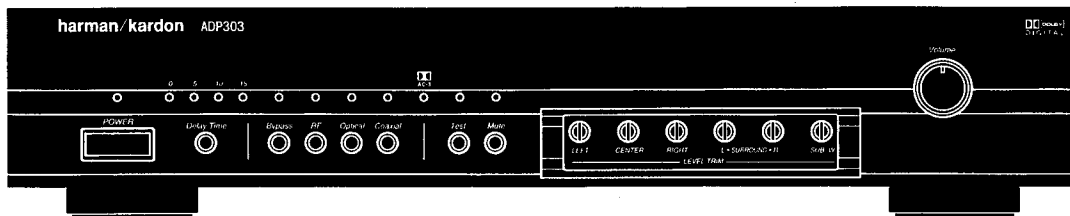


The Harman Kardon Model ADP303 DOLBY DIGITAL DECODER

Manual A

ADP303

Technical Manual



The following marks found in the parts list of this manual identify the models as follows.

- BK** ADP303 :North America area model Black version
- IB** ADP303 :International model Black version

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harman/kardon

Parts and Service Office
80 Crossways Park West, Woodbury, N.Y. 11797
1112-ADP303 500 Printed in Japan

SPECIFICATIONS

Output Level/Output Impedance

MAIN L/R, CENTER, SURROUND L/R	
1 KHz, 0 dB INPUT	0-3.5 V / 500 Ω
SUBWOOFER	
50 Hz, 0 dB INPUT	0-9 V / 500 Ω
Input Impedance (RF, COAXIAL)	75 Ω

Frequency Response

MAIN L/R, CENTER, SURROUND L/R (LARGE)	
20 Hz-20 KHz	± 0.5 dB

Filter Characteristics

MAIN L/R, CENTER, SURROUND L/R (SMALL)	
H.P.F.	$f_c=100$ Hz, 12 dB/oct.
SUBWOOFER	
L.P.F.	$f_c=100$ 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
Power Consumption	30 W
AC OUTLET : UNSWITCHED	200 W max.
Dimensions (W/H/D)	17-3/8 in x 3-3/8 in x 11 in
	441 mm x 85 mm x 279 mm(MAX)
Weight	9.4 lbs. (4.2 kg.)

Specifications and components are subject to change without notice. Overall performance will be maintained or improved.

Note : "RESET" operation is necessary to initialize the microprocessor (QL01) after every repair.
"RESET" procedures is follow.

Short "B-RST" terminals on the side-B of PCB (P604) for a couple of seconds.

Manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby", "AC-3", and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation. Copyright 1992 Dolby Laboratories, Inc. All rights reserved.

"Dolby", "AC-3" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical change sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

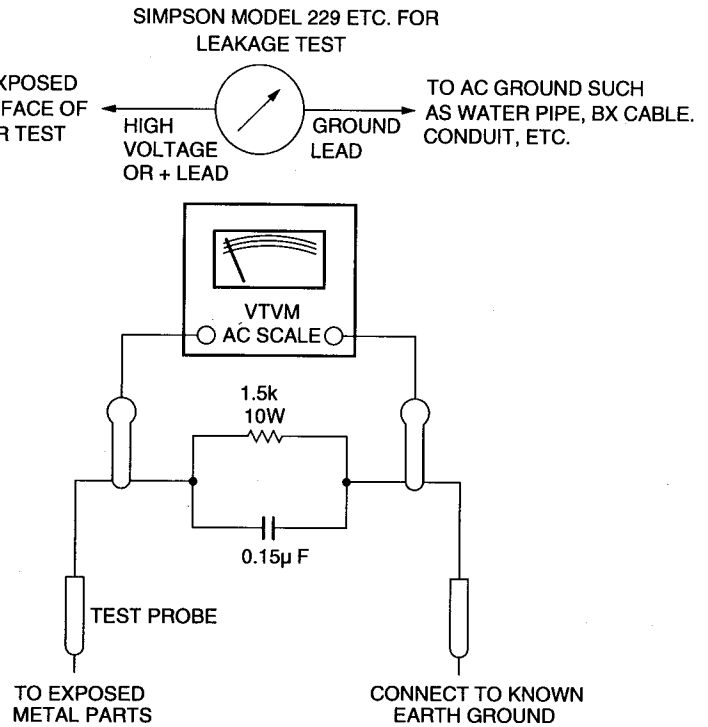
CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

LEAKAGE TEST (FOR SERVICE ENGINEERS IN THE U.S.A.)

Before returning the unit to the user, perform the following safety checks:

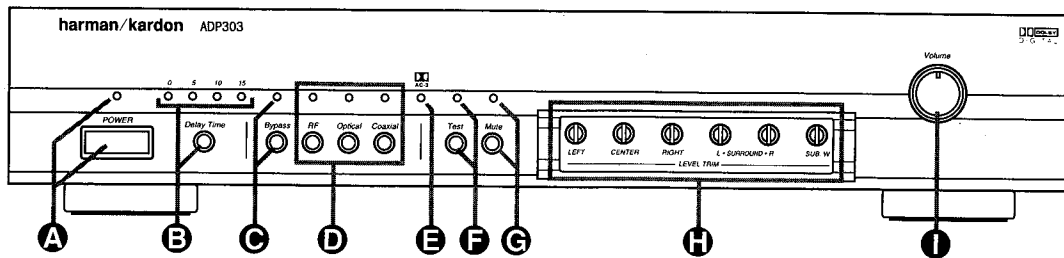
1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the unit.
2. Be sure that any protective devices such as nonmetallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc. Which were removed for servicing are properly reinstalled.
3. Be sure that no shock hazard exists; check for leakage current using Simpson Model 229 Leakage Tester, standard equipment item No. 21641, RCA Model WT540A or use alternate method as follows: Plug the power cord directly into a 120-volt AC receptacle (do not use an Isolation Transformer for this test). Using two clip leads, connect a 1500 Ohm, 10-watt resistor paralleled by a 0.15 μ F capacitor, in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit. Use a VTVM or VOM with 1000 Ohms per volt, or higher sensitivity to measure the AC voltage drop across the resistor. (See Diagram.) Move the resistor connection to each exposed metal part having a return path to the chassis (antenna, metal, cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor. (This test should be performed with the power switch in both the On and Off positions.)



A reading of 0.35 volt RMS or more is excessive and indicates a potential shock hazard which must be corrected before returning the unit to the owner.

CONTROLS AND FUNCTIONS

Front Panel Controls

**A Power Switch**

Push this switch once to turn it on. Press it again to turn the unit off. An indicator above the power switch will illuminate when the unit is turned on.

B Delay Time Button and Indicators

Press this button to set the delay time for the surround channels. Each press of the button changes the delay time by 5 milliseconds. The delay time range is from no delay to 15 milliseconds. The indicator LEDs above the Delay Time button indicate the delay setting.

C Bypass Input Selector Button Indicator

Press this button to remove the ADP303 from the circuit when it is installed between a preamp and amplifiers. An indicator LED above the button will light to indicate the BYPASS mode.

D Digital Source Selectors

Press one of these buttons to select the digital input source. An indicator above the buttons will illuminate to confirm the selections.

E AC-3 Indicator

This LED will illuminate when a digital source is selected and the decoder has successfully locked to the incoming digital signal.

F Test Button and Indicator

This button activates the test signal that is used when adjusting output levels. When the button is tapped once the test noise will circulate between the speakers at a two (2) second interval. When you press and hold the button for a few seconds the test noise will circulate for five (5) seconds at each speaker. The red indicator above the button will illuminate when the test noise is present to remind you that the audio output has momentarily been changed. Press the button at any time when the noise is heard to cancel the test.

Note: The test signal noise is not available when the ADP303 is in the BYPASS mode. The test signal does not circulate to the subwoofer in any mode.

It is suggested that the five second test noise be used for initial adjustment of the output levels, and the shorter two second circulation be used as a final brief check after adjustments have been made.

G Mute Button and Indicator

Press this button to momentarily silence the audio output of the ADP303. Press it again to resume normal operation. An indicator light above the button will illuminate when the MUTE button is engaged to remind you that the unit is turned on, but silenced. The MUTE function will not work when the ADP303 is in the BYPASS mode.

H Level Trim Controls

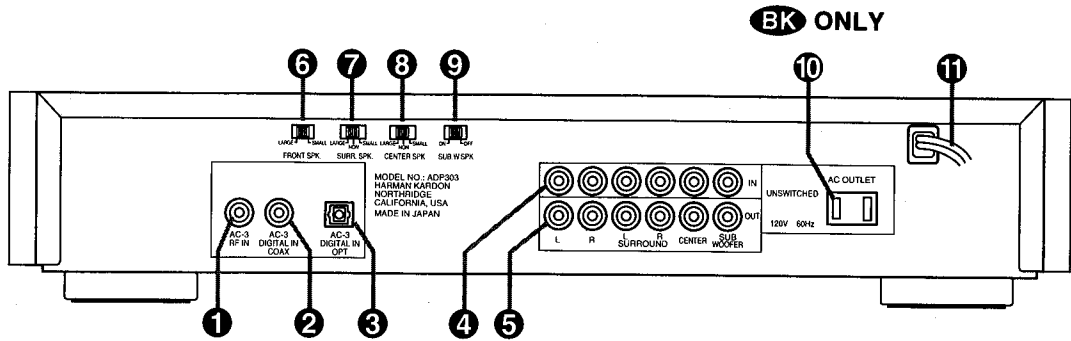
These controls are used to adjust the audio output level of each individual channel. Use the small Allen wrench supplied with the ADP303 to remove the cover when adjustment of the level trims is required.

I Volume Control

This knob adjusts the master volume level of the ADP303's output. Turn it clockwise to increase the volume and counterclockwise to decrease the volume.

When the ADP303 is used in a system where the receiver/amplifier (such as the AVR80) has a "6 Channel Direct" input, the volume should be set to the "12 o'clock" position.

Rear Panel Connections

**1 AC-3 RF IN Jack**

Connect the AC-3 RF Output jack of a compatible Laser Disc player here.

2 AC-3 Digital IN - Coax Jack

These terminals are for connection to the coax data AC-3 output of future AC-3 digital products such as DVD, DSS and HDTV.

3 AC-3 Digital IN - Optical Jack

These terminals are for connection to the optical data AC-3 output of future AC-3 digital products such as DVD, DSS and HDTV. To avoid dust contamination, leave the protective cap inserted unless the jack is in use.

IMPORTANT NOTE: These input jacks are for AC-3 digital signals only. Do not connect standard audio outputs or the PCM digital output of an LV or CD player to these AC-3 Input Jacks.

4 6 Channel Input Jacks

When the ADP303 is used with an external preamplifier, an outboard surround processor or any AV receiver with PREAMP-OUT/MAIN-INPUT jacks, connect these jacks to the outputs of the preamp or processor.

5 6 Channel Output Jacks

These jacks deliver the outputs of the AC-3 decoder or pass through the inputs from a conventional AV receiver when the ADP303 is in the BYPASS mode. Depending on your application, they will either be connected to the "6 Channel Direct" inputs of products such as the AVR80 or directly to external power amplifiers.

6 Front SPK Switch

This switch determines if low frequency signals are sent to the front left/right speakers. The factory default "Small" sends them to the subwoofer output only, while "Large" sends a full range signal to the front left/right speakers.

7 Surr SPK Switch

This switch determines if low frequency signals are sent to the surround speakers. The factory default, "Small," sends them to the subwoofer output only, while "Large" sends a full range signal to the surround speakers. Select "none" if you will not use surround speakers and to route surround audio to the front left/right speakers.

8 Center SPK Switch

This switch determines if low frequency signals are sent to the center speaker. The factory default, "Small," sends them to the subwoofer output only, while "Large" send a full range signal to the center speaker. Select "none" if you will not use a center speaker and to route center channel audio to the front left/right speakers.

9 Subwoofer switch

This switch, in conjunction with the other "SPK" switches, directs the output of low frequency (LFE) signals. If a subwoofer is used, select "ON" to send all system sound below 100 Hz to the subwoofer output. If the "OFF" position is used, the LFE output will be directed to either the front left/right or center speaker outputs, depending on the position of switches 6 and 8.

Caution: When you want to change settings of any of these switches, 6 7 8 9 you must turn the power switch off and back on in order to effect the changes you want.

10 AC Outlet (Unswitched)

This unswitched outlet will supply power to any device in your system as long as the ADP303 is connected to AC power, even when the ADP303's power switch is in the off position.

The maximum power this outlet can supply is 200 watts.

11 Power cable

Connect the power cable to an unswitched AC power outlet. Plug into a household AC power outlet.

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-3RF 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

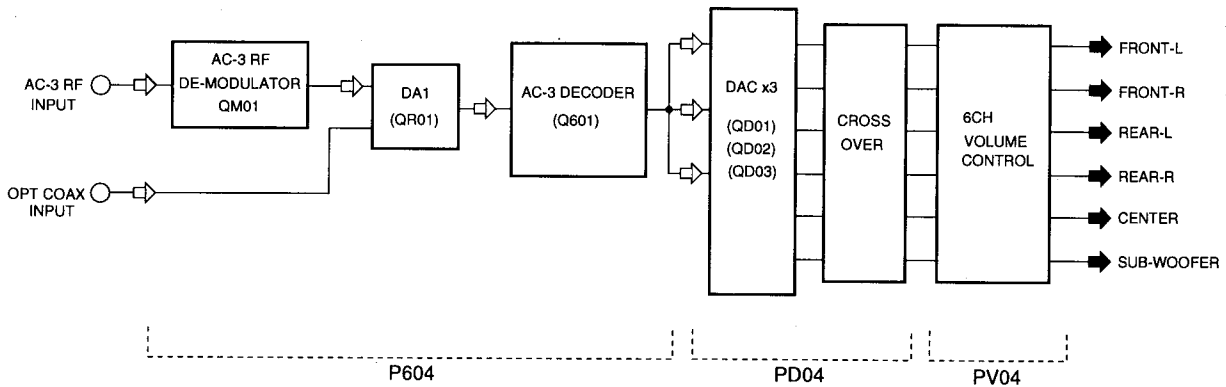


Figure 1

SIGNAL AND CIRCUIT DESCRIPTION

AC-3 RF

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

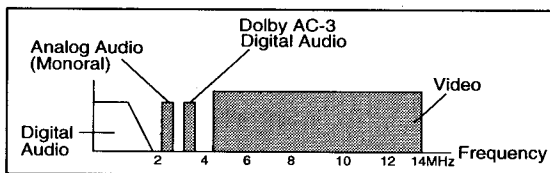


Figure 2

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

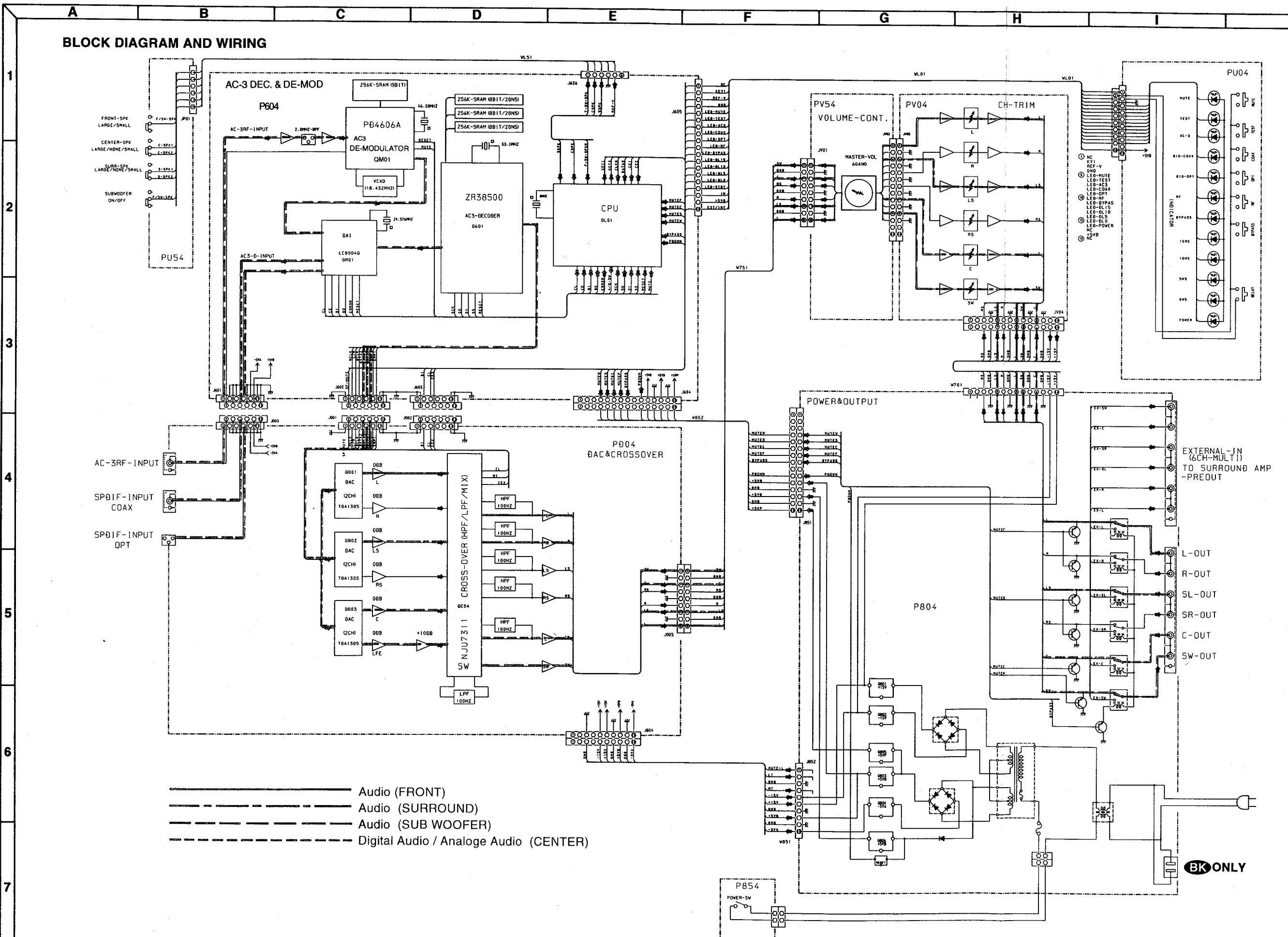
This circuit generates the 6-channel data (Front L/R, Rear L/R, Center and LFE) based on the data output from the DAI, and outputs the 6-channel data to the DAC as 3 sets of 2-channel data.

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, these circuit combinations will change.

BLOCK DIAGRAM AND WIRING



- FRONT-SPK LARGE/SMALL
- CENTER-SPK LARGE/NONE/SMALL
- SURR-SPK LARGE/NONE/SMALL
- SUBWOOFER ON/OFF

- AC-3RF-INPUT
- SPBIF-INPUT COAX
- SPBIF-INPUT OPT

- Audio (FRONT)
- - - Audio (SURROUND)
- · - · Audio (SUB WOOFER)
- · · · Digital Audio / Analogue Audio (CENTER)

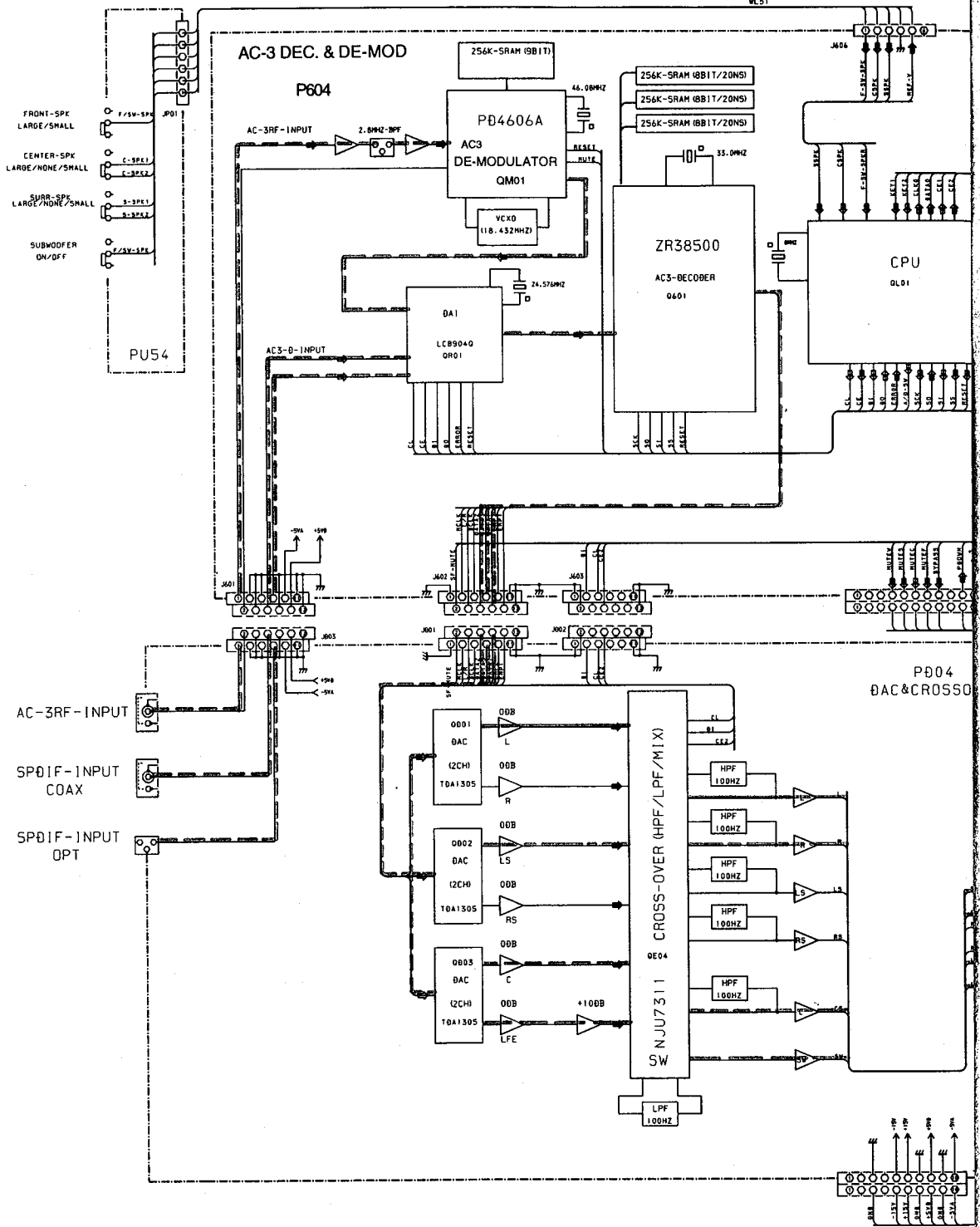
EXTERNAL-IN (6CH-MULT) TO SURROUND AMP -PREOUT

- L-OUT
- R-OUT
- SL-OUT
- SR-OUT
- C-OUT
- SW-OUT

BK ONLY

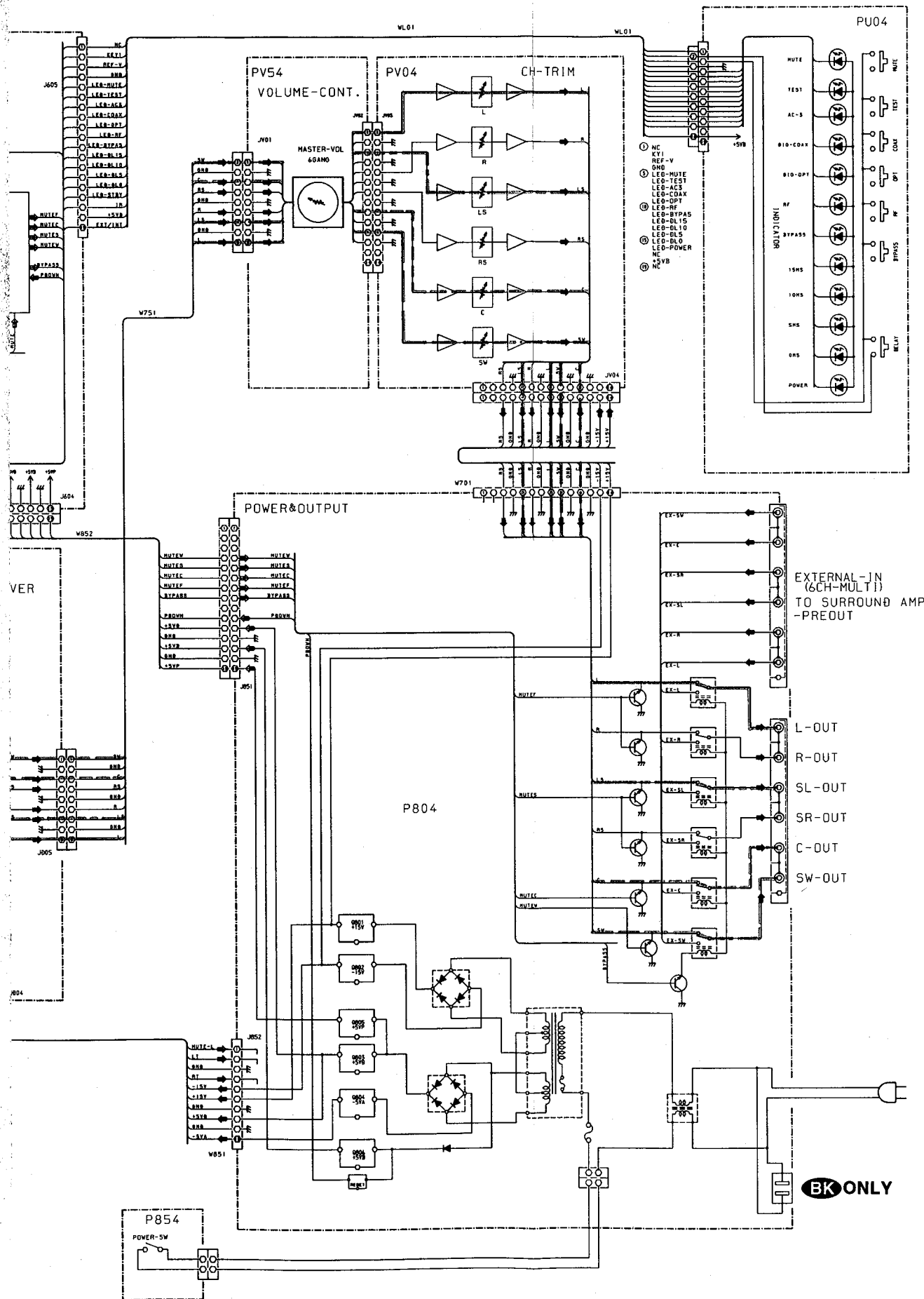
BLOCK DIAGRAM AND WIRING

1
2
3
4
5
6
7



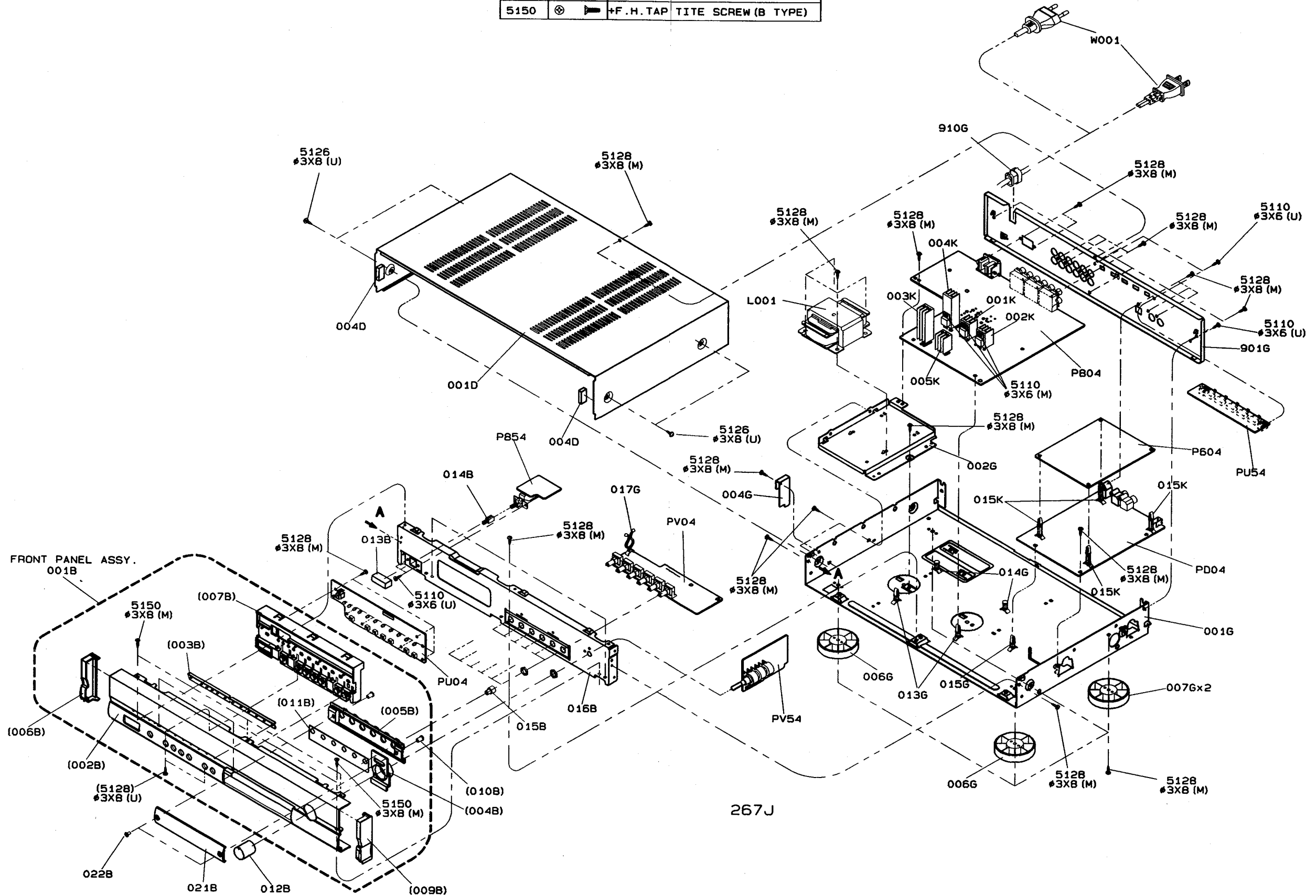
————— Audio (FRONT)
 - - - - - Audio (SURROUND)
 - - - - - Audio (SUB WOOFER)
 - - - - - Digital Audio / Analog Audio (CENTER)

F G H I J



GENERAL UNIT
EXPLODED VIEW

SYMBOL	STYLE	PARTS NAME	MARK	MATERIAL/FINISH
5110	⊕	+B.H.M.SCREW	(M)	IRON/COPPER
5126	⊕	+B.H.TAP TITE SCREW W/WASHER	(U)	IRON/BLACK
5128	⊕	+B.H.TAP TITE SCREW (B TYPE)		
5150	⊕	+F.H.TAP TITE SCREW (B TYPE)		



