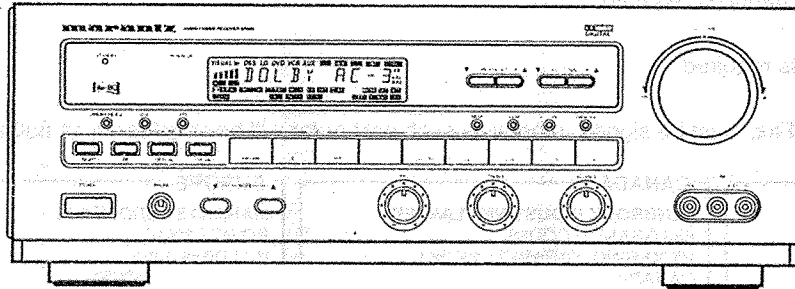


# Service Manual

SR680 U, K, KS

Audio/Video Receiver



## TABLE OF CONTENTS

SECTION	PAGE
1. TECHNICAL SPECIFICATIONS .....	1
2. WIRING DIAGRAM .....	2
3. BLOCK DIAGRAM .....	3
4. SCHEMATIC DIAGRAM AND PARTS LOCATION (Pattern Side) .....	5
5. IC DATA .....	35
6. EXPLODED VIEW AND PARTS LIST .....	41
7. SERVICE PROGRAM .....	44
8. ELECTRICAL ADJUSTMENTS .....	45
9. TECHNICAL DESCRIPTION .....	48
10. SIGNAL AND CIRCUIT DESCRIPTION .....	48
11. ELECTRICAL PARTS LIST .....	49

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

# marantz®

## model SR680

## 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.

<b>USA</b> <b>MARANTZ AMERICA, INC.</b> 440 MEDINAH ROAD ROSELLE, ILLINOIS 60172- 2330 USA PHONE : 630 - 307 - 3100 FAX : 630 - 307 - 2687	<b>CANADA</b> <b>LENBROOK INDUSTRIES LIMITED</b> 633 GRANITE COURT, PICKERING, ONTARIO L1W 3K1 CANADA PHONE : 416-831-6333 FAX : 416-831-6936	<b>EUROPE</b> <b>MARANTZ EUROPE B.V.</b> P.O.BOX 80002 BUILDING SFF2 5600 JB EINDHOVEN THE NETHERLANDS PHONE : +31 - 40 - 2732241 FAX : +31 - 40 - 2735578
<b>PROFESSIONAL USA</b> <b>SUPERSCOPE TECHNOLOGIES, INC.</b> MARANTZ PROFESSIONAL PRODUCTS 1000 CORPORATE BLVD., SUITE D AURORA, ILLINOIS 60504 USA PHONE : 630 - 820 - 4800 FAX : 630 - 820 - 8103	<b>PROFESSIONAL CANADA</b> <b>TC ELECTRONICS CANADA LTD</b> 540 FIRING AVE. BAIE D'URFÉ, QUEBEC H9X 3T2 CANADA PHONE : 514 - 457 - 4044 FAX : 514 - 457 - 5524	<b>TRADING</b> <b>MARANTZ EUROPE B.V.</b> P.O.BOX 80002 BUILDING SFF2 5600 JB EINDHOVEN THE NETHERLANDS PHONE : +31 - 40 - 2732241 FAX : +31 - 40 - 2735578
<b>BRAZIL</b> <b>MARANTZ BRAZIL</b> Caixa Postal 21462 CEP 04698-970 Sao Paulo, SP, BRAZIL PHONE : 0800 - 123123 (Discagem Direta Gratuita) FAX : +55 11 534. 8988	<b>THAILAND</b> <b>MRZ STANDARD CO., LTD.</b> 746 - 750 WANGBURAPA BANGKOK 10200 THAILAND PHONE : +66 2222 9181 FAX : +66 2225 8871	<b>HONG KONG</b> <b>FORWARD INTERNATIONAL CORP.LTD.</b> 15 TH FLOOR, REGENT CENTRE, 88 QUEEN'S ROAD, CENTRAL, H. K. PHONE : +852 521 - 0883 FAX : +852 521 - 7835
<b>JAPAN Technical</b> <b>MARANTZ JAPAN INC.</b> 35-1, 7- chome, Sagamiono Sagamihara - shi, Kanagawa Japan PHONE : +81 427 44 7950 FAX : +81 427 48 0889	<b>TAIWAN</b> <b>PAI-YUING CO., LTD.</b> 6 TH FL NO, 148 SUNG KIANG ROAD, TAIPEI, 10429, TAIWAN R.O.C. PHONE : +886 (2) 5221304 - 8 FAX : +886 (2) 5630415	<b>MALAYSIA</b> <b>WO KEE HONG ELECTRONICS SDN. BHD.</b> NO. 1 02 JALAN SS 21/35, DAMANSARA UTAMA, 47400 PETALING JAYA SELANGOR DARUL EHSAN, MA LAYS IA PHONE : +60 3 - 7184666 FAX : +60 3 - 7173828
<b>JAPAN Technical</b> <b>MARANTZ JAPAN INC.</b> 35-1, 7- chome, Sagamiono Sagamihara - shi, Kanagawa Japan PHONE : +81 427 44 7950 FAX : +81 427 48 0889	<b>日本マランツ株式会社</b> 本社 〒228 神奈川県相模原市相模大野 7 - 35 - 1 営業本部 〒150 東京都渋谷区恵比寿南 1 - 11 - 9	<b>SINGAPORE</b> <b>FORWARD MARKETING (SINGAPORE) PTE. LTD.</b> 29, LENG KEE ROAD SINGAPORE I 59099, PHONE : +65 475 - 4555 FAX : +65 475 - 8623

### 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 N0. 1492.

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

# 1. TECHNICAL SPECIFICATIONS

## FM TUNER SECTION

Frequency Range ..... 87.5 – 108.0 MHz  
Usable Sensitivity ..... IHF 1.3 $\mu$ V/13.5 dBf  
Signal to Noise Ratio ..... Mono/Stereo 76/68 dB  
Distortion ..... Mono/Stereo 0.2 / 0.5%  
Stereo Separation ..... 1 kHz 40 dB  
Alternate Channel Selectivity .....  $\pm$ 400 kHz 65 dB (U version)  
 $\pm$ 300 kHz 65 dB (K, KS, KK version)  
Image Rejection ..... 98 MHz 50dB (U version)  
98 MHz 70 dB (K, KS, KK version)  
Tuner Output Level .... 1 kHz,  $\pm$ 75 kHz Dev 800mV (U version)  
1 kHz,  $\pm$ 40 kHz Dev 800mV (K, KS, KK version)

## AM TUNER SECTION

Frequency Range ..... 520 – 1710 kHz (U version)  
531 – 1602 or 520 – 1710 kHz (K, KS, KK version)  
Signal to Noise Ratio ..... 50 dB  
Usable Sensitivity ..... Loop 500  $\mu$ V  
Distortion ..... 1 kHz, 30% Mod. 0.5%  
Selectivity .....  $\pm$ 20 kHz 70 dB (U version)  
 $\pm$ 18 kHz 70 dB (K, KS, KK version)

## AUDIO SECTION

Rated Power  
Stereo Mode FRONT (20 Hz – 20 kHz) ..... 8 ohms 65W / Ch (2ch driven)  
(Main in) Center (40 Hz – 20 kHz) ..... 8 ohms 80W / Ch  
(Main in) Surround (40 Hz – 20 kHz) ..... 8 ohms 70W / Ch  
THD Front (20 Hz – 20 kHz) ..... 8 ohms 0.05%  
Input Sensitivity/Impedance  
Linear ..... 210mV/40 kohms  
Signal to Noise Rate ( IHF A )  
Linear ..... 85 dB  
Dolby Surround Adjacent Channels Separation ..... 55 dB

## VIDEO

Television Format ..... NTSC (U, KK version)  
PAL/NTSC/SECAM (K, KS version)  
Input Level/Impedance ..... 1Vp-p/75 ohms  
Output Level/Impedance ..... 1Vp-p/75 ohms  
Video Frequency Response ..... 5 Hz to 7 MHz ( - 3 dB)  
S/N ..... 63 dB

## GENERAL

Power Requirement ..... AC 120V 60 Hz (U version)  
AC 110/115/220/230V 50/60 Hz (K version)  
AC 230V 50 Hz (KS version)  
AC 220V 50/60 Hz (KK version)  
Power Consumption ..... 275W  
Dimension ( MAX )  
Width ..... 17- $\frac{1}{4}$  inches (439 mm)  
Height ..... 6- $\frac{1}{4}$  inches (158 mm)  
Depth ..... 18 inches (458 mm)  
Weight ..... 28.7 lds. (13.0 kg)

## ACCESSORIES

Remote Control Unit RC780SR ..... 1  
AAA-size batteries ..... 2  
FM Feeder Antenna ..... 1  
FM Antenna Converter (U version only) ..... 1  
AM Loop Antenna ..... 1  
Plug adaptor (K version only) ..... 1  
Extra fuse (for 110/115V fuse)(K version only) ..... 1

## AC-3 SECTION

### Output Level/Output Impedance

MAIN L/R, CENTER, SURROUND L/R  
1 KHz, 0 dB INPUT ..... 0 – 3.5 V / 500  $\Omega$   
SUBWOOFER  
50 Hz, 0 dB INPUT ..... 0 – 9 V / 500  $\Omega$   
Input Impedance ( RF, COAXIAL ) ..... 75  $\Omega$

### Frequency Response

MAIN L/R, CENTER, SURROUND L/R ( LARGE )  
20 Hz – 20 KHz .....  $\pm$ 0.5dB

### Filter Characteristics

MAIN L/R, CENTER, SURROUND L/R ( SMALL )  
H.P.F. .... fc=100 Hz, 12 dB/oct.  
SUBWOOFER  
L.P.F. .... fc=100 Hz, 24 dB/oct.

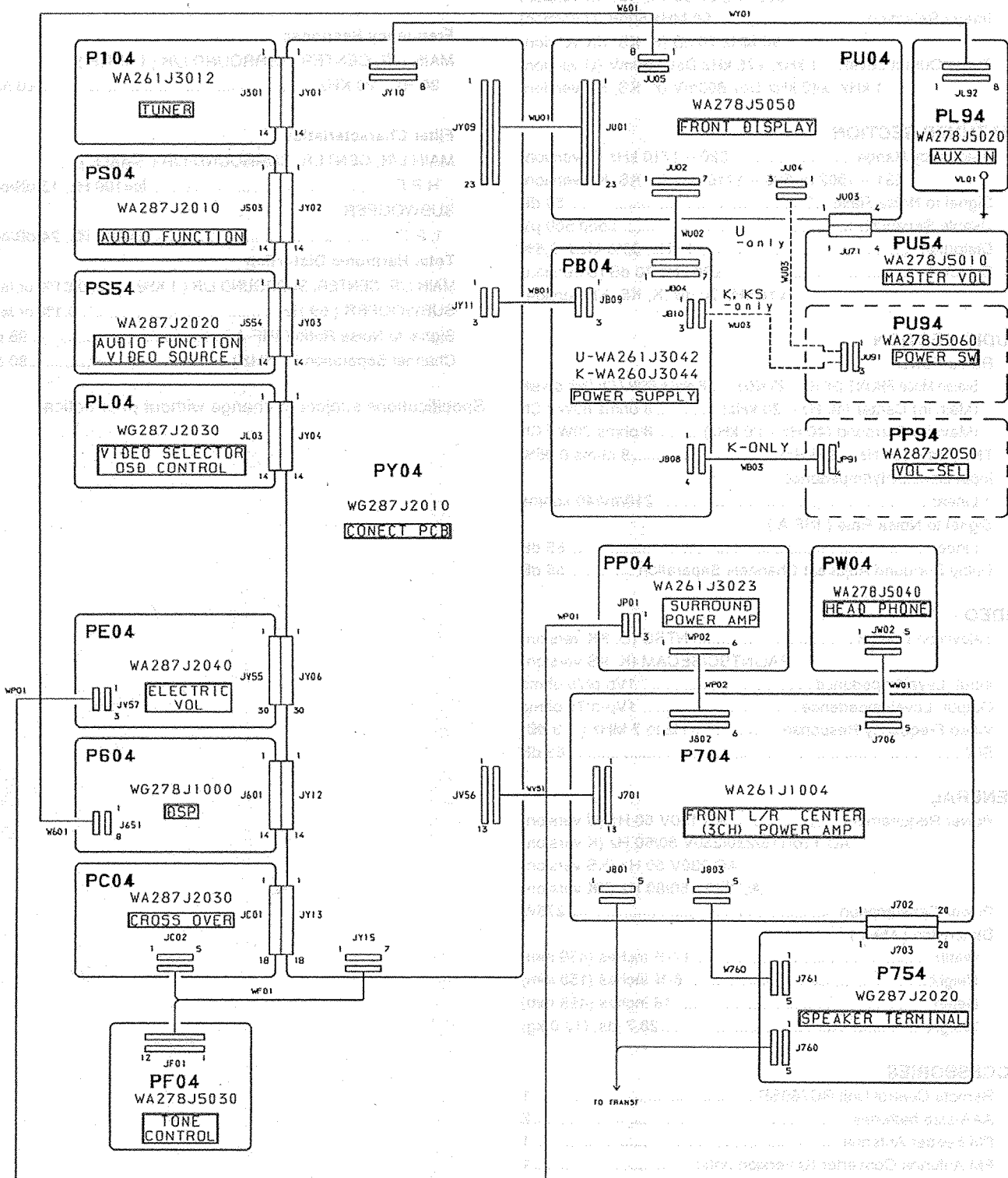
### Total Harmonic Distortion

MAIN L/R, CENTER, SURROUND L/R ( 1 KHz ) ..... 0.01% or less  
SUBWOOFER ( 50 Hz ) ..... 0.1% or less  
Signal to Noise Ratio ( IHF-A ) ..... 98 dB  
Channel Separation ( 1 KHz ) ..... 80 dB

Specifications subject to change without prior notice.

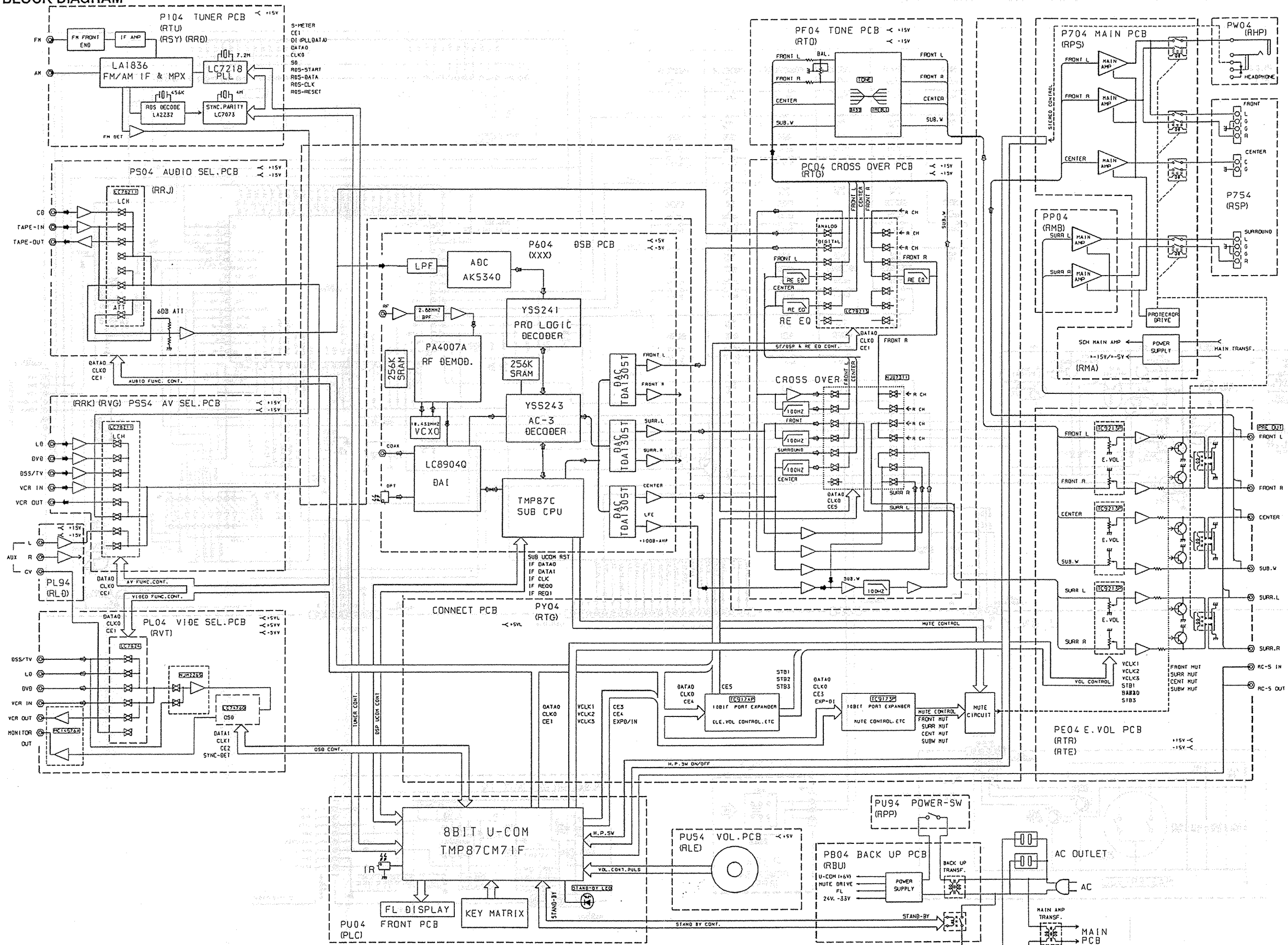
## 2. WIRING DIAGRAM

### WIRE CONNECTION OF SR680

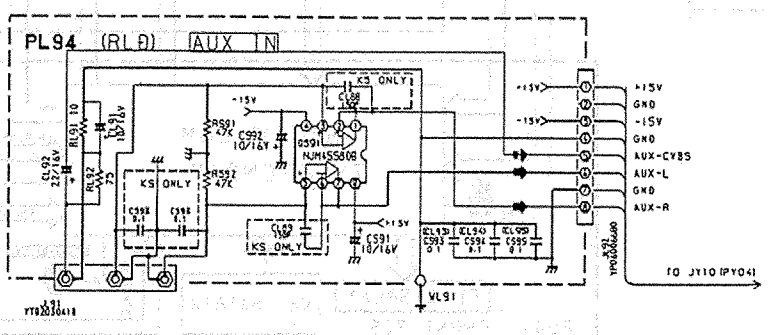
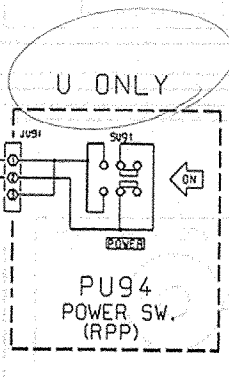
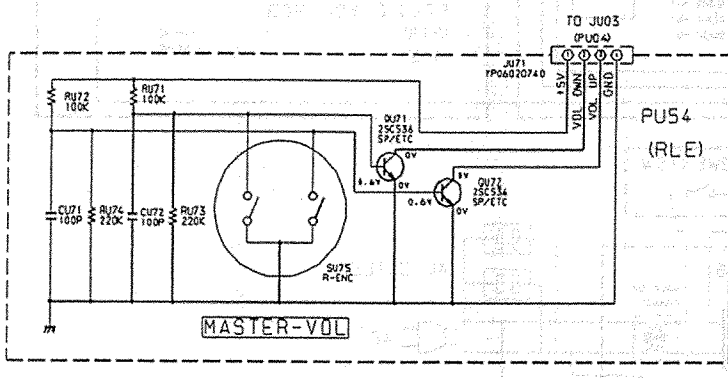
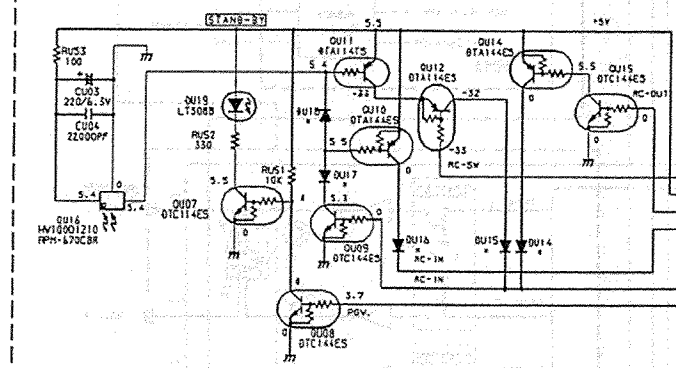
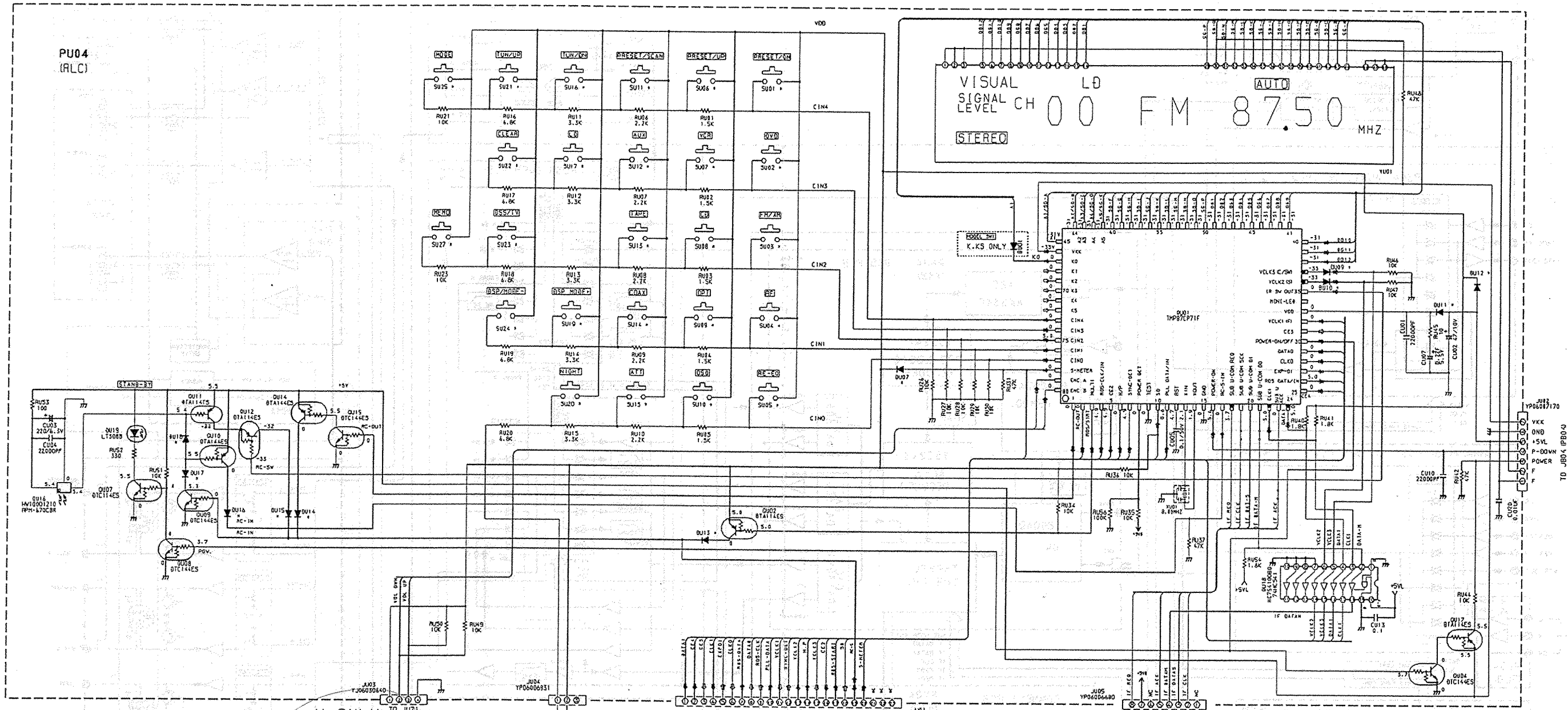


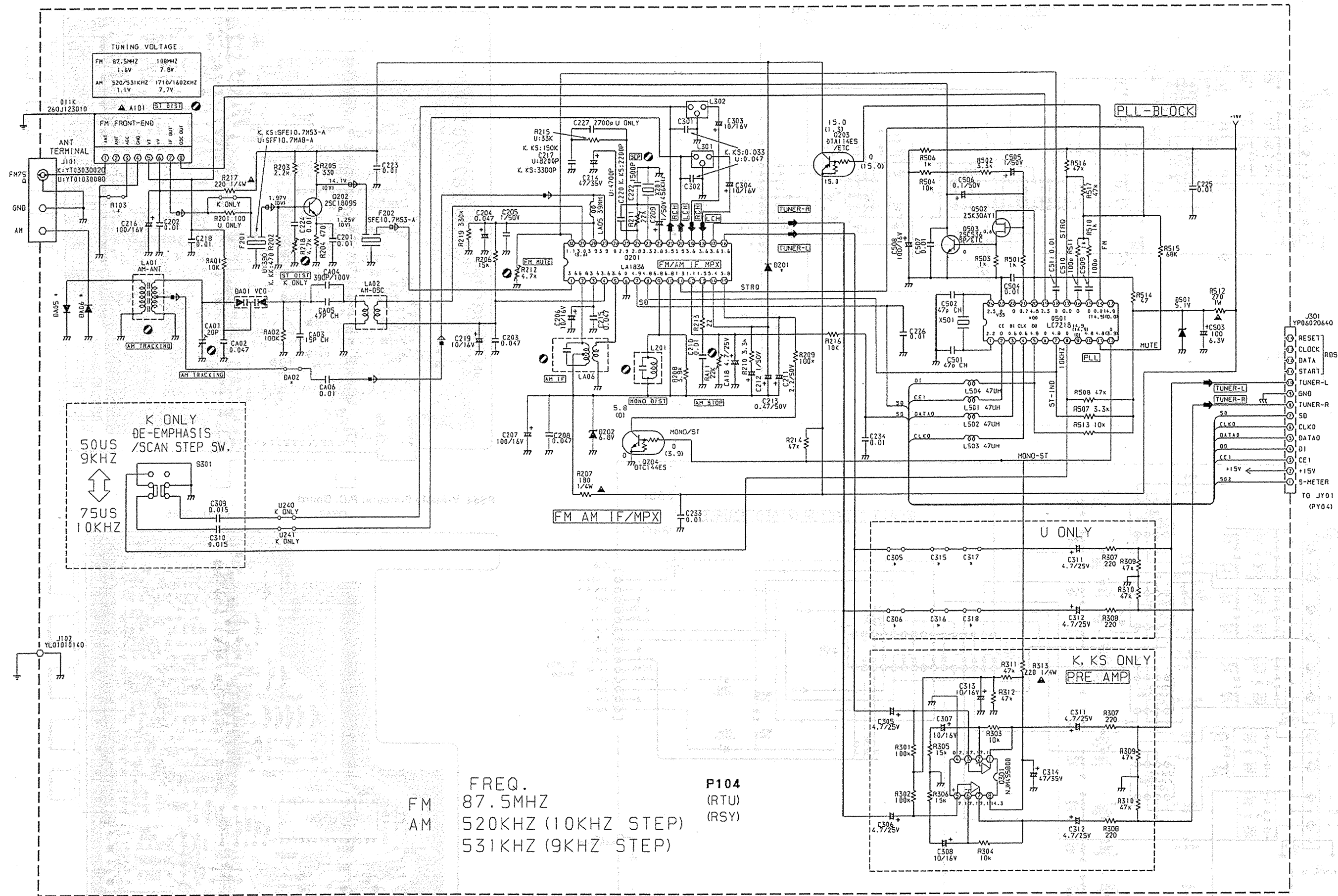


### 3. BLOCK DIAGRAM



4. SCHEMATIC DIAGRAM AND PARTS LOCATION (Pattern Side)



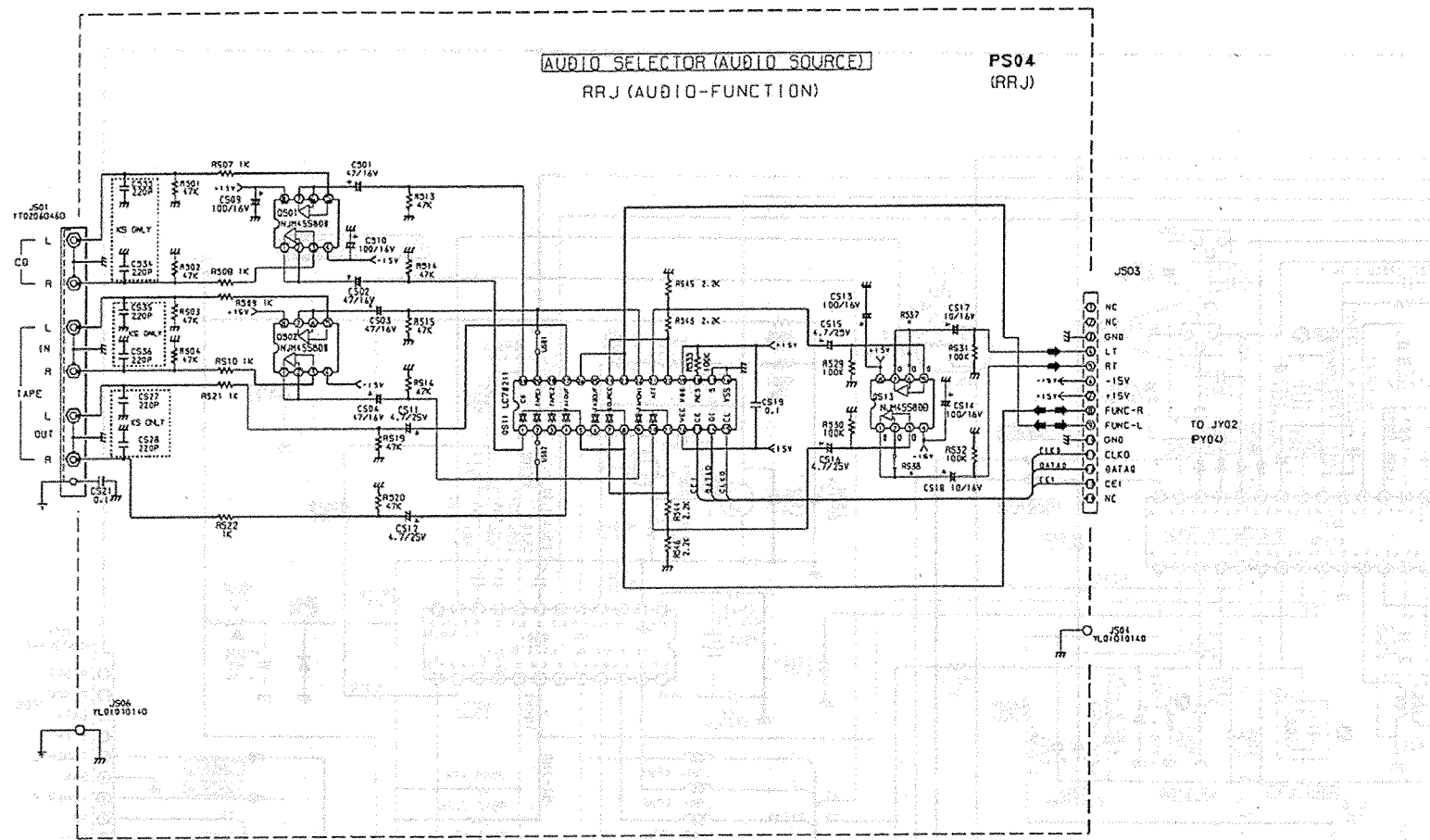


FM 87.5MHZ  
 AM 520KHZ (10KHZ STEP)  
 531KHZ (9KHZ STEP)

