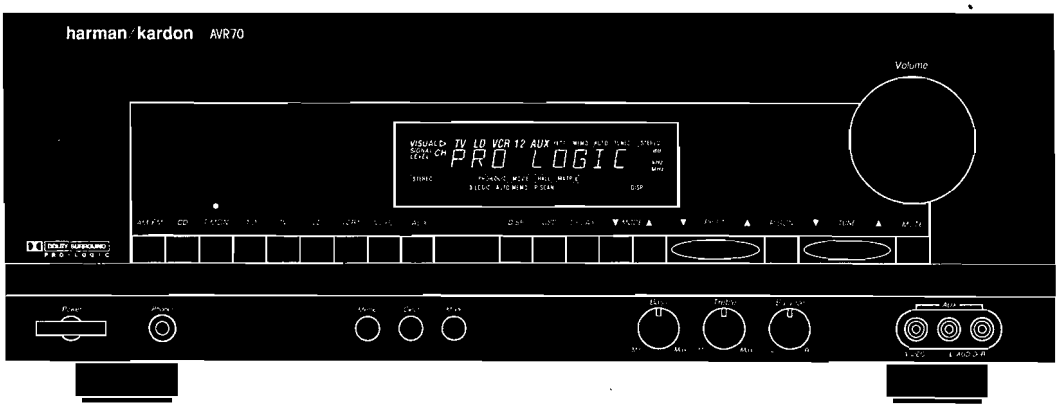
The Harman Kardon
Model AVR70/AVR70MK II
AUDIO AND VIDEO RECEIVER

Manual A

Technical Manual



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

BK	AVR70	:North America area model Black version (with Tact type mains switch)
IB	AVR70	:International model Black version (with Tact type mains switch)
BK	AVR70MK II	:North America area model Black version (with Manual Operated Mechanical type mains switch)
IB	AVR70[MOMS]	:International model Black version (with Manual Operated Mechanical type mains switch)

CONTENTS

harman/kardon
Parts and Service Office
80 Crossways Park West, Woodbury, N.Y. 11797
1112-AVR70 1200 Printed in Japan

SPECIFICATIONS

FRONT AMP SECTION

	Nominal	Limit
Continuous Power Output		
(STEREO MODE), Input: CD		
THD : 0.09% 20 Hz-20 kHz	≥80 W	≥70 W
Both Channel Driven (1 kHz)		
(SURROUND MODE)	≥30 W	≥25 W
THD: 0.3%, 8 ohms, 1 kHz		
THD at 70 W, 8 ohms, Input: CD		
20 Hz	≤0.03%	≤0.09%
1 kHz	≤0.01%	≤0.09%
20 kHz	≤0.05%	≤0.09%
IM Distortion at 70 W, 8 ohms, Vol: Max.		
	≤0.03%	≤0.09%
Input Sensitivity for Rated Power Output (70W)		
(STEREO MODE, 1 kHz 8 ohms, Volume : Max)		
CD	275 mV	235-315 mV
TAPE1/2, TV/LD VCR1/2, AUX	220 mV	180-260 mV
S/N Ratio Input Shorted at 1kHz 1W Output (WTD IHF-A)		
CD 0.5 V Input	≥82 dB	≥78 dB
Tone Control		
Bass: 100 Hz	+10 dB	+10 ±2.5 dB
	-10 dB	- 10 ±2.5 dB
Treble: 10kHz	+10 dB	+10 ±2.5 dB
	-10 dB	- 10 ±2.5 dB
Frequency Response at -3dB		
Mode: Stereo, Ref: 1 kHz	10 Hz-70 kHz	15 Hz-50kHz
Channel Crosstalk Input Shorted by 1 kohms		
100Hz	≥55 dB	≥50 dB
1 kHz	≥45 dB	≥40 dB
10 kHz	≥35 dB	≥30 dB

CENTER AMP SECTION

	Nominal	Limit
RMS Output Power		
THD (0.3%, 8 ohms, 1 kHz)		
Only Center Channel Driven	≥80 W	≥70 W
S/N Ratio (Input Level : 245 mV)		
Input Shorted, IHF-A WTD	≥70 dB	≥65 dB
Frequency Response at-3 dB		
8 ohms, Dolby Pro-Logic	15 Hz - 22 kHz	30 Hz - 20 kHz

REAR AMP SECTION

	Nominal	Limit
RMS Output Power		
THD (0.7%, 8 ohms, 1 kHz)		
Only Rear Channel Driven	≥35 W	≥25 W
S/N Ratio (Input Shorted, IHF-A WTD)		
Delay : 20 ms, Input Level : 245 mV	≥70 dB	≥65 dB
Frequency Response at-3 dB		
8 ohms, Dolby Pro-Logic	15 Hz - 7 kHz	30 Hz - 6.5 kHz

SUB WOOFER SECTION

Line level at Pre out	Approx. 150 mVrms
Surround mode : Dolby Pro-Logic	
Center speaker mode : Large	
Input signal : L ch (only) 200mV	
Master volume : 0 dB	
Low pass crossover frequency	80 Hz cut off
Slope (Low Pass filter)	24 dB / octave

VIDEO AMP SECTION

	Nominal	Limit
Input Sensitivity/Impedance		
LD, TV, VCR1, VCR2, AUX	1 V_{P-P}/75 Ω	±1 dB
Output Level/Impedance		
VCR1, VCR2, Monitor	1 V_{P-P}/75 Ω	±1 dB
Frequency Response at-3 dB	DC-8 MHz	DC-6MHz

FM SECTION

	Nominal	Limit
Tuning Cover Range 75 kHz Step	87.50 - 108.00 MHz	
Mono Usable Sensitivity (75 ohms Input, 98 MHz)		
	≤13.5 dbf	≤19.2 dbf
Image Rejection (at 98 MHz)		
USA/Canada	>50 dB	≥40 dB
Europe	≥70 dB	≥60 dB
IF Rejection (at 98 MHz)	≥70 dB	≥65 dB
50 dB Quieting Sensitivity (at 98 Mhz, 100% MOD.)		
IHF Band Pass Filter		
Stereo	≤39.2 dbf	≤43.3 dbf
Distortion (1 kHz, 100% MOD. at 98 MHz, 65dbf Input)		
IHF Band Pass Filter		
Mono	≤0.2%	≤0.5%
S/N Ratio (500 µV Input, 100% MOD. at 98 MHz)		
IHF Band Pass Filter		
Stereo	≥68 dB	≥63 dB
Frequency Response (30 Hz - 15 kHz)		
USA/Canada De-Emphasis: 75µS	+0.5 dB	+1.0 dB
Europe De-Emphasis: 50µS	-2.0 dB	-4.0 dB
AM Suppression at 98 MHz		
	≥55 dB	≥45 dB
Muting Threshold (at 98 MHz)	27.2 dbf	23.3-32.0dbf
Overload Break-up at 98 MHz	71 dbf	65 dbf
Capture Ratio at 65 dbf	≤1.5 dB	≤2.5 dB
Stereo Separation (at 98 MHz, 100% MOD., 500 µV Input)		
IHF Band Pass Filter		
1 kHz	≥40 dB	≥30 dB
Tape out Level (at 98 MHz)		
	800 mV	600-1300 mV

AM SECTION

	Nominal	Limit
Tuning Cover Range (MW)		
USA/Canada : 10 kHz Step	520 - 1710 kHz	
Other : 9 kHz Step	531 - 1602 kHz	
Tuning Cover Range (LW)		
1 kHz Step	152 kHz - 282 kHz	
Usable Sensitivity		
MW at 999/1000 kHz	≤500 µV/m	≤800 µV/m
LW at 207 kHz	≤1500 µV/m	≤2000 µV/m
Image Rejection (at 999 kHz)	≥40 dB	≥35 dB
IF Rejection (at 999/1000 kHz)	≥60 dB	≥50 dB
Spurious Rejection (at 999/1000 kHz)		
	≥65 dB	≥55 dB
AGC Figure of Merit (From 100 mV/m at 999/1000 kHz)		
	≥55 dB	≥48 dB
Distortion (999/1000 Hz, 30% MOD. 50 mVm Input)		
	≤1.0%	≤2.0%
Frequency Response (999/1000 kHz)		
at -3 dB	100 Hz - 2.2 kHz	150 Hz - 1.8 kHz
Selectivity (at 999/1000 Hz)		
9 kHz/10 kHz	≥30 dB	≥20 dB
18 kHz/20kHz	≥70 dB	≥60 dB
S/N Ratio (999/1000 kHz, With Antenna Input 50 mV//m)		
(Europe : Using 15 kHz L.P.F.)	≥50 dB	≥45 dB
Overload Break-up at 999/1000 kHz (THD 10%)		
	≥1000 mV/m	≥500 mV/m
TAPE Output Level at 999/1000 kHz (5 mV/m Input)		
	240 mV	150-340 mV

GENERAL

	Nominal	Limit
Power Consumption		
At Rated Power 2 Channel Driven	300 W	250 - 350 W
Idling at Minimum Volume Control	45 W	35 - 65 W
Power Supplies :		
USA/Canada	AC 120 V, 60 Hz	
Europe	AC 230 V, 50 Hz	
Dimensions (W x H x D) :		
inches	$17\,^{1/16}$x $6\,^{3/32}$ x $18\,^{1/16}$	
mm	444 x 160 x 459	
Weight (lbs/kgs)	27.8/12.5	

These specifications are service target specs.
Specifications and components are subject to change without notice.
Overall performance will be maintained or improved.

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 or your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

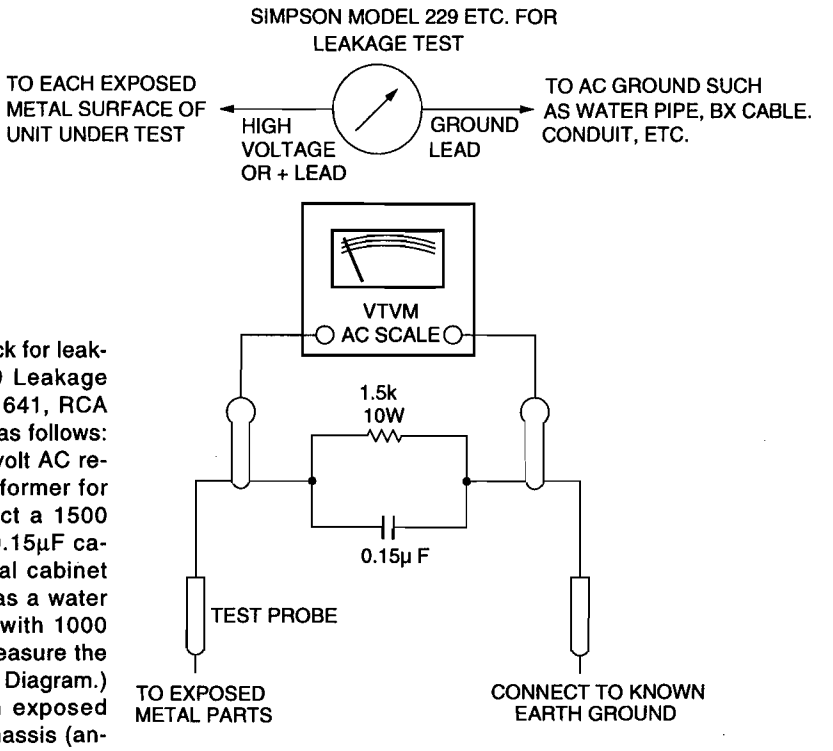
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing.
Components identified with the IEC symbol ⚠ in the parts list are of special significance to safety. When replacing a component identified with ⚠ , use only the replacement parts designated, or parts with the same ratings or resistance, wattage, or voltage that are designated in the parts list in this manual.
Leakage - current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

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

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

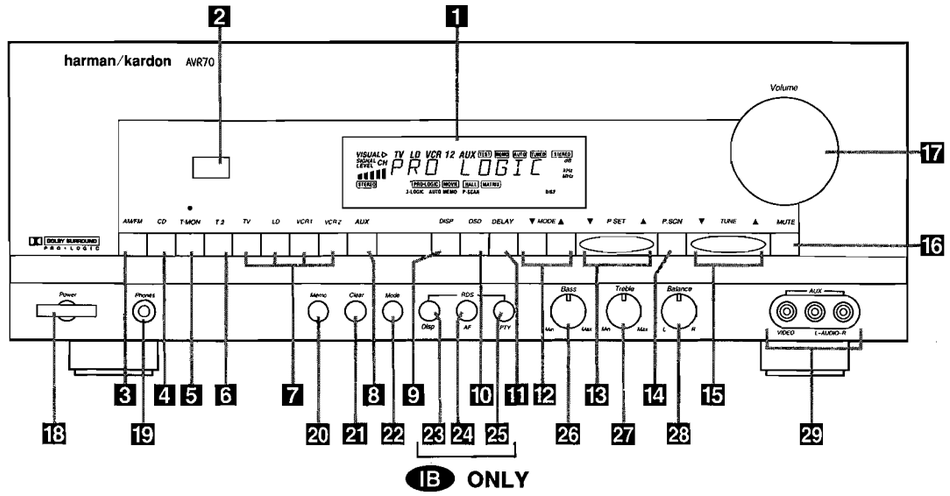
1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the unit.
2. Be sure that any protective devices such as nonmetallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers 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 0.15µF 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.

CONTROL AND FUNCTIONS

Front Panel



IB ONLY

1 Information Display: This display delivers messages and status indications to help you operate the receiver. Refer to the separate diagram for a complete explanation of the FL display.

2 Remote Sensor Window: The sensor behind this window receives infrared signals from the remote control. Aim the remote at this area and do not block or cover it unless an external remote sensor is installed.

3 AM/FM Tuner Mode Selection: Press this button once to select the tuner. Press it again to switch between FM, MW and LW.

4 CD: Press this button to select the CD player.

5 Tape1/Monitor: Press this button to select Tape One as the input source. A red LED above the button will illuminate to indicate that the Tape Monitor has been selected.

6 Tape 2: Press this button to select Tape 2.

7 Video Sources: Press any of these buttons to select a video input source.

8 Aux: Press this button to select the source connected to the front panel **Aux** jacks.

9 Display: Press this button to turn off the front panel FL display. The DISP indicator will illuminate to remind you that the unit is still turned on.

10 OSD (On Screen Display): Press the button briefly to display a system status report on your video screen. Press and hold to change the video standard.

11 Delay: Press this button to increase the delay to the rear (surround) channels.

12 Mode: Press these buttons to scroll up ▲ or down ▼ through the list of available surround modes.

13 P-Set: Press these buttons to manually scroll up ▲ or down ▼ through the FM, LW or AM stations programmed into the receiver's preset memory.

14 P-Scan: Press this button to automatically scan through the FM or AM stations preset into the receiver's memory. Press the button again to stop the scan when the tuner is at the desired station.

15 Tune: Press these buttons to manually scan up ▲ or down ▼ through the FM or AM bands.

16 Mute: Press this button to cut the output to the speakers. Press it again to return to the previous volume level.

17 Volume Control: Turn the knob clockwise to increase volume, counterclockwise to decrease the volume. Note that approximately two revolutions of the knob are required to go from no output to maximum volume.

18 Power: press this button once to turn the unit on or off. In order to use the remote control to turn the unit on the power switch must be pressed once, and then the unit must be turned off via the remote. The LED indicator light surrounding the power switch will glow amber when the unit is in the Standby mode and green when the unit is on.

19 Headphone Jack: Plug standard stereo headphones into this jack for private listening.

NOTE: When the headphones are in use the output to the speakers is muted and the surround mode is automatically switched to STEREO. When the headphones are removed from the jack, sound to the speakers is restored and the unit returns to the previous sound mode.

20 Memo: The memo button is used to enter stations to the tuner's preset memory in either the manual or automatic modes. It is also used in clearing the memory and entering the sleep timer period.

21 Clear: The clear button is used to cancel tuning, memory input or when clearing the unit's memories.

22 FM Mode: Press this button to select the tuning mode for FM stations.

23 RDS Display: When a station transmitting RDS data is tuned, press this button to view the tuning frequency.

24 RDS AF: The button is used to search for stations transmitting a specific programme type that offers better reception than the currently tuned station.

25 RDS PTY: Press this button to view the programme type (PTY) when an RDS station is tuned. It is also used to initiate a search for RDS stations transmitting a specific programme type.

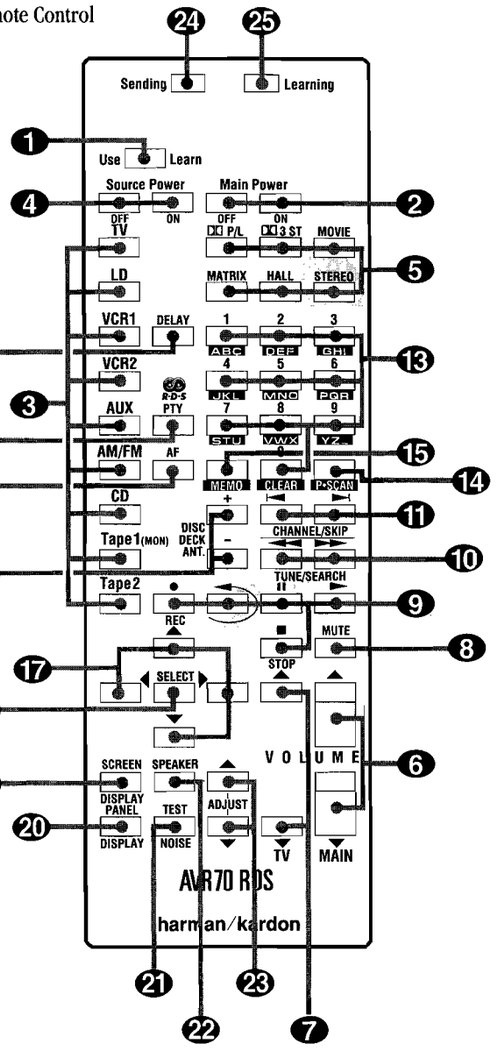
26 Bass: This knob adjusts the tone of low frequency sounds. Turn it to the right to boost bass frequencies or to the left to cut bass frequencies.

27 Treble: This knob adjusts the tone of high frequency sounds. Turn it to the right to boost high frequencies or to the left to cut high frequencies.

28 Balance: This knob adjusts the balance between the front left and right speakers.

29 Front Panel Inputs: Audio or Video sources connected to these jacks may be selected by pressing the **Aux** button 8.

Remote Control



IB ONLY

1 Use/Learn: This switch selects the operation mode of the remote control. Slide it to the left for normal operation. Slide it to the right when the remote is being programmed.

2 Main Power: Press these buttons to turn the unit on or off.

3 Source Selection: Pressing one of these buttons selects the input source that will be listened to through the receiver. When a source is selected the remote's transport and numeric number buttons will also transmit the commands needed to control that machine.

4 Source Power: Press these buttons to control power for the last source device selected.

5 Surround Mode Selection: Press one of these buttons to select a surround mode for the current listening session.

6 Main Volume: These buttons control the unit's volume. Note that all channels are controlled simultaneously.

7 TV Volume: These buttons adjust the volume for TV using the remote control codes programmed into the remote for a TV set or cable box. These buttons control the TV set only, regardless of which source is selected. This enables you to control the audio level of a TV set even when the receiver is not in use.

8 Mute: Press this button to temporarily cut the audio output of the receiver. Press it again to return to the previous volume level.

9 Transport Controls: These buttons control the tape or disc motion of the last playback source selected with the Source Selection buttons 3. Use them as you would the Play, Stop, Pause, Reverse Play and Record buttons on any VCR, CD or LD remote control.

10 Tune/Search & Fast Forward: (These buttons have multiple functions, which vary according to the input device selected.)

a. When the **TUNER** has been selected, these buttons are used to manually tune stations.

b. When **CD**, **LD** or **VCR** is the input source, these buttons act as the Fast Scan Forward ►► or Fast Scan Reverse ◄◄ controls.

11 Channel/Skip: (These buttons have multiple functions, which vary according to the input device selected.)

a. When the **TUNER** has been selected, these buttons will scroll up ►| or down |◄ through the stations that have been programmed in the preset memory.

b. When **TV** or **VCR** is selected, they are the channel up ►| or channel down |◄ tuning buttons.

c. When **CD** or **LD** is selected these buttons act as forward and reverse "Skip" buttons to move to the next track or chapter on the disc.

d. When a compatible Harman Kardon cassette player has been selected as **Tape 1** or **Tape 2**, these buttons move the tape forward ►| or backwards |◄ to the next selection using the Music Scan feature.

12 Disc/Deck/Ant: (These buttons have multiple functions, which vary according to the input device selected.)

a. When **CD** is selected and the unit is a CD changer, these buttons will change to the next disc + or previous disc –.

b. When **Tape 1** or **Tape 2** is the input source, and the tape machine is a compatible Harman Kardon dual cassette deck, these buttons will switch between the "A" and "B" sides.

c. When **VCR 1** or **VCR 2** is the input source, these buttons switch between VCR and TV as the unit's output.

d. When **TV** is the input source, these buttons may switch between video input sources or antenna/video, depending on the TV model.

e. When **LD** is the input source, these buttons will switch the side being played from "A" to "B" on compatible dual side players.

13 Number Keys: These buttons serve as a ten button numeric keypad to enter tuner preset positions. They are also to be used to select channel numbers when **TV** has been selected on the remote, or to select track numbers on a CD or LD player, depending on how the remote has been programmed. The letters below the buttons are used to enter information for tuner station names.

NOTE: The **0** button has a dual function. It also serves as the **CLEAR** button for use in programming the tuner or clearing the system memory.

14 P-Scan: Press this button to automatically scan through the stations preset into the tuner memory. Press the button again to end the scan when the tuner stops at the desired station.

15 Memo: The memo button is used to enter stations to the tuner's preset memory in either the manual or automatic modes. It is also used in the process of clearing the memory.

16 Delay: This button controls the amount of sound delay to the rear (surround) channels. Press it to increase the delay in the steps shown in the main Information Display or on-screen graphics.

17 Menu Controls: These buttons control the action of the cursor or the selection of menu items when the receiver is being configured using the setup menus.

18 Select: This button enters settings to the receiver's memory during system configuration.

19 Screen Display: Press this button to activate the on screen menu system.

20 Panel Display: Press this button to turn off all displays and indicators in the Information Display except for a small DISP indication in the lower right corner of the display 12. Press the button again to turn the display back on. Note that the display will briefly illuminate when a command is sent to the unit from the front panel or remote, even though the display is turned off.

21 Test Noise: Press this button to begin calibration of the output level for each channel. A test signal will immediately be heard from the left front speaker and the TEST indicator 2 will flash.

22 Speaker Select: When setting the system output levels, this button selects the speaker position being adjusted. Press it once to advance to the next speaker after each position is adjusted.

23 Level Adjust: When setting the system output levels, press these buttons to increase or decrease the output level.

24 Sending LED: This indicator should flash any time a button is pressed to confirm that a command is being sent to the receiver or another unit. If the light is dim or does not illuminate when a button is pressed the batteries in the remote should be replaced.

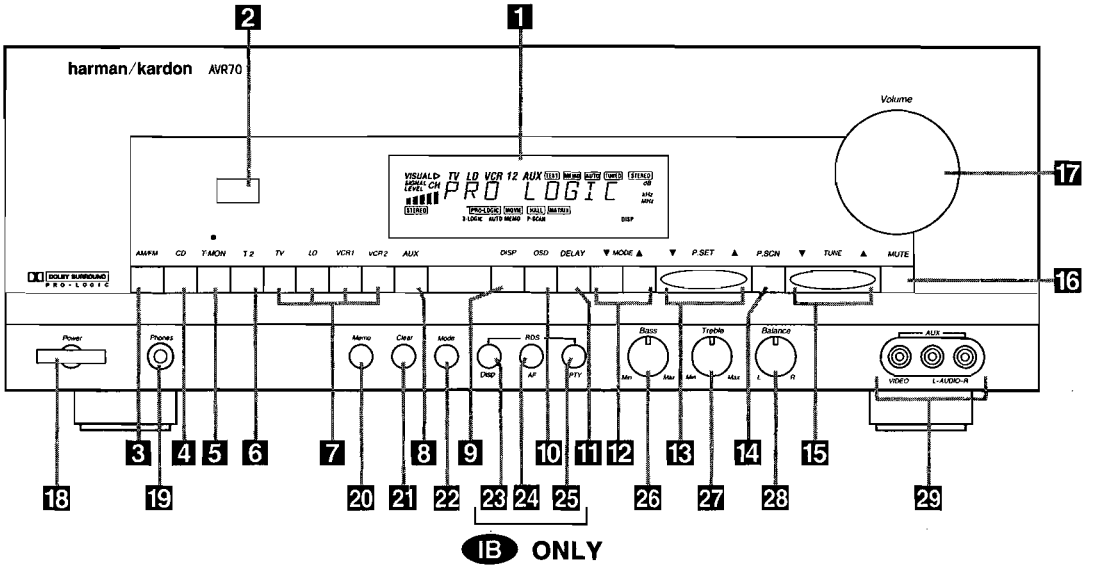
25 Learn LED: This indicator will illuminate when a button on the remote is being programmed with signals from another remote during the "learning" mode. The light will go out when the signal is received and memorized.

26 RDS PTY: Press this button to view the Programme Type information for stations transmitting RDS data. This button is also used for PTY Auto Search functions.

27 RDS AF: This button initiates a search of all RDS stations to find a stronger signal for the programme type currently selected.

CONTROL AND FUNCTIONS

Front Panel



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3 AM/FM Tuner Mode Selection: Press this button once to select the tuner. Press it again to switch between FM, MW and LW.

4 CD: Press this button to select the CD player.

5 Tape1/Monitor: Press this button to select Tape One as the input source. A red LED above the button will illuminate to indicate that the Tape Monitor has been selected.

6 Tape 2: Press this button to select Tape 2.

7 Video Sources: Press any of these buttons to select a video input source.

8 Aux: Press this button to select the source connected to the front panel **Aux** jacks.

9 Display: Press this button to turn off the front panel FL display. The DISP indicator will illuminate to remind you that the unit is still turned on.

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13 P-Set: Press these buttons to manually scroll up ▲ or down ▼ through the FM, LW or AM stations programmed into the receiver's preset memory.

14 P-Scan: Press this button to automatically scan through the FM or AM stations preset into the receiver's memory. Press the button again to stop the scan when the tuner is at the desired station.

15 Tune: Press these buttons to manually scan up ▲ or down ▼ through the FM or AM bands.

16 Mute: Press this button to cut the output to the speakers. Press it again to return to the previous volume level.

17 Volume Control: Turn the knob clockwise to increase volume, counterclockwise to decrease the volume. Note that approximately two revolutions of the knob are required to go from no output to maximum volume.

18 Power: press this button once to turn the unit on or off. In order to use the remote control to turn the unit on the power switch must be pressed once, and then the unit must be turned off via the remote. The LED indicator light surrounding the power switch will glow amber when the unit is in the Standby mode and green when the unit is on.

19 Headphone Jack: Plug standard stereo headphones into this jack for private listening.

NOTE: When the headphones are in use the output to the speakers is muted and the surround mode is automatically switched to STEREO. When the headphones are removed from the jack, sound to the speakers is restored and the unit returns to the previous sound mode.

20 Memo: The memo button is used to enter stations to the tuner's preset memory in either the manual or automatic modes. It is also used in clearing the memory and entering the sleep timer period.

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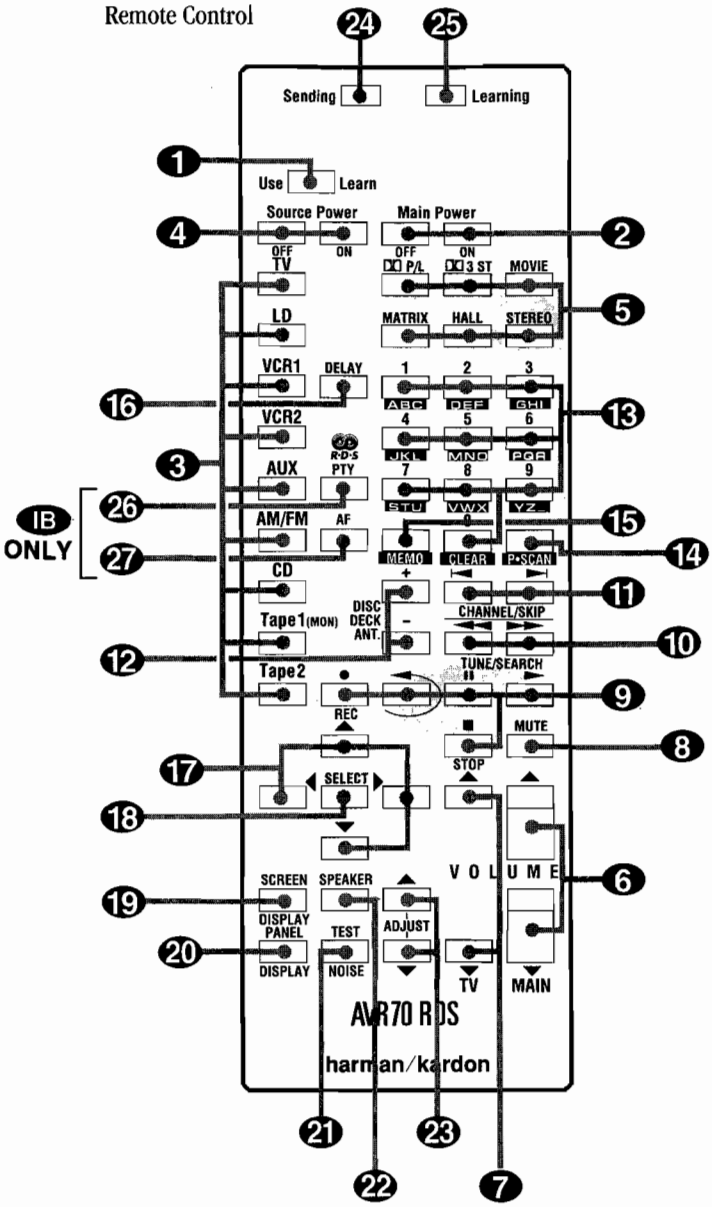

1 Use/Learn: This switch selects the operation mode of the remote control. Slide it to the left for normal operation. Slide it to the right when the remote is being programmed.

2 Main Power: Press these buttons to turn the unit on or off.

3 Source Selection: Pressing one of these buttons selects the input source that will be listened to through the receiver. When a source is selected the remote's transport and numeric number buttons will also transmit the commands needed to control that machine.

4 Source Power: Press these buttons to control power for the last source device selected.

5 Surround Mode Selection: Press one of these buttons to select a surround mode for the current listening session.

6 Main Volume: These buttons control the unit's volume. Note that all channels are controlled simultaneously.

7 TV Volume: These buttons adjust the volume for TV using the remote control codes programmed into the remote for a TV set or cable box. These buttons control the TV set only, regardless of which source is selected. This enables you to control the audio level of a TV set even when the receiver is not in use.

8 Mute: Press this button to temporarily cut the audio output of the receiver. Press it again to return to the previous volume level.

9 Transport Controls: These buttons control the tape or disc motion of the last playback source selected with the Source Selection buttons **3**. Use them as you would the Play, Stop, Pause, Reverse Play and Record buttons on any VCR, CD or LD remote control.

10 Tune/Search & Fast Forward: (These buttons have multiple functions, which vary according to the input device selected.)

a. When the **TUNER** has been selected, these buttons are used to manually tune stations.

b. When **CD**, **LD** or **VCR** is the input source, these buttons act as the Fast Scan Forward ►► or Fast Scan Reverse ◄◄ controls.

11 Channel/Skip: (These buttons have multiple functions, which vary according to the input device selected.)

a. When the **TUNER** has been selected, these buttons will scroll up ►| or down |◄ through the stations that have been programmed in the preset memory.

b. When **TV** or **VCR** is selected, they are the channel up ►| or channel down |◄ tuning buttons.

c. When **CD** or **LD** is selected these buttons act as forward and reverse "Skip" buttons to move to the next track or chapter on the disc.

d. When a compatible Harman Kardon cassette player has been selected as **Tape 1** or **Tape 2**, these buttons move the tape forward ►| or backwards |◄ to the next selection using the Music Scan feature.

12 Disc/Deck/Ant: (These buttons have multiple functions, which vary according to the input device selected.)

a. When **CD** is selected and the unit is a CD changer, these buttons will change to the next disc **+** or previous disc **–**.

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c. When **VCR 1** or **VCR 2** is the input source, these buttons switch between VCR and TV as the unit's output.

d. When **TV** is the input source, these buttons may switch between video input sources or antenna/video, depending on the TV model.

e. When **LD** is the input source, these buttons will switch the side being played from "A" to "B" on compatible dual side players.

13 Number Keys: These buttons serve as a ten button numeric keypad to enter tuner preset positions. They are also to be used to select channel numbers when **TV** has been selected on the remote, or to select track numbers on a CD or LD player, depending on how the remote has been programmed. The letters below the buttons are used to enter information for tuner station names.

NOTE: The **0** button has a dual function. It also serves as the **CLEAR** button for use in programming the tuner or clearing the system memory.

14 P-Scan: Press this button to automatically scan through the stations preset into the tuner memory. Press the button again to end the scan when the tuner stops at the desired station.

15 Memo: The memo button is used to enter stations to the tuner's preset memory in either the manual or automatic modes. It is also used in the process of clearing the memory.

16 Delay: This button controls the amount of sound delay to the rear (surround) channels. Press it to increase the delay in the steps shown in the main Information Display or on-screen graphics.

17 Menu Controls: These buttons control the action of the cursor or the selection of menu items when the receiver is being configured using the setup menus.

18 Select: This button enters settings to the receiver's memory during system configuration.

19 Screen Display: Press this button to activate the on screen menu system.

20 Panel Display: Press this button to turn off all displays and indicators in the Information Display except for a small DISP indication in the lower right corner of the display **12**. Press the button again to turn the display back on. Note that the display will briefly illuminate when a command is sent to the unit from the front panel or remote, even though the display is turned off.

21 Test Noise: Press this button to begin calibration of the output level for each channel. A test signal will immediately be heard from the left front speaker and the TEST indicator **2** will flash.

22 Speaker Select: When setting the system output levels, this button selects the speaker position being adjusted. Press it once to advance to the next speaker after each position is adjusted.

23 Level Adjust: When setting the system output levels, press these buttons to increase or decrease the output level.

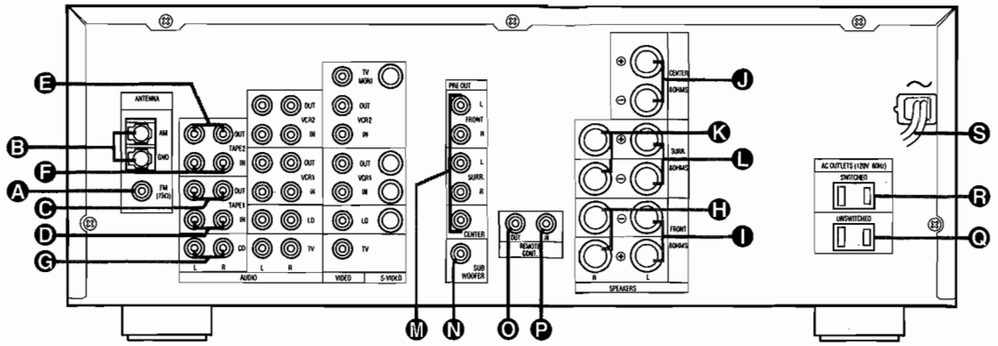
24 Sending LED: This indicator should flash any time a button is pressed to confirm that a command is being sent to the receiver or another unit. If the light is dim or does not illuminate when a button is pressed the batteries in the remote should be replaced.

25 Learn LED: This indicator will illuminate when a button on the remote is being programmed with signals from another remote during the "learning" mode. The light will go out when the signal is received and memorized.

26 RDS PTY: Press this button to view the Programme Type information for stations transmitting RDS data. This button is also used for PTY Auto Search functions.

27 RDS AF: This button initiates a search of all RDS stations to find a stronger signal for the programme type currently selected.

Rear Panel – Audio and System Connections



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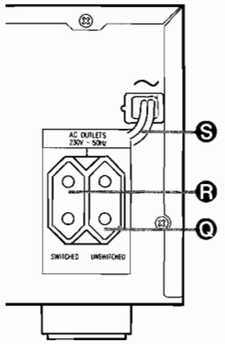


A FM Antenna: Connect an indoor or external FM antenna to these terminals.

B AM Antenna: Connect the AM loop antenna supplied with the receiver to these terminals. If an external AM antenna is used, make connections to the **AM** and **GND** terminals in accordance with the instructions supplied with the antenna.

C Tape 1 Out: Connect these jacks to the RECORD/INPUT jacks of an audio recorder.

D Tape 1 In: Connect these jacks to the PLAY/OUT jacks of an audio recorder.

E Tape 2 Out: Connect these jacks to the RECORD/INPUT jacks of a second audio recorder.

F Tape 2 In: Connect these jacks to the PLAY/OUT jacks of a second audio recorder.

G CD IN: Connect these jacks to the output of a compact disc player or CD changer.

H Front R: Connect these terminals to the front right speaker.

I Front L: Connect these terminals to the front left speaker.

J Center: Connect these terminals to the center speaker.

K Surround R: Connect these terminals to the right surround speaker.

L Surround L: Connect these terminals to the left surround speaker.

M Pre-Outs: If external power amplifiers are used for any channels, connect these jacks to the inputs of the amplifier.

N Subwoofer Pre-Out: Connect this jack to the line level input of a powered subwoofer. If an external subwoofer amplifier is used, connect this jack to the subwoofer amplifier input.

O Remote IR Out: This connection permits the IR sensor in the receiver to serve other remote controlled devices. Connect this jack to the "IR IN" jack on Harman Kardon or other compatible equipment.

P Remote IR In: If the AVR70's front panel IR sensor is blocked due to cabinet doors or other obstructions, an external IR sensor may be used. Connect the output of the sensor to this jack.

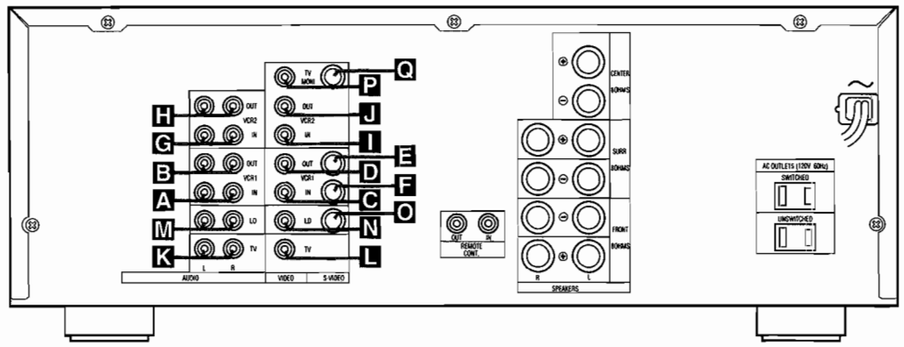
Q Unswitched AC Outlet: This outlet may be used to power any AC device. The power will remain on at this outlet regardless of whether the AVR70 is on or off.

R Switched AC Outlet: This outlet may be used to power any device that you wish to have on when the unit is turned on.

NOTE: The power consumption of the device plugged into each of these outlets should not exceed 120 watts.

S Power Cable: Connect the AC plug to a non-switched AC wall output.

Rear Panel – Video Connections



A VCR 1 Audio In: Connect these jacks to the audio PLAY/OUT jacks of a VCR.

B VCR 1 Audio Out: Connect these jacks to the RECORD/IN audio jacks of a VCR.

C VCR 1 Video In: Connect this jack to the composite video PLAY/OUT jacks of a VCR.

D VCR 1 Video Out: Connect this jack to the composite video RECORD/IN jacks of a VCR.

E VCR 1 S Video Out: Connect this jack to the "S" video RECORD/IN jacks of a VCR.

F VCR 1 S Video In: Connect this jack to the "S" video RECORD/IN jacks of a VCR.

G VCR 2 Audio In: Connect these jacks to the audio jacks PLAY/OUT of a second VCR.

H VCR 2 Audio Out: Connect these jacks to the audio RECORD/IN jacks of a second VCR.

I VCR 2 Video In: Connect this jack to the composite video PLAY/OUT jacks of a second VCR.

J VCR 2 Video Out: Connect this jack to the composite video RECORD/IN jacks of a second VCR.

K TV Audio In: Connect the audio outputs of a TV, cable converter or satellite receiver to these jacks.

L TV Video In: Connect the composite video output of a TV, cable converter or satellite receiver to this jack. The signals received at this jack are also used to trigger the "TV Auto-On" feature.

M LD Audio In: Connect the audio output of a laser disc player to these jacks.

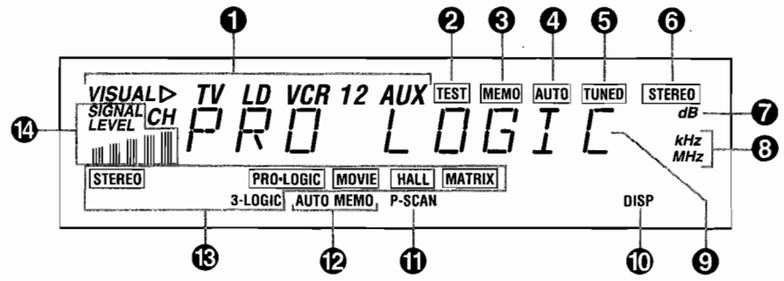
N LD Video In: Connect the composite video output of a laser disc player to this jack.

O LD S Video In: Connect the "S" video output of a laser disc player to this jack.

P TV Monitor Video Out: Connect this jack to the composite video input of a TV monitor or video projector to view the on screen control menus and output of the receiver's video switcher.

Q TV Monitor S Video Out: Connect this jack to the S video input of a TV monitor or video projector to view S video sources selected by the receiver's video switcher.

Information Display



1 "Visual" Indicator: These indicators display which input source is being fed to the video monitor output.

2 Test: This indicator flashes when the output levels are being set using the built in test signal generator.

3 Memo: This indicator flashes when the **Memo** button is pressed when entering presets and other information into the tuner's memory.

4 Auto: This indicator signifies that the Automatic Tuning mode is in use for FM broadcasts.

5 Tuned: This indicator lights when an AM or FM station is properly tuned and locked.

6 Stereo: This indicator lights when an FM station is broadcasting in stereo.

7 Volume Indication: The last two indicators on the information display indicate the volume level. Note that **0dB** is the reference level, not an indication that there is no output.

8 Tuner Frequency Indication: When the tuner is in use, the main Information Display will show the preset channel number, if any, the frequency band and the station frequency. Indicators at the right side of the display show **kHz** when an LW or MW station is tuned or **MHz** when an FM station is tuned.

9 Main Information Display: This ten digit display shows messages relating to the status, input source, surround mode, tuner, volume level or other aspects of the unit's operation.

10 DISP: This indicator lights when the FL display has been turned off using the **Display** button **10** to remind you that the unit is still turned on.

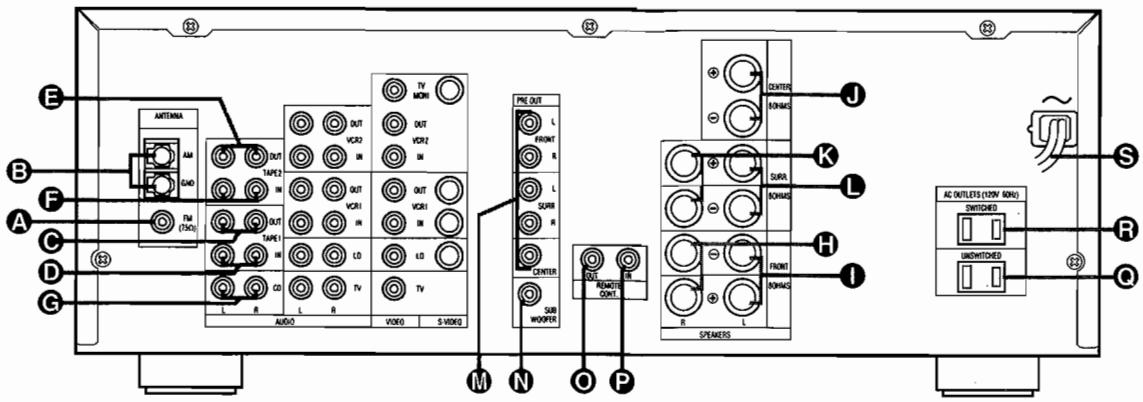
11 P-Scan: This indicator flashes when the stations programmed into the tuner memory are being automatically reviewed.

12 Auto Memo: This indicator flashes when the tuner is automatically scanning for stations and entering them into the preset memory.

13 Mode Status: These indicators display the currently selected surround mode.

14 Signal Level Indication: This is a visual indication of the strength of a radio station signal. The more bars visible, the stronger the station.

Rear Panel – Audio and System Connections



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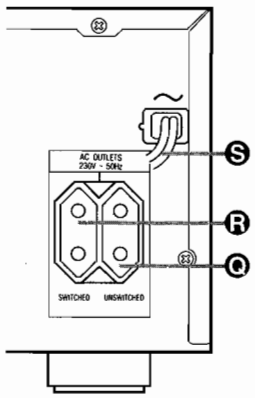

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C Tape 1 Out: Connect these jacks to the RECORD/INPUT jacks of an audio recorder.

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E Tape 2 Out: Connect these jacks to the RECORD/INPUT jacks of a second audio recorder.

F Tape 2 In: Connect these jacks to the PLAY/OUT jacks of a second audio recorder.

G CD IN: Connect these jacks to the output of a compact disc player or CD changer.

H Front R: Connect these terminals to the front right speaker.

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N Subwoofer Pre-Out: Connect this jack to the line level input of a powered subwoofer. If an external subwoofer amplifier is used, connect this jack to the subwoofer amplifier input.

O Remote IR Out: This connection permits the IR sensor in the receiver to serve other remote controlled devices. Connect this jack to the "IR IN" jack on Harman Kardon or other compatible equipment.

P Remote IR In: If the AVR70's front panel IR sensor is blocked due to cabinet doors or other obstructions, an external IR sensor may be used. Connect the output of the sensor to this jack.

Q Unswitched AC Outlet: This outlet may be used to power any AC device. The power will remain on at this outlet regardless of whether the AVR70 is on or off.

R Switched AC Outlet: This outlet may be used to power any device that you wish to have on when the unit is turned on.

NOTE: The power consumption of the device plugged into each of these outlets should not exceed 120 watts.

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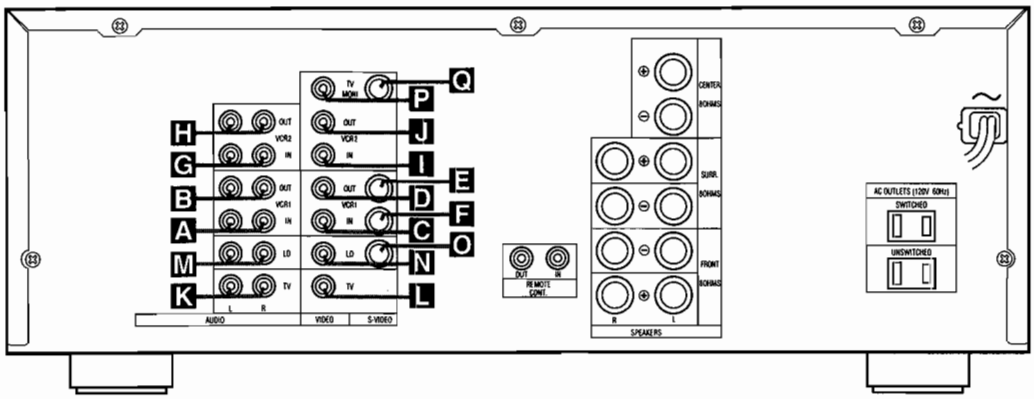
Rear Panel – Video Connections



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F VCR 1 S Video In: Connect this jack to the "S" video RECORD/IN jacks of a VCR.

G VCR 2 Audio In: Connect these jacks to the audio jacks PLAY/OUT of a second VCR.

H VCR 2 Audio Out: Connect these jacks to the audio RECORD/IN jacks of a second VCR.

I VCR 2 Video In: Connect this jack to the composite video PLAY/OUT jacks of a second VCR.

J VCR 2 Video Out: Connect this jack to the composite video RECORD/IN jacks of a second VCR.

K TV Audio In: Connect the audio outputs of a TV, cable converter or satellite receiver to these jacks.

L TV Video In: Connect the composite video output of a TV, cable converter or satellite receiver to this jack. The signals received at this jack are also used to trigger the "TV Auto-On" feature.

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N LD Video In: Connect the composite video output of a laser disc player to this jack.

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P TV Monitor Video Out: Connect this jack to the composite video input of a TV monitor or video projector to view the on screen control menus and output of the receiver's video switcher.

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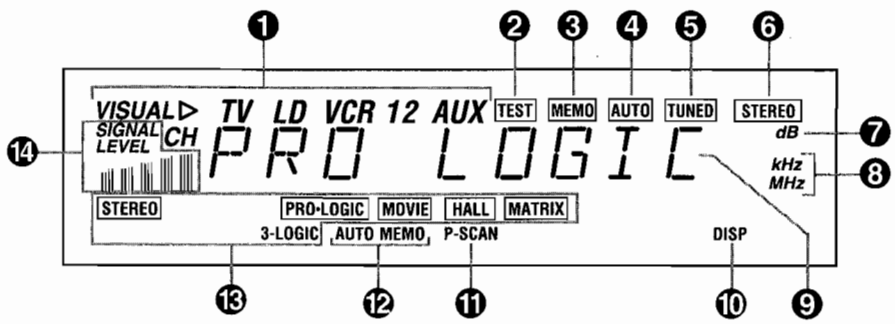
Information Display



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11 P-Scan: This indicator flashes when the stations programmed into the tuner memory are being automatically reviewed.

12 Auto Memo: This indicator flashes when the tuner is automatically scanning for stations and entering them into the preset memory.

13 Mode Status: These indicators display the currently selected surround mode.

14 Signal Level Indication: This is a visual indication of the strength of a radio station signal. The more bars visible, the stronger the station.

SERVICE PROCEDURE

1. Tracking point memory

This service procedure can be used for measurement of the tuner circuit.
With the POWER ON, press the **"PRESET UP"** button while pressing the **"MEMO"** button for at least 3 seconds or more. FLD will display **"TRACKING"**. Frequencies will be memorized as follows :

	VERSION	P1	P2	P3	P4
FM	BK IB	90.0	98.0	106.0	87.5

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

2. FLD segment luminous

This service procedure will illuminate all segments by the following steps :
With the POWER ON, press the **"FM/AM(TUNER)"** button while pressing the **"MEMO"** button for at least three seconds or more. This procedure takes 1 minute and 40 seconds to finish; at this point the procedure is complete.

1. All segments will be illuminated for 5 seconds.
2. At the grid "1G", segments are illuminated in the following order :

① KHz → ② MHz → ③ R → ④ PEAK → ⑤ L → ⑥ MULTI → ⑦ MONO → ⑧ MATRIX →
⑨ HALL → ⑩ P-SCAN → ⑪ TAPE → ⑫ COPY → ⑬ VCR1 → ⑭ SLEEP → ⑮ DISP → ⑯ TX

3. At the grid "2G", to "11G", each one segment is illuminated individually.
4. At the grid "12G", segments are illuminated in the following order :

① VISUAL → ② SIGNAL LEVEL → ③ CH → ④ SIGNAL BAR (LEFT SIDE) →
⑤ SIGNAL BAR (2nd LEFT) → ⑥ SIGNAL BAR (CENTER) → ⑦ SIGNAL BAR (2nd RIGHT) →
⑧ SIGNAL BAR (RIGHT SIDE) → ⑨ STEREO → ⑩ THX CINEMA → ⑪ PRO.LOGIC →
⑫ MOVIE → ⑬ AUTO MEMO → ⑭ 3.LOGIC → ⑮ SIMUL'D → ⑯SURROUND

3. Selector check mode

This service program automatically operates input selector and surround mode by the following procedure. This service program continually repeats until power is shut off.
When the POWER ON, press the **"SURROUND MODE+"** button while pressing the **"MEMO"** button 3 seconds or more.

STEP	INPUT SELECTOR	DSP MODE	FM MODE BAND	FREQUENCY	COPY SWITCH		NOTES
					TAPE	VCR1	
1	FM	STEREO	AUTO	98.0	SOURCE	SOURCE	
2	FM	STEREO	MONO	LAST	↑	↑	
3	CD	STEREO	AUTO	LAST	↑	↑	
4	TAPE1	P-LOGIC	AUTO	LAST	TUNER	SOURCE	TUNER-ON
5	TAPE2	MOVIE	AUTO	LAST	SOURCE	TV	
6	TV	3 CH	AUTO	LAST	↑	SOURCE	
7	TV	HALL	AUTO	LAST	CD	LD	
8	LD	MATRIX	AUTO	LAST	TAPE2	TV	
9	VCR1	MATRIX	AM/MW	1000/999	TUNER	VCR2	
10	VCR2	STEREO	AUTO	98.0	TUNER	SOURCE	TUNER-ON
11	AUX	STEREO	AUTO	LAST	SOURCE	AUX	

4. All clear

This service program can clear all memorized operations and functions.
When the POWER ON, press the **"CLEAR"** button while pressing the **"MEMO"** button 3 seconds or more. FLD shows **"CLEAR MEMO"** and power will be OFF.

TEST EQUIPMENT REQUIRED

1) AM/FM Signal Generator
2) Video Signal Generator
3) Digital Multimeter
4) Distortion level meter

ALIGNMENT PROCEDURES

1. FM MONO. Distortion Adjustment

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to FM antenna terminal. (75 ohm)	98 MHz	500 uV/m (54 dB/m) MONO 1 KHz / Dev.40KHz 53.3% IB MONO 1KHz / Dev. 75KHz 100% BK	98 MHz (P2)	L201	Distortion level **Minimum** at TAPE-OUT

2. FM Muting Level Adjustment

Turn variable resistor **R212** and stop at position **"TUNED"** is not shown (not indicated), then again turn the variable resistor **R212** to the opposite revolution and stop at a position **"TUNED"** is shown.

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to FM antenna terminal. (75 ohm)	98 MHz	10 uV/m (20 dB/m) MONO 1 KHz / Dev.40KHz 53.3% IB MONO 1KHz / Dev. 75KHz 100% BK	98 MHz (P2)	R212	**"TUNED"** indicate on FLD
2			Over mentioned level **+3 dB**	AUTO SCAN	Only Confirm	**"TUNED"** indicate on FLD

3. FM STEREO Distortion Adjustment

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

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to FM antenna terminal. (75 ohm)	98 MHz	500 uV/m (54 dB/m) L+R 1KHz / Dev. 40KHz 53.3% PILOT 19KHz / Dev. 6KHz 8% 1B	98 MHz (P2)	IF COIL in FRONT END	Distortion level **Minimum** at TAPE-OUT
2			L+R 1KHz / Dev. 67.5KHz 90% PILOT 19KHz / Dev. 6.75KHz 9% BK		R218	Distortion level **Minimum** at TAPE-OUT

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

4. FM STEREO Separation Adjustment

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to FM antenna terminal. (75 ohm)	98 MHz	same specification as **FM STEREO distortion adjustment.** Input only **L** channel.	98 MHz (P2)	R211	Output level **Minimum** at TAPE-OUT channel **R**
2		98 MHz	same specification as **FM STEREO distortion adjustment.** Input only **R** channel.	98 MHz (P2)	R211	Output level **Similar** as Rch at TAPE-OUT channel **L**

SERVICE PROCEDURE

1. Tracking point memory

This service procedure can be used for measurement of the tuner circuit.
With the POWER ON, press the "**PRESET UP**" button while pressing the "**MEMO**" button for at least 3 seconds or more. FLD will display "**TRACKING**". Frequencies will be memorized as follows :

	VERSION	P1	P2	P3	P4
FM	BK IB	90.0	98.0	106.0	87.5

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

2. FLD segment luminous

This service procedure will illuminate all segments by the following steps :
With the POWER ON, press the "**FM/AM(TUNER)**" button while pressing the "**MEMO**" button for at least three seconds or more. This procedure takes 1 minute and 40 seconds to finish; at this point the procedure is complete.

1. All segments will be illuminated for 5 seconds.
2. At the grid "1G", segments are illuminated in the following order :

① KHz → ② MHz → ③ R → ④ PEAK → ⑤ L → ⑥ MULTI → ⑦ MONO → ⑧ MATRIX →
⑨ HALL → ⑩ P-SCAN → ⑪ TAPE → ⑫ COPY → ⑬ VCR1 → ⑭ SLEEP → ⑮ DISP → ⑯ TX

3. At the grid "2G", to "11G", each one segment is illuminated individually.
4. At the grid "12G", segments are illuminated in the following order :

① VISUAL → ② SIGNAL LEVEL → ③ CH → ④ SIGNAL BAR (LEFT SIDE) →
⑤ SIGNAL BAR (2nd LEFT) → ⑥ SIGNAL BAR (CENTER) → ⑦ SIGNAL BAR (2nd RIGHT) →
⑧ SIGNAL BAR (RIGHT SIDE) → ⑨ STEREO → ⑩ THX CINEMA → ⑪ PRO.LOGIC →
⑫ MOVIE → ⑬ AUTO MEMO → ⑭ 3.LOGIC → ⑮ SIMUL'D → ⑯SURROUND

3. Selector check mode

This service program automatically operates input selector and surround mode by the following procedure. This service program continually repeats until power is shut off.
When the POWER ON, press the "**SURROUND MODE+**" button while pressing the "**MEMO**" button 3 seconds or more.

STEP	INPUT SELECTOR	DSP MODE	FM MODE BAND	FREQUENCY	COPY SWITCH		NOTES
					TAPE	VCR1	
1	FM	STEREO	AUTO	98.0	SOURCE	SOURCE	
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3	CD	STEREO	AUTO	LAST	↑	↑	
4	TAPE1	P-LOGIC	AUTO	LAST	TUNER	SOURCE	TUNER-ON
5	TAPE2	MOVIE	AUTO	LAST	SOURCE	TV	
6	TV	3 CH	AUTO	LAST	↑	SOURCE	
7	TV	HALL	AUTO	LAST	CD	LD	
8	LD	MATRIX	AUTO	LAST	TAPE2	TV	
9	VCR1	MATRIX	AM/MW	1000/999	TUNER	VCR2	
10	VCR2	STEREO	AUTO	98.0	TUNER	SOURCE	TUNER-ON
11	AUX	STEREO	AUTO	LAST	SOURCE	AUX	

4. All clear

This service program can clear all memorized operations and functions.
When the POWER ON, press the "**CLEAR**" button while pressing the "**MEMO**" button 3 seconds or more. FLD shows "**CLEAR MEMO**" and power will be OFF.

TEST EQUIPMENT REQUIRED

1) AM/FM Signal Generator
2) Video Signal Generator
3) Digital Multimeter
4) Distortion level meter

ALIGNMENT PROCEDURES

1. FM MONO. Distortion Adjustment

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to FM antenna terminal. (75 ohm)	98 MHz	500 uV/m (54 dB/m) MONO 1 KHz / Dev.40KHz 53.3% IB MONO 1KHz / Dev. 75KHz 100% BK	98 MHz (P2)	L201	Distortion level **Minimum** at TAPE-OUT

2. FM Muting Level Adjustment

Turn variable resistor **R212** and stop at position **"TUNED"** is not shown (not indicated), then again turn the variable resistor **R212** to the opposite revolution and stop at a position **"TUNED"** is shown.

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to FM antenna terminal. (75 ohm)	98 MHz	10 uV/m (20 dB/m) MONO 1 KHz / Dev.40KHz 53.3% IB MONO 1KHz / Dev. 75KHz 100% BK	98 MHz (P2)	R212	**"TUNED"** indicate on FLD
2			Over mentioned level **+3 dB**	AUTO SCAN	Only Confirm	**"TUNED"** indicate on FLD

3. FM STEREO Distortion Adjustment

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

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to FM antenna terminal. (75 ohm)	98 MHz	500 uV/m (54 dB/m) L+R 1KHz / Dev. 40KHz 53.3% PILOT 19KHz / Dev. 6KHz 8% IB	98 MHz (P2)	IF COIL in FRONT END	Distortion level **Minimum** at TAPE-OUT
2			L+R 1KHz / Dev. 67.5KHz 90% PILOT 19KHz / Dev. 6.75KHz 9% BK		R218	Distortion level **Minimum** at TAPE-OUT

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

4. FM STEREO Separation Adjustment

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to FM antenna terminal. (75 ohm)	98 MHz	same specification as **FM STEREO distortion adjustment.** Input only **L** channel.	98 MHz (P2)	R211	Output level **Minimum** at TAPE-OUT channel **R**
2		98 MHz	same specification as **FM STEREO distortion adjustment.** Input only **R** channel.	98 MHz (P2)	R211	Output level **Similar** as Rch at TAPE-OUT channel **L**

5. AM IF Adjustment

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to transmission *loop antenna. (*:Standard required loop)	999 KHz (IB) 1000 KHz (BK)	300 uV/m (50 dB/m)	Tuning point	LA06	Output level (L or R) **Maximum** at TAPE-OUT

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

6. AM Tracking Adjustment (MW)

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to transmission *loop antenna. (*:Standard required loop)	603 KHz (IB) 600 KHz (BK)	Level 300 - 400 uV/m Mod. 400 Hz 30%	603 KHz (IB) 600 KHz (BK)	LA01	Output level (L or R) Maximum at TAPE-OUT
2		1404 KHz (IB) 1400 KHz (BK)	Level 300 - 400 uV/m Mod. 400 Hz 30%	1404 KHz (IB) 1400 KHz (BK)	CA01	Output level (L or R) Maximum at TAPE-OUT
3	Repeat step 1 and 2 until level is at maximum reading.					

7. AM Tracking Adjustment (LW)

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

8. AM auto stop Adjustment

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to transmission *loop antenna. (*:Standard required loop)	999 KHz (IB) 1000 KHz (BK)	500 uV/m (54 dB/m)	999 KHz (IB) 1000 KHz (BK)	RA11	**"TUNED"** indicate on FLD
2			1000 uV/m (60 dB/m)	AUTO SCAN	Only Confirm	**"TUNED"** indicate on FLD

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

9. On Screen Display VCO Adjustment

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

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

10. Main amp idling current adjustment

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

All values are with no load on speaker terminals, volume set to minimum and no input with the unit switched to the CD position. Always allow the amplifier to stabilize for 10 minutes or longer prior to adjusting idle current.

11. Main amp DC offset adjustment

1) With the power OFF, connect a digital voltmeter, set for the DC range, to the speaker terminal.
2) After the above, adjust the DC offset as follows: Turn the power ON and adjust RN63 (Lch), RN64 (Rch), RN70 (Center ch) so that the output is ±20 mV.

5. AM IF Adjustment

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to transmission *loop antenna. (*:Standard required loop)	999 KHz (IB) 1000 KHz (BK)	300 uV/m (50 dB/m)	Tuning point	LA06	Output level (L or R) **Maximum** at TAPE-OUT

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

6. AM Tracking Adjustment (MW)

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to transmission *loop antenna. (*:Standard required loop)	603 KHz (IB) 600 KHz (BK)	Level 300 - 400 uV/m Mod. 400 Hz 30%	603 KHz (IB) 600 KHz (BK)	LA01	Output level (L or R) Maximum at TAPE-OUT
2		1404 KHz (IB) 1400 KHz (BK)	Level 300 - 400 uV/m Mod. 400 Hz 30%	1404 KHz (IB) 1400 KHz (BK)	CA01	Output level (L or R) Maximum at TAPE-OUT
3	Repeat step 1 and 2 until level is at maximum reading.					

7. AM Tracking Adjustment (LW)

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

8. AM auto stop Adjustment

Step	Input Signal Source Connection	Signal Frequency	Source Signal Output Level and Modulation	Reception Frequency	Adjustment Point	Adjustment Value
1	Signal generator output to transmission *loop antenna. (*:Standard required loop)	999 KHz (IB) 1000 KHz (BK)	500 uV/m (54 dB/m)	999 KHz (IB) 1000 KHz (BK)	RA11	**"TUNED"** indicate on FLD
2			1000 uV/m (60 dB/m)	AUTO SCAN	Only Confirm	**"TUNED"** indicate on FLD

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

9. On Screen Display VCO Adjustment

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

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

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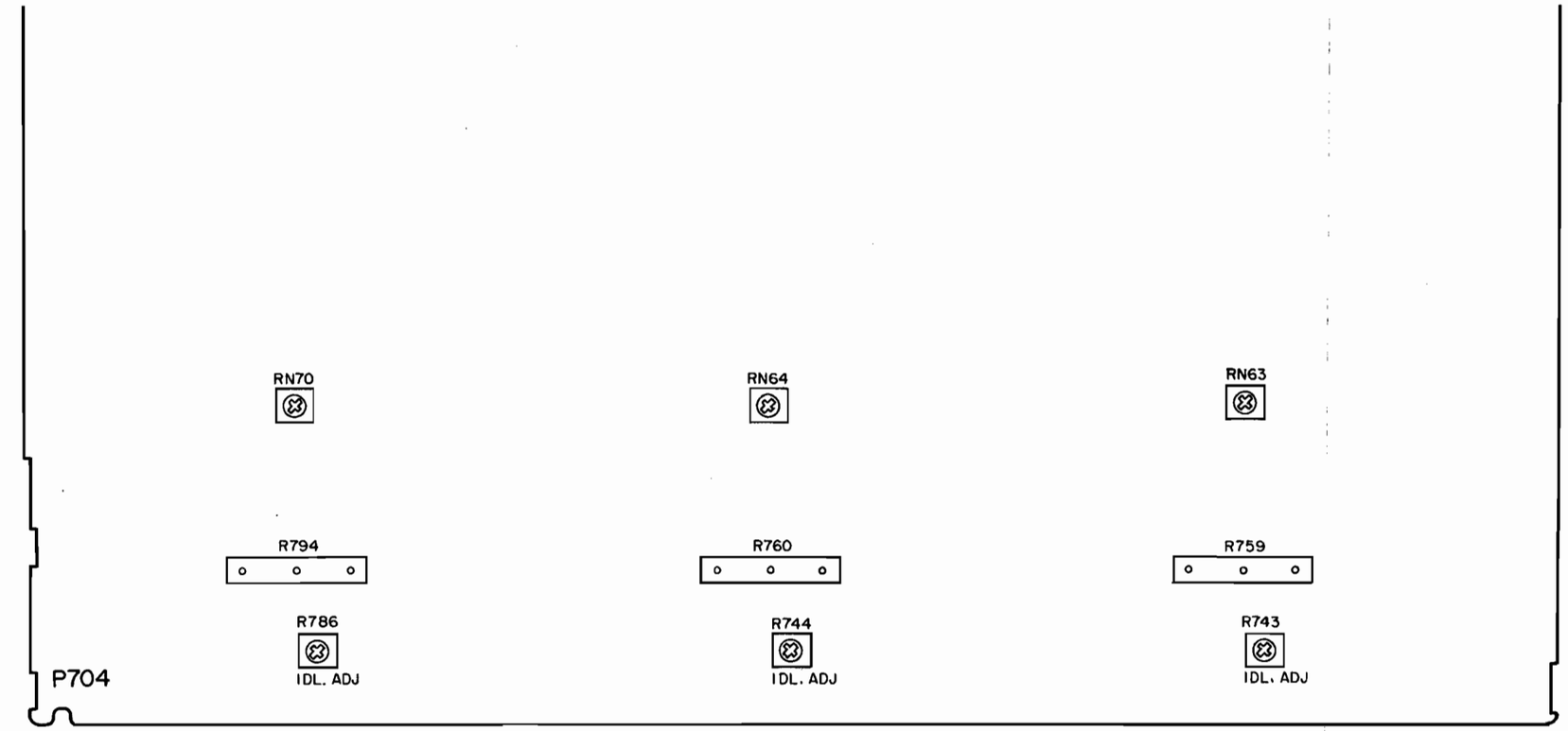
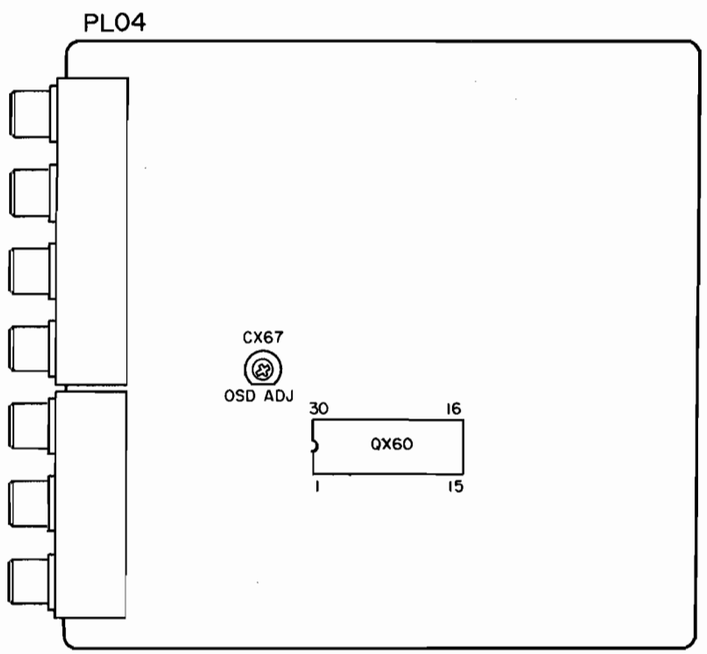
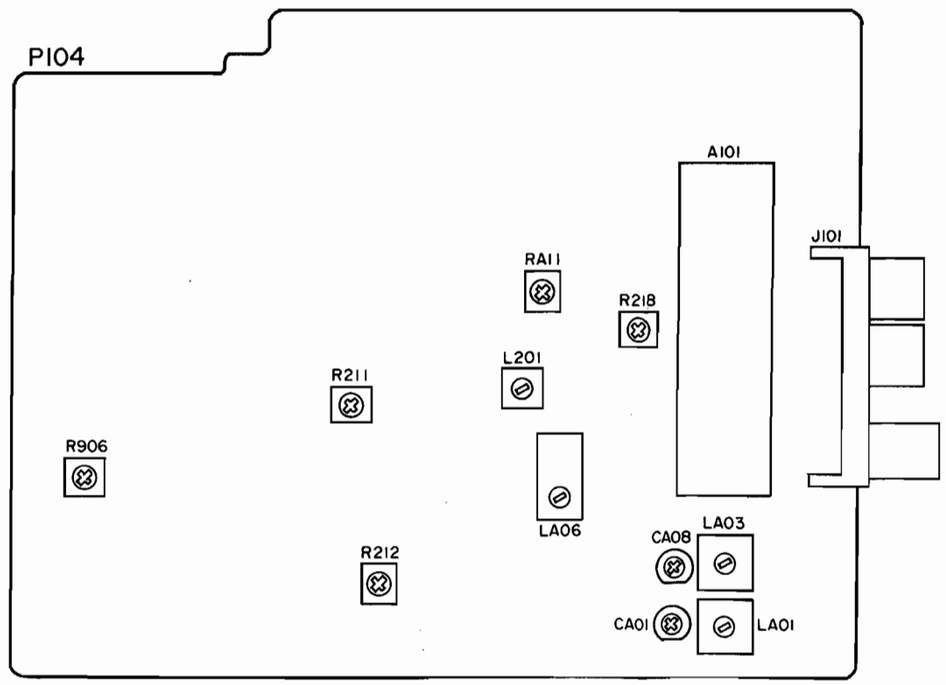
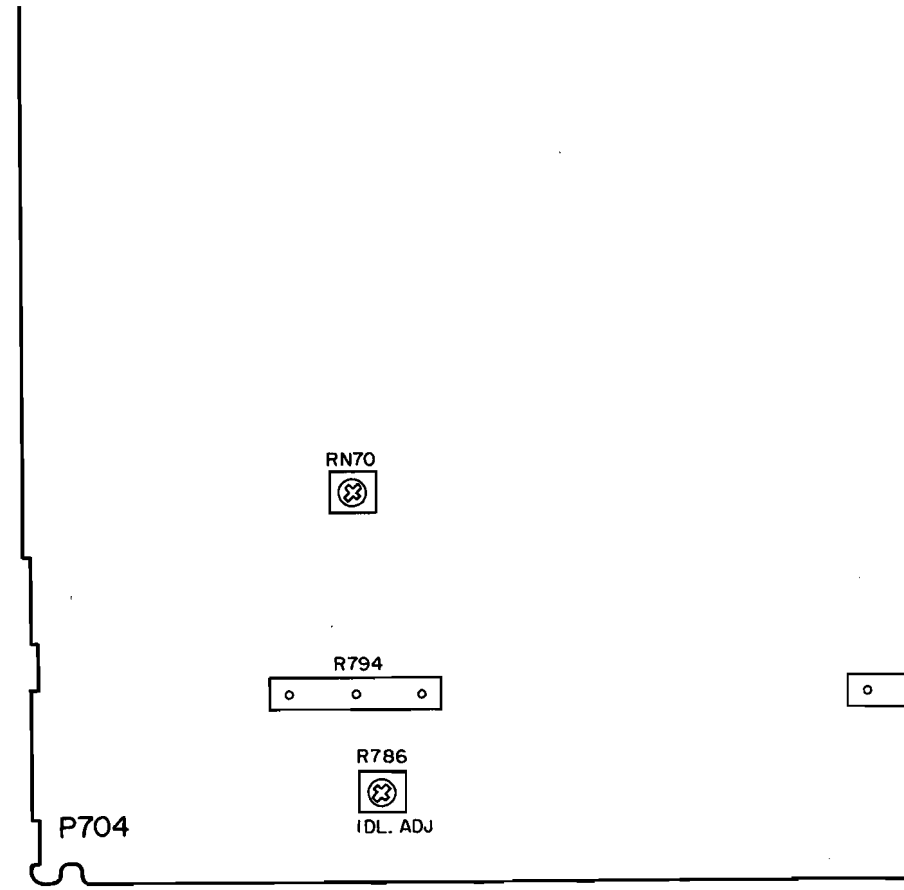
ALIGNMENT AND TEST POINTS

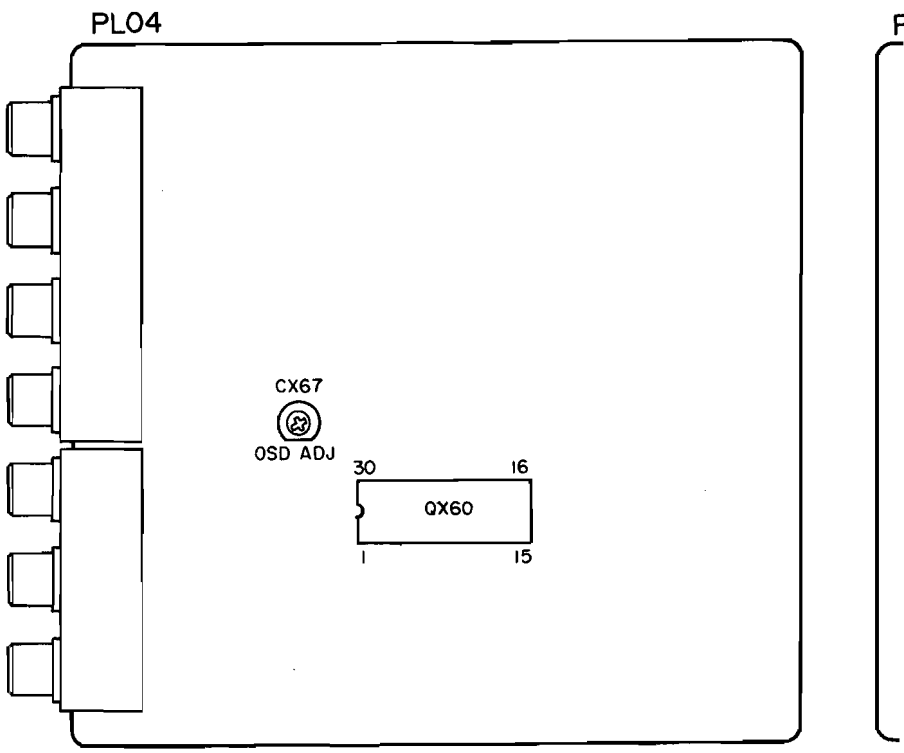


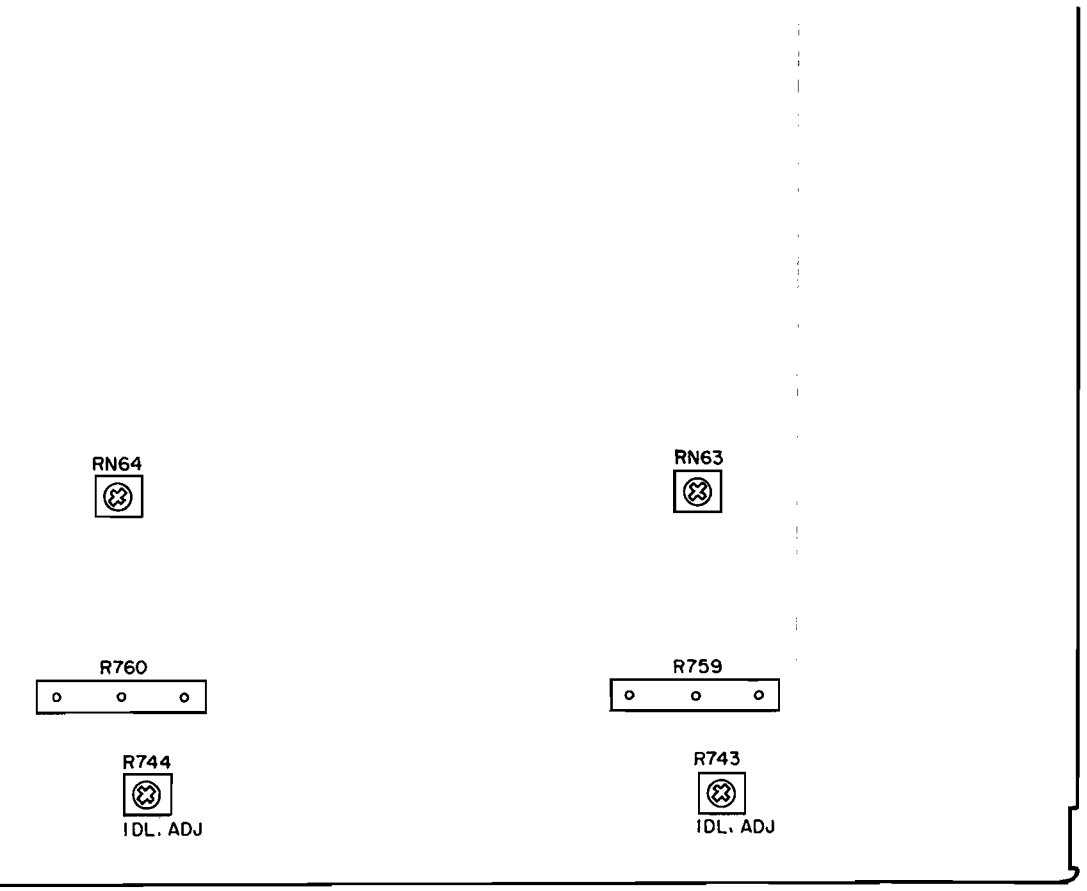


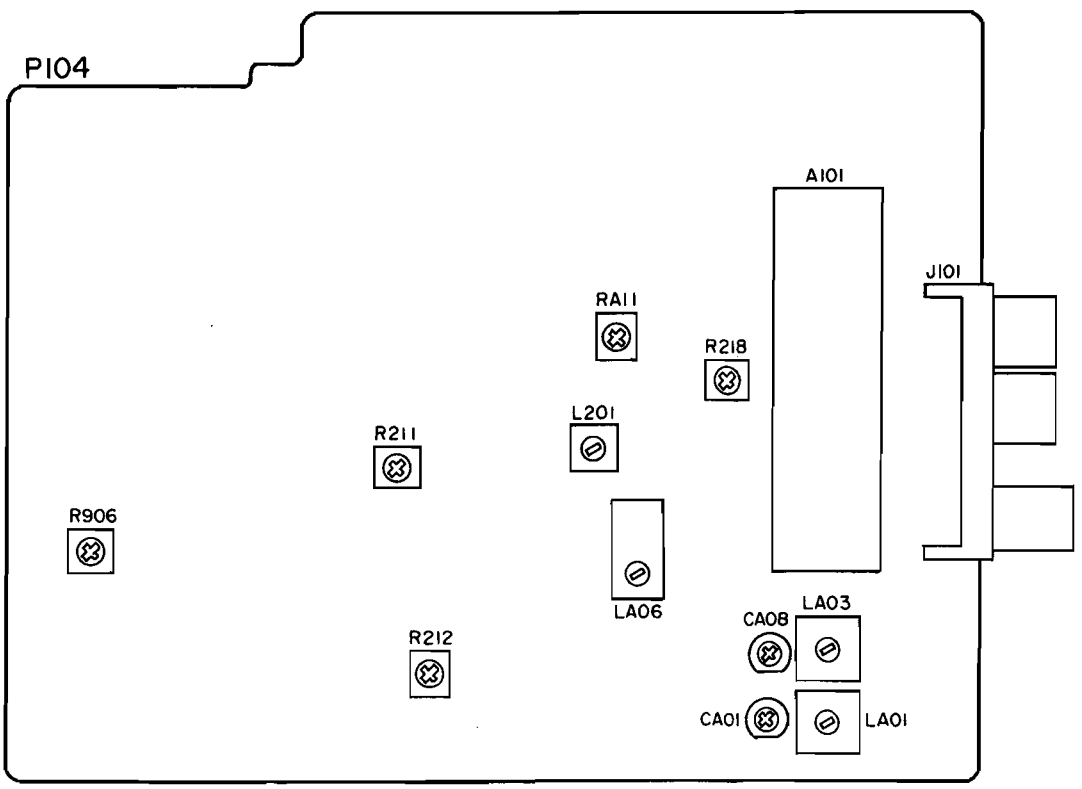


ALIGNMENT AND TEST POINTS





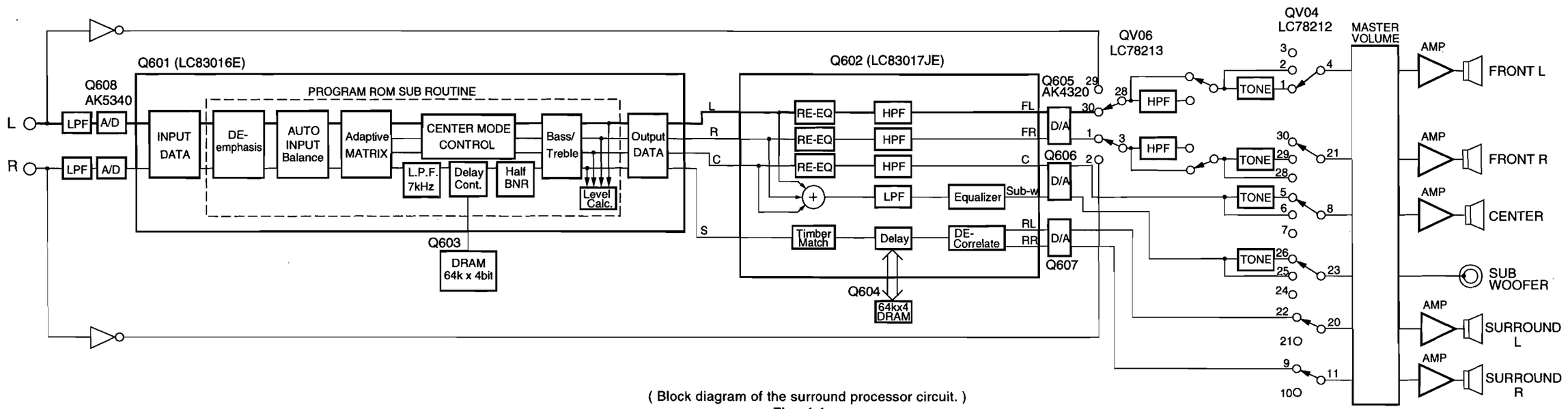

RN64
RN63
R760
R759
R744
IDL. ADJ
R743
IDL. ADJ


P104
A101
J101
RA11
R218
L201
R211
R906
LA06
LA03
CA08
R212
CA01
LA01

CIRCUIT DESCRIPTION

1. SURROUND CIRCUIT

This model incorporates a surround processor circuit that provides 6 types of the surround sound. Fig. 1-1 is a block diagram of the surround processor circuit.
The microprocessor transfers the data to the parameter control (Serial data, Serial clock, Request Ready) to operate the circuits in each mode.



(Block diagram of the surround processor circuit.)
Fig. 1-1

(1) Stereo
Set to this mode to listen to ordinary stereo sound.
The rear L/R and center outputs will be muted.

Q706 TC9215P

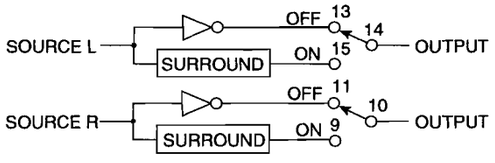


Fig. 1-2

(2) Dolby pro logic
Q601 (LC8316E) is a Dolby pro logic decoder IC. When an audio signal recorded using the Dolby pro logic system is sent to this IC, the left, right, center and surround components are separated. The surround signal component is delayed by the digital delay circuit by 15-30 mS and is sent to the modified B-type decoder Q601 where noise reduction processing is performed.

(3) Movie, 3CH Logic Hall, Matrix
The Movie mode provides the feeling of presence you get from a 35-mm movie in a movie theater.
3CH Logic mode is used to improve the sound field center by applying directivity enhancement provided by the Dolby Pro Logic Surround decoder.
Hall mode provides a sound-field effect of medium-sized circular hall with rich reverberations.
Matrix mode is effective for playing sports broadcasts or outdoor live concerts. It provides a surround mode with a wide surround effect.
All the connections of the circuits are the same in these modes. Q601, controlled by the microprocessor, processes the audio signals to produce various sound effects and creates surround components to use them as signals to drive the surround channel.

