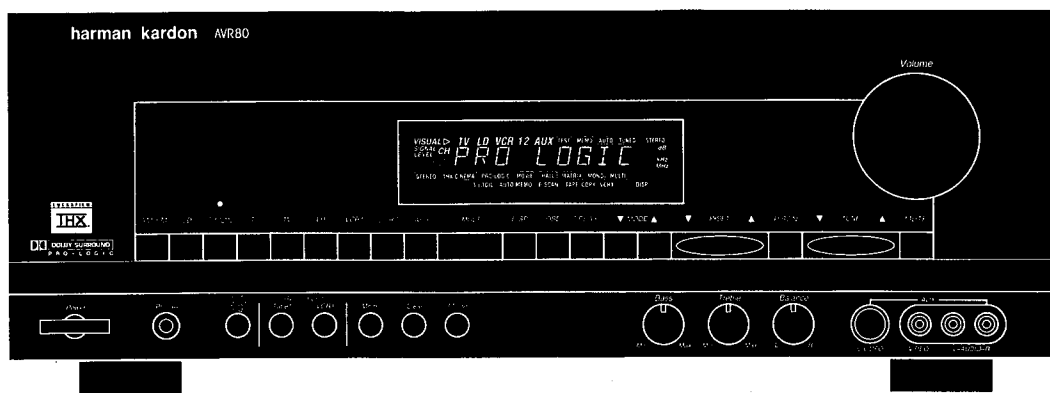


# The Harman Kardon Model AVR80/AVR80MK II AUDIO AND VIDEO RECEIVER

Manual A

AVR80

## Technical Manual



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

- (BK)** AVR80 :North America area model Black version  
(with Tact type mains switch)
- (IB)** AVR80 :International model Black version  
(with Tact type mains switch)
- (BK)** AVR80MK II :North America area model Black version  
(with Manual Operated Mechanical type mains switch)
- (IB)** AVR80[MOMS] :International model Black version  
(with Manual Operated Mechanical type mains switch)

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**harman/kardon**

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1112-AVR80 1200 Printed in Japan

# SPECIFICATIONS

## FRONT AMP SECTION

|                                                         | Nominal | Limit          |
|---------------------------------------------------------|---------|----------------|
| Continuous Power Output<br>(STEREO MODE), Input: CD     | ≥110 W  | ≥100 W         |
| THD: 0.09%, 8 ohms                                      |         |                |
| Both Channel Driven (20 Hz - 20 kHz)<br>(SURROUND MODE) | ≥85 W   | ≥75 W          |
| THD: 0.3%, 8 ohms, 1 kHz                                |         |                |
| THD at 100 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 100 W, 8 ohms, Vol: Max.               | ≤0.03%  | ≤0.09%         |
| Input Sensitivity for Rated Power Output (100 W)        |         |                |
| CD/TAPE1/TAPE2/TV/LD                                    | 250 mV  | 220-290 mV     |
| VCR1/VCR2/AUX                                           | 250 mV  | 220-290 mV     |
| S/N Ratio Input Shorted at 1kHz 1W Output (WTD IHF-A)   |         |                |
| CD                                                      | ≥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, Sub Woofer: ON                |         |                |
| 80 Hz - 70 kHz                                          |         | 90 Hz - 50 kHz |
| Mode: Stereo, Ref: 1 kHz, Sub Woofer: OFF               |         |                |
| 10 Hz - 70kHz                                           |         | 15 Hz - 50 kHz |
| 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       | ≥110 W         | ≥100 W         |
| S/N Ratio (Input Level : 141 mV) |                |                |
| Input Shorted, IHF-A WTD         | ≥72 dB         | ≥68 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             | ≥85 W         | ≥75 W           |
| S/N Ratio (Input Shorted, IHF-A WTD) |               |                 |
| Delay : 20 ms, Input Level : 141 mV  | ≥72 dB        | ≥68 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 <sub>P-P</sub> /75 Ω | ±1 dB   |
| Output Level/Impedance      |                          |         |
| VCR1, VCR2, Monitor         | 1 V <sub>P-P</sub> /75 Ω | ±1 dB   |
| Frequency Response at-3 dB  | DC-8 MHz                 | DC-6MHz |

## FM SECTION

|                                                        | Nominal            | Limit        |
|--------------------------------------------------------|--------------------|--------------|
| Tuning Cover Range 50 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                                                 | ≥65 dB             | ≥60 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        | ≤2500 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 mV/m 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 All Channel Driven | 400 W                      | 300 - 500W |
| Idling at Minimum Volume Control  | 55 W                       | 45 - 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)                  | 32.0/14.4                  |            |

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 charge sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

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

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

**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.

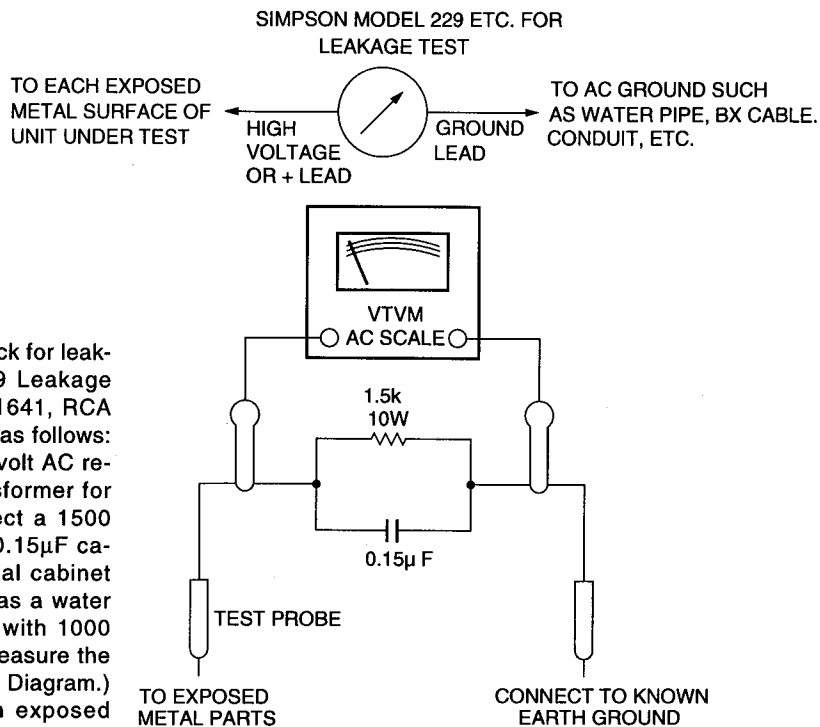
Leakage - current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

## 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 0.15 $\mu$ F capacitor, in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit. Use a VTVM or VOM with 1000 Ohms per volt, or higher sensitivity to measure the AC voltage drop across the resistor. (See Diagram.) Move the resistor connection to each exposed metal part having a return path to the chassis (antenna, metal, cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor. (This test should be performed with the power switch in both the On and Off positions.)

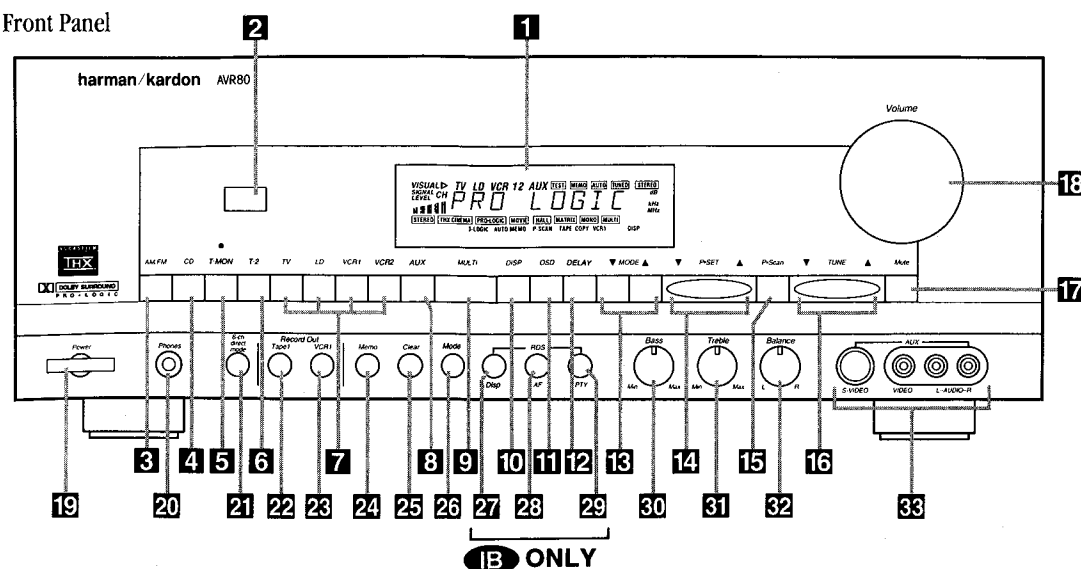
A reading of 0.35 volt RMS or more is excessive and indicates a potential shock hazard which must be corrected before returning the unit to the owner.





## CONTROLS AND FUNCTIONS

Front Panel



**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 Tape 1/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 Multiroom Audio Select:** Press this button to turn on the feed to the remote zone. The remote zone will stay on after the main power switch is turned off until it is switched off by the remote room control or by pressing this button again.

**10 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.

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

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

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

**14 P-Set:** Press these buttons to manually scroll up ▲ or down ▼ through the stations programmed into the receiver's preset memory.

**15 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.

**16 Tune:** Press these buttons to manually scan up ▲ or down ▼ through the FM, LW or AM bands.

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

**18 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.

**19 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.

**20 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.

**21 6 Channel Direct:** Press this button to select the output of an external multichannel audio adapter.

**22 Tape 1 Copy:** Press this button to select the source currently being listened to. Press again to select the input in the following order: Tuner → CD → Tape 2 → Source.

**23 VCR1 Copy:** Press this button to select the input to the recorder connected to VCR 1. The first press selects the input currently being viewed. Press the button again to select the input in the following order: TV → LD → VCR2 → AUX → Source

**24 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.

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

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

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

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

**29 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.

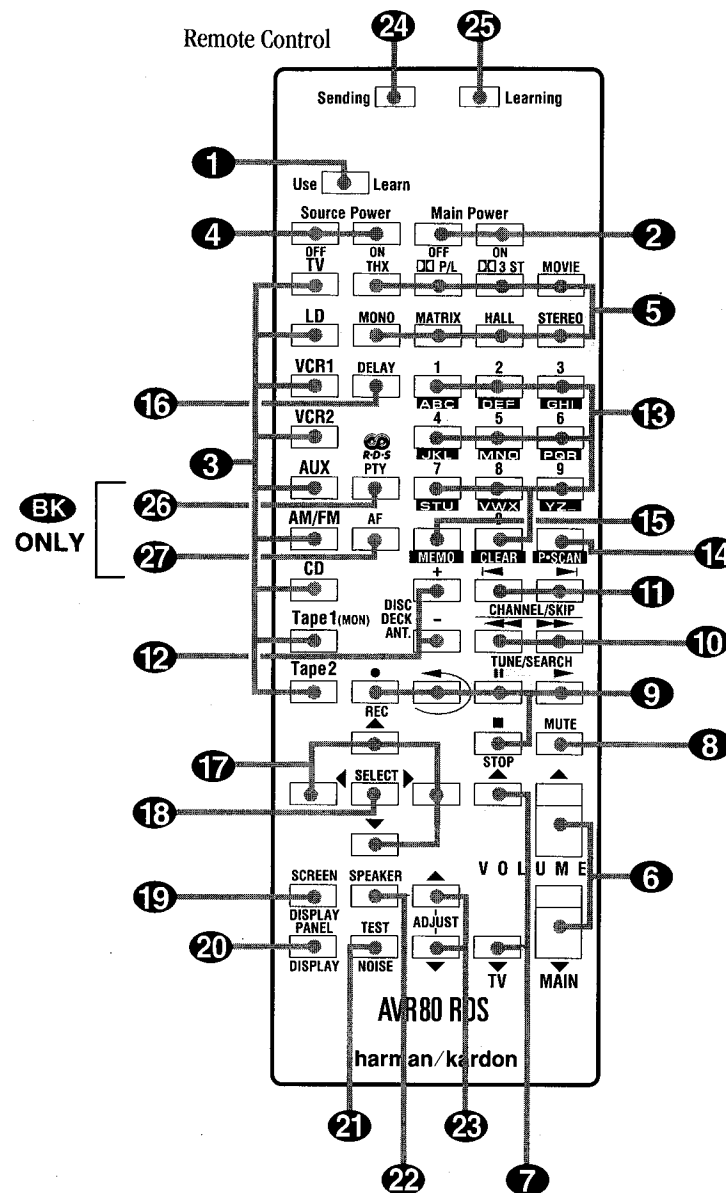
**30 Bass:** This knob adjusts the tone of low frequency sounds. Turn it to the right to boost bass frequencies or to the left to cut bass frequencies.

**31 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.

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

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

Remote Control



**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.

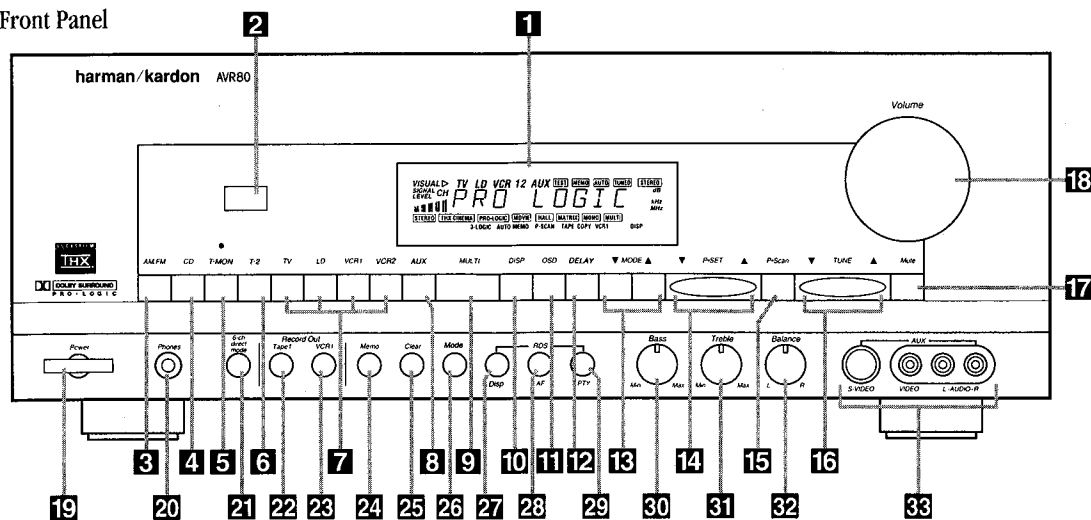
**25 Learn LED:** This indicator will illuminate when a button on the remote is being programmed with signals from another remote during the "learning" mode. The light will go out when the signal is received and memorized.

**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.

# CONTROLS 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 Multiroom Audio Select:** Press this button to turn on the feed to the remote zone. The remote zone will stay on after the main power switch is turned off until it is switched off by the remote room control or by pressing this button again.

**10 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.

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

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

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

**14 P-Set:** Press these buttons to manually scroll up ▲ or down ▼ through the stations programmed into the receiver's preset memory.

**15 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.

**16 Tune:** Press these buttons to manually scan up ▲ or down ▼ through the FM, LW or AM bands.

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

**18 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.

**19 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.

**20 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.

**21 6 Channel Direct:** Press this button to select the output of an external multichannel audio adapter.

**22 Tape 1 Copy:** Press this button to select the input for the recorder connected to **Tape 1**. The first press will select the source currently being listened to. Press again to select the input in the following order:  
**Tuner** → **CD** → **Tape 2** → **Source**.

**23 VCR1 Copy:** Press this button to select the input to the recorder connected to VCR 1. The first press selects the input currently being viewed. Press the button again to select the input in the following order:  
**TV** → **LD** → **VCR2** → **AUX** → **Source**

**24 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.

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

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

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

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

**29 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.

**30 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.

**31 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.

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

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

BK ONLY

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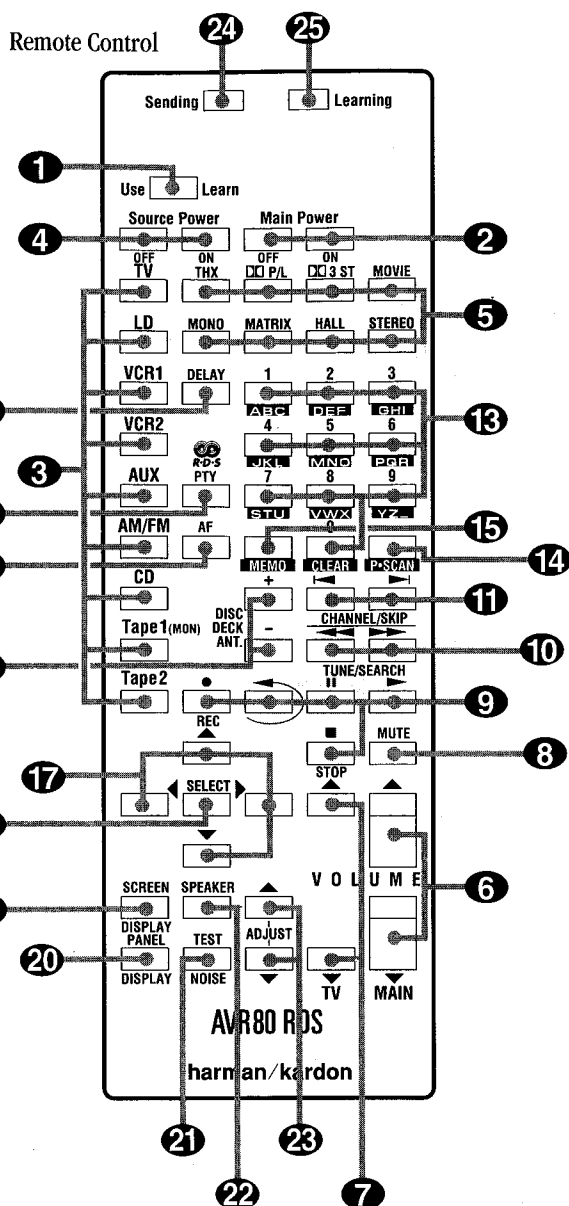
**2 Main**  
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b. When **CD**, **LD** or **VCR** is the input source, these buttons act as the Fast Scan Forward  $\blacktriangleright$  or Fast Scan Reverse  $\blacktriangleleft$  controls.

**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  $\blacktriangleright$  or down  $\blacktriangleleft$  through the stations that have been programmed in the preset memory.

b. When **TV** or **VCR** is selected, they are the channel up  $\blacktriangleright$  or channel down  $\blacktriangleleft$  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  $\blacktriangleright$  or backwards  $\blacktriangleleft$  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  $\blacktriangleright$  or previous disc  $\blacktriangleleft$ .

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.

**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.

**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.

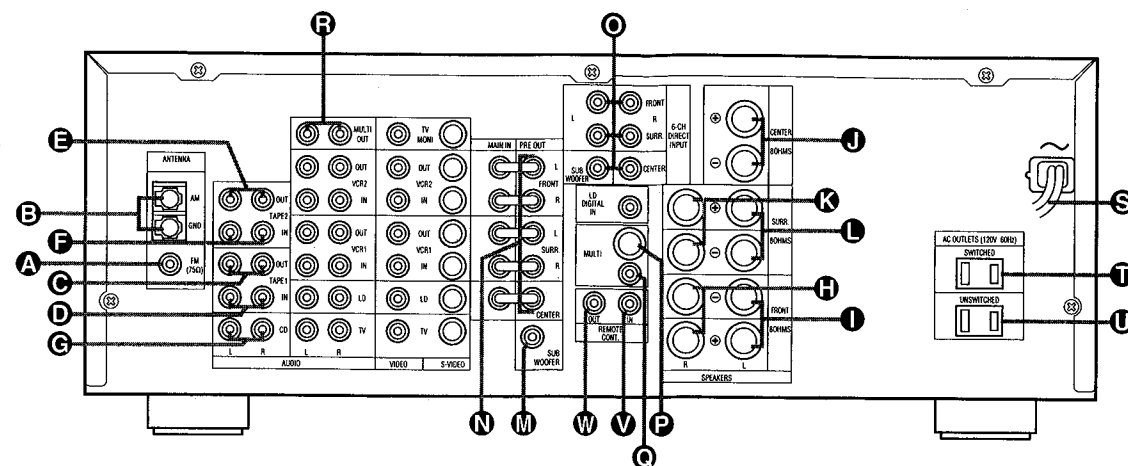
**3 Source Selection:** Pressing one of these buttons selects the input source that will be listened to through the receiver. When a source is selected the remote's transport and numeric number buttons will also transmit the commands needed to control that machine.

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

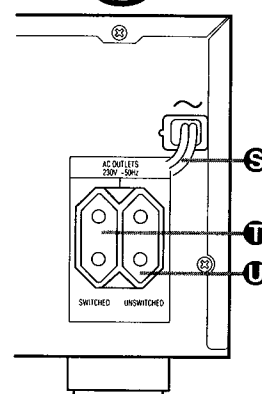
**5 Surround Mode Selection:** Press one of these buttons to select a surround mode for the current listening session.

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

# Rear Panel – Audio and System Connections



IB ONLY



**A FM Antenna:** Connect an indoor or external FM antenna to these terminals. Note that the supplied 300 ohm to 75 ohm adapter is required for connections from twin lead or inside dipole antennas.

**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 L:** Connect these terminals to the front left speaker.

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

**J Center:** Connect these terminals to the center speaker.

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

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

**M 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.

**N Pre-Outs:** If external power amplifiers are used for any channels, remove the connection pin and connect the jack to the input of the amplifier.

**O 6 Channel Direct Input:** If an external digital audio decoder is used for 5.1 (Dolby AC-3) audio, connect the outputs of that decoder to these terminals.

**P Multi Room Interface:** For multi-room installations where keypad remotes are in use, connect the keypad interface to this jack.

**Q Multi IR:** Connect the output of an IR sensor in a remote room to this jack to operate the AVR80's multi-room control system.

**R Multi-Out:** When using the AVR 80 for multi-room audio, connect this jack to the input of the audio amplifier powering the remote room speakers.

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

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

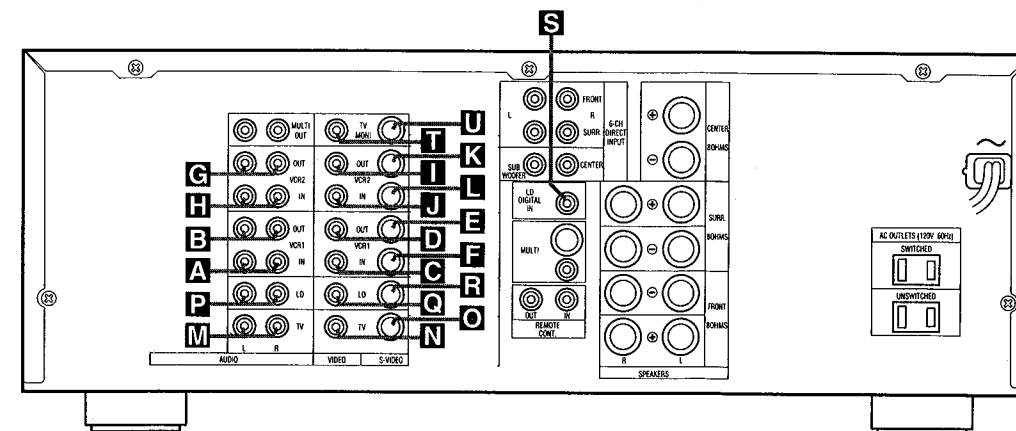
**U Unswitched AC Outlet:** This outlet may be used to power any AC device. The power will remain on at this outlet regardless of whether the AVR80 is on or off.

