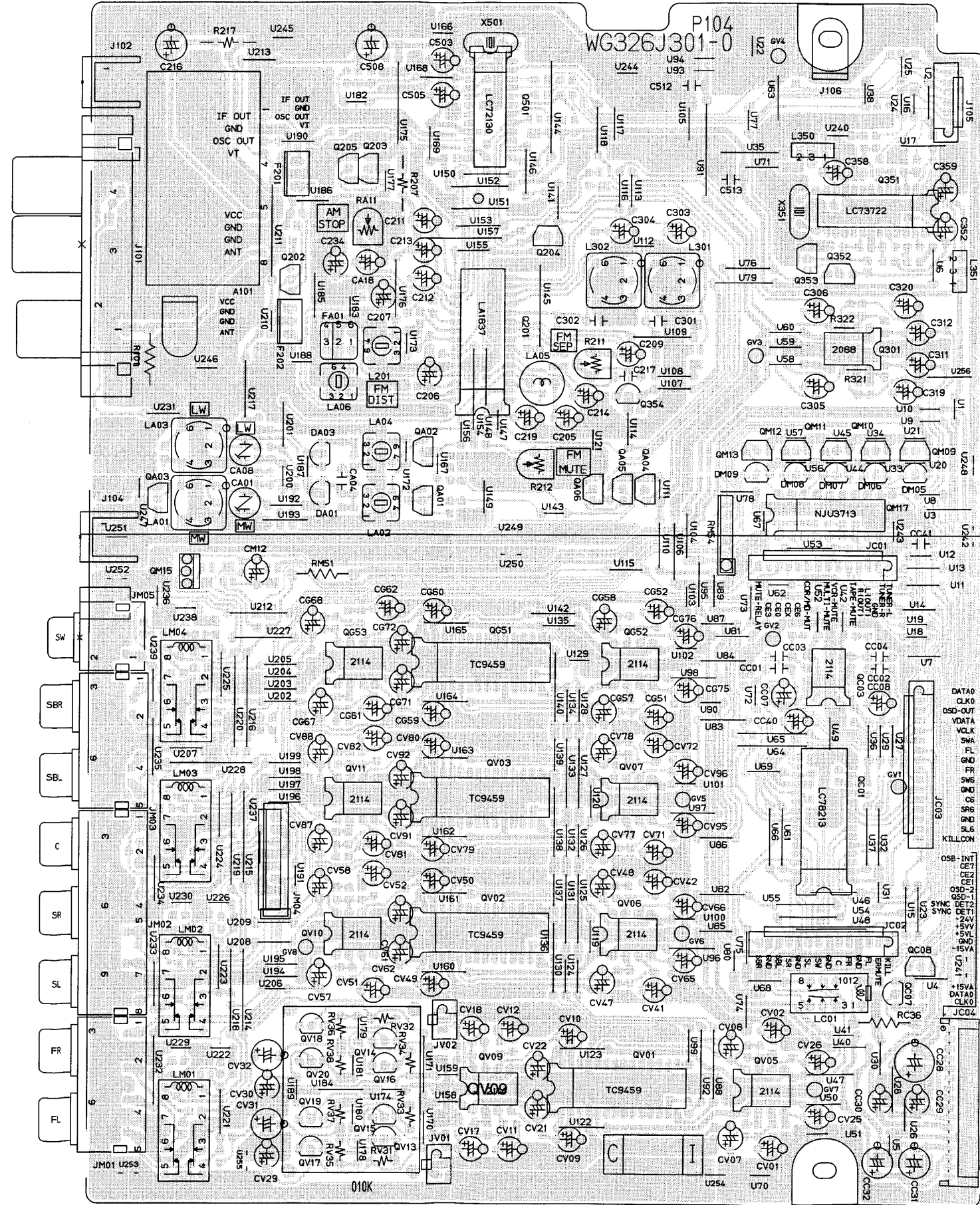
QA02 QA01

Q204

Q354

QM13 - QM11 - QM09

QM17



QM15

QG53

QG51

QG52

QC03

QC07 QC08

QV11

QV03

QV07

QV10

QV02

QV06

QV20 - QV13

41

QV01

QV05

P704

QT03 QT01
QT09 QT13
QT19 QT23

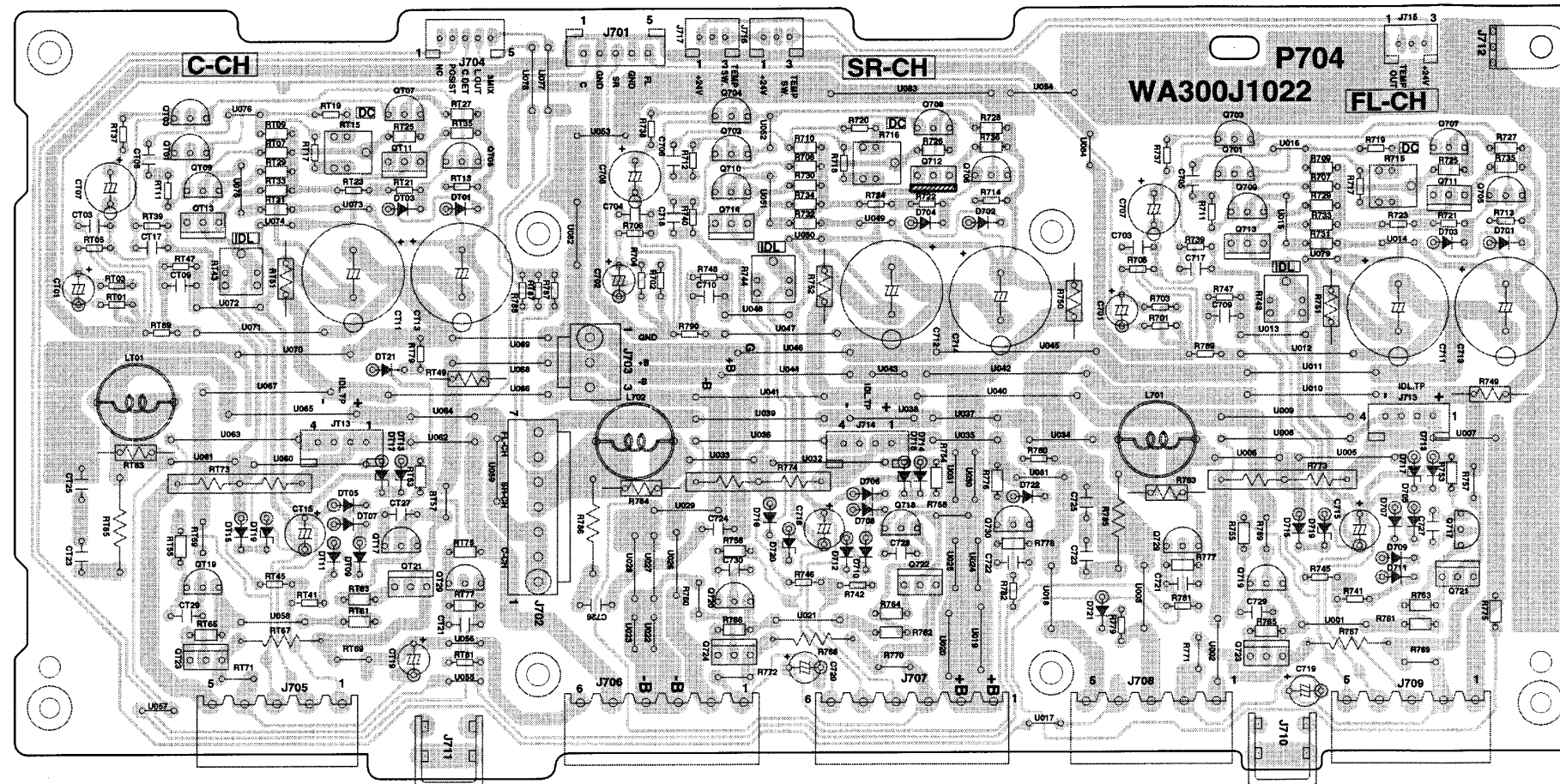
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QT11 QT05
QT17 QT21 QT29

Q704 Q702
Q710 Q714
Q720 Q724

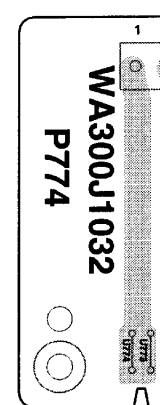
Q708
Q712 Q706
Q718 Q722 Q730

Q703 Q701
Q709 Q713
Q728 Q719

Q707
Q711 Q705
Q717 Q721



P774



Q725

Q715

Q727

Q726

Q716

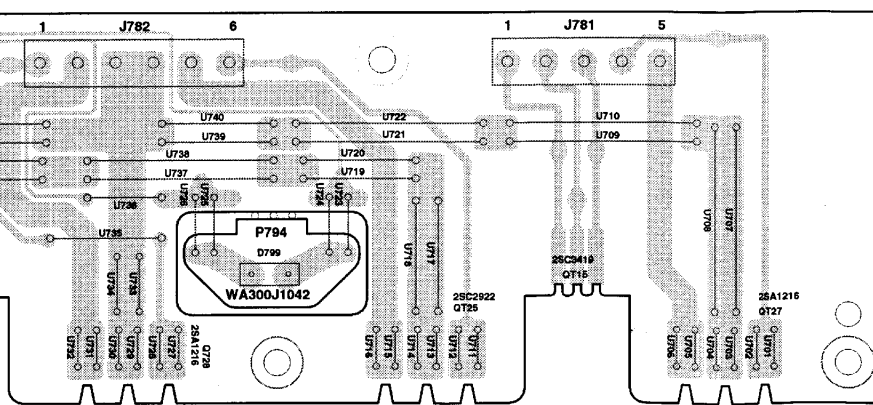
Q728

Q725

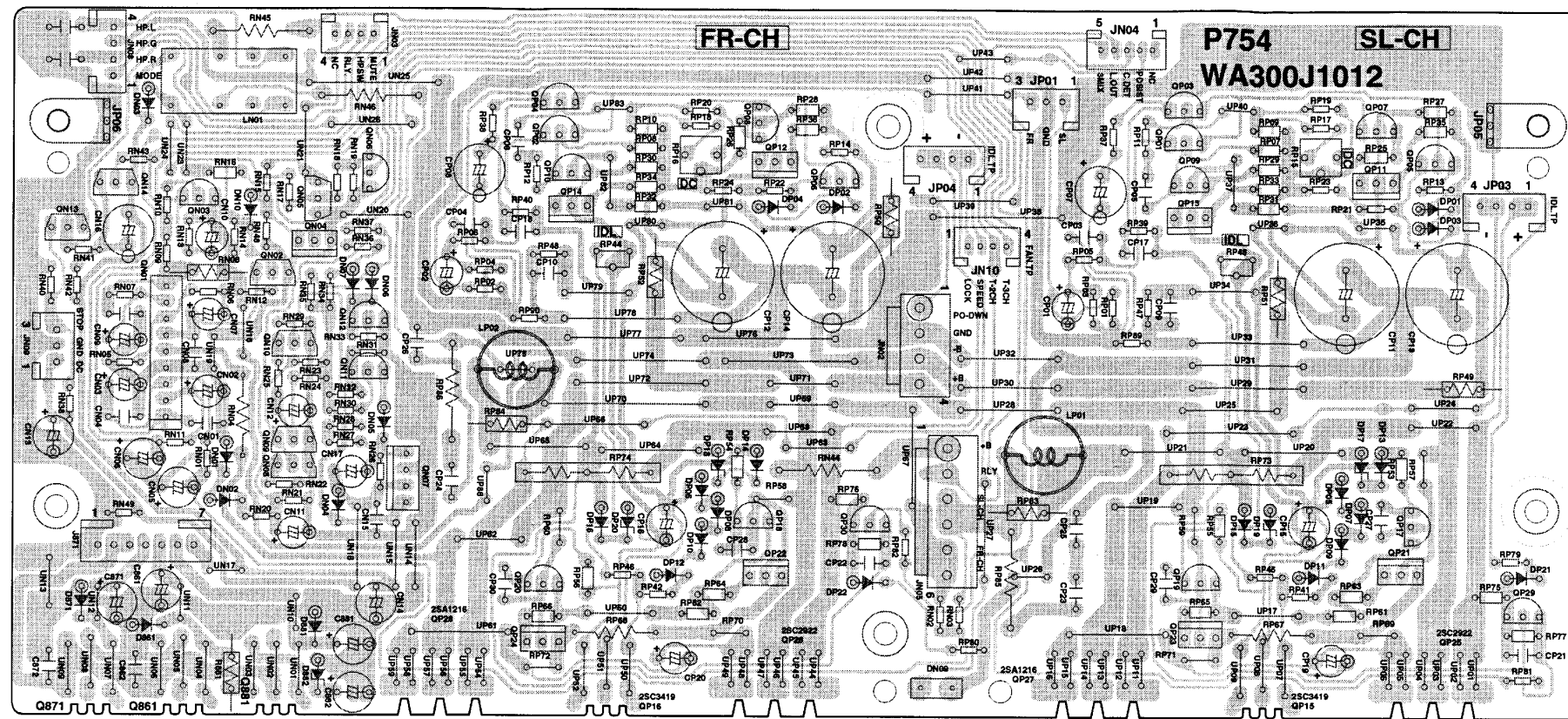
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Q727

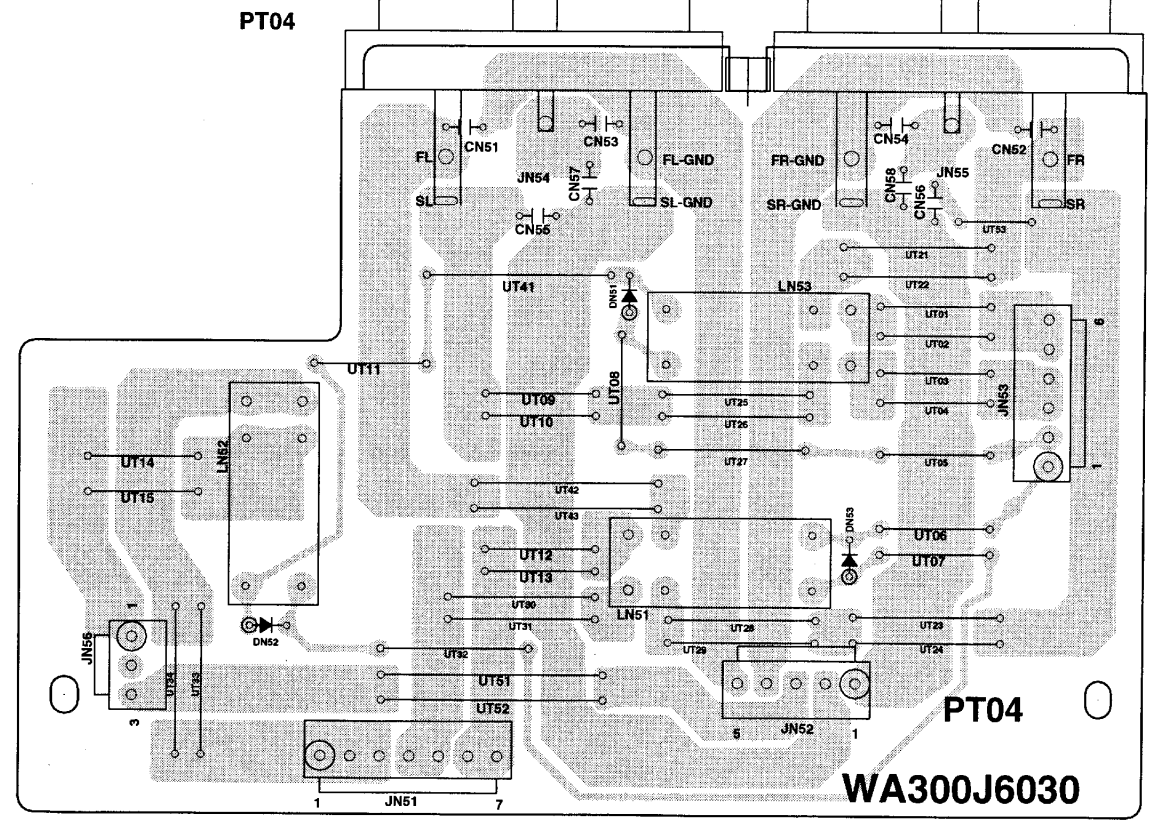
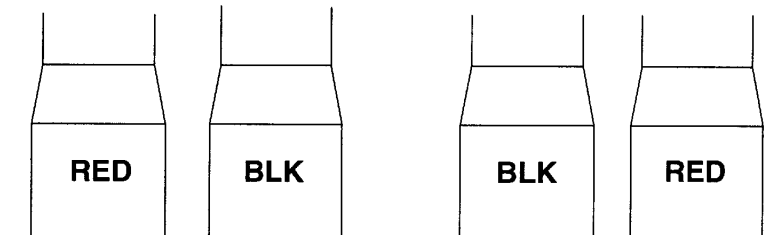
P794



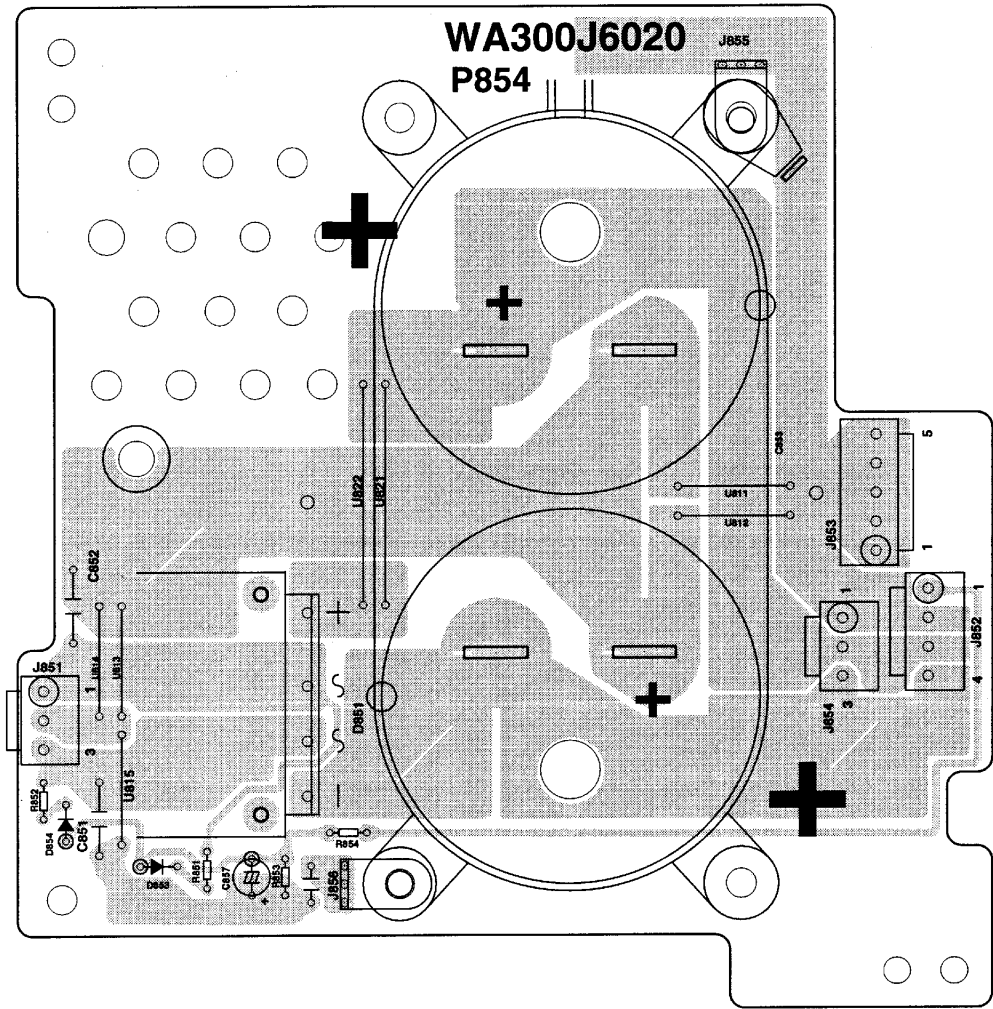
P754 QN14 QN05 QN04 QN06 QP04 QP02 QP08 QP03 QP01 QP07
 QN13 QN03 QN02 QN10 QN12 QN11 QP10 QP14 QP12 QP06 QP09 QP13 QP11 QP05



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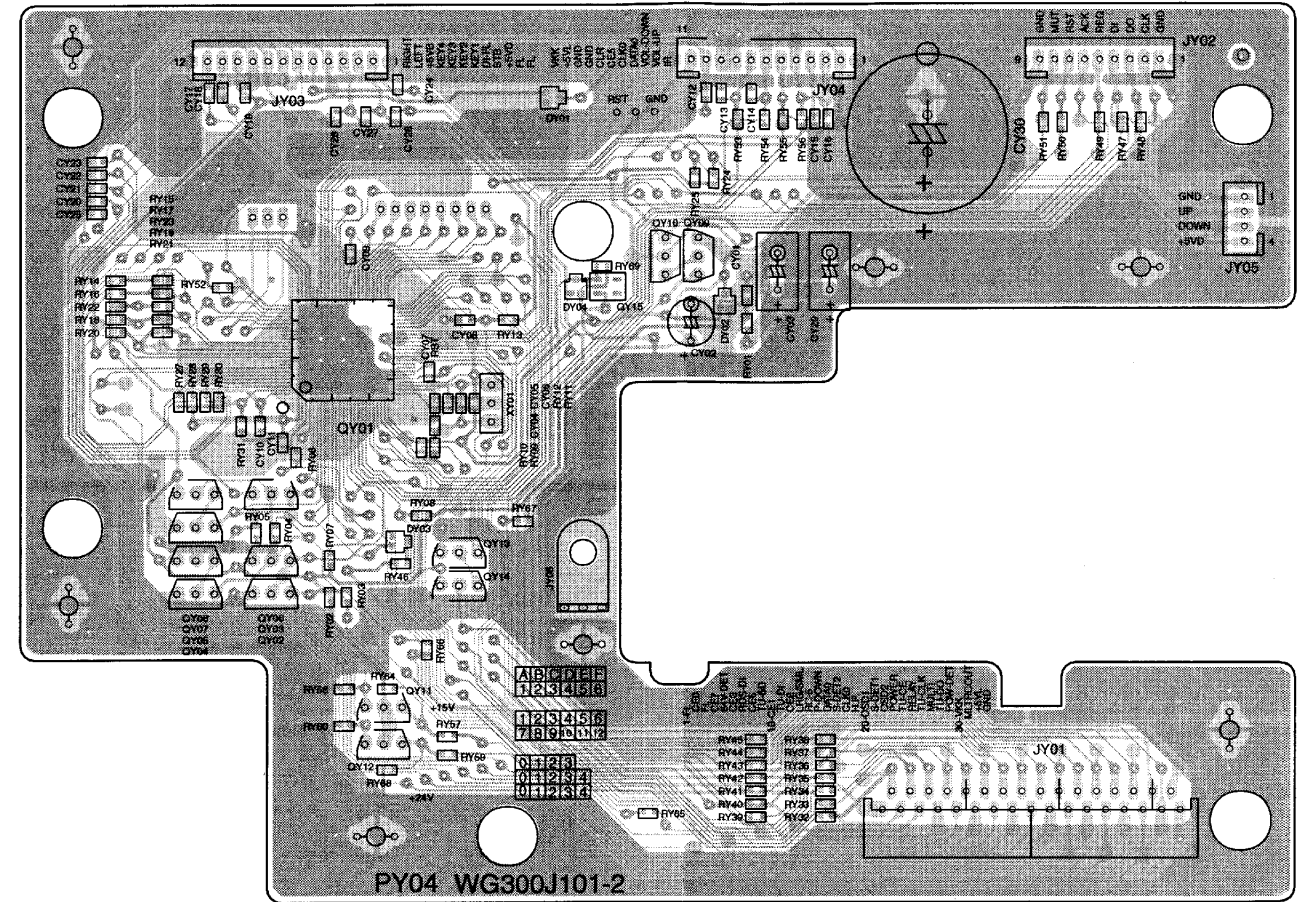


P854



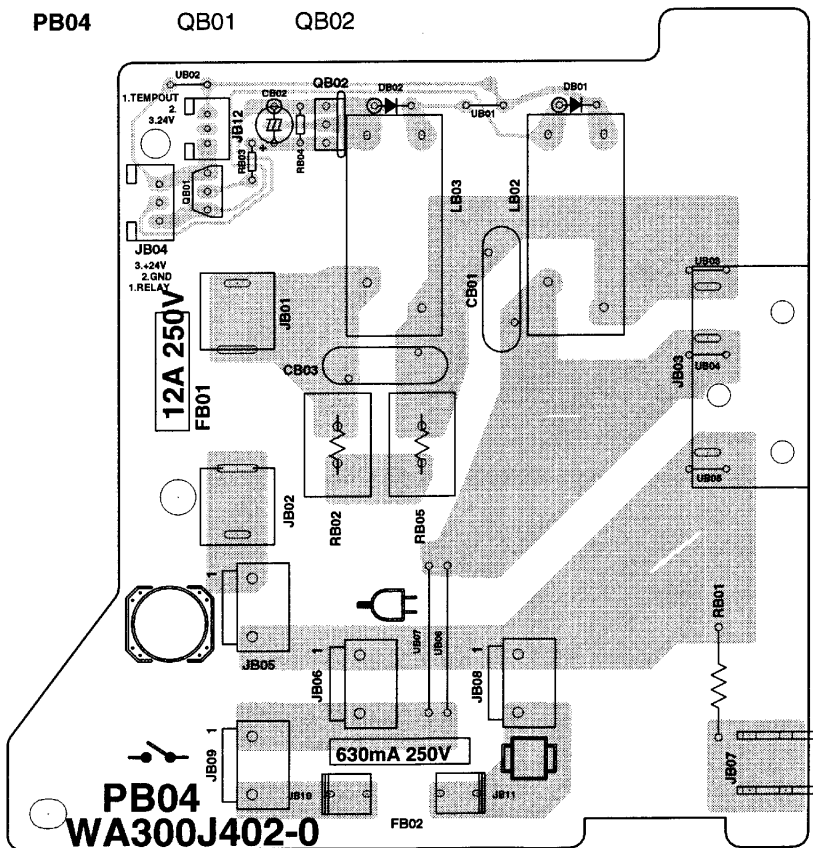
PY04

QY01 QY15 QY10 QY09
 QY02 - QY08 QY13 QY14
 QY11 QY12



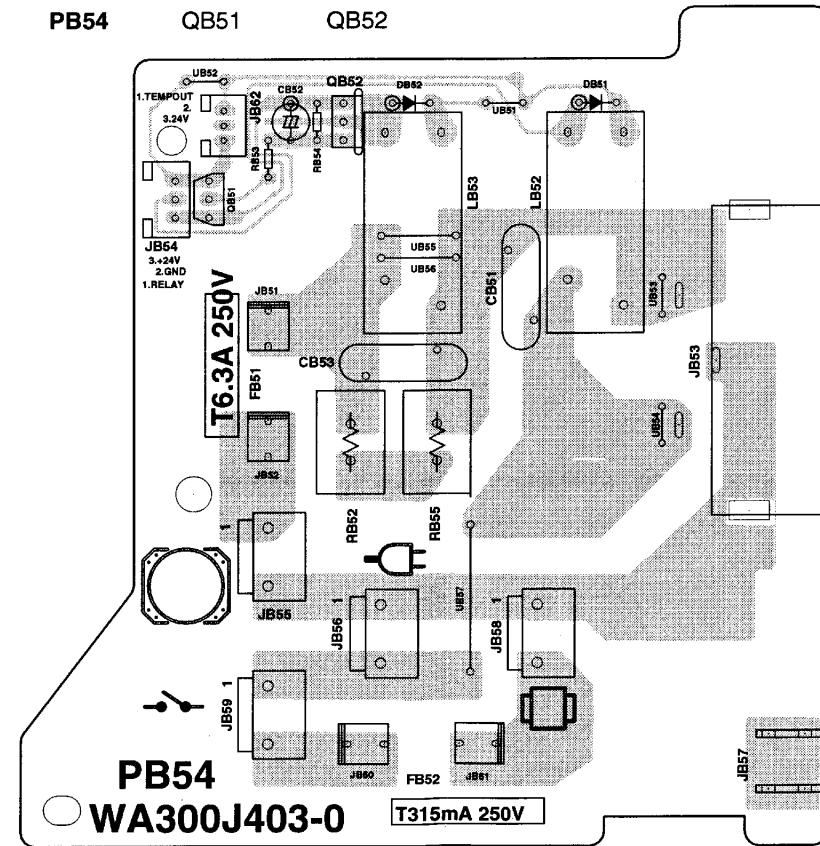
PB04

QB01 QB02

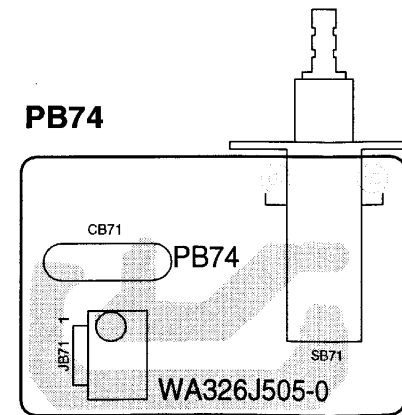


PB54

QB51 QB52

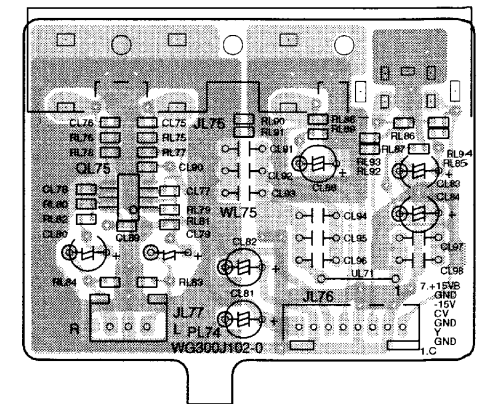


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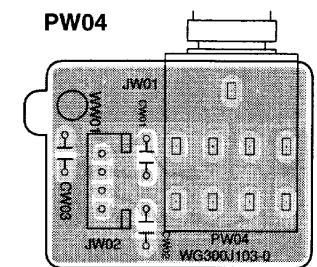