2. CENTER MODE

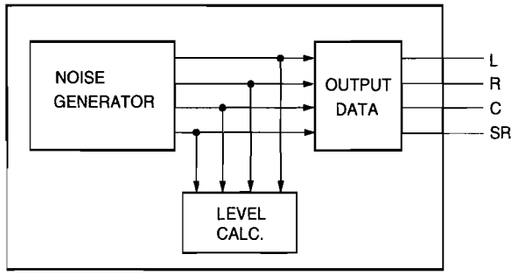
With Dolby pro logic, three center modes depend on the use of a center speaker as follows :

NORMAL	: Bass frequencies are sent only to the Left and Right Front channels. Select this mode when the Center Speaker is smaller than the Left and Right speakers.
WIDE	: Bass frequencies are sent to the Left, Center and Right speakers. Select this mode when the Center speaker is approximately the same size as the Left and Right speakers.
PHANTOM	: Center channel information is sent to the Left and Right speakers. Select this mode when you do not have a center channel speaker.

3. TEST TONE GENERATOR

The test tone generator generates a test tone (noise) to check the balance of sound output from each speaker in the Dolby pro logic mode. (This circuit is produced under license of the Dolby Laboratories Licensing Corp.)

Q601 LC83016E



(Flow of noise signals within the system.)
Fig. 3

CIRCUIT DESCRIPTION

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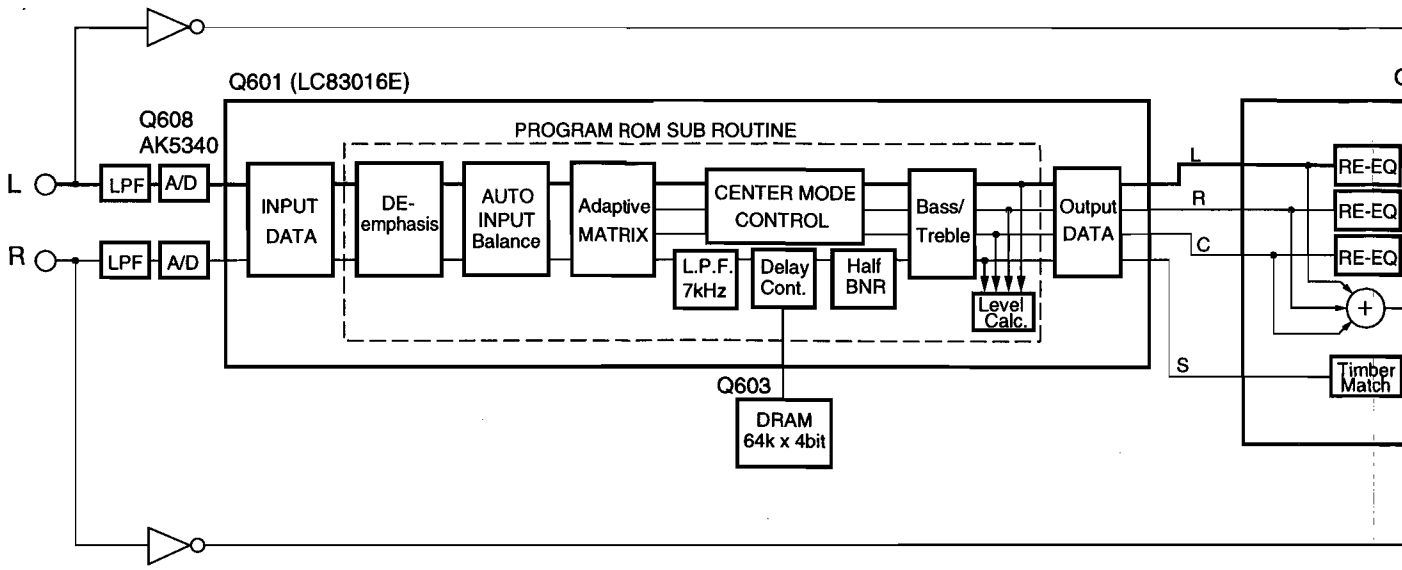
The microprocessor transfers the data to the parameter control (Serial data, Serial clock, Request Ready) to operate the circuits in each mode.



(Block diagram of the surrour

Fig. 1-1

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The rear L/R and center outputs will be muted.

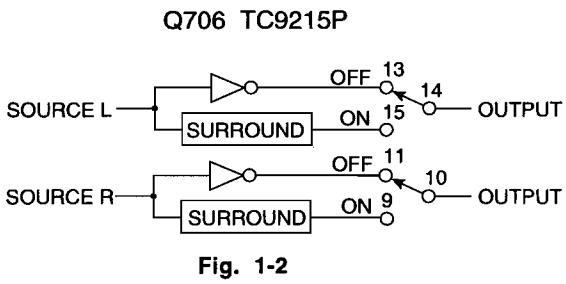

Fig. 1-2

(2) Dolby pro logic

Q601 (LC8316E) is a Dolby pro logic decoder IC. When an audio signal recorded using the Dolby pro logic system is sent to this IC, the left, right, center and surround components are separated. The surround signal component is delayed by the digital delay circuit by 15-30 mS and is sent to the modified B-type decoder Q601 where noise reduction processing is performed.

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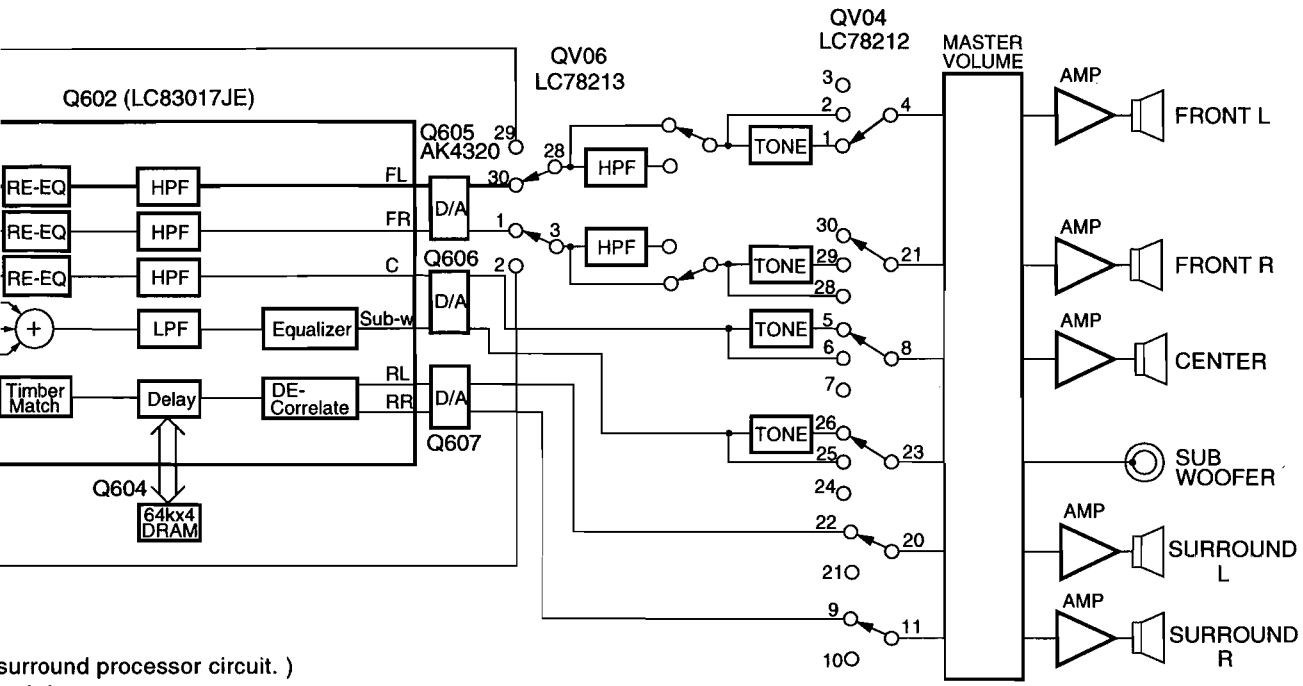
All the connections of the circuits are the same in these modes. Q601, controlled by the microprocessor, processes the audio signals to produce various sound effects and creates surround components to use them as signals to drive the surround channel.



surround processor circuit.)
. 1-1

2. CENTER MODE

With Dolby pro logic, three center modes depend on the use of a center speaker as follows :

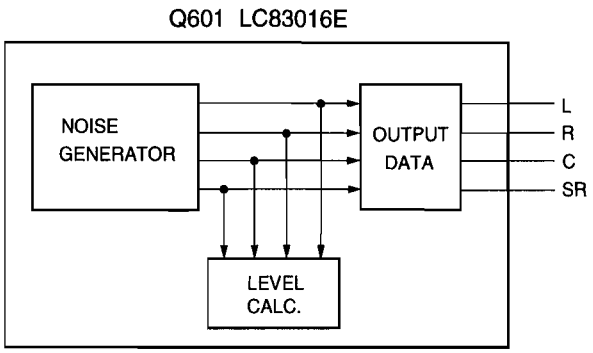
NORMAL : Bass frequencies are sent only to the Left and Right Front channels. Select this mode when the Center Speaker is smaller than the Left and Right speakers.

WIDE : Bass frequencies are sent to the Left, Center and Right speakers. Select this mode when the Center speaker is approximately the same size as the Left and Right speakers.

PHANTOM : Center channel information is sent to the Left and Right speakers. Select this mode when you do not have a center channel speaker.

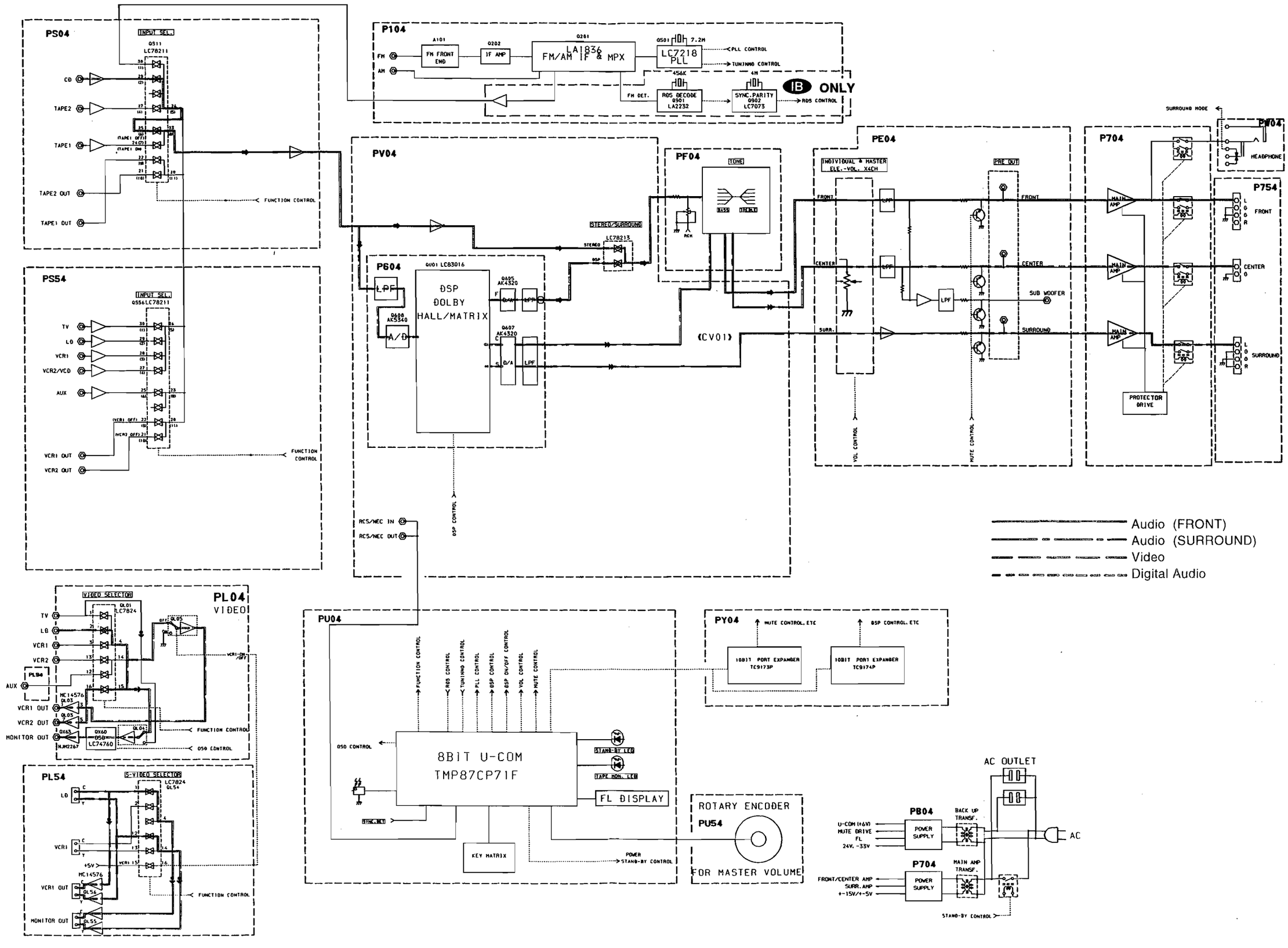
3. TEST TONE GENERATOR

The test tone generator generates a test tone (noise) to check the balance of sound output from each speaker in the Dolby pro logic mode. (This circuit is produced under license of the Dolby Laboratories Licensing Corp.)

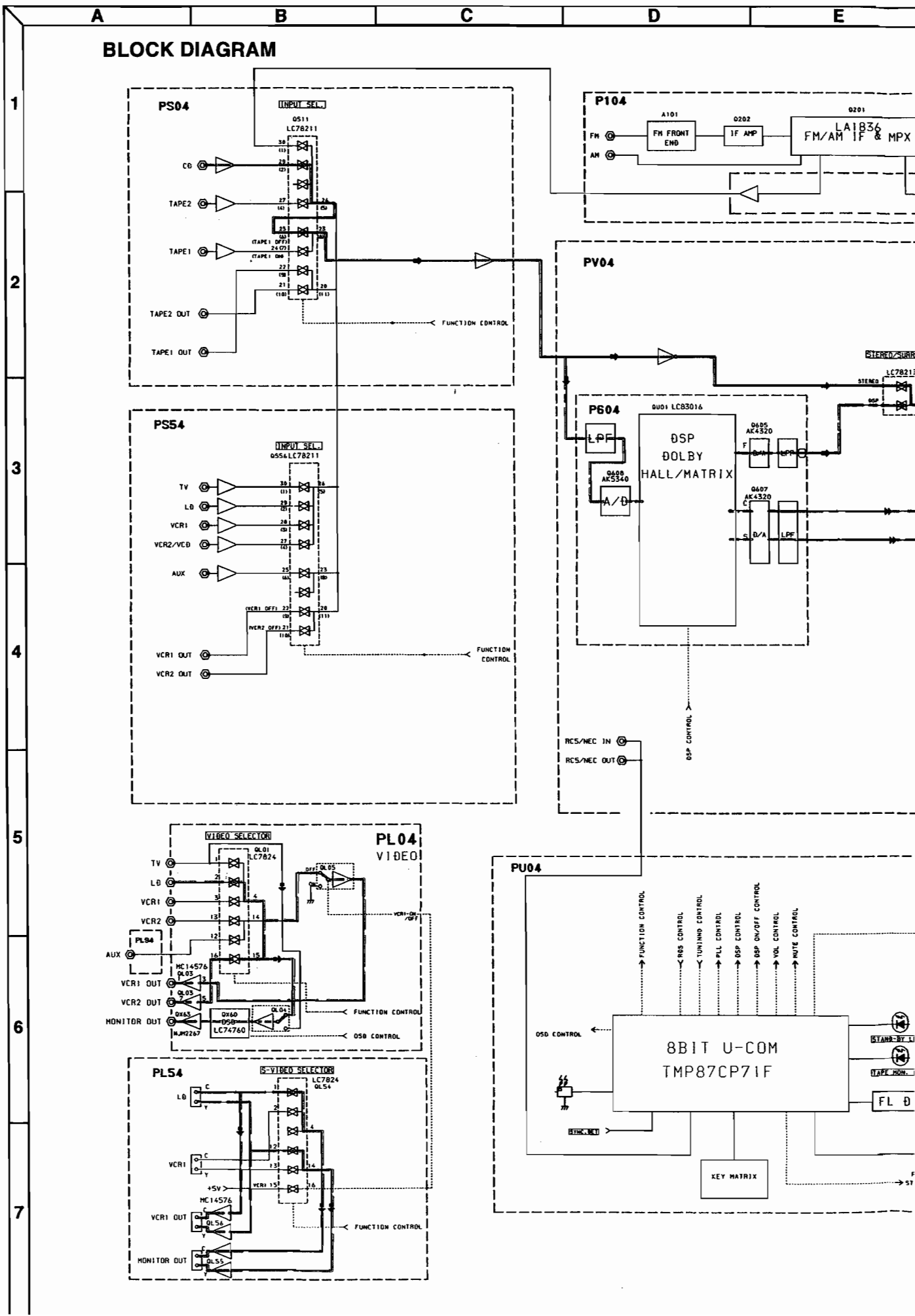


(Flow of noise signals within the system.)
Fig. 3

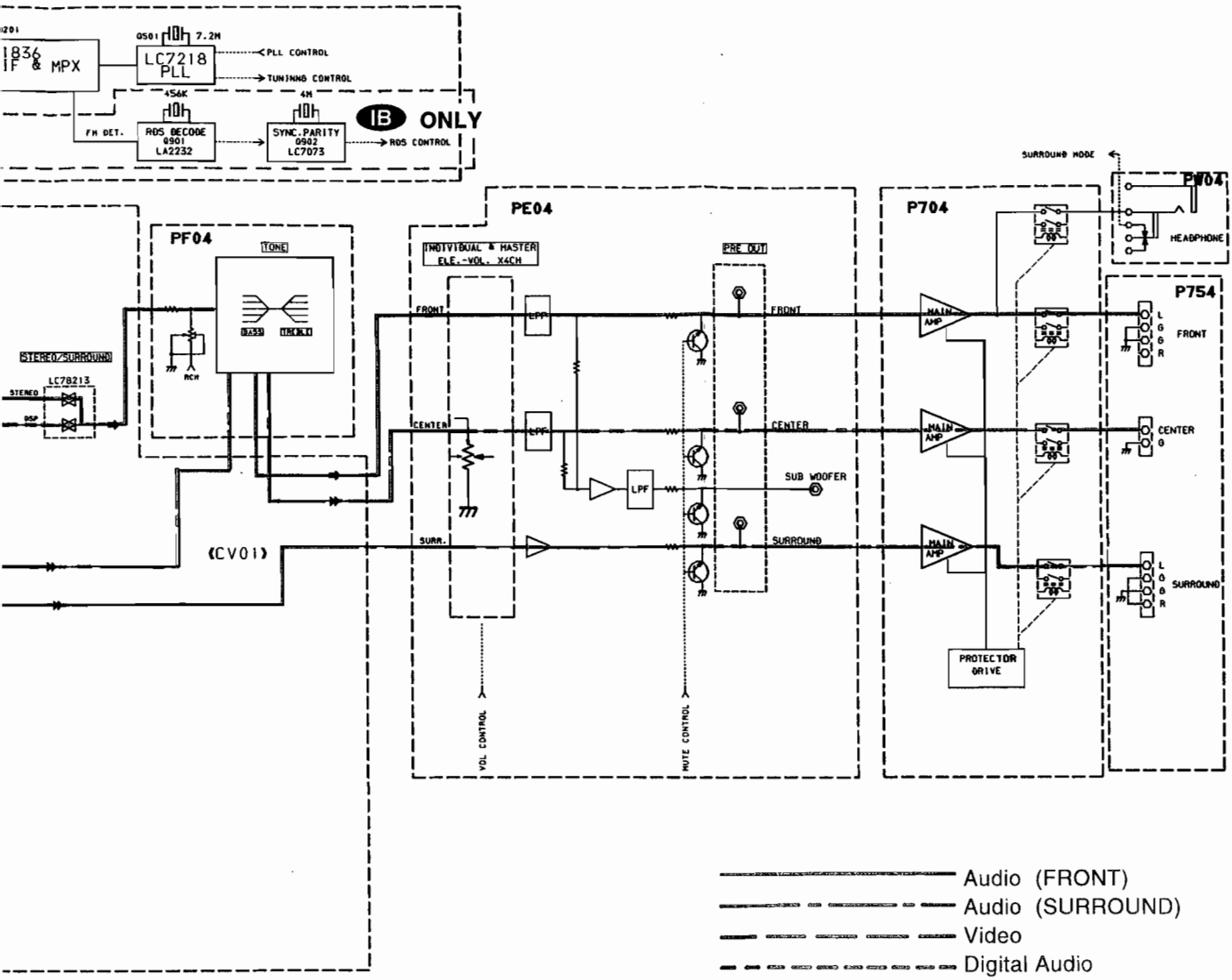
BLOCK DIAGRAM



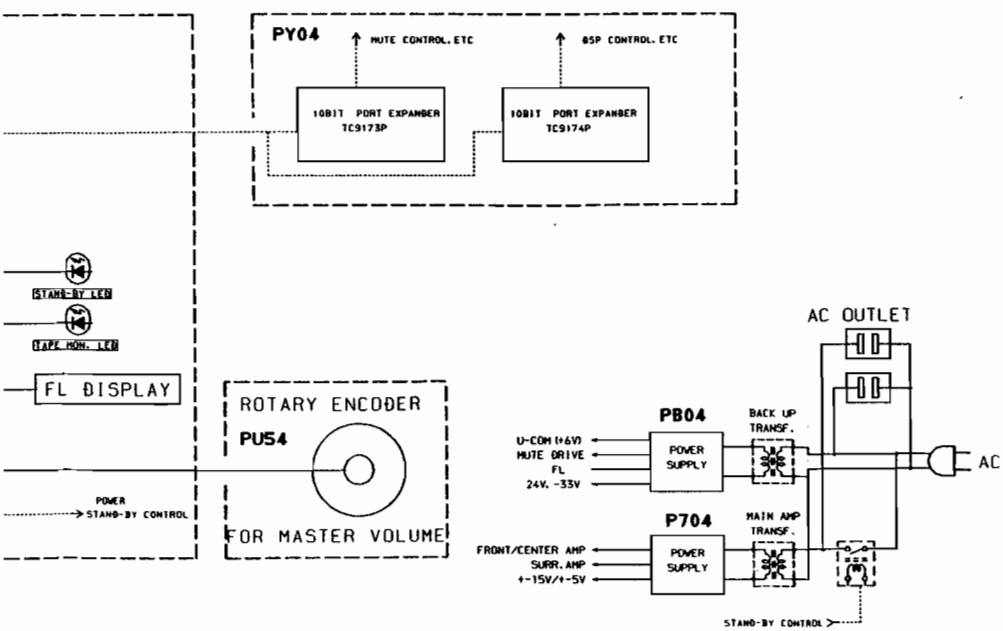
BLOCK DIAGRAM



F G H I J

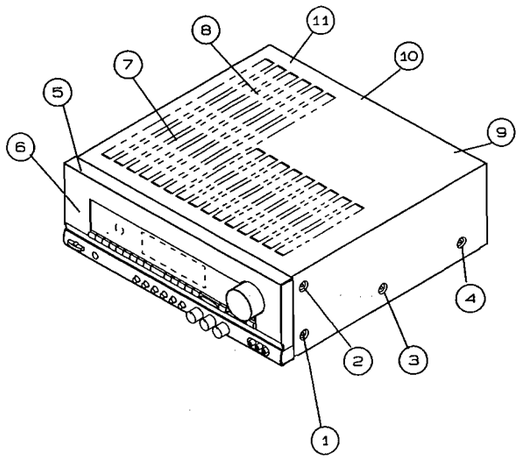


Audio (FRONT)
Audio (SURROUND)
Video
Digital Audio

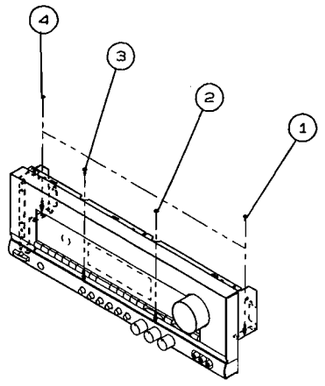


DISASSEMBLY PROCEDURES

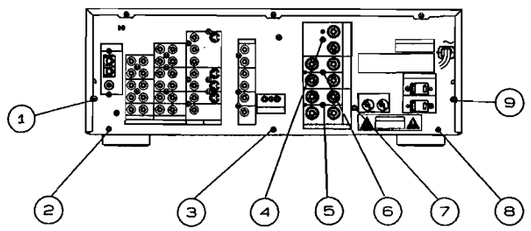
1. Removing the top Cover
   Remove the screws ① ~ ⑪



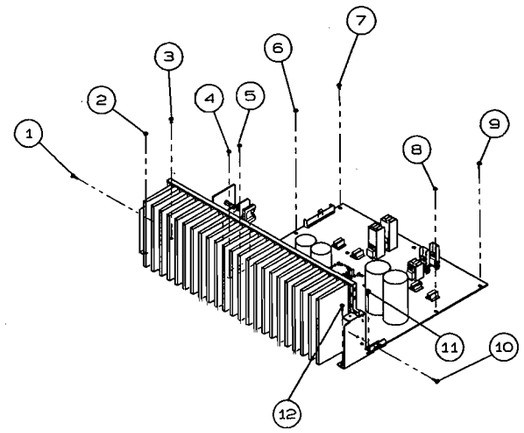
2. Removing the front panel
   Remove the screws ① ~ ④



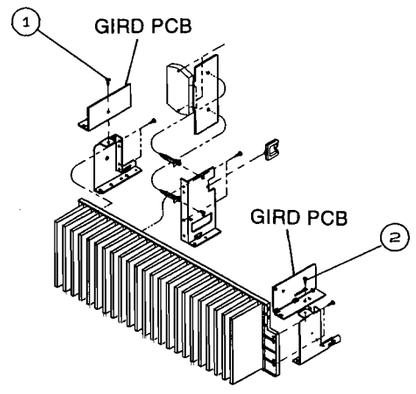
3. Removing the rear panel
   Remove the screws ① ~ ⑨



4. Removing the main PCB Block
   Remove the screws ① ~ ⑫



5. Removing the shield plate
   Remove the screws ① ②



MAIN PCB BLOCK (P704)
1. Remove all of the screws on REAR PANEL. (900G)
2. Remove the REAR PANEL.
3. Remove the SPEAKER TERMINAL PCB. (P754)
4. Remove the screw x4 for MAIN PCB mounting.
5. Remove the screw x2 for both sides GIRD PCB of main heatsink.
6. Remove the both sides GIRD PCB.
7. Remove the screw x4 for MAIN PCB BLOCK mounting.
8. Remove the MAIN PCB BLOCK.

POWER SUPPLY PCB (PB04)
1. Remove the screw x2 for TRANSF mounting.
2. Remove the screw x2 for POWER SUPPLY PCB mounting.
3. Remove the POWER SUPPLY PCB.

MAIN VOL PCB (PU54)
1. Remove the MAIN VOL KNOB. (035B)
2. Remove the MAIN VOL NUT.
3. Pull out the MAIN VOL PCB.

TONE VOL PCB (PF04)
1. Remove the three TONE VOL KNOBS. (036B)
2. Remove the three TONE VOL NUTS.
3. Pull out the TONE VOL PCB.

FRONT FUNCTION PCB (PU04)
1. Remove the screw x4 for FRONT PANEL ASSY mounting.
2. Lay down the FRONT PANEL ASSY.
3. Remove the screw x16 for FRONT FUNCTION PCB.
4. Remove the FRONT FUNCTION PCB.

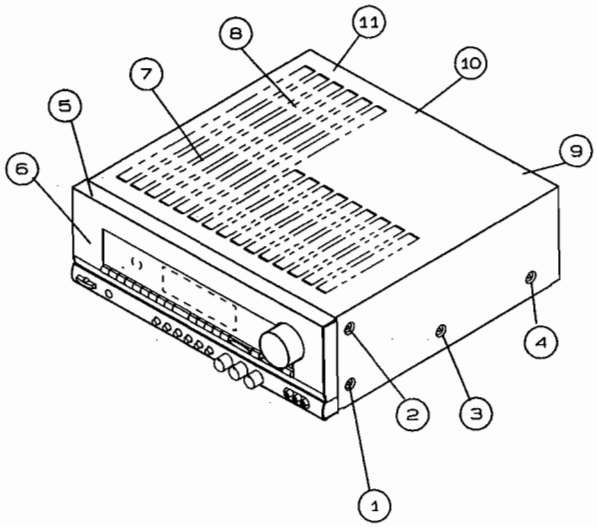
GENERAL UNIT PARTS LIST

Ref. No.	Part. No.	Description	Q'TY
001B	260J248120	FRONT PANEL IB	1
001B	260J248110	FRONT PANEL BK	1
005B	260J105010	CHASSIS, FRONT	1
008B	260J158110	WINDOW	1
010B	260J270010	BUTTON, FUNCTION	1
013B	260J270510	BUTTON KIT, POWER	1
014B	260J270040	BUTTON, POWER	1
015B	260J355020	LENS, POWER	1
017B	260J270220	BUTTON, MODE IB	1
017B	260J270320	BUTTON, MODE BK	1
019B	183J271020	HOLDER, FL	1
020B	056J122010	STICKER, FL	1
021B	4220005040	CLAMPER	1
023B	183J010010	SCREW, PHONE PCB	1
025B	264J160040	BRACKET, LEFT	1
027B	264J160050	BRACKET, RIGHT	1
035B	063J154180	KNOB, MAIN VOL	1
036B	042J154020	KNOB, TONE VOL	3
001D	264J257110	LID, TOP COVER	1
001G	264J105500	CHASSIS ASSEMBLY, MAIN	1
002G	264J105010	CHASSIS, MAIN	1
003G	030J114010	STOPPER	1
006G	227J056010	BUFFER	4
007G	183J057010	LEG, FRONT	2
008G	183J057110	LEG, REAR	2
010G	264J160010	BRACKET, TRANSF.	1
013G	260J271010	HOLDER, SUB TRANSF.	1
016G	2218271020	HOLDER, PCB	7
017G	054J101020	SUPPORT, MAIN PCB	4
020G	087J861010	LABEL, FUSE IB	1
020G	259J861010	LABEL, FUSE BK	1
021G	058J861240	LABEL, FUSE IB	1
021G	058J861220	LABEL, FUSE BK	1
030G	136J101020	SUPPORT	1
900G	260J250120	REAR PANEL IB	1
900G	260J250110	REAR PANEL BK	1
910G	450H259010	BUSHING, AC CODE	1
915G	260J861010	LABEL BK	1
920G	95109111D0	LABEL BK	1
001L	264J267010	HEATSINK, MAIN	1
005L	264J160020	BRACKET, HEAT SINK (L)	1
009L	264J160030	BRACKET, HEAT SINK (R)	1
013L	261J104010	RETAINER, MAIN PCB	2
015L	264J160060	BRACKET, HEATSINK CENTER	1
017L	090J101010	SUPPORT	2
020L	287S005010	CLAMPER	1
001K	009D267010	HEATSINK	1
002K	009D267010	HEATSINK	1
003K	001J267030	HEATSINK	1
004K	001J267030	HEATSINK	1
005K	309V267010	HEATSINK	1
007K	309V267010	HEATSINK	1
011K	260J123010	CONTACTOR	1
012K	152J118030	SPACER	1
014K	306V259030	BUSHING IB	1
061K	415T101010	SUPPORT	1

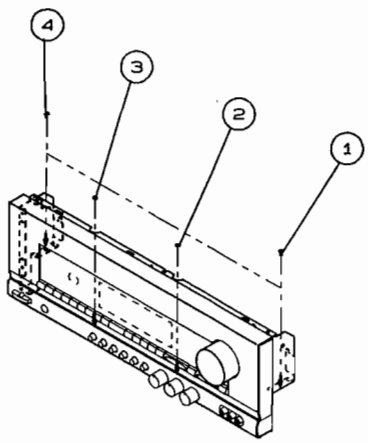
Ref. No.	Part. No.	Description	Q'TY
⚠L001	TS19637020	POWER TRANSF. 230V IB	1
⚠L001	TS19637010	POWER TRANSF. 120V BK	1
L002	FC50380010	FERRITE CORE IB	1
⚠W001	YC01800790	A.C POWER CORD IB	1
⚠W001	YC01800780	A.C POWER CORD BK	1
5110	51100306M0	B. H. M SCREW 5110 ø3x6 (M)	6
5110	51100308A0	B. H. M SCREW 5110 ø3x8 (A)	4
5126	51260308U0	B.T.SCREW(W/W) 5126 ø3x8 (U)	11
5126	51260308M0	B.T.SCREW(W/W) 5126 ø3x8 (M)	8
5128	51280308M0	B. H. TAP. SCREW 5128 ø3x8 (M)	93
5128	51280308U0	B. H. TAP. SCREW 5128 ø3x8 (U)	3
5128	51280325B0	B. H. TAP. SCREW 5128 ø3x25 (B)	2
5128	51280410U0	B. H. TAP. SCREW 5128 ø4x10 (U)	1
5128	51480310A0	F. WASHER SCREW 5148 ø3x10(A)	9
5128	51480315M0	F. WASHER SCREW 5148 ø3x15(M)	2
5128	52040408M0	H. HEAD BOLT 5204 ø4x8 (M)	4

DISASSEMBLY PROCEDURES

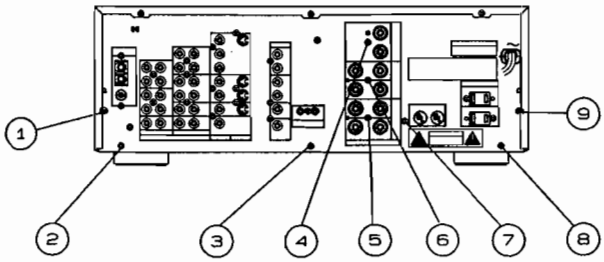
1. Removing the top Cover
   Remove the screws ① ~ ⑪



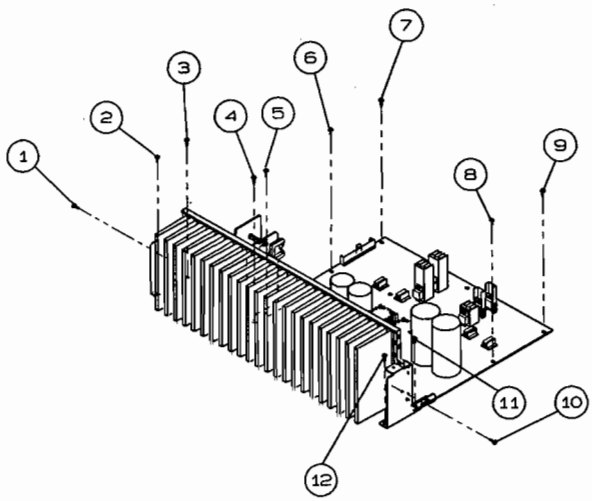
2. Removing the front panel
   Remove the screws ① ~ ④



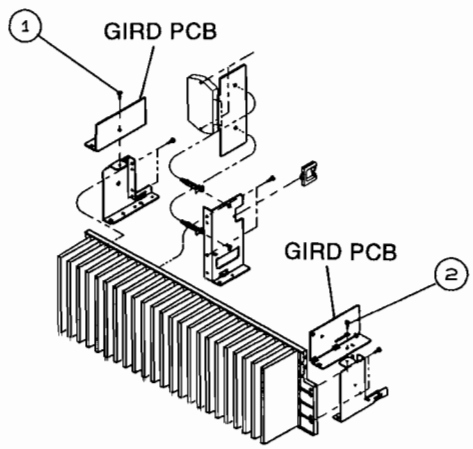
3. Removing the rear panel
   Remove the screws ① ~ ⑨



4. Removing the main PCB Block
   Remove the screws ① ~ ⑫



5. Removing the shield plate
   Remove the screws ① ②



MAIN PCB BLOCK (P704)

1. Remove all of the screws on REAR PANEL. (900G)
2. Remove the REAR PANEL.
3. Remove the SPEAKER TERMINAL PCB. (P754)
4. Remove the screw x4 for MAIN PCB mounting.
5. Remove the screw x2 for both sides GIRD PCB of main heatsink.
6. Remove the both sides GIRD PCB.
7. Remove the screw x4 for MAIN PCB BLOCK mounting.
8. Remove the MAIN PCB BLOCK.

POWER SUPPLY PCB (PB04)

1. Remove the screw x2 for TRANSF mounting.
2. Remove the screw x2 for POWER SUPPLY PCB mounting.
3. Remove the POWER SUPPLY PCB.

MAIN VOL PCB (PU54)

1. Remove the MAIN VOL KNOB. (035B)
2. Remove the MAIN VOL NUT.
3. Pull out the MAIN VOL PCB.

TONE VOL PCB (PF04)

1. Remove the three TONE VOL KNOBS. (036B)
2. Remove the three TONE VOL NUTS.
3. Pull out the TONE VOL PCB.

FRONT FUNCTION PCB (PU04)

1. Remove the screw x4 for FRONT PANEL ASSY mounting.
2. Lay down the FRONT PANEL ASSY.
3. Remove the screw x16 for FRONT FUNCTION PCB.
4. Remove the FRONT FUNCTION PCB.

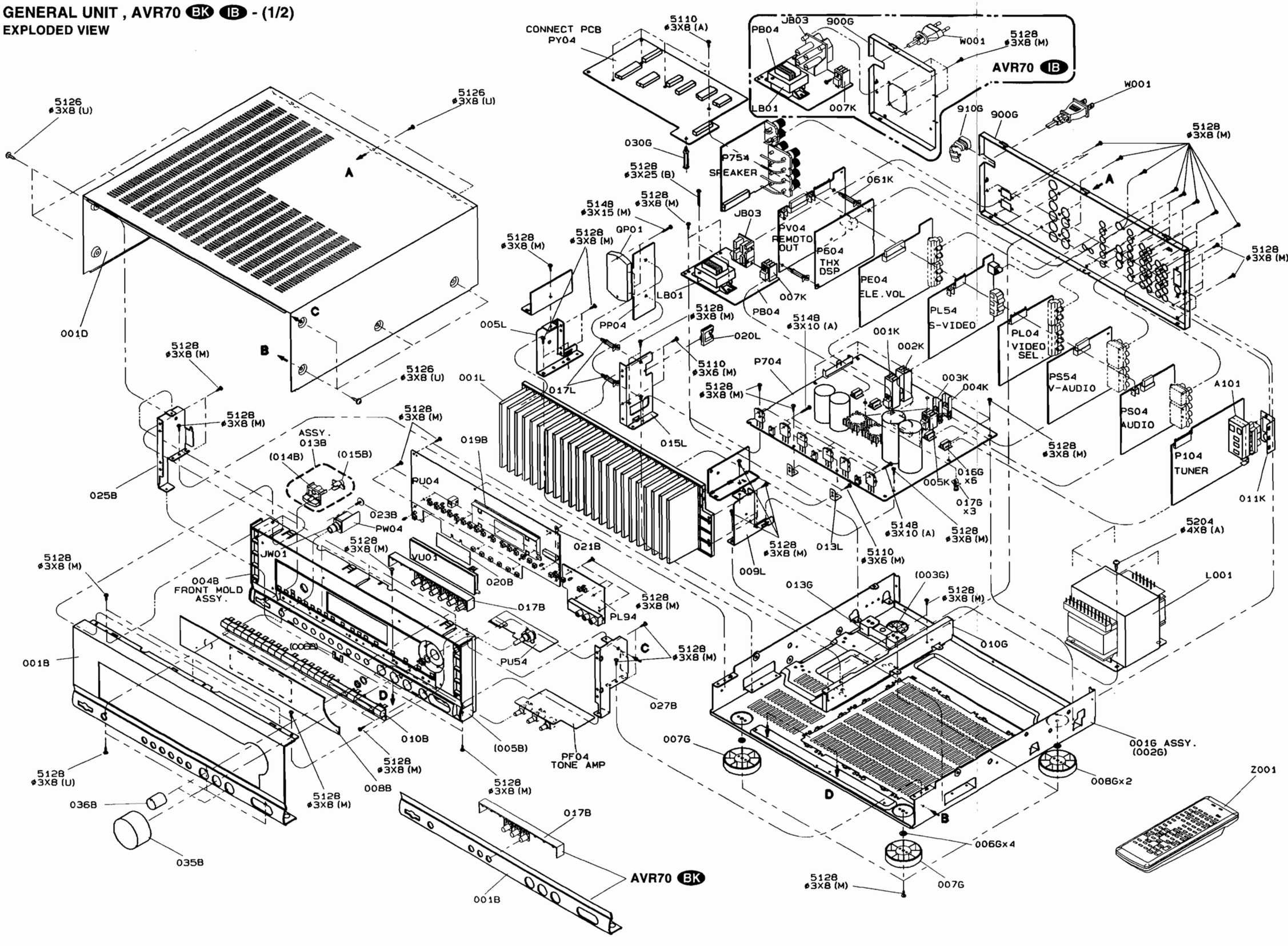
GENERAL UNIT PARTS LIST

Ref. No.	Part. No.	Description	Q'TY
001B	260J248120	FRONT PANEL (IB)	1
001B	260J248110	FRONT PANEL (BK)	1
005B	260J105010	CHASSIS, FRONT	1
008B	260J158110	WINDOW	1
010B	260J270010	BUTTON, FUNCTION	1
013B	260J270510	BUTTON KIT, POWER	1
014B	260J270040	BUTTON, POWER	1
015B	260J355020	LENS, POWER	1
017B	260J270220	BUTTON, MODE (IB)	1
017B	260J270320	BUTTON, MODE (BK)	1
019B	183J271020	HOLDER, FL	1
020B	056J122010	STICKER, FL	1
021B	4220005040	CLAMPER	1
023B	183J010010	SCREW, PHONE PCB	1
025B	264J160040	BRACKET, LEFT	1
027B	264J160050	BRACKET, RIGHT	1
035B	063J154180	KNOB, MAIN VOL	1
036B	042J154020	KNOB, TONE VOL	3
001D	264J257110	LID, TOP COVER	1
001G	264J105500	CHASSIS ASSEMBLY, MAIN	1
002G	264J105010	CHASSIS, MAIN	1
003G	030J114010	STOPPER	1
006G	227J056010	BUFFER	4
007G	183J057010	LEG, FRONT	2
008G	183J057110	LEG, REAR	2
010G	264J160010	BRACKET, TRANSF.	1
013G	260J271010	HOLDER, SUB TRANSF.	1
016G	2218271020	HOLDER, PCB	7
017G	054J101020	SUPPORT, MAIN PCB	4
020G	087J861010	LABEL, FUSE (IB)	1
020G	259J861010	LABEL, FUSE (BK)	1
021G	058J861240	LABEL, FUSE (IB)	1
021G	058J861220	LABEL, FUSE (BK)	1
030G	136J101020	SUPPORT	1
900G	260J250120	REAR PANEL (IB)	1
900G	260J250110	REAR PANEL (BK)	1
910G	450H259010	BUSHING, AC CODE	1
915G	260J861010	LABEL (BK)	1
920G	95109111D0	LABEL (BK)	1
001L	264J267010	HEATSINK, MAIN	1
005L	264J160020	BRACKET, HEAT SINK (L)	1
009L	264J160030	BRACKET, HEAT SINK (R)	1
013L	261J104010	RETAINER, MAIN PCB	2
015L	264J160060	BRACKET, HEATSINK CENTER	1
017L	090J101010	SUPPORT	2
020L	287S005010	CLAMPER	1
001K	009D267010	HEATSINK	1
002K	009D267010	HEATSINK	1
003K	001J267030	HEATSINK	1
004K	001J267030	HEATSINK	1
005K	309V267010	HEATSINK	1
007K	309V267010	HEATSINK	1
011K	260J123010	CONTACTOR	1
012K	152J118030	SPACER	1
014K	306V259030	BUSHING (IB)	1
061K	415T101010	SUPPORT	1

Ref. No.	Part. No.	Description	Q'TY
▲ L001	TS19637020	POWER TRANSF. 230V (IB)	1
▲ L001	TS19637010	POWER TRANSF. 120V (BK)	1
L002	FC50380010	FERRITE CORE (IB)	1
▲ W001	YC01800790	A.C POWER CORD (IB)	1
▲ W001	YC01800780	A.C POWER CORD (BK)	1
5110	51100306M0	B. H. M SCREW 5110 ø3x6 (M)	6
5110	51100308A0	B. H. M SCREW 5110 ø3x8 (A)	4
5126	51260308U0	B.T.SCREW(W/W) 5126 ø3x8 (U)	11
5126	51260308M0	B.T.SCREW(W/W) 5126 ø3x8 (M)	8
5128	51280308M0	B. H. TAP. SCREW 5128 ø3x8 (M)	93
5128	51280308U0	B. H. TAP. SCREW 5128 ø3x8 (U)	3
5128	51280325B0	B. H. TAP. SCREW 5128 ø3x25 (B)	2
5128	51280410U0	B. H. TAP. SCREW 5128 ø4x10 (U)	1
5128	51480310A0	F. WASHER SCREW 5148 ø3x10(A)	9
5128	51480315M0	F. WASHER SCREW 5148 ø3x15(M)	2
5128	52040408M0	H. HEAD BOLT 5204 ø4x8 (M)	4

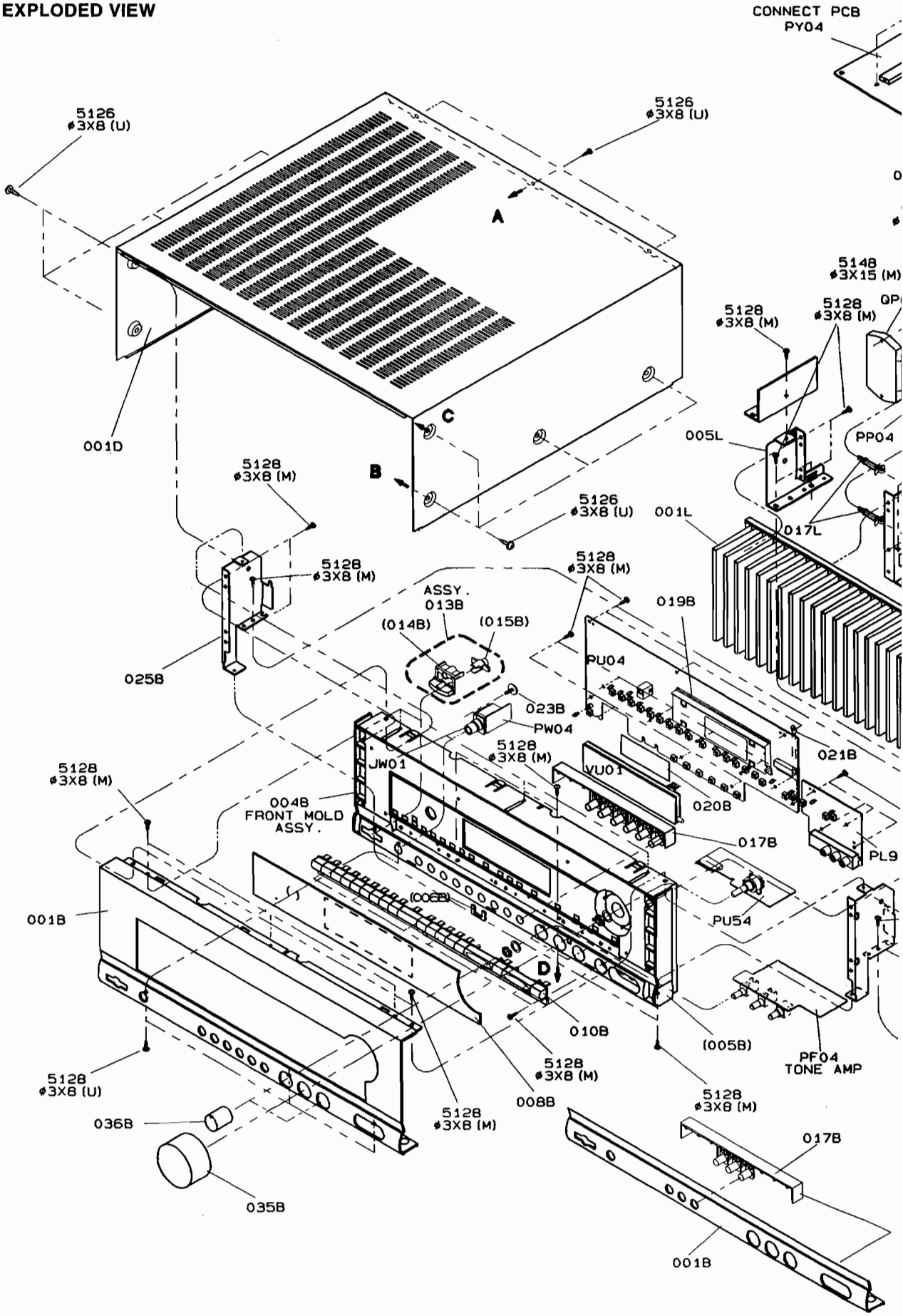
GENERAL UNIT , AVR70 BK IB - (1/2)

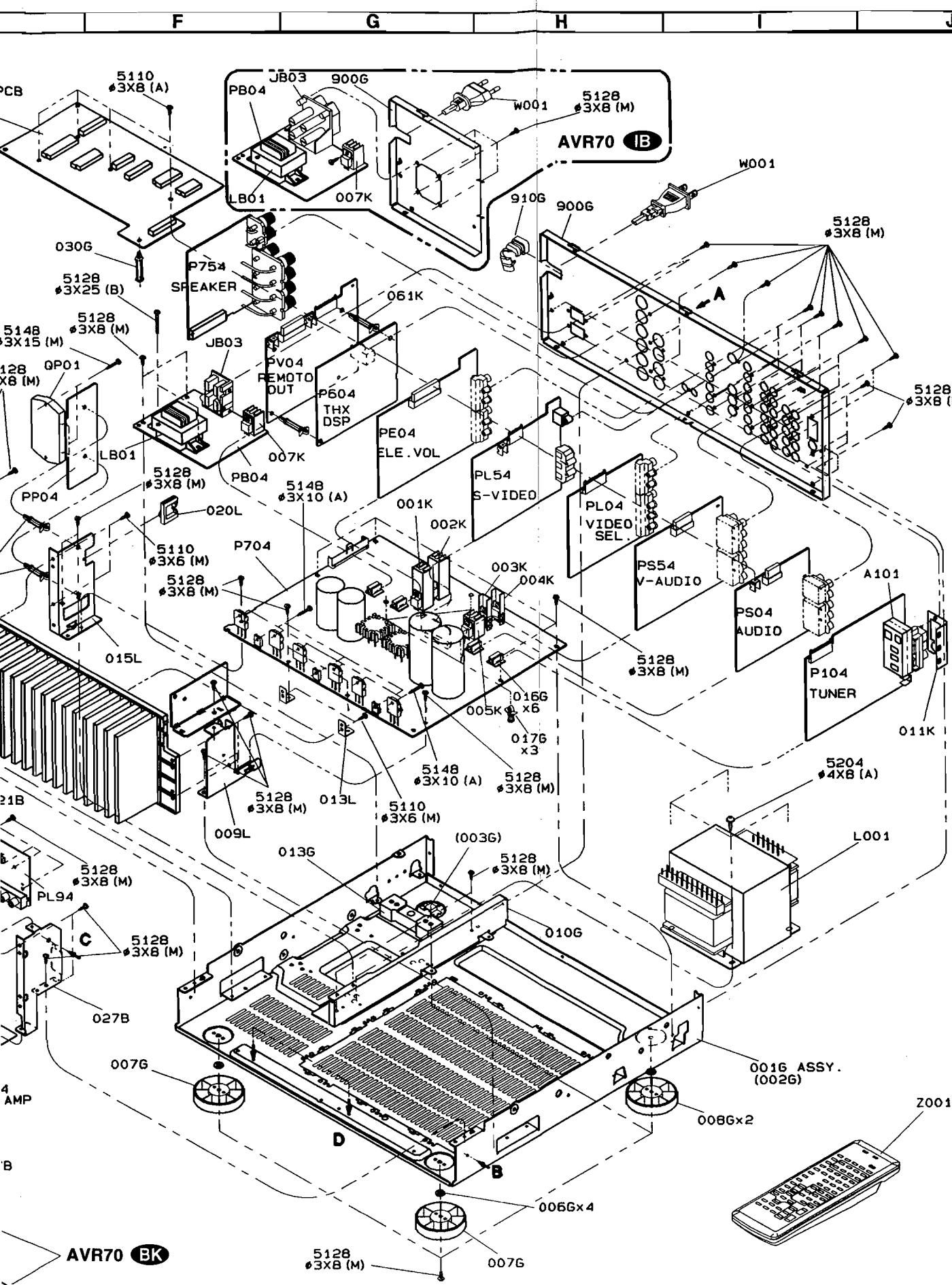
EXPLODED VIEW



GENERAL UNIT , AVR70 BK IB - (1/2)

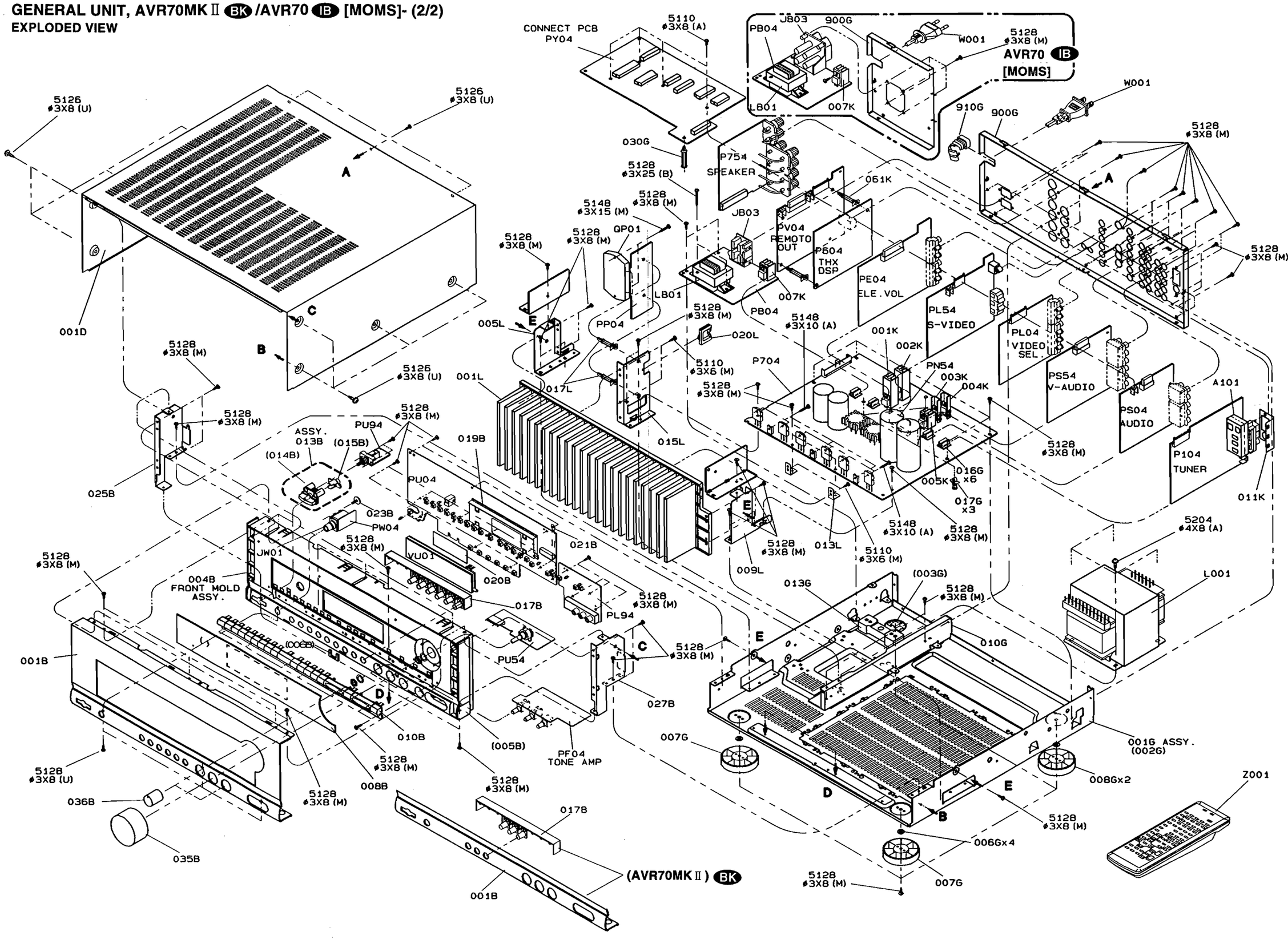
EXPLODED VIEW




F
G
H
I
J
5110 ø3X8 (A)
JB03
900G
PB04
W001
5128 ø3X8 (M)
AVR70 IB
LB01
007K
910G
030G
P754
SPEAKER
5128 ø3X25 (B)
061K
5148 ø3X15 (M)
QP01
PV04 REMOTO OUT
P604 THX DSP
PE04 ELE.VOL
PL54 S-VIDEO
PL04 VIDEO SEL.
PS54 V-AUDIO
PS04 AUDIO
A101
P104 TUNER
011K
PP04
020L
5148 ø3X10 (A)
001K
002K
P704
003K
004K
015L
016G x6
017G x3
005K
013L
009L
5204 ø4X8 (A)
L001
(003G)
013G
010G
PL94
027B
007G
0016 ASSY. (002G)
008Gx2
Z001
006Gx4
AVR70 BK

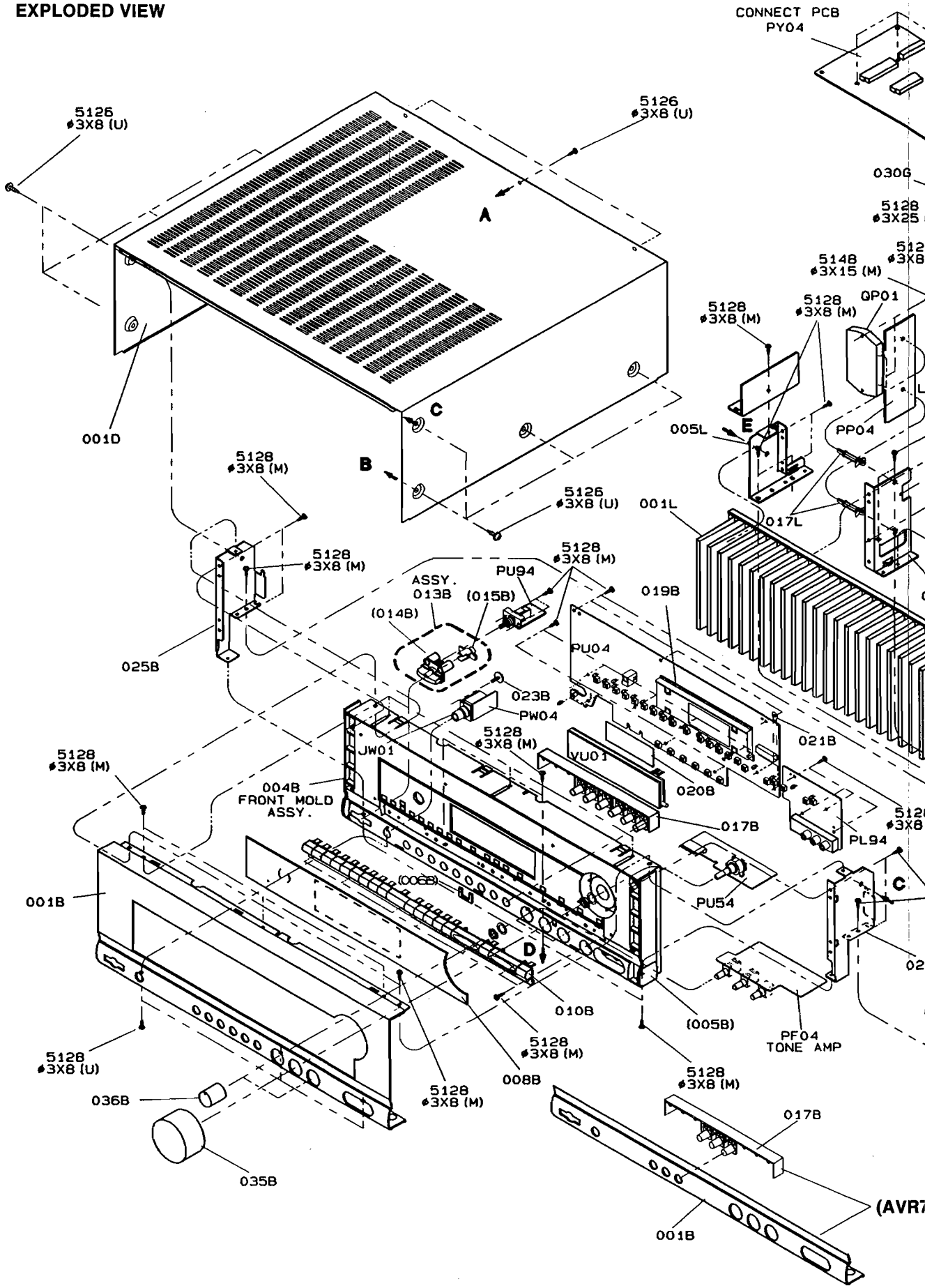
GENERAL UNIT, AVR70MKⅡ BK /AVR70 IB [MOMS]- (2/2)

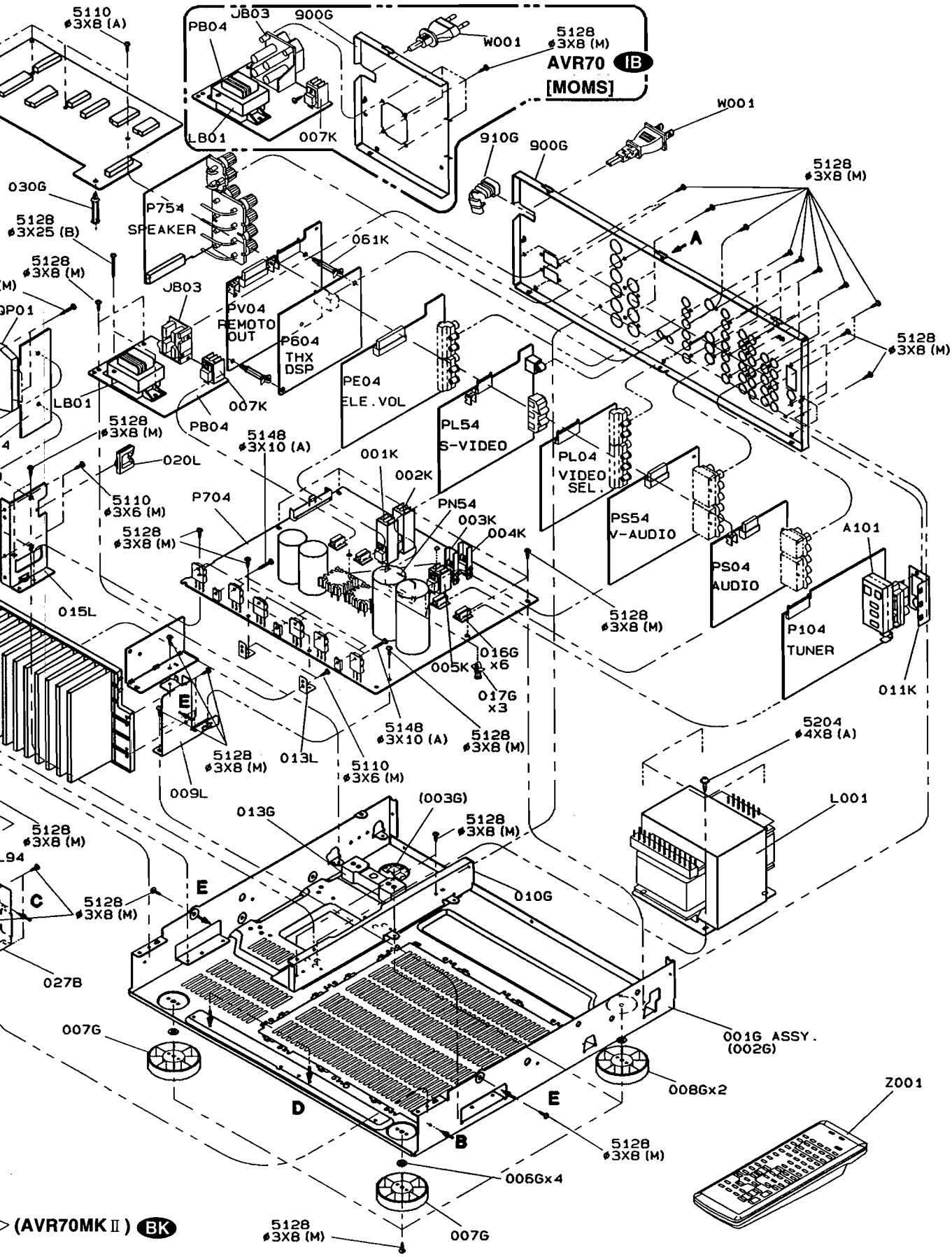
EXPLODED VIEW



GENERAL UNIT, AVR70MK Ⅱ (BK) /AVR70 (IB) [MOMS]- (2/2)

EXPLODED VIEW

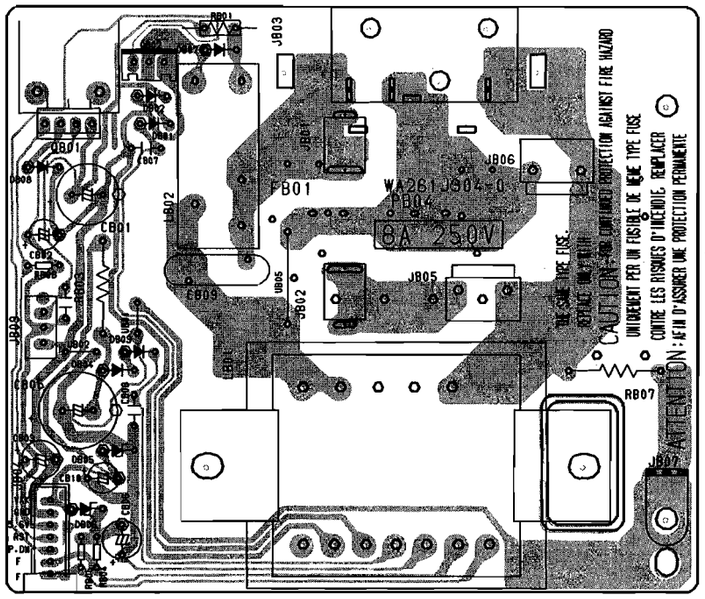




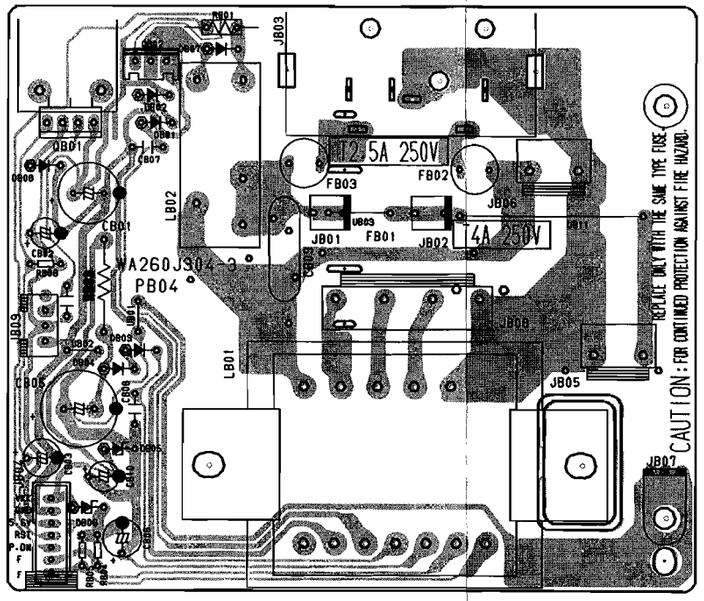
> (AVR70MKII) BK

P.C. BOARDS (1)

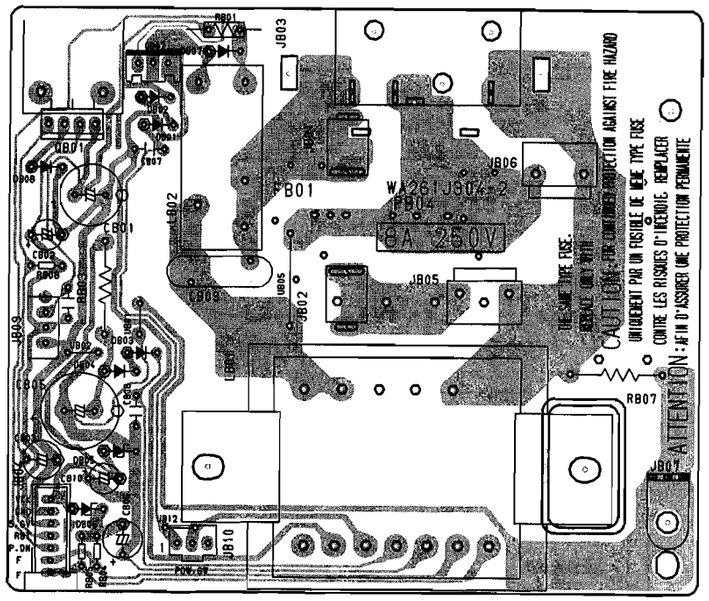
PB04-Back-up P.C. Board , AVR70 (BK) Version



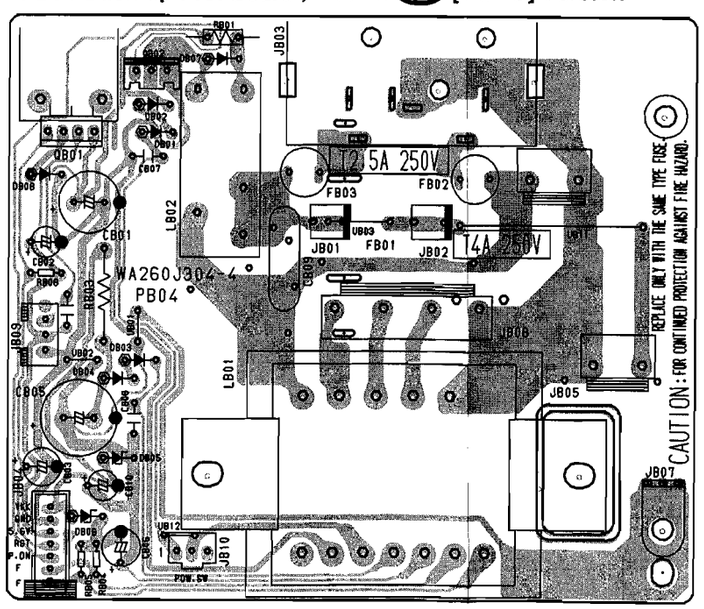
PB04-Back-up P.C. Board , AVR70 (IB) Version



PB04-Back-up P.C. Board , AVR70MK II (BK) Version

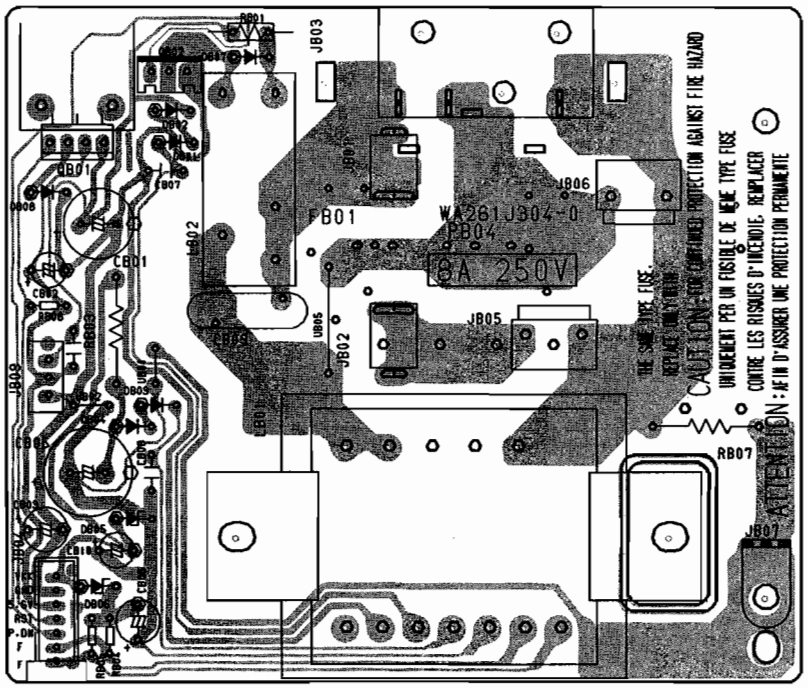


PB04-Back-up P.C. Board , AVR70 (IB) [MOMS] Version

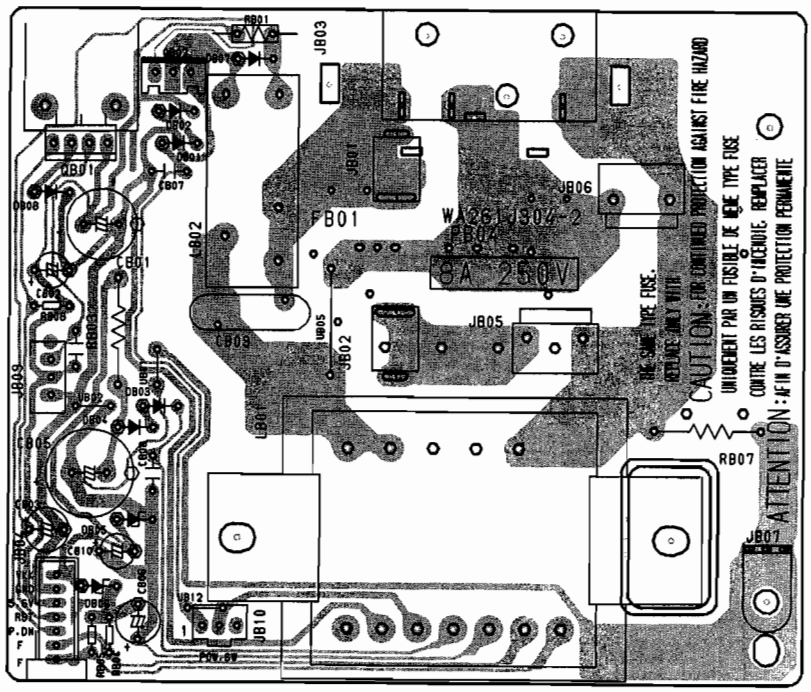


P.C. BOARDS (1)

PB04-Back-up P.C. Board , AVR70 (BK) Version

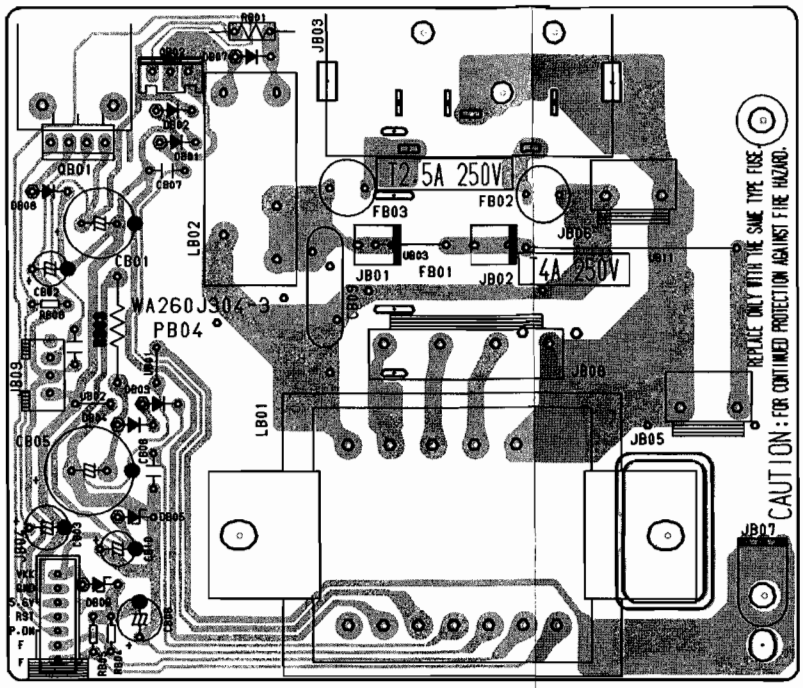


PB04-Back-up P.C. Board , AVR70MK II (BK) Version

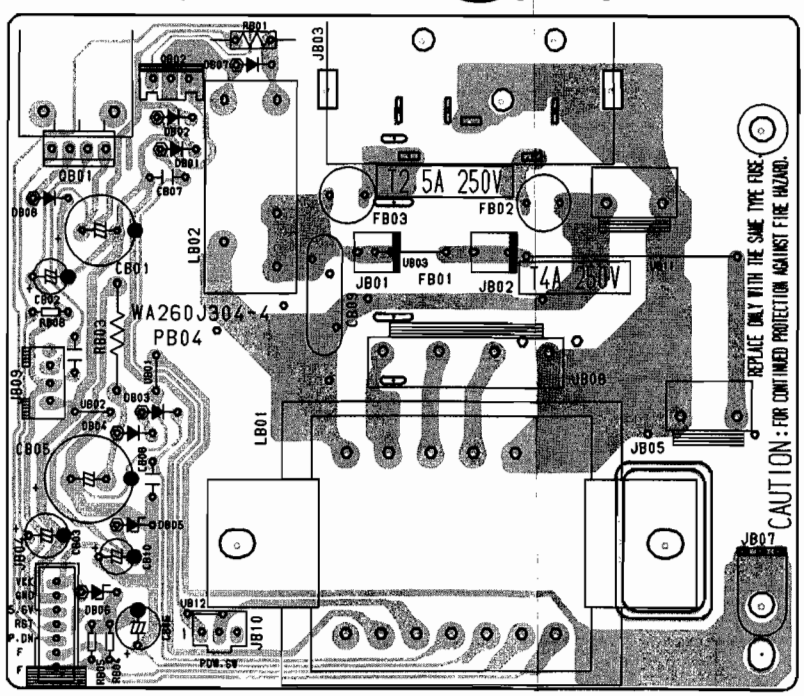


F G H I J

PB04-Back-up P.C. Board , AVR70 (IB) Version

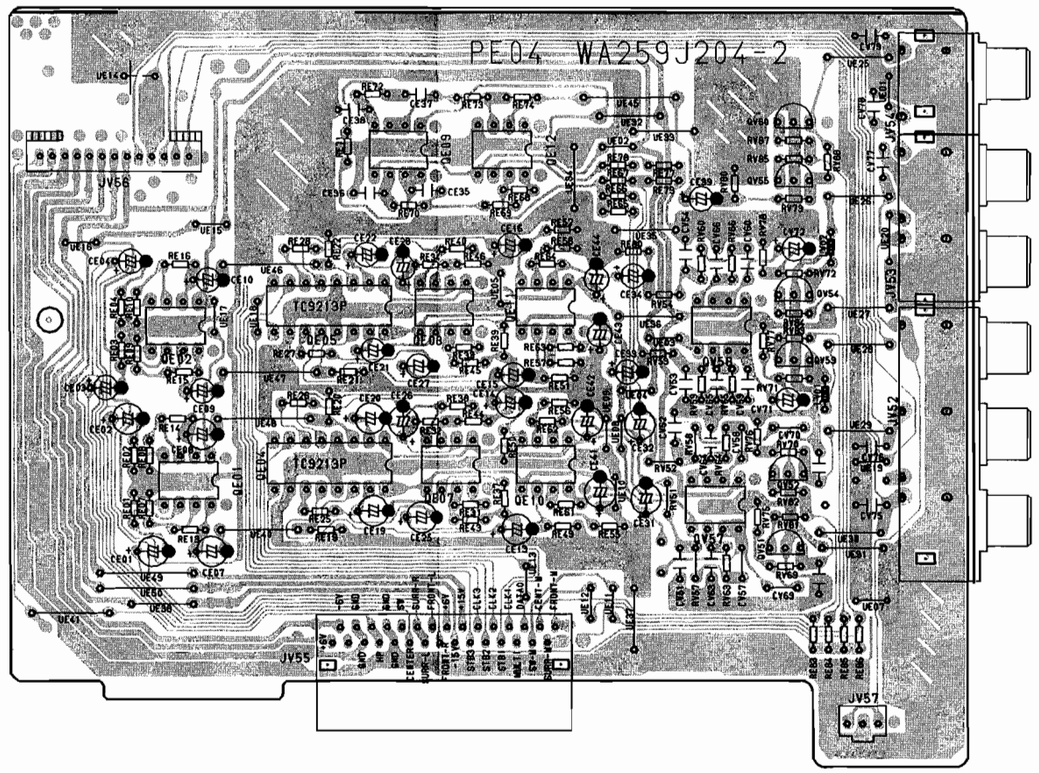


PB04-Back-up P.C. Board , AVR70 (IB) [MOMS] Version

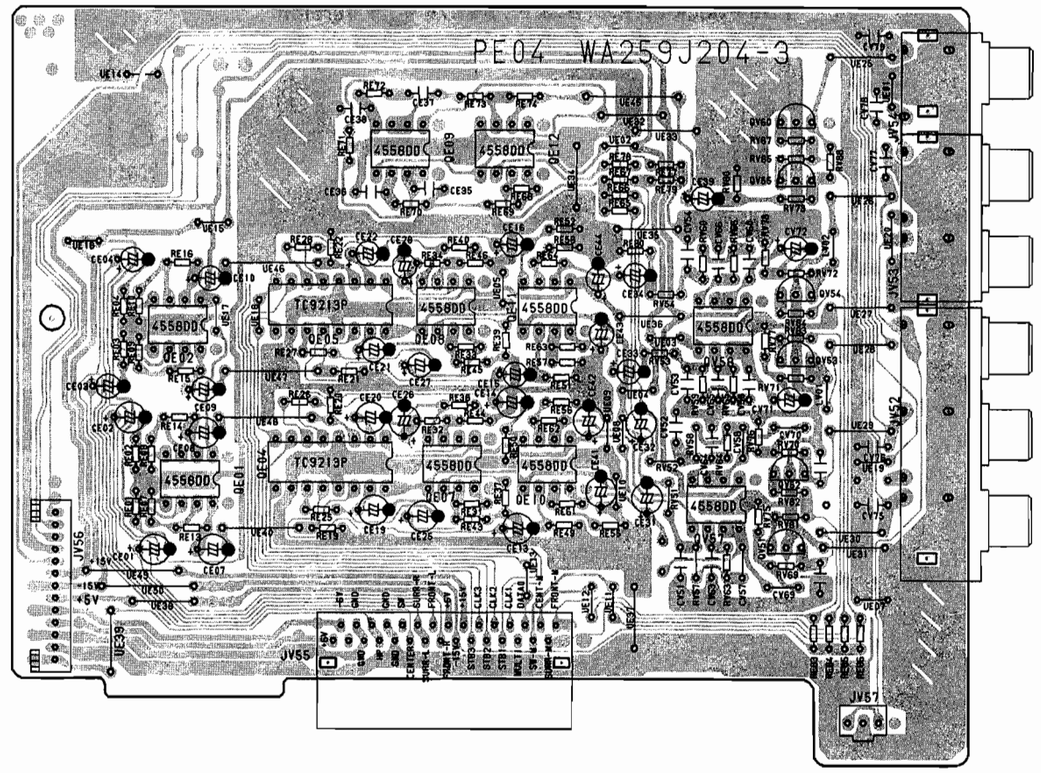


P.C. BOARDS (2)

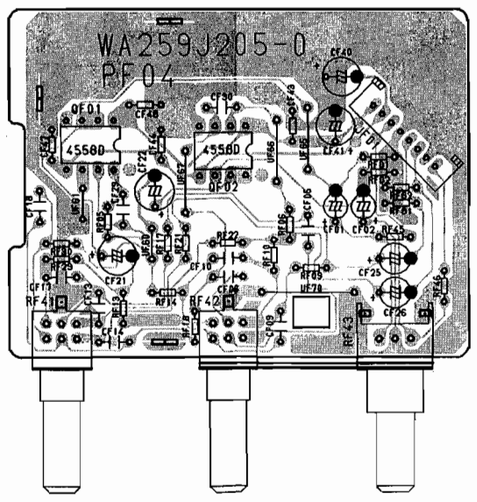
PE04-Ele. Vol P.C. Board , AVR70 (BK) (IB) Only



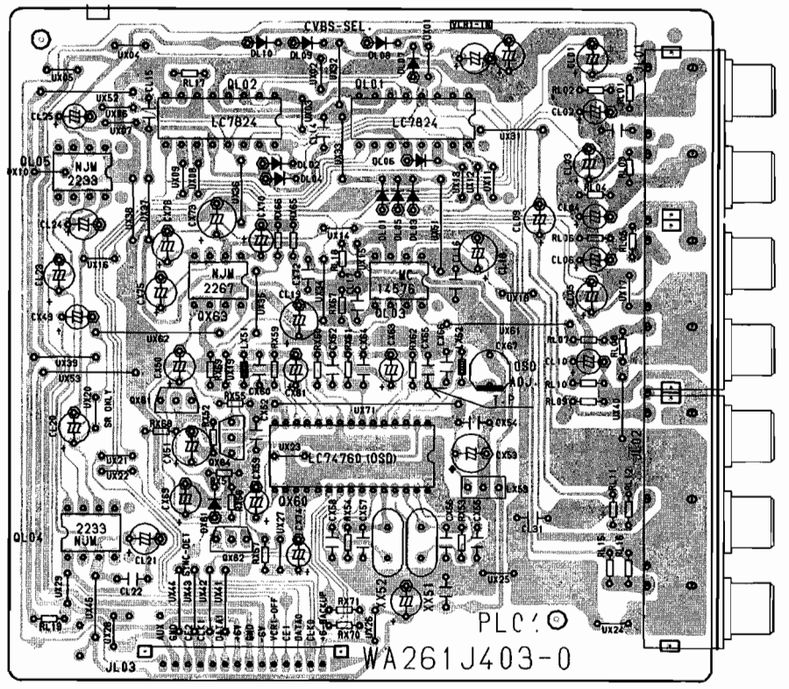
PE04-Ele. Vol P.C. Board , AVR70MK II (BK)/AVR70 (IB) [MOMS]