1
2
3
4
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6
7
8

A B C D E F G H I J

F

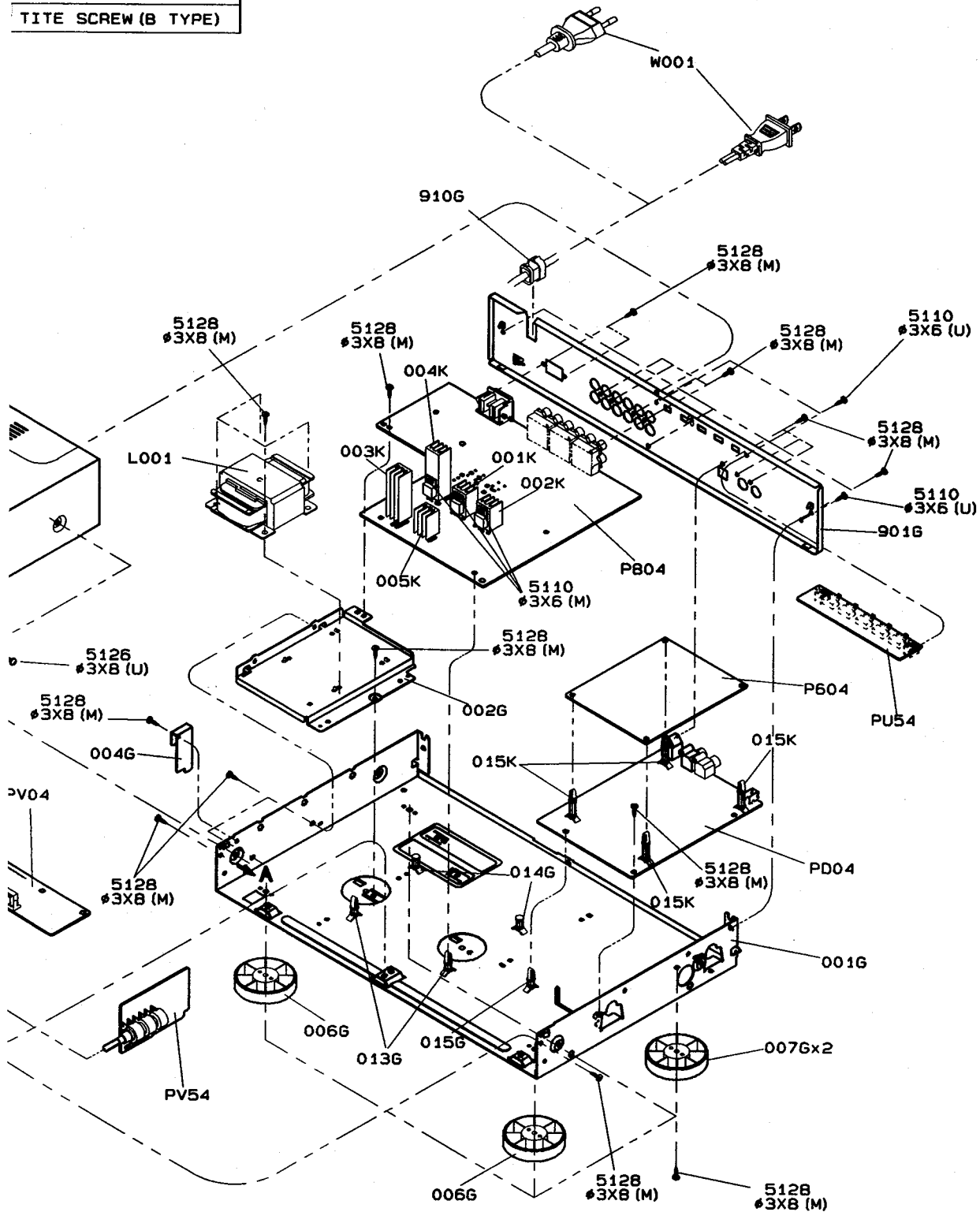
G

H

I

J

ARTS NAME	MARK	MATERIAL/FINISH
CREW	(M)	IRON/COPPER
TITE SCREW W/WASHER	(U)	IRON/BLACK
TITE SCREW (B TYPE)		
TITE SCREW (B TYPE)		



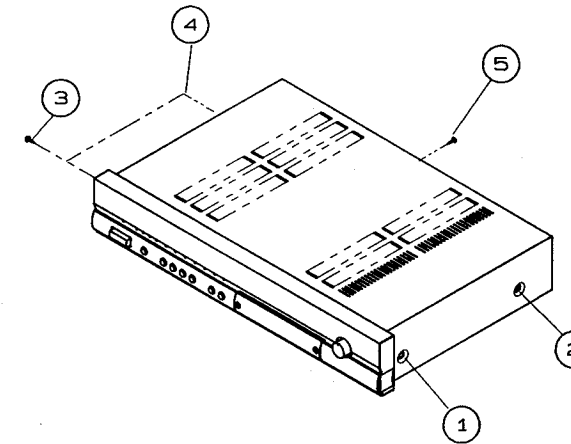
267J

GENERAL UNIT PARTS LIST

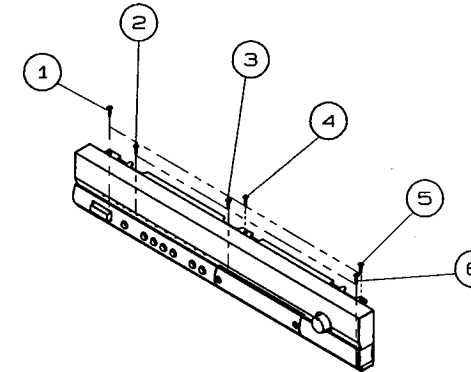
Ref. No.	Part. No.	Description	QTY
001B	267J248500	FRONT PANEL ASSEMBLY	1
002B	267J248010	FRONT PANEL	1
003B	267J355010	LENS	1
004B	267J259010	BUSHING, MASTER KNOB	1
005B	267J259020	BUSHING, TRIM KNOB	1
006B	267J259030	BUSHING, SIDE END (L)	1
007B	266J270010	BUTTON, BLOCK	1
009B	267J259040	BUSHING, SIDE END (R)	1
010B	267J011010	NUT, TRIM BUSH	2
011B	267J063020	ESCUTCHEON, TRIM KNOB	1
012B	025J154120	KNOB, MASTER	1
013B	285K270010	BUTTON, POWER	1
014B	025J125010	JOINT, POWER BUTTON	1
015B	191S154050	KNOB, TRIM VOL.	6
016B	266J105020	CHASSIS, FRONT	1
021B	267J063010	ESCUTCHEON, TRIM AL	1
022B	267J010030	SCREW, TRIM AL	2
001D	198J257110	LID, TOP COVER	1
004D	306S056010	BUFFER, TOP COVER	2
001G	266J105010	CHASSIS, MAIN	1
002G	266J160010	BRACKET, TRANSF.	1
004G	266J114010	STOPPER, SCREW IB	1
006G	183J057010	LEG, FRONT	2
007G	183J057110	LEG, REAR	2
013G	006J101010	SUPPORT, MAIN PCB F	2
014G	054J101050	SUPPORT, MAIN PCB R	2
015G	006J101010	SUPPORT, DSP PCB	1
017G	024S005010	CLAMPER, WIRE	1
901G	266J250120	REAR PANEL IB	1
901G	266J250160	REAR PANEL BK	1
910G	450H259010	BUSHING, AC CORD	1
001K	309V267010	HEATSINK	1
002K	309V267010	HEATSINK	1
003K	009D267010	HEATSINK	1
004K	009D267010	HEATSINK	1
005K	309V267010	HEATSINK	1
015K	415T101010	SUPPORT	4
▲ L001	TS17205080	POWER TRANSF. IB	1
▲ L001	TS17205050	POWER TRANSF. BK	1
▲ W001	YC01800790	A.C. POWER CORD IB	1
▲ W001	YC01800780	A.C. POWER CORD BK	1
5110	51100306U0	B.H.M. Screw M3 x 6 (U)	8
5126	51260308U0	B.T. Screw (W/W) M3 x 8 (U)	4
5128	51280308M0	B.H.TAP. Screw M3 x 8 (M)	37
5128	51280308U0	B.H.TAP. Screw M3 x 8 (U)	2
5150	51500308M0	F.H.TAPT. Screw M3 x 8 (M)	6

DISASSEMBLY PROCEDURES

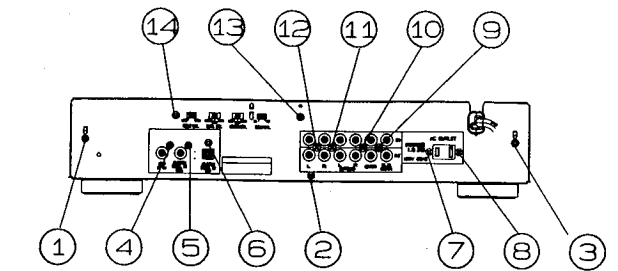
1. Removing the top cover
Remove the screws ① ~ ⑤



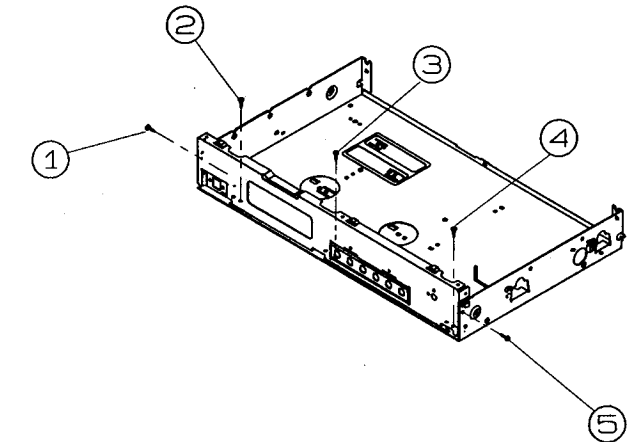
2. Removing the front panel
Remove the screws ① ~ ⑥



3. Removing the rear panel
Remove the screws ① ~ ⑭



4. Removing the front metal chassis
Remove the screws ① ~ ⑤

**Removing the main PCB (P804)**

1. Remove the screw of rear side (x4) and the transformer back side screw (x1) of the main PCB.
2. PCB supports hook open of the main PCB front side.
3. Remove the Main PCB.

Removing the Dolby ac-3 PCB block (P604) (PD04)

1. Remove the screw of rear side (x4) and the front side of the screw (x1) on the Dolby ac-3 PCB block.
2. PCB support hook open of PCB front side of the Dolby ac-3 PCB block.
3. Remove the Dolby ac-3 PCB block.

Removing the front panel and function selector PCB (PU04)

1. Remove the master volume knob. (012B)
2. Remove the front panel fixed screw of the Upper side (x3) and lower side (x3).
3. Remove the front panel.
4. Remove the screw (x6) of the selector PCB fixed.
5. Remove the front selector PCB.

Removing the front volume PCB block (PV06)

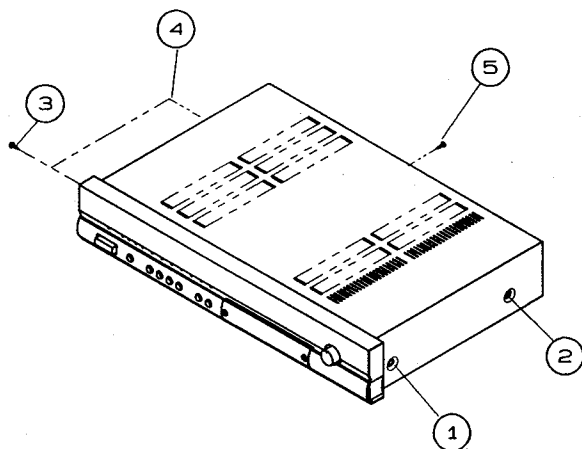
1. Remove front panel and trim knob (x6). (015B)
2. Removing the nut master volume and trim volume of the fixed.
3. Remove the Front volume PCB block.

GENERAL UNIT PARTS LIST

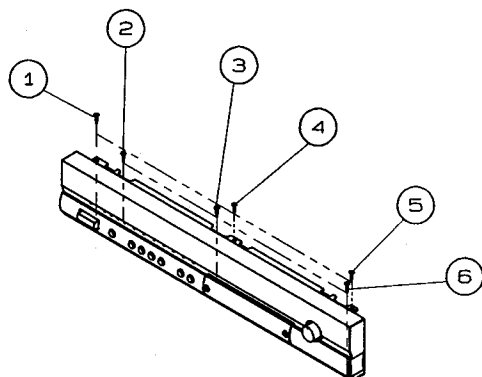
<u>Ref. No.</u>	<u>Part. No.</u>	<u>Description</u>	<u>Q'TY</u>
001B	267J248500	FRONT PANEL ASSEMBLY	1
002B	267J248010	FRONT PANEL	1
003B	267J355010	LENS	1
004B	267J259010	BUSHING, MASTER KNOB	1
005B	267J259020	BUSHING, TRIM KNOB	1
006B	267J259030	BUSHING, SIDE END (L)	1
007B	266J270010	BUTTON, BLOCK	1
009B	267J259040	BUSHING, SIDE END (R)	1
010B	267J011010	NUT, TRIM BUSH	2
011B	267J063020	ESCUTCHEON, TRIM KNOB	1
012B	025J154120	KNOB, MASTER	1
013B	285K270010	BUTTON, POWER	1
014B	025J125010	JOINT, POWER BUTTON	1
015B	191S154050	KNOB, TRIM VOL.	6
016B	266J105020	CHASSIS, FRONT	1
021B	267J063010	ESCUTCHEON, TRIM AL	1
022B	267J010030	SCREW, TRIM AL	2
001D	198J257110	LID, TOP COVER	1
004D	306S056010	BUFFER, TOP COVER	2
001G	266J105010	CHASSIS, MAIN	1
002G	266J160010	BRACKET, TRANSF.	1
004G	266J114010	STOPPER, SCREW IB	1
006G	183J057010	LEG, FRONT	2
007G	183J057110	LEG, REAR	2
013G	006J101010	SUPPORT, MAIN PCB F	2
014G	054J101050	SUPPORT, MAIN PCB R	2
015G	006J101010	SUPPORT, DSP PCB	1
017G	024S005010	CLAMPER, WIRE	1
901G	266J250120	REAR PANEL IB	1
901G	266J250160	REAR PANEL BK	1
910G	450H259010	BUSHING, AC CORD	1
001K	309V267010	HEATSINK	1
002K	309V267010	HEATSINK	1
003K	009D267010	HEATSINK	1
004K	009D267010	HEATSINK	1
005K	309V267010	HEATSINK	1
015K	415T101010	SUPPORT	4
▲ L001	TS17205080	POWER TRANSF. IB	1
▲ L001	TS17205050	POWER TRANSF. BK	1
▲ W001	YC01800790	A.C. POWER CORD IB	1
▲ W001	YC01800780	A.C. POWER CORD BK	1
5110	51100306U0	B.H.M. Screw M3 x 6 (U)	8
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5150	51500308M0	F.H.TAPT. Screw M3 x 8 (M)	6

DISASSEMBLY PROCEDURES

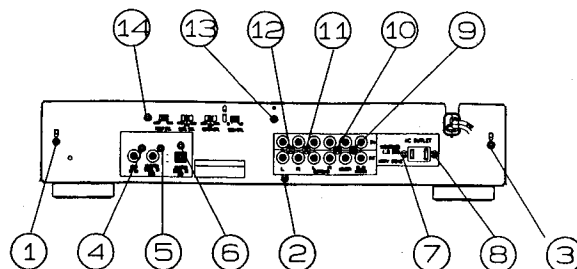
1. Removing the top cover
Remove the screws ① ~ ⑤



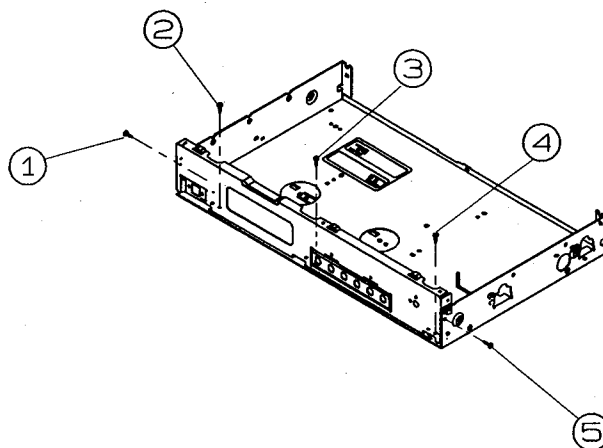
2. Removing the front panel
Remove the screws ① ~ ⑥



3. Removing the rear panel
Remove the screws ① ~ ⑭



4. Removing the front metal chassis
Remove the screws ① ~ ⑤



Removing the main PCB (P804)

1. Remove the screw of rear side (x4) and the transformer back side screw (x1) of the main PCB.
2. PCB supports hook open of the main PCB front side.
3. Remove the Main PCB.

Removing the Dolby ac-3 PCB block (P604) (PD04)

1. Remove the screw of rear side(x4) and the front side of the screw (x1) on the Dolby ac-3 PCB block.
2. PCB support hook open of PCB front side of the Dolby ac-3 PCB block.
3. Remove the Dolby ac-3 PCB block.

Removing the front panel and function selector PCB (PU04)

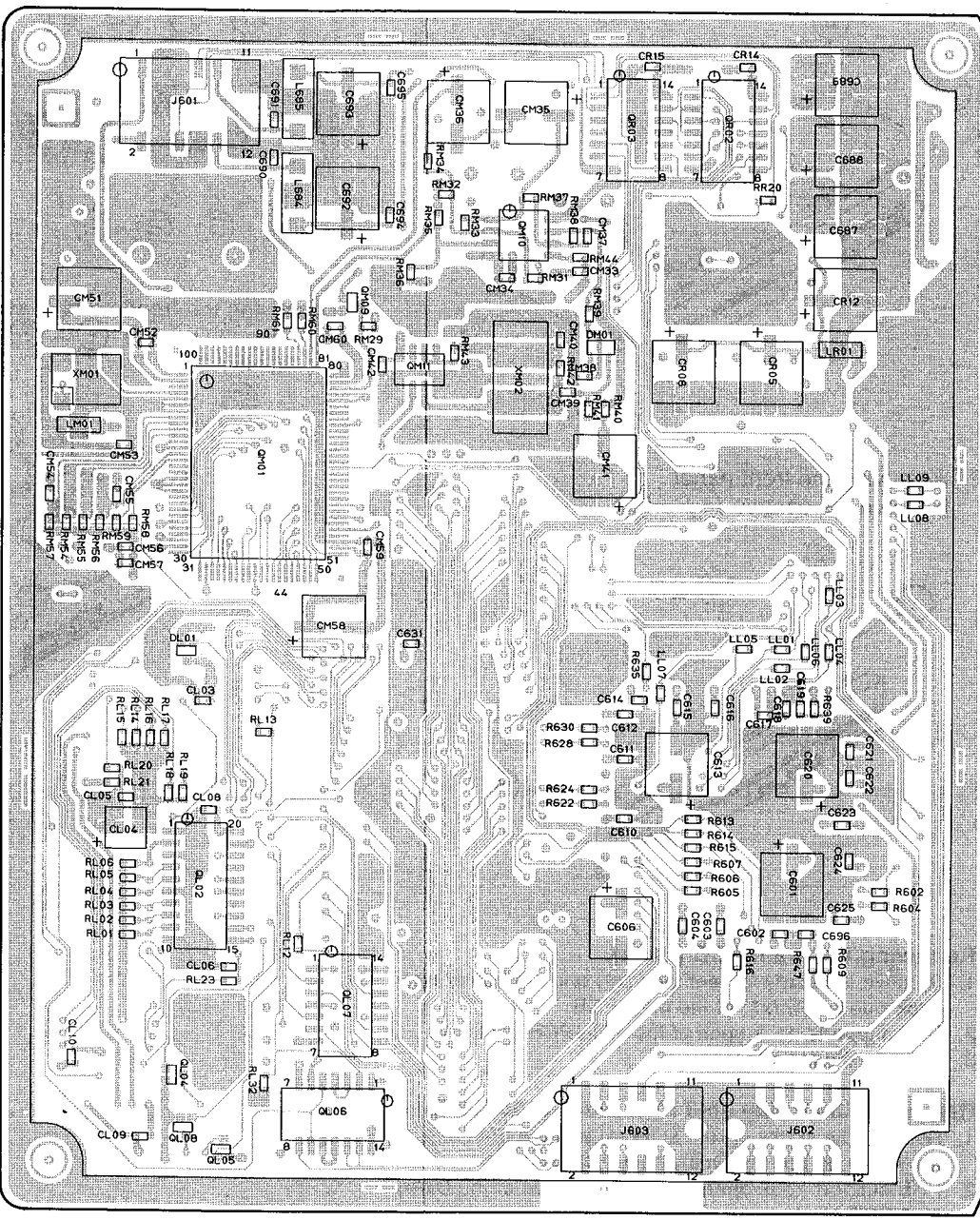
1. Remove the master volume knob. (012B)
2. Remove the front panel fixed screw of the Upper side (x3) and lower side (x3).
3. Remove the front panel.
4. Remove the screw (x6) of the selector PCB fixed.
5. Remove the front selector PCB.

Removing the front volume PCB block (PV06)

1. Remove front panel and trim knob (x6). (015B)
2. Removing the nut master volume and trim volume of the fixed.
3. Remove the Front volume PCB block.

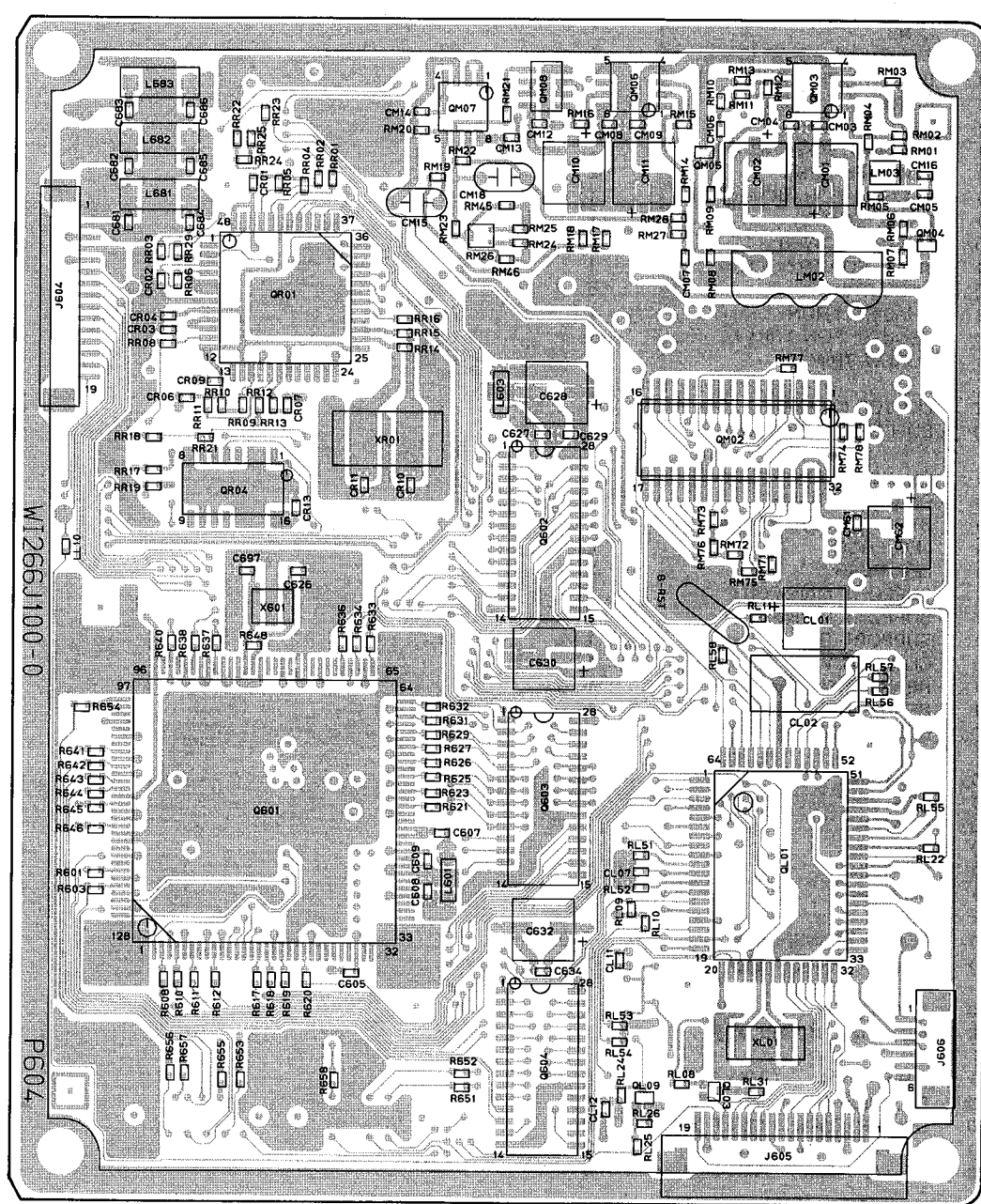
P.C. BOARDS (1)

P604-AC-3 Decoder P. C. Board



Side-A

P604

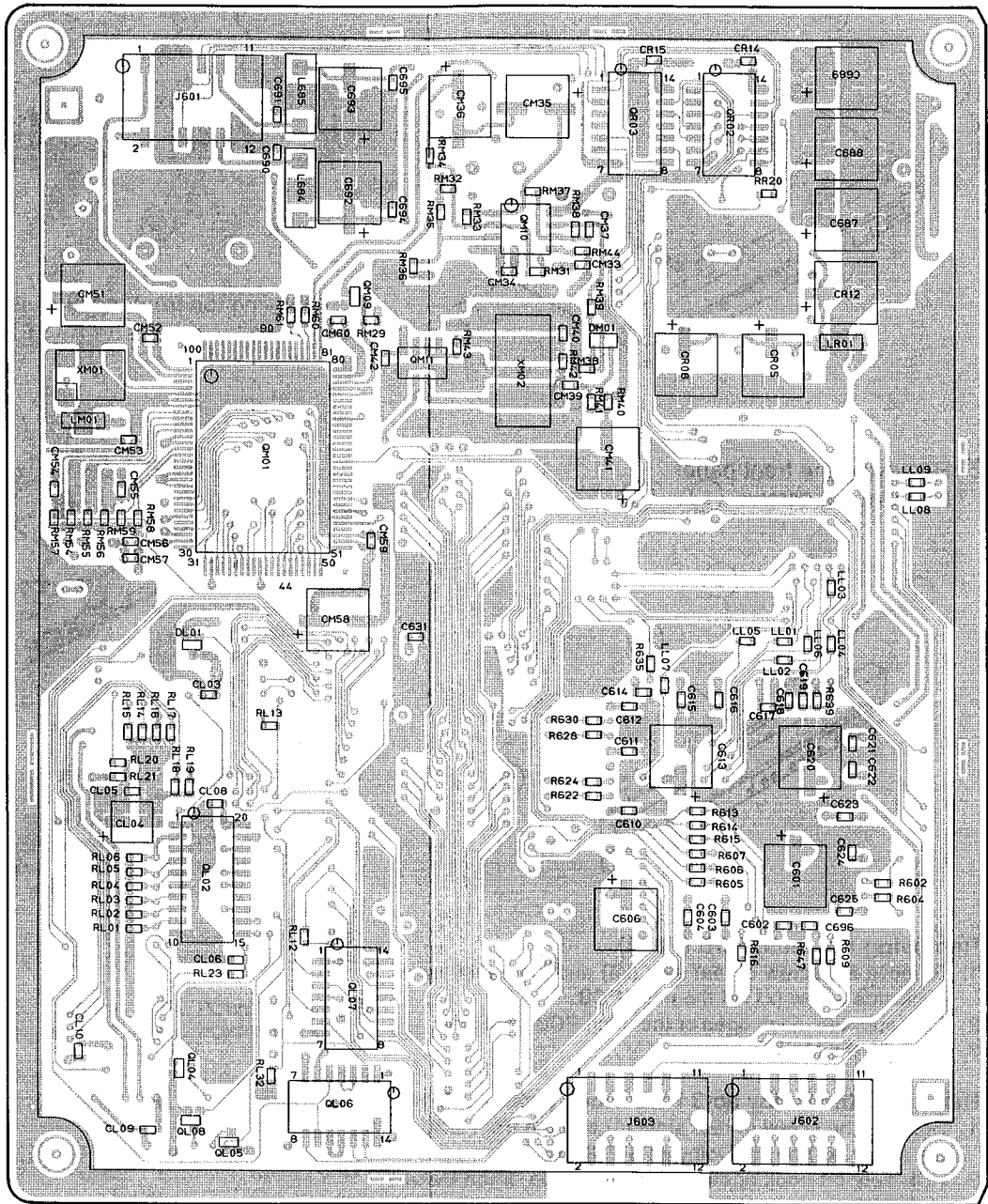


Side-B

1
2
3
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5
6
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P.C. BOARDS (1)

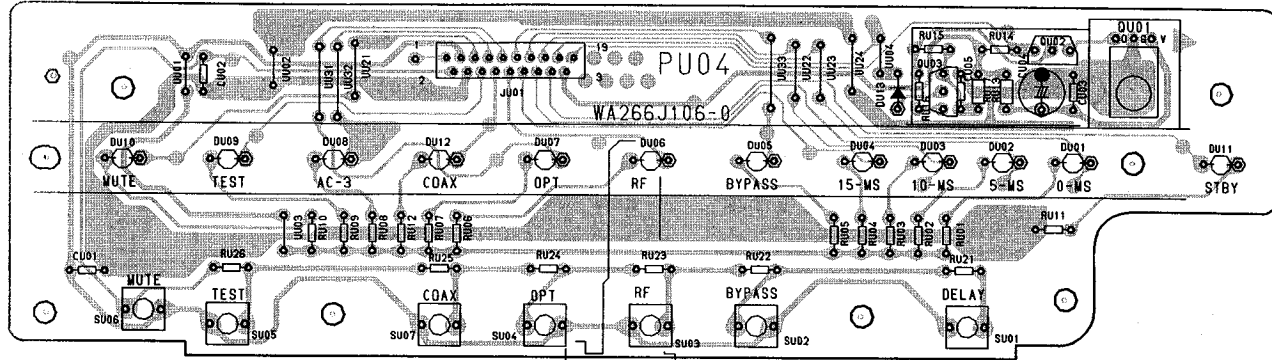
P604-AC-3 Decoder P. C. Board



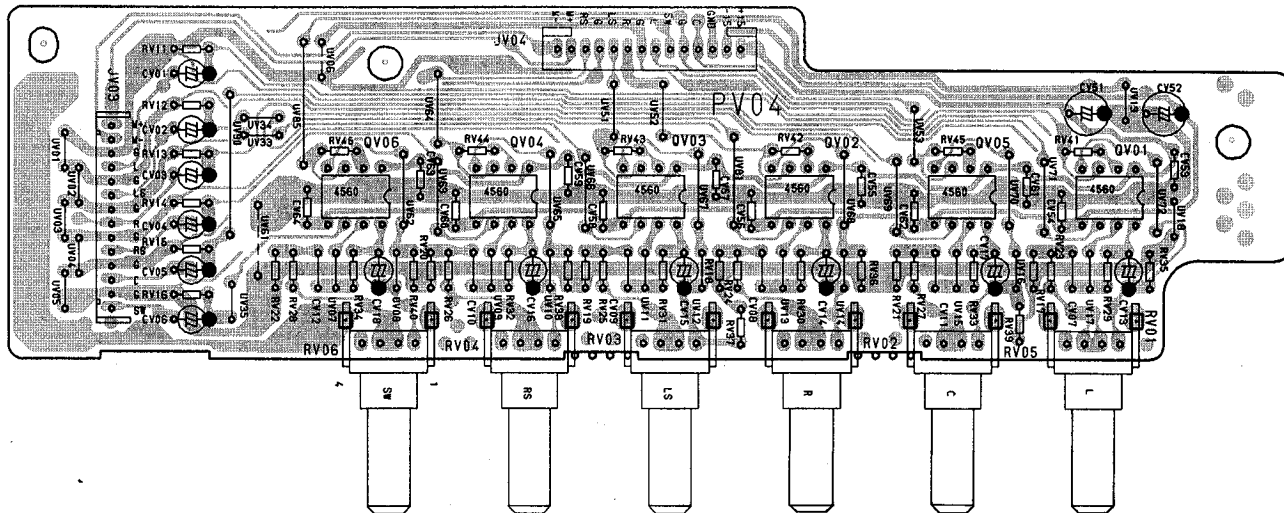
Side-A

P.C. BOARDS (2)