PL74

QL75



PW04



P604

QK05 QK06
QK03 QK04
QK01

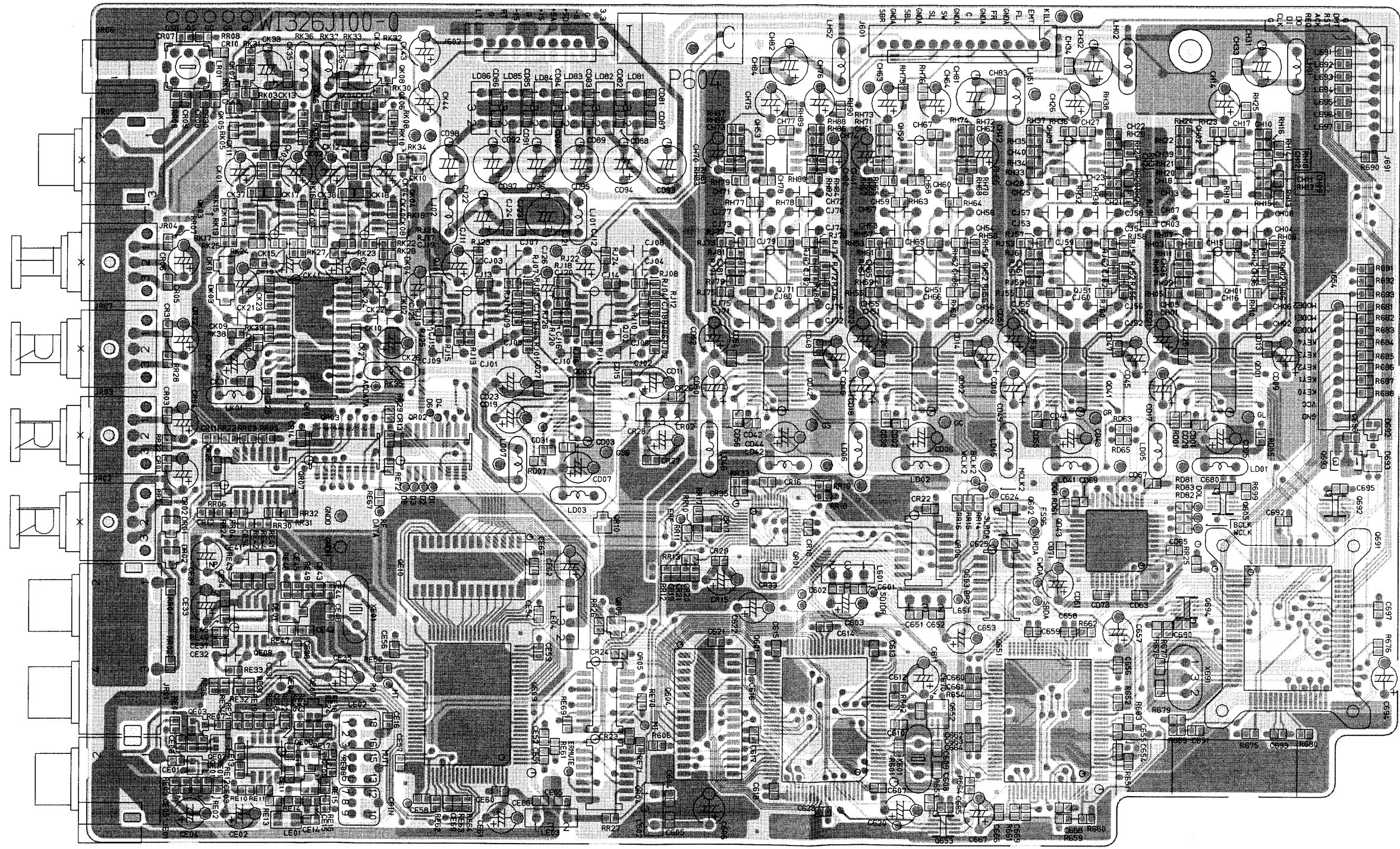
QJ01 QJ02
QD03

QH53 QJ71
QD42

QH52 QH51
QD02

QH03 QJ51
QD41

QH02 QH01
QD01



QR07
QE01

QR03
QE08 QE01
QE04 - QE07

QR02
QE10
QE09

QR10 QR09
QR05
QR04

Q604

QR01
Q601

QR06 Q603 Q602
Q652 Q653 Q651

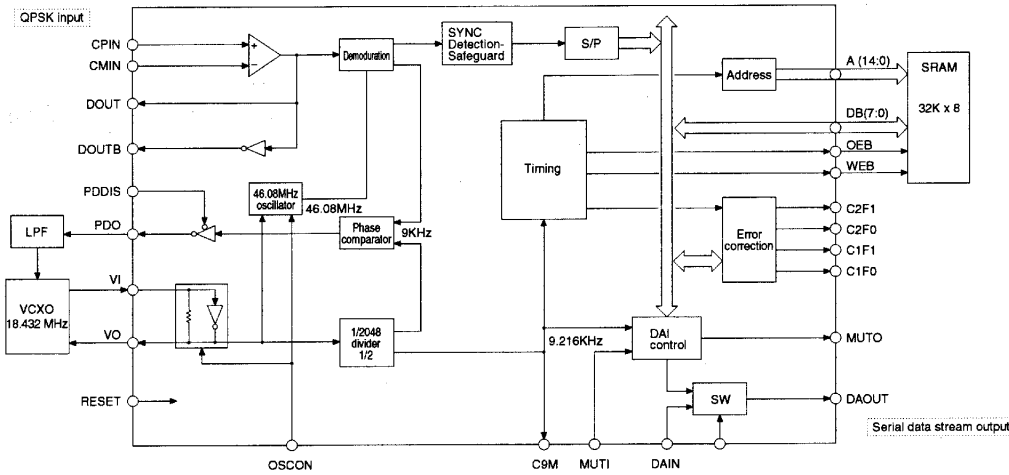
QD43

Q605
Q694

Q693 Q692
Q691

6. IC DATA

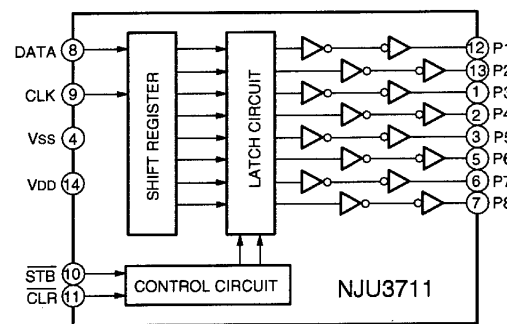
QE09:PM4007A



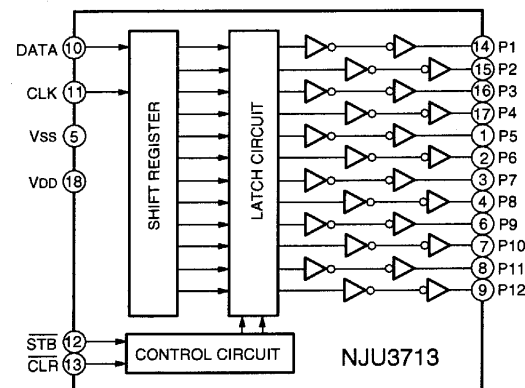
No.	Name	I/O	Function
1	GND	-	GND
2	VDD	-	+5V
3	RESET	I	System Reset At "L" reset
4	OSCON	I	Oscillator control At "H" during normal operation At "L" during standby
5	DATA	I	TEST
6	MCK	I	TEST
7	MLTB	I	TEST
8	IDST	I	TEST
9	IDCK	O	TEST
10	IDO	O	TEST
11	TM0	I	TEST
12	ECCK	O	TEST
13	DEN	O	TEST
14	DRY	O	TEST
15	MSYC	O	TEST
16	TM1	I	TEST
17	A0	O	RAM A0
18	A1	O	RAM A1
19	A2	O	RAM A2
20	A3	O	RAM A3
21	A4	O	RAM A4
22	A5	O	RAM A5
23	TM2	I	TEST
24	TM3	I	TEST
25	XOUT	O	TEST
26	XIN	I	TEST
27	XEXT	I	TEST
28	GND	-	GND
29	VDD	-	+5V
30	A6	O	RAM A6
31	A7	O	RAM A7
32	GND	-	GND
33	VDD	-	+5V
34	A12	O	RAM A12
35	A14	O	RAM A14
36	WEB	O	RAM WEB
37	A13	O	RAM A13
38	A8	O	RAM A8
39	A9	O	RAM A9
40	GND	-	GND
41	A11	O	RAM A11
42	OE	O	RAM OE
43	A10	O	RAM A10
44	DB7	B	RAM D7
45	DB6	B	RAM D6
46	DB5	B	RAM D5
47	DB4	B	RAM D4
48	DB3	B	RAM D3
49	DB2	B	RAM D2
50	DB1	B	RAM D1

No.	Name	I/O	Function
51	DB0	B	RAM D0
52	VDD	-	+5V
53	GND	-	GND
54	T1	I	TEST
55	VIN	I	VCXO input
56	VOUT	O	VCXO output
57	T2	I	TEST
58	T3	I	TEST
59	TLDB	I	TEST
60	TCK	I	TEST
61	TRP	O	TEST
62	TDO	O	TEST
63	PDO	O	Phase comparator output (3-state)
64	T4	I	TEST
65	PDDIS	I	Control input for PDO out At "L" Output ON
66	MUTO	O	Muting output. Mutes at "H". Sets to "H" when MUTI = H or the AC-3 period cannot be received.
67	T5	I	TEST
68	VLDY	O	TEST
69	DASYO	O	TEST
70	DAOUT	O	Digital OUT (serial data stream output)
71	DAIN	I	Digital external input : Sets to DAOUT when DASEL is at "H"
72	DASEL	I	Selects digital OUT
73	T8	I	TEST
74	C2F1	O	N.C.
75	C2F0	O	N.C.
76	C1F1	O	N.C.
77	C1F0	O	Displays C1 correction error status. Outputs error count at C1.
78	MUTI	I	Muting input. Mutes at "H".
79	VDD	-	+5V
80	GND	-	GND
81	AVDD	I	+5V
82	CPIN	I	Analog converter inverted input
83	CMIN	I	Analog converter inverted input
84	AGND	-	GND
85	TM4	I	TEST
86	VDD	-	+5V
87	DIN	I	TEST
88	DOUT	O	Analog converter inverted output
89	DOUTB	O	Analog converter inverted reverse output
90	C9M	O	N.C.
91	GND	-	GND
92	WINGT	O	TEST
93	SYST0	O	TEST
94	SYST1	O	TEST
95	ADST0	O	TEST
96	ADST1	O	TEST
97	TM5	I	TEST
98	BUNRI	I	TEST
99	AGND	-	GND
100	AVDD	-	+5V

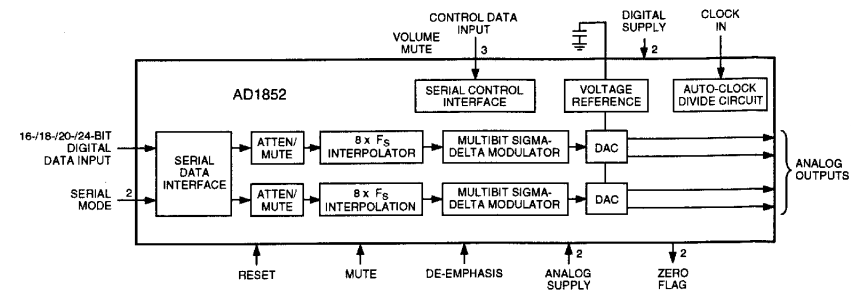
QU02:NJU3711



QM07:NJU3713D



QD01-QD03,QD41-QD43:AD1855

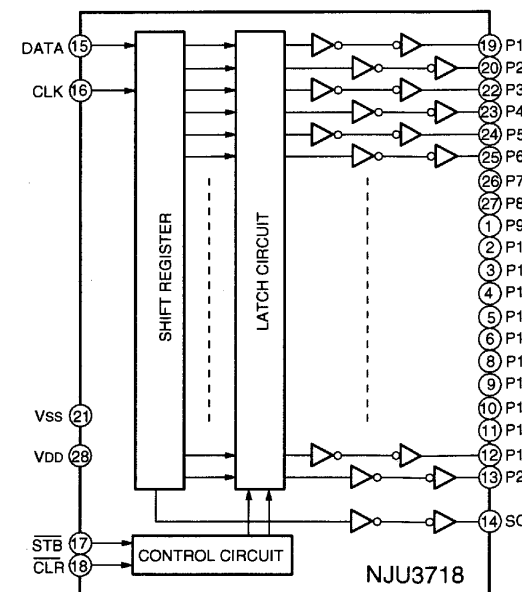


Pin	In/Out	Pin Name	Description
1	I	DGND	Digital Ground.
2	I	MCLK	Master Clock Input. Connect to an external clock source at either 256 F _s , 384 F _s , 512 F _s , 768 F _s , or 1024 F _s .
3	I	CLATCH	Latch Input for Control Data. This input is rising-edge sensitive.
4	I	CCLK	Control Clock Input for Control Data. Control input data must be valid on the rising edge of CCLK. CCLK may be continuous or gated.
5	I	CDATA	Serial Control Input. MSB first, containing 16 bits of unsigned data per channel. Used for specifying channel-specific attenuation and mute.
6	I	NC	No Connect.
7	I	192/48	Selects 48 kHz (LO) or 192 kHz Sample Frequency.
8	O	ZEROR	Right Channel Zero Flag Output. This pin goes HI when Right Channel has no signal input for more than 1024 LR Clock Cycles.
9	I	DEEMP	De-Emphasis. Digital de-emphasis is enabled when this input signal is HI. This is used to impose a 50µs/15µs response characteristic on the output audio spectrum at an assumed 44.1 kHz sample rate. Curves for 32 kHz and 48 kHz sample rates may be selected via SPI control register.
10	I	96/48	Selects 48 kHz (LO) or 96 kHz Sample Frequency.
11, 15	I	AGND	Analog Ground.
12	O	OUTR+	Right Channel Positive Line Level Analog Output.
13	O	OUTRB	Right Channel Negative Line Level Analog Output.
14	O	FILTR	Voltage Reference Filter Capacitor Connection. Bypass and decouple the voltage reference with parallel 10µF and 0.1µF capacitors to the AGND.
16	O	OUTLD	Left Channel Negative Line Level Analog Output.
17	O	OUTL+	Left Channel Positive Line Level Analog Output.
18	I	AVDD	Analog Power Supply. Connect to Analog 5 V Supply.
19	I	FILTB	Filter Capacitor Connection. Connect 10µF capacitor to AGND (Pin 15).
20	I	IDPM1	Input Serial Data Port Mode Control One. With IDPM0, defines 1 of 4 serial modes.
21	I	IDPM0	Input Serial Data Port Mode Control Zero. With IDPM1, defines 1 of 4 serial modes.
22	O	ZEROL	Left Channel Zero Flag Output. This pin goes HI when Left Channel has no signal input for more than 1024 LR Clock Cycles.
23	I	MUTE	Mute. Assert HI to mute both stereo analog outputs. Deassert LO for normal operation.
24	I	RESET	Reset. The AD1852 is reset on the rising edge of this signal. The serial control port registers are reset to the default values. Connect HI for normal operation.
25	I	LRCLK	Left/Right Clock Input for Input Data. Must run continuously.
26	I	BCLK	Bit Clock Input for Input Data. Need not run continuously, may be gated or used in a burst fashion.
27	I	SDATA	Serial Input. MSB first, containing two channels of 16, 18, 20, and 24 bits of two's complement data per channel.
28	I	DVDD	Digital Power Supply Connect to digital 5 V supply.

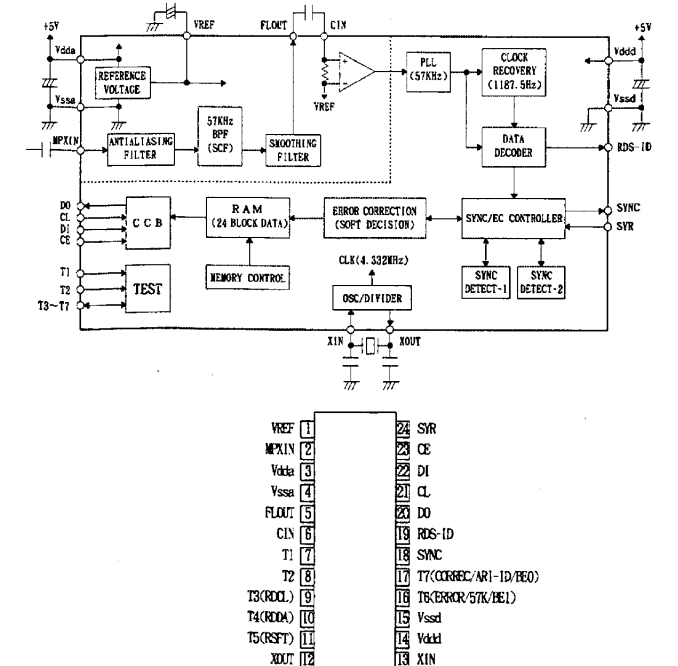
Table 1. Serial Data Input Mode

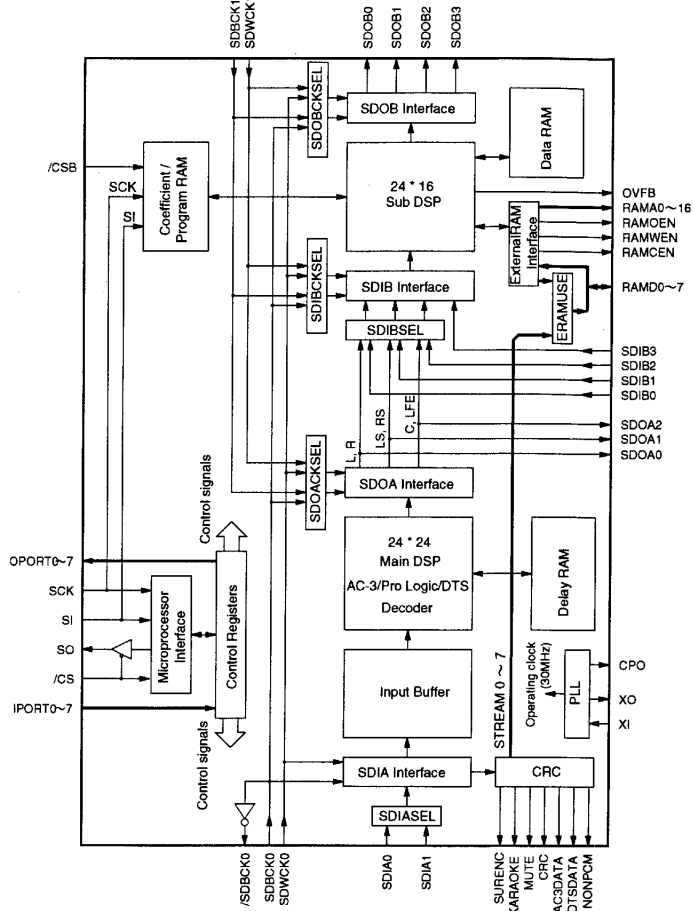
IDPM1 (Pin 20)	IDPM0 (Pin 21)	Serial Data Input Format
0	0	Right-Justified
0	1	I ² S-Compatible
1	0	Left-Justified
1	1	DSP

QL07:NJU3718

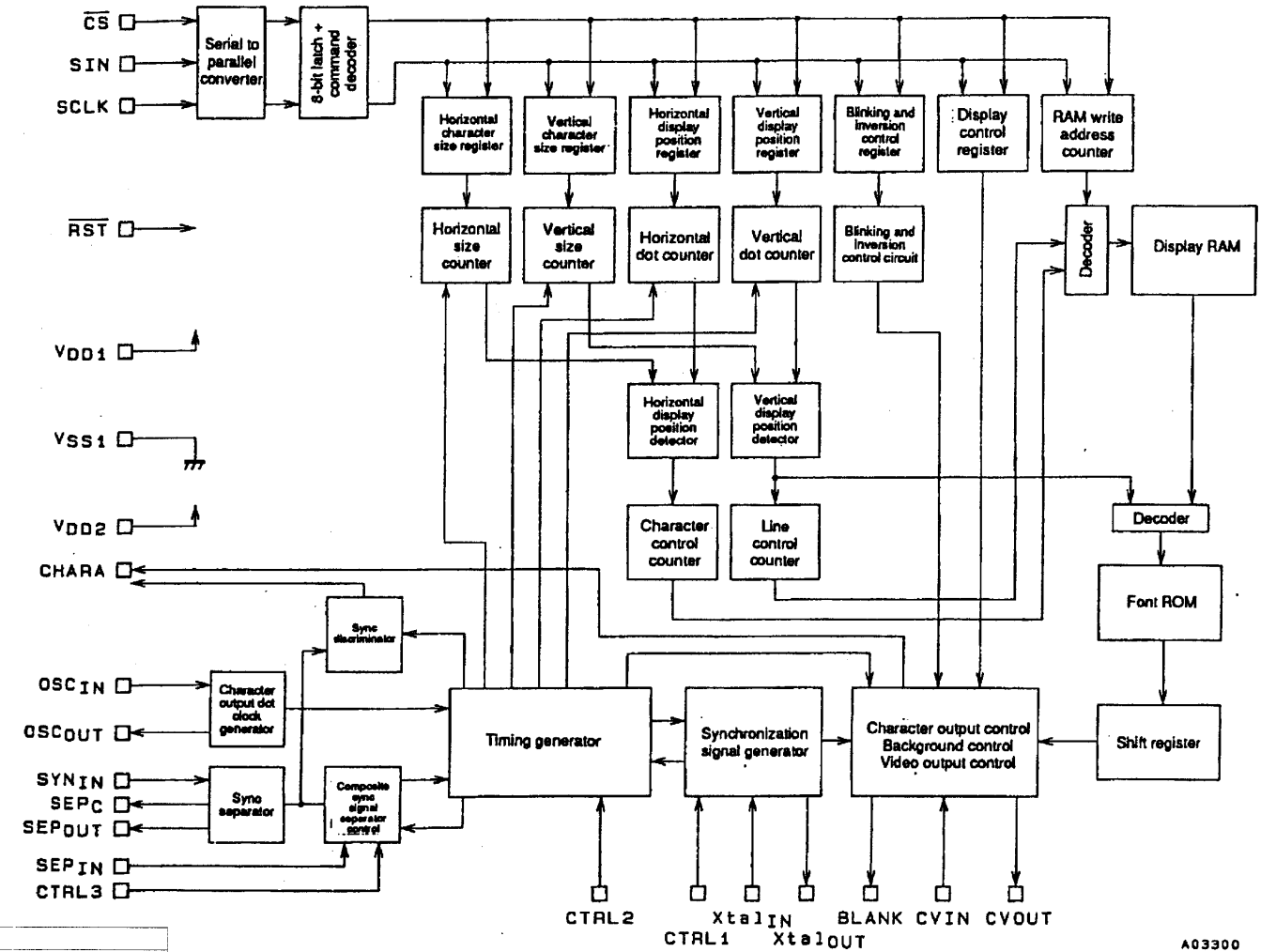


Q351:LC72720



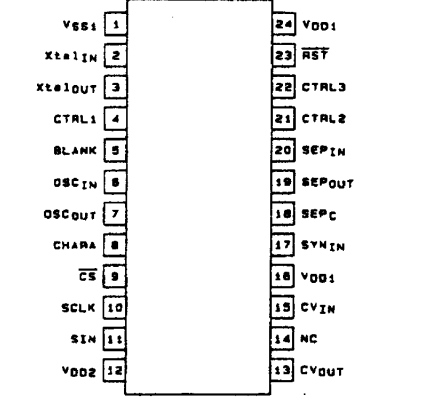


No.	NAME	I/O	FUNCTION
1	VDD1	-	+5V power supply (for I/Os)
2	RAMCEN	O	External SRAM Interface /CE
3	RAMA16	O	External SRAM Interface address 16
4	RAMA15	O	External SRAM Interface address 15
5	SDIB0	I+	PCM input 0 to Sub DSP
6	SDIB1	I+	PCM input 1 to Sub DSP
7	SDIB2	I+	PCM input 2 to Sub DSP
8	XI	I	Crystal oscillator connection or input external clock (12.288 MHz)
9	XO	O	Crystal oscillator connection
10	VSS	-	Ground
11	AVDD	-	+3.3V power supply (for PLL circuit)
12	SDIB3	I+	PCM input 3 to Sub DSP
13	TEST	O	Test terminal (to be open in normal use)
14	TEST	O	Test terminal (to be open in normal use)
15	OVFB	O	Detection of overflow at Sub DSP
16	DTSDATA	O	DTS data detection (Refer to "Status Register".)
17	AC3DATA	O	AC-3 data detection (Refer to "Status Register".)
18	SDOB3	O	PCM output from Sub DSP
19	CPO	A	Output terminal for PLL, to be connected to ground through the external analog filter circuit. (Refer to "External Circuit for PLL".)
20	AVSS	-	Ground (for PLL circuit)
21	VDD2	-	+3.3V power supply (for core logic)
22	SDOA2	O	PCM output from Main DSP (C, LFE)
23	SDOA1	O	PCM output from Main DSP (LS, RS)
24	SDOA0	O	PCM output from Main DSP (L, R)
25	RAMA14	O	External SRAM Interface address 14
26	RAMA13	O	External SRAM Interface address 13
27	RAMA12	O	External SRAM Interface address 12
28	RAMA11	O	External SRAM Interface address 11
29	RAMA10	O	External SRAM Interface address 10
30	VSS	-	Ground
31	VDD1	-	+5V power supply (for I/Os)
32	OPORT0	O	Output port for general purpose. (Refer to "OPORT Register")
33	OPORT1	O	Output port for general purpose. (Refer to "OPORT Register")
34	OPORT2	O	Output port for general purpose. (Refer to "OPORT Register")
35	OPORT3	O	Output port for general purpose. (Refer to "OPORT Register")
36	OPORT4	O	Output port for general purpose. (Refer to "OPORT Register")
37	OPORT5	O	Output port for general purpose. (Refer to "OPORT Register")
38	OPORT6	O	Output port for general purpose. (Refer to "OPORT Register")
39	OPORT7	O	Output port for general purpose. (Refer to "OPORT Register")
40	VSS	-	Ground
41	VDD2	-	+3.3V power supply (for core logic)
42	RAMA9	O	External SRAM interface address 9
43	RAMA8	O	External SRAM interface address 8
44	RAMA7	O	External SRAM interface address 7
45	SDOB2	O	PCM output from Sub DSP
46	SDOB1	O	PCM output from Sub DSP
47	SDOB0	O	PCM output from Sub DSP
48	SDBCK1	I+	Bit clock input for SDOA, SDIB, SDOB. (Refer to "SDOA, SDIB, SDOB Register")
49	SDWCK1	I+	Word clock input for SDOA, SDIB, SDOB. (Refer to "SDOA, SDIB, SDOB Register")
50	VSS	-	Ground