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

**V Remote IR In:** If the AVR80'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.

**W 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.

# 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 audio PLAY/OUT jacks of a VCR.

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

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

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

**F VCR 1 S Video In:** Connect these jacks to the "S" video RECORD/OUT jacks of a VCR.

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

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

**I VCR 2 Video Out:** Connect these jacks to the composite video RECORD/IN jacks of a second VCR.

**J VCR 2 Video In:** Connect these jacks to the composite video PLAY/OUT jacks of a second VCR.

**K VCR 2 S Video Out:** Connect these jacks to the "S" video RECORD/IN jacks of a second VCR.

**L VCR 2 S Video In:** Connect these jacks to the "S" video RECORD/OUT jacks of a second VCR.

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

**N 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.

**O TV S Video In:** Connect the "S" video output of a TV, cable converter or satellite receiver to this jack.

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

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

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

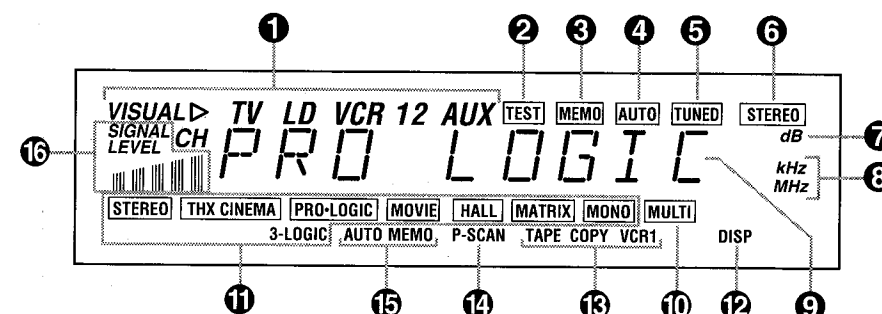
**S LD Digital In:** Connect the coax digital output of a laser disc or CD player to this jack.

**NOTE:** This connection is for standard, two channel PCM audio. DO NOT connect the modulated RF digital output used for multichannel (AC-3) audio to this jack.

**T 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.

**U 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 AM 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 Multi:** This indicator signifies that the AVR80 is sending a program source to a remote room location. Note that it may be illuminated even when the unit is "off" in the main listening room, signifying that operation continues at another location. When a remote command is being received via the **Multi** IR connection, this indicator will flash.

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

**12 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.

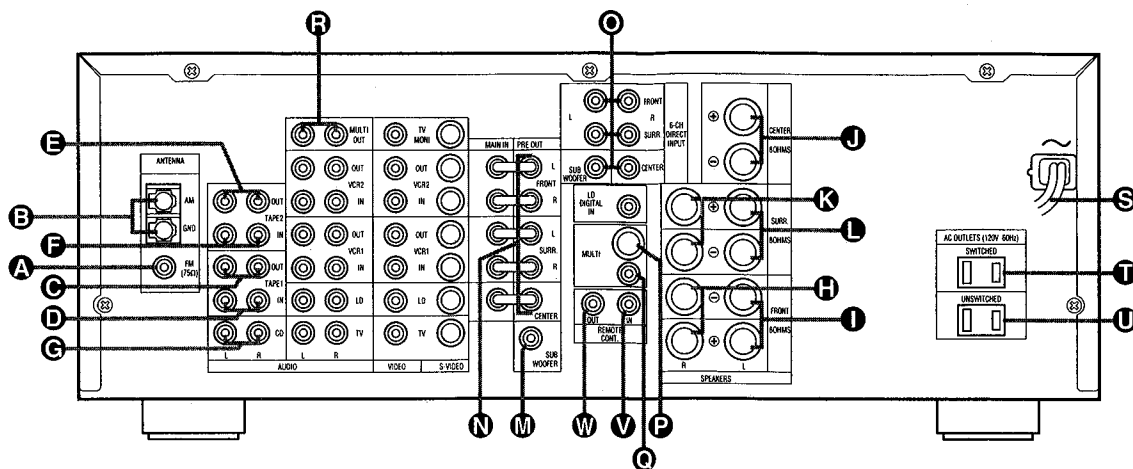
**13 Copy Indicators:** The TAPE COPY indicator lights when an input other than the current source has been selected to copy Tape 1. The VCR COPY indicator signifies that the input to VCR 1 is other than the currently selected source.

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

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

**16 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



**A FM Antenna:** Connect an indoor or external FM antenna to these terminals. Note that the supplied 300 ohm to 75 ohm adapter is required for connections from twin lead or inside dipole antennas.

**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 L:** Connect these terminals to the front left speaker.

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

**J Center:** Connect these terminals to the center speaker.

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

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

**M 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.

**N Pre-Outs:** If external power amplifiers are used for any channels, remove the connection pin and connect the jack to the input of the amplifier.

**O 6 Channel Direct Input:** If an external digital audio decoder is used for 5.1 (Dolby AC-3) audio, connect the outputs of that decoder to these terminals.

**P Multi Room Interface:** For multi-room installations where keypad remotes are in use, connect the keypad interface to this jack.

**Q Multi IR:** Connect the output of an IR sensor in a remote room to this jack to operate the AVR80's multi-room control system.

**R Multi-Out:** When using the AVR80 for multi-room audio, connect this jack to the input of the audio amplifier powering the remote room speakers.

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

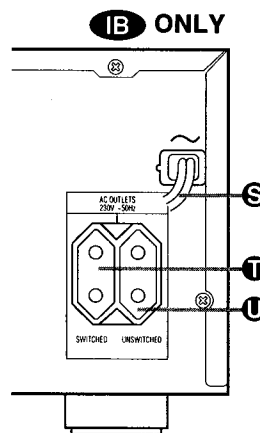
**T Switched AC Outlet:** This outlet may be used to power any device that you wish to have on when the unit is turned on.

**U 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 AVR80 is on or off.

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

**V Remote IR In:** If the AVR80'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.

**W 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.



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

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

**C VCR 1 Video In:** Connect these jacks to the composite VIDEO PLAY/OUT jacks of a VCR.

**D VCR 1 Video Out:** Connect these jacks to the composite VIDEO RECORD/IN jacks of a VCR.

**E VCR 1 S Video Out:** Connect these jacks to the S-VIDEO RECORD/IN jacks of a VCR.

**F VCR 1 S Video In:** Connect these jacks to the S-VIDEO RECORD/OUT jacks of a VCR.

## Information Display

**1 "Visual" Indicators:** These indicators display which input is being fed to the video processor.

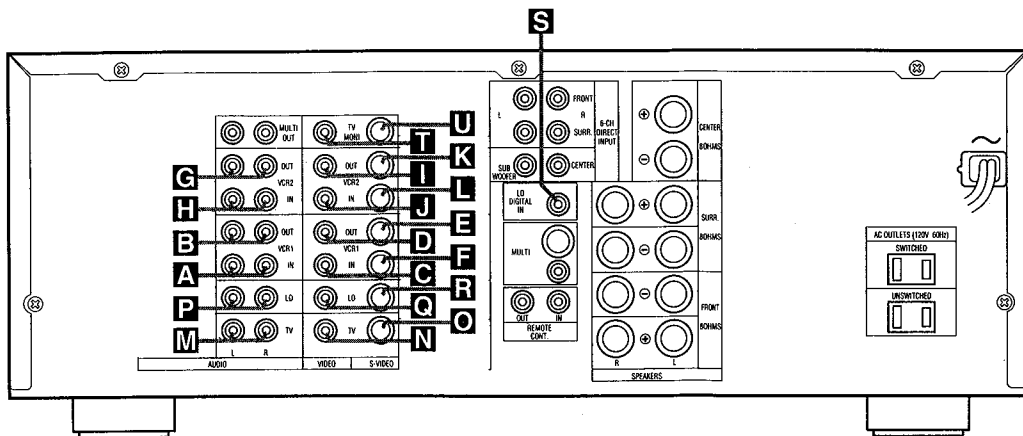
**2 Test:** This indicator shows the output levels and the built-in test signal.

**3 Memo:** This indicator shows when the Memo button is pressed when entering preset information into the memory.

**4 Auto:** This indicator shows when the Automatic Tuning function is active for FM broadcasts.

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

## Rear Panel – Video Connections



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

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

**1 Video In:** Connect these jacks to the composite video OUT jacks of a VCR.

**1 Video Out:** Connect these jacks to the composite video IN jacks of a VCR.

**1 S Video Out:** Connect these jacks to the "S" video OUT jacks of a VCR.

**1 S Video In:** Connect these jacks to the "S" video IN jacks of a VCR.

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

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

**I VCR 2 Video Out:** Connect these jacks to the composite video RECORD/IN jacks of a second VCR.

**J VCR 2 Video In:** Connect these jacks to the composite video PLAY/OUT jacks of a second VCR.

**K VCR 2 S Video Out:** Connect these jacks to the "S" video RECORD/IN jacks of a second VCR.

**L VCR 2 S Video In:** Connect these jacks to the "S" video RECORD/OUT jacks of a second VCR.

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

**N 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.

**O TV S Video In:** Connect the "S" video output of a TV, cable converter or satellite receiver to this jack.

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

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

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

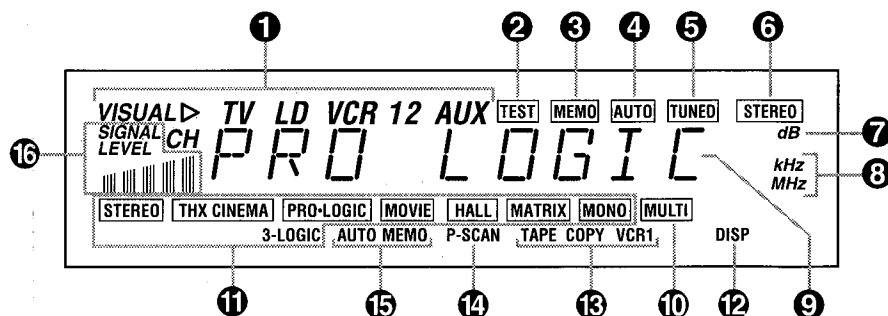
**S LD Digital In:** Connect the coax digital output of a laser disc or CD player to this jack.

**NOTE:** This connection is for standard, two channel PCM audio. DO NOT connect the modulated RF digital output used for multichannel (AC-3) audio to this jack.

**T 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.

**U 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.

tion Display



**Signal Level Indication:** These indicators show the strength of the signal being received. The more bars visible, the stronger the station.

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

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

**Multi:** This indicator signifies that the AVR80 is sending a program source to a remote room location. Note that it may be illuminated even when the unit is "off" in the main listening room, signifying that operation continues at another location. When a remote command is being received via the Multi IR connection, this indicator will flash.

**Multi:** This indicator signifies that the AVR80 is sending a program source to a remote room location. Note that it may be illuminated even when the unit is "off" in the main listening room, signifying that operation continues at another location. When a remote command is being received via the Multi IR connection, this indicator will flash.

**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 AM 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 Multi:** This indicator signifies that the AVR80 is sending a program source to a remote room location. Note that it may be illuminated even when the unit is "off" in the main listening room, signifying that operation continues at another location. When a remote command is being received via the Multi IR connection, this indicator will flash.

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

**12 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.

**13 Copy Indicators:** The TAPE COPY indicator lights when an input other than the current source has been selected to copy Tape 1. The VCR COPY indicator signifies that the input to VCR 1 is other than the currently selected source.

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

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

**16 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 illumination

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 3 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 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 → ⑯ SURROUND

### 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             | THX      | 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           | MONO     | AM/MW        | 1000/999  | TUNER       | VCR2   |          |
| 10   | VCR2           | STEREO   | AUTO         | 98.0      | TUNER       | SOURCE | TUNER-ON |
| 11   | AUX            | THX      | 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)<br>MONO 1 KHz /<br>Dev.40KHz 53.3% IB<br>MONO 1KHz /<br>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)<br>MONO 1 KHz /<br>Dev.40KHz 53.3% IB<br>MONO 1KHz /<br>Dev. 75KHz 100% BK | 98 MHz (P2)         | R212             | "TUNED" indicate on FLD |
| 2    |                                                          |                  | Over mentioned level +3 dB                                                                   |                     |                  | "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)<br>L+R 1KHz /<br>Dev. 40KHz 53.3%<br>PILOT 19KHz /<br>Dev. 6KHz 8% IB | 98 MHz (P2)         | IF COIL in FRONT END | Distortion level Minimum at TAPE-OUT |
| 2    |                                                          |                  | L+R 1KHz /<br>Dev. 67.5KHz 90%<br>PILOT 19KHz /<br>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.<br>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.<br>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~<br>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 illumination

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 3 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 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 → ⑯ SURROUND

### 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<br>SELECTOR | DSP<br>MODE | FM MODE<br>BAND | FREQUENCY | COPY SWITCH |        | NOTES    |
|------|-------------------|-------------|-----------------|-----------|-------------|--------|----------|
|      |                   |             |                 |           | TAPE        | VCR1   |          |
| 1    | FM                | STEREO      | AUTO            | 98.0      | SOURCE      | SOURCE |          |
| 2    | FM                | STEREO      | MONO            | LAST      | ↑           | ↑      |          |
| 3    | CD                | THX         | 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              | MONO        | AM/MW           | 1000/999  | TUNER       | VCR2   |          |
| 10   | VCR2              | STEREO      | AUTO            | 98.0      | TUNER       | SOURCE | TUNER-ON |
| 11   | AUX               | THX         | 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)<br>MONO 1 KHz /<br>Dev. 40KHz 53.3% <b>IB</b><br>MONO 1KHz /<br>Dev. 75KHz 100% <b>BK</b> | 98 MHz (P2)         | L201             | Distortion level <b>Minimum</b> 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)<br>MONO 1 KHz /<br>Dev. 40KHz 53.3% <b>IB</b><br>MONO 1KHz /<br>Dev. 75KHz 100% <b>BK</b> | 98 MHz (P2)         | R212             | " <b>TUNED</b> " indicate on FLD |
| 2    |                                                          |                  | Over mentioned level<br>+3 dB                                                                               | AUTO SCAN           | Only Confirm     | " <b>TUNED</b> " 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)<br>L+R 1KHz /<br>Dev. 40KHz 53.3%<br>PILOT 19KHz /<br>Dev. 6KHz 8% <b>IB</b> | 98 MHz (P2)         | IF COIL in FRONT END | Distortion level <b>Minimum</b> at TAPE-OUT |
| 2    |                                                          |                  | L+R 1KHz /<br>Dev. 67.5KHz 90%<br>PILOT 19KHz /<br>Dev. 6.75KHz 9% <b>BK</b>                    |                     | R218                 | Distortion level <b>Minimum</b> at TAPE-OUT |

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

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

## 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.<br>(*:Standard required loop) | 999 KHz<br>IB<br>1000 KHz<br>BK | 300 uV/m (50 dB/m)                        | Tuning point        | LA06             | Output level<br>(L or R)<br><b>Maximum</b><br>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.<br>(*:Standard required loop) | 603 KHz<br>IB<br>600 KHz<br>BK   | Level 300 - 400 uV/m<br>Mod. 400 Hz 30%   | 603 KHz<br>IB<br>600 KHz<br>BK   | LA01             | Output level<br>(L or R)<br><b>Maximum</b><br>at TAPE-OUT |
| 2    |                                                                                      | 1404 KHz<br>IB<br>1400 KHz<br>BK | Level 300 - 400 uV/m<br>Mod. 400 Hz 30%   | 1404 KHz<br>IB<br>1400 KHz<br>BK | CA01             | Output level<br>(L or R)<br><b>Maximum</b><br>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.<br>(*:Standard required loop) | 171 KHz          | Level 300 - 400 uV/m<br>Mod. 400 Hz 30%   | 171 KHz             | LA03             | Output level<br>(L or R)<br><b>Maximum</b><br>at TAPE-OUT |
| 2    |                                                                                      | 270 KHz          | Level 300 - 400 uV/m<br>Mod. 400 Hz 30%   | 270 KHz             | CA08             | Output level<br>(L or R)<br><b>Maximum</b><br>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.<br>(*:Standard required loop) | 999 KHz<br>IB<br>1000 KHz<br>BK | 500 uV/m (54 dB/m)                        | 999 KHz<br>IB<br>1000 KHz<br>BK | RA11             | "TUNED"<br>indicate on FLD |
| 2    |                                                                                      |                                 | 1000 uV/m (60 dB/m)                       | AUTO SCAN                       | Only Confirm     | "TUNED"<br>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.<br>Video signal generator output to LD video input. | IC QX60<br>26pin and GND. | DC voltmeter<br>(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  $\pm 20$  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<br><b>IB</b><br>1000 KHz<br><b>BK</b> | 300 uV/m (50 dB/m)                        | Tuning point        | LA06             | Output level (L or R)<br><b>Maximum</b><br>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<br><b>IB</b><br>600 KHz<br><b>BK</b>   | Level 300 - 400 uV/m<br>Mod. 400 Hz 30%   | 603 KHz<br><b>IB</b><br>600 KHz<br><b>BK</b>   | LA01             | Output level (L or R)<br><b>Maximum</b><br>at TAPE-OUT |
| 2    |                                                                                   | 1404 KHz<br><b>IB</b><br>1400 KHz<br><b>BK</b> | Level 300 - 400 uV/m<br>Mod. 400 Hz 30%   | 1404 KHz<br><b>IB</b><br>1400 KHz<br><b>BK</b> | CA01             | Output level (L or R)<br><b>Maximum</b><br>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<br>Mod. 400 Hz 30%   | 171 KHz             | LA03             | Output level (L or R)<br><b>Maximum</b><br>at TAPE-OUT |
| 2    |                                                                                   | 270 KHz          | Level 300 - 400 uV/m<br>Mod. 400 Hz 30%   | 270 KHz             | CA08             | Output level (L or R)<br><b>Maximum</b><br>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<br><b>IB</b><br>1000 KHz<br><b>BK</b> | 500 uV/m (54 dB/m)                        | 999 KHz<br><b>IB</b><br>1000 KHz<br><b>BK</b> | 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.<br>Video signal generator output to LD video input. | IC QX60<br>26pin and GND. | DC voltmeter<br>(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

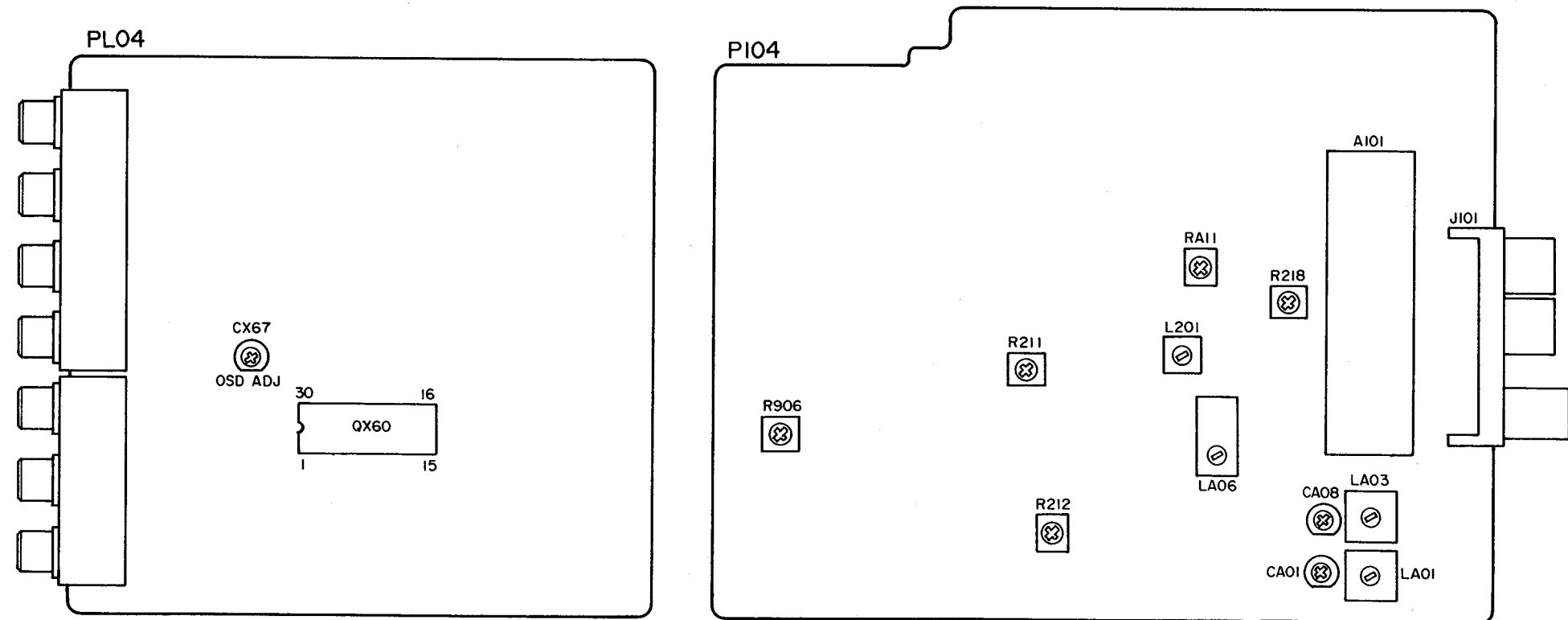
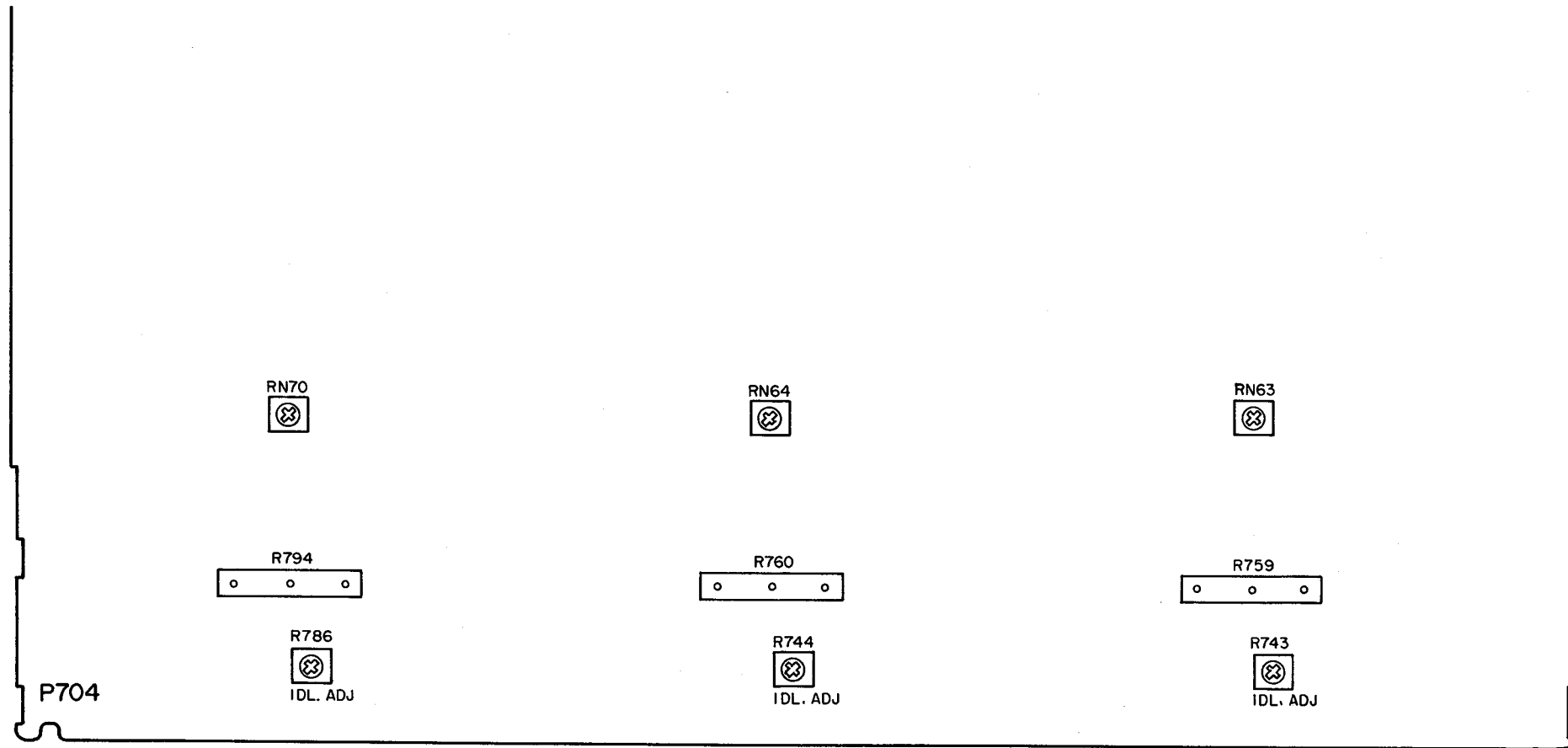
- 1) With the power OFF, set semi – fixed resistor R743 (Lch), R744 (Rch), R786 (Center ch) on the PC board (PV04) to the center position.
- 2) Connect a digital voltmeter, set for the DC range, on the emitter resistor [R759 (Lch), R760 (Rch), R794 (Center ch)] on the PC board (PV04).
- 3) After the 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.