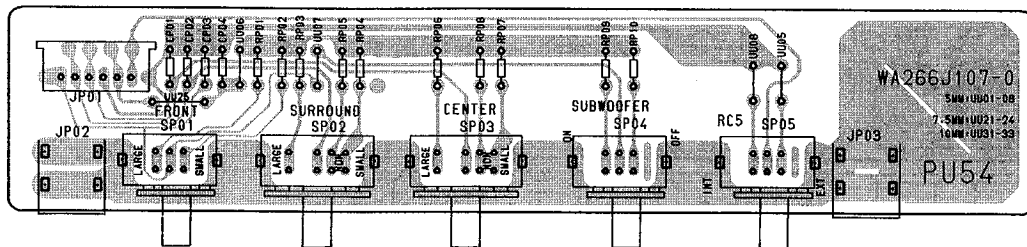
PU04-Front P. C. Board



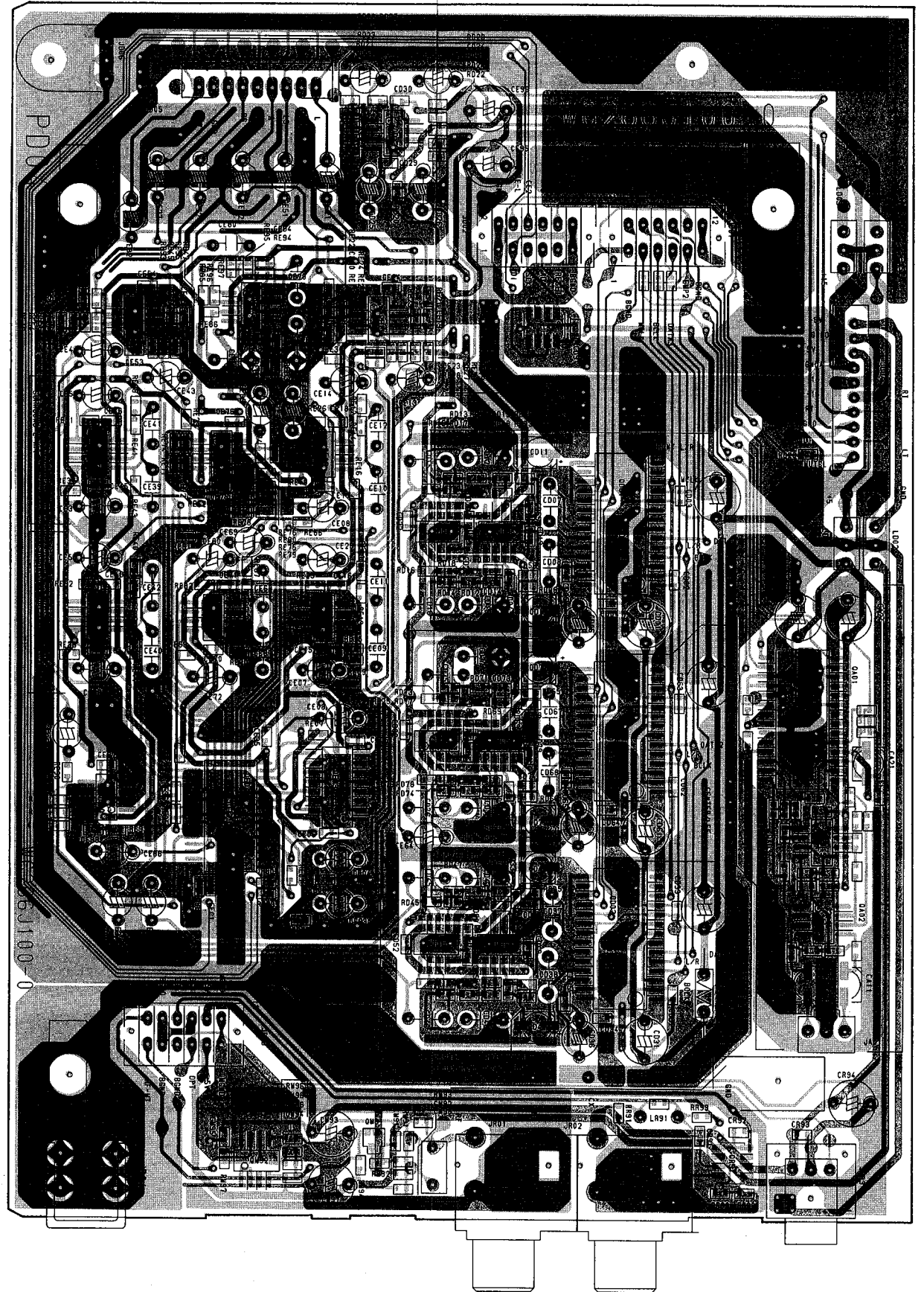
PV04-Trim Volume P. C. Board



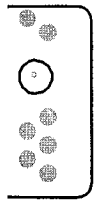
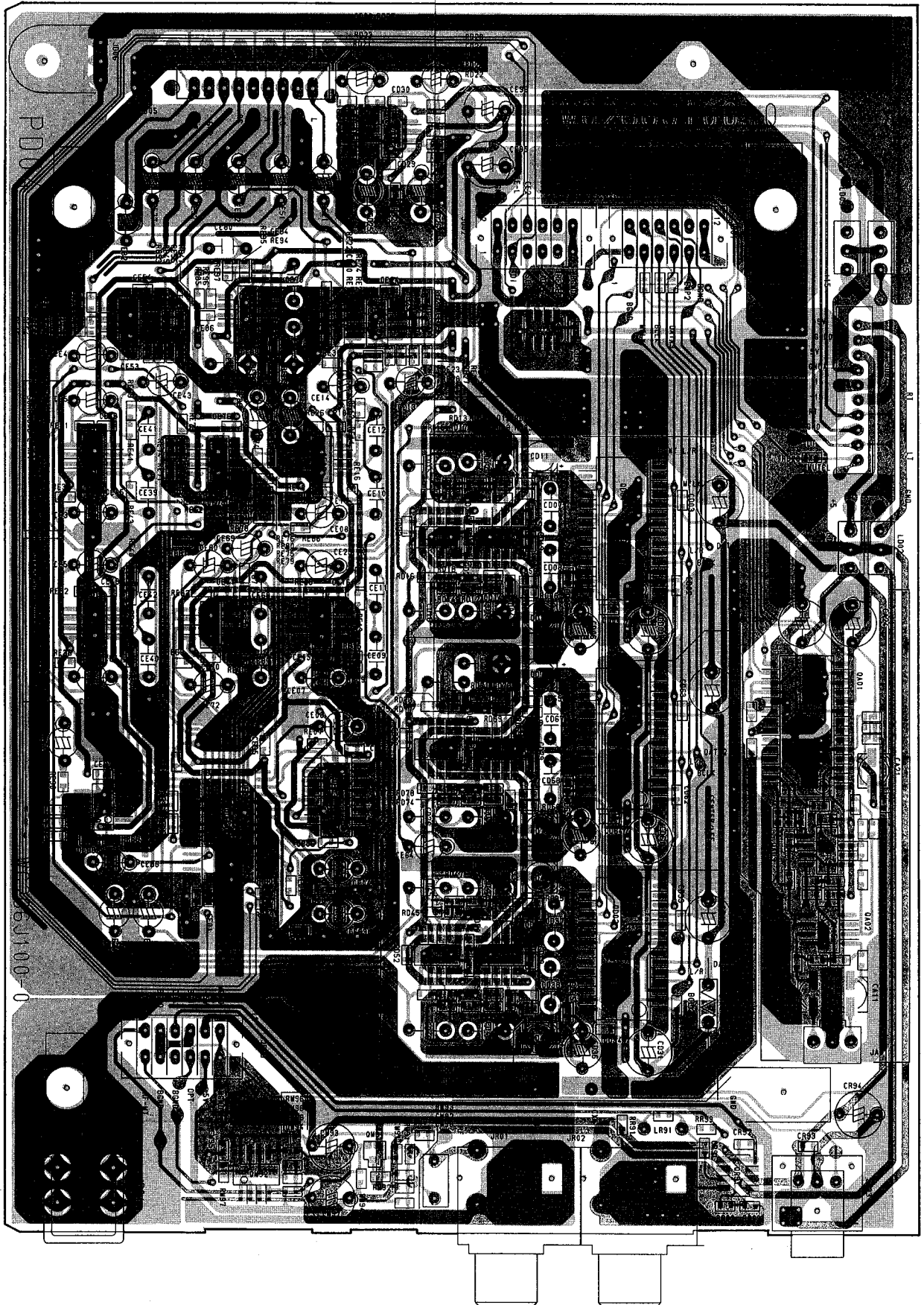
PU54-SPK SW P. C. Board



PD04-DAC, Cross-Over P. C. Board

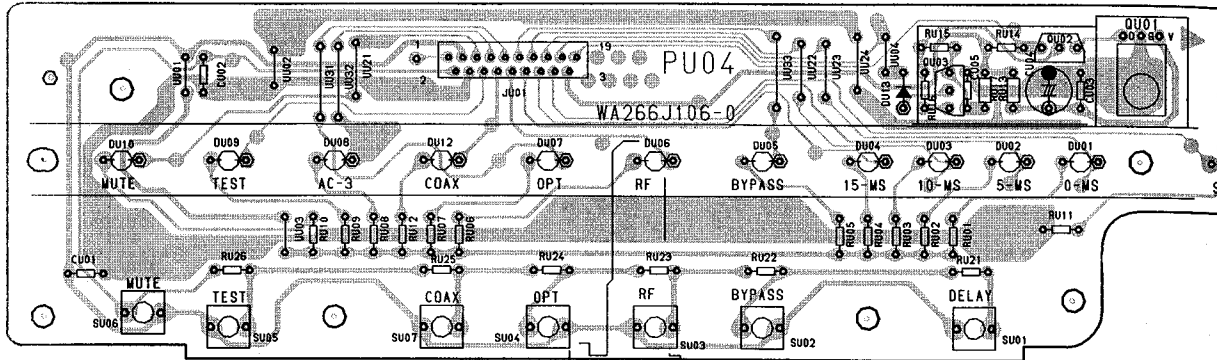


PD04-DAC, Cross-Over P. C. Board

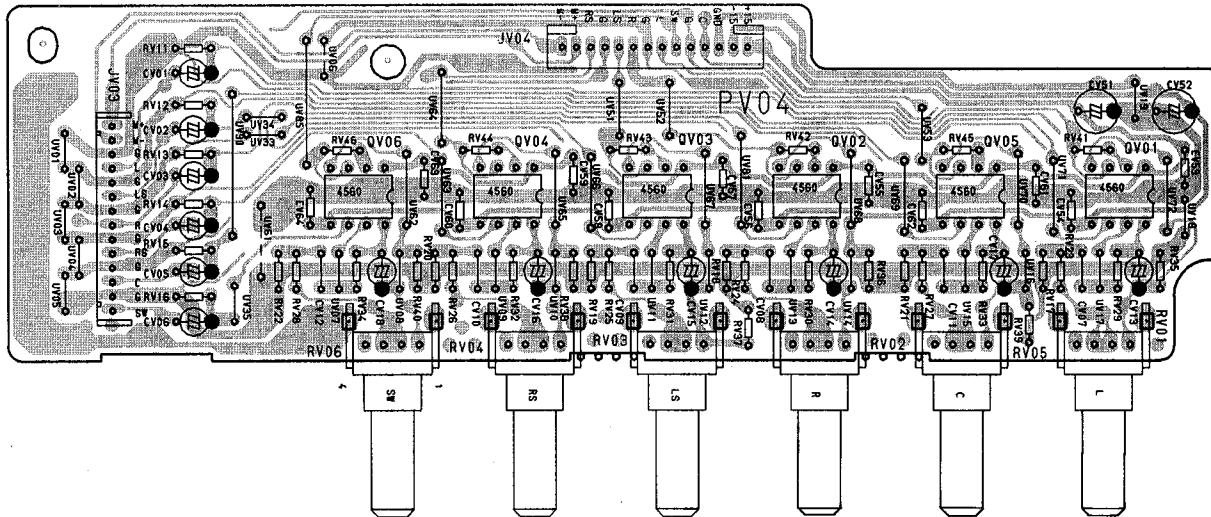


P.C. BOARDS (2)

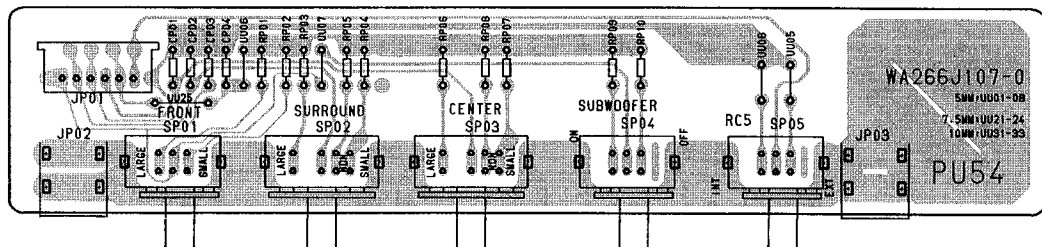
PU04-Front P. C. Board



PV04-Trim Volume P. C. Board

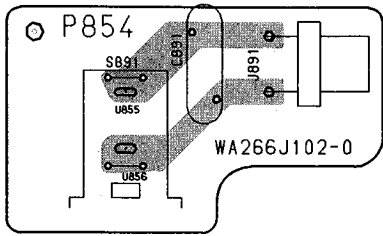


PU54-SPK SW P. C. Board

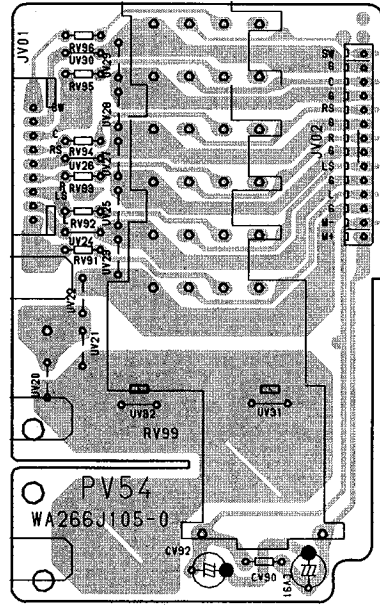


P.C. BOARDS (3)

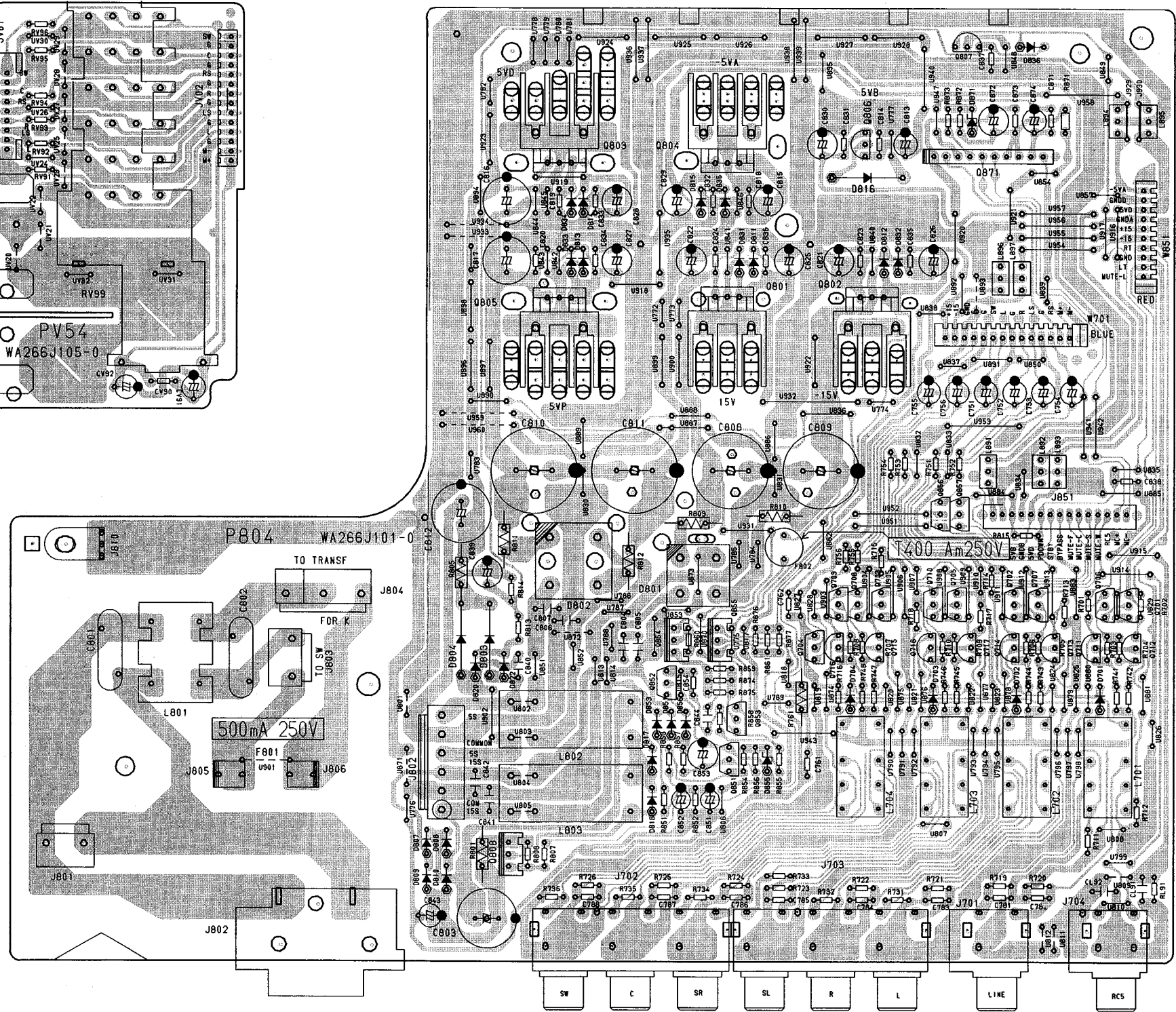
P854-Power SW P. C. Board



PV54-Master Volume P. C. Board



P804-Power P. C. Board



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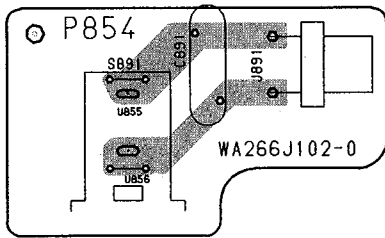
7

A B C D E F G H I J

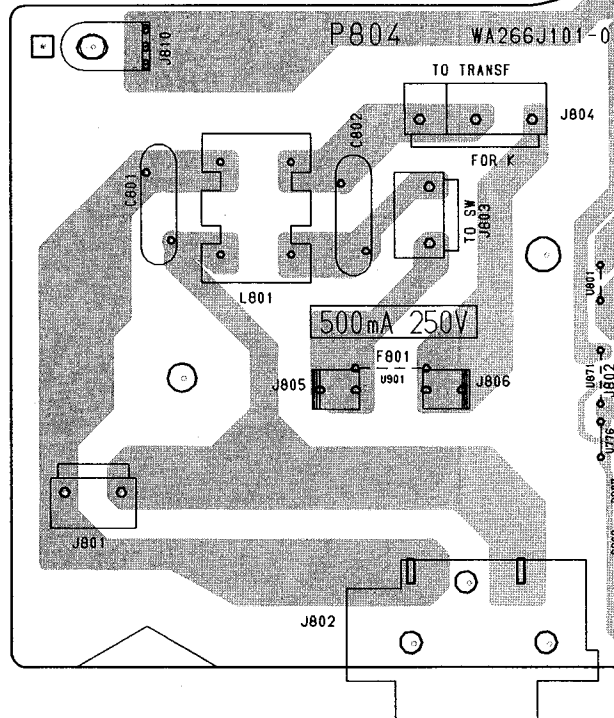
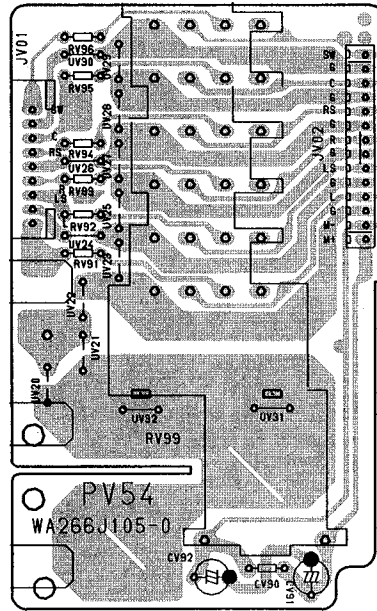
SW C SR SL R L LINE RC5

P.C. BOARDS (3)

P854-Power SW P. C. Board



PV54-Master Volume P. C. Board



F

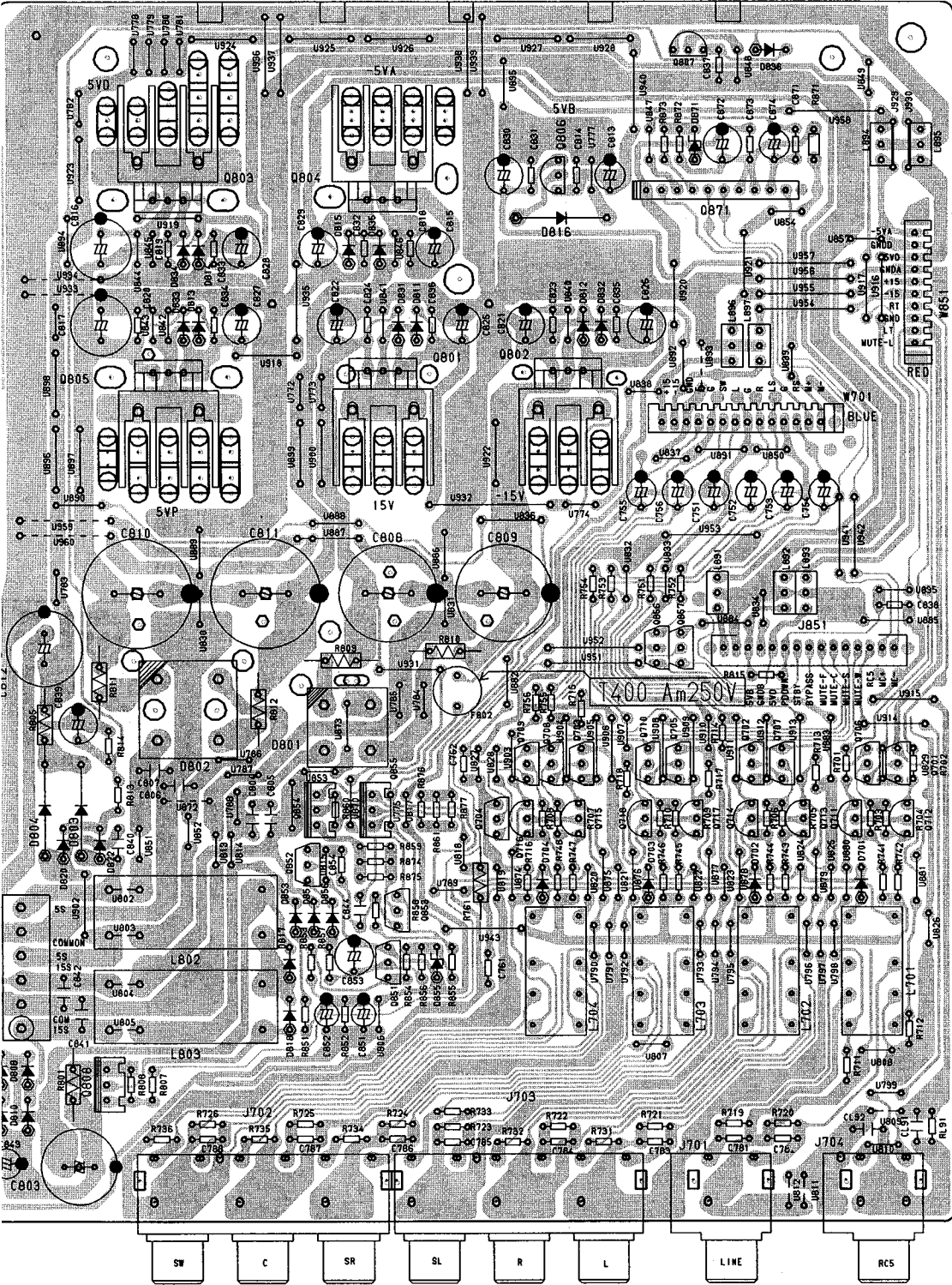
G

H

I

J

P804-Power P. C. Board



ELECTRICAL PARTS LIST

Ref. No.	Part. No.	Description	Ref. No.	Part. No.	Description
PD04-DAC, CROSS-OVER P.C. BOARD					
CAPACITORS, CHIP					
CD01	EJ10700610	ELECT 100 μ F 6.3V, Non chip	CD82	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD02	DK98104200	CERAMIC 0.1 μ F +80% -20%	CD91	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD03	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE01	DD95150300	CERAMIC 15PF \pm 5%
CD04	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE03	EJ10601610	ELECT 10 μ F 16V, Non chip
CD05	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE04	EJ10601610	ELECT 10 μ F 16V, Non chip
CD06	EJ47601010	ELECT 47 μ F 16V, Non chip	CE05	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD07	DF15102350	FILM 1000PF \pm 5%, Non chip	CE06	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD08	DF15102350	FILM 1000PF \pm 5%, Non chip	CE07	EJ10601610	ELECT 10 μ F 16V, Non chip
CD10	EJ10700610	ELECT 100 μ F 6.3V	CE08	EJ10601610	ELECT 10 μ F 16V, Non chip
CD11	EY10601620	ELECT 10 μ F 16V	CE09	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
CD12	EY10601620	ELECT 10 μ F 16V	CE10	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
CD13	DD95150300	CERAMIC 15PF \pm 5%	CE11	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
CD14	DD95150300	CERAMIC 15PF \pm 5%	CE12	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
CD15	DF15222350	FILM 2200PF \pm 5%, Non chip	CE13	EJ10601610	ELECT 10 μ F 16V, Non chip
CD16	DF15222350	FILM 2200PF \pm 5%, Non chip	CE14	EJ10601610	ELECT 10 μ F 16V, Non chip
CD17	DF15561350	FILM 560PF \pm 5%, Non chip	CE15	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD18	DF15561350	FILM 560PF \pm 5%, Non chip	CE16	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD19	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE17	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD20	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE18	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD21	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE19	DD95150300	CERAMIC 15PF \pm 5%
CD22	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE20	DD95150300	CERAMIC 15PF \pm 5%
CD31	EJ10700610	ELECT 100 μ F 6.3V, Non chip	CE21	EJ10601610	ELECT 10 μ F 16V, Non chip
CD32	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE22	EJ10601610	ELECT 10 μ F 16V, Non chip
CD33	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE23	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD34	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE24	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD35	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE25	EJ10601610	ELECT 10 μ F 16V, Non chip
CD36	EJ47601010	ELECT 47 μ F 16V, Non chip	CE26	EJ10601610	ELECT 10 μ F 16V, Non chip
CD37	DF15102350	FILM 1000PF \pm 5%, Non chip	CE31	DD95150300	CERAMIC 15PF \pm 5%
CD38	DF15102350	FILM 1000PF \pm 5%, Non chip	CE33	EJ10601610	ELECT 10 μ F 16V, Non chip
CD40	EJ10700610	ELECT 100 μ F 6.3V, Non chip	CE34	EJ10601610	ELECT 10 μ F 16V, Non chip
CD41	EY10601620	ELECT 10 μ F 16V	CE35	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD42	EY10601620	ELECT 10 μ F 16V	CE36	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD43	DD95150300	CERAMIC 15PF \pm 5%	CE37	EJ10601610	ELECT 10 μ F 16V, Non chip
CD44	DD95150300	CERAMIC 15PF \pm 5%	CE38	EJ10601610	ELECT 10 μ F 16V, Non chip
CD45	DF15222350	FILM 2200PF \pm 5%, Non chip	CE39	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
CD46	DF15222350	FILM 2200PF \pm 5%, Non chip	CE40	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
CD47	DF15561350	FILM 560PF \pm 5%, Non chip	CE41	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
CD48	DF15561350	FILM 560PF \pm 5%, Non chip	CE42	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
CD49	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE43	EJ10601610	ELECT 10 μ F 16V, Non chip
CD50	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE44	EJ10601610	ELECT 10 μ F 16V, Non chip
CD51	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE45	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD52	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE46	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD53	DK96561300	CERAMIC 560PF \pm 10%	CE47	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD54	DK96561300	CERAMIC 560PF \pm 10%	CE48	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD55	DK96561300	CERAMIC 560PF \pm 10%	CE49	DD95150300	CERAMIC 15PF \pm 5%
CD56	DK96561300	CERAMIC 560PF \pm 10%	CE50	DD95150300	CERAMIC 15PF \pm 5%
CD61	EJ10700610	ELECT 100 μ F 6.3V, Non chip	CE51	EJ10601610	ELECT 10 μ F 16V, Non chip
CD62	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE52	EJ10601610	ELECT 10 μ F 16V, Non chip
CD63	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE53	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD64	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE54	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD65	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE55	EJ10601610	ELECT 10 μ F 16V, Non chip
CD66	EJ47601010	ELECT 47 μ F 16V, Non chip	CE56	EJ10601610	ELECT 10 μ F 16V, Non chip
CD67	DF15102350	FILM 1000PF \pm 5%, Non chip	CE60	EJ10601610	ELECT 10 μ F 16V, Non chip
CD68	DF15102350	FILM 1000PF \pm 5%, Non chip	CE63	EJ10601610	ELECT 10 μ F 16V, Non chip
CD69	DK96561300	CERAMIC 560PF \pm 10%	CE64	EJ10601610	ELECT 10 μ F 16V, Non chip
CD70	EJ10700610	ELECT 100 μ F 6.3V, Non chip	CE67	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
CD71	EY10601620	ELECT 10 μ F 16V	CE68	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
CD72	EY10601620	ELECT 10 μ F 16V	CE69	EJ10601610	ELECT 10 μ F 16V, Non chip
CD73	DD95150300	CERAMIC 15PF \pm 5%	CE70	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD74	DK96561300	CERAMIC 560PF \pm 10%	CE71	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD75	DF15222350	FILM 2200PF \pm 5%, Non chip	CE72	EJ10601610	ELECT 10 μ F 16V, Non chip
CD76	DF15182350	FILM 1800PF \pm 5%, Non chip	CE73	DD95150300	CERAMIC 15PF \pm 5%
CD77	DF15561350	FILM 560PF \pm 5%, Non chip	CE74	DD95150300	CERAMIC 15PF \pm 5%
CD78	DF15182350	FILM 1800PF \pm 5%, Non chip	CE75	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD79	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE76	DK98104200	CERAMIC 0.1 μ F +80% -20%
CD80	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE77	EJ10601610	ELECT 10 μ F 16V, Non chip
CD81	DK98104200	CERAMIC 0.1 μ F +80% -20%	CE78	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
			CE79	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
			CE80	DF15104350	FILM 0.1 μ F \pm 5%, Non chip
			CE81	DF15104350	FILM 0.1 μ F \pm 5%, Non chip