No.	NAME	I/O	FUNCTION
51	VDD2	-	+3.3V power supply (for core logic)
52	NONPCM	O	Detection of non PCM data. (Refer to "Status Register")
53	CRC	O	Detection of AC-3 CRC error. (Refer to "Status Register")
54	MUTE	O	Detection of auto-mute. (Refer to "Status Register")
55	KARAOKE	O	Detection of AC-3 karaoke data. (Refer to "Status Register")
56	SURENC	O	Detection of AC-3 2/0 mode Dolby surround encoded input (Refer to "Status Register")
57	/SDBCK0	O	Inverted SDBCK0 clock output (refer to "Block diagram")
58	RAMA6	O	External SRAM Interface address 6
59	RAMA5	O	External SRAM Interface address 5
60	VSS	-	Ground
61	RAMA4	O	External SRAM Interface address 4
62	/IC	Is	Initial clear
63	TEST	O	Test terminal (to be open in normal use)
64	RAMA3	O	External SRAM Interface address 3
65	/CSB	Is+	Sub DSP Chip select
66	/CS	Is	Microprocessor interface Chip select
67	SO	Ot	Microprocessor interface Serial data output
68	SI	Is	Microprocessor interface/Sub DSP Serial data input
69	SCK	Is	Microprocessor interface/Sub DSP clock input
70	RAMA2	O	External SRAM Interface address 2
71	VDD1	-	+5V power supply (for I/Os)
72	RAMD0	I+/O	External SRAM Interface data (STREAM 0 output when External SRAM is not in use)
73	RAMD1	I+/O	External SRAM Interface data (STREAM 1 output when External SRAM is not in use)
74	RAMD2	I+/O	External SRAM Interface data (STREAM 2 output when External SRAM is not in use)
75	RAMD3	I+/O	External SRAM Interface data (STREAM 3 output when External SRAM is not in use)
76	RAMD4	I+/O	External SRAM Interface data (STREAM 4 output when External SRAM is not in use)
77	RAMD5	I+/O	External SRAM Interface data (STREAM 5 output when External SRAM is not in use)
78	RAMD6	I+/O	External SRAM Interface data (STREAM 6 output when External SRAM is not in use)
79	RAMD7	I+/O	External SRAM Interface data (STREAM 7 output when External SRAM is not in use)
80	VSS	-	Ground
81	VDD2	-	+3.3V power supply (for core logic)
82	SDWCK0	I	Word clock input for SDIA, SDOA, SDIB, SDOB (Refer to "SDIA, SDOA, SDIB, SDOB Register")
83	SDBCK0	I	Bit clock input for SDIA SDOA SDIB SDOB (Refer to "SDIA, SDOA, SDIB, SDOB Register")
84	SDIA0	I	AC-3/DTS bitstream (or PCM) data input for Main DSP (Refer to "SDIA Register")
85	SDIA1	I	AC-3/DTS bitstream (or PCM) data input for Main DSP (Refer to "SDIA Register")
86	RAMA1	O	External SRAM Interface address 1
87	RAMA0	O	External SRAM Interface address 0
88	RAMWEN	O	External SRAM Interface /WE
89	RAMOEN	O	External SRAM Interface /OE
90	VSS	-	Ground
91	VDD2	-	+3.3V power supply (for core logic)
92	IPORT7	I+	Input port for general purpose (Refer to "IPORT Register")
93	IPORT6	I+	Input port for general purpose (Refer to "IPORT Register")
94	IPORT5	I+	Input port for general purpose (Refer to "IPORT Register")
95	IPORT4	I+	Input port for general purpose (Refer to "IPORT Register")
96	IPORT3	I+	Input port for general purpose (Refer to "IPORT Register")
97	IPORT2	I+	Input port for general purpose (Refer to "IPORT Register")
98	IPORT1	I+	Input port for general purpose (Refer to "IPORT Register")
99	IPORT0	I+	Input port for general purpose (Refer to "IPORT Register")
100	VSS	-	Ground

Note) Is: Schmidt trigger input terminal
 I+: Input terminal with a pull-up resistor
 O: Digital output terminal
 Ot: Tri-state digital output terminal
 A: Analog terminal



No.	Pin Name	I/O	Function
1	VREFL	O	Lch Reference Voltage Pin, 3.75V Normally connected to GNDL with a 10uF electrolytic capacitor and a 0.1uF ceramic capacitor
2	GNDL	-	Lch Reference Ground Pin, 0V
3	VCOML	O	Lch Common Voltage Pin, 2.5V
4	AINL+	I	Lch Analog positive input Pin
5	AINL-	I	Lch Analog negative input Pin
6	ZCAL	I	Zero Calibration Control Pin This pin controls the calibration reference signal. "L":VCOML and VCOMR "H":Analog Input Pins(AINL±,AINR±)
7	VD	-	Digital Power Supply Pin, 3.3V
8	DGND	-	Digital Ground Pin, 0V
9	CAL	O	Calibration Active Signal Pin "H" means the offset calibration cycle is in progress. Offset calibration starts when RST goes "H". CAL goes "L" after 8704 L RCK cycles.
10	RST	I	Reset Pin When "L", Digital section is powered-down. Upon returning "H", an offset calibration cycle is started. An offset calibration cycle should always be initiated after power-up.
11	S MODE2	I	Serial Interface Mode Select Pin
12	S MODE1	I	MSB first, 2's complement. S MODE2 S MODE1 MODE L RCK L L Slave mode : MSB justified : H/L L H Master mode : Similar to I2S : H/L H L Slave mode : I2S : L/H H H Master mode : I2S : L/H
13	L RCK	I/O	Left/Right Channel Select Clock Pin L RCK goes "H" at S MODE2="L" and "L" at S MODE2="H" during reset when S MODE1 "H".

14	SCLK	I/O	Serial Data Clock Pin Data is clocked out on the falling edge of SCLK. Slave mode: SCLK requires more than 48fs clock. Master mode: SCLK outputs a 128fs clock. SCLK stays "L" during reset.
15	SDATA	O	Serial Data Output Pin MSB first, 2's complement. SDATA stays "L" during reset.
16	FSYNC	I/O	Frame Synchronization Signal Pin Slave mode: When "H", the data bits are clocked out on SDATA. Master mode: FSYNC outputs 2fs clock. FSYNC stays "L" during reset.
17	CLK	I	Master Clock Input Pin CMODE="H":384fs CMODE="L":256fs
18	CMODE	I	Master Clock Select Pin "L": CLK=256fs (12.288MHz @fs=48kHz) "H": CLK=384fs (18.432MHz @fs=48kHz)
19	HPFE	I	High Pass Filter Enable Pin "L": Disable "H": Enable
20	TEST	I	Test Pin Should be connected DGND.
21	BGND	-	Substrate Ground Pin, 0V
22	AGND	-	Analog Ground Pin, 0V
23	VA	-	Analog Supply Pin, 5V
24	AINR-	I	Rch Analog negative input Pin
25	AINR+	I	Rch Analog positive input Pin
26	VCOMR	O	Rch Common Voltage Pin, 2.5V
27	GNDR	-	Rch Reference Ground Pin, 0V
28	VREFR	O	Rch Reference Voltage Pin, 3.75V Normally connected to GNDR with a 10uF electrolytic capacitor and a 0.1uF ceramic capacitor

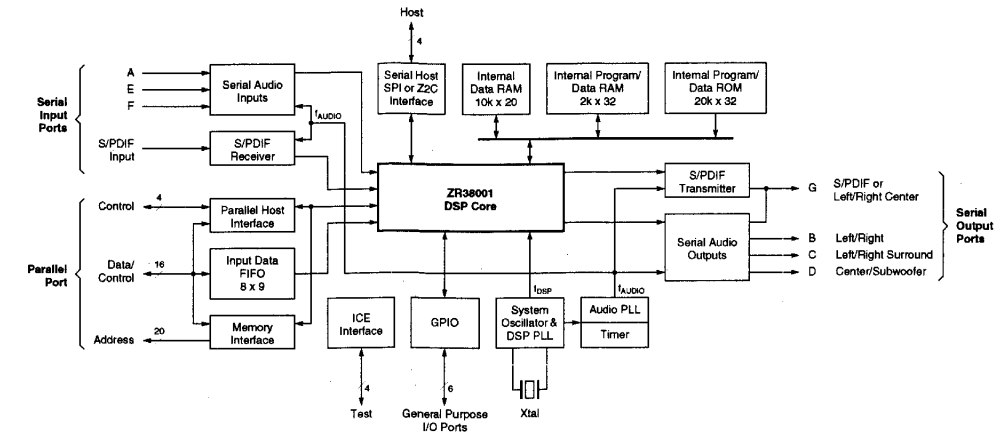
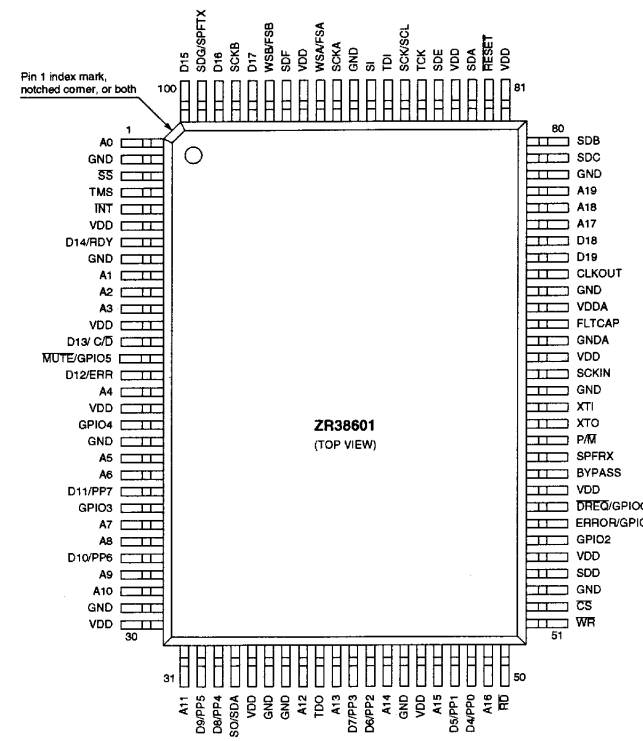
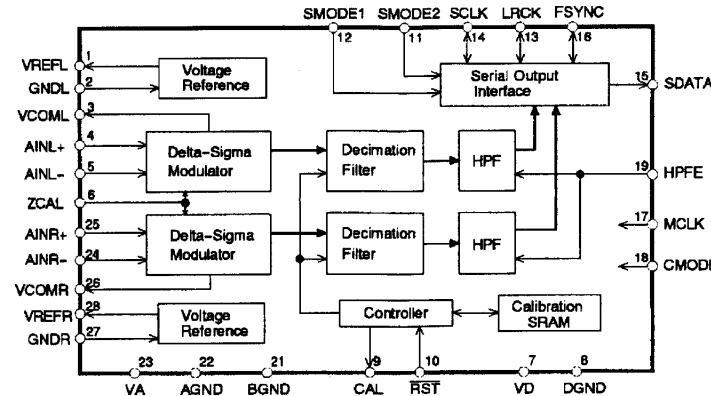


Figure 5. ZR38601 Simplified Block Diagram

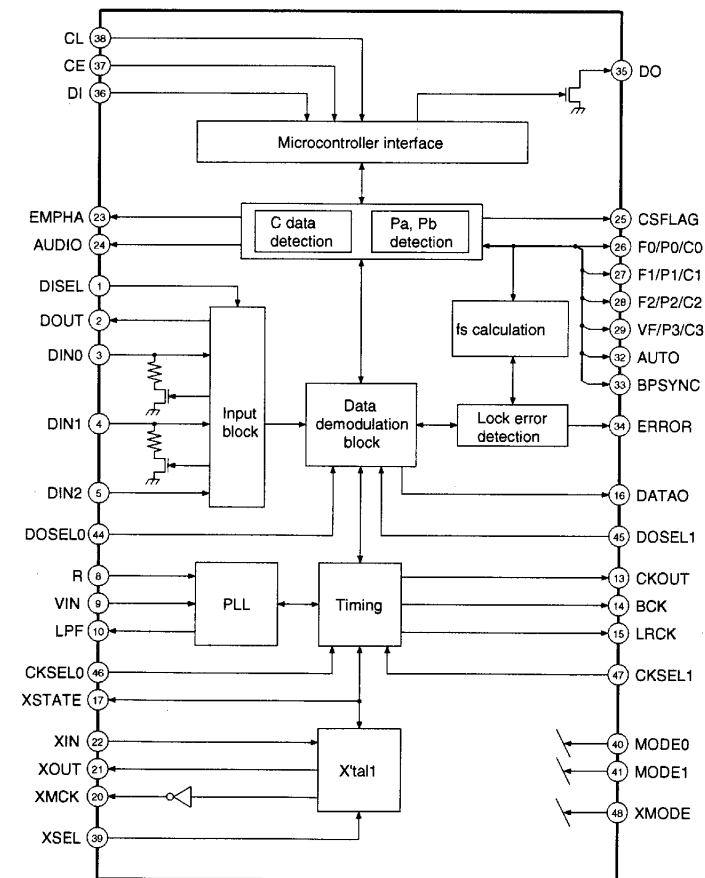
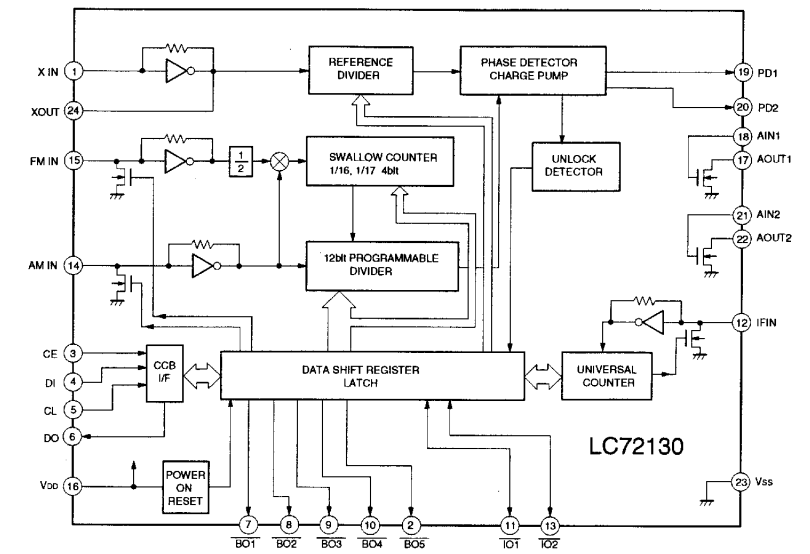
ZR38601 Signal Description Summary

Name	Number	Type ⁽¹⁾	Description
Parallel Port (40)			
A[19:0]	20	O	Address bus of parallel port
D[19:15]	5	I/O	Data bus of parallel port when selected for external memory (P/M = 0)
D14/RDY	1	I/O or O	Data bus (P/M = 0) or Ready output signal of parallel port when selected for parallel I/O (P/M = 1)
D13/C/D	1	I/O or I	Data bus (P/M = 0) or Command/Data select input of parallel port when selected for parallel I/O (P/M = 1)
D12/ERR	1	I/O or I	Data bus (P/M = 0) or Error input signal of parallel port when selected for parallel I/O (P/M = 1)
D[11:4]/PP[7:0]	8	I/O	Data bus of parallel port when selected for external memory (P/M = 0) or Parallel Port I/O (P/M = 1)
CS	1	I/O	Chip Select output for external memory or Chip Select input for parallel I/O
RD	1	I/O	Read enable output for external memory or Read enable input for parallel I/O
WR	1	I/O	Write enable output for external memory or Write enable input for parallel I/O
P/M	1	I	Parallel I/O or Memory select for parallel port. Determined at time of RESET.
Serial Ports (13)			
SPFRX	1	I	S/PDIF Receiver input port
SDA, SDE, SDF	3	I	Serial Data inputs. Ports A, E and F.
WSA/FSA	1	I/O	Word Select or Frame Synchronization for input ports. An output when a master, an input when a slave.
SCKA	1	I/O	Serial Clock for input ports. An output when a master, an input when a slave.
SDB	1	O	Serial left and right Data output. Port B. Also, at RESET defines SPI/Z2C for host serial interface.
SDC	1	O	Serial left and right surround Data output. Port C. Also, at RESET defines Z2CADR[0] of Z2C address.
SDD	1	O	Serial center and sub-woofer Data output. Port D. Also, at RESET defines Z2CADR[1] of Z2C address.
SDG/SPFTX	1	O	Serial Data output. Port G or S/PDIF Transmitter port. Also, at RESET defines the SCKP value.
WSB/FSB	1	I/O	Word Select or Frame Synchronization for output ports. An output when a master, an input when a slave.
SCKB	1	I/O	Serial Clock for output ports. An output when a master, an input when a slave.
SCKIN	1	I/O	Serial master Clock output or master clock input for output ports
General Purpose Ports (6)			
MUTE/GPIO5	1	I or I/O	Mute input signal or can be programmed as General Purpose Input/Output 5
GPIO[4:2]	3	I/O	Can be programmed as General Purpose Input/Output 4, 3 and 2
ERROR/GPIO1	1	O or I/O	Error output signal or can be programmed as General Purpose Input/Output 1
DREQ/GPIO0	1	O or I/O	Data Request output signal or can be programmed as General Purpose Input/Output 0
Serial Host Interface (4)			
SI	1	I	Host Serial interface data Input. Also, at RESET defines Z2CADR[5] of Z2C address.
SO/SDA	1	I/O/T	SPI host Serial interface data Output or Serial Data for Z2C
SCK/SCLK	1	I	SPI host Serial interface Clock input or Slave Clock input for Z2C
SS	1	I	SPI host serial interface Slave Select input. Also, at RESET defines Z2CADR[4] of Z2C address.
ICE Interface (4)			
TDI	1	I	ICE Test interface Data Input
TDO	1	O/T	ICE Test interface Data Output
TCK	1	I	ICE Test interface Clock input
TMS	1	I	ICE Test interface Mode Select
System Interface (7)			
INT	1	I	External Interrupt request input
RESET	1	I	Reset input to start operation in known state
XTI	1	I	External system clock Input or connection to external crystal, at frequency f _{XTI}
XTO	1	O	Output connection to external crystal
CLKOUT	1	O	Clock Output from the ZR38601 at frequency f _{DSP/2}
BYPASS	1	I	Bypass internal DSP core PLL to use external system clock input on XTI
FLTCAP	1	I	External Filter Capacitor connection for PLL. A value of 47nF is recommended.
Power (26)			
VDD	12	Power	+3.3 volt power supply
VDDA	1	Power	+3.3 volt power supply, Analog for PLL
GND	12	Power	Power supply Ground
GNDA	1	Power	Power supply Ground, Analog for PLL
Total (100)			

1. O = Output, I = Input, T = Tri-state in normal use. May be different at Reset time as shown in Table 23 on page 42.

pin	port name	I/O	use	Name	Act.	Note
1	P55/AN5	I		MODE_SW0	-	Link Host or _Stand alone
2	P56/AN6	I		MODE_SW1	-	_HDCD available
3	P57/AN7	I		MODE_SW2	-	_RF available
4	NMI	I	-	-	-	to GND
5	P60/TXD0	I/O	O	DO0		Data out to DSP1&2
6	P61/RXD0	I/O	I	DI0		Data In from DSP1&2
7	P62/SCLK0	I/O	O	SCLK0		Clock Out to DSP1&2
8	P63/TXD1	I/O	O	DO1		Data out to DIR
9	P64/RXD1	I/O	I	DI1		Data In from DIR
10	P65/SCLK1	I/O	O	SCLK1		Clock Out to DIR
11	P70/WAIT	I/O	O	T0	L	to check LED
12	P71	I/O	O	T1	L	to check LED
13	Vss	I	Vss	GND	-	GND
14	P72	I/O	O	T2	L	to check LED
15	P73	I/O	O	T3	L	to check LED
16	P74	I/O	O	T4	L	to check LED
17	P75	I/O	O	X2GAIN	L	HDCD PE
18	P76	I/O	I	HDCD	H	detect HDCD
19	P77	I/O	O	K_TEST	L	to check LED
20	CLK	O	-	n.c.	-	pull μ P
21	AM8/16	I	-	n.c.	-	pull μ P
22	X1	I	X1	20MHz	-	

pin	port name	I/O	use	Name	Act.	Note
41	P10/AD8	I/O	O	_RSTRF	L	Reset RF demodulate
42	P11/AD9	I/O	O	D_A	-	Digital / Analog select
43	P12/AD10	I/O	O	DEMP	H	Emphasis to S-Direct
44	P13/AD11	I/O	O	_UMUTE	L	Hard Mute for Tr
45	P14/AD12	I/O	O	FS96	H	96kHz fs
46	P15/AD13	I/O	O	BYPASS 1	H	Bypass DSP1
47	P16/AD14	I/O	O	_BYPASS 2	L	Bypass DSP2
48	P17/AD15	I/O	O	_CS_DSP1	L	_CS_DSP1(main DSP)
49	P20/A0	I/O	O	_CSB_DSP1	L	_CS DSP1(sub DSP)
50	P21/A1	I/O	O	_SS_DSP2	L	_SS_DSP2(Zoran)
51	P22/A2	I/O	O	_CE_DIR	L	_CE for DIR
52	P23/A3	I/O	O	_RSTDSP2	L	Reset DSP2
53	P24/A4	I/O	O	_RSTDA1	L	Reset DAC for L/R
54	P25/A5	I/O	O	_RSTDA2	L	Reset DAC except L/R
55	P26/A6	I/O	O	_IC	L	Reset DSP1
56	P27/A7	I/O	O	_XMODE	L	_Reset DIR
57	Vcc	I	Vcc	+5VD	-	Vcc
58	P30/RD	O	O	_RSTAD	L	Reset & Cal for ADC
59	P31/WR	O	O	_IFACK	L	Ack to main CPU
60	P32/SCK	I/O	I	IFSCK	-	Clock from main CPU
61	P33/SO	I/O	O	IFDO	-	Data to main CPU
62	P34/SI	I/O	I	IFDI	-	Data from main CPU
63	P35/INT0	I/O	INT	OVFB	H	Over Level (sub DSP)
64	P40/INT1	I/O	INT	XSTATE	H	MCLK status(L:/unstable)
65	P41/TO3	I/O	I	CAL	H	ADC Calibration
66	P42/INT4	I/O	INT	_RFNODET	L	_No RF signal
67	P43/INT5	I/O	INT	ERF	H	DIR Error
68	P44/TO4	I/O	O	-	-	-
69	P45/INT6	I/O	INT	_IFREQ	L	Request from main CPU
70	P46/INT7	I/O	I	CSFLAG	H	Ch. Status(fall edge DIR)
71	P47/TO6	I/O	O	-	-	-
72	VrefH	I	VrefH	+5VD	-	ref High voltage for int. AD
73	VrefL	I	VrefL	GND	-	ref Low voltage for int. AD
74	Avss	I	Avss	GND	-	GND for Int. AD
75	Avcc	I	Avcc	+5VD	-	Vcc for Int. AD
76	P50/AN0	I	AN	KEY_INPUT0	-	Optional 8 key input 0
77	P51/AN1	I	AN	KEY_INPUT1	-	Optional 8 key input 1
78	P52/AN2	I	AN	KEY_INPUT2	-	Optional 8 key input 2
79	P53/AN3	I	AN	KEY_INPUT3	-	Optional 8 key input 3
80	P54/AN4	I	AN	KEY_INPUT4	-	Optional 8 key input 4



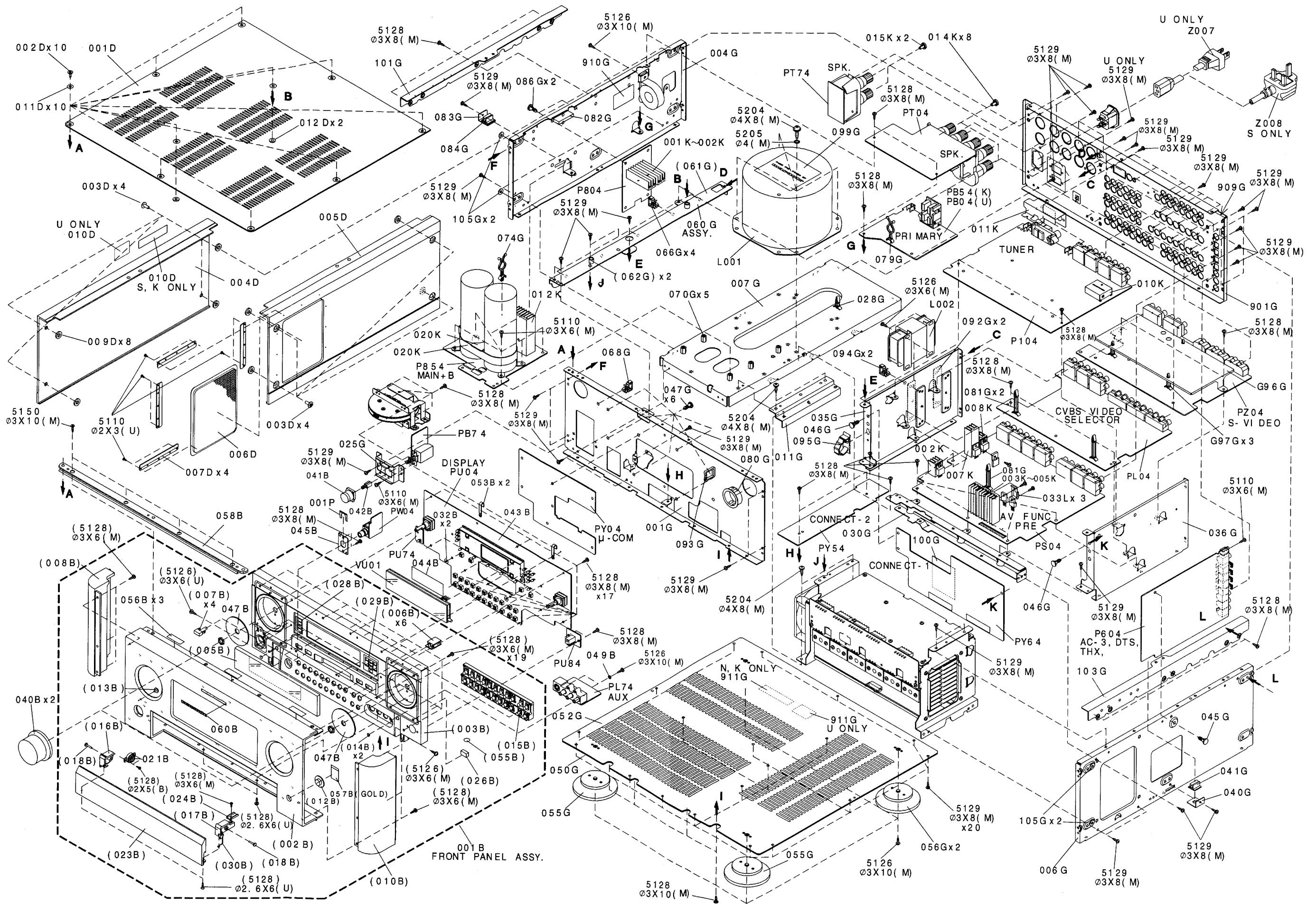
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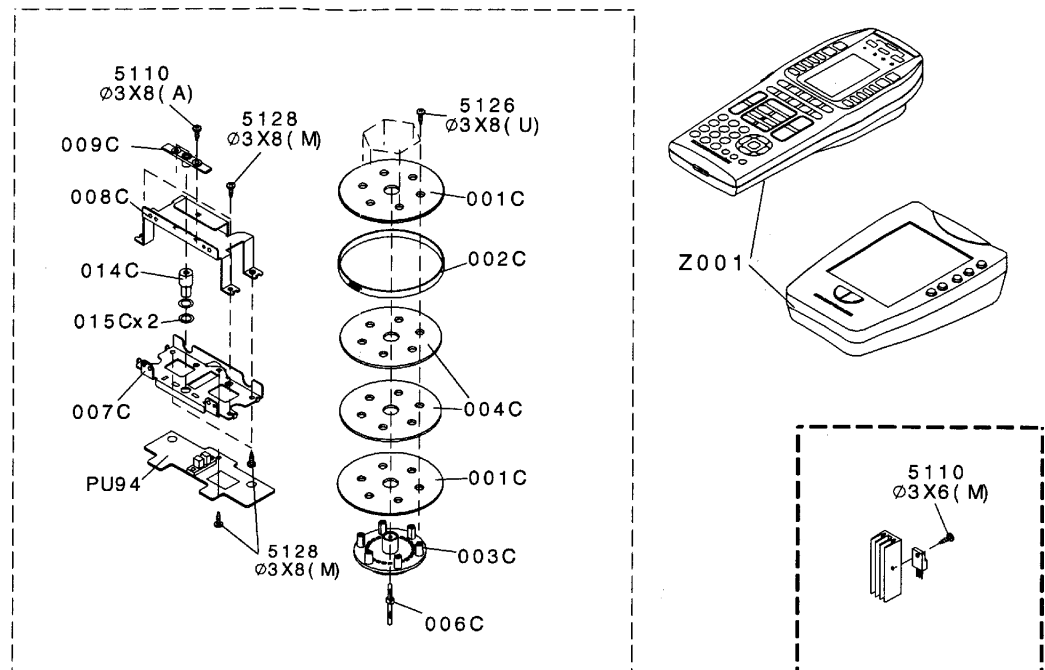
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1	VREFL	I	-	-	-	A/D VREFL.
2	AVSS	I	-	-	-	A/D VSS
3	AVCC	I	-	-	-	A/D VCC
4	NMI	I	NMI	-	-	Pull Up
5	P70/TI0	I/O	O	_POWER OFF	L	
6	P71/TO1	I/O	O	KILL IR	H	
7	P72/TO2	I/O	O	RC-5 OUT	H	
8	P73/TO3	I/O	O	SPEAKER OFF	H	SPK RELAY
9	P80/INT4	I/O	I	RC-5 IN	H	Both Edge
10	P81/INT5	I/O	I	SYNC0	H	Rising Edge
11	P82/TO4	I/O	I	_HEAD PHONE	L	
12	P83/TO5	I/O	I	-	-	Pull Up
13	P84/INT6	I/O	I	_SURR. ACK	L	Both Edge
14	P85/INT7	I/O	I	SYNC1	H	Rising Edge
15	P86/TO6	I/O	I	MULTI RC-5 IN	L	
16	P87/INT0	I/O	I	_POWER DOWN	L	
17	P90/TXD0	I/O	TXD	DO0	-	I/F to SURR. µP
18	P91/RXD0	I/O	RXD	DI0	-	I/F to SURR. µP
19	P92/SCLK0	I/O	CLK	CLK0	-	I/F to SURR. µP
20	P93/TXD1	I/O	O	DO1	-	I/F to ICs
21	P94/RXD1	I/O	O	-	-	
22	P95/SCLK1	I/O	O	CLK1	-	I/F to ICs
23	AM8/_16	I	-	-	-	Pull Up
24	CLK	O	-	-	-	Pull Up
25	VCC	I	-	-	-	Pull Up
26	VSS	I	-	-	-	to VSS
27	X1	I	-	-	-	20MHz
28	X2	O	-	-	-	20MHz
29	EA	I	-	-	-	Pull Up
30	RESET	I	-	-	-	
31	P96/XT1	I/O	I	-	-	to VSS
32	P97/XT2	I/O	I	-	-	to VSS
33	TEST1	I	-	-	-	to TEST2
34	TEST2	I	-	-	-	to TEST1
35	PA0	I/O	O	OSD ON0	H	
36	PA1	I/O	O	OSD ON1	H	
37	PA2	I/O	O	_CLR LED	L	NJU3718 CLR
38	PA3	I/O	O	MULTI RC-5 OUT	H	
39	PA4	I/O	O	_CE8 (Volume 8ch)	L	
40	PA5	I/O	O	SMUTE	H	