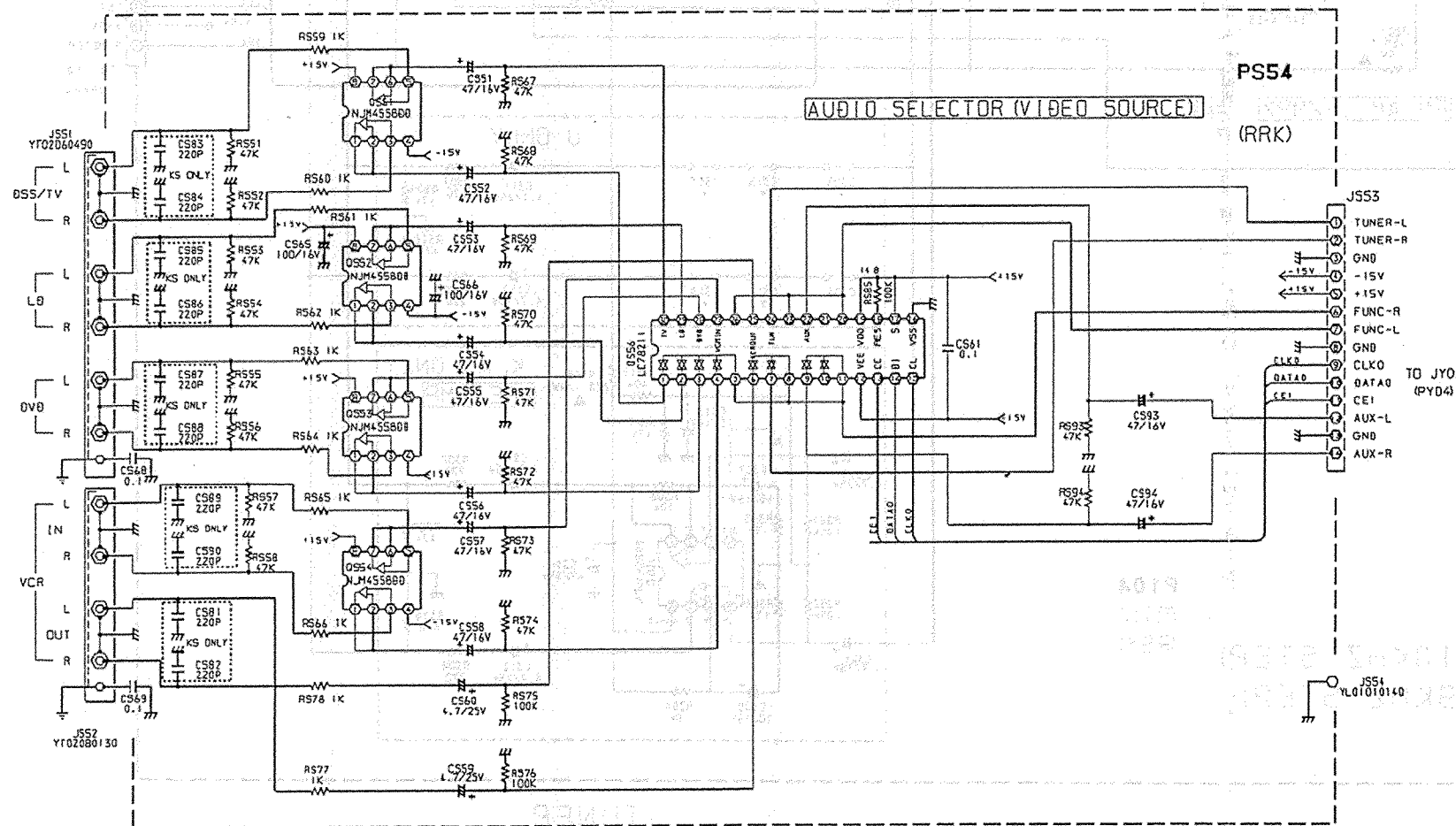
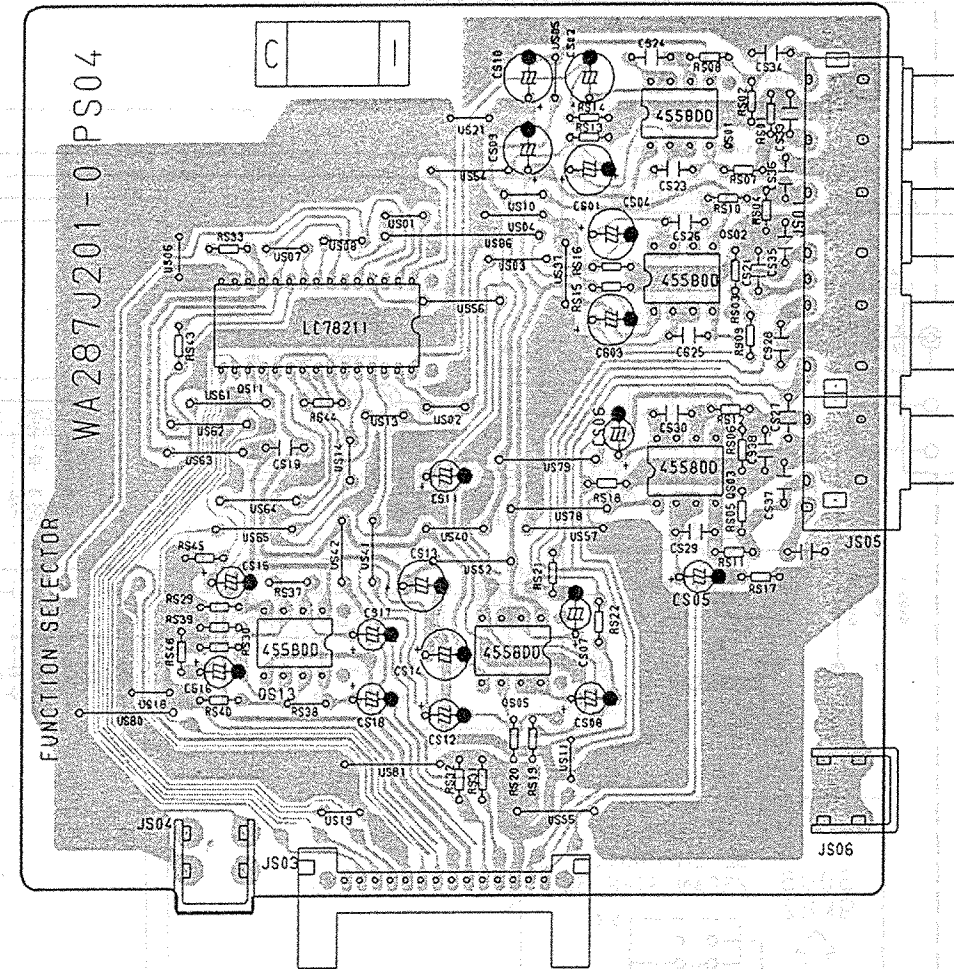
P104  
 (RTU)  
 (RSY)

TUNER

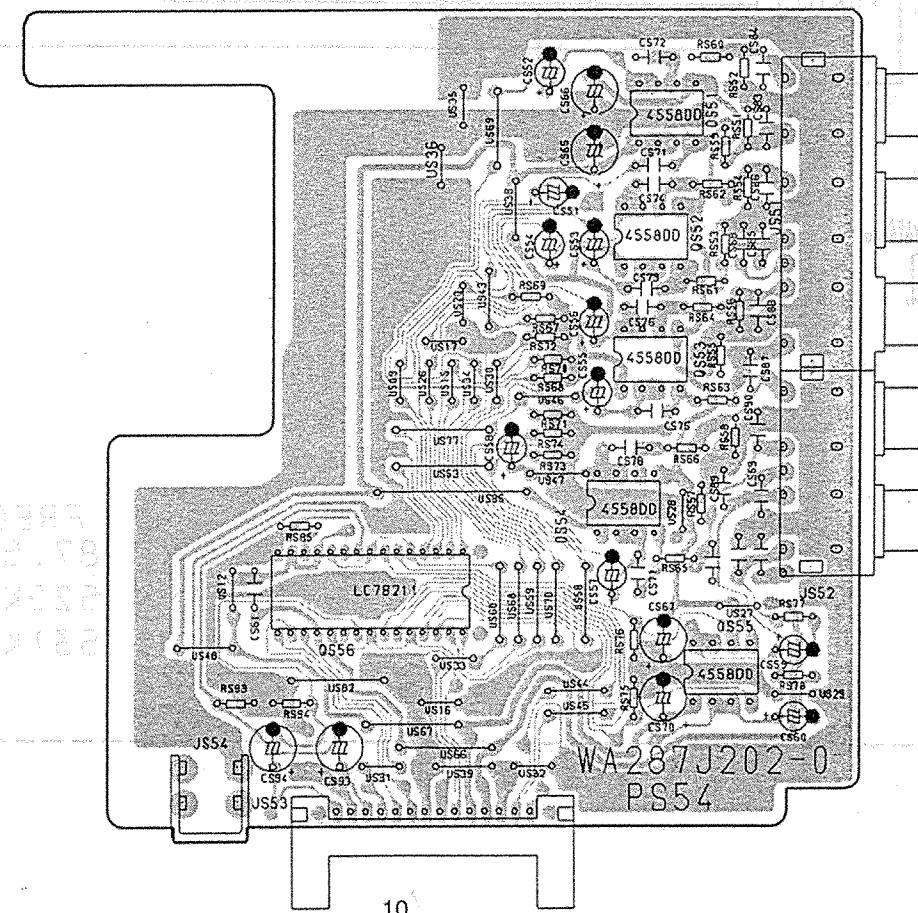




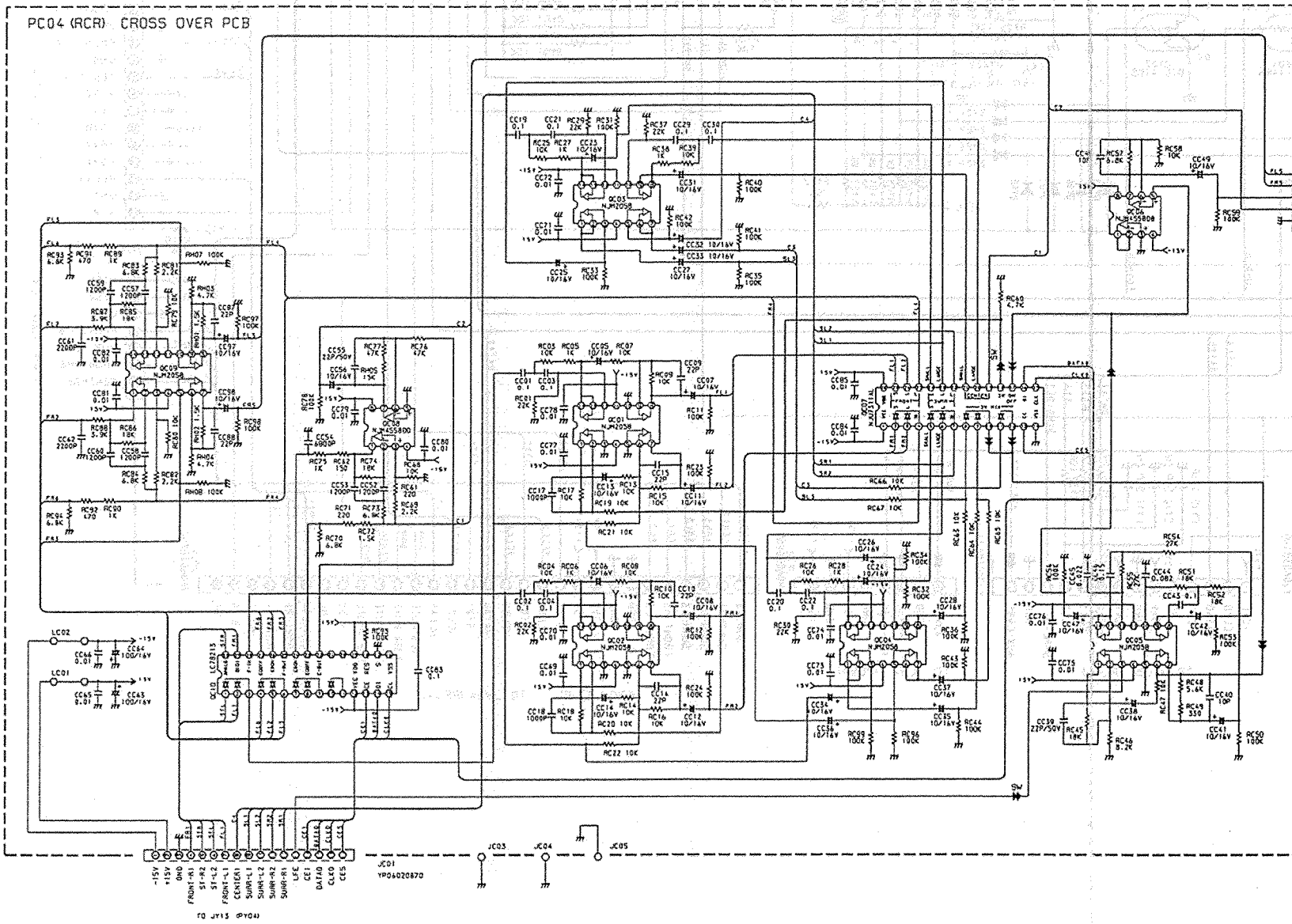
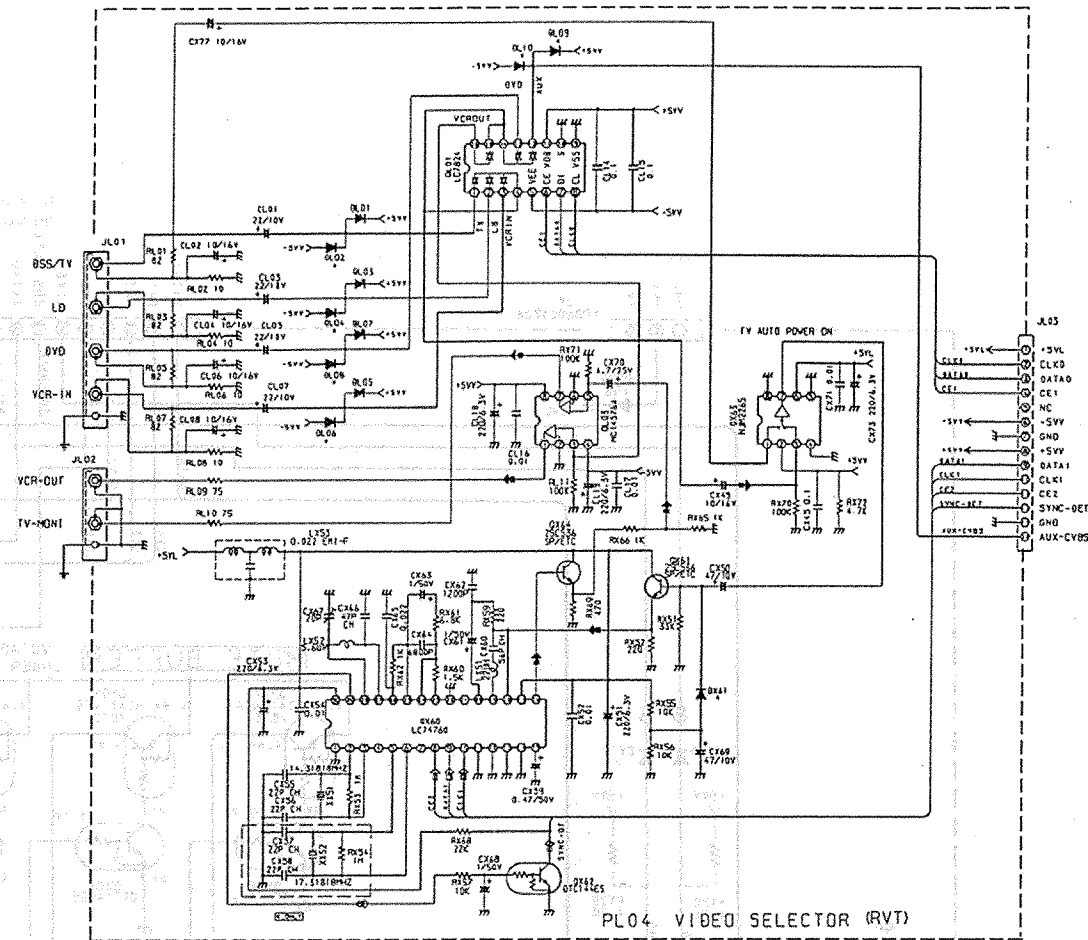
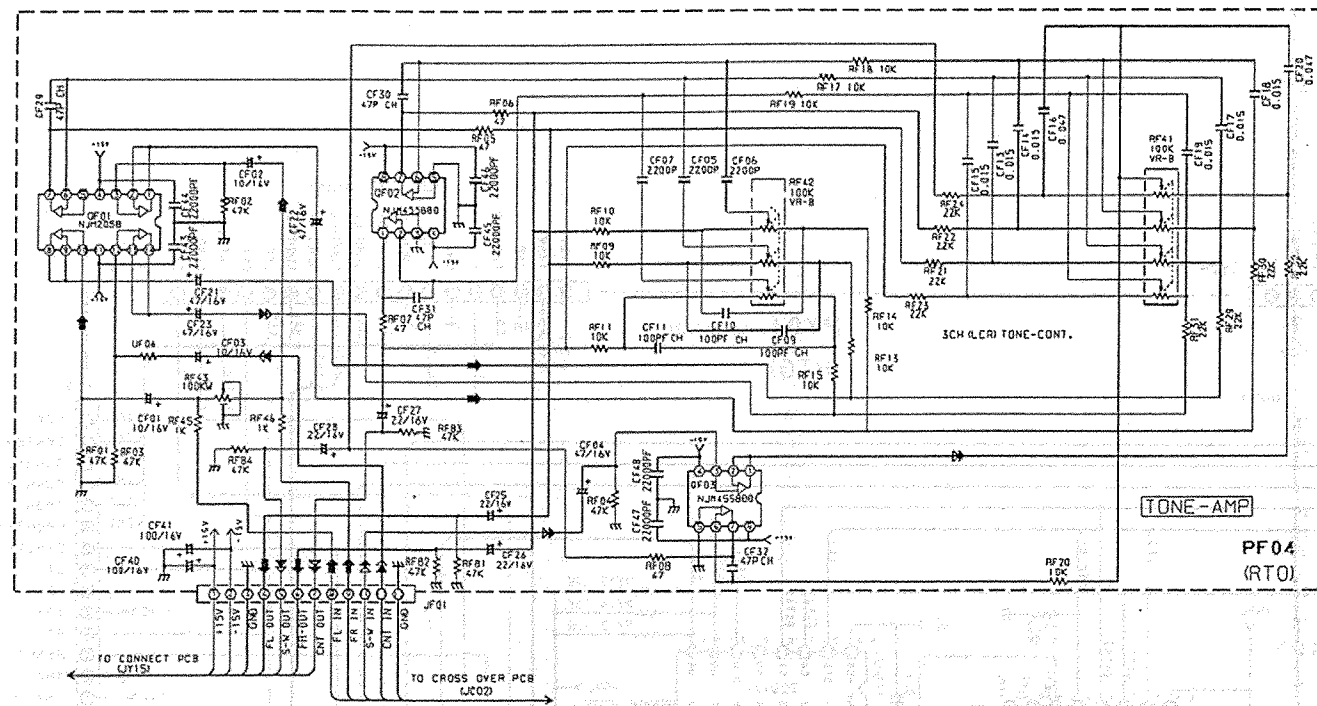
PS04 Audio Function P.C. Board  
 QS13 QS11 QS05 QS01 - QS03



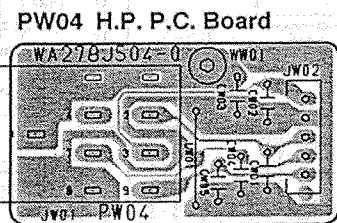
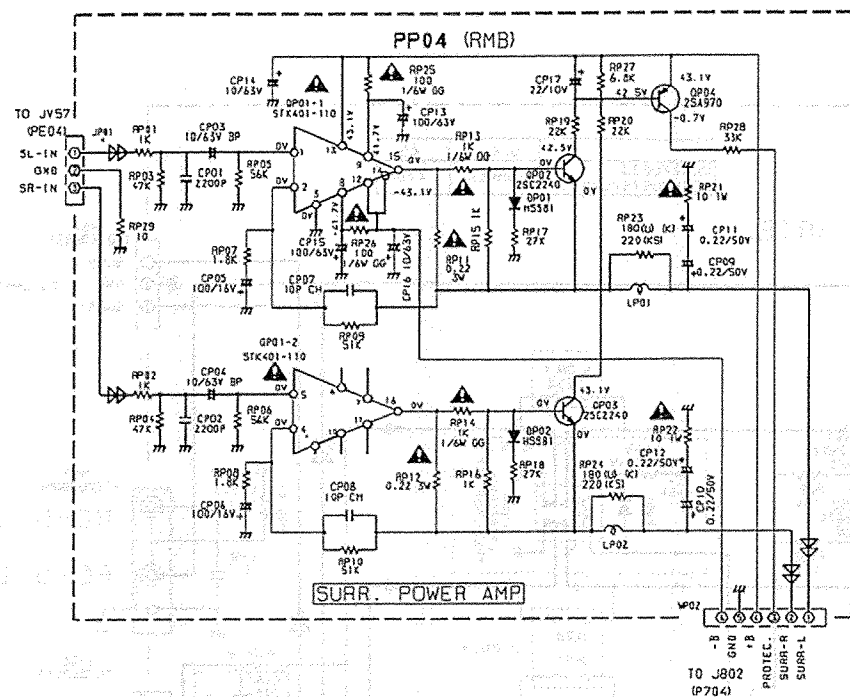
PS54 V-Audio Function P.C. Board  
 QS56 QS51 - QS55



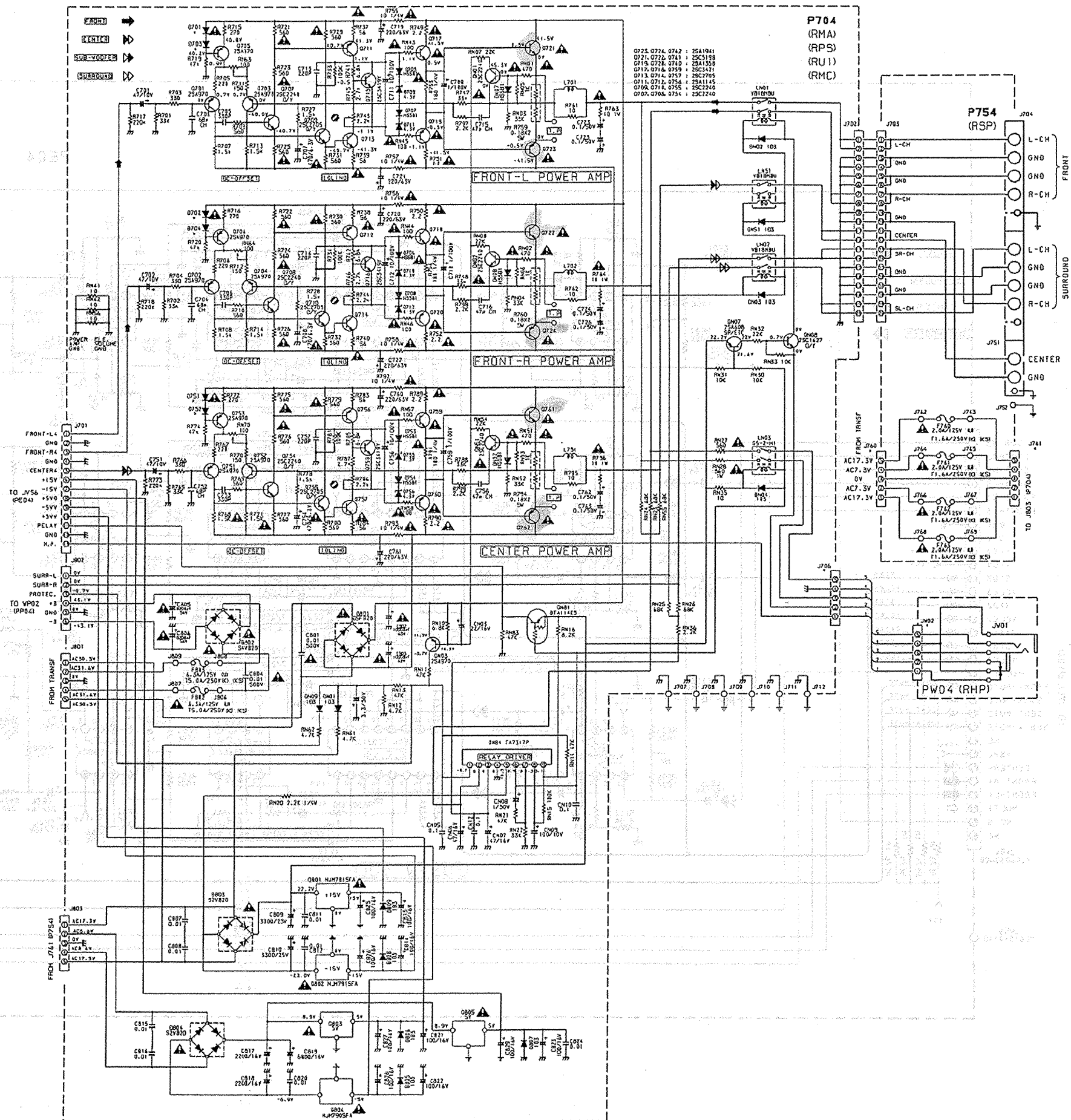
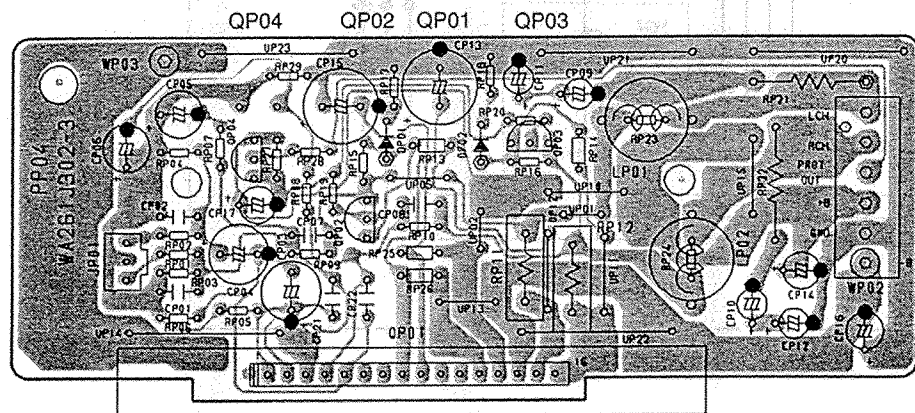






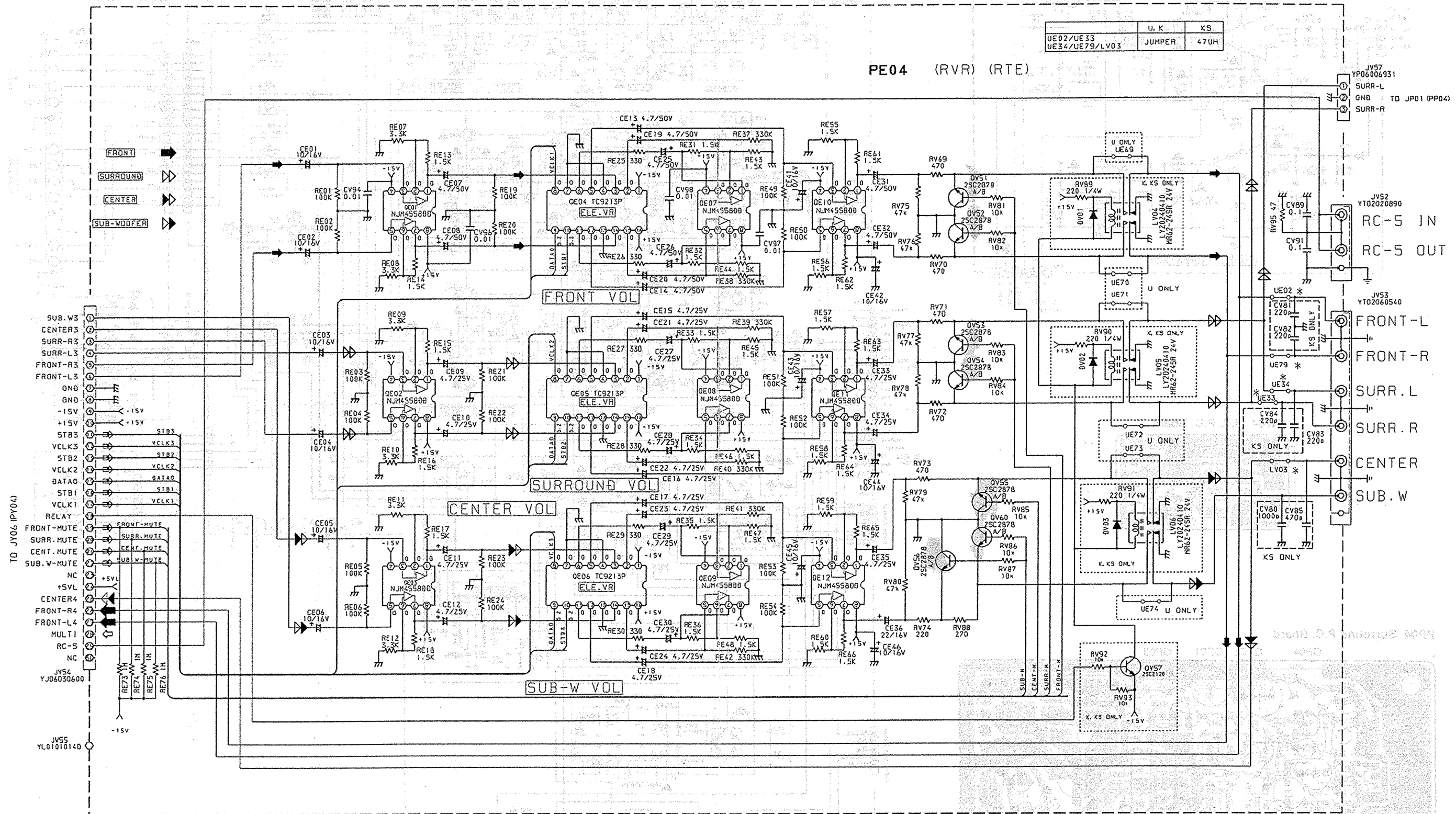


**PP04 Surround P.C. Board**



UE02/UE33	U, K	KS
UE34/UE79/LV03	JUMPER	47UH

PE04 (RVR) (RTE)