Ref. No.	Part. No.	Description	Ref. No.	Part. No.	Description
RE94	NN05333610	1/16W 33K Ω $\pm 5\%$	RU04	GD05681160	1/6W 680 Ω $\pm 5\%$
RE95	NN05224610	1/16W 220K Ω $\pm 5\%$	RU05	GD05681160	1/6W 680 Ω $\pm 5\%$
RE96	NN05333610	1/16W 33K Ω $\pm 5\%$	RU06	GD05681160	1/6W 680 Ω $\pm 5\%$
RE97	NN05273610	1/16W 27K Ω $\pm 5\%$	RU07	GD05681160	1/6W 680 Ω $\pm 5\%$
RM91	NN05154610	1/16W 150K Ω $\pm 5\%$	RU08	GD05331160	1/6W 330 Ω $\pm 5\%$
RM92	NN05561610	1/16W 560 Ω $\pm 5\%$	RU09	GD05681160	1/6W 680 Ω $\pm 5\%$
RM93	NN05820610	1/16W 82 Ω $\pm 5\%$	RU10	GD05681160	1/6W 680 Ω $\pm 5\%$
RM94	NN05102610	1/16W 1K Ω $\pm 5\%$	RU11	GD05681160	1/6W 680 Ω $\pm 5\%$
RM96	NN05103610	1/16W 10K Ω $\pm 5\%$	RU12	GD05681160	1/6W 680 Ω $\pm 5\%$
RM97	NN05103610	1/16W 10K Ω $\pm 5\%$	RU21	GD05153160	1/6W 15K Ω $\pm 5\%$
RM98	NN05103610	1/16W 10K Ω $\pm 5\%$	RU22	GD05562160	1/6W 5.6K Ω $\pm 5\%$
RR91	NN05750610	1/16W 75 Ω $\pm 5\%$	RU23	GD05272160	1/6W 2.7K Ω $\pm 5\%$
RR99	NN05000610	1/16W 0 Ω $\pm 5\%$	RU24	GD05182160	1/6W 1.8K Ω $\pm 5\%$
LM91	NN05000610	1/16W 0 Ω $\pm 5\%$	RU25	GD05102160	1/6W 1K Ω $\pm 5\%$
LR91	NN05000610	1/16W 0 Ω $\pm 5\%$	RU26	GD05122160	1/6W 1.2K Ω $\pm 5\%$

INTEGRATED CIRCUITS

QD01	HC10122490	IC TDA1305T DAC
QD02	HC10122490	IC TDA1305T DAC
QD03	HC10122490	IC TDA1305T DAC
QD05	HC10029090	IC NJM4560M OP AMP
QD06	HC10029090	IC NJM4560M OP AMP
QD07	HC10029090	IC NJM4560M OP AMP
QD09	HC10029090	IC NJM4560M OP AMP
QD10	HC10029090	IC NJM4560M OP AMP
QD11	HC10029090	IC NJM4560M OP AMP
QD14	HC000305K0	IC TC7WU04F HEX INVERTER
QE04	HC10151090	IC NJU7311AM ANALOG SW
QE05	HC10011090	IC NJM4558M OP AMP
QE06	HC10011090	IC NJM4558M OP AMP
QE07	HC10011090	IC NJM4558M OP AMP
QE08	HC10011090	IC NJM4558M OP AMP
QE09	HC10011090	IC NJM4558M OP AMP
QE10	HC10011090	IC NJM4558M OP AMP
QE11	HC10011090	IC NJM4558M OP AMP
QE12	HC10011090	IC NJM4558M OP AMP
QE13	HC10011090	IC NJM4558M OP AMP
QE14	HC10011090	IC NJM4558M OP AMP
QM92	HC10011090	IC NJM4558M OP AMP

TRANSISTORS, CHIP

QM91	HX300012A0	2SC4081 (Q, R)
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MISCELLANEOUS

JD01	YP06020940	PLUG, 12P
JD02	YP06020940	PLUG, 12P
JD03	YP06020940	PLUG, 12P
JD04	YP06006700	PLUG, 10P
JD05	YP06006690	PLUG, 9P
JD06	YL01010240	TERMINAL
JR01	YT02011020	TERMINAL, 1P
JR02	YT02011020	TERMINAL, 1P
JR03	YJ15000150	OPT. CONNECTOR, GP1F32R
JR04	YL01010140	TERMINAL, GND
LD01	FM12223010	EMI FILTER
LD02	FM12223010	EMI FILTER
LD03	FM12223010	EMI FILTER
LD04	FM12223010	EMI FILTER

PU04-FRONT P.C. BOARD**CAPACITORS**

CU01	DA17104110	CERAMIC 0.1 μ F +80% -20%
CU02	DA15470110	CERAMIC 47PF $\pm 5\%$

RESISTORS

RU01	GD05681160	1/6W 680 Ω $\pm 5\%$
RU02	GD05681160	1/6W 680 Ω $\pm 5\%$
RU03	GD05681160	1/6W 680 Ω $\pm 5\%$

DIODES

DU01	HI10062320	L.E.D. LT3D8B (RED)
DU02	HI10062320	L.E.D. LT3D8B (RED)
DU03	HI10062320	L.E.D. LT3D8B (RED)
DU04	HI10062320	L.E.D. LT3D8B (RED)
DU05	HI10062320	L.E.D. LT3D8B (RED)
DU06	HI10062320	L.E.D. LT3D8B (RED)
DU07	HI10062320	L.E.D. LT3D8B (RED)
DU08	HI10095320	L.E.D. LT3K44B (GRN)
DU09	HI10062320	L.E.D. LT3D8B (RED)
DU10	HI10062320	L.E.D. LT3D8B (RED)
DU11	HI10062320	L.E.D. LT3D8B (RED)
DU12	HI10062320	L.E.D. LT3D8B (RED)

MISCELLANEOUS

SU01	SP01011280	PUSH SWITCH
SU02	SP01011280	PUSH SWITCH
SU03	SP01011280	PUSH SWITCH
SU04	SP01011280	PUSH SWITCH
SU05	SP01011280	PUSH SWITCH
SU06	SP01011280	PUSH SWITCH
SU07	SP01011280	PUSH SWITCH
JU01	YJ07011990	JACK, 19P

PU54-SPK SW P.C. BOARD**CAPACITORS**

CP01	DA15470110	CERAMIC 47PF $\pm 5\%$
CP02	DA15470110	CERAMIC 47PF $\pm 5\%$
CP03	DA15470110	CERAMIC 47PF $\pm 5\%$
CP04	DA17104110	CERAMIC 0.1 μ F +80% -20%

RESISTORS

RP01	GD05562160	1/6W 5.6K Ω $\pm 5\%$
RP03	GD05102160	1/6W 1K Ω $\pm 5\%$
RP04	GD05472160	1/6W 4.7K Ω $\pm 5\%$
RP05	GD05273160	1/6W 27K Ω $\pm 5\%$
RP06	GD05102160	1/6W 1K Ω $\pm 5\%$
RP07	GD05472160	1/6W 4.7K Ω $\pm 5\%$
RP08	GD05273160	1/6W 27K Ω $\pm 5\%$
RP09	GD05103160	1/6W 10K Ω $\pm 5\%$

MISCELLANEOUS

JP01	YP06007160	PLUG, 6P
JP02	YL01010140	TERMINAL, GND
JP03	YL01010140	TERMINAL, GND
SP01	SS02021470	SLIDE SWITCH
SP02	SS02030560	SLIDE SWITCH
SP03	SS02030560	SLIDE SWITCH
SP04	SS02021470	SLIDE SWITCH

Ref. No.	Part. No.	Description
PV04-TRIM VOLUME P.C. BOARD		
CAPACITORS		
CV01	EJ10601610	ELECT 10 μ F 16V
CV02	EJ10601610	ELECT 10 μ F 16V
CV03	EJ10601610	ELECT 10 μ F 16V
CV04	EJ10601610	ELECT 10 μ F 16V
CV05	EJ10601610	ELECT 10 μ F 16V
CV06	EJ10601610	ELECT 10 μ F 16V
CV13	EJ10601610	ELECT 10 μ F 16V
CV14	EJ10601610	ELECT 10 μ F 16V
CV15	EJ10601610	ELECT 10 μ F 16V
CV16	EJ10601610	ELECT 10 μ F 16V
CV17	EJ10601610	ELECT 10 μ F 16V
CV18	EJ10601610	ELECT 10 μ F 16V
CV51	EA10701610	ELECT 100 μ F 16V
CV52	EA10701610	ELECT 100 μ F 16V
CV53	DA17223110	CERAMIC 0.022 μ F \pm 10%
CV54	DA17223110	CERAMIC 0.022 μ F \pm 10%
CV55	DA17223110	CERAMIC 0.022 μ F \pm 10%
CV56	DA17223110	CERAMIC 0.022 μ F \pm 10%
CV57	DA17223110	CERAMIC 0.022 μ F \pm 10%
CV58	DA17223110	CERAMIC 0.022 μ F \pm 10%
CV59	DA17223110	CERAMIC 0.022 μ F \pm 10%
CV60	DA17223110	CERAMIC 0.022 μ F \pm 10%
CV61	DA17223110	CERAMIC 0.022 μ F \pm 10%
CV62	DA17223110	CERAMIC 0.022 μ F \pm 10%
CV63	DA17223110	CERAMIC 0.022 μ F \pm 10%
CV64	DA17223110	CERAMIC 0.022 μ F \pm 10%

Ref. No.	Part. No.	Description
RESISTORS		
RV11	GD05473160	1/6W 47K Ω \pm 5%
RV12	GD05473160	1/6W 47K Ω \pm 5%
RV13	GD05473160	1/6W 47K Ω \pm 5%
RV14	GD05473160	1/6W 47K Ω \pm 5%
RV15	GD05473160	1/6W 47K Ω \pm 5%
RV16	GD05473160	1/6W 47K Ω \pm 5%
RV17	GD05562160	1/6W 5.6K Ω \pm 5%
RV18	GD05562160	1/6W 5.6K Ω \pm 5%
RV19	GD05562160	1/6W 5.6K Ω \pm 5%
RV20	GD05562160	1/6W 5.6K Ω \pm 5%
RV21	GD05562160	1/6W 5.6K Ω \pm 5%
RV22	GD05562160	1/6W 5.6K Ω \pm 5%
RV29	GD05105160	1/6W 1M Ω \pm 5%
RV30	GD05105160	1/6W 1M Ω \pm 5%
RV31	GD05105160	1/6W 1M Ω \pm 5%
RV32	GD05105160	1/6W 1M Ω \pm 5%
RV33	GD05105160	1/6W 1M Ω \pm 5%
RV34	GD05105160	1/6W 1M Ω \pm 5%
RV35	GD05473160	1/6W 47K Ω \pm 5%
RV36	GD05473160	1/6W 47K Ω \pm 5%
RV37	GD05473160	1/6W 47K Ω \pm 5%
RV38	GD05473160	1/6W 47K Ω \pm 5%
RV39	GD05473160	1/6W 47K Ω \pm 5%
RV40	GD05473160	1/6W 47K Ω \pm 5%
RV41	GD05470160	1/6W 470 Ω \pm 5%
RV42	GD05470160	1/6W 470 Ω \pm 5%
RV43	GD05470160	1/6W 470 Ω \pm 5%
RV44	GD05470160	1/6W 470 Ω \pm 5%
RV45	GD05470160	1/6W 470 Ω \pm 5%
RV46	GD05470160	1/6W 470 Ω \pm 5%

Ref. No.	Part. No.	Description
CONTROLS		
RV01	RK05030860	VARIABLE 50K Ω (K)
RV02	RK05030860	VARIABLE 50K Ω (K)
RV03	RK05030860	VARIABLE 50K Ω (K)
RV04	RK05030860	VARIABLE 50K Ω (K)
RV05	RK05030860	VARIABLE 50K Ω (K)
RV06	RK05030860	VARIABLE 50K Ω (K)

Ref. No.	Part. No.	Description
INTEGRATED CIRCUITS		
QV01	HC10007090	IC NJM4560D OP AMP
QV02	HC10007090	IC NJM4560D OP AMP
QV03	HC10007090	IC NJM4560D OP AMP
QV04	HC10007090	IC NJM4560D OP AMP
QV05	HC10007090	IC NJM4560D OP AMP
QV06	HC10007090	IC NJM4560D OP AMP
MISCELLANEOUS		
JV03	YJ07012240	JACK, 14P
JV04	YP06004420	PLUG, 14P

PV54-MASTER VOLUME P.C. BOARD

Ref. No.	Part. No.	Description
RESISTORS		
RV91	GD05103160	1/6W 10K Ω \pm 5%
RV92	GD05103160	1/6W 10K Ω \pm 5%
RV93	GD05103160	1/6W 10K Ω \pm 5%
RV94	GD05103160	1/6W 10K Ω \pm 5%
RV95	GD05103160	1/6W 10K Ω \pm 5%
RV96	GD05103160	1/6W 10K Ω \pm 5%
CONTROL		
RV99	RG05030240	VARIABLE 50K Ω (VB) x 6
MISCELLANEOUS		
JV01	YP06006690	PLUG, 9P
JV02	YJ07012440	JACK, 14P

P604-AC-3 DECODER P.C. BOARD

Ref. No.	Part. No.	Description
CAPACITORS, CHIP		
CL01	EY10700620	ELECT 100 μ F 6.3V
CL02	EX22300530	BIG ELECT 0.022F 5V
CL03	DK98104200	CERAMIC 0.1 μ F +80% -20%
CL04	EY10601620	ELECT 10 μ F 16V
CL05	DK98104200	CERAMIC 0.1 μ F +80% -20%
CL06	DK98104200	CERAMIC 0.1 μ F +80% -20%
CL07	DD95101300	CERAMIC 100PF \pm 5%
CL08	DK98104200	CERAMIC 0.1 μ F +80% -20%
CL09	DK98104200	CERAMIC 0.1 μ F +80% -20%
CL10	DK98104200	CERAMIC 0.1 μ F +80% -20%
CL11	DK98104200	CERAMIC 0.1 μ F +80% -20%
CL12	DK98104200	CERAMIC 0.1 μ F +80% -20%
CM01	EY10700620	ELECT 100 μ F 6.3V
CM02	EY10700620	ELECT 100 μ F 6.3V
CM03	DK98104200	CERAMIC 0.1 μ F +80% -20%
CM04	DK98104200	CERAMIC 0.1 μ F +80% -20%
CM05	DD95151300	CERAMIC 150PF \pm 5%
CM06	DK96103300	CERAMIC 0.01 μ F \pm 10%
CM07	DK96103300	CERAMIC 0.01 μ F \pm 10%
CM08	DK98104200	CERAMIC 0.1 μ F +80% -20%
CM09	DK98104200	CERAMIC 0.1 μ F +80% -20%
CM10	EY10700620	ELECT 100 μ F 6.3V
CM11	EY10700620	ELECT 100 μ F 6.3V
CM12	DK98104200	CERAMIC 0.1 μ F +80% -20%
CM13	DK98104200	CERAMIC 0.1 μ F +80% -20%
CM14	DK98104200	CERAMIC 0.1 μ F +80% -20%
CM15	DF15474350	FILM 0.47 μ F 50V, Non chip
CM16	DD95151300	CERAMIC 150PF \pm 5%
CM18	DF15474350	FILM 0.47 μ F 50V, Non chip
CM33	DK98104200	CERAMIC 0.1 μ F +80% -20%
CM34	DK98104200	CERAMIC 0.1 μ F +80% -20%
CM35	EY10700620	ELECT 100 μ F 6.3V
CM36	EY10700620	ELECT 100 μ F 6.3V
CM37	DK96104200	CERAMIC 0.1 μ F \pm 10%
CM38	DK96103300	CERAMIC 0.01 μ F \pm 10%
CM39	DK96103300	CERAMIC 0.01 μ F \pm 10%
CM40	DD95220300	CERAMIC 22PF \pm 5%

Ref. No.	Part. No.	Description	Ref. No.	Part. No.	Description
CM41	EY10700620	ELECT 100μF 6.3V	C689	EY10700620	ELECT 100μF 6.3V
CM42	DK98104200	CERAMIC 0.1μF +80% -20%	C690	DK98104200	CERAMIC 0.1μF +80% -20%
CM51	EY10700620	ELECT 100μF 6.3V	C691	DK98104200	CERAMIC 0.1μF +80% -20%
CM52	DK98104200	CERAMIC 0.1μF +80% -20%	C692	EY10700620	ELECT 100μF 6.3V
CM53	DK98104200	CERAMIC 0.1μF +80% -20%	C693	EY10700620	ELECT 100μF 6.3V
CM54	DD95101300	CERAMIC 100PF ±5%	C694	DK98104200	CERAMIC 0.1μF +80% -20%
CM55	DK98104200	CERAMIC 0.1μF +80% -20%	C695	DK98104200	CERAMIC 0.1μF +80% -20%
CM56	DK98104200	CERAMIC 0.1μF +80% -20%	C696	DK98104200	CERAMIC 0.1μF +80% -20%
CM57	DK98104200	CERAMIC 0.1μF +80% -20%	C697	DD95330300	CERAMIC 33PF ±5%
CM58	EY10700620	ELECT 100μF 6.3V	RR02	DK96104200	CERAMIC 0.1μF ±10%
CM59	DK98104200	CERAMIC 0.1μF +80% -20%			
CM60	DK98104200	CERAMIC 0.1μF +80% -20%			
CM61	DK98104200	CERAMIC 0.1μF +80% -20%			
CM62	EY10700620	ELECT 100μF 6.3V			
CR01	DK98104200	CERAMIC 0.1μF +80% -20%	RL01	NN05222610	1/16W 2.2K Ω ±5%
CR02	DK96102300	CERAMIC 1000PF ±10%	RL02	NN05222610	1/16W 2.2K Ω ±5%
CR03	DD95101300	CERAMIC 100PF ±5%	RL03	NN05222610	1/16W 2.2K Ω ±5%
CR04	DK98104200	CERAMIC 0.1μF +80% -20%	RL04	NN05222610	1/16W 2.2K Ω ±5%
CR05	EY10700620	ELECT 100μF 6.3V	RL05	NN05222610	1/16W 2.2K Ω ±5%
CR06	DK98104200	CERAMIC 0.1μF +80% -20%	RL06	NN05222610	1/16W 2.2K Ω ±5%
CR07	DK96103300	CERAMIC 0.01μF ±10%	RL09	NN05472610	1/16W 4.7K Ω ±5%
CR08	EY10700620	ELECT 100μF 6.3V	RL10	NN05472610	1/16W 4.7K Ω ±5%
CR09	DK98104200	CERAMIC 0.1μF +80% -20%	RL11	NN05473610	1/16W 47K Ω ±5%
CR10	DD95220300	CERAMIC 22PF ±5%	RL12	NN05000610	1/16W 0 Ω ±5%
CR11	DD95220300	CERAMIC 22PF ±5%	RL13	NN05000610	1/16W 0 Ω ±5%
CR12	EY10700620	ELECT 100μF 6.3V	RL14	NN05472610	1/16W 4.7K Ω ±5%
CR13	DK98104200	CERAMIC 0.1μF +80% -20%	RL15	NN05472610	1/16W 4.7K Ω ±5%
CR14	DK98104200	CERAMIC 0.1μF +80% -20%	RL16	NN05472610	1/16W 4.7K Ω ±5%
CR15	DK98104200	CERAMIC 0.1μF +80% -20%	RL17	NN05472610	1/16W 4.7K Ω ±5%
C601	EY10700620	ELECT 100μF 6.3V	RL18	NN05472610	1/16W 4.7K Ω ±5%
C602	DK98104200	CERAMIC 0.1μF +80% -20%	RL19	NN05472610	1/16W 4.7K Ω ±5%
C603	DK98104200	CERAMIC 0.1μF +80% -20%	RL20	NN05102610	1/16W 1K Ω ±5%
C604	DK98104200	CERAMIC 0.1μF +80% -20%	RL21	NN05000610	1/16W 0 Ω ±5%
C605	DK98104200	CERAMIC 0.1μF +80% -20%	RL22	NN05000610	1/16W 0 Ω ±5%
C606	EY10700620	ELECT 100μF 6.3V	RL23	NN05000610	1/16W 0 Ω ±5%
C607	DK98104200	CERAMIC 0.1μF +80% -20%	RL24	NN05103610	1/16W 10K Ω ±5%
C608	DK98104200	CERAMIC 0.1μF +80% -20%	RL31	NN05000610	1/16W 0 Ω ±5%
C609	DK98104200	CERAMIC 0.1μF +80% -20%	RL32	NN05103610	1/16W 10K Ω ±5%
C610	DK98104200	CERAMIC 0.1μF +80% -20%	RL51	NN05000610	1/16W 0 Ω ±5%
C611	DK98104200	CERAMIC 0.1μF +80% -20%	RL52	NN05000610	1/16W 0 Ω ±5%
C612	DK98104200	CERAMIC 0.1μF +80% -20%	RL53	NN05000610	1/16W 0 Ω ±5%
C613	EY10700620	ELECT 100μF 6.3V	RL54	NN05000610	1/16W 0 Ω ±5%
C614	DK98104200	CERAMIC 0.1μF +80% -20%	RL55	NN05000610	1/16W 0 Ω ±5%
C615	DK98104200	CERAMIC 0.1μF +80% -20%	RL56	NN05000610	1/16W 0 Ω ±5%
C616	DK98104200	CERAMIC 0.1μF +80% -20%	RL57	NN05000610	1/16W 0 Ω ±5%
C617	DK98104200	CERAMIC 0.1μF +80% -20%	RL58	NN05000610	1/16W 0 Ω ±5%
C618	DK98104200	CERAMIC 0.1μF +80% -20%	RM01	NN05102610	1/16W 1K Ω ±5%
C619	DD95101300	CERAMIC 100PF ±5%	RM02	NN05472610	1/16W 4.7K Ω ±5%
C620	EY10700620	ELECT 100μF 6.3V	RM03	NN05102610	1/16W 1K Ω ±5%
C621	DK98104200	CERAMIC 0.1μF +80% -20%	RM04	NN05151610	1/16W 150 Ω ±5%
C622	DK98104200	CERAMIC 0.1μF +80% -20%	RM05	NN05222610	1/16W 2.2K Ω ±5%
C623	DK98104200	CERAMIC 0.1μF +80% -20%	RM06	NN05331610	1/16W 330 Ω ±5%
C624	DK98104200	CERAMIC 0.1μF +80% -20%	RM07	NN05102610	1/16W 1K Ω ±5%
C625	DK98104200	CERAMIC 0.1μF +80% -20%	RM08	NN05102610	1/16W 1K Ω ±5%
C626	DD95330300	CERAMIC 33PF ±5%	RM09	NN05102610	1/16W 1K Ω ±5%
C627	DK98104200	CERAMIC 0.1μF +80% -20%	RM10	NN05103610	1/16W 10K Ω ±5%
C628	EY10700620	ELECT 100μF 6.3V	RM11	NN05102610	1/16W 1K Ω ±5%
C629	DK98104200	CERAMIC 0.1μF +80% -20%	RM12	NN05103610	1/16W 10K Ω ±5%
C630	EY10700620	ELECT 100μF 6.3V	RM13	NN05102610	1/16W 1K Ω ±5%
C631	DK98104200	CERAMIC 0.1μF +80% -20%	RM14	NN05102610	1/16W 1K Ω ±5%
C632	EY10700620	ELECT 100μF 6.3V	RM15	NN05102610	1/16W 1K Ω ±5%
C634	DK98104200	CERAMIC 0.1μF +80% -20%	RM16	NN05101610	1/16W 100 Ω ±5%
C681	DK98104200	CERAMIC 0.1μF +80% -20%	RM17	NN05000610	1/16W 0 Ω ±5%
C682	DK98104200	CERAMIC 0.1μF +80% -20%	RM19	NN05103610	1/16W 10K Ω ±5%
C683	DK98104200	CERAMIC 0.1μF +80% -20%	RM20	NN05224610	1/16W 220K Ω ±5%
C684	DK98104200	CERAMIC 0.1μF +80% -20%	RM21	NN05103610	1/16W 10K Ω ±5%
C685	DK98104200	CERAMIC 0.1μF +80% -20%	RM22	NN05224610	1/16W 220K Ω ±5%
C686	DK98104200	CERAMIC 0.1μF +80% -20%	RM23	NN05683610	1/16W 68K Ω ±5%
C687	EY10700620	ELECT 100μF 6.3V	RM27	NN05153610	1/16W 15K Ω ±5%
C688	EY10700620	ELECT 100μF 6.3V	RM28	NN05153610	1/16W 15K Ω ±5%
			RM29	NN05103610	1/16W 10K Ω ±5%
			RM31	NN05223610	1/6W 22K Ω ±5%

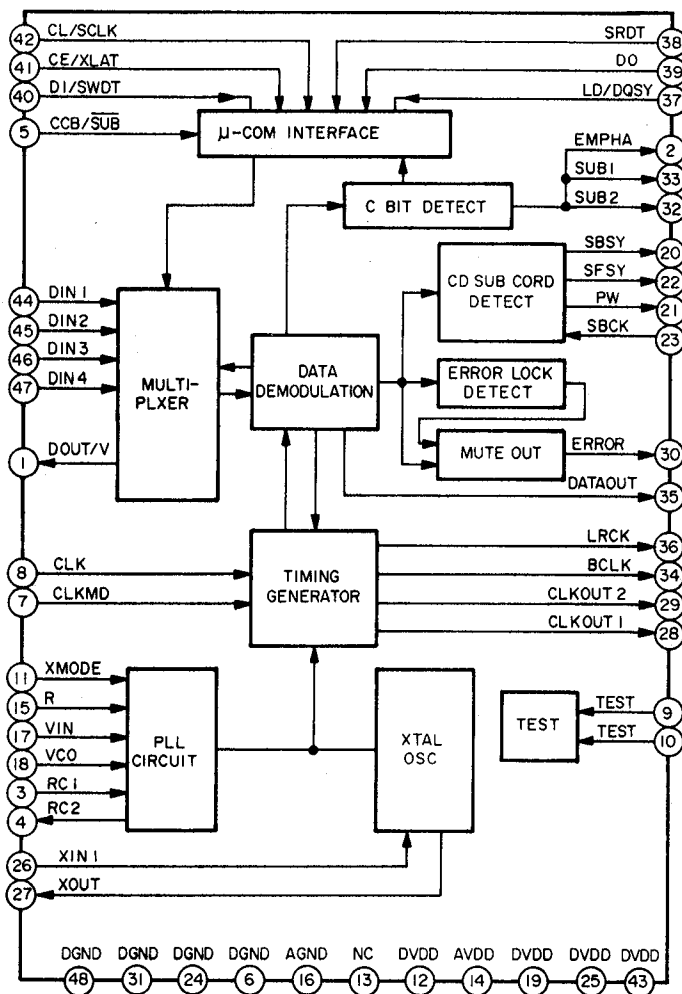
RESISTORS, CHIP

Ref. No.	Part. No.	Description	Ref. No.	Part. No.	Description
RM32	NN05473610	1/16W 47K Ω ±5%	R622	NN05470610	1/16W 47 Ω ±5%
RM33	NN05473610	1/16W 47K Ω ±5%	R623	NN05470610	1/16W 47 Ω ±5%
RM34	NN05121610	1/16W 120 Ω ±5%	R624	NN05470610	1/16W 47 Ω ±5%
RM35	NN05103610	1/16W 10K Ω ±5%	R625	NN05470610	1/16W 47 Ω ±5%
RM36	NN05103610	1/16W 10K Ω ±5%	R626	NN05470610	1/16W 47 Ω ±5%
RM37	NN05103610	1/16W 10K Ω ±5%	R627	NN05470610	1/16W 47 Ω ±5%
RM38	NN05103610	1/16W 10K Ω ±5%	R628	NN05470610	1/16W 47 Ω ±5%
RM39	NN05473610	1/16W 47K Ω ±5%	R629	NN05470610	1/16W 47 Ω ±5%
RM40	NN05473610	1/16W 47K Ω ±5%	R630	NN05470610	1/16W 47 Ω ±5%
RM41	NN05473610	1/16W 47K Ω ±5%	R631	NN05470610	1/16W 47 Ω ±5%
RM42	NN05105610	1/16W 1M Ω ±5%	R632	NN05000610	1/16W 0 Ω ±5%
RM43	NN05000610	1/16W 0 Ω ±5%	R633	NN05470610	1/16W 47 Ω ±5%
RM44	NN05103610	1/16W 10K Ω ±5%	R634	NN05470610	1/16W 47 Ω ±5%
RM45	NN05332610	1/16W 3.3K Ω ±5%	R635	NN05470610	1/16W 47 Ω ±5%
RM46	NN05332610	1/16W 3.3K Ω ±5%	R636	NN05470610	1/16W 47 Ω ±5%
RM54	NN05103610	1/16W 10K Ω ±5%	R637	NN05470610	1/16W 47 Ω ±5%
RM55	NN05103610	1/16W 10K Ω ±5%	R638	NN05470610	1/16W 47 Ω ±5%
RM56	NN05103610	1/16W 10K Ω ±5%	R639	NN05470610	1/16W 47 Ω ±5%
RM57	NN05103610	1/16W 10K Ω ±5%	R640	NN05470610	1/16W 47 Ω ±5%
RM58	NN05103610	1/16W 10K Ω ±5%	R641	NN05470610	1/16W 47 Ω ±5%
RM59	NN05103610	1/16W 10K Ω ±5%	R642	NN05470610	1/16W 47 Ω ±5%
RM60	NN05104610	1/16W 100K Ω ±5%	R643	NN05470610	1/16W 47 Ω ±5%
RM61	NN05224610	1/16W 220K Ω ±5%	R644	NN05470610	1/16W 47 Ω ±5%
RM75	NN05000610	1/16W 0 Ω ±5%	R645	NN05470610	1/16W 47 Ω ±5%
RM76	NN05000610	1/16W 0 Ω ±5%	R646	NN05470610	1/16W 47 Ω ±5%
RM77	NN05000610	1/16W 0 Ω ±5%	R647	NN05473610	1/16W 47K Ω ±5%
RM78	NN05000610	1/16W 0 Ω ±5%	R648	NN05105610	1/16W 1M Ω ±5%
RR01	NN05750610	1/16W 75 Ω ±5%	R651	NN05000610	1/16W 0 Ω ±5%
RR03	NN05750610	1/16W 75 Ω ±5%	R652	NN05000610	1/16W 0 Ω ±5%
RR04	NN05563610	1/16W 56K Ω ±5%	R653	NN05000610	1/16W 0 Ω ±5%
RR05	NN05334610	1/16W 330K Ω ±5%	R654	NN05000610	1/16W 0 Ω ±5%
RR06	NN05333610	1/16W 33K Ω ±5%	R655	NN05000610	1/16W 0 Ω ±5%
RR08	NN05470610	1/16W 47 Ω ±5%	R656	NN05000610	1/16W 0 Ω ±5%
RR09	NN05123610	1/16W 12K Ω ±5%	R657	NN05000610	1/16W 0 Ω ±5%
RR10	NN05123610	1/16W 12K Ω ±5%	R658	NN05000610	1/16W 0 Ω ±5%
RR11	NN05562610	1/16W 5.6K Ω ±5%	LL01	NN05101610	1/16W 100 Ω ±5%
RR12	NN05562610	1/16W 5.6K Ω ±5%	LL03	NN05101610	1/16W 100 Ω ±5%
RR13	NN05121610	1/16W 120 Ω ±5%	LL04	NN05101610	1/16W 100 Ω ±5%
RR14	NN05224610	1/16W 220K Ω ±5%	LL05	NN05101610	1/16W 100 Ω ±5%
RR15	NN05000610	1/16W 0 Ω ±5%	LL06	NN05101610	1/16W 100 Ω ±5%
RR16	NN05000610	1/16W 0 Ω ±5%	LL07	NN05101610	1/16W 100 Ω ±5%
RR17	NN05000610	1/16W 0 Ω ±5%			
RR18	NN05000610	1/16W 0 Ω ±5%			
RR19	NN05000610	1/16W 0 Ω ±5%			
RR20	NN05000610	1/16W 0 Ω ±5%			
RR21	NN05000610	1/16W 0 Ω ±5%			
RR23	NN05000610	1/16W 0 Ω ±5%			
RR25	NN05000610	1/16W 0 Ω ±5%			
RR29	NN05563610	1/16W 56K Ω ±5%			
R601	NN05470610	1/16W 47 Ω ±5%	QL01	HU266JT020	INTEGRATED CIRCUITS
R602	NN05470610	1/16W 47 Ω ±5%	QL02	HC754100R0	MICROPROCESSOR TMP87C840F
R603	NN05470610	1/16W 47 Ω ±5%			IC 74HC541L BUS
R604	NN05470610	1/16W 47 Ω ±5%			BUFFER (OPTICAL BUS)
R605	NN05470610	1/16W 47 Ω ±5%	QL06	HC700000Z0	IC 74HC00 AND GATE
R606	NN05470610	1/16W 47 Ω ±5%	QL07	HC703200Z0	IC 74HC32 OR GATE
R607	NN05470610	1/16W 47 Ω ±5%	QM01	HC10015660	IC PD4606A
R608	NN05470610	1/16W 47 Ω ±5%			AC-3 RF DE-MODULATOR
R609	NN05470610	1/16W 47 Ω ±5%	QM02	HC10081000	IC MCM6205DJ SRAM
R610	NN05470610	1/16W 47 Ω ±5%	QM03	HC10065170	IC MC14577BF OP AMP
R611	NN05470610	1/16W 47 Ω ±5%	QM06	HC10180090	IC NJM360M OP AMP
R612	NN05470610	1/16W 47 Ω ±5%	QM07	HC10029090	IC NJM4560M OP AMP
R613	NN05470610	1/16W 47 Ω ±5%	QM08	HC000305K0	IC TC7WU04F HEX INVERTER
R614	NN05470610	1/16W 47 Ω ±5%	QM10	HC10029090	IC NJM4560M OP AMP
R615	NN05470610	1/16W 47 Ω ±5%	QM11	HC000305K0	IC TC7WU04F HEX INVERTER
R616	NN05470610	1/16W 47 Ω ±5%	QR01	HC10372030	IC LC8904Q
R617	NN05470610	1/16W 47 Ω ±5%			DIGITAL AUDIO I/F
R618	NN05470610	1/16W 47 Ω ±5%	QR02	HC700800Z0	IC 74HC08 AND GATE
R619	NN05470610	1/16W 47 Ω ±5%	QR03	HC700400R0	IC 74HC04 HEX INVERTER
R620	NN05470610	1/16W 47 Ω ±5%	Q601	HC10020990	IC ZR38500-VER
R621	NN05000610	1/16W 0 Ω ±5%			AC-3 DECODER
			Q602	HC10076000	IC M628032-20EI SRAM
			Q603	HC10076000	IC M628032-20EI SRAM
			Q604	HC10076000	IC M628032-20EI SRAM