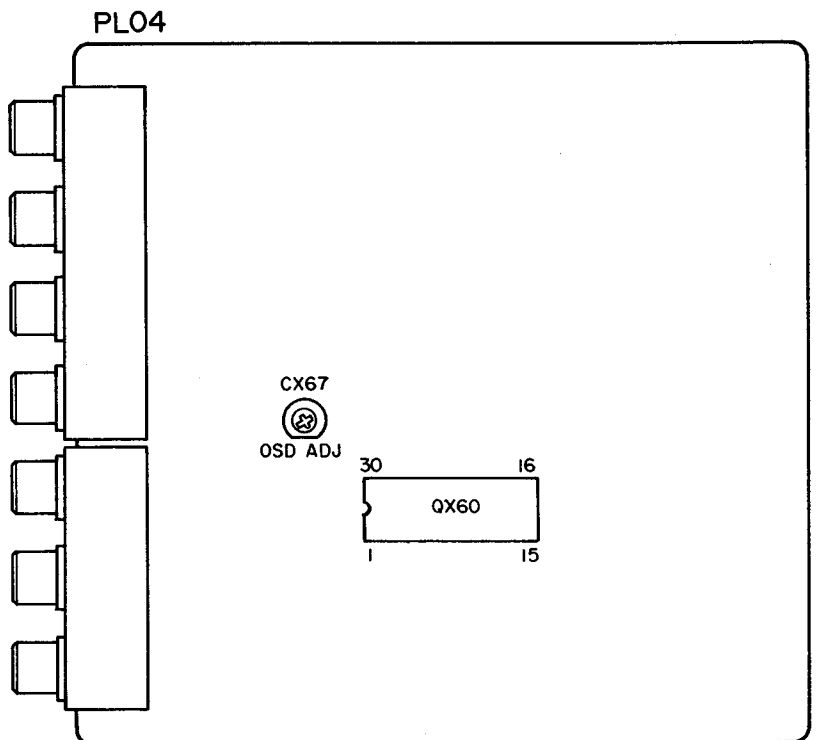
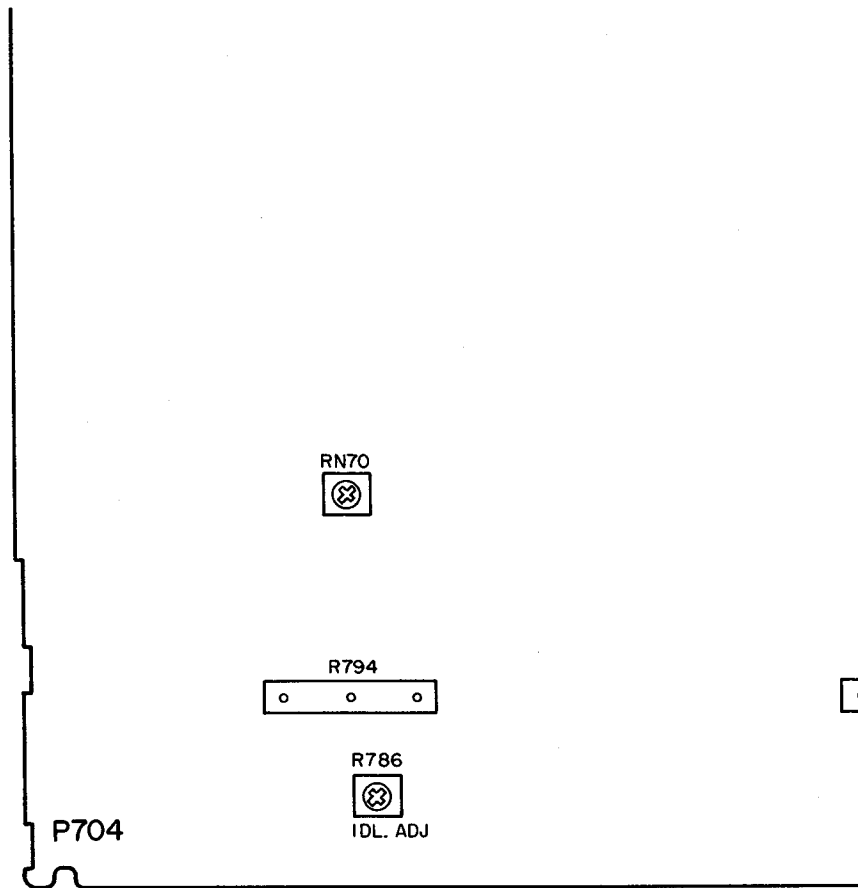
#### 11. Main amp DC offset adjustment

- 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  $\pm 20$  mV.

# ALIGNMENT AND TEST POINTS



## ALIGNMENT AND TEST POINTS



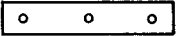
RN64



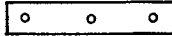
RN63



R760



R759



R744



IDL. ADJ

R743



IDL. ADJ

PI04

R906



R211



R212



RA11



L201



LA06

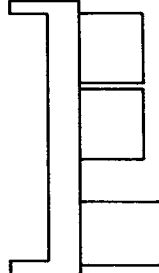
R218



A101



J101



CA08



CA01



LA03



LA01

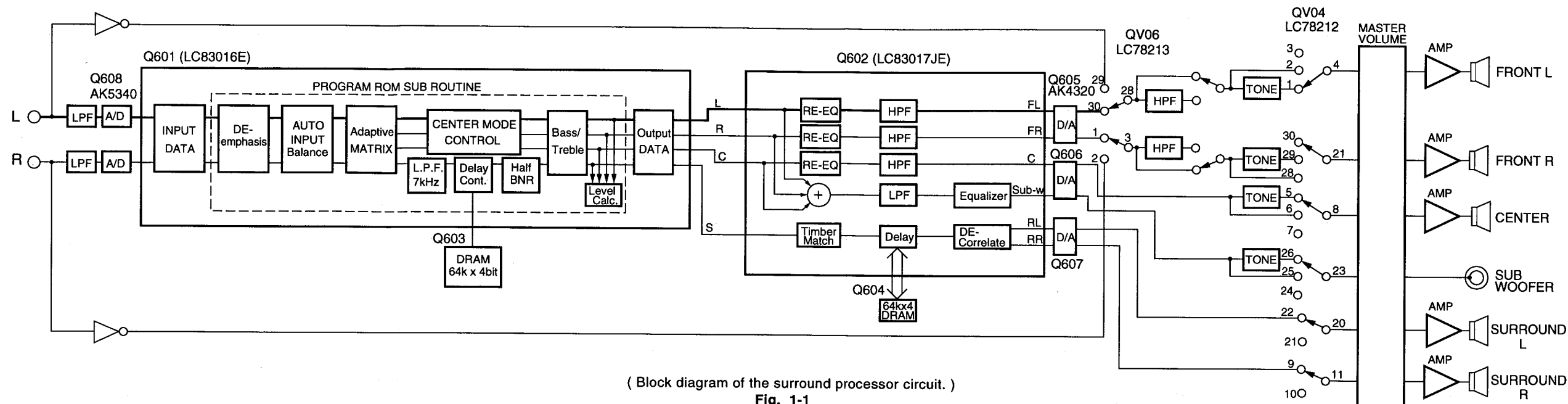


# CIRCUIT DESCRIPTION

## 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.

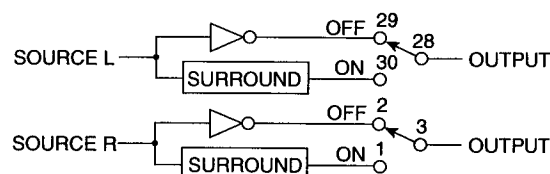
The microprocessor transfers the data to the parameter control ( Serial data, Serial clock, Request Ready ) to operate the circuits in each mode.



### (1) Stereo

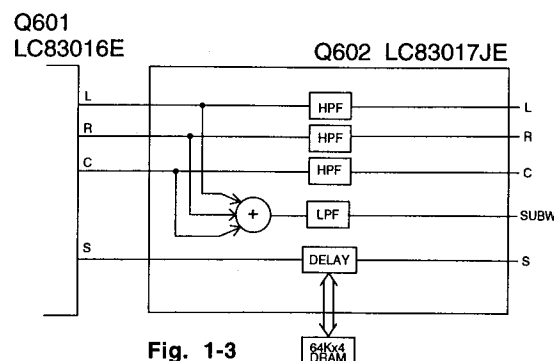
Set to this mode to listen to ordinary stereo sound. The rear L/R and center outputs will be muted.

Q706 LC78213



### (2) THX Cinema

The IC Q602 (LC83017E) is a THX Cinema decoder IC. IC Q602 (LC83017E) divides the 4 channel signals (Left, Right, Center and Surround) sourcing from IC Q601 (LC83016E) into 6 channel signals (Left, Right, Center, Surround Left, Surround Right and Sub Woofer).



### (3) 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 Q602 where noise reduction processing is performed.

### (4) 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.

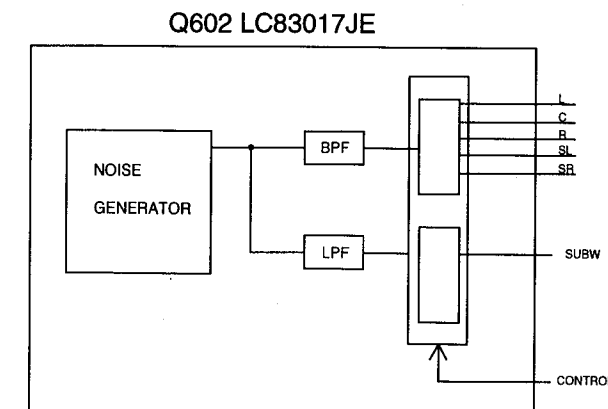
## 2. CENTER MODE

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

|                |                                                                                                                                                                             |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NORMAL</b>  | : 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.                |
| <b>WIDE</b>    | : 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. |
| <b>PHANTOM</b> | : 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 THX CINEMA MODE, ( This circuit is produced under license of Lucasfilm Ltd. ) and the Dolby pro logic mode. ( This circuit is produced under license of the Dolby Laboratories Licensing Corp. )



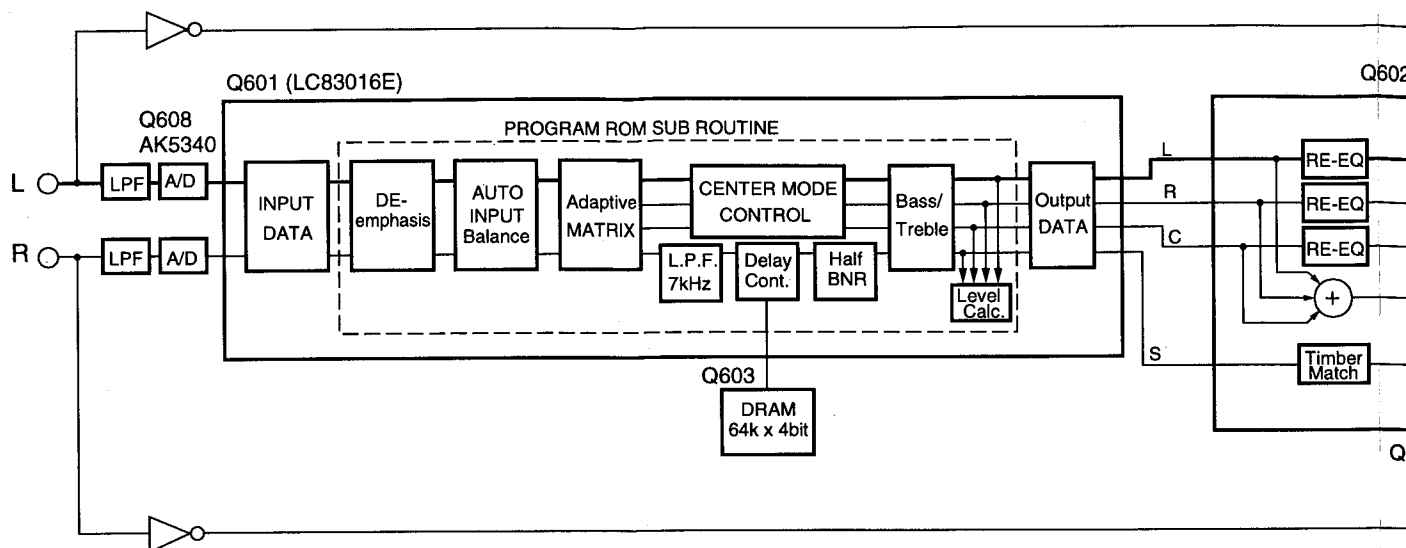


## CIRCUIT DESCRIPTION

## 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 )

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 LC78213

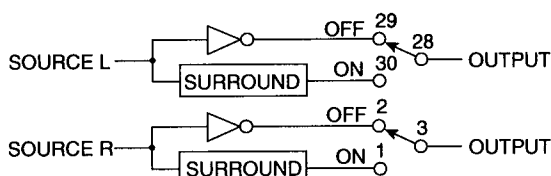


Fig. 1-2

## (2) THX Cinema

The IC Q602 (LC83017E) is a THX Cinema decoder IC. IC Q602 (LC83017E) divides the 4 channel signals (Left, Right, Center and Surround) sourcing from IC Q601 (LC83016E) into 6 channel signals (Left, Right, Center, Surround Left, Surround Right and Sub Woofer).

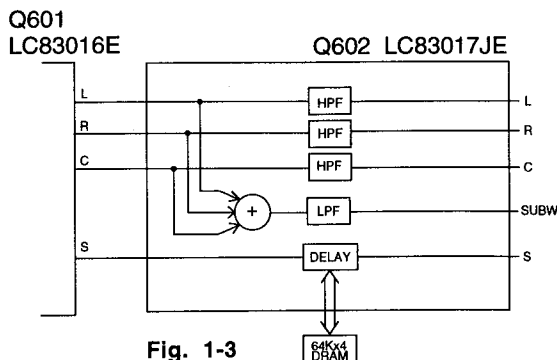


Fig. 1-3

## (3) 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.

## (4) 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.

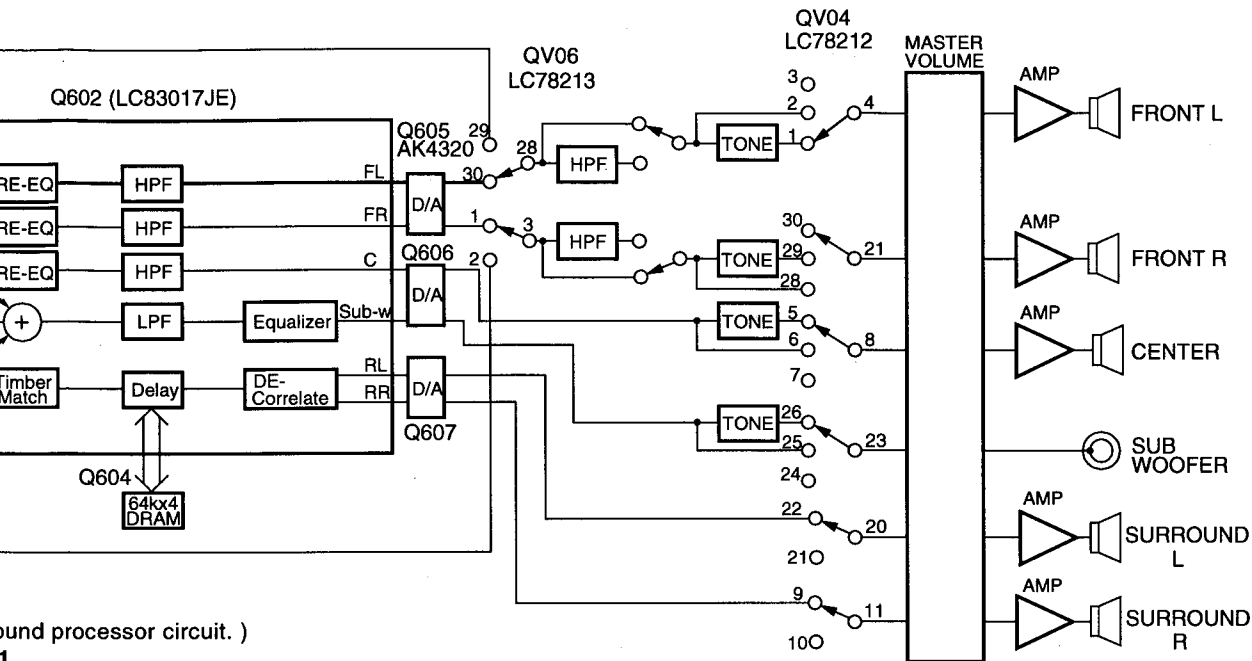
## 2. CEN

With Do  
use of a

NORM

WIDE

PHAN



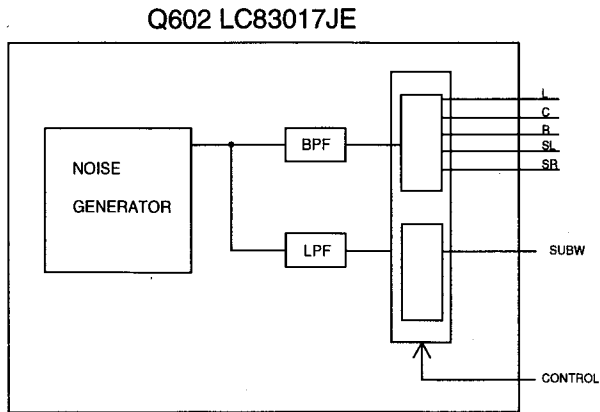
## 2. CENTER MODE

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

|                |                                                                                                                                                                             |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NORMAL</b>  | : 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.                |
| <b>WIDE</b>    | : 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. |
| <b>PHANTOM</b> | : Center channel information is sent to the Left and Right speakers. Select this mode when you do not have a center channel speaker.                                        |

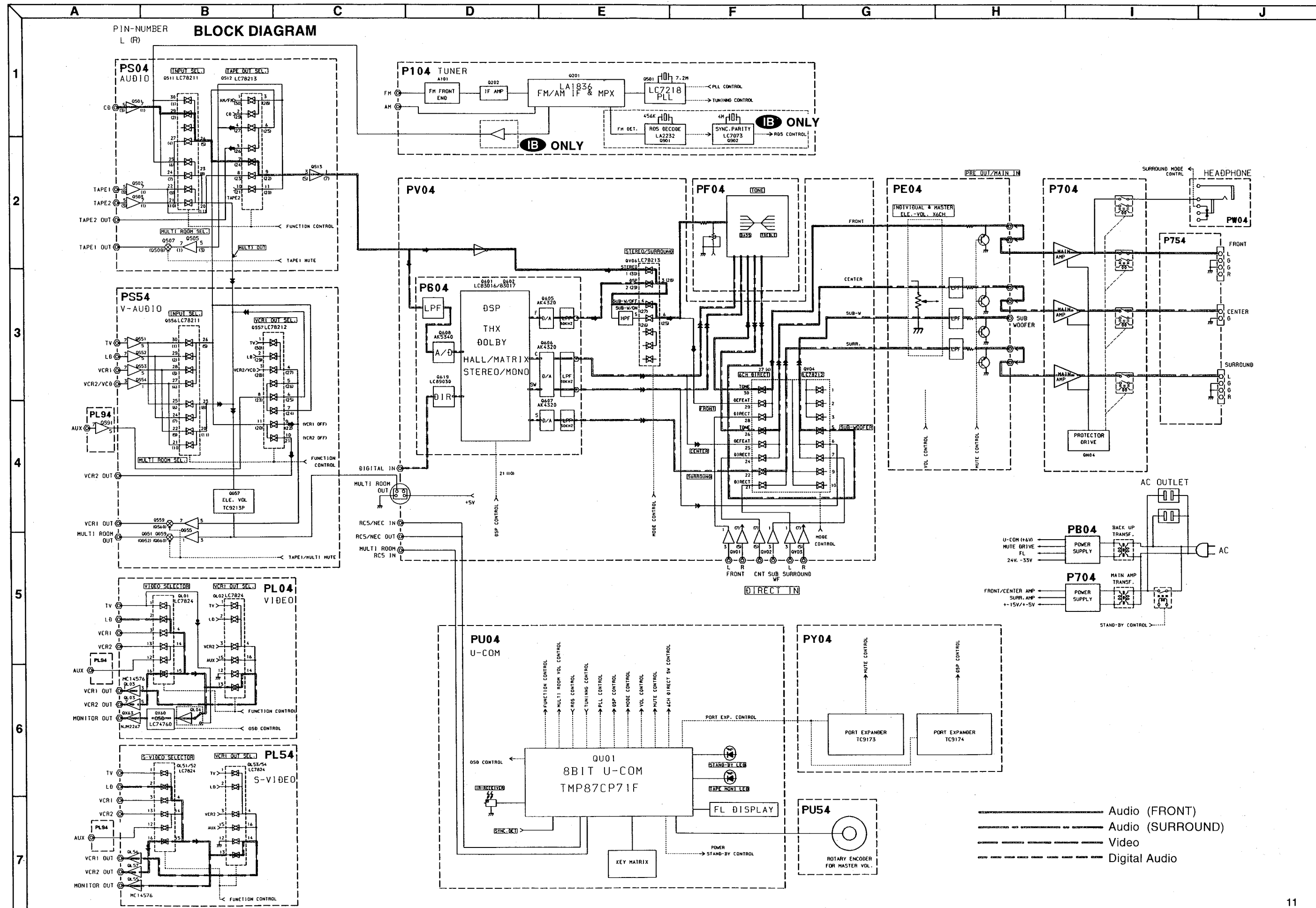
## 3. TEST TONE GENERATOR

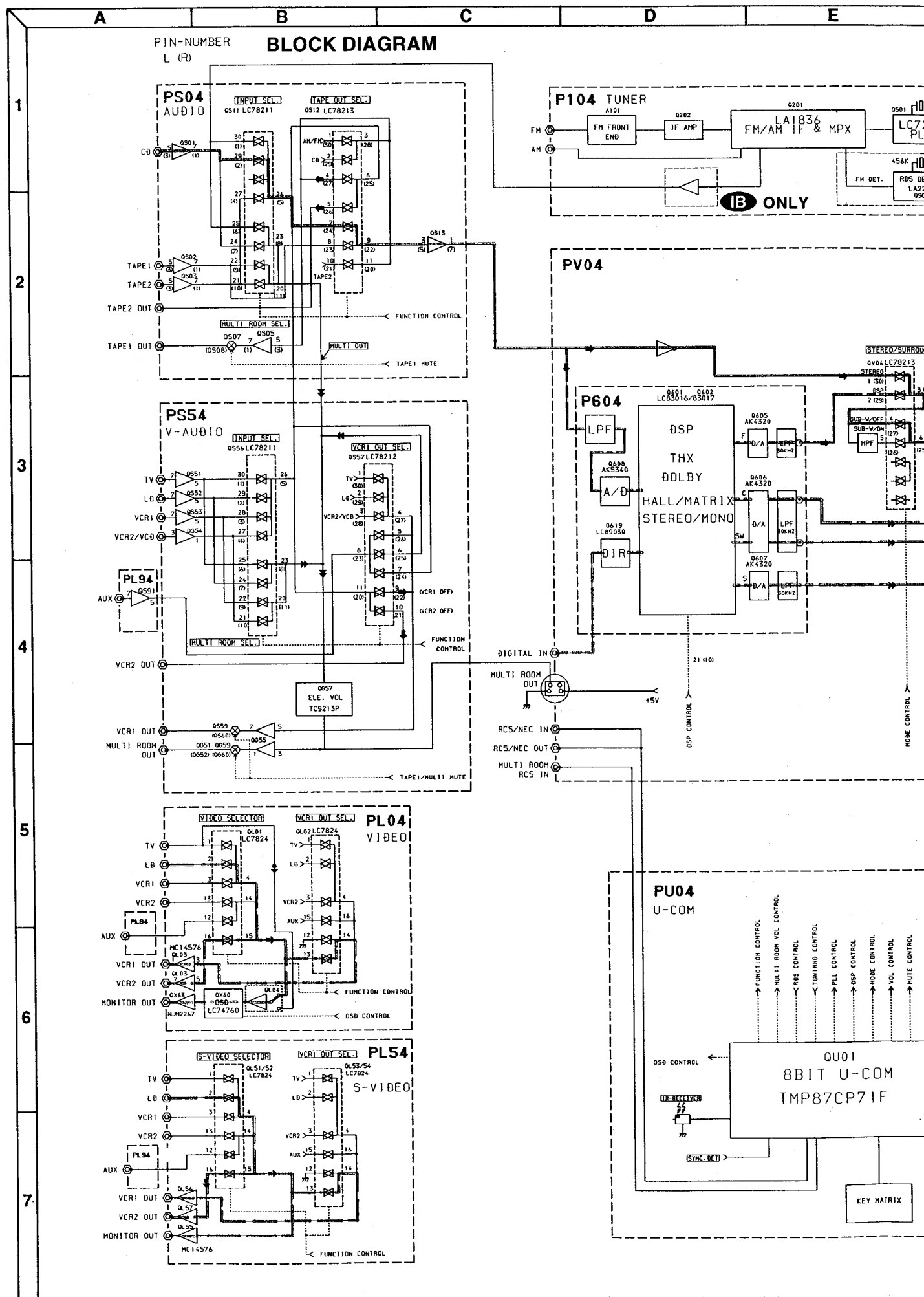
The test tone generator generates a test tone ( noise ) to check the balance of sound output from each speaker in the THX CINEMA MODE, ( This circuit is produced under license of Lucasfilm Ltd. ) and the Dolby pro logic mode. ( This circuit is produced under license of the Dolby Laboratories Licensing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