no	port name	I/O	USE	Sig. Name	act.	Description
41	PA6	I/O	O	_RST SURR	L	
42	PA7/SCOUT	I/O	O	_REQ SURR	L	I/F to SURR. µP
43	ALE	O	-	-	-	Pull Up
44	VCC	I	-	-	-	to VCC
45	P00	I/O	O	TU_CE(TUNER)	H	
46	P01	I/O	O	CLK(TUNER)	-	
47	P02	I/O	O	DO(TUNER)	-	
48	P03	I/O	I	DI(TUNER)	-	
49	P04	I/O	I	SD(TUNER)	L	
50	P05	I/O	I	DI(RDS)	-	
51	P06	I/O	O	_KILL CON	L	
52	P07	I/O	O	-	-	
53	P10	I/O	O	-CLKFL	-	
54	P11	I/O	O	-DATAFL	-	
55	P12	I/O	O	-	-	
56	P13	I/O	O	-	-	
57	P14	I/O	O	-	-	
58	P15	I/O	O	-	-	
59	P16	I/O	O	-	-	
60	P17	I/O	O	-	-	
61	WDTOUT	O	-	-	-	N.C
62	VSS	I	-	-	-	to VSS
63	VCC	I	-	-	-	to VCC
64	P20	I/O	I	FUNC. ENC. A	-	
65	P21	I/O	I	FUNC. ENC. B	-	
66	P22	I/O	I	VOL. ENC. A	-	
67	P23	I/O	I	VOL. ENC. B	-	
68	P24	I/O	I	GYRO A	-	
69	P25	I/O	I	GYRO B	-	
70	P26	I/O	I	-	-	to VSS
71	P27	I/O	I	-	-	to VSS
72	P30	I/O	O	CE0(AUDIO)	H	
73	P31	I/O	O	_CE7(VIDEO)	L	
74	P32	I/O	O	CE3(Multi Vol.)	H	
75	P33	I/O	O	_CE6(MUTE)	L	
76	P34	I/O	O	_CE5(LED)	L	
77	P35	I/O	O	_CE4(FL)	L	
78	P36	I/O	O	_CE1(OSD C)	L	
79	P37	I/O	O	_CE2(OSD S)	L	
80	P40	I/O	O	(RESERVED)	-	

no	port name	I/O	USE	Sig. Name	act.	Description
81	P41	I/O	O	(RESERVED)	-	
82	P42	I/O	O	(RESERVED)	-	
83	P60/	I/O	I	(RESERVED)	-	to VSS
84	P61/	I/O	I	(RESERVED)	-	to VSS
85	P62/	I/O	I	(RESERVED)	-	to VSS
86	P63/	I/O	I	SWITCH0	-	
87	P64/	I/O	I	SWITCH1	-	
88	P65/	I/O	I	SWITCH2	-	
89	P66/	I/O	I	SWITCH3	-	
90	P67/	I/O	I	SWITCH4	-	
91	VSS	I	-	-	-	to VSS
92	P50/AN0	I	AN	-	-	pull down
93	P51/AN1	I	AN	POWER DET.	-	see below
94	P52/AN2	I	AN	ABNORMAL	-	see below
95	P53/AN3	I	AN	KEY IN0	-	
96	P54/AN4	I	AN	KEY IN1	-	
97	P55/AN5	I	AN	KEY IN2	-	
98	P56/AN6	I	AN	KEY IN3	-	
99	P57/AN7	I	AN	KEY IN4	-	
100	VREFH	I	-	-	-	A/D VREFH

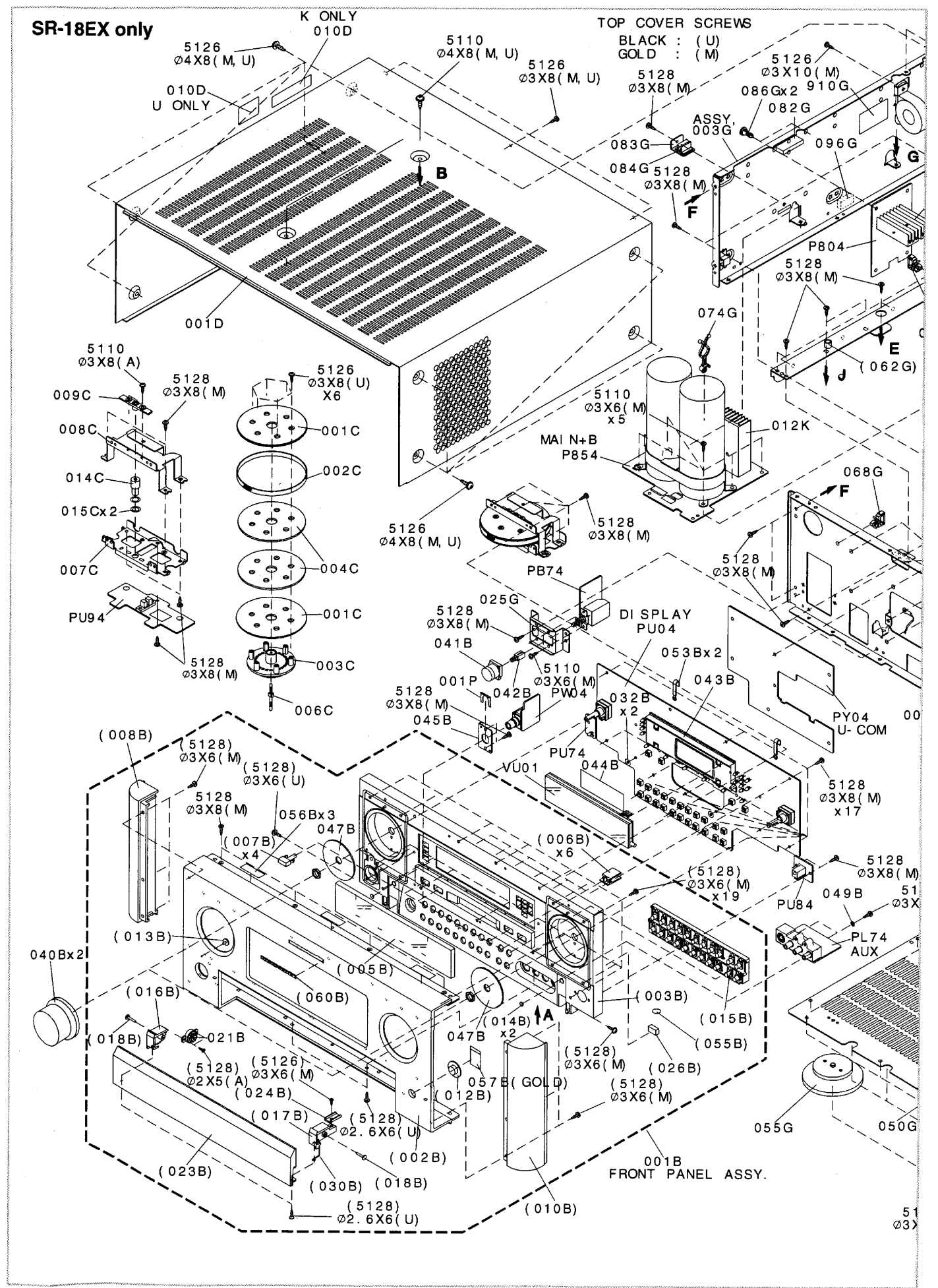
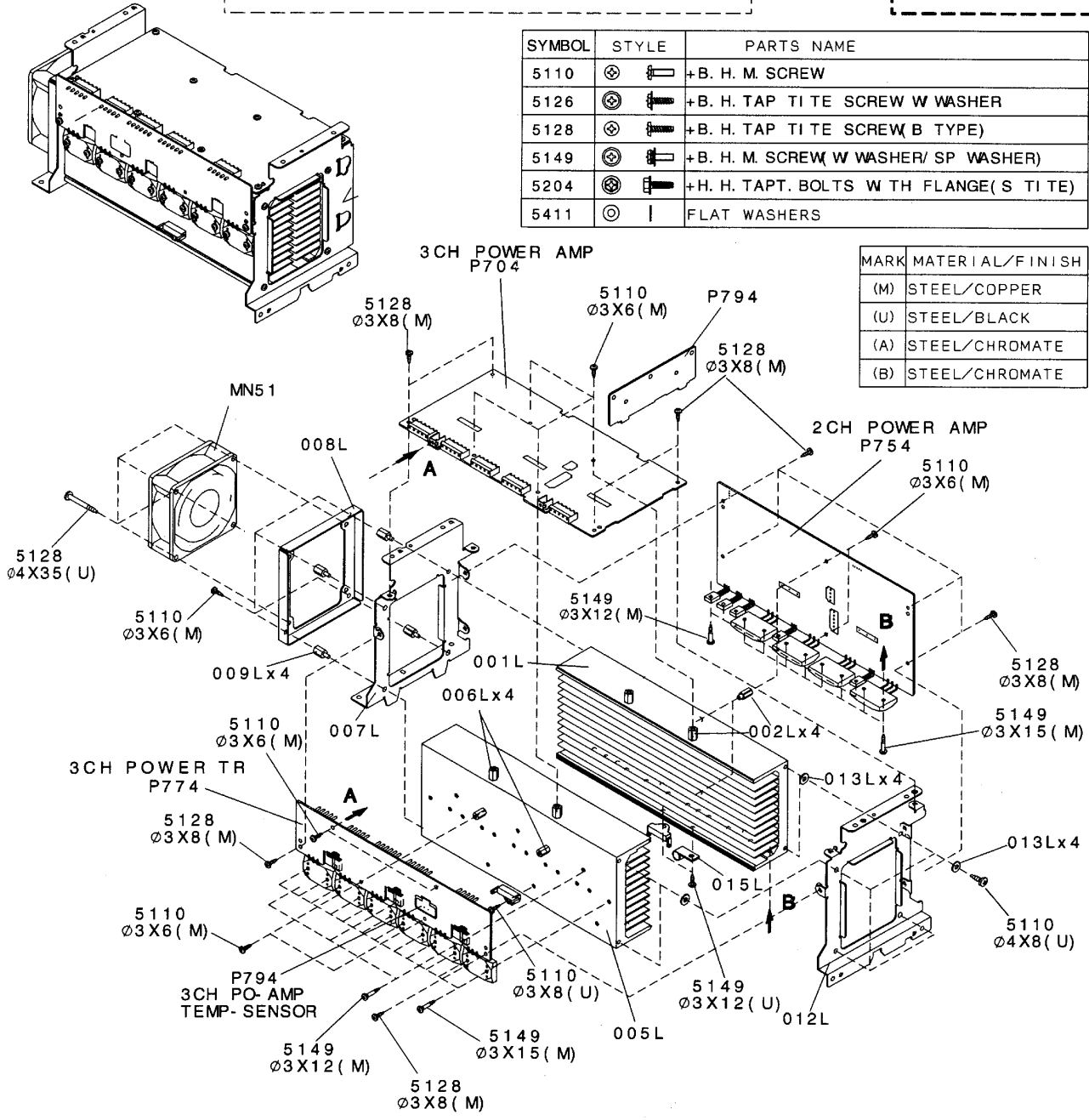
7. EXPLODED VIEW AND PARTS LIST





SYMBOL	STYLE	PARTS NAME
5110	⊗	+B. H. M. SCREW
5126	⊗	+B. H. TAP TITE SCREW W WASHER
5128	⊗	+B. H. TAP TITE SCREW (B TYPE)
5149	⊗	+B. H. M. SCREW (W WASHER/ SP WASHER)
5204	⊗	+H. H. TAPT. BOLTS W TH FLANGE (S TITE)
5411	⊙	FLAT WASHERS

MARK	MATERIAL/FINISH
(M)	STEEL/COPPER
(U)	STEEL/BLACK
(A)	STEEL/CHROMATE
(B)	STEEL/CHROMATE



8. SERVICE PROGRAM

REMARK

If these service programs are set, All user preset memories will be cleared.

1. FACTORY mode (Tracking point memory)

This **FACTORY mode** can be use for measurement of the tuner circuit.

When the product is POWER ON, press both [**MEMO**] and [**DISPLAY OFF**] buttons simultaneously over 3 seconds.

FLD shows "**FACTORY**" for 3 seconds. Press [**PRESET**] button, FLD shows "**PRESET SEL**".

The tuning frequencies are memorized as follows.

Band	VERSION	P1	P2	P3	P4
FM AUTO [MHz]	U, K, N, S	90.0	98.0	106.0	87.5
	F	78.0	83.0	88.0	76.0

Band	SCAN STEP	P5	P6	P7	P8	P9	P10	P11	P12
AM [kHz]	10 kHz(U)	600	1000	1400	520				
	9kHz(F, K, S)	603	999	1404	531				
	MW/LW(N)	603	999	1404	171	207	270	152	531

2. Version of microprocessor (CPU) and FLD segment check mode

This mode is available to confirm the version of each CPU and to check all luminous segments by the following steps.

1. When the product is FACTORY mode (Refer to the above mentioned "1. **FACTORY mode**"), press [**DISPLAY OFF**] button. FLD shows "**MARANTZ SR-14EX**".
2. Press [**DISPLAY OFF**] button. FLD shows the version of program code for QU01(main CPU).
3. Press [**DISPLAY OFF**] button. FLD shows the version of program code for Q961(SURROUND CPU).
4. Press [**DISPLAY OFF**] button. All segments turn off and LED's (TV, LD, DVD, VCR1, DSS/VCR2, AUX, STANDBY) light up.
5. Press [**DISPLAY OFF**] button. G1 and G2 segments light up step by step.
6. Press [**DISPLAY OFF**] button. Segments of checker pattern light up step by step.
7. Press [**DISPLAY OFF**] button. All segment of FLD and LED's turn off.
8. Press [**DISPLAY OFF**] button. It will return to 1. (FLD shows "**MARANTZ SR-14EX**".)

3. Input and output test mode

This mode is available for the functions as shown in Fig 1 by the following steps.

1. When the product is FACTORY mode (Refer to above mentioned "1. **FACTORY mode**"), press both [**MEMO**] and [**TREBLE▼**] buttons simultaneously.
2. FLD shows "**AUTO CD**". By pressing both [**MEMO**] and [**TREBLE ▼**] buttons simultaneously each time, the mode is changed in the following order.

Fig 1 Input and output test mode

ORDER	INDICATION for FLD	MODE FUNCTION
1	AUTO CD	Input selection mode (without using system setup menu)
2	ALL CH CD	5 or 6 channels output mode (This mode is available for 2 channels input)

3.1. Input selection mode (without setting to system setup menu)

This mode is available to select the input without setting to system setup menu by the following steps.

1. When FLD shows "AUTO CD"(Refer to "4. Input and output test mode"), the input can be shifted by pressing [**MODE**] button for the remote commander only each time as shown in Fig 2. ([**MODE**] button is in page4 of **AMP** function for RC-18SR*)

Fig 2. Input selection order by pressing [**MODE**] button each time

ORDER	INDICATION for FLD	INPUT STATUS
1	AUTO D1	DIG. 1 IN
2	AUTO D2	DIG. 2 IN
3	AUTO D3	DIG. 3 IN
4	AUTO D4	DIG. 4 IN
5	AUTO D5	DIG. 5 IN
6	AUTO D6	DIG. 6 IN
7	AUTO CD	CD IN (Analog)

Note: Surround mode is fixed "AUTO" mode automatically.

3.2. 5.1 channels output mode

This mode is available to output the same signal from 5 channels, even though 2 channels audio signal comes in.

As the result, all channels output can be confirmed by using analog stereo signal or PCM audio signal.

AC-3 or DTS source is not necessary to output from any channel in this mode.

1. When FLD shows "ALL CH CD" (Refer to "4. Input and output test mode"), the input can be shifted by pressing [**MODE**] button for the remote commander only each time as shown in Fig 3. ([**MODE**] button is in page4 of **AMP** function for RC-18SR*)
2. Supply to 2 channels PCM signal for digital input or 2 channels analog signal for analog input. But, Left channel and Right channel of input signal should be equal.
3. Then each output from the product is the same as the input signal. (Subwoofer channel is respond to lower than 80Hz signal)

Fig 3. Input selection order by pressing [**MODE**] button each time

ORDER	INDICATION for FLD	INPUT STATUS
1	ALL CH D1	DIG. 1 IN
2	ALL CH D2	DIG. 2 IN
3	ALL CH D3	DIG. 3 IN
4	ALL CH D4	DIG. 4 IN
5	ALL CH D5	DIG. 5 IN
6	ALL CH D6	DIG. 6 IN
7	ALL CH CD	CD IN (Analog)

4. Transistor MUTE mode

In mute situation on the product, output signal is muted by Volume control IC and muting transistor.

But, this mode is available to work the muting transistor only by the following steps.

1. When the product is FACTORY mode (Refer to "1. FACTORY mode"), press [**MUTE**] button for remote commander only.
2. FLD shows "TrMUTE ON", then muting transistor circuit is active only.

5. How to reset the product

When the product is POWER ON, press both [**CL**] and [**DISPLAY OFF**] buttons simultaneously.

FLD shows "DEFAULT" for 3 seconds, then all memories are cleared.

Note

* : The remote controller RC2000mkII is available instead of RC-18SR for [**MODE**] button.

9. ELECTRICAL ADJUSTMENTS

1. DC offset adjustment

Master Volume : Minimum, Speaker out : non Load

Step	Power	Channel	Adjustment Point	Test Point	Adjustment Vaule
1	on	Front L	R715	Speaker Output Terminal	± 20mV
		Center	RT15		
		Front R	RP16		
		Surr. L	RP15		
		Surr. R	R716		

Note : If the measured value is not exceed ±20mV, no need to adjust the DC offset.

2. Idling current adjustment

Master Volume : Minimum, Speaker out : non Load

Step	Power	Channel	Adjustment Point	Test Point	Adjustment Vaule
1	Power on	Front L	R743	J713 or R773	within 1 minute 0.4mV
		Center	RT43	JT13 or RT73	
		Front R	RP44	JP04 or RP74	
		Surr. L	RP43	JP03 or RP73	
2	after 4 minutes	Surr. R	R744	J714 or R774	see table for adjustment vaule
				J***:4P Connector [between 1p-4p] R***:Emitter Resister [0.1Ω x 2 (0.18Ω x 2)]	

Time since power on	Idling current adjust.	Time since power on	Idling current adjust.
4-4 minutes 30 seconds	5.6mV	11-12 minutes	8.0mV
4m30s-5 minutes	6.4mV	12-14 minutes	7.6mV
5-5 minutes 30 seconds	7.2mV	14-16 minutes	7.2mV
5m30s-6 minutes	7.7mV	16-18 minutes	6.5mV
6-7 minutes	8.2mV	18-22 minutes	5.6mV
7-8 minutes	8.6mV	22-26 minutes	4.9mV
8-9 minutes	8.8mV	26-30 minutes	4.4mV
9-10 minutes	8.6mV	more than 30 minutes	4.0mV
10-11 minutes	8.4mV		The taget is 4.0mV

3. Thermostat circuit confirmation

- 1) When the product is POWER ON, remove the wire W701 from the connector J715 (P704).
- 2) FLD shows "ERROR PWR1".
- 3) Confirm the product is POWER OFF after 3 seconds.
- 4) Connect the wire W701 to the connector J715 (on P704).
- 5) Confirm the product is standby status.

4. Cooling fan confirmation

4.1 Fan failure sensor confirmation

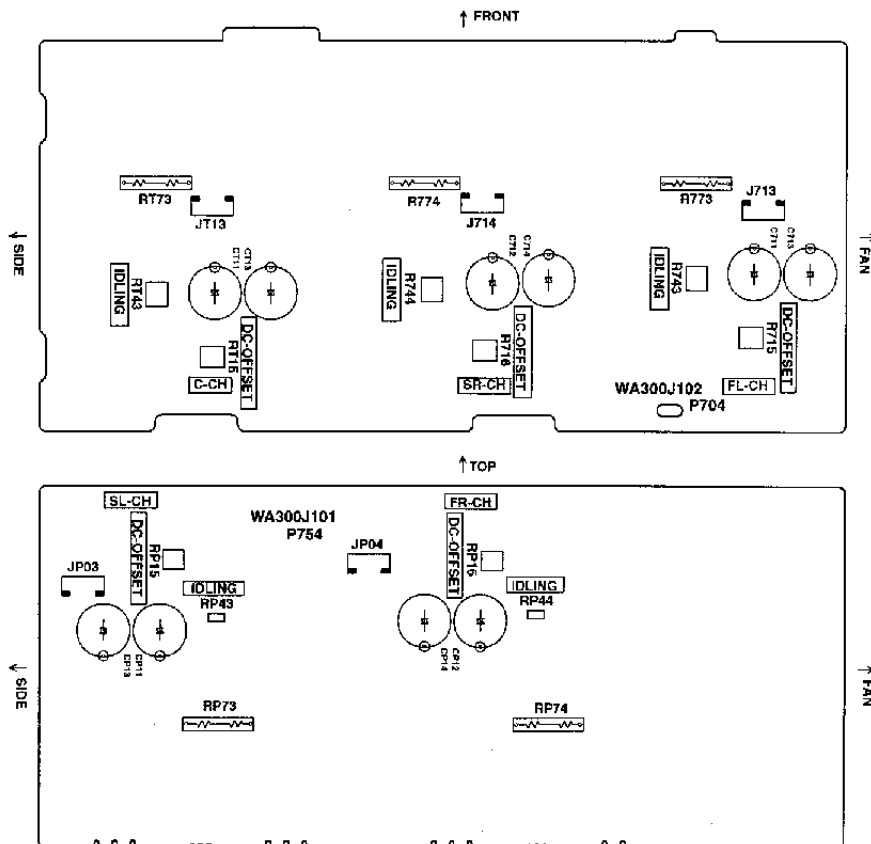
- 1) Set to be SPK output 1W from the front channel.
- 2) Connect the 1pin (LOCK) of the connector JN10 (on P754) to chassis (GND level) by a wire.
- 3) After 6 seconds the SPK relay works, and the SPK output isn't output.

4.2 Temperature sensor confirmation

- 1) Connect a resistor (470ohms 1W) between JN10 3pin (T-2CH) and DC +12Voltagess.
- 2) Confirm the cooling fan starts working. (Status : JN09 between 1pin and 2pin = **+7.5Voltage**, Fan speed = **Low**)
- 3) Remove the resistor.
- 4) Confirm the cooling fan stops.
- 5) Connect the resistor between JN10 4pin (T-3CH) and DC +12Voltage.
- 6) Confirm the cooling fan starts working again.
- 7) Remove the resistor.
- 8) Confirm the cooling fan stops.
- 9) Connect the resistor between JN10 3pin (T-2CH) and DC +12Voltage. And then connect another resistor between JN10 4pin (T-3CH) and DC +12Voltage.
- 10) Confirm the cooling fan starts working.
- 11) And then connect the resistor between JN10 2pin (SPEED) and DC +12Voltage.
- 12) Confirm the cooling fan changes to work with high speed. (Status : JN09 between 1pin and 2pin = **+11.5Voltage**, Fan speed = **High**)

4.3 Fan catching a foreign body sensor confirmation

- 1) Connect the resistor (470ohms 1W) between JN10 3pin (T-3CH) and DC +12Voltage.
- 2) Confirm the cooling fan starts working. (Status : JN09 between 1pin and 2pin=**+7.5Voltage**, Fan speed = **Low**)
- 3) Set to be SPK output 1W from the front channel.
- 4) Hold the cooling fan by hand and stop it.
Notes: Take care of wound in the hand!
- 5) After 6 seconds the SPK relay works and the SPK output isn't output.



10. ALIGNMENT PROCEDURES

1. AM IF Adjustment

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to transmission *loop antenna. (*:Standard required loop)	999 kHz (K, N, S, F) 1000 kHz (U)	Level 300 μ V/m (50dB/m) Mod. 400 Hz 30%	Tuning point	LA06	Output level (L or R) Maximum at TAPE-OUT

REMARK: For receiving antenna, the adapted one is available.

This adjustment is not necessary normally, because the coil LA06 is preset by the original supplier.

It is necessary when the incorrect usable sense and frequency response.

2. AM (MW) Tracking Adjustment

Step	**Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to transmission *loop antenna. (*:Standard required loop)	603 kHz (K, N, S, F) 600 kHz (U)	Level 300 - 400 μ V/m Mod. 400 Hz 30%	603 kHz (K, N, S, F) 600 kHz (U)	LA01	Output level (L or R) Maximum at TAPE-OUT
2		1404 kHz (K, N, S, F) 1400 kHz (U)	Level 300 - 400 μ V/m Mod. 400 Hz 30%	1404 kHz (K, N, S, F) 1400 kHz (U)	CA01	Output level (L or R) Maximum at TAPE-OUT
3	Repeat step 1 and 2 until sensitivity be maximized.					