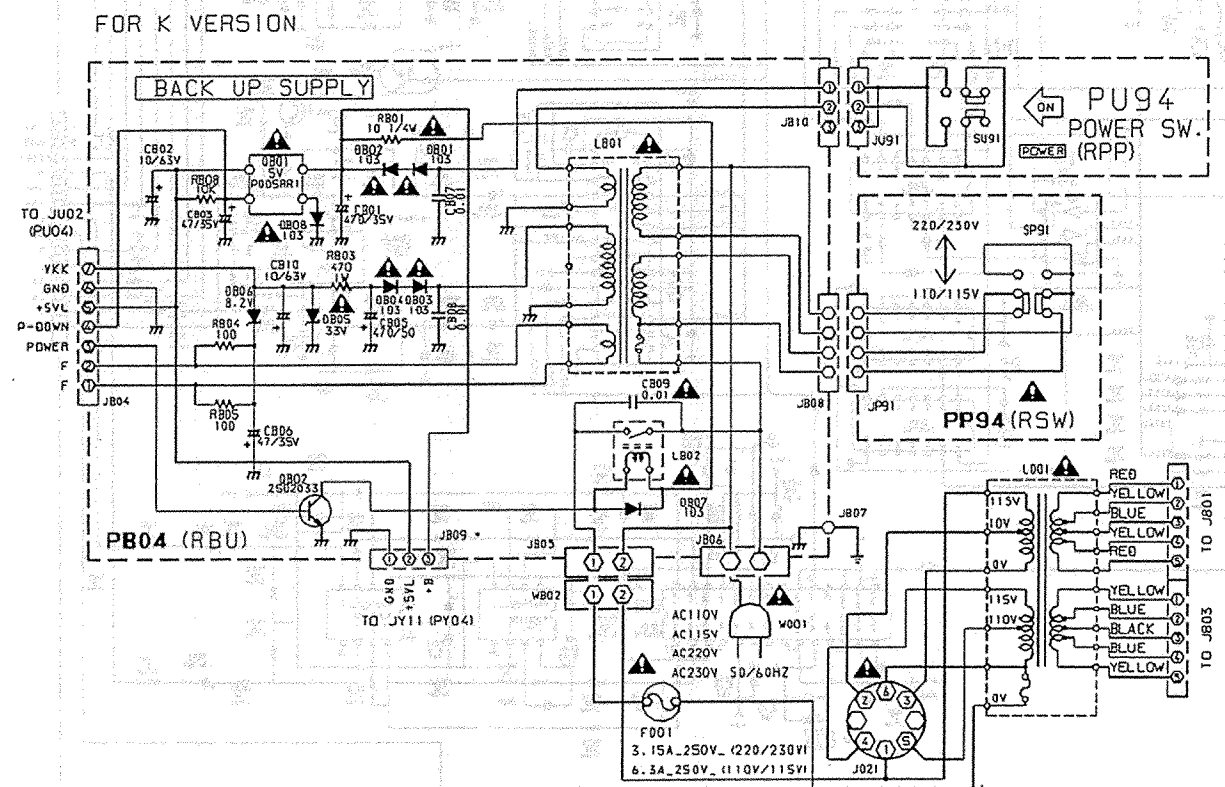
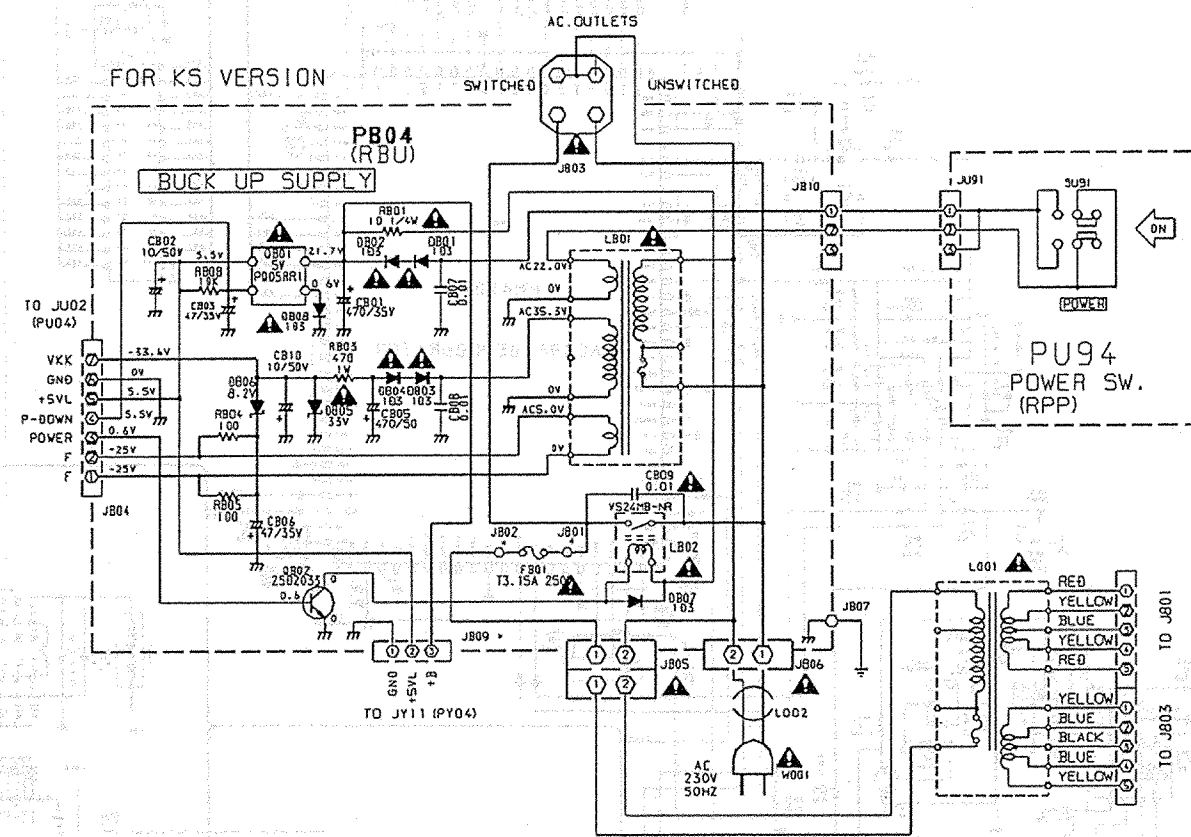
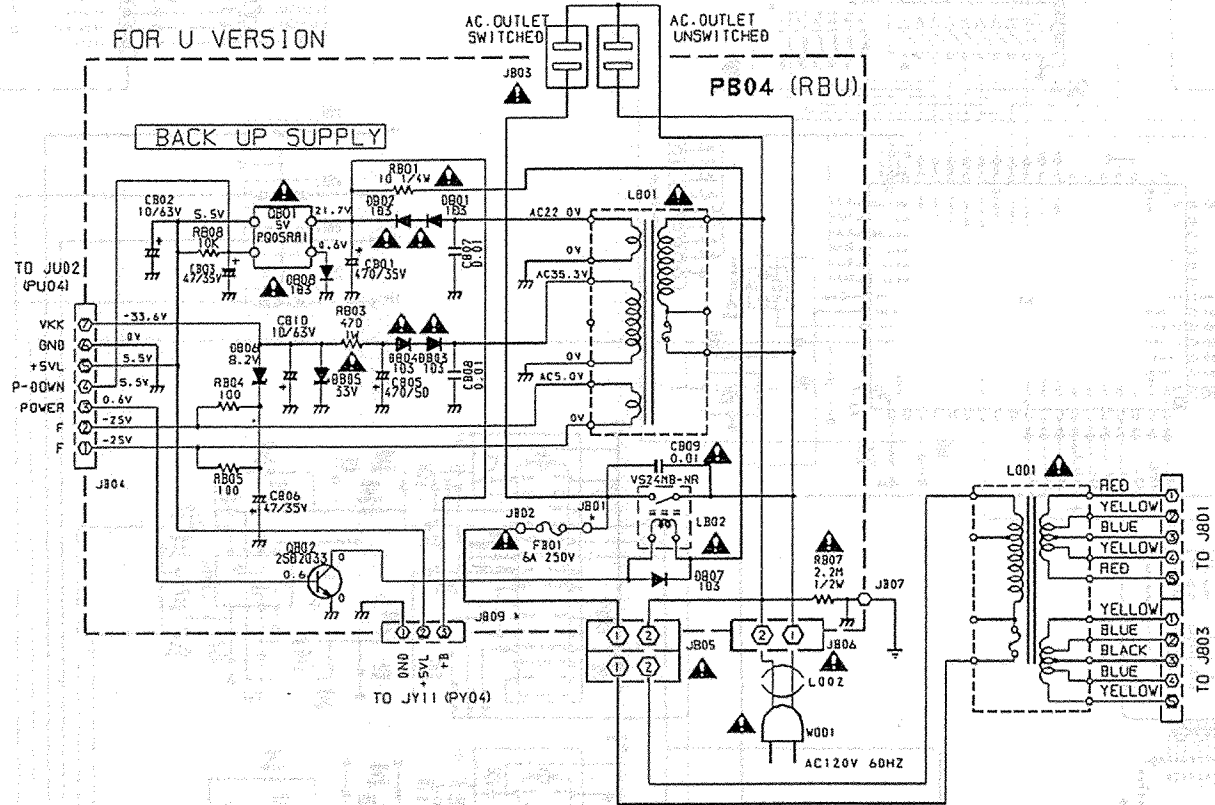
TO JY06 (PY04)

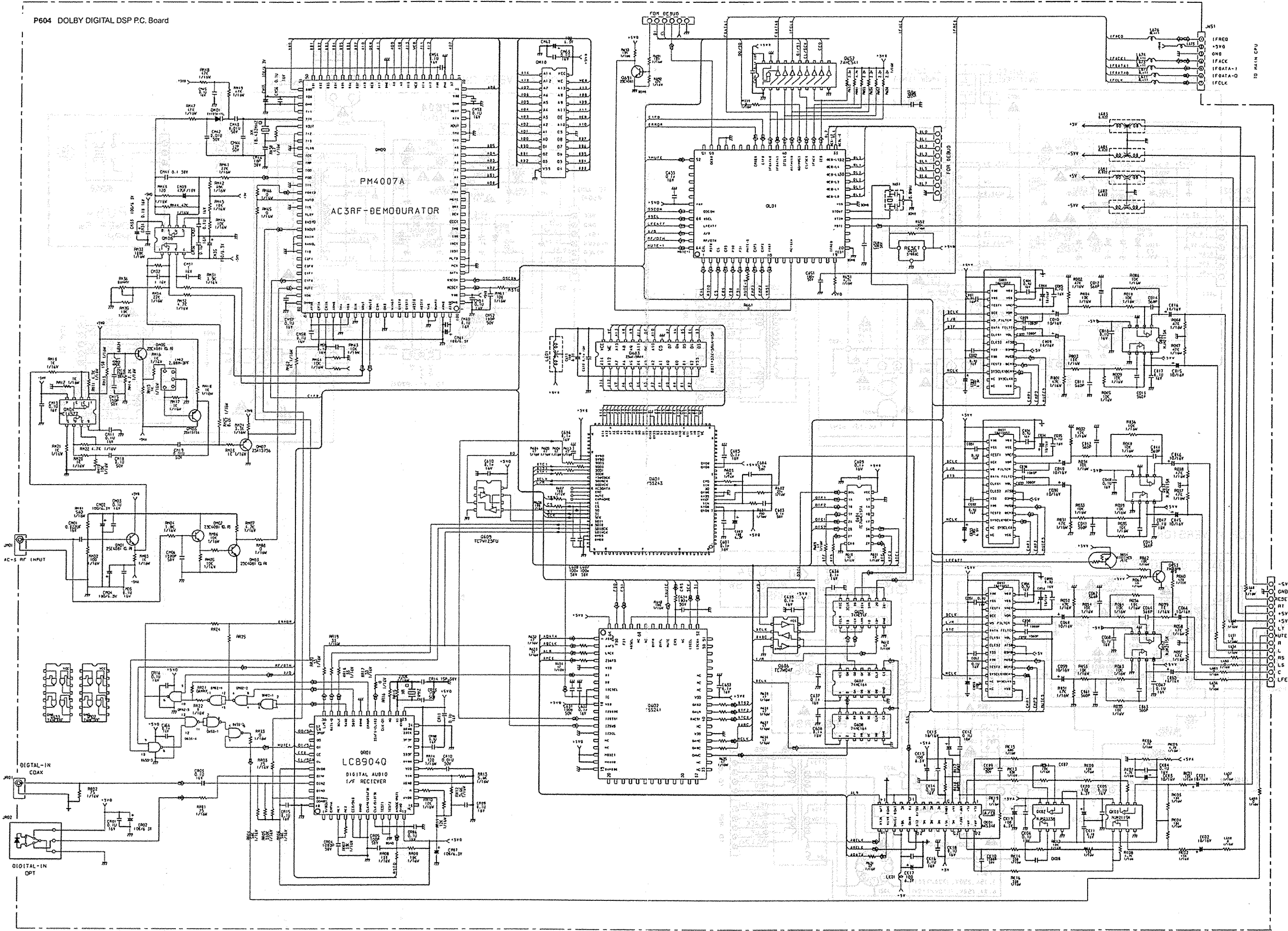
JV54  
YJ04030600

JV55  
YL01010140

- JV57  
YP06006931
- SURR-L
- GND TO JP01 (PP04)
- SURR-R
- JV52  
YT02020890
- RC-5 IN
- RC-5 OUT
- JV53  
YT02060540
- FRONT-L
- FRONT-R
- SURR.L
- SURR.R
- CENTER
- SUB.W