Ref. No.	Part. No.	Description	Ref. No.	Part. No.	Description
TRANSISTORS					
QL04	BA20021210	DIGITAL DTC144EC	C815	EA10701610	ELECT 100 μ F 16V
QL05	BA20021210	DIGITAL DTC144EC	C816	EA10801670	ELECT 1000 μ F 16V
QL08	BA20021210	DIGITAL DTC144EC	C817	EA10801670	ELECT 1000 μ F 16V
QM04	HX300012A0	CHIP 2SC4081 (Q, R)	C818	DA17223110	CERAMIC 0.022 μ F \pm 20%
QM05	HX100012A0	CHIP 2SA1586 (Y, GR)	C819	DA17223110	CERAMIC 0.022 μ F \pm 20%
QM09	BA10014210	DIGITAL DTA144EU	C820	DA17223110	CERAMIC 0.022 μ F \pm 20%
DIODES, CHIP					
DL01	HZ21005000	1SS301	C821	EA47603510	ELECT 47 μ F 35V
DM01	HZ40003420	KV1851-TL00	C822	EA47603510	ELECT 47 μ F 35V
MISCELLANEOUS					
J601	YJ06031000	JACK, 12P	C823	DA17223110	CERAMIC 0.022 μ F \pm 20%
J602	YJ06031000	JACK, 12P	C824	DA17223110	CERAMIC 0.022 μ F \pm 20%
J603	YJ06031000	JACK, 12P	C825	EA10701610	ELECT 100 μ F 16V
J604	YJ07006850	JACK	C826	EA10701610	ELECT 100 μ F 16V
J605	YJ07006400	JACK	C827	EA10701610	ELECT 100 μ F 16V
J606	YJ07006760	JACK	C828	EA10701610	ELECT 100 μ F 16V
LM01	FM31204010	EMI FILTER	C829	EA10701610	ELECT 100 μ F 16V
LM02	FF30288010	L.C. FILTER, 2.88MHz	C830	EA10701610	ELECT 100 μ F 16V
LM03	LU12683010	INDUCTOR, CHIP 68 μ H	C831	DA17223110	CERAMIC 0.022 μ F \pm 20%
LR01	FM31204010	EMI FILTER	C832	DA17223110	CERAMIC 0.022 μ F \pm 20%
L601	FM31204010	EMI FILTER	C833	DA17223110	CERAMIC 0.022 μ F \pm 20%
L603	FM31204010	EMI FILTER	C834	DA17223110	CERAMIC 0.022 μ F \pm 20%
L681	FM32102010	EMI FILTER	C835	DA17223110	CERAMIC 0.022 μ F \pm 20%
L682	FM32102010	EMI FILTER	C836	DA17223110	CERAMIC 0.022 μ F \pm 20%
L683	FM32102010	EMI FILTER	C837	DA17223110	CERAMIC 0.022 μ F \pm 20%
L684	FM32102010	EMI FILTER	C838	DA16101110	CERAMIC 100PF \pm 10%
L685	FM32102010	EMI FILTER	C839	EA47603510	ELECT 47 μ F 35V
XM01	JX46001380	CRYSTAL 46.08MHz	C840	DK18103310	CERAMIC 0.01 μ F +80% -20%
XM02	JX18001380	CRYSTAL 18.432MHz	C841	DK18103310	CERAMIC 0.01 μ F +80% -20%
XL01	FQ08004030	CERAMIC Resonator 8.0MHz	C842	DK18103310	CERAMIC 0.01 μ F +80% -20%
XR01	JX24001380	CRYSTAL 24.5760MHz	C844	DF15224350	FILM 0.22 μ F \pm 5%
X601	FQ03385020	CERAMIC Resonator 33.868MHz	C851	EJ47405010	ELECT 0.47 μ F 50V
RESISTORS					
P804-POWER P.C. BOARD					
CAPACITORS					
C751	EJ10601610	ELECT 10 μ F 16V	R705	GD05103160	1/6W 10K Ω \pm 5%
C752	EJ10601610	ELECT 10 μ F 16V	R706	GD05103160	1/6W 10K Ω \pm 5%
C753	EJ10601610	ELECT 10 μ F 16V	R707	GD05103160	1/6W 10K Ω \pm 5%
C754	EJ10601610	ELECT 10 μ F 16V	R708	GD05103160	1/6W 10K Ω \pm 5%
C755	EJ10601610	ELECT 10 μ F 16V	R709	GD05103160	1/6W 10K Ω \pm 5%
C756	EJ10601610	ELECT 10 μ F 16V	R710	GD05103160	1/6W 10K Ω \pm 5%
C761	DK18103310	CERAMIC 0.01 μ F +80% -20%	R713	GD05104160	1/6W 100K Ω \pm 5%
C762	DA17223110	CERAMIC 0.022 μ F \pm 20%	R714	GD05104160	1/6W 100K Ω \pm 5%
C781	DA16221110	CERAMIC 220PF \pm 10% IB	R715	GD05104160	1/6W 100K Ω \pm 5%
C782	DA16221110	CERAMIC 220PF \pm 10% IB	R716	GD05104160	1/6W 100K Ω \pm 5%
C783	DA16221110	CERAMIC 220PF \pm 10% IB	R717	GD05104160	1/6W 100K Ω \pm 5%
C784	DA16221110	CERAMIC 220PF \pm 10% IB	R718	GD05104160	1/6W 100K Ω \pm 5%
C785	DA16221110	CERAMIC 220PF \pm 10% IB	R721	GD05104160	1/6W 100K Ω \pm 5%
C786	DA16221110	CERAMIC 220PF \pm 10% IB	R722	GD05104160	1/6W 100K Ω \pm 5%
C787	DA16221110	CERAMIC 220PF \pm 10% IB	R723	GD05104160	1/6W 100K Ω \pm 5%
C788	DA16221110	CERAMIC 220PF \pm 10% IB	R724	GD05104160	1/6W 100K Ω \pm 5%
\blacktriangle C801	DK17103840	CERAMIC 0.1 μ F \pm 20%	R725	GD05104160	1/6W 100K Ω \pm 5%
\blacktriangle C802	DK17103840	CERAMIC 0.1 μ F \pm 20%	R726	GD05104160	1/6W 100K Ω \pm 5%
C804	DK18103310	CERAMIC 0.01 μ F +80% -20%	R731	GD05104160	1/6W 100K Ω \pm 5%
C805	DK18103310	CERAMIC 0.01 μ F +80% -20%	R732	GD05104160	1/6W 100K Ω \pm 5%
C806	DK18103310	CERAMIC 0.01 μ F +80% -20%	R733	GD05104160	1/6W 100K Ω \pm 5%
C807	DK18103310	CERAMIC 0.01 μ F +80% -20%	R734	GD05104160	1/6W 100K Ω \pm 5%
C808	OA22803520	ELECT 2200 μ F 35V	R735	GD05104160	1/6W 100K Ω \pm 5%
C809	OA22803520	ELECT 2200 μ F 35V	R736	GD05104160	1/6W 100K Ω \pm 5%
C810	OA68801620	ELECT 6800 μ F 16V	R743	GD05105160	1/6W 1M Ω \pm 5%
C811	OA33801620	ELECT 3300 μ F 16V	R744	GD05105160	1/6W 1M Ω \pm 5%
C812	EA10802510	ELECT 1000 μ F 25V	R745	GD05105160	1/6W 1M Ω \pm 5%
C813	EA47602510	ELECT 47 μ F 25V	R746	GD05105160	1/6W 1M Ω \pm 5%
C814	DK18103310	CERAMIC 0.01 μ F +80% -20%	R747	GD05105160	1/6W 1M Ω \pm 5%
			R748	GD05105160	1/6W 1M Ω \pm 5%
			R751	GD05471160	1/6W 470 Ω \pm 5%
			R752	GD05471160	1/6W 470 Ω \pm 5%
			R753	GD05471160	1/6W 470 Ω \pm 5%
			R754	GD05471160	1/6W 470 Ω \pm 5%

IC BLOCK DIAGRAMS

QR01 : LC8904Q DIGITAL AUDIO I/F

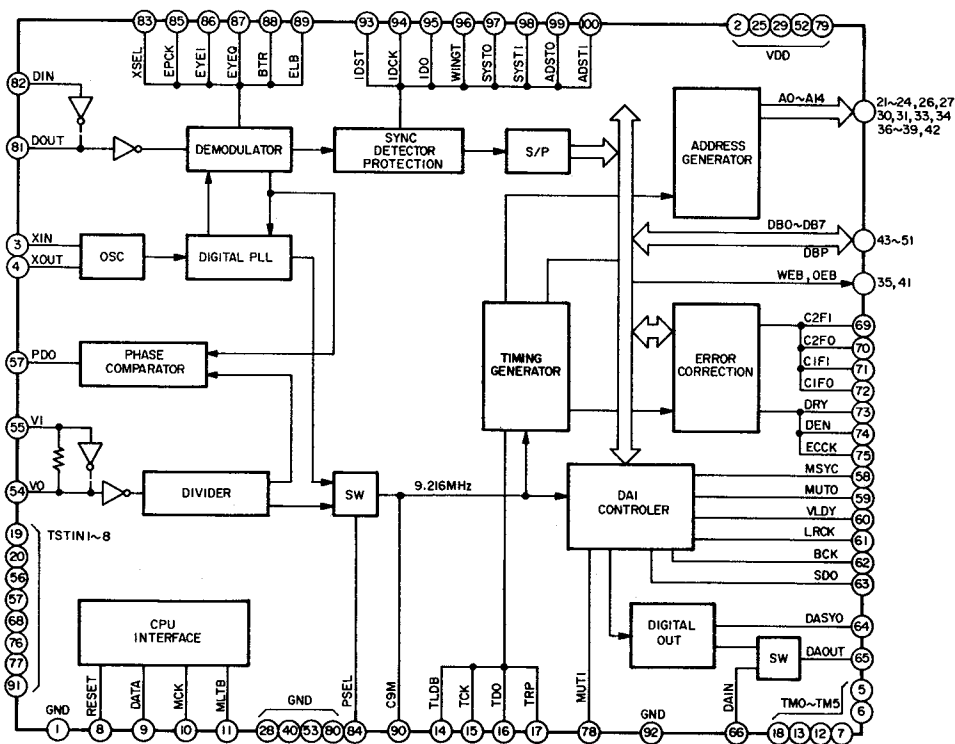


QM01 TERMINAL FUNCTIONS

Pin No.	Pin Name	I/O	Pin Function
1	GND	-	Ground (0 V).
2	VDD	-	Power supply (+5 V).
3	XOUT	0	X'tal oscillator output.
4	XIN	I	X'tal oscillator input.
5	TM0	I	IC test mode setting terminal. Usually no connection.
6	TM1	I	IC test mode setting terminal. Usually no connection.
7	TM2	I	IC test mode setting terminal. Usually no connection.
8	RESET	I	System reset terminal. Reset with "L". Goes "L" temporarily after power is turned ON.
9	DATA	I	Serial data input from CPU. (LSB first)
10	MCK	I	Serial clock input from CPU. Data is latched at the positive-going edge of the clock.
11	ML TB	I	CPU input latch. Latches the serial data (8 bits at a time) from the CPU into a register.
12	TM3	I	IC test mode setting terminal. Usually no connection.
13	TM4	I	IC test mode setting terminal. Usually no connection.
14	TLDB	I	Tag code load signal. "L" loads tag code in a 16-bit shift register.
15	TCK	I	Tag code output clock. Data is output at the positive-going edge of the clock.
16	TDO	0	Tag code serial data output. (MSB first)
17	TRP	0	Tag code update signal. Goes "H" when no error is found in the tag codes after the correction operation of each block.
18	TM5	I	IC test mode setting terminal. Usually no connection.
19	TSTIN1	I	IC test terminal. Usually no connection.
20	TSTIN2	I	IC test terminal. Usually no connection.
21	A0	0	External RAM address output. Address 0 (LSB).
22	A1	0	External RAM address output. Address 1.
23	A2	0	External RAM address output. Address 2.
24	A3	0	External RAM address output. Address 3.
25	VDD	-	Power supply (+5 V).
26	A4	0	External RAM address output. Address 4.
27	A5	0	External RAM address output. Address 5.
28	GND	-	Ground (0 V).
29	VDD	-	Power supply (+5 V).
30	A6	0	External RAM address output. Address 6.
31	A7	0	External RAM address output. Address 7.
32	GND	-	Ground (0 V).
33	A12	0	External RAM address output. Address 12.
34	A14	0	External RAM address output. Address 14 (MSB).
35	WEB	0	External RAM write enable output. "L" active.
36	A13	0	External RAM address output. Address 13.
37	A8	0	External RAM address output. Address 8.
38	A9	0	External RAM address output. Address 9.
39	A11	0	External RAM address output. Address 11.
40	GND	-	Ground (0 V).
41	OEB	0	External RAM output enable output. "L" active.
42	A10	0	External RAM address output. Address 10.
43	DBP	I/O	External RAM data terminal. For use as the erasure pointer.
44	DB7	I/O	External RAM data terminal. Data path 7.
45	DB6	I/O	External RAM data terminal. Data path 6.
46	DB5	I/O	External RAM data terminal. Data path 5.
47	DB4	I/O	External RAM data terminal. Data path 4.
48	DB3	I/O	External RAM data terminal. Data path 3.
49	DB2	I/O	External RAM data terminal. Data path 2.
50	DB1	I/O	External RAM data terminal. Data path 1.
51	DB0	I/O	External RAM data terminal. Data path 0.
52	VDD	-	Power supply (+5 V).
53	GND	-	Ground (0 V).
54	V0	0	VCXO output.
55	V1	I	VCXO input.
56	TSTIN3	I	IC test terminal. Usually no connection.
57	PDO	0	Phase comparator output (3-state).
58	MSYC	0	"H" with AC-3 sync signal. For use in monitoring.
59	MUTO	0	Muting output. "H" for muting. Goes "H" when "MUT1 = H" or the AC-3 signal is out of sync.
60	VLDY	0	Validity flag output. "L" indicate correct data and "H" indicates a possibility of error.
61	LRCK	0	L/R channel switching clock. 48 kHz. "H" for L CH.
62	BCK	0	Bit clock. 3.072 MHz.
63	SDO	0	Serial data output.
64	DASYO	0	Digital output preamble B identification signal.

Pin No.	Pin Name	I/O	Pin Function
65	DAOUT	0	Digital output.
66	DAIN	I	Digital audio interface signal input. The digital output which has been processed inside the IC or the signal from "DAIN" is selected according to the internal register setting and output at "DAOUT".
67	TSTIN4	I	IC test terminal. Usually no connection.
68	TSTIN5	I	IC test terminal. Usually no connection.
69	C2F1	0	C2 correction error state indication. Output indicating where correction completed or not.
70	C2F0	0	C2 correction error state indication. Output indicating the number of errors in C2.
71	C1F1	0	C1 correction error state indication. Output indicating whether an error is present or not in C1.
72	C1F0	0	C1 correction error state indication. Output indicating the number of errors in C1.
73	DRY	0	Error corrector monitoring signal.
74	DEN	0	Error corrector monitoring signal.
75	ECCK	0	Error corrector clock. 576 kHz.
76	TSTIN6	I	IC test terminal. Usually no connection.
77	TSTIN7	I	IC test terminal. Usually no connection.
78	MUT1	I	Muting input. "H" for muting.
79	VDD	-	Power supply (+5 V).
80	GND	-	Ground (0 V).
81	DOUT	0	QPSK inverted output.
82	DIN	I	QPSk signal input.
83	XSEL	I	X'tal select signal. "H" for using it.
84	PSEL	I	PLL select signal. "H" for using it.
85	EPCK	0	QPSK eye pattern clock. 288 kHz.
86	EYE1	0	Eye pattern output: Phase I.
87	EYEQ	0	Eye pattern output: Phase Q.
88	BTR	0	N.C.
89	ELB	0	N.C.
90	C9M	0	9.216 MHz
91	TSTIN8	I	IC test terminal. Usually no connection.
92	GND	-	Ground (0V)
93	IDST	0	ID start position indication signal.
94	IDCK	0	ID signal sampling clock. Data changes at the negative-positive edge of the clock. 576kHz.
95	IDO	0	ID data output (MSB first).
96	WINGT	0	Goes "L" during search for the sync signal of the correction block.
97	YSR0	0	Indicates the sync signal lock status of the correction block.
98	YSY1	0	Indicates the sync signal lock status of the correction block.
99	ADST0	0	Indicates the ID address continuity status of the correction block.
100	ADST1	0	Indicates the ID address continuity status of the correction block.

QM01 : PD4606A AC-3 RF DE-MODULATOR



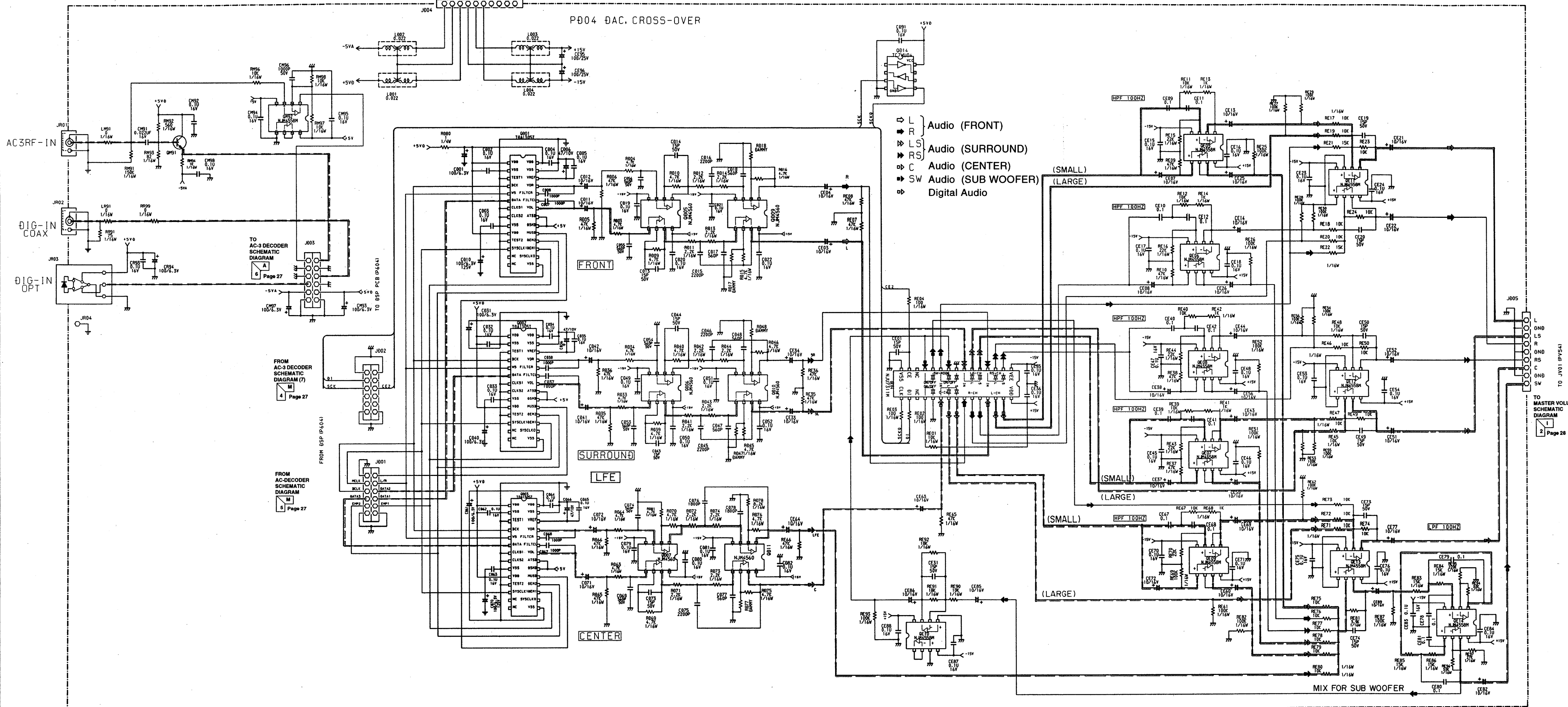
QL01 : TMP87C840F MICROPROCESSOR

PIN No.	PORT	NAME	I/O	FUNCTION
1	P76	RESET	O	RESET OUTPUT to ZR38500, PD4606, LC8903 L : RESET
2	P77	A/D-SW	O	INPUT AUDIO DATA SELECT SW H : DAI L : ADC
3	P00	SF-MUTE	O	Soft Mute OUTPUT to DAC L : MUTE H : normal
4	P01	MUTE-F	O	Front Ch MUTE OUTPUT H : MUTE L : normal
5	P02	MUTE-C	O	Center Ch MUTE OUTPUT H : MUTE L : normal
6	P03	MUTE-S	O	Surround Ch MUTE OUTPUT H : MUTE L : normal
7	P04	MUTE-W	O	Subwoofer Ch MUTE OUTPUT H : MUTE L : normal
8	P05	STBY	O	STAND BY CONTROL OUTPUT H : standby L : on
9	P06	BYPASS	O	Ext. AUDIO BYPASS CONTROL OUTPUT H : Ext L : Int.
10	P07	N.C.	N.C.	
11	P10/INT0	P-DOWN	I	POWER-DOWN INPUT L : POWER-DOWN H : NORMAL
12	P11/INT1	N.C.	N.C.	
13	P12/INT2	RC5INPUT	I	RC-5 INPUT from IR & Ext. (ACTIVE : L)
14	P13/DVO	N.C.	O	N.C.
15	P14/PPG	MUTE-L	O	MUTE OUT for LINE OUT H : MUTE L : normal
16	P15/TC2	LED-COAX	O	DIGI-COAX INPUT SEL. LED H : LED ON L : OFF
17	P16	CE2	O	CHIP ENABLE OUTPUT to NJU7311M
18	P17	LED-RF	O	AC-3 RF INPUT SEL. LED H : LED ON L : OFF
19	P20/STOP	PDOWN	I	for BACKUP MODE L : BACKUP H : normal
20	TEST	GND	I	CONNECT TO GND
21	P21/XTI	N.C.	N.C.	
22	P22/XTO	N.C.	N.C.	
23	RESET	RST	I	CPU RESET L : RESET H : normal
24	XIN	XTIN	I	8.0MHz CERA-LOCK
25	XOUT	XTOUT	O	8.0MHz CERA-LOCK
26	VSS	GND	GND	
27	P30	LED-DL0	O	S-DELAY 0ms LED L : LED ON H : OFF
28	P31	LED-DL5	O	S-DELAY 5ms LED L : LED ON H : OFF
29	P32	LED-DL10	O	S-DELAY 10ms LED L : LED ON H : OFF
30	P33	LED-DL15	O	S-DELAY 15ms LED L : LED ON H : OFF
31	P34	LED-MUTE	O	MUTE KEY MUTE LED H : LED ON L : OFF
32	P35	LED-TEST	O	TEST TONE LED L : LED ON H : OFF
33	P36	LED-OPT	O	INPUT FUNC. OPT LED L : LED ON H : OFF
34	P37	LED-AC3	O	INPUT FUNC. AC3 LOCK LED L : LED ON H : OFF
35	P40	CEO	O	CHIP ENABLE OUTPUT to DAI(LC8309)
36	P41	SS	O	SPI SLAVE SELECT OUTPUT to ZR38500
37	P42/SCK1	SCK	O	SPI CLOCK to ZR38500, & NJU7311
38	P43/SI1	SO	I	SPI DATA from ZR38500
39	P44/SO1	Si	O	SPI DATA to ZR38500 & NJU7311
40	P45/SCK2	CL	O	CLOCK OUTPUT TO DAI(LC8904Q)
41	P46/SI2	DO	I	DATA INPUT from DAI(LC8904Q)
42	P47/SO2	Di	O	DATA OUTPUT to DAI(LC8904Q)
43	P50/INT3	N.C.	I	
44	P51/INT4	Error	I	Error INPUT from DAI(LC8904Q) H : Error L : normal
45	P52	N.C.	N.C.	
46	P53	N.C.	N.C.	
47	P54	N.C.	N.C.	
48	VASS	refGND		Int. A/D ref GND
49	VAREF	ref+5.6V		Int. A/D ref Vdd
50	P60/AIN0	KEY1	I	FRONT KEY INPUT (7 KEYS)
51	P61/AIN1	KEY2	I	Option Keys
52	P62/AIN2	C-SPK	I	CENTER SPK MODE LARGE/SMALL/NONE A/D INPUT
53	P63/AIN3	S-SPK	I	SURROUND SPK MODE LARGE/SMALL/NONE A/D INPUT
54	P64/AIN4	F/SW-SPK	I	FRONT, SubW SPK MODE LARGE/SMALL, ON/OFF A/D INPUT
55	P65/AIN5	MODE	I	CPU MODE SELECT (option mode) H : MZ L : HK
56	P66/AIN6	N.C.	N.C.	
57	P67/AIN7	N.C.	N.C.	
58	VDD	+5V	I	+5V with BackUp Cap
59	P70	N.C.	N.C.	
60	P71	Ext/Int	I	RC-5 MODE SW H : Internal L : External
61	P72	V-UP	O	VOLUME-CONT. : H L L : UP DOWN STOP
62	P73	V-DOWN	O	VOLUME-CONT. : L H L
63	P74	DM-MUTE	I	RF-MODULATOR-MUTE H : MUTE L : normal
64	P75	KILL-X	O	OSC-STOP L : STOP H : OSC

SCHMATIC DIAGRAMS (1)

PD04-DAC, CROSS-OVER

P004 DAC, CROSS-OVER



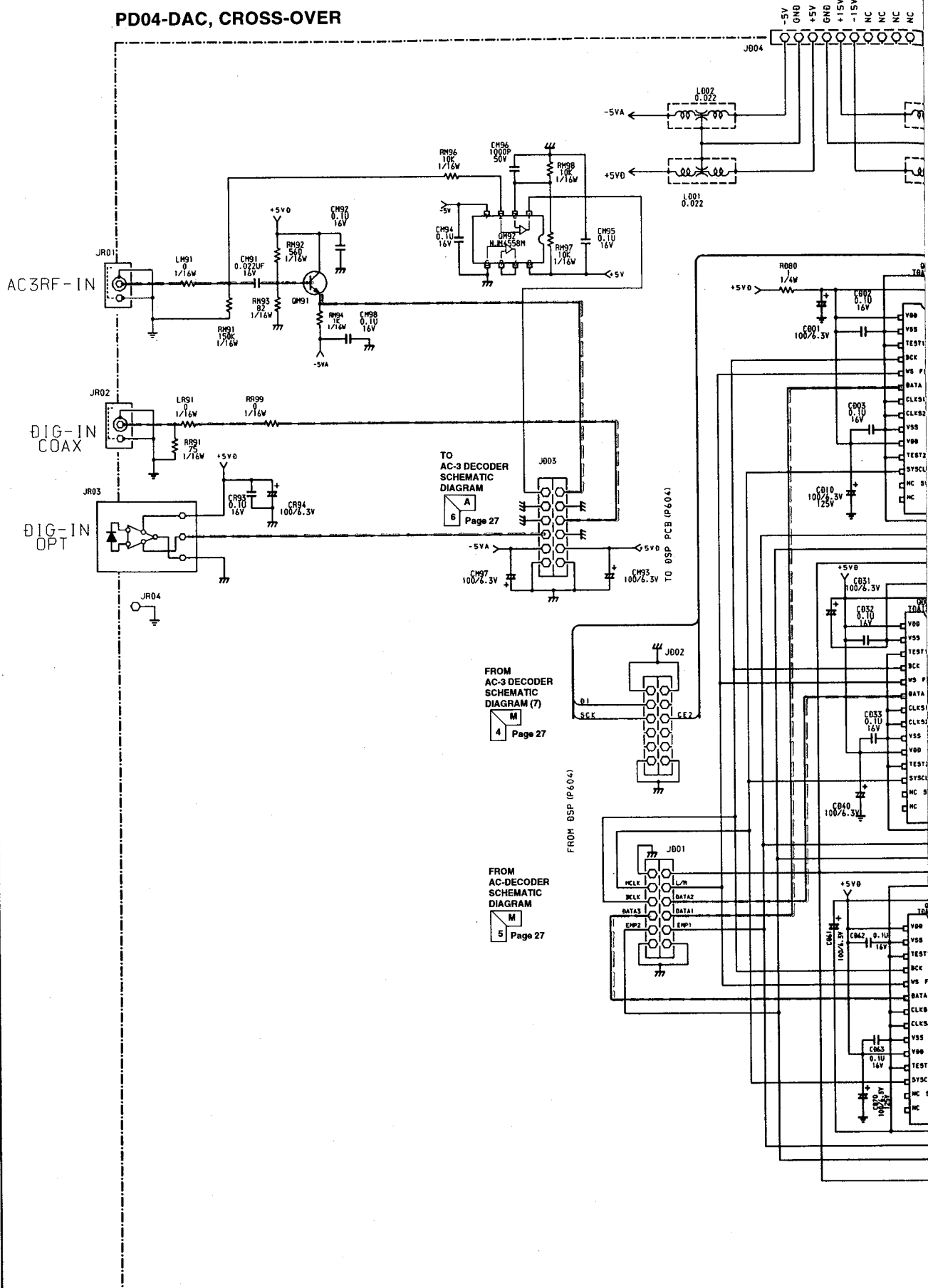
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- ↳ R Audio (FRONT)
- ↳ LS Audio (SURROUND)
- ↳ RS Audio (SURROUND)
- ↳ C Audio (CENTER)
- ↳ SW Audio (SUB WOOFER)
- ↳ Digital Audio