3. AM (LW) Tracking Adjustment [N version]

Step	**Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to transmission *loop antenna. (*:Standard required loop)	171 kHz	Level 300 - 400 μ V/m Mod. 400 Hz 30%	171 kHz	LA03	Output level (L or R) Maximum at TAPE-OUT
2		270 kHz	Level 300 - 400 μ V/m Mod. 400 Hz 30%	270 kHz	CA08	Output level (L or R) Maximum at TAPE-OUT
3	Repeat step 1 and 2 until sensitivity be maximized.					

4. AM auto stop Adjustment

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to transmission *loop antenna. (*:Standard required loop)	999 kHz (K, N, S, F) 1000 kHz (U)	500 μ V/m (54 dB/m)	999 kHz (K, N, S, F) 1000 kHz (U)	RA11	"TUNED" indicate on FLD
2			1000 μ V/m (60 dB/m)	AUTO SCAN	Only Confirm	"TUNED" indicate on FLD

5. FM MONO. Distortion Adjustment

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to FM antenna terminal. (75 Ω)	98 MHz (K, N, S, U) 83 MHz (F)	500 μ V (54 dB) MONO 1 kHz / Dev.40kHz 53.3% (K, N, S) MONO 1 kHz / Dev. 75 kHz 100% (U, F)	98 MHz (P2)	L201	Distortion level Minimum at TAPE-OUT

6. FM Muting Level Adjustment

Turn the variable resistor **R212** to no indication ("TUNED") point. And return that valuable resistor in opposite to the "TUNED" indicate point.

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to FM antenna terminal. (75 Ω)	98 MHz (K, N, S, U) 83 MHz (F)	10 μV (20 dB) MONO 1 kHz / Dev. 40 kHz 53.3% (K, N, S) MONO 1 kHz / Dev. 75 kHz 100% (U, F)	98 MHz (K, N, S, U) 83 MHz (F)	R212	"TUNED" indicate on FLD
2			Over mentioned level +3 dB	AUTO SCAN	Only Confirm	"TUNED" indicate on FLD

7. FM STEREO Distortion Adjustment

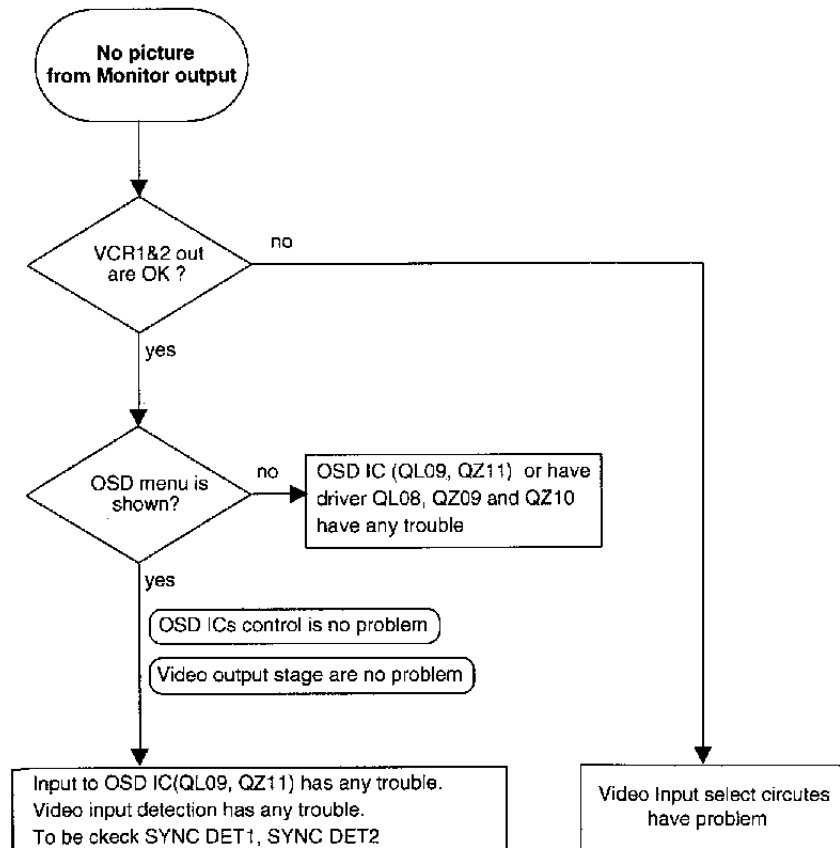
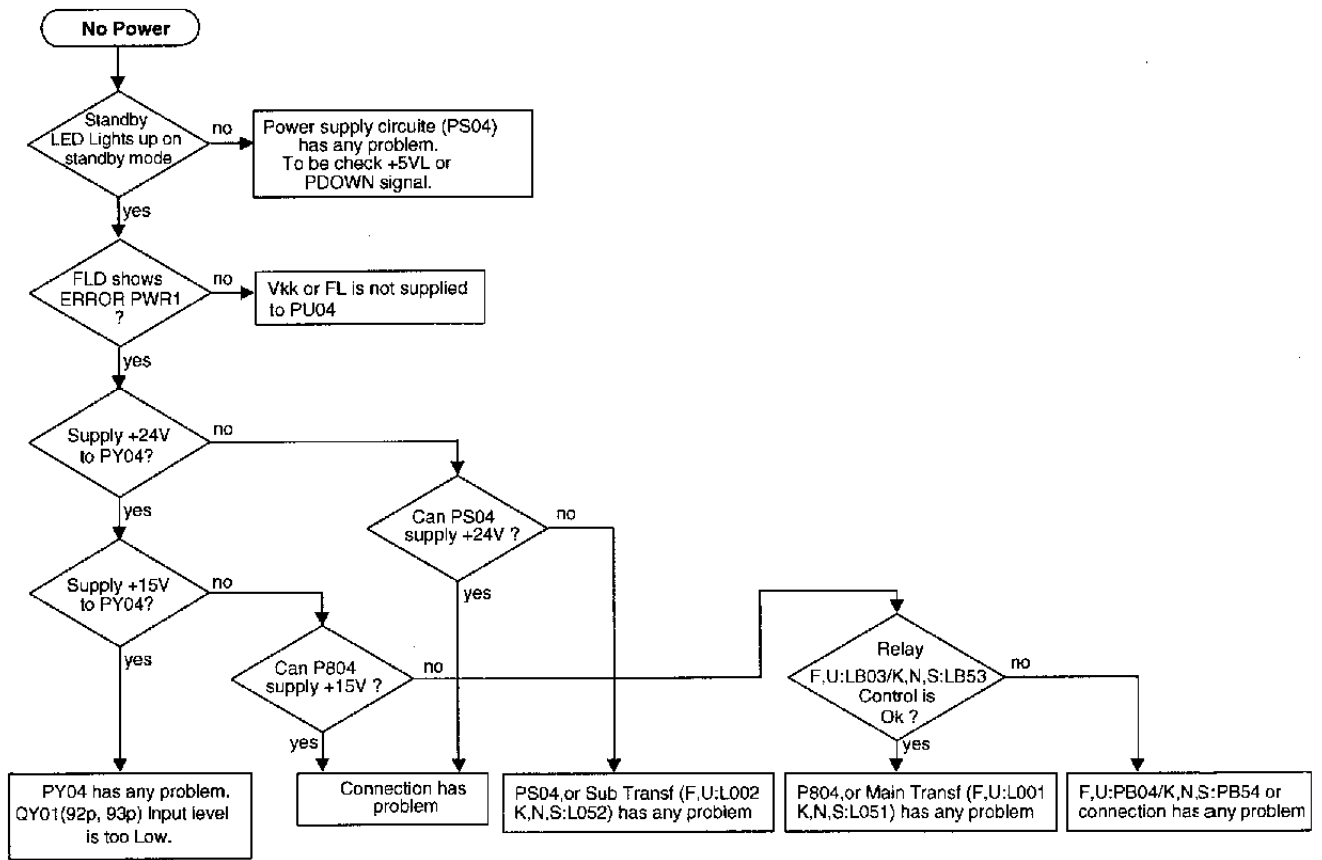
Adjust the **L channel** with the RF signal modulated only **L channel** first and confirm the **R channel** with the RF signal modulated only **R channel**.

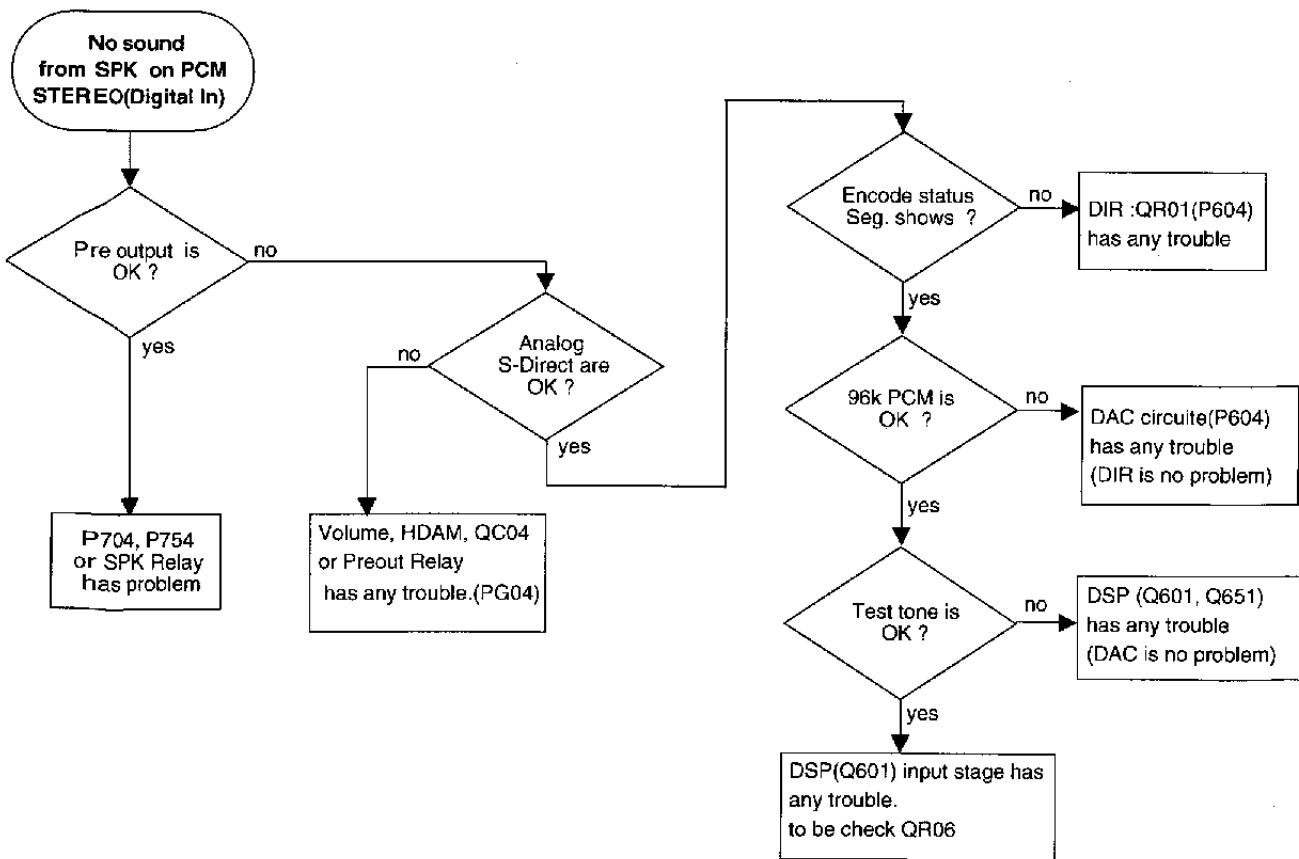
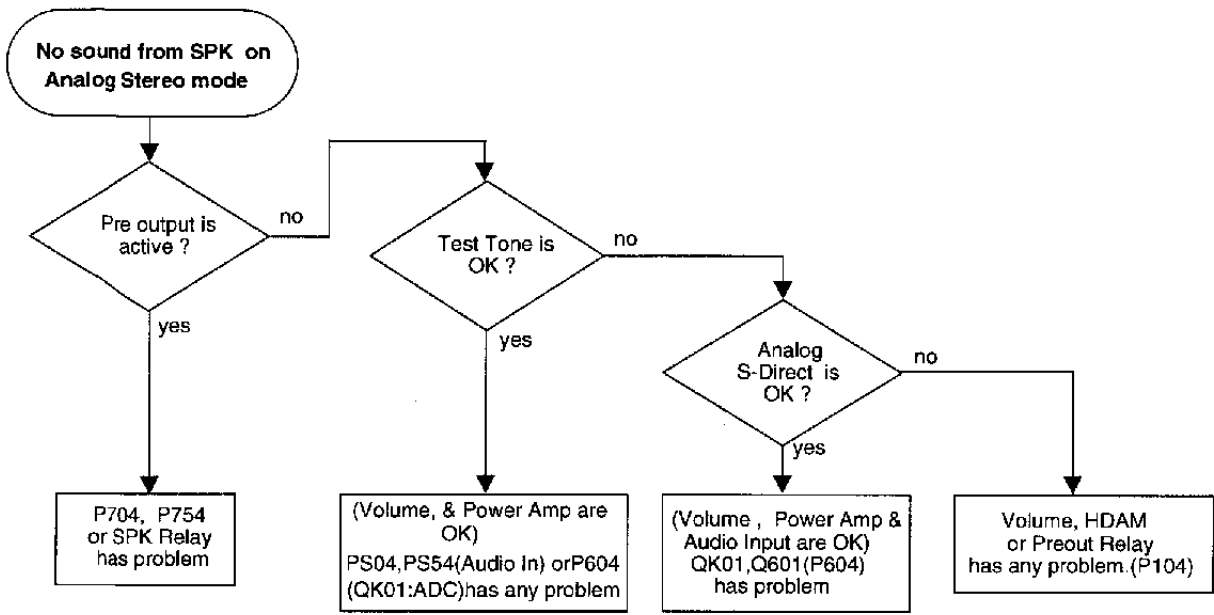
Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to FM antenna terminal. (75 Ω)	98 MHz (K, N, S, U) 83 MHz (F)	500 μV (54 dB) L or R 1 kHz / Dev. 40 kHz 53.3% PILOT 19 kHz / Dev. 6 kHz 8% (K, N, S)	98 MHz (K, N, S, U) 83 MHz (F)	IF COIL in FRONT END	Distortion level Minimum at TAPE-OUT
2			L or R 1 kHz / Dev. 67.5 kHz 90% PILOT 19 kHz / Dev. 6.75 kHz 9% (U, F)		Only Confirm	Distortion level Similar as L ch. at TAPE-OUT R ch.

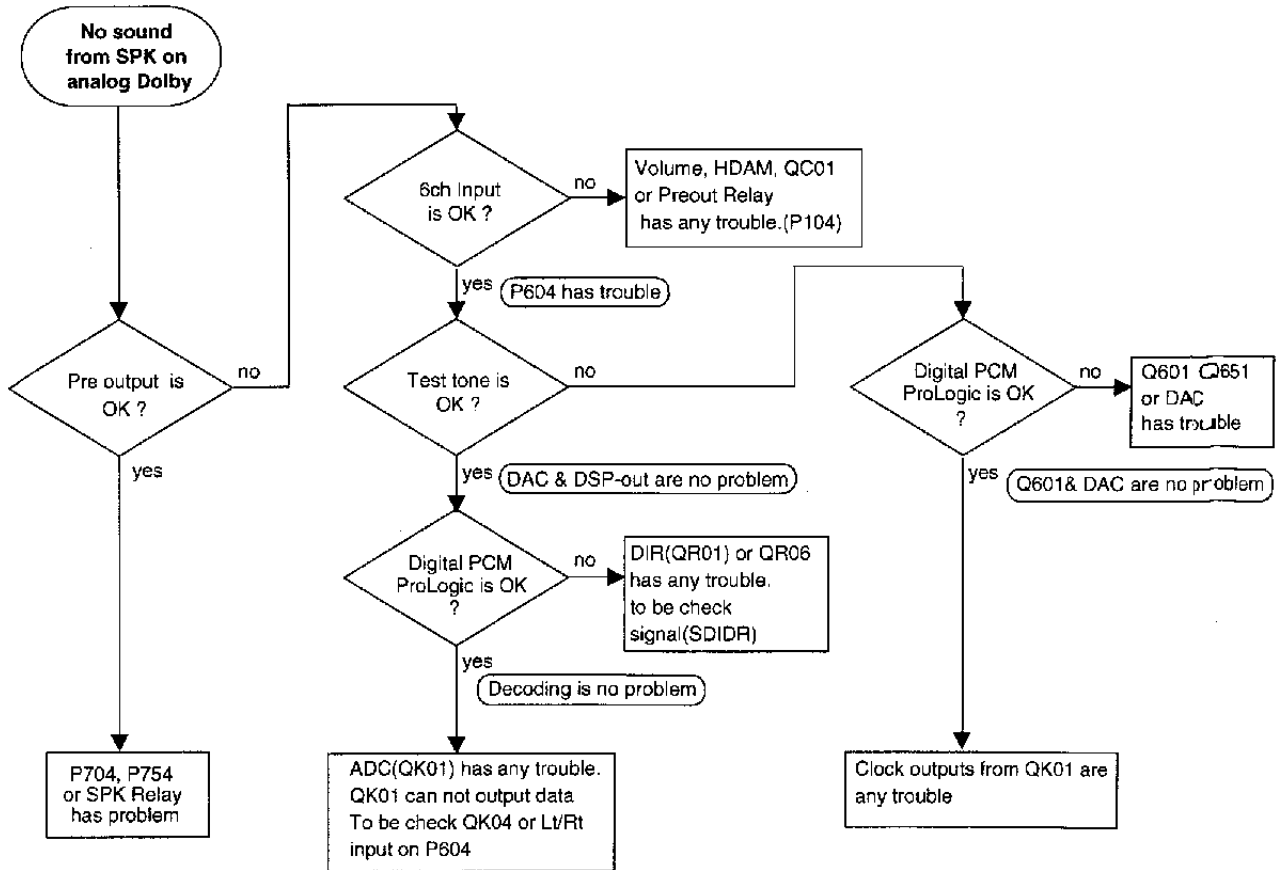
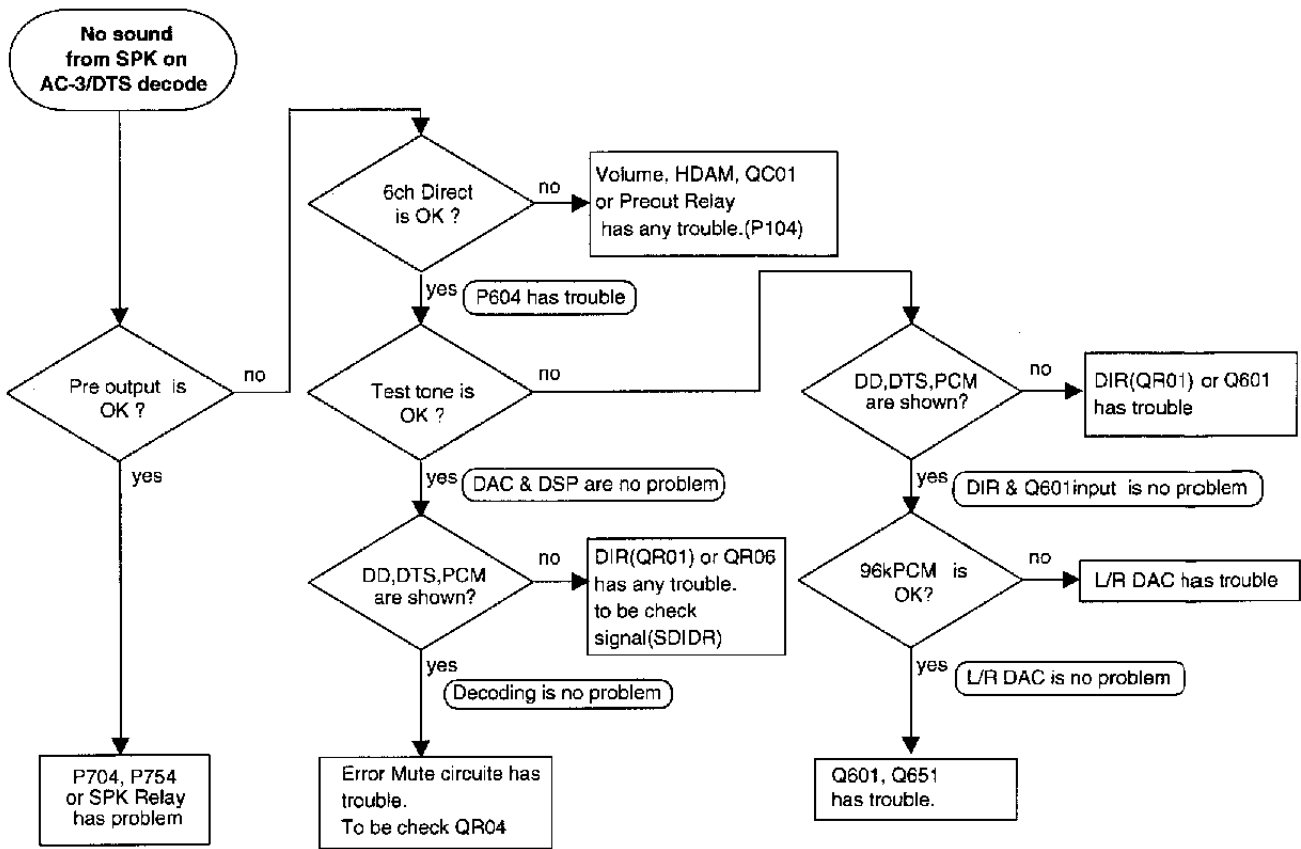
8. FM STEREO Separation Adjustment

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to FM antenna terminal. (75 Ω)	98 MHz (K, N, S, U) 83 MHz (F)	same specification as FM STEREO distortion adjustment . Input only L channel.	98 MHz (K, N, S, U) 83 MHz (F)	R211	Output level Minimum at TAPE-OUT channel R
2		98 MHz (K, N, S, U) 83 MHz (F)	same specification as FM STEREO distortion adjustment . Input only R channel.	98 MHz (K, N, S, U) 83 MHz (F)	R211	Output level Similar as Rch at TAPE-OUT channel L

11. TROUBLE SHOOTING







12. TECHNICAL DESCRIPTION

This product has two DSP ICs, one is for Dolby Digital (AC-3) decoding or DTS (Digital Theater System) decoding, another is for THX processing.

Multi channel sound is reproduced by connecting with DVD player or LD player.

Also Dolby Pro Logic decode is available to analog audio and PCM digital audio.

Additionally, 96kHz PCM stereo audio playback is possible.

Decoding circuit is consist of 13 ICs (DIR, two DSP, ADC, five DAC, AC-3 RF demodulator, two data separator and CPU).

DOLBY DIGITAL (AC-3)

Dolby Digital delivers six totally separate (discrete) channels of sound. Like Dolby Surround Pro Logic, it includes Left, Center and Right channels across the front of the room. Dolby Surround Pro Logic provides a single limited-bandwidth (100 Hz to 7,000 Hz) surround channel which is typically played back in the home through two channels of amplification and two speakers. In comparison, Dolby Digital provides separate (discrete) left surround and right surround channels, for more precise localization of sounds and a more convincing, realistic ambience. And, with Dolby Digital, all five main channels are full range (3 Hz to 20,000 Hz). A subwoofer could be added to each channel, if desired.

The sixth channel, the Low Frequency Effects Channel, will, at times, contain additional bass information to maximize the impact of scenes such as explosions, crashes, etc. Because this channel has only a limited frequency response (3 Hz to 120 Hz), it is sometimes referred to as the ".1" channel. When added to the 5 full range channels, the Dolby Digital system is sometimes referred to as having "5.1" channels.

DTS

An amazing new technology for surround-sound entertainment, DTS Digital Surround is an encode/decode system that delivers six channels (5.1) of master-quality, 20-bit audio. In the encoding process, the DTS algorithm encrypts six channels of 20-bit digital audio information in the space previously allotted for only two channels of 16-bit linear PCM. Then during playback, the DTS decoder reconstructs the original six channels of 20-bit digital audio. Each of these six channels is audibly superior to the 16-bit linear PCM audio found on conventional compact discs.

THX ULTRA

Home THX Controller Technologies : Dubbing stages (where soundtracks are created) and movie theatres do not change their acoustics, equipment, or system equalization when mixing or playing back 5.1 channel sound tracks. They merely divide the surround array of speakers into two symmetrical arrays (hence the term "split surround"). All of the remaining system equalization and setup remains the same. The Home THX Technologies of Re-Equalization, Timbre Matching, and Decorrelation, as well as the Home THX Crossover are still necessary for 5.1 channel formats. Because of the nature of the split surround soundtrack, Home THX Timbre Matching and Decorrelation technologies have been altered to provide correct surround sound balance and spaciousness. Here is a representation of how Home THX Controller Technologies work with the various surround sound formats.

THX SURROUND EX

THX Surround EX - Dolby Digital Surround EX is a joint development of Dolby Laboratories and the THX division of Lucasfilm Ltd.

In a movie theater, film soundtracks that have been encoded with Dolby Digital Surround EX technology are able to reproduce an extra channel which has been added during the mixing of the program.

This channel, called Surround Back, places sounds behind the listener in addition to the currently available front left, front center, front right, surround right, surround left and subwoofer channels.

This additional channel provides the opportunity for more detailed imaging behind the listener and brings more depth, spacious ambience and sound localization than ever before.

Movies that were created using the Dolby Digital Surround EX technology when released into the home consumer market may exhibit a Dolby Digital Surround EX logo on the packaging.

A list of movies created using this technology can be found on the Dolby web site at <http://www.dolby.com>.

"SURROUND EX™" is a trademark of Dolby Laboratories. Used under authorization.

THX SURROUND EX

DIR (Digital audio Interface Receiver : QR01 / LC89055)

This circuit extract synchronized clock signals and data from SPDIF signal input. QR01(LC89055) generates these signals, this chip supports 96kHz sample rate.

1st DSP (Digital Signal Processor for Dolby Digital, Pro Logic, DTS : Q601 / YSS912)

Q601(YSS912) decodes 6 channels audio from encoded data signal input. Some effects are processed in addition to multi channel decoding on HALL, MATRIX, and MOVIE mode.

2nd DSP (Digital Signal Processor for THX processing : Q651 / ZR38601)

Q651(ZR38601) has the THX 5.1 processing functions. These functions include **Re-equalization**, **Surround Timbre-Matching**, **Adaptive Decorrelation**, **Bass Management**, **Bass Peak Level Manager**, and **Loudspeaker Position Time Synchronization**.

Re-equalization takes the edginess or "brightness" out of your home cinema sound, compensating for the fact that sound mixed for theatres will sound too bright when played back through flat response speakers in your home.

Timbre Matching matches the tone of your front speakers to your surrounds to compensate for the fact that only two surround speakers are used in a typical Home Theatre system instead of a full array as in a movie theatre.

Adaptive Decorrelation gives a stereo "feel" when your surrounds are playing mono and automatically switches off when they are playing stereo.

Bass Management Electronic Crossover allows you to use more compact, easier-to-place speakers, while sending bass to a subwoofer system, improving frequency response, lowering distortion and increasing dynamic range.

Bass Peak Level Manager protects your subwoofer from overloading due to the great amount of bass a 5.1 soundtrack delivers.

Loudspeaker Position Time Synchronization lets you easily set up your system for an optimum listening position, which is difficult to achieve within the space constraints of most homes.

ADC (Analog to Digital Converter : QK01 / AK5392)

AK5392 is a complete analog-to-digital converter for stereo digital audio systems. it performs sampling, analog-to-digital conversion and anti-alias filtering, generating 24 bit values for both left and right inputs in serial form.

DAC (Digital to Analog Converter : QD01, QD02, QD03 : QD41, QD42 / AD1852)

The AD1852 is a high performance, single-chip stereo, audio DAC. There are five AD1852 chips on the board. Four chips are used for L, R, C, and Sub woofer channel individually. Another chip is used for Surround Left & Right.

CPU (Q691 / TMP93CW44ADF)

This chip controls some ICs in P604 and communicates with QU01. Connect to QU01 with serial interface lines.

13. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTORS

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



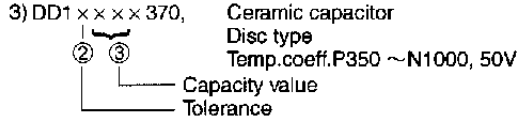
Examples ;

- ① Resistance value
 0.1 Ω ... 001 10 Ω ... 100 1 kΩ ... 102 100 kΩ ... 104
 0.5 Ω ... 005 18 Ω ... 180 2.7 kΩ ... 272 680 kΩ ... 684
 1 Ω ... 010 100 Ω ... 101 10 kΩ ... 103 1 MΩ ... 105
 6.8 Ω ... 068 390 Ω ... 391 22 kΩ ... 223 4.7 MΩ ... 475

Note : Please distinguish 1/4W from 1/6W by the shape of parts used actually.

CAPACITORS

C***: CERAMIC CAP.



Examples ;

- ② Tolerance (Capacity deviation)
 ±0.25 pF ... 0
 ±0.5 pF ... 1
 ±5% ... 5

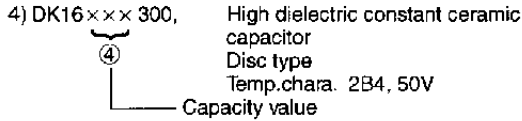
* Tolerance of COMMON PARTS handled here are as follows :

- 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

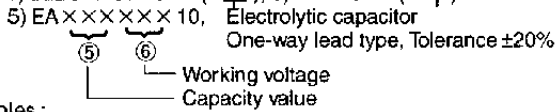
C*** : CERAMIC CAP.



Examples ;

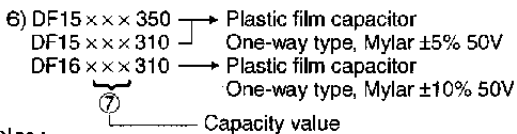
- ④ Capacity value
 100 pF ... 101 1000 pF ... 102 10000 pF ... 103
 470 pF ... 471 2200 pF ... 222

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



Examples ;

- ⑤ Capacity value
 0.1 μF ... 104 4.7 μF ... 475 100 μF ... 107
 0.33 μF ... 334 10 μF ... 106 330 μF ... 337
 1 μF ... 105 22 μF ... 226 1100 μF ... 118
 2200 μF ... 228
- ⑥ Working voltage
 6.3V ... 006 25V ... 025
 10V ... 010 35V ... 035
 16V ... 016 50V ... 050



Examples ;

- ⑦ Capacity value
 0.001 μF (1000 pF) ... 102 0.1 μF ... 104
 0.0018 μF ... 182 0.56 μF ... 564
 0.01 μF ... 103 1 μF ... 105
 0.015 μF ... 153

NOTE : 1) The above CODES (R***, R***, C***, C*** and C***) are omitted on the schematic diagram in some case.

- 2) On the occasion, be confirmed the common parts on the parts list.
 3) Refer to "Common Parts List" for the other common parts (RI05, DD4, DK4).

NOTE ON SAFETY FOR FUSIBLE RESISTOR :

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

1. KOA Corporation

Part No. (MJI)	Type No. (KOA)	Description
NH05 × × × 140	RF25S × × × × ΩJ	(±5% 1/4W)
NH05 × × × 120	RF50S × × × × ΩJ	(±5% 1/2W)
NH85 × × × 110	RF73B2A × × × × ΩJ	(±5% 1/10W)
NH95 × × × 140	RF73B2E × × × × ΩJ	(±5% 1/4W)

* Resistance value * Resistance value
 (0.1 Ω – 10 kΩ)

2. Matsushita Electronic Components Co., Ltd

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

* Resistance value * Resistance value

Examples ;

- * Resistance value
 0.1 Ω ... 001 10 Ω ... 100 1 kΩ ... 102 100 kΩ ... 104
 0.5 Ω ... 005 18 Ω ... 180 2.7 kΩ ... 272 680 kΩ ... 684
 1 Ω ... 010 100 Ω ... 101 10 kΩ ... 103 1 MΩ ... 105
 6.8 Ω ... 068 390 Ω ... 391 22 kΩ ... 223 4.7 MΩ ... 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 \triangle Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol \triangle . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

安全上の注意 :

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

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			P104-7CH ELE.VOL. TUNER CIRCUIT BOARD		CM12		4822 124 22277	ELECT. 470µF 16V M RA-2	OA47701620
			P104-CAPACITORS		CM21				
CA01		4822 125 50384	TRIM. 20pF VCT51E	CT12000200	CM28		4822 122 33575	CER.CHIP 220pF	DD55221300
CA02			CER.CHIP 0.047µF B 50V	DK56473300	CM29				
CA03		4822 122 33204	CER.CHIP 15pF	DD55150300					
CA04		4822 121 42466	FILM 390pF 100V ECQ-P	DF15391550	CM35			CER.CHIP 470pF	DD55471300
CA05		5322 122 32452	CER.CHIP 47pF CH	DD55470300					
CA06		5322 122 34098	CER.CHIP 0.01µF	DK56103300	CV01		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CA07	/N	5322 122 34098	CER.CHIP 0.01µF Z 50V	DK56103300	CV02		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CA08	/N	4822 125 50384	TRIM. 20pF VCT51E	CT12000200	CV03		5322 122 34098	CER.CHIP 0.01µF	DK56103300
CA09	/N	4822 122 33204	CER.CHIP 15pF J CH 50V BLK	DD55150300	CV04		5322 122 34098	CER.CHIP 0.01µF	DK56103300
CA11	/N	4822 122 33514	CER.CHIP 68pF J CH 50V BLK	DD55680300	CV05		5322 122 32531	CER.CHIP 100pF	DD55101300
CA12	/N	5322 122 33538	CER.CHIP 150pF J CH 50V BLK	DD55151300	CV06		5322 122 32531	CER.CHIP 100pF	DD55101300
CA13	/N	5322 122 34098	CER.CHIP 0.01µF Z 50V	DK56103300	CV07		9965 000 06288	ELECT. 22µF 25V	EA22602520
CA14	/N	5322 122 34098	CER.CHIP 0.01µF Z 50V	DK56103300	CV08		9965 000 06288	ELECT. 22µF 25V	EA22602520
CA18		4822 124 80087	ELECT. 4.7µF M 50V RA-2	OA47505020	CV09		4822 124 41796	ELECT. 22µF M 16V RA-2	OA22601620
					CV10		4822 124 41796	ELECT. 22µF M 16V RA-2	OA22601620
CC05		5322 122 34098	CER.CHIP 0.01µF	DK56103300	CV11		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CC06		5322 122 34098	CER.CHIP 0.01µF	DK56103300	CV12		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CC07		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	CV13		5322 122 34098	CER.CHIP 0.01µF	DK56103300
CC08		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	CV14		5322 122 34098	CER.CHIP 0.01µF	DK56103300
CC25		5322 122 34098	CER.CHIP 0.01µF	DK56103300	CV15		5322 122 32531	CER.CHIP 100pF	DD55101300
CC26		5322 122 34098	CER.CHIP 0.01µF	DK56103300	CV16		5322 122 32531	CER.CHIP 100pF	DD55101300
CC27		5322 122 32531	CER.CHIP 100pF	DD55101300	CV17		9965 000 06289	ELECT. 47µl 16V	EA47601620
CC29		4822 124 90353	ELECT. 100µF M 10V RA-2	OA10701020	CV17	/F		ELECT. 47µF M 25V ARS	OA47601640
CC30		4822 124 90353	ELECT. 100µF M 10V RA-2	OA10701020	CV18		9965 000 06289	ELECT. 47µl 16V	EA47601620
CC31		4822 124 41535	ELECT. 100µF M 25V RA-2	OA10702520	CV18	/F		ELECT. 47µF M 25V ARS	OA47601640
CC32		4822 124 41535	ELECT. 100µF M 25V RA-2	OA10702520	CV19		4822 126 12061	CER.CHIP 0.1µF B 25V	DK56104200
CC33					CV20		4822 126 12061	CER.CHIP 0.1µF B 25V	DK56104200
		4822 126 12061	CER.CHIP 0.1µF B 25V	DK56104200	CV21		4822 124 22698	ELECT. 47µF M 25V RA-2	OA47602520
CC37					CV22		4822 124 22698	ELECT. 47µF M 25V RA-2	OA47602520
CC40		4822 124 41796	ELECT. 22µF M 16V RA-2	OA22601620	CV23		5322 122 32531	CER.CHIP 100pF	DD55101300
					CV25		9965 000 06288	ELECT. 22µF 25V	EA22602520
CG51		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	CV26		9965 000 06288	ELECT. 22µF 25V	EA22602520
CG52		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	CV27		5322 122 32531	CER.CHIP 100pF	DD55101300
CG53		5322 122 34098	CER.CHIP 0.01µF	DK56103300	CV28		5322 122 32531	CER.CHIP 100pF	DD55101300
CG54		5322 122 34098	CER.CHIP 0.01µF	DK56103300	CV29		9965 000 06288	ELECT. 22µF 25V	EA22602520
CG55		5322 122 32531	CER.CHIP 100pF	DD55101300					
CG56		5322 122 32531	CER.CHIP 100pF	DD55101300	CV30		9965 000 06288	ELECT. 22µF 25V	EA22602520
CG57		9965 000 06288	ELECT. 22µF 25V	EA22602520	CV31		4822 124 90362	ELECT. 22µF M 50V RA-2	OA22605020
CG58		9965 000 06288	ELECT. 22µF 25V	EA22602520	CV31	/F		ELECT. 22µF M 35V ARS	OA22603540
CG59		4822 124 41796	ELECT. 22µF M 16V RA-2	OA22601620	CV32		4822 124 90362	ELECT. 22µF M 50V RA-2	OA22605020
CG59	/F		ELECT. 22µF M 25V ARS	OA22602540	CV32	/F		ELECT. 22µF M 35V ARS	OA22603540
CG60		4822 124 41796	ELECT. 22µF M 16V RA-2	OA22601620	CV41		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CG60	/F		ELECT. 22µF M 25V ARS	OA22602540	CV42		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CG61		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	CV43		5322 122 34098	CER.CHIP 0.01µF	DK56103300
CG62		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	CV44		5322 122 34098	CER.CHIP 0.01µF	DK56103300
CG63		5322 122 34098	CER.CHIP 0.01µF	DK56103300	CV45		5322 122 32531	CER.CHIP 100pF	DD55101300
CG64		5322 122 34098	CER.CHIP 0.01µF	DK56103300	CV46		5322 122 32531	CER.CHIP 100pF	DD55101300
CG65		5322 122 32531	CER.CHIP 100pF	DD55101300	CV47		9965 000 06288	ELECT. 22µF 25V	EA22602520
CG66		5322 122 32531	CER.CHIP 100pF	DD55101300	CV48		9965 000 06288	ELECT. 22µF 25V	EA22602520
CG67		9965 000 06289	ELECT. 47µl 16V	EA47601620	CV49		4822 124 41796	ELECT. 22µF M 16V RA-2	OA22601620
CG67	/F		ELECT. 47µF M 16V ARS	OA47601640	CV49	/F		ELECT. 22µF M 25V ARS	OA22602540
CG68		9965 000 06289	ELECT. 47µl 16V	EA47601620	CV50		4822 124 41796	ELECT. 22µF M 16V RA-2	OA22601620
CG68	/F		ELECT. 47µF M 16V ARS	OA47601640	CV50	/F		ELECT. 22µF M 25V ARS	OA22602540
CG69		4822 126 12061	CER.CHIP 0.1µF B 25V	DK56104200	CV51		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CG70		4822 126 12061	CER.CHIP 0.1µF B 25V	DK56104200	CV52		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CG71		4822 124 22698	ELECT. 47µF M 25V RA-2	OA47602520	CV53		5322 122 34098	CER.CHIP 0.01µF	DK56103300
CG72		4822 124 22698	ELECT. 47µF M 25V RA-2	OA47602520	CV54		5322 122 34098	CER.CHIP 0.01µF	DK56103300
CG73		5322 122 32531	CER.CHIP 100pF	DD55101300	CV55		5322 122 32531	CER.CHIP 100pF	DD55101300
CG75		9965 000 06288	ELECT. 22µF 25V	EA22602520	CV56		5322 122 32531	CER.CHIP 100pF	DD55101300
CG76		9965 000 06288	ELECT. 22µF 25V	EA22602520	CV57		9965 000 06289	ELECT. 47µl 16V	EA47601620
					CV57	/F		ELECT. 47µF M 16V ARS	OA47601640
CM01					CV58		9965 000 06289	ELECT. 47µl 16V	EA47601620
			CER.CHIP 470pF	DD55471300	CV58	/F		ELECT. 47µF M 16V ARS	OA47601640
CM08					CV59		4822 126 12061	CER.CHIP 0.1µF B 25V	DK56104200
CM09		5322 122 32531	CER.CHIP 100pF	DD55101300	CV60		4822 126 12061	CER.CHIP 0.1µF B 25V	DK56104200
CM10		4822 126 12061	CER.CHIP 0.1µF B 25V	DK56104200	CV61		4822 124 22698	ELECT. 47µF M 25V RA-2	OA47602520
CM11		4822 126 12061	CER.CHIP 0.1µF B 25V	DK56104200	CV62		4822 124 22698	ELECT. 47µF M 25V RA-2	OA47602520

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CV63		5322 122 32531	CER.CHIP 100pF	DD55101300
CV65		4822 124 41534	ELECT. 10μF M 25V RA-2	OA10602520
CV66		4822 124 41534	ELECT. 10μF M 25V RA-2	OA10602520
CV71		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
CV73		5322 122 34098	CER.CHIP 0.01μF	DK56103300
CV74		5322 122 34098	CER.CHIP 0.01μF	DK56103300
CV75		5322 122 32531	CER.CHIP 100pF	DD55101300
CV76		5322 122 32531	CER.CHIP 100pF	DD55101300
CV77		9965 000 06288	ELECT. 22μF 25V	EA22602520
CV78		9965 000 06288	ELECT. 22μF 25V	EA22602520
CV79		4822 124 41796	ELECT. 22μF M 16V RA-2	OA22601620
CV79	/F		ELECT. 22μF M 25V ARS	OA22602540
CV80		4822 124 41796	ELECT. 22μF M 16V RA-2	OA22601620
CV81		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
CV82		4822 124 22276	ELECT. 47μF M 50V RA-2	OA47605020
CV83		5322 122 34098	CER.CHIP 0.01μF	DK56103300
CV84		5322 122 34098	CER.CHIP 0.01μF	DK56103300
CV85		5322 122 32531	CER.CHIP 100pF	DD55101300
CV86		5322 122 32531	CER.CHIP 100pF	DD55101300
CV87		9965 000 06288	ELECT. 47μF 16V	EA47601620
CV87	/F		ELECT. 47μF M 16V ARS	OA47601640
CV88		9965 000 06288	ELECT. 47μF 16V	EA47601620
CV89		4822 126 12061	CER.CHIP 0.1μF B 25V	DK56104200
CV90		4822 126 12061	CER.CHIP 0.1μF B 25V	DK56104200
CV91		4822 124 22698	ELECT. 47μF M 25V RA-2	OA47602520
CV92		4822 124 22698	ELECT. 47μF M 25V RA-2	OA47602520
CV93		5322 122 32531	CER.CHIP 100pF	DD55101300
CV95		9965 000 06288	ELECT. 22μF 25V	EA22602520
CV96		9965 000 06288	ELECT. 22μF 25V	EA22602520
C201		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C202		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C203			CER.CHIP 0.047μF B 50V	DK56473300
C204			CER.CHIP 0.047μF B 50V	DK56473300
C205		4822 124 42182	ELECT. 3.3μF M 50V	OA33505020
C206		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
C207		4822 124 90353	ELECT. 100μF M 10V RA-2	OA10701020
C208			CER.CHIP 0.047μF B 50V	DK56473300
C209		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
C210		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C211		4822 124 40763	ELECT. 2.2μF M 50V RA-2	OA22505020
C212		4822 124 41543	ELECT. 1μF M 50V RA-2	OA10505020
C213		4822 124 22273	ELECT. 0.47μF M 50V RA-2	OA47405020
C214		4822 124 22698	ELECT. 47μF M 25V RA-2	OA47602520
C215			CER.CHIP 0.047μF B 50V	DK56473300
C216		4822 124 90354	ELECT. 100μF M 16V RA-2	OA10701620
C218		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C219		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
C220		4822 122 33127	CER.CHIP 2200pF	DK56222300
C222		5322 126 10511	CER.CHIP 0.001μF	DK56102300
C223		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C225		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C226		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C227	/U	4822 122 33127	CER.CHIP 2200pF	DK56222300
C233		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C234		4822 124 80067	ELECT. 4.7μF M 50V RA-2	OA47505020
C235		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C236		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C237		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C303		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
C304		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
C305	/K,N,S	4822 124 80067	ELECT. 4.7μF M 50V RA-2	OA47505020
C305	/U	4822 124 80067	ELECT. 4.7μF M 50V RA-2	OA47505020
C306	/K,N,S	4822 124 80067	ELECT. 4.7μF M 50V RA-2	OA47505020
C306	/U	4822 124 80067	ELECT. 4.7μF M 50V RA-2	OA47505020
C309	18A /K, /S	482212233134	CER.CHIP 15000pF	DK56153300
C310	18A /K, /S	482212233134	CER.CHIP 15000pF	DK56153300

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C311	/K,N,S	4822 124 80067	ELECT. 4.7μF M 50V RA-2	OA47505020
C311	/U		JUMPER	75060501P0
C312	/K,N,S	4822 124 80067	ELECT. 4.7μF M 50V RA-2	OA47505020
C312	/U		JUMPER	75060501P0
C315	/K,N,S	5322 122 34098	CER.CHIP 0.01μF	DK56103300
C316	/K,N,S	5322 122 34098	CER.CHIP 0.01μF	DK56103300
C317	/K,N,S	5322 122 32531	CER.CHIP 100pF	DD55101300
C318	/K,N,S	5322 122 32531	CER.CHIP 100pF	DD55101300
C319	/K,N,S	4822 124 80067	ELECT. 4.7μF M 50V RA-2	OA47505020
C320	/K,N,S	4822 124 80067	ELECT. 4.7μF M 50V RA-2	OA47505020
C351	/N, /S	5322 122 34098	CER.CHIP 10000pF	DK56103300
C352	/N, /S	5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
C353	/N, /S	4822 122 33805	CER.CHIP 330pF	DK56331300
C354	/N, /S	4822 122 33137	CER.CHIP 560pF	DK56561300
C355	/N, /S	5322 122 34098	CER.CHIP 10000pF	DK56103300
C356	/N, /S	5322 122 32658	CER.CHIP 22pF	DD55220300
C357	/N, /S	5322 122 31946	CER.CHIP 27pF	DD55270300
C358	/N, /S	5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
C359	/N, /S	5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
C360	/N, /S	5322 126 10511	CER.CHIP 1000pF	DK56102300
C361	/N, /S			
C364				
C367				
C372		5322 122 32531	CER.CHIP 100pF	DD55101300
C501		5322 122 32452	CER.CHIP 47pF CH	DD55470300
C502		5322 122 32452	CER.CHIP 47pF CH	DD55470300
C503		4822 124 90353	ELECT. 100μF M 10V RA-2	OA10701020
C504		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C505		4822 124 40763	ELECT. 2.2μF 50V	OA22505020
C507		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C508		4822 124 90354	ELECT. 100μF M 16V RA-2	OA10701620
C509		5322 122 34098	CER.CHIP 0.01μF	DK56103300
C510		5322 122 32531	CER.CHIP 100pF	DD55101300
C511		5322 122 34098	CER.CHIP 0.01μF	DK56103300
P104-CAPACITORS (COMMON)				
PLASTIC FILM CAPACITOR				
±5% 50V : C217 C301C302				
CC01-CC04				
P104-RESISTORS				
RA01		4822 117 10833	CHIP 10kΩ ±5% 1/10W	NI051011 10
RA02		4822 111 90896	CHIP 100kΩ ±5% 1/10W	NI051041 10
RA03	/N	4822 117 10833	CHIP 10kΩ ±5% 1/10W	NI051011 10
RA04	/N	4822 051 20154	CHIP 150kΩ ±5% 1/10W	NI051511 10
RA06	/N	4822 111 90896	CHIP 100kΩ ±5% 1/10W	NI051041 10
RA07	/N	4822 117 10833	CHIP 10kΩ ±5% 1/10W	NI051011 10
RA08	/N	4822 051 20154	CHIP 150kΩ ±5% 1/10W	NI051511 10
RA09	/N	4822 117 11449	CHIP 2.2kΩ ±5% 1/10W	NI052211 10
RA10	/N	4822 117 10833	CHIP 10kΩ ±5% 1/10W	NI051011 10
RA11		4822 100 11351	TRIM.RES. 10kΩ RH0638CJ4R	RA01001780
RA12	/N,S,U	4822 111 90892	CHIP 0Ω ±5% 1/10W	NI050011 10
RA13	/N,S,U	4822 111 90892	CHIP 0Ω ±5% 1/10W	NI050011 10
RA14	/N,S,U	4822 111 90892	CHIP 0Ω ±5% 1/10W	NI050011 10
RA59		4822 051 20102	CHIP 1kΩ ±5% 1/10W	NI051011 10
RC01		4822 117 11383	CHIP 12kΩ ±5% 1/10W	NI051211 10
RC02		4822 117 11383	CHIP 12kΩ ±5% 1/10W	NI051211 10
RC05		4822 051 20273	CHIP 27kΩ ±5% 1/10W	NI052711 10
RC06		4822 051 20273	CHIP 27kΩ ±5% 1/10W	NI052711 10
RC09		4822 111 90896	CHIP 100kΩ ±5% 1/10W	NI051041 10
RC10		4822 111 90896	CHIP 100kΩ ±5% 1/10W	NI051041 10
RC32		4822 051 20101	CHIP 100kΩ ±5% 1/10W	NI051011 10
RC33		4822 111 90896	CHIP 100kΩ ±5% 1/10W	NI051041 10
RC34		4822 117 10833	CHIP 10kΩ ±5% 1/10W	NI051011 10
RC35		4822 117 10833	CHIP 10kΩ ±5% 1/10W	NI051011 10
RC36		4822 050 21021	RES. 100Ω ±5% 1/2W	GG05101120
RC40		4822 117 10834	CHIP 47kΩ ±5% 1/10W	NI054711 10

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
R301	/U	4822 111 90892	CHIP 0Ω ±5% 1/10W	NI05000110
R302	/K,/N,/S	4822 051 20479	CHIP 47Ω ±5% 1/10W	NI05470110
R302	/U	4822 111 90892	CHIP 0Ω ±5% 1/10W	NI05000110
R303	/K,/N,/S	4822 117 10833	CHIP 10kΩ ±5% 1/10W	NI05103110
R304	/K,/N,/S	4822 117 10833	CHIP 10kΩ ±5% 1/10W	NI05103110
R307		4822 051 20153	CHIP 220Ω ±5% 1/10W	NI05221110
R308		4822 051 20153	CHIP 220Ω ±5% 1/10W	NI05221110
R309		4822 117 10834	CHIP 47kΩ ±5% 1/10W	NI05473110
R310		4822 117 10834	CHIP 47kΩ ±5% 1/10W	NI05473110
R315		9965 000 03405	CHIP 2.7kΩ ±5% 1/10W	NI05272110
R316		9965 000 03405	CHIP 2.7kΩ ±5% 1/10W	NI05272110
R317	/K,/N,/S	4822 117 10834	CHIP 47kΩ ±5% 1/10W	NI05473110
R318	/K,/N,/S	4822 117 10834	CHIP 47kΩ ±5% 1/10W	NI05473110
R319	/K,/N,/S	4822 116 83933	CHIP 15kΩ ±5% 1/10W	NI05153110
R320	/K,/N,/S	4822 116 83933	CHIP 15kΩ ±5% 1/10W	NI05153110
R321	/U		JUMPER	75060501P0
R322	/U		JUMPER	75060501P0
R323		4822 111 90918	CHIP 4.7kΩ ±5%	NI05472110
R352	/N,/S	4822 111 90896	CHIP 100kΩ ±5% 1/10W	NI05104110
R353	/N,/S	4822 117 10834	CHIP 47kΩ ±5% 1/10W	NI05473110
R355	/N,/S	4822 117 10833	CHIP 10kΩ ±5% 1/10W	NI05103110
R357	/N,/S	4822 117 10833	CHIP 10kΩ ±5% 1/10W	NI05103110
R502		4822 117 11449	CHIP 2.2kΩ ±5% 1/10W	NI05222110
R504		4822 111 90918	CHIP 4.7kΩ ±5% 1/10W	NI05472110
R505		4822 051 20102	CHIP 1kΩ ±5% 1/10W	NI05102110
R506		4822 051 20102	CHIP 1kΩ ±5% 1/10W	NI05102110
R507		4822 111 90925	CHIP 68kΩ ±5% 1/10W	NI05683110
R508		4822 117 10834	CHIP 47kΩ ±5% 1/10W	NI05473110
R509		4822 051 20223	CHIP 22kΩ ±5% 1/10W	NI05223110
R510		4822 111 90918	CHIP 4.7kΩ ±5% 1/10W	NI05472110
R511		4822 051 20822	CHIP 8.2kΩ ±5% 1/10W	NI05822110
R513		4822 117 10833	CHIP 10kΩ ±5% 1/10W	NI05103110
R515		4822 117 10833	CHIP 10kΩ ±5% 1/10W	NI05103110
P104-SEMICONDUCTORS				
DA01		4822 125 50416	VARIACAP DIODE SVC342-L	HD40009030
DA02	/N	9965 000 03402	CHIP DIODE 1SS356	HZ21302210
DA03	/N	4822 125 50416	VARIACAP DIODE SVC342-L	HD40009030
DA04	/N	9965 000 03402	CHIP DIODE 1SS356	HZ21302210
DA05		9965 000 03400	CHIP DIODE MA716	HZ20030020
DC01		9965 000 03401	CHIP DIODE RB425D	HZ20030210
DM01				
DM04		4822 130 33944	CHIP DIODE DAN202K	HZ20002210
DM05				
DM09		9965 000 06298	DIODE 1SS200	HE10202050
DM10		9965 000 03401	CHIP DIODE RB425D	HZ20030210
DM11		9965 000 03401	CHIP DIODE RB425D	HZ20030210
DM12		9965 000 03401	CHIP DIODE RB425D	HZ20030210
D202		9965 000 03403	CHIP ZENER DIODE 02CZ9.1-X	HZ30031050
D502	/N	4822 130 80522	CHIP DIODE DAP202K	HZ20001210
D504		9965 000 03401	CHIP DIODE RB425D	HZ20030210
QA01	/N	4822 130 41947	TRS. 2SC2458 2SC1740S 2SC3199 ETC	HT30001000
QA02	/N	4822 130 41947	TRS. 2SC2458 2SC1740S 2SC3199 ETC	HT30001000
QA03	/N	4822 130 61892	TRS. 2SD2144S U OR V	HT421442A0
QA04	/N	4822 130 61227	DIG.TRS. DTA114ES UN4111 10k 10k	BA10001000
QA05	/N	4822 130 61227	DIG.TRS. DTA114ES UN4111 10k 10k	BA10001000
QA06	/N	4822 130 60588	DIG.TRS. DTC114ES UN4211 10k 10k	BA20001000
QC01		4822 209 32554	IC LC78213	HC10310030
QC03		4822 209 73953	IC NJM4580DD	HC10112090
QC07		4822 130 42292	TRS. 2SC2120 O	HT321201A0