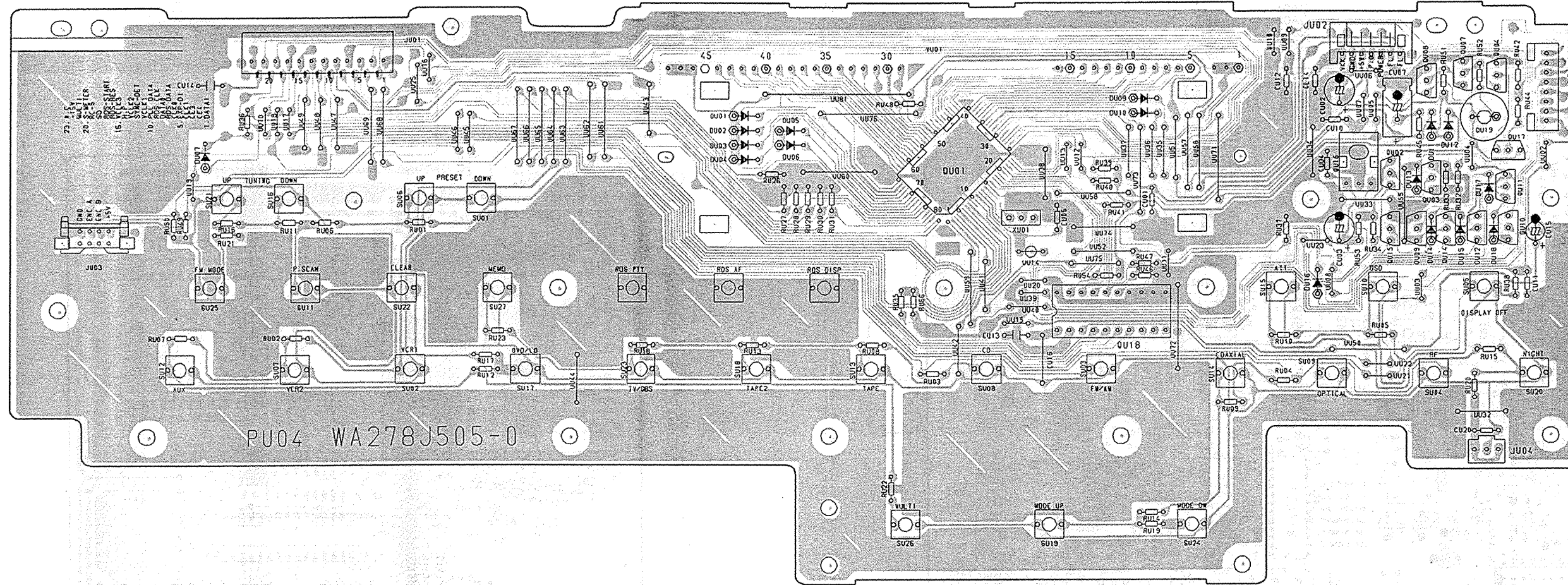




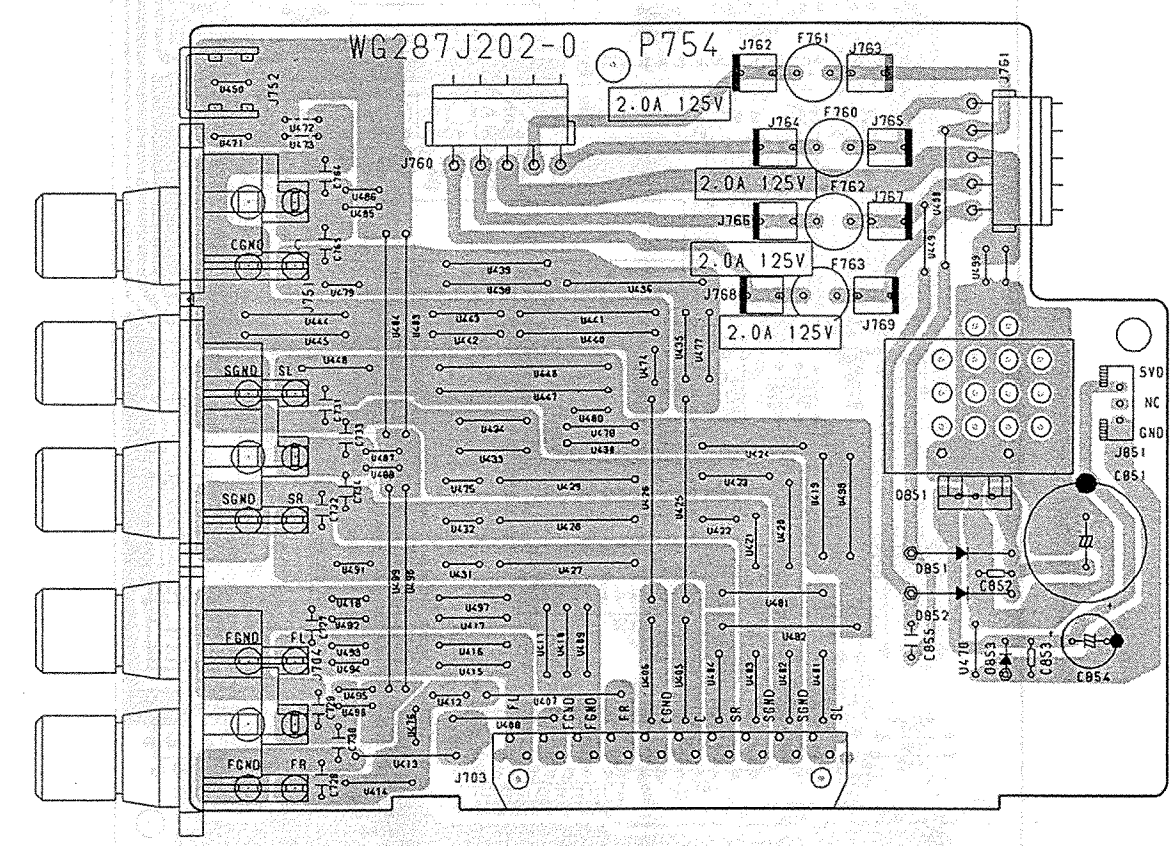




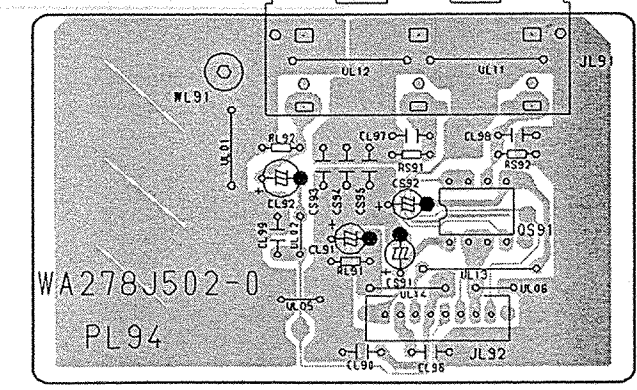
PU04 Front P.C. Board



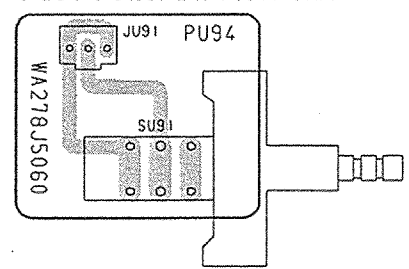
P754 SPK Terminal P.C. Board



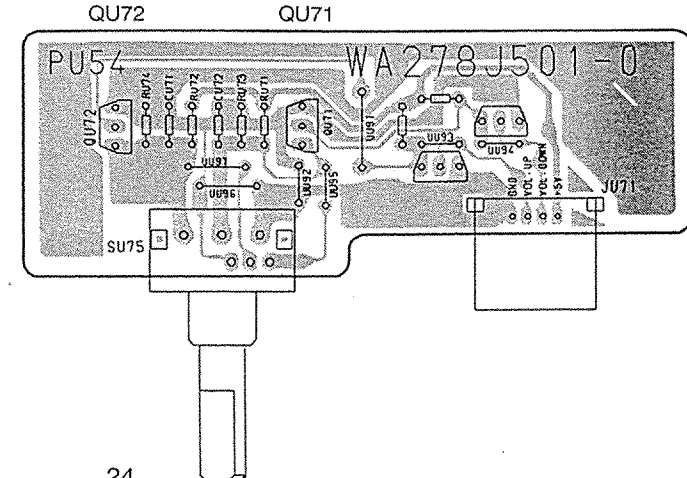
PL94 Aux In P.C. Board



PU94 Power SW P.C. Board

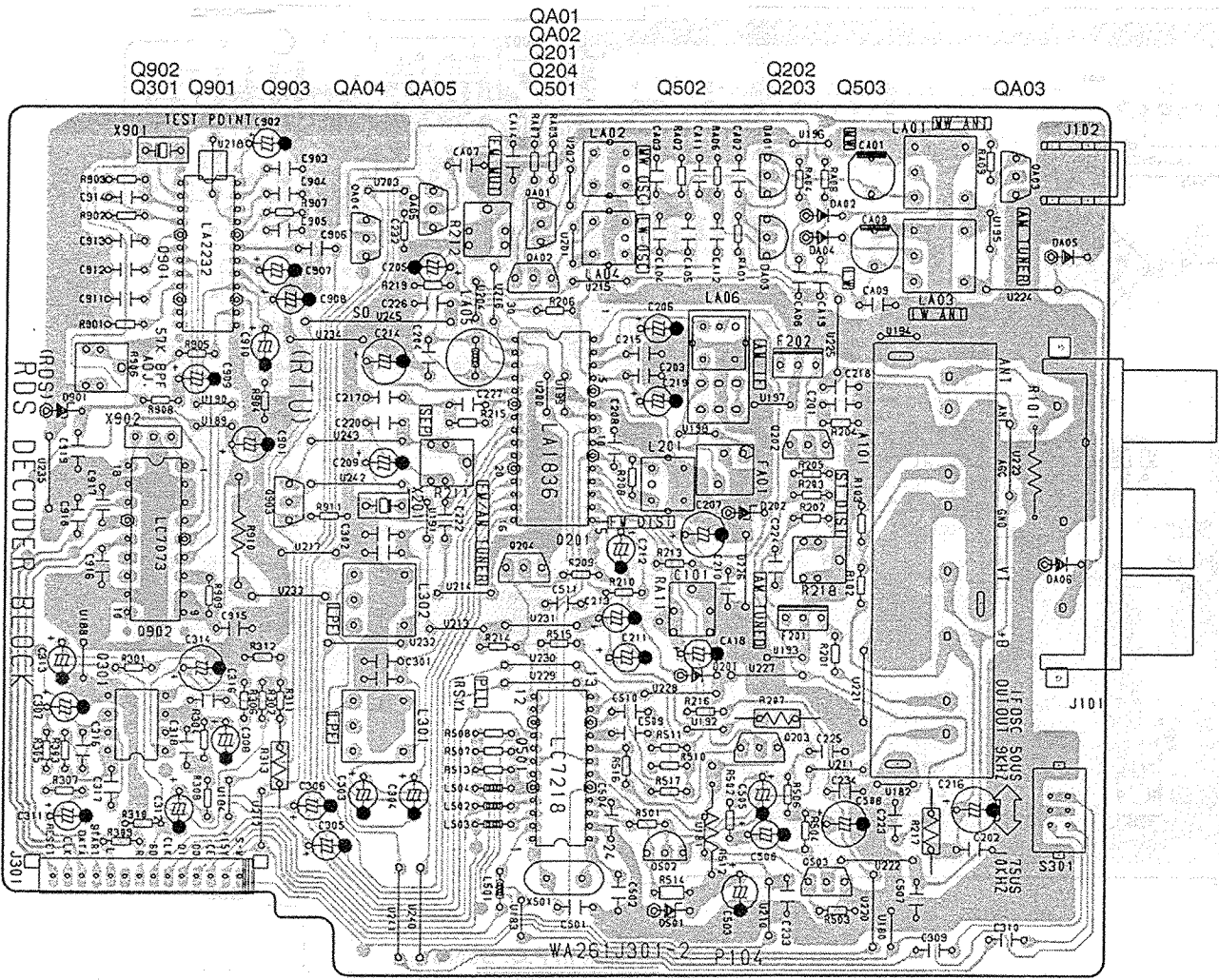


PU54 Master Vol P.C. Board





P104 Tuner P.C. Board

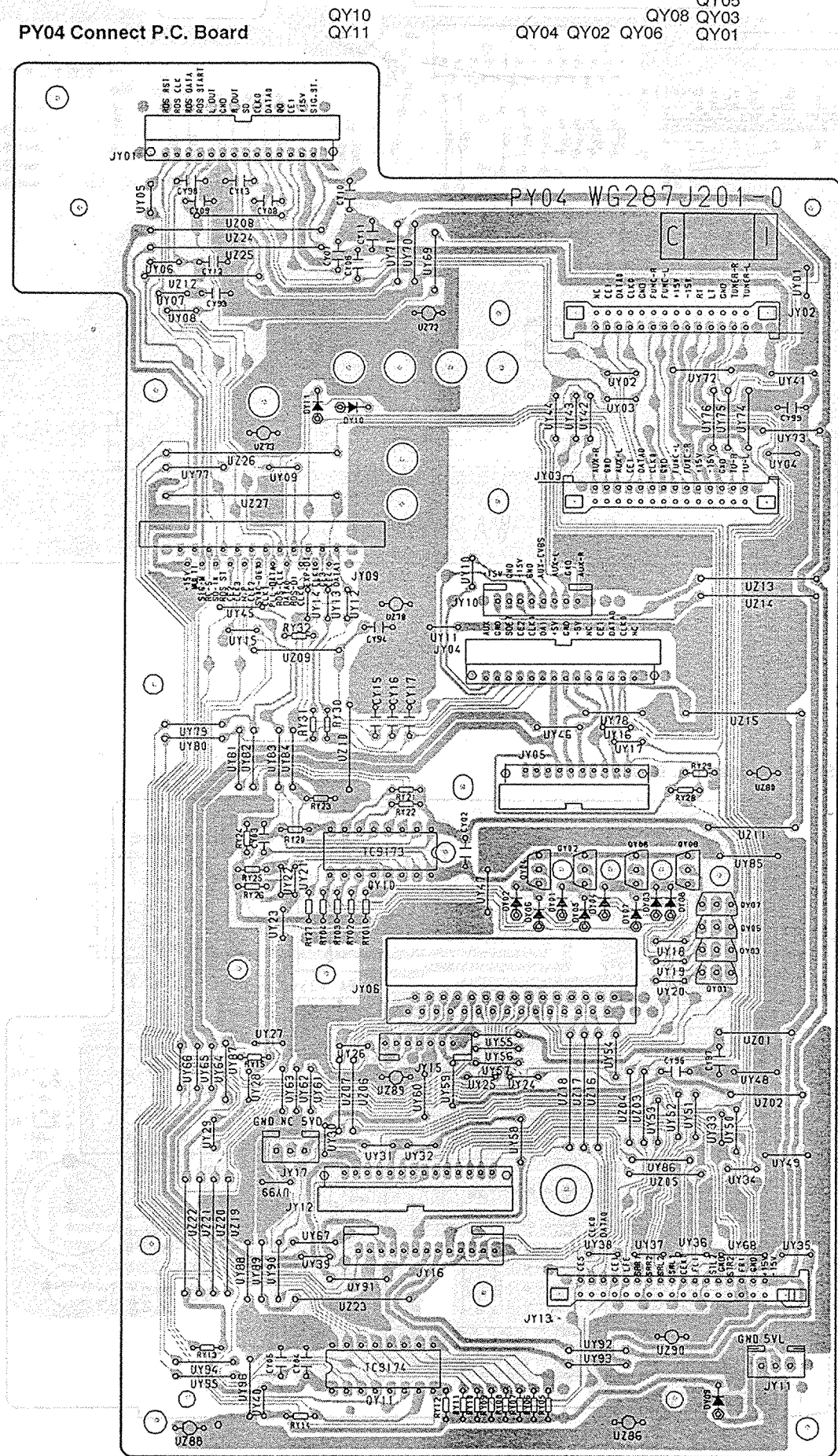


- QA01
- QA02
- Q201
- Q204
- Q501
- Q502
- Q202
- Q203
- Q503
- QA03

- Q902
- Q301
- Q901
- Q903
- QA04
- QA05

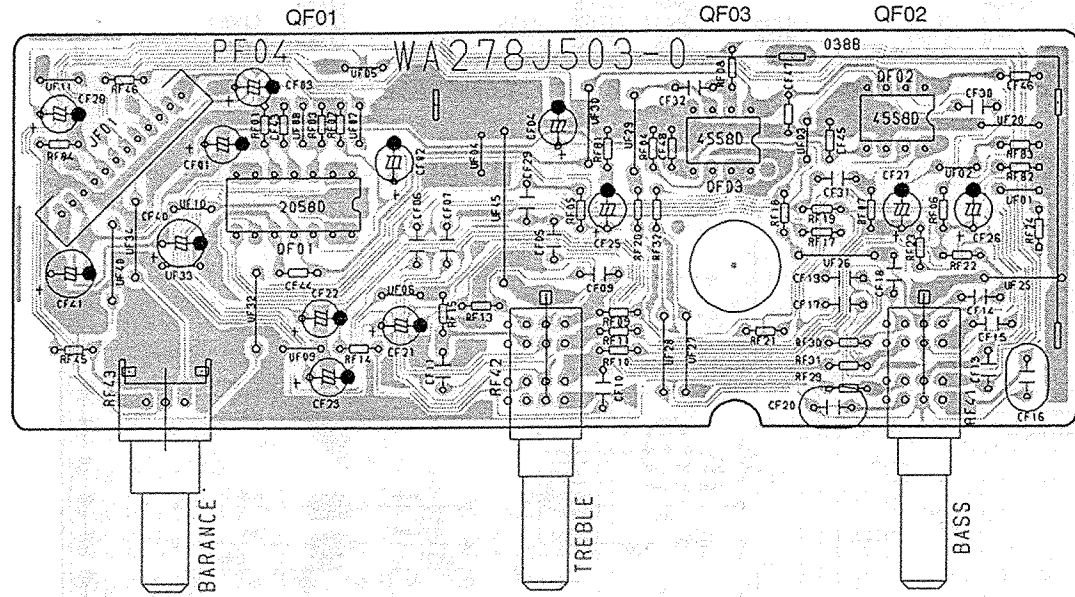
RDS DECODER BLOCK

PY04 Connect P.C. Board

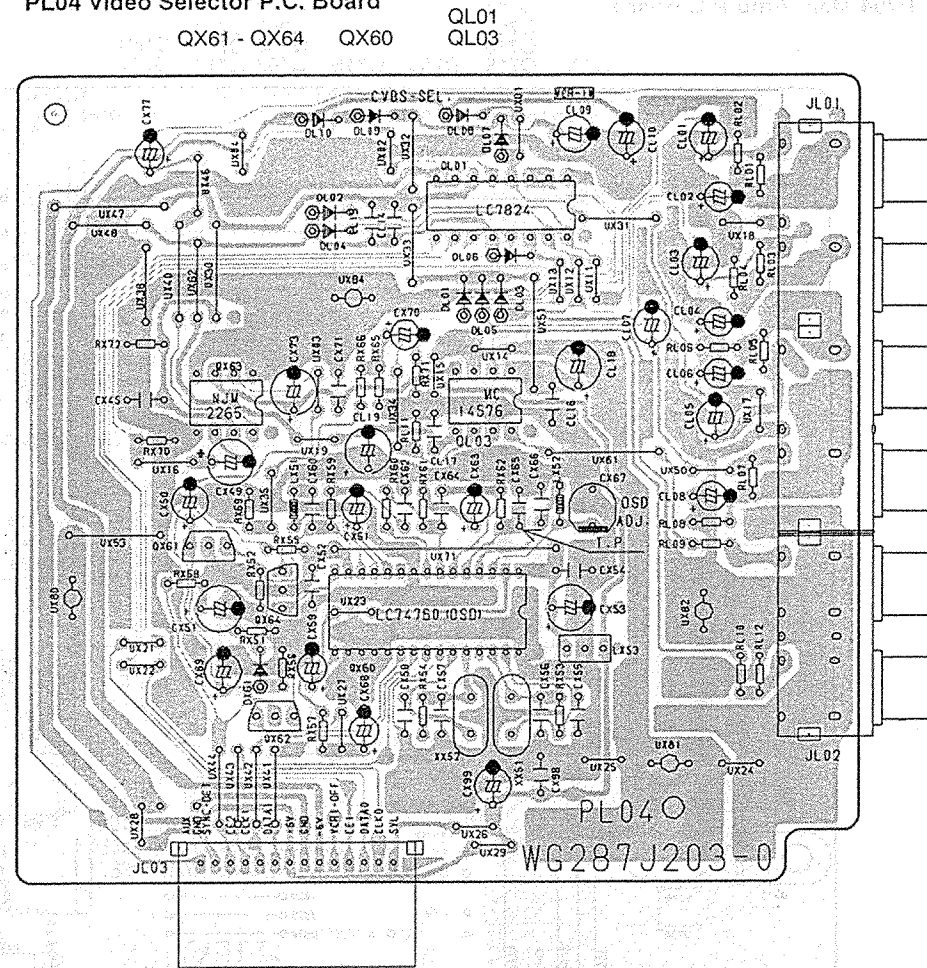


- QY10
- QY11
- QY04
- QY02
- QY06
- QY08
- QY03
- QY01
- QY07
- QY05

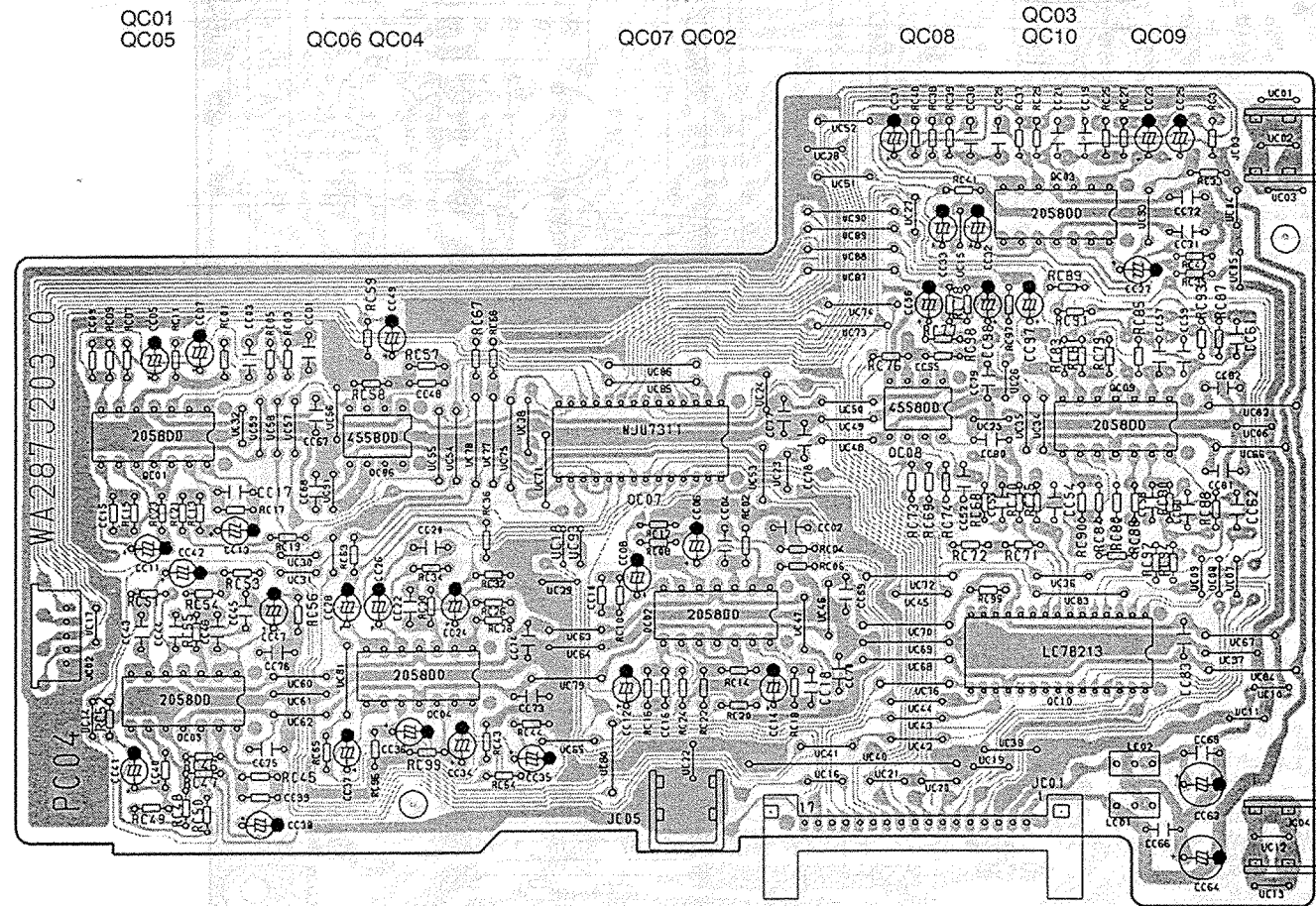
PF04 Tone P.C. Board



PL04 Video Selector P.C. Board

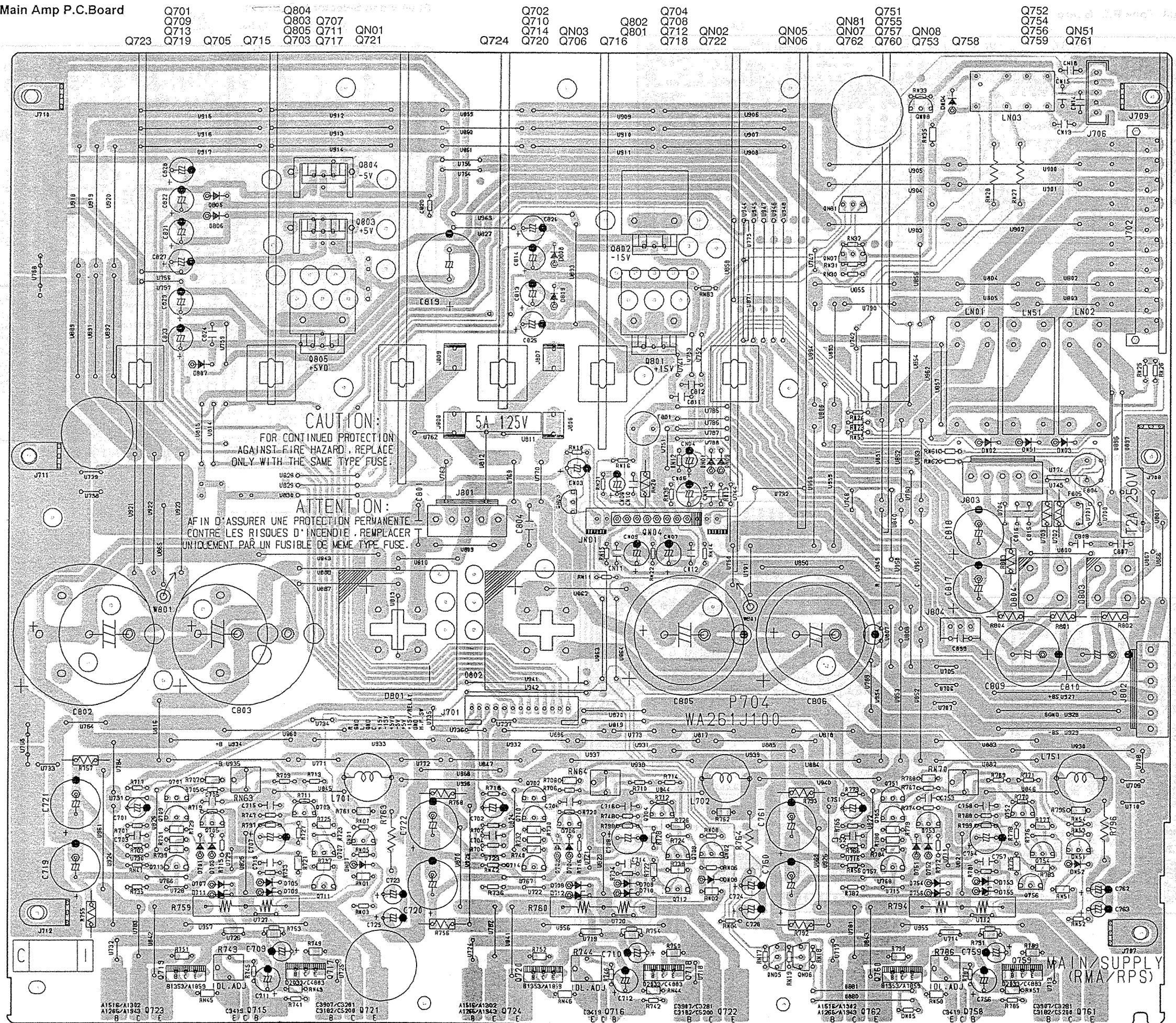


PC04 Cross Over P.C. Board





P704-Main Amp P.C.Board



- |      |      |      |      |      |      |
|------|------|------|------|------|------|
| Q701 | Q804 | Q702 | Q704 | Q751 | Q752 |
| Q709 | Q803 | Q710 | Q708 | Q755 | Q754 |
| Q713 | Q805 | Q714 | Q712 | Q757 | Q756 |
| Q719 | Q705 | Q715 | Q718 | Q760 | Q759 |
| Q707 | Q717 | Q721 | Q722 | Q762 | Q758 |
| QN01 | Q724 | Q720 | Q706 | Q716 | QN08 |
| Q723 | Q725 | Q726 | Q727 | Q728 | Q729 |
| Q730 | Q731 | Q732 | Q733 | Q734 | Q735 |
| Q736 | Q737 | Q738 | Q739 | Q740 | Q741 |
| Q742 | Q743 | Q744 | Q745 | Q746 | Q747 |
| Q748 | Q749 | Q750 | Q751 | Q752 | Q753 |
| Q754 | Q755 | Q756 | Q757 | Q758 | Q759 |
| Q760 | Q761 | Q762 | Q763 | Q764 | Q765 |
| Q766 | Q767 | Q768 | Q769 | Q770 | Q771 |
| Q772 | Q773 | Q774 | Q775 | Q776 | Q777 |
| Q778 | Q779 | Q780 | Q781 | Q782 | Q783 |
| Q784 | Q785 | Q786 | Q787 | Q788 | Q789 |
| Q790 | Q791 | Q792 | Q793 | Q794 | Q795 |
| Q796 | Q797 | Q798 | Q799 | Q800 | Q801 |
| Q802 | Q803 | Q804 | Q805 | Q806 | Q807 |
| Q808 | Q809 | Q810 | Q811 | Q812 | Q813 |
| Q814 | Q815 | Q816 | Q817 | Q818 | Q819 |
| Q820 | Q821 | Q822 | Q823 | Q824 | Q825 |
| Q826 | Q827 | Q828 | Q829 | Q830 | Q831 |
| Q832 | Q833 | Q834 | Q835 | Q836 | Q837 |
| Q838 | Q839 | Q840 | Q841 | Q842 | Q843 |
| Q844 | Q845 | Q846 | Q847 | Q848 | Q849 |
| Q850 | Q851 | Q852 | Q853 | Q854 | Q855 |
| Q856 | Q857 | Q858 | Q859 | Q860 | Q861 |
| Q862 | Q863 | Q864 | Q865 | Q866 | Q867 |
| Q868 | Q869 | Q870 | Q871 | Q872 | Q873 |
| Q874 | Q875 | Q876 | Q877 | Q878 | Q879 |
| Q880 | Q881 | Q882 | Q883 | Q884 | Q885 |
| Q886 | Q887 | Q888 | Q889 | Q890 | Q891 |
| Q892 | Q893 | Q894 | Q895 | Q896 | Q897 |
| Q898 | Q899 | Q900 | Q901 | Q902 | Q903 |
| Q904 | Q905 | Q906 | Q907 | Q908 | Q909 |
| Q910 | Q911 | Q912 | Q913 | Q914 | Q915 |
| Q916 | Q917 | Q918 | Q919 | Q920 | Q921 |
| Q922 | Q923 | Q924 | Q925 | Q926 | Q927 |
| Q928 | Q929 | Q930 | Q931 | Q932 | Q933 |
| Q934 | Q935 | Q936 | Q937 | Q938 | Q939 |
| Q940 | Q941 | Q942 | Q943 | Q944 | Q945 |
| Q946 | Q947 | Q948 | Q949 | Q950 | Q951 |
| Q952 | Q953 | Q954 | Q955 | Q956 | Q957 |
| Q958 | Q959 | Q960 | Q961 | Q962 | Q963 |
| Q964 | Q965 | Q966 | Q967 | Q968 | Q969 |
| Q970 | Q971 | Q972 | Q973 | Q974 | Q975 |
| Q976 | Q977 | Q978 | Q979 | Q980 | Q981 |
| Q982 | Q983 | Q984 | Q985 | Q986 | Q987 |
| Q988 | Q989 | Q990 | Q991 | Q992 | Q993 |
| Q994 | Q995 | Q996 | Q997 | Q998 | Q999 |



PE04 Ele. Vol P.C. Board

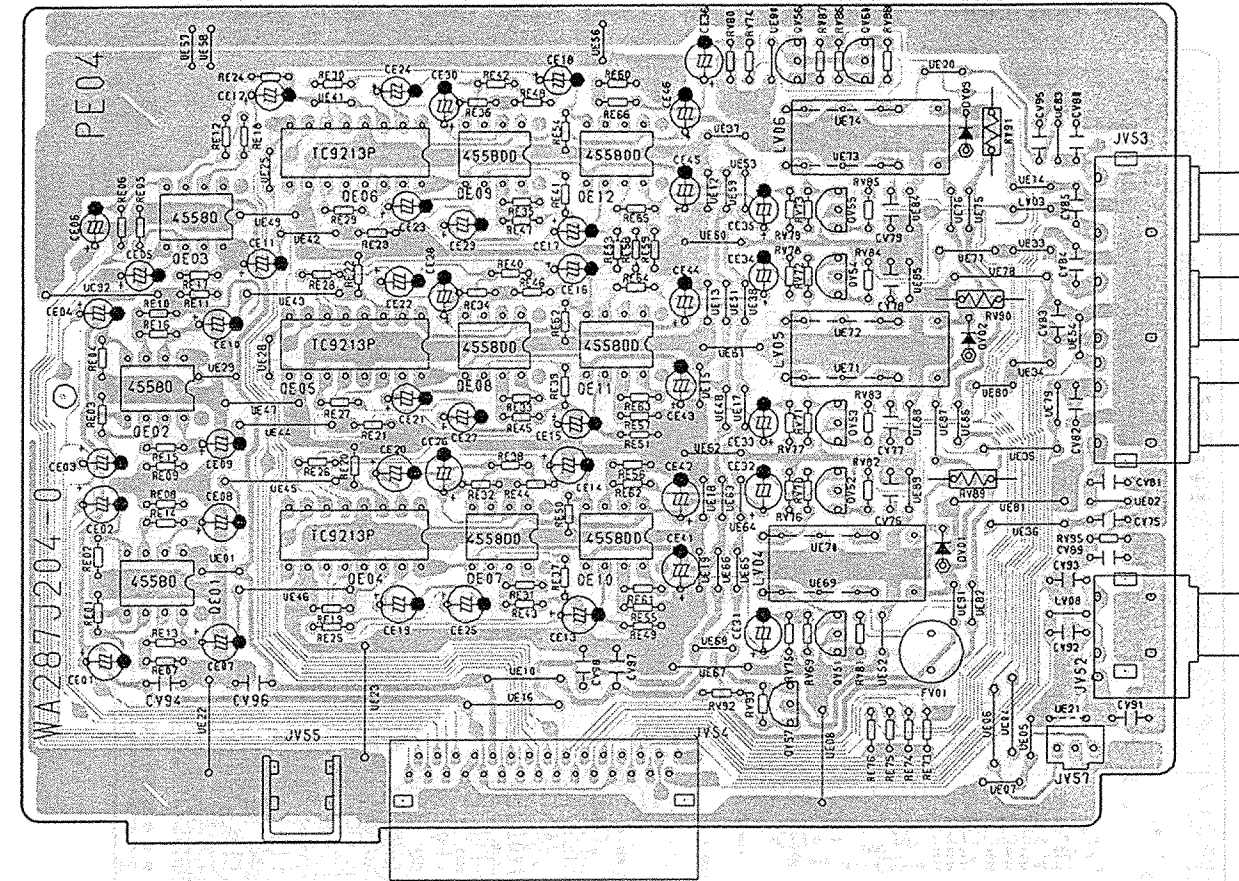
QE01 - QE03

QE04 - QE06

QE07 - QE12

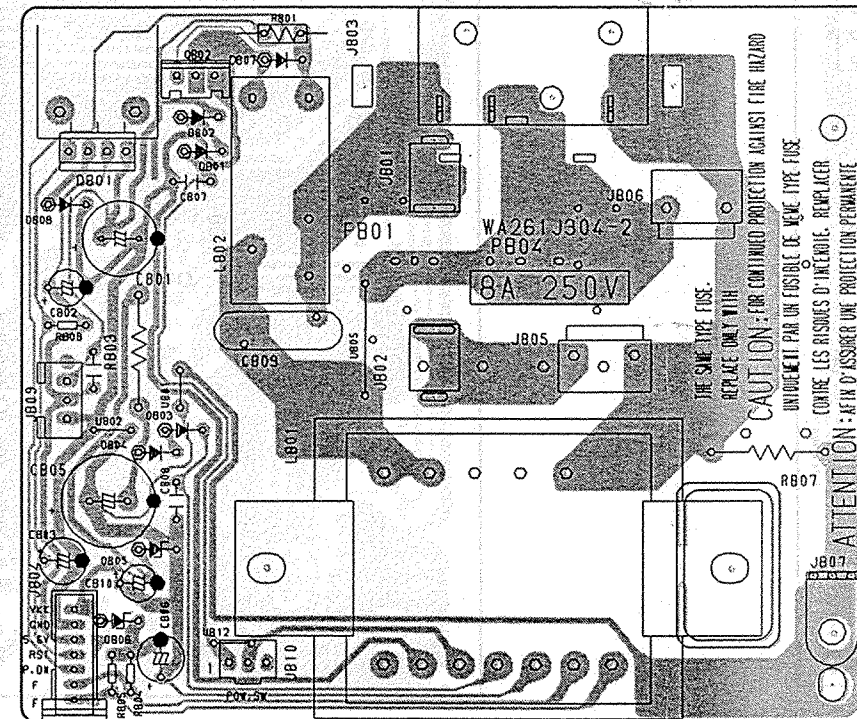
QV60

QV51 - QV57



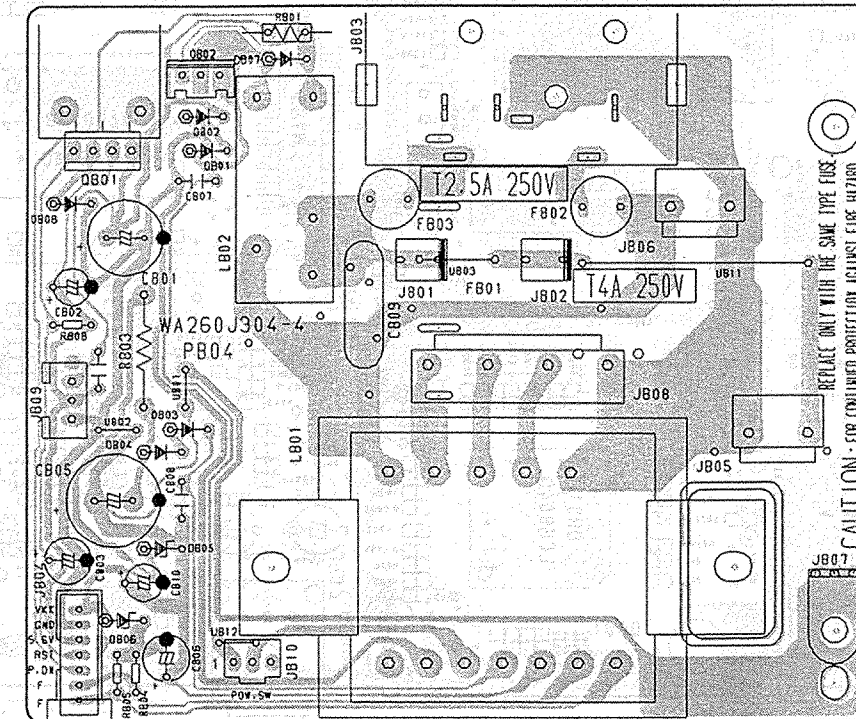
PB04 Back Up P.C. Board (U version)

QB01 QB02

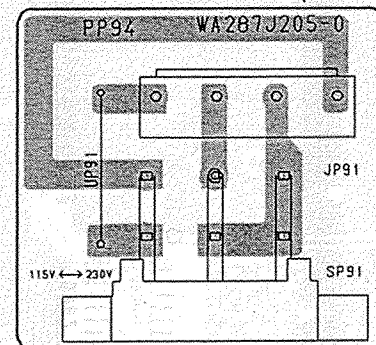


PB04 Back Up P.C. Board (K, KS version)

QB01 QB02

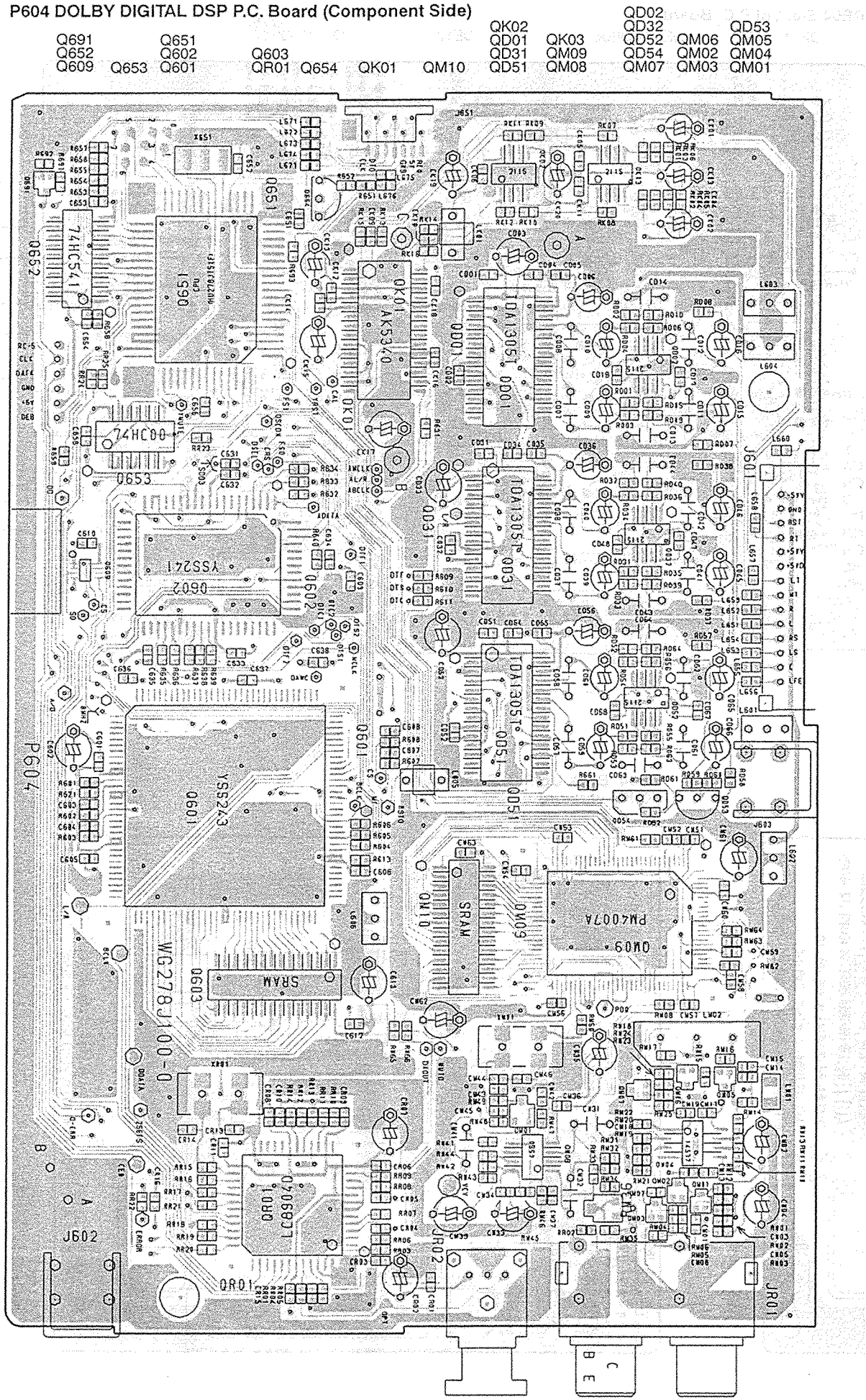


PP94 Vol-Sel P.C. Board (K version only)



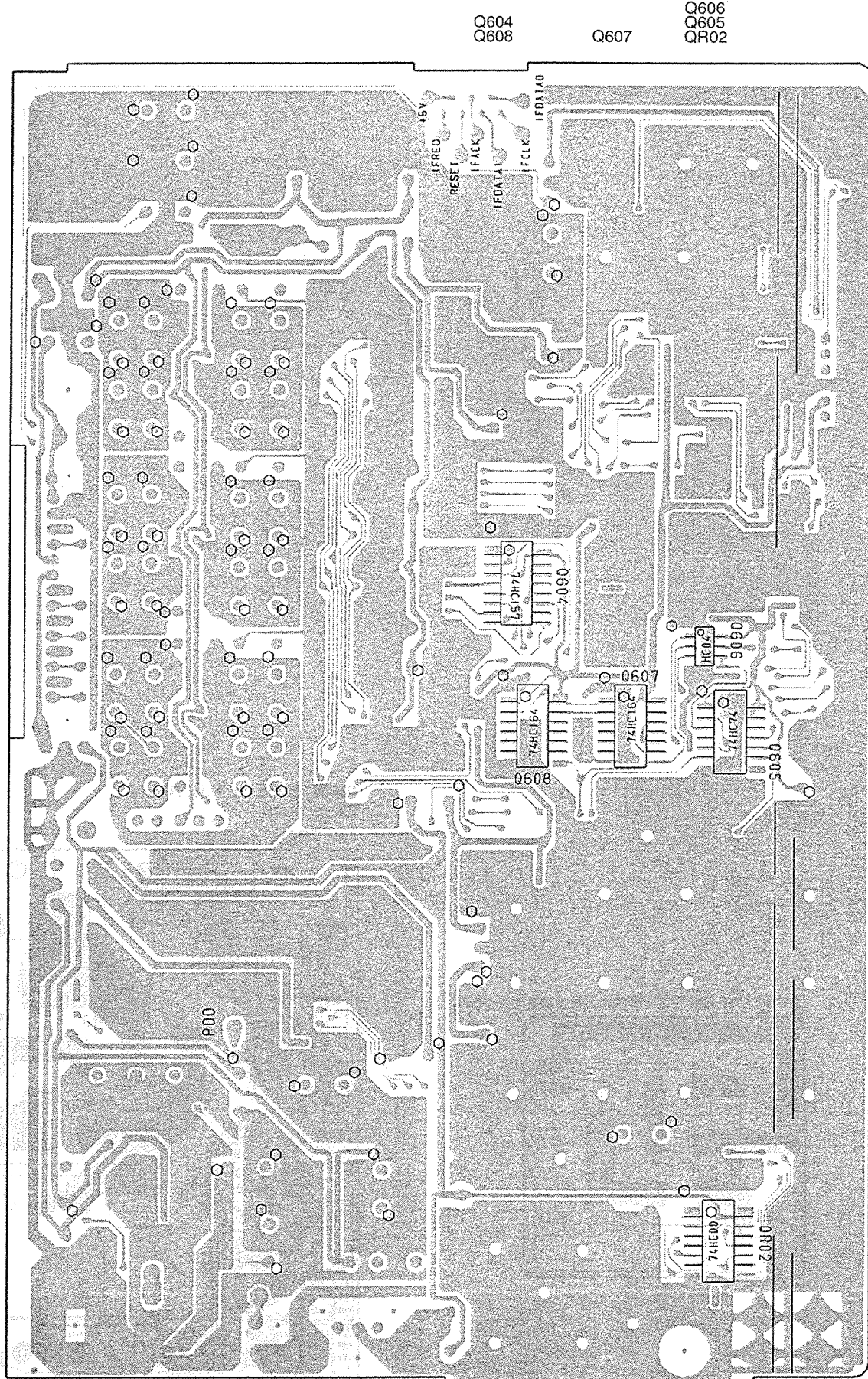


P604 DOLBY DIGITAL DSP P.C. Board (Component Side)



- |      |      |      |
|------|------|------|
| QK02 | QD02 | QD53 |
| QD01 | QD32 | QD52 |
| QD31 | QD54 | QD51 |
| QD51 | QD52 | QD53 |
| QK03 | QM06 | QM05 |
| QM09 | QM02 | QM04 |
| QM08 | QM07 | QM03 |
| QM01 |      |      |

P604 DOLBY DIGITAL DSP P.C. Board (Soldering Side)