TO MASTER VOLUME
SCHEMATIC
DIAGRAM
Page 28

SCHEMATIC DIAGRAMS (1)

PD04-DAC, CROSS-OVER

FROM P804 (BY W851)



1
2
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6
7

TO AC-3 DECODER SCHEMATIC DIAGRAM (A) Page 27

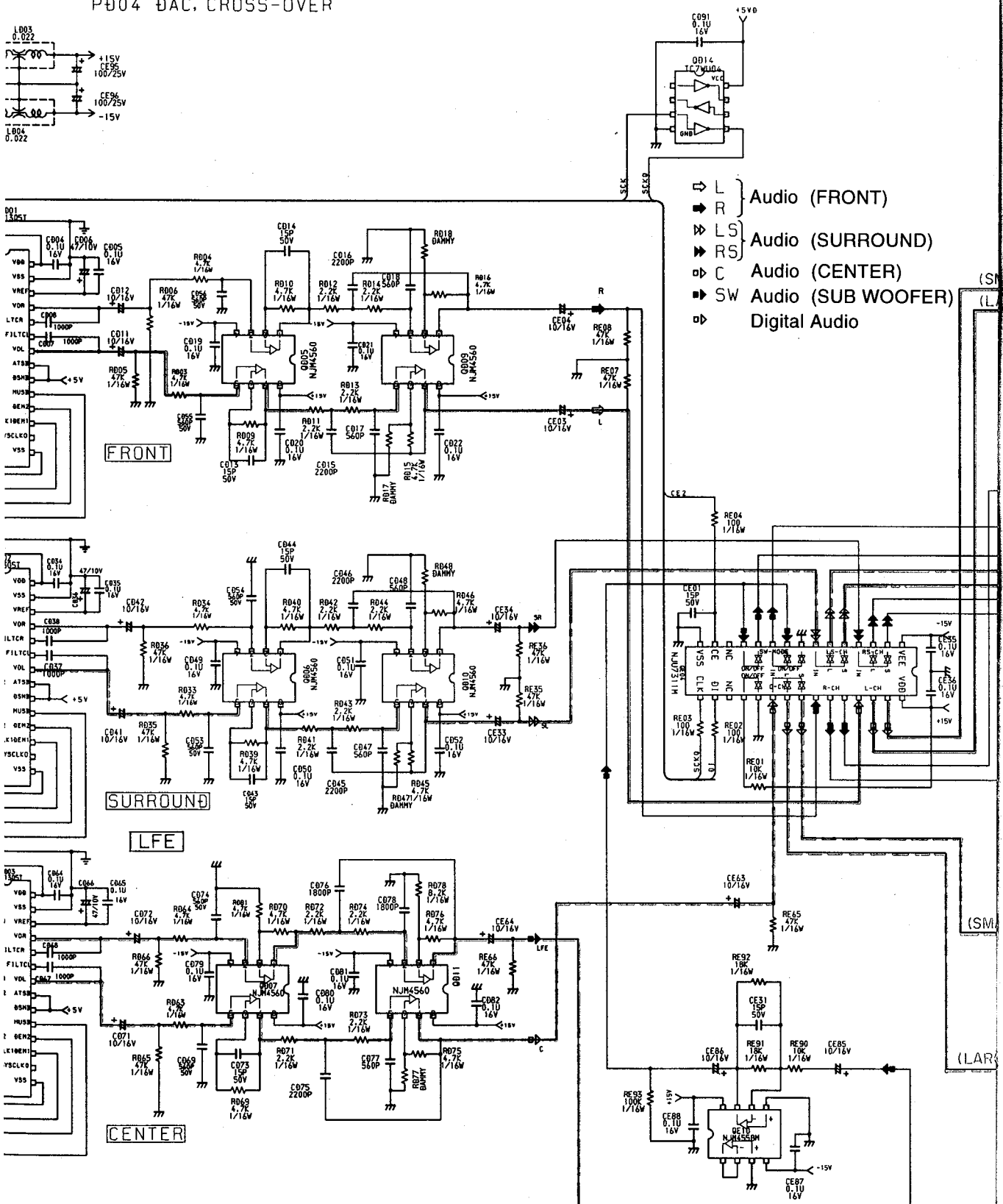
FROM AC-3 DECODER SCHEMATIC DIAGRAM (7) M 4 Page 27

FROM AC-DECODER SCHEMATIC DIAGRAM M 5 Page 27

TO BSP PCB (P604)

FROM BSP (P604)

P004 DAC. CROSS-OVER



- ↕ L } Audio (FRONT)
- ↔ R } Audio (FRONT)
- ↕ LS } Audio (SURROUND)
- ↔ RS } Audio (SURROUND)
- ↕ C } Audio (CENTER)
- ↔ SW } Audio (SUB WOOFER)
- ↕ Digital Audio

FRONT

SURROUND

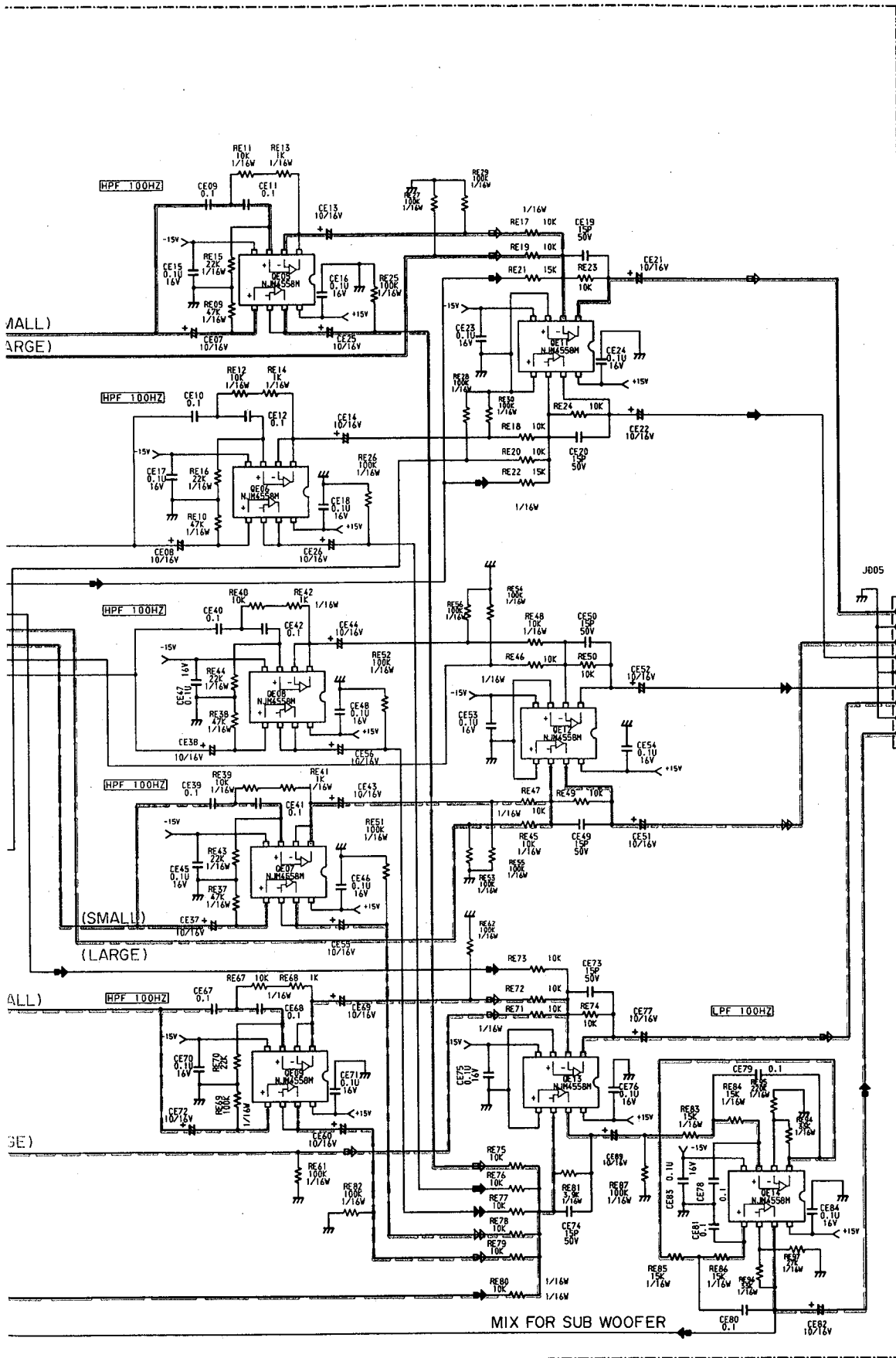
LFE

CENTER

(SR)

(SM)

(LAR)



L
LS
R
GND
RS
C
GND
SW

TO MASTER VOLUME SCHEMATIC DIAGRAM

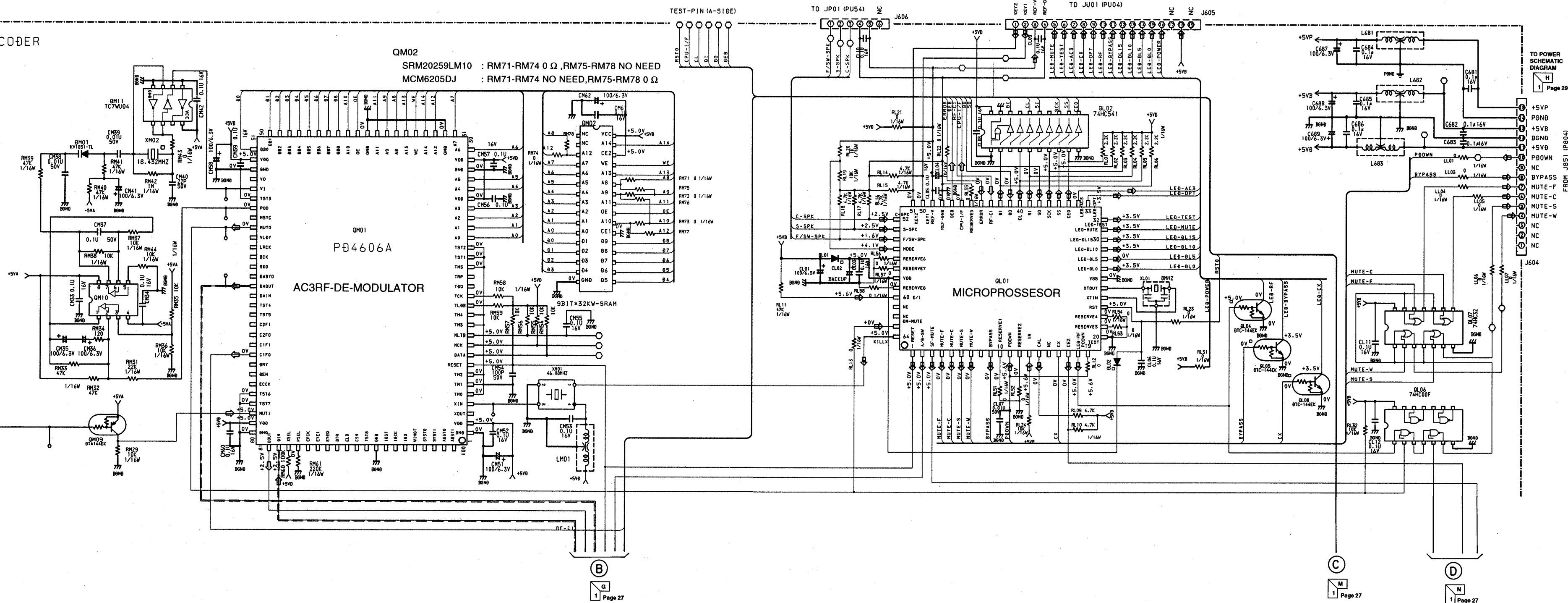
1
2 Page 28

TO JV01 (PV54)

SCHEMATIC DIAGRAMS (2-1/2)

P604-AC-3 DECODER

P601 AC-3 DECODER



A Page 27

B Page 27

C Page 27

D Page 27

TO POWER SCHEMATIC DIAGRAM H Page 29

FROM J851 (P804)

TO FRONT SCHEMATIC DIAGRAM F Page 28

TO JP01 (PU54) 3 Page 28

TO JU01 (PU04)

TO POWER SCHEMATIC DIAGRAM H Page 29

TO POWER SCHEMATIC DIAGRAM H Page 29

TO POWER SCHEMATIC DIAGRAM H Page 29

TO POWER SCHEMATIC DIAGRAM H Page 29

TO POWER SCHEMATIC DIAGRAM H Page 29

TO POWER SCHEMATIC DIAGRAM H Page 29

TO POWER SCHEMATIC DIAGRAM H Page 29

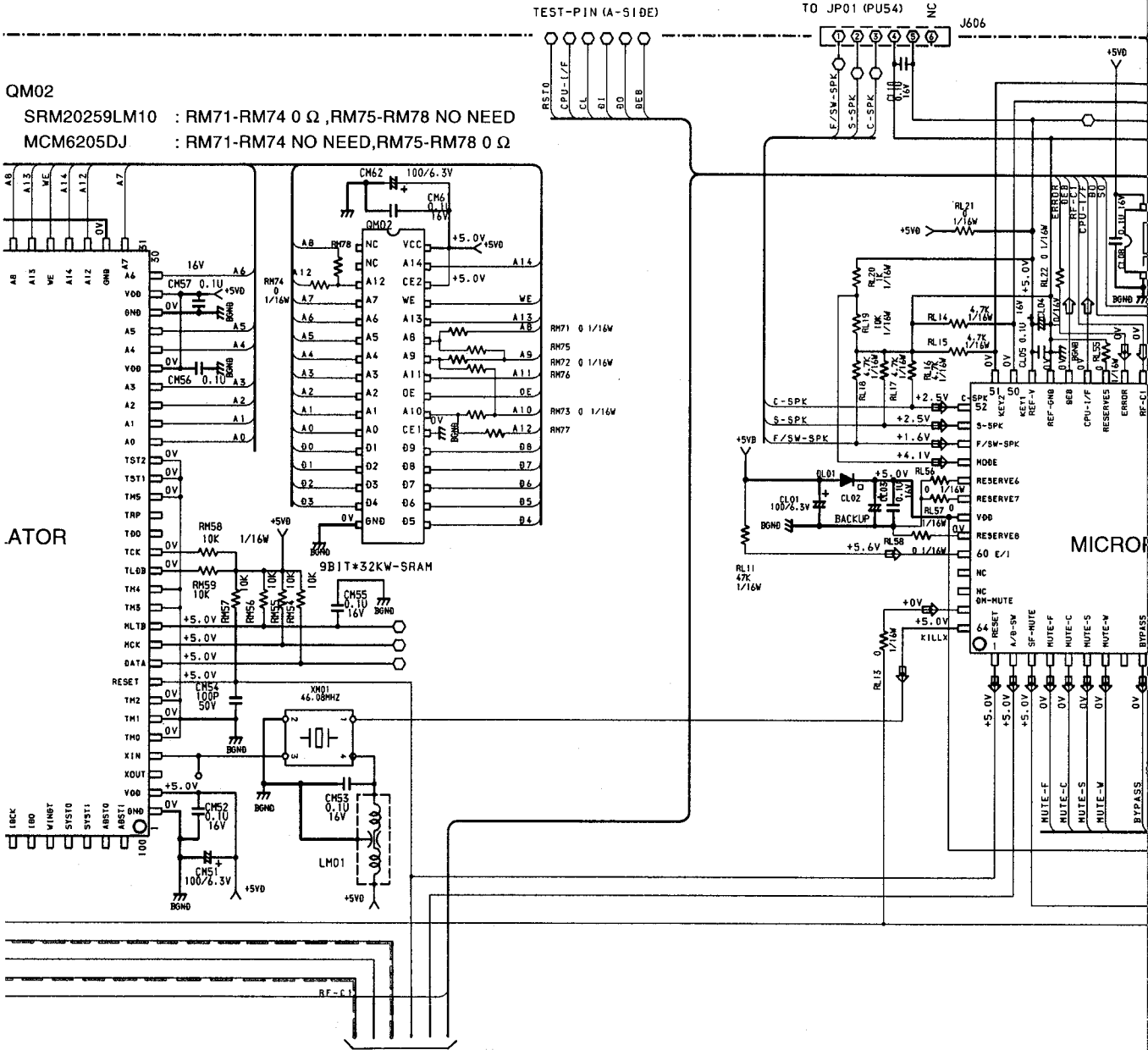
TO POWER SCHEMATIC DIAGRAM H Page 29

TO POWER SCHEMATIC DIAGRAM H Page 29

FROM SPK.SW SCHEMATIC DIAGRAM
3 Page 28

QM02

SRM20259LM10 : RM71-RM74 0 Ω, RM75-RM78 NO NEED
MCM6205DJ : RM71-RM74 NO NEED, RM75-RM78 0 Ω



ATOR

MICROP

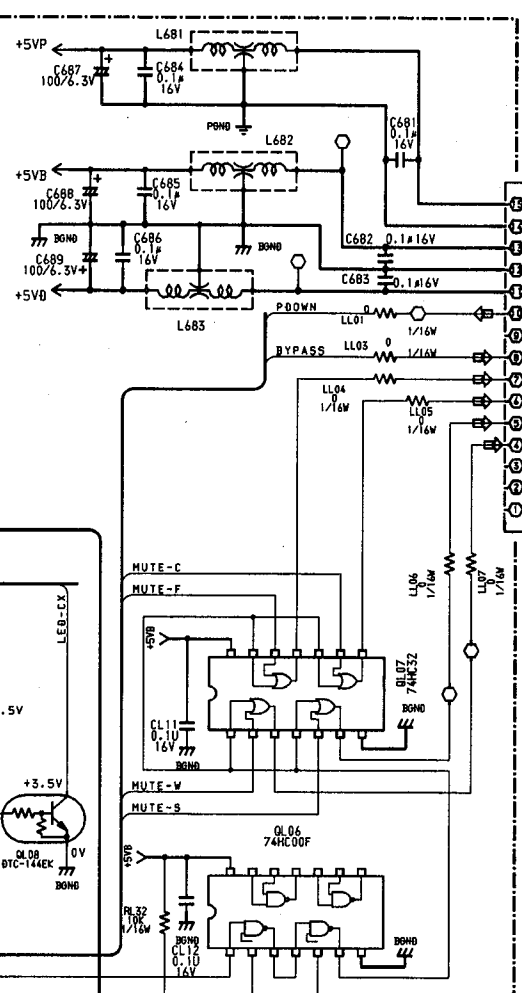
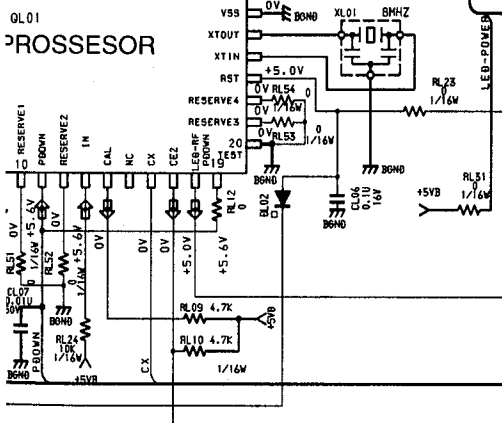
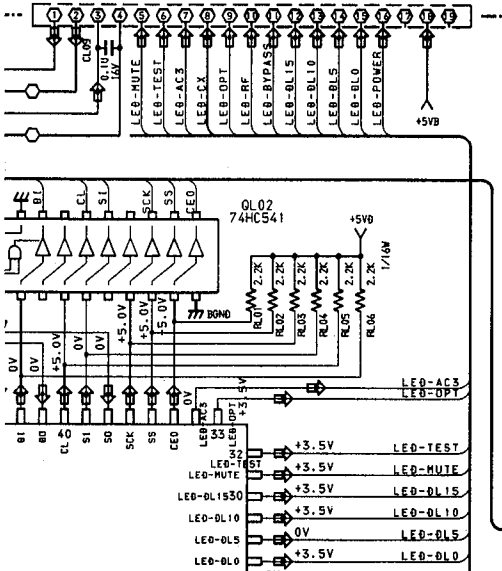
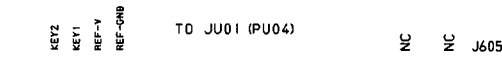
(B)

1 Page 27

TO FRONT SCHEMATIC DIAGRAM

F Page 28

TO JU01 (PU04)



TO POWER SCHEMATIC DIAGRAM

H Page 29

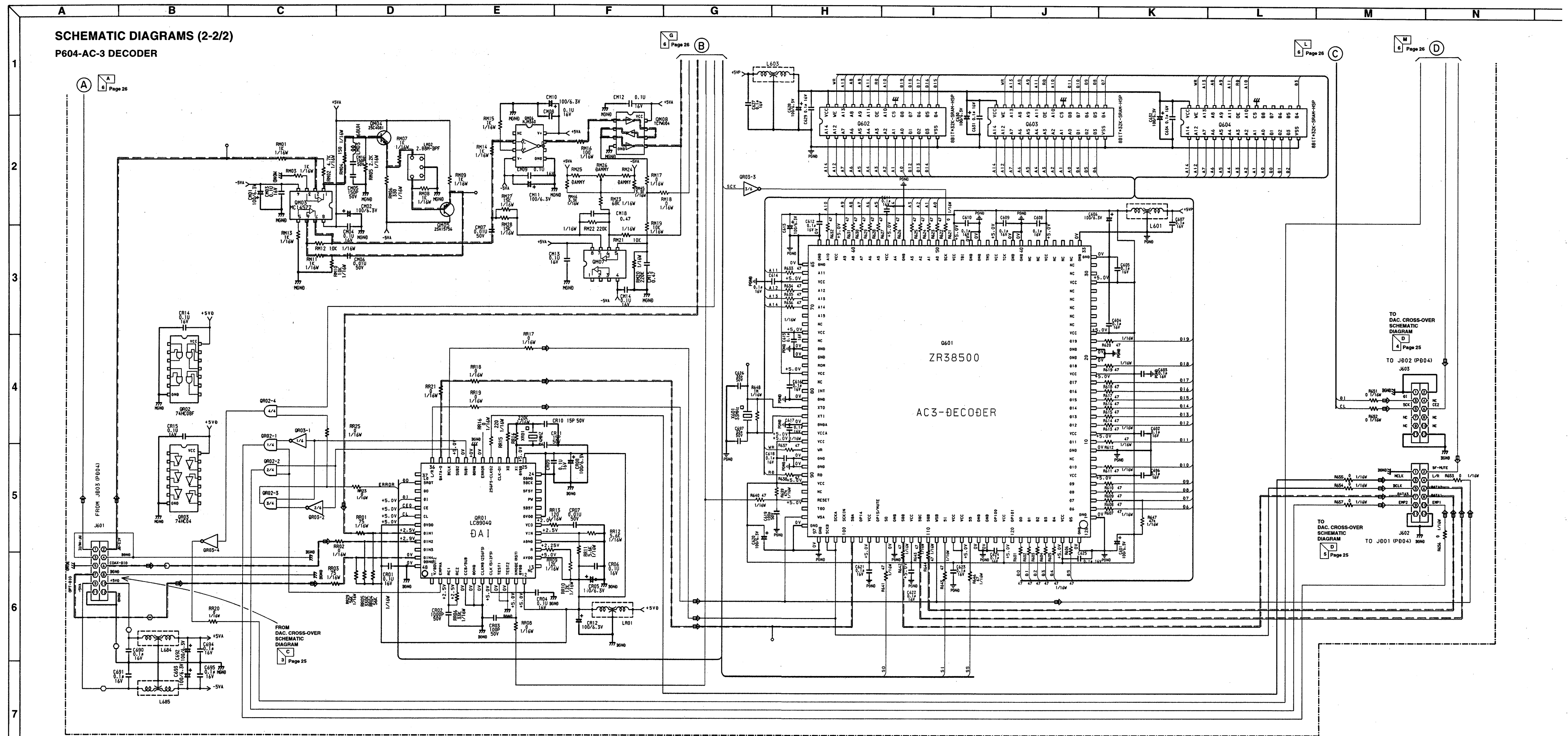
FROM J851 (P804)

C M Page 27

D N Page 27

SCHMATIC DIAGRAMS (2-2/2)

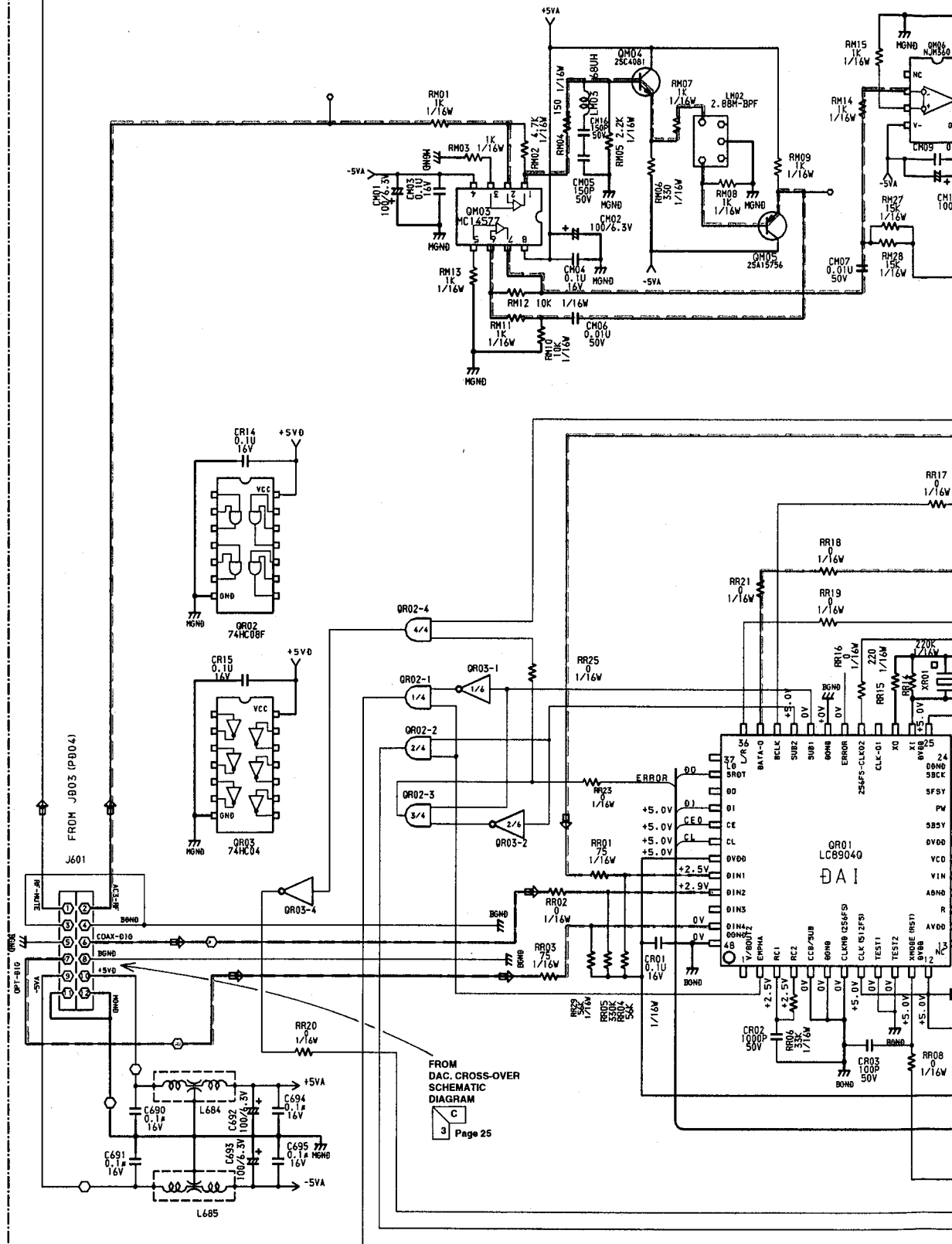
P604-AC-3 DECODER



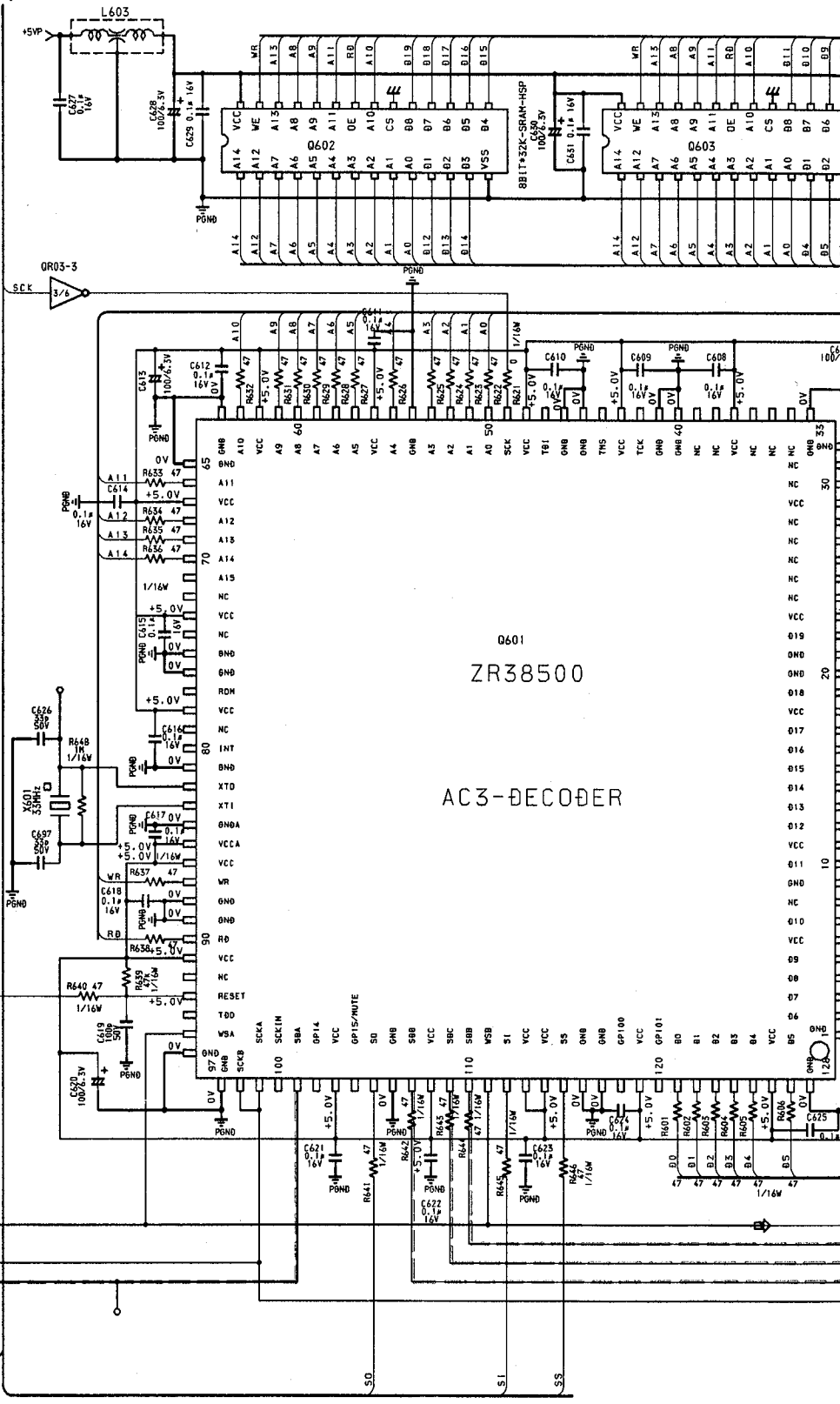
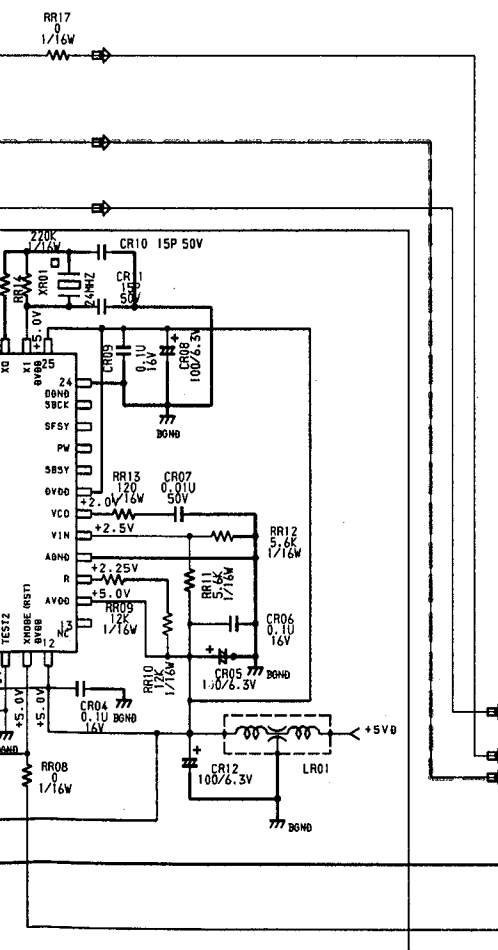
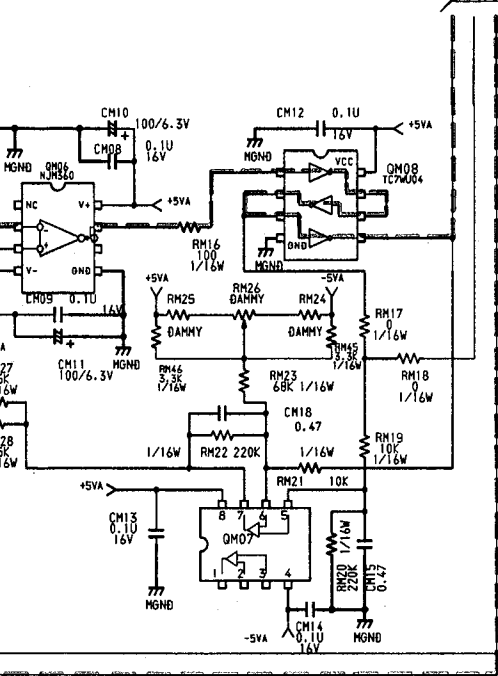
SCHEMATIC DIAGRAMS (2-2/2)