PF04-Tone P.C. Board

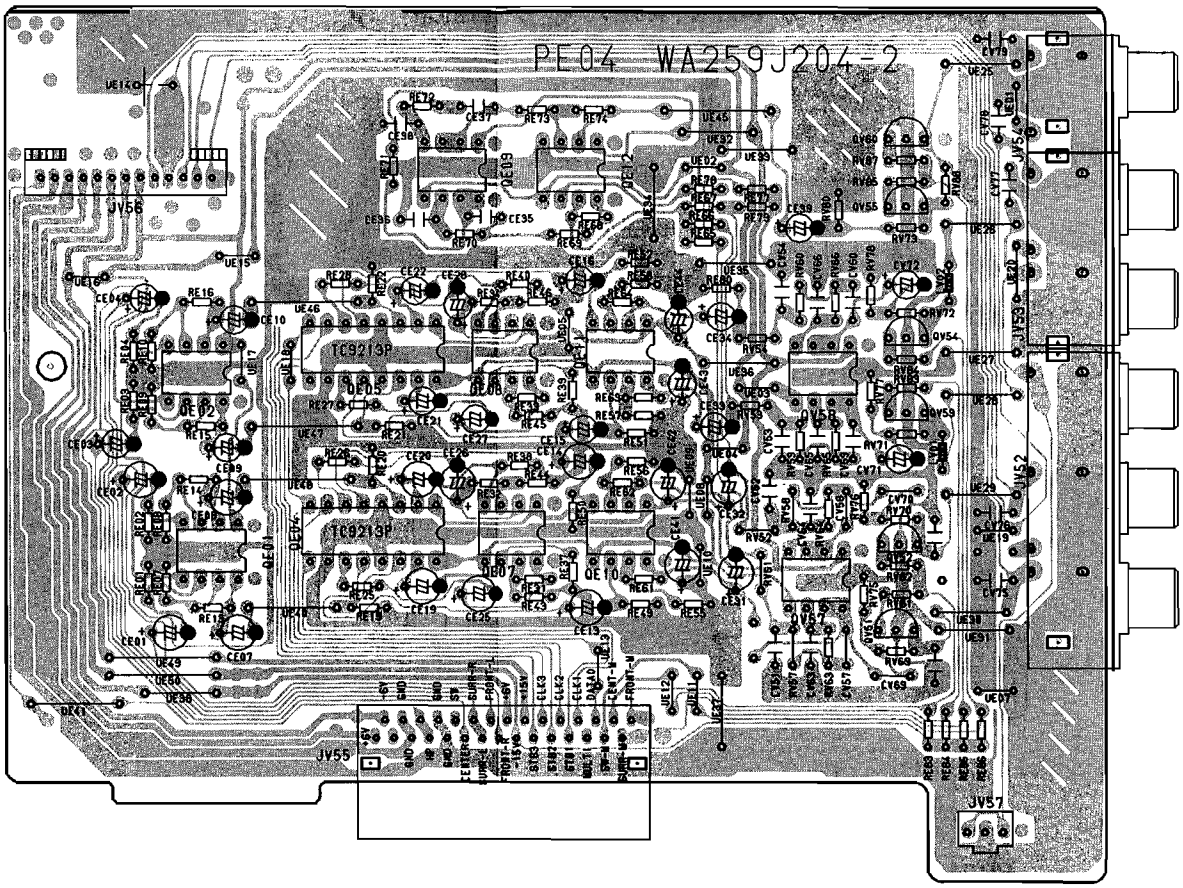


PL04-Video Selector P.C. Board

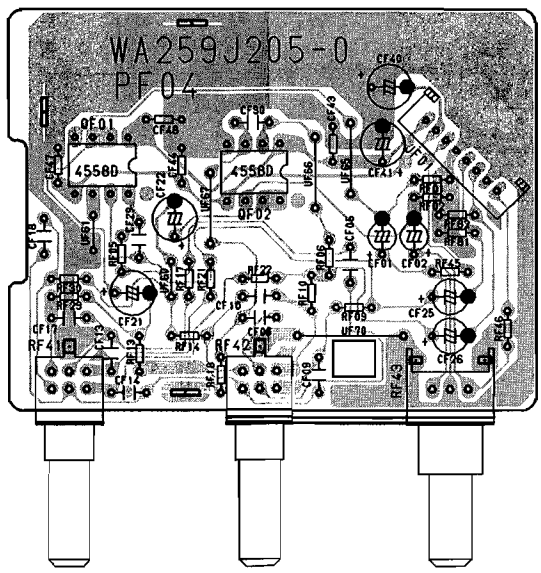


P.C. BOARDS (2)

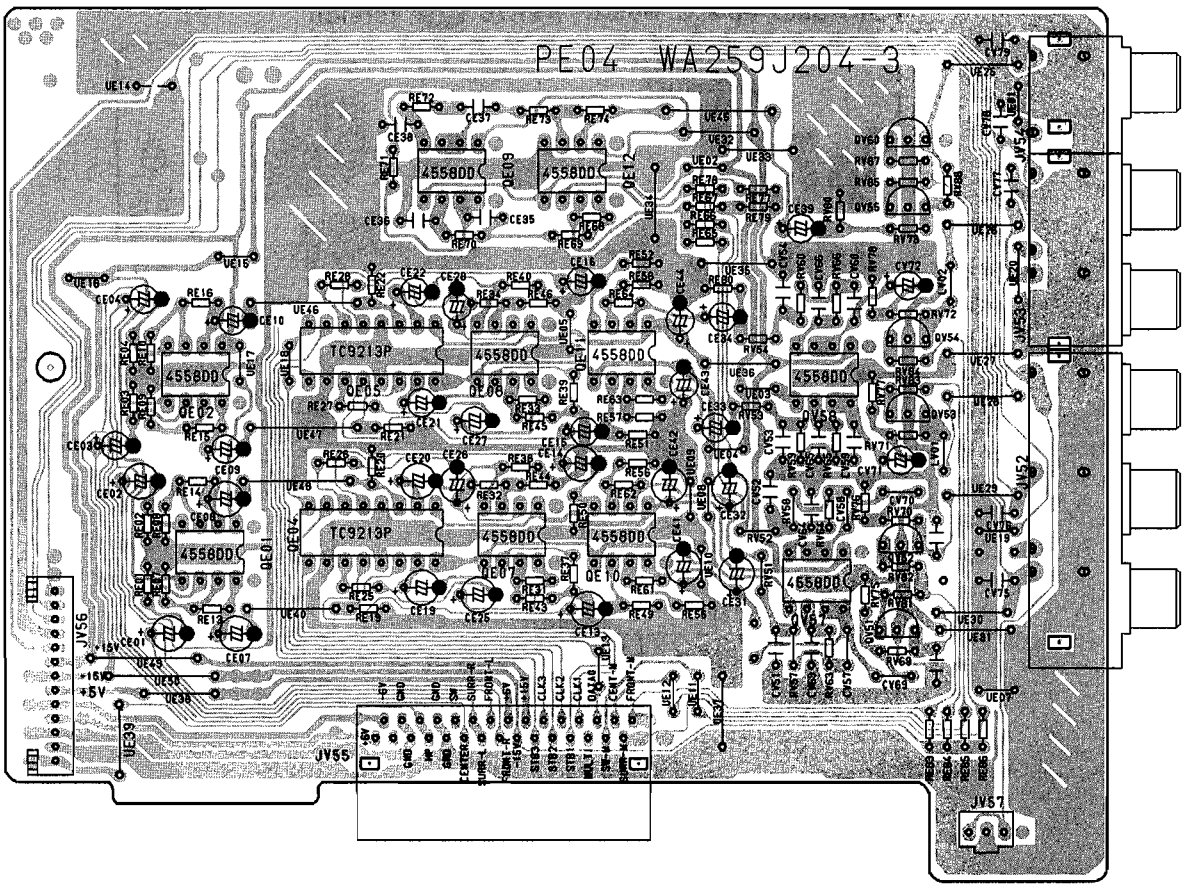
PE04-Ele. Vol P.C. Board , AVR70 (BK) (IB) Only



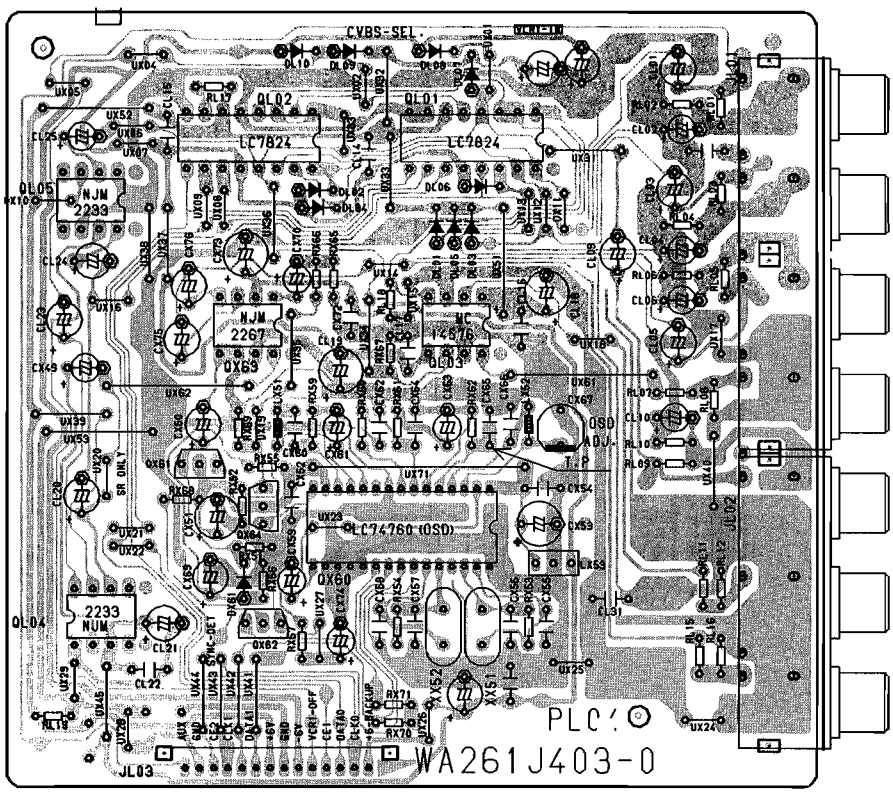
PF04-Tone P.C. Board



PE04-Ele. Vol P.C. Board , AVR70MKⅡ (BK)/AVR70 (IB) [MOMS]

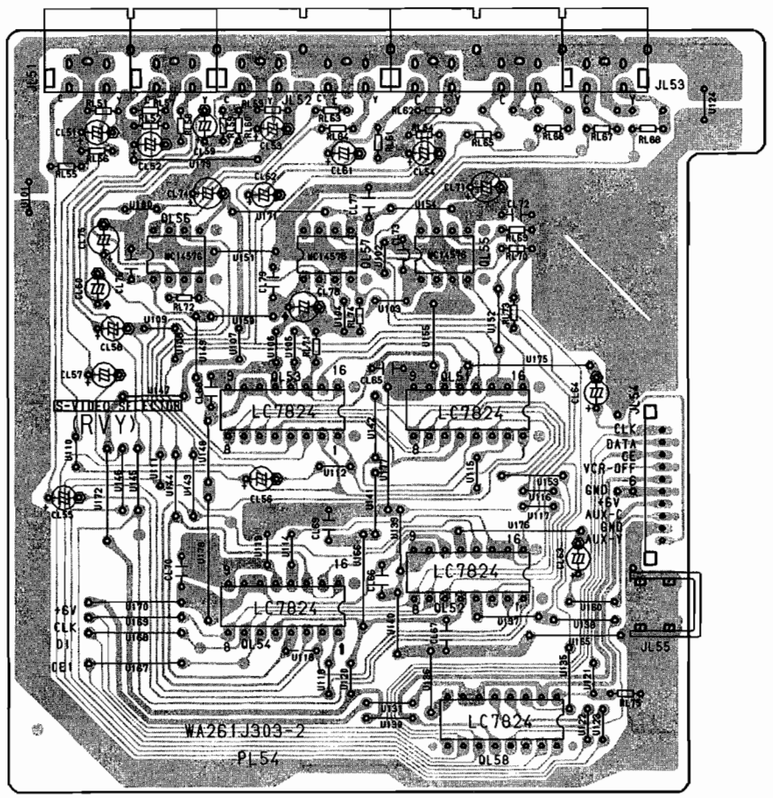


PL04-Video Selector P.C. Board

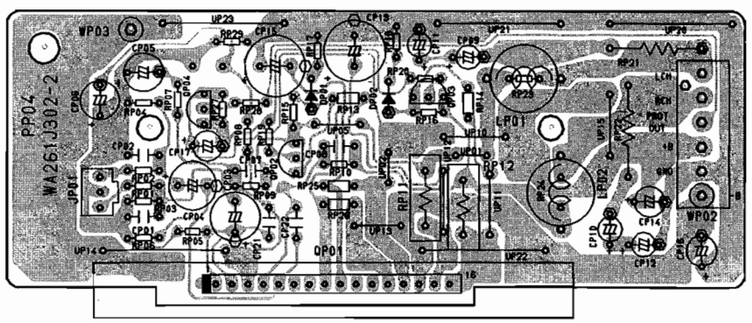


P.C. BOARD (3)

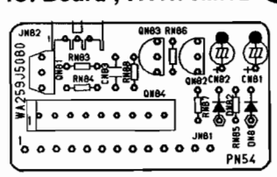
PL54-S-Video P.C. Board



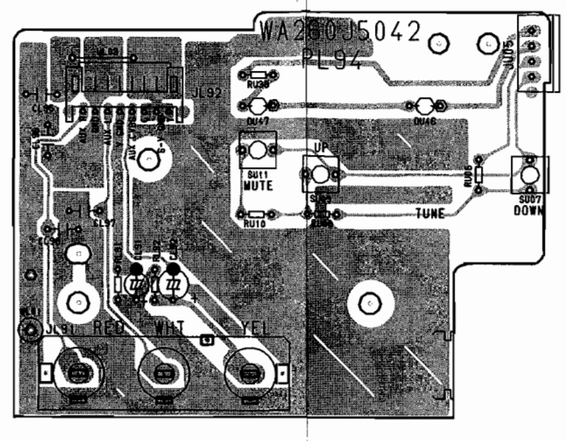
PP04-Surround Amp P.C. Board



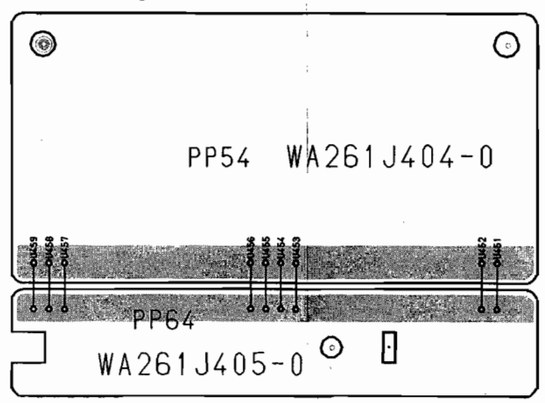
PN54-SPK Protect P.C. Board , AVR70MKⅡ (BK) /AVR70 (IB) [MOMS]



PL94-AUX In P.C. Board

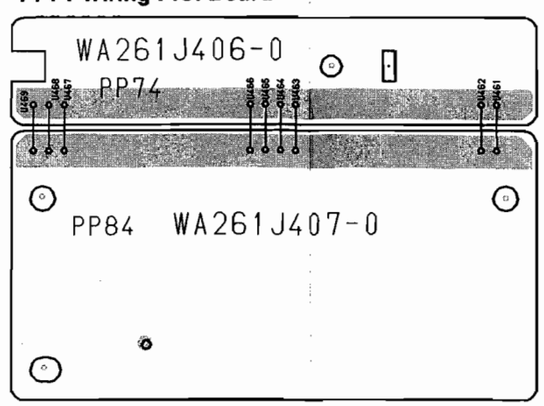


PP54-Wiring P.C. Board



PP64-Wiring P.C. Board

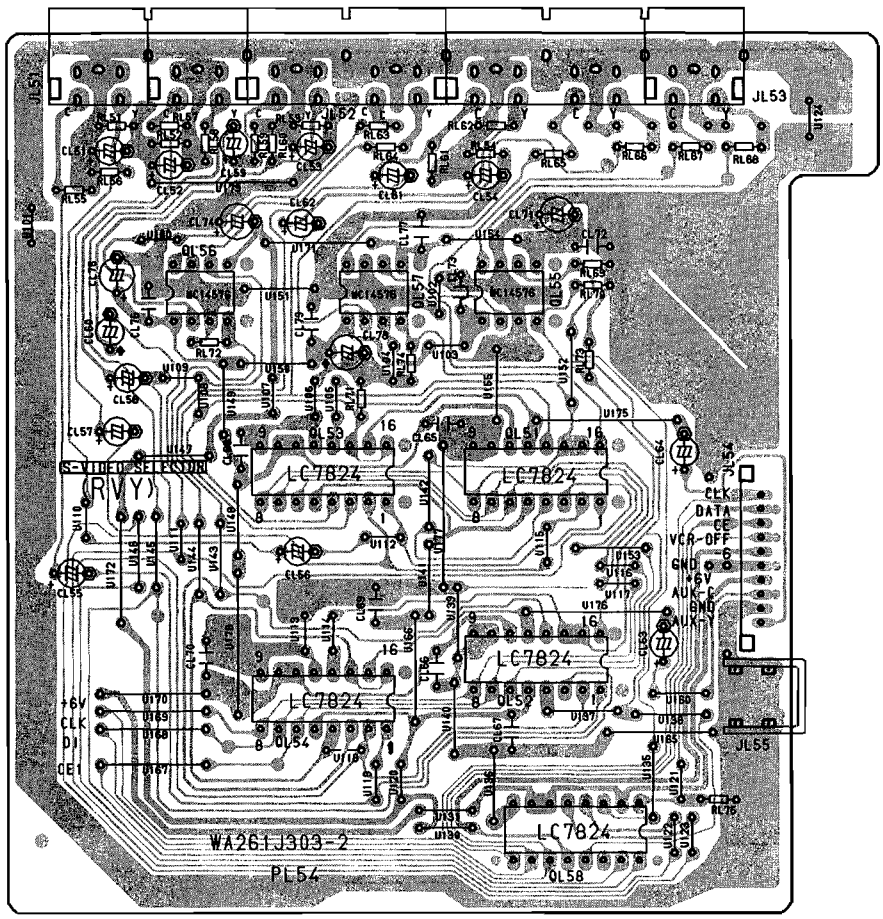
PP74-Wiring P.C. Board



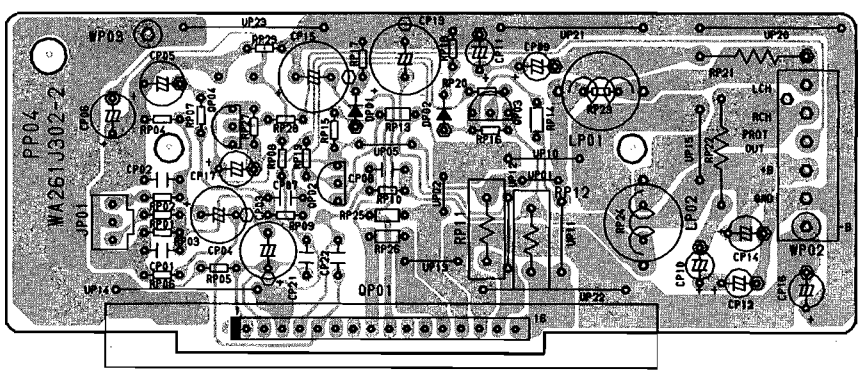
PP84-Wiring P.C. Board

P.C. BOARD (3)

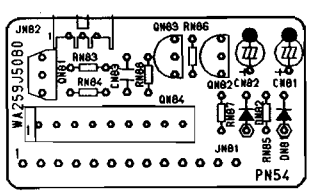
PL54-S-Video P.C. Board



PP04-Surround Amp P.C. Board

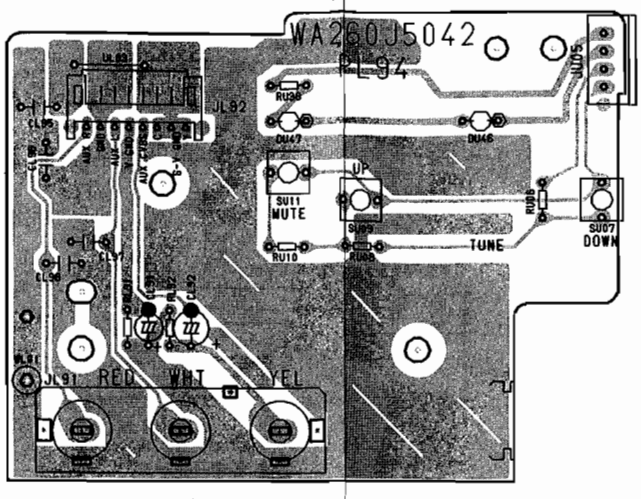


PN54-SPK Protect P.C. Board , AVR70MKⅡ (BK) /AVR70 (IB) [MOMS]

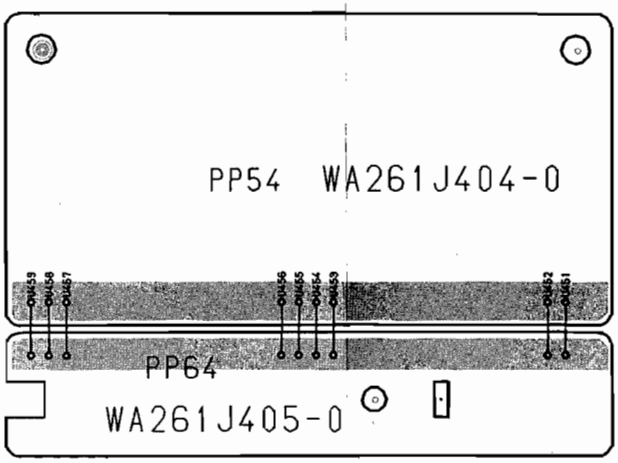


F G H I J

PL94-AUX In P.C. Board

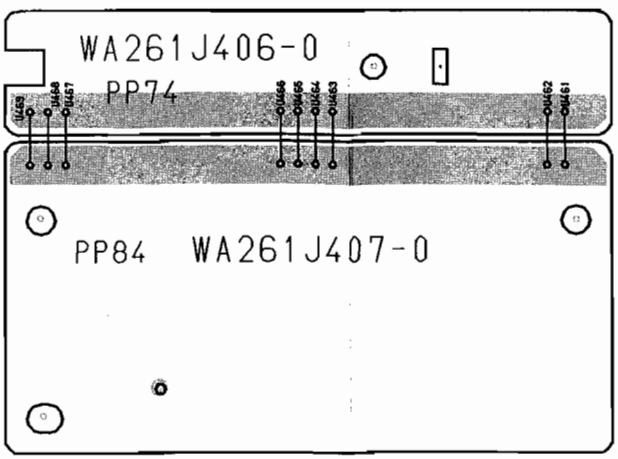


PP54-Wiring P.C. Board



PP64-Wiring P.C. Board

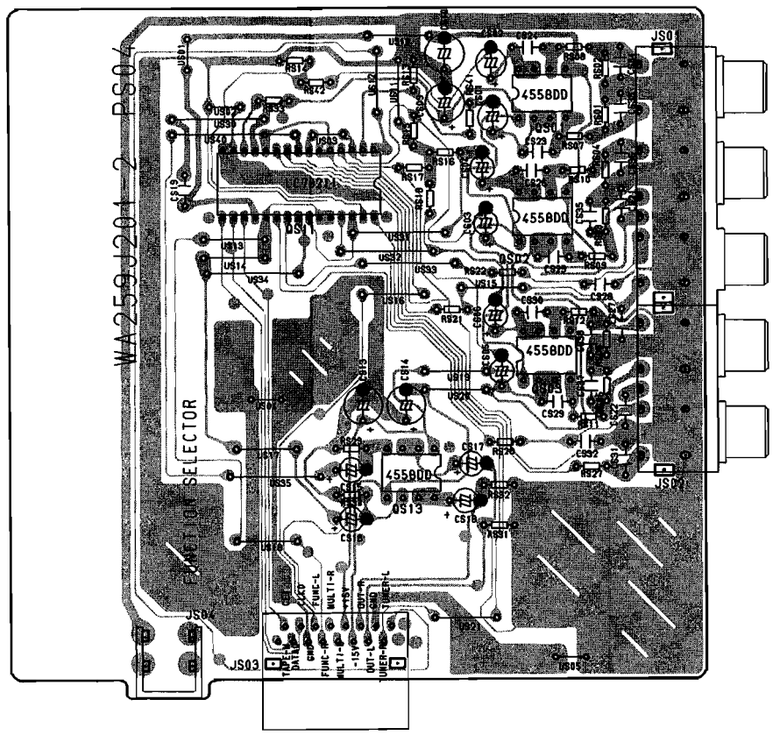
PP74-Wiring P.C. Board



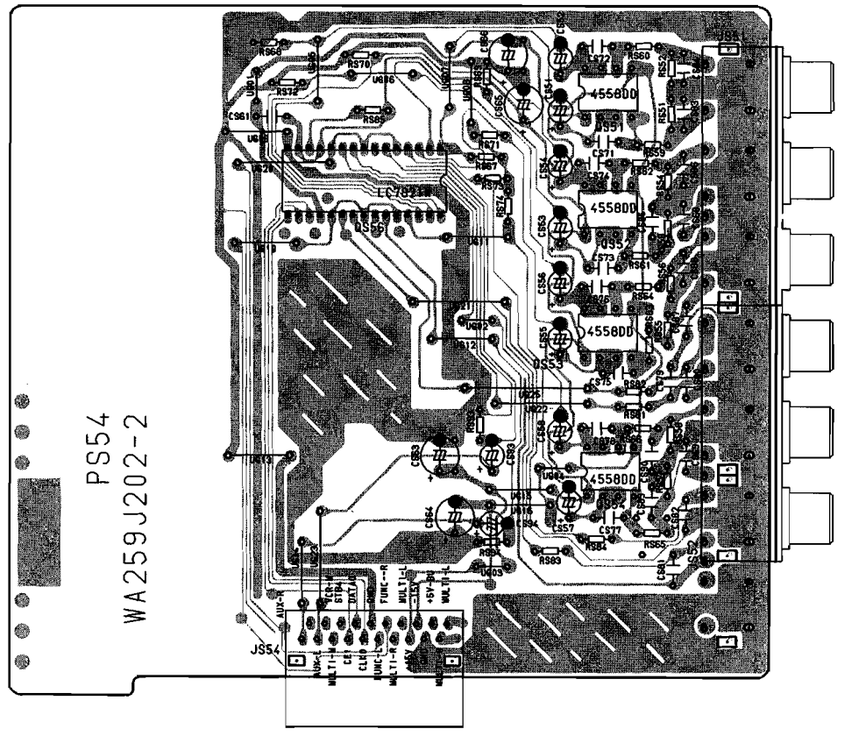
PP84-Wiring P.C. Board

P.C. BOARD (4)

PS04-Audio Function P.C. Board

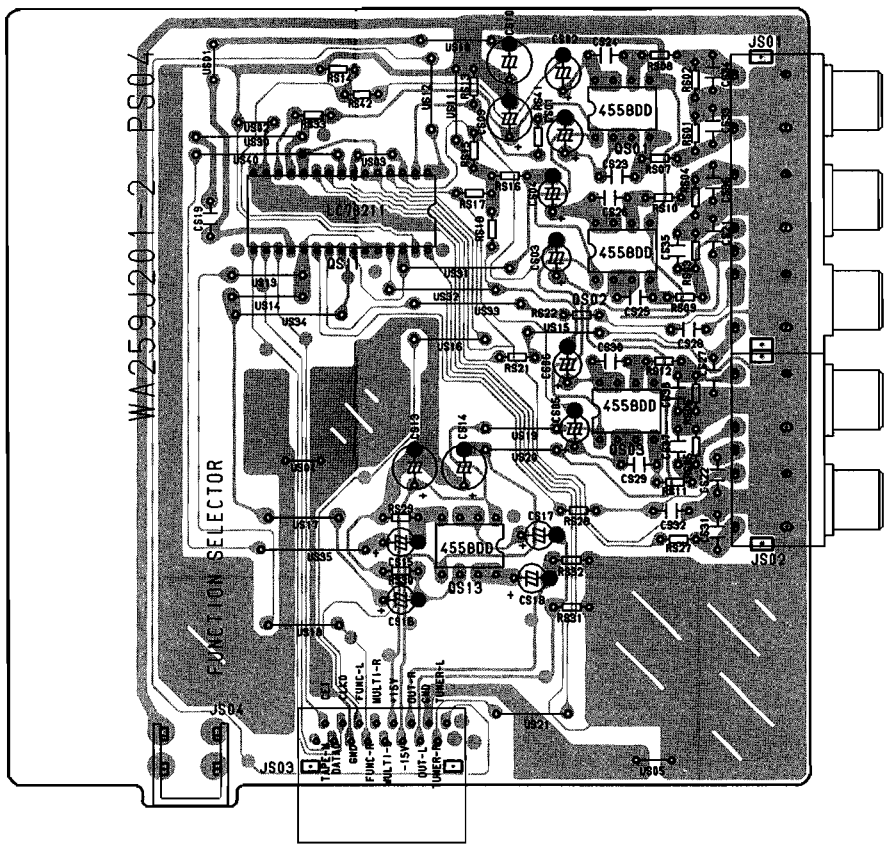


PS54-V-Audio Function P.C. Board



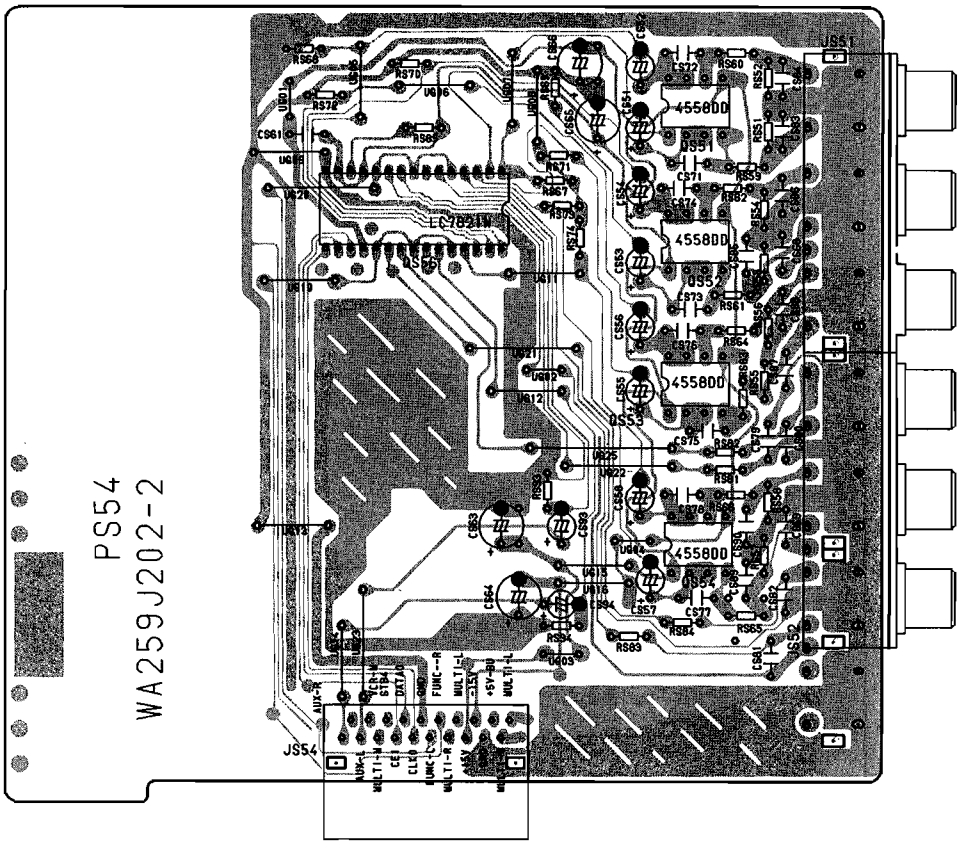
P.C. BOARD (4)

PS04-Audio Function P.C. Board



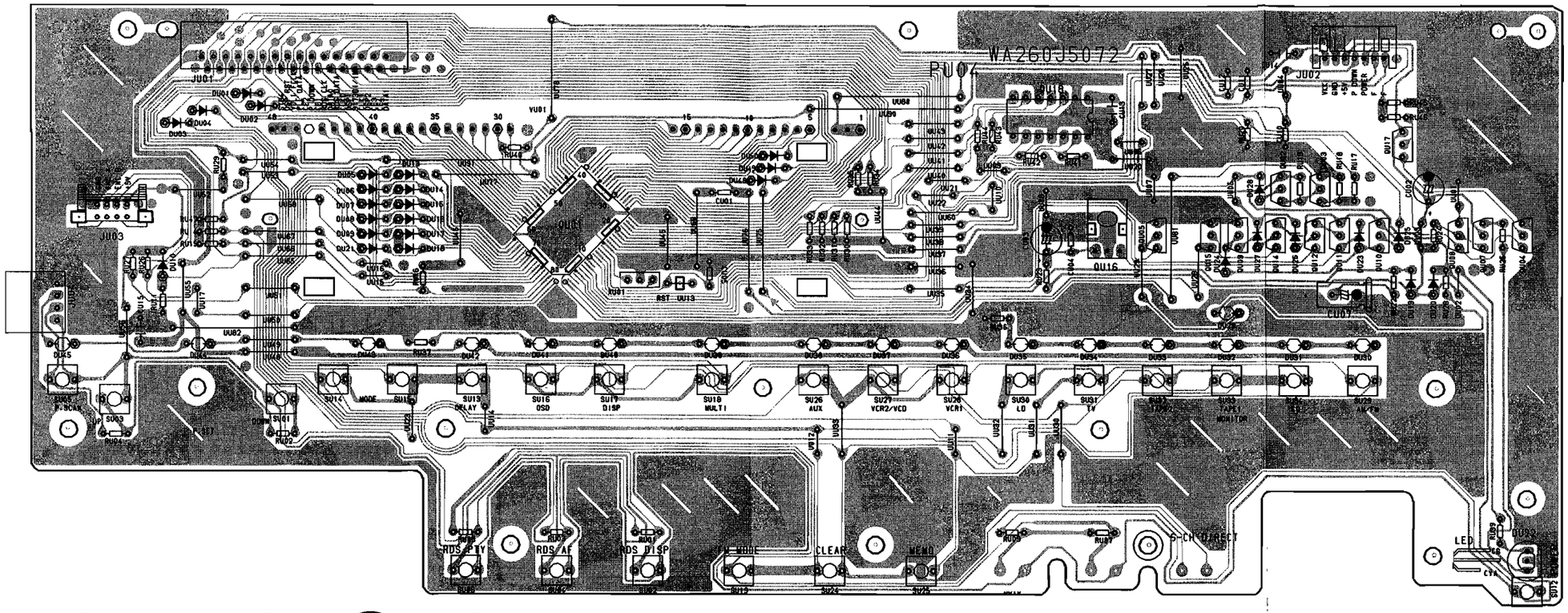
F	G	H	I	J

PS54-V-Audio Function P.C. Board

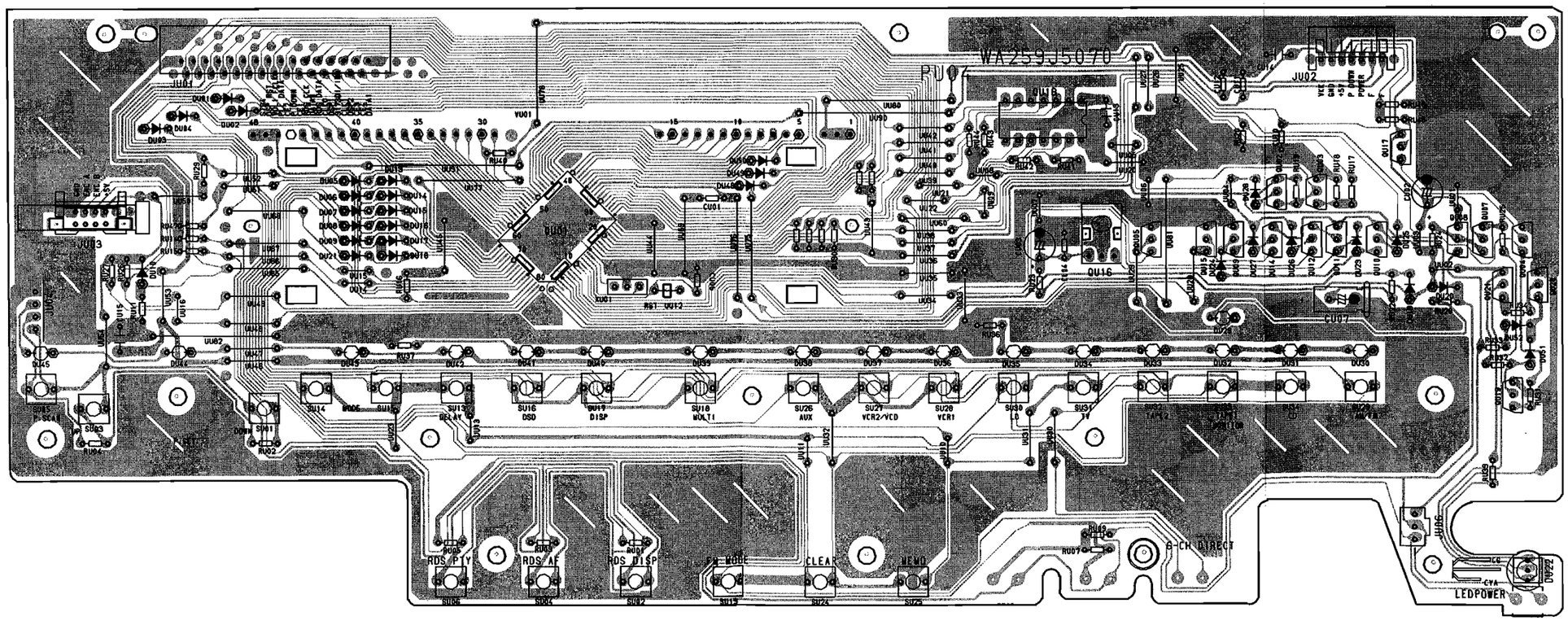


P.C. BOARD (5)

PU04-Front P.C. Board , AVR70 BK IB Only

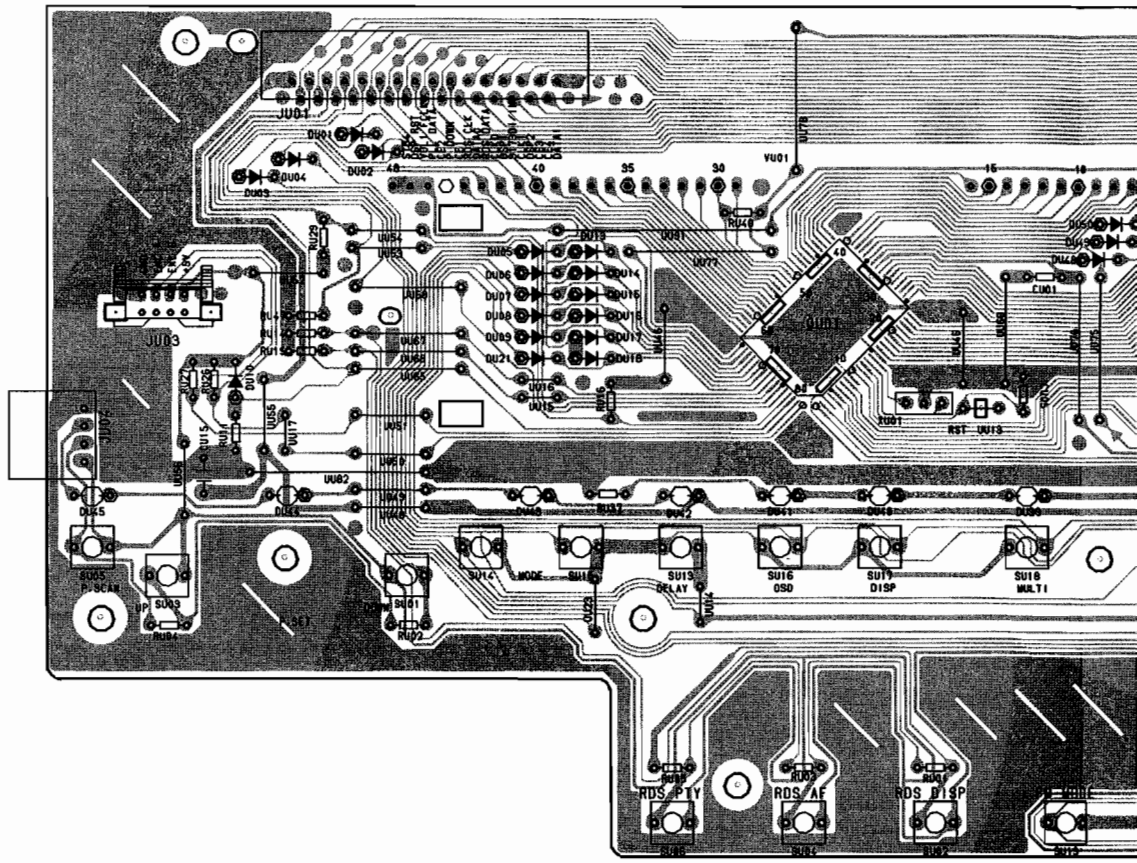


PU04-Front P.C. Board , AVR70MK II BK/AVR70 IB [MOMS]

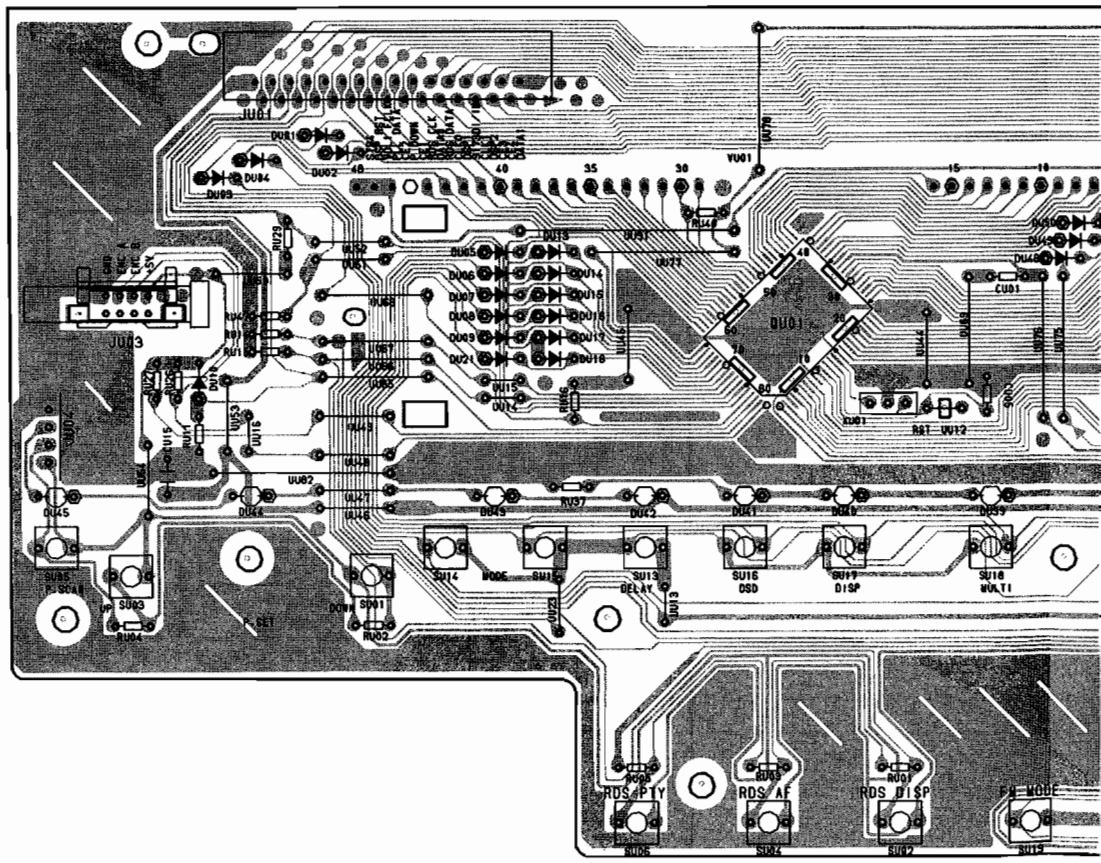


P.C. BOARD (5)

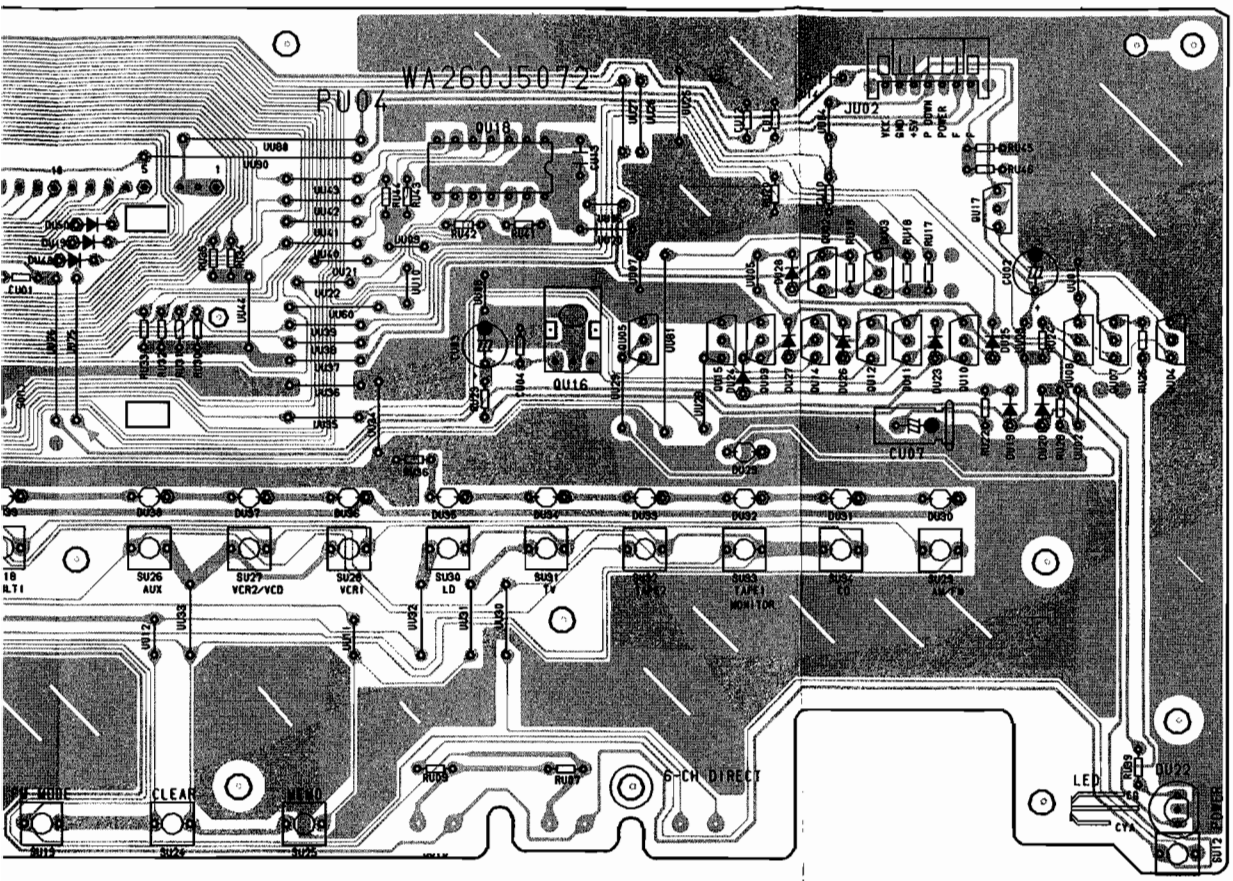
PU04-Front P.C. Board , AVR70 BK IB Only

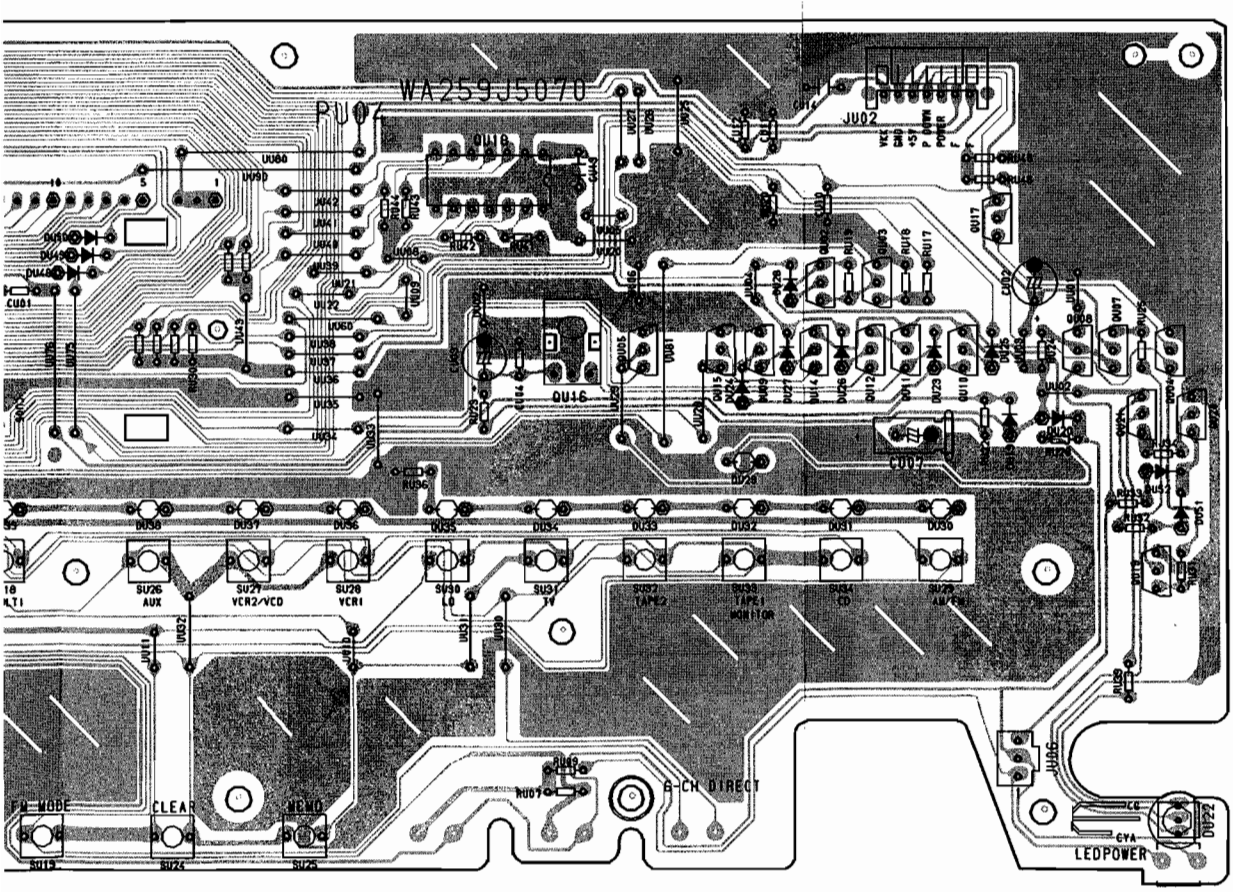


PU04-Front P.C. Board , AVR70MK II BK/AVR70 IB [MOMS]



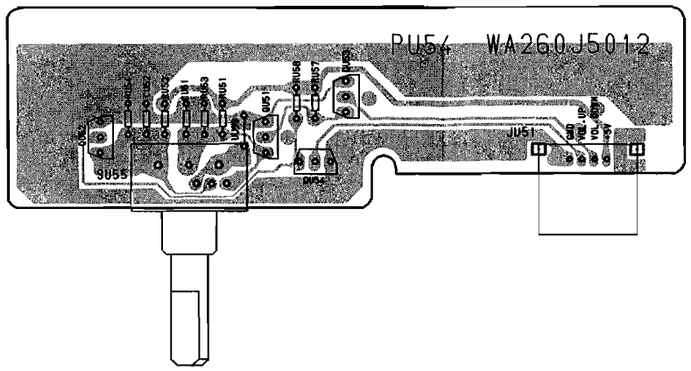
F G H I J


WA260J5072
PU04
JU02
SU26 AUX
SU27 VCR2/VCD
SU28 VCR1
SU30 LD
SU31 TV
SU32 TAPE2
SU33 TAPE1 MONITOR
SU34 CD
SU29 AM/FM
6-CH DIRECT
CLEAR
MEMO
LED
LEDPOWER


WA259J5070
PU04
JU02
SU26 AUX
SU27 VCR2/VCD
SU28 VCR1
SU30 LD
SU31 TV
SU32 TAPE2
SU33 TAPE1 MONITOR
SU34 CD
SU29 AM/FM
6-CH DIRECT
CLEAR
MEMO
LEDPOWER

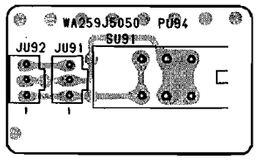
P.C. BOARD (6)

PU54-Master Vol P.C. Board

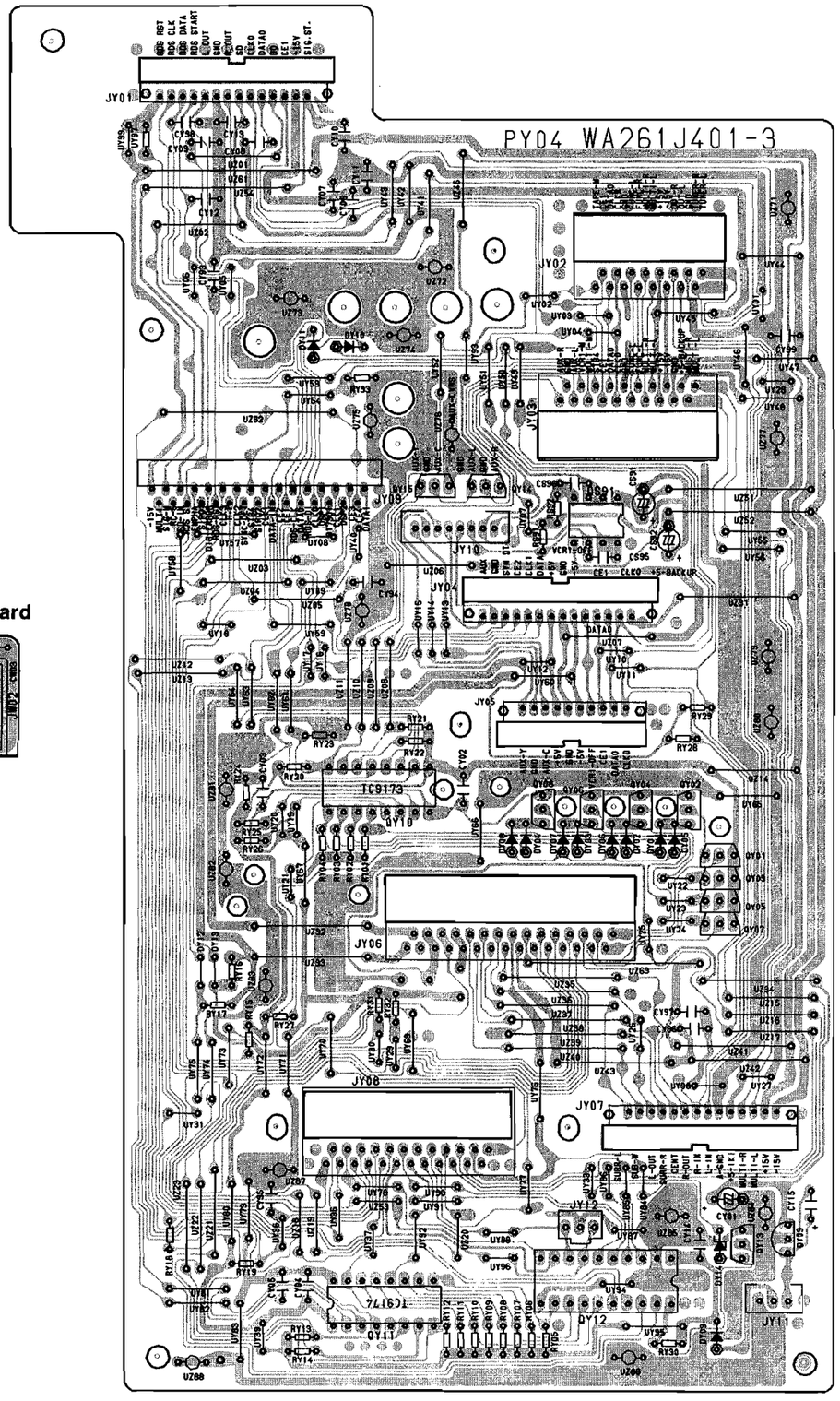


PU94-Power SW P.C. Board

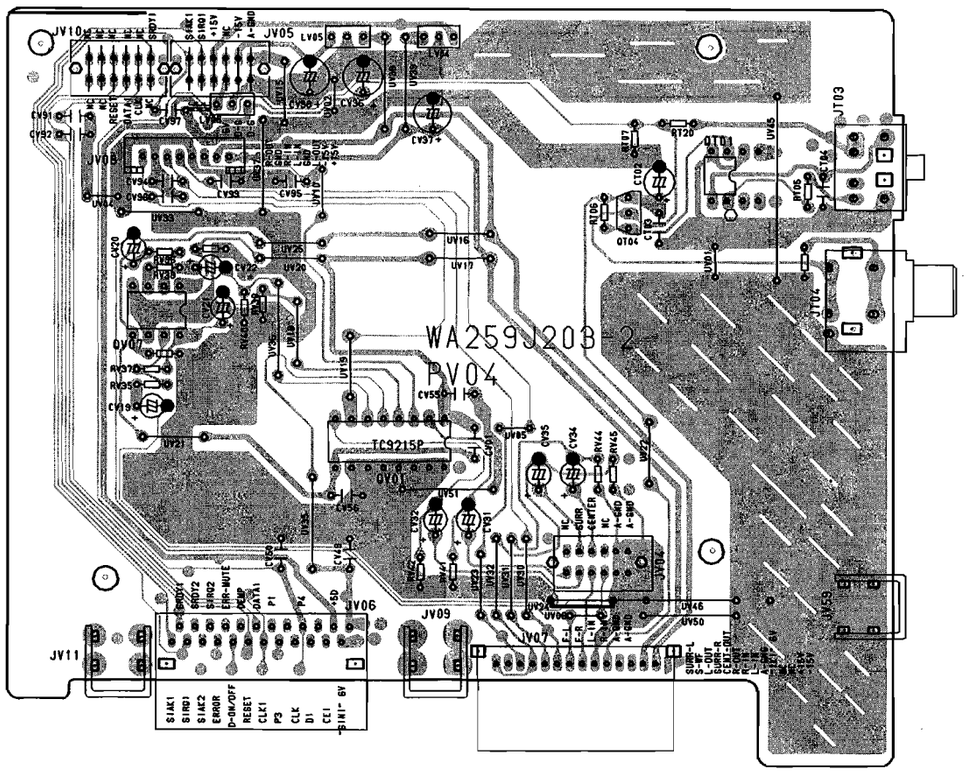
AVR70MKⅡ (BK)/AVR70 (IB) [MOMS]



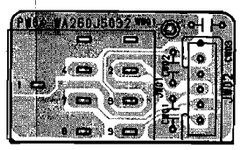
PY04-Connect P.C. Board



PV04-Remote Out P.C. Board

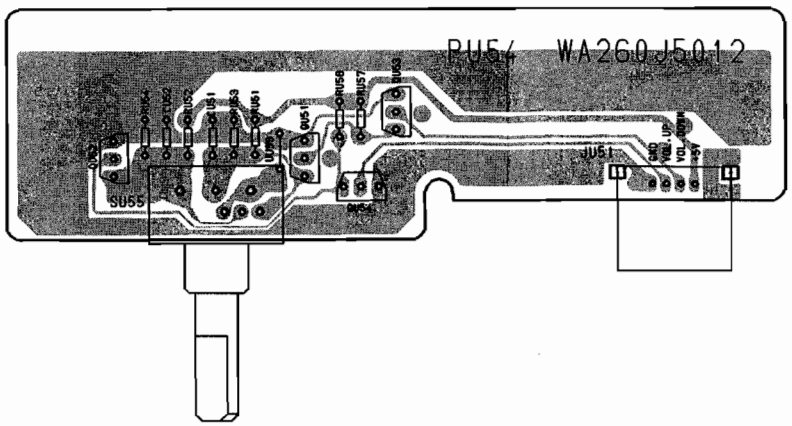


PW04-H.P. P.C. Board



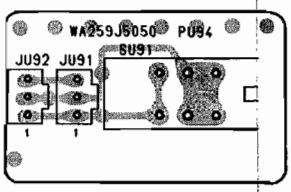
P.C. BOARD (6)

PU54-Master Vol P.C. Board

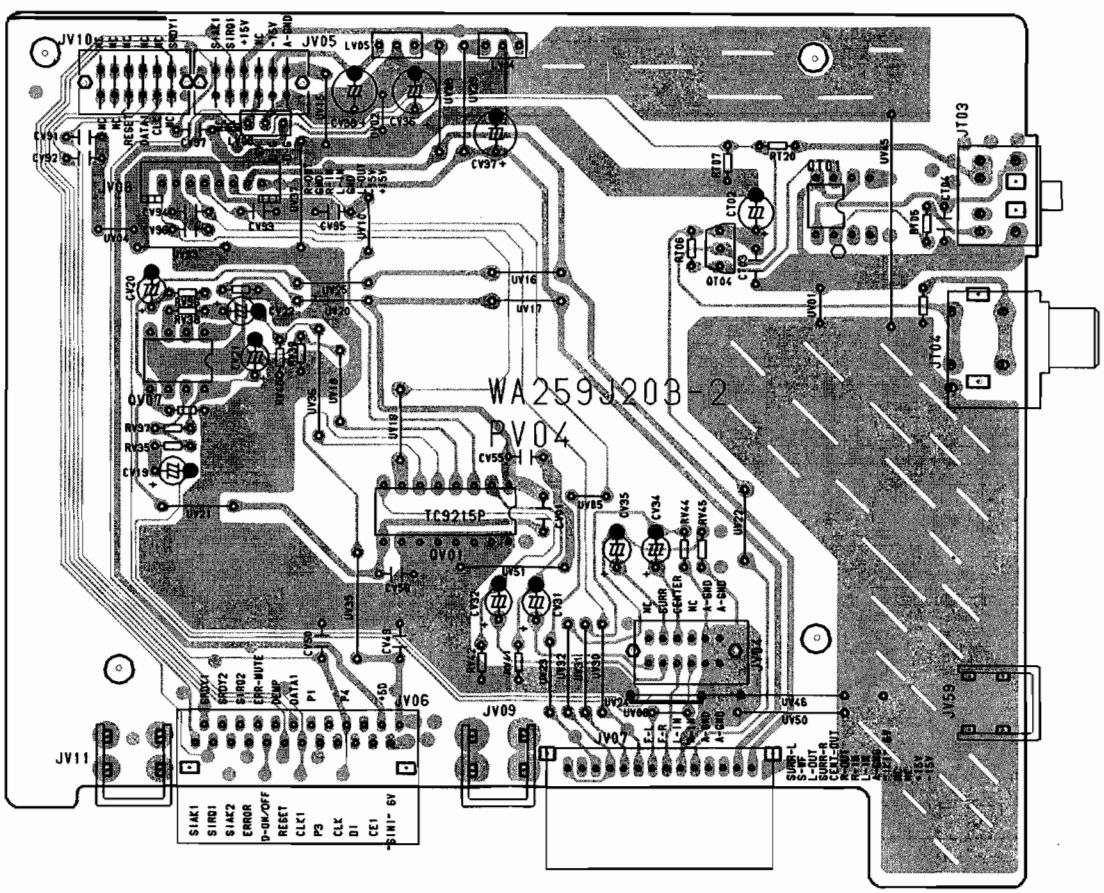


PU94-Power SW P.C. Board

AVR70MKⅡ (BK) /AVR70 (IB)

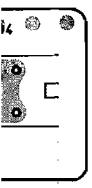


PV04-Remote Out P.C. Board

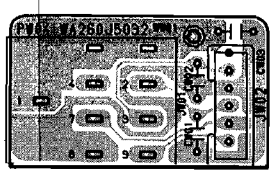


Board

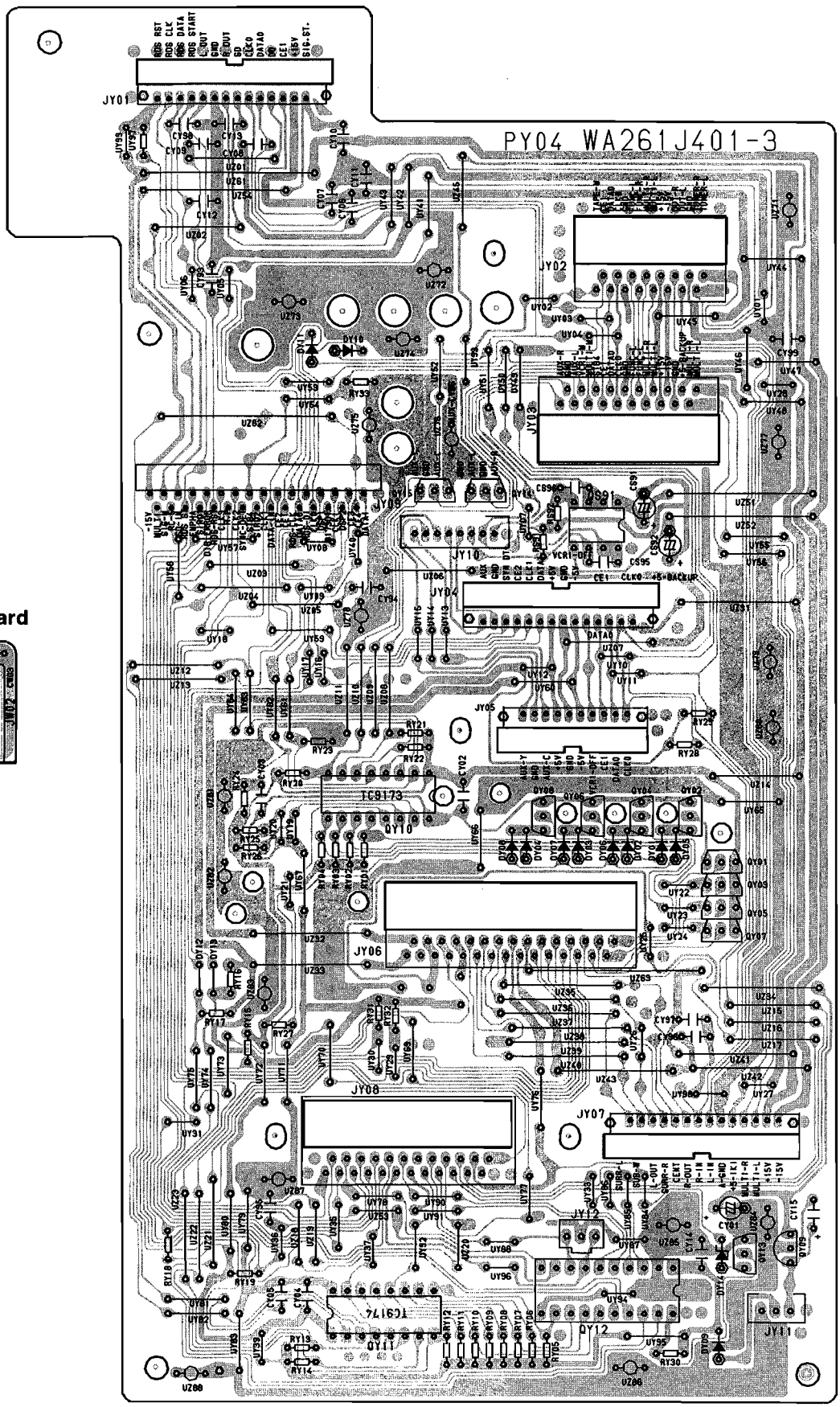
R70 (IB) [MOMS]



PW04-H.P. P.C. Board

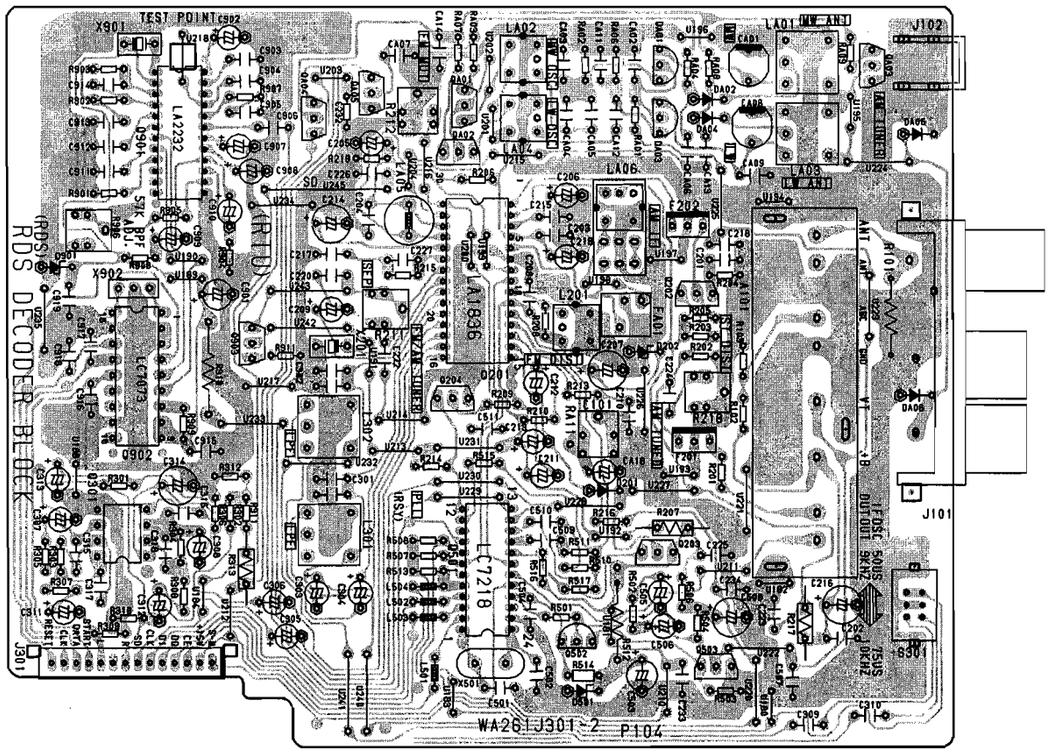


PY04-Connect P.C. Board

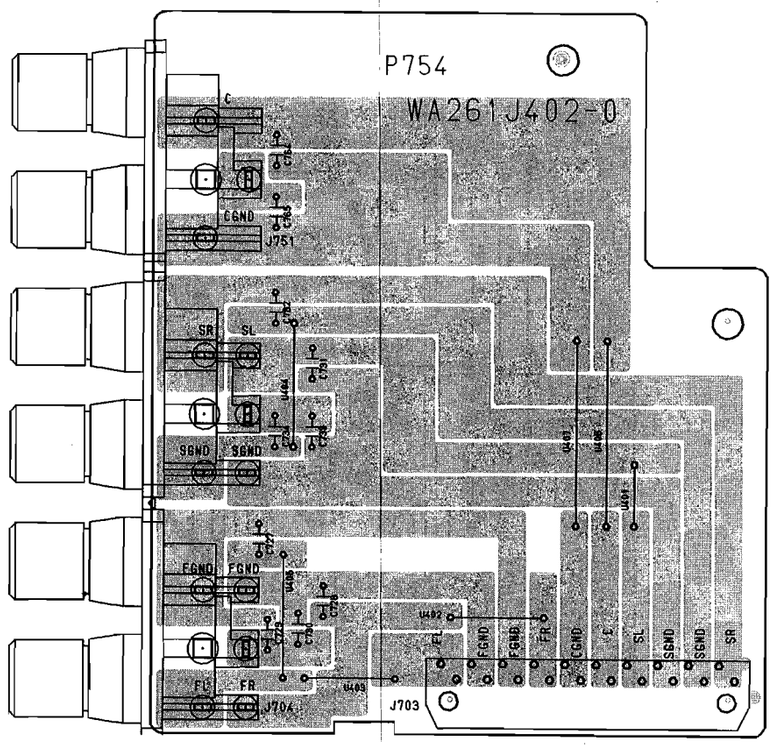


P.C. BOARD (7)

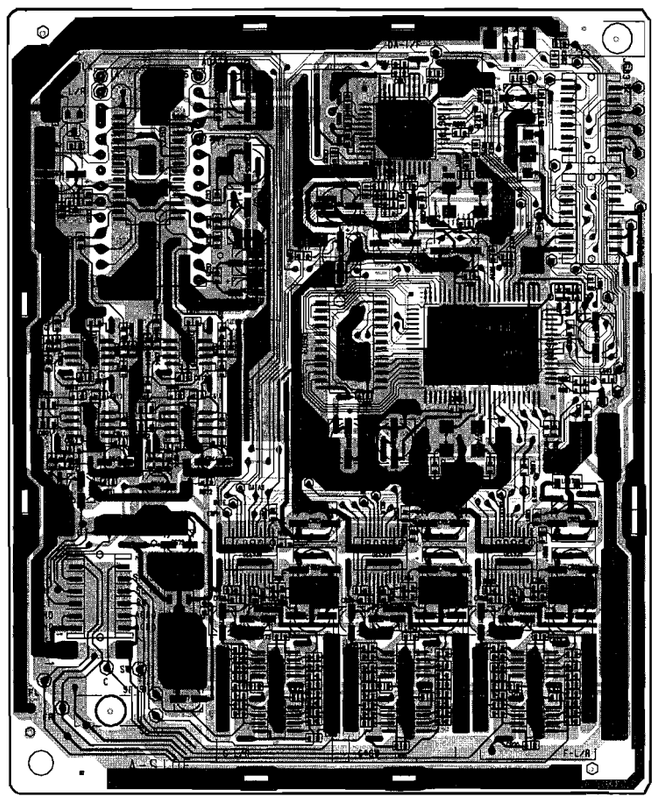
P104-Tuner P.C. Board



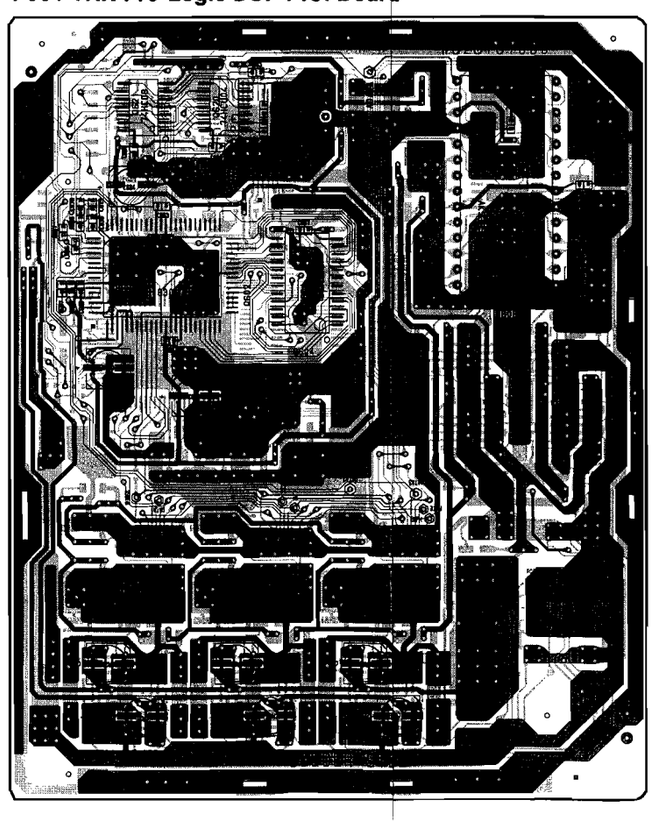
P754-SPK Terminal P.C. Board



P604-THX Pro-Logic DSP P.C. Board

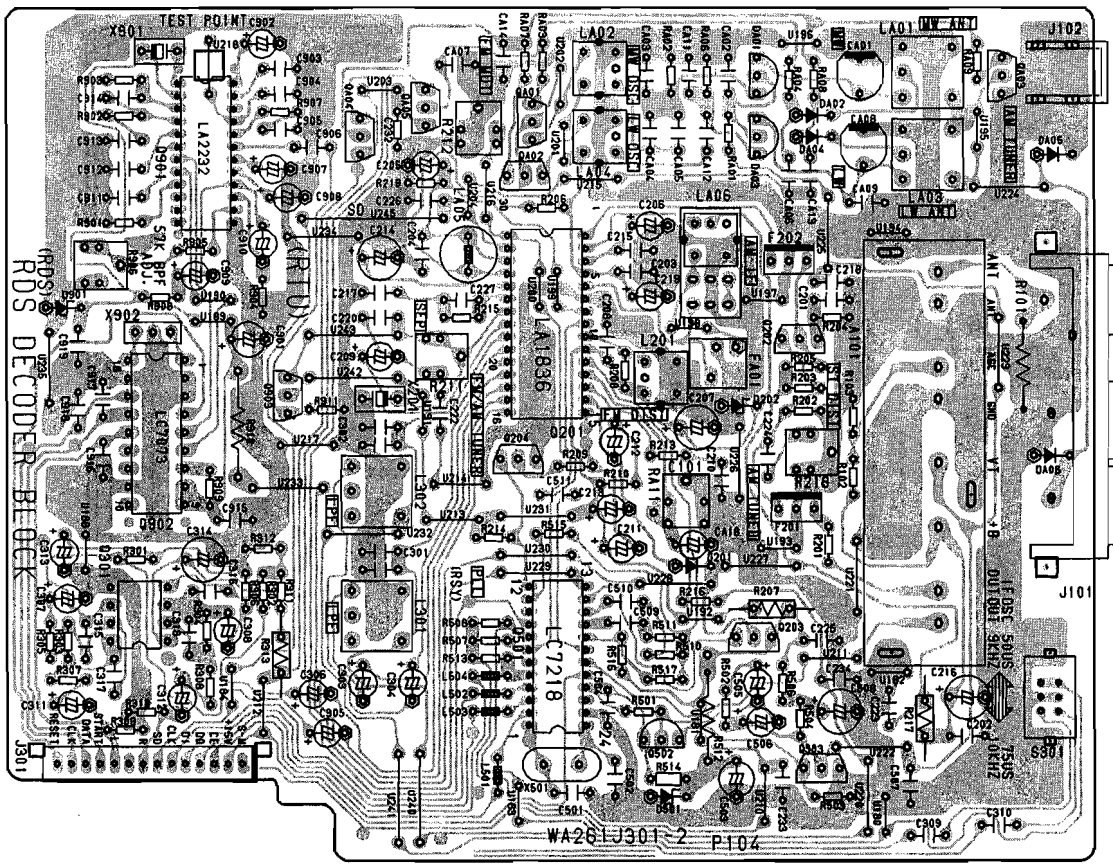


P604-THX Pro-Logic DSP P.C. Board

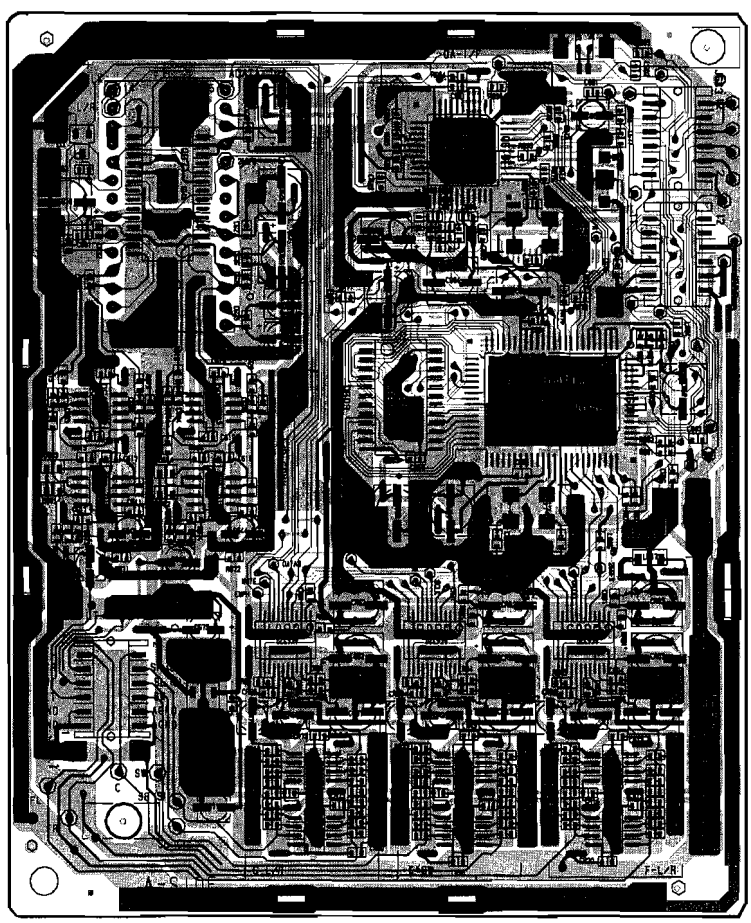


P.C. BOARD (7)