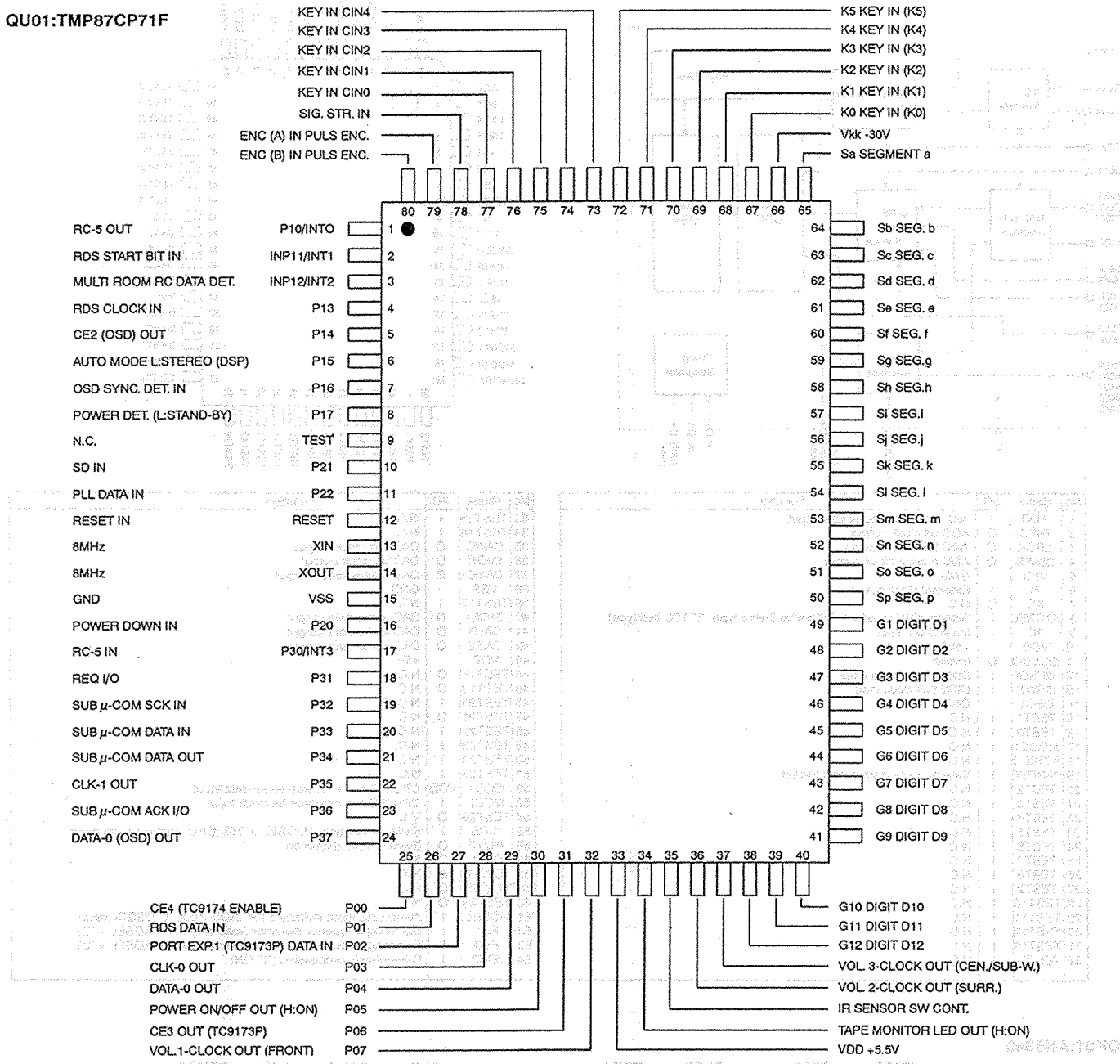


- |      |      |      |
|------|------|------|
| Q604 | Q607 | Q606 |
| Q608 |      | Q605 |
|      |      | QR02 |

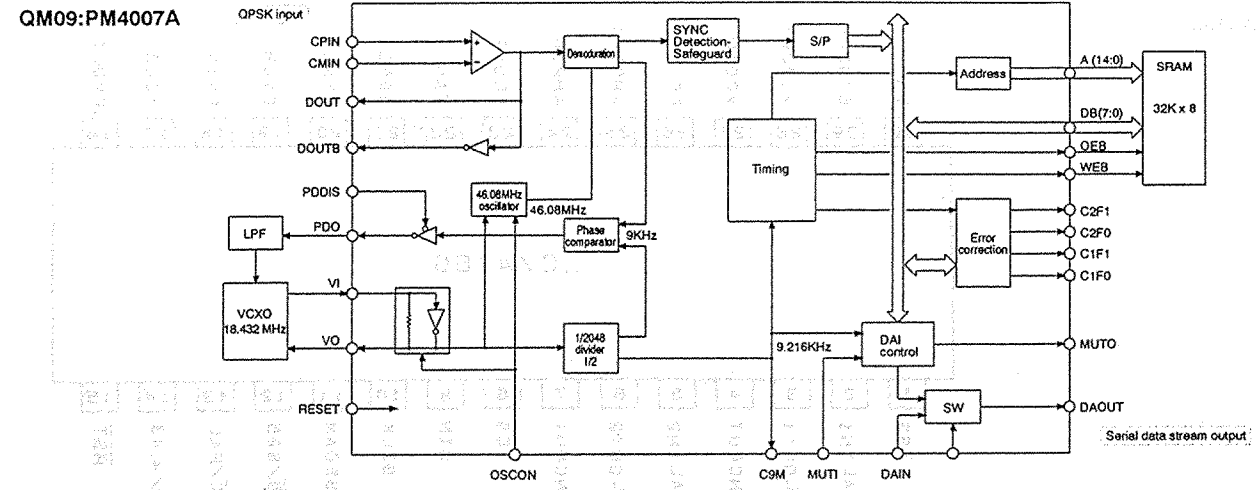


5. IC DATA

QU01:TMP87CP71F



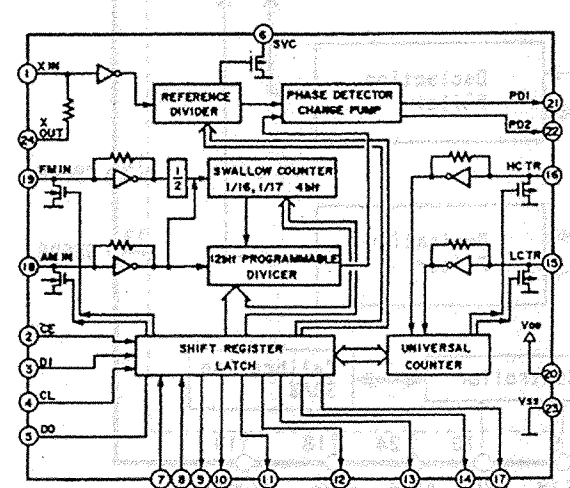
QM09:PM4007A



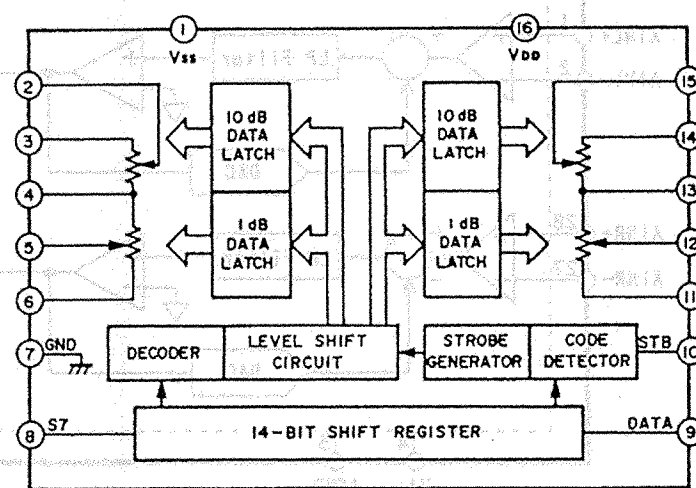
No.	Name	I/O	Function
1	GND	-	GND
2	VDD	-	+5VDD
3	RESET	i	System Reset At "L" reset
4	OSCON	i	Oscillator control At "H" during normal operation At "L" during standby
5	DATA	i	TEST
6	MCK	i	TEST
7	MLTB	i	TEST
8	IDST	o	TEST
9	IDCK	o	TEST
10	IDO	o	TEST
11	TM0	o	TEST
12	ECCK	o	TEST
13	DEN	o	TEST
14	DRY	o	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	-	+5VDD
30	A6	o	RAM A6
31	A7	o	RAM A7
32	GND	-	GND
33	VDD	-	+5VDD
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	OEB	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	-	+5VDD
53	GND	-	GND
54	TI1	i	TEST
55	VIN	i	VCXO input
56	VOOUT	o	VCXO output
57	TI2	i	TEST
58	TI3	i	TEST
59	TI5B	i	TEST
60	TCK	i	TEST
61	TRP	o	TEST
62	TDO	o	TEST
63	PDO	o	Phase comparator output (3-state)
64	TI4	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	TI5	i	TEST
68	VLDY	o	TEST
69	DASYO	o	TEST
70	DAOOUT	o	Digital OUT (serial data stream output)
71	DAIN	i	Digital external input : Sets to DAOOUT when DASEL is at "H"
72	DASEL	i	Selects digital OUT
73	TI8	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	-	+5VDD
80	GND	-	GND
81	AVDD	i	+5VDD
82	CPIN	i	Analog converter inverted input
83	CMIN	i	Analog converter inverted input
84	AGND	-	GND
85	TM4	i	TEST
86	VDD	-	+5VDD
87	DIN	i	TEST
88	DOOUT	o	Analog converter inverted output
89	DOOUTB	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	BUNFI	i	TEST
99	AGND	-	GND
100	AVDD	-	+5VDD

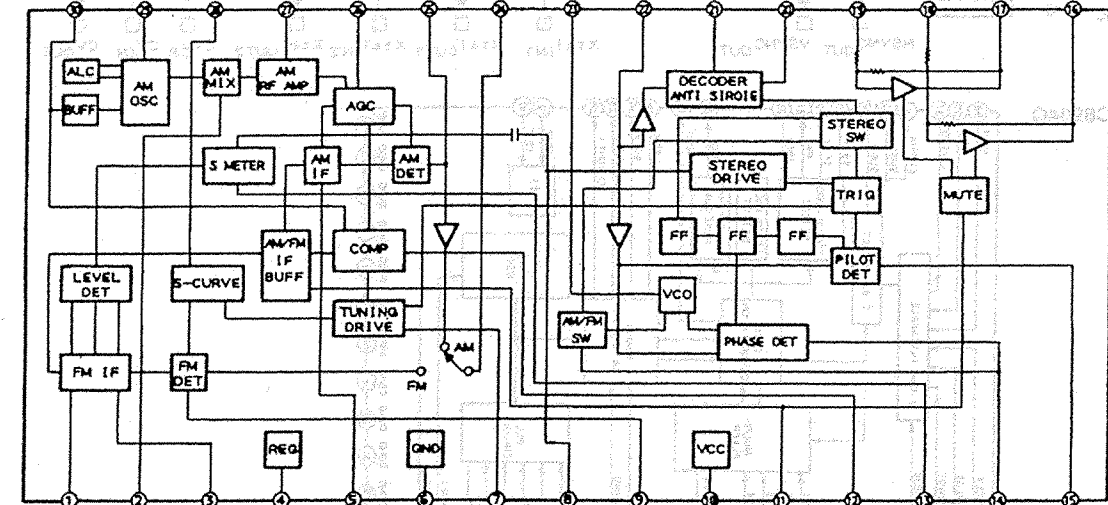
Q501:LC7218



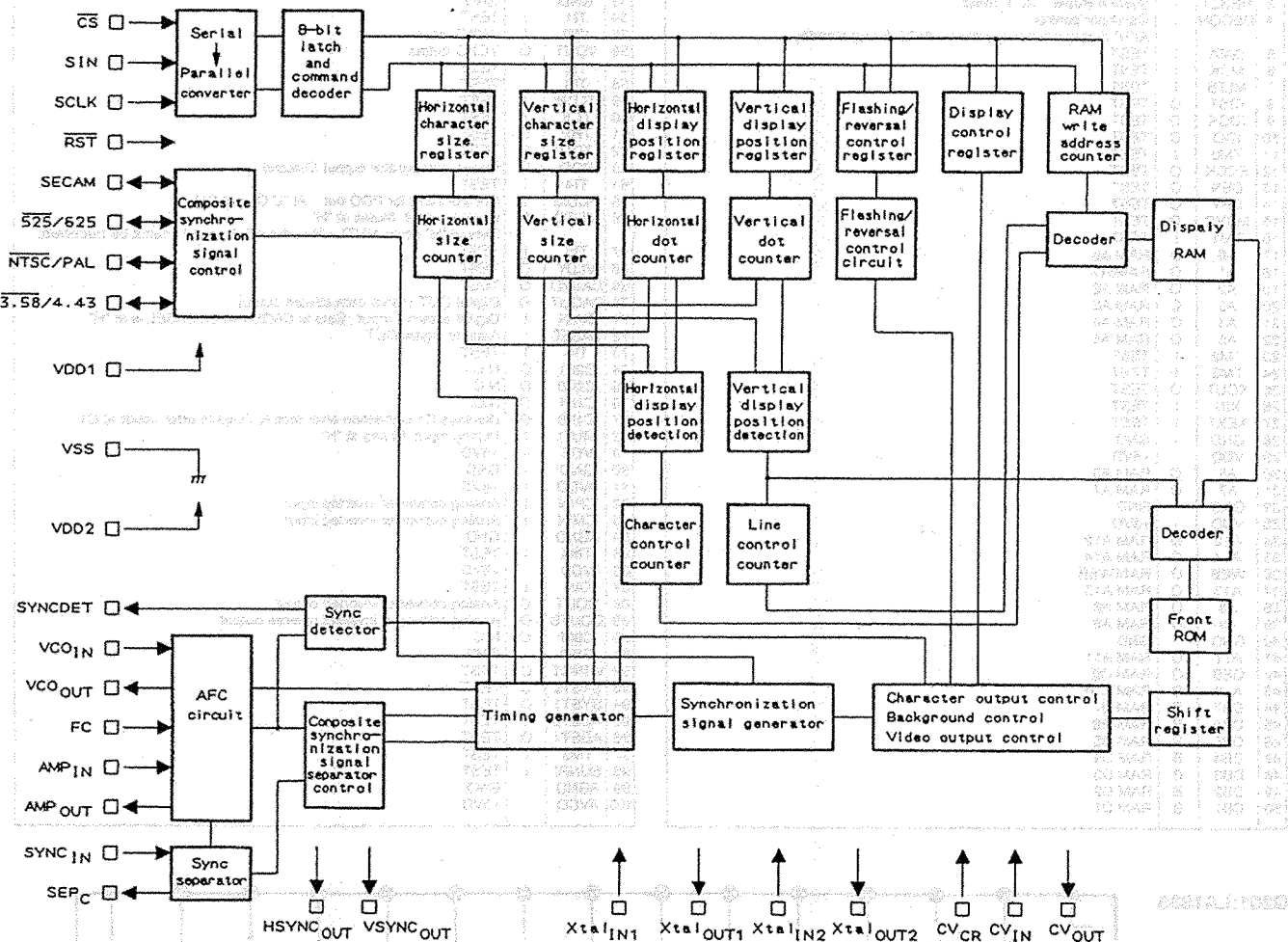
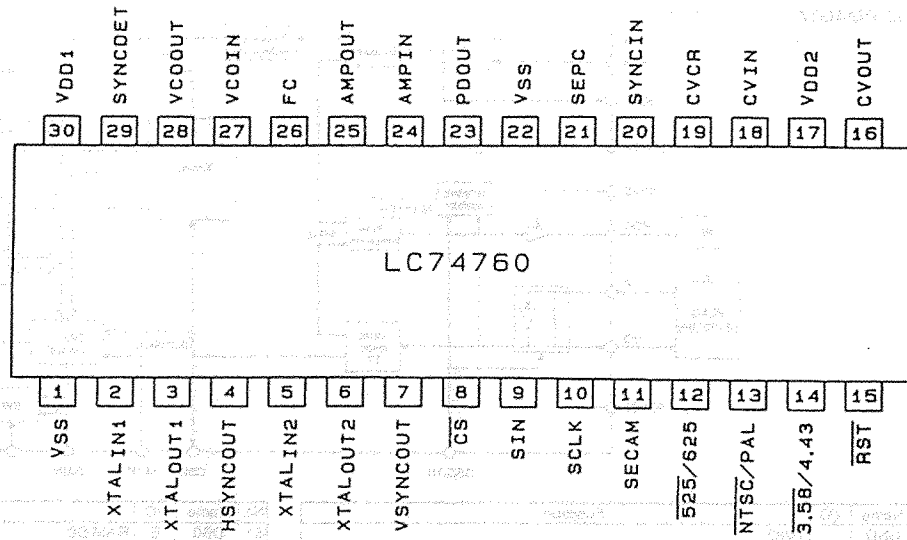
QG04 ~ 07, QG57:TC9213P



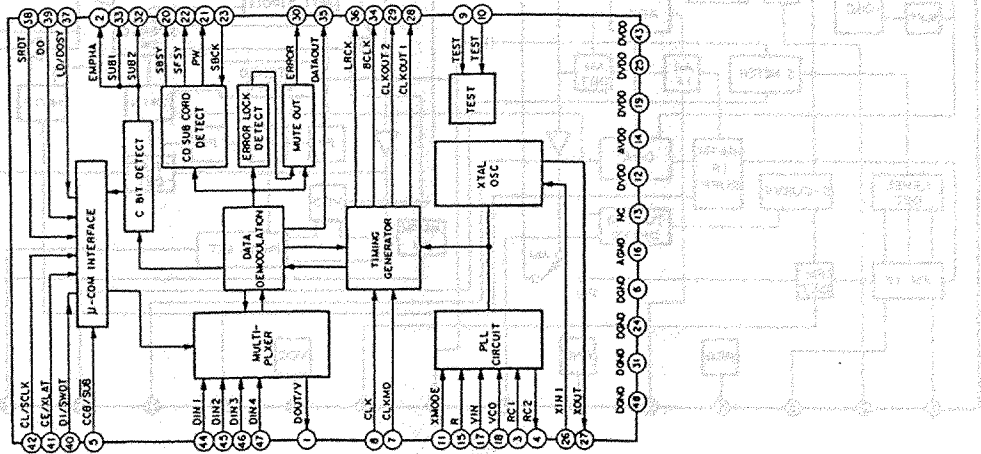
Q201:LA1836



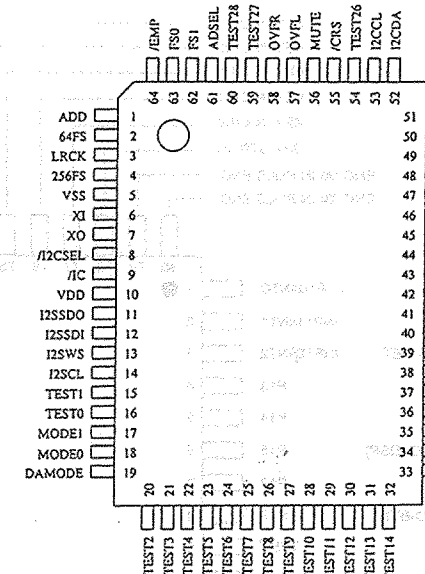
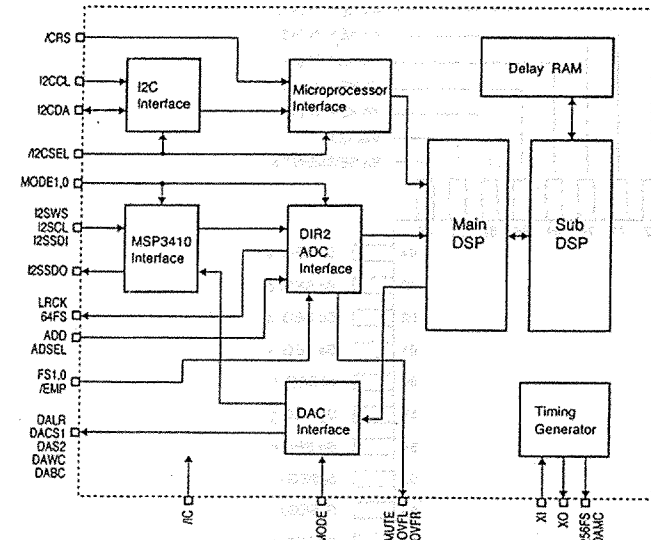
QX60:LC74760



QR01:LC8904Q



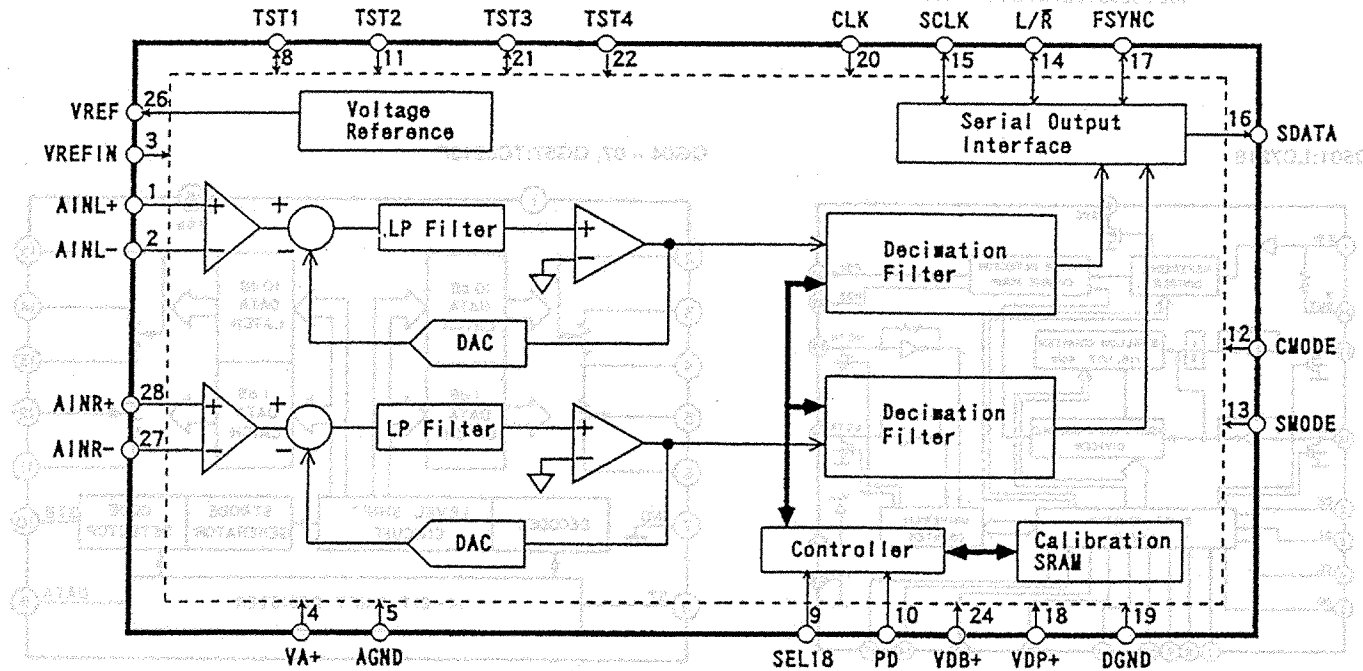
Q602:YSS241

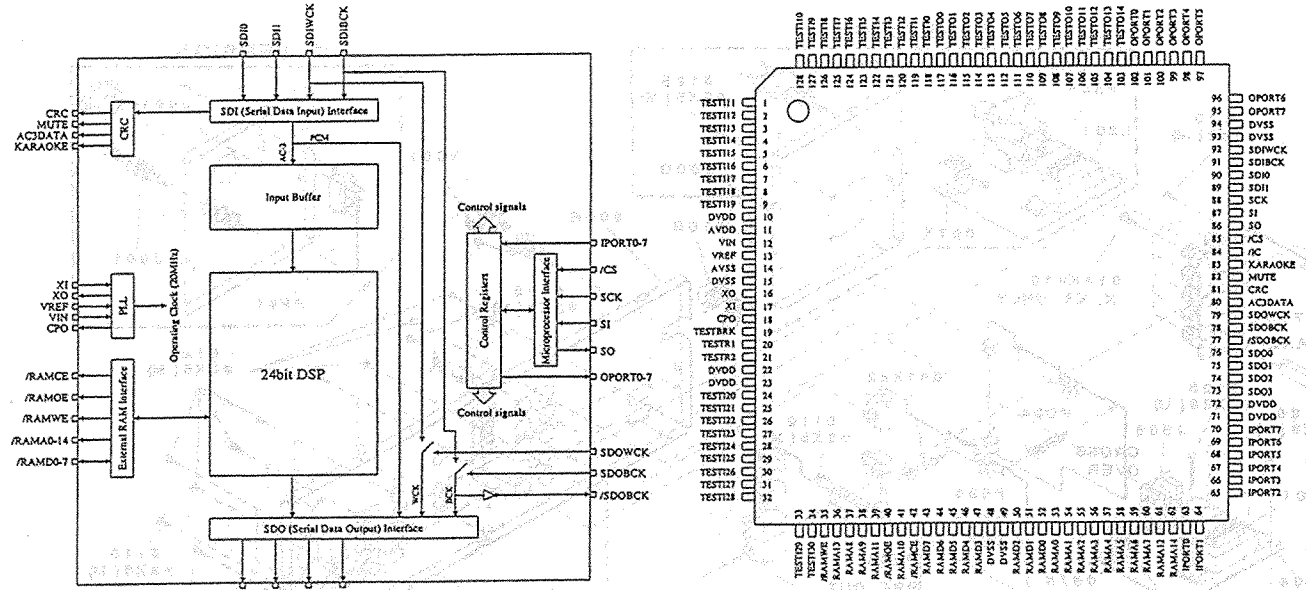


No.	Name	I/O	Function
1	ADD	I	A/D converter sound data input
2	64FS	O	ADC bit clock output
3	LRCK	O	ADC L/R clock output
4	256FS	O	ADC master clock output
5	VSS	-	GND
6	XI	I	External clock input
7	XO	O	N.C.
8	/I2CSEL	I	Selects CPU interface ("H":serial 3-wire type, "L":I2C bus type)
9	/IC	I	Initial clear input
10	VDD	-	+5V
11	/I2SSDO	O	Invalid
12	/I2SSDI	I	DIR2 sound data input
13	/I2SWS	I	DIR2 L/R clock input
14	/I2SCL	I	GND
15	TEST1	I	N.C.
16	TEST0	I	N.C.
17	MODE1	I	N.C.
18	MODE0	I	N.C.
19	DAMODE	I	Selects audio data output format
20	TEST2	I	N.C.
21	TEST3	I	N.C.
22	TEST4	I	N.C.
23	TEST5	I	N.C.
24	TEST6	I	N.C.
25	TEST7	I	N.C.
26	TEST8	I	N.C.
27	TEST9	I	N.C.
28	TEST10	I	N.C.
29	TEST11	I	N.C.
30	TEST12	I	N.C.
31	TEST13	I	N.C.
32	TEST14	I	N.C.

No.	Name	I/O	Function
33	TEST15	I	N.C.
34	TEST16	I	N.C.
35	DAWC	O	DAC L/R clock output
36	DABC	O	DAC bit clock output
37	DAMC	O	DAC master clock output
38	VSS	-	GND
39	TEST17	I	N.C.
40	DACS1	O	DAC audio data output
41	DALR	O	DAC audio data output
42	DAS2	O	DAC audio data output
43	VDD	-	+5V
44	TEST18	O	N.C.
45	TEST19	O	N.C.
46	TEST20	O	N.C.
47	TEST21	O	N.C.
48	TEST22	I	N.C.
49	TEST23	I	N.C.
50	TEST24	I	N.C.
51	TEST25	I	N.C.
52	/I2CDA	I/OD	CPU/I2C bus interface serial data input
53	/I2CCL	I	CPU/I2C bus interface bit clock input
54	TEST26	O	N.C.
55	/ACRS	I	Serial 3-wire type (/I2CSEL = "H"): CPU interface reset input
56	MUTE	O	System mute detection
57	OVFL	O	N.C.
58	OVFR	O	N.C.
59	TEST27	O	N.C.
60	TEST28	O	N.C.
61	ADSEL	I	Audio data input switch ("H":ADD input, "L":I2SSDI input)
62	FS1	I	Sampling frequency switcher (valid only when ADSEL = "L")
63	FS0	I	Sampling frequency switcher (valid only when ADSEL = "L")
64	/EMP	I	Deemphasis processing ("L":ON)

QK01:AK5340





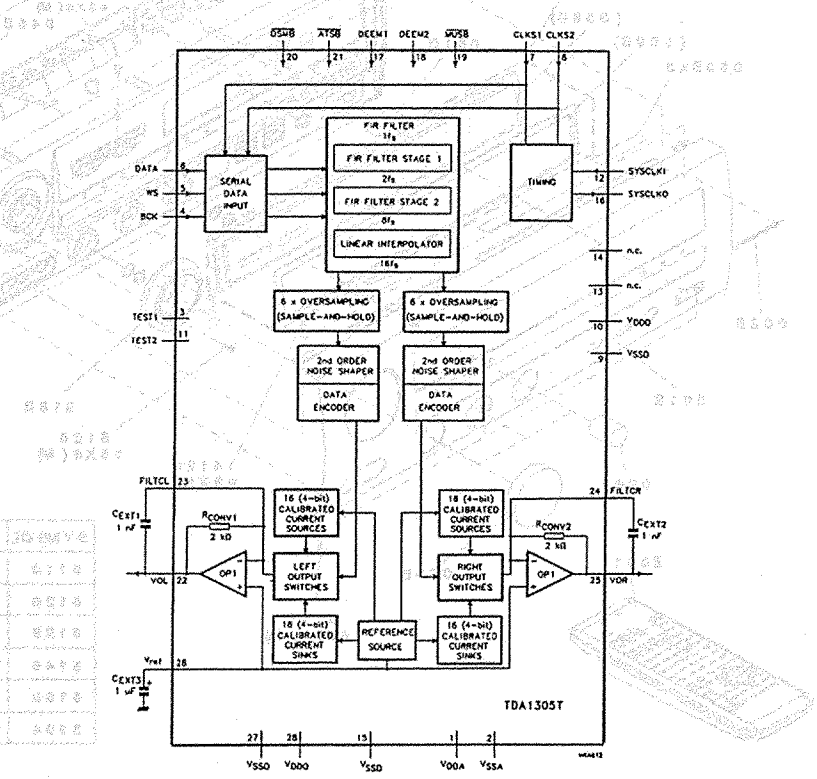
No.	Name	I/O	Function
1	TEST11	I	N.C.
2	TEST12	I	N.C.
3	TEST13	I	N.C.
4	TEST14	I	N.C.
5	TEST15	I	N.C.
6	TEST16	I	N.C.
7	TEST17	I	N.C.
8	TEST18	I	N.C.
9	TEST19	I	N.C.
10	DVDD	-	+5VD
11	AVDD	-	+5VD
12	VIN	AI	PLL input
13	VREF	AI	PLL input
14	AVSS	-	GND
15	DVSS	-	GND
16	XO	O	N.C.
17	XI	I	External clock input
18	CPO	AO	PLL output
19	TESTBRK	I	N.C.
20	TESTR1	I	N.C.
21	TESTR2	I	N.C.
22	DVDD	-	+5VD
23	DVDD	-	+5VD
24	TEST20	I	N.C.
25	TEST21	I	N.C.
26	TEST22	I	N.C.
27	TEST23	I	N.C.
28	TEST24	I	N.C.
29	TEST25	I	N.C.
30	TEST26	I	N.C.
31	TEST27	I	N.C.
32	TEST28	I	N.C.
33	TEST29	I	N.C.
34	TEST30	I	N.C.
35	/RAMWE	O	SRAM /WE
36	/RAMA13	O	SRAM A13
37	/RAMA8	O	SRAM A8
38	/RAMA9	O	SRAM A9
39	/RAMA11	O	SRAM A11
40	/RAMOE	O	SRAM /OE
41	/RAMA10	O	SRAM A10
42	/RAMCE	O	SRAM /CE
43	/RAMD7	I/O	SRAM D7
44	/RAMD6	I/O	SRAM D6
45	/RAMD5	I/O	SRAM D5
46	/RAMD4	I/O	SRAM D4
47	/RAMD3	I/O	SRAM D3
48	DVSS	-	GND
49	DVSS	-	GND
50	/RAMD2	I/O	SRAM D2
51	/RAMD1	I/O	SRAM D1
52	/RAMD0	I/O	SRAM D0
53	/RAMA0	O	SRAM A0
54	/RAMA1	O	SRAM A1
55	/RAMA2	O	SRAM A2
56	/RAMA3	O	SRAM A3
57	/RAMA4	O	SRAM A4
58	/RAMA5	O	SRAM A5
59	/RAMA6	O	SRAM A6
60	/RAMA7	O	SRAM A7
61	/RAMA12	O	SRAM A12
62	/RAMA14	O	SRAM A14
63	/IPORT0	I	N.C.
64	/IPORT1	I	N.C.