P604-AC-3 DECODER

(A) A Page 26



FROM DAC CROSS-OVER SCHEMATIC DIAGRAM C Page 25



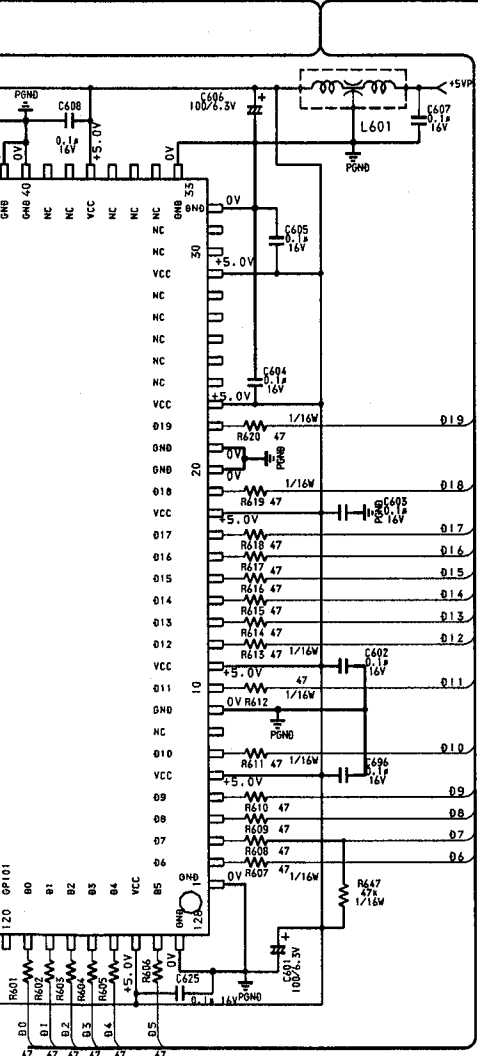
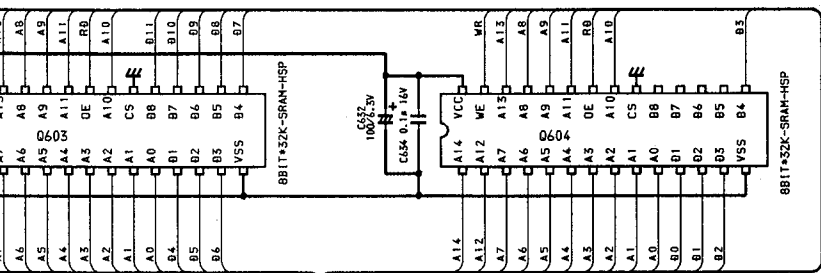
J K L M N

L
6 Page 26

M
6 Page 26

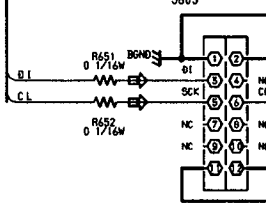
C

D



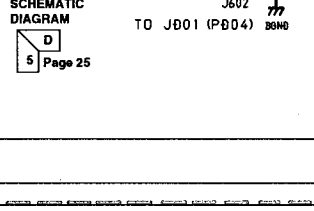
TO DAC CROSS-OVER SCHEMATIC DIAGRAM
D
4 Page 26

TO J002 (PB04)



TO DAC CROSS-OVER SCHEMATIC DIAGRAM
D
5 Page 25

TO J001 (PB04)

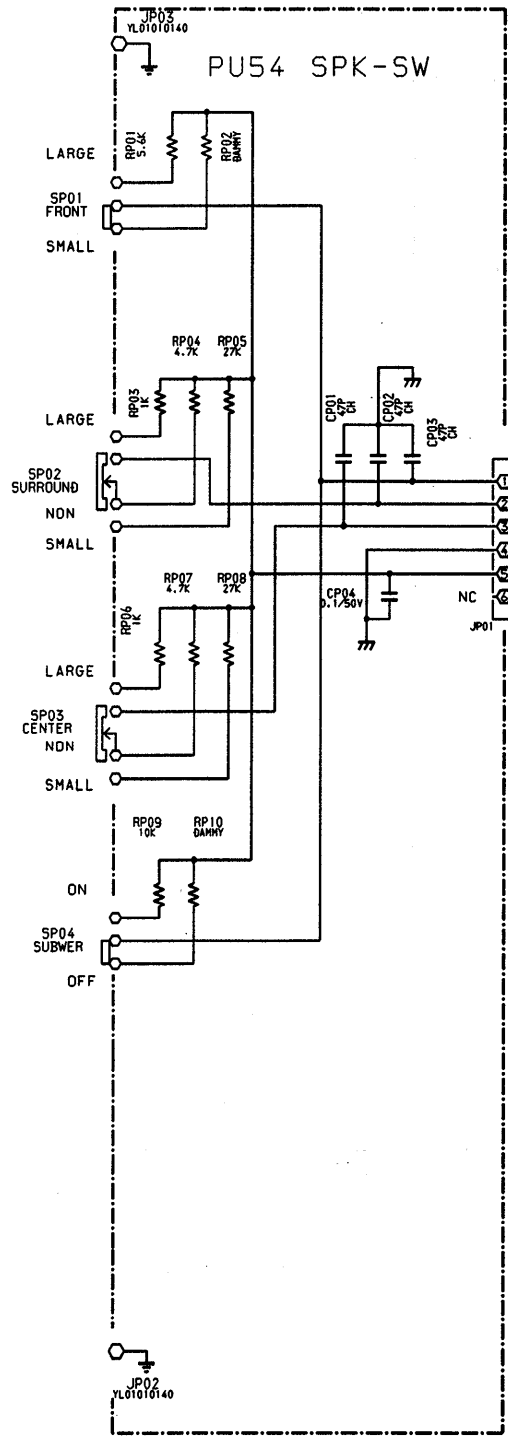


A B C D E F G H I J K L M N O

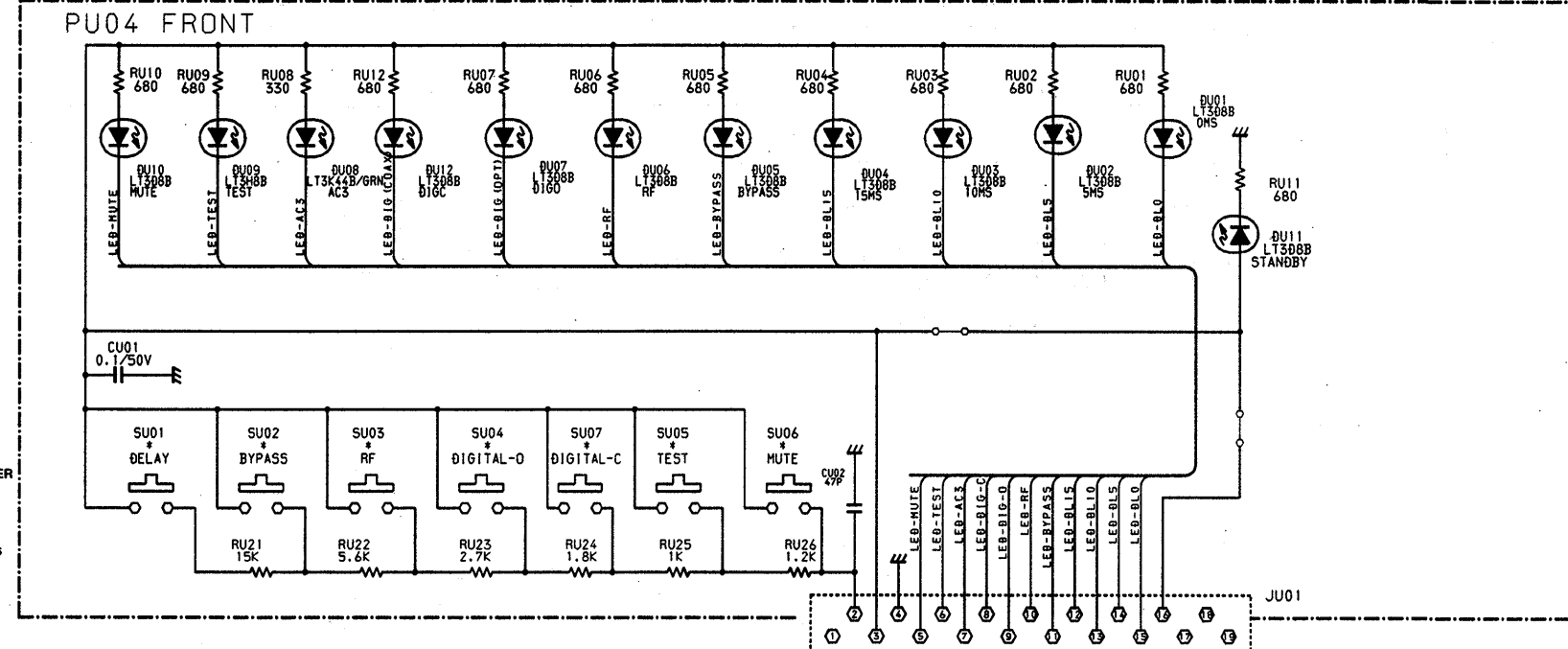
SCHEMATIC DIAGRAMS (3)

1
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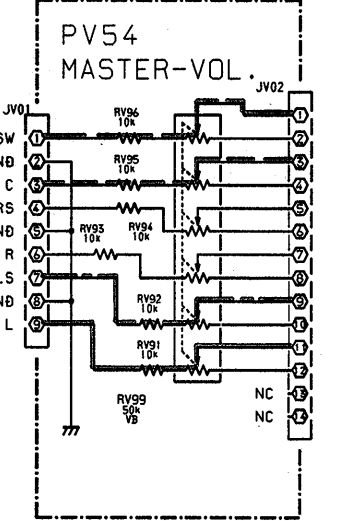
PU54-SPK SW



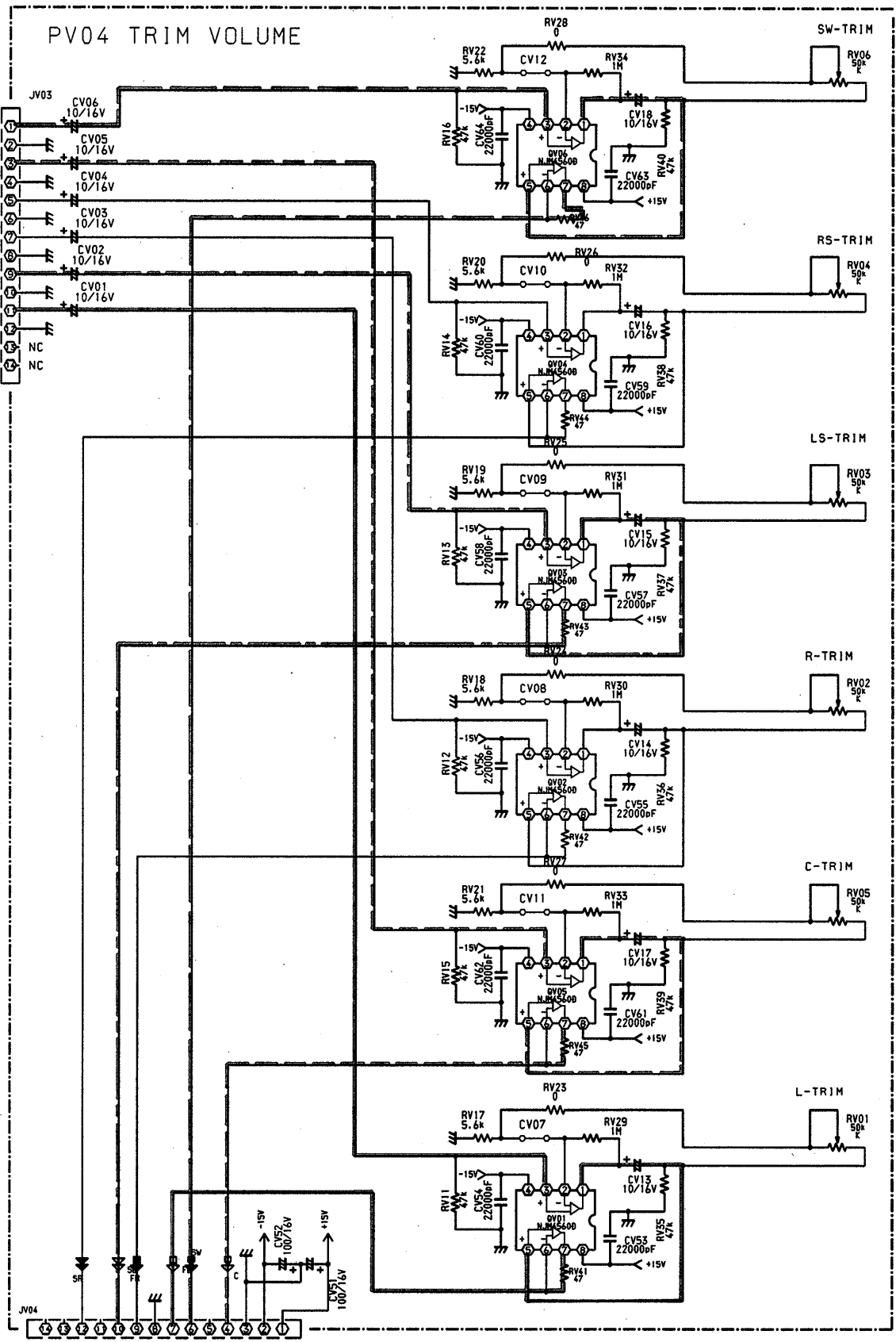
PU04-FRONT



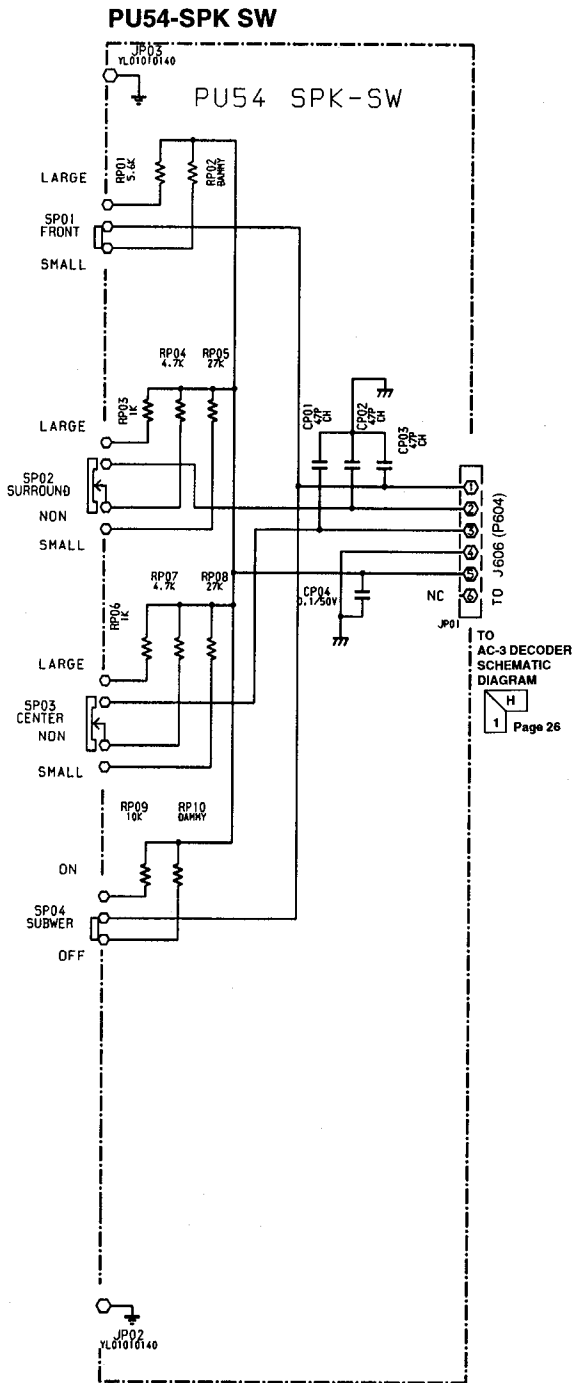
PV54-MASTER VOLUME



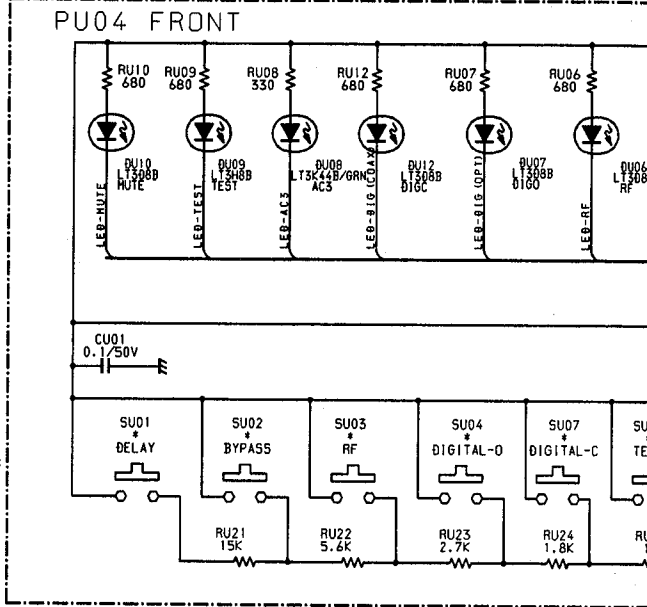
PV04-TRIM VOLUME



SCHEMATIC DIAGRAMS (3)



PU04-FRONT



1

2

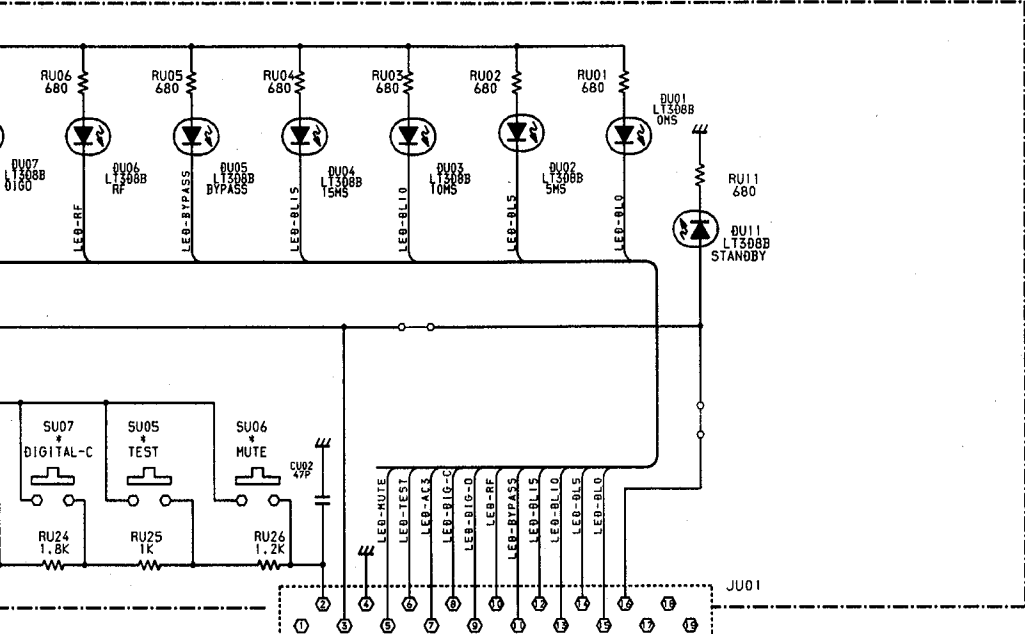
3

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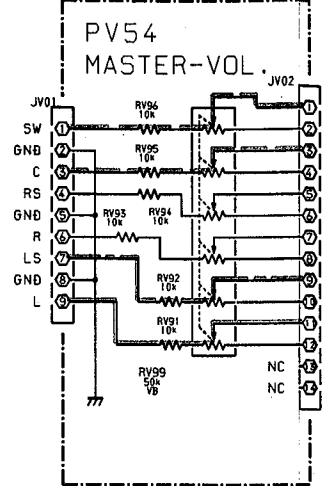
7



FROM AC-3 DECODER SCHEMATIC DIAGRAM
 FROM J605 (P604)
 K
 1 Page 26

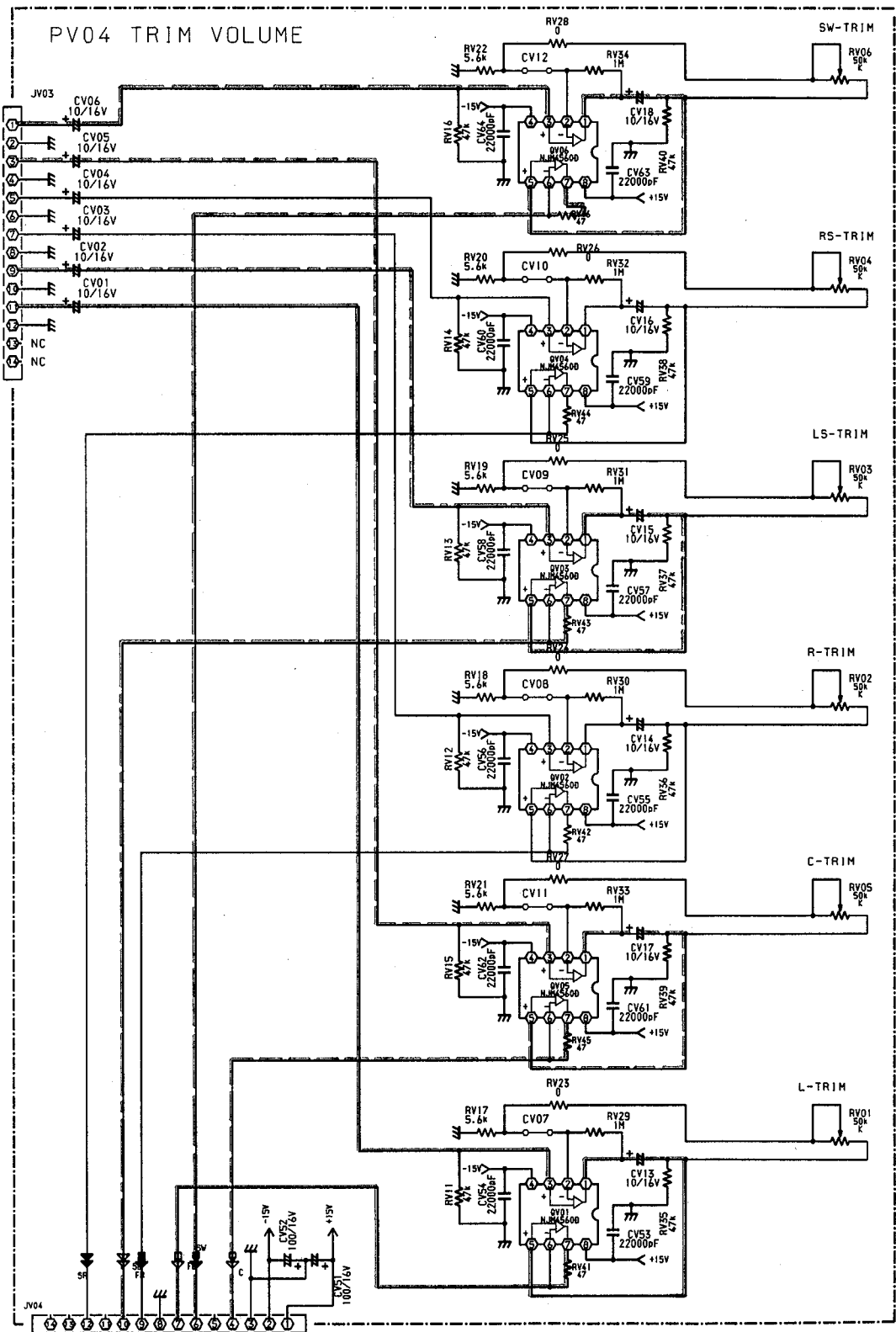
FROM DAC CROSS-OVER SCHEMATIC DIAGRAM
 N
 4 Page 25

PV54-MASTER VOLUME



PV04-TRIM VOLUME

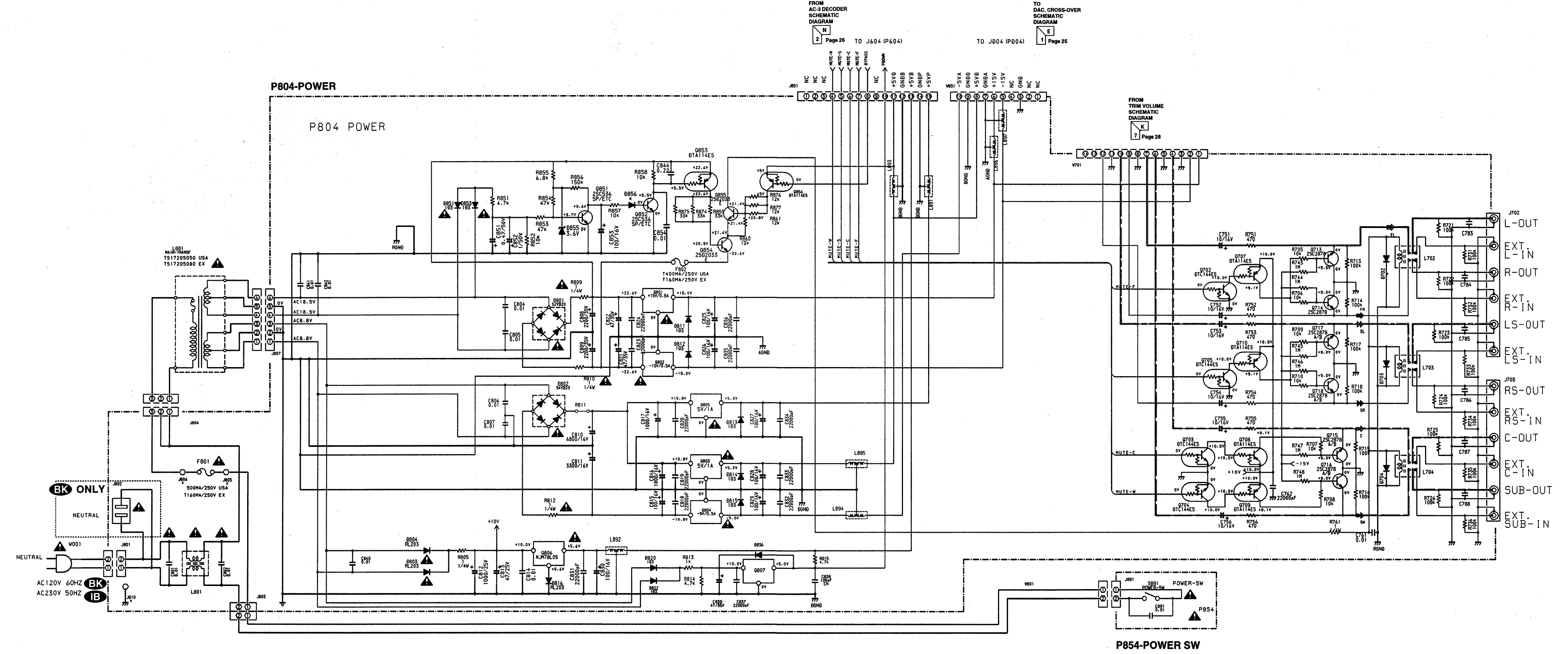
VOLUME



TO POWER
SCHEMATIC
DIAGRAM
K
2 Page 29

SCHMATIC DIAGRAMS (4)