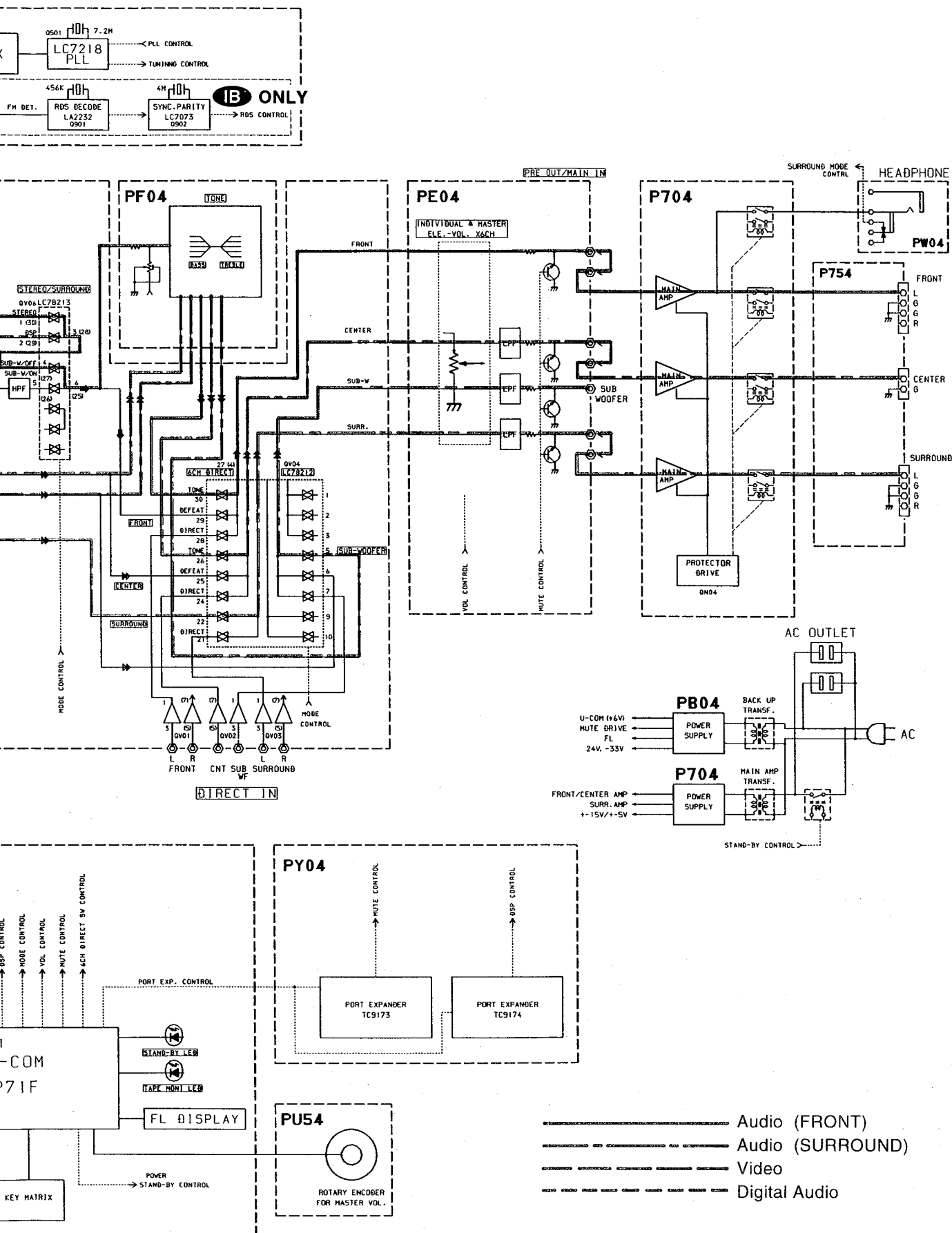
( Flow of noise signals within the system. )

Fig. 3



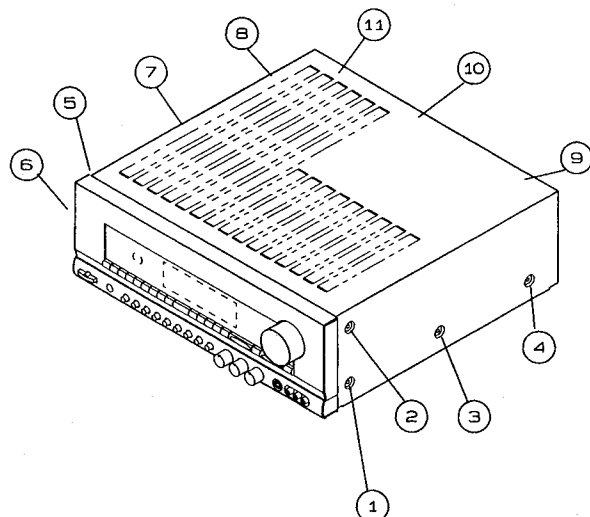


F G H I J

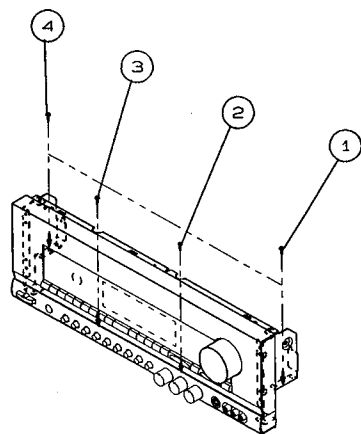


# DISASSEMBLY PROCEDURES

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



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



## 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.

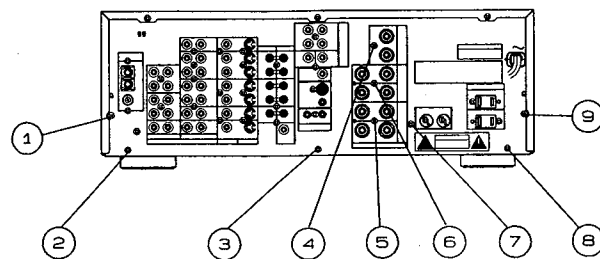
## POWER SUPPLY PCB (PB04)

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

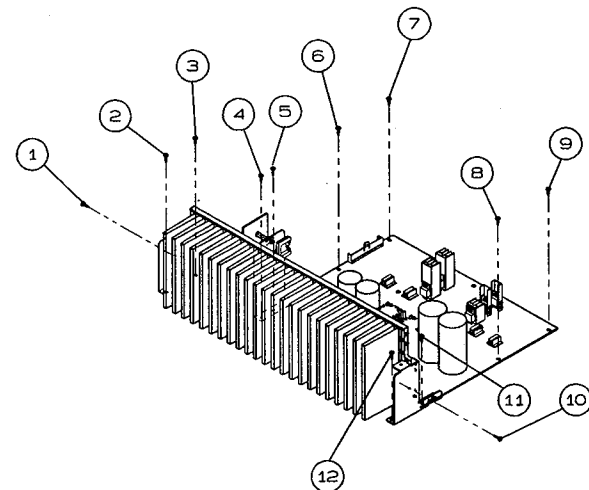
## MAIN VOL PCB (PU54)

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

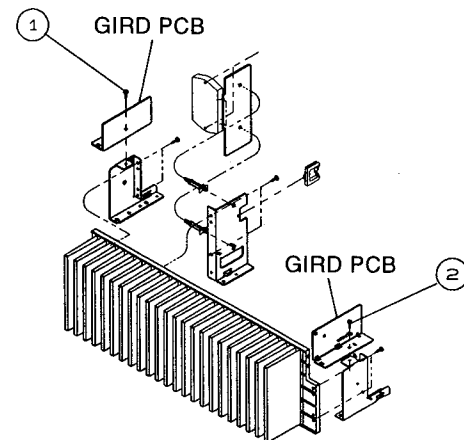
3. Removing the rear panel  
Remove the screws ① ~ ⑨



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



5. Removing the shield plate  
Remove the screws ① ②



## 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.

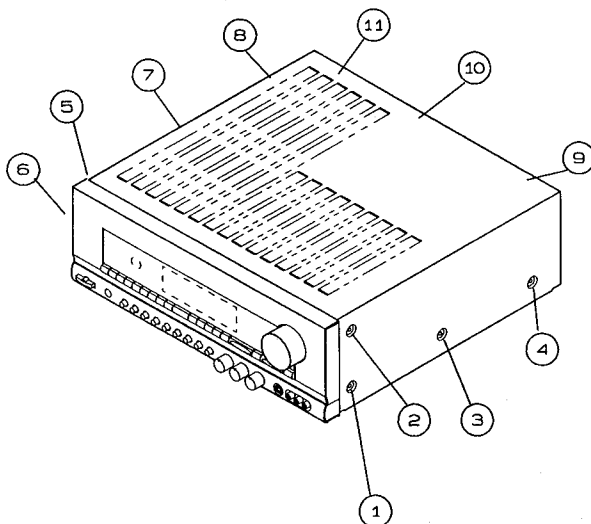
# GENERAL UNIT PARTS LIST

| Ref. No. | Part. No.  | Description              | Q'TY | Ref. No. | Part. No.  | Description                     | Q'TY |
|----------|------------|--------------------------|------|----------|------------|---------------------------------|------|
| 001B     | 260J248020 | FRONT PANEL <b>IB</b>    | 1    | ▲ L001   | TS60513020 | POWER TRANSF. 230V <b>IB</b>    | 1    |
| 001B     | 260J248010 | FRONT PANEL <b>BK</b>    | 1    | ▲ L001   | TS60513010 | POWER TRANSF. 120V <b>BK</b>    | 1    |
| 005B     | 260J105010 | CHASSIS, FRONT           | 1    | L002     | FC50380010 | FERRITE CORE <b>IB</b>          | 1    |
| 008B     | 260J158010 | WINDOW                   | 1    | Y001     | YQ01000080 | SHORTING PLUG                   | 1    |
| 010B     | 260J270010 | BUTTON, FUNCTION         | 1    | Y002     | YQ01000080 | SHORTING PLUG                   | 1    |
| 013B     | 260J270510 | BUTTON KIT, POWER        | 1    | Y003     | YQ01000080 | SHORTING PLUG                   | 1    |
| 014B     | 260J270040 | BUTTON, POWER            | 1    | Y004     | YQ01000080 | SHORTING PLUG                   | 1    |
| 015B     | 260J355020 | LENS, POWER              | 1    | Y005     | YQ01000080 | SHORTING PLUG                   | 1    |
| 017B     | 260J270020 | BUTTON, MODE <b>IB</b>   | 1    | ▲ W001   | YC01800790 | A.C POWER CORD <b>IB</b>        | 1    |
| 017B     | 260J270120 | BUTTON, MODE <b>BK</b>   | 1    | ▲ W001   | YC01800780 | A.C POWER CORD <b>BK</b>        | 1    |
| 019B     | 183J271020 | HOLDER, FL               | 1    |          |            |                                 |      |
| 020B     | 056J122010 | STICKER, FL              | 1    | 5110     | 51100306M0 | B. H. M SCREW 5110 ø3x6 (M)     | 5    |
| 021B     | 4220005040 | CLAMPER                  | 1    | 5110     | 51100308A0 | B. H. M SCREW 5110 ø3x8 (A)     | 4    |
| 023B     | 183J010010 | SCREW, PHONE PCB         | 1    | 5126     | 51260308M0 | B.T.SCREW(W/W) 5126 ø3x8 (M)    | 8    |
| 025B     | 264J160040 | BRACKET, LEFT            | 1    | 5126     | 51260308U0 | B.T.SCREW(W/W) 5126 ø3x8 (U)    | 11   |
| 027B     | 264J160050 | BRACKET, RIGHT           | 1    | 5128     | 51280308M0 | B. H. TAP. SCREW 5128 ø3x8 (M)  | 99   |
| 035B     | 063J154180 | KNOB, MAIN VOL           | 1    | 5128     | 51280308U0 | B. H. TAP. SCREW 5128 ø3x8 (U)  | 3    |
| 036B     | 042J154020 | KNOB, TONE VOL           | 3    | 5128     | 51280325B0 | B. H. TAP. SCREW 5128 ø3x25 (B) | 2    |
| 001D     | 264J257110 | LID, TOP COVER           | 1    | 5128     | 51280410U0 | B. H. TAP. SCREW 5128 ø4x10 (U) | 1    |
| 001G     | 264J105500 | CHASSIS ASSEMBLY, MAIN   | 1    | 5128     | 51480310A0 | F. WASHER SCREW 5148 ø3x10(A)   | 9    |
| 002G     | 264J105010 | CHASSIS, MAIN            | 1    | 5128     | 51480315M0 | F. WASHER SCREW 5148 ø3x15(M)   | 2    |
| 003G     | 030J114010 | STOPPER                  | 1    | 5128     | 52040408M0 | H. HEAD BOLT 5204 ø4x8 (M)      | 4    |
| 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        | 3    |          |            |                                 |      |
| 020G     | 137J861050 | LABEL, FUSE <b>BK</b>    | 1    |          |            |                                 |      |
| 022G     | 093J861010 | LABEL, FUSE <b>BK</b>    | 1    |          |            |                                 |      |
| 030G     | 136J101020 | SUPPORT                  | 1    |          |            |                                 |      |
| 900G     | 260J250020 | REAR PANEL <b>IB</b>     | 1    |          |            |                                 |      |
| 900G     | 260J250010 | REAR PANEL <b>BK</b>     | 1    |          |            |                                 |      |
| 910G     | 450H259010 | BUSHING, AC CODE         | 1    |          |            |                                 |      |
| 915G     | 260J861010 | LABEL <b>IB</b>          | 1    |          |            |                                 |      |
| 920G     | 95109111D0 | LABEL <b>BK</b>          | 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 <b>IB</b>        | 1    |          |            |                                 |      |
| 061K     | 415T101010 | SUPPORT                  | 1    |          |            |                                 |      |

## DISASSEMBLY PROCEDURES

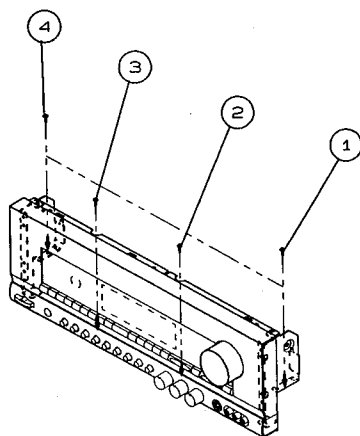
### 1. Removing the top Cover

Remove the screws ① ~ ⑪



### 2. Removing the front panel

Remove the screws ① ~ ④



### 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)

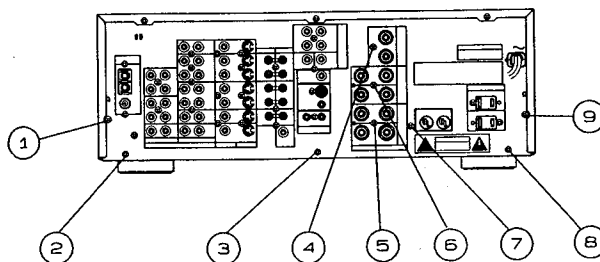
1. Remove the screw x2 for TRANSF mounting.
2. Remove the screw x2 for POWER SUPPLY PCB mounting.
3. Remove the POWER SUPPLY PCB.

### MAIN VOL PCB (PU54)

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

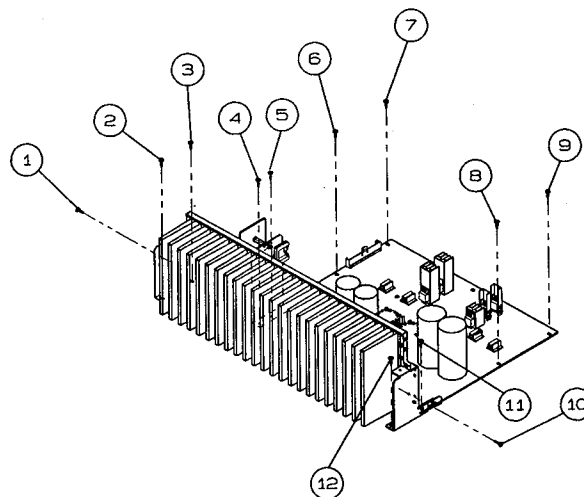
### 3. Removing the rear panel

Remove the screws ① ~ ⑨



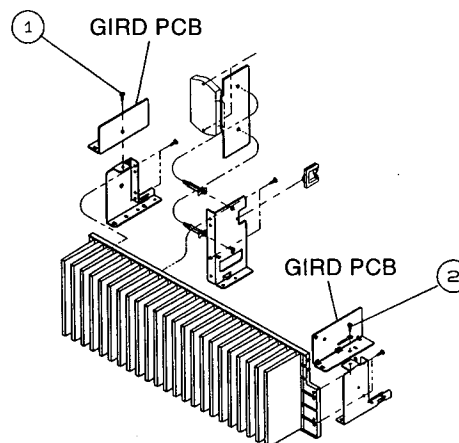
### 4. Removing the main PCB Block

Remove the screws ① ~ ⑫



### 5. Removing the shield plate

Remove the screws ① ②



### 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)

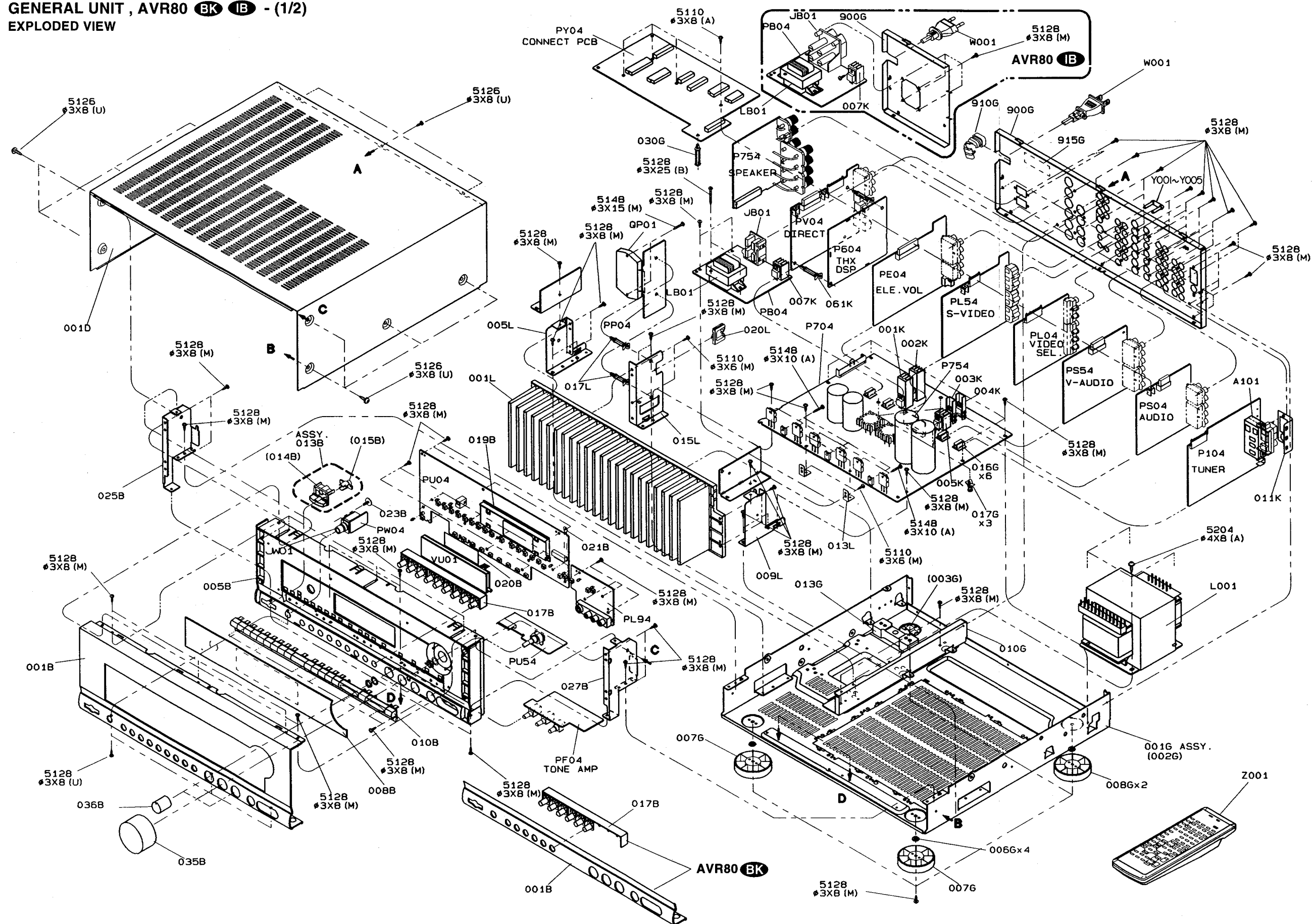
1. Remove the screw x4 for FRONT PANEL ASSY mounting.
2. Lay down the FRONT PANEL ASSY.
3. Remove the screw x16 for FRONT FUNCTION PCB.
4. Remove the FRONT FUNCTION PCB.