No.	Name	I/O	Function
65	/IPORT2	I	N.C.
66	/IPORT3	I	N.C.
67	/IPORT4	I	N.C.
68	/IPORT5	I	N.C.
69	/IPORT6	I	N.C.
70	/IPORT7	I	N.C.
71	DVDD	-	+5VD
72	DVDD	-	+5VD
73	SDO3	O	PCM MIX0, MIX1 output
74	SDO2	O	PCM C, LFE output
75	SDO1	O	PCM LS, RS output
76	SDO0	O	PCM L, R output
77	/SDOBACK	O	N.C.
78	/SDOBACK	I	SDO bit clock input
79	/SDOWCK	I	SDO word clock input
80	AC3DATA	O	N.C.
81	CRC	O	N.C.
82	MUTE	O	Sets to 1 if error data is detected when auto muting function triggered
83	KARAOKE	O	N.C.
84	/IC	I	Initial clear
85	/CS	I	m-com interface chip select input
86	SO	O	m-com interface data output
87	SI	I	m-com interface data input
88	SCK	I	m-com interface clock input
89	SDI1	I	N.C.
90	SDI0	I	AC-3 bit stream (or PCM) data input
91	SDIBCK	I	SDI bit clock input
92	SDIWCK	I	SDI word clock input
93	DVSS	-	GND
94	DVSS	-	GND
95	OPORT7	O	N.C.
96	OPORT6	O	N.C.
97	OPORT5	O	N.C.
98	OPORT4	O	N.C.
99	OPORT3	O	N.C.
100	OPORT2	O	N.C.
101	OPORT1	O	N.C.
102	OPORT0	O	N.C.
103	TEST014	O	N.C.
104	TEST013	O	N.C.
105	TEST012	O	N.C.
106	TEST011	O	N.C.
107	TEST010	O	N.C.
108	TEST09	O	N.C.
109	TEST08	O	N.C.
110	TEST07	O	N.C.
111	TEST06	O	N.C.
112	TEST05	O	N.C.
113	TEST04	O	N.C.
114	TEST03	O	N.C.
115	TEST02	O	N.C.
116	TEST01	O	N.C.
117	TEST00	O	N.C.
118	TEST10	I	N.C.
119	TEST11	I	N.C.
120	TEST12	I	N.C.
121	TEST13	I	N.C.
122	TEST14	I	N.C.
123	TEST15	I	N.C.
124	TEST16	I	N.C.
125	TEST17	I	N.C.
126	TEST18	I	N.C.
127	TEST19	I	N.C.
128	TEST10	I	N.C.

PORT No.	PORT NAME	I/O	SIGNAL NAME	FUNCTION	NOTES
1	P76	O	CAL	RESET&CALIBRATE FOR ADC H:RESET&CAL L:NORMAL	
2	P77	O	RSTO	RESET OUT FOR DAI&DEMOMODULATOR L:RESET,H:NORMAL	
3	P00	O	CS	SPI CHIP SELECT FOR YSS243	
4	P01	O	CRS	SPI CPU I/F RESET FOR YSS241	
5	P02	O	FS0	FS SET FOR YSS241	
6	P03	O	FS1	FS SET FOR YSS241	
7	P04	O	MUTE-S	DAC MUTE CONT. OUT L:MUTE H:NORMAL	
8	P05	O	EMP1	DAC EMP:CONT.1	
9	P06	O	EMP2	DAC EMP:CONT.2	
10	P07	O	YRST	RESET OUTPUT FOR YSS241&243L:RESET H:NORMAL	
11	P10/INT0	I/O		N.C.	
12	P11/INT1	I/O		N.C.	
13	P12/INT2	I	(DEBUG)	FIXED+5V	
14	P13/DVO	O		N.C.	
15	P14/PPG	O		N.C.	
16	P15/TC2	O		N.C.	
17	P16	O		N.C.	
18	P17	O		N.C.	
19	P20/INT5	I/O	IFREQ	REQUEST SIGNAL FOR MAIN CPU I/F	
20	TEST	O		GND	
21	P21/XIN	I		N.C.	
22	P22/XTO	O		N.C.	
23	RESET	I	RSTI	RESET INPUT FROM MAIN CPU L:RESET	
24	XIN	I	XIN	FOR CPU OSC	
25	XOUT	O	XOUT	FOR CPU OSC	
26	VSS	-		GND	
27	P30	O		N.C.	
28	P31	O		N.C.	
29	P32	O		N.C.	
30	P33	O		N.C.	
31	P34	O		N.C.	
32	P35	O		N.C.	
33	P36	O		N.C.	
34	P37	O		N.C.	
35	P40	O	CE0	CHIP ENABLE OUT FOR I/F TO DAI(LC8904Q)	
36	P41	I/O	IFACK	ACKNOWLEDGE SIGNAL FOR MAIN CPU I/F	
37	P42/SCK1	O	CL/SCK	SPI CLOCK OUT TO DAI(LC8904Q)&YSS241,243	
38	P43/SI1	I	DO/SO	SPI DATA IN FROM DAI&DSP(YSS243)	
39	P44/SO1	O	DI/SI	SPI DATA OUT TO DAI&DSP(YSS241&243)	
40	P45/SCK2	O	IFCLK	I/F CLOCK OUT TO MAIN CPU	
41	P46/SI2	I	IFDATAI	I/F DATA IN FROM MAIN CPU	
42	P47/SO2	O	IFDATAO	I/F DATA OUT TO MAIN CPU	
43	P50/INT3	I	C1F0	DEMOMODULATOR ERROR INPUT(FOR DEBUG USE ONLY)	
44	P51/INT4	I	ERROR	DAI ERROR INPUT L:Error H:OK	
45	P52/PDO	O		N.C.	
46	P53	O		N.C.	
47	P54	O		N.C.	
48	VAS	O	GND		
49	VAREF	O	GND		
50	P60/AIN0	O	DEBO	CHIP ENABLE OUT FOR DEBUG USE ONLY	
51	P61/AIN1	O		N.C.	
52	P62/AIN2	I	YMUTE	YSS241 ERROR MUTE INPUT(H:MUEON,L:MUTEOFF)	
53	P63/AIN3	O		N.C.	
54	P64/AIN4	O		N.C.	
55	P65/AIN5	O		N.C.	
56	P66/AIN6	O		N.C.	
57	P67/AIN7	O		N.C.	
58	VDD	O	+5V		
59	P70	O	OSCON	PM4007A OSC CONTROL H:ONL:STOP	
60	P71	O	DSEL	DATA SELECT(YSS243or241)H:241L:243	
61	P72	O	LFE-ATT	LFE:ATT:CONT:H:0dB L:-10dB:OFF	
62	P73	O	AJD	ADJ:ADJ:SELECT:H:DAI L:ADJ	
63	P74	O	RF/OTH	RF/OTHER SELECT:H:RF L:OTHER	
64	P75	O	MUTE-1	MUTE CONTROLLED BY SUB CPU H:NORMAL L:MUTE	

QD01, QD31, QD51:TDA1305T

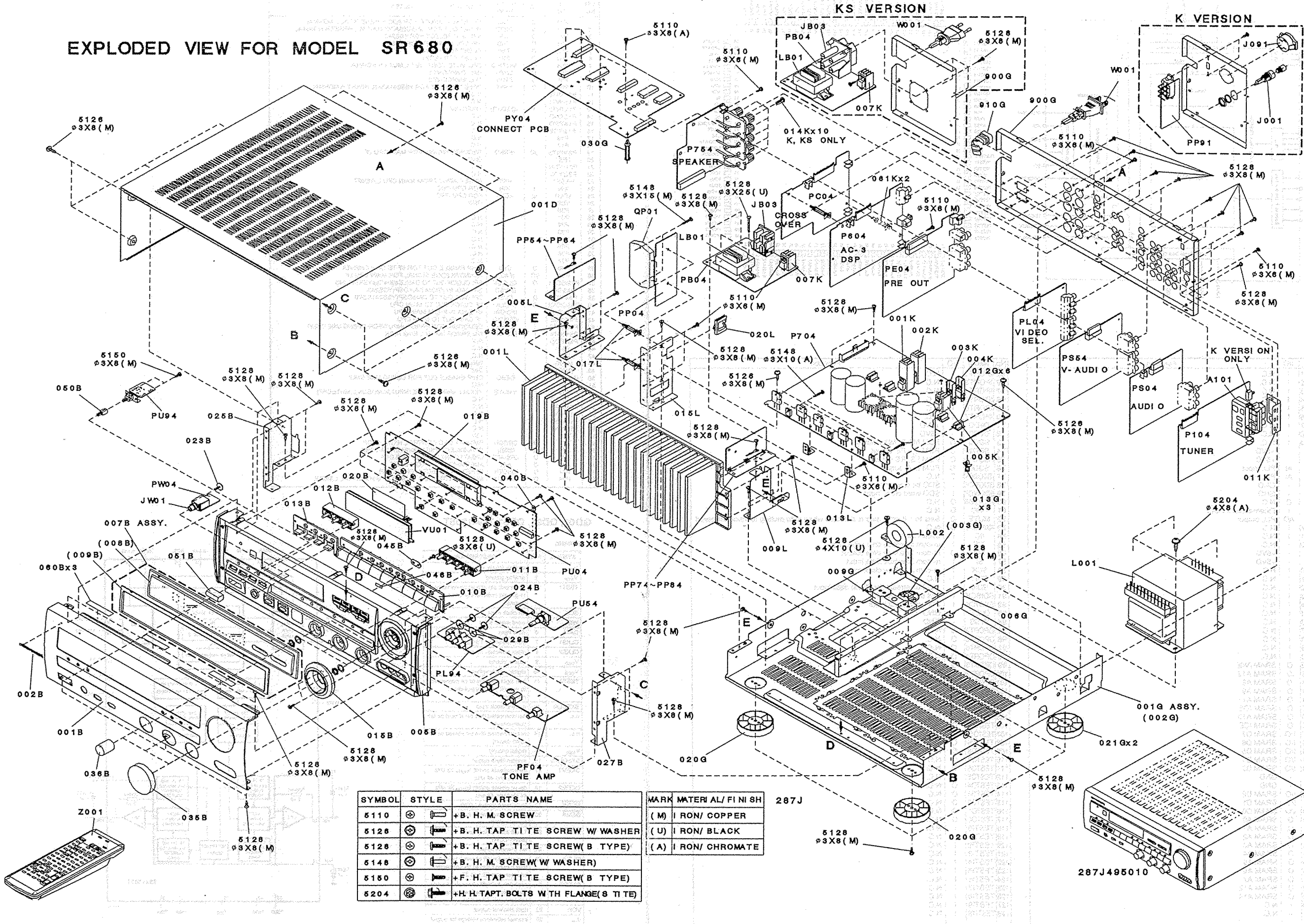
SYMBOL	PIN	DESCRIPTION
VDDA	1	analog supply voltage
VSSA	2	analog ground
TEST1	3	test input: pin should be connected to ground (internal pull-down resistor)
BCK	4	bit clock input
WS	5	word select input
DATA	8	data input
CLKS1	7	clock selection 1 input
CLKS2	8	clock selection 2 input
VSSD	9	digital ground
VDDD	10	digital supply voltage
TEST2	11	test input: pin should be connected to ground (internal pull-down resistor)
SYSCLKI	12	system clock input
n.c.	13	not connected (this pin should be left open-circuit)
n.c.	14	not connected (this pin should be left open-circuit)
VSSO	15	digital ground
SYSCLKO	16	system clock output
DEEM1	17	de-emphasis on/off; f <sub>DEEM</sub> 32 kHz, 44 kHz and 48 kHz
DEEM2	18	de-emphasis on/off; f <sub>DEEM</sub> 32 kHz, 44 kHz and 48 kHz
MUSB	19	mute input (active LOW)
DSMB	20	double-speed mode input (active LOW)
ATSB	21	12 dB attenuation input (active LOW)
VOL	22	left channel output
FILTCL	23	capacitor for left channel 1st order filter function should be connected between pins 22 and 23
FILTCR	24	capacitor for right channel 1st order filter function should be connected between pins 25 and 24
VOR	25	right channel output
Vref	26	internal reference voltage for output channels (0.5V <sub>DD</sub> )
VSSO	27	operational amplifier ground
VDDO	28	operational amplifier supply voltage





6. EXPLODED VIEW AND PARTS LIST

EXPLODED VIEW FOR MODEL SR 680



SYMBOL	STYLE	PARTS NAME	MARK	MATERIAL/ FINISH	287J
5110	(M)	+B. H. M. SCREW	(M)	IRON/ COPPER	
5128	(U)	+B. H. TAP TITE SCREW W WASHER	(U)	IRON/ BLACK	
5128	(A)	+B. H. TAP TITE SCREW(B TYPE)	(A)	IRON/ CHROMATE	
5148	(M)	+B. H. M. SCREW(W WASHER)			
5150	(M)	+F. H. TAP TITE SCREW(B TYPE)			
5204	(M)	+H. H. TAPT. BOLTS WITH FLANGE(S TITE)			

(VERS. VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, \*:EUROPE)

(VERS. VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, \*:EUROPE)

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)
001B	BLACK		FRONT PANEL BLK	287J248010				PACKING	
001B	GOLD		FRONT PANEL GLD	287J248110	001T	K,KS		USER MANUAL	287J851350
002B	BLACK	4822 459 11172	BADGE, MARANTZ BLK	185J251010	001T	U		USER MANUAL	287J851250
002B	GOLD	4822 459 11173	BADGE, MARANTZ GLD	185J251110					
005B	BLACK		CHASSIS, FRONT BLK	261J105020	Z001			REMOTE COMMANDER	ZK287J0010
005B	GOLD		CHASSIS, FRONT GLD	261J105120	Z003	K,KS		EXT. ANTENNA	ZA02800020
007B	BLACK		WINDOW ASSY BLK	261J158530	Z003	U		EXT. ANTENNA	ZA02000070
007B	GOLD		WINDOW ASSY GLD	261J158540	Z004			LOOP ANT LA-700HB	LA00055010
008B	BLACK		WINDOW	261J158060	Z005	U		PLUG ANT ADAPTOR	YP90000310
009B	BLACK		ESCUTCHEON, WINDOW BLK	261J063020	Z006	K		JACK MAINS CORD ADAPTER	YJ04001240
009B	GOLD		ESCUTCHEON, WINDOW GLD	261J063120	▲ Z007	K		FUSE 6.3A 250V BS	FS10630850
010B	BLACK		BUTTON, FUNCTION HINGE BLK	261J270060					
010B	GOLD		BUTTON, FUNCTION HINGE GLD	261J270160					
011B	BLACK	4822 410 10639	BUTTON, MEMO HINGE BLK	261J270020					
011B	GOLD		BUTTON, MEMO HINGE GLD	261J270120					
012B	BLACK	4822 410 10641	BUTTON, OSD HINGE BLK	261J270030					
012B	GOLD		BUTTON, OSD HINGE GLD	261J270130					
013B	BLACK	4822 410 10642	BUTTON, MODE HINGE BLK	261J270040					
013B	GOLD		BUTTON, MODE HINGE GLD	261J270140					
015B	BLACK	4822 454 13137	ESCUTCHEON, VOL. BLK	261J063010					
015B	GOLD		ESCUTCHEON, VOL. GLD	261J063110					
019B		4822 256 92097	HOLDER FL	183J271020					
020B		4822 459 11158	STICKER FL	056J122010					
023B			SCREW PHONE PCB+MOLD	183J010010					
			CHASSIS						
024B			SCREW PHONE PCB+MOLD	183J010010					
			CHASSIS						
025B			BRACKET, FRONT LEFT SIDE	261J160010					
027B			BRACKET, FRONT RIGHT SIDE	261J160020					
029B			WASHER	261J012010					
035B	BLACK	4822 410 10643	KNOB, MAIN VOL BLK	261J154010					
035B	GOLD		KNOB, MAIN VOL GLD	261J154110					
036B	BLACK	4822 413 41589	KNOB, TONE VOL BLK	090J154010					
036B	GOLD	4822 413 41821	KNOB, TONE VOL GLD	090J154110					
045B			RETAINER, STOPPER PLATE	287J104010					
046B			SHEET, SPACER	119B107010					
050B		4822 404 21012	JOINT MAINS BUTTON	025J125010					
051B	BLACK	4822 410 62744	BUTTON, MAINS SW BLK	285K270010					
051B	GOLD	4822 462 72053	BUTTON, MAINS SW GLD	285K270110					
060B			SHFFER, BUFFER	173H107010					
001D	BLACK		LID, TOP COVER BLK	264J257320					
001D	GOLD		LID, TOP COVER GLD	264J257330					
020G		4822 462 42045	LEG, FRONT	183J057010					
021G		4822 462 42048	LEG, REAR	183J057110					
910G		4822 532 60948	BUSHING, MAINS CODE	450H259010					
▲ F001	K	4822 070 33152	FUSE 3.15A 250V	FS10315850					
▲ J001	K	4822 256 30233	JACK FUSE HOLDER	YJ08000290					
▲ J091	K	4822 272 10382	VOLTAGE SELECTOR	BY05060090					
▲ L001	K		MAINS TRANSF.	TS19637130					
▲ L001	KS		MAINS TRANSF.	TS19637120					
▲ L001	U		MAINS TRANSF.	TS19637110					
L002	KS,U	4822 529 10357	FERRITE CORE	FC50380010					
▲ W001	K		MAINS CORD	YC01800880					
▲ W001	KS	4822 321 11343	MAINS CORD	YC01800790					
▲ W001	U		MAINS CORD	YC01900260					

## 7. SERVICE PROGRAM

### 1. Tracking point memory

This service program can be use for measurement of the tuner circuit.

When the POWER ON, press the "PRESET UP" button while pressing the "MODE ▲" button for more 3 seconds. FLD shows "TRACKING". Frequencies to be memorized are as follows.

	VERSION	P1	P2	P3	P4
FM	U, K, KS, KK	90.0	98.0	106.0	87.5

	SCAN STEP	P5	P6	P7	P8	P9	P10	P11	P12~ P30
AM	10 KHz	600.0	1000.0	1400.0	520.0	←	←	←	←
	9 KHz	603.0	999.0	1404.0	531.0	←	←	←	←
	MW/LW	↑	↑	↑	171.0	207.0	270.0	152.0	531.0

### 2. FLD segment luminous

This service program can be luminous all segments by following step.


When the POWER ON, press the "FM/AM(TUNER)" button while pressing the "MODE ▲" button for more 3 seconds. When finish the following procedure this service program should be stop.

#### Luminous procedure

1. All segments luminous 5 seconds.
2. At the grid "1G", segments luminous following procedure.

① kHz → ② MHz → ③ ATT → ④ LFE → ⑤ NIGHT → ⑥ MULTI → ⑦ COAX → ⑧ OPT →  
⑨ RF → ⑩ RE → ⑪ EQ → ⑫ TAPE → ⑬ COPY → ⑭ SLEEP → ⑮ P - SCAN → ⑯ DISP

3. At the grid "2G" to "11G", each one segment luminous step by step.
4. At the grid "12G", segments luminous following procedure.

① VISUAL → ② SIGNAL BAR (LEFT SIDE) → ③ SIGNAL BAR (2nd LEFT) → ④ SIGNAL BAR (CENTER) →  
⑤ SIGNAL BAR (2nd RIGHT) → ⑥ SIGNAL BAR (RIGHT SIDE) → ⑦ AC-3 → ⑧ PCM → ⑨  DIGITAL →  
⑩ PRO - LOGIC → ⑪ 3 - STEREO → ⑫ MOVIE → ⑬ MATRIX → ⑭ HALL → ⑮ THX CINEMA → ⑯ STEREO

### 3. TV Auto Power On/Off Check

With the system on standby and no video signal input to the DSS/TV video input terminal, when a video signal is input, the TV auto power on function automatically switches the power on. (This function also automatically switches the power off five minutes after the video signal ends.)

1. While pressing the MODE up button, hold down the DSS/TV button for at least three seconds. TV AT OFF is displayed. (The currently set status is displayed.)
2. Then, each time you press the DSS/TV button, the TV auto power on function is toggled On/Off.
3. After selecting On, put the system on standby.
4. Apply a video signal to the DSS/TV video signal input terminal.
5. Check that the power comes on automatically.

Always switch on with DSS/TV.

## 8. ELECTRICAL ADJUSTMENT

### 1. Main amp idling current adjustment

- 1) With the power OFF, set semi – fixed resistor R743 (Lch), R744 (Rch), R786 (Center ch) on the PC board (PV04) to the center position.
- 2) Connect a digital voltmeter, set for the DC range, between the emitter resistor [R759 (Lch), R760 (Rch), R794 (Center ch)] on the PC board (PV04).
- 3) After the above, adjust the idling current as follows:  
Turn the power ON and adjust semi – fixed resistor R743 (Lch), R744 (Rch), R786 (Center ch) while observing the digital multimeter indication.  
\* The target value is 7.2 mV (20 mA).

#### [Reference]

When a set whose idling current has been adjusted is switched on with after 1 minute it reaches about 2.7 – 3.5 mV. After 10 minutes, it reaches a balanced state and stabilizes at 7.2 mV (target). Therefore, if the adjustment is made 30 second after the power is switched on, adjust to 1.3 – 1.8 mV. In the same way, if 1 minute have passed since the power was switched on, adjust to 2.7 – 3.5 mV. From 1 to 2 minutes, adjust to 3.9 – 4.2 mV. From 2 to 4 minutes, adjust to 4.8 – 6.4 mV. From 4 to 7 minutes, adjust to 5.7 – 7.3 mV. After more than 7 minutes since the power was switched on, adjust to the setting of 5.8 – 7.4 mV.

Here is a reference table for the adjustment values.

Time since power switched on	Idling current adjustment
30 second	1.3 – 1.8 mV
1 minute	2.7 – 3.5 mV
1 – 2 minutes	3.9 – 4.2 mV
2 – 4 minutes	4.8 – 6.4 mV
4 – 7 minutes	5.7 – 7.3 mV
More than 7 minutes	5.8 – 7.4 mV

### 2. Main amp DC offset adjustment

- 1) With the power OFF, connect a digital voltmeter, set for the DC range, to the speaker terminal.
- 2) After the above, adjust the idling current as follows:  
Turn the power ON and adjust RN63 (Lch), RN64 (Rch), RN70 (Center ch) so that the output is  $\pm 40$  mV.

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Measurement	Resonance Frequency	Adjustment Point	Adjustment Method
1	Signal generator output to speaker terminal (T1)	50 MHz	500 Hz (10 dB), 1 MHz (10 dB), 50 kHz (20 dB), 100 kHz (20 dB)	100 kHz (20 dB)	100%	Distortion wave minimum
2	Signal generator output to speaker terminal (T1)	50 MHz	1000 V (10 dB)	100 kHz (20 dB)	100%	Output level

## 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, KS, KK) 1000 kHz (USA)	Level 300 $\mu$ V/m (50dB/m) Mod. 400 Hz 30%	Tuning point	LA06	Output level (L or R) <b>Maximum</b> 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 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, KS, KK) 600 kHz (USA)	Level 300 - 400 $\mu$ V/m Mod. 400 Hz 30%	603 kHz (K, KS, KK) 600 kHz (USA)	LA01	Output level (L or R) <b>Maximum</b> at TAPE-OUT
2		1404 kHz (K, KS, KK) 1400 kHz (USA)	Level 300 - 400 $\mu$ V/m Mod. 400 Hz 30%	1404 kHz (K, KS, KK) 1400 kHz (USA)	CA01	Output level (L or R) <b>Maximum</b> at TAPE-OUT
3	Repeat step 1 and 2 until sensitivity be maximized.					

### 3. 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, KS, KK) 1000 kHz (USA)	500 $\mu$ V/m (54 dB/m)	999 kHz (K, KS, KK) 1000 kHz (USA)	RA11	"TUNED" indicate on FLD
2			1000 $\mu$ V/m (60 dB/m)	AUTO SCAN	Only Confirm	"TUNED" indicate on FLD

**REMARK:** This adjustment is related to the FM muting Level Adjustment. The FM muting Level re-adjustment is necessary after this adjustment.

### 4. 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 $\Omega$ )	98 MHz	500 $\mu$ V (54 dB) MONO 1 kHz / Dev.40kHz 53.3% (K,KS,KK) MONO 1kHz / Dev. 75kHz 100% (USA)	98 MHz (P2)	L201	Distortion level <b>Minimum</b> at TAPE-OUT



### 5. 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	10 μV (20 dB) MONO 1 kHz / Dev.40kHz 53.3% (K,KS,KK) MONO 1kHz / Dev. 75kHz 100% (USA)	98 MHz (P2)	R212	"TUNED" indicate on FLD
2			Over mentioned level +3 dB	AUTO SCAN	Only Confirm	"TUNED" indicate on FLD

**REMARK:** This adjustment is related to the AM auto stop Adjustment. This adjustment is necessary after AM auto stop adjustment.

### 6. 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	500 μV (54 dB) L or R 1kHz / Dev. 40kHz 53.3% PILOT 19kHz / Dev. 6kHz 8% (K, KS, KK)	98 MHz (P2)	IF COIL in FRONT END	Distortion level <b>Minimum</b> at TAPE-OUT
2			L or R 1kHz / Dev. 67.5kHz 90% PILOT 19kHz / Dev. 6.75kHz 9% (USA)		R218	Distortion level <b>Minimum</b> at TAPE-OUT

**REMARK:** Adjustment with R128 is not necessary when the distortion level is less than 0.5% with adjusting IF coil.

### 7. 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	same specification as <b>FM STEREO distortion</b> <b>adjustment.</b> Input only L channel.	98 MHz (P2)	R211	Output level <b>Minimum</b> at TAPE-OUT channel R
2		98 MHz	same specification as <b>FM STEREO distortion</b> <b>adjustment.</b> Input only R channel.	98 MHz (P2)	R211	Output level <b>Similar</b> as Rch at TAPE-OUT channel L

### 8. On Screen Display VCO Adjustment

Step	Input Signal Source and Connection	Measuring position	Measuring equipment	Input selector	Adjustment Point	Adjustment Value
1	Color bar or other standard video signal. Video signal generator output to LD video input.	IC QX60 26pin and GND.	DC voltmeter (Impedance > 10k Ω/V)	LD	CX67	2.5V ±0.1V

**REMARK:** Connect the TV monitor to the monitor output terminal of the product.

## 9. TECHNICAL DESCRIPTION

This product is a "Dolby Digital (AC-3)" decoder. By connecting this product with a Dolby digital compatible component such as a LD player with AC-3 RF output, DVD player or DBS tuner, it will be capable of 5.1 CH (Front L/R, Rear L/R, Center and Sub-woofer) play.

This product is composed approximately of 5 blocks including the AC-3 decoder block (P604), DAC & crossover block (PD04), power supply block (P804), volume control block (PV04) and front key input block (PU04).

### Signal path

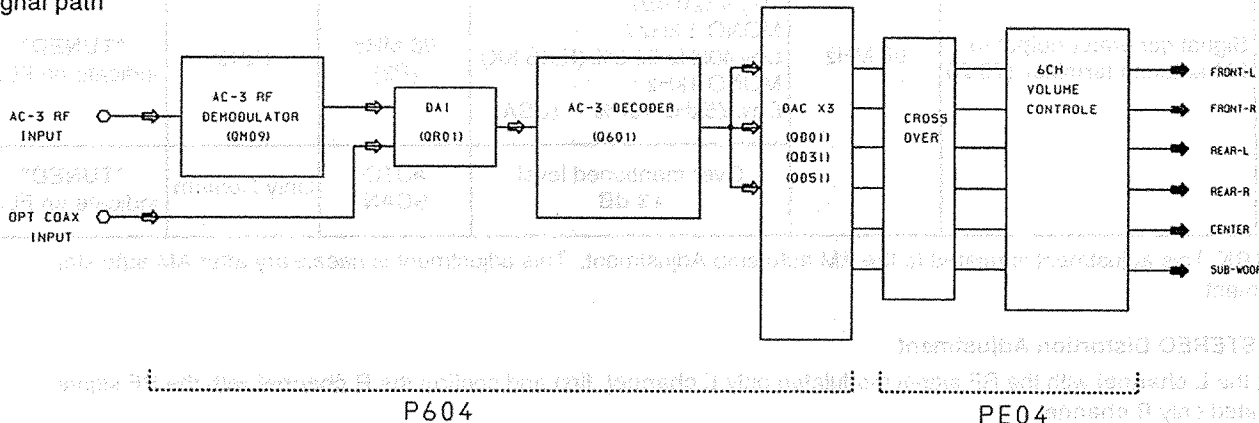


Figure 1

## 10. SIGNAL AND CIRCUIT DESCRIPTION

### AC-3 RF

This signal is based on the Dolby Digital format for Laser Discs, and contains the AC-3 signal inserted in one of the analog audio channels of LD. See diagram below (Figure 2).

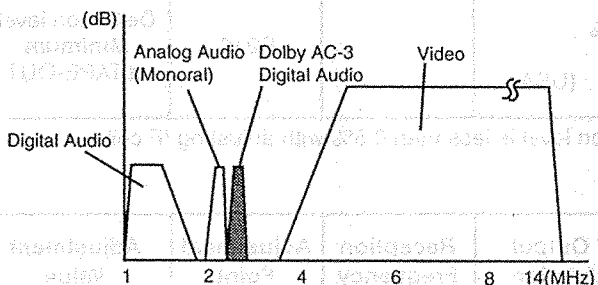


Figure 2

This signal is supplied from LD player with AC-3 RF output.

### OPT/COAX (AC-3/PCM input)

This signal is based on an additional format for transmitting the AC-3 data through the conventional digital audio interface (SPDIF). This SPDIF contains the compressed data for AC-3, instead of PCM Audio data. Similarly to the case of ROM data, whether the data is audio or non-audio is identified according to the status in the signal. This signal can be output from a DVD player, etc.

### AC-3 RF modulator

This circuit extracts the AC-3 data band from the RF signal output from a LD player using a BPF and converts the extracted data into the digital signal in the SPDIF format by means of QPSK modulation.

### DAI (Digital Audio Interface) receiver

This circuit extracts various clock and data signals from the signal input in the SPDIF format.