P104-Tuner P.C. Board

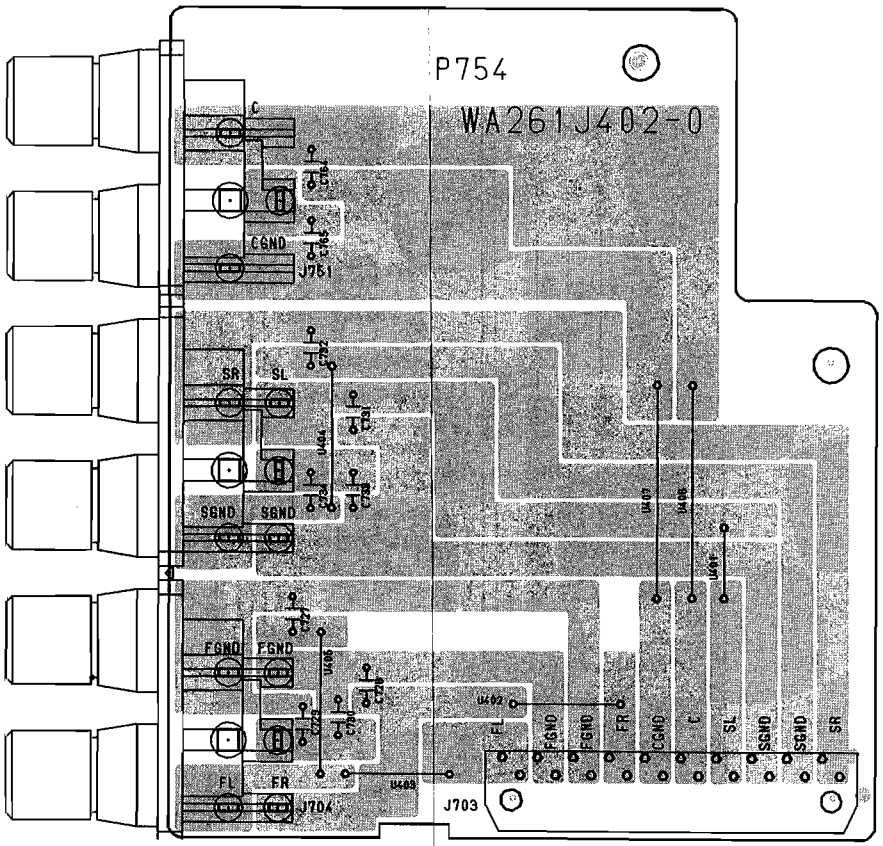


P604-THX Pro-Logic DSP P.C. Board

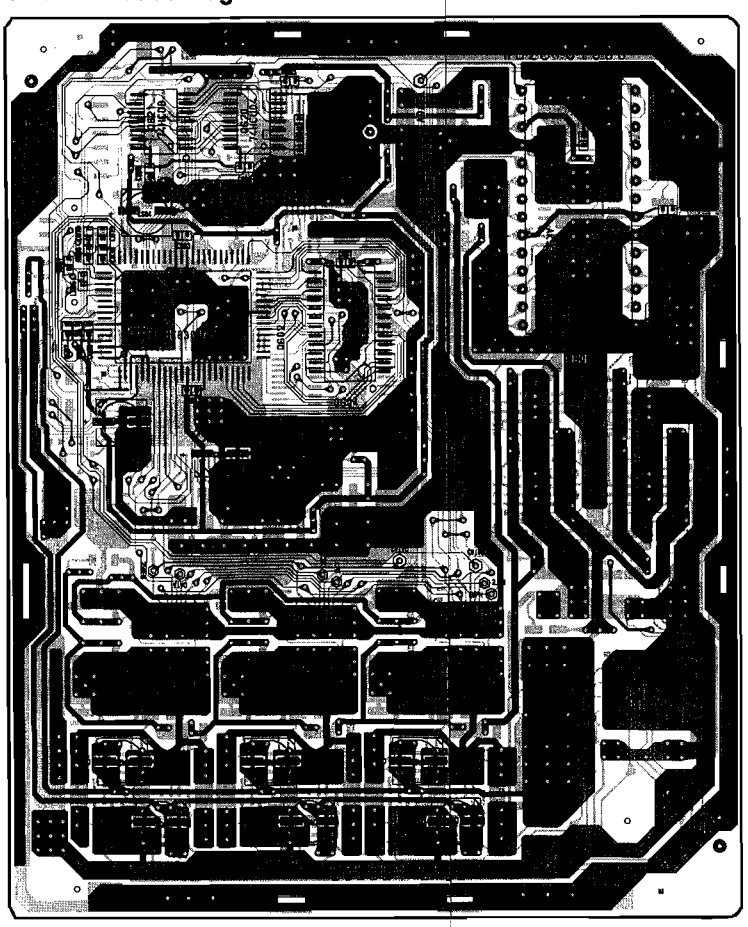


F G H I J

P754-SPK Terminal P.C. Board

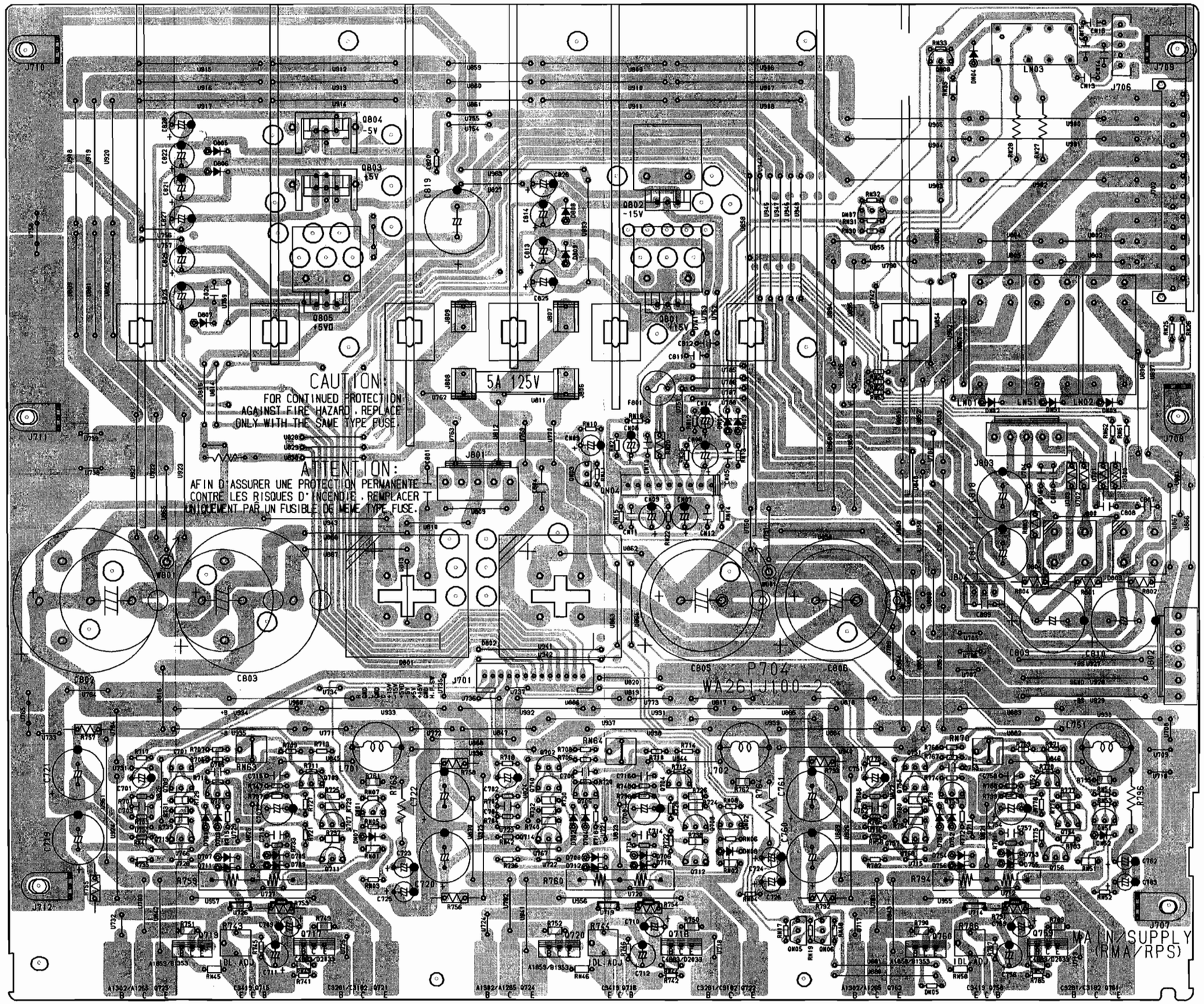


P604-THX Pro-Logic DSP P.C. Board



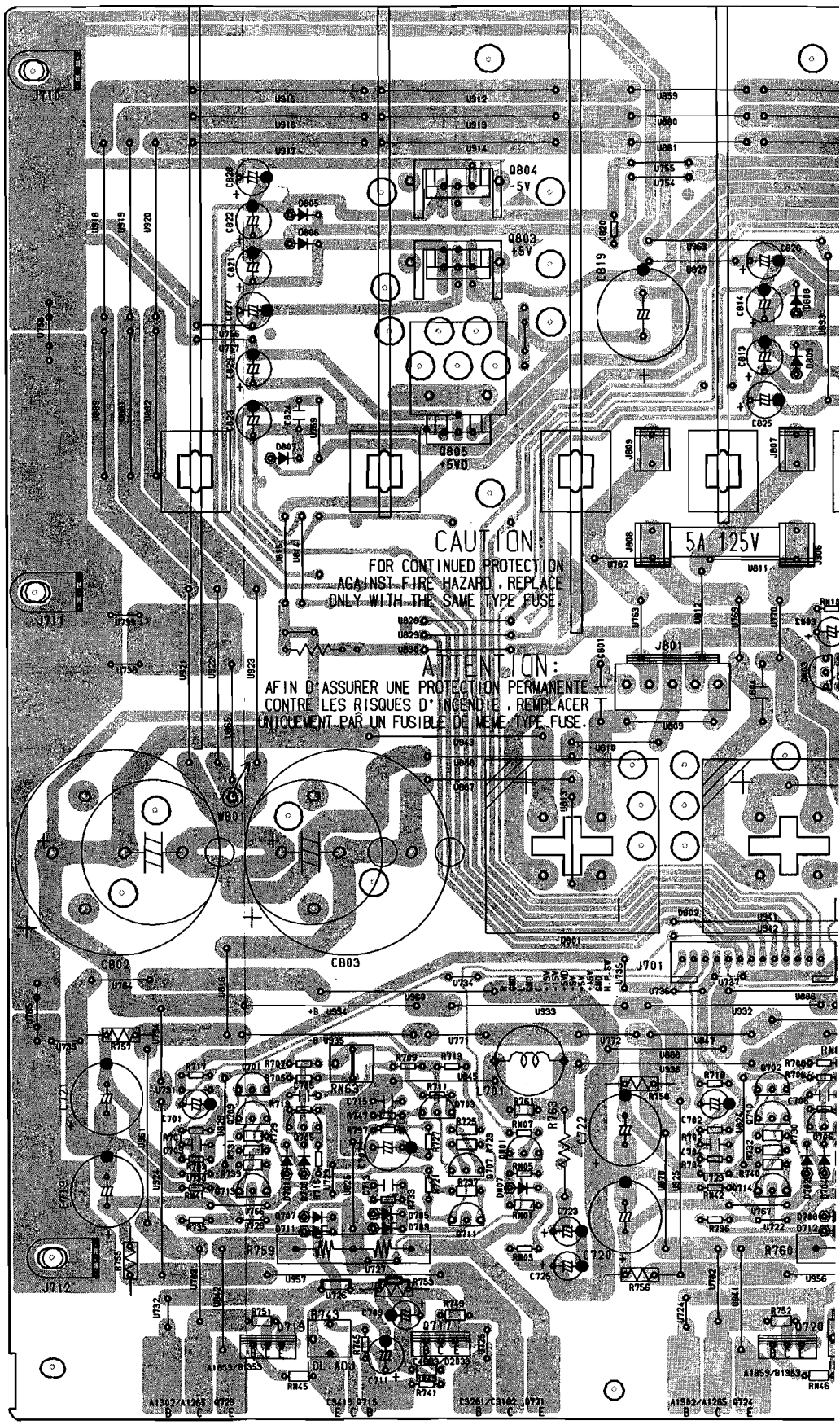
P.C. BOARD (8)

P704-Main Amp P.C. Board

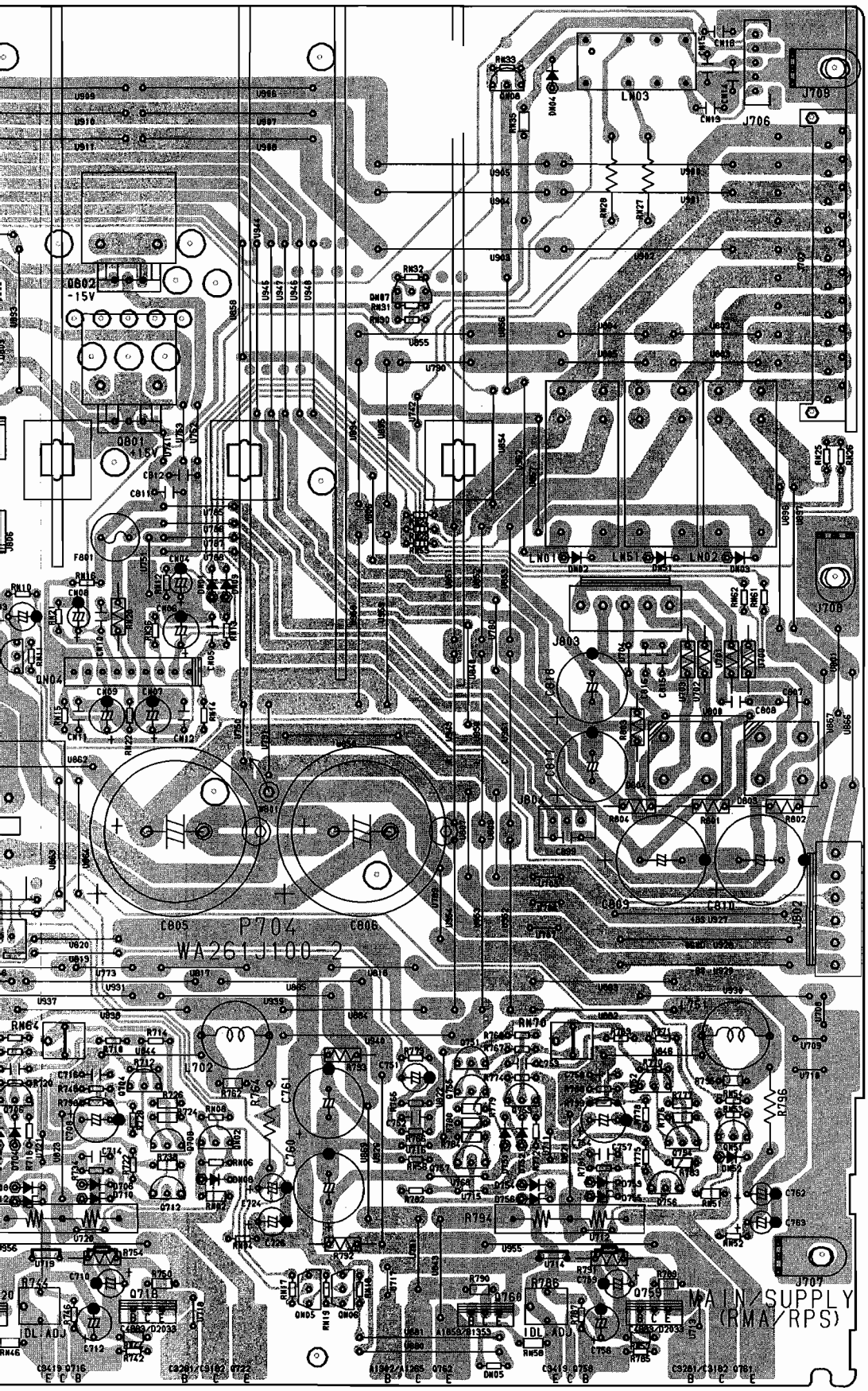


P.C. BOARD (8)

P704-Main Amp P.C. Board



F G H I J


Q802
-15V
Q801
+15V
P704
WA26IJ100-2
J702
J706
J708
J709
J707
J803
J804
LN01
LN02
LN03
LN04
MAIN/SUPPLY
(RMA/RPS)

ELECTRICAL PARTS LIST

PB04-BACK-UP P.C. BOARD

Ref. No.	Part. No.	Description
		CAPACITORS
CB01	EA47703510	ELECT 470µF 35V
CB02	EA10606310	ELECT 10µF 63V
CB03	EA47603510	ELECT 47µF 35V
CB05	EA47705010	ELECT 470µF 50V
CB06	EA47603510	ELECT 47µF 35V
CB07	DK18103310	CERAMIC 0.01µF +80% -20%
CB08	DK18103310	CERAMIC 0.01µF +80% -20%
CB09	DK17103840	CERAMIC 0.01µF ±20%
CB10	EA10606310	ELECT 10µF 63V
		RESISTORS
RB01	GG05100140	1/4W 10 Ω ±5%
RB03	GA05471010	1W 470 Ω ±5%
RB04	GD05101160	1/6W 100 Ω ±5%
RB05	GD05101160	1/6W 100 Ω ±5%
RB07	RC10225820	1/2W 2.2M Ω ±10% BK
RB08	GD05103160	1/6W 10K Ω ±5%
		INTEGRATED CIRCUITS
QB01	HC38905320	IC PQ05RR1 Voltage Regulator
		TRANSISTOR
QB02	HT420331E0	2SD2033 (E)
		DIODES
DB01	HD20002710	1D3 1A/200V
DB02	HD20002710	1D3 1A/200V
DB03	HD20002710	1D3 1A/200V
DB04	HD20002710	1D3 1A/200V
DB05	HD33301000	ZENER MTZJ33D
DB06	HD30821000	ZENER NTJ8.2C
DB07	HD20002710	1D3 1A/200V
DB08	HD20002710	1D3 1A/200V
		MISCELLANEOUS
FB01	FS10400850	FUSE S506 4A 250V IB
FB01	FS10800540	FUSE SM5 8A 125V BK
FB02	FS20250200	FUSE TR5 T2.5A 250V IB
FB03	FS20250200	FUSE TR5 T2.5A 250V IB
JB01	YJ08000580	JACK, FUSE CLIP IB [MOMS]
JB01	YJ08000590	JACK, FUSE CLIP IB (AVR70)
JB01	YJ08000170	JACK, FUSE CLIP BK
JB02	YJ08000590	JACK, FUSE CLIP IB [MOMS]
JB02	YJ08000580	JACK, FUSE CLIP IB (AVR70)
JB02	YJ08000170	JACK, FUSE CLIP BK
JB03	YJ04002080	JACK, AC OUTLET 2P IB
JB03	YJ04002040	JACK, AC OUTLET 2P BK
JB04	YP06006670	PLUG, 7P
JB05	YP04000760	PLUG, 2P
JB06	YP04000760	PLUG, 2P
JB07	YL01010240	TERMINAL, GND
JB09	YP06003830	PLUG, 3P
JB10	YP06006930	PLUG, 3P (AVR70MKⅡ)
LB01	TS14823240	POWER TRANSF. IB
LB01	TS14823230	POWER TRANSF. BK
LB02	LY10240240	RELAY, VS24MB-NR

PE04-ELE.VOL P.C. BOARD

Ref. No.	Part. No.	Description
		CAPACITORS
CE01	OA10601620	ELECT 10µF 16V
CE02	OA10601620	ELECT 10µF 16V
CE03	EJ47502510	ELECT 4.7µF 25V
CE04	EJ47502510	ELECT 4.7µF 25V
CE07	OA47505020	ELECT 4.7µF 50V
CE08	OA47505020	ELECT 4.7µF 50V
CE09	EJ47502510	ELECT 4.7µF 25V
CE10	EJ47502510	ELECT 4.7µF 25V
CE13	OA47505020	ELECT 4.7µF 50V
CE14	OA47505020	ELECT 4.7µF 50V
CE15	EJ47502510	ELECT 4.7µF 25V
CE16	EJ47502510	ELECT 4.7µF 25V
CE19	OA47505020	ELECT 4.7µF 50V
CE20	OA47505020	ELECT 4.7µF 50V
CE21	EJ47502510	ELECT 4.7µF 25V
CE22	EJ47502510	ELECT 4.7µF 25V
CE25	OA47505020	ELECT 4.7µF 50V
CE26	OA47505020	ELECT 4.7µF 50V
CE27	EJ47502510	ELECT 4.7µF 25V
CE28	EJ47502510	ELECT 4.7µF 25V
CE31	OA10601620	ELECT 10µF 16V
CE32	OA10601620	ELECT 10µF 16V
CE33	EJ47502510	ELECT 4.7µF 25V
CE34	EJ47502510	ELECT 4.7µF 25V
CE35	DF15104350	FILM 0.1µF ±5%
CE36	DF15104350	FILM 0.1µF ±5%
CE37	DF15104350	FILM 0.1µF ±5%
CE38	DF15104350	FILM 0.1µF ±5%
CE41	OA10601620	ELECT 10µF 16V
CE42	OA10601620	ELECT 10µF 16V
CE43	EJ10601610	ELECT 10µF 16V
CE44	EJ10601610	ELECT 10µF 16V
CV53	DF15182350	FILM 1800PF ±5%
CV54	DF15182350	FILM 1800PF ±5%
CV59	DF15472350	FILM 4700PF ±5%
CV60	DF15472350	FILM 4700PF ±5%
CV65	DK16271300	CERAMIC 270PF ±10%
CV66	DK16271300	CERAMIC 270PF ±10%
CV71	EJ10601610	ELECT 10µF 16V
CV72	EJ10601610	ELECT 10µF 16V
CV75	DK16471300	CERAMIC 470PF ±10% IB
CV76	DK16471300	CERAMIC 470PF ±10% IB
CV77	DK16221300	CERAMIC 220PF ±10% IB
CV78	DK16221300	CERAMIC 220PF ±10% IB
CV79	DK16102300	CERAMIC 1000PF ±10% IB
		RESISTORS
RE01	GD05104160	1/6W 100K Ω ±5%
RE02	GD05104160	1/6W 100K Ω ±5%
RE03	GD05104160	1/6W 100K Ω ±5%
RE04	GD05104160	1/6W 100K Ω ±5%
RE07	GD05332160	1/6W 3.3K Ω ±5%
RE08	GD05332160	1/6W 3.3K Ω ±5%
RE09	GD05332160	1/6W 3.3K Ω ±5%
RE10	GD05332160	1/6W 3.3K Ω ±5%
RE13	GD05152160	1/6W 1.5K Ω ±5%
RE14	GD05152160	1/6W 1.5K Ω ±5%
RE15	GD05152160	1/6W 1.5K Ω ±5%
RE16	GD05152160	1/6W 1.5K Ω ±5%
RE19	GD05104160	1/6W 100K Ω ±5%
RE20	GD05104160	1/6W 100K Ω ±5%
RE21	GD05104160	1/6W 100K Ω ±5%
RE22	GD05104160	1/6W 100K Ω ±5%
RE25	GD05331160	1/6W 330 Ω ±5%
RE26	GD05331160	1/6W 330 Ω ±5%

Ref. No.	Part. No.	Description		
RE27	GD05331160	1/6W	330 Ω	±5%
RE28	GD05331160	1/6W	330 Ω	±5%
RE31	GD05152160	1/6W	1.5K Ω	±5%
RE32	GD05152160	1/6W	1.5K Ω	±5%
RE33	GD05152160	1/6W	1.5K Ω	±5%
RE34	GD05152160	1/6W	1.5K Ω	±5%
RE37	GD05334160	1/6W	330K Ω	±5%
RE38	GD05334160	1/6W	330K Ω	±5%
RE39	GD05334160	1/6W	330K Ω	±5%
RE40	GD05334160	1/6W	330K Ω	±5%
RE43	GD05152160	1/6W	1.5K Ω	±5%
RE44	GD05152160	1/6W	1.5K Ω	±5%
RE45	GD05152160	1/6W	1.5K Ω	±5%
RE46	GD05152160	1/6W	1.5K Ω	±5%
RE49	GD05104160	1/6W	100K Ω	±5%
RE50	GD05104160	1/6W	100K Ω	±5%
RE51	GD05104160	1/6W	100K Ω	±5%
RE52	GD05104160	1/6W	100K Ω	±5%
RE55	GD05152160	1/6W	1.5K Ω	±5%
RE56	GD05152160	1/6W	1.5K Ω	±5%
RE57	GD05152160	1/6W	1.5K Ω	±5%
RE58	GD05152160	1/6W	1.5K Ω	±5%
RE61	GD05152160	1/6W	1.5K Ω	±5%
RE62	GD05152160	1/6W	1.5K Ω	±5%
RE63	GD05152160	1/6W	1.5K Ω	±5%
RE64	GD05152160	1/6W	1.5K Ω	±5%
RE65	GD05103160	1/6W	10K Ω	±5%
RE66	GD05103160	1/6W	10K Ω	±5%
RE67	GD05103160	1/6W	10K Ω	±5%
RE68	GD05103160	1/6W	10K Ω	±5%
RE69	GD05183160	1/6W	18K Ω	±5%
RE70	GD05562160	1/6W	5.6K Ω	±5%
RE71	GD05183160	1/6W	18K Ω	±5%
RE72	GD05562160	1/6W	5.6K Ω	±5%
RE73	GD05103160	1/6W	10K Ω	±5%
RE74	GD05103160	1/6W	10K Ω	±5%
RE79	GD05104160	1/6W	100K Ω	±5%
RE80	GD05104160	1/6W	100K Ω	±5%
RE83	GD05105160	1/6W	1M Ω	±5%
RE84	GD05105160	1/6W	1M Ω	±5%
RE85	GD05105160	1/6W	1M Ω	±5%
RE86	GD05105160	1/6W	1M Ω	±5%
RV53	GD05392160	1/6W	3.9K Ω	±5%
RV54	GD05392160	1/6W	3.9K Ω	±5%
RV59	GD05392160	1/6W	3.9K Ω	±5%
RV60	GD05392160	1/6W	3.9K Ω	±5%
RV65	GD05392160	1/6W	3.9K Ω	±5%
RV66	GD05392160	1/6W	3.9K Ω	±5%
RV69	GD05102160	1/6W	1K Ω	±5%
RV70	GD05102160	1/6W	1K Ω	±5%
RV71	GD05102160	1/6W	1K Ω	±5%
RV72	GD05102160	1/6W	1K Ω	±5%
RV73	GD05471160	1/6W	470 Ω	±5%
RV75	GD05473160	1/6W	47K Ω	±5%
RV76	GD05473160	1/6W	47K Ω	±5%
RV77	GD05473160	1/6W	47K Ω	±5%
RV78	GD05473160	1/6W	47K Ω	±5%
RV80	GD05473160	1/6W	47K Ω	±5%
RV81	GD05103160	1/6W	10K Ω	±5%
RV82	GD05103160	1/6W	10K Ω	±5%
RV83	GD05103160	1/6W	10K Ω	±5%
RV84	GD05103160	1/6W	10K Ω	±5%
RV85	GD05103160	1/6W	10K Ω	±5%
RV87	GD05103160	1/6W	10K Ω	±5%
RV88	GD05471160	1/6W	470 Ω	±5%

Ref. No.	Part. No.	Description
		INTEGRATED CIRCUITS
QE01	HC10008090	IC NJM4558DD Dual OP AMP
QE02	HC10008090	IC NJM4558DD Dual OP AMP
QE04	HC10304050	IC TC9213P Electric Volume (2ch)
QE05	HC10304050	IC TC9213P Electric Volume (2ch)
QE07	HC10008090	IC NJM4558DD Dual OP AMP
QE08	HC10008090	IC NJM4558DD Dual OP AMP
QE09	HC10008090	IC NJM4558DD Dual OP AMP
QE10	HC10008090	IC NJM4558DD Dual OP AMP
QE11	HC10008090	IC NJM4558DD Dual OP AMP
QE12	HC10008090	IC NJM4558DD Dual OP AMP
QV58	HC10008090	IC NJM4558DD Dual OP AMP
		TRANSISTORS
QV51	HT328782A0	2SC2878 (A, B)
QV52	HT328782A0	2SC2878 (A, B)
QV53	HT328782A0	2SC2878 (A, B)
QV54	HT328782A0	2SC2878 (A, B)
QV55	HT328782A0	2SC2878 (A, B)
QV60	HT328782A0	2SC2878 (A, B)
		COILS
LV01	LC14733800	CHOKE 47µH (IB)
LV02	LC14733800	CHOKE 47µH (IB)
		MISCELLANEOUS
JV52	YT02030420	TERMINAL, 3P RCA PIN JACK (IB)
JV52	YT02030380	TERMINAL, 3P RCA PIN JACK (BK)
JV53	YT02021400	TERMINAL, 2P RCA PIN JACK (IB)
JV53	YT02021070	TERMINAL, 2P RCA PIN JACK (BK)
JV54	YT02011020	TERMINAL, 1P RCA PIN JACK (IB)
JV54	YT02010780	TERMINAL, 1P RCA PIN JACK (BK)
JV55	YJ06030600	JACK, 30P
JV56	YP06004570	PLUG, 13P
JV57	YP06006930	PLUG, 3P

PF04-TONE P.C. BOARD

		CAPACITORS		
CF01	EJ10601610	ELECT	10µF	16V
CF02	EJ10601610	ELECT	10µF	16V
CF05	DK16222300	CERAMIC	2200PF	±10%
CF06	DK16222300	CERAMIC	2200PF	±10%
CF09	DD15101300	CERAMIC	100PF	±5%
CF10	DD15101300	CERAMIC	100PF	±5%
CF13	DF15153350	FILM	0.015µF	±5%
CF14	DF15153350	FILM	0.015µF	±5%
CF17	DF15153350	FILM	0.015µF	±5%
CF18	DF15153350	FILM	0.015µF	±5%
CF21	EJ47601610	ELECT	47µF	16V
CF22	EJ47601610	ELECT	47µF	16V
CF25	OA22601620	ELECT	22µF	16V
CF26	OA22601620	ELECT	22µF	16V
CF29	DD15470300	CERAMIC	47PF	±5%
CF30	DD15470300	CERAMIC	47PF	±5%
CF40	OA10701620	ELECT	100µF	16V
CF41	OA10701620	ELECT	100µF	16V
CF43	DA17223110	CERAMIC	0.022µF	±20%
CF44	DA17223110	CERAMIC	0.022µF	±20%
CF47	DA17223110	CERAMIC	0.022µF	±20%
CF48	DA17223110	CERAMIC	0.022µF	±20%

Ref. No.	Part. No.	Description
		RESISTORS
RF01	GD05473160	1/6W 47K Ω ±5%
RF02	GD05473160	1/6W 47K Ω ±5%
RF05	GD05470160	1/6W 47 Ω ±5%
RF06	GD05470160	1/6W 47 Ω ±5%
RF09	GD05103160	1/6W 10K Ω ±5%
RF10	GD05103160	1/6W 10K Ω ±5%
RF13	GD05103160	1/6W 10K Ω ±5%
RF14	GD05103160	1/6W 10K Ω ±5%
RF17	GD05103160	1/6W 10K Ω ±5%
RF18	GD05103160	1/6W 10K Ω ±5%
RF21	GD05223160	1/6W 22K Ω ±5%
RF22	GD05223160	1/6W 22K Ω ±5%
RF29	GD05223160	1/6W 22K Ω ±5%
RF30	GD05223160	1/6W 22K Ω ±5%
RF45	GD05102160	1/6W 1K Ω ±5%
RF46	GD05102160	1/6W 1K Ω ±5%
RF81	GD05473160	1/6W 47K Ω ±5%
RF82	GD05473160	1/6W 47K Ω ±5%
		CONTROLS
RF41	MR01041300	VARIABLE, 100K Ω (B) x 2
RF42	MR01041300	VARIABLE, 100K Ω (B) x 2
RF43	RK01040620	VARIABLE, 100K Ω (W)
		INTEGRATED CIRCUITS
QF01	HC10008090	IC NJM4558DD Dual OP AMP
QF02	HC10008090	IC NJM4558DD Dual OP AMP
		MISCELLANEOUS
JF01	YP06006680	PLUG, 8P

PL04-VIDEO SELECTOR P.C. BOARD

		CAPACITORS		
CL01	EJ22601010	ELECT	22μF	10V
CL02	EJ10601610	ELECT	10μF	16V
CL03	EJ22601010	ELECT	22μF	10V
CL04	EJ10601610	ELECT	10μF	16V
CL05	EJ22601010	ELECT	22μF	10V
CL06	EJ10601610	ELECT	10μF	16V
CL09	EJ22601010	ELECT	22μF	10V
CL10	EJ10601610	ELECT	10μF	16V
CL14	DD38104010	CERAMIC	0.1μF	+80% -20%
CL15	DD38104010	CERAMIC	0.1μF	+80% -20%
CL16	DK18103310	CERAMIC	0.01μF	+80% -20%
CL17	DK18103310	CERAMIC	0.01μF	+80% -20%
CL18	EA22700610	ELECT	220μF	6.3V
CL19	EA22700610	ELECT	220μF	6.3V
CL20	EJ22601010	ELECT	22μF	10V
CL21	EA10701010	ELECT	100μF	10V
CL22	DK18103310	CERAMIC	0.01μF	+80% -20%
CL23	EJ22601010	ELECT	22μF	10V
CL24	EJ22601010	ELECT	22μF	10V
CL25	EJ10601610	ELECT	10μF	16V
CL31	DD38104010	CERAMIC	0.1μF	+80% -20%
CX49	EJ47502510	ELECT	4.7μF	25V
CX50	EA47601010	ELECT	47μF	10V
CX51	EA22700610	ELECT	220μF	6.3V
CX52	DK18103310	CERAMIC	0.01μF	+80% -20%
CX53	EA22700610	ELECT	220μF	6.3V
CX54	DK18103310	CERAMIC	0.01μF	+80% -20%
CX55	DD15220300	CERAMIC	22PF	±5%
CX56	DD15220300	CERAMIC	22PF	±5%
CX57	DD15220300	CERAMIC	22PF	±5% IB
CX58	DD15220300	CERAMIC	22PF	±5% IB
CX59	EJ47405010	ELECT	0.47μF	50V
CX60	DD15560300	CERAMIC	56PF	±5%
CX61	EJ10505010	ELECT	1μF	50V
CX62	DK16122300	CERAMIC	1200PF	±10%
CX63	EJ10505010	ELECT	1μF	50V
CX64	DF15682350	FILM	0.0068μF	±5%
CX65	DF15223350	FILM	0.022μF	±5%
CX66	DD15470300	CERAMIC	47PF	±5%
CX67	CT12000200	TRIMMING	20PF	
CX69	EA47601010	ELECT	47μF	10V
CX70	EJ47502510	ELECT	4.7μF	25V
CX72	DK18103310	CERAMIC	0.01μF	+80% -20%
CX73	EA22700610	ELECT	220μF	6.3V
CX74	EJ10505010	ELECT	1μF	50V
CX75	EJ22601010	ELECT	22μF	10V
CX76	EA10701010	ELECT	100μF	10V
		RESISTORS		
RL01	GD05820160	1/6W	82 Ω	±5%
RL02	GD05100160	1/6W	10 Ω	±5%
RL03	GD05820160	1/6W	82 Ω	±5%
RL04	GD05100160	1/6W	10 Ω	±5%
RL05	GD05820160	1/6W	82 Ω	±5%
RL06	GD05100160	1/6W	10 Ω	±5%
RL07	GD05750160	1/6W	75 Ω	±5%
RL09	GD05820160	1/6W	82 Ω	±5%
RL10	GD05100160	1/6W	10 Ω	±5%
RL11	GD05750160	1/6W	75 Ω	±5%
RL15	GD05750160	1/6W	75 Ω	±5%
RL18	GD05104160	1/6W	100K Ω	±5%
RL19	GD05472160	1/6W	4.7K Ω	±5%
RX51	GD05333160	1/6W	33K Ω	±5%
RX52	GD05221160	1/6W	220 Ω	±5%
RX53	GD05105160	1/6W	1M Ω	±5%
RX54	GD05105160	1/6W	1M Ω	±5% IB
RX55	GD05103160	1/6W	10K Ω	±5%
RX56	GD05103160	1/6W	10K Ω	±5%
RX57	GD05103160	1/6W	10K Ω	±5%
RX59	GD05221160	1/6W	220 Ω	±5%
RX60	GD05152160	1/6W	1.5K Ω	±5%
RX61	GD05682160	1/6W	6.8K Ω	±5%
RX62	GD05102160	1/6W	1K Ω	±5%
RX65	GD05102160	1/6W	1K Ω	±5%
RX66	GD05102160	1/6W	1K Ω	±5%
RX67	GD05104160	1/6W	100K Ω	±5%
RX68	GD05223160	1/6W	22K Ω	±5%
RX69	GD05471160	1/6W	470 Ω	±5%
		INTEGRATED CIRCUITS		
QL01	HC10275030	IC LC7824	Analogue Switch	
QL03	HC10046170	IC MC14576	Dual Video AMP	
QL04	HC12233090	IC NJM2233BD Single Video Switch		
QL05	HC12233090	IC NJM2233BD Single Video Switch		
QX60	HC10328030	IC LC74760-9004	OSD LSI	
QX63	HC10141090	IC NJM2267D	Dual Video AMP	
		TRANSISTORS		
QX61	HT30001000	2SC536SP		
QX62	BA20002000	DIGITAL DTC144ES/UN4213		
QX64	HT30001000	2SC536SP		
		DIODES		
DL01	HD20002000	1SS176		
DL02	HD20002000	1SS176		
DL03	HD20002000	1SS176		
DL04	HD20002000	1SS176		
DL05	HD20002000	1SS176		
DL06	HD20002000	1SS176		

Ref. No.	Part. No.	Description
DL07	HD20002000	1SS176
DL08	HD20002000	1SS176
DL09	HD20002000	1SS176
DL10	HD20002000	1SS176
DX61	HD20002000	1SS176
		COILS
LX51	LC12233800	CHOKE, 22µH
LX52	LC15623800	CHOKE, 5.6µH
		MISCELLANEOUS
JL01	YT02041130	TERMINAL, 4P RCA PIN JACK
JL02	YT02030370	TERMINAL, 3P RCA PIN JACK
JL03	YP06020640	PLUG, 14P
LX53	FM12223010	EMI FILTER
XX51	JX14001260	CRYSTAL, 14.31818MHz
XX52	JX17001260	CRYSTAL, 17.7MHz (IB)

PL54-S-VIDEO P.C. BOARD

		CAPACITORS		
CL52	EJ10601610	ELECT	10µF	16V
CL53	EJ10601610	ELECT	10µF	16V
CL57	EJ10601610	ELECT	10µF	16V
CL58	EJ10601610	ELECT	10µF	16V
CL59	EJ10601610	ELECT	10µF	16V
CL60	EJ10601610	ELECT	10µF	16V
CL67	DD38104010	CERAMIC	0.1µF	+80% -20%
CL71	EJ10601610	ELECT	10µF	16V
CL76	DK18103310	CERAMIC	0.01µF	+80% -20%
CL78	EJ10601610	ELECT	10µF	16V
		RESISTORS		
RL52	GD05100160	1/6W	10 Ω	±5%
RL53	GD05100160	1/6W	10 Ω	±5%
RL57	GD05820160	1/6W	82 Ω	±5%
RL58	GD05820160	1/6W	82 Ω	±5%
RL59	GD05820160	1/6W	82 Ω	±5%
RL60	GD05820160	1/6W	82 Ω	±5%
RL63	GD05750160	1/6W	75 Ω	±5%
RL64	GD05750160	1/6W	75 Ω	±5%
RL67	GD05750160	1/6W	75 Ω	±5%
RL68	GD05750160	1/6W	75 Ω	±5%
RL69	GD05104160	1/6W	100K Ω	±5%
RL70	GD05104160	1/6W	100K Ω	±5%
RL71	GD05104160	1/6W	100K Ω	±5%
RL72	GD05104160	1/6W	100K Ω	±5%
RL75	GD05103160	1/6W	10K Ω	±5%
		INTEGRATED CIRCUITS		
QL55	HC10046170	IC	MC14576	Dual Video AMP
QL56	HC10046170	IC	MC14576	Dual Video AMP
QL58	HC10275030	IC	LC7824	Analogue Switch
		MISCELLANEOUS		
JL52	YT02030350	TERMINAL, 3P		
JL53	YT02011010	TERMINAL, 1P		
JL54	YP06020600	PLUG, 10P		
JL55	YL01010140	TERMINAL, GND		

Ref. No.	Part. No.	Description

PL94-AUX IN P.C. BOARD

		CAPACITORS		
CL91	EJ10601610	ELECT	10µF	16V
CL92	EJ22601610	ELECT	22µF	16V
CL95	DD38104010	CERAMIC	0.1µF	+80% -20%
CL96	DD38104010	CERAMIC	0.1µF	+80% -20%
CL97	DK16221300	CERAMIC 220PF	±10%	(IB) [MOMS]
CL97	DK16102300	CERAMIC 1000PF	±10%	(IB) (AVR70)
CL98	DK16221300	CERAMIC 220PF	±10%	(IB) [MOMS]
CL98	DK16102300	CERAMIC 1000PF	±10%	(IB) (AVR70)
		RESISTORS		
RL91	GD05100160	1/6W	10 Ω	±5%
RL92	GD05750160	1/6W	75 Ω	±5%
RL97	GD05102160	1/6W	1K Ω	±5% (IB) [MOMS]
RL98	GD05102160	1/6W	1K Ω	±5% (IB) [MOMS]
RU06	GD05332160	1/6W	3.3K Ω	±5%
RU08	GD05682160	1/6W	6.8K Ω	±5%
RU10	GD05103160	1/6W	10K Ω	±5%
RU38	GD05151160	1/6W	150 Ω	±5%
		DIODES		
DU46	HI10095320	L.E.D.	LT3K44B	(GRN)
DU47	HI10095320	L.E.D.	LT3K44B	(GRN)
		MISCELLANEOUS		
JL91	YT02030390	TERMINAL, 3P RCA PIN JACK		
JL92	YP06007260	PLUG, 8P		
JU05	YJ06018040	JACK, 4P		
SU07	SP01011280	PUSH SWITCH, TACT		
SU09	SP01011280	PUSH SWITCH, TACT		
SU11	SP01011280	PUSH SWITCH, TACT		
WL01	YB00152110	CONNECTIVE CORD, 1P		

PN54-SPK PROTECT P.C. BOARD (AVR70MK II)

		CAPACITORS		
CN81	EJ10505010	ELECT	1µF	50V
CN82	EJ10505010	ELECT	1µF	50V
CN83	DD38104010	CERAMIC	0.1µF	+80% -20%
		RESISTORS		
RN83	GD05473160	1/6W	47K Ω	±5%
RN84	GD05473160	1/6W	47K Ω	±5%
RN85	GD05104160	1/6W	100K Ω	±5%
RN86	GD05103160	1/6W	10K Ω	±5%
RN87	GD05473160	1/6W	47K Ω	±5%
RN88	GD05473160	1/6W	47K Ω	±5%
		INTEGRATED CIRCUITS		
QN84	HC10042050	IC TA7317P Over Load Protector		
		TRANSISTORS		
QN81	BA10007210	DIGITAL DTA114ES		
QN82	HT322402A0	2SC2240 (GR, BL)		
QN83	HT322402A0	2SC2240 (GR, BL)		
		DIODES		
DN81	HD20002000	1SS176		
DN82	HD20002000	1SS176		

Ref. No.	Part. No.	Description
		MISCELLANEOUS
JN81	YJ06019130	JACK, 13P
JN82	YP06007130	PLUG, 3P

PP04-SURROUND AMP P.C. BOARD

Ref. No.	Part. No.	Description
		CAPACITORS
CP01	DK16102300	CERAMIC 1000PF ±10%
CP02	DK16102300	CERAMIC 1000PF ±10%
CP03	EQ10606390	ELECT 10µF 63V
CP04	EQ10606390	ELECT 10µF 63V
CP05	EA10701610	ELECT 100µF 16V
CP06	EA10701610	ELECT 100µF 16V
CP07	DD11100300	CERAMIC 10PF ±0.5PF IB
CP07	DD10030300	CERAMIC 3PF ±0.25PF BK
CP08	DD11100300	CERAMIC 10PF ±0.5PF IB
CP08	DD10030300	CERAMIC 3PF ±0.25PF BK
CP09	EJ22405010	ELECT 0.22µF 50V
CP10	EJ22405010	ELECT 0.22µF 50V
CP11	EJ22405010	ELECT 0.22µF 50V
CP12	EJ22405010	ELECT 0.22µF 50V
CP13	EA10706310	ELECT 100µF 63V
CP14	EA10606310	ELECT 10µF 63V
CP15	EA10706310	ELECT 100µF 63V
CP16	EA10606310	ELECT 10µF 63V
CP17	EJ22601010	ELECT 22µF 10V
CP21	DD15470300	CERAMIC 47PF ±5% IB
CP22	DD15470300	CERAMIC 47PF ±5% IB
		RESISTORS
RP01	GD05102160	1/6W 1K Ω ±5% IB
RP01	GD05471160	1/6W 470 Ω ±5% BK
RP02	GD05102160	1/6W 1K Ω ±5% IB
RP02	GD05471160	1/6W 470 Ω ±5% BK
RP03	GD05473160	1/6W 47K Ω ±5%
RP04	GD05473160	1/6W 47K Ω ±5%
RP05	GD05563160	1/6W 56K Ω ±5%
RP06	GD05563160	1/6W 56K Ω ±5%
RP07	GD05182160	1/6W 1.8K Ω ±5%
RP08	GD05182160	1/6W 1.8K Ω ±5%
RP09	GD05513160	1/6W 51K Ω ±5%
RP10	GD05513160	1/6W 51K Ω ±5%
RP11	GO10222030	3W 0.22 Ω ±10%
RP12	GO10222030	3W 0.22 Ω ±10%
RP13	GD05221160	1/6W 220 Ω ±5%
RP14	GD05221160	1/6W 220 Ω ±5%
RP15	GD05102160	1/6W 1K Ω ±5%
RP16	GD05102160	1/6W 1K Ω ±5%
RP17	GD05682160	1/6W 6.8K Ω ±5%
RP18	GD05682160	1/6W 6.8K Ω ±5%
RP19	GD05223160	1/6W 22K Ω ±5%
RP20	GD05223160	1/6W 22K Ω ±5%
RP21	GA05100010	1W 10 Ω ±5%
RP22	GA05100010	1W 10 Ω ±5%
RP23	GD05221160	1/6W 220 Ω ±5% IB
RP23	GD05181160	1/6W 180 Ω ±5% BK
RP24	GD05221160	1/6W 220 Ω ±5% IB
RP24	GD05181160	1/6W 180 Ω ±5% BK
RP25	GG05470160	1/6W 47 Ω ±5%
RP26	GG05470160	1/6W 47 Ω ±5%
RP27	GD05682160	1/6W 6.8K Ω ±5%
RP28	GD05333160	1/6W 33K Ω ±5%
RP29	GD05100160	1/6W 100 Ω ±5%
RP99	GG05100140	1/4W 10 Ω ±5%
		INTEGRATED CIRCUITS
QP01	HC10358030	IC STK401-050 AF Power AMP (2ch)

Ref. No.	Part. No.	Description
		TRANSISTORS
QP02	HT322402A0	2SC2240 (GR, BL)
QP03	HT322402A0	2SC2240 (GR, BL)
QP04	HT109702A0	2SA970 (GR, BL)
		DIODES
DP01	HD20027010	HSS81TD
DP02	HD20027010	HSS81TD
		COILS
LP01	ML08010030	AIR, SPK CHOCK
LP02	ML08010030	AIR, SPK CHOCK
		MISCELLANEOUS
JP01	YP06006930	PLUG, 3P
WP03	YB00170870	CONNECTIVE CORD, 1P IB

PS04-AUDIO FUNCTION P.C. BOARD

Ref. No.	Part. No.	Description
		CAPACITORS
CS01	EJ47600610	ELECT 47µF 6.3V
CS02	EJ47600610	ELECT 47µF 6.3V
CS03	EJ10601610	ELECT 10µF 16V
CS04	EJ10601610	ELECT 10µF 16V
CS05	EJ10601610	ELECT 10µF 16V
CS06	EJ10601610	ELECT 10µF 16V
CS09	EA10701610	ELECT 100µF 16V
CS10	EA10701610	ELECT 100µF 16V
CS13	EA10701610	ELECT 100µF 16V
CS14	EA10701610	ELECT 100µF 16V
CS15	EJ47502510	ELECT 4.7µF 25V
CS16	EJ47502510	ELECT 4.7µF 25V
CS17	EJ47502510	ELECT 4.7µF 25V
CS18	EJ47502510	ELECT 4.7µF 25V
CS19	DD38104010	CERAMIC 0.1µF +80% -20%
CS21	DD38104010	CERAMIC 0.1µF +80% -20%
CS22	DD38104010	CERAMIC 0.1µF +80% -20%
CS23	DK16151300	CERAMIC 150PF ±10% IB
CS24	DK16151300	CERAMIC 150PF ±10% IB
CS25	DK16151300	CERAMIC 150PF ±10% IB
CS26	DK16151300	CERAMIC 150PF ±10% IB
CS27	DK16221300	CERAMIC 220PF ±10% IB
CS28	DK16221300	CERAMIC 220PF ±10% IB
CS29	DK16151300	CERAMIC 150PF ±10% IB
CS30	DK16151300	CERAMIC 150PF ±10% IB
CS31	DK16221300	CERAMIC 220PF ±10% IB
CS32	DK16221300	CERAMIC 220PF ±10% IB
CS33	DK16221300	CERAMIC 220PF ±10% IB
CS34	DK16221300	CERAMIC 220PF ±10% IB
CS35	DK16221300	CERAMIC 220PF ±10% IB
CS36	DK16221300	CERAMIC 220PF ±10% IB
CS37	DK16221300	CERAMIC 220PF ±10% IB
CS38	DK16221300	CERAMIC 220PF ±10% IB
		RESISTORS
RS01	GD05473160	1/6W 47K Ω ±5%
RS02	GD05473160	1/6W 47K Ω ±5%
RS03	GD05473160	1/6W 47K Ω ±5%
RS04	GD05473160	1/6W 47K Ω ±5%
RS05	GD05473160	1/6W 47K Ω ±5%
RS06	GD05473160	1/6W 47K Ω ±5%
RS07	GD05102160	1/6W 1K Ω ±5%
RS08	GD05102160	1/6W 1K Ω ±5%
RS09	GD05102160	1/6W 1K Ω ±5%
RS10	GD05102160	1/6W 1K Ω ±5%
RS11	GD05102160	1/6W 1K Ω ±5%
RS12	GD05102160	1/6W 1K Ω ±5%

Ref. No.	Part. No.	Description		
RS13	GD05222160	1/6W	2.2K Ω	±5%
RS14	GD05222160	1/6W	2.2K Ω	±5%
RS15	GD05473160	1/6W	47K Ω	±5%
RS16	GD05473160	1/6W	47K Ω	±5%
RS17	GD05473160	1/6W	47K Ω	±5%
RS18	GD05473160	1/6W	47K Ω	±5%
RS21	GD05102160	1/6W	1K Ω	±5%
RS22	GD05102160	1/6W	1K Ω	±5%
RS27	GD05102160	1/6W	1K Ω	±5%
RS28	GD05102160	1/6W	1K Ω	±5%
RS29	GD05104160	1/6W	100K Ω	±5%
RS30	GD05104160	1/6W	100K Ω	±5%
RS31	GD05104160	1/6W	100K Ω	±5%
RS32	GD05104160	1/6W	100K Ω	±5%
RS33	GD05104160	1/6W	100K Ω	±5%
RS41	GD05561160	1/6W	560 Ω	±5%
RS42	GD05561160	1/6W	560 Ω	±5%
		INTEGRATED CIRCUIT		
QS01	HC10008090	IC	NJM4558DD	Dual OP AMP
QS02	HC10008090	IC	NJM4558DD	Dual OP AMP
QS03	HC10008090	IC	NJM4558DD	Dual OP AMP
QS11	HC10308030	IC	LC78211	Analoge Switch
QS13	HC10008090	IC	NJM4558DD	Dual OP AMP
		TRANSISTORS		
QS07	HT421442A0	2SD2144S (U, V)		
QS08	HT421442A0	2SD2144S (U, V)		
QS09	BA20001000	DIGITAL	DTC114ES	
QS10	BA10001000	DIGITAL	DTA114ES	
		MISCELLANEOUS		
JS01	YT02060460	TERMINAL, 6P RCA PIN JACK		
JS02	YT02040940	TERMINAL, 4P RCA PIN JACK		
JS03	YJ06030570	JACK, 16P		
JS04	YL01010140	TERMINAL, GND		

PS54-V-AUDIO FUNCTION P.C. BOARD

		CAPACITORS		
CG51	EJ47502510	ELECT	4.7μF	25V
CG52	EJ47502510	ELECT	4.7μF	25V
CG55	EJ47502510	ELECT	4.7μF	25V
CG56	EJ47502510	ELECT	4.7μF	25V
CG57	EJ47502510	ELECT	4.7μF	25V
CG58	EJ47502510	ELECT	4.7μF	25V
CG59	EJ47502510	ELECT	4.7μF	25V
CG60	EJ47502510	ELECT	4.7μF	25V
CG61	DK16101300	CERAMIC	100PF	±10% IB
CG62	DK16101300	CERAMIC	100PF	±10% IB
CG63	EJ47502510	ELECT	4.7μF	25V
CG64	EJ47502510	ELECT	4.7μF	25V
CS51	EJ10601610	ELECT	10μF	16V
CS52	EJ10601610	ELECT	10μF	16V
CS53	EJ10601610	ELECT	10μF	16V
CS54	EJ10601610	ELECT	10μF	16V
CS55	EJ10601610	ELECT	10μF	16V
CS56	EJ10601610	ELECT	10μF	16V
CS57	EJ10601610	ELECT	10μF	16V
CS58	EJ10601610	ELECT	10μF	16V
CS61	DD38104010	CERAMIC	0.1μF	+80% -20%
CS63	EA10701610	ELECT	100μF	16V
CS64	EA10701610	ELECT	100μF	16V
CS65	EA10701610	ELECT	100μF	16V
CS66	EA10701610	ELECT	100μF	16V
CS68	DD38104010	CERAMIC	0.1μF	+80% -20%
CS69	DD38104010	CERAMIC	0.1μF	+80% -20%

Ref. No.	Part. No.	Description		
CS71	DK16151300	CERAMIC	150PF	±10% IB
CS72	DK16151300	CERAMIC	150PF	±10% IB
CS73	DK16151300	CERAMIC	150PF	±10% IB
CS74	DK16151300	CERAMIC	150PF	±10% IB
CS75	DK16151300	CERAMIC	150PF	±10% IB
CS76	DK16151300	CERAMIC	150PF	±10% IB
CS77	DK16151300	CERAMIC	150PF	±10% IB
CS78	DK16151300	CERAMIC	150PF	±10% IB
CS79	DK16221300	CERAMIC	220PF	±10% IB
CS80	DK16221300	CERAMIC	220PF	±10% IB
CS81	DK16221300	CERAMIC	220PF	±10% IB
CS82	DK16221300	CERAMIC	220PF	±10% IB
CS83	DK16221300	CERAMIC	220PF	±10% IB
CS84	DK16221300	CERAMIC	220PF	±10% IB
CS85	DK16221300	CERAMIC	220PF	±10% IB
CS86	DK16221300	CERAMIC	220PF	±10% IB
CS87	DK16221300	CERAMIC	220PF	±10% IB
CS88	DK16221300	CERAMIC	220PF	±10% IB
CS89	DK16221300	CERAMIC	220PF	±10% IB
CS90	DK16221300	CERAMIC	220PF	±10% IB
CS93	EJ10601610	ELECT	10μF	16V
CS94	EJ10601610	ELECT	10μF	16V
CS95	DK16151300	CERAMIC	150PF	±10% IB
CS96	DK16151300	CERAMIC	150PF	±10% IB
		RESISTORS		
RG51	GD05473160	1/6W	47K Ω	±5%
RG52	GD05473160	1/6W	47K Ω	±5%
RG53	GD05471160	1/6W	470 Ω	±5%
RG54	GD05471160	1/6W	470 Ω	±5%
RG55	GD05473160	1/6W	47K Ω	±5%
RG56	GD05473160	1/6W	47K Ω	±5%
RG57	GD05104160	1/6W	100K Ω	±5%
RG58	GD05104160	1/6W	100K Ω	±5%
RG59	GD05334160	1/6W	330K Ω	±5%
RG60	GD05334160	1/6W	330K Ω	±5%
RG61	GD05152160	1/6W	1.5K Ω	±5%
RG62	GD05152160	1/6W	1.5K Ω	±5%
RG63	GD05472160	1/6W	4.7K Ω	±5%
RG64	GD05472160	1/6W	4.7K Ω	±5%
RG65	GD05331160	1/6W	330 Ω	±5%
RG66	GD05331160	1/6W	330 Ω	±5%
RG67	GD05473160	1/6W	47K Ω	±5%
RG68	GD05473160	1/6W	47K Ω	±5%
RG69	GD05103160	1/6W	10K Ω	±5%
RG70	GD05103160	1/6W	10K Ω	±5%
RG71	GD05471160	1/6W	470 Ω	±5%
RG72	GD05471160	1/6W	470 Ω	±5%
RS51	GD05473160	1/6W	47K Ω	±5%
RS52	GD05473160	1/6W	47K Ω	±5%
RS53	GD05473160	1/6W	47K Ω	±5%
RS54	GD05473160	1/6W	47K Ω	±5%
RS55	GD05473160	1/6W	47K Ω	±5%
RS56	GD05473160	1/6W	47K Ω	±5%
RS57	GD05473160	1/6W	47K Ω	±5%
RS58	GD05473160	1/6W	47K Ω	±5%
RS59	GD05102160	1/6W	1K Ω	±5%
RS60	GD05102160	1/6W	1K Ω	±5%
RS61	GD05102160	1/6W	1K Ω	±5%
RS62	GD05102160	1/6W	1K Ω	±5%
RS63	GD05102160	1/6W	1K Ω	±5%
RS64	GD05102160	1/6W	1K Ω	±5%
RS65	GD05102160	1/6W	1K Ω	±5%
RS66	GD05102160	1/6W	1K Ω	±5%
RS67	GD05473160	1/6W	47K Ω	±5%
RS68	GD05473160	1/6W	47K Ω	±5%
RS69	GD05473160	1/6W	47K Ω	±5%
RS70	GD05473160	1/6W	47K Ω	±5%

Ref. No.	Part. No.	Description
RS71	GD05473160	1/6W 47KΩ ±5%
RS72	GD05473160	1/6W 47KΩ ±5%
RS73	GD05473160	1/6W 47KΩ ±5%
RS74	GD05473160	1/6W 47KΩ ±5%
RS81	GD05102160	1/6W 1KΩ ±5%
RS82	GD05102160	1/6W 1KΩ ±5%
RS83	GD05102160	1/6W 1KΩ ±5%
RS84	GD05102160	1/6W 1KΩ ±5%
RS85	GD05104160	1/6W 100KΩ ±5%
RS93	GD05473160	1/6W 47KΩ ±5%
RS94	GD05473160	1/6W 47KΩ ±5%
		INTEGRATED CIRCUITS
QG55	HC10008090	IC NJM4558DD Dual OP AMP
QG56	HC10008090	IC NJM4558DD Dual OP AMP
QG57	HC10304050	IC TC9213P Electric Volume (2ch)
QS51	HC10008090	IC NJM4558DD Dual OP AMP
QS52	HC10008090	IC NJM4558DD Dual OP AMP
QS53	HC10008090	IC NJM4558DD Dual OP AMP
QS54	HC10008090	IC NJM4558DD Dual OP AMP
QS56	HC10308030	IC LC78211 Analogue Switch
QS91	HC10008090	IC NJM4558DD Dual OP AMP
		TRANSISTORS
QG51	HT421442A0	2SD2144S, U, V
QG52	HT421442A0	2SD2144S, U, V
QG59	HT421442A0	2SD2144S, U, V
QG60	HT421442A0	2SD2144S, U, V
QS59	HT421442A0	2SD2144S, U, V
QS60	HT421442A0	2SD2144S, U, V
QS61	BA10001000	DIGITAL DTA114ES
QS62	BA20001000	DIGITAL DTC114ES
		MISCELLANEOUS
JS51	YT02060460	TERMINAL, 6P RCA PIN JACK
JS52	YT02060460	TERMINAL, 6P RCA PIN JACK
JS54	YJ06030580	JACK, 20P

PU04-FRONT P.C. BOARD

		CAPACITORS
CU01	DA17223110	CERAMIC 0.022μF ±20%
CU02	EJ47601010	ELECT 47μF 10V
CU03	EJ22700610	ELECT 220μF 6.3V
CU04	DA17223110	CERAMIC 0.022μF ±20%
CU05	DA17104110	CERAMIC 0.1μF ±20%
CU07	EX22300530	BIG ELECT 0.22F 5.5V
CU10	DA17223110	CERAMIC 0.022μF ±20%
CU11	DA17223110	CERAMIC 0.022μF ±20%
CU12	DA17223110	CERAMIC 0.022μF ±20%
CU13	DD38104010	CERAMIC 0.1μF +80% -20%
CU14	DK18103310	CERAMIC 0.01μF +80% -20% (1B)
CU15	DK18103310	CERAMIC 0.01μF +80% -20% (1B)
		RESISTORS
RU01	GD05152160	1/6W 1.5KΩ ±5%
RU02	GD05152160	1/6W 1.5KΩ ±5%
RU03	GD05222160	1/6W 2.2KΩ ±5%
RU04	GD05222160	1/6W 2.2KΩ ±5%
RU05	GD05332160	1/6W 3.3KΩ ±5%
RU07	GD05682160	1/6W 6.8KΩ ±5%
RU09	GD05103160	1/6W 10KΩ ±5%
RU11	GD05473160	1/6W 47KΩ ±5%
RU14	GD05103160	1/6W 10KΩ ±5%
RU15	GD05103160	1/6W 10KΩ ±5%
RU16	GD05103160	1/6W 10KΩ ±5%

Ref. No.	Part. No.	Description
RU17	GD05473160	1/6W 47KΩ ±5%
RU18	GD05183160	1/6W 18KΩ ±5%
RU19	GD05103160	1/6W 10KΩ ±5%
RU20	GD05473160	1/6W 47KΩ ±5%
RU22	GD05100160	1/6W 10Ω ±5%
RU23	GD05101160	1/6W 100Ω ±5%
RU24	GD05103160	1/6W 10KΩ ±5%
RU25	GD05221160	1/6W 220Ω ±5%
RU26	GD05103160	1/6W 10KΩ ±5%
RU27	GD05103160	1/6W 10KΩ ±5%
RU28	GD05331160	1/6W 330Ω ±5%
RU29	GD05103160	1/6W 10KΩ ±5%
RU30	GD05103160	1/6W 10KΩ ±5%
RU31	GD05473160	1/6W 47KΩ ±5% (AVR70MKII)
RU32	GD05103160	1/6W 10KΩ ±5% (AVR70MKII)
RU33	GD05473160	1/6W 47KΩ ±5% (AVR70MKII)
RU34	GD05103160	1/6W 10KΩ ±5% (AVR70MKII)
RU36	GD05151160	1/6W 150Ω ±5%
RU37	GD05151160	1/6W 150Ω ±5%
RU39	GD05471160	1/6W 470Ω ±5%
RU40	GD05473160	1/6W 47KΩ ±5%
RU41	GD05472160	1/6W 4.7KΩ ±5%
RU42	GD05472160	1/6W 4.7KΩ ±5%
RU43	GD05182160	1/6W 1.8KΩ ±5%
RU44	GD05182160	1/6W 1.8KΩ ±5%
RU45	GD05473160	1/6W 47KΩ ±5%
RU46	GD05103160	1/6W 10KΩ ±5%
DU39	GD05101160	1/6W 100Ω ±5% (AVR70MKII)
		INTEGRATED CIRCUITS
QU01	HU260JT120	MICROPROCESSOR TMP87CP71F
QU18	HC712500B0	IC 74HC125 Quad Bus Buffer Gates
		TRANSISTORS
QU02	BA10007210	DIGITAL DTA114ES
QU03	HT30001000	2SC536SP
QU04	BA20012210	DIGITAL DTC144ES
QU05	BA20010210	DIGITAL DTC114ES
QU07	HT30001000	2SC536SP
QU08	BA20012210	DIGITAL DTC144ES
QU09	BA20012210	DIGITAL DTC144ES
QU10	BA10010210	DIGITAL DTA144ES
QU11	BA10003210	DIGITAL DTA114TS
QU12	BA10007210	DIGITAL DTA114ES
QU14	BA10010210	DIGITAL DTA144ES
QU15	BA20012210	DIGITAL DTC144ES
QU16	HW10001210	PHOTO UNIT, IR RECIVER
QU17	BA10007210	DIGITAL DTA114ES
QU19	HT30001000	2SC536SP (AVR70MKII)
QU20	HT30001000	2SC536SP (AVR70MKII)
QU21	HT10001000	2SA608SP (AVR70MKII)
		DIODES
DU01	HD20029210	1SS132 (AVR70MKII)
DU01	HD20002000	1SS176 (AVR70)
DU02	HD20029210	1SS132 (AVR70MKII)
DU02	HD20002000	1SS176 (AVR70)
DU03	HD20029210	1SS132 (AVR70MKII)
DU03	HD20002000	1SS176 (AVR70)
DU04	HD20029210	1SS132 (AVR70MKII)
DU04	HD20002000	1SS176 (AVR70)
DU05	HD20002000	1SS176
DU06	HD20002000	1SS176
DU07	HD20002000	1SS176
DU08	HD20002000	1SS176
DU09	HD20002000	1SS176
DU10	HD20002000	1SS176

Ref. No.	Part. No.	Description
DU17	HD20029210	1SS132 (IB)
DU19	HD20002000	1SS176
DU20	HD20002000	1SS176
DU21	HD20002000	1SS176
DU22	HI10099320	L.E.D. GL3ED8
DU23	HD20002000	1SS176
DU24	HD20002000	1SS176
DU25	HD20002000	1SS176
DU26	HD20002000	1SS176
DU27	HD20002000	1SS176
DU28	HD20002000	1SS176
DU29	HI10062320	L.E.D. LT3D8B (RED)
DU30	HI10095320	L.E.D. LT3K44B (GRN)
DU31	HI10095320	L.E.D LT3K44B (GRN)
DU32	HI10095320	L.E.D. LT3K44B (GRN)
DU33	HI10095320	L.E.D. LT3K44B (GRN)
DU34	HI10095320	L.E.D. LT3K44B (GRN)
DU35	HI10095320	L.E.D. LT3K44B (GRN)
DU36	HI10095320	L.E.D. LT3K44B (GRN)
DU37	HI10095320	L.E.D LT3K44B (GRN)
DU38	HI10095320	L.E.D. LT3K44B (GRN)
DU39	HI10095320	L.E.D. LT3K44B (GRN) (AVR70)
DU40	HI10095320	L.E.D. LT3K44B (GRN)
DU41	HI10095320	L.E.D. LT3K44B (GRN)
DU42	HI10095320	L.E.D. LT3K44B (GRN)
DU43	HI10095320	L.E.D LT3K44B (GRN)
DU44	HI10095320	L.E.D. LT3K44B (GRN)
DU45	HI10095320	L.E.D. LT3K44B (GRN)
DU48	HD20002000	1SS176
DU49	HD20002000	1SS176
DU50	HD20002000	1SS176
DU51	HD20002000	1SS176 (AVR70MKⅡ)
DU52	HD20002000	1SS176 (AVR70MKⅡ)
		MISCELLANEOUS
JU01	YJ07011240	JACK, 31P
JU02	YP06007170	PLUG, 7P
JU03	YJ06030640	JACK, 4P
JU04	YP06020550	PLUG, 4P
JU06	YP06006930	PLUG, 3P (AVR70MKⅡ)
SU01	SP01011280	PUSH SWITCH, TACT
SU02	SP01011280	PUSH SWITCH, TACT (IB)
SU03	SP01011280	PUSH SWITCH, TACT
SU04	SP01011280	PUSH SWITCH, TACT (IB)
SU05	SP01011280	PUSH SWITCH, TACT
SU06	SP01011280	PUSH SWITCH, TACT (IB)
SU12	SP01011280	PUSH SWITCH, TACT (AVR70)
SU13	SP01011280	PUSH SWITCH, TACT
SU14	SP01011280	PUSH SWITCH, TACT
SU15	SP01011280	PUSH SWITCH, TACT
SU16	SP01011280	PUSH SWITCH, TACT
SU17	SP01011280	PUSH SWITCH, TACT
SU19	SP01011280	PUSH SWITCH, TACT
SU24	SP01011280	PUSH SWITCH, TACT
SU25	SP01011280	PUSH SWITCH, TACT
SU26	SP01011280	PUSH SWITCH, TACT
SU27	SP01011280	PUSH SWITCH, TACT
SU28	SP01011280	PUSH SWITCH, TACT
SU29	SP01011280	PUSH SWITCH, TACT
SU30	SP01011280	PUSH SWITCH, TACT
SU31	SP01011280	PUSH SWITCH, TACT
SU32	SP01011280	PUSH SWITCH, TACT
SU33	SP01011280	PUSH SWITCH, TACT
SU34	SP01011280	PUSH SWITCH, TACT
VU01	HQ31206060	DISPLAY UNIT, FIP12DM8R
XU01	FQ08004010	CERAMIC RESONATOR CST8,0MHz

Ref. No.	Part. No.	Description
		PU54-MASTER VOL P.C. BOARD
		CAPACITORS
CU51	DA16101110	CERAMIC 100PF ±10%
CU52	DA16101110	CERAMIC 100PF ±10%
		RESISTORS
RU51	GD05104160	1/6W 100KΩ ±5%
RU52	GD05104160	1/6W 100KΩ ±5%
RU53	GD05224160	1/6W 220KΩ ±5%
RU54	GD05224160	1/6W 220KΩ ±5%
RU55	GG05010140	1/6W 1Ω ±5%
RU57	GD05103160	1/6W 10KΩ ±5% (AVR70)
RU58	GD05103160	1/6W 10KΩ ±5% (AVR70)
		TRANSISTORS
QU51	HT30001000	2SC536SP
QU52	HT30001000	2SC536SP
QU53	HT30001000	2SC536SP (AVR70)
QU54	HT30001000	2SC536SP (AVR70)
		MISCELLANEOUS
JU51	YP06020740	PLUG, 4P
SU55	SR02010040	ROTARY SWITCH, MASTER VOL.
		PU94-POWER SW P.C. BOARD (AVR70MKⅡ)
		MISCELLANEOUS
JU91	YP06006930	PLUG, 3P
JU92	YP06006930	PLUG, 3P
SU91	SP02011570	PUSH SWITCH, POWER
		PV04-REMOTE OUT P.C. BOARD
		CAPACITORS
CT02	EJ22601610	ELECT 22μF 16V
CT03	DK18103310	CERAMIC 0.01μF +80% -20% (IB)
CT04	DK18103310	CERAMIC 0.01μF +80% -20% (IB)
CV01	DD38104010	CERAMIC 0.1μF +80% -20%
CV19	EJ10601610	ELECT 10μF 16V
CV20	EJ10601610	ELECT 10μF 16V
CV21	EJ10601610	ELECT 10μF 16V
CV22	EJ10601610	ELECT 10μF 16V
CV31	EJ10601610	ELECT 10μF 16V
CV32	EJ10601610	ELECT 10μF 16V
CV33	EJ10601610	ELECT 10μF 16V
CV34	EJ10601610	ELECT 10μF 16V
CV35	EJ10601610	ELECT 10μF 16V
CV36	EJ10700610	ELECT 100μF 6.3V
CV37	EJ47601610	ELECT 47μF 16V
CV38	EJ47601610	ELECT 47μF 16V
CV49	DK16101300	CERAMIC 100PF ±10% (IB)
CV50	DK16101300	CERAMIC 100PF ±10% (IB)
CV55	DK18103310	CERAMIC 0.01μF +80% -20% (IB)
CV56	DK18103310	CERAMIC 0.01μF +80% -20% (IB)
CV93	DK16101300	CERAMIC 100PF ±10% (IB)
CV94	DK16101300	CERAMIC 100PF ±10% (IB)
CV95	DK16101300	CERAMIC 100PF ±10% (IB)
CV96	DK16101300	CERAMIC 100PF ±10% (IB)
		RESISTORS
RT05	GD05271160	1/6W 270Ω ±5%
RT07	GD05473160	1/6W 47KΩ ±5%
RT20	GD05220160	1/6W 22Ω ±5%

Ref. No.	Part. No.	Description
RV35	GD05103160	1/6W 10KΩ ±5%
RV36	GD05103160	1/6W 10KΩ ±5%
RV37	GD05752160	1/6W 7.5KΩ ±5%
RV38	GD05752160	1/6W 7.5KΩ ±5%
RV39	GD05104160	1/6W 100KΩ ±5%
RV40	GD05104160	1/6W 100KΩ ±5%
RV41	GD05473160	1/6W 47KΩ ±5%
RV42	GD05473160	1/6W 47KΩ ±5%
RV44	GD05473160	1/6W 47KΩ ±5%
RV45	GD05473160	1/6W 47KΩ ±5%
		INTEGRATED CIRCUITS
QV01	HC10262050	IC TC9215P Analogue Switch
QV07	HC10008090	IC NJM4558DD Dual OP AMP
		TRANSISTORS
QT01	HW10006320	PHOTO UNIT PC-817
QT04	BA10007210	DIGITAL DTA114ES
		MISCELLANEOUS
JT03	YJ01004230	JACK, MINI
JV04	YP06020940	PLUG, 12P
JV05	YP06020940	PLUG, 12P
JV06	YJ06030590	JACK, 24P
JV07	YP06020640	PLUG, 14P
JV08	YP06006680	PLUG, 8P
JV09	YL01010140	TERMINAL, GND
JV10	YP06020940	PLUG, 12P
JV11	YL01010140	TERMINAL, GND
JV59	YL01010140	TERMINAL, GND
LV04	FM12223010	EMI FILTER
LV05	FM12223010	EMI FILTER
LV06	FM12223010	EMI FILTER

PW04-H.P P.C. BOARD

		CAPACITORS
CW01	DK18103310	CERAMIC 0.01μF +80% -20% IB
CW02	DK18103310	CERAMIC 0.01μF +80% -20% IB
CW03	DK18103310	CERAMIC 0.01μF +80% -20% IB
		MISCELLANEOUS
JW01	YJ01004240	JACK, PHONE
JW02	YP06010450	PLUG, 5P
WW01	YB00152110	CONNECTIVE CORD, 1P

PY04-CONNECT P.C. BOARD

		CAPACITORS
CS91	EJ10601610	ELECT 10μF 16V
CS92	EJ10601610	ELECT 10μF 16V
CY01	EJ47502510	ELECT 4.7μF 25V BK
CY02	DD38104010	CERAMIC 0.1μF +80% -20%
CY04	DD38104010	CERAMIC 0.1μF +80% -20%
CY06	DD15470300	CERAMIC 47PF ±5%
CY08	DD15470300	CERAMIC 47PF ±5%
CY09	DD15470300	CERAMIC 47PF ±5% IB
CY12	DD15470300	CERAMIC 47PF ±5%
CY14	DD38104010	CERAMIC 0.1μF +80% -20%
CY15	DK18103310	CERAMIC 0.01μF +80% -20% IB
CY96	DK18103310	CERAMIC 0.01μF +80% -20% IB
CY97	DK18103310	CERAMIC 0.01μF +80% -20% IB
CY98	DD15470300	CERAMIC 47PF ±5% IB
CY99	DK18103310	CERAMIC 0.01μF +80% -20% IB

Ref. No.	Part. No.	Description
		RESISTORS
RS91	GD05473160	1/6W 47KΩ ±5%
RS92	GD05473160	1/6W 47KΩ ±5%
RY01	GD05103160	1/6W 10KΩ ±5%
RY02	GD05103160	1/6W 10KΩ ±5%
RY03	GD05103160	1/6W 10KΩ ±5%
RY04	GD05103160	1/6W 10KΩ ±5%
RY05	GD05103160	1/6W 10KΩ ±5%
RY06	GD05103160	1/6W 10KΩ ±5%
RY07	GD05103160	1/6W 10KΩ ±5%
RY08	GD05103160	1/6W 10KΩ ±5%
RY09	GD05103160	1/6W 10KΩ ±5%
RY10	GD05103160	1/6W 10KΩ ±5%
RY11	GD05103160	1/6W 10KΩ ±5%
RY12	GD05103160	1/6W 10KΩ ±5%
RY13	GD05103160	1/6W 10KΩ ±5%
RY14	GD05103160	1/6W 10KΩ ±5%
RY15	GD05103160	1/6W 10KΩ ±5%
RY18	GD05472160	1/6W 4.7KΩ ±5%
RY19	GD05472160	1/6W 4.7KΩ ±5%
RY20	GD05103160	1/6W 10KΩ ±5%
RY21	GD05103160	1/6W 10KΩ ±5%
RY22	GD05103160	1/6W 10KΩ ±5%
RY23	GD05332160	1/6W 3.3KΩ ±5%
RY24	GD05103160	1/6W 10KΩ ±5%
RY25	GD05103160	1/6W 10KΩ ±5%
RY26	GD05103160	1/6W 10KΩ ±5%
RY27	GD05103160	1/6W 10KΩ ±5%
RY28	GD05472160	1/6W 4.7KΩ ±5%
RY29	GD05472160	1/6W 4.7KΩ ±5%
RY30	GD05103160	1/6W 10KΩ ±5%
RY31	GD05103160	1/6W 10KΩ ±5%
RY32	GD05103160	1/6W 10KΩ ±5%
RY33	GD05103160	1/6W 10KΩ ±5%
UY97	GD05102160	1/6W 1KΩ ±5% IB
		INTEGRATED CIRCUITS
QY10	HC10370050	IC TC9173P Port Expander
QY11	HC10250050	IC TC9174P Port Expander
QY12	HC754100B0	IC 74HC541 Octal Buffer/Line Drivers
		TRANSISTORS
QY01	BA10001000	DIGITAL DTA114ES
QY02	BA20002000	DIGITAL DTC144ES
QY03	BA10001000	DIGITAL DTA114ES
QY04	BA20002000	DIGITAL DTC144ES
QY05	BA10001000	DIGITAL DTA114ES
QY06	BA20002000	DIGITAL DTC144ES
QY07	BA10001000	DIGITAL DTA114ES
QY08	BA20002000	DIGITAL DTC144ES
QY13	BA20002000	DIGITAL DTC144ES
		DIODES
DY01	HD20002000	1SS176
DY02	HD20002000	1SS176
DY03	HD20002000	1SS176
DY04	HD20002000	1SS176
DY09	HD20002710	1D3 1A/200V
DY10	HD20002000	1SS176
DY11	HD20002000	1SS176
DY14	HD30361000	ZENER, 3.6V
		MISCELLANEOUS
JY01	YJ06030140	JACK, 14P
JY02	YP06020670	PLUG, 16P

Ref. No.	Part. No.	Description
JY03	YP06020680	PLUG, 20P
JY04	YJ06030140	JACK, 14P
JY05	YJ06030100	JACK, 10P
JY06	YP06020700	PLUG, 30P
JY07	YJ06030140	JACK, 14P
JY08	YP06020690	PLUG, 24P
JY09	YJ07011240	JACK, 31P
JY10	YP06006680	PLUG, 8P
JY11	YP06003830	PLUG, 3P

P104-TUNER P.C. BOARD

CAPACITORS

CA01	CT12000200	TRIM.CAP.	20PF	
CA02	DK18473310	CERAMIC	0.047µF	+80% -20%
CA03	DD15150300	CERAMIC	15PF	±5%
CA04	DF15391550	FILM	390PF	±5%
CA05	DD15470300	CERAMIC	47PF	±5%
CA06	DK18103310	CERAMIC	0.01µF	+80% -20%
CA07	DK18103310	CERAMIC	0.01µF	+80% -20% IB
CA08	CT12000200	TRIMMING	20PF	±1% IB
CA09	DD15150300	CERAMIC	15PF	±5% IB
CA11	DD15680300	CERAMIC	68PF	±5% IB
CA12	DD15151300	CERAMIC	150PF	±5% IB
CA13	DK18103310	CERAMIC	0.01µF	+80% -20% IB
CA14	DK18103310	CERAMIC	0.01µF	+80% -20% IB
CA18	EJ47502510	ELECT	4.7µF	25V
C201	DK18103310	CERAMIC	0.01µF	+80% -20%
C202	DK18103310	CERAMIC	0.01µF	+80% -20%
C203	DK18473310	CERAMIC	0.047µF	+80% -20%
C204	DK18473310	CERAMIC	0.047µF	+80% -20%
C205	EJ10505010	ELECT	1µF	50V
C206	EJ10601610	ELECT	10µF	16V
C207	EA10701610	ELECT	100µF	16V
C208	DK18473310	CERAMIC	0.047µF	+80% -20%
C209	EJ10505010	ELECT	1µF	50V
C210	DK18103310	CERAMIC	0.01µF	+80% -20%
C211	EJ22505010	ELECT	2.2µF	50V
C212	EJ10505010	ELECT	1µF	50V
C213	EJ47405010	ELECT	0.47µF	50V
C214	EA47601610	ELECT	47µF	16V
C215	DK18473310	CERAMIC	0.047µF	+80% -20%
C216	EA10701610	ELECT	100µF	16V
C217	DK16332300	CERAMIC	3300PF	±10% IB
C217	DF15822350	FILM	8200PF	±5% BK
C218	DK18103310	CERAMIC	0.01µF	+80% -20%
C219	EJ10601610	ELECT	10µF	16V
C220	DK16222300	CERAMIC	2200PF	±10% IB
C220	DK16472300	CERAMIC	4700PF	±10% BK
C222	DK16152300	CERAMIC	1500PF	±10%
C223	DK18103310	CERAMIC	0.01µF	+80% -20%
C224	DK18103310	CERAMIC	0.01µF	+80% -20% IB
C225	DK18103310	CERAMIC	0.01µF	+80% -20%
C226	DK18103310	CERAMIC	0.01µF	+80% -20%
C227	DK16272300	CERAMIC	2700PF	±10% BK
C233	DK18103310	CERAMIC	0.01µF	+80% -20%
C234	DK18103310	CERAMIC	0.01µF	+80% -20%
C301	DF15333310	FILM	0.033µF	±5% IB
C301	DF15473310	FILM	0.047µF	±5% BK
C302	DF15333310	FILM	0.033µF	±5% IB
C302	DF15473310	FILM	0.047µF	±5% BK
C303	EJ10601610	ELECT	10µF	16V
C304	EJ10601610	ELECT	10µF	16V
C305	EJ47502510	ELECT	4.7µF	25V IB
C306	EJ47502510	ELECT	4.7µF	25V IB
C307	EJ10601610	ELECT	10µF	16V IB
C308	EJ10601610	ELECT	10µF	16V IB
C311	EJ47502510	ELECT	4.7µF	25V
C312	EJ47502510	ELECT	4.7µF	25V
C313	EJ10601610	ELECT	10µF	16V IB
C314	EA47603510	ELECT	47µF	35V IB
C315	DK16151300	CERAMIC	150PF	±10% IB
C316	DK16151300	CERAMIC	150PF	±10% IB
C317	DK16101300	CERAMIC	100PF	±10% IB
C318	DK16101300	CERAMIC	100PF	±10% IB
C501	DD15470300	CERAMIC	47PF	±5%
C502	DD15470300	CERAMIC	47PF	±5%
C503	EA10700610	ELECT	100µF	6.3V
C504	DK18103310	CERAMIC	0.01µF	+80% -20%
C505	EJ10505010	ELECT	1µF	50V
C506	EJ10405010	ELECT	0.1µF	50V
C507	DK18103310	CERAMIC	0.01µF	+80% -20%
C508	EA10701610	ELECT	100µF	16V
C509	DK16101300	CERAMIC	100PF	±10%
C510	DK16101300	CERAMIC	100PF	±10%
C511	DK18103310	CERAMIC	0.01µF	+80% -20%
C901	EA10700610	ELECT	100µF	6.3V IB
C902	EJ10601610	ELECT	10µF	16V IB
C903	DK16332300	CERAMIC	3300PF	±10% IB
C904	DK16332300	CERAMIC	3300PF	±10% IB
C905	DK18103310	CERAMIC	0.01µF	+80% -20% IB
C906	DK18103310	CERAMIC	0.01µF	+80% -20% IB
C907	EJ10601610	ELECT	10µF	16V IB
C908	EJ10601610	ELECT	10µF	16V IB
C909	EJ47502510	ELECT	4.7µF	25V IB
C910	EJ10601610	ELECT	10µF	16V IB
C911	DK18223310	CERAMIC	0.022µF	+80% -20% IB
C912	DF15333310	FILM	0.033µF	±5% IB
C913	DF15333310	FILM	0.033µF	±5% IB
C914	DF15682350	FILM	0.0068µF	±5% IB
C915	DK18103310	CERAMIC	0.01µF	+80% -20% IB

RESISTORS

RA01	GD05103160	1/6W	10K Ω	±5%
RA02	GD05104160	1/6W	100K Ω	±5%
RA03	GD05103160	1/6W	10K Ω	±5% IB
RA04	GD05154160	1/6W	150K Ω	±5% IB
RA06	GD05104160	1/6W	100K Ω	±5% IB
RA07	GD05103160	1/6W	10K Ω	±5% IB
RA08	GD05154160	1/6W	150K Ω	±5% IB
RA09	GD05222160	1/6W	2.2K Ω	±5% IB
R102	GD05103160	1/6W	10K Ω	±5% IB
R103	GD05103160	1/6W	10K Ω	±5% IB
R201	GD05101160	1/6W	100 Ω	±5% BK
R202	GD05471160	1/6W	470 Ω	±5% IB
R202	GD05391160	1/6W	390 Ω	±5% BK
R203	GD05222160	1/6W	2.2K Ω	±5%
R204	GD05471160	1/6W	470 Ω	±5%
R205	GD05331160	1/6W	330 Ω	±5%
R206	GD05153160	1/6W	15 Ω	±5%
R207	GG05181140	1/4W	180 Ω	±5%
R208	GD05392160	1/6W	3.9K Ω	±5%
R209	GD05104160	1/6W	100K Ω	±5%
R210	GD05332160	1/6W	3.3K Ω	±5%
R213	GD05220160	1/6W	22 Ω	±5%
R214	GD05473160	1/6W	47K Ω	±5%
R215	GD05154160	1/6W	150K Ω	±5% IB
R215	GD05333160	1/6W	33K Ω	±5% BK
R216	GD05103160	1/6W	10K Ω	±5%
R217	GG05181140	1/4W	180 Ω	±5% IB
R217	GG05221140	1/4W	220 Ω	±5% BK
R219	GD05334160	1/6W	330K Ω	±5%
R301	GD05104160	1/6W	100K Ω	±5% IB
R302	GD05104160	1/6W	100K Ω	±5% IB
R303	GD05103160	1/6W	10K Ω	±5% IB

Ref. No.	Part. No.	Description
R304	GD05103160	1/6W 10KΩ ±5% IB
R305	GD05153160	1/6W 15KΩ ±5% IB
R306	GD05153160	1/6W 15KΩ ±5% IB
R307	GD05221160	1/6W 220Ω ±5%
R308	GD05221160	1/6W 220Ω ±5%
R309	GD05473160	1/6W 47KΩ ±5%
R310	GD05473160	1/6W 47KΩ ±5%
R311	GD05473160	1/6W 47KΩ ±5% IB
R312	GD05473160	1/6W 47KΩ ±5% IB
R313	GG05221140	1/4W 220Ω ±5%
R501	GD05102160	1/6W 1KΩ ±5%
R502	GD05332160	1/6W 3.3KΩ ±5%
R503	GD05102160	1/6W 1KΩ ±5%
R504	GD05103160	1/6W 10KΩ ±5%
R506	GD05102160	1/6W 1KΩ ±5%
R507	GD05332160	1/6W 3.3KΩ ±5%
R508	GD05473160	1/6W 47KΩ ±5%
R510	GD05102160	1/6W 1KΩ ±5%
R511	GD05102160	1/6W 1KΩ ±5%
R512	GA05271010	1W 270Ω ±5%
R513	GD05103160	1/6W 10KΩ ±5%
R514	GG05470160	1/6W 47Ω ±5%
R515	GD05683160	1/6W 68KΩ ±5%
R516	GD05473160	1/6W 47KΩ ±5%
R517	GD05473160	1/6W 47KΩ ±5%
R901	GD05333160	1/6W 33KΩ ±5% IB
R902	GD05103160	1/6W 10KΩ ±5% IB
R903	GD05223160	1/6W 22KΩ ±5% IB
R904	GD05102160	1/6W 1KΩ ±5% IB
R905	GD05682160	1/6W 6.8KΩ ±5% IB
R907	GD05102160	1/6W 1KΩ ±5% IB
R908	GD05332160	1/6W 3.3KΩ ±5% IB
R909	GD05103160	1/6W 10KΩ ±5% IB
R910	GA05221010	1W 220Ω ±5% IB
R911	GD05103160	1/6W 10KΩ ±5% IB
		CONTROLS
RA11	RA02230780	TRIM-POTS 22KΩ
R211	RA02230780	TRIM-POTS 22KΩ (B)
R212	RA04720780	TRIM-POTS 4.7KΩ (B)
R218	RA04720780	TRIM-POTS 4.7KΩ (B) IB
R906	RA04720780	TRIM-POTS 4.7KΩ (B) IB
		INTEGRATED CIRCUITS
Q201	HC10342030	IC LA1836 FM/AM IF, MPX IC
Q301	HC10008090	IC NJM4558DD IB Dual OP AMP
Q501	HC10221030	IC LC7218 PLL Frequency Synthesizer
Q901	HC10315030	IC LA2232 IB RDS Demodulater
Q902	HC10333030	IC LC7073 IB RDS Error Corrector
		TRANSISTORS
QA01	HT30001000	2SC536SP IB
QA02	HT30001000	2SC536SP IB
QA03	HT421442A0	2SD2144S (U, V) IB
QA04	BA10002000	DIGITAL DTA144ES IB
QA05	BA10002000	DIGITAL DTA144ES IB
Q202	HT318091P0	2SC1809SP
Q203	BA10007210	DIGITAL DTA114ES
Q204	BA20002000	DIGITAL DTC144ES
Q503	HT30001000	2SC536SP
Q903	HT30001000	2SC536SP IB
		F.E.T.
Q502	HF200300B0	2SK30ATM