# GENERAL UNIT PARTS LIST

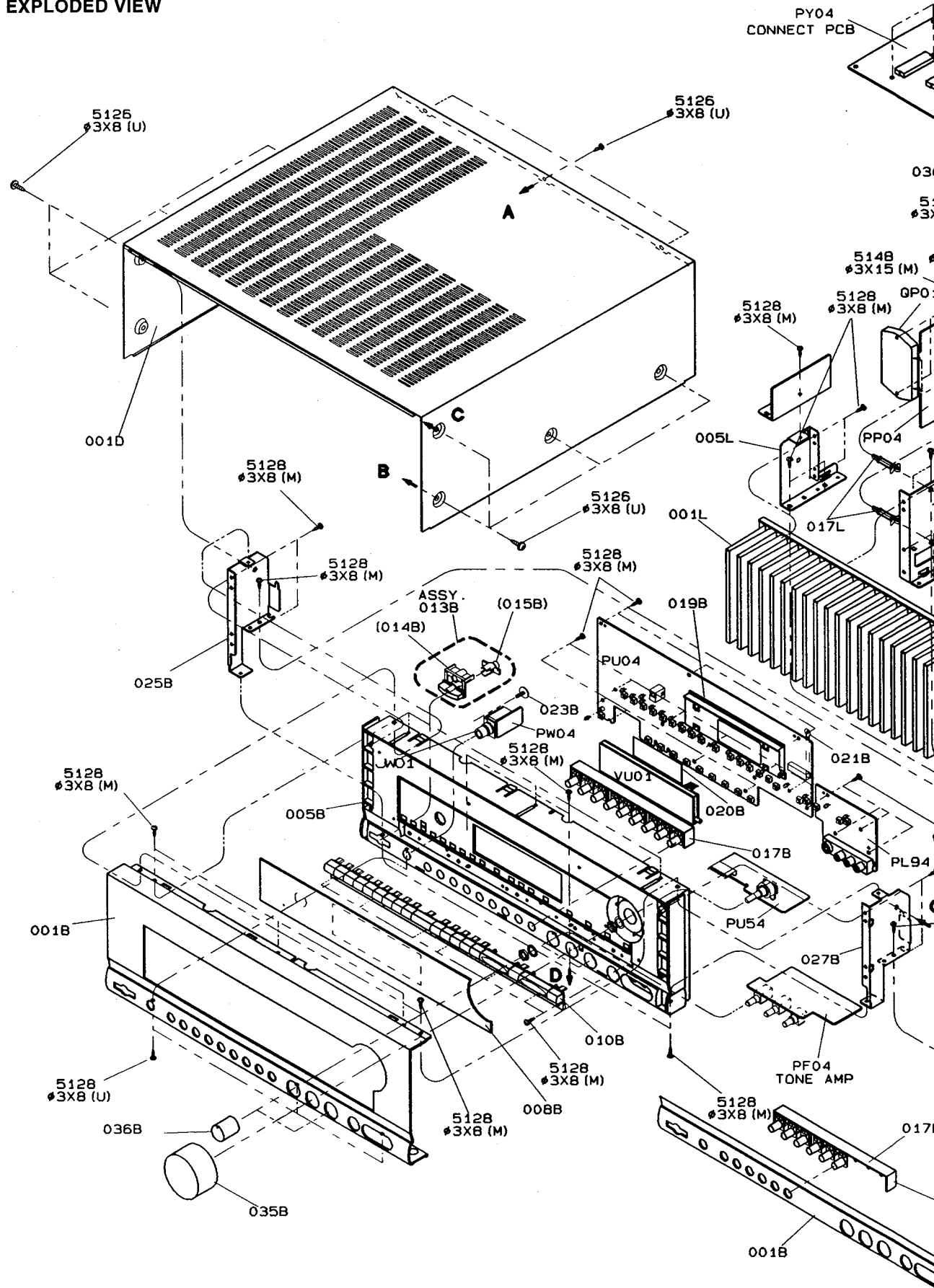
| Ref. No. | Part. No.  | Description              | Q'TY | Ref. No. | Part. No.  | Description                     | Q'TY |
|----------|------------|--------------------------|------|----------|------------|---------------------------------|------|
| 001B     | 260J248020 | FRONT PANEL <b>IB</b>    | 1    | ▲ L001   | TS60513020 | POWER TRANSF. 230V <b>IB</b>    | 1    |
| 001B     | 260J248010 | FRONT PANEL <b>BK</b>    | 1    | ▲ L001   | TS60513010 | POWER TRANSF. 120V <b>BK</b>    | 1    |
| 005B     | 260J105010 | CHASSIS, FRONT           | 1    | L002     | FC50380010 | FERRITE CORE <b>IB</b>          | 1    |
| 008B     | 260J158010 | WINDOW                   | 1    | Y001     | YQ01000080 | SHORTING PLUG                   | 1    |
| 010B     | 260J270010 | BUTTON, FUNCTION         | 1    | Y002     | YQ01000080 | SHORTING PLUG                   | 1    |
| 013B     | 260J270510 | BUTTON KIT, POWER        | 1    | Y003     | YQ01000080 | SHORTING PLUG                   | 1    |
| 014B     | 260J270040 | BUTTON, POWER            | 1    | Y004     | YQ01000080 | SHORTING PLUG                   | 1    |
| 015B     | 260J355020 | LENS, POWER              | 1    | Y005     | YQ01000080 | SHORTING PLUG                   | 1    |
| 017B     | 260J270020 | BUTTON, MODE <b>IB</b>   | 1    | ▲ W001   | YC01800790 | A.C POWER CORD <b>IB</b>        | 1    |
| 017B     | 260J270120 | BUTTON, MODE <b>BK</b>   | 1    | ▲ W001   | YC01800780 | A.C POWER CORD <b>BK</b>        | 1    |
| 019B     | 183J271020 | HOLDER, FL               | 1    |          |            |                                 |      |
| 020B     | 056J122010 | STICKER, FL              | 1    | 5110     | 51100306M0 | B. H. M SCREW 5110 ø3x6 (M)     | 5    |
| 021B     | 4220005040 | CLAMPER                  | 1    | 5110     | 51100308A0 | B. H. M SCREW 5110 ø3x8 (A)     | 4    |
| 023B     | 183J010010 | SCREW, PHONE PCB         | 1    | 5126     | 51260308M0 | B.T.SCREW(W/W) 5126 ø3x8 (M)    | 8    |
| 025B     | 264J160040 | BRACKET, LEFT            | 1    | 5126     | 51260308U0 | B.T.SCREW(W/W) 5126 ø3x8 (U)    | 11   |
| 027B     | 264J160050 | BRACKET, RIGHT           | 1    | 5128     | 51280308M0 | B. H. TAP. SCREW 5128 ø3x8 (M)  | 99   |
| 035B     | 063J154180 | KNOB, MAIN VOL           | 1    | 5128     | 51280308U0 | B. H. TAP. SCREW 5128 ø3x8 (U)  | 3    |
| 036B     | 042J154020 | KNOB, TONE VOL           | 3    | 5128     | 51280325B0 | B. H. TAP. SCREW 5128 ø3x25 (B) | 2    |
| 001D     | 264J257110 | LID, TOP COVER           | 1    | 5128     | 51280410U0 | B. H. TAP. SCREW 5128 ø4x10 (U) | 1    |
| 001G     | 264J105500 | CHASSIS ASSEMBLY, MAIN   | 1    | 5128     | 51480310A0 | F. WASHER SCREW 5148 ø3x10(A)   | 9    |
| 002G     | 264J105010 | CHASSIS, MAIN            | 1    | 5128     | 51480315M0 | F. WASHER SCREW 5148 ø3x15(M)   | 2    |
| 003G     | 030J114010 | STOPPER                  | 1    | 5128     | 52040408M0 | H. HEAD BOLT 5204 ø4x8 (M)      | 4    |
| 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        | 3    |          |            |                                 |      |
| 020G     | 137J861050 | LABEL, FUSE <b>BK</b>    | 1    |          |            |                                 |      |
| 022G     | 093J861010 | LABEL, FUSE <b>BK</b>    | 1    |          |            |                                 |      |
| 030G     | 136J101020 | SUPPORT                  | 1    |          |            |                                 |      |
| 900G     | 260J250020 | REAR PANEL <b>IB</b>     | 1    |          |            |                                 |      |
| 900G     | 260J250010 | REAR PANEL <b>BK</b>     | 1    |          |            |                                 |      |
| 910G     | 450H259010 | BUSHING, AC CODE         | 1    |          |            |                                 |      |
| 915G     | 260J861010 | LABEL <b>IB</b>          | 1    |          |            |                                 |      |
| 920G     | 95109111D0 | LABEL <b>BK</b>          | 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 <b>IB</b>        | 1    |          |            |                                 |      |
| 061K     | 415T101010 | SUPPORT                  | 1    |          |            |                                 |      |

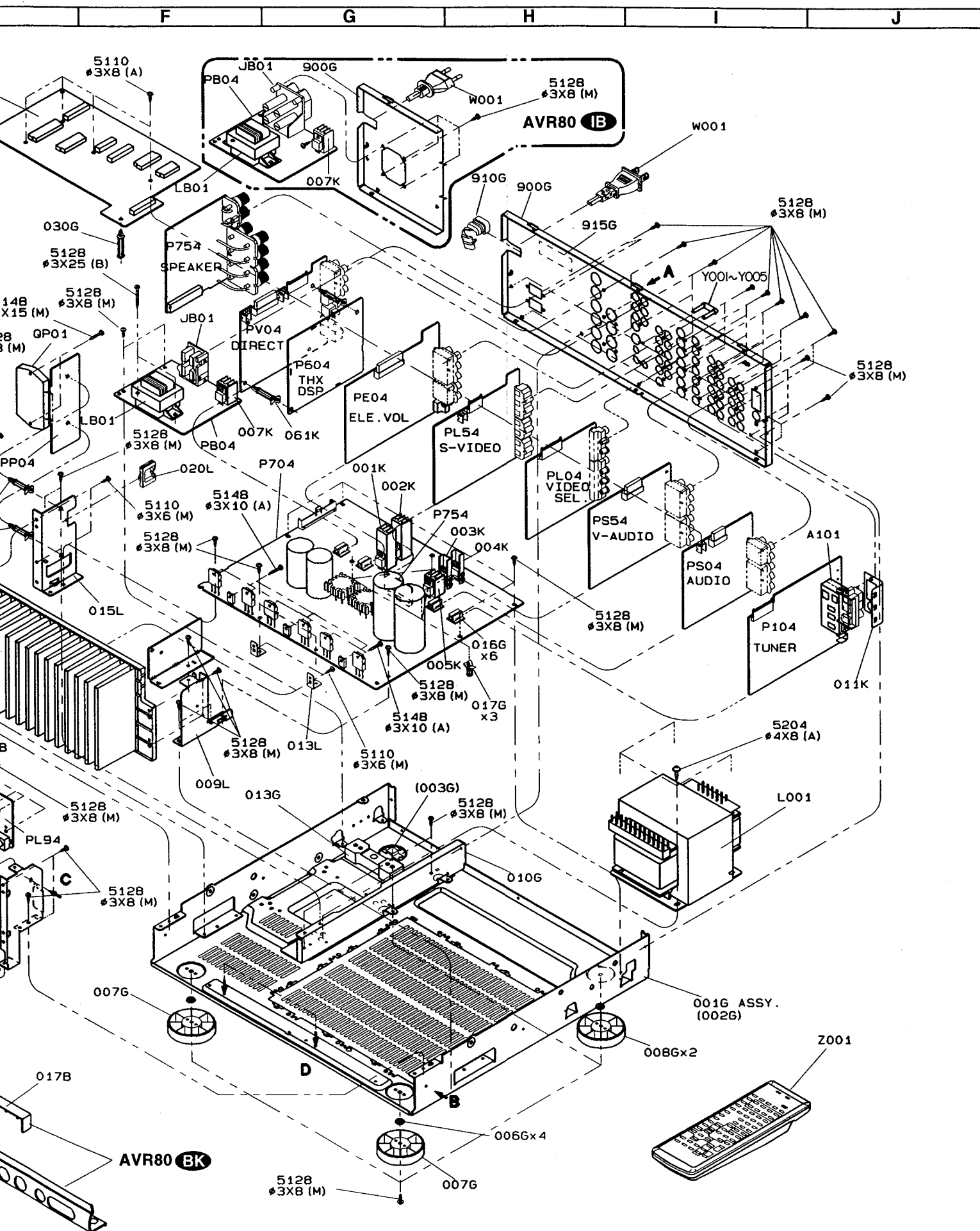


GENERAL UNIT, AVR80 BK IB - (1/2)  
EXPLODED VIEW



**GENERAL UNIT , AVR80 BK IB - (1/2)**  
**EXPLODED VIEW**





## 1



3

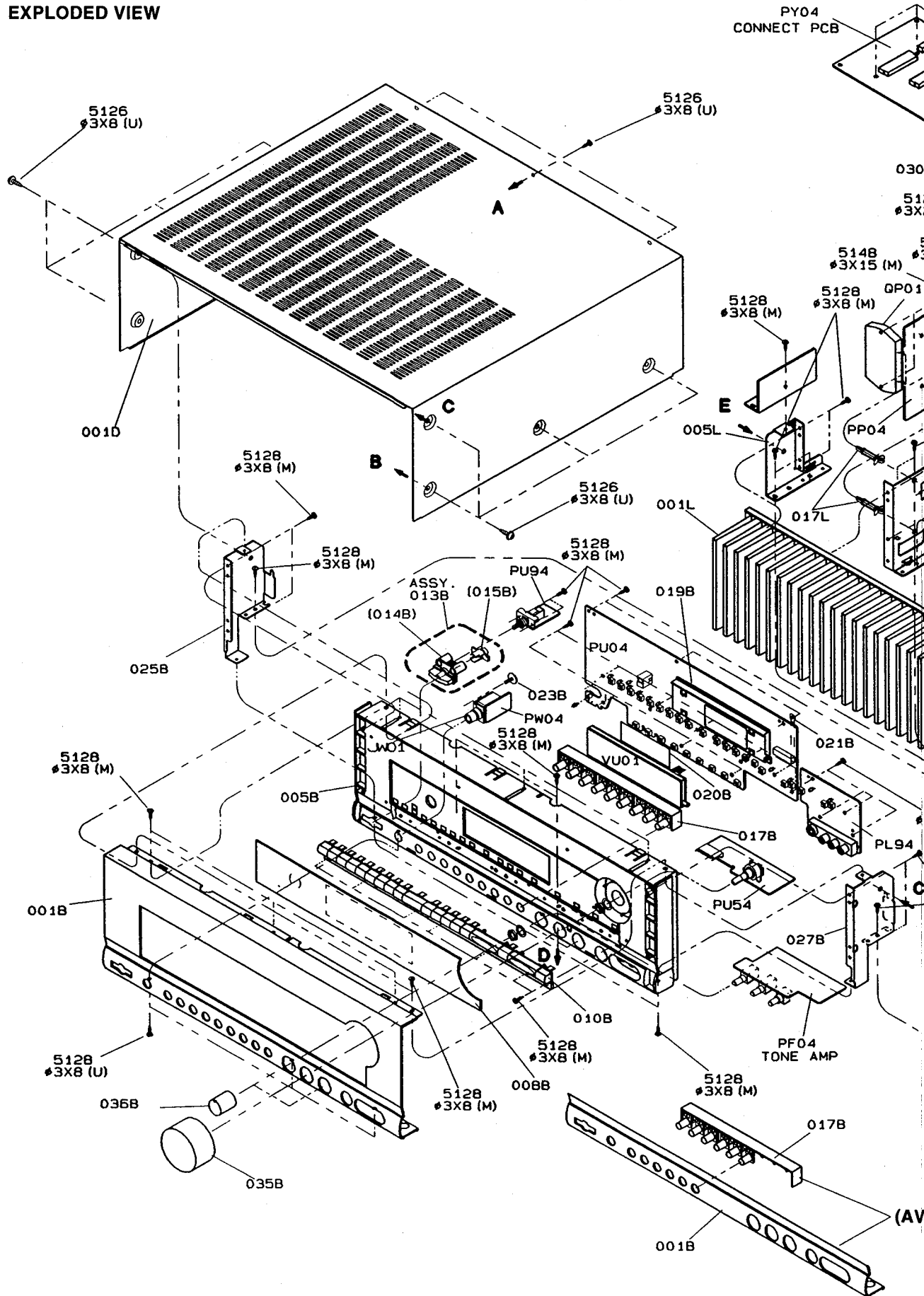
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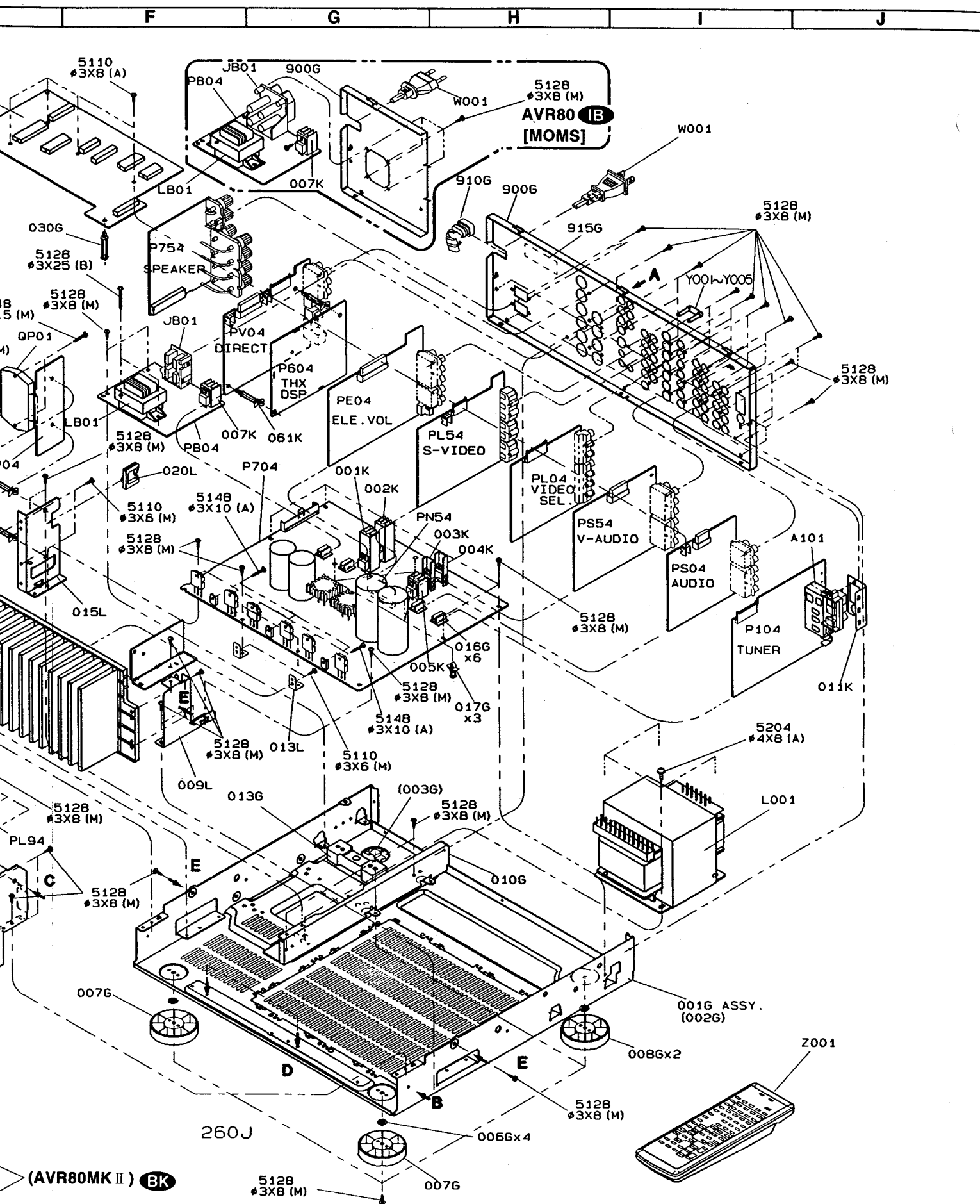
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GENERAL UNIT, AVR80MK II **BK** /AVR80 **IB** [MOMS]- (2/2)  
EXPLODED VIEW

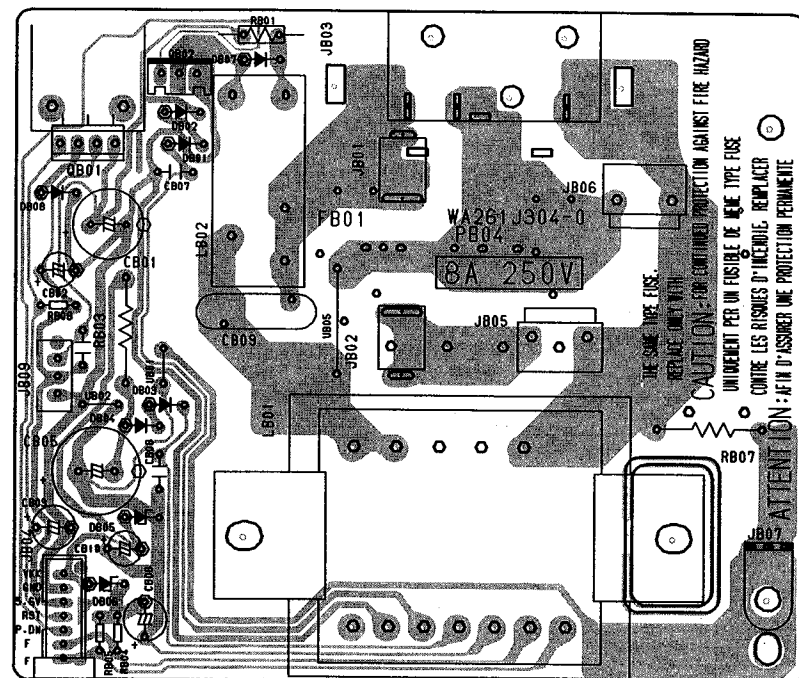




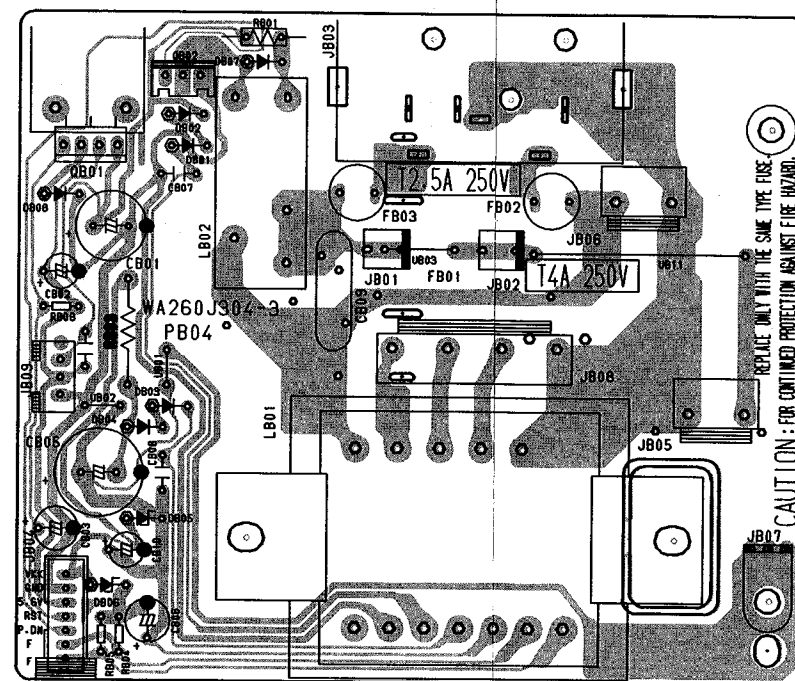


P.C. BOARDS ( 1 )