### AC-3 decoder DSP

This circuit generates the 6-channel data (Front L/R, Rear L/R, Center and LFE) based on the data output from the DAI, and outputs the 6-channel data to the DAC as 3 sets of 2-channel data.

### Crossover

This circuit consists of 100Hz HPF for each channel, 100Hz LPF for sub-woofer channel, and mixing for sub-woofer output.

Depending on the speaker mode setting, combination of these circuit will be changed.

*these circuit combinations will change.*

# 11. 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

① — Resistance value

Examples ;

① Resistance value

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

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

### CAPACITORS

C\*\*\* : CERAMIC CAP.

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

Examples ;

② Tolerance (Capacity deviation)

±0.25pF 0  
±0.5pF ..... 1  
±5% ..... 5

\* Tolerance of COMMON PARTS handled here are as follows :

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

③ Capacity value

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

C\*\*\* : CERAMIC CAP.

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

Examples ;

④ Capacity value

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

C\*\*\* : 5) ELECTROLY CAP. (  $\text{⏏}$  ), 6) FILM CAP. (  $\text{⏏}$  )

5) EA × × × × × × 10, Electrolytic capacitor  
One-way lead type, Tolerance ±20%

⑤ Working voltage  
⑥ Capacity value

Examples ;

⑤ Capacity value

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

⑥ Working voltage

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

6) DF15 × × × 350 → Plastic film capacitor  
DF15 × × × 310 → One-way type, Mylar ±5% 50V  
DF16 × × × 310 → Plastic film capacitor  
One-way type, Mylar ±10% 50V

⑦ Capacity value

Examples ;

⑦ Capacity value

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

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

2) On the occasion, be confirmed the common parts on the parts list.

3) Refer to "Common Parts List" for the other common parts (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 (0.1 - 10kΩ)

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

Examples ;

\* Resistance value

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

## ABBREVIATION AND MARKS

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

## NOTE ON SAFETY :

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

安全上の注意 :

$\text{⚠}$  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)
CB02		4822 124 41134	PB04-BACK-UP CIRCUIT BOARD	
CB07		4822 122 30043	PB04-CAPACITORS	
CB08		4822 122 30043	ELECT 10μF 63V	EA10606310
▲CB09		4822 122 33276	CER. 0.01μF +80%-20% 50V	DK18103310
CB10		4822 122 33276	CER. 0.01μF +80%-20% 50V	DK18103310
		4822 124 41134	CER. 0.01μF ±20% SPA.KILLER	DK17103840
		4822 124 41134	ELECT 10μF 63V	EA10606310
C***			PB04-CAPACITORS (COMMON) ELECTROLYTIC CAPACITOR ±20% : CB01 CB03 CB05 CB06	
▲RB01		4822 052 10109	PB04-RESISTORS	
RB03		4822 053 10471	10Ω ±5% 1/4W	GG05100140
RB07	U		470Ω ±5% 1W	GA05471010
			2.2MΩ ±10% 1/2W	RC10225820
R***			PB04-RESISTORS (COMMON) CARBON FILM RES. ±5% 1/6W : RB04 RB05 RB08	
DB01			PB04-SEMICONDUCTORS	
DB04		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
DB05		4822 130 81729	ZENER MTZJ33D 33V	HD33301000
DB06		4822 130 80273	ZENER RD8.2JB2 MTZJ8.2C	HD30821000
DB07		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
DB08		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
▲QB01		4822 209 31927	IC PQ05RR1 5V 1A	HC38905320
▲QB02		4822 130 62335	TRS. 2SD2033 E	HT420331E0
▲FB01	U		PB04-MISCELLANEOUS	
▲FB01	KS	4822 070 33152	FUSE 6A 250V	FS10600530
			FUSE 3.15A 250V	FS10315850
▲JB01	U	4822 256 30285	JACK FUSE CLIP	YJ08000170
▲JB01	KS		JACK FUSE CLIP	YJ08000580
▲JB02	U	4822 256 30285	JACK FUSE CLIP	YJ08000170
▲JB02	KS		JACK FUSE CLIP	YJ08000590
▲JB03	U		JACK AC OUTLET 2P	YJ04002040
▲JB03	KS	4822 267 31952	JACK AC OUTLET 2P	YJ04002080
▲LB01	K		MAINS TRANSF. 115 230V	TS14823250
▲LB01	KS	4822 146 10582	MAINS TRANSF.	TS14823240
▲LB01	U		MAINS TRANSF.	TS14823230
▲LB02		4822 280 80773	RELAY VS24MB-NR	LY10240240
CC05			PC04-CROSSOVER	
CC08			CIRCUIT BOARD	
CC09			PC04-CAPACITORS	
CC10		4822 124 21894	ELECT 10μF 16V	EJ10601610
CC11		4822 126 10362	CER. 22pF ±5% 50V	DA15220110
CC14		4822 126 10362	CER. 22pF ±5% 50V	DA15220110
CC15		4822 124 21894	ELECT 10μF 16V	EJ10601610
CC16		4822 126 10362	CER. 22pF ±5% 50V	DA15220110
CC17		4822 126 10362	CER. 22pF ±5% 50V	DA15220110
CC18		4822 122 33639	CER. 0.001μF ±10% 50V	DA16102110
CC23		4822 122 33639	CER. 0.001μF ±10% 50V	DA16102110
CC28		4822 124 21894	ELECT 10μF 16V	EJ10601610

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
CC31		4822 124 21894	ELECT 10μF 16V	EJ10601610
CC38				
CC39		4822 126 10362	CER. 22pF ±5% 50V	DA15220110
CC40		4822 122 33792	CER. 10pF ±5%	DA15100120
CC41		4822 124 21894	ELECT 10μF 16V	EJ10601610
CC42		4822 124 21894	ELECT 10μF 16V	EJ10601610
CC47		4822 124 21894	ELECT 10μF 16V	EJ10601610
CC48		4822 122 33792	CER. 10pF ±5%	DA15100120
CC49		4822 124 21894	ELECT 10μF 16V	EJ10601610
CC55		4822 126 10362	CER. 22pF ±5%	DA15220110
CC56		4822 124 21894	ELECT 10μF 16V	EJ10601610
CC65				
I		4822 122 30043	CER. 0.01μF +80%-20% 50V	DK18103310
CC74				
CC83		4822 122 40617	CER. 0.1μF +80%-20% 50V	DD38104010
CC97		4822 124 21894	ELECT 10μF 16V	EJ10601610
CC98		4822 124 21894	ELECT 10μF 16V	EJ10601610
C***			PC04-CAPACITORS (COMMON) PLASTIC FILM CAPACITOR ±5% 50V : CC01-CC04 CC19-CC22 CC29 CC30 CC43-CC46 CC52-CC54 CC57-CC62	
C***			ELECTROLYTIC CAPACITOR ±20% : CC63 CC64	
R***			PC04-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/6W : RC01-RC99 RH01-RH05 RH07 RH08	
QC01			PC04-SEMICONDUCTORS	
I		4822 209 70044	IC NJM2058D OP AMP	HC10031090
QC05				
QC06		4822 209 83631	IC NJM4558DD	HC10008090
QC07			IC NJU7311L ANALOG SW	HC10123090
QC08		4822 209 83631	IC NJM4558DD OP AMP	HC10008090
QC09		4822 209 70044	IC NJM2058D	HC10031090
QC10		4822 209 32554	IC LC7823N	HC10310030
JC01			PC04-MISCELLANEOUS PLUG 17P	YP06020870
CE01		4822 124 90352	ELECT 10μF 16V	OA10601620
CE02		4822 124 90352	ELECT 10μF 16V	OA10601620
CE03				
I		4822 124 21894	ELECT 10μF 16V	EJ10601610
CE06				
CE07		4822 124 22274	ELECT 4.7μF 50V	OA47505020
CE08		4822 124 22274	ELECT 4.7μF 50V	OA47505020
CE09				
I		4822 124 21899	ELECT 4.7μF 25V	EJ47502510
CE12				
CE13		4822 124 22274	ELECT 4.7μF 50V	OA47505020
CE14		4822 124 22274	ELECT 4.7μF 50V	OA47505020
CE15				
I		4822 124 21899	ELECT 4.7μF 25V	EJ47502510
CE18				
CE19		4822 124 22274	ELECT 4.7μF 50V	OA47505020

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
CE20		4822 124 22274	ELECT 4.7μF 50V	OA47505020				PE0-MISCELLANEOUS	
CE21		4822 124 21899	ELECT 4.7μF 25V	EJ47502510	JV52		4822 267 41009	TERMINAL RCA JACK 2P	YT02020890
I					JV53		4822 265 10681	TERMINAL RCA JACK 6P	YT02060540
CE24					JV54			JACK 30P	YJ06030600
CE25		4822 124 22274	ELECT 4.7μF 50V	OA47505020	LV03	KS	4822 157 70813	CHOKO COIL 47H	LC14733800
CE26		4822 124 22274	ELECT 4.7μF 50V	OA47505020	LV04	K,KS	4822 280 20501	RELAY MR62-24SR 24V	LY20240410
CE27					LV05	K,KS	4822 280 20501	RELAY MR62-24SR 24V	LY20240410
I		4822 124 21899	ELECT 4.7μF 25V	EJ47502510	LV06	K,KS	4822 280 20501	RELAY MR62-24SR 24V	LY20240410
CE30									
CE31		4822 124 22274	ELECT 4.7μF 50V	OA47505020	UE33	KS	4822 157 70813	CHOKO COIL 47μH	LC14733800
CE32		4822 124 22274	ELECT 4.7μF 50V	OA47505020	UE34	KS	4822 157 70813	CHOKO COIL 47μH	LC14733800
CE33		4822 124 21899	ELECT 4.7μF 25V	EJ47502510	UE79	KS	4822 157 70813	CHOKO COIL 47μH	LC14733800
CE34		4822 124 21899	ELECT 4.7μF 25V	EJ47502510				PF04-TONE CIRCUIT BOARD	
CE35		4822 124 21899	ELECT 4.7μF 25V	EJ47502510				PF04-CAPACITORS	
CE36		4822 124 23055	ELECT 22μF 16V	EJ22601610	CF01		4822 124 90352	ELECT 10μF 16V	OA10601620
CE41		4822 124 90352	ELECT 10μF 16V	OA10601620	CF02		4822 124 90352	ELECT 10μF 16V	OA10601620
CE42		4822 124 90352	ELECT 10μF 16V	OA10601620	CF03		4822 124 90352	ELECT 10μF 16V	OA10601620
CE43					CF04		4822 124 23056	ELECT 47μF 16V	EJ47601610
I		4822 124 21894	ELECT 10μF 16V	EJ10601610	CF09		5322 122 32265	CER. 100pF ±5% 50V	DD15101300
CE46					CF10		5322 122 32265	CER. 100pF ±5% 50V	DD15101300
CV89		4822 122 40617	CER. 0.1μF +80%-20% 50V	DD38104010	CF11		5322 122 32265	CER. 100pF ±5% 50V	DD15101300
CV91		4822 122 40617	CER. 0.1μF +80%-20% 50V	DD38104010	CF21		4822 124 41539	ELECT 47μF 16V	OA47601620
CV94		4822 122 30043	CER. 0.01μF +80%-20% 50V	DK18103310	CF22		4822 124 41539	ELECT 47μF 16V	OA47601620
CV96		4822 122 30043	CER. 0.01μF +80%-20% 50V	DK18103310	CF23		4822 124 41539	ELECT 47μF 16V	OA47601620
CV97		4822 122 30043	CER. 0.01μF +80%-20% 50V	DK18103310					
CV98		4822 122 30043	CER. 0.01μF +80%-20% 50V	DK18103310	CF25		4822 124 23055	ELECT 22μF 16V	EJ22601610
			PE04-CAPACITORS (COMMON)		CF26		4822 124 23055	ELECT 22μF 16V	EJ22601610
			HIGH DIELECTRIC CONSTANT		CF27		4822 124 23055	ELECT 22μF 16V	EJ22601610
			CER. CAPACITOR ±10% 50V :		CF28		4822 124 90358	ELECT 22μF 16V	OA22601620
			CV80 - CV85		CF29	K,U	4822 122 31205	CER. 47pF ±5% 50V	DD15470300
			RE04-RESISTORS		CF30	K,U	4822 122 31205	CER. 47pF ±5% 50V	DD15470300
▲ RV89	K,KS	4822 113 90141	220Ω ±2% 1/4W FUSE	NF02221140	CF31	K,U	4822 122 31205	CER. 47pF ±5% 50V	DD15470300
▲ RV90	K,KS	4822 113 90141	220Ω ±2% 1/4W FUSE	NF02221140	CF32		4822 122 31205	CER. 47pF ±5% 50V	DD15470300
▲ RV91	K,KS	4822 113 90141	220Ω ±2% 1/4W FUSE	NF02221140	CF40		4822 124 90354	ELECT 100μF 16V	OA10701620
			PE04-RESISTORS (COMMON)		CF41		4822 124 90354	ELECT 100μF 16V	OA10701620
			CARBON FILM FIXED RES.						
			±5% 1/6W : RE01- RE66		CF43		4822 122 40588	CER. 0.022μF ±20%	DA17223110
			RE73 -RE76 RV69 -RV88		CF48				
			(RV92 RV93 [K KS]) RV95					PF04-CAPACITORS (COMMON)	
			PE04-SEMICONDUCTORS					HIGH DIELECTRIC CONSTANT	
DV01	K,KS	4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000				CER. CAPACITOR ±10% 50V :	
			30V 0.1A					CF05-CF07 (CF29 CF30 CF31	
DV02	K,KS	4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000				[KS])	
			30V 0.1A					PLASTIC FILM CAPACITOR	
DV03	K,KS	4822 130 32362	DIODE 1SS176 MA165 1SS254	HD20002000				±5% 50V : CF13-CF20	
			30V 0.1A						
QE01		4822 209 83631	IC NJM4558DD	HC10008090	RF41			PF04-RESISTORS	
QE02		4822 209 83631	IC NJM4558DD	HC10008090	RF42			VARIABLE 100kΩ B x 4	RG01040150
QE03		4822 209 83631	IC NJM4558DD	HC10008090	RF43		4822 100 12007	VARIABLE 100kΩ B x 4	RG01040150
QE04		4822 209 31575	IC TC9213P	HC10304050				VARIABLE 100kΩ W	RK01040620
QE05		4822 209 31575	IC TC9213P	HC10304050					
QE06		4822 209 31575	IC TC9213P	HC10304050				PF04-RESISTORS (COMMON)	
QE07								PF04-CARBON FILM FIXED	
I		4822 209 83631	IC NJM4558DD	HC10008090				RES. ±5% 1/6W : RF01-RF11	
QE12								RF13-RF15 RF17-RF24	
								RF29-RF32 RF45 RF46	
								RF81-RF84	
QV51								PF04-SEMICONDUCTORS	
I		4822 130 43818	TRS. 2SC2878 A B	HT328782A0	QF01		4822 209 70044	IC NJM2058D OP AMP	HC10031090
QV56					QF02		4822 209 83631	IC NJM4558DD	HC10008090
QV57	K,KS		TRS. 2SC2120	HT321201A0	QF03		4822 209 83631	IC NJM4558DD	HC10008090
QV60		4822 130 43818	TRS. 2SC2878 A B	HT328782A0					

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
			PL04-VIDEO SELECTOER CIRCUIT BOARD PL04-CAPACITORS	
CL01		4822 124 23055	ELECT 22 $\mu$ F 10V	EJ22601010
CL02		4822 124 21894	ELECT 10 $\mu$ F 16V	EJ10601610
CL03		4822 124 23055	ELECT 22 $\mu$ F 10V	EJ22601010
CL04		4822 124 21894	ELECT 10 $\mu$ F 16V	EJ10601610
CL05		4822 124 23055	ELECT 22 $\mu$ F 10V	EJ22601010
CL06		4822 124 21894	ELECT 10 $\mu$ F 16V	EJ10601610
CL07		4822 124 23055	ELECT 22 $\mu$ F 10V	EJ22601010
CL08		4822 124 21894	ELECT 10 $\mu$ F 16V	EJ10601610
CL14	K,U	4822 122 40617	CER. 0.1 $\mu$ F +80%-20%	DD38104010
CL14	KS	4822 122 30043	CER. 0.01 $\mu$ F +80%-20%	DK18103310
CL15		4822 122 40617	CER. 0.1 $\mu$ F +80%-20%	DD38104010
CL16		4822 122 30043	CER. 0.01 $\mu$ F +80%-20%	DK18103310
CL17		4822 122 30043	CER. 0.01 $\mu$ F +80%-20%	DK18103310
CX45		4822 122 40617	CER. 0.1 $\mu$ F +80%-20% 50V	DD38104010
CX49		4822 124 23112	ELECT 10 $\mu$ F 16V	EQ10601630
CX52		4822 122 30043	CER. 0.01 $\mu$ F +80%-20% 50V	DK18103310
CX54		4822 122 30043	CER. 0.01 $\mu$ F +80%-20% 50V	DK18103310
CX55		5322 122 32143	CER. 22pF $\pm$ 5% 50V	DD15220300
CX56		5322 122 32143	CER. 22pF $\pm$ 5% 50V	DD15220300
CX57	K,K,S	5322 122 32143	CER. 22pF $\pm$ 5% 50V	DD15220300
CX58	K,K,S	5322 122 32143	CER. 22pF $\pm$ 5% 50V	DD15220300
CX59		4822 124 23054	ELECT 0.47 $\mu$ F 50V	EJ47405010
CX60		4822 122 32027	CER. 56pF $\pm$ 5% 50V	DD15560300
CX61		4822 124 23053	ELECT 1 $\mu$ F 50V	EJ10505010
CX63		4822 124 23053	ELECT 1 $\mu$ F 50V	EJ10505010
CX66		4822 122 31205	CER. 47pF $\pm$ 5% 50V	DD15470300
CX67		4822 125 50384	TRIM. 20pF	CT12000200
CX68		4822 124 23053	ELECT 1 $\mu$ F 50V	EJ10505010
CX70		4822 124 21899	ELECT 4.7 $\mu$ F 25V	EJ47502510
CX71		4822 122 30043	CER. 0.01 $\mu$ F +80%-20% 50V	DK18103310
CX77		4822 124 21894	ELECT 10 $\mu$ F 16V	EJ10601610
C***			PL04-CAPACITORS (COMMON) HIGH DIELECTRIC CONSTANT CERAMIC CAPACITOR $\pm$ 10% 50V : CX62	
C***			PLASTIC FILM CAPACITOR $\pm$ 5% 50V : CX64 CX65	
C***			ELECTROLYTIC CAPACITOR $\pm$ 20% : CL18 CL19 CX50 CX51 CX53 CX69 CX73	
RL09		4822 111 41355	PL04-RESISTORS 75 $\Omega$ $\pm$ 5% 1/6W	GD05750160
RL10		4822 111 41355	75 $\Omega$ $\pm$ 5% 1/6W	GD05750160
R***			PL04-RESISTORS (COMMON) CARBON FILM FIXED RES. $\pm$ 5% 1/6W : RL01-RL08 RL11 RX51-RX53 (RX54[K KS]) RX55-RX57 RX59-RX62 RX65 RX66 RX68-RX72	
DL01			PL04-SEMICONDUCTORS	
DL10		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
DX61		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
QL01		4822 209 31538	IC LC7824 ANALOG SW	HC10275030
QL03		4822 209 32513	IC MC14576	HC10046170
QX60		4822 209 12668	IC LC74760	HC10328030
QX61		4822 130 42298	TRS. 2SC536SP 2SC2458 2SC3311 2SC1740S	HT30001000
QX62		4822 130 42594	DIG. TRS. DTC144ES UN4213 IC NJM2265	BA20002000
QX63				HC10187090
QX64		4822 130 42298	TRS. 2SC536SP 2SC2458 2SC3311 2SC1740S	HT30001000
JL01		4822 265 10676	PL04-MISCELLANEOUS TERMINAL RCA JACK 4P	YT02041130
JL02			TERMINAL RCA JACK 2P	YT02021440
JL03			PLUG 14P	YP06020640
LX51		4822 157 62909	CHOKO COIL 22 $\mu$ H	LC12233800
LX52		4822 157 63312	CHOKO COIL 5.6 $\mu$ H	LC15623800
LX53		4822 242 73843	EMI FILTER DSS306-91	FM12223010
XX51		4822 242 80288	CRYSTAL 14.31818MHz	JX14001260
XX52	K,KS	4822 242 73904	CRYSTAL 17.7MHz	JX17001260
CL91		4822 124 21894	PL94-AUX IN CIRCUIT BOARD PL94-CAPACITORS ELECT 10 $\mu$ F 16V	EJ10601610
CL92		4822 124 23055	ELECT 22 $\mu$ F 10V	EJ22601010
CL93		4822 122 40617	CER. 0.1 $\mu$ F +80%-20% 50V	DD38104010
CL94		4822 122 40617	CER. 0.1 $\mu$ F +80%-20% 50V	DD38104010
CL95		4822 122 40617	CER. 0.1 $\mu$ F +80%-20% 50V	DD38104010
CS91		4822 124 21894	ELECT 10 $\mu$ F 16V	EJ10601610
CS92		4822 124 21894	ELECT 10 $\mu$ F 16V	EJ10601610
C***			PL94-CAPACITORS (COMMON) HIGH DIELECTRIC CONSTANT CER. CAPACITOR $\pm$ 10% 50V : CL88 CL89 (CL97 CL98 KS))	
RL92		4822 111 41355	PL94-RESISTORS 75 $\Omega$ $\pm$ 5% 1/6W	GD05750160
R***			PL94-RESISTORS (COMMON) CARBON FILM FIXED RES. $\pm$ 5% 1/6W : RL91	
QS91		4822 209 83631	PL94-SEMICONDUCTORS IC NJM4558DD	HC10008090
CP03		4822 124 80542	PP04-SURROUND AMP CIRCUIT BOARD PP04-CAPACITORS ELECT 10 $\mu$ F 63V	EQ10606390
CP04		4822 124 80542	ELECT 10 $\mu$ F 63V	EQ10606390
CP07		4822 122 32185	CER. 10pF $\pm$ 1% 50V	DD11100300
CP08		4822 122 32185	CER. 10pF $\pm$ 1% 50V	DD11100300
CP09				
I		4822 124 21895	ELECT 0.22 $\mu$ F 50V	EJ22405010
CP12				
CP13		4822 124 23626	ELECT 100 $\mu$ F 63V	EA10706310
CP14		4822 124 41134	ELECT 10 $\mu$ F 63V	EA10606310
CP15		4822 124 23626	ELECT 100 $\mu$ F 63V	EA10706310
CP16		4822 124 41134	ELECT 10 $\mu$ F 63V	EA10606310
CP17		4822 124 23055	ELECT 22 $\mu$ F 10V	EJ22601010
CP21	KS	4822 122 31205	CER. 47pF $\pm$ 5% 50V	DD15470300
CP22	KS	4822 122 31205	CER. 47pF $\pm$ 5% 50V	DD15470300



POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)
C***			PP04-CAPACITORS (COMMON) HIGH DIELECTRIC CONSTANT CER. CAPACITOR $\pm 10\%$ 50V : CP01 CP02	
C***			ELECTROLYTIC CAPACITOR $\pm 20\%$ : CP05 CP06	
RP09		4822 116 82231	PP04-RESISTORS 51k $\Omega$ $\pm 5\%$ 1/6W	GD05513160
RP10		4822 116 82231	51k $\Omega$ $\pm 5\%$ 1/6W	GD05513160
RP11		4822 113 80363	0.22 $\Omega$ $\pm 10\%$ 3W	GO10222030
RP12		4822 113 80363	0.22 $\Omega$ $\pm 10\%$ 3W	GO10222030
RP13		4822 052 10102	1k $\Omega$ $\pm 5\%$ 1/6W	GG05102160
RP14		4822 052 10102	1k $\Omega$ $\pm 5\%$ 1/6W	GG05102160
RP21		4822 053 10109	10 $\Omega$ $\pm 5\%$ 1W	GA05100010
RP22		4822 053 10109	10 $\Omega$ $\pm 5\%$ 1W	GA05100010
RP25		4822 052 10101	100 $\Omega$ $\pm 5\%$ 1/6W	GG05101160
RP26		4822 052 10101	100 $\Omega$ $\pm 5\%$ 1/6W	GG05101160
RP99		4822 052 10109	10 $\Omega$ $\pm 5\%$ 1/4W	GG05101140
R***			PP04-RESISTORS (COMMON) CARBON FILM FIXED RES. $\pm 5\%$ 1/6W : RP01-RP08 RP15-RP20 RP23 RP24 RP27-RP29	
DP01		4822 130 80837	PP04-SEMICONDUCTORS DIODE HSS81TD	HD20027010
DP02		4822 130 80837	DIODE HSS81TD	HD20027010
▲QP01		4822 209 32696	IC STK401-110	HC10312030
QP02		4822 130 43233	TRS. 2SC2240 GR BL	HT322402A0
QP03		4822 130 43233	TRS. 2SC2240 GR BL	HT322402A0
QP04		4822 130 42949	TRS. 2SA970 GR BL	HT109702A0
LP01		4822 157 70022	PP04-MISCELLANEOUS AIR COIL SPK CHOCK	ML08010030
LP02		4822 157 70022	AIR COIL SPK CHOCK	ML08010030
SP91	K	4822 277 21825	PP94-VOLTAGE SELECT SW CIRCUIT BOARD K ONLY SLIDE SW	SS02021510
CS01	I	4822 124 23056	PS04-AUDIO FUNCTION CIRCUIT BOARD PS04-CAPACITORS ELECT 47 $\mu$ F 16V	EJ47601610
CS04		4822 124 21899	ELECT 4.7 $\mu$ F 25V	EJ47502510
CS11		4822 124 21899	ELECT 4.7 $\mu$ F 25V	EJ47502510
CS12		4822 124 21899	ELECT 4.7 $\mu$ F 25V	EJ47502510
CS15		4822 124 21899	ELECT 4.7 $\mu$ F 25V	EJ47502510
CS16		4822 124 21899	ELECT 4.7 $\mu$ F 25V	EJ47502510
CS17		4822 124 21894	ELECT 10 $\mu$ F 16V	EJ10601610
CS18		4822 124 21894	ELECT 10 $\mu$ F 16V	EJ10601610
CS19		4822 122 40617	CER. 0.1 $\mu$ F +80%-20% 50V	DD38104010
CS21		4822 122 40617	CER. 0.1 $\mu$ F +80%-20% 50V	DD38104010
C***			PS04-CAPACITORS (COMMON) HIGH DIELECTRIC CONSTANT CER. CAPACITOR $\pm 10\%$ 50V : CS23-CS28 CS33-CS36	
C***			ELECTROLYTIC CAPACITOR $\pm 20\%$ : CS09 CS10 CS13 CS14	

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)
R***			PS04-RESISTORS (COMMON) CARBON FILM FIXED RES. $\pm 5\%$ 1/6W : RS01-RS04 RS07-RS10 RS13-RS16 RS19-RS22 RS29-RS33 RS43-RS46	
QS01		4822 209 83631	PS04-SEMICONDUCTORS IC NJM4558DD	HC10008090
QS02		4822 209 83631	IC NJM4558DD	HC10008090
QS11		4822 209 32552	IC LC78211	HC10308030
QS13		4822 209 83631	IC NJM4558DD	HC10008090
JS01		4822 265 10748	PS04-MISCELLANEOUS TERMINAL 6P RCA JACK PLUG 14P	YT02060460
JS03				YP06020840
CS51	I	4822 124 41539	PS54-V-AUDIO FUNCTION CIRCUIT BOARD PS54-CAPACITORS ELECT 47 $\mu$ F 16V	OA47601620
CS58		4822 124 21899	ELECT 4.7 $\mu$ F 25V	EJ47502510
CS59		4822 124 21899	ELECT 4.7 $\mu$ F 25V	EJ47502510
CS60		4822 122 40617	CER. 0.1 $\mu$ F +80%-20% 50V	DD38104010
CS61		4822 122 40617	CER. 0.1 $\mu$ F +80%-20% 50V	DD38104010
CS68		4822 122 40617	CER. 0.1 $\mu$ F +80%-20% 50V	DD38104010
CS69		4822 124 23056	ELECT 47 $\mu$ F 16V	EJ47601610
CS93		4822 124 23056	ELECT 47 $\mu$ F 16V	EJ47601610
CS94		4822 124 23056	ELECT 47 $\mu$ F 16V	EJ47601610
C***			PS54-CAPACITORS (COMMON) HIGH DIELECTRIC CONSTANT CER. CAPACITOR $\pm 10\%$ 50V : CS71-CS78 CS81-CS90	
C***			ELECTROLYTIC CAPACITOR $\pm 20\%$ : CS65 CS66	
R***			PS54-RESISTORS (COMMON) CARBON FILM FIXED RES. $\pm 5\%$ 1/6W : RS51-RS78 RS85 RS91-RS94	
QS51	I	4822 209 83631	PS54-SEMICONDUCTORS IC NJM4558DD	HC10008090
QS54		4822 209 32552	IC LC78211	HC10308030
QS56		4822 209 32552	IC LC78211	HC10308030
JS51		4822 265 10748	PS54-MISCELLANEOUS TERMINAL RCA JACK 6P	YT02060460
JS52		4822 267 31823	TERMINAL RCA JACK 4P	YT02040940
JS53			PLUG 14P	YP06020840
CU01		4822 122 40588	PU04-FRONT CIRCUIT BOARD PS04-CAPACITORS CER. 0.022 $\mu$ F $\pm 20\%$ 25V	DA17223110
CU02		4822 124 23056	ELECT 47 $\mu$ F 10V	EJ47601010
CU03		4822 124 80087	ELECT 220 $\mu$ F 6.3V	EJ22700610
CU04		4822 122 40588	CER. 0.022 $\mu$ F $\pm 20\%$ 25V	DA17223110
CU05		4822 126 11558	CER. 0.1 $\mu$ F $\pm 20\%$ 50V	DA17104110
CU07		4822 124 90406	BIG ELECT 0.022F	EX22300530
CU10		4822 122 40588	CER. 0.022 $\mu$ F $\pm 20\%$ 50V	DA17223110
CU13		4822 122 40617	CER. 0.1 $\mu$ F +80%-20% 50V	DD38104010
CU14	KS	4822 122 30043	CER. 0.01 $\mu$ F +80%-20% 50V	DK18103310
CU20		4822 122 30043	CER. 0.01 $\mu$ F +80%-20% 50V	DK18103310