Ref. No.	Part. Nó.	Description
		DIODES
DA01	HD40009030	VARICAP SVC342-L
DA02	HD20017210	1SS135 IB
DA03	HD40009030	VARICAP SVC342-L IB
DA04	HD20017210	1SS135 IB
DA05	HD20002000	1SS176
DA06	HD20002000	1SS176
D201	HD20002000	1SS176
D202	HD30681000	ZENER 6.8V
D501	HD30511000	ZENER 5.1V
D901	HD30511000	ZENER 5.1V IB
		COILS
LA01	LA10295170	ANT, MW 280μH
LA02	LO70013010	OSC, MW
LA03	LA10295160	ANT, LW IB
LA04	LO70013020	OSC, LW IB
LA05	LC23960710	CHOKE, 39mH
L201	LI70376010	I.F.T., FM DET
L301	LS10293020	M.P.X., 19.38KHz
L302	LS10293020	M.P.X., 19.38KHz
L501	LC14733800	CHOKE, 47μH
L502	LC14733800	CHOKE, 47μH
L503	LC14733800	CHOKE, 47μH
L504	LC14733800	CHOKE, 47μH
		MISCELLANEOUS
A101	AV01203020	VHF TUNER, FE415-G11 IB
A101	AV01202220	VHF TUNER, FE337-A05 BK
F201	FF11070620	CERAMIC FILTER IB
F201	FF11070610	CERAMIC FILTER BK
F202	FF11070620	CERAMIC FILTER
J101	YT03030020	TERMINAL, ANT IB
J101	YT03030080	TERMINAL, ANT BK
J102	YL01010140	TERMINAL, GND
J301	YP06020640	PLUG, 14P
LA06	FF10045330	CERAMIC FILTER
X201	FQ04563040	CERAMIC VIB.
X501	JX07001260	CRYSTAL, 7.2MHz
X901	FQ04563040	CERAMIC VIB. CSB456F33 IB
X902	FQ04004030	CERAMIC VIB. 4.00MHz IB

P604-THX PRO-LOGIC DSP P.C. BOARD

		CAPACITORS, CHIP
CR01	DK98104200	CERAMIC 0.1μF +80% -20%
CR02	EY10700620	ELECT 100μF 6.3V
CR03	EY10700620	ELECT 100μF 6.3V
CR04	DK98104200	CERAMIC 0.1μF +80% -20%
CR05	DK98104200	CERAMIC 0.1μF +80% -20%
CR06	DK98104200	CERAMIC 0.1μF +80% -20%
CR07	EY10700620	ELECT 100μF 6.3V
CR08	DK96103200	CERAMIC 0.01μF ±10%
CR09	EY10601620	ELECT 10μF 16V
CR10	EY10601620	ELECT 10μF 16V
CR11	DD95101300	CERAMIC 100PF ±5%
CR12	DD95101300	CERAMIC 100PF ±5%
CR13	DK98104200	CERAMIC 0.1μF +80% -20%
CR14	DK98104200	CERAMIC 0.1μF +80% -20%
CR15	DD95331300	CERAMIC 330PF ±5%
CR16	DD95331300	CERAMIC 330PF ±5%
CR17	DD95151300	CERAMIC 150PF ±5%
CR18	DD95151300	CERAMIC 150PF ±5%
CR19	DK98104200	CERAMIC 0.1μF +80% -20%

Ref. No.	Part. No.	Description
CR20	DK98104200	CERAMIC 0.1μF +80% -20%
CR61	DK98104200	CERAMIC 0.1μF +80% -20%
CR62	EY10700620	ELECT 100μF 6.3V
CR63	EY10700620	ELECT 100μF 6.3V
CR64	DK98104200	CERAMIC 0.1μF +80% -20%
CR65	DK98104200	CERAMIC 0.1μF +80% -20%
CR66	DK98104200	CERAMIC 0.1μF +80% -20%
CR67	EY10700620	ELECT 100μF 6.3V
CR68	DK96103200	CERAMIC 0.01μF ±10%
CR69	EY10601620	ELECT 10μF 16V
CR70	EY10601620	ELECT 10μF 16V
CR71	DD95101300	CERAMIC 100PF ±5%
CR72	DD95101300	CERAMIC 100PF ±5%
CR73	DK98104200	CERAMIC 0.1μF +80% -20%
CR74	DK98104200	CERAMIC 0.1μF +80% -20%
CR75	DD95331300	CERAMIC 330PF ±5%
CR76	DD95331300	CERAMIC 330PF ±5%
CR77	DD95151300	CERAMIC 150PF ±5%
CR78	DD95151300	CERAMIC 150PF ±5%
CR79	DK98104200	CERAMIC 0.1μF +80% -20%
CR80	DK98104200	CERAMIC 0.1μF +80% -20%
C601	EY10601620	ELECT 10μF 16V
C602	EY10601620	ELECT 10μF 16V
C603	DD95151300	CERAMIC 150PF ±5%
C604	DD95151300	CERAMIC 150PF ±5%
C605	DD95151300	CERAMIC 150PF ±5%
C606	DD95151300	CERAMIC 150PF ±5%
C609	DK98104200	CERAMIC 0.1μF +80% -20%
C610	DK98104200	CERAMIC 0.1μF +80% -20%
C617	DK98104200	CERAMIC 0.1μF +80% -20%
C618	DK98104200	CERAMIC 0.1μF +80% -20%
C619	DD95331300	CERAMIC 330PF ±5%
C620	DD95331300	CERAMIC 330PF ±5%
C625	EY10700620	ELECT 100μF 6.3V
C627	DK98104200	CERAMIC 0.1μF +80% -20%
C628	EY10700620	ELECT 100μF 6.3V
C629	DK98104200	CERAMIC 0.1μF +80% -20%
C630	EY10700620	ELECT 100μF 6.3V
C631	DK98104200	CERAMIC 0.1μF +80% -20%
C632	DK98104200	CERAMIC 0.1μF +80% -20%
C635	DK96103200	CERAMIC 0.01μF ±10%
C636	DK96103200	CERAMIC 0.01μF ±10%
C641	DK98104200	CERAMIC 0.1μF +80% -20%
C642	DK98104200	CERAMIC 0.1μF +80% -20%
C643	EY10601620	ELECT 10μF 16V
C644	EY10601620	ELECT 10μF 16V
C651	DK98104200	CERAMIC 0.1μF +80% -20%
C652	EY10700620	ELECT 100μF 6.3V
C653	DK98104200	CERAMIC 0.1μF +80% -20%
C654	EY10700620	ELECT 100μF 6.3V
C655	DD91100300	CERAMIC 10PF ±0.5PF
C656	DD95120300	CERAMIC 12PF ±5%
C657	DK98104200	CERAMIC 0.1μF +80% -20%
C658	EY10700620	ELECT 100μF 6.3V
C659	DK98104200	CERAMIC 0.1μF +80% -20%
C660	EY10700620	ELECT 100μF 6.3V
C661	DK98104200	CERAMIC 0.1μF +80% -20%
C667	DK98104200	CERAMIC 0.1μF +80% -20%
C677	DK98104200	CERAMIC 0.1μF +80% -20%

RESISTORS, CHIP

C607	NN05000610	1/16W 0Ω ±5%
C608	NN05000610	1/16W 0Ω ±5%
C611	NN05000610	1/16W 0Ω ±5%
C612	NN05000610	1/16W 0Ω ±5%
RR01	NN05682610	1/16W 6.8KΩ ±5%
RR02	NN05682610	1/16W 6.8KΩ ±5%

Ref. No.	Part. No.	Description
RR03	NN05103610	1/16W 10KΩ ±5%
RR04	NN05103610	1/16W 10KΩ ±5%
RR05	NN05223610	1/16W 22KΩ ±5%
RR06	NN05223610	1/16W 22KΩ ±5%
RR07	NN05223610	1/16W 22KΩ ±5%
RR08	NN05223610	1/16W 22KΩ ±5%
RR09	NN05223610	1/16W 22KΩ ±5%
RR10	NN05223610	1/16W 22KΩ ±5%
RR41	NN05473610	1/16W 47KΩ ±5%
RR42	NN05473610	1/16W 47KΩ ±5%
RR43	NN05103610	1/16W 10KΩ ±5%
RR44	NN05103610	1/16W 10KΩ ±5%
RR45	NN05103610	1/16W 10KΩ ±5%
RR46	NN05103610	1/16W 10KΩ ±5%
RR47	NN05223610	1/16W 22KΩ ±5%
RR48	NN05223610	1/16W 22KΩ ±5%
RR49	NN05223610	1/16W 22KΩ ±5%
RR50	NN05223610	1/16W 22KΩ ±5%
RR71	NN05000610	1/16W 0Ω ±5%
RR72	NN05000610	1/16W 0Ω ±5%
RR73	NN05000610	1/16W 0Ω ±5%
RR74	NN05000610	1/16W 0Ω ±5%
RR75	NN05000610	1/16W 0Ω ±5%
RR76	NN05000610	1/16W 0Ω ±5%
RR78	NN05000610	1/16W 0Ω ±5%
RR79	NN05000610	1/16W 0Ω ±5%
RR83	NN05000610	1/16W 0Ω ±5%
RR84	NN05000610	1/16W 0Ω ±5%
R601	NN05153610	1/16W 15KΩ ±5%
R602	NN05153610	1/16W 15KΩ ±5%
R603	NN05103610	1/16W 10KΩ ±5%
R604	NN05103610	1/16W 10KΩ ±5%
R605	NN05103610	1/16W 10KΩ ±5%
R606	NN05103610	1/16W 10KΩ ±5%
R607	NN05103610	1/16W 10KΩ ±5%
R608	NN05103610	1/16W 10KΩ ±5%
R609	NN05103610	1/16W 10KΩ ±5%
R610	NN05103610	1/16W 10KΩ ±5%
R611	NN05103610	1/16W 10KΩ ±5%
R612	NN05103610	1/16W 10KΩ ±5%
R613	NN05103610	1/16W 10KΩ ±5%
R614	NN05103610	1/16W 10KΩ ±5%
R615	NN05151610	1/16W 150Ω ±5%
R616	NN05151610	1/16W 150Ω ±5%
R617	NN05103610	1/16W 10KΩ ±5%
R618	NN05103610	1/16W 10KΩ ±5%
R619	NN05151610	1/16W 150Ω ±5%
R620	NN05151610	1/16W 150Ω ±5%
R621	NN05103610	1/16W 10KΩ ±5%
R622	NN05000610	1/16W 0Ω ±5%
R661	NN05222610	1/16W 2.2KΩ ±5%
R662	NN05222610	1/16W 2.2KΩ ±5%
R671	NN05472610	1/16W 4.7KΩ ±5%
R672	NN05472610	1/16W 4.7KΩ ±5%
R673	NN05472610	1/16W 4.7KΩ ±5%
R674	NN05472610	1/16W 4.7KΩ ±5%
R698	NN05000610	1/16W 0Ω ±5%
R699	NN05000610	1/16W 0Ω ±5%
L606	NN05000610	1/16W 0Ω ±5%
L607	RI05000180	1/8W 0Ω ±5%

INTEGRATED CIRCUITS

Q601	HC10359030	IC LC83016JE Digital Signal Processor
Q603	HC10338030	IC LC32464PM-80 64kx4bit Dram
Q605	HC10015480	IC AK4320 (DAC) Digital Analogue Converter
Q607	HC10015480	IC AK4320 (DAC) Digital Analogue Converter
Q609	HC10172090	IC NJM2115M Dual OP AMP

Ref. No.	Part. No.	Description
Q610	HC10172090	IC NJM2115M Dual OP AMP
Q611	HC10172090	IC NJM2115M Dual OP AMP
Q612	HC10172090	IC NJM2115M Dual OP AMP
Q613	HC10011090	IC NJM4558M (Y) Dual OP AMP
Q614	HC10011090	IC NJM4558M (Y) Dual OP AMP
Q617	HC10011090	IC NJM4558M (Y) Dual OP AMP
Q618	HC10011090	IC NJM4558M (Y) Dual OP AMP
Q671	HC10017480	IC AK5340 (ADC) Analogue Digital Converter
		TRANSISTOR
Q623	BA20004210	DIGITAL DTC144EK
		MISCELLANEOUS
J601	YJ06031000	JACK, 12P
J602	YJ06031000	JACK, 12P
J603	YJ06031000	JACK, 12P
L601	FM32102010	EMI FILTER
L602	FN31000010	FEI FILTER
L603	FN31000010	FEI FILTER
X671	FZ02255030	CERAMIC RESONATOR 22.5792MHz

P704-MAIN AMP P.C. BOARD

		CAPACITORS
CN03	EA22601610	ELECT 22µF 16V
CN04	EJ33505010	ELECT 3.3µF 50V (IB)
CN04	EJ22505010	ELECT 2.2µF 50V (BK)
CN05	DD38104010	CERAMIC 0.1µF +80% -20%
CN06	EJ47601610	ELECT 47µF 16V
CN07	EJ47601610	ELECT 47µF 16V
CN08	EJ10505010	ELECT 1µF 50V
CN09	EJ10701010	ELECT 100µF 10V
CN10	DD38104010	CERAMIC 0.1µF +80% -20%
CN12	DD38104010	CERAMIC 0.1µF +80% -20%
CN13	DK16101300	CERAMIC 100PF ±10% (IB)
CN14	DK16101300	CERAMIC 100PF ±10% (IB)
CN15	DK18103310	CERAMIC 0.01µF +80% -20% (IB)
CN16	DK18103310	CERAMIC 0.01µF +80% -20% (IB)
C701	OA47601020	ELECT 47µF 10V
C702	OA47601020	ELECT 47µF 10V
C703	DD15680300	CERAMIC 68PF ±5%
C704	DD15680300	CERAMIC 68PF ±5%
C705	DK16331300	CERAMIC 330PF ±10%
C706	DK16331300	CERAMIC 330PF ±10%
C707	EA47700610	ELECT 470µF 6.3V
C708	EA47700610	ELECT 470µF 6.3V
C709	EA10510010	ELECT 1µF 100V
C710	EA10510010	ELECT 1µF 100V
C711	OA10610020	ELECT 10µF 100V
C712	OA10610020	ELECT 10µF 100V
C713	DK16221300	CERAMIC 220PF ±10%
C714	DK16221300	CERAMIC 220PF ±10%
C715	DD15470300	CERAMIC 47PF ±5%
C716	DD15470300	CERAMIC 47PF ±5%
C719	OA47706320	ELECT 470µF 63V
C720	OA47706320	ELECT 470µF 63V
C721	OA47706320	ELECT 470µF 63V
C722	OA47706320	ELECT 470µF 63V
C723	OA10405020	ELECT 0.1µF 50V
C724	OA10405020	ELECT 0.1µF 50V
C725	OA10405020	ELECT 0.1µF 50V
C726	OA10405020	ELECT 0.1µF 50V
C751	OA47601020	ELECT 47µF 10V
C752	DD15680300	CERAMIC 68PF ±5%
C753	DK16331300	CERAMIC 330PF ±10%
C754	EA47700610	ELECT 470µF 6.3V

Ref. No.	Part. No.	Description
C756	OA10610020	ELECT 10µF 100V
C757	DK16221300	CERAMIC 220PF ±10%
C758	DD15470300	CERAMIC 47PF ±5%
C759	EA10510010	ELECT 1µF 100V
C760	OA47706320	ELECT 470µF 63V
C761	OA47706320	ELECT 470µF 63V
C762	EJ10405010	ELECT 0.1µF 50V
C763	EJ10405010	ELECT 0.1µF 50V
⚠C801	DK18103560	CERAMIC 0.01µF +80% -20%
⚠C802	EB82806370	ELECT 8200µF 63V
⚠C803	EB82806370	ELECT 8200µF 63V
⚠C804	DK18103560	CERAMIC 0.01µF +80% -20%
⚠C805	EB47805040	ELECT 4700µF 50V
⚠C806	EB47805040	ELECT 4700µF 50V
C807	DK18103310	CERAMIC 0.01µF +80% -20%
C808	DK18103310	CERAMIC 0.01µF +80% -20%
C809	EA33802510	ELECT 3300µF 25V
C810	EA33802510	ELECT 3300µF 25V
C811	DK18103310	CERAMIC 0.01µF +80% -20%
C812	DK18103310	CERAMIC 0.01µF +80% -20%
C813	EA10701610	ELECT 100µF 16V
C814	EA10701610	ELECT 100µF 16V
C815	DK18103310	CERAMIC 0.01µF +80% -20%
C816	DK18103310	CERAMIC 0.01µF +80% -20%
C817	EA22801610	ELECT 2200µF 16V
C818	EA22801610	ELECT 2200µF 16V
C820	DA17103110	CERAMIC 0.01µF ±20%
C821	EA10701610	ELECT 100µF 16V
C822	EA10701610	ELECT 100µF 16V
C823	EA10701610	ELECT 100µF 16V
C824	DK18103310	CERAMIC 0.01µF +80% -20%
C825	EA10701610	ELECT 100µF 16V
C826	EA10701610	ELECT 100µF 16V
C827	EA10701610	ELECT 100µF 16V
C828	EA10701610	ELECT 100µF 16V
C829	EA10701610	ELECT 100µF 16V
C899	DK18103310	CERAMIC 0.01µF +80% -20% (IB)
		RESISTORS
⚠RN01	GG05471160	1/6W 470 Ω ±5%
⚠RN02	GG05471160	1/6W 470 Ω ±5%
RN03	GD05682160	1/6W 6.8K Ω ±5%
RN04	GD05682160	1/6W 6.8K Ω ±5%
RN05	GD05102160	1/6W 1K Ω ±5%
RN06	GD05102160	1/6W 1K Ω ±5%
RN07	GD05223160	1/6W 22K Ω ±5%
RN08	GD05223160	1/6W 22K Ω ±5%
RN10	GD05682160	1/6W 6.8K Ω ±5%
RN11	GD05473160	1/6W 47K Ω ±5%
RN12	GD05472160	1/6W 4.7K Ω ±5%
RN13	GD05473160	1/6W 47K Ω ±5%
RN14	GD05473160	1/6W 47K Ω ±5%
RN15	GD05104160	1/6W 100K Ω ±5%
RN16	GD05822160	1/6W 8.2K Ω ±5%
RN20	GG05222140	1/6W 2.2K Ω ±5%
RN21	GD05473160	1/6W 47K Ω ±5%
RN22	GD05333160	1/6W 33K Ω ±5%
RN23	GD05683160	1/6W 68K Ω ±5%
RN24	GD05683160	1/6W 68K Ω ±5%
RN25	GD05683160	1/6W 68K Ω ±5%
RN26	GD05683160	1/6W 68K Ω ±5%
⚠RN27	GA05561010	1W 560 Ω ±5%
⚠RN28	GA05561010	1W 560 Ω ±5%
RN30	GD05103160	1/6W 10K Ω ±5%
RN31	GD05103160	1/6W 10K Ω ±5%
RN32	GD05223160	1/6W 22K Ω ±5%
RN33	GD05103160	1/6W 10K Ω ±5%
RN35	GD05100160	1/6W 10 Ω ±5%
RN36	GG05222160	1/6W 2.2K Ω ±5%
RN41	GD05100160	1/6W 10 Ω ±5%

Ref. No.	Part. No.		Description	
RN42	GD05100160	1/6W	10 Ω ±5%	
▲RN43	GG05101160	1/6W	100 Ω ±5%	
▲RN44	GG05101160	1/6W	100 Ω ±5%	
▲RN45	GG05101160	1/6W	100 Ω ±5%	
▲RN46	GG05101160	1/6W	100 Ω ±5%	
▲RN51	GG05471160	1/6W	470 Ω ±5%	
RN52	GD05682160	1/6W	6.8K Ω ±5%	
RN53	GD05102160	1/6W	1K Ω ±5%	
RN54	GD05223160	1/6W	22K Ω ±5%	
RN55	GD05683160	1/6W	68K Ω ±5%	
RN56	GD05100160	1/6W	10 Ω ±5%	
▲RN57	GG05101160	1/6W	100 Ω ±5%	
▲RN58	GG05101160	1/6W	100 Ω ±5%	
RN61	GD05472160	1/6W	4.7K Ω ±5%	
RN62	GD05472160	1/6W	4.7K Ω ±5%	
R701	GD05333160	1/6W	33K Ω ±5%	
R702	GD05333160	1/6W	33K Ω ±5%	
R703	GD05331160	1/6W	330 Ω ±5%	
R704	GD05331160	1/6W	330 Ω ±5%	
R705	GD05221160	1/6W	220 Ω ±5%	
R706	GD05221160	1/6W	220 Ω ±5%	
R707	GG05152160	1/6W	1.5K Ω ±5%	
R708	GG05152160	1/6W	1.5K Ω ±5%	
R709	GD05561160	1/6W	560 Ω ±5%	
R710	GD05561160	1/6W	560 Ω ±5%	
R711	GD05151160	1/6W	150 Ω ±5%	
R712	GD05151160	1/6W	150 Ω ±5%	
R713	GD05152160	1/6W	1.5K Ω ±5%	
R714	GD05152160	1/6W	1.5K Ω ±5%	
R715	GD05271160	1/6W	270 Ω ±5%	
R716	GD05271160	1/6W	270 Ω ±5%	
R717	GD05224160	1/6W	220K Ω ±5%	
R718	GD05224160	1/6W	220K Ω ±5%	
R719	GD05473160	1/6W	47K Ω ±5%	
R720	GD05473160	1/6W	47K Ω ±5%	
▲R721	GG05561160	1/6W	560 Ω ±5%	IB
R721	GD05561160	1/6W	560 Ω ±5%	BK
▲R722	GG05561160	1/6W	560 Ω ±5%	IB
R722	GD05561160	1/6W	560 Ω ±5%	BK
▲R725	GG05561160	1/6W	560 Ω ±5%	
▲R726	GG05561160	1/6W	560 Ω ±5%	
R727	GD05122160	1/6W	1.2K Ω ±5%	
R728	GD05122160	1/6W	1.2K Ω ±5%	
▲R729	GG05561160	1/6W	560 Ω ±5%	
▲R730	GG05561160	1/6W	560 Ω ±5%	
▲R731	GG05561160	1/6W	560 Ω ±5%	
▲R732	GG05561160	1/6W	560 Ω ±5%	
R733	GD05104160	1/6W	100K Ω ±5%	
R734	GD05104160	1/6W	100K Ω ±5%	
▲R737	GG05560160	1/6W	56 Ω ±5%	
▲R738	GG05560160	1/6W	56 Ω ±5%	
▲R739	GG05560160	1/6W	56 Ω ±5%	
▲R740	GG05560160	1/6W	56 Ω ±5%	
R741	GD05682160	1/6W	6.8K Ω ±5%	
R742	GD05682160	1/6W	6.8K Ω ±5%	
R745	GD05272160	1/6W	2.7K Ω ±5%	
R746	GD05272160	1/6W	2.7K Ω ±5%	
R747	GD05333160	1/6W	33K Ω ±5%	
R748	GD05333160	1/6W	33K Ω ±5%	
▲R749	GG05022160	1/6W	2.2 Ω ±5%	
▲R750	GG05022160	1/6W	2.2 Ω ±5%	
▲R751	GG05022160	1/6W	2.2 Ω ±5%	
▲R752	GG05022160	1/6W	2.2 Ω ±5%	
R753	GD05151160	1/6W	150 Ω ±5%	IB
▲R753	GG05181140	1/4W	180 Ω ±5%	BK
R754	GD05151160	1/6W	150 Ω ±5%	IB
▲R754	GG05181140	1/4W	180 Ω ±5%	BK
R755	GG05100140	1/4W	10 Ω ±5%	
▲R756	GG05100140	1/4W	10 Ω ±5%	

Ref. No.	Part. No.		Description	
▲R757	GG05100140	1/4W	10 Ω ±5%	
▲R758	GG05100140	1/4W	10 Ω ±5%	
▲R759	BZ10182020	0.18 Ω 5W x 2 ARRAY		
▲R760	BZ10182020	0.18 Ω 5W x 2 ARRAY		
▲R761	GG05100160	1/6W	10 Ω ±5%	
▲R762	GG05100160	1/6W	10 Ω ±5%	
▲R763	GA05100010	1W	10 Ω ±5%	
▲R764	GA05100010	1W	10 Ω ±5%	
R765	GD05333160	1/6W	33K Ω ±5%	
R766	GD05331160	1/6W	330 Ω ±5%	
R767	GD05221160	1/6W	220 Ω ±5%	
R768	GD05152160	1/6W	1.5K Ω ±5%	
R769	GD05561160	1/6W	560 Ω ±5%	
R770	GD05151160	1/6W	150 Ω ±5%	
R771	GD05152160	1/6W	1.5K Ω ±5%	
R772	GD05271160	1/6W	270 Ω ±5%	
R773	GD05224160	1/6W	220K Ω ±5%	
R774	GD05473160	1/6W	47K Ω ±5%	
▲R775	GG05561160	1/6W	560 Ω ±5%	IB
R775	GD05561160	1/6W	560 Ω ±5%	BK
▲R777	GG05561160	1/6W	560 Ω ±5%	
R778	GD05122160	1/6W	1.2K Ω ±5%	
▲R779	GG05561160	1/6W	560 Ω ±5%	IB
▲R780	GG05561160	1/6W	560 Ω ±5%	
R781	GD05104160	1/6W	100K Ω ±5%	
▲R783	GG05560160	1/6W	56 Ω ±5%	
▲R784	GG05560160	1/6W	56 Ω ±5%	
R785	GD05682160	1/6W	6.8K Ω ±5%	
R787	GD05272160	1/6W	2.7K Ω ±5%	
R788	GD05333160	1/6W	33K Ω ±5%	
▲R789	GG05022160	1/6W	2.2 Ω ±5%	
▲R790	GG05022160	1/6W	2.2 Ω ±5%	
▲R791	GG05151160	1/6W	150 Ω ±5%	IB
▲R791	GG05181140	1/6W	180 Ω ±5%	BK
▲R792	GG05100140	1/4W	10 Ω ±5%	
▲R793	GG05100140	1/4W	10 Ω ±5%	
▲R794	BZ10182020	0.18 Ω 5W x 2 ARRAY		
▲R795	GG05100160	1/6W	10 Ω ±5%	
▲R796	GA05100010	1W	10 Ω ±5%	
R797	GD05102160	1/6W	1K Ω ±5%	IB
R797	GD05222160	1/6W	2.2K Ω ±5%	BK
R798	GD05102160	1/6W	1K Ω ±5%	IB
R798	GD05222160	1/6W	2.2K Ω ±5%	BK
R799	GD05102160	1/6W	1K Ω ±5%	IB
R799	GD05222160	1/6W	2.2K Ω ±5%	BK
▲R801	GG05010140	1/4W	1 Ω ±5%	BK
▲R802	GG05010140	1/4W	1 Ω ±5%	BK
▲R803	GG05010140	1/4W	1 Ω ±5%	BK
▲R804	GG05010140	1/4W	1 Ω ±5%	BK
▲U700	GG05010140	1/4W	1 Ω ±5%	
▲U701	GG05010140	1/4W	1 Ω ±5%	IB
▲U702	GG05010140	1/4W	1 Ω ±5%	IB
▲U703	GG05010140	1/4W	1 Ω ±5%	IB

CONTROLS

RN63	RA01010780	TRIM-POTS	100 Ω
RN64	RA01010780	TRIM-POTS	100 Ω
RN70	RA01010780	TRIM-POTS	100 Ω
R743	RA02220780	TRIM-POTS	2.2K Ω
R744	RA02220780	TRIM-POTS	2.2K Ω
R786	RA02220780	TRIM-POTS	2.2K Ω

INTEGRATED CIRCUITS

QN04	HC10042050	IC	TA7317P (AVR70) Over Load Protector
▲Q801	HC38915090	IC	NJM7815FA Voltage Regulator
▲Q802	HC39915090	IC	NJM7915FA Voltage Regulator
▲Q803	HC38905090	IC	NJM7805FA Voltage Regulator

Ref. No.	Part. No.	Description
▲Q804	HC39905090	IC NJM7905FA Voltage Regulator
▲Q805	HC38905090	IC NJM7805FA Voltage Regulator
		TRANSISTORS
▲QN01	HT322402A0	2SC2240 (GR, BL)
▲QN02	HT322402A0	2SC2240 (GR, BL)
QN03	HT109702A0	2SA970 (GR, BL)
QN07	HT10001000	2SA608SP
QN08	HT316272B0	2SC1627 (O, Y)
▲QN51	HT322402A0	2SC2240 (GR, BL)
Q701	HT109702A0	2SA970 (GR, BL)
Q702	HT109702A0	2SA970 (GR, BL)
Q703	HT109702A0	2SA970 (GR, BL)
Q704	HT109702A0	2SA970 (GR, BL)
Q705	HT109702A0	2SA970 (GR, BL)
Q706	HT109702A0	2SA970 (GR, BL)
Q707	HT322402A0	2SC2240 (GR, BL)
Q708	HT322402A0	2SC2240 (GR, BL)
Q709	HT322402A0	2SC2240 (GR, BL)
Q710	HT322402A0	2SC2240 (GR, BL)
Q711	HT111452A0	2SA1145 (O, Y)
Q712	HT111452A0	2SA1145 (O, Y)
Q713	HT327052A0	2SC2705 (O, Y)
Q714	HT327052A0	2SC2705 (O, Y)
Q715	HT334191Y0	2SC3419Y
Q716	HT334191Y0	2SC3419Y
▲Q717	HT420331E0	2SD2033 (E)
▲Q718	HT420331E0	2SD2033 (E)
▲Q719	HT213531E0	2SB1353 (E)
▲Q720	HT213531E0	2SB1353 (E)
▲Q721	HT331822A0	2SC3182 (R, O)
▲Q722	HT331822A0	2SC3182 (R, O)
▲Q723	HT112652A0	2SA1265 (R, O)
▲Q724	HT112652A0	2SA1265 (R, O)
Q751	HT109702A0	2SA970 (GR, BL)
Q752	HT109702A0	2SA970 (GR, BL)
Q753	HT109702A0	2SA970 (GR, BL)
Q754	HT322402A0	2SC2240 (GR, BL)
Q755	HT322402A0	2SC2240 (GR, BL)
Q756	HT111452A0	2SA1145 (O, Y)
Q757	HT327052A0	2SC2705 (O, Y)
Q758	HT334191Y0	2SC3419Y
▲Q759	HT420331E0	2SD2033 (E)
▲Q760	HT213531E0	2SB1353 (E)
▲Q761	HT331822A0	2SC3182 (R, O)
▲Q762	HT112652A0	2SA1265 (R, O)
		DIODES
DN01	HD20002710	1D3 1A/200V
DN02	HD20002710	1D3 1A/200V
DN03	HD20002710	1D3 1A/200V
DN04	HD20002710	1D3 1A/200V
DN07	HD20027010	HSS81TD
DN08	HD20027010	HSS81TD
DN09	HD20002710	1D3 1A/200V
DN51	HD20002710	1D3 1A/200V
DN52	HD20027010	HSS81TD
D701	HD20002000	1SS176
D702	HD20002000	1SS176
D703	HD20002000	1SS176
D704	HD20002000	1SS176
D705	HD20027010	HSS81TD
D706	HD20027010	HSS81TD
D707	HD20027010	HSS81TD
D708	HD20027010	HSS81TD
D709	HD30751000	ZENER, 7.5V
D710	HD30751000	ZENER, 7.5V
C711	HD30751000	ZENER, 7.5V
C712	HD30751000	ZENER, 7.5V

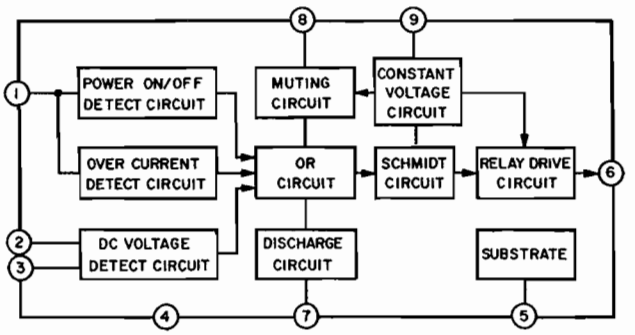
Ref. No.	Part. No.	Description
D751	HD20002000	1SS176
D752	HD20002000	1SS176
D753	HD20027010	HSS81TD
D754	HD20027010	HSS81TD
D755	HD30751000	ZENER, 7.5V
D756	HD30751000	ZENER, 7.5V
▲D801	HE20012290	D5FB20
▲D802	HE20015290	S4VB20
▲D803	HE20011290	S2VB20
▲D804	HE20011290	S2VB20
D805	HD20002710	1D3 1A/200V
D806	HD20002710	1D3 1A/200V
D807	HD20002710	1D3 1A/200V
D808	HD20002710	1D3 1A/200V
D809	HD20002710	1D3 1A/200V
		COILS
L701	ML08010030	AIR, SPK CHOCK
L702	ML08010030	AIR, SPK CHOCK
L751	ML08010030	AIR, SPK CHOCK
		MISCELLANEOUS
▲F802	FS10400850	FUSE S506 T4A 250V (IB)
▲F802	FS10500350	FUSE FBT 5A 125V (BK)
▲F803	FS10400850	FUSE S506 T4A 250V (IB)
▲F803	FS10500350	FUSE FBT 5A 125V (BK)
JN01	YP06013130	PLUG, 13P (AVR70Ⅱ)
J701	YP06004570	PLUG, 13P
J702	YP06019700	PLUG, 20P
J706	YP06010450	PLUG, 5P
J707	YL01010240	TERMINAL, GND
J708	YL01010240	TERMINAL, GND
J709	YL01010240	TERMINAL, GND
J710	YL01010240	TERMINAL, GND
J711	YL01010240	TERMINAL, GND
J712	YL01010240	TERMINAL, GND
J801	YP06010950	PLUG, 5P
J802	YP06003690	PLUG, 6P
J803	YP06010950	PLUG, 5P
J806	YJ08000590	JACK, FUSE CLIP
J807	YJ08000580	JACK, FUSE CLIP
J808	YJ08000590	JACK, FUSE CLIP
J809	YJ08000580	JACK, FUSE CLIP
LN01	LY20180020	RELAY
LN02	LY20180020	RELAY
LN03	LY20240410	RELAY (AVR70MKⅡ)
LN03	LY20240450	RELAY (AVR70)
LN51	LY20180020	RELAY

P754-SPK TERMINAL P.C. BOARD

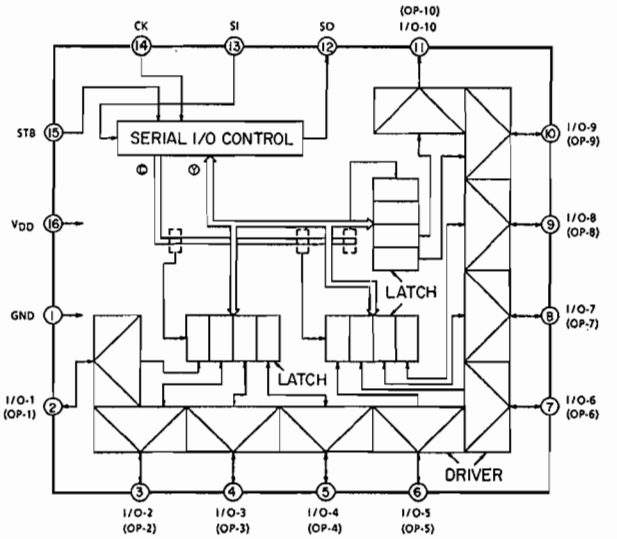
		CAPACITORS
C727	DK18103310	CERAMIC 0.01μF +80% -20% (IB)
C728	DK18103310	CERAMIC 0.01μF +80% -20% (IB)
C729	DK18103310	CERAMIC 0.01μF +80% -20% (IB)
C730	DK18103310	CERAMIC 0.01μF +80% -20% (IB)
C731	DK18223310	CERAMIC0.022μF +80% -20% (IB)
C732	DK18223310	CERAMIC0.022μF +80% -20% (IB)
C733	DK18103310	CERAMIC 0.01μF +80% -20% (IB)
C734	DK18103310	CERAMIC 0.01μF +80% -20% (IB)
C764	DK18103310	CERAMIC 0.01μF +80% -20% (IB)
C765	DK18103310	CERAMIC 0.01μF +80% -20% (IB)
		MISCELLANEOUS
J703	YJ06020800	JACK, 20P
J704	YT01080120	TERMINAL, SPK 8P
J751	YT01020220	TERMINAL, SPK2P

IC BLOCK DIAGRAMS

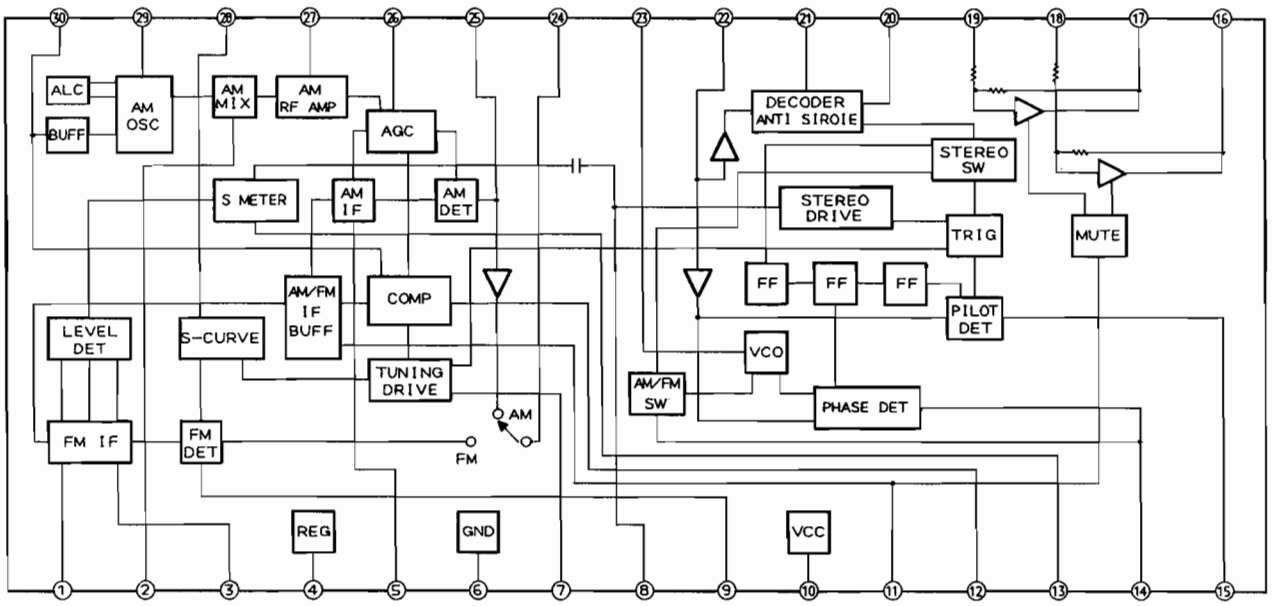
QN04 : TA7317P
OVER LOAD PROTECTOR



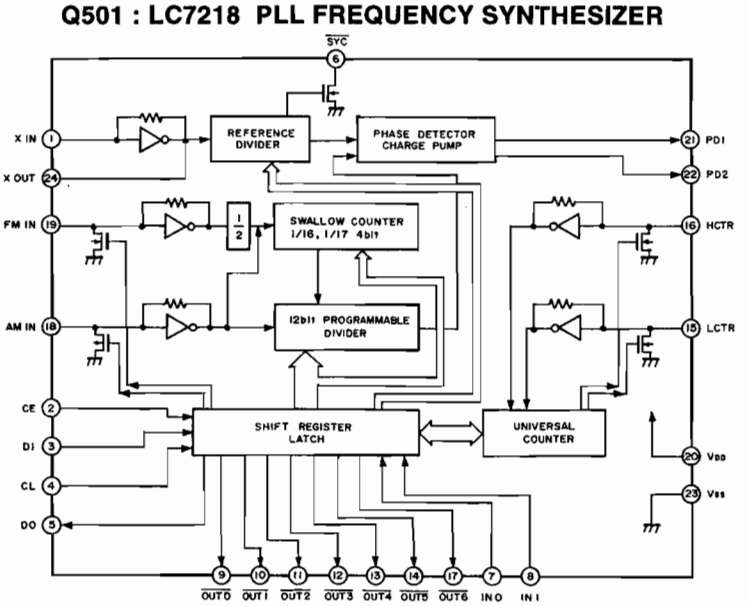
QY10 : TC9173 QY11 : TC9174
PORT EXPANDER



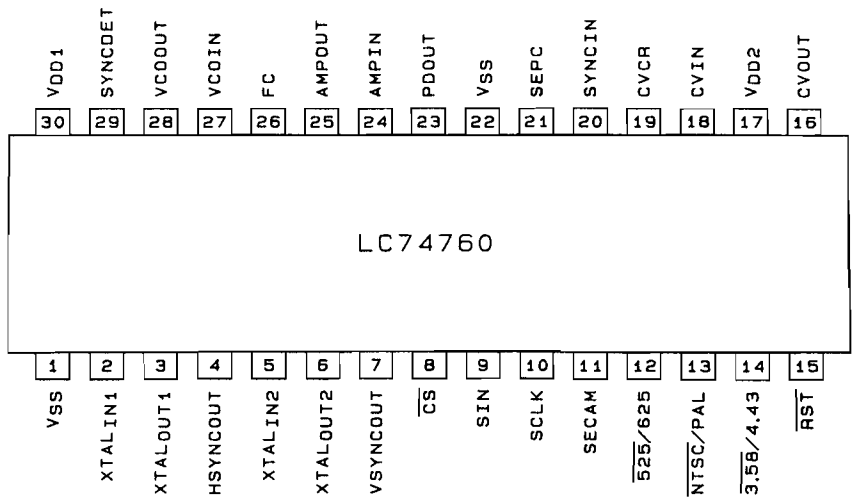
Q201 : LA1836
FM / AM IF, MPX IC

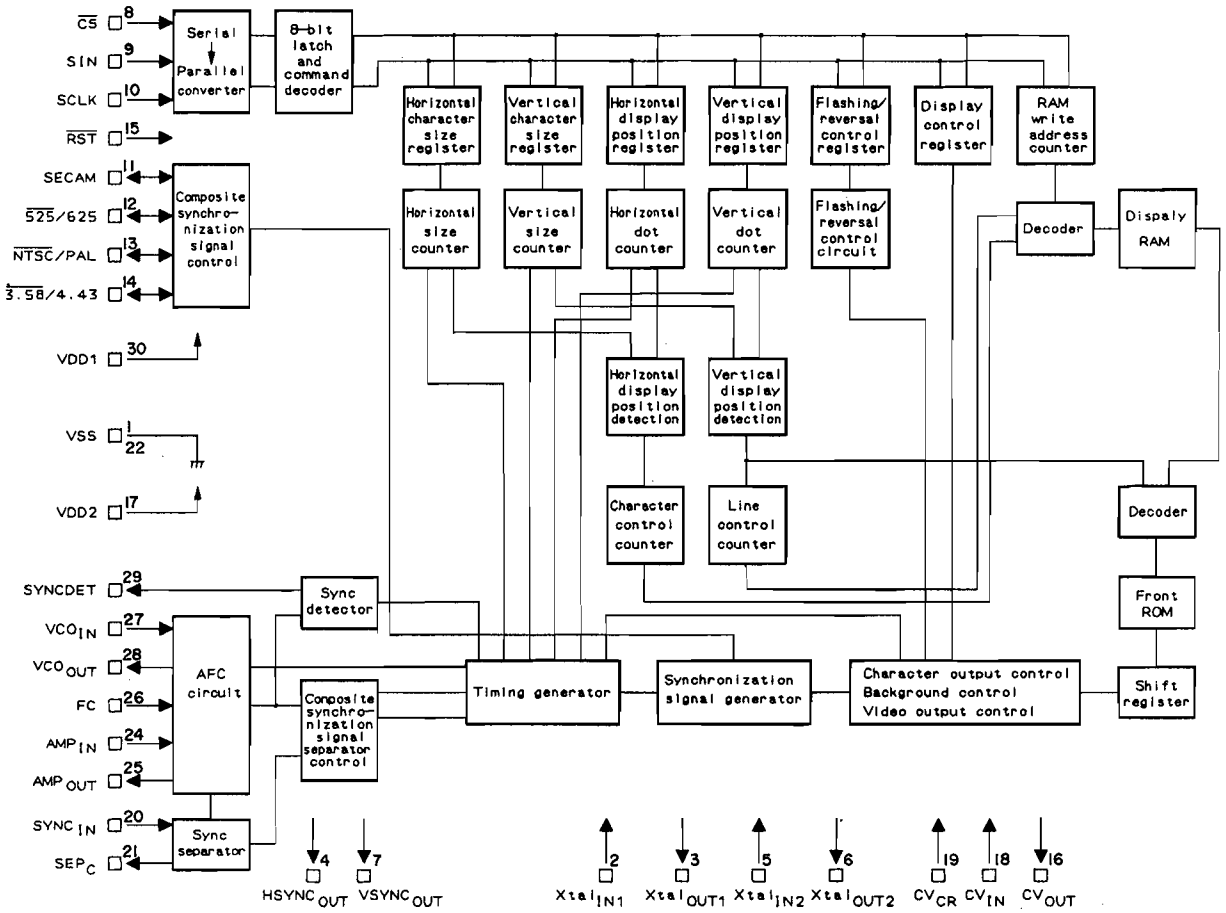


Q501 : LC7218 PLL FREQUENCY SYNTHESIZER

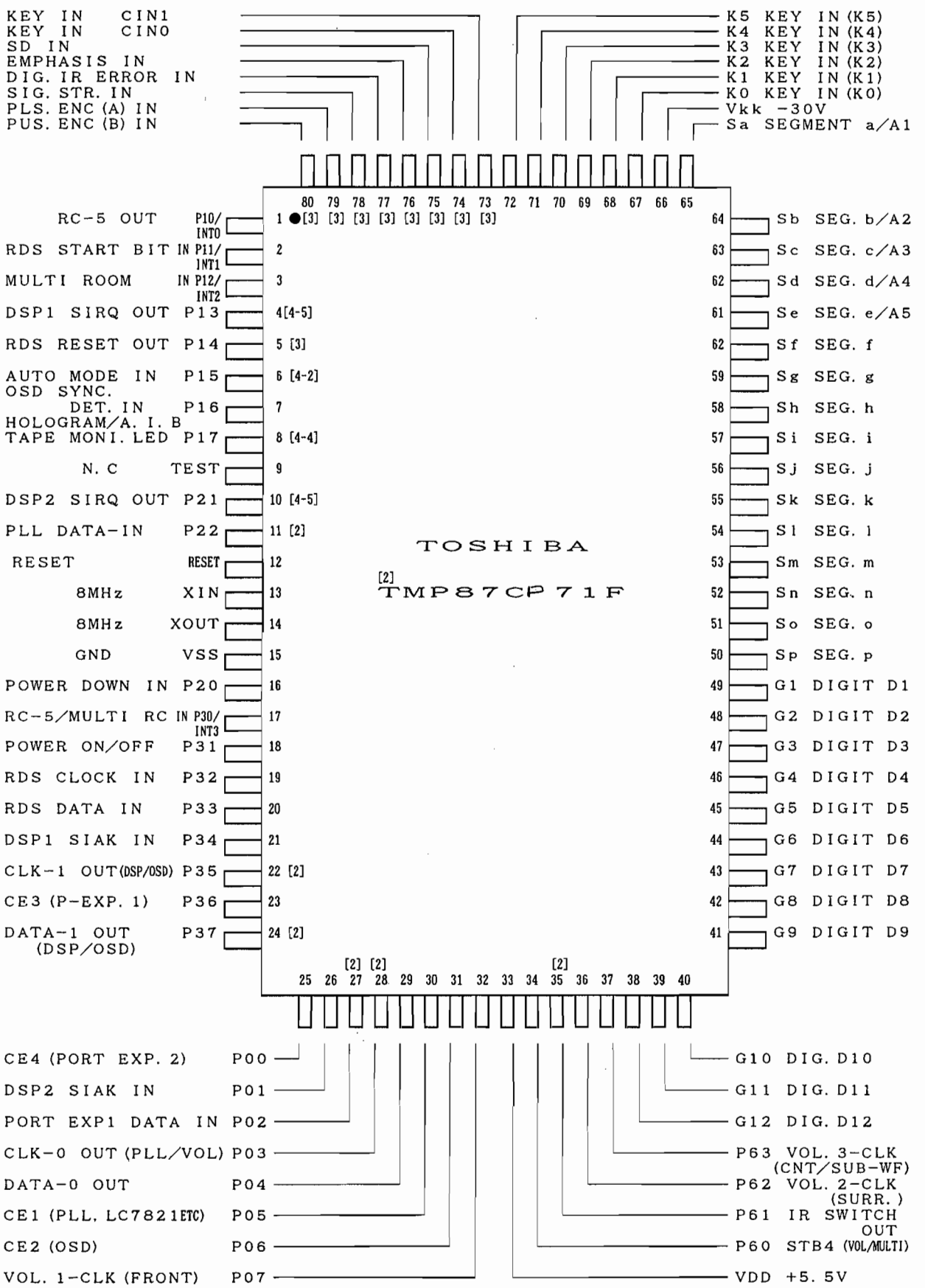


QX60 : LC74760
OSD LSI

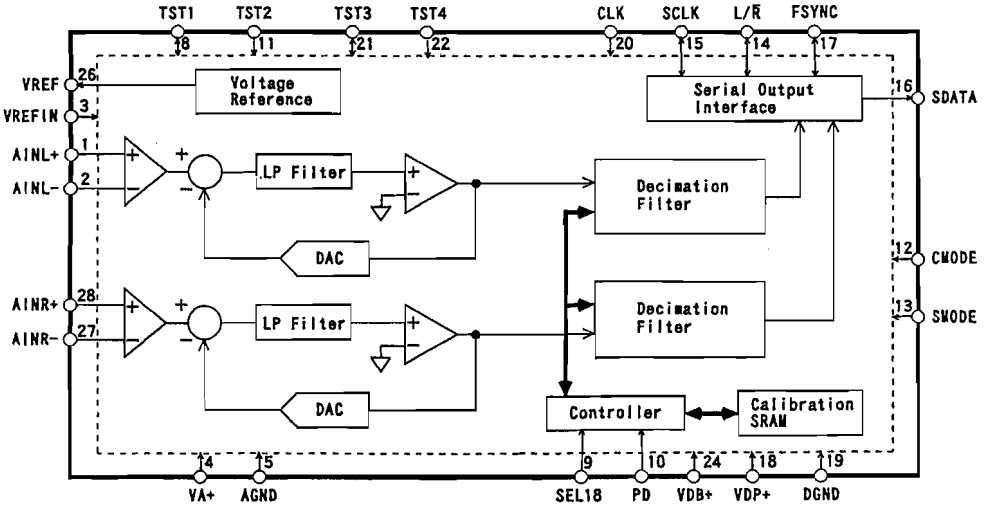




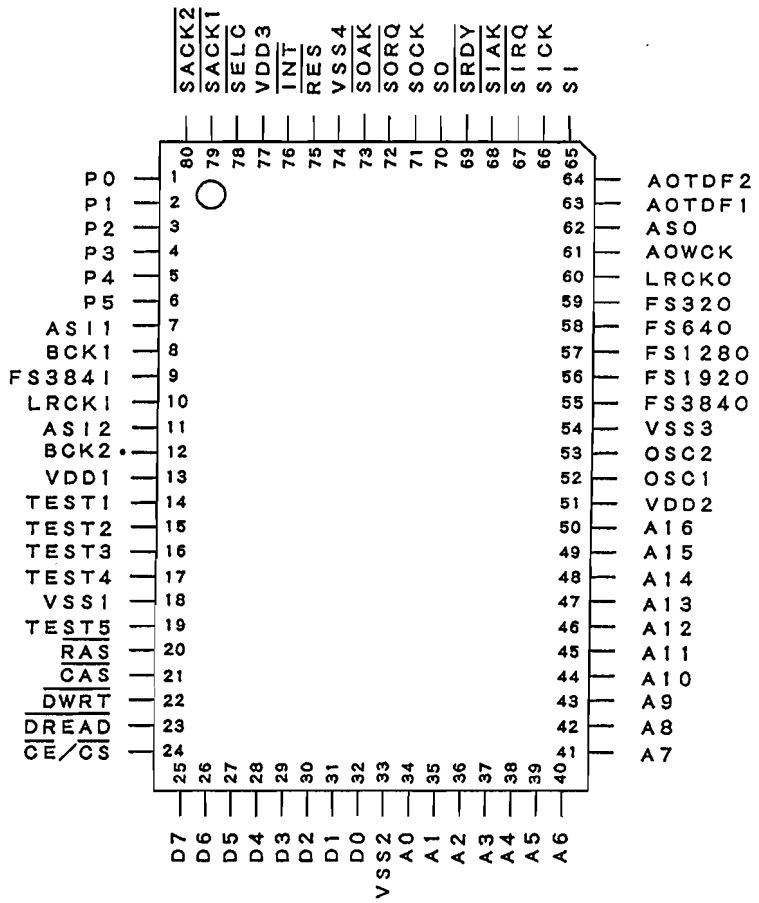
QU01 : TMP87CP71F MICROPROCESSOR



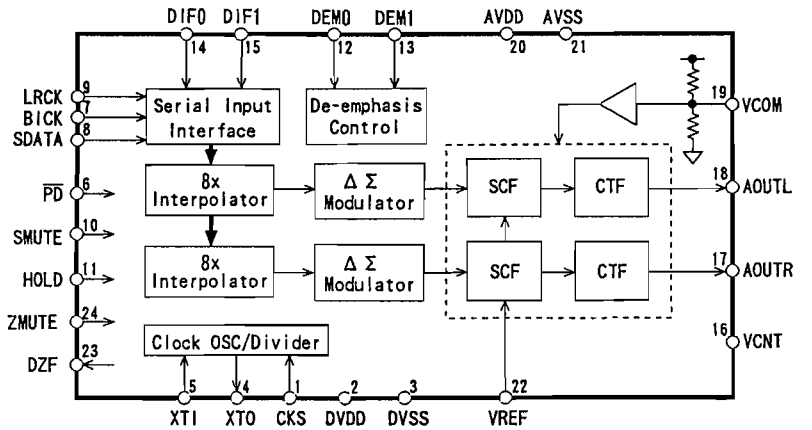
Q671 : AK5340
ANALOGUE DIGITAL CONVERTER



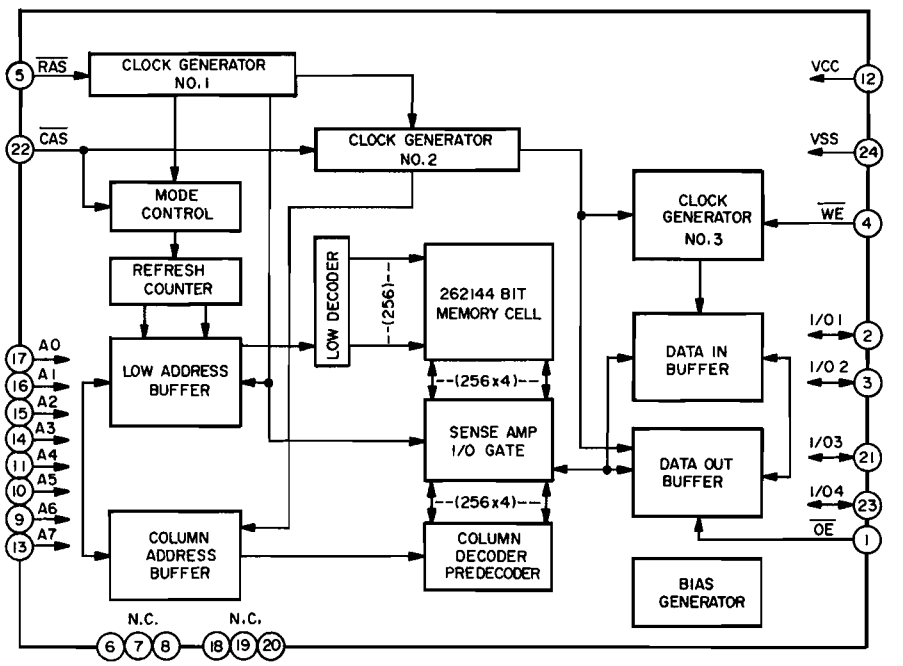
Q601 : LC83016JE
DIGITAL SIGNAL PROCESSOR



Q605, Q607 : AK4320
DIGITAL ANALOGUE CONVERTER

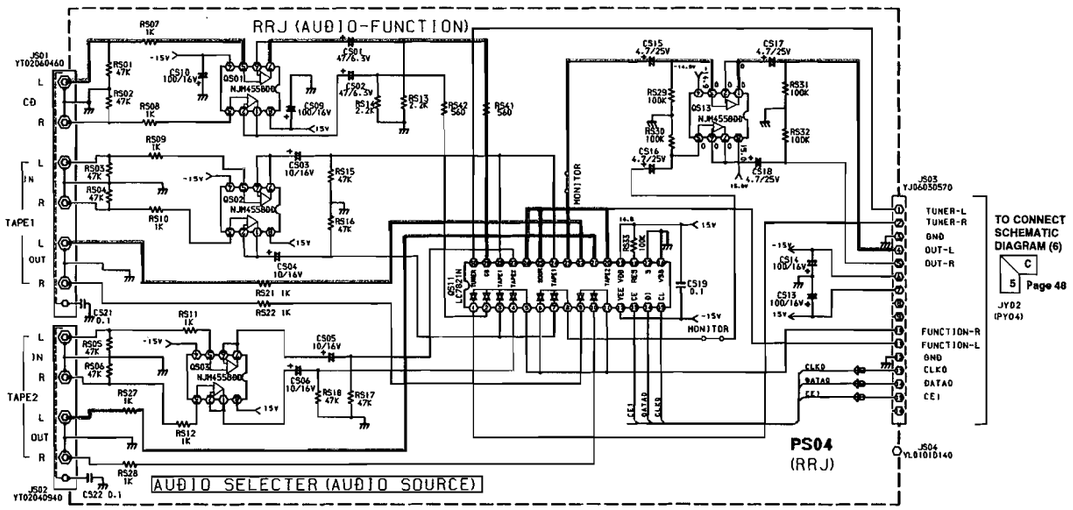


Q603 : LC32464PM-80
64K x 4BIT DRAM

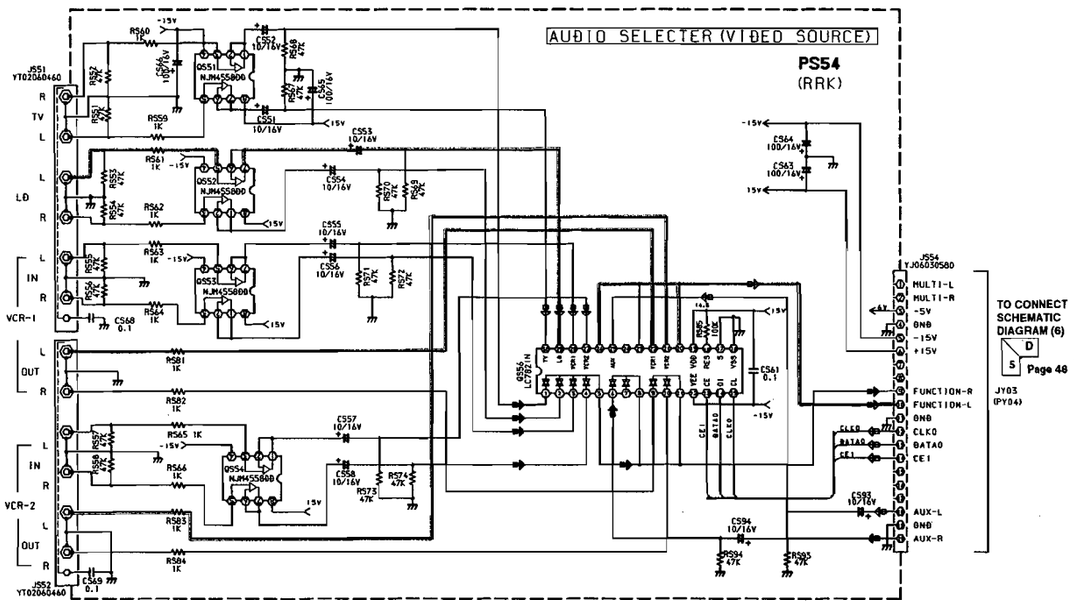


SCHEMATIC DIAGRAM (1) BK VERSION

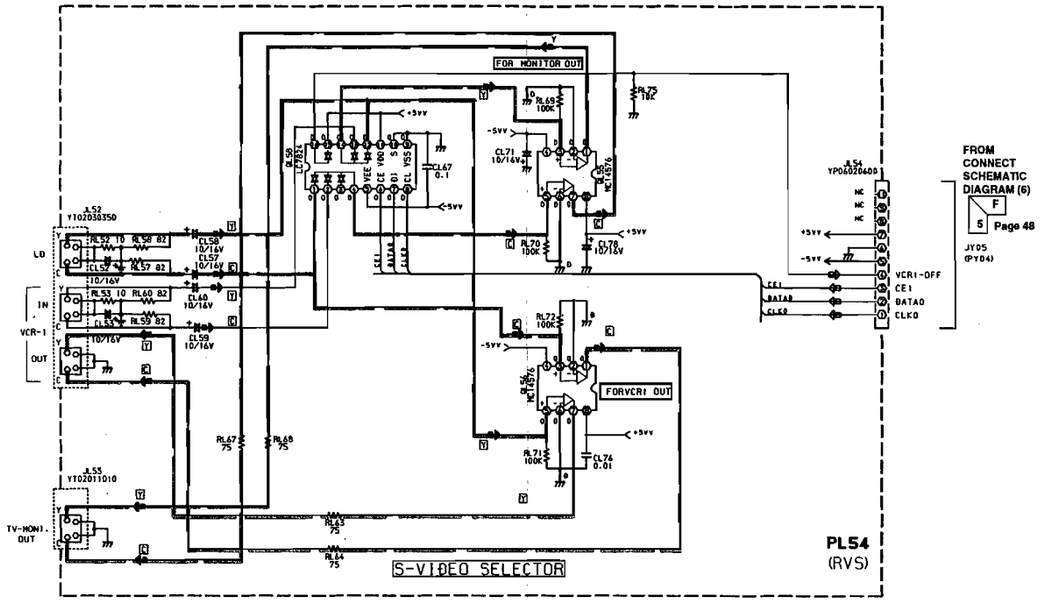
PS04-AUDIO FUNCTION



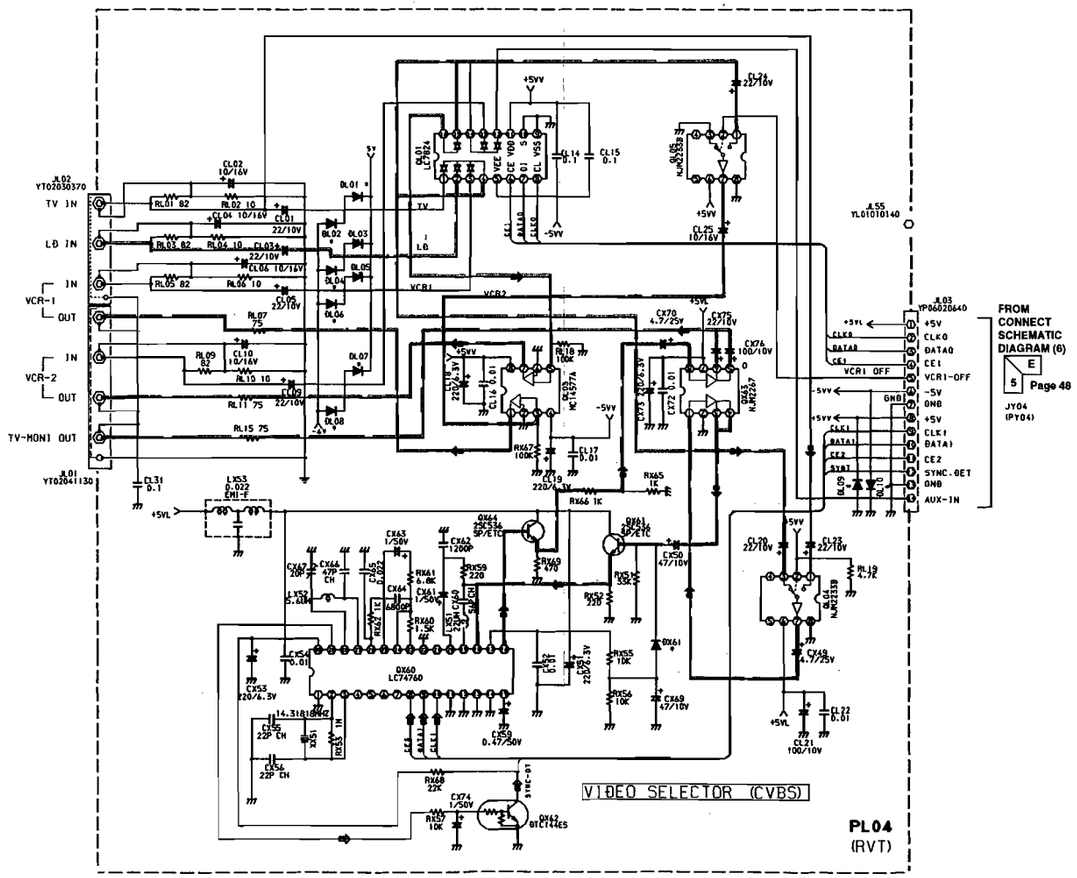
PS54-V-AUDIO FUNCTION



PL54-S-VIDEO

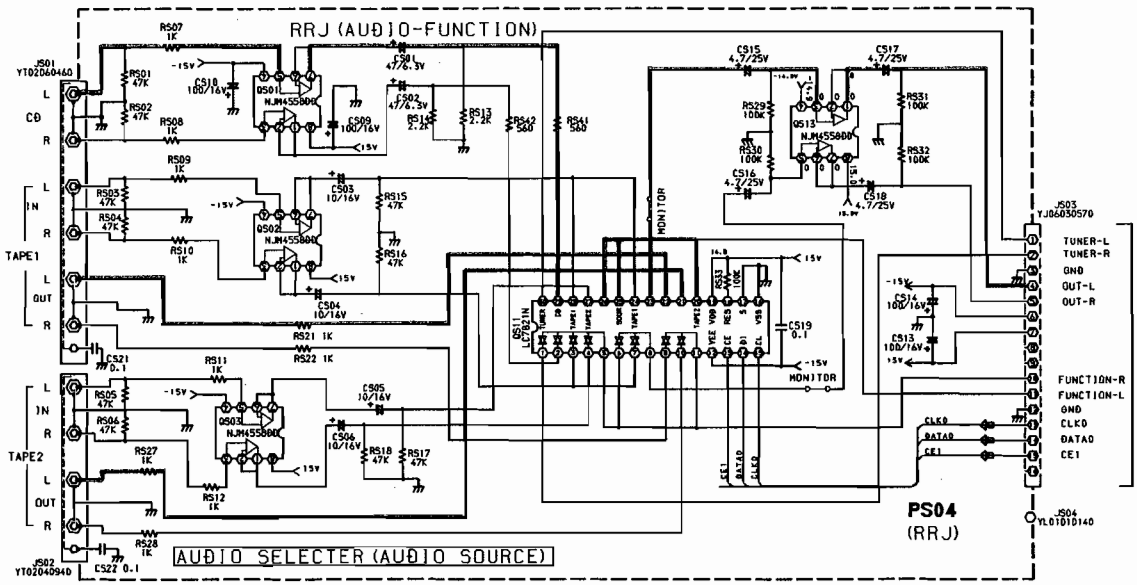


PL04-VIDEO SELECTOR

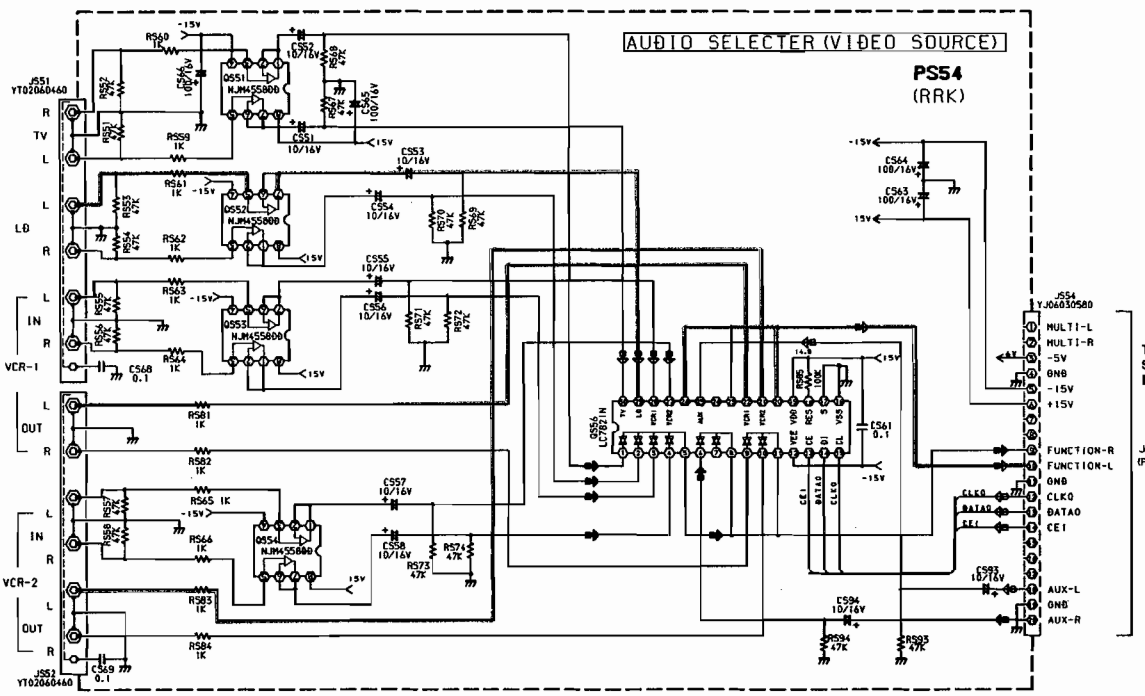


SCHEMATIC DIAGRAM (1) BK VERSION

PS04-AUDIO FUNCTION

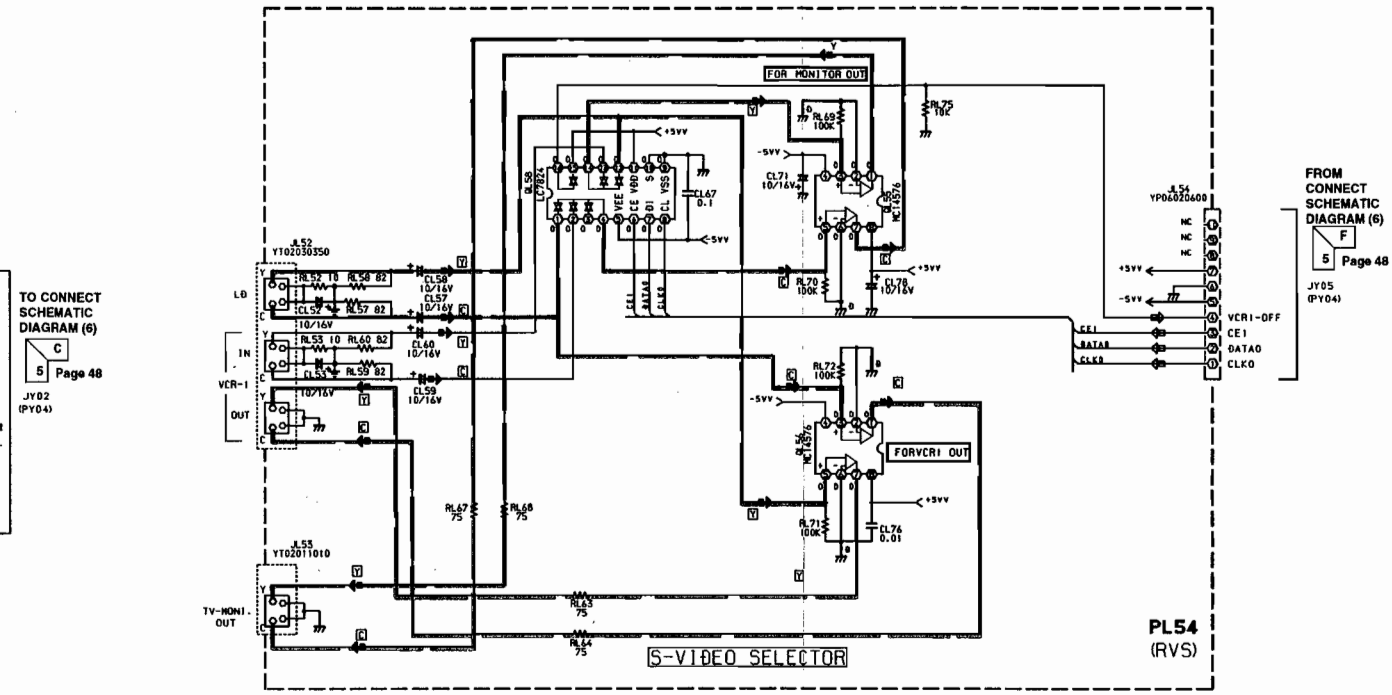


PS54-V-AUDIO FUNCTION

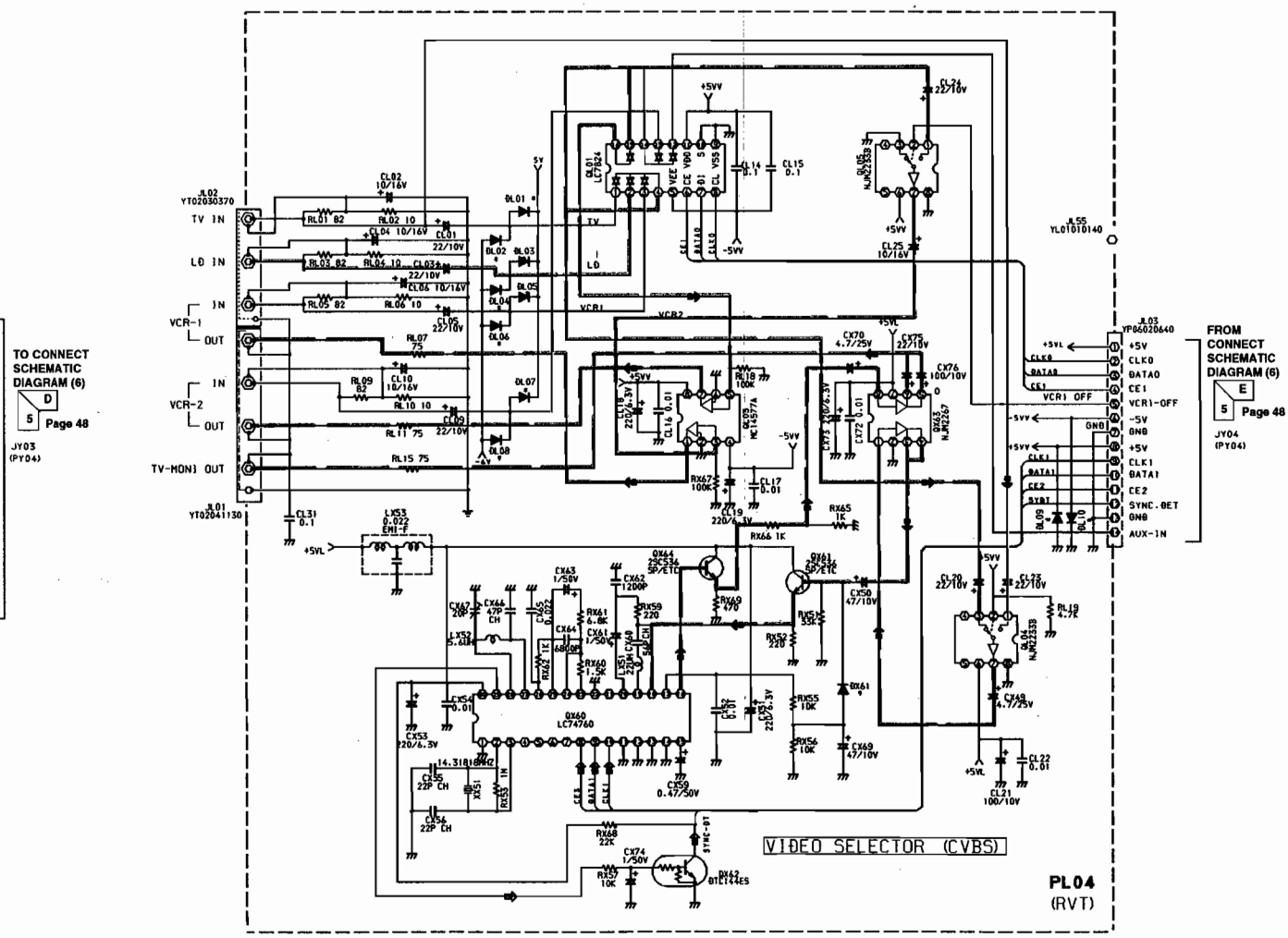


F G H I J

PL54-S-VIDEO

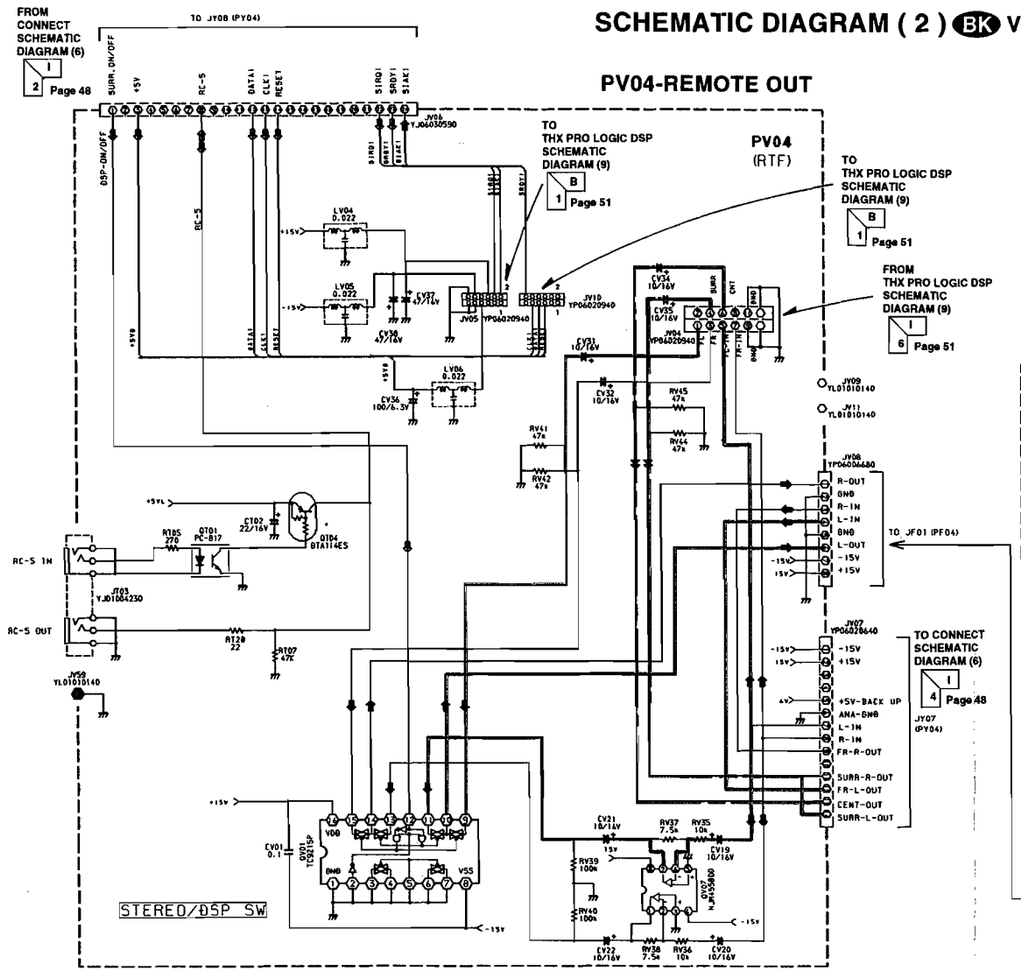


PL04-VIDEO SELECTOR

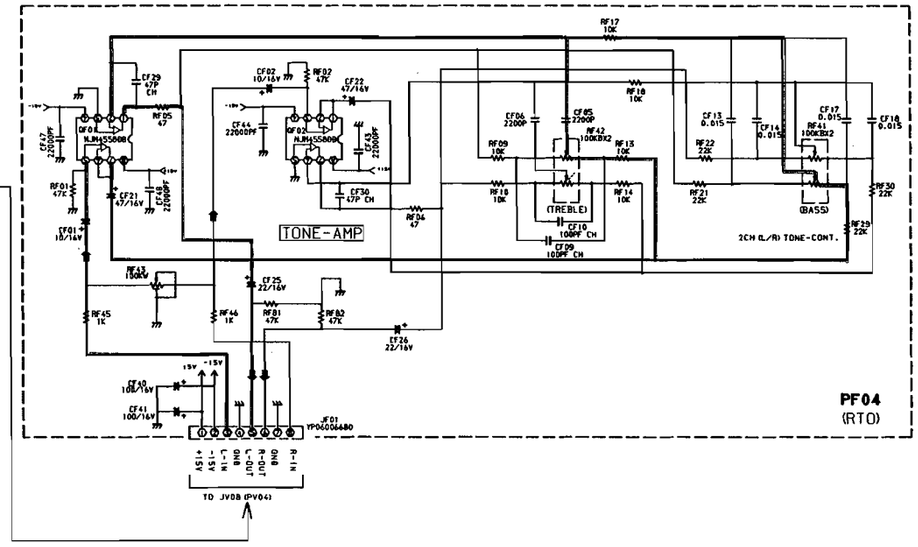


SCHEMATIC DIAGRAM (2) BK VERSION

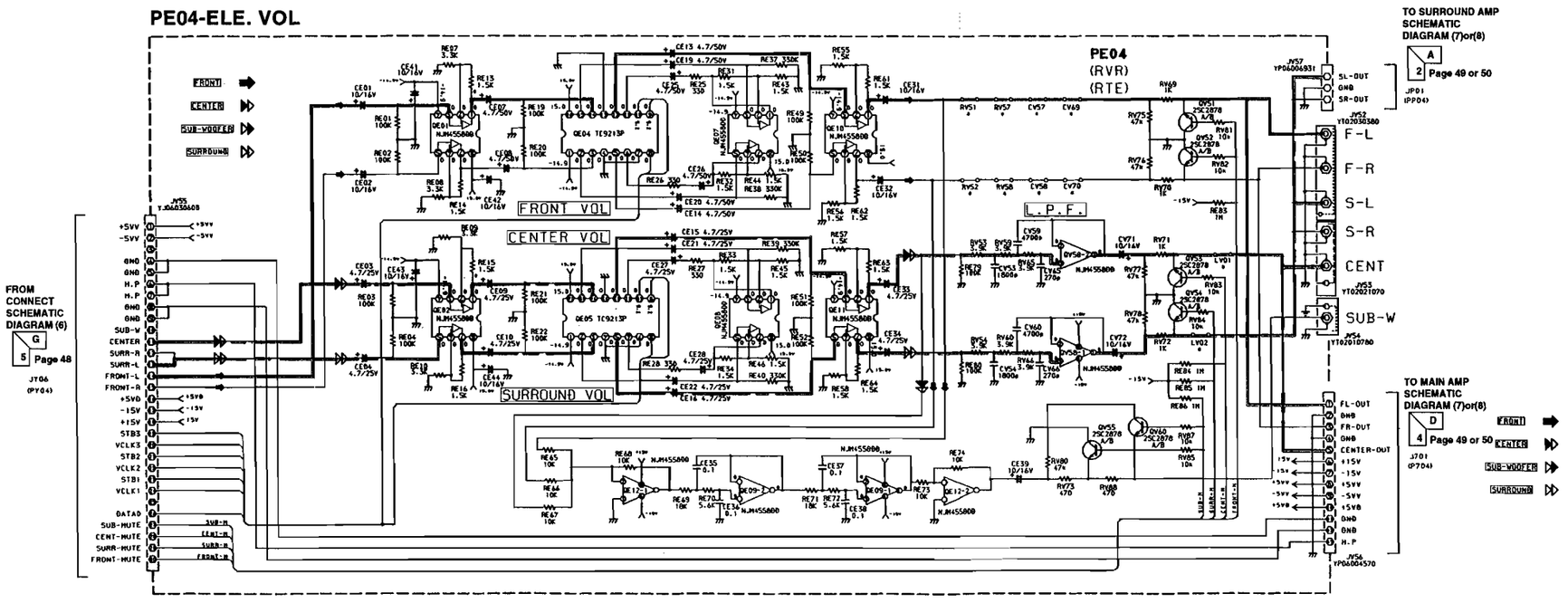
PV04-REMOTE OUT



PF04-TONE

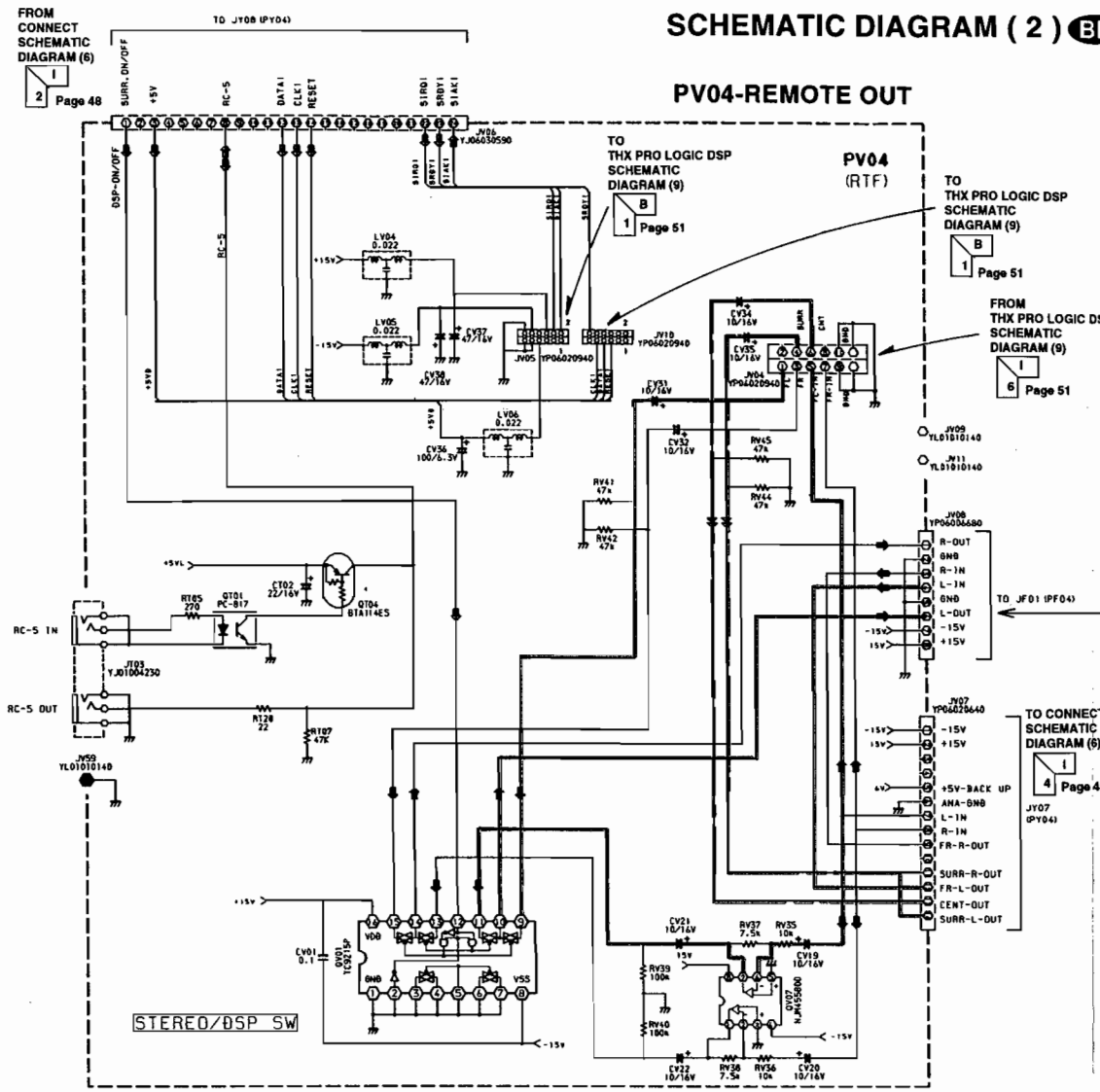


PE04-ELE. VOL

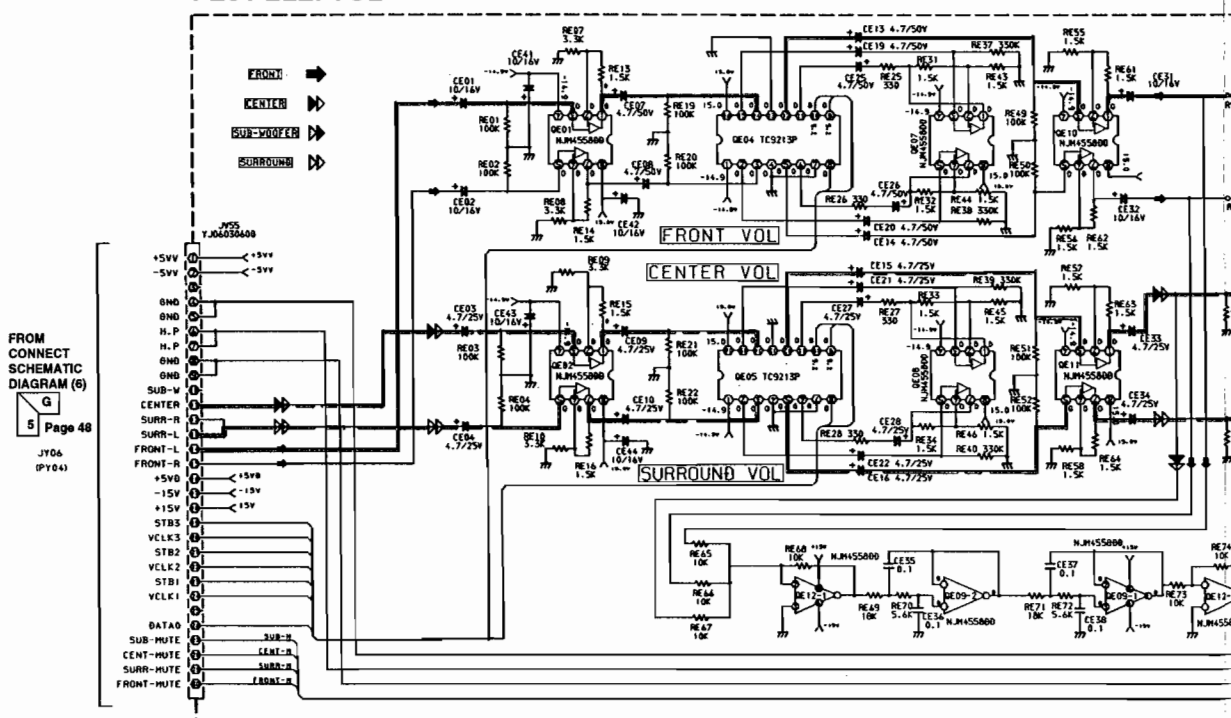


SCHEMATIC DIAGRAM (2) B

PV04-REMOTE OUT



PE04-ELE. VOL



) BK VERSION

DSP

LOGIC DSP
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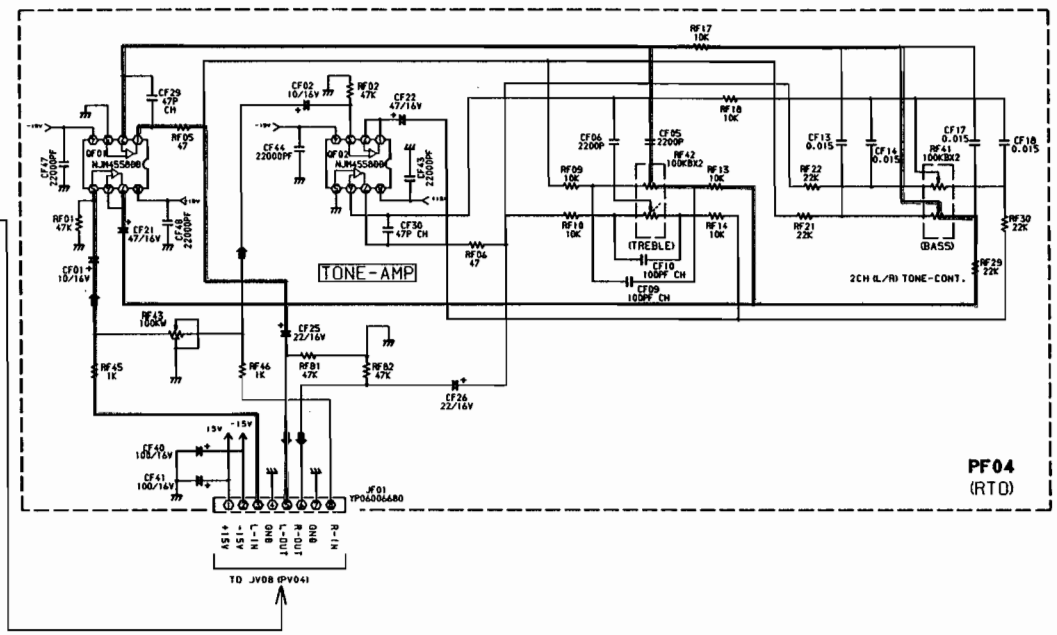
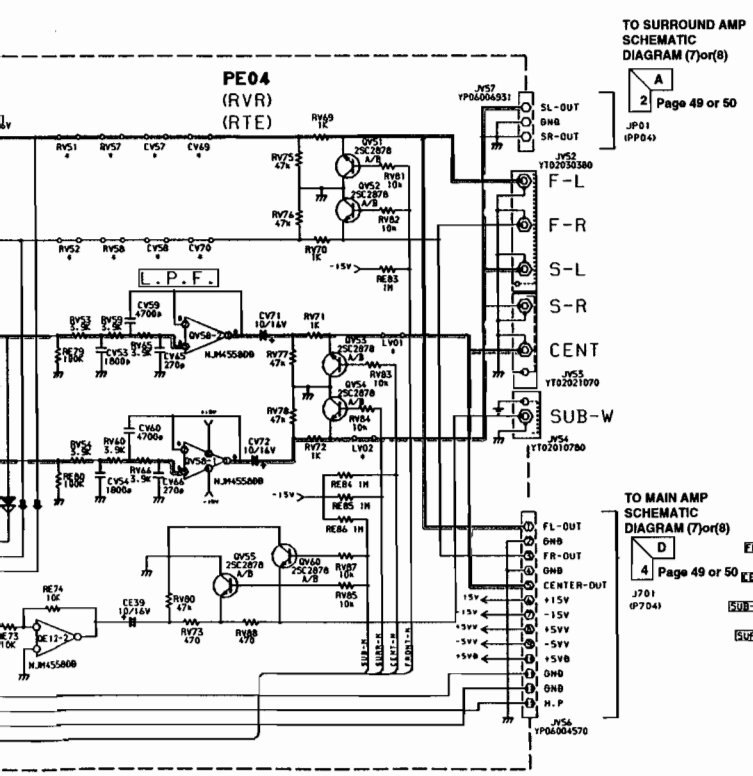
PF04-TONE