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
QC08		4822 130 61227	DIG.TRS. DTA114ES UN4111 10k 10k	BA10001000
QG51		9965 000 01358	IC TC9459N ELE.VOLUME	HC10443050
QG52	14A	4822 209 31153	IC NJM2114D	HC10111090
			DUAL LOW NOISE OP-AMP	
QG53	14A	4822 209 31153	IC NJM2114D	HC10111090
			DUAL LOW NOISE OP-AMP	
QG52	18A	482220973064	IC NJM-2068-DD OP AMP	HC10053090
QG53	18A	482220973064	IC NJM-2068-DD OP AMP	HC10053090
QM01				
		4822 130 11511	CHIP TR. 2SC3326 A OR B	HX333262A0
QM08				
QM09				
		4822 130 61227	DIG.TRS. DTA114ES UN4111 10k 10k	BA10001000
QM13				
QM15		4822 130 63634	TRS. 2SA1837 O OR Y	HT118372A0
QM16			DIG.TRS. RN2402 CHIP	BA1000605R
QM17		4822 209 90532	IC NJU3713D	HC10161090
QV01		9965 000 01358	IC TC9459N ELE.VOLUME	HC10443050
QV02		9965 000 01358	IC TC9459N ELE.VOLUME	HC10443050
QV03		9965 000 01358	IC TC9459N ELE.VOLUME	HC10443050
QV05		4822 209 31153	IC NJM2114D	HC10111090
			DUAL LOW NOISE OP-AMP	
QV06	14A	4822 209 31153	IC NJM2114D	HC10111090
			DUAL LOW NOISE OP-AMP	
QV07	14A	4822 209 31153	IC NJM2114D	HC10111090
			DUAL LOW NOISE OP-AMP	
QV09	14A	4822 209 31153	IC NJM2114D	HC10111090
			DUAL LOW NOISE OP-AMP	
QV10	14A	4822 209 31153	IC NJM2114D	HC10111090
			DUAL LOW NOISE OP-AMP	
QV11	14A	4822 209 31153	IC NJM2114D	HC10111090
			DUAL LOW NOISE OP-AMP	
QV06	18A	482220973064	IC NJM-2068-DD OP AMP	HC10053090
QV07	18A	482220973064	IC NJM-2068-DD OP AMP	HC10053090
QV09	18A	482220973064	IC NJM-2068-DD OP AMP	HC10053090
QV10	18A	482220973064	IC NJM-2068-DD OP AMP	HC10053090
QV11	18A	482220973064	IC NJM-2068-DD OP AMP	HC10053090
QV13		4822 130 42949	TRS. 2SA970 GR OR BL	HT109702A0
QV14		4822 130 42949	TRS. 2SA970 GR OR BL	HT109702A0
QV15				
		4822 130 43233	TRS. 2SC2240 GR OR BL	HT322402A0
QV18				
QV19		4822 130 42949	TRS. 2SA970 GR OR BL	HT109702A0
QV20		4822 130 42949	TRS. 2SA970 GR OR BL	HT109702A0
Q201		9965 000 01369	IC LA1837 FM/AM IF MPX IC	HC10384030
Q202		4822 130 62294	TRS. 2SC1809S P 150MW 500MHz	HT318091P0
Q203				
		4822 130 42594	DIG.TRS.	BA20000000
Q205			DTC144ES UN4213 47K 47K	BA
Q301	/K	4822 209 73064	IC NJM-2068-DD	HC10053090
Q301	/N	4822 209 73064	IC NJM-2068-DD	HC10053090
Q301	/S	4822 209 73064	IC NJM-2068-DD	HC10053090
Q351	/N	9965 000 06298	IC LC72722 RDS DECODER	HC10404030
Q351	/S	9965 000 06298	IC LC72723 RDS DECODER	HC10404030
Q352	/N,/S	4822 130 61227	DIG.TRS. DTA114ES UN4111 10k 10k	BA10000000
Q353	/N,/S	4822 130 60588	DIG.TRS. DTC114ES UN4211 10k 10k	BA20000000
Q354	/N,/S	4822 130 41947	TRS. 2SC2458.2SC1740S. 2SC3199.ETC	HT30000000
Q501		9965 000 01370	IC LC72130	HC10390030
P104-MISCELLANEOUS				
A101		9965 000 01368	VHF TUNER TFFJ4E	AV0090010
FA01			CERAMIC FILTER SFZ450JL3 CERAFIL 451K	FF1004410

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
CH05				
CH08		4822 121 10792	FILM 220pF 100V PP APSV	OF15221540
CH12	18A	482211682487	CHIP RES. 0Ω +- 5% 1/16W	NN05000610
CH14	14A	4822 124 81151	ELECT. 22μF M 25V ARA	OA22602550
CH14	/F		ELECT. 22μF M 25V ARS	OA22602540
CH14	18A	996500001581	ELECT. 22μF M 25V RA-2	OA22602520
CH15		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CH18				
CH24	18A	482211682487	CHIP RES. 0Ω +- 5% 1/16W	NN05000610
CH26	14A	4822 124 81151	ELECT. 22μF M 25V ARA	OA22602550
CH26	/F		ELECT. 22μF M 25V ARS	OA22602540
CH26	18A	996500001581	ELECT. 22μF M 25V RA-2	OA22602520
CH27		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CH28		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CH31		4822 124 41535	ELECT. 100μF M 25V RA-2	OA10702520
CH32		4822 124 41535	ELECT. 100μF M 25V RA-2	OA10702520
CH33		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CH34		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CH39		4822 122 33761	CER.CHIP 22pF ±5% CG50V	DD95220300
CH40		4822 122 33761	CER.CHIP 22pF ±5% CG50V	DD95220300
CH41		4822 124 90352	ELECT. 10μF M 16V RA-2	OA10601620
CH42		4822 124 90352	ELECT. 10μF M 16V RA-2	OA10601620
CH55		4822 121 10792	FILM 220pF 100V PP APSV	OF15221540
CH58				
CH61		4822 122 33761	CER.CHIP 22pF ±5% CG50V	DD95220300
CH62		4822 122 33761	CER.CHIP 22pF ±5% CG50V	DD95220300
CH63	14A	4822 124 81151	ELECT. 22μF 25V ARA	OA22602550
CH63	/F		ELECT. 22μF M 25V ARS	OA22602540
CH63	18A	996500001581	ELECT. 22μF M 25V RA-2	OA22602520
CH64	14A	4822 124 81151	ELECT. 22μF M 25V ARA	OA22602550
CH64	17, 18A	996500001581	ELECT. 22μF M 25V RA-2	OA22602520
CH65		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CH68				
CH70		4822 124 90352	ELECT. 10μF M 16V RA-2	OA10601620
CH73		4822 122 33761	CER.CHIP 22pF ±5% CG50V	DD95220300
CH74		4822 122 33761	CER.CHIP 22pF ±5% CG50V	DD95220300
CH75	14A	4822 124 81151	ELECT. 22μF 25V ARA	OA22602550
CH75	/F		ELECT. 22μF M 25V ARS	OA22602540
CH75	18A	996500001581	ELECT. 22μF M 25V RA-2	OA22602520
CH76	14A	4822 124 81151	ELECT. 22μF 25V ARA	OA22602550
CH76	/F		ELECT. 22μF M 25V ARS	OA22602540
CH76	18A	996500001581	ELECT. 22μF M 25V RA-2	OA22602520
CH77		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CH78		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CH80		4822 124 90352	ELECT. 10μF M 16V RA-2	OA10601620
CH81		4822 124 41535	ELECT. 100μF M 25V RA-2	OA10702520
CH82		4822 124 41535	ELECT. 100μF M 25V RA-2	OA10702520
CH83		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CH84		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CJ05		4822 121 10792	FILM 220pF 100V PP APSV	OF15221540
CJ08				
CJ11	14A	4822 124 81151	ELECT. 22μF M 25V ARA	OA22602550
CJ11	/F		ELECT. 22μF M 25V ARS	OA22602540
CJ11	18A	996500001581	ELECT. 22μF M 25V RA-2	OA22602520
CJ12	14A	4822 124 81151	ELECT. 22μF M 25V ARA	OA22602550
CJ12	/F		ELECT. 22μF M 25V ARS	OA22602540
CJ12	18A	996500001581	ELECT. 22μF M 25V RA-2	OA22602520
CJ13		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CJ16				
CJ19		4822 122 33761	CER.CHIP 22pF ±5% CG50V	DD95220300
CJ20		4822 122 33761	CER.CHIP 22pF ±5% CG50V	DD95220300
CJ21		4822 124 41535	ELECT. 100μF M 25V RA-2	OA10702520
CJ22		4822 124 41535	ELECT. 100μF M 25V RA-2	OA10702520

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
CJ23		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CJ24		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CJ25		4822 124 90352	ELECT. 10μF M 16V RA-2	OA10601620
CJ26		4822 124 90352	ELECT. 10μF M 16V RA-2	OA10601620
CJ55				
CJ58	14A	4822 121 10792	FILM 220pF 100V PP APSV	OF15221540
CJ59	14A	4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CJ60	14A	4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CJ75		4822 121 10792	FILM 220pF 100V PP APSV	OF15221540
CJ78				
CJ79		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CJ80		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CK01		4822 124 90352	ELECT. 10μF M 16V RA-2	OA10601620
CK04				
CK05		9965 000 06286	CER.CHIP 470pF ± 5% J SL	DD95471370
CK08				
CK11		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CK20				
CK21		4822 124 90352	ELECT. 10μF M 16V RA-2	OA10601620
CK22		4822 124 90352	ELECT. 10μF M 16V RA-2	OA10601620
CK23		9965 000 06287	CER.CHIP 0.22μF +80%-20%	DK98224200
CK24		9965 000 06287	CER.CHIP 0.22μF +80%-20%	DK98224200
CK25		4822 124 90353	ELECT. 100μF M 10V RA-2	OA10701020
CK26		4822 124 90353	ELECT. 100μF M 10V RA-2	OA10701020
CK27		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CK28		4822 122 31765	CER.CHIP 100pF ±5% CG 50V	DD95101300
CK30		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CK31		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CK33		4822 124 41535	ELECT. 100μF M 25V RA-2	OA10702520
CK34		4822 124 41535	ELECT. 100μF M 25V RA-2	OA10702520
CK35		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CK36		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CK37				
CK40		5322 126 11583	CER.CHIP 0.01μF ±10% B 25V	DK96103200
CK41		4822 124 21894	ELECT. 10μF 16V	EJ10601610
CK42		4822 124 21894	ELECT. 10μF 16V	EJ10601610
CK43		4822 124 41539	ELECT. 47μF M 16V RA-2	OA47601620
CK44		4822 124 41539	ELECT. 47μF M 16V RA-2	OA47601620
CK45		4822 122 33761	CER.CHIP 22pF ±5% CG50V	DD95220300
CK46		4822 122 33761	CER.CHIP 22pF ±5% CG50V	DD95220300
CR01		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CR02		4822 124 90353	ELECT. 100μF M 10V RA-2	OA10701020
CR03		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CR04		4822 124 90353	ELECT. 100μF M 10V RA-2	OA10701020
CR05		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CR06		4822 124 90353	ELECT. 100μF M 10V RA-2	OA10701020
CR07		4822 126 13837	CER.CHIP 0.1μF ±10% B 10V	DK96104200
CR08		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CR10		4822 126 11568	CER.CHIP 470pF	DK96471300
CR11		4822 126 13837	CER.CHIP 0.1μF ±10% B 10V	DK96104200
CR12		4822 126 13837	CER.CHIP 0.1μF ±10% B 10V	DK96104200
CR13		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CR14		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CR15		4822 124 41539	ELECT. 47μF M 16V RA-2	OA47601620
CR16		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CR17		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CR18		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CR19		5322 126 11583	CER.CHIP 0.01μF ±10% B 25V	DK96103200
CR20		5322 126 11583	CER.CHIP 0.01μF ±10% B 25V	DK96103200
CR21		4822 126 13837	CER.CHIP 0.1μF ±10% B 10V	DK96104200
CR22		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CR23		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
RH13		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH14		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH15	14A	4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH16	14A	4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH17		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH18	14A	4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH19		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH21		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
RH22		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH24		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610
RH21	18A	482211683215	CHIP 5.6kΩ ±5% 1/16W	NN05562610
RH22	18A	482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05222610
RH23	18A	482205130223	CHIP 22kΩ ±5% 1/16W	NN05101610
RH25		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
RH26		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH27				
	14A	4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH31				
RH32		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH34		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
RH35		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH34	18A	482211683215	CHIP 5.6kΩ ±5% 1/16W	NN05562610
RH35	18A	482205130472	CHIP 4.7kΩ ±5% 1/16W	NN05222610
RH36	18A	482205130223	CHIP 22kΩ ±5% 1/16W	NN05101610
RH37		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610
RH38		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
RH51				
		4822 116 83211	CHIP 1.8kΩ ±5% 1/16W	NN05182610
RH52				
RH63				
		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH66				
RH67		4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610
RH68		4822 051 30392	CHIP 3.9kΩ ±5% 1/16W	NN05392610
RH69		4822 051 30562	CHIP 5.6kΩ ±5% 1/16W	NN05562610
RH70		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RH71		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RH72		4822 051 30153	CHIP 15kΩ ±5% 1/16W	NN05153610
RH73		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610
RH74		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610
RH75		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
RH76		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
RH77				
		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RH80				
RH81		4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610
RH82		4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610
RH83		4822 051 30562	CHIP 5.6kΩ ±5% 1/16W	NN05562610
RH84		4822 051 30562	CHIP 5.6kΩ ±5% 1/16W	NN05562610
RH85		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RH86		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RH87		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610
RH88		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610
RH89		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
RH90		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
RJ01				
		4822 116 83211	CHIP 1.8kΩ ±5% 1/16W	NN05182610
RJ12				
RJ13				
		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RJ16				
RJ17		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RJ18		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RJ19		4822 051 30562	CHIP 5.6kΩ ±5% 1/16W	NN05562610
RJ20		4822 051 30562	CHIP 5.6kΩ ±5% 1/16W	NN05562610
RJ21		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610
RJ22		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610
RJ23		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
RJ24		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
RJ25		4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610
RJ26		4822 051 30223	CHIP 22kΩ ±5% 1/16W	NN05223610
RJ51				
	14A	4822 116 83211	CHIP 1.8kΩ ±5% 1/16W	NN05182610
RJ62				
RJ71				
		4822 116 83211	CHIP 1.8kΩ ±5% 1/16W	NN05182610
RJ82				
RJ91	18A	4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610
RK01		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
RK02		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
RK03		4822 117 12902	CHIP 8.2kΩ ±5% 1/16W	NN05822610
RK04		4822 117 12902	CHIP 8.2kΩ ±5% 1/16W	NN05822610
RK05		9965 000 03187	CHIP 56Ω ±5% 1/16W	NN05560610
RK06		9965 000 03187	CHIP 56Ω ±5% 1/16W	NN05560610
RK07				
		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RK18				
RK19				
		9965 000 05009	CHIP 39Ω ±5% 1/16W	NN05390610
RK22				
RK23				
		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610
RK28				
RK29		4822 051 30302	CHIP 3kΩ ±5% 1/16W	NN05302610
RK30		4822 051 30302	CHIP 3kΩ ±5% 1/16W	NN05302610
RK31		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RK32		4822 051 30222	CHIP 2.2kΩ ±5% 1/16W	NN05222610
RK33		4822 051 30474	CHIP 470kΩ ±5% 1/16W	NN05474610
RK34		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
RK35				
		4822 526 10584	FERRITE CORE ZBF503D-00TA	FC90090010
RK37				
RK38		4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610
RR01		4822 051 30759	CHIP 75Ω ±5% 1/16W	NN05750610
RR02		4822 051 30759	CHIP 75Ω ±5% 1/16W	NN05750610
RR03		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
RR04		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
RR05		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RR06		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RR07		4822 051 30339	CHIP 33Ω ±5% 1/16W	NN05330610
RR08		4822 051 30339	CHIP 33Ω ±5% 1/16W	NN05330610
RR09		4822 051 30759	CHIP 75Ω ±5% 1/16W	NN05750610
RR10		4822 117 12902	CHIP 8.2kΩ ±5% 1/16W	NN05822610
RR11		9965 000 06300	CHIP 5.1kΩ ±5% 1/16W	NN05512610
RR12		4822 051 30302	CHIP 3kΩ ±5% 1/16W	NN05302610
RR13		4822 051 30759	CHIP 75Ω ±5% 1/16W	NN05750610
RR14				
		4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610
RR19				
RR21		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
RR22		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
RR23		4822 051 30102	CHIP 1kΩ ±5% 1/16W	NN05102610
RR24		4822 051 30102	CHIP 1kΩ ±5% 1/16W	NN05102610
RR25		4822 051 30682	CHIP 6.8kΩ ±5% 1/16W	NN05582610
RR26				
		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
RR29				
RR30		4822 051 30102	CHIP 1kΩ ±5% 1/16W	NN05102610
RR31		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
RR32		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610
RR33		4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610
R601		4822 051 30105	CHIP 1MΩ ±5% 1/16W	NN05105610
R602		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
R606		4822 117 13632	CHIP 100kΩ ±5% 1/16W	NN05104610
R651		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
R652		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			PB04-SEMICONDUCTORS	
DB01	/U	4822 130 82421	DIODE 1D3 1A 200V	HD20002710
DB02	/U	4822 130 82421	DIODE 1D3 1A 200V	HD20002710
QB01	/U	4822 130 42682	DIG. TRS.	BA10002000
QB02	/U	4822 130 60117	DTA144ES UN4113 47k 47k TRS. 2SC3419 O OR Y 40V 0.8A PC=1.2W 5W	HT334192A0
			PB04-MISCELLANEOUS	
▲ FB01	/F		FUSE 15A 250V UL CSA MITI	FS11500440
▲ FB01	/U		FUSE 12A 250V UL CSA MITI NO.314	FS11200440
▲ FB02	/F		FUSE 15A 250V UL CSA MITI	FS11500440
▲ FB02	/U		FUSE 630mA 250V UL CSA FBM	FS10063360
JB03	/U		JACK 2P AC OUTLET	YJ04002040
LB02	/U	4822 280 80773	CCT1304-0212	LY10240240
LB03	/U	4822 280 80773	RELAY VS24MB-NR TV-8 SEMKO LISTED	LY10240240
			PB54-PRIMARY CIRCUIT BOARD [K, /N, /S] VERSION	
			PB54-CAPACITORS	
CB51	/K,/N,/S	4822 122 33276	CER. 0.01µF ±20% DE7150 F SPARK KILLER	DK17103840
CB52	/K,/N,/S	4822 124 90353	ELECT. 100µF M 10V RA-2	OA10701020
CB53	/K,/N,/S	4822 122 33276	CER. 0.01µF ±20% DE7150 F SPARK KILLER	DK17103840
			PB54-RESISTORS	
▲ RB52	/K,/N,/S	9965 000 01761	ROTOR 2.2Ω 7W W/TEMP FUSE	NQ15022070
▲ RB55	/K,/N,/S	9965 000 01761	ROTOR 2.2Ω 7W W/TEMP. FUSE	NQ15022070
			PB54-RESISTORS (COMMON)	
R***			CARBON FILM FIXED RES. ±5% 1/6W : RB53 RB54	
			PB54-SEMICONDUCTORS	
DB51	/K,/N,/S	4822 130 82421	DIODE 1D3 1A 200V	HD20002710
DB52	/K,/N,/S	4822 130 82421	DIODE 1D3 1A 200V	HD20002710
QB51	/K,/N,/S	4822 130 42682	DIG. TRS.	BA10002000
QB52	/K,/N,/S	4822 130 60117	DTA144ES UN4113 47k 47k TRS. 2SC3419 O OR Y 40V 0.8A PC=1.2W	HT334192A0
			PB54-MISCELLANEOUS	
▲ FB51	/K,/N,/S	4822 070 36302	FUSE T6 3A 250V BS LISTED	FS10630850
▲ FB52	/K,/N,/S	4822 070 32001	FUSE T200mA 250V BS LISTED	FS10020850
LB52	/K,/N,/S	4822 280 80773	RELAY VS24MB-NR TV-8 SEMKO LISTED	LY10240240
LB53	/K,/N,/S	4822 280 80773	RELAY VS24MB-NR TV-8 SEMKO LISTED	LY10240240
			PB74- POWER SW CIRCUIT BOARD	
CB71	/K,/N, /S,/U	4822 122 33276	CER. 0.01µF ±20% DE7150 F SPARK KILLER	DK17103840
CB71	/F	4822 122 33276	CER. 0.01µF ±20% DE7150 F SPARK KILLER	DK17103900
▲ SB71		9965 000 01777	PUSH SWITCH SDDL B1 POWER TV-5	SP01012460

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			PL04-CVBS VIDEO SELECTOR CIRCUIT BOARD	
			PL04-CAPACITORS	
CC53		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CC54		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CC55		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CC56		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CC59		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CC60		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CC61		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CC62		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CC64		4822 124 41535	ELECT. 100µF M 25V RA-2	OA10702520
CC65		4822 124 41535	ELECT. 100µF M 25V RA-2	OA10702520
CC67	/N, /S	4822 122 31205	CER. 47pF J CH 50V BLK	DD15470300
CC70				
CC73		9965 000 06288	ELECT. 22µl 25V	EA22602520
CC74		9965 000 06288	ELECT. 22µl 25V	EA22602520
CC75		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CC76		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CC78			JUMPER	75060501P0
CC81		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CC82		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CC85		4822 126 10362	CER. 22pF	DA15220110
CC86		9965 000 06288	ELECT. 22µl 25V	EA22602520
CC87		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CC88		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CC95		4822 122 30043	CER. 0.01µF Z 50	DK18103310
CL01		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CL02		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CL03		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CL05		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CL07		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CL08		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CL09		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CL11				
CL23		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CL24		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620
CL25				
CL31		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020
CL32		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620
CL33		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620
CL34		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CL35		4822 124 41537	ELECT. 220µF M 6.3V RA-2	OA22700620
CL36		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CL37		4822 124 90353	ELECT. 100µF M 10V RA-2	OA10701020
CL38		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CL39		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CL40		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CL41		4822 124 90353	ELECT. 100µF M 10V RA-2	OA10701020
CL42		4822 122 30043	CER. 0.01µF Z 50V	DK18103310
CL43		4822 124 41537	ELECT. 220µF M 6.3V RA-2	OA22700620
CL44		4822 122 40617	CER. 0.1µF 50V	DD38100010
CL45		4822 124 90353	ELECT. 100µF M 10V	OA10701020
CL46	/K, /N /S	4822 126 10362	CER. 22pF	DA15220110
CL47	/K, /N /S	4822 126 11553	CER. 15pF	DA15150120
CL48	/K, /N /S	4822 126 10362	CER. 22pF	DA15220110
CL48	/U	4822 122 33638	CER. 27pF	DA15270110
CL49		4822 126 11591	CER. 24pF J CH 50V BLK	DD15240300
CL50		4822 126 10362	CER. 22pF	DA15220110
CL52		4822 124 41543	ELECT. 1µF M 50V RA-2	OA10500020
CL53		4822 122 40617	CER. 0.1µF 50V	DD38100010
CL54		4822 124 41537	ELECT. 220µF M 6.3V RA-2	OA22700620