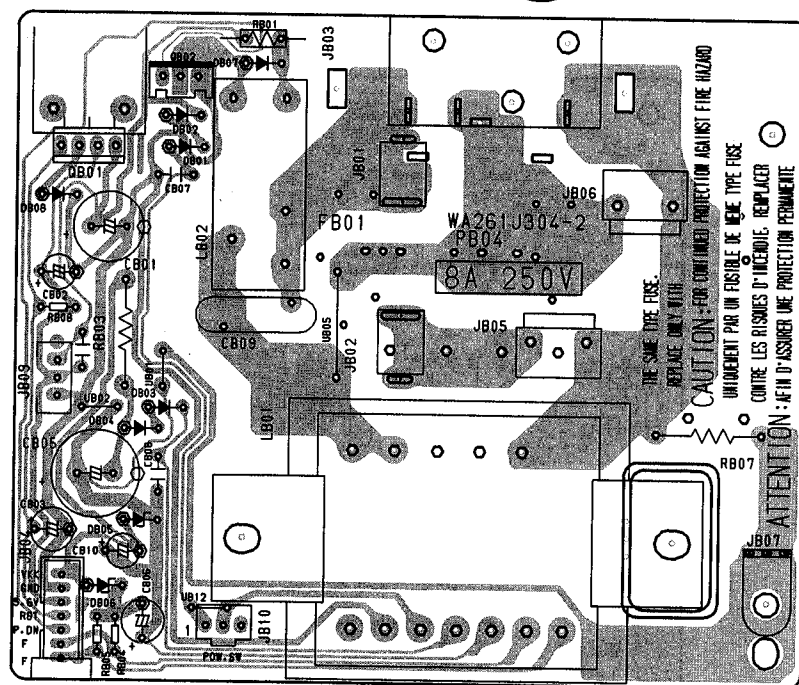
PB04-Back-up P.C. Board , AVR80 **BK** Version



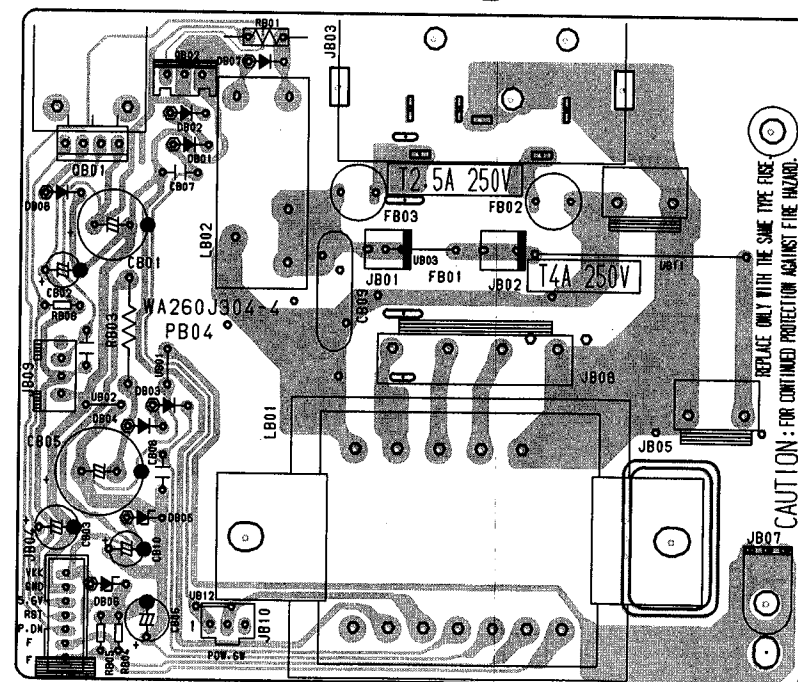
PB04-Back-up P.C. Board , AVR80 **IB** Version



PB04-Back-up P.C. Board , AVR80MK II **BK** Version

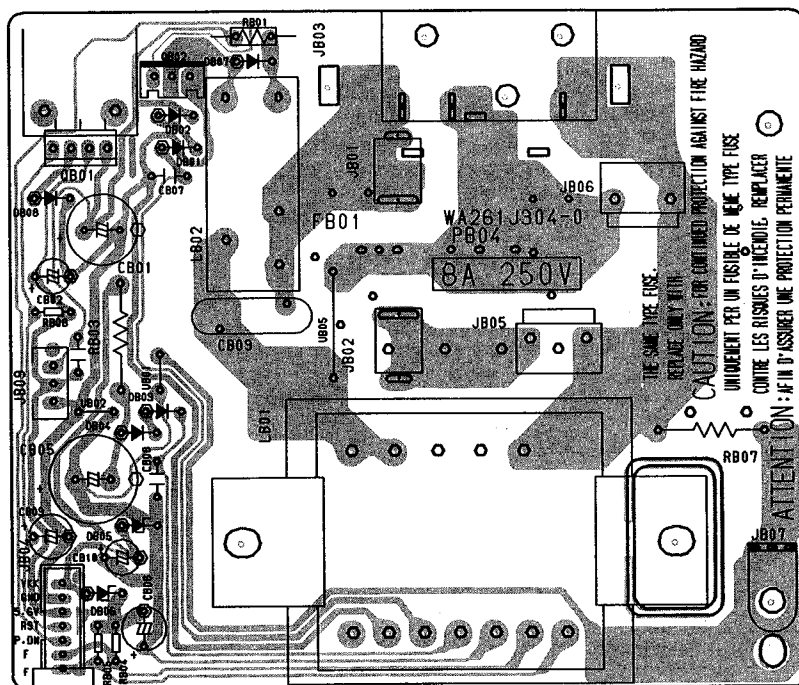


PB04-Back-up P.C. Board , AVR80 **IB** [MOMS] Version

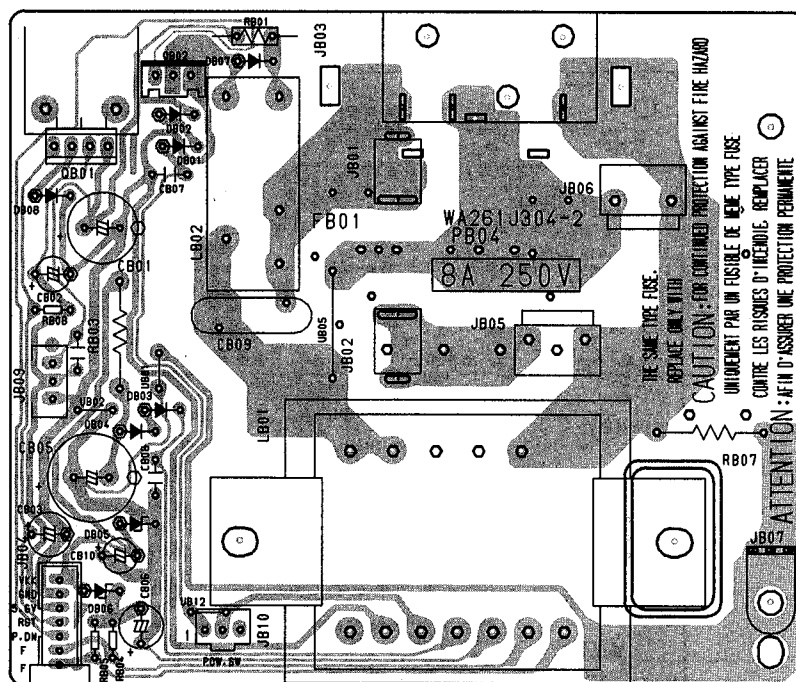


# P.C. BOARDS ( 1 )

## PB04-Back-up P.C. Board , AVR80 **BK** Version



## PB04-Back-up P.C. Board , AVR80MK II **BK** Version





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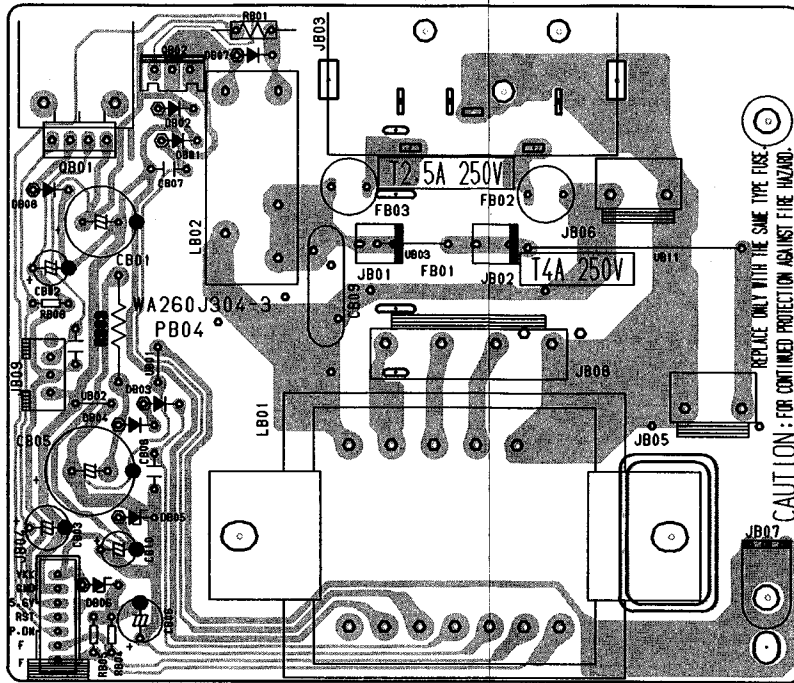
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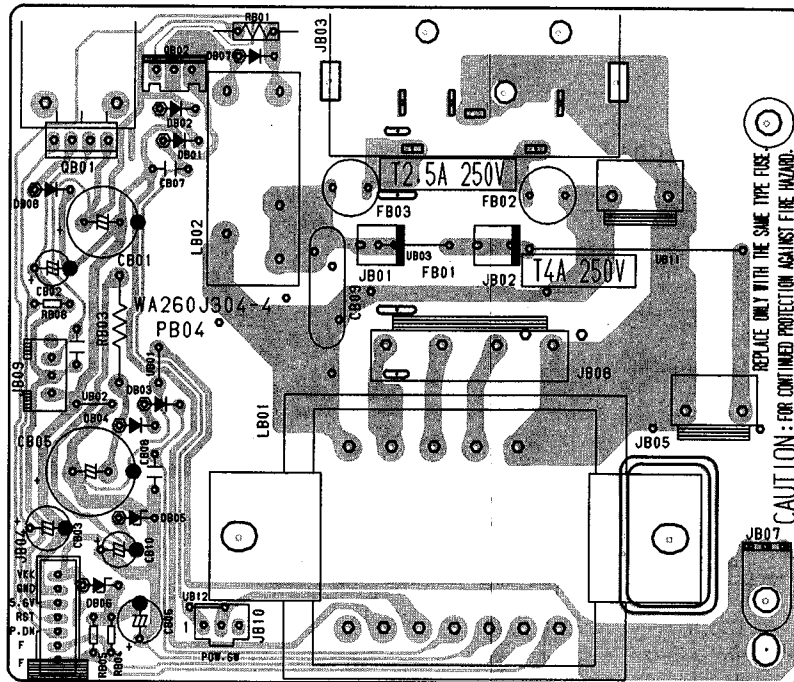
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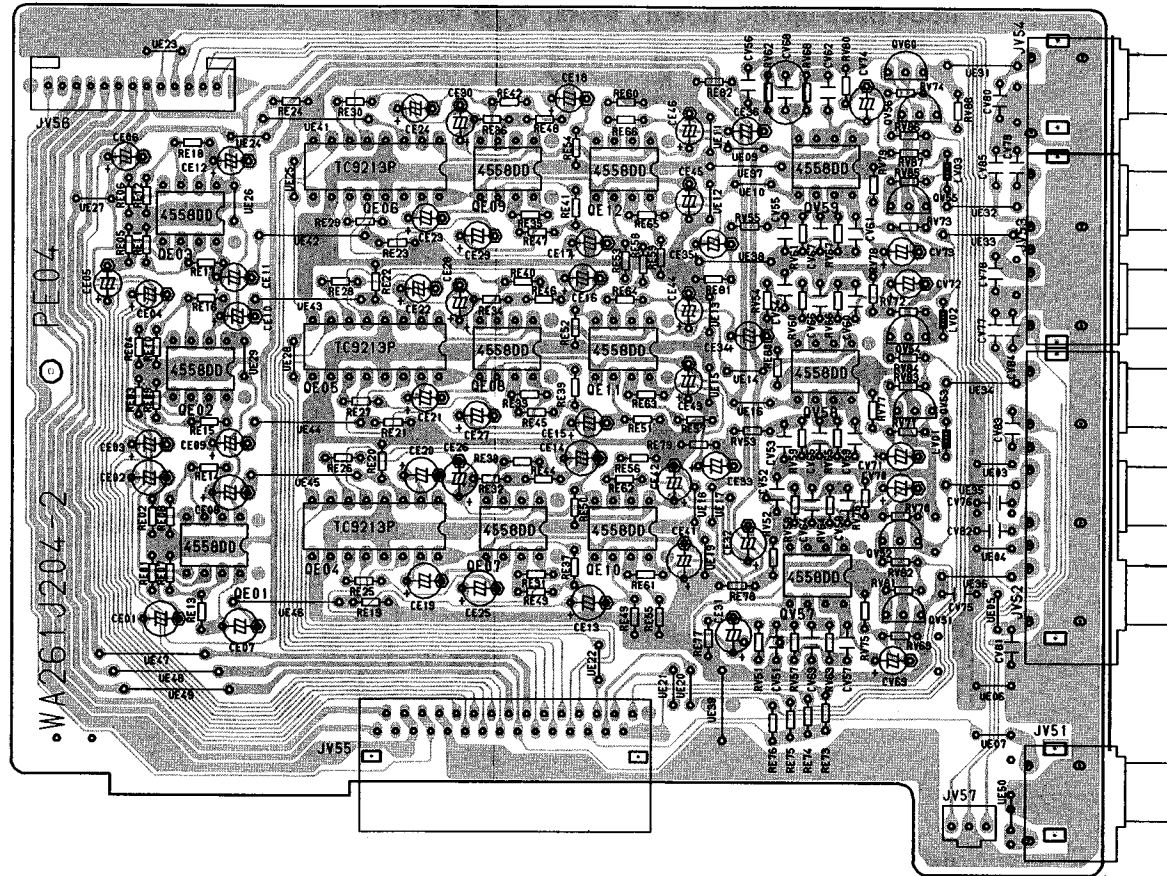
PB04-Back-up P.C. Board , AVR80 **IB** Version



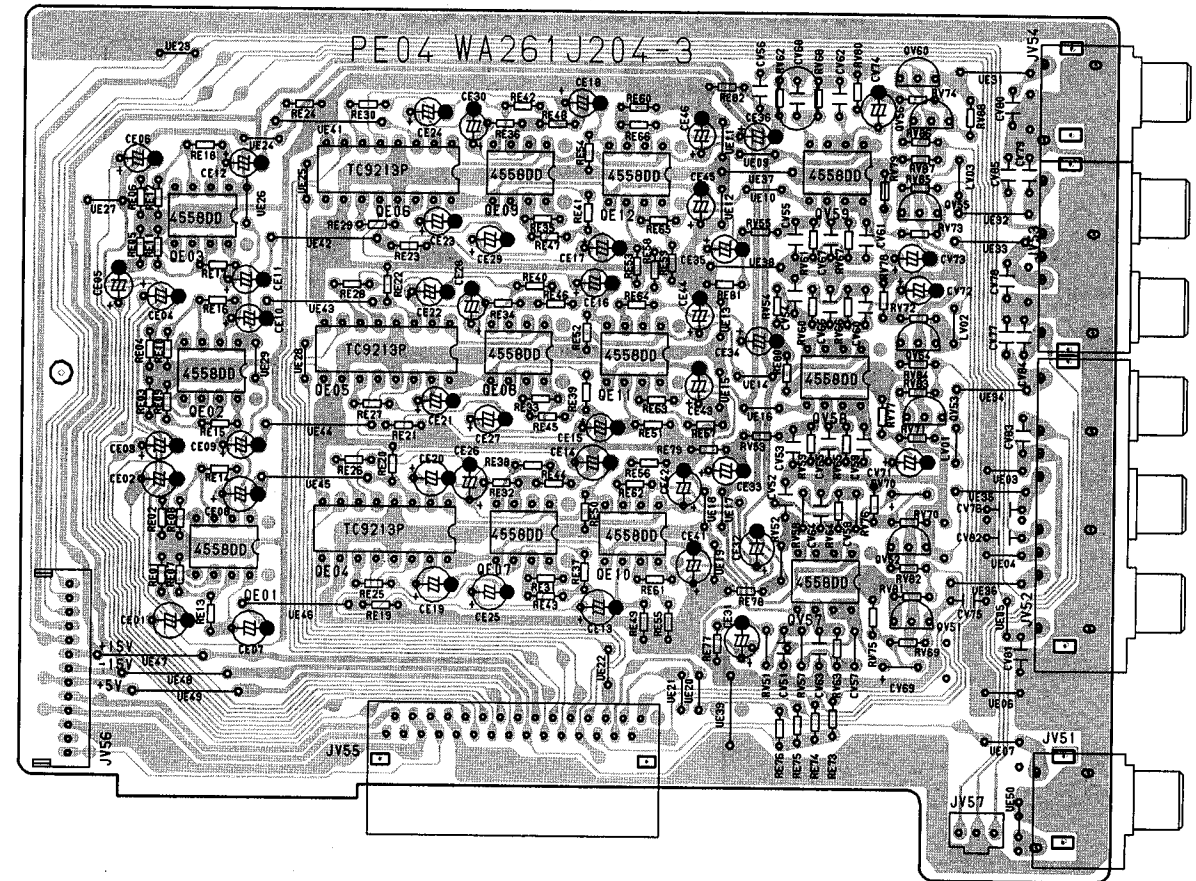
PB04-Back-up P.C. Board , AVR80 **IB** [MOMS] Version



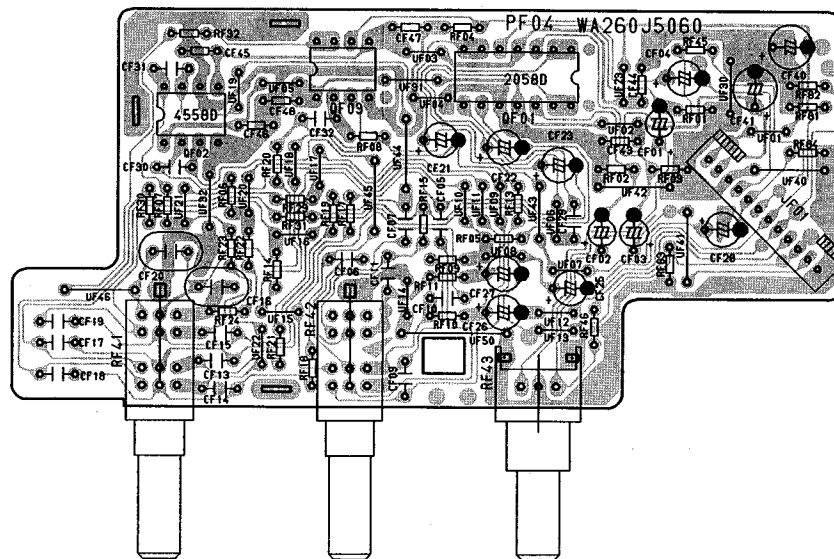
PE04-Ele. Vol P.C. Board , AVR80 **BK** **IB** Only



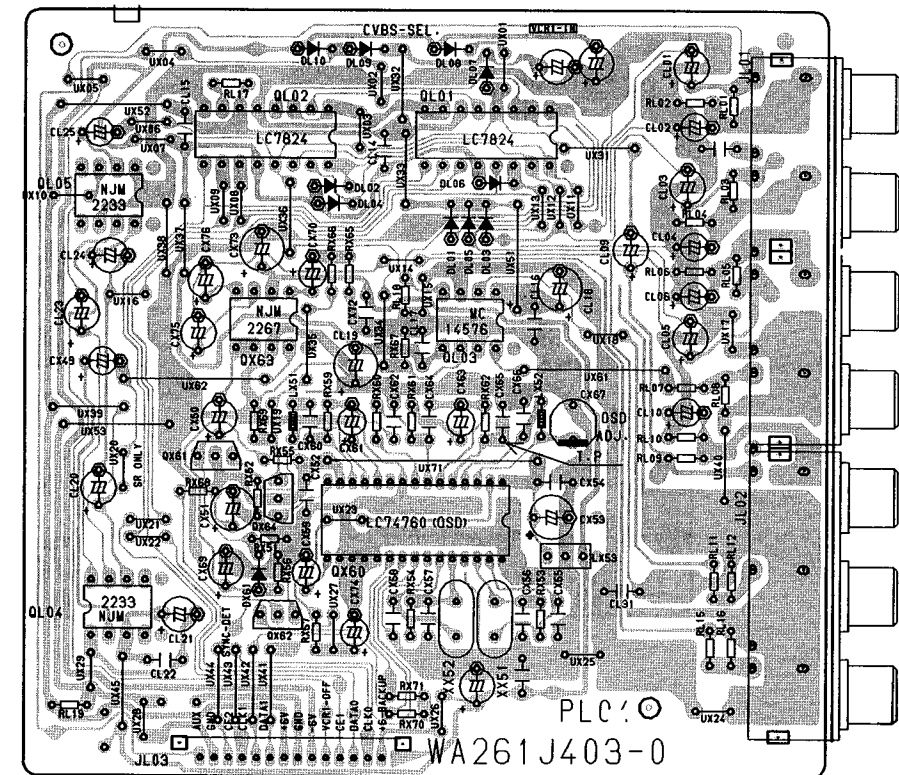
PE04-Ele. Vol P.C. Board , AVR80MK II **BK** /AVR80 **IB** [MOMS]