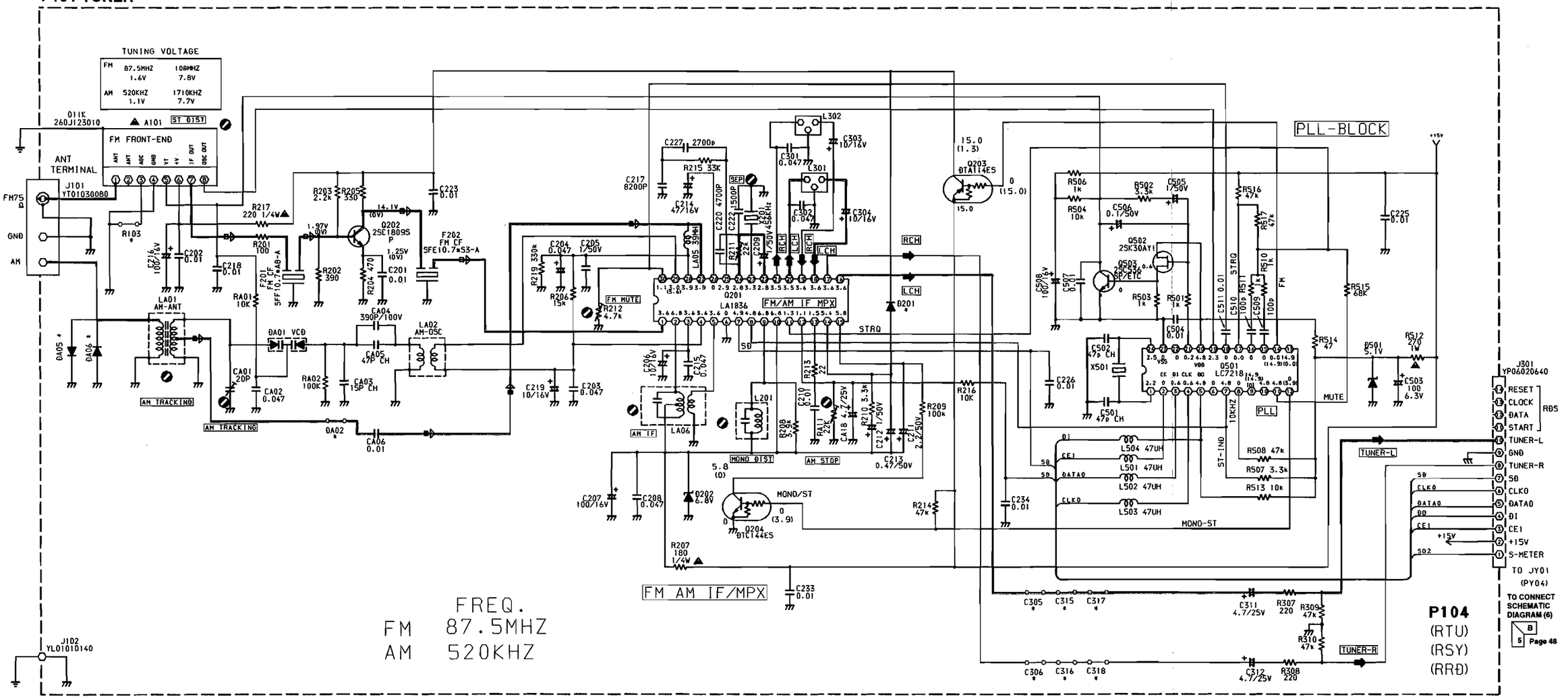


(PF04)

CONNECT
CHEMATIC
AGRAM (6)
I
4 Page 48

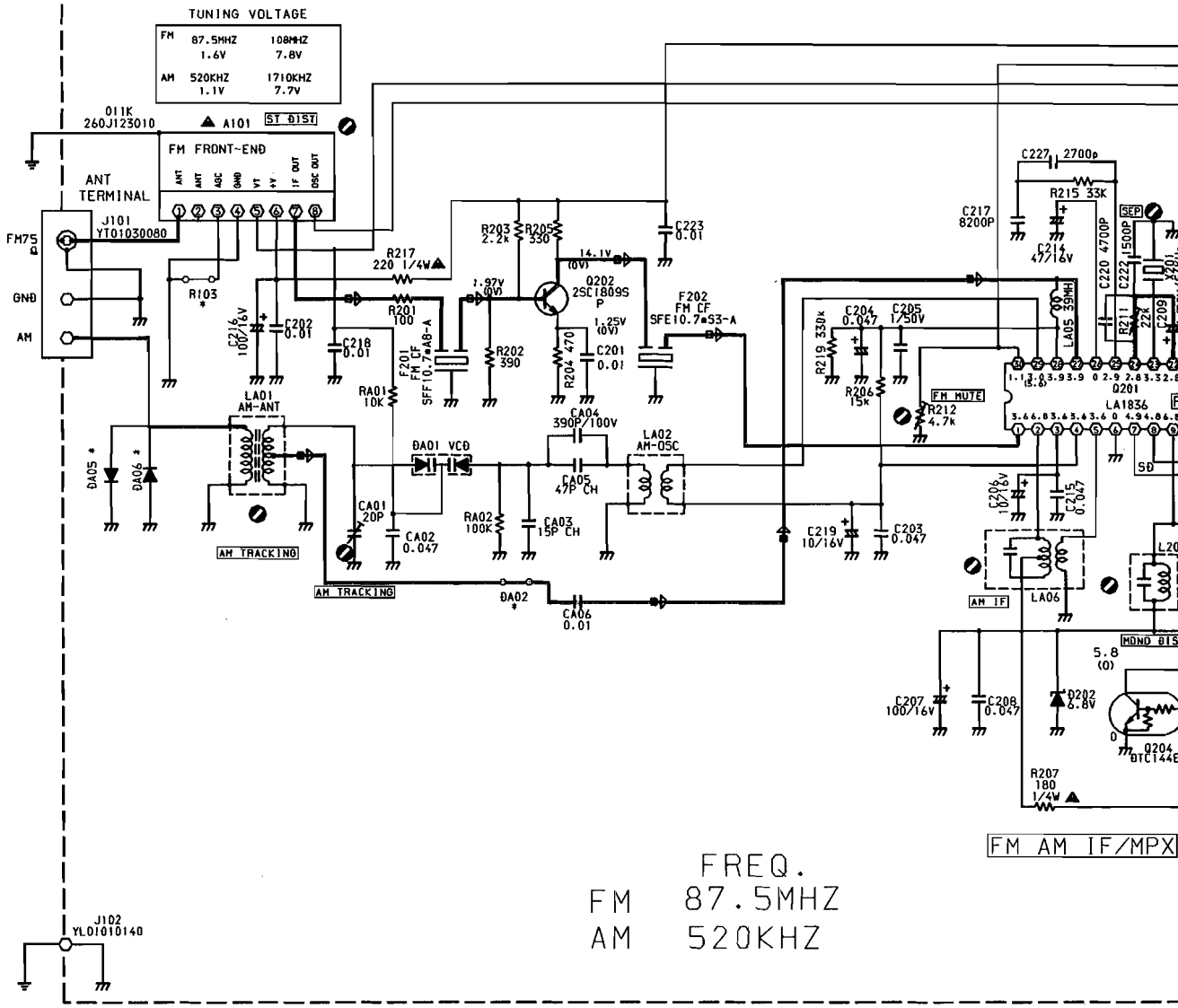


SCHEMATIC DIAGRAM (3) BK VERSION

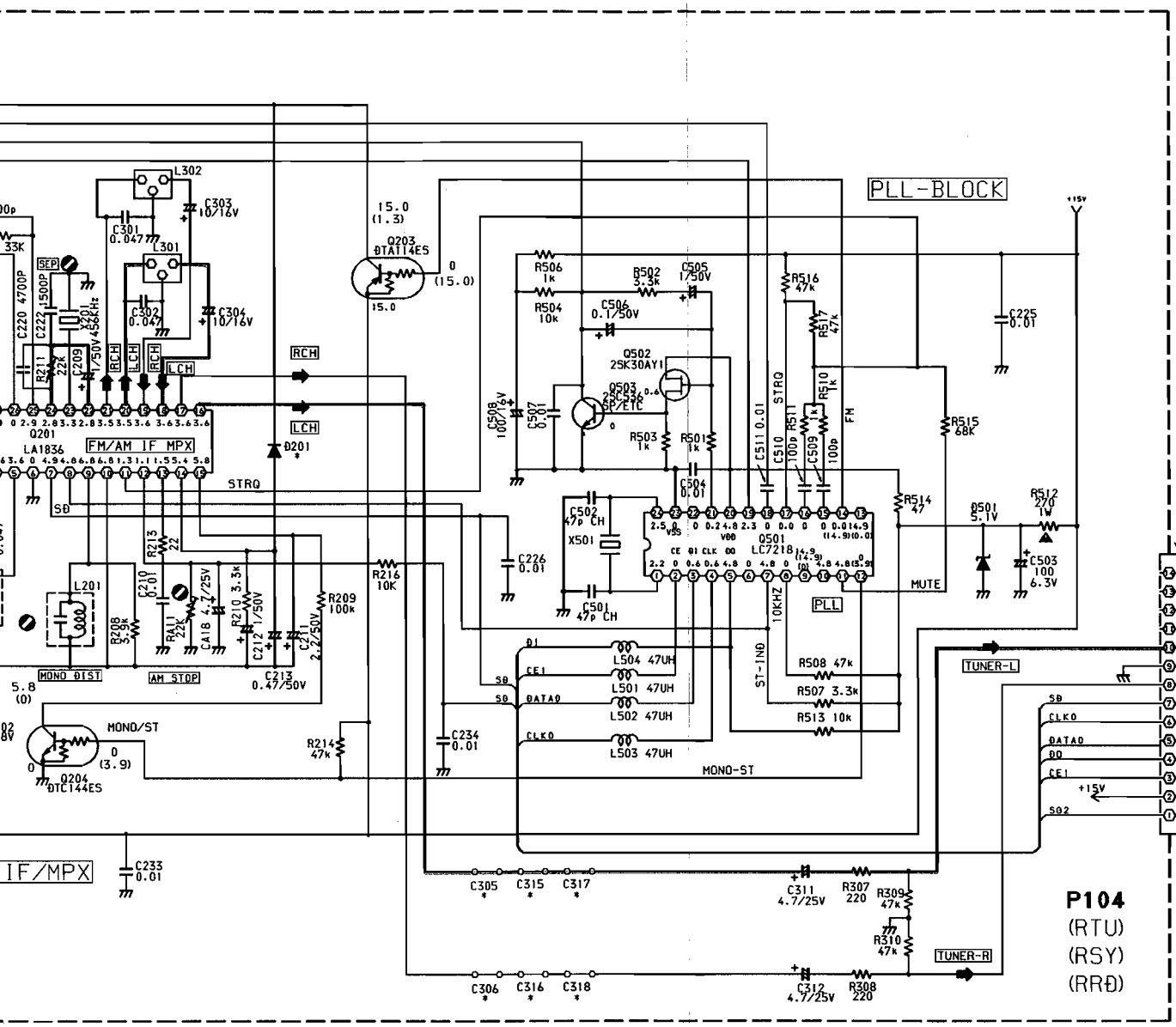


SCHEMATIC DIAGRAM (3) BK VERSION

P104-TUNER

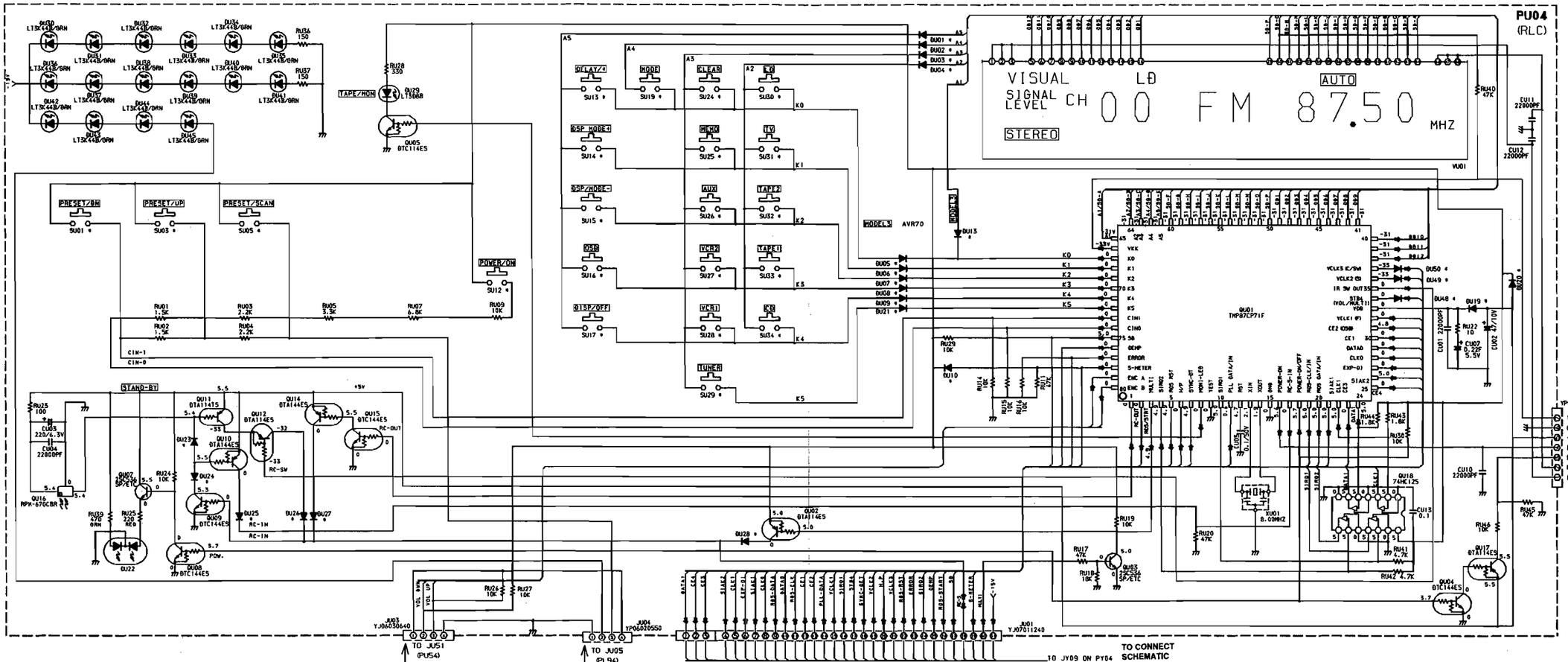


F G H I J

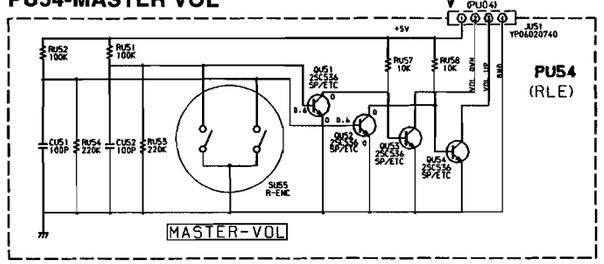

PLL-BLOCK
FM/AM IF MPX
L302
L301
L303
L304
L201
Q201
LA1836
Q203
DTA114ES
Q204
DTC144ES
Q502
2SK30AY(
Q503
2SC536
SP/ETC
Q501
LC7218
D201
D501
5.1V
X501
RCH
LCH
STRQ
SD
MONO/ST
MONO DIST
AM STOP
MUTE
PLL
10KHZ
ST-IND
MONO-ST
TUNER-L
TUNER-R
+15V
J301
YP06020640
RESET
CLOCK
DATA
START
TUNER-L
GND
TUNER-R
SD
CLKO
DATAO
DO
CE1
+15V
S-METER
RDS
TO JY01
(PY04)
TO CONNECT
SCHEMATIC
DIAGRAM (6)
B
5
Page 48
P104
(RTU)
(RSY)
(RRD)

SCHEMATIC DIAGRAM (4) BK VERSION

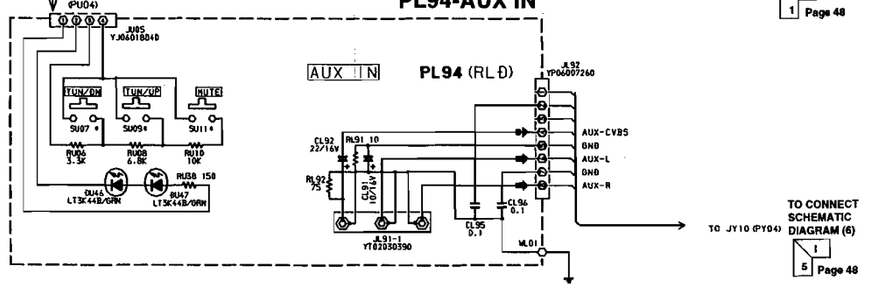
PU04-FRONT (AVR70) ONLY



PU54-MASTER VOL

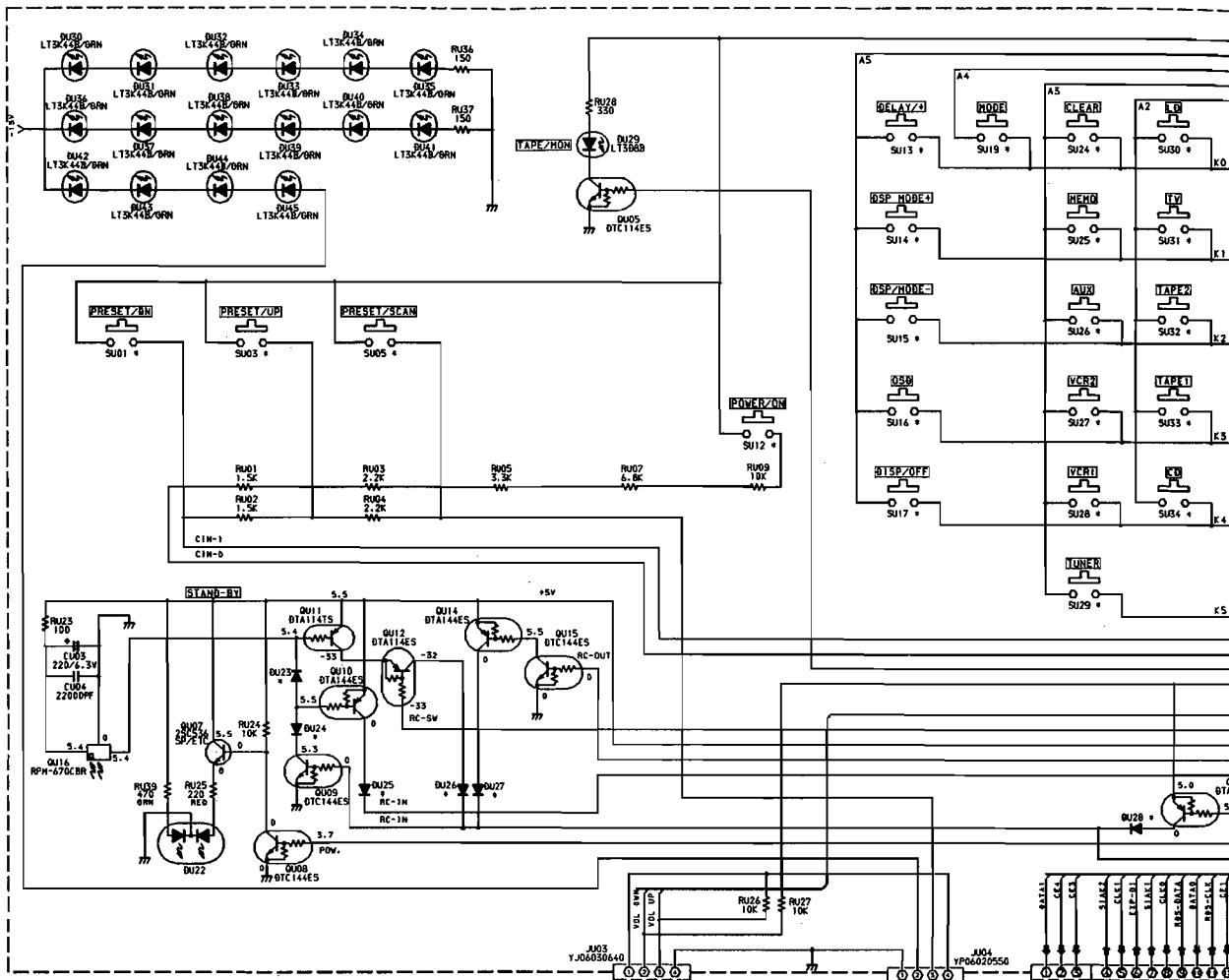


PL94-AUX IN

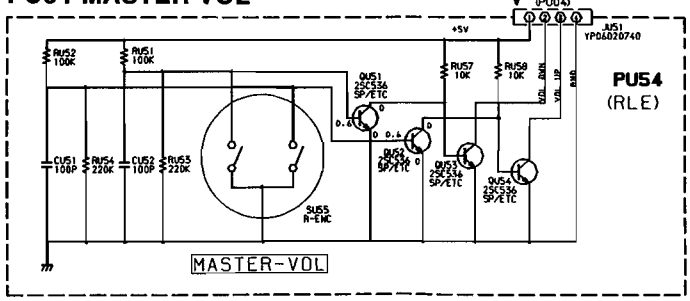


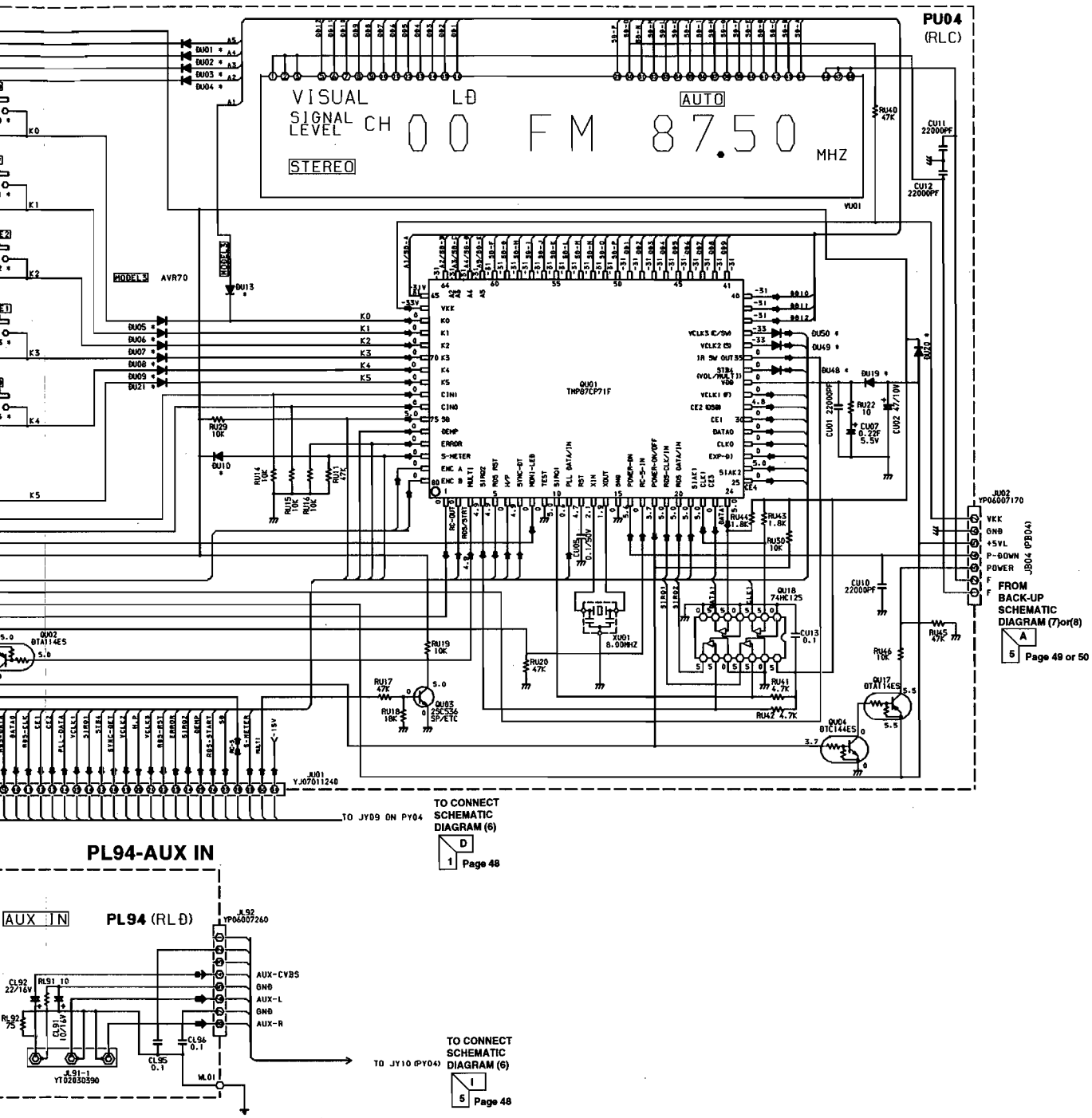
SCHEMATIC DIAGRAM (4) BK VERSION

PU04-FRONT (AVR70) ONLY



PU54-MASTER VOL

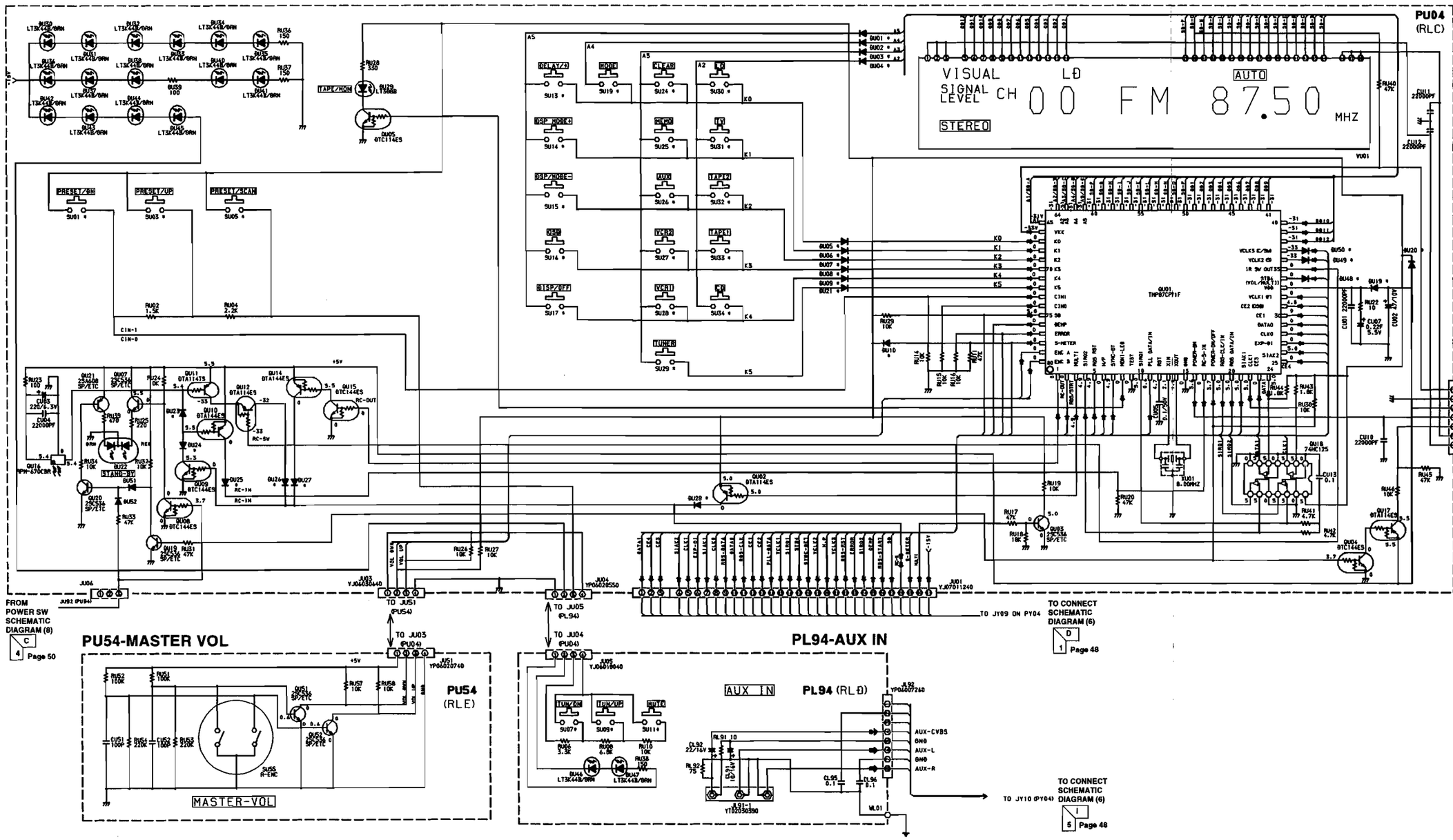



PU04
(RLC)
VISUAL
SIGNAL LEVEL
CH 00
AUTO
FM 87.50
MHZ
STEREO
MODEL 3
AVR70
QU01
TMP87CP71F
JU02
YP06007170
VKK
GND
+5VL
P-DOWN
POWER
JB04 (PB04)
FROM BACK-UP SCHEMATIC DIAGRAM (7)or(8)
5 Page 49 or 50
JU01
YJ07011240
TO JY09 ON PY04
TO CONNECT SCHEMATIC DIAGRAM (6)
1 Page 48

PL94-AUX IN
AUX IN
PL94 (RLD)
JL92
YP06007260
AUX-CVBS
GND
AUX-L
GND
AUX-R
JL91-1
YT02030390
TO JY10 (PY04)
TO CONNECT SCHEMATIC DIAGRAM (6)
5 Page 48

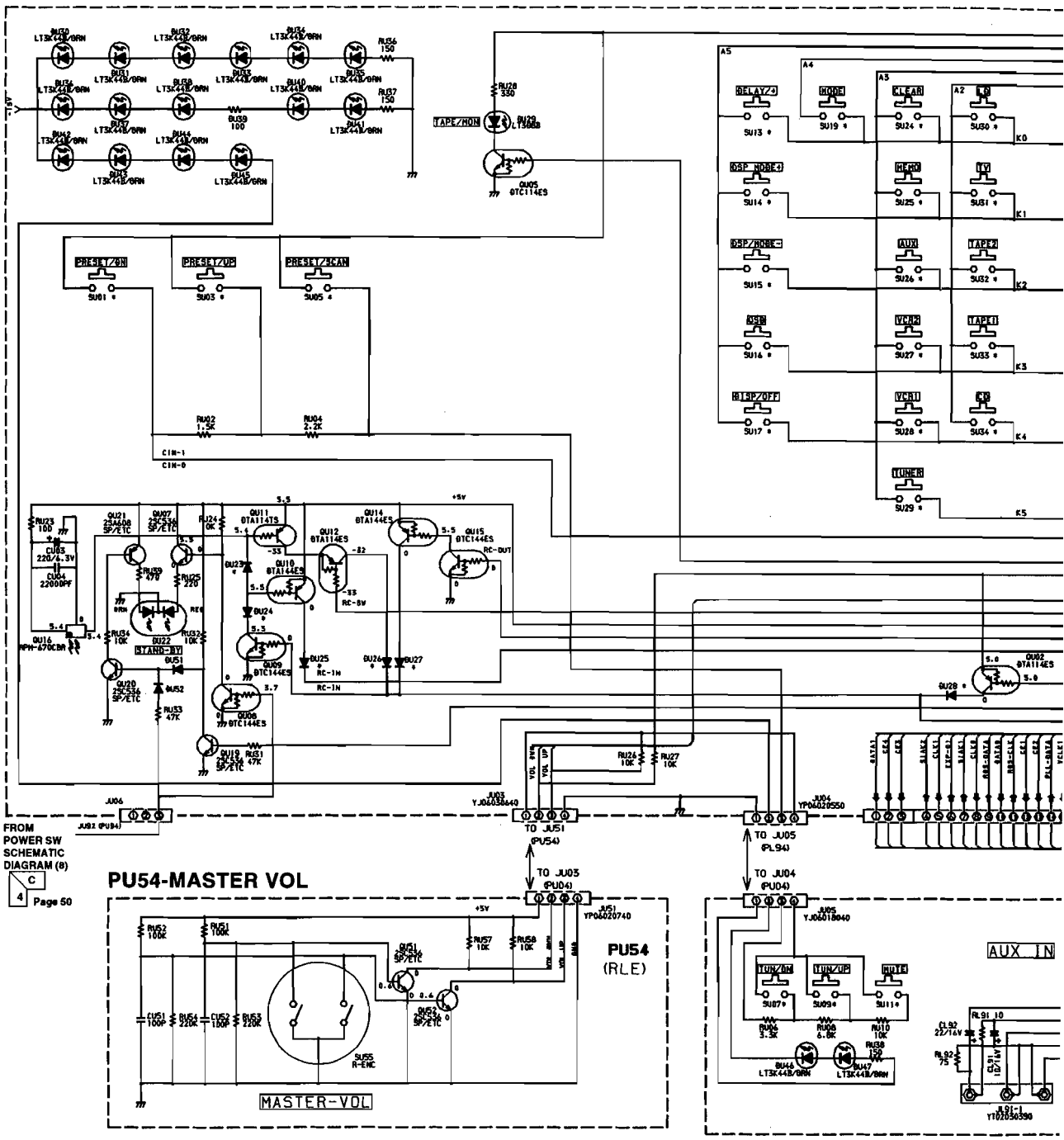
SCHEMATIC DIAGRAM (5) BK VERSION

PU04-FRONT (AVR70MKⅡ) ONLY



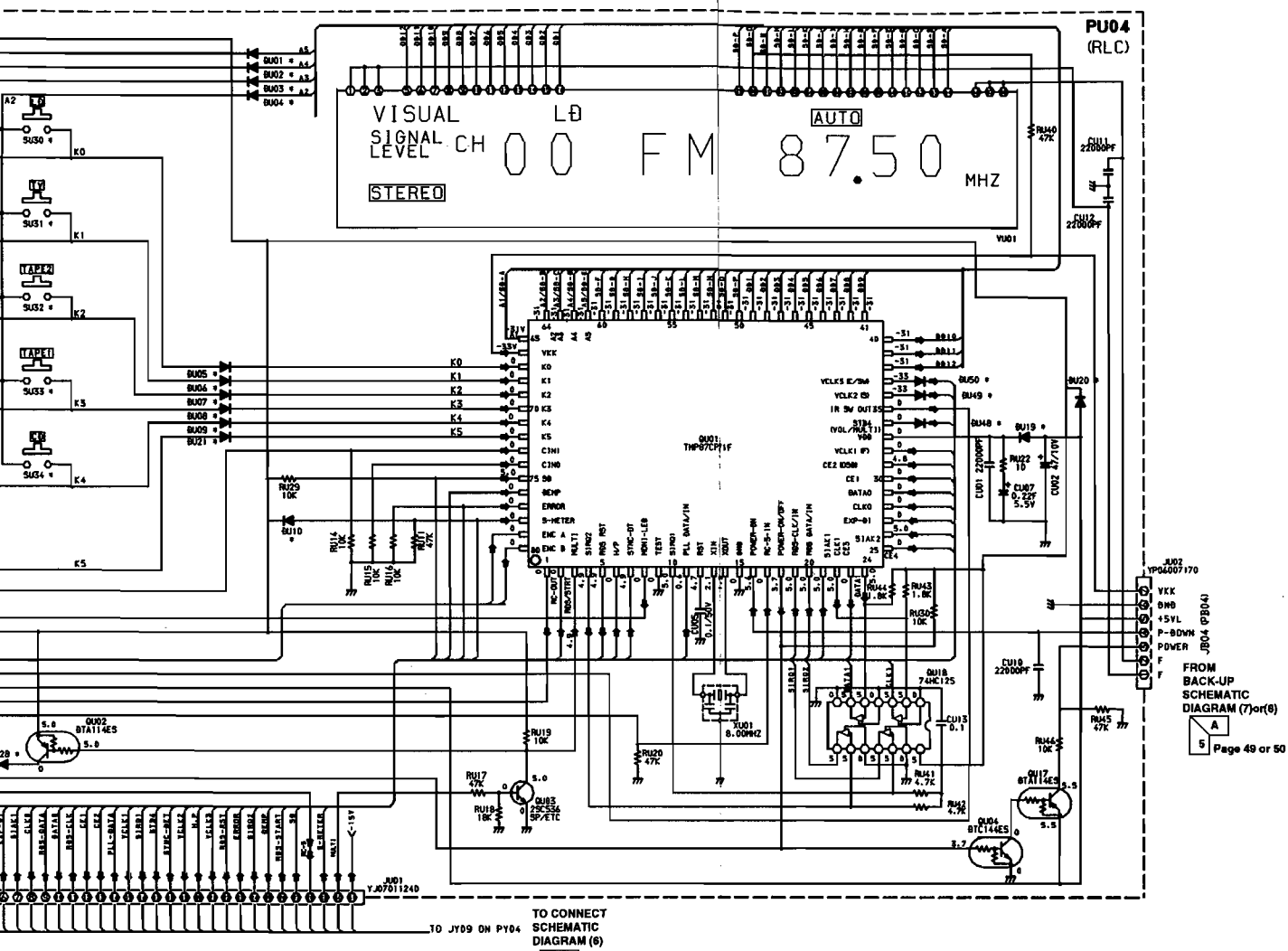
SCHEMATIC DIAGRAM (5) BK VERSION

PU04-FRONT (AVR70MKⅡ) ONLY

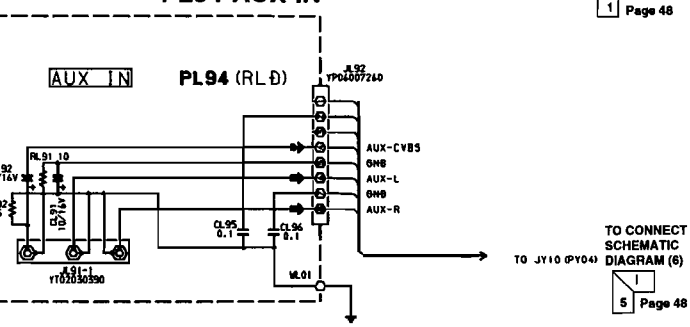


PU54-MASTER VOL

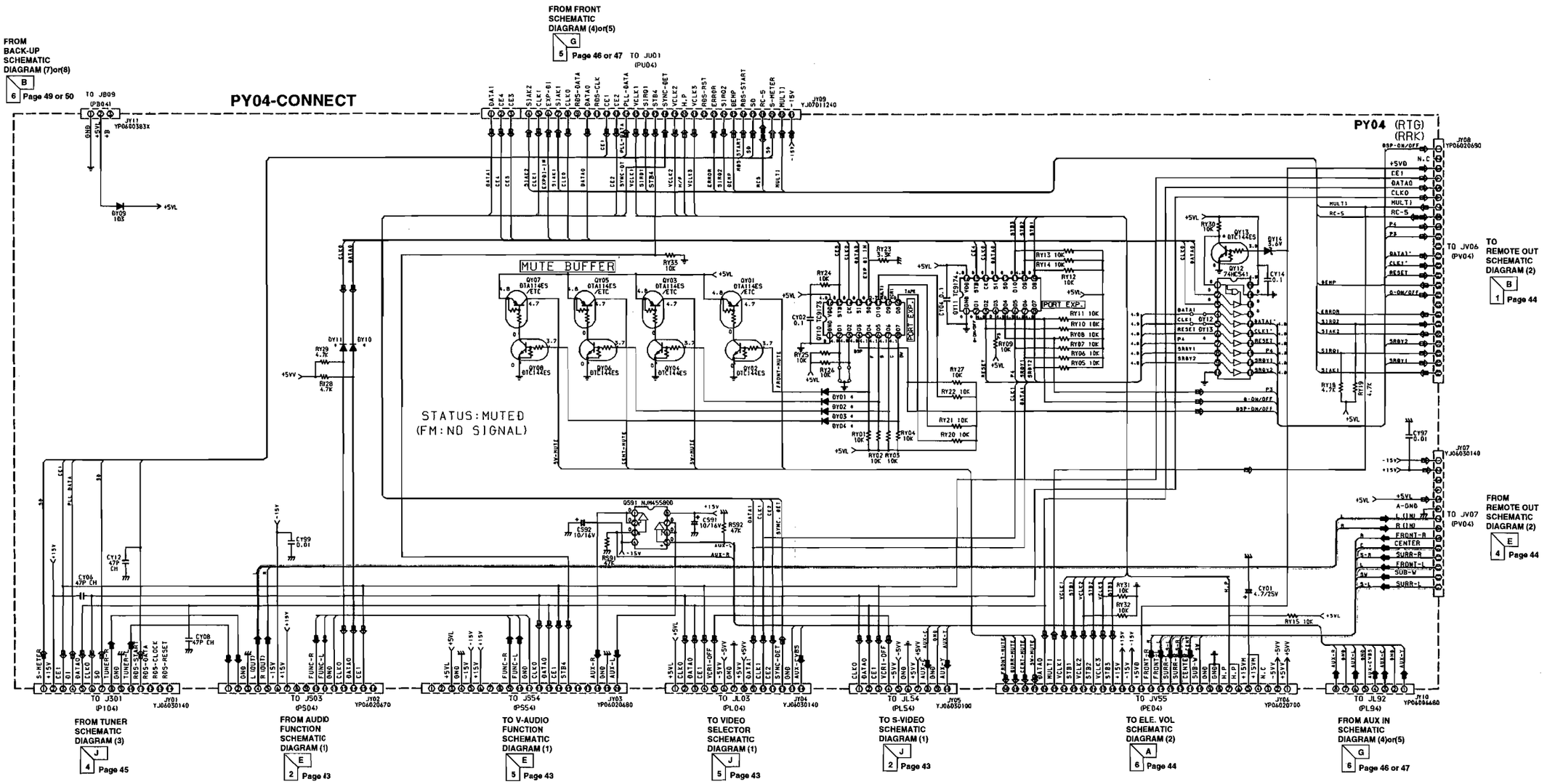
F G H I J



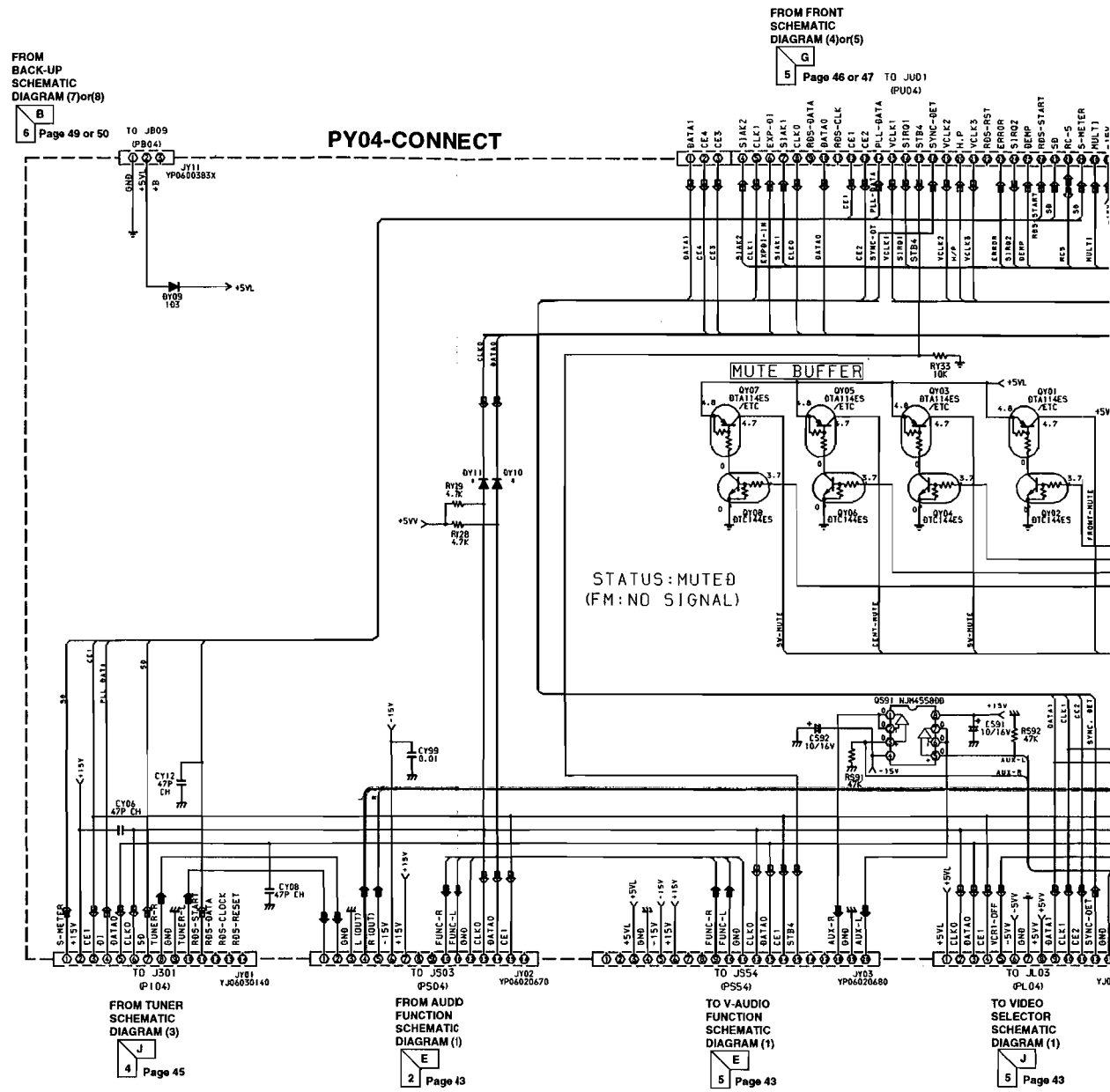
PL94-AUX IN

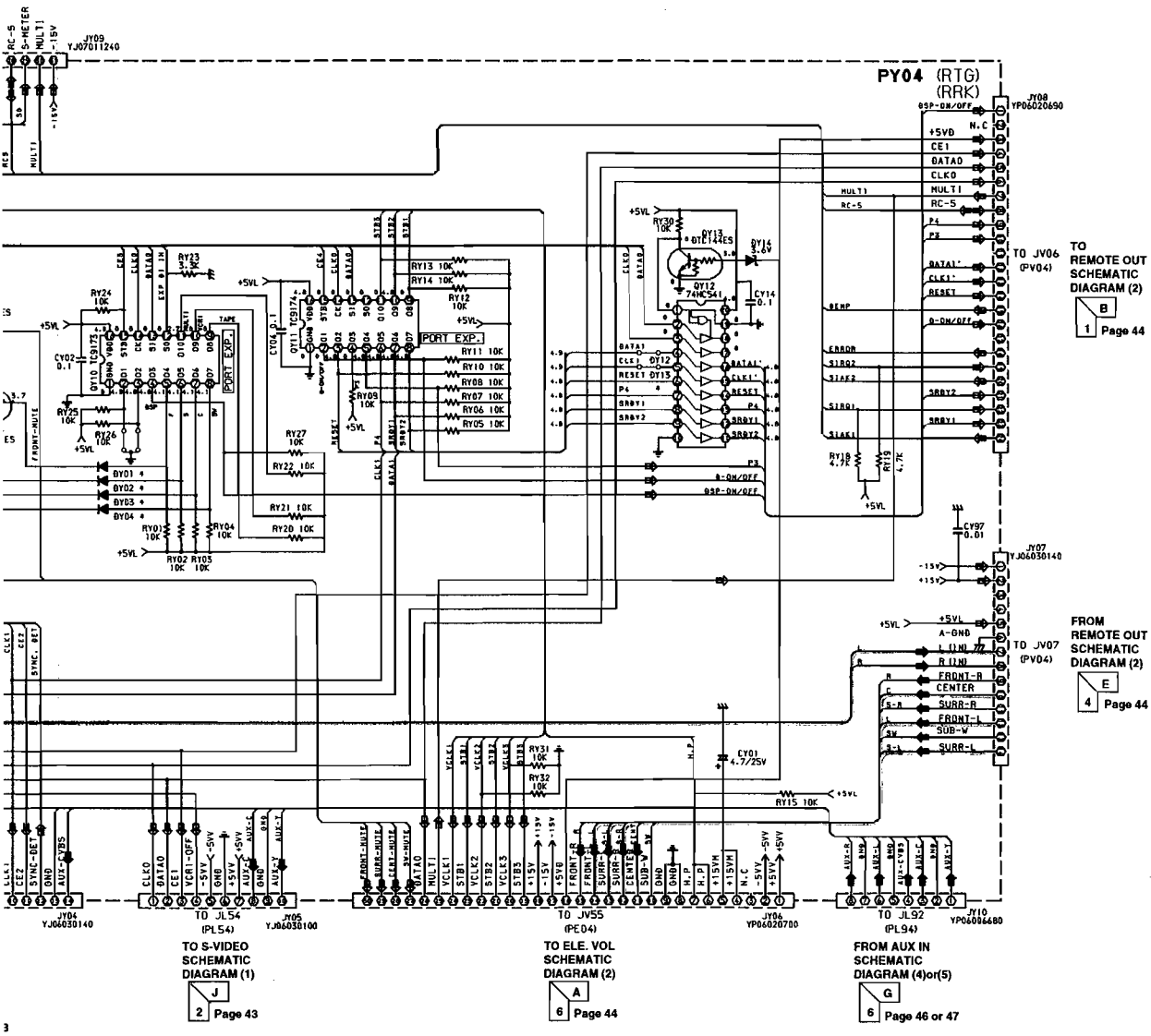


SCHEMATIC DIAGRAM (6) BK VERSION



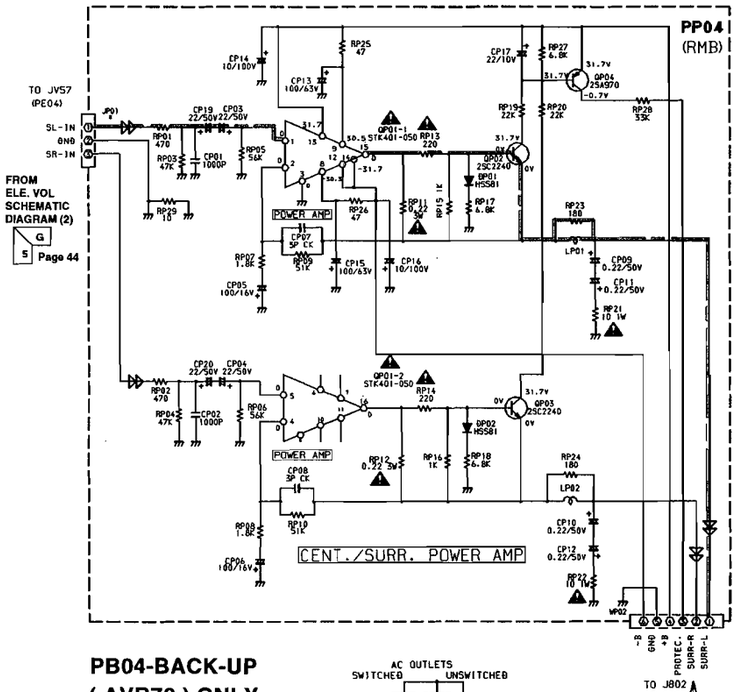
SCHEMATIC DIAGRAM (6) BK VERSION



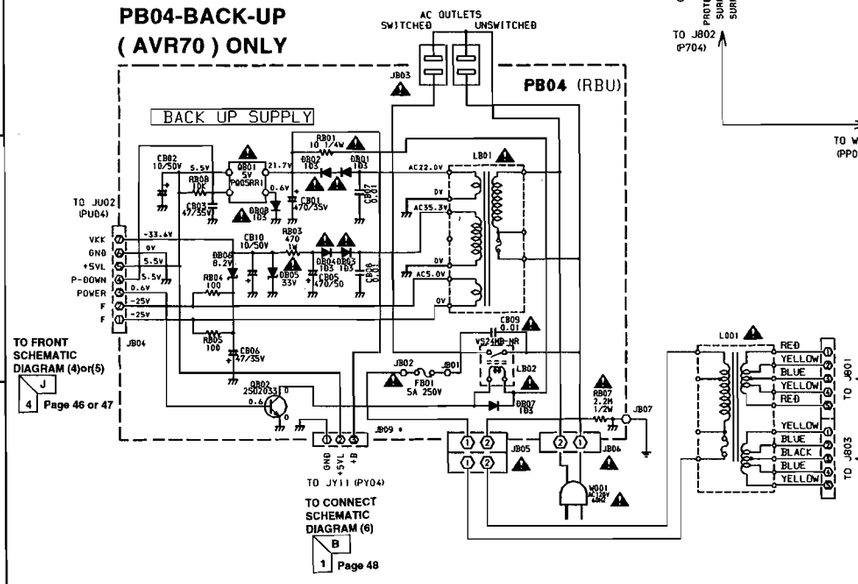

PY04 (RTG)
(RRK)
JY09
YJ07011240
JY08
YP06020690
TO JV06
(PV04)
TO
REMOTE OUT
SCHEMATIC
DIAGRAM (2)
B
1 Page 44
JY07
YJ06030140
TO JV07
(PV04)
FROM
REMOTE OUT
SCHEMATIC
DIAGRAM (2)
E
4 Page 44
PORT EXP.
JY04
YJ06030140
TO JL54
(PL54)
JY05
YJ06030100
TO S-VIDEO
SCHEMATIC
DIAGRAM (1)
J
2 Page 43
TO JV55
(PE04)
JY06
YP06020700
TO ELE. VOL
SCHEMATIC
DIAGRAM (2)
A
6 Page 44
TO JL92
(PL94)
JY10
YP06006680
FROM AUX IN
SCHEMATIC
DIAGRAM (4)or(5)
G
6 Page 46 or 47

SCHEMATIC DIAGRAM (7) BK VERSION

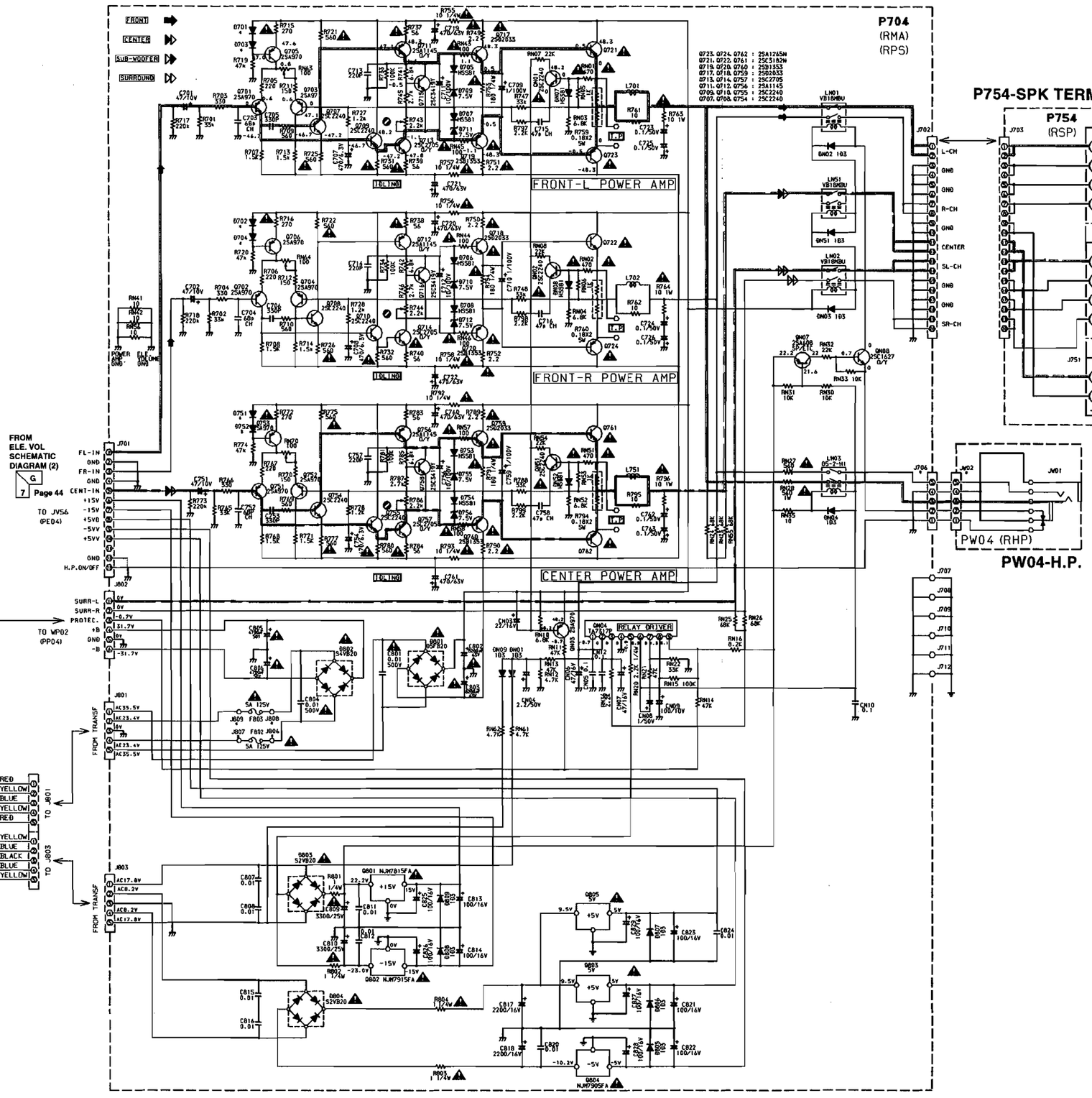
PP04-SURROUND AMP



PB04-BACK-UP (AVR70) ONLY

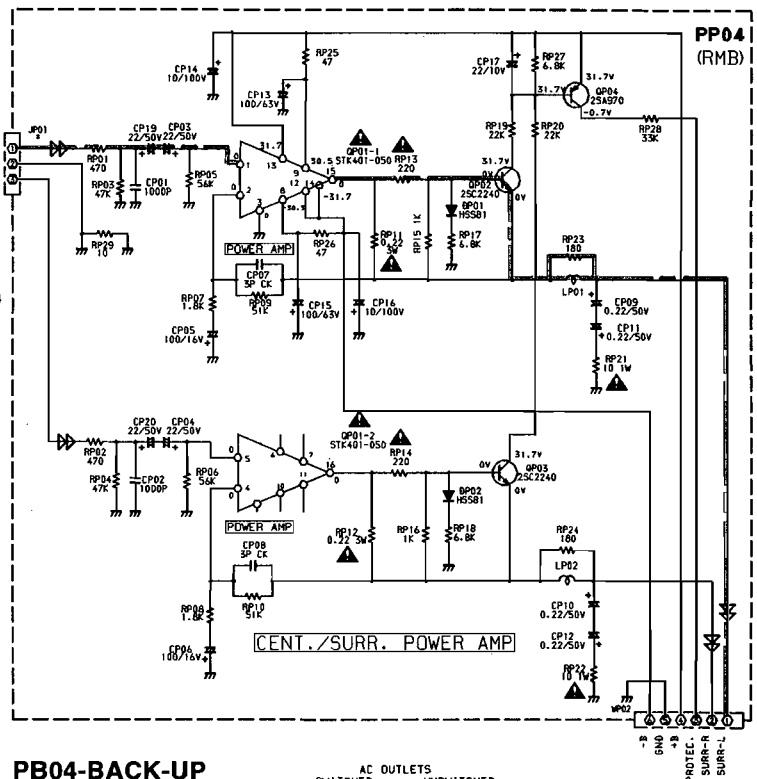


P704-MAIN AMP (AVR70) ONLY

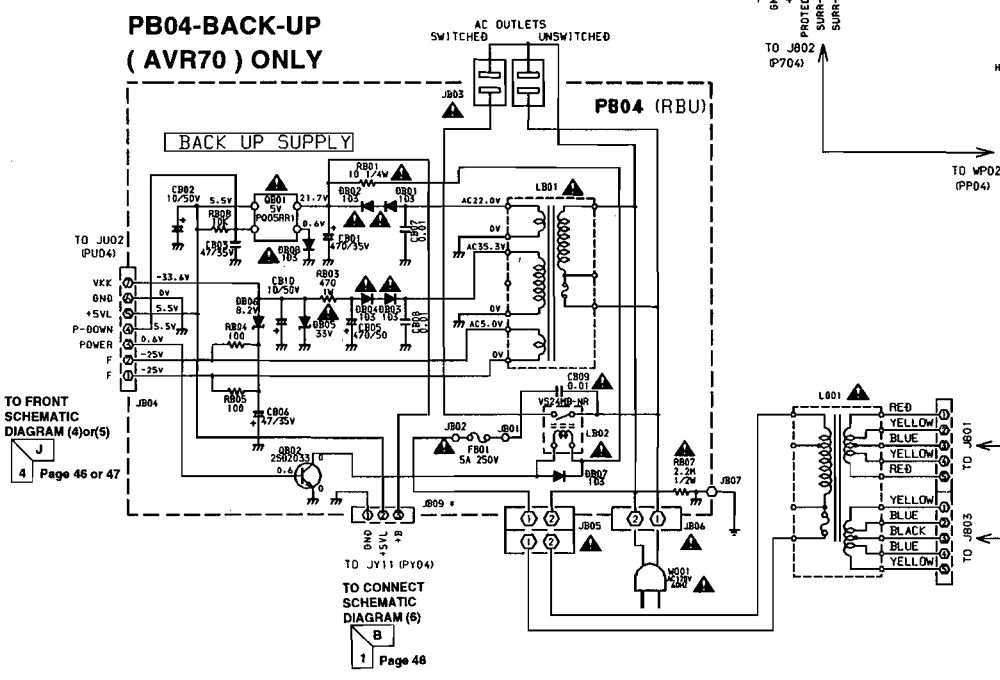


SCHEMATIC DIAGRAM (7) BK VERSION

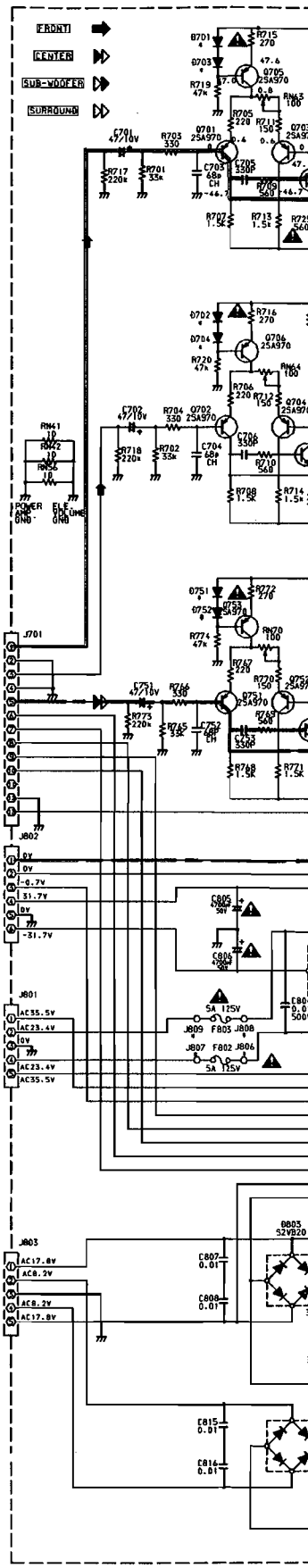
PP04-SURROUND AMP



PB04-BACK-UP (AVR70) ONLY

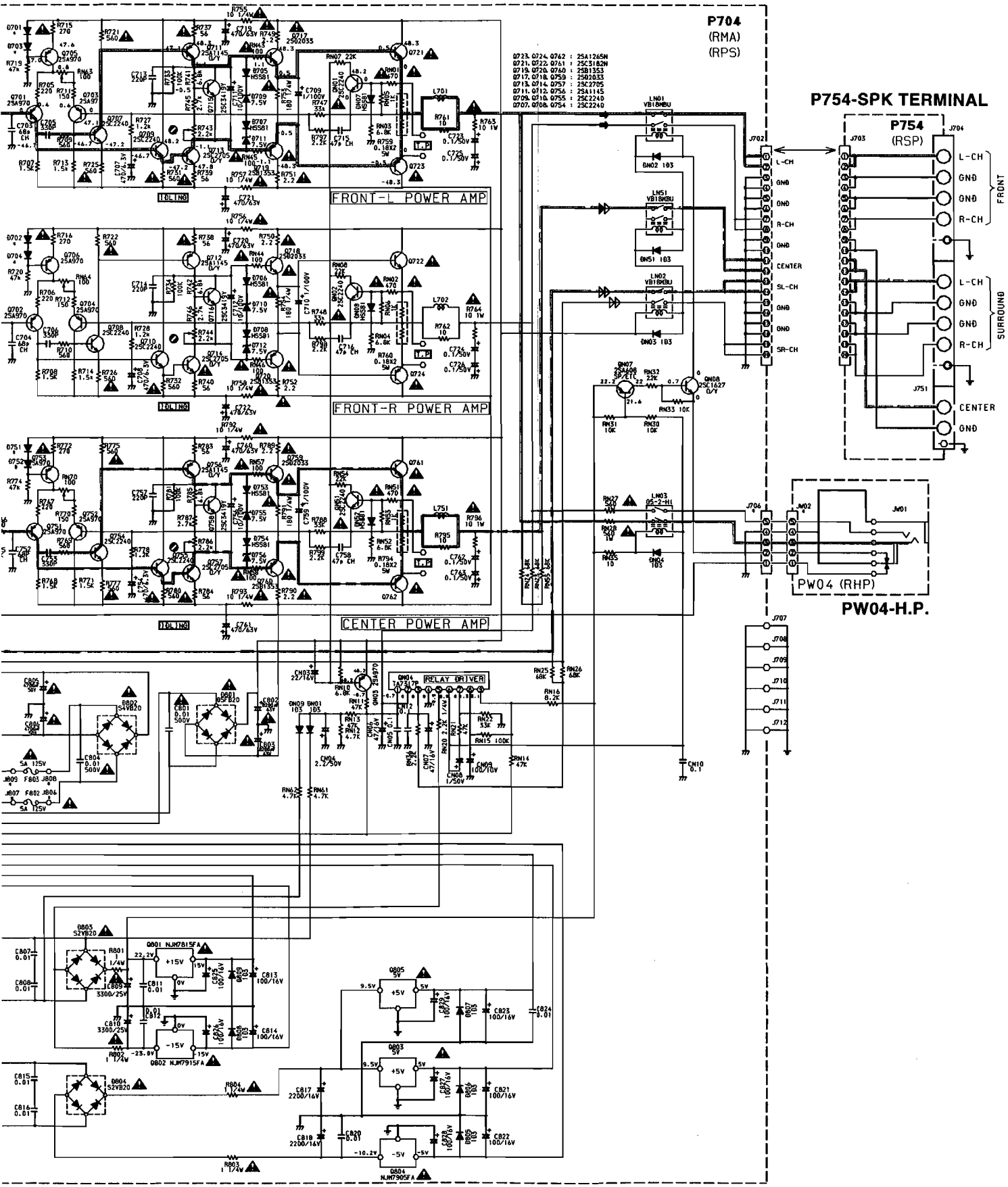


P704-MAIN AMP (AVR70)



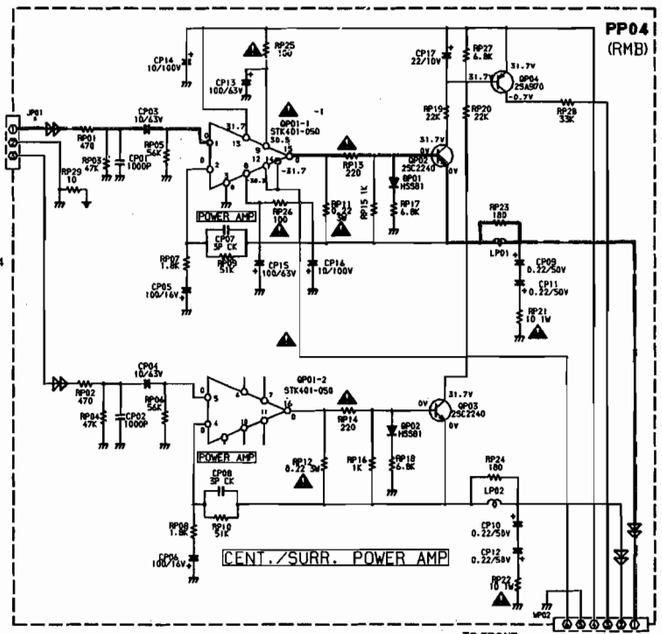
F G H I J

P (AVR70) ONLY

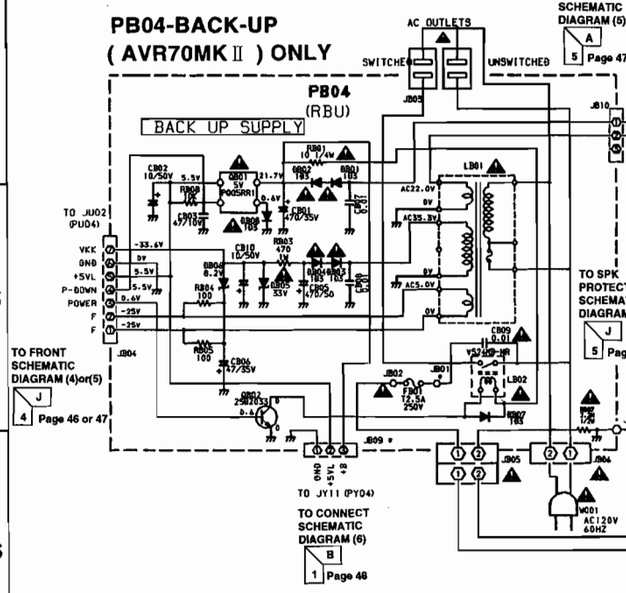


SCHEMATIC DIAGRAM (8) BK VERSION

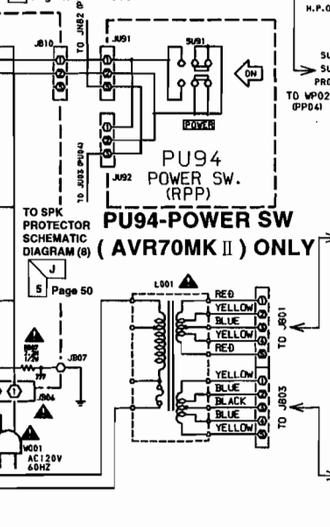
PP04-SURROUND AMP



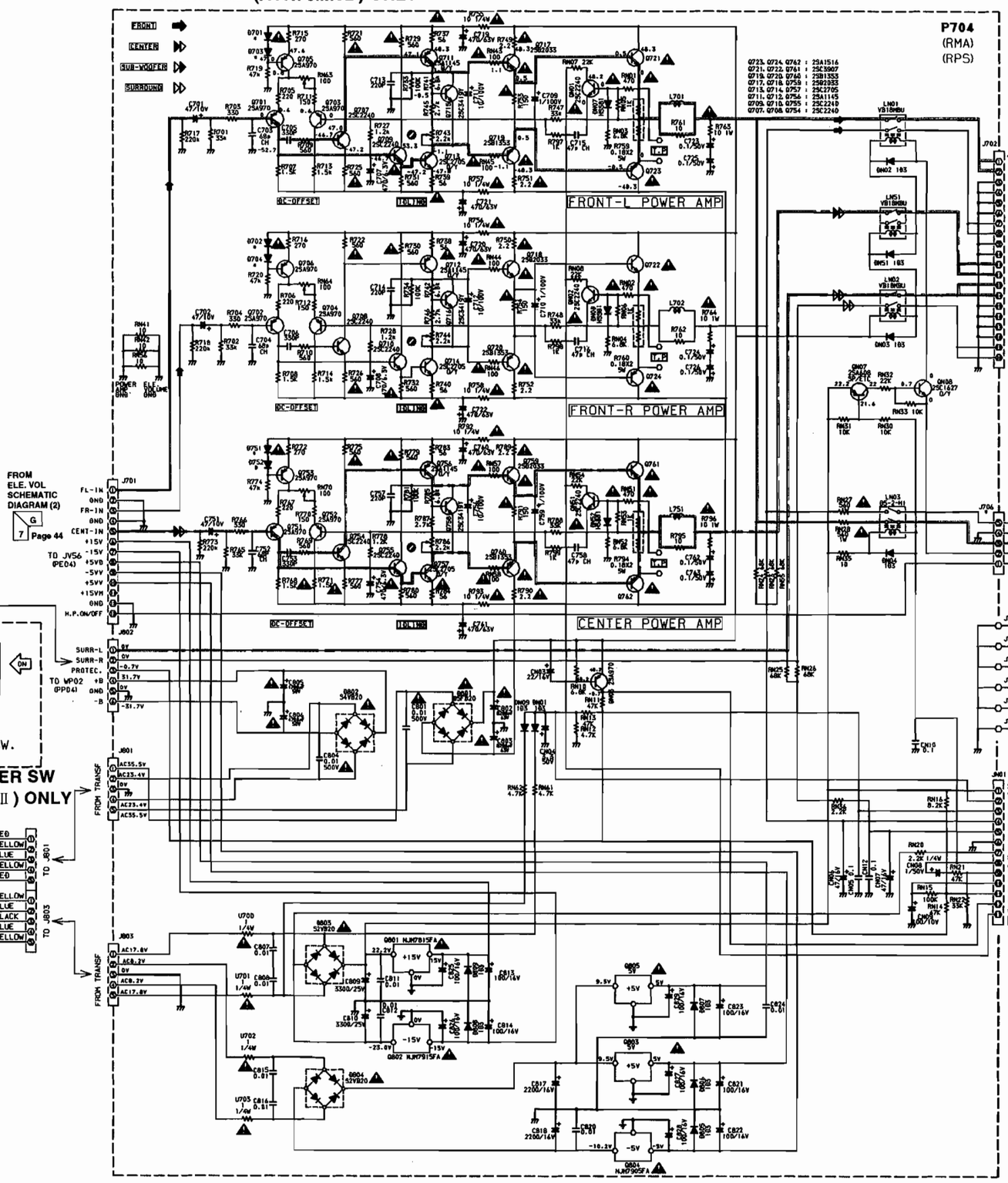
PB04-BACK-UP (AVR70MKⅡ) ONLY



PU94-POWER SW (AVR70MKⅡ) ONLY



P704-MAIN AMP (AVR70MKⅡ) ONLY



SCHEMATIC DIAGRAM (8) BK VERSION

PP04-SURROUND AMP

PP04
(RMB)

TO JV57 (PE04)
SL-IN
GND
SR-IN

FROM ELE. VOL SCHEMATIC DIAGRAM (2)
G
5 Page 44

POWER AMP
CENT./SURR. POWER AMP

TO FRONT SCHEMATIC DIAGRAM (5)
A
5 Page 47

TO J802 (P704)

PB04-BACK-UP (AVR70MKⅡ) ONLY

PB04
(RBU)

AC OUTLETS
SWITCHED
UNSWITCHED
BACK UP SUPPLY

TO JU02 (PU04)
VKK
GND
+5VL
P-DOWN
POWER
F
F

TO FRONT SCHEMATIC DIAGRAM (4)or(5)
J
4 Page 46 or 47

TO JY11 (PY04)