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
CL55		4822 124 41543	ELECT. 1μF M 50V RA-2	OA10505020	QC52		4822 209 73953	IC NJM4580DD	HC10112090
CL56		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020			DUAL OP-ANP		
CL57		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020	QC71		4822 209 73953	IC NJM4580DD	HC10112090
CL58		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020	QC72		4822 209 73953	IC NJM4580DD	HC10112090
CL59		9965 000 01040	ELECT. 470μF M 6.3V RA-2	OA47700620	QC73		4822 209 73953	IC NJM4580DD	HC10112090
CL60		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020	QC95		5322 209 11322	IC 74HC08 2-INPUT AND GATE	HC700800B0
CL61		4822 124 90353	ELECT. 100μF M 10V RA-2	OA10701020					
CL62		4822 122 30043	CER. 0.01μF Z 50V	DK18103310	QL01		9965 000 01371	IC MM1140XF	HC10083550
CL63		4822 122 30043	CER. 0.01μF Z 50V	DK18103310	QL02		4822 209 32928	IC BA7612N	HC10201210
CL64		4822 124 41537	ELECT. 220μF M 6.3V RA-2	OA22700620	QL03		9965 000 01372	IC BA7649A G-1 VIDEO SW	HC10179210
CL65		4822 122 40617	CER. 0.1μF 50V	DD38104010	QL04		4822 209 31527	IC BA7613N	HC10202210
CL67	U	4822 126 10362	CER. 22pF	DA15220110	QL05		9965 000 01372	IC BA7649A G-1 VIDEO SW	HC10179210
CL68		4822 124 41543	ELECT. 1μF M 50V RA-2	OA10505020	QL06		4822 209 31527	IC BA7613N	HC10202210
CL69		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020	QL07		4822 209 16846	IC NJU3718L	HC10171090
CL70		4822 122 30043	CER. 0.01μF Z 50V	DK18103310	QL08		4822 209 32246	IC NJM2244	HC10119090
CL71							3IN SW 75Ω DRIVER		
CL74		4822 126 11558	CER. 0.1μF 50V	DA17104110	QL09		4822 209 15524	IC LC74781 OSD IC	HC10377030
CL75		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020	QL10	K,N,S	4822 130 61227	DIG.TRS. DTA114ES ETC	BA10001000
CL79		4822 124 41543	ELECT. 1μF M 50V RA-2	OA10505020	QL11	K,N,S	4822 130 61189	DIG.TRS.	BA20004000
CL80		4822 122 30043	CER. 0.01μF Z 50V	DK18103310				DTC114TS UN4215 10K	
CL81					QL12	K,N,S	4822 130 61189	DIG.TRS.	BA20004000
CL86		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020				DTC114TS UN4215 10K	
CL87	N	4822 124 41537	ELECT. 220μF M 6.3V RA-2	OA22700620	QL14		4822 209 32246	IC NJM2244	HC10119090
CL88		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020	QL15		9965 000 06284	3IN SW 75Ω DRIVER	BA20068210
CL98		4822 122 30043	CER. 0.01μF Z 50V	DK18103310	QL16		4822 130 41947	DIG.TRS. DTC144VSA 47K/10K	HT30001000
CL99		4822 122 30043	CER. 0.01μF Z 50V	DK18103310				TRS. 2SC2458 2SC1740S	
					QL17		4822 130 60588	2SC3199 ETC	
***			PL04-CAPACITORS (COMMON)		QL18		5322 209 71773	DIG.TRS.	BA20001000
			HIGH DIELECTRIC CONSTANT		QL19		4822 130 60588	DIG.TRS.	BA20001000
			CER. CAPACITOR ±10% 50V :		QL21		4822 130 41947	DTC114ES UN4211 10k 10k	HT30001000
			CC51 CC52 CC57 CC58 CL51					TRS. 2SC2458 2SC1740S	
			CL76 CL77					2SC3199 ETC	
***			ELECTROLYTIC CAPACITOR		JC51		9965 000 06306	TERMINAL YKC21-4170 1L4P	YT02041290
			±20% : CC71 CC72		JL01		4822 265 31299	TERMINAL 3P RCA YELLOW	YT02030340
***			PLASTIC FILM CAPACITOR		JL02		4822 265 31299	TERMINAL 3P RCA YELLOW	YT02030340
			±5% 50V : CC79 CC80 CC73		JL03		9965 000 06305	TERMINAL 3P RCA YELLOW	YT02030620
			CC84 CL78		LL01		4822 157 62922	CHOKO COIL CHOKE 33UH J	LC13333800
					LL02		4822 242 73843	EMI FILTER DSS306-91-F-223Z	FM12223010
			PL04-RESISTORS		XL01	K,N,S	4822 242 73903	CRYSTAL AT49 17.7MHZ	JX17001260
RC81			JUMPER	75060501P0	XL02		4822 242 80288	CRYSTAL AT49 14.31818MHZ	JX14001260
RC92			JUMPER	75060501P0					
RL01		4822 111 41355	RES. 75Ω ±5% 1/6W	GD05750160				PL74-AUX INPUT	
RL03		4822 111 41355	RES. 75Ω ±5% 1/6W	GD05750160				CIRCUIT BOARD	
RL05		4822 111 41355	RES. 75Ω ±5% 1/6W	GD05750160				PL74-CAPACITORS	
RL07		4822 111 41355	RES. 75Ω ±5% 1/6W	GD05750160	CL75	N,S	4822 126 11568	CER.CHIP 470pF	DK96471300
RL09		4822 111 41355	RES. 75Ω ±5% 1/6W	GD05750160	CL76	N,S	4822 126 11568	CER.CHIP 470pF	DK96471300
RL53			JUMPER JUMPER WIRE	75060501P0	CL77	N,S	4822 122 33777	CER.CHIP 47pF	DD95470300
					CL78	N,S	4822 122 33777	CER.CHIP 47pF	DD95470300
			PL04-RESISTORS (COMMON)		CL79				
			CARBON FILM FIXED RES.		}		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
			±5% 1/6W : RC51-RC54 RC57		CL82				
			RC58-RC64 RC66-RC79		CL83		4822 124 11947	ELECT. 10pF 16V	EQ10601630
			RC83 RC86 RC87 RC89 RC91		CL84		4822 111 41305	RES. 0Ω	GD05000140
			RC93-RC97 RL02 RL04 RL06		CL88		4822 111 41305	RES. 0Ω	GD05000140
			RL08 RL10-RL15 RL18-RL26		CL89		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
			RL28 RL32 RL39-RL43 RL51		CL90		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
			RL52 RL54		CL91				
			PL04-SEMICONDUCTORS		}		4822 111 41305	RES. 0Ω	GD05000140
DL07		4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000	CL98				
			30V 0.1A					PL74-RESISTORS	
DL21		4822 130 32362	DIODE SUBSTITUTE	HD20002000	RL75		4822 051 30102	CHIP 1kΩ ±5% 1/16W	NN05102610
DL22		4822 130 32362	DIODE SUBSTITUTE	HD20002000	RL76		4822 051 30102	CHIP 1kΩ ±5% 1/16W	NN05102610
QC51		4822 209 73953	IC NJM4580DD	HC10112090	RL77		4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610
			DUAL OP-ANP		RL78		4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
C***			ELECTROLYTIC CAPACITOR ±20% : C823 C842 C849		QS14		4822 209 32553	IC LC78212	HC10309030
					QS15		4822 209 32552	IC LC78211	HC10308030
					QS16		4822 130 61227	DIG.TRS. DTA114ES UN4111 10k 10k	BA10001000
▲ RG15		4822 115 90166	FUSE RES. 10Ω ±2% 1/4W	NF02100140	QS17				
RS43			JUMPER	75060501P0	}		4822 130 43818	TRS. 2SC2878 A OR BRANK	HT328782A0
RS44			JUMPER	75060501P0	QS20				
RS96			JUMPER	75060501P0	QS21		4822 130 61227	DIG.TRS. DTA114ES UN4111 10k 10k	BA10001000
RS97			JUMPER	75060501P0					
▲ R804		4822 117 10158	RES. 1Ω ±5% 1/4W	GG05010140	QS22		4822 130 61227	DIG.TRS. DTA114ES UN4111 10k 10k	BA10001000
R807		4822 053 10222	RES. 2.2kΩ ±5% 1W	GA05222010					
▲ R811		4822 111 90731	FUSE RES. 47Ω ±2% 1/4W	NF02470140	QS23		4822 130 43818	TRS. 2SC2878 A OR BRANK	HT328782A0
▲ R817		4822 115 90167	FUSE RES. 100Ω ±2% 1/4W	NF02101140	QS24		4822 130 43818	TRS. 2SC2878 A OR BRANK	HT328782A0
R818			JUMPER	75060501P0	QS25		4822 209 83631	IC NJM4558D-D	HC10008090
					QS26		4822 130 90347	PHOTO UNIT PC-817 PHOTO CUPLER 1PAIR	HW10006320
					QS27		4822 130 61227	DIG.TRS. DTA114ES UN4111 10k 10k	BA10001000
F***			PS04-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/6W : R806 R808 R810 R812 R814-R816 R819 RG01-RG06 RG09-RG14 RG16-RG20 RQ25-RQ30 RS01-RS10 RS13-RS42 RS47-RS99 RU01-RU09 RU11-RU19 RU21-RU29 RU31-RU44 RY48 RU51 RU52 RU55-RU58 RU61-RU63		▲ Q802		9965 000 01354	IC L780S15 +15V 1A	HC38915030
					▲ Q803		4822 209 61256	IC NJM7915FA -15V 1A	HC39915090
					▲ Q804		4822 130 11605	TRS. 2SD1415	HT141415100
					▲ Q805		4822 209 61256	IC NJM7915FA -15V 1A	HC39915090
					▲ Q807		4822 209 30258	IC NJM7905FA -5V 1A	HC39905090
					▲ Q808		4822 209 73674	IC NJM7806FA +6V	HC38906090
					Q809		4822 130 60117	TRS. 2S2SC3419 O OR Y 40V 0.8A PC=1.2W 5W	HT334192A0
DG01		4822 130 82421	DIODE 1D3 1A 200V	HD20002710	Q810		4822 130 41947	TRS. 2SC2458 2SC1704S 2SC3199 ETC.	HT30001000
DG02		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	Q811		4822 209 14883	IC S-806C 4.55V V-SENSOR	HC10075530
DG03		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	Q812		4822 130 61227	DIG.TRS. DTA114ES ETC	BA10001000
DS01		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	Q813		4822 130 60588	DIG.TRS. DTC114ES ETC	BA20001000
DS02		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000	JS01		4822 265 10729	PT04-MISCELLANEOUS TERMINAL 8P RCA PIN JACK WHITE/RED AU	YT02080130
D803					JS03		4822 290 61244	TERMINAL 6P RCA PIN JACK WHITE/RED AU	YT02060490
}					JS04		4822 290 61244	TERMINAL 6P RCA PIN JACK WHITE/RED AU	YT02060490
D806					JS06		4822 290 61244	TERMINAL 6P RCA PIN JACK WHITE/RED AU	YT02060490
▲ D808		4822 130 83438	DIODE D5SB-20 5A 200V	HE20016290	JS07		9965 000 01355	TERMINAL 4P RCA RC- 51MULTI PC	YT02041260
D810		4822 130 82421	DIODE 1D3 1A 200V	HD20002710	LG01		9965 000 01576	RELAY MR82-24USR	LY20240460
D811		4822 130 82421	DIODE 1D3 1A 200V	HD20002710	▲ L801		9965 000 01353	RELAY FTR-F1AA024T	LY20240460
D812		4822 130 82421	DIODE 1D3 1A 200V	HD20002710					
D813		9965 000 06297	ZENER DIODE MTZJ36D	HD33601000					
D814		4822 130 80318	ZENER DIODE 6.8V	HD30681000					
D815									
}									
D825		4822 130 82421	DIODE 1D3 1A 200V	HD20002710					
▲ D826		4822 130 81247	DIODE 1GWJ43	HD20031050	CN51				
D827			JUMPER	75060501P0	}/N,/S		4822 122 30043	CER. 0.01μF Z 50V	DK18103310
D828		4822 130 82421	DIODE 1D3 1A 200V	HD20002710	CN58				
D829		4822 130 82421	DIODE 1D3 1A 200V	HD20002710					
D830		4822 130 32362	DIODE 1S133	HD20002000					
QG01		9965 000 01358	IC ELE.VOL.TC9459N	HC10449050	DN51		4822 130 82421	DIODE 1D3	HD20002710
QG02		4822 209 83631	IC NJM4558D-D	HC10008090	DN52		4822 130 82421	DIODE 1D3	HD20002710
QG03		4822 130 63634	TRS. 2SA1837 Q.Y	HT118372A0	DN53		4822 130 82421	DIODE 1D3	HD20002710
QG04		4822 130 61227	DIG.TRS. DTA114ES UN4111 10k 10k	BA10001000	JN54	/K,/N,/S	9965 000 01774	PT04-MISCELLANEOUS TERMINAL SPK. 4P RR/BB IE	YT01040830
QG05		4822 130 43818	TRS. 2SC2878 A OR BRANK	HT328782A0	JN54	/U		TERMINAL SPK. 4P RR/BB	YT01040860
QG06		4822 130 43818	TRS. 2SC2878 A OR BRANK	HT328782A0	JN55	/K,/N,/S	9965 000 01775	TERMINAL SPK. 4P BB/RR IE	YT01040840
QG07		4822 130 61227	DIG.TRS. DTA114ES UN4111 10k 10k	BA10001000	JN55	/U		TERMINAL SPK 4P BB/RR	YT01040850
QS01					LN51		4822 280 10305	RELAY VB-18MBU-565-UL3	LY20180020
}					LN52		4822 280 10305	RELAY VB-18MBU-565-UL3	LY20180020
QS11		4822 209 83631	IC NJM4558D-D	HC10008090	LN53		4822 280 10305	RELAY VB-18MBU-565-UL3	LY20180020
QS12		4822 209 32552	IC LC78211	HC10308030					
QS13		4822 209 32553	IC LC78212	HC10309030					

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			PT74-CENTER SPEAKER TERMINAL CIRCUIT BOARD	
CN71	/N, /S	4822 122 30043	CER. 0.01μF Z 50V	DK18103310
JN71	/K, /N, /S	9965 000 01776	TERMINAL T6976 2P SPK. N B- R	YT01020390
JN71	/U		TERMINAL 2P SPK B/R	YT01020410
			PU04-FRONT/FL DISPLAY/SW. CIRCUIT BOARD	
			PU04-CAPACITORS	
CU01		4822 126 11558	CER. 0.1μF 50V	DA17104110
CU02		4822 126 11558	CER. 0.1μF 50V	DA17104110
CU03		4822 126 11558	CER. 0.1μF 50V	DA17104110
CU04		4822 126 10935	ELECT. 100μF M 6.3V	EJ10700610
CU05				
CU08		4822 126 10364	CER. 100pF 50V	DA16101110
CU09				
CU12		4822 126 11558	CER. 0.1μF 50V	DA17104110
CU13		4822 122 33639	CER. 1000pF 50V	DA16102110
CU14		4822 126 11558	CER. 0.1μF 50V	DA17104110
CU15		4822 126 11558	CER. 0.1μF 50V	DA17104110
CU16		4822 126 11558	CER. 0.1μF 50V	DA17104110
CU17		4822 122 33639	CER. 1000pF 50V	DA16102110
CU18		4822 126 10364	CER. 100pF 50V	DA16101110
CU19		4822 126 10364	CER. 100pF 50V	DA16101110
CU20		4822 126 10513	CER. 47pF 50V	DA15470110
CU21				
CU26		4822 126 11558	CER. 0.1μF 50V	DA17104110
CU27		4822 122 40586	CER. 0.01μF	DA17103110
CU30		4822 126 10935	ELECT. 100μF M 6.3V	EJ10700610
CU31		4822 124 80685	ELECT. 100μF M 6.3V	EJ10605010
CU32		4822 122 40586	CER. 0.01μF	DA17103110
			PU04-SEMICONDUCTORS	
DU01		4822 130 11363	L.E.D. LT3K44B GREEN 30MA	HI10095320
DU06				
DU07		4822 130 32362	DIODE SUBSTITUTE	HD20002000
DU08		4822 130 32362	DIODE SUBSTITUTE	HD20002000
DU20		4822 130 32362	DIODE SUBSTITUTE	HD20002000
DU21		4822 130 32362	DIODE SUBSTITUTE	HD20002000
QU01		9965 000 03868	IC ML9205-01GA FL DRIVER	HC10039260
QU02		4822 209 32695	IC NJU3711D	HC10128090
QU03				
QU06		4822 130 41947	TRS. 2SC536SP ETC	HT30001000
QU07		4822 130 63211	DIG. TRS. DTA114TS UN415	BA10004000
QU08		4822 130 41947	TRS. 2SC536SP ETC	HT30001000
QU09		4822 130 41947	TRS. 2SC536SP ETC	HT30001000
			PU04-MISCELLANEOUS	
SU01		9965 000 00373	PUSH SW. EVQ11L05R	SP01013370
SU26			H/5MM 160GF	
SU32		9965 000 01348	ROTARY SW. ROTALY	SR02010070
			ENCODER 36PULSE EC16B	
SU33		9965 000 01349	ROTARY SW. ROT ENCOD	SR02010080
			EC16B 16PLS 16CLICK	
VU01		9965 000 08299	DISPLAY UNIT 24-BT-12GN FL	HQ32401410

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			PU74-STANDBY LED CIRCUIT BOARD	
CU71		4822 122 40617	CER. 0.1μF 50V URAZUKE	DD38104010
CU81		4822 122 40588	CER. 0.022μF TP050F223Z	DA17223110
CU82		4822 124 80087	ELECT. 220μF 6.3V	EJ22700610
DU71		4822 130 11569	L.E.D. HLMP-K200 #2UL RED H=9 3MM	HI10005340
RU71			RES. 680Ω ±5% 1/6W	GD05681160
			PU84-IR SENSOR CIRCUIT BOARD	
QU81		4822 209 16157	PHOTO UNIT PNA4655M00XB IR SENSOR	HW10005020
			PU94-GYRO ENCODER CIRCUIT BOARD	
CU91		4822 122 40617	CER. 0.1μF +80%-20% 50V DC	DD38104010
QU91		4822 130 11143	PHOTO UNIT GP1A06 2PHASE PHOTOINTERRUPTER	HW10033320
RU91			RES. 330Ω ±5% 1/6W	GD05331160
			PW04-HEADPHONE CIRCUIT BOARD	
			PW04-CAPACITORS	
CW01		4822 122 40586	CER. 0.01μF	DA17103110
CW02		4822 122 40586	CER. 0.01μF	DA17103110
CW03		4822 122 40617	CER. 0.1μF 50V	DD38104010
CW04		4822 122 40617	CER. 0.1μF 50V	DD38104010
			PW04-MISCELLANEOUS	
JW01	GOLD	4822 265 11525	JACK HLJ2307-01-3163 H.P.	YJ01004330
JW01	BLACK	4822 265 10685	JACK HLJ2307-01-3160 H.P.	YJ01004240
			PY04-U-COM CIRCUIT BOARD	
			PY04-CAPACITORS	
CY01		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CY02		4822 124 23056	ELECT. 47μF 10V	EJ47601010
CY04		5322 126 11583	CER.CHIP 0.01μF ±10% B 25V	DK96103200
CY07		4822 126 13303	CER.CHIP 1μF 10V F	DK98105200
CY08		5322 126 11583	CER.CHIP 0.01μF ±10% B 25V	DK96103200
CY09		5322 126 11583	CER.CHIP 0.01μF ±10% B 25V	DK96103200
CY10		5322 126 11583	CER.CHIP 0.01μF ±10% B 25V	DK96103200
CY11		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CY12		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CY13		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CY19		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CY25		5322 126 11578	CER.CHIP 1000pF ±10% B 50V	DK96102300
CY26		4822 126 11687	CER.CHIP 0.1μF +80%-20%	DK98104200
CY30		4822 124 11879	BIG ELECT. 1F 5.5V DB-5R5D105	EX10500530
			PY04-RESISTORS	
RY01		4822 051 30479	CHIP 47kΩ ±5% 1/16W	NN05470610
RY02		4822 116 83819	CHIP 18kΩ ±5% 1/16W	NN05183610
RY03		4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610
RY04		4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610
RY05		4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610
RY06				
RY11		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
RY12		4822 051 30105	CHIP 1MΩ ±5% 1/16W	NN05105610
RY13		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610
RY14	/K, /F, /S	4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610
RY15	/K, /U	4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610
RY16	/K, /N, /S	4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610
RY17	/U	4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610
RY18	14A	4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610
RY19	/F	4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610
RY19	18A	4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610
RY20	14A	4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)
RY21	/F	4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610	JY01			PY04-MISCELLANEOUS JACK 33PIN ANGLE	YJ07020290
RY21	18A	4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610				FFC33FE-ST-VK-N	
RY22	/N,/S	4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610					
RY23	/K,/U	4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610					
RY24		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610	XY01		9965 000 01346	SERAMIC VIB. CST20.00MXW0H1 / 20MHz±C	FQ02005030
RY25		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610					
RY27									
		4822 051 30472	CHIP 4.7kΩ ±5% 1/16W	NN05472610				PY54-CONNECT CIRCUIT BOARD	
RY31					JY51			JACK 33FE-BT-VK-N 33PIN	YJ07020660
RY32		4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610				STRAIGHT	
RY33		4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610	JY53			JACK 33FE-BT-VK-N 33PIN	YJ07020660
RY34		4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610				STRAIGHT	
RY35		4822 051 30221	CHIP 220Ω ±5% 1/16W	NN05221610					
RY36		4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610				PY64-CONNECT-0 CIRCUIT BOARD	
RY37		4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610				CER. 0.01μF Z 50V	DK18103310
RY38					CY61		4822 122 30043	ELECT. 10μF M 50V	OA10605020
		4822 051 30221	CHIP 220Ω ±5% 1/16W	NN05221610	CY62		5322 124 21731		
RY45									
RY46					DY61		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
		4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610	JY61			JACK 33PIN ANGLE	YJ07020290
RY56								FFC33FE-ST-VK-N	
RY57		4822 117 12925	CHIP 47kΩ ±5% 1/16W	NN05473610	▲ LY61		9965 000 01353	RELAY FTR-F1AA024T	LY20240460
RY58		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610				FOR FIL SW	
RY59		4822 051 30683	CHIP 68kΩ ±5% 1/16W	NN05683610					
RY60		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610					
RY64		4822 051 30273	CHIP 27kΩ ±5% 1/16W	NN05273610	QY61		4822 130 60117	TRS. 2SC3419	HT334192A0
RY65		4822 051 30221	CHIP 220Ω ±5% 1/16W	NN05221610					
RY66		4822 051 30221	CHIP 220Ω ±5% 1/16W	NN05221610	▲ RY61		4822 115 90167	FUSE RES. 100Ω G 1/4W	NF02101140
RY67		4822 051 30103	CHIP 10kΩ ±5% 1/16W	NN05103610	RY62			RES. 10kΩ ±5% 1/6W	GD05103160
RY68		4822 051 30273	CHIP 27kΩ ±5% 1/16W	NN05273610	RY63			RES. 10kΩ ±5% 1/6W	GD05103160
RY69		4822 122 40617	CER. 0.1μF 50V URAZUKE	DD38104010					
			PY04-SEMICONDUCTORS					PZ04-S-VIDEO SELECTOR CIRCUIT BOARD	
DY01		4822 130 80522	CHIP DIODE 1SS300 DAP202U	HZ21006000				PZ04-CAPACITORS	
DY02		4822 130 80522	CHIP DIODE 1SS300 DAP202U	HZ21006000	CX01		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
DY03		4822 130 83715	CHIP DIODE 1SS301 DAN202U	HZ21005000	CX02		4822 122 31349	CER. 68pF J 50V	DD15680300
DY04		4822 130 80522	CHIP DIODE 1SS300 DAP202U	HZ21006000	CX03	/K,/N,/S	5322 122 32143	CER. 22pF J 50V	DD15220300
					CX04		4822 124 22275	ELECT. 47μF M 10V RA-2	OA47601020
QY01		9965 000 06295	MICROPROCESSOR 16BIT	HU326JT00F	CX05		4822 122 30043	CER. 0.01μF Z 50V	DK18103310
			TMP93CW40DF MAIN CPU		CX06		4822 124 90353	ELECT. 100μF M 10V RA-2	OA10701020
QY02		4822 130 41947	TRS. 2SC2458 2SC1740S	HT30001000	CX07		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
			2SC3199 ETC		CX08	/U	4822 126 10362	CER. 22pF J 50V	DA15220110
QY03		4822 130 61227	DIG.TRS.	BA10001000	CX09		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
			DTA114ES UN4111 10k 10k		CX10		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
QY04		4822 130 42594	DIG.TRS.	BA20002000	CX11		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
			DTC144ES UN4213 47K 47K		CX12		4822 124 41537	ELECT. 220μF M 6.3V RA-2	OA22700620
QY05		4822 130 61227	DIG.TRS.	BA10001000	CX13		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
			DTA114ES UN4111 10k 10k		CX14		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
QY06		4822 130 61227	DIG.TRS.	BA10001000	CX15		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
			DTA114ES UN4111 10k 10k		CX16				
QY07		4822 130 60588	DIG.TRS.	BA20001000			4822 122 30043	CER. 0.01μF Z 50V	DK18103310
			DTC114ES UN4211 10k 10k		CX19				
QY08		4822 130 61227	DIG.TRS.	BA10001000	CX20		4822 124 41543	ELECT. 1μF M 50V RA-2	OA10505020
			DTA114ES UN4111 10k 10k		CX21			FILM 4700pF	DF15472350
QY09		4822 130 60588	DIG.TRS.	BA20001000	CX22		4822 122 30043	CER. 0.01μF Z 50V	DK18103310
			DTC114ES UN4211 10k 10k		CX24		4822 124 41543	ELECT. 1μF 50V RA-2	OA10505020
QY10		4822 130 61227	DIG.TRS.	BA10001000	CX25		4822 124 41537	ELECT. 220μF M 6.3V RA-2	OA22700620
			DTA114ES UN4111 10k 10k		CX31		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
QY11		4822 130 41947	TRS. 2SC2458 2SC1740S	HT30001000	CX32		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
			2SC3199 ETC		CX33		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
QY12		4822 130 41947	TRS. 2SC2458 2SC1740S	HT30001000	CX41				
			2SC3199 ETC				4822 126 11558	CER. 0.1μF 50V	DA17104110
QY13		4822 130 60588	DIG.TRS.	BA20001000	CX49				
			DTC114ES UN4211/KRC102M		CX92			CER. 1000pF K 50V	DK16102300
QY14		4822 130 61227	DIG.TRS.	BA10001000	CX97		4822 124 41543	ELECT. 1μF M 50V RA-2	OA10505020
			DTA114ES UN4111 10k 10k		CX98		5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
QY15		4822 209 12845	IC S-60730SN-DT-X RESET IC	HC10054530	CX99	/U	4822 126 10362	CER. 22pF	DA15220110
					CZ01				
							5322 124 21731	ELECT. 10μF M 50V RA-2	OA10605020
					CZ05				

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
CZ06		4822 124 11947	ELECT. 10µF 16V	EQ10601630	RZ24		4822 111 41355	RES. 75Ω ±5% 1/6W	GD05750160
CZ10					RZ29				
CZ11		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	RZ61			JUMPER	
CZ25					RZ62			JUMPER	
CZ26		4822 124 11947	ELECT. 10µF 16V	EQ10601630	RZ63			JUMPER	
CZ27					RZ65			JUMPER	
CZ33		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020				PZ04-RESISTORS (COMMON)	
CZ34								CARBON FILM FIXED RES.	
CZ35		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620				±5% 1/6W : RX01-RX10	
CZ42		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020				RX12-RX22 RX24-RX29	
CZ43	/K,N,S	4822 126 10362	CER. 22pF	DA15220110				RZ01-RZ05 RZ16-RZ20	
CZ44	/K,N,S	4822 126 10362	CER. 22pF	DA15220110				RZ30-RZ35 RZ42-RZ48	
CZ44	/U	4822 122 33638	CER. 27pF	DA15270110				RZ50-RZ54 RZ56-RZ60 RZ67	
CZ45	/K,N,S	4822 126 11553	CER. 15pF	DA15150120				PZ04-SEMICONDUCTORS	
CZ46		4822 126 11591	CER. 24pF J CH 50V BLK	DD15240300	DX01		4822 130 80321	ZENER DIODE 10V	HD31001000
CZ47		4822 126 10362	CER. 22pF	DA15220110	DZ01				
CX98			CER. 1200pF K 50V	DK16122300			4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
CZ49		4822 124 41543	ELECT. 1µF M 50V RA-2	OA10505020	DZ03		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
CZ50		4822 122 40617	CER. 0.1µF 50V	DD38104010	DZ05				
CZ51		4822 124 41537	ELECT. 220µF M 6.3V RA-2	OA22700620	DZ19		9965 000 01374	ZENER DIODE MTZ 2.7B 2.7V	HD30271000
CZ52		4822 124 41543	ELECT. 1µF M 50V RA-2	OA10505020	DZ21		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
CZ55					DZ22		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
CZ60		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020					
CZ61		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620	QX01		4822 130 41947	TRS. 2SC536SP ETC	HT30001000
CZ62		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620					
CZ63		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620	QX04				
CZ65		4822 122 30043	CER. 0.01µF Z 50V	DK18103310	QX05	/K,N,S	4822 130 63211	DIG.TRS. DTA114TS UN4115 10k	BA10004000
CZ66		4822 124 41537	ELECT. 220µF M 6.3V	OA22700620	QX07		4822 130 60588	DIG.TRS. DTC114ES UN4211 10k 10k	BA20001000
CZ67		4822 122 30043	CER. 0.01µF Z 50V	DK18103310	QZ01		9965 000 01371	IC MM1140XF	HC10083550
CZ68		4822 124 41537	ELECT. 220µF M 6.3V RA-2	OA22700620	QZ03		4822 209 32928	IC BA7612N	HC10201210
CZ69					QZ05		9965 000 01371	IC MM1140XF	HC10083550
CZ77		4822 122 30043	CER. 0.01µF Z 50V	DK18103310	QZ04		4822 209 32928	IC BA7612N	HC10201210
CZ78		4822 124 41537	ELECT. 220µF M 6.3V RA-2	OA22700620	QZ05		9965 000 01372	IC BA7649A G-1 VIDEO SW	HC10179210
CZ80		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	QZ06		4822 209 31527	IC BA7613N	HC10202210
CZ81		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	QZ07		9965 000 01372	IC BA7649A G-1 VIDEO SW	HC10179210
CZ82		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620	QZ08		4822 209 32928	IC BA7612N	HC10201210
CZ83		4822 124 11947	ELECT. 10µF 16V	EQ10601630	QZ09		4822 209 32246	IC NJM2244 3IN SW 75Ω DRIVER	HC10119090
CZ84		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	QZ10		9965 000 01379	IC NJM2263D	HC10198090
CZ85		9965 000 01040	ELECT. 470µF M 6.3V RA-2	OA47700620	QZ11		4822 209 15524	IC LC74781 OSD	HC10377030
CZ86		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	QZ12	/K,N,S	4822 130 61227	DIG.TRS. DTA114ES ETC	BA10001000
CZ87		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	QZ13	/K,N,S	4822 130 61189	DIG.TRS. DTC114TS UN4215 10k	BA20004000
CZ88		5322 124 21731	ELECT. 10µF M 50V RA-2	OA10605020	QZ14	/K,N,S	4822 130 61189	DIG.TRS. DTC114TS UN4215 10k	BA20004000
CZ89		4822 122 30043	CER. 0.01µF Z 50V	DK18103310	QZ16		4822 209 31527	IC BA7613N	HC10202210
CZ92					QZ17		4822 209 31527	IC BA7613N	HC10202210
CZ93		4822 124 90353	ELECT. 100µF M 10V RA-2	OA10701020	QZ18		4822 209 31527	IC BA7613N	HC10202210
CZ94		4822 122 30043	CER. 0.01µF Z 50V	DK18103310	QZ19		4822 209 32246	IC NJM2244 3IN SW 75Ω DRIVER	HC10119090
CZ95		4822 124 90353	ELECT. 100µF M 10V RA-2	OA10701020	QZ20		9965 000 01379	IC NJM2263D	HC10198090
CZ97		4822 124 90353	ELECT. 100µF M 10V RA-2	OA10701020	QZ21		9965 000 06284	DIG.TRS. DTC144VSA 47k 10k	BA20062210
CZ98		4822 122 30043	CER. 0.01µF Z 50V	DK18103310	QZ22		9965 000 01380	IC 74HC4051 DIP	HC705100B0
			PZ04-RESISTORS		QZ23		4822 209 83088	IC NJM2903D DUAL COMPARATOR	HC10020090
▲ RX11		4822 050 21801	RES. 180Ω ±5% 1/4W	GG05181140	QZ24		4822 130 61227	DIG.TRS. DTA114ES ETC	BA10000000
RX31		4822 111 41355	RES. 75Ω ±5% 1/6W	GD05750160	QZ25		4822 130 61227	DIG.TRS. DTA114ES ETC	BA10000000
RX32		4822 111 41355	RES. 75Ω ±5% 1/6W	GD05750160	QZ26		4822 130 41947	TRS. 2SC2458 2SC1740S 2SC3199 ETC	HT30000000
RX33		4822 111 41355	RES. 75Ω ±5% 1/6W	GD05750160	QZ27		4822 130 60588	DIG.TRS. DTC114ES UN4211 10k 10k	BA20001000
RZ06									
RZ11		4822 111 41355	RES. 75Ω ±5% 1/6W	GD05750160					
RZ12									
RZ15		4822 111 41355	RES. 75Ω ±5% 1/6W	GD05750160					

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)
QZ28		9965 000 01381	IC 74HC32 DIP	HC703200B0
QZ29		5322 209 71773	IC TC74HC132AP	HC713205D0
			PZ04-MISCELLANEOUS	
JZ01		9965 000 01375	TERMINAL 3P S-TERM.GOLD	YT02030550
JZ02		9965 000 01376	TERMINAL 2P S-TERM.GOLD	YT02021520
JZ03		9965 000 01375	TERMINAL 3P S-TERM.GOLD	YT02030550
JZ04		9965 000 01377	TERMINAL 6P RCA	YT02060640
			COMP.VIDEO GOLD G/B/R	
JZ05		9965 000 01377	TERMINAL 6P RCA	YT02060640
			COMP.VIDEO GOLD G/B/R	
LX01		4822 157 62909	CHOKE COIL 22µH	LC12233800
LZ01		4822 157 62922	CHOKE COIL CHOKE 33µH J	LC13333800
LZ02		4822 242 73843	EMI FILTER DSS306-91-F-223Z	FM12223010
LZ03		4822 242 73843	EMI FILTER DSS306-91-F-233Z	FM12223010
XZ01	K. N /S	4822 242 73903	CRYSTAL AT49 17.7MHz	JX17001260
XZ02		4822 242 80288	CRYSTAL AT49 14.31818MHz	JX14001260