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POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)
RU55		4822 117 10158	PU04-RESISTORS 1Ω ±5% 1/4W	GG05010140
<b>R***</b>			PU04-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/6W : RU01-RU21 RU23 RU26-RU31 RU34-RU38 RU40-RU42 RU44-RU54 RU56	
DU01	K,KS	4822 130 80589	PU04-SEMICONDUCTORS DIODE 1SS132	HD20029210
DU07		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
DU09		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
DU18		4822 130 80326	L.E.D. LT3D8B RED	HI10062320
QU01			μ-PRO TMP87CP71F	HU287JT000
QU02		4822 130 61227	DIG.TRS. DTA114ES	BA10007210
QU04		4822 130 42594	DIG.TRS. DTC144ES	BA20012210
QU07		4822 130 60588	DIG.TRS. DTC114ES UN4211	BA20001000
QU08		4822 130 42594	DIG.TRS. DTC144ES	BA20012210
QU09		4822 130 42594	DIG.TRS. DTC144ES	BA20012210
QU10		4822 130 42682	DIG.TRS. DTA144ES UN4113	BA10002000
QU11		4822 130 63211	DIG.TRS. DTA114TS	BA10003210
QU12		4822 130 61227	DIG.TRS. DTA114ES	BA10007210
QU14		4822 130 42682	DIG.TRS. DTA144ES UN4113	BA10002000
QU15		4822 130 42594	DIG.TRS. DTC144ES	BA20012210
QU16		4822 130 83519	IR RECIVER PRM-670CBR	HW10001210
QU17		4822 130 61227	DIG.TRS. DTA114ES	BA10007210
QU18		4822 209 14612	IC 74HC541 DIP	HC754100B0
JU01			PU04-MISCELLANEOUS JACK 23P	YJ07011160
JU03			JACK 4P	YJ06030640
SU01		4822 276 20508	PUSH SW TACT	SP01011280
SU17		4822 276 20508	PUSH SW TACT	SP01011280
SU19		4822 276 20508	PUSH SW TACT	SP01011280
SU25		4822 276 20508	PUSH SW TACT	SP01011280
SU27		4822 276 20508	PUSH SW TACT	SP01011280
VU01			DISPLAY UNIT FIP12FM8R	HQ31211060
XU01		4822 242 72066	CER. RESONATOR 8.00MHZ	FQ08004010
CU71		4822 126 10364	PU54-MASTER VOL CIRCUIT BOARD	DA16101110
CU72		4822 126 10364	PU54-CAPACITORS CER. 100pF ±10% 50V	DA16101110
<b>R***</b>			PU54-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/6W :RU71-RU74	
QU71		4822 130 42298	PU54-SEMICONDUCTORS TRS. 2SC536SP 2SC2458	HT30001000
QU72		4822 130 42298	2SC3311 2SC1740S	HT30001000

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)
JU71			PU54-MISCELLANEOUS PLUG 4P	YP06020740
SU75		4822 273 10296	ROTARY SW ENCODER	SR02010040
SU91	K,KS	4822 276 12217	PU94-POWER SW CIRCUIT BOARD	SP02011570
SU91	U	4822 276 12512	PU94-MISCELLANEOUS PUSH SW	SP02011670
CW01	KS	4822 122 30043	PW04-H.P. CIRCUIT BOARD PW04-CAPACITORS	DK18103310
CW02	KS	4822 122 30043	CER. 0.01μF +80%-20%	DK18103310
CW03	KS	4822 122 30043	CER. 0.01μF +80%-20%	DK18103310
JW01	BLACK	4822 265 10685	PW04-MISCELLANEOUS JACK HEADPHONE	YJ01004240
JW01	GOLD		JACK HEADPHONE	YJ01004330
CY02		4822 122 40617	PY04-CONNECT CIRCUIT BOARD	DD38104010
CY04		4822 122 40617	PY04-CAPACITORS CER. 0.1μF +80%-20% 50V	DD38104010
CY06	U	4822 122 31205	CER. 0.1μF +80%-20% 50V	DD15470300
CY13		4822 122 30043	CER. 0.01μF +80%-20% 50V	DK18103310
CY16		4822 122 32027	CER. 56pF ±5% 50V	DD15560300
CY17		4822 122 32027	CER. 56pF ±5% 50V	DD15560300
<b>C***</b>			PY04-CAPACITORS (COMMON) HIGH DIELECTRIC CONSTANT CER. CAPACITOR ±10% 50V : CY15	
<b>R***</b>			PY04-RESISTORS (COMMON) CARBON FILM FIXED RES. ±5% 1/6W : RY01-RY10 RY12-RY15 RY22 RY23 RY25-RY32	
DY01		4822 130 32362	PY04-SEMICONDUCTORS DIODE 1SS176 MA165 1SS254	HD20002000
DY08		4822 130 82421	30V 0.1A	HD20002710
DY09		4822 130 82421	DIODE 1D3 1A 200V	HD20002000
DY10		4822 130 32362	DIODE 1SS176 MA165	HD20002000
DY11		4822 130 32362	1SS254 30V 0.1A DIODE 1SS176 MA165 1SS254	HD20002000
QY01		4822 130 61227	DIG.TRS. DTA114ESUN411	BA10001000
QY02		4822 130 42594	DIG.TRS. DTC144ES UN4213	BA20002000
QY03		4822 130 61227	DIG.TRS. DTA114ES UN411	BA10001000
QY04		4822 130 42594	DIG.TRS. DTC144ES UN4213	BA20002000
QY05		4822 130 61227	DIG.TRS. DTA114ES UN411	BA10001000
QY06		4822 130 42594	DIG.TRS. DTC144ES UN4213	BA20002000
QY07		4822 130 61227	DIG.TRS. DTA114ES UN411	BA10001000
QY08		4822 130 42594	DIG.TRS. DTC144ES UN4213	BA20002000
QY10		4822 209 33024	DIG.TRS. DTA114ES UN411	HC10370050
QY11		4822 209 61704	DIG.TRS. DTC144ES UN4213 IC TC9173P IC TC9174P	HC10250050
JY01			PY04-MISCELLANEOUS JACK 14P	YJ06030140
JY02			JACK 14P	YJ06030740
JY03			JACK 14P	YJ06030740





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POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
L201		4822 157 63904	I.F.T.COIL FM DET	LI70376010
L301		4822 157 71731	M.P.X. COIL 19.38kHz	LS10293020
L302		4822 157 71731	M.P.X. COIL 19.38kHz	LS10293020
L501				
I				
L504		4822 157 70813	CHOKO COIL 47μH	LC14733800
S301	K	4822 277 21712	SLIDE SW	SS02021470
X201		4822 242 81608	CER. RESONATOR CSB456F33	FQ04563040
X501		4822 242 72333	CRYSTAL 7.2MHz	JX07001260
			P604-AC-3 DSP	
			CIRCUIT BOARD	
			P604-CAPACITORS	
CD01		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD02		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD04		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD05		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD06		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD09		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD10		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD11		4822 121 70685	FILM 120pF ±5% 100V	DF15121550
CD12		4822 121 70685	FILM 120pF ±5% 100V	DF15121550
CD13		4822 122 32336	FILM 560pF ±5% 50V	DF15561350
CD14		4822 122 32336	FILM 560pF ±5% 50V	DF15561350
CD15		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD16		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD17		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD18		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD31		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD32		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD34		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD35		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD36		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD39		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD40		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD41		4822 121 70685	FILM 120pF ±5% 100V	DF15121550
CD42		4822 121 70685	FILM 120pF ±5% 100V	DF15121550
CD43		4822 122 32336	FILM 560pF ±5% 50V	DF15561350
CD44		4822 122 32336	FILM 560pF ±5% 50V	DF15561350
CD45		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD46		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD47		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD48		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD51		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD52		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD54		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD55		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD56		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD59		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD60		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD61		4822 121 70685	FILM 120pF ±5% 100V	DF15121550
CD62		4822 121 70685	FILM 120pF ±5% 100V	DF15121550
CD63		4822 122 32336	FILM 560pF ±5% 50V	DF15561350
CD64		4822 122 32336	FILM 560pF ±5%	DF15561350
CD65		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD66		4822 124 21894	ELECT 10μF 16V	EJ10601610
CD67		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CD68		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CK01		4822 124 21894	ELECT 10μF 16V	EJ10601610
CK02		4822 124 21894	ELECT 10μF 16V	EJ10601610
CK03		4822 124 21894	ELECT 10μF 16V	EJ10601610

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
CK04		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CK05		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CK06		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CK09		4822 126 12495	CER. 1500pF ±10%	DK96152300
CK10		4822 126 12495	CER. 1500pF ±10%	DK96152300
CK11		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CK12		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CK13		4822 124 21894	ELECT 10F 16V	EJ10601610
CK14		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CK16		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CK18		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM01		4822 126 11567	CER. 0.022μF ±10% 16V	DK96223200
CM03		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM05		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM06		5322 126 11578	CER. 1000pF ±10% 50V	DK96102300
CM11		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM13		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM14		4822 122 33753	CER. 150pF ±5% 50V	DD95151300
CM15		4822 122 33753	CER. 150pF ±5% 50V	DD95151300
CM18		4822 126 13837	CER. 0.1μF ±20% 10V	DK96104200
CM19			CER. 0.01μF ±10% 50V	DK96103300
CM34		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM36		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM37		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM39			ELECT 47μF 16V	EQ47601630
CM42			CER. 0.01μF ±10%	DK96103300
CM43			CER. 0.01μF ±10%	DK96103300
CM44		4822 122 33757	CER. 18pF ±5%	DD95180300
CM45		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM46		4822 122 33757	CER. 18pF ±5%	DD95180300
CM51		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM52		4822 122 33744	CER. 100pF ±5%	DD95101300
CM53		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM54		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM56				
I		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CM60				
CM63		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CR01		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CR03		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200
CR04		5322 126 11578	CER. 1000pF ±10% 50V	DK96102300
CR05		4822 122 33744	CER. 100pF ±5% 50V	DD95101300
CR06		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CR09		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CR10		5322 126 11583	CER. 0.01μF ±10% 25V	DK96103200
CR11		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CR13		4822 122 33752	CER. 15pF ±5% 50V	DD95150300
CR14		4822 122 33752	CER. 15pF ±5% 50V	DD95150300
CR15		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
CR16		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
C601		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
C603		4822 126 13837	CER. 0.1μF ±10% 10V	DK96104200
C604		5322 126 11583	CER. 0.01μF ±10% 25V	DK96103200
C605		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
C606		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
C607		4822 122 33744	CER. 100pF 5% 50V	DD95101300
C608		4822 122 33744	CER. 100pF ±5% 50V	DD95101300
C609		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
C610		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
C612		4822 126 11687	CER. 0.1μF +80%-20%	DK98104200
C631		4822 122 33744	CER. 100pF ±5% 50V	DD95101300

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJJ)
C632		4822 126 11687	CER. 0.1 $\mu$ F +80%-20%	DK98104200
C633		4822 126 11687	CER. 0.1 $\mu$ F +80%-20%	DK98104200
C634		4822 122 33744	CER. 100pF $\pm$ 5% 50V	DD95101300
C635				
I		4822 126 11687	CER. 0.1 $\mu$ F +80%-20%	DK98104200
C638				
C651		4822 122 33744	CER. 100pF $\pm$ 5% 50V	DD95101300
C652		4822 126 11566	CER. 2200pF $\pm$ 10% 25V	DK96222300
C653		4822 122 33744	CER. 100pF $\pm$ 5% 50V	DD95101300
C654		4822 126 11687	CER. 0.1 $\mu$ F +80%-20%	DK98104200
C655		4822 126 11687	CER. 0.1 $\mu$ F +80%-20%	DK98104200
C656		4822 126 11687	CER. 0.1 $\mu$ F +80%-20%	DK98104200
C***			P604-CAPACITORS (COMMON) PLASTIC FILM CAPACITOR $\pm$ 5% 50V : CD07 CD08 CD37 CD38 CD57 CD58 CM31 CM32 CM41	
C***			ELECTROLYTIC CAPACITOR $\pm$ 20% : CD03 CD33 CD53 CK15 CK17 CK19 CK20 CM02 CM04 CM33 CM35 CM61 CM62 CR02 CR07 C602 C613	
			P604-RESISTORS CHIP	
RD01		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RD02		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RD03				
I		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RD06				
RD07		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RD08		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RD09		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RD10		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RD31		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RD32		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RD33				
I		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RD36				
RD37		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RD38		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RD39		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RD40		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RD51		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RD52		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RD53		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
I				
RD56				
RD57		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RD58		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RD59		4822 051 30102	1k $\Omega$ $\pm$ 5% 1/16W	NN05102610
RD60		4822 051 30471	470 $\Omega$ $\pm$ 5% 1/16W	NN05471610
RD61		4822 051 30105	1M $\Omega$ $\pm$ 5% 1/16W	NN05105610
RD62		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RD63		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RD64		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RK01		4822 051 30153	15k $\Omega$ $\pm$ 5% 1/16W	NN05153610
RK02		4822 051 30153	15k $\Omega$ $\pm$ 5% 1/16W	NN05153610
RK03		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RK04		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RK05				
I		4822 051 30472	4.7k $\Omega$ $\pm$ 5% 1/16W	NN05472610
RK08				

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJJ)
RK09				
I		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RK12				
RK13				
I		4822 051 30331	330 $\Omega$ $\pm$ 5% 1/16W	NN05331610
RK16				
RM01		4822 051 30561	560 $\Omega$ $\pm$ 5% 1/16W	NN05561610
RM02		4822 051 30101	100 $\Omega$ $\pm$ 5% 1/16W	NN05101610
RM03		4822 051 30102	1k $\Omega$ $\pm$ 5% 1/16W	NN05102610
RM04		4822 116 83211	1.8k $\Omega$ $\pm$ 5% 1/16W	NN05182610
RM05		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RM06		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RM07		4822 051 30472	4.7k $\Omega$ $\pm$ 5% 1/16W	NN05472610
RM08		4822 116 82487	0 $\Omega$ $\pm$ 5% 1/16W	NN05000610
RM10		4822 051 30102	1k $\Omega$ $\pm$ 5% 1/16W	NN05102610
RM11		4822 051 30472	4.7k $\Omega$ $\pm$ 5% 1/16W	NN05472610
RM12		4822 051 30102	1k $\Omega$ $\pm$ 5% 1/16W	NN05102610
RM13		4822 051 30151	150 $\Omega$ $\pm$ 5% 1/16W	NN05151610
RM14		4822 051 30222	2.2k $\Omega$ $\pm$ 5% 1/16W	NN05222610
RM15				
I		4822 051 30102	1k $\Omega$ $\pm$ 5% 1/16W	NN05102610
RM18				
RM19		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RM20		4822 051 30102	1k $\Omega$ $\pm$ 5% 1/16W	NN05102610
RM21		4822 051 30102	1k $\Omega$ $\pm$ 5% 1/16W	NN05102610
RM22		4822 051 30472	4.7k $\Omega$ $\pm$ 5% 1/16W	NN05472610
RM23		4822 051 30102	1k $\Omega$ $\pm$ 5% 1/16W	NN05102610
RM24		4822 051 30332	3.3k $\Omega$ $\pm$ 5% 1/16W	NN05822610
RM25		4822 116 83221	8.2k $\Omega$ $\pm$ 5% 1/16W	NN05822610
RM31		4822 051 30392	3.9k $\Omega$ $\pm$ 5% 1/16W	NN05392610
RM32		4822 051 30472	4.7k $\Omega$ $\pm$ 5% 1/16W	NN05472610
RM33		4822 051 30104	100k $\Omega$ $\pm$ 5% 1/16W	NN05104610
RM34		4822 051 30223	22k $\Omega$ $\pm$ 5% 1/16W	NN05223610
RM35		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RM41		4822 051 30223	22k $\Omega$ $\pm$ 5% 1/16W	NN05223610
RM42		4822 051 30683	68k $\Omega$ $\pm$ 5% 1/16W	NN05683610
RM43		4822 116 83206	120k $\Omega$ $\pm$ 5% 1/16W	NN05121610
RM44		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RM45		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RM46		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RM47		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RM48		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RM49		4822 051 30473	47k $\Omega$ $\pm$ 5% 1/16W	NN05473610
RM50		4822 051 30229	22 $\Omega$ $\pm$ 5% 1/16W	NN05220610
RM61		4822 051 30101	100 $\Omega$ $\pm$ 5% 1/16W	NN05101610
RM62		4822 051 30102	1k $\Omega$ $\pm$ 5% 1/16W	NN05102610
RM63		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RM64		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RM65		4822 116 82487	0 $\Omega$ $\pm$ 5% 1/16W	NN05000610
RM66		4822 116 82487	0 $\Omega$ $\pm$ 5% 1/16W	NN05000610
RR01		4822 051 30759	75 $\Omega$ $\pm$ 5% 1/16W	NN05750610
RR02		4822 051 30759	75 $\Omega$ $\pm$ 5% 1/16W	NN05750610
RR03		4822 051 30759	75 $\Omega$ $\pm$ 5% 1/16W	NN05750610
RR04		4822 116 83216	56k $\Omega$ $\pm$ 5% 1/16W	NN05563610
RR05		4822 051 30334	330k $\Omega$ $\pm$ 5% 1/16W	NN05334610
RR06		4822 116 83216	56k $\Omega$ $\pm$ 5% 1/16W	NN05563610
RR07		4822 051 30333	33k $\Omega$ $\pm$ 5% 1/16W	NN05333610
RR08		4822 051 30101	100 $\Omega$ $\pm$ 5% 1/16W	NN05101610
RR09		4822 051 30103	10k $\Omega$ $\pm$ 5% 1/16W	NN05103610
RR10		4822 116 83208	12k $\Omega$ $\pm$ 5% 1/16W	NN05123610
RR11		4822 116 83208	12k $\Omega$ $\pm$ 5% 1/16W	NN05123610

(VERS.:VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, ...:EUROPE)

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
RR12		4822 116 83215	5.6kΩ ±5% 1/16W	NN05562610
RR13		4822 116 83215	5.6kΩ ±5% 1/16W	NN05562610
RR14		4822 116 83206	120Ω ±5% 1/16W	NN05121610
RR15		4822 051 30224	220kΩ ±5% 1/16W	NN05224610
RR16		4822 116 82487	0Ω ±5% 1/16W	NN05000610
RR17				
I		4822 051 30339	33Ω ±5% 1/16W	NN05330610
RR20				
RR21		4822 116 82487	0Ω ±5% 1/16W	NN05000610
RR23		4822 116 82487	0Ω ±5% 1/16W	NN05000610
RR24		4822 116 82487	0Ω ±5% 1/16W	NN05000610
R601		4822 051 30101	100Ω ±5% 1/16W	NN05101610
R602		4822116 83208	12kΩ ±5% 1/16W	NN05123610
R603		4822116 83219	820Ω ±5% 1/16W	NN05821610
R604		4822 051 30479	47Ω ±5% 1/16W	NN05470610
R605		4822 051 30479	47Ω ±5% 1/16W	NN05470610
R606		4822 051 30479	47Ω ±5% 1/16W	NN05470610
R607		4822 051 30101	100Ω ±5% 1/16W	NN05101610
R608		4822 051 30101	100Ω ±5% 1/16W	NN05101610
R609		4822 051 30479	47Ω ±5% 1/16W	NN05470610
R610		4822 051 30479	47Ω ±5% 1/16W	NN05470610
R611		4822 051 30479	47Ω ±5% 1/16W	NN05470610
R613		4822 051 30479	47Ω ±5% 1/16W	NN05470610
R621		4822 051 30101	100Ω ±5% 1/16W	NN05101610
R631				
I		4822 051 30479	47Ω ±5% 1/16W	NN05470610
R639				
R640		4822 051 30101	100Ω ±5% 1/16W	NN05101610
R651		4822 051 30472	4.7kΩ ±5% 1/16W	NN05472610
R652		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
R653		4822 051 30222	2.2kΩ ±5% 1/16W	NN05222610
R654				
R655		4822 051 30472	4.7kΩ ±5% 1/16W	NN05472610
I		4822 051 30222	2.2kΩ ±5% 1/16W	NN05222610
R658				
R659		4822 116 82487	0Ω ±5% 1/16W	NN05000610
R661		4822 116 82487	0Ω ±5% 1/16W	NN05000610
R693		4822 051 30103	10kΩ ±5% 1/16W	NN05103610
L651				
I		4822 116 82487	0Ω ±5% 1/16W	NN05000610
L659				
L660		4822 051 30221	220Ω ±5% 1/16W	NN05221610
L671				
I		4822 116 82487	0Ω ±5% 1/16W	NN05000610
L676				
DM01		4822 130 10683	P604-SEMICONDUCTORS DIODE CHIP KV1851-TL00	HZ40003420
QD01		4822 209 33812	IC TDA1305T DAC	HC10122490
QD02		4822 209 83357	IC NJM4560M	HC10029090
QD31		4822 209 33812	IC TDA1305T DAC	HC10122490
QD32		4822 209 83357	IC NJM4560M	HC10029090
QD51		4822 209 33812	IC TDA1305T DAC	HC10122490
QD52		4822 209 83357	IC NJM4560M	HC10029090
QD53		4822 130 43818	TRS. 2SC2878 A B	HT328782A0
QD54		4822 130 61227	DIG. TRS. DTA114ES UN4111	BA10001000
QK01		4822 209 14616	IC AK5340	HC10017480
QK02		4822 209 14615	IC NJM2115M	HC10172090
QK03		4822 209 14615	IC NJM2115M	HC10172090
QM01			CHIP TRS. 2SC4081 Q R 2SC4116Y GR	HX300012A0

(VERS.:VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, ...:EUROPE)

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJI)
QM02			CHIP TRS. 2SC4081 Q R 2SC4116Y GR	HX300012A0
QM03			CHIP TRS. 2SC4081 Q R 2SC4116Y GR	HX300012A0
QM04		4822 209 14876	IC MC14577C	HC10065170
QM05			CHIP TRS. 2SC4081 Q R 2SC4116Y GR	HX300012A0
QM06		4822 130 10698	CHIP TRS. 2SA1586 Y GR 2SA1576A Q R	HX100012A0
QM07		4822 130 10698	CHIP TRS. 2SA1586 Y GR 2SA1576A Q R	HX100012A0
QM08		4822 209 83357	IC NJM4560M	HC10029090
QM09			IC PM4007A AC-3 RF	HC10016660
QM10		4822 20914864	IC 8x32k SRAM	HC10076000
QR01		4822 209 14863	IC LC8904Q DIG. AUDIO	HC10372030
QR02		4822 209 30426	IC 74HC00	HC700000Z0
Q601			ICYSS243 AC-3 DECODER	HC10013640
Q602			ICYSS241F PRO LOGIC DECODER	HC10012640
Q603		4822 209 14864	IC 8x32K SRAM	HC10076000
Q604		4822 209 32879	IC TC74HC157A	HC715705Z0
Q605		4822 209 61494	IC 74HC74	HC707400Z0
Q606		4822 209 31423	IC TC7W04F	HC700405W0
Q607		4822 209 62764	IC 74HC164F	HC716400Z0
Q608		4822 209 62764	IC 74HC164F	HC716400Z0
Q609		4822 209 90597	IC TCW125FU	HC10409050
Q651			μ-PRO TMP87CH40F	HU278JT500
Q652		4822 209 14872	IC 74HC541	HC754100R0
Q653		4822 209 30426	IC 74HC00	HC700000Z0
Q654		4822 209 14883	IC S-806C V-SENSOR	HC10075530
JR01		4822 265 10683	P604-MISCELLANEOUS TERMINAL RCA JACK 1P	YT02021400
JR02		4822 218 11487	OPT. RECIVER	YJ15000150
J601			PLUG 14P	YP06020640
LK01		4822 526 10584	FERRITE CORE	FC90090010
LM01			CHIP INDUCTANCE 68μH	LU12683010
LM02		4822 242 10582	L.C. FILTER 2.88MHZ	FF30288010
L601				
I		4822 242 73843	EMI FILTER 0.022μF	FM12223010
L604				
L605		4822 526 10584	FERRITE CORE ZBF503D	FC90090010
L606		4822 242 73843	EMI FILTER 0.022μF	FM12223010
XM01		4822 242 10577	CRYSTAL 18.432MHZ	JX18001380
XR01		4822 242 10578	CRYSTAL 24.5760MHZ	JX24001380
X651		4822 242 80349	CER. RESONATOR 8.0MHZ	FQ08004030
CN04		4822 124 21982	P704-MAIN AMP CIRCUIT BOARD P704-CAPACITORS ELECT 3.3μF 50V	EJ33505010
CN05		4822 122 40617	CER. 0.1μF +80%-20% 50V	DD38104010
CN06		4822 124 23056	ELECT 47μF 16V	EJ47601610
CN07		4822 124 23056	ELECT 47μF 16V	EJ47601610
CN08		4822 124 23053	ELECT 1μF 50V	EJ10505010
CN09		4822 126 10935	ELECT 100μF 10V	EJ10701010
CN10		4822 122 40617	CER. 0.1μF +80%-20% 50V	DD38104010
CN12		4822 122 40617	CER. 0.1μF +80%-20% 50V	DD38104010





(VERS.:VERSION, U:U.S.A., F:JAPAN, K:FAR EAST, ..:EUROPE)

POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)
DN08		4822 130 80837	DIODE HSS81TD	HD20027010
DN09		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
DN51		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
DN52		4822 130 80837	DIODE HSS81TD	HD20027010
D701				
I				
D704		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
D705				
I				
D708		4822 130 80837	DIODE HSS81TD	HD20027010
D709				
I				
D712		4822 130 31554	ZENER MTZJ4.3B	HD30431000
D751		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
D752		4822 130 32362	DIODE 1SS176 MA165 1SS254 30V 0.1A	HD20002000
D753		4822 130 80837	DIODE HSS81TD	HD20027010
D754		4822 130 80837	DIODE HSS81TD	HD20027010
D755		4822 130 31554	ZENER MTZJ4.3B	HD30431000
D756		4822 130 31554	ZENER MTZJ4.3B	HD30431000
▲D801		4822 130 33133	DIODE D5FB20 200V 5A	HE20012290
▲D802		4822 130 31007	DIODE S4VB20	HE20015290
▲D803		4822 130 33057	DIODE S2VB20	HE20011290
▲D804		4822 130 33057	DIODE S2VB20	HE20011290
D805				
I				
D809		4822 130 82421	DIODE 1D3 1A 200V	HD20002710
QN01		4822 130 43233	TRS. 2SC2240 GR BL	HT322402A0
QN02		4822 130 43233	TRS. 2SC2240 GR BL	HT322402A0
QN03		4822 130 42949	TRS. 2SA970 GR BL	HT109702A0
QN04		4822 209 83312	IC TA7317P	HC10042050
QN07		4822 130 42715	TRS. 2SA608SP 2SA1048 2SA1309 2SA933S	HT10001000
QN08		4822 130 60696	TRS. 2SC1627 O Y	HT316272B0
QN51		4822 130 43233	TRS. 2SC2240 GR BL	HT322402A0
QN81		4822 130 61227	DIG. TRS. DTA114ES UN4111	BA10001000
Q701				
I				
Q706		4822 130 42949	TRS. 2SA970 GR BL	HT109702A0
Q707				
I				
Q710		4822 130 43233	TRS. 2SC2240 GR BL	HT322402A0
Q711		4822 130 42999	TRS. 2SA1145 O Y	HT111452A0
Q712		4822 130 42999	TRS. 2SA1145 O Y	HT111452A0
Q713		4822 130 43283	TRS. 2SC2705 O Y	HT327052A0
Q714		4822 130 43283	TRS. 2SC2705 O Y	HT327052A0
▲Q715		4822 130 60117	TRS. 2SC3419Y	HT334191Y0
▲Q716		4822 130 60117	TRS. 2SC3419Y	HT334191Y0
▲Q717		4822 130 60354	TRS. 2SC3421 O Y	HT334212A0
▲Q718		4822 130 60354	TRS. 2SC3421 O Y	HT334212A0
▲Q719		4822 130 60353	TRS. 2SA1358 O Y	HT113582A0
▲Q720		4822 130 60353	TRS. 2SA1358 O Y	HT113582A0
▲Q721			TRS. 2SC5198 R O	HT351982A0
▲Q722			TRS. 2SC5198 R O	HT351982A0
▲Q723			TRS. 2SA1941 O Y	HT119412A0
▲Q724			TRS. 2SA1941 O Y	HT119412A0
Q751		4822 130 42949	TRS. 2SA970 GR BL	HT109702A0
Q752		4822 130 42949	TRS. 2SA970 GR BL	HT109702A0
Q753		4822 130 42949	TRS. 2SA970 GR BL	HT109702A0
Q754		4822 130 43233	TRS. 2SC2240 GR BL	HT322402A0

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POS. NO	VERS. COLOR	PART NO. (FOR PCS)	DESCRIPTION	PART NO. (MJ)
Q755		4822 130 43233	TRS. 2SC2240 GR BL	HT322402A0
Q756		4822 130 42999	TRS. 2SA1145 O Y	HT111452A0
Q757		4822 130 43283	TRS. 2SC2705 O Y	HT327052A0
Q758		4822 130 60117	TRS. 2SC3419Y	HT334191Y0
Q759		4822 130 60354	TRS. 2SC3421 O Y	HT334212A0
Q760		4822 130 60353	TRS. 2SA1358 O Y	HT113582A0
Q761			TRS. 2SC5198 R O	HT351982A0
Q762			TRS. 2SA1941 O Y	HT119412A0
▲Q801		4822 209 83317	IC NJM7815FA	HC38915090
▲Q802		4822 209 31864	IC NJM7915FA	HC39915090
▲Q803		4822 209 31631	IC NJM7805FA	HC38905090
▲Q804		4822 209 63179	IC NJM7905FA	HC39905090
Q805	K,KS		IC $\mu$ PC2405HF	HC36905060
Q805	U	4822 209 31631	IC NJM7805	HC38905090
▲F802	K,KS	4822 253 30358	P704-MISCELLANEOUS FUSE 5A 250V BS	FS10500850
▲F802	U		FUSE 6.3A 125V FTB	FS10630350
▲F803	K KS	4822 253 30358	FUSE 5A 250V BS	FS10500850
▲F803	U		FUSE 6.3A 125V FTB	FS10630350
J702			PLUG 20P	YP06019700
J806			JACK FUSE CLIP	YJ08000590
J807			JACK FUSE CLIP	YJ08000590
J808			JACK FUSE CLIP	YJ08000590
J809			JACK FUSE CLIP	YJ08000580
LN01		4822 280 10305	RELAY VB-18MBU	LY20180020
LN02		4822 280 10305	RELAY VB-18MBU	LY20180020
▲LN03		4822 280 20501	RELAY MR62-24SR 24V	LY20240410
▲LN51		4822 280 10305	RELAY VB-18MBU	LY20180020
L701		4822 157 70022	AIR COIL SPK CHOKE	ML08010030
L702		4822 157 70022	AIR COIL SPK CHOKE	ML08010030
L751		4822 157 70022	AIR COIL SPK CHOKE	ML08010030
			P754-SPK TERMINAL CIRCUIT BOARD	
			P754-CAPACITORS	
C727				
I	KS	4822 122 30043	CER. 0.01 $\mu$ F +80%-20% 50V	DK18103310
C730				
C731	KS	4822 122 30103	CER. 0.022 $\mu$ F +80%-20% 50V	DK18223310
C732	KS	4822 122 30103	CER. 0.022 $\mu$ F +80%-20% 50V	DK18223310
C733	KS	4822 122 30043	CER. 0.01 $\mu$ F +80%-20% 50V	DK18103310
C734	KS	4822 122 30043	CER. 0.01 $\mu$ F +80%-20% 50V	DK18103310
C764	KS	4822 122 30043	CER. 0.01 $\mu$ F +80%-20% 50V	DK18103310
C765	KS	4822 122 30043	CER. 0.01 $\mu$ F +80%-20% 50V	DK18103310
▲F760	K,KS	4822 253 30415	P754-MISCELLANEOUS FUSE 1.6A 250V BS	FS10160850
▲F760	U		FUSE 2A 125V FTB	FS10200350
▲F761	K,KS	4822 253 30415	FUSE 1.6A 250V BS	FS10160850
▲F761	U		FUSE 2A 125V FTB	FS10200350
▲F762	K,KS	4822 253 30415	FUSE 1.6A 250V BS	FS10160850
▲F762	U		FUSE 2A 125V FTB	FS10200350
▲F763	K,KS	4822 253 30415	FUSE 1.6A 250V BS	FS10160850
▲F763	U		FUSE 2A 125V FTB	FS10200350
J703			JACK 20P	YJ06020800
J704			TERMINAL SPK 4P	YT01040790
J751			TERMINAL SPK 6P	YT01060020