TO CONNECT SCHEMATIC DIAGRAM (6)
B
1 Page 48

TO SPK PROTECTOR SCHEMATIC DIAGRAM (8)
J
5 Page 50

PU94-POWER SW (AVR70MKⅡ) ONLY

PU94
POWER SW.
(RPP)
POWER

TO J801
TO J803

P704-MAIN AMP (AVR70

FRONT
CENTER
SUB-WOOFER
SURROUND

FROM ELE. VOL SCHEMATIC DIAGRAM (2)
G
7 Page 44

TO JV56 (PE04)
FL-IN
GND
FR-IN
GND
CENT-IN
+15V
-15V
+5VD
-5VV
+5VV
+15VM
GND
H.P.ON/OFF

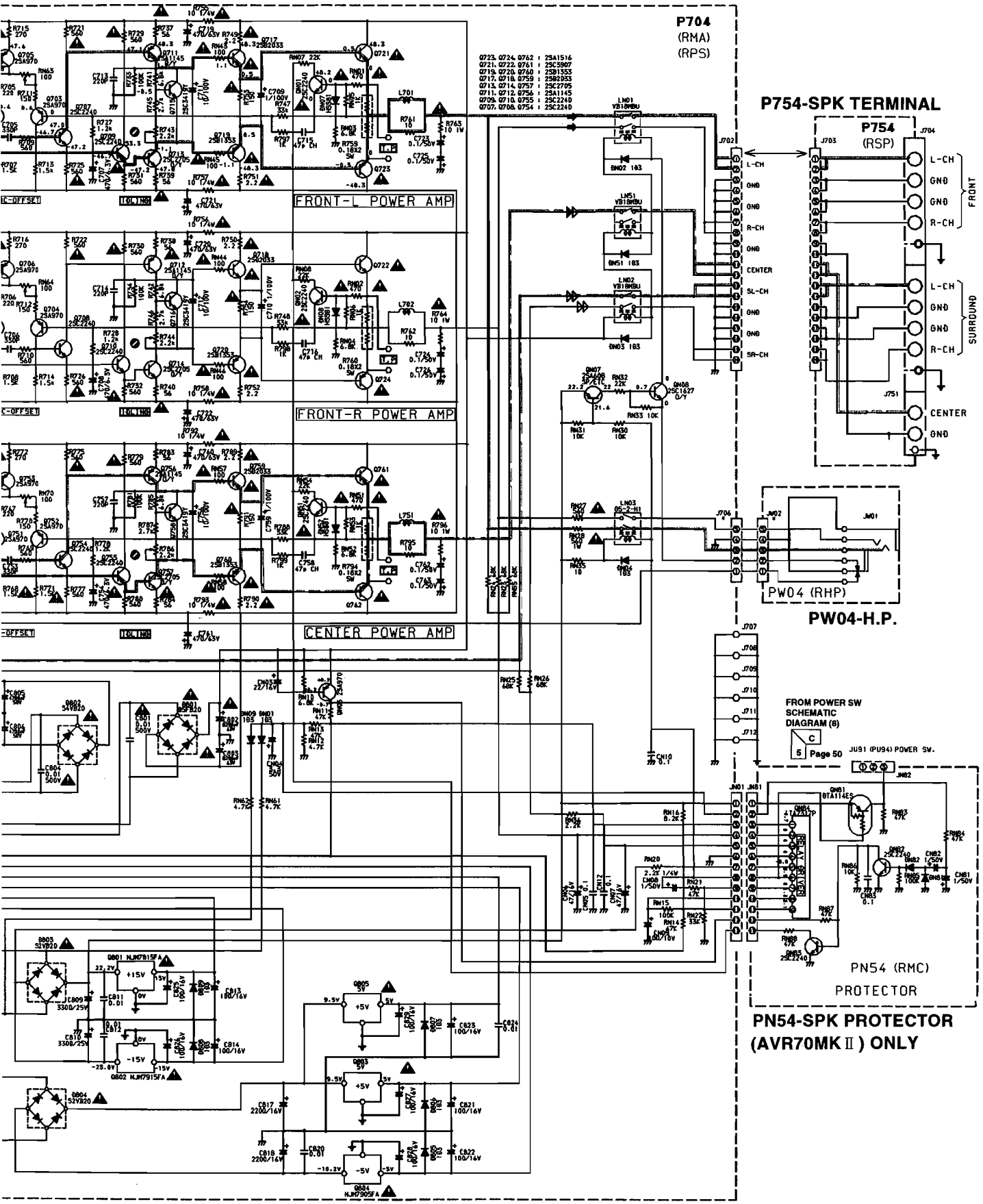
TO WP02 (PP04)
SURR-L
SURR-R
PROTEC.
+B
GND
-B

FROM TRANSF

DC-OFFSET

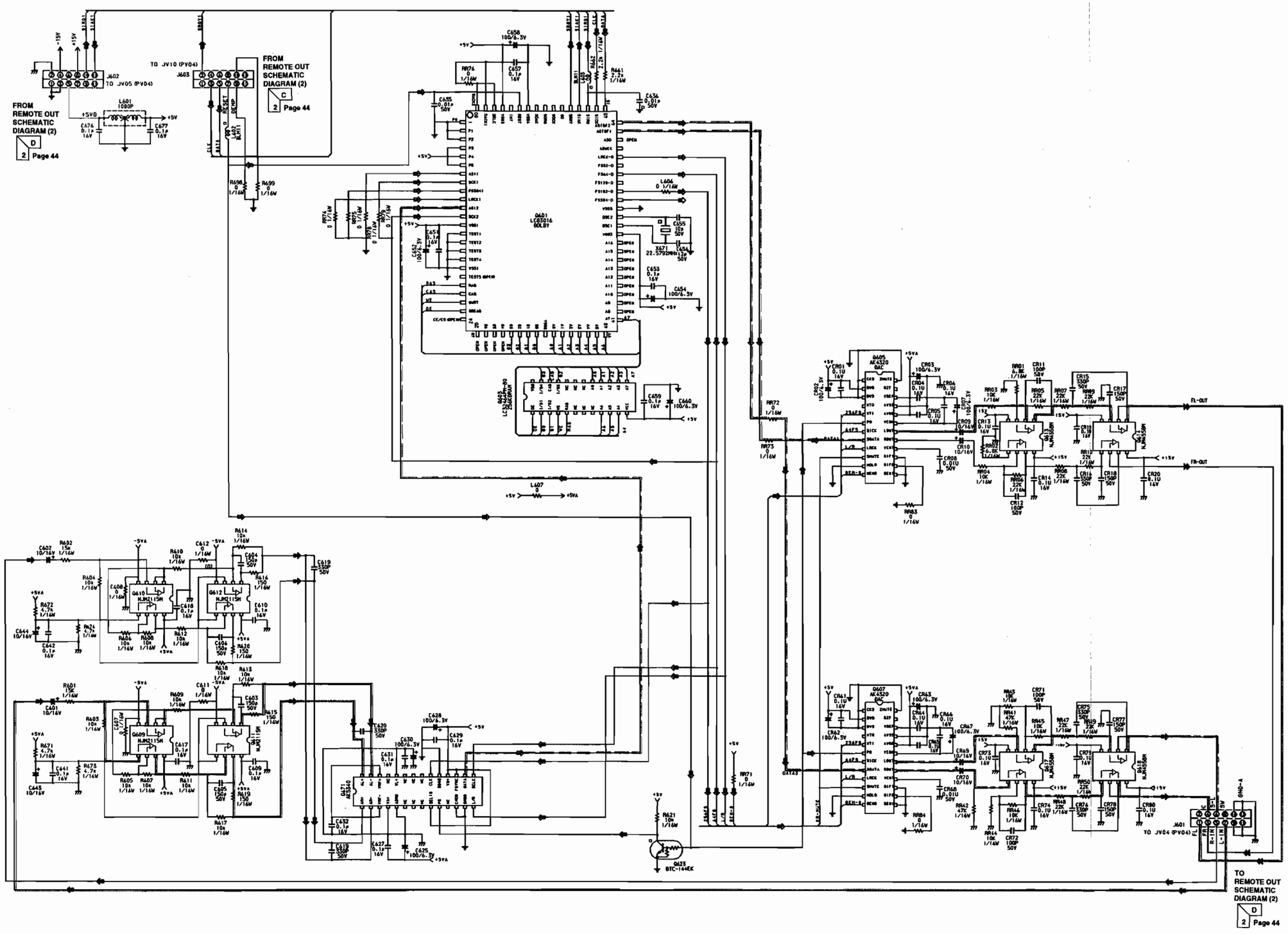
F G H I J

'R70MKⅡ) ONLY



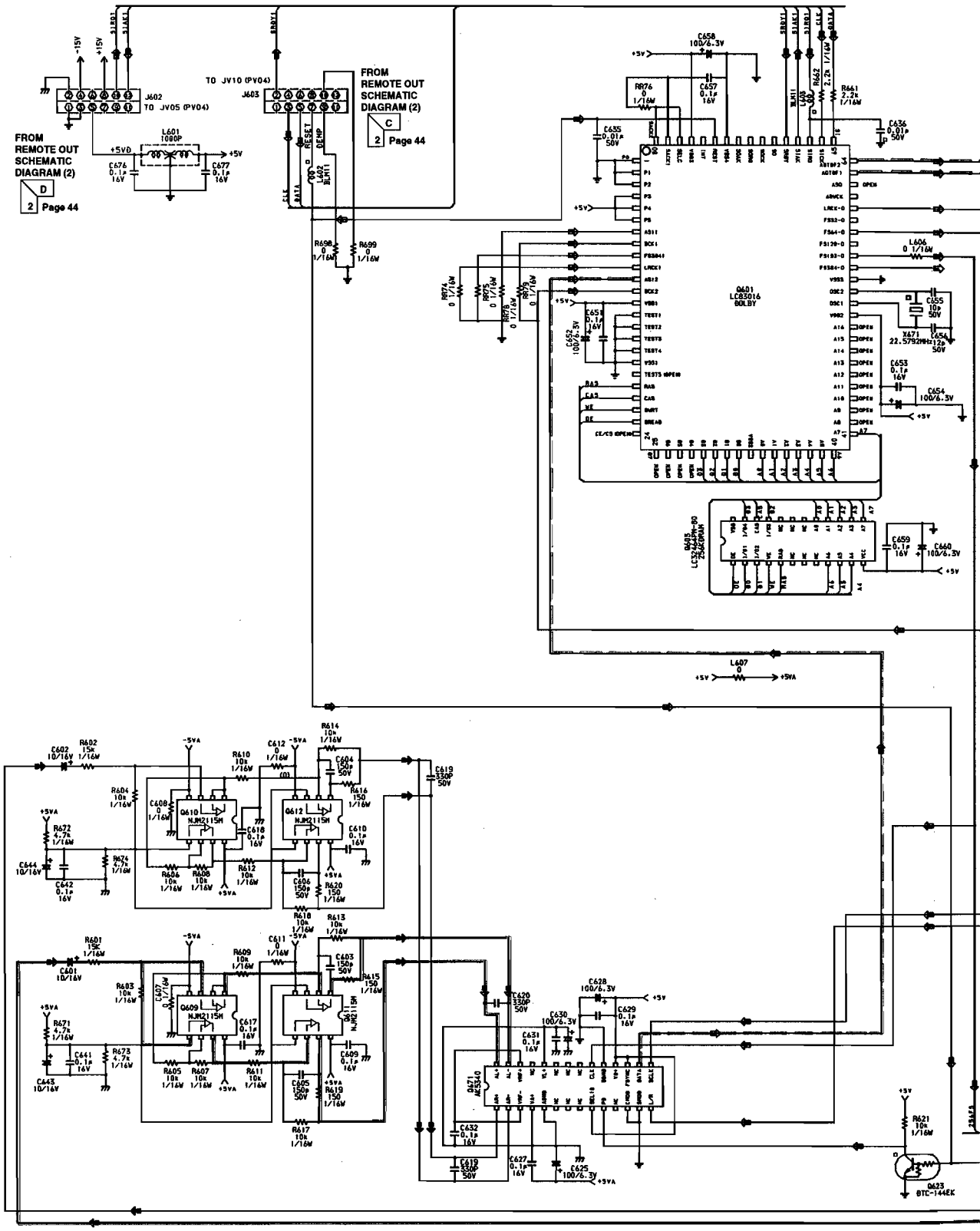
SCHEMATIC DIAGRAM (9) BK VERSION

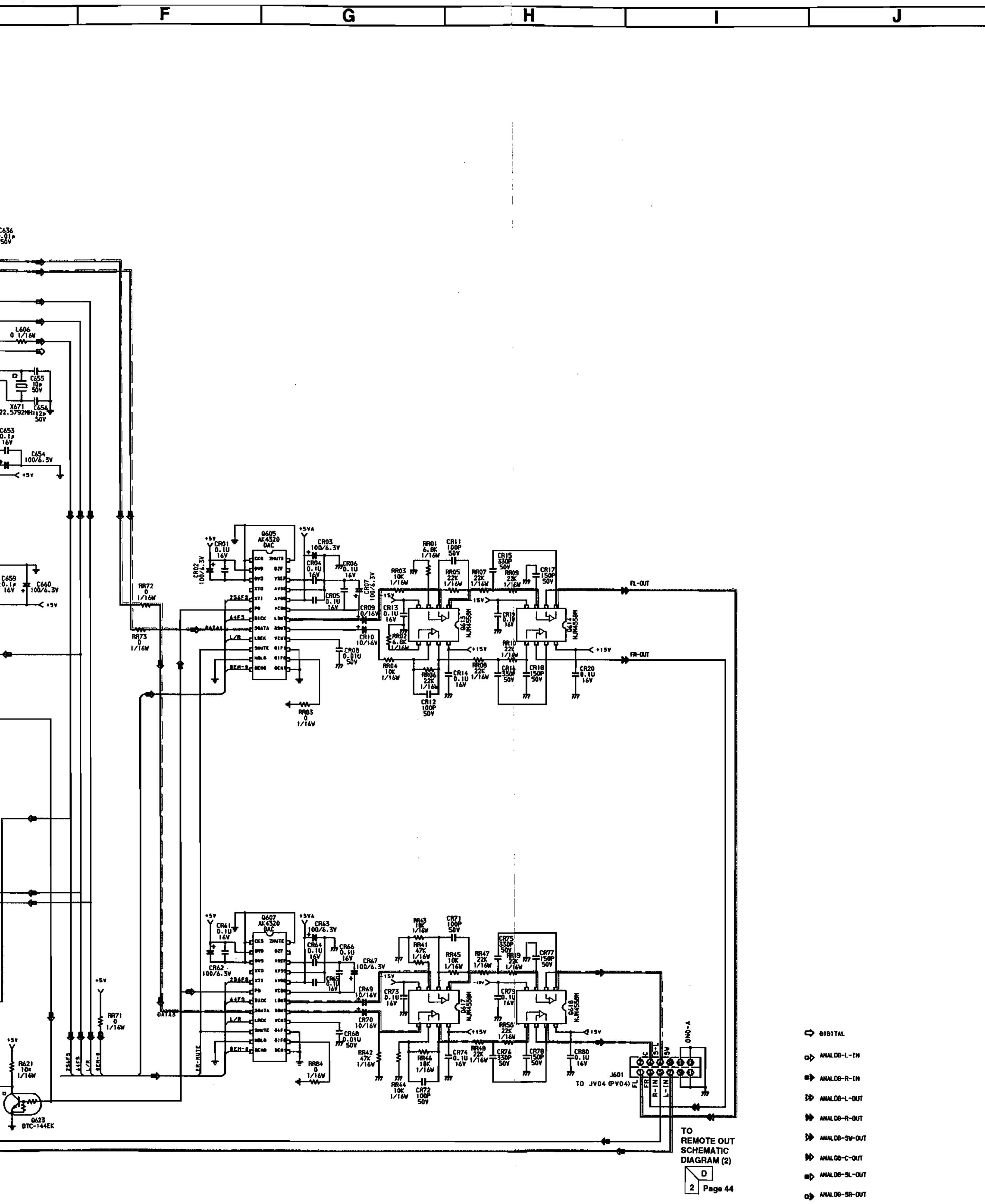
P604-THX PRO-LOGIC DSP



SCHEMATIC DIAGRAM (9) BK VERSION

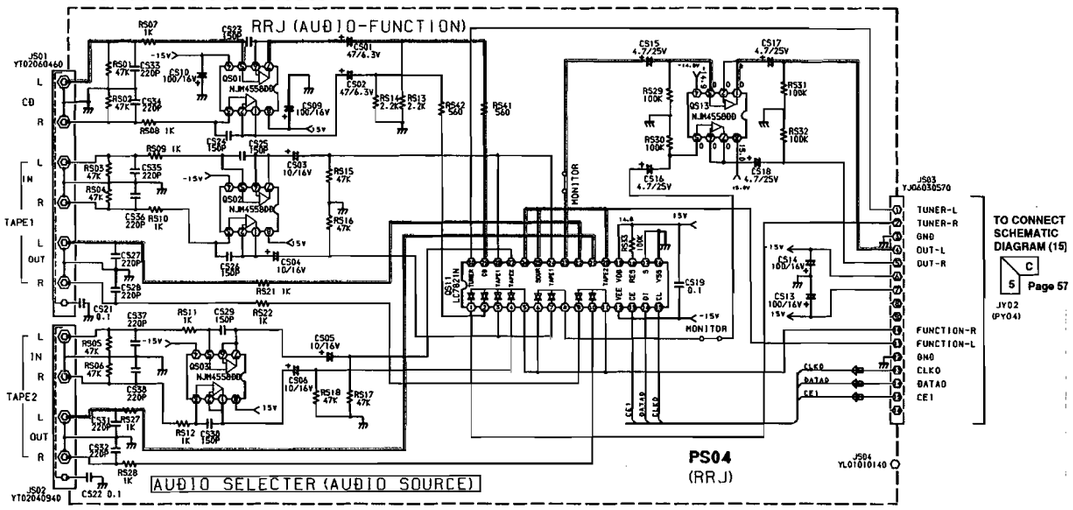
P604-THX PRO-LOGIC DSP



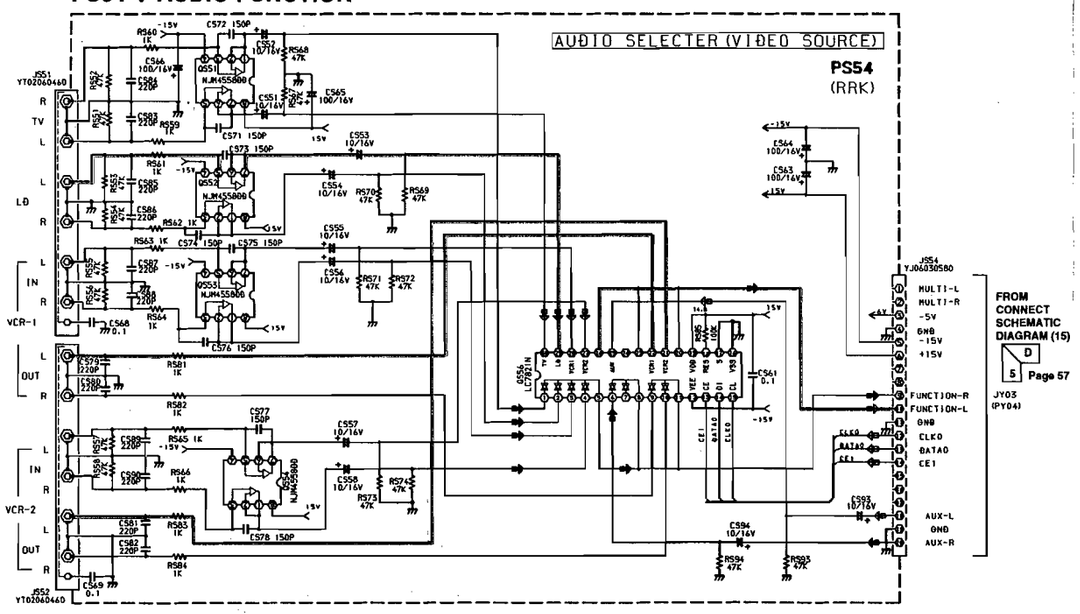

F
G
H
I
J
Q605
AK4320
DAC
Q607
AK4320
DAC
Q613
NJM4558M
Q614
NJM4558M
Q617
NJM4558M
Q618
NJM4558M
FL-OUT
FR-OUT
J601
TO JV04 (PV04)
GND-A
Q623
DTC-144EK
X671
22.5792MHz
TO
REMOTE OUT
SCHEMATIC
DIAGRAM (2)
D
2 Page 44
DIGITAL
ANALOG-L-IN
ANALOG-R-IN
ANALOG-L-OUT
ANALOG-R-OUT
ANALOG-SW-OUT
ANALOG-C-OUT
ANALOG-SL-OUT
ANALOG-SR-OUT

SCHEMATIC DIAGRAM (10) (IB) VERSION

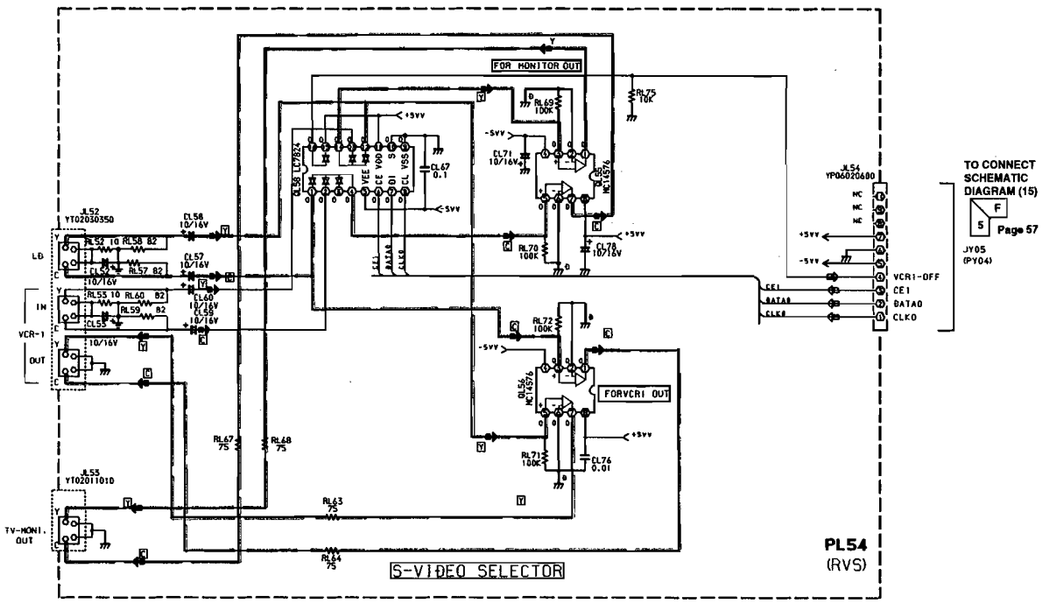
PS04-AUDIO FUNCTION



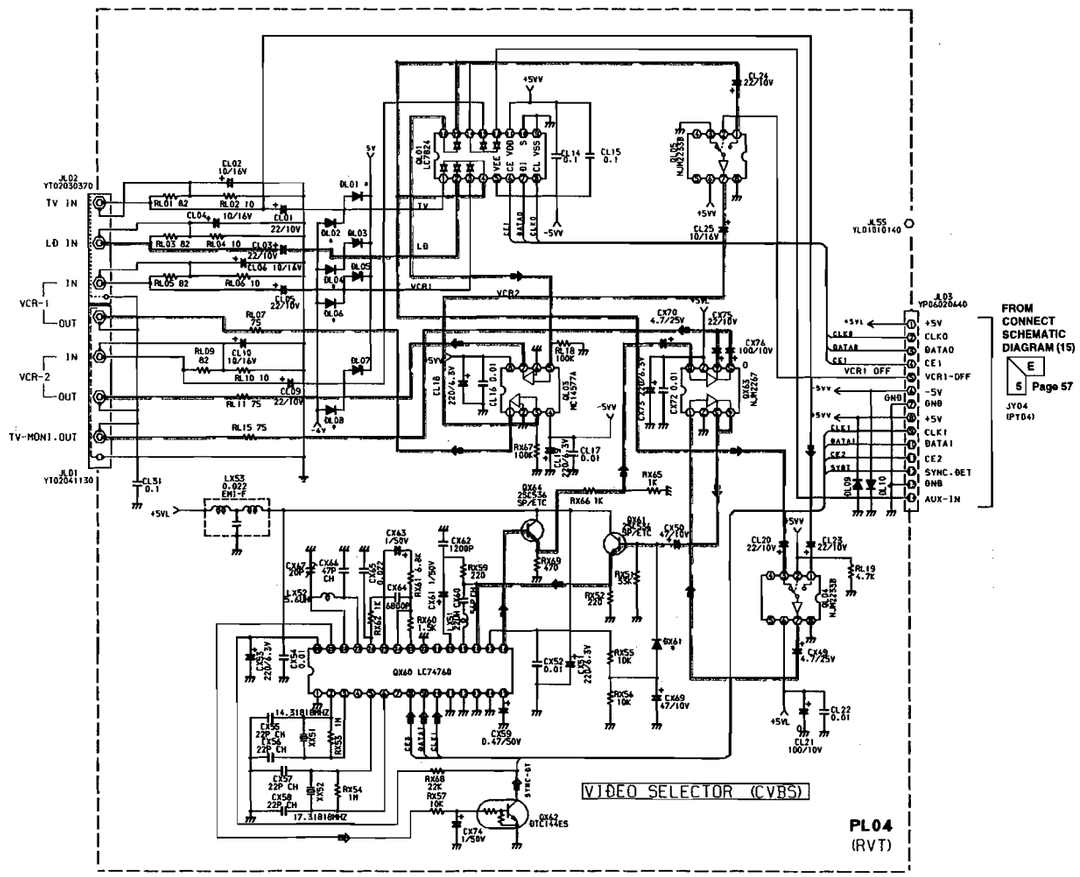
PS54-V-AUDIO FUNCTION



PL04-VIDEO SELECTOR

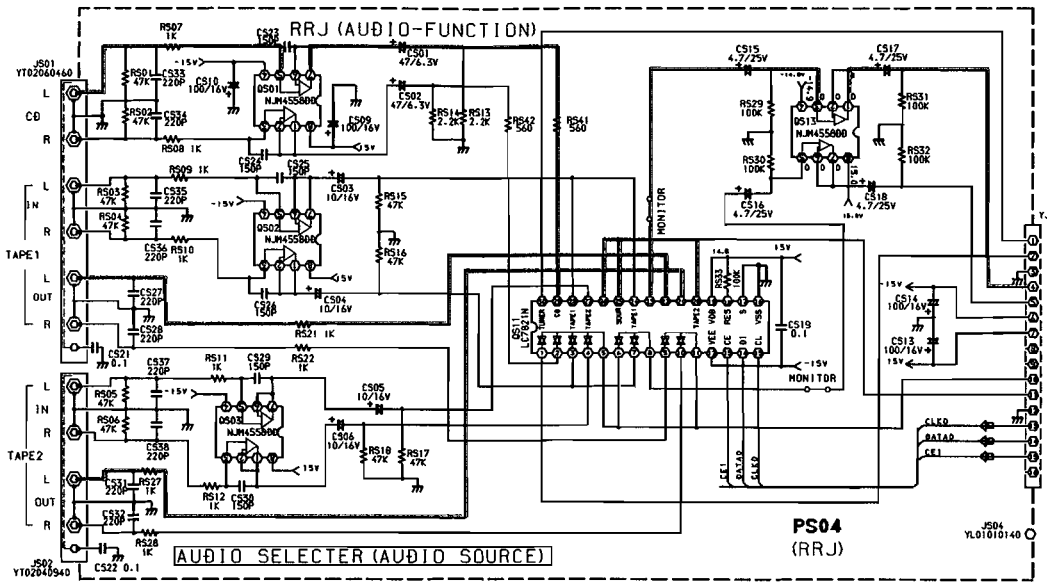


PL54-S-VIDEO

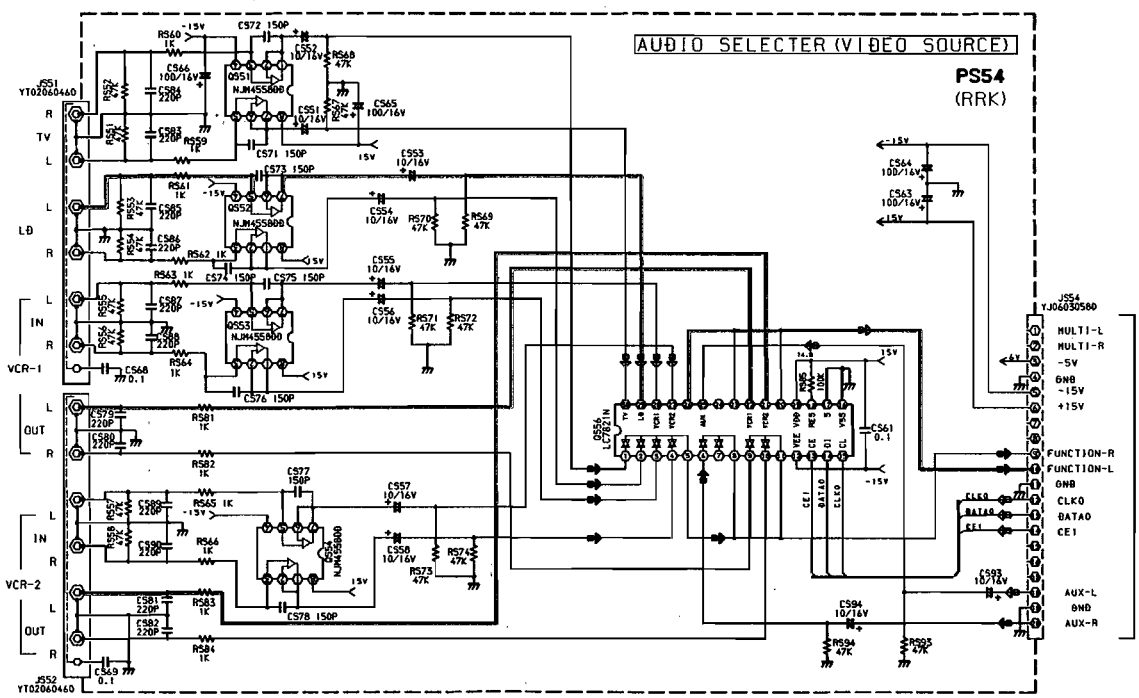


SCHEMATIC DIAGRAM (10) (IB) VERSION

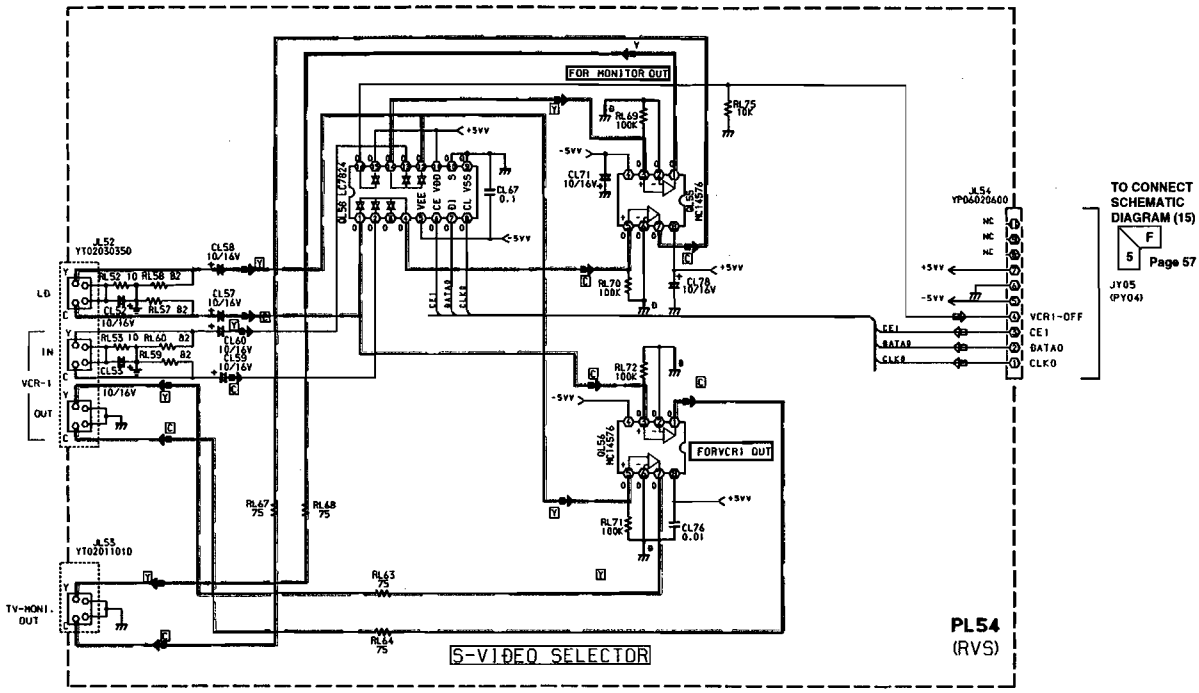
PS04-AUDIO FUNCTION



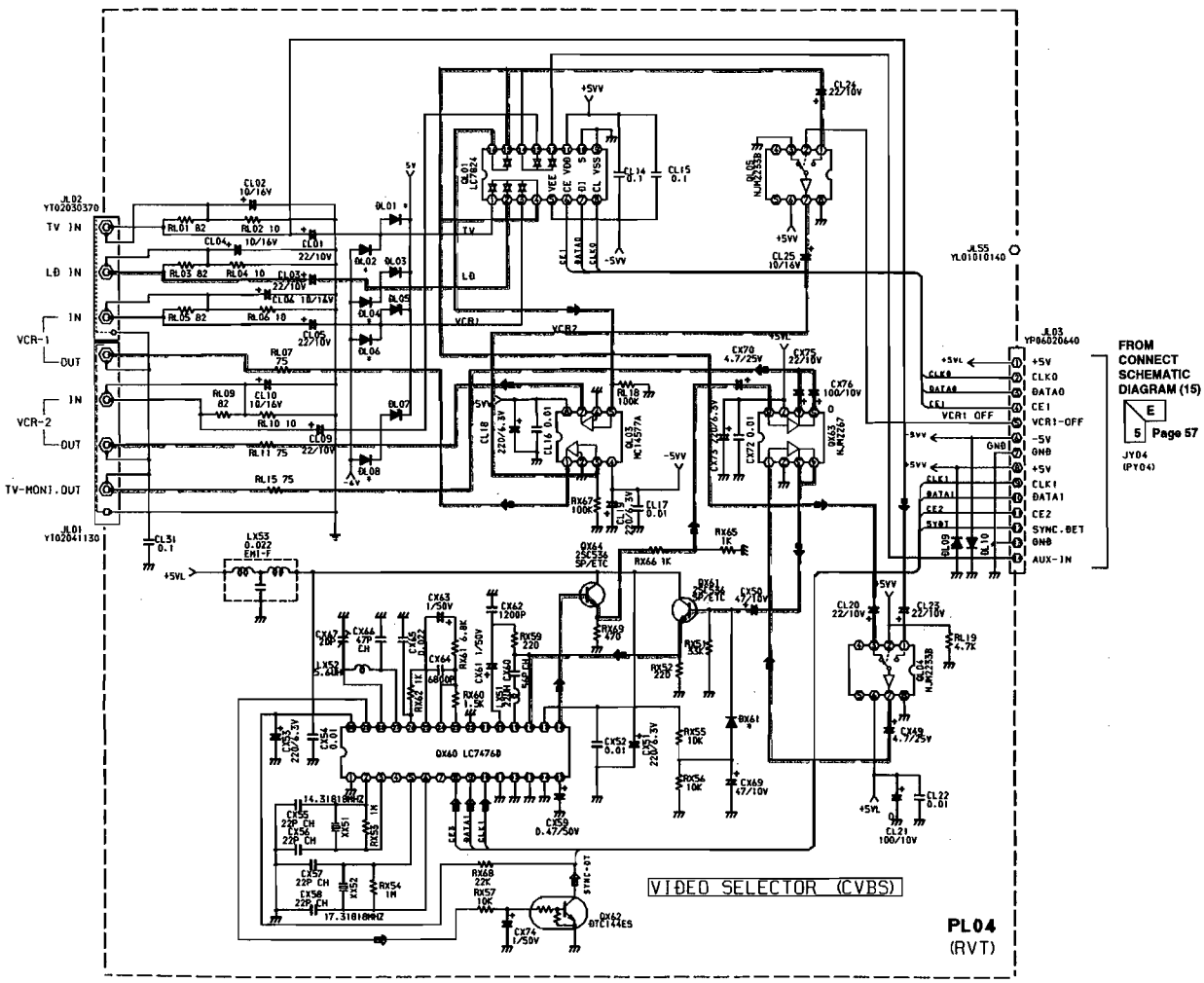
PS54-V-AUDIO FUNCTION



PL04-VIDEO SELECTOR

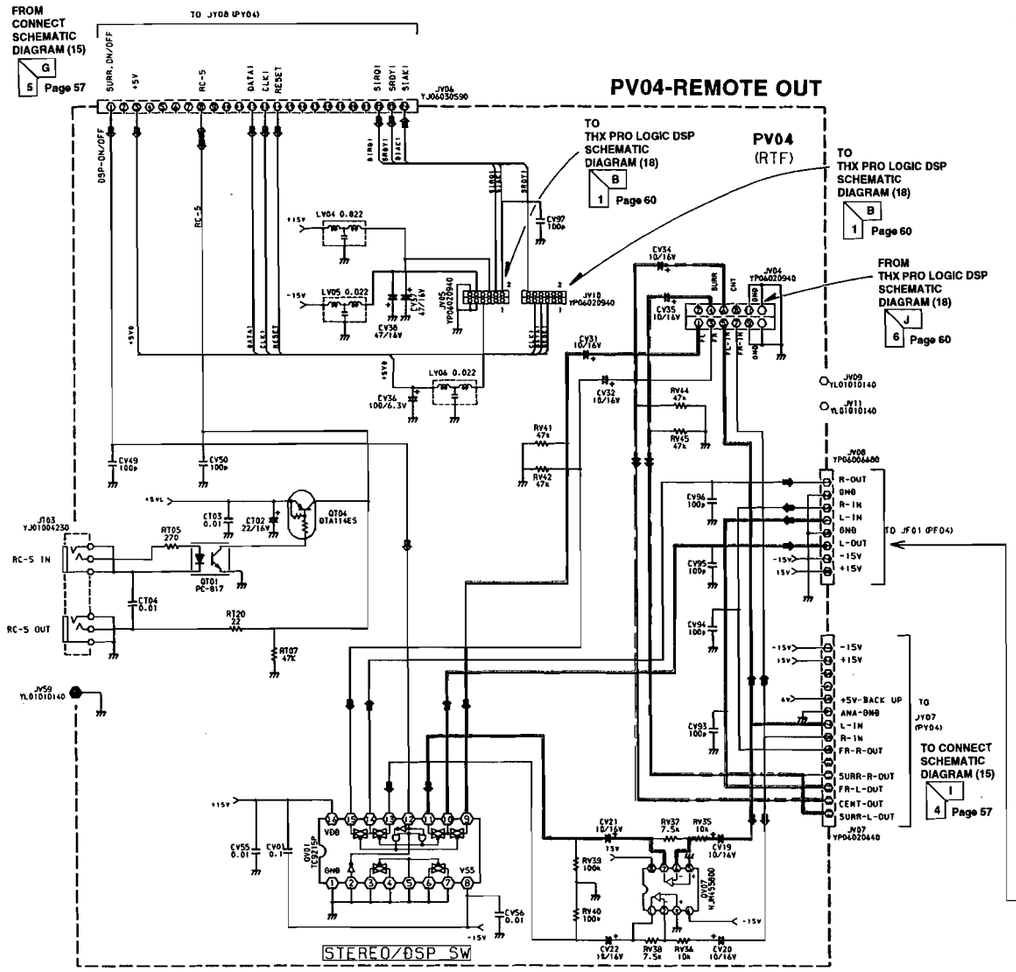


PL54-S-VIDEO

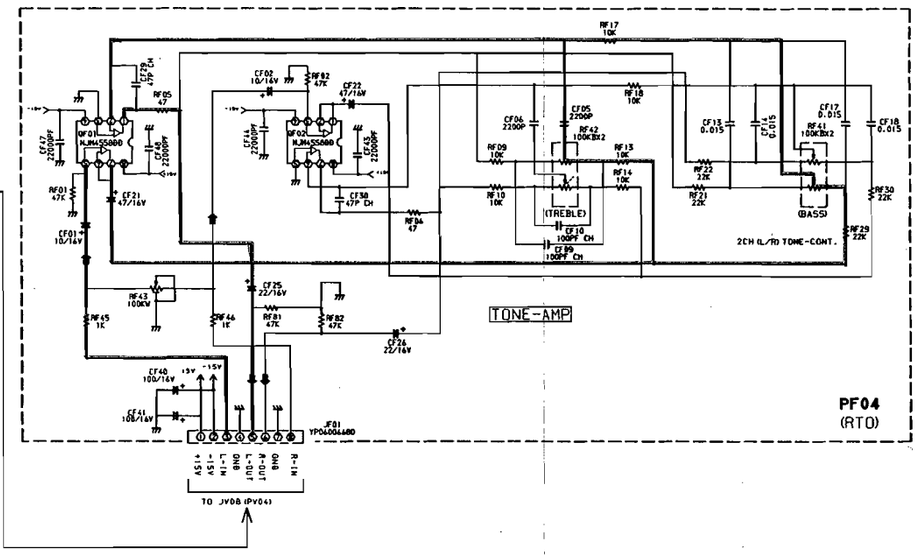


SCHEMATIC DIAGRAM (11) (B) VERSION

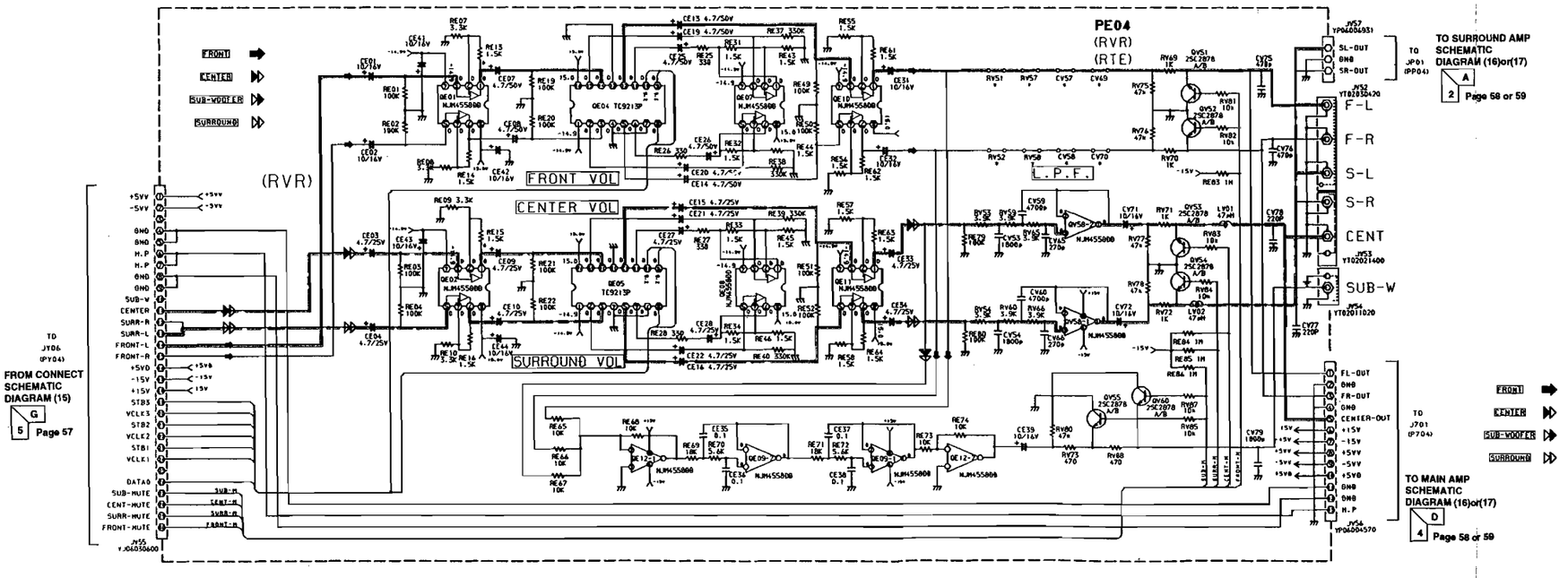
PV04-REMOTE OUT

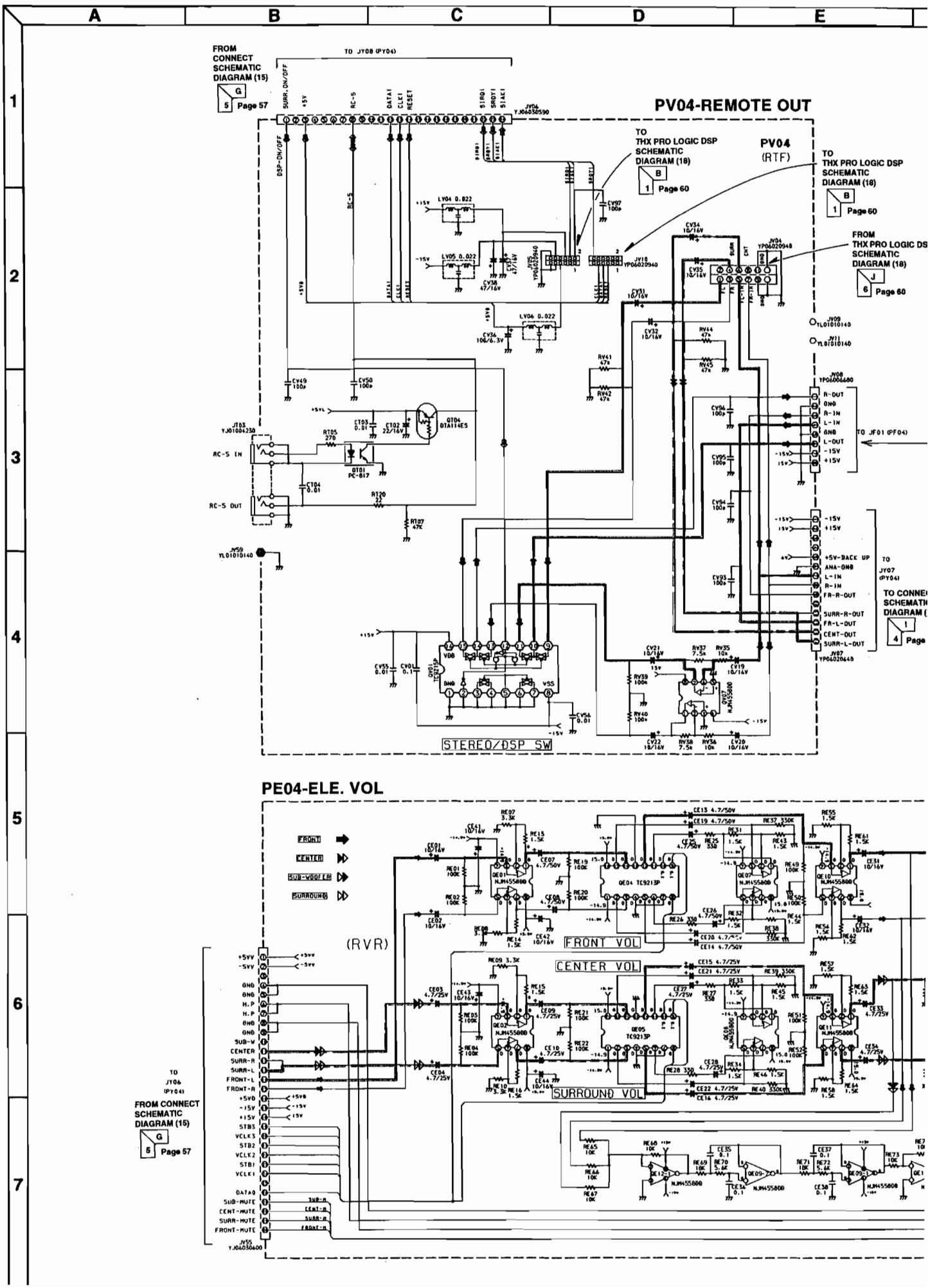


PF04-TONE



PE04-ELE. VOL




A
B
C
D
E
1
2
3
4
5
6
7
FROM CONNECT SCHEMATIC DIAGRAM (15)
G
5 Page 57
TO JY08 (PY04)
PV04-REMOTE OUT
PV04
(RTF)
TO THX PRO LOGIC DSP SCHEMATIC DIAGRAM (18)
B
1 Page 60
FROM THX PRO LOGIC DSP SCHEMATIC DIAGRAM (18)
J
6 Page 60
TO JF01 (PF04)
TO JY07 (PY04)
STEREO/DSP SW
PE04-ELE. VOL
FRONT
CENTER
SUB-WOOFER
SURROUND
(RVR)
FRONT VOL
CENTER VOL
SURROUND VOL
TO JY06 (PY04)
FROM CONNECT SCHEMATIC DIAGRAM (15)
G
5 Page 57

F G H I J

SCHEMATIC DIAGRAM (11) IB VERSION

PRO LOGIC DSP
HEMATIC
GRAM (18)
B
Page 60

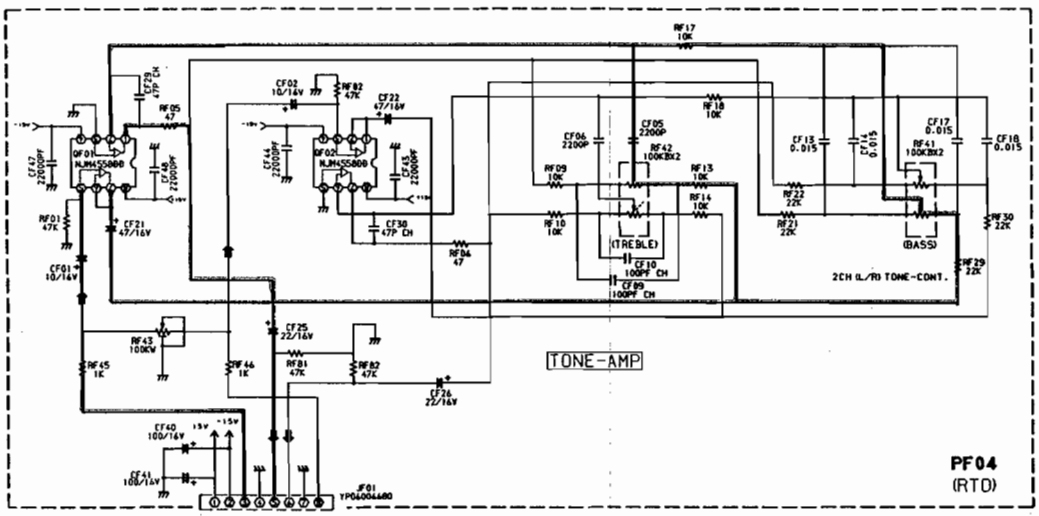
FROM
THX PRO LOGIC DSP
SCHEMATIC
DIAGRAM (18)
J
6 Page 60

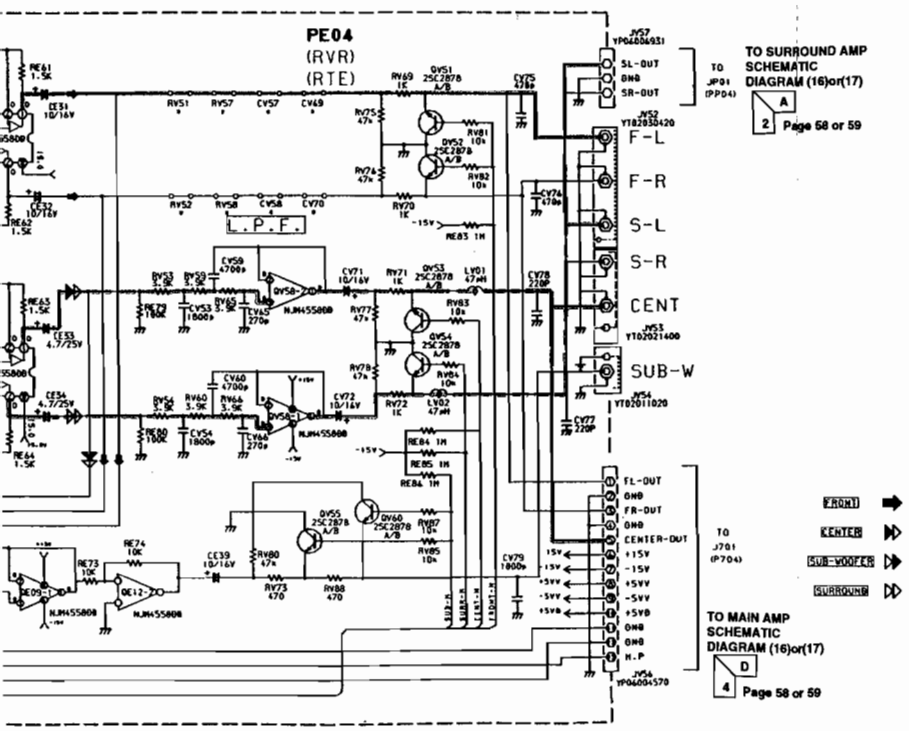
TO JF01 (PF04)

TO
JY07
(PY04)

TO CONNECT
SCHEMATIC
DIAGRAM (15)
I
4 Page 57

PF04-TONE





TO SURROUND AMP
SCHEMATIC
DIAGRAM (16)or(17)
A
2 Page 58 or 59

TO
JP01
(PP04)

TO
J701
(P704)

TO MAIN AMP
SCHEMATIC
DIAGRAM (16)or(17)
D
4 Page 58 or 59

SCHEMATIC DIAGRAM (12) IB VERSION

P104-TUNER

P104
(RTU)
(RSY)
(RRÐ)

RÐS ÐECORÐER

RÐS ÐEMODULATOR

RÐS ERROR CORRECTION

RÐS RST
RÐS CLK
RÐS ÐATA
RÐS START

PLL-BLOCK

FM AM IF/MPX

PRE AMP

TUNING VOLTAGE

FM 87.5MHZ	1.6V	108MHZ	7.8V
AM 531KHZ	1.3V	1602KHZ	7.1V

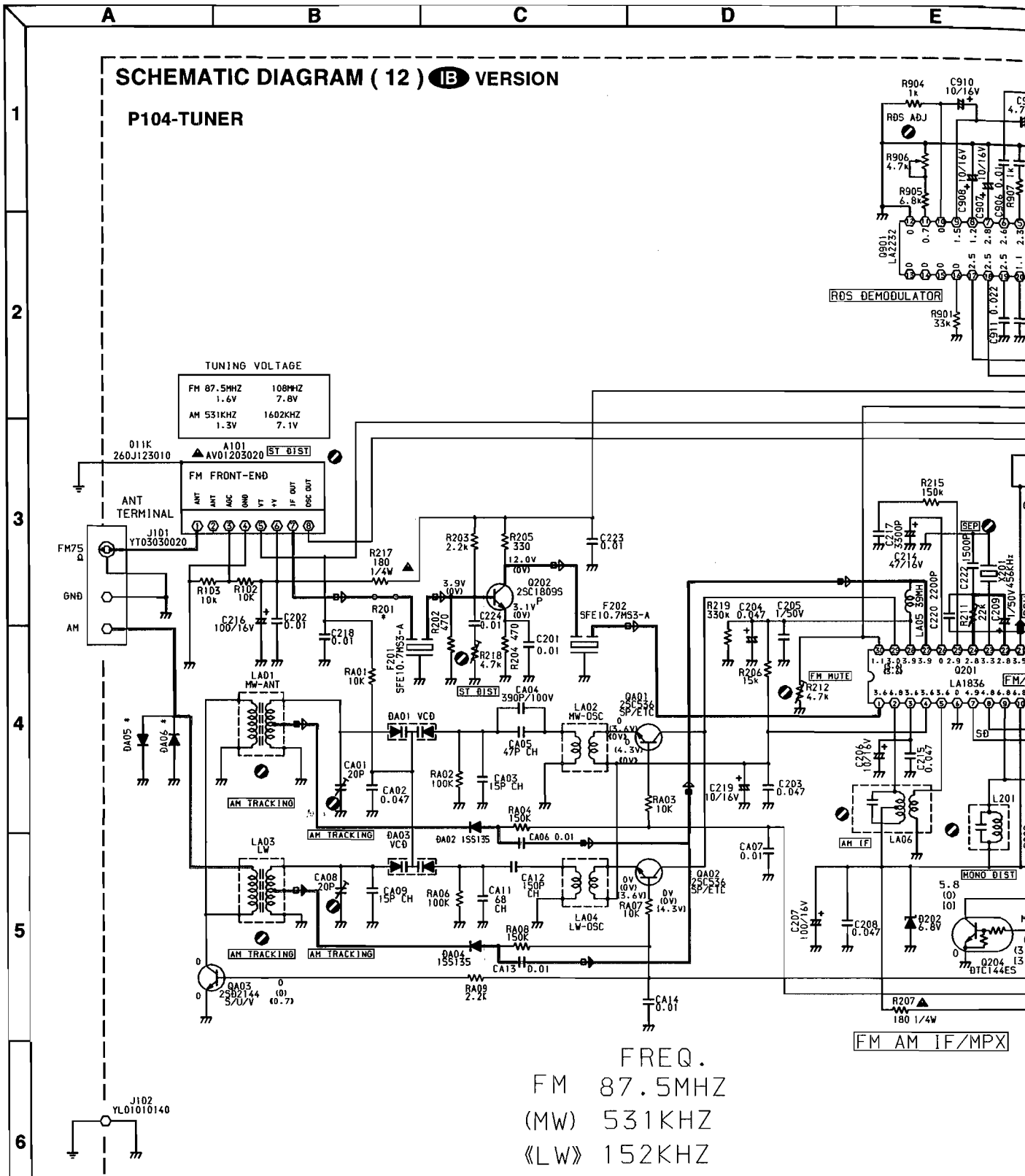
FREQ.
FM 87.5MHZ
(MW) 531KHZ
《LW》 152KHZ

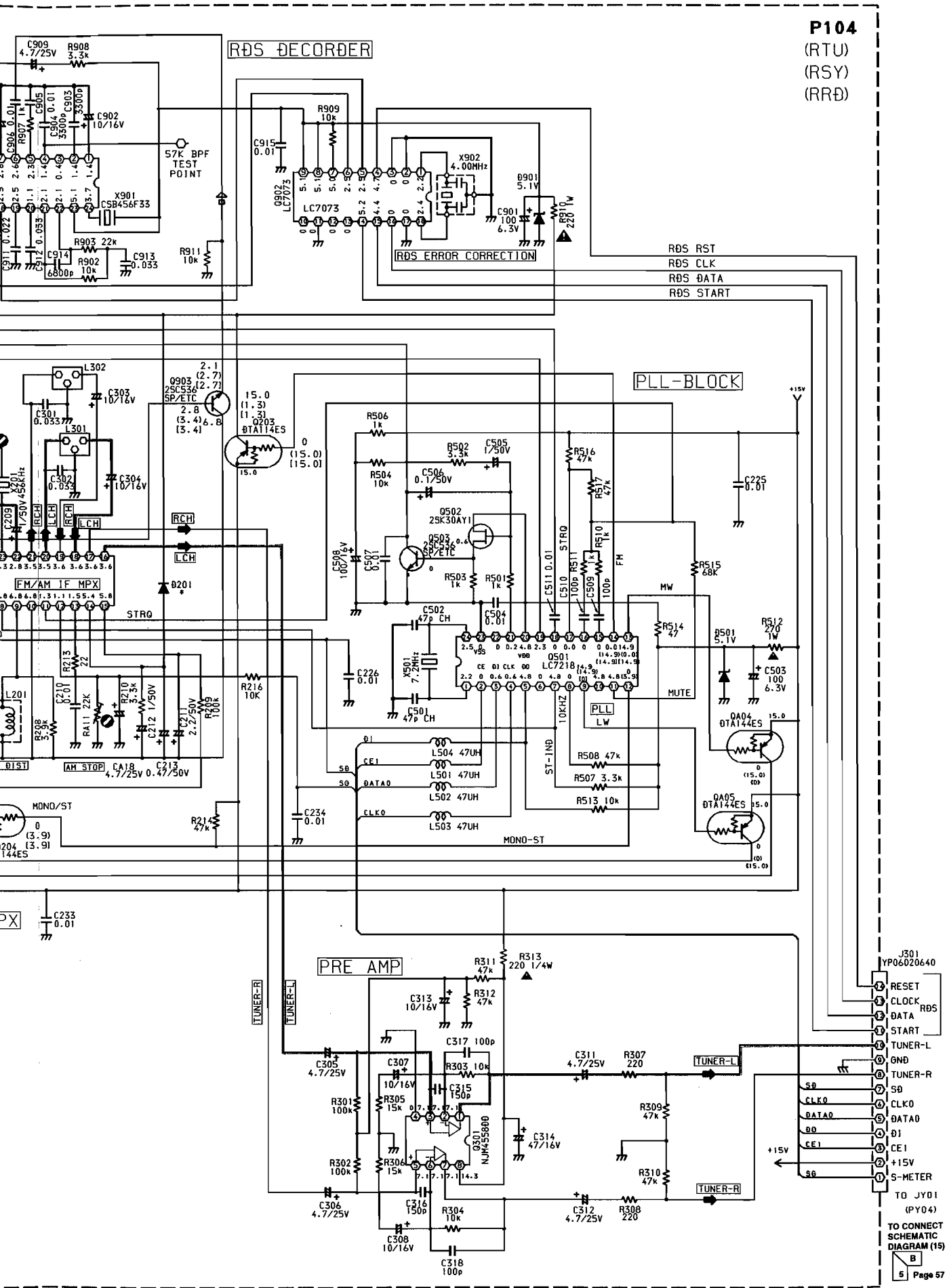
TO JY01 (PY04)

TO CONNECT SCHEMATIC DIAGRAM (15)
B 5 Page 57

SCHEMATIC DIAGRAM (12) IB VERSION

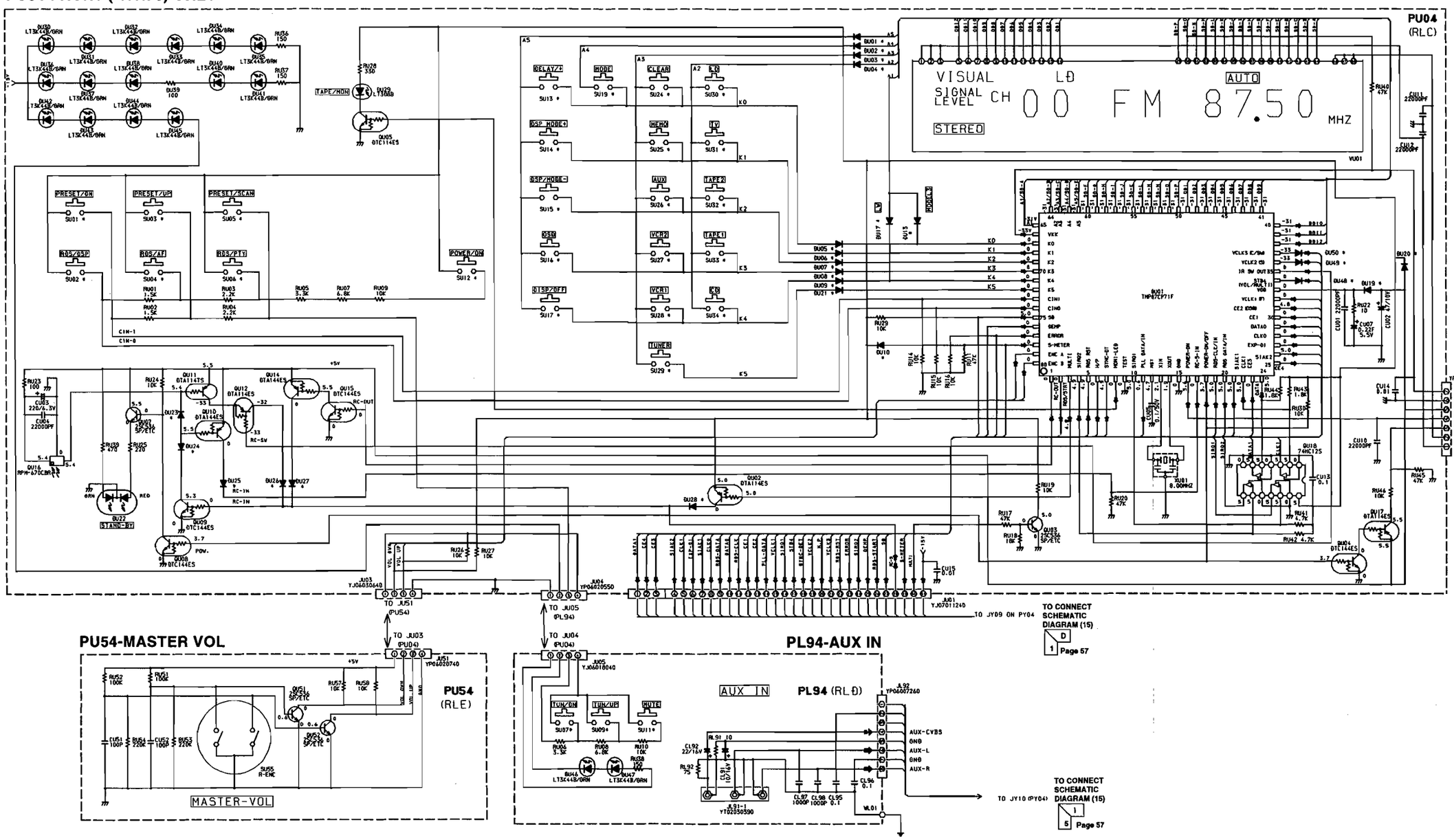
P104-TUNER




P104
(RTU)
(RSY)
(RRD)
RDS DECORDER
RDS ERROR CORRECTION
RDS RST
RDS CLK
RDS DATA
RDS START
PLL-BLOCK
PRE AMP
FM/AM IF MPX
57K BPF TEST POINT
X901 CSB456F33
X902 4.00MHz
LC7073
LC7218
STRQ
RCH
LCH
MUTE
PLL
LW
FM
MW
AM STOP
MONO/ST
MONO-ST
ST-IND
10KHZ
TUNER-L
TUNER-R
NJM4558DD
J301 YP06020640
RESET
CLOCK
DATA
START
TUNER-L
GND
TUNER-R
SD
CLKO
DATAO
DO
DI
CEI
+15V
S-METER
TO JY01 (PY04)
TO CONNECT SCHEMATIC DIAGRAM (15)
B 5 Page 57

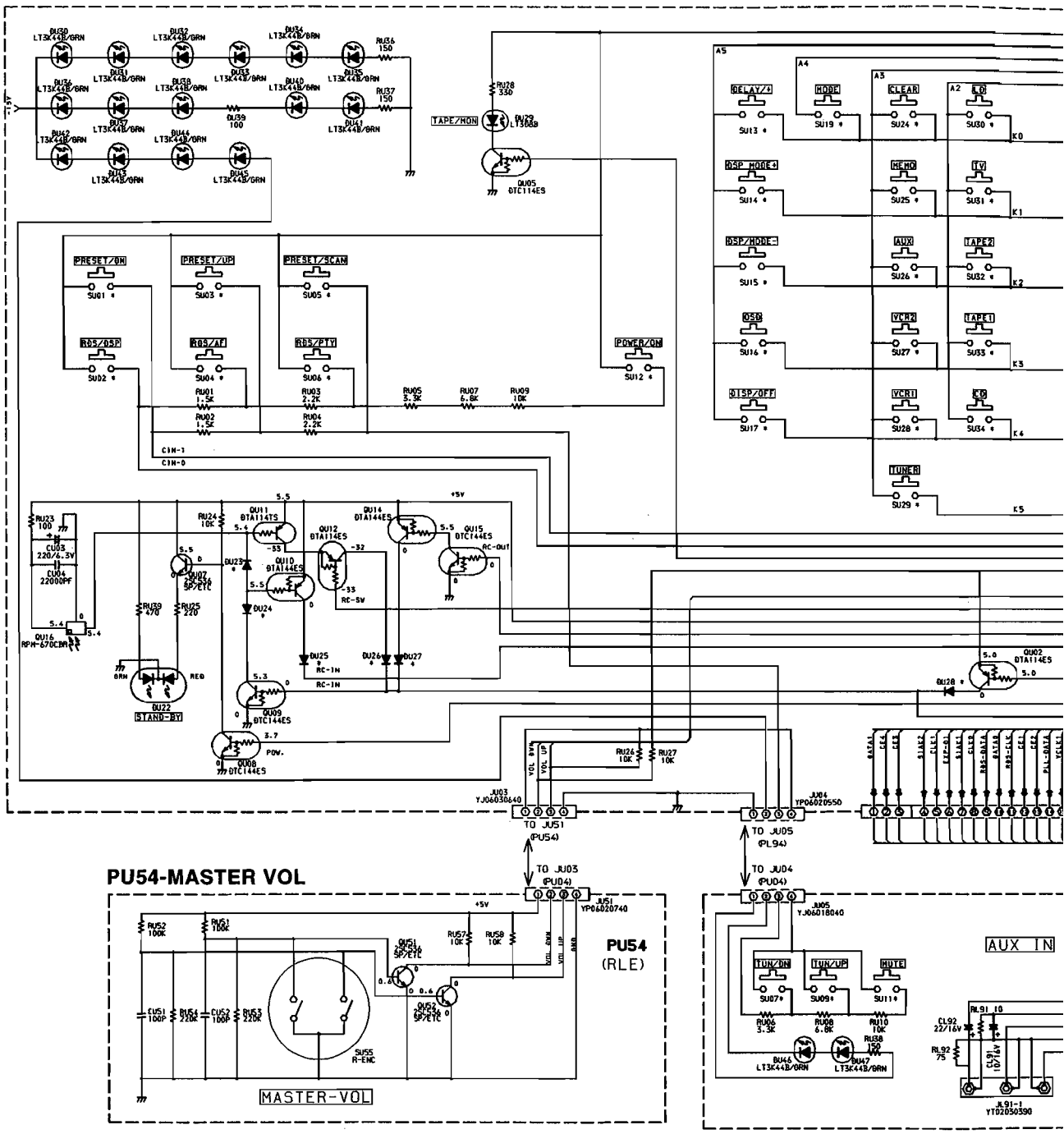
SCHEMATIC DIAGRAM (13) IB VERSION

PU04-FRONT (AVR70) ONLY



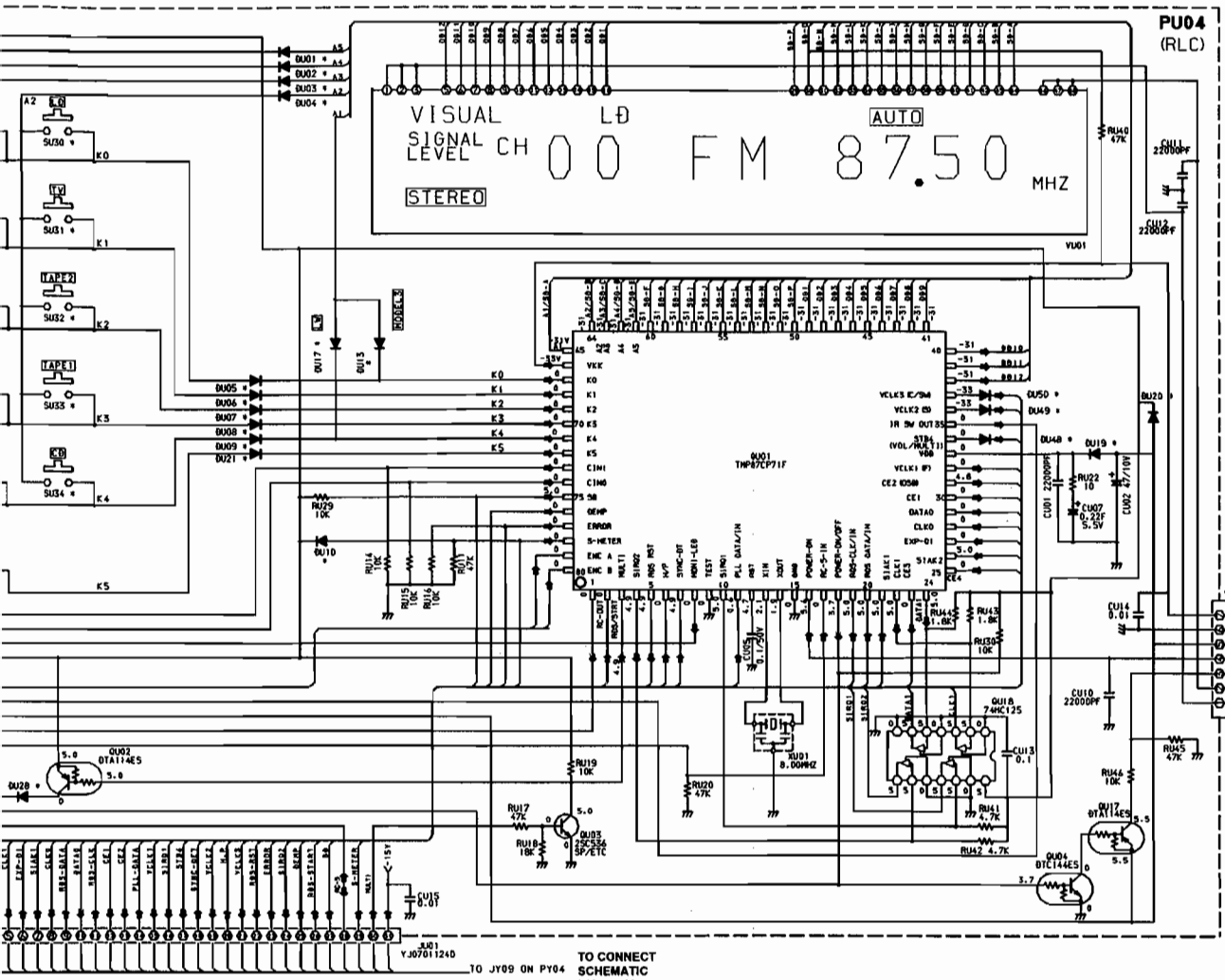
SCHEMATIC DIAGRAM (13) IB VERSION

PU04-FRONT (AVR70) ONLY

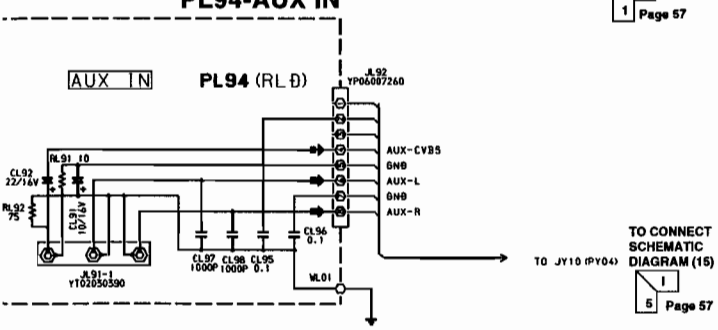


PU54-MASTER VOL

	F	G	H	I	J

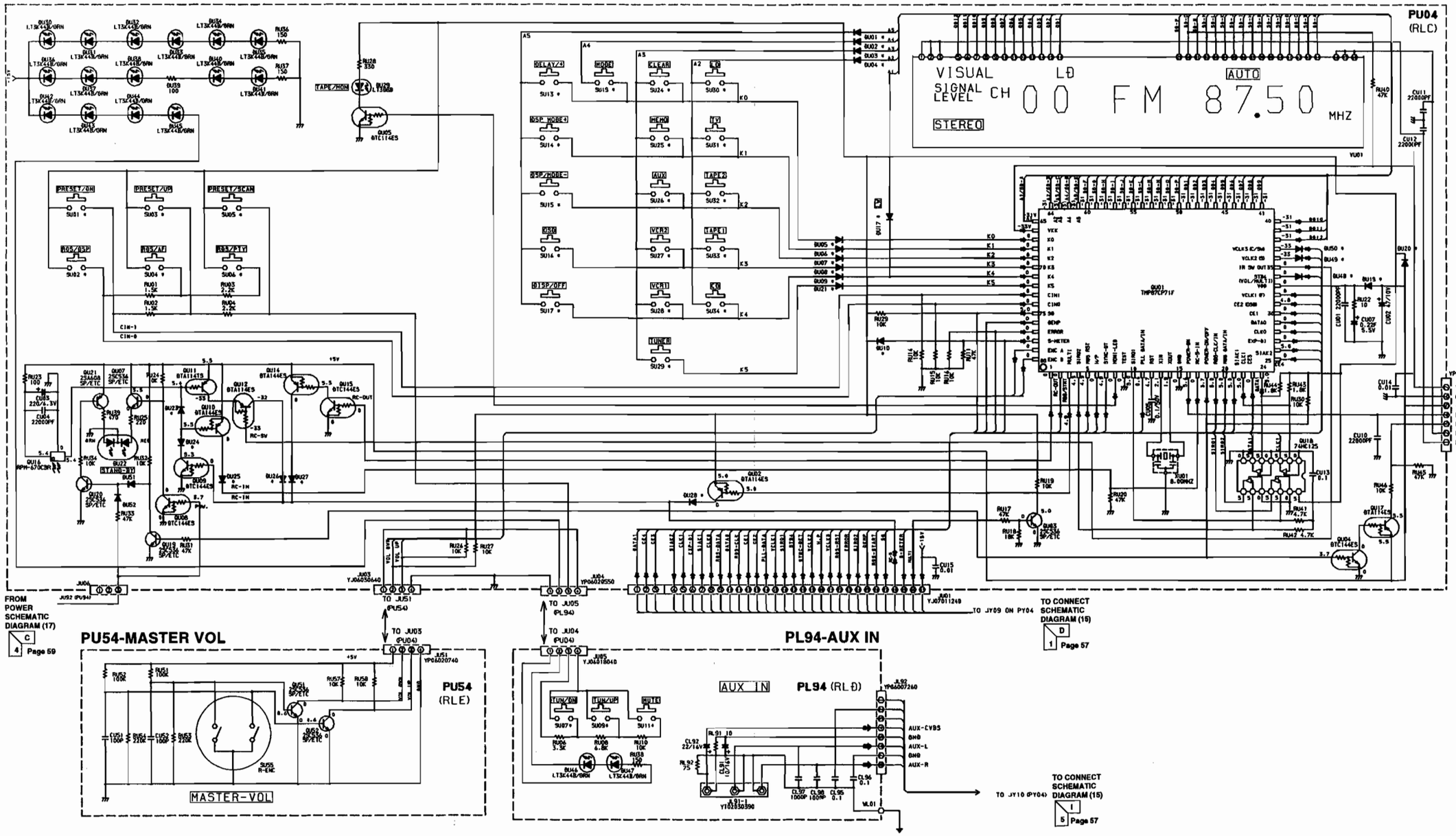


PL94-AUX IN



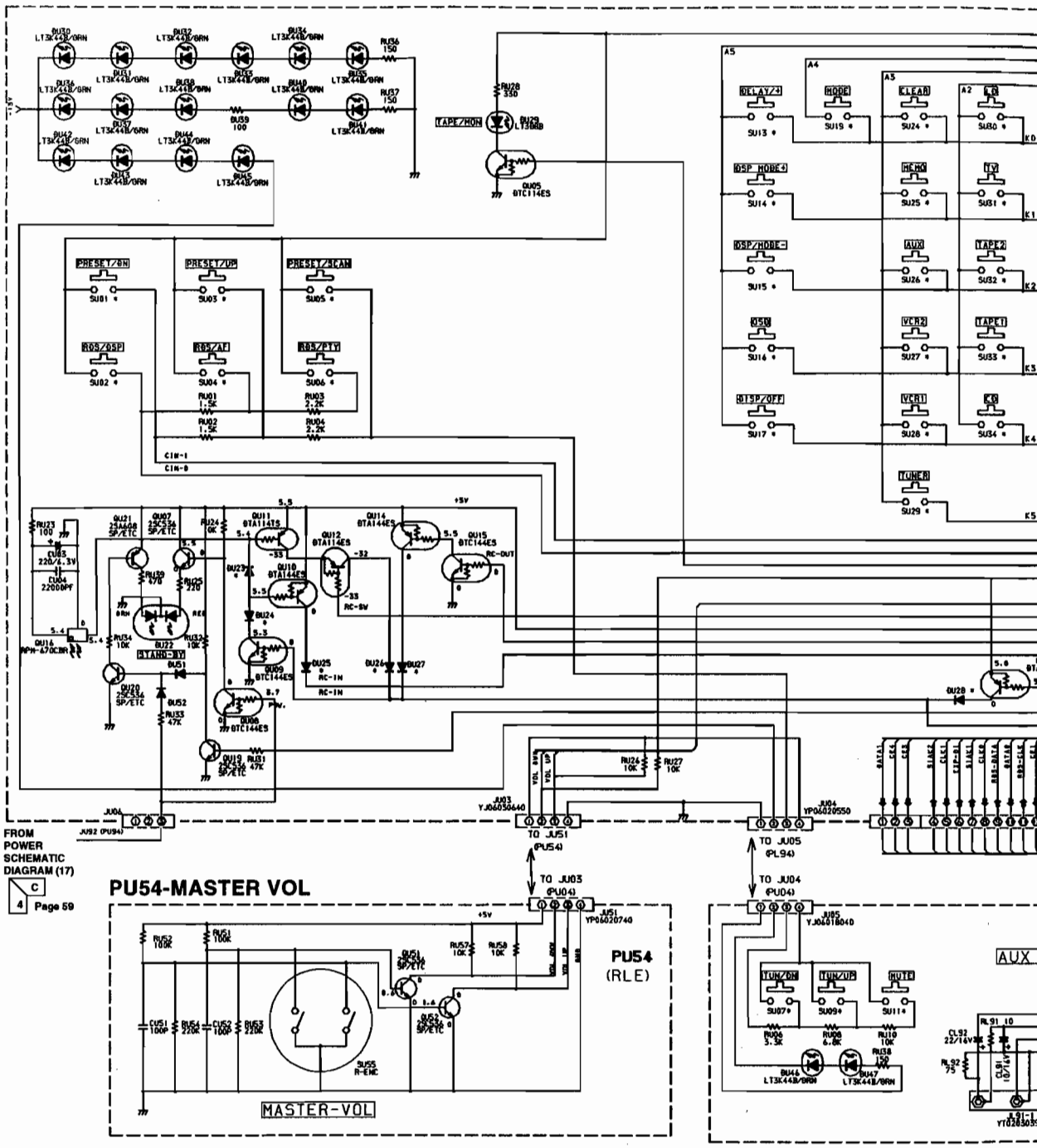
SCHEMATIC DIAGRAM (14) (IB) VERSION

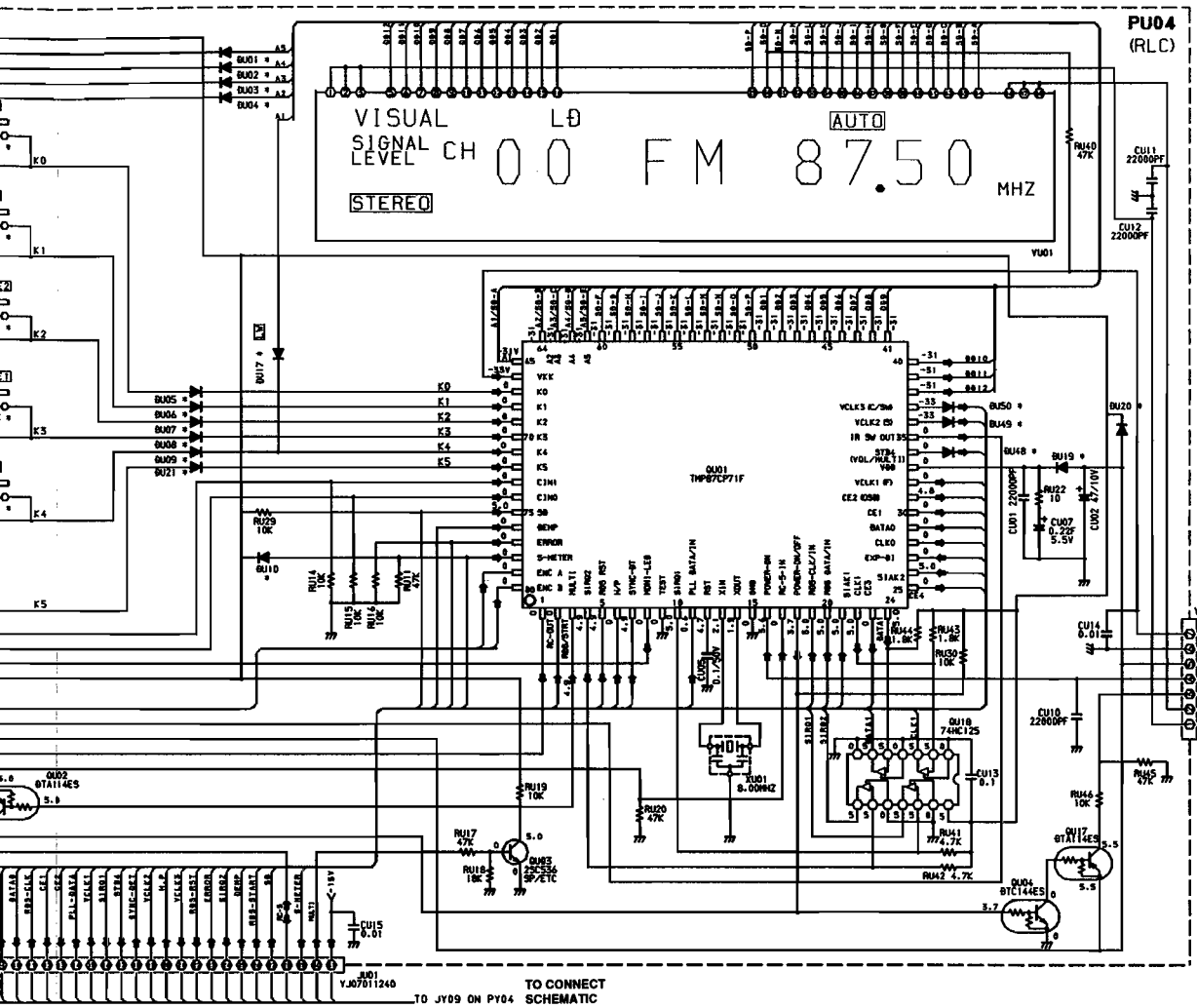
PU04-FRONT (AVR70) [MOMS] ONLY

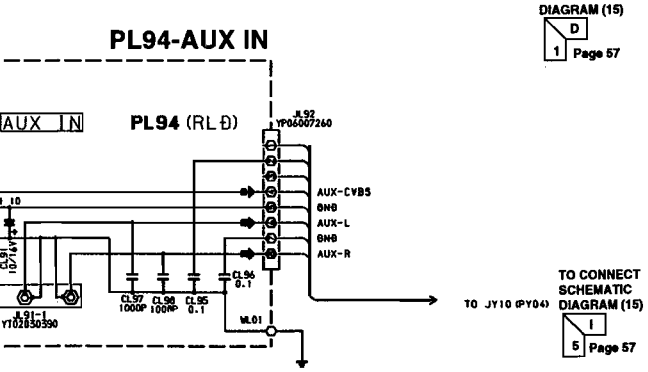


SCHEMATIC DIAGRAM (14) (B) VERSION

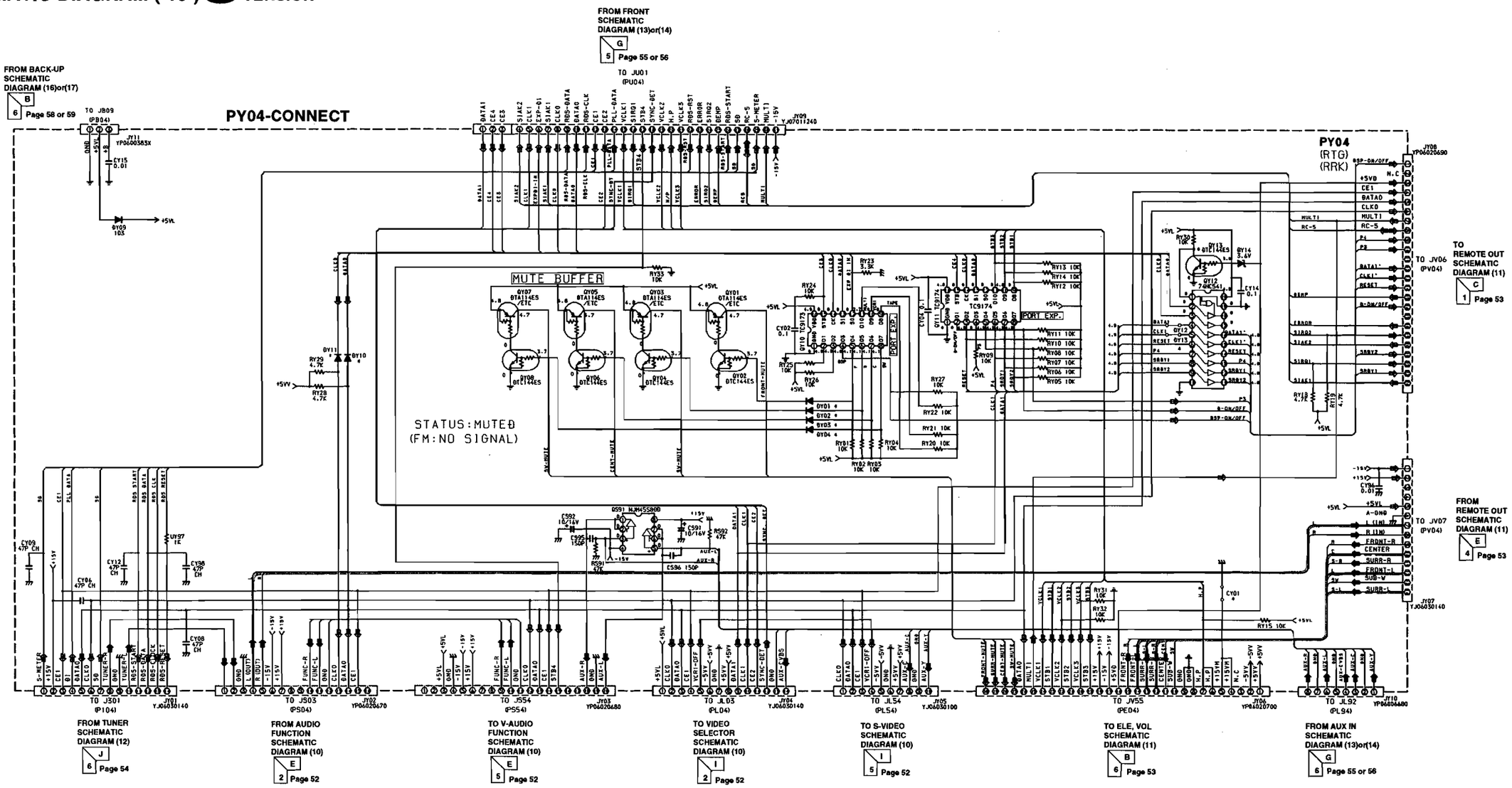
PU04-FRONT (AVR70) [MOMS] ONLY



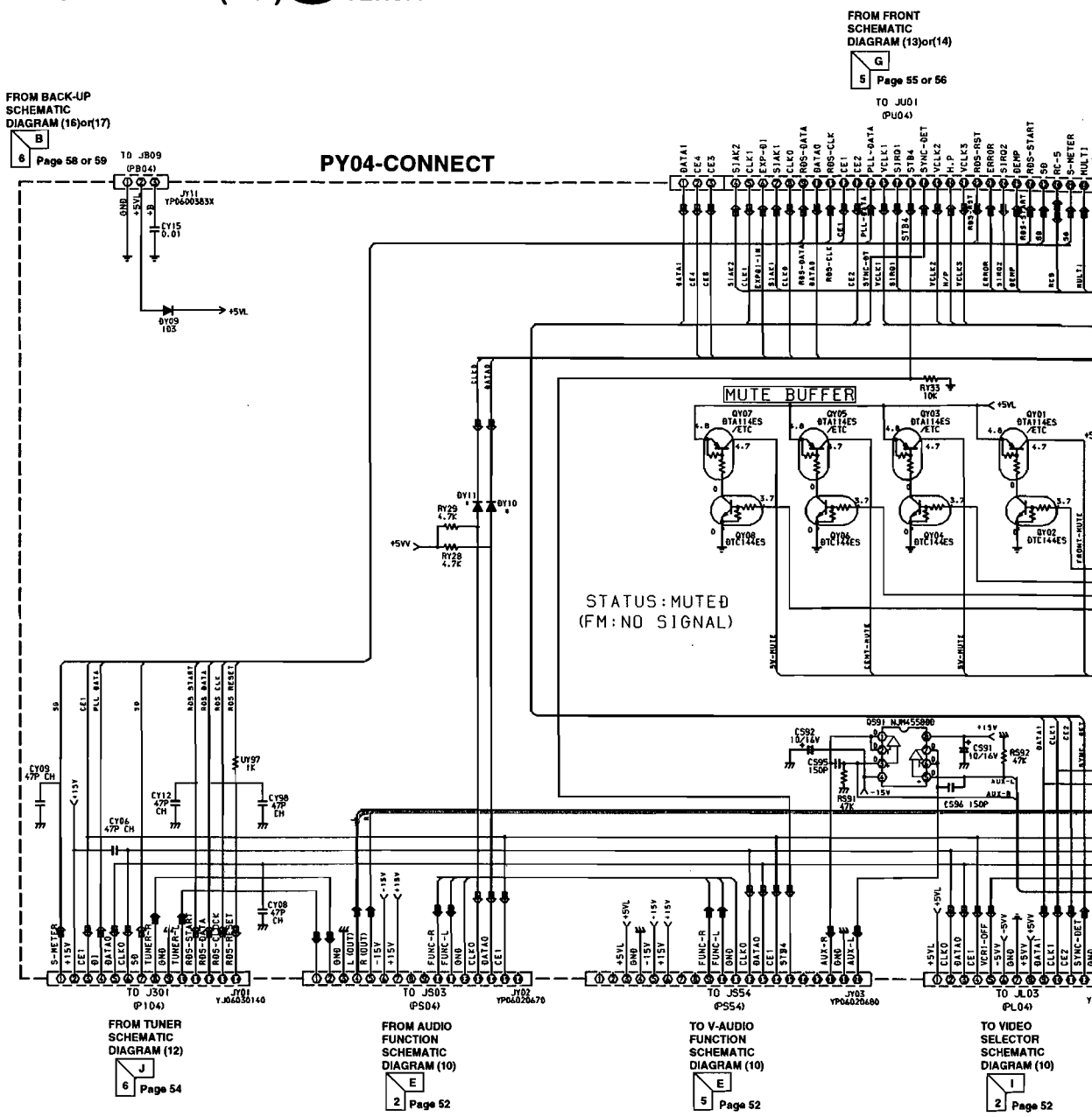

PU04
(RLC)
VISUAL
SIGNAL LEVEL
CH 00
FM 87.50
MHZ
AUTO
STEREO
VU01
TMP87CP71F
FROM BACK-UP SCHEMATIC DIAGRAM (16)or(17)
A
5
Page 58 or 59
TO JY09 ON PY04
TO CONNECT SCHEMATIC DIAGRAM (15)
D
1
Page 57