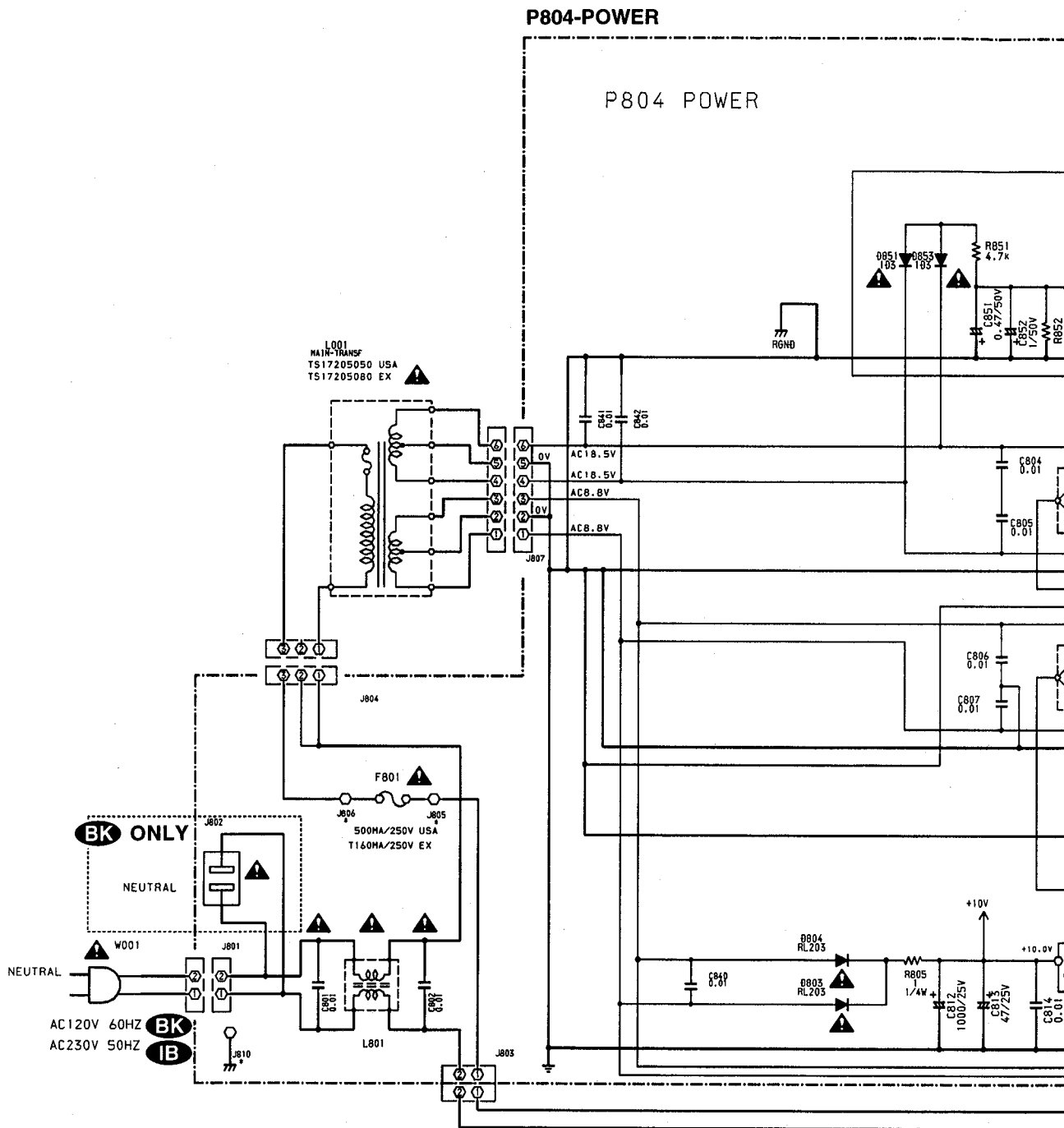
1
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- J702 L-OUT
- EXT. L-IN
- R-OUT
- EXT. R-IN
- LS-OUT
- EXT. LS-IN
- J703 RS-OUT
- EXT. RS-IN
- C-OUT
- EXT. C-IN
- SUB-OUT
- EXT. SUB-IN

SCHEMATIC DIAGRAMS (4)

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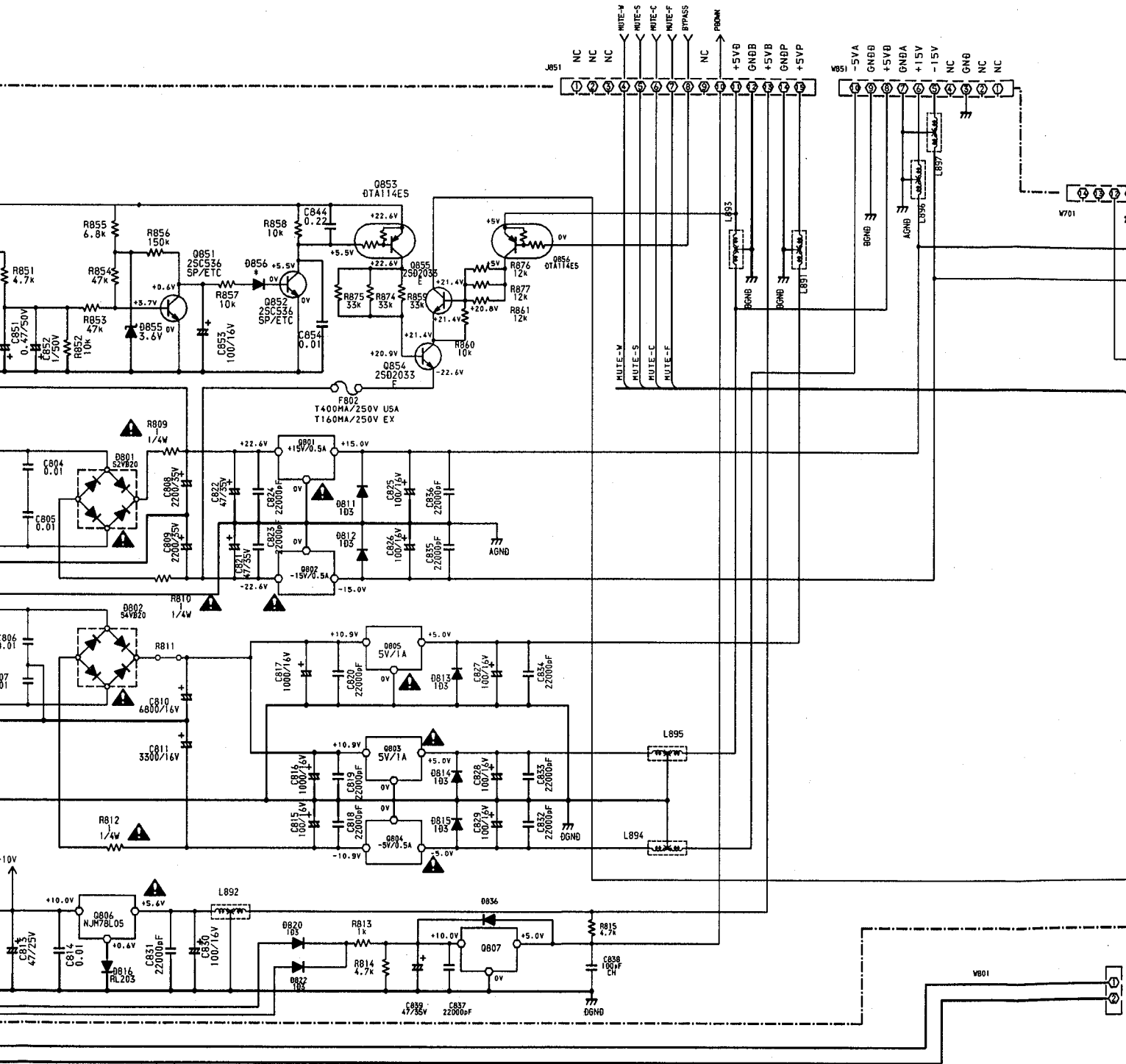
FROM AC-3 DECODER SCHEMATIC DIAGRAM

Page 26 TO J604 (P604)

TO DAC CROSS-OVER SCHEMATIC DIAGRAM

TO J604 (P604)

Page 25



J K L M N

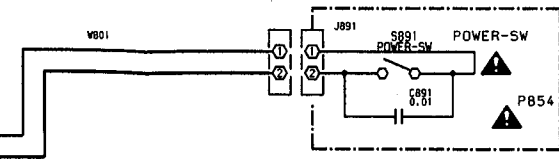
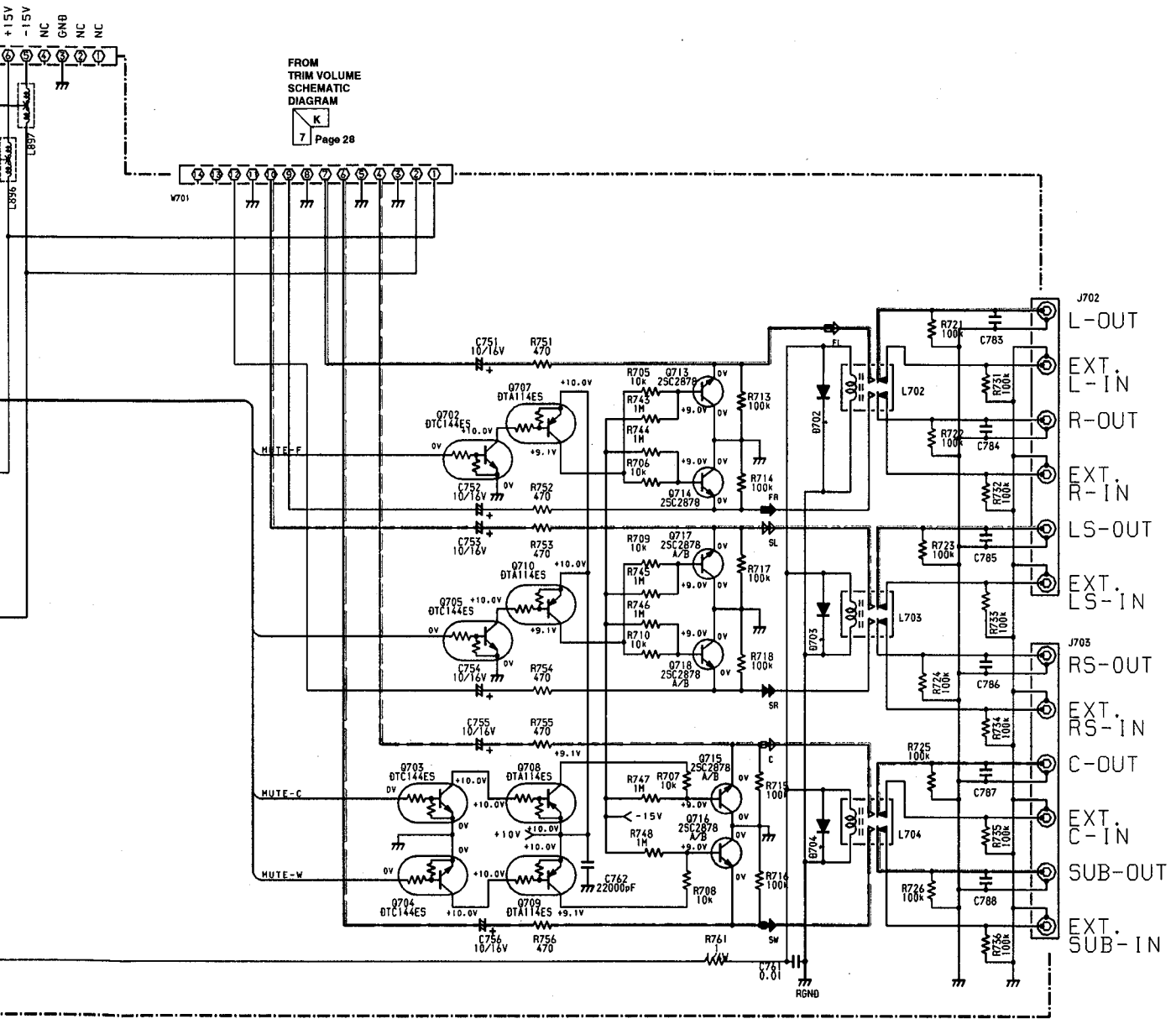
TO DAC CROSS-OVER SCHEMATIC DIAGRAM

1 Page 25

ADP04 (PD04)

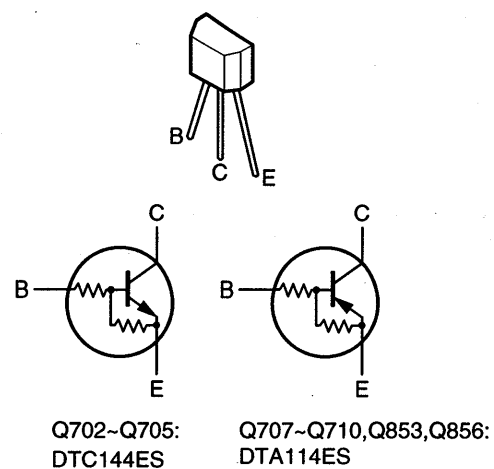
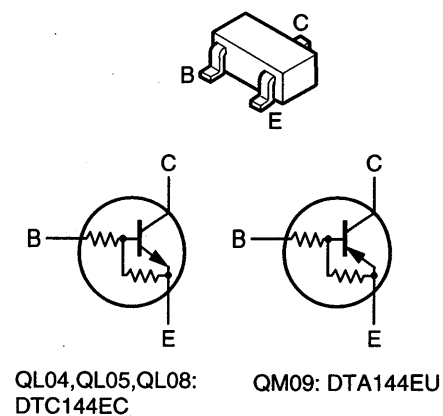
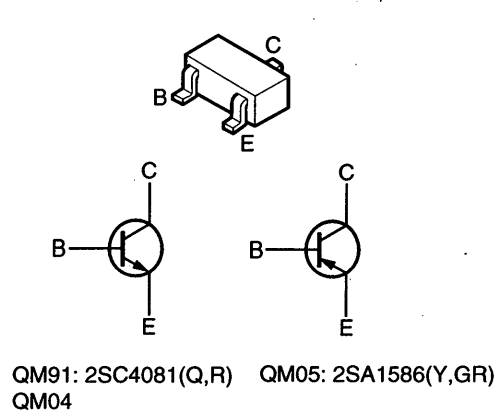
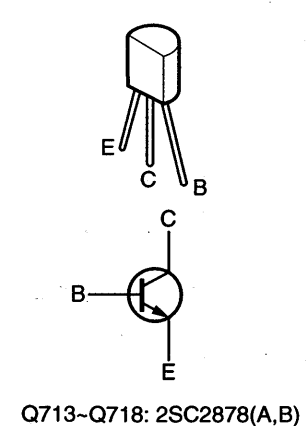
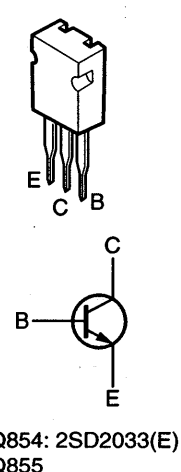
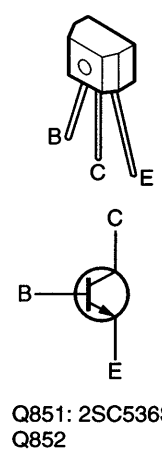
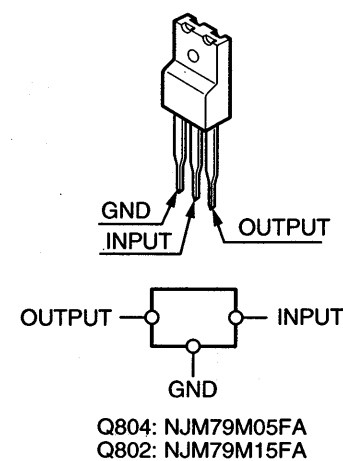
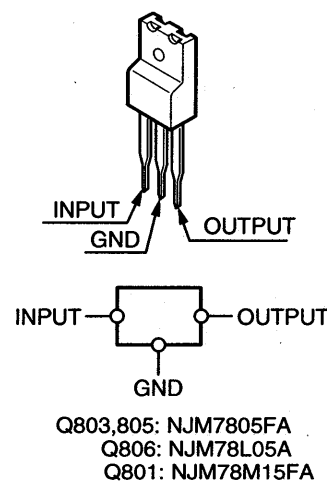
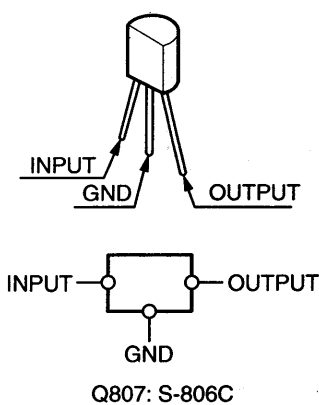
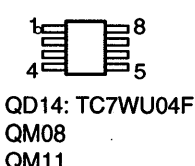
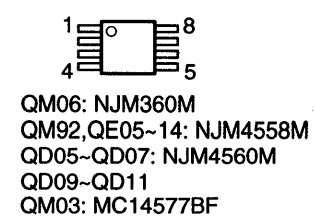
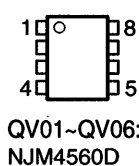
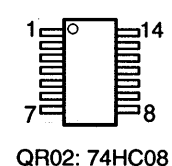
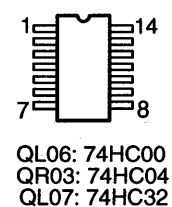
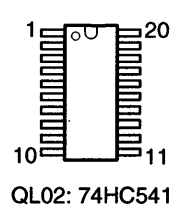
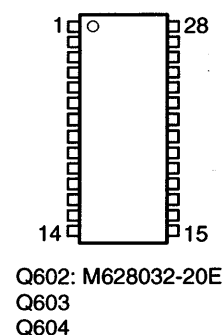
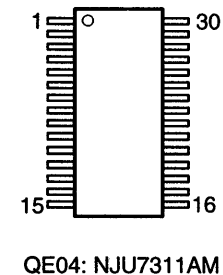
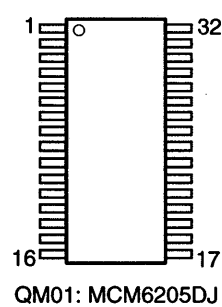
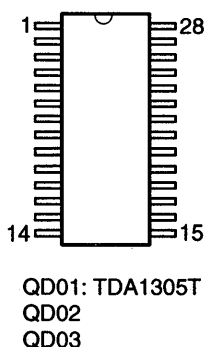
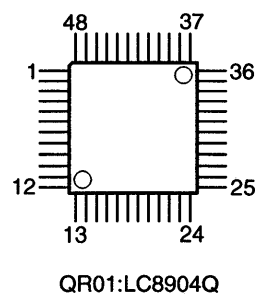
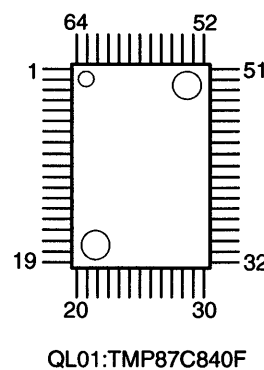
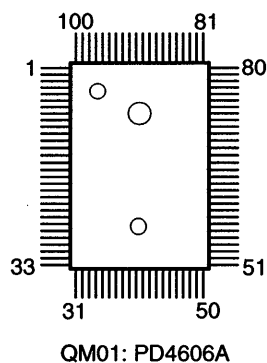
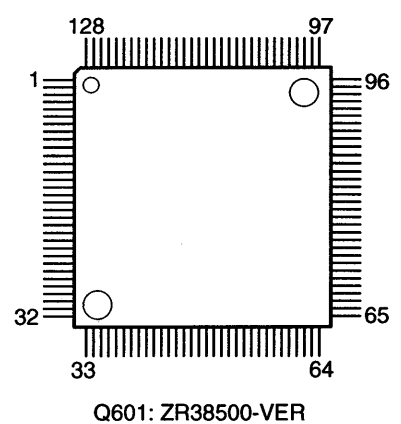
FROM TRIM VOLUME SCHEMATIC DIAGRAM

7 Page 28

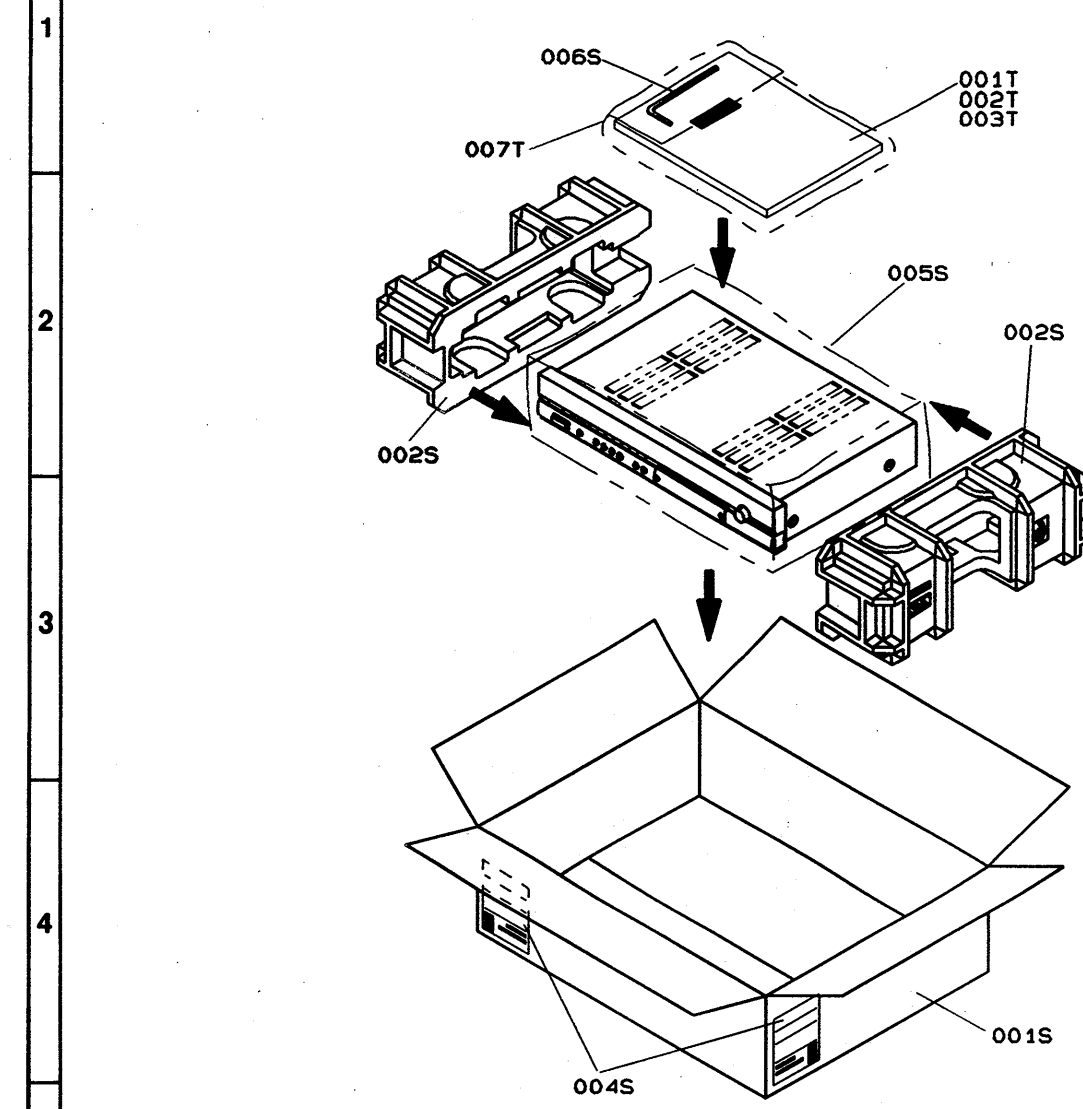


P854-POWER SW

PIN CONNECTION DIAGRAM

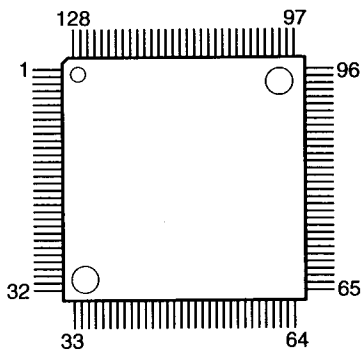


PACKING MATERIAL

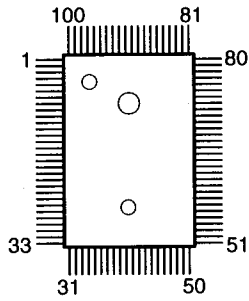


Ref. No.	Part. No.	Description	QTY
001S	267J801010	PACKING CARTON	1
002S	266J809010	CUSHION (L, R)	2
004S	9510901260	LABEL, SERIAL	2
005S	9014635360	POLYETHY BAG	1
006S	9710100030	TOOL, HEXAGON WRENCH	1
001T	267J851250	USER MANUAL BK	1
001T	267J851310	USER MANUAL IB	1
002T	260J854010	WARRANTY CARD BK	1
003T	267J865010	CARD	1
007T	9012540010	POLYETHY BAG	1

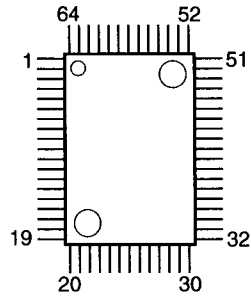
PIN CONNECTION DIAGRAM



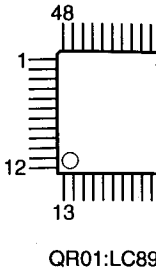
Q601: ZR38500-VER



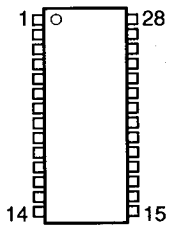
QM01: PD4606A



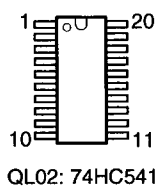
QL01: TMP87C840F



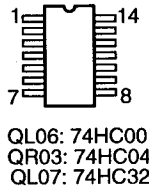
QR01: LC89



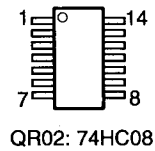
Q602: M628032-20EI
Q603
Q604



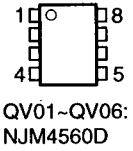
QL02: 74HC541



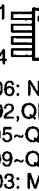
QL06: 74HC00
QR03: 74HC04
QL07: 74HC32



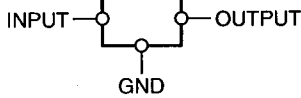
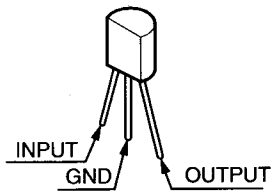
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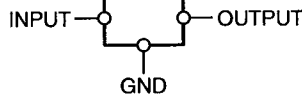
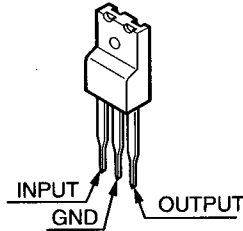
QV01~QV06:
NJM4560D



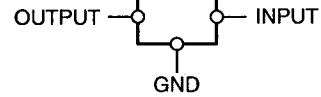
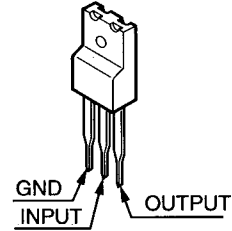
QM06: N
QM92: Q
QD05~Q
QD09~Q
QM03: M



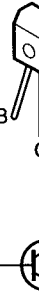
Q807: S-806C



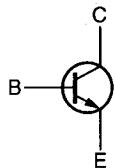
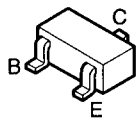
Q803,805: NJM7805FA
Q806: NJM78L05A
Q801: NJM78M15FA



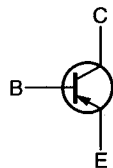
Q804: NJM79M05FA
Q802: NJM79M15FA



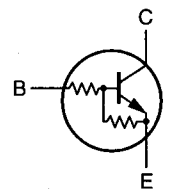
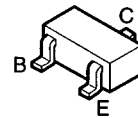
Q851: 2
Q852



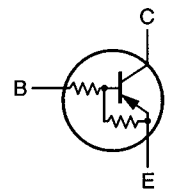
QM91: 2SC4081(Q,R)
QM04



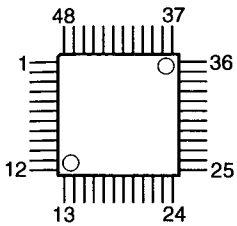
QM05: 2SA1586(Y,GR)



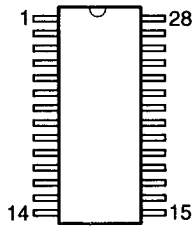
QL04, QL05, QL08:
DTC144EC



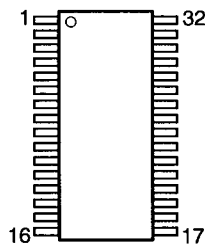
QM09: DTA144EU



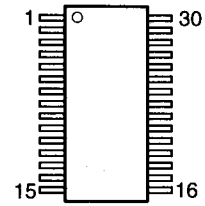
QR01:LC8904Q



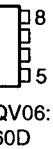
QD01: TDA1305T
QD02
QD03



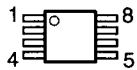
QM01: MCM6205DJ



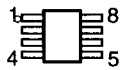
QE04: NJU7311AM



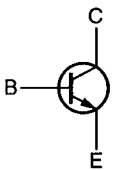
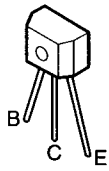
QV06:
60D



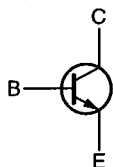
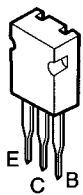
QM06: NJM360M
QM92, QE05~14: NJM4558M
QD05~QD07: NJM4560M
QD09~QD11
QM03: MC14577BF



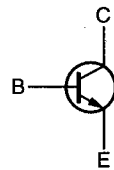
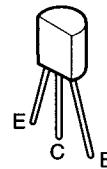
QD14: TC7WU04F
QM08
QM11



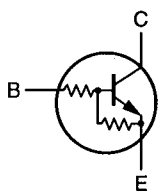
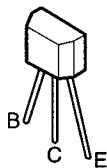
Q851: 2SC536SP
Q852



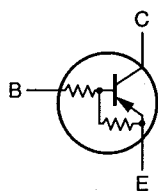
Q854: 2SD2033(E)
Q855



Q713~Q718: 2SC2878(A,B)



Q702~Q705:
DTC144ES



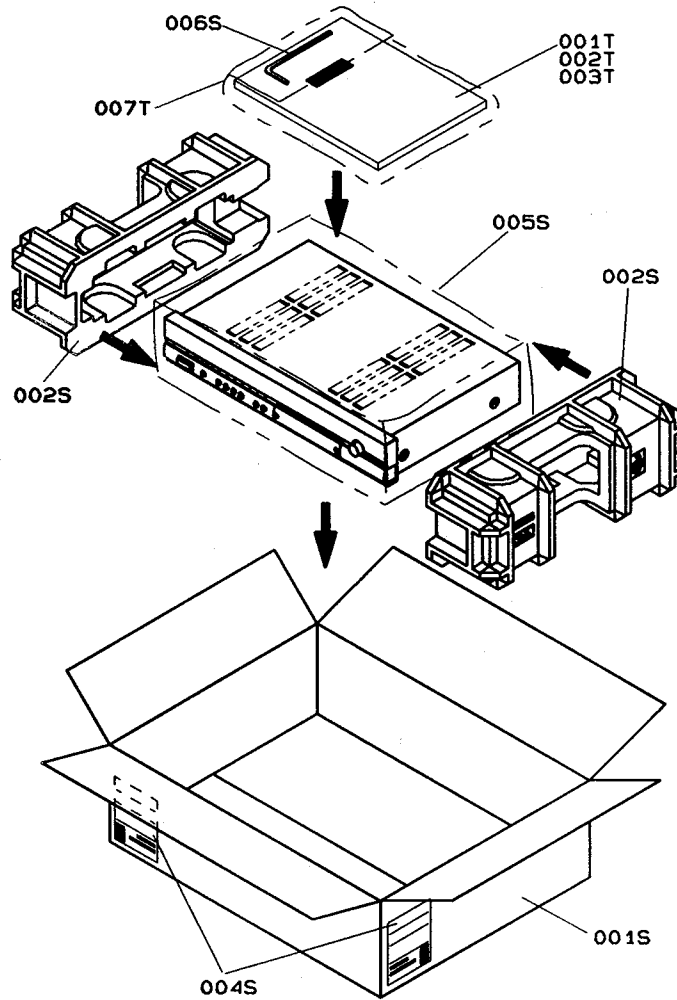
Q707~Q710, Q853, Q856:
DTA114ES



DTA144EU

1
2
3
4
5
6
7

PACKING MATERIAL



<u>Ref. No.</u>	<u>Part. No.</u>	<u>Description</u>	<u>QTY</u>
		PACKING	
001S	267J801010	CARTON	1
002S	266J809010	CUSHION (L, R)	2
004S	9510901260	LABEL, SERIAL	2
005S	9014635360	POLYETHY BAG	1
006S	9710100030	TOOL, HEXAGON WRENCH	1
001T	267J851250	USER MANUAL BK	1
001T	267J851310	USER MANUAL IB	1
002T	260J854010	WARRANTY CARD BK	1
003T	267J865010	CARD	1
007T	9012540010	POLYETHY BAG	1