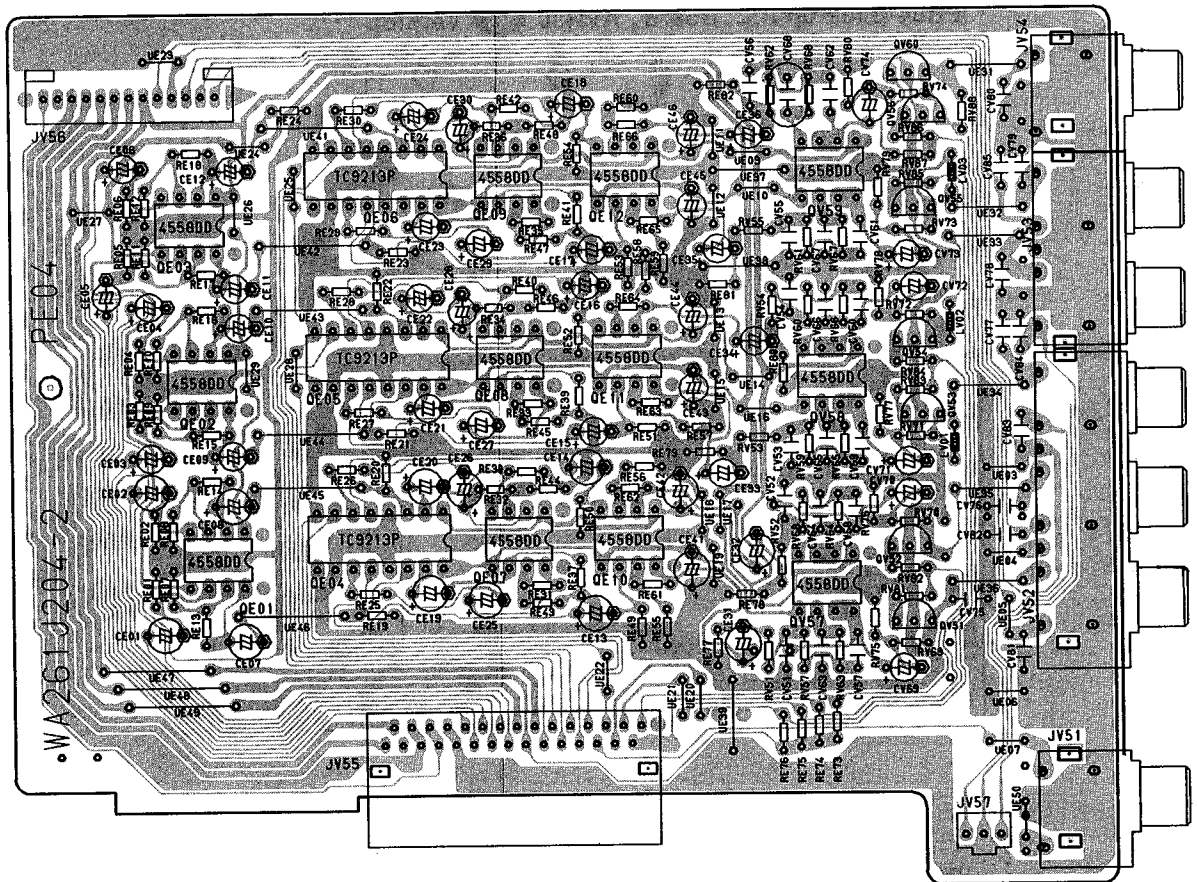
PF04-Tone P.C. Board



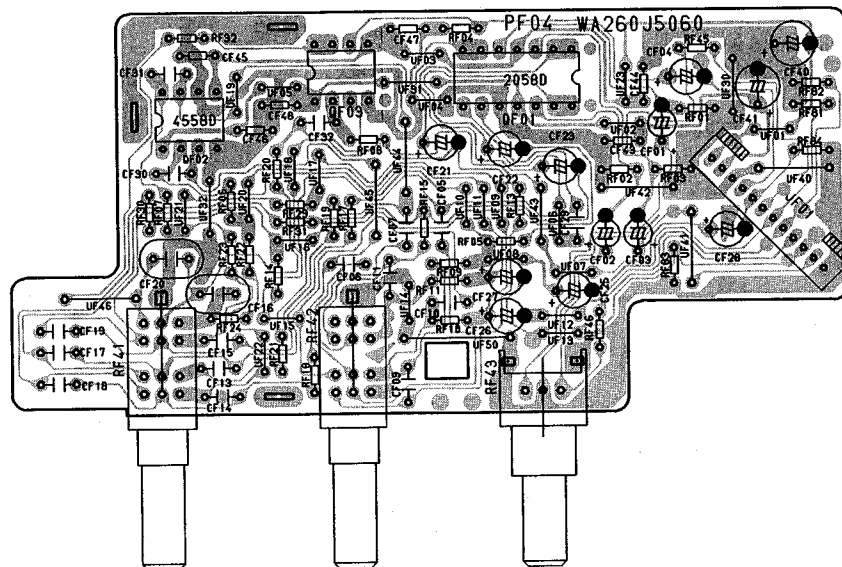
PL04-Video Selector P.C. Board



PE04-Ele. Vol P.C. Board , AVR80 **BK** **IB** Only



PF04-Tone P.C. Board





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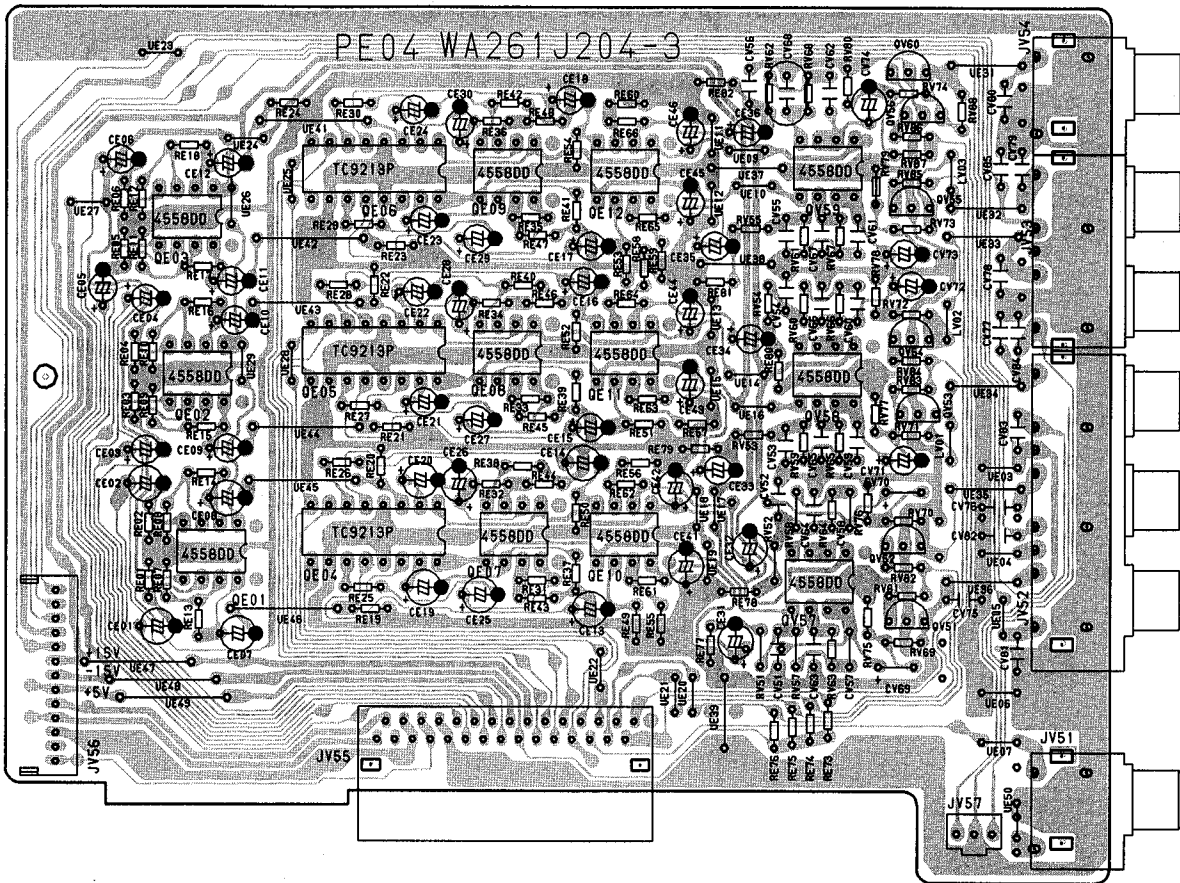
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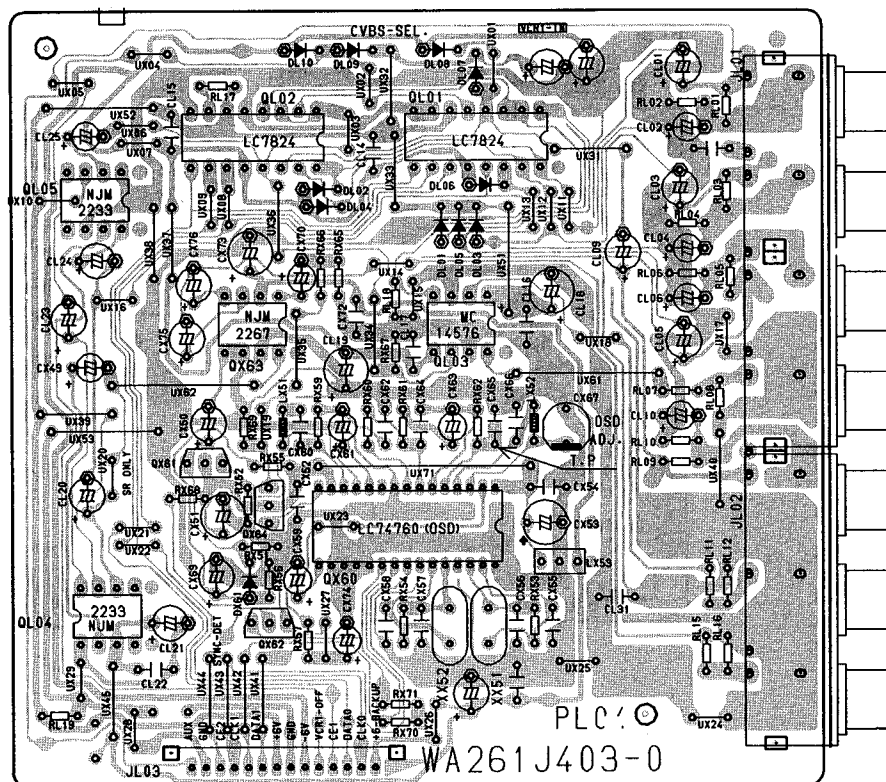
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PE04-Ele. Vol P.C. Board , AVR80MK II **BK** /AVR80 **IB** [MOMS]

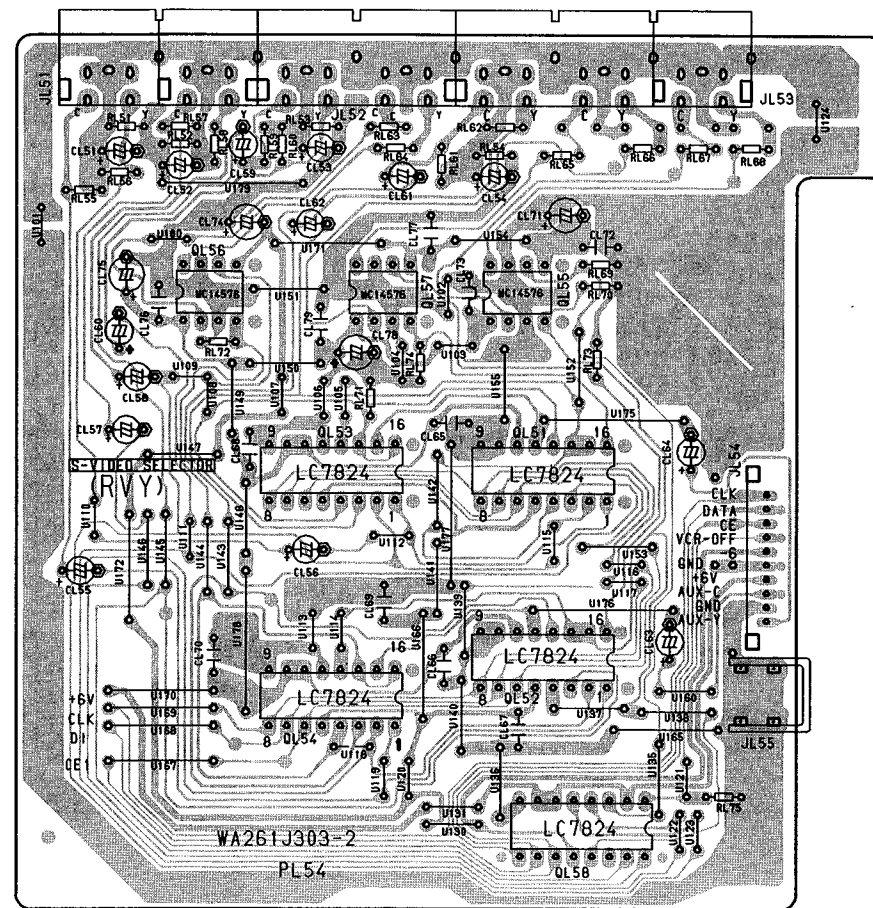


PL04-Video Selector P.C. Board

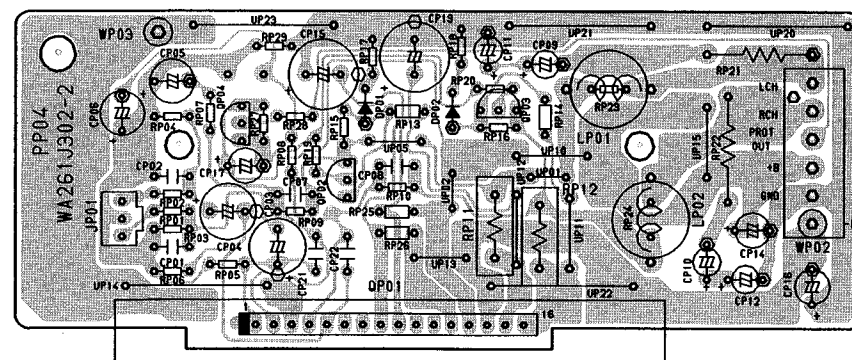


P.C. BOARD (3)

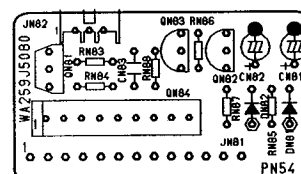
PL54-S-Video P.C. Board



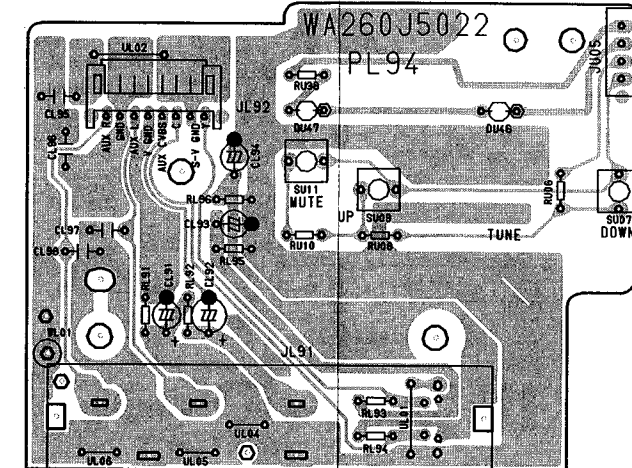
PP04-Surround Amp P.C. Board



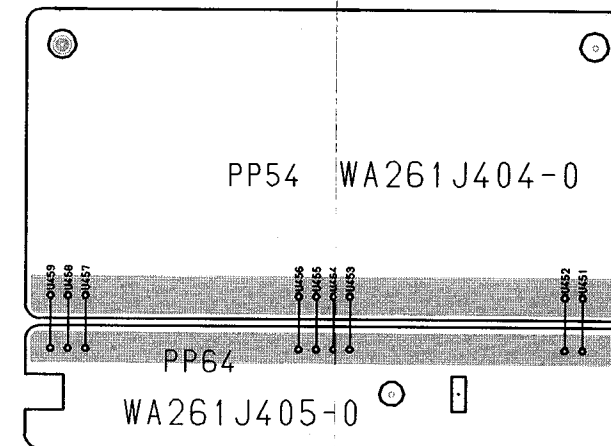
PN54-SPK Protect P.C. Board , AVR80MK II **BK** /AVR80 **IB** [MOMS]



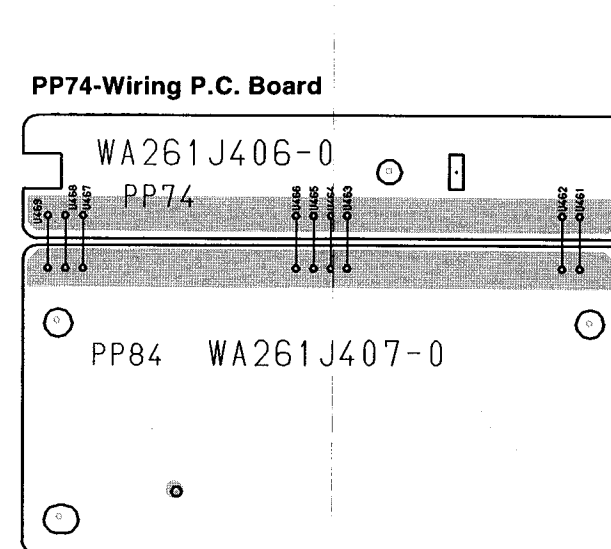
PL94-AUX In P.C. Board



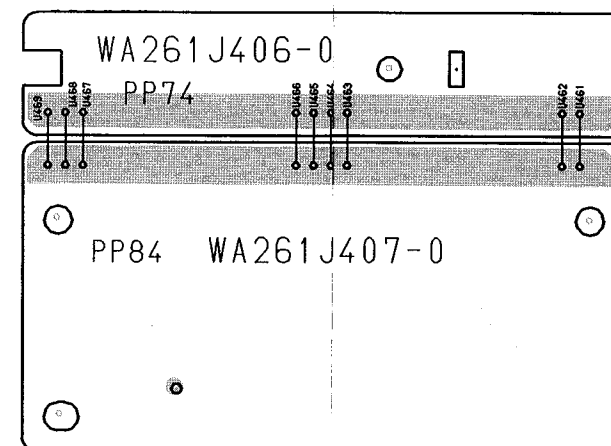
PP54-Wiring P.C. Board



PP64-Wiring P.C. Board



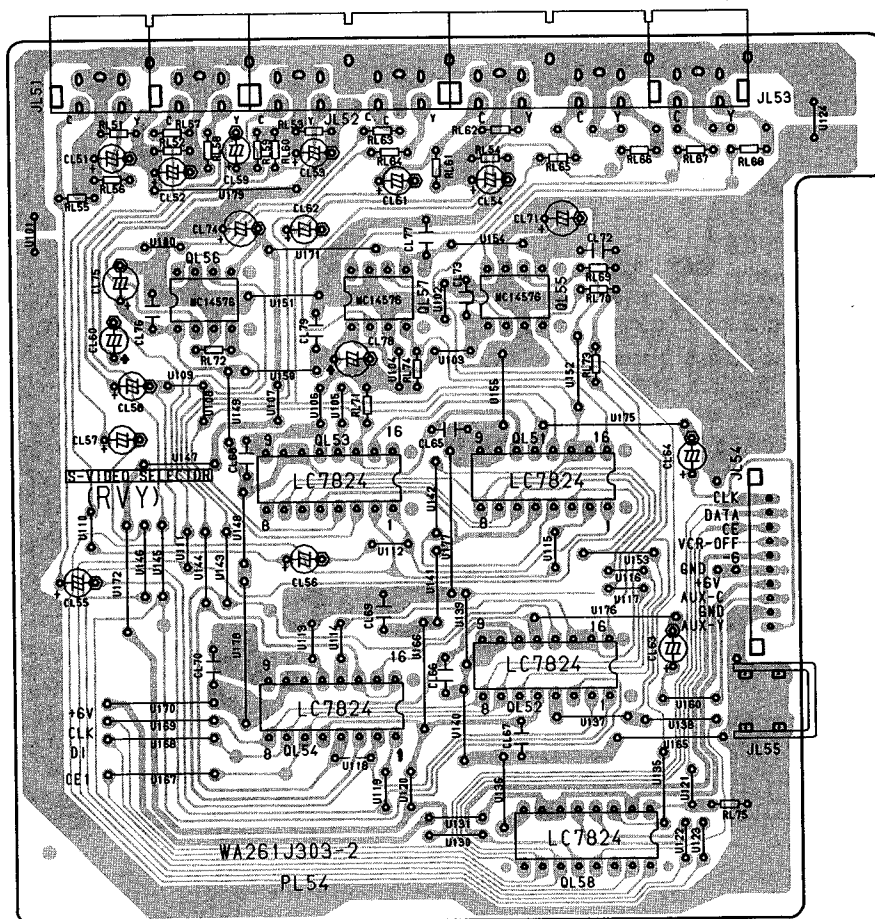
PP74-Wiring P.C. Board



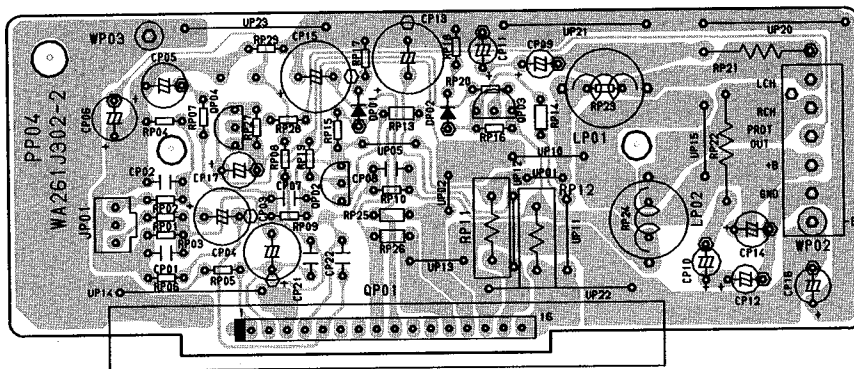
PP84-Wiring P.C. Board

# P.C. BOARD (3)

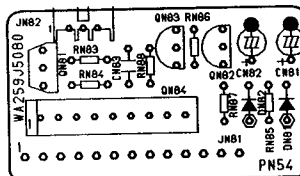
## PL54-S-Video P.C. Board



## PP04-Surround Amp P.C. Board



## PN54-SPK Protect P.C. Board , AVR80MK II BK /AVR80 IB [MOMS]

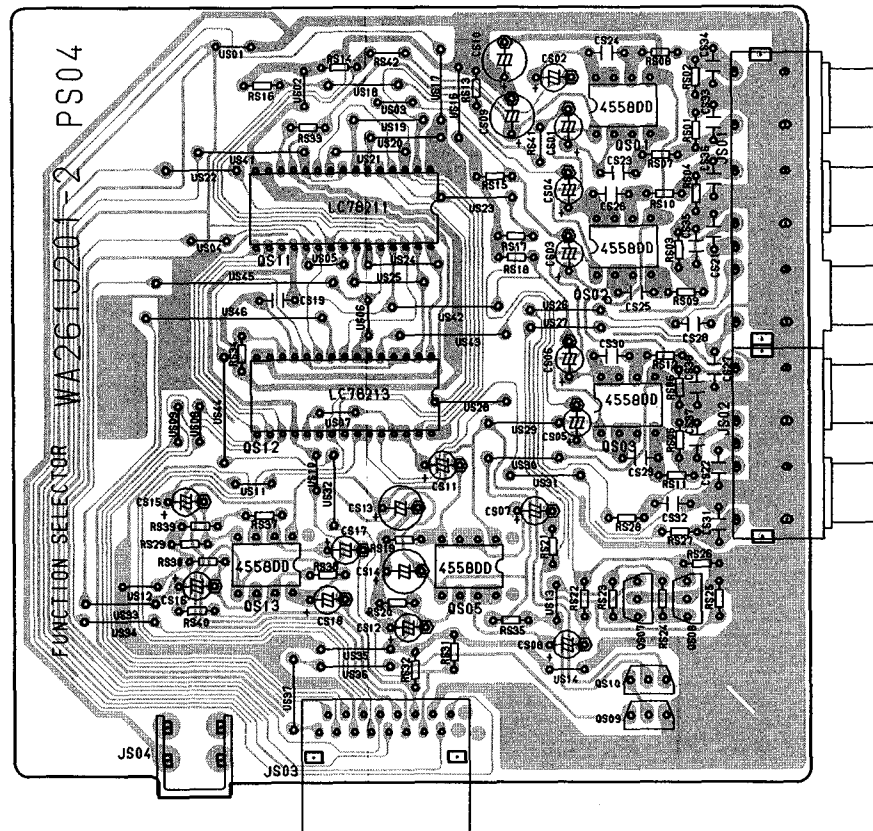




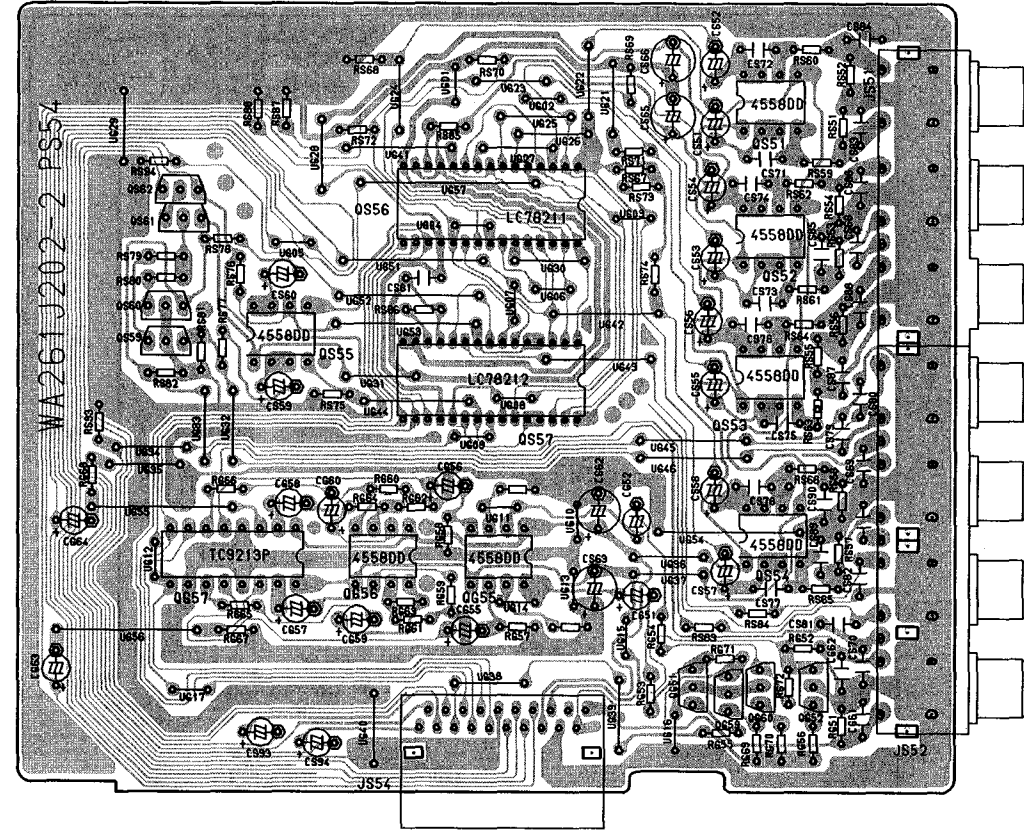


P.C. BOARD ( 4 )