PL94-AUX IN
PL94 (RLD)
AUX-CVBS
GND
AUX-L
GND
AUX-R
TO JY10 (PY04)
TO CONNECT SCHEMATIC DIAGRAM (15)
I
5
Page 57

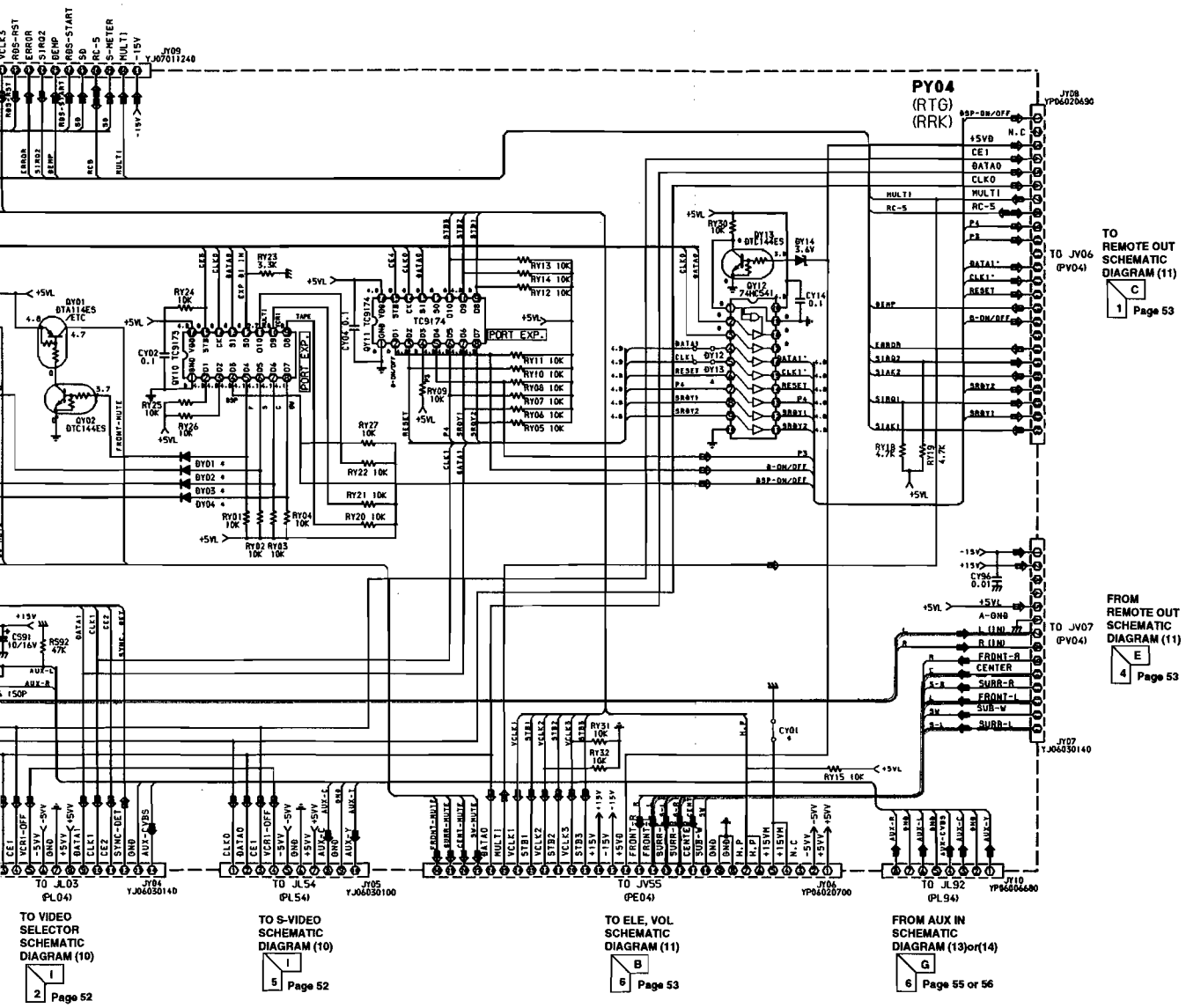
SCHEMATIC DIAGRAM (15) IB VERSION



SCHEMATIC DIAGRAM (15) IB VERSION

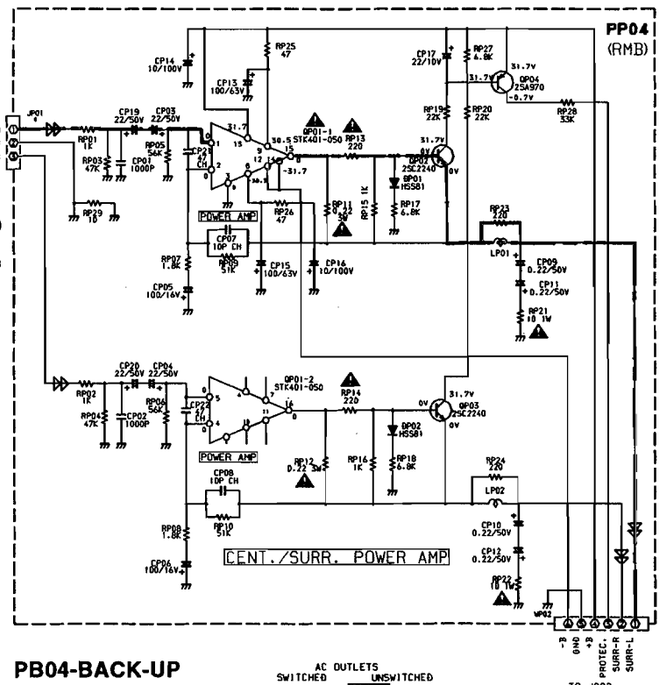


F G H I J

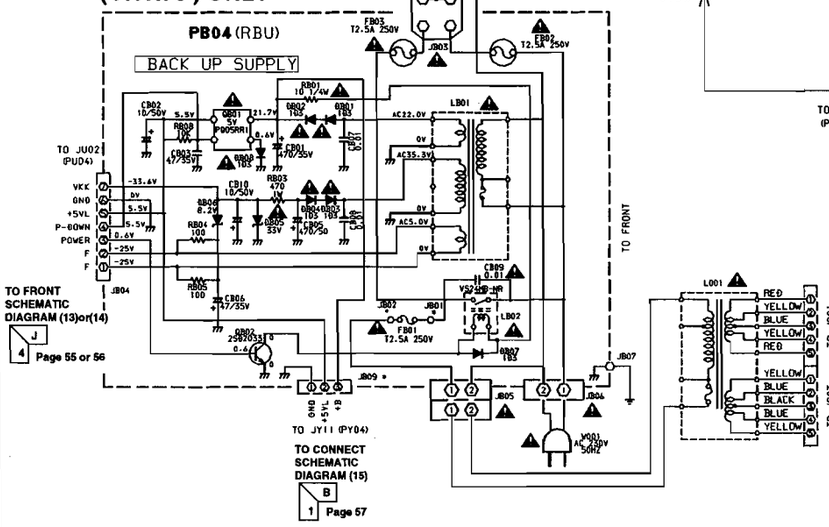

PY04
(RTG)
(RRK)
TO REMOTE OUT SCHEMATIC DIAGRAM (11)
C
1 Page 53
FROM REMOTE OUT SCHEMATIC DIAGRAM (11)
E
4 Page 53
TO JV06 (PY04)
TO JV07 (PY04)
PORT EXP.
TO JL03 (PL04)
TO JL54 (PL54)
TO JV55 (PE04)
TO JL92 (PL94)
TO VIDEO SELECTOR SCHEMATIC DIAGRAM (10)
I
2 Page 52
TO S-VIDEO SCHEMATIC DIAGRAM (10)
I
5 Page 52
TO ELE, VOL SCHEMATIC DIAGRAM (11)
B
6 Page 53
FROM AUX IN SCHEMATIC DIAGRAM (13)or(14)
G
6 Page 55 or 56

SCHEMATIC DIAGRAM (16) IB VERSION

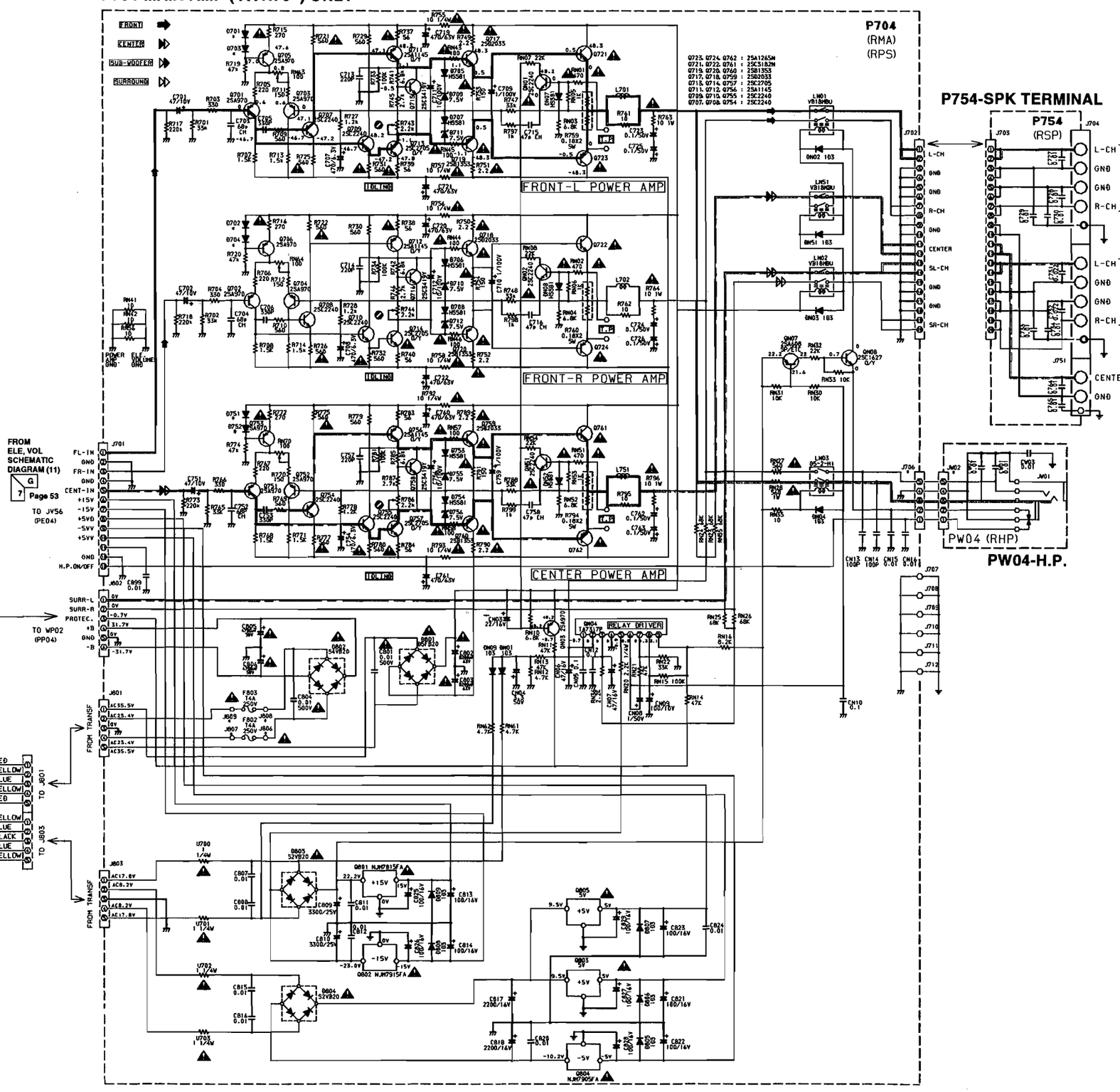
PP04-SURROUND AMP



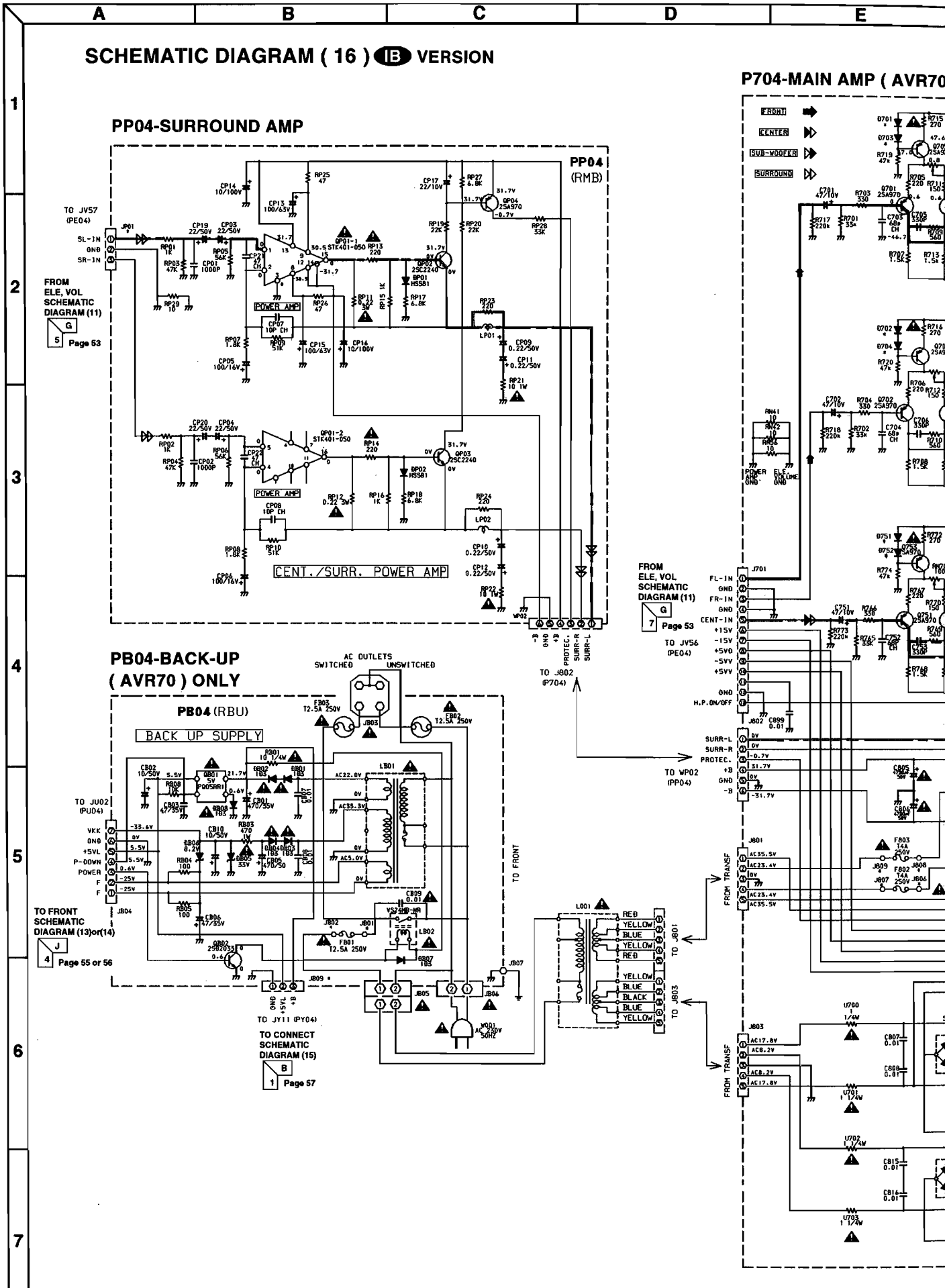
PB04-BACK-UP (AVR70) ONLY



P704-MAIN AMP (AVR70) ONLY

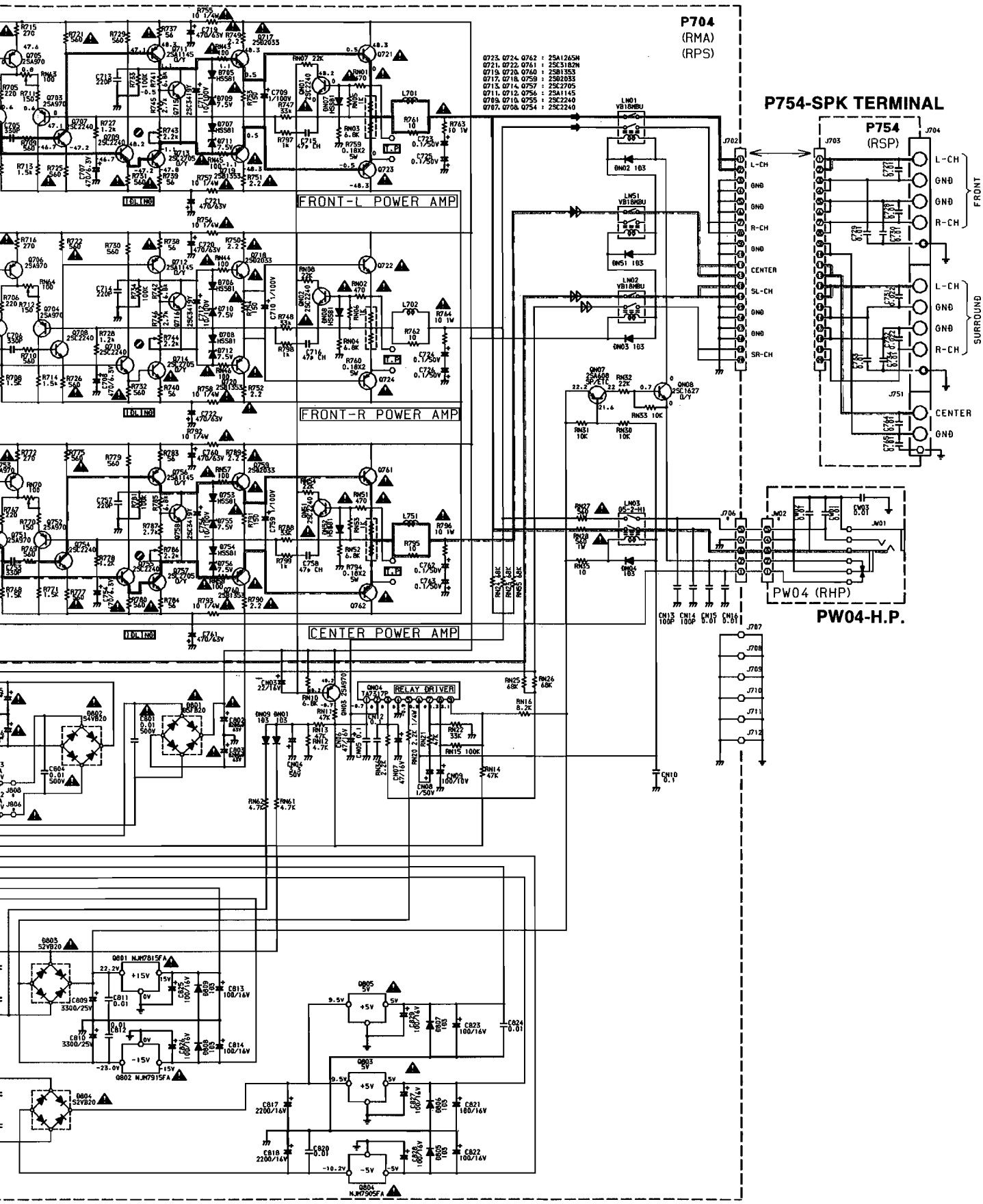


SCHEMATIC DIAGRAM (16) (IB) VERSION



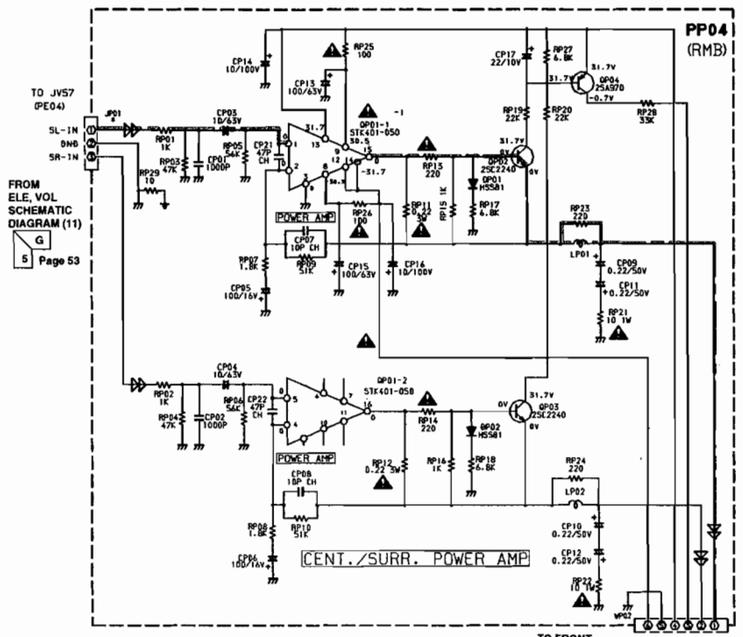
F G H I J

VR70) ONLY

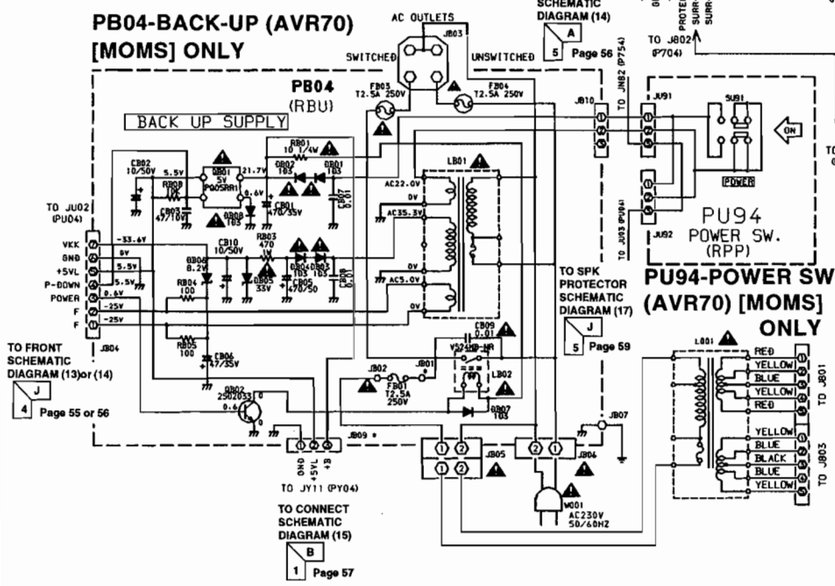


SCHEMATIC DIAGRAM (17) IB VERSION

PP04-SURROUND AMP

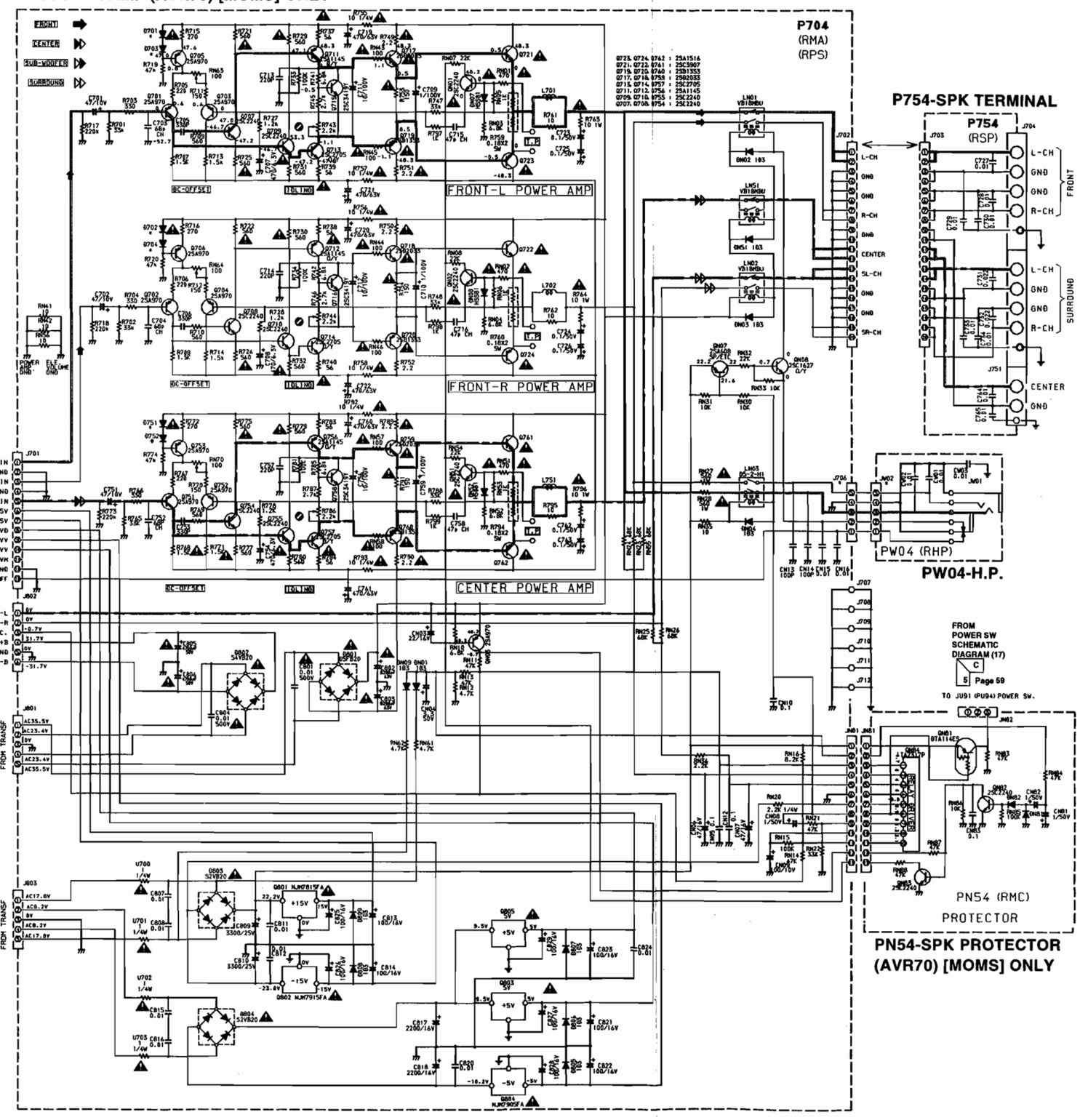


PB04-BACK-UP (AVR70) [MOMS] ONLY



PU94-POWER SW (AVR70) [MOMS] ONLY

P704-MAIN AMP (AVR70) [MOMS] ONLY

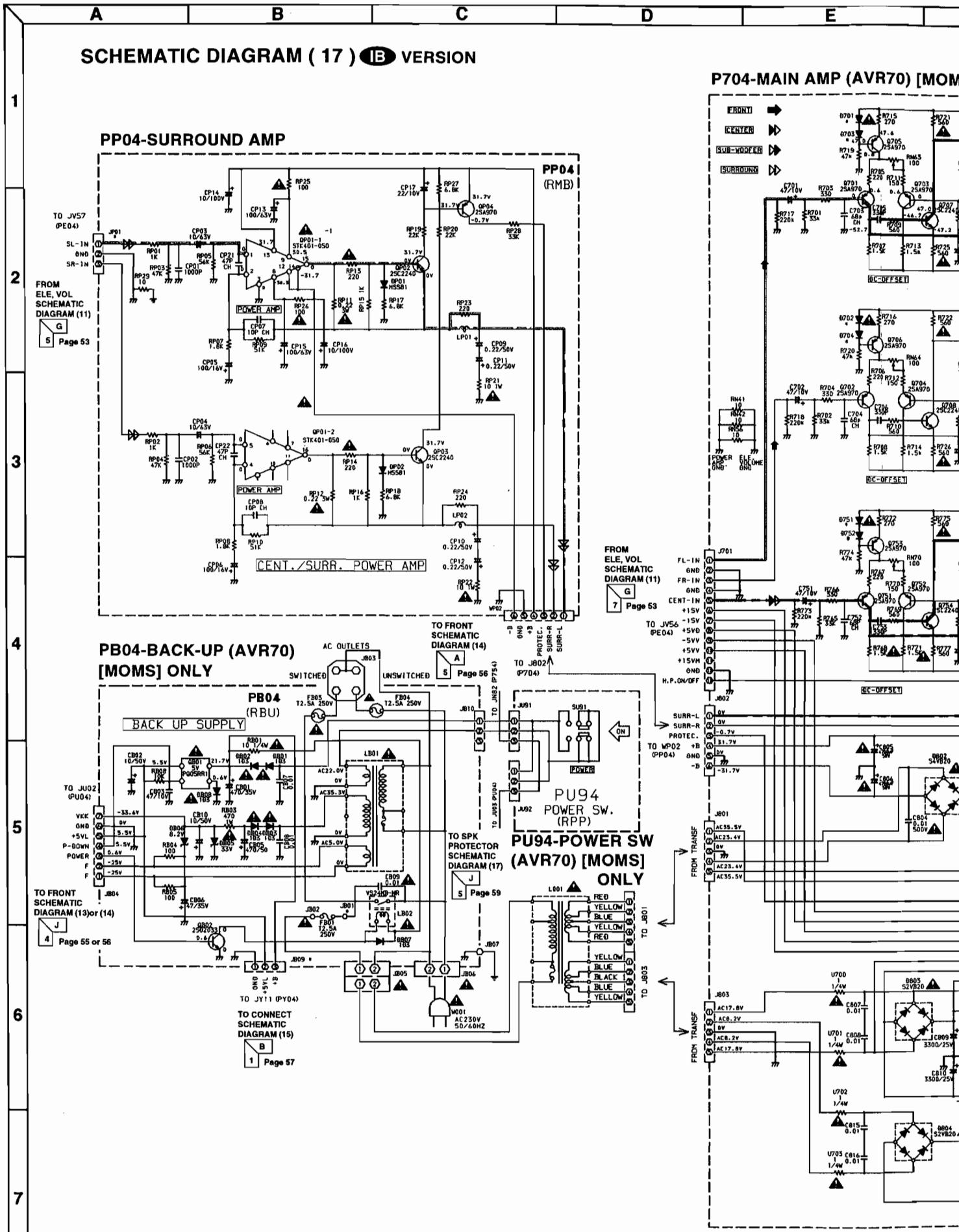


P754-SPK TERMINAL

PW04-H.P.

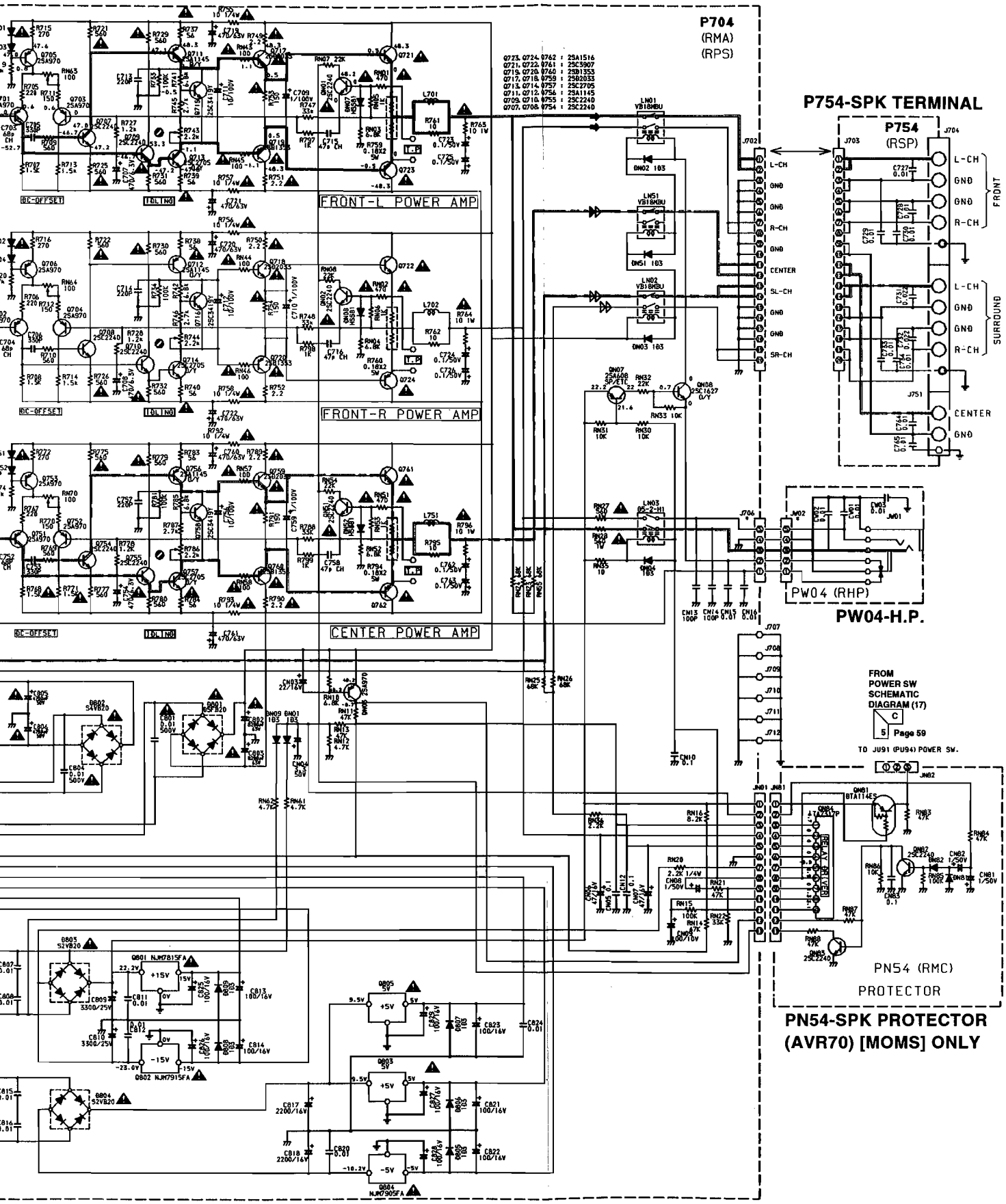
PN54-SPK PROTECTOR (AVR70) [MOMS] ONLY

SCHEMATIC DIAGRAM (17) (IB) VERSION



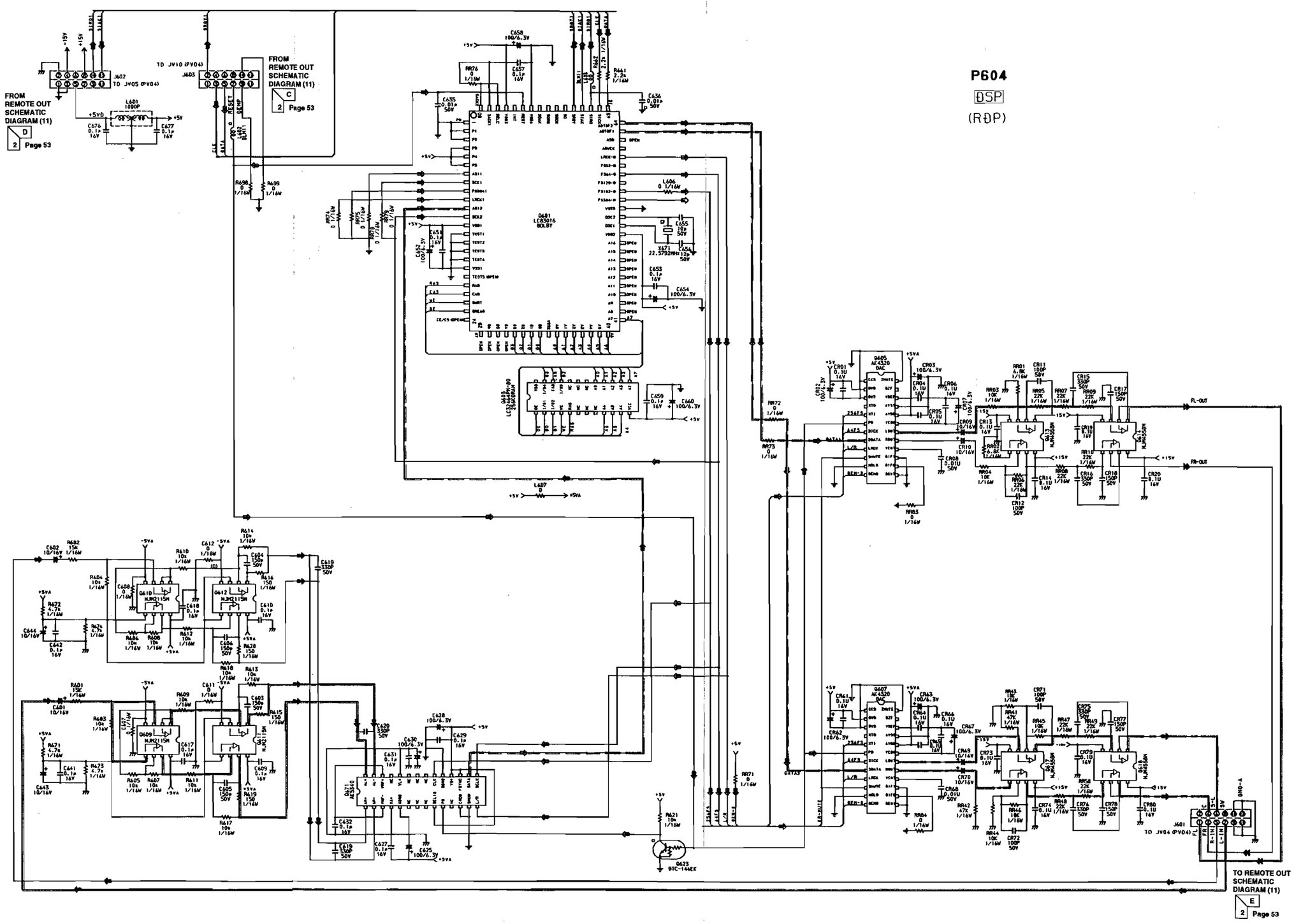
F G H I J

(AVR70) [MOMS] ONLY



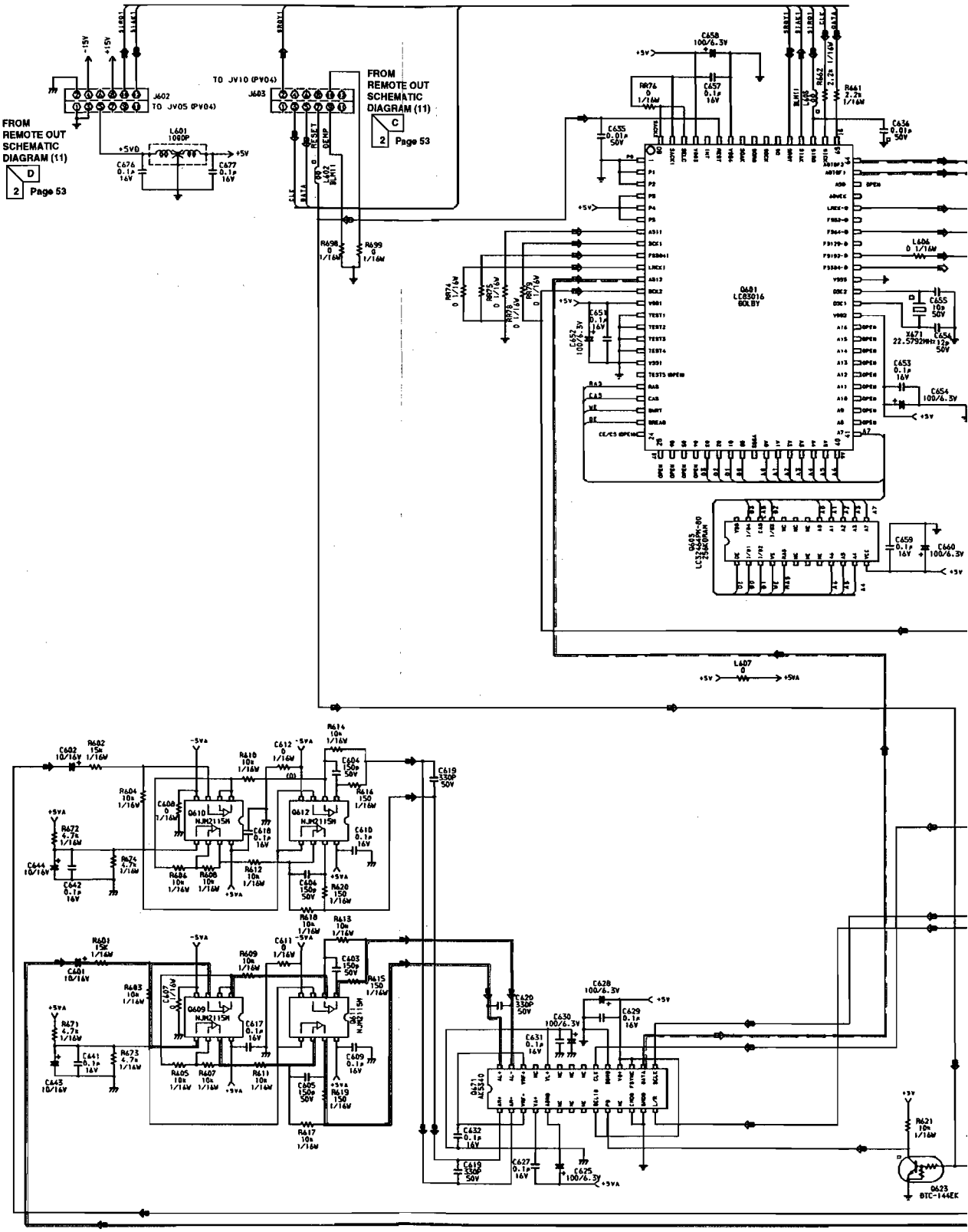
SCHEMATIC DIAGRAM (18) (IB) VERSION

P604-THX PRO LOGIC DSP



SCHEMATIC DIAGRAM (18) (IB) VERSION

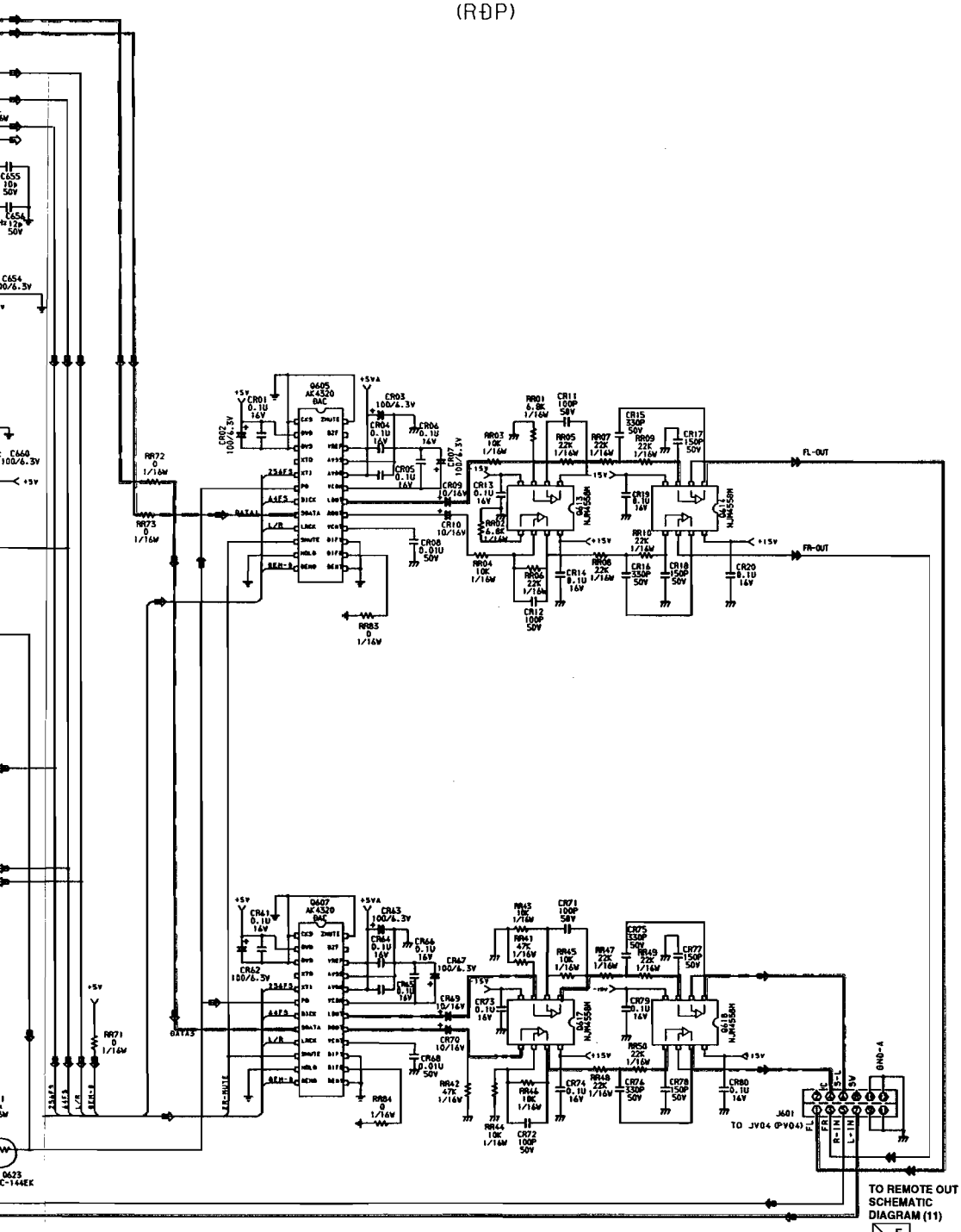
P604-THX PRO LOGIC DSP



P604

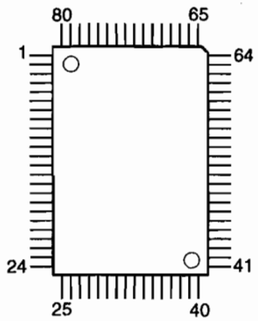
ĐSP

(RĐP)

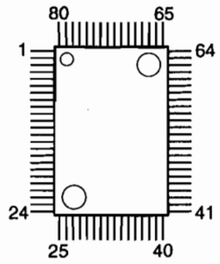


DIGITAL
ANALOG-L-IN
ANALOG-R-IN
ANALOG-L-OUT
ANALOG-R-OUT
ANALOG-SW-OUT
ANALOG-C-OUT
ANALOG-SL-OUT
ANALOG-SR-OUT

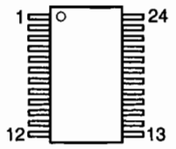
PIN CONNECTION DIAGRAM



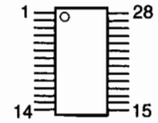
Q601: LC83016JE



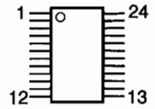
QU01: TMP87CP71F



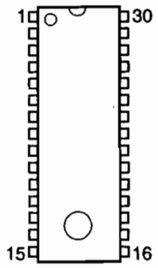
Q603: LC32464PM-80



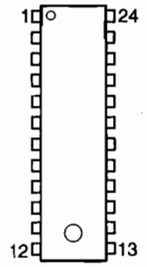
Q671: AK5340(ADC)



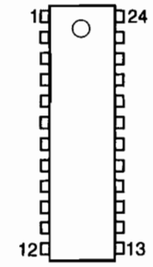
Q605,Q607:
AK4320(DAC)



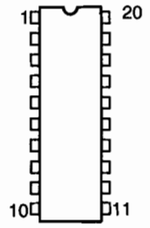
Q201: LA1836
QS11,QS56: LC78211
QX60: LC4760-9004



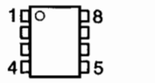
Q901: LA2232



Q501: LC7218

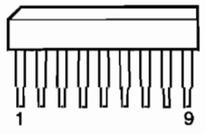


QY12: 74HC541

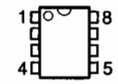


QL04,QL05: NJM2233BD
QX63: NJM2267D

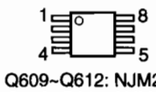
QE01,QE02,QE07~QE12,
QF01,QF02,QG55,QG56,
QS01~QS03,QS13,
QS51~QS54,QS91,
QV07,QV58,Q301,Q613,
Q614,Q617,Q618:
NJM4558DD



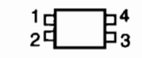
QN04,QN84:TA7317P



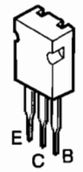
QL03,QL55,QL56:
MC14576

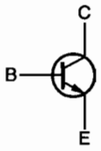


Q609~Q612: NJM2115M
Q613~Q618: NJM4558M

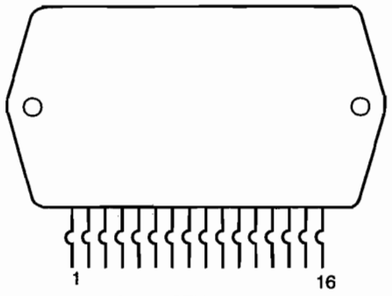


QT01: PC-817

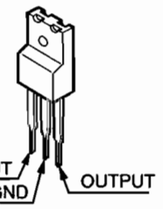


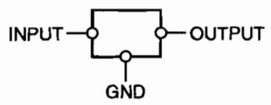


QB02,Q717,Q718:
2SD2033(E)

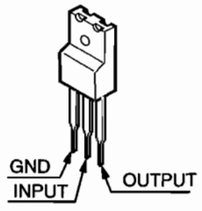


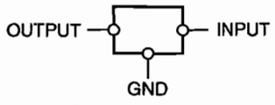
QP01: STK401-050



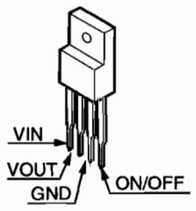


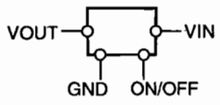
Q801: NJM7815FA
Q803,Q805: NJM7805FA



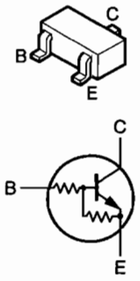


Q802: NJM7915FA
Q804: NJM7905FA

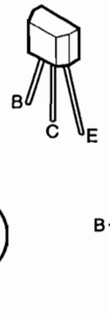




QB01: PQ05RR1

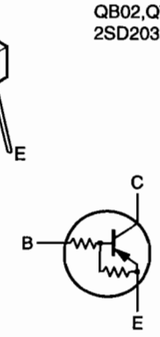


Q623: DTC144EK



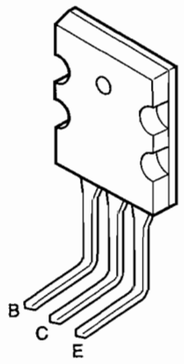
QS62: DTC114ES

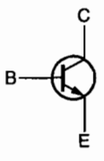
QU04,QU05,QU08,QU09,
QU15,QX62,QY02,QY04,
QY06,QY08,QY13,Q204:
DTC144ES



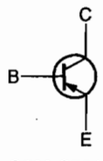
QN81,QS61,QT04,QU02,
QU12,QU17,QY01,QY03,
QY05,QY07,Q203:
DTA114ES

QA04,QA05,QU10,QU14:
DTA144ES

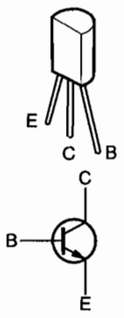




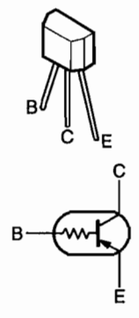
Q721,Q722, Q761:
2SC3182(R,O)



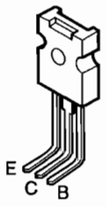
Q723,Q724,Q762:
2SA1265(R,O)

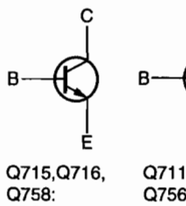


Q713,Q714,Q757:
2SC2705(Q,Y)

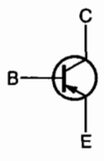


QU11: DTA114TS

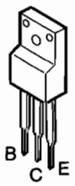


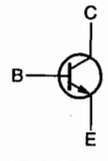


Q715,Q716,
Q758:
2SC3419Y

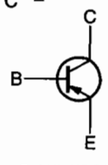


Q711,Q712,
Q756:
2SA1145(O,Y)

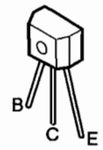


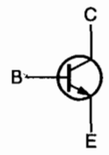


Q717,Q718,
Q759:
2SD2033(E)



Q719,Q720,
Q760:
2SB1353(E)

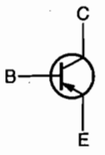




Q202: 2SC1809SP

QA01,QA02,QU03,
QU07,QU19~QU21,
QU51~QU54,QX61,
QX64,Q503,Q903:
2SC536SP

QA03,QG51,QG52,
QG59,QG60,QS07,
QS08,QS59,QS60
: 2SD2144S



QN07: 2SA608SP

QN08: 2SC1627(Q,Y)

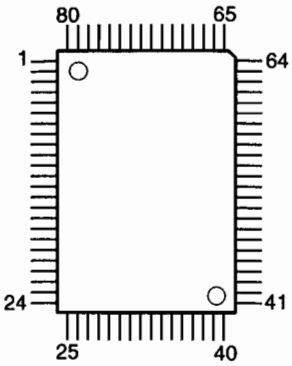
QN01,QN02,QN51,
QN82,QN83,QP02,
QP03,Q707~Q710
Q754,Q755:
2SC2240(GR,BL)

QV51~QV55,QV60:
2SC2878(A,B)

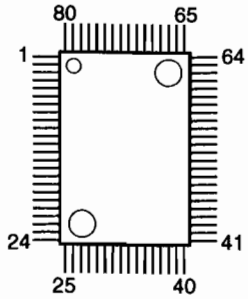
QN03,QP04,
Q751~Q753,
Q701~Q706:
2SA970(GR,BL)

Q502: 2SK30ATM

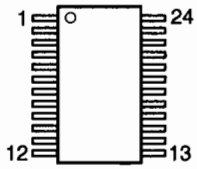
PIN CONNECTION DIAGRAM



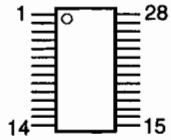
Q601: LC83016JE



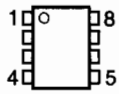
QU01: TMP87CP71F



Q603: LC32464PM-80

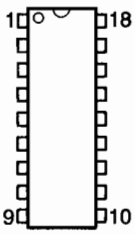


Q671: AK5340(ADC)

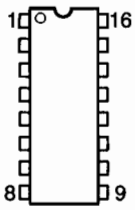


QL04,QL05: NJM2233BD
QX63: NJM2267D

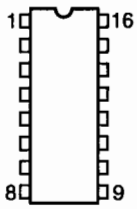
QE01,QE02,QE07~QE12,
QF01,QF02,QG55,QG56,
QS01~QS03,QS13,
QS51~QS54,QS91,
QV07,QV58,Q301,Q613,
Q614,Q617,Q618:
NJM4558DD



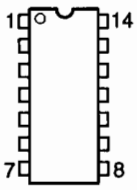
Q902: LC7073



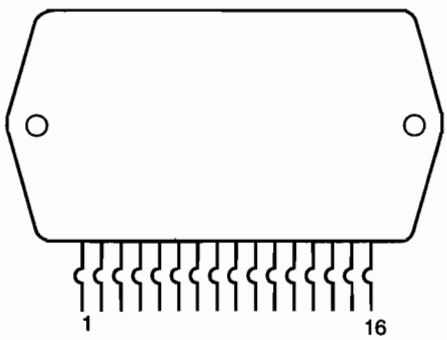
QL01,QL58: LC7824



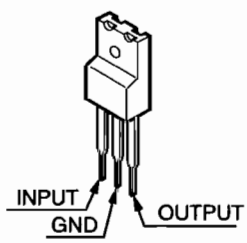
QE04,QE05,QG57: TC9213P
QY10: TC9173P
QY11: TC9174P
QV01: TC9215P



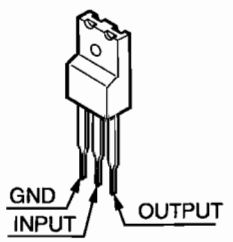
QU18: 74HC125



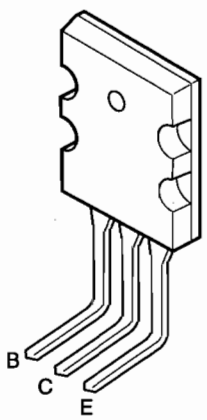
QP01: STK401-050

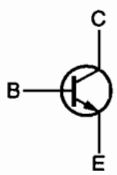


Q801: NJM7815FA
Q803,Q805: NJM7805FA

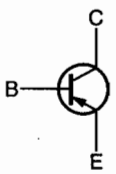


Q802: NJM7915FA
Q804: NJM7905FA

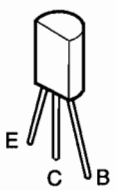


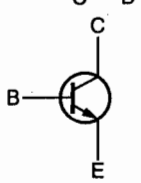


Q721,Q722, Q761:
2SC3182(R,O)

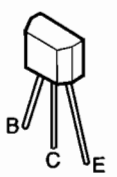


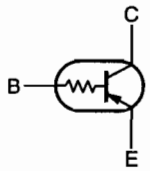
Q723,Q724,Q762:
2SA1265(R,O)



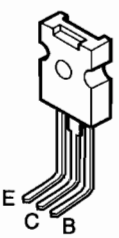


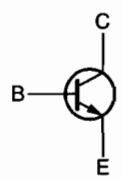
Q713,Q714,Q757:
2SC2705(Q,Y)



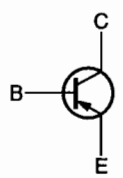


QU11: DTA114TS

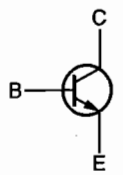




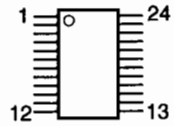
Q715,Q716,
Q758:
2SC3419Y



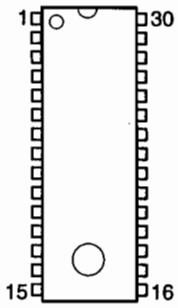
Q711,Q712,
Q756:
2SA1145(O,Y)



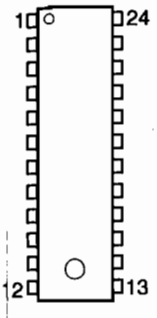
Q717,Q718,
Q759:
2SD2033(E)



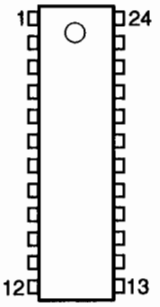
Q605,Q607:
AK4320(DAC)



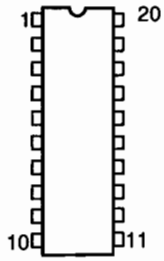
Q201: LA1836
QS11,QS56: LC78211
QX60: LC4760-9004



Q901: LA2232

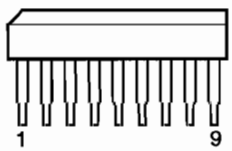


Q501: LC7218

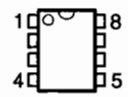


QY12: 74HC541

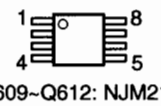
2233BD
2267D
~QE12,
,QG56,
3,
I,
,Q613,



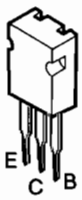
QN04,QN84:TA7317P

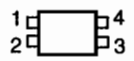


QL03,QL55,QL56:
MC14576

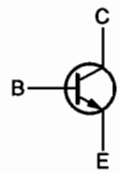


Q609~Q612: NJM2115M
Q613~Q618: NJM4558M

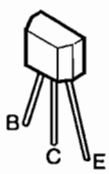


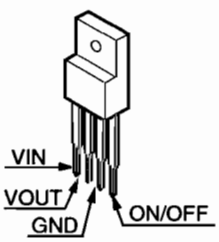


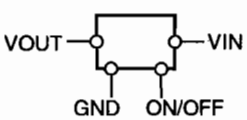
QT01: PC-817



QB02,Q717,Q718:
2SD2033(E)





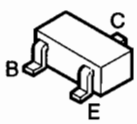


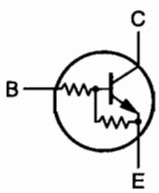
QB01: PQ05RR1

OUTPUT

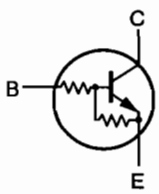
INPUT

15FA
05FA



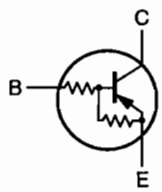


Q623: DTC144EK



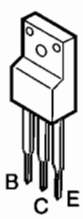
QS62: DTC114ES

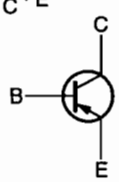
QU04,QU05,QU08,QU09,
QU15,QX62,QY02,QY04,
QY06,QY08,QY13,Q204:
DTC144ES



QN81,QS61,QT04,QU02,
QU12,QU17,QY01,QY03,
QY05,QY07,Q203:
DTA114ES

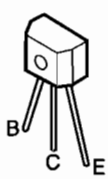
QA04,QA05,QU10,QU14:
DTA144ES

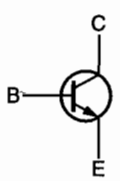


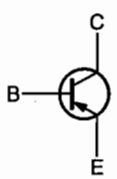


17,Q718,
59:
D2033(E)

Q719,Q720,
Q760:
2SB1353(E)





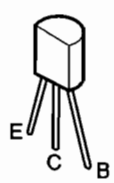


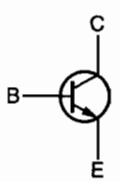
Q202: 2SC1809SP

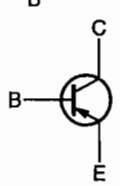
QA01,QA02,QU03,
QU07,QU19~QU21,
QU51~QU54,QX61,
QX64,Q503,Q903:
2SC536SP

QA03,QG51,QG52,
QG59,QG60,QS07,
QS08,QS59,QS60
: 2SD2144S

QN07: 2SA608SP





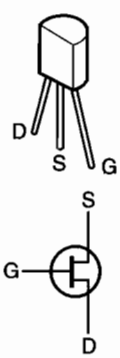


QN08: 2SC1627(Q,Y)

QN01,QN02,QN51,
QN82,QN83,QP02,
QP03,Q707~Q710
Q754,Q755:
2SC2240(GR,BL)

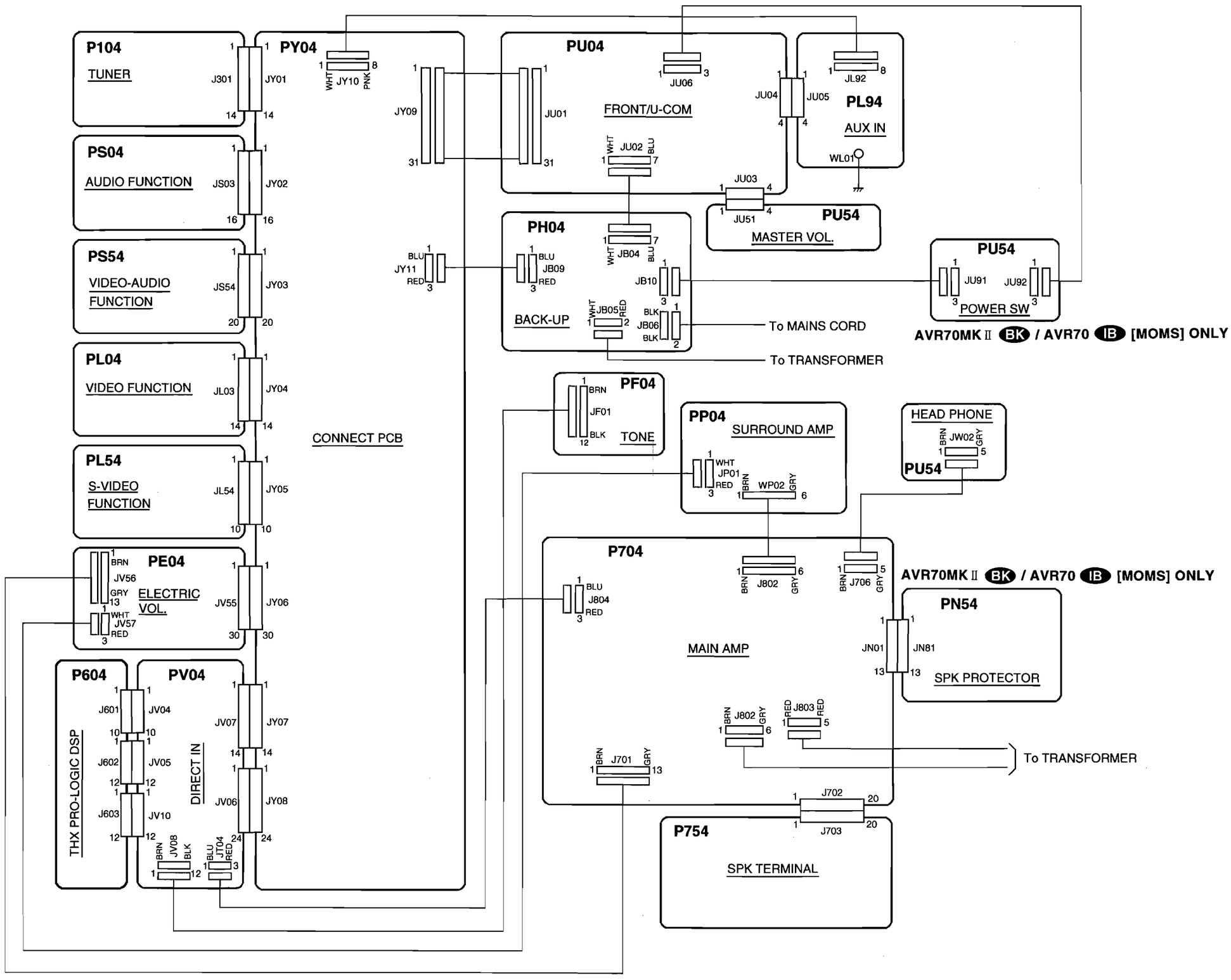
QV51~QV55,QV60:
2SC2878(A,B)

QN03,QP04,
Q751~Q753,
Q701~Q706:
2SA970(GR,BL)

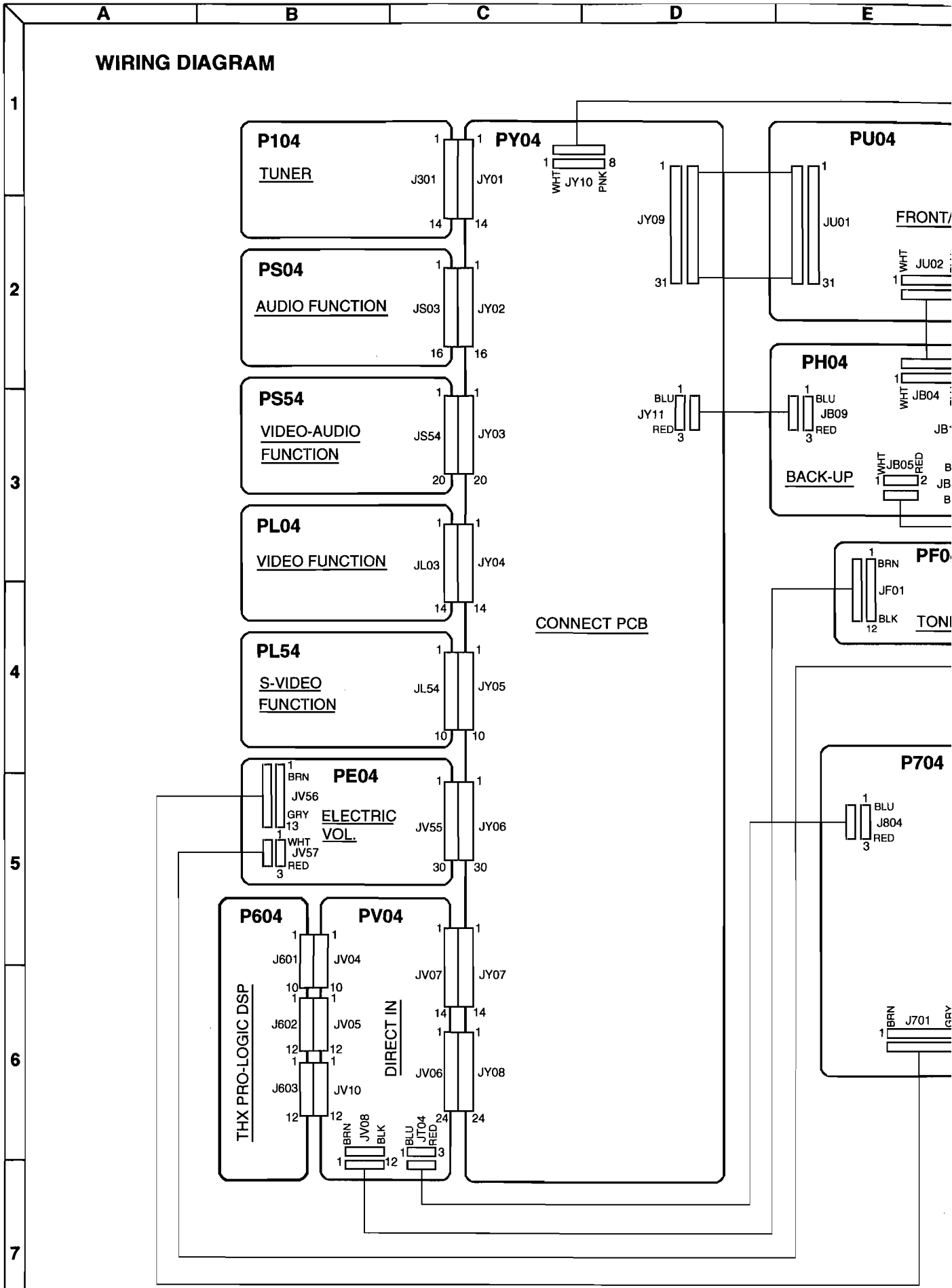


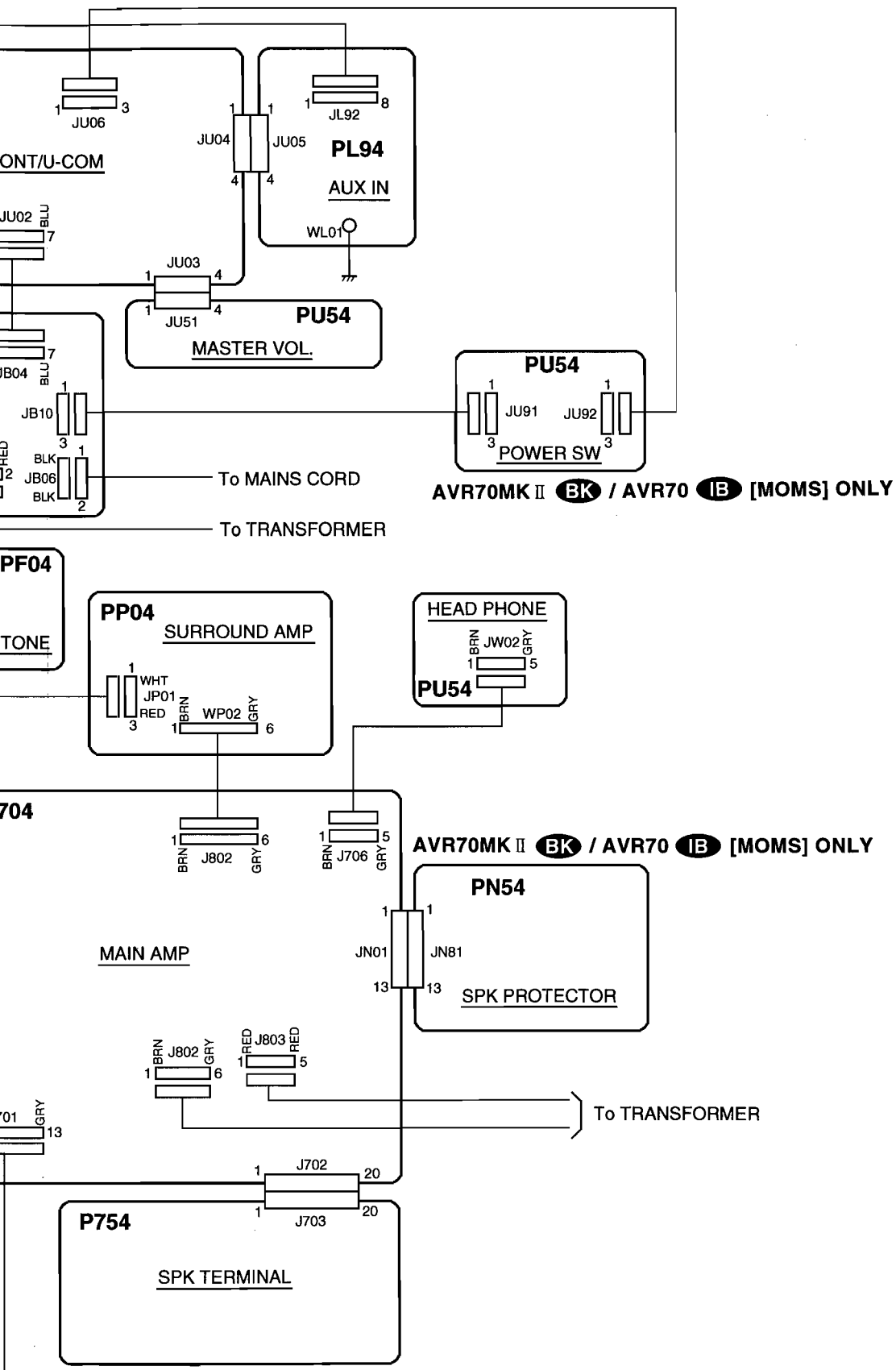
Q502: 2SK30ATM

WIRING DIAGRAM

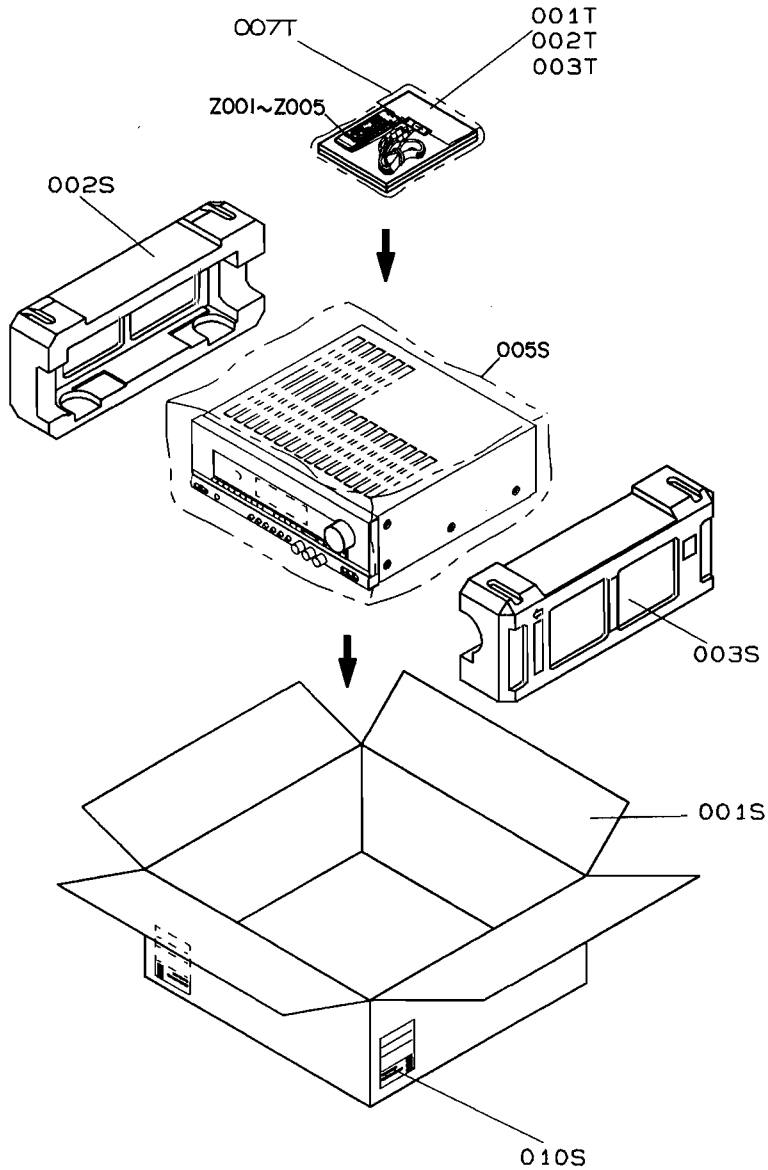


WIRING DIAGRAM




JU06
JL92
JU04
JU05
PL94
AUX IN
ONT/U-COM
WL01
JU03
JU51
PU54
MASTER VOL.
JB10
JB06
To MAINS CORD
To TRANSFORMER
PU54
JU91
JU92
POWER SW
AVR70MK II BK / AVR70 IB [MOMS] ONLY
PF04
TONE
PP04
SURROUND AMP
WHT
JP01
RED
WP02
HEAD PHONE
JW02
PU54
J802
J706
AVR70MK II BK / AVR70 IB [MOMS] ONLY
PN54
MAIN AMP
JN01
JN81
SPK PROTECTOR
J802
J803
To TRANSFORMER
J702
J703
P754
SPK TERMINAL

PACKING MATERIAL



Ref. No.	Part. No.	Description	Q'TY
001S	259J801010	PACKING CASE (IB)	1
001S	259J801020	PACKING CASE (BK)	1
002S	260J809010	CUSHION, (L)	1
003S	260J809020	CUSHION, (R)	1
005S	9091111030	POLYETHY SHEET	1
010S	9510901260	LABEL	2
001T	259J851310	USER MANUAL (IB) (AVR70)	1
001T	259J851360	USER MANUAL (IB) [MOMS]	1
001T	259J851250	USER MANUAL (BK) (AVR70)	1
001T	259J851260	USER MANUAL (BK) (AVR70MKⅡ)	1
002T	260J854010	WARRANTY CARD (BK)	1
003T	260J865010	CARD (BK)	1
007T	9012540010	POLYETHY BAG	1
Z001	ZK260J0010	UNIT KIT, REMOTE (IB)	1
Z001	ZK260J0020	UNIT KIT, REMOTE (BK)	1
Z002	ZF24302000	BATTERY, UM-4NEPH x 2	1
Z003	ZA02800020	EXT. ANTENNA FM (IB)	1
Z003	ZA02800070	EXT. ANTENNA FM (BK)	1
Z004	LA00065020	ANT COIL	1
Z005	YP90000310	PLUG (BK)	1