PS04-Audio Function P.C. Board



PS54-V-Audio Function P.C. Board

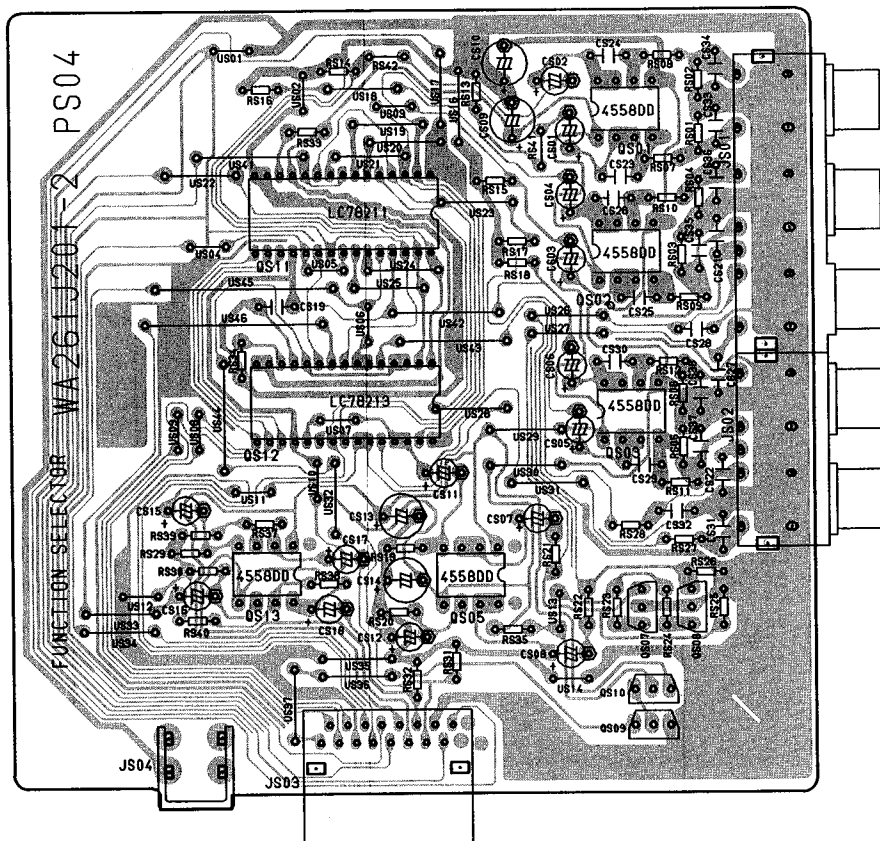




A B C D E

P.C. BOARD ( 4 )

PS04-Audio Function P.C. Board



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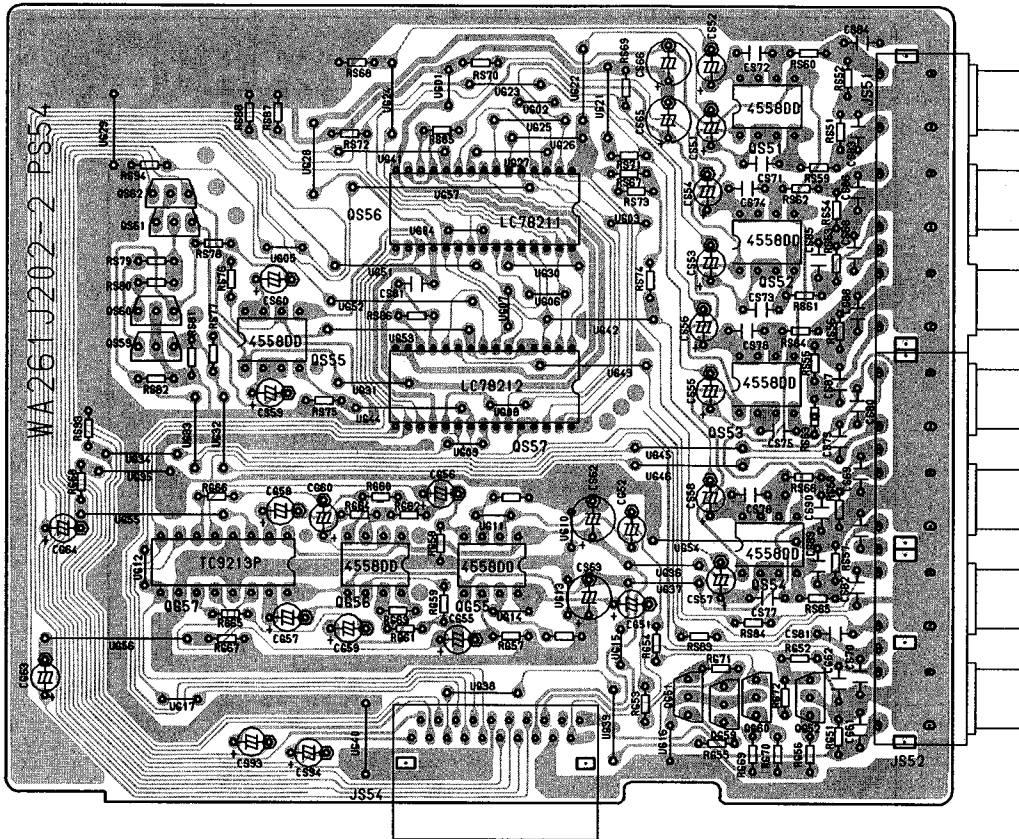
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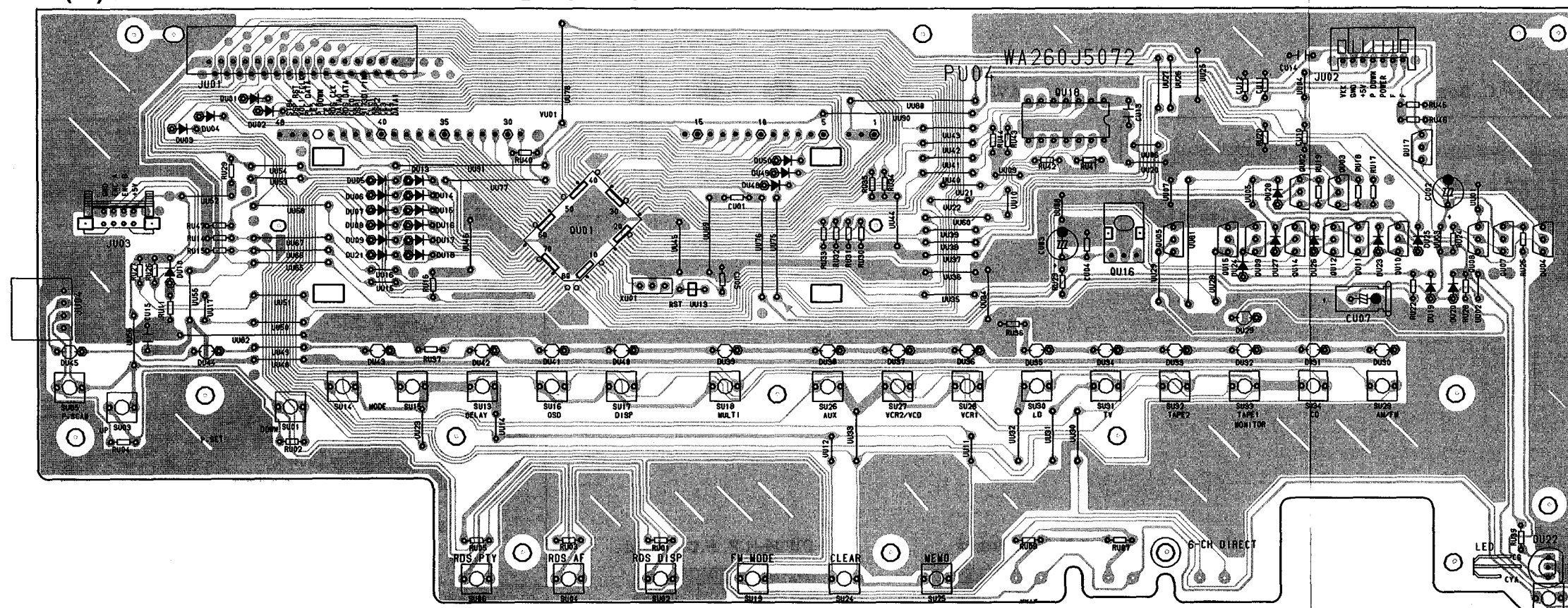
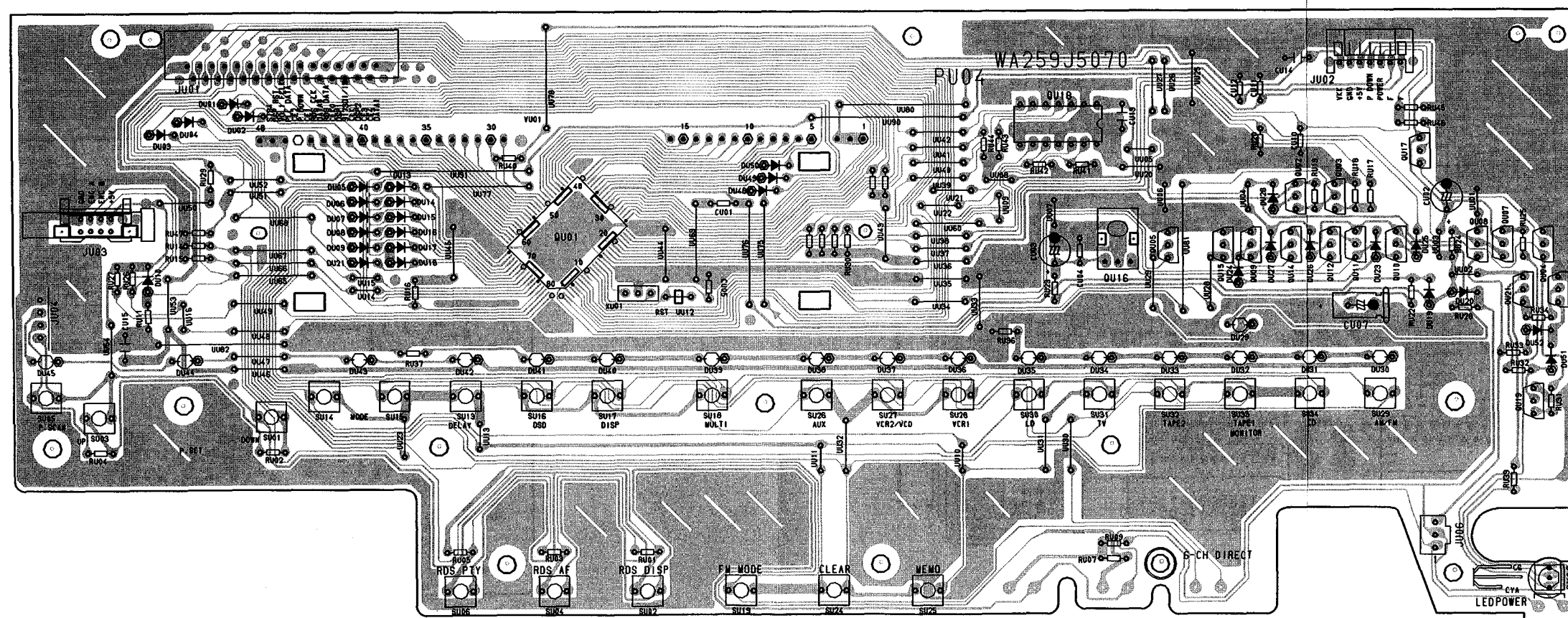
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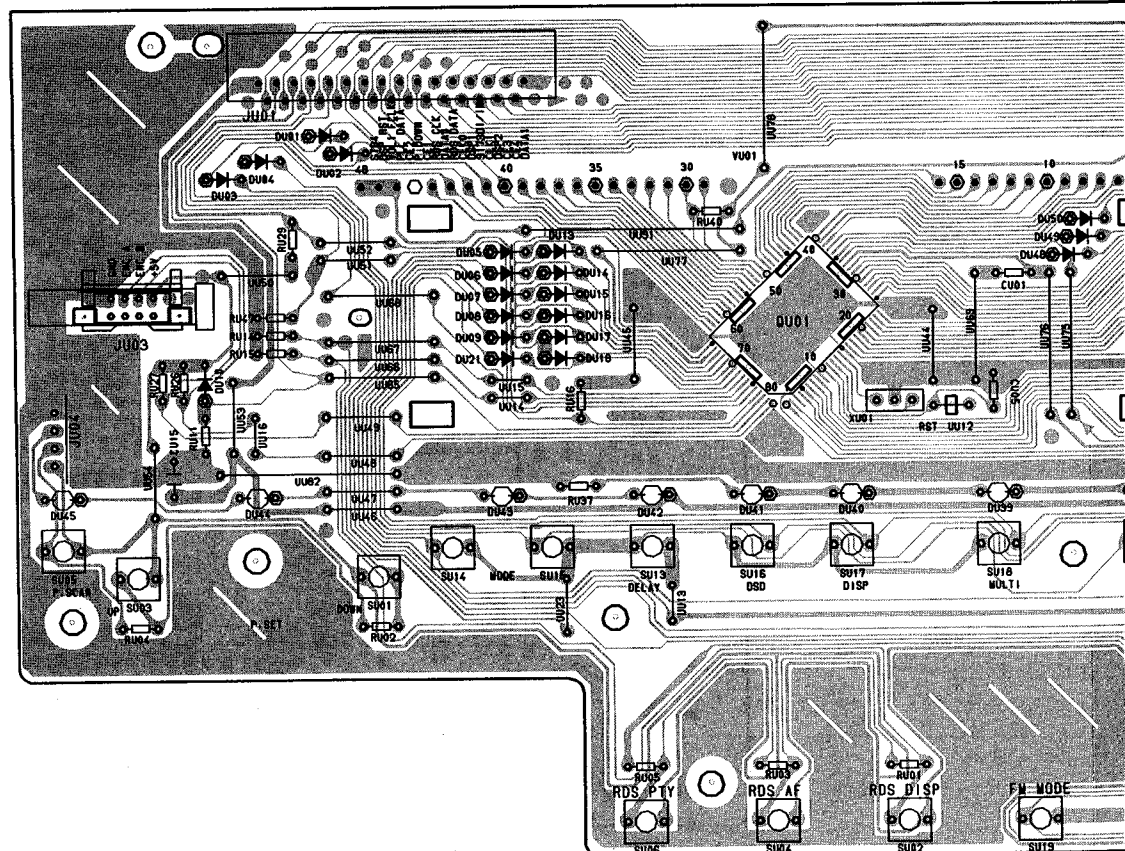
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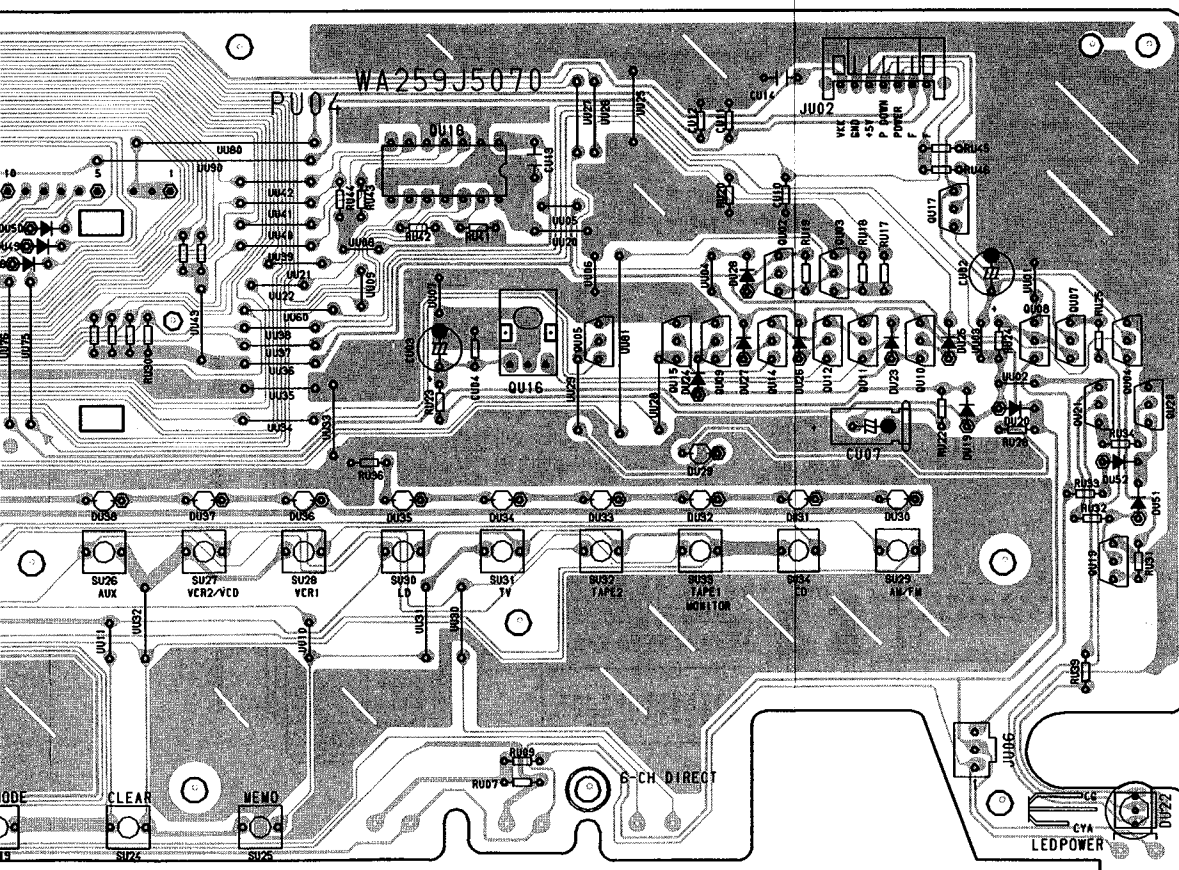
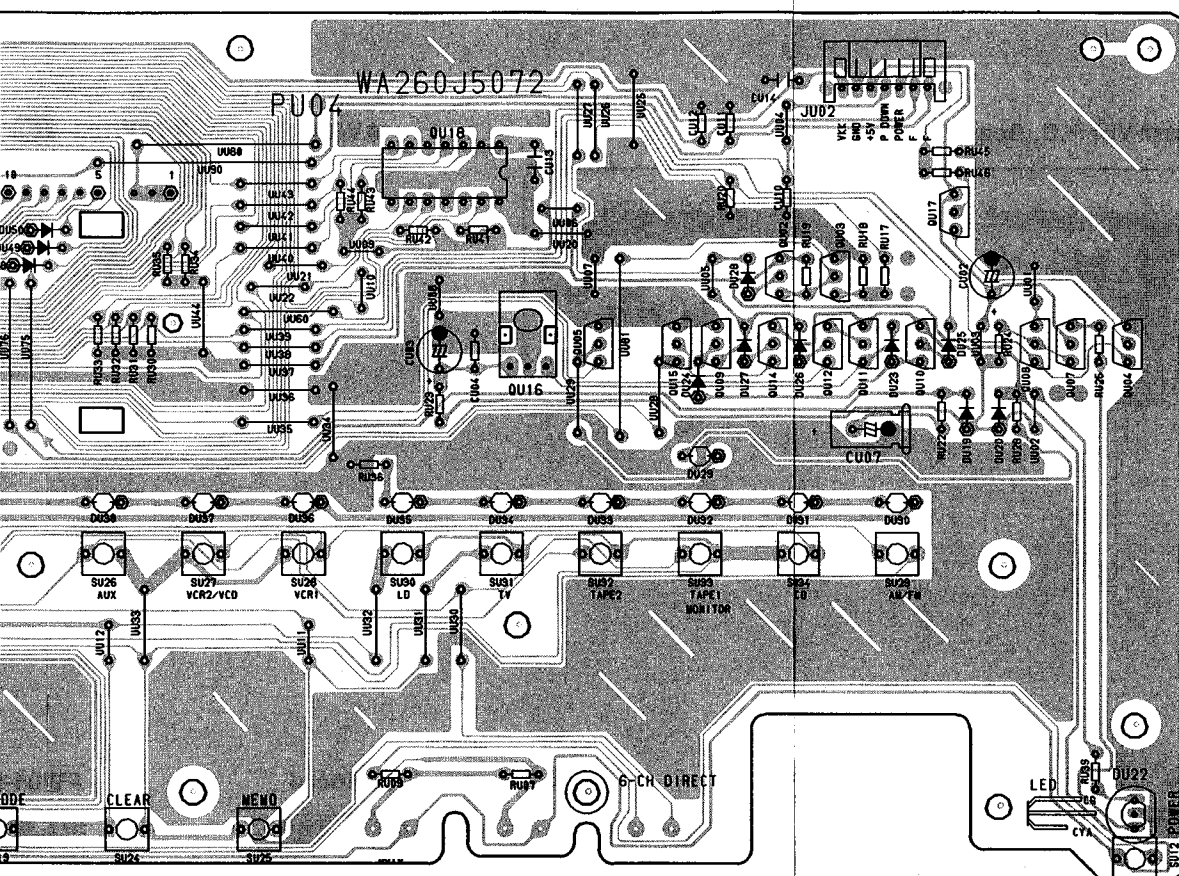


P.C. BOARD ( 5 )

PU04-Front P.C. Board , AVR80 **BK** **IB** OnlyPU04-Front P.C. Board , AVR80MK II **BK** /AVR80 **IB** [MOMS]



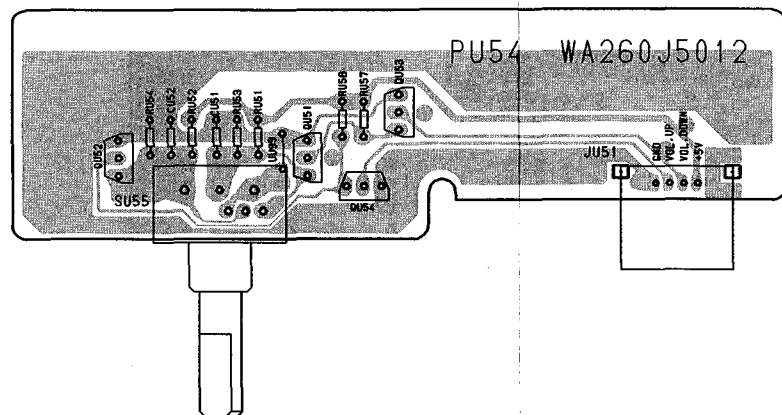






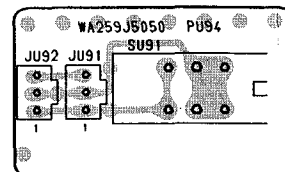
P.C. BOARD ( 6 )

PU54-Master Vol P.C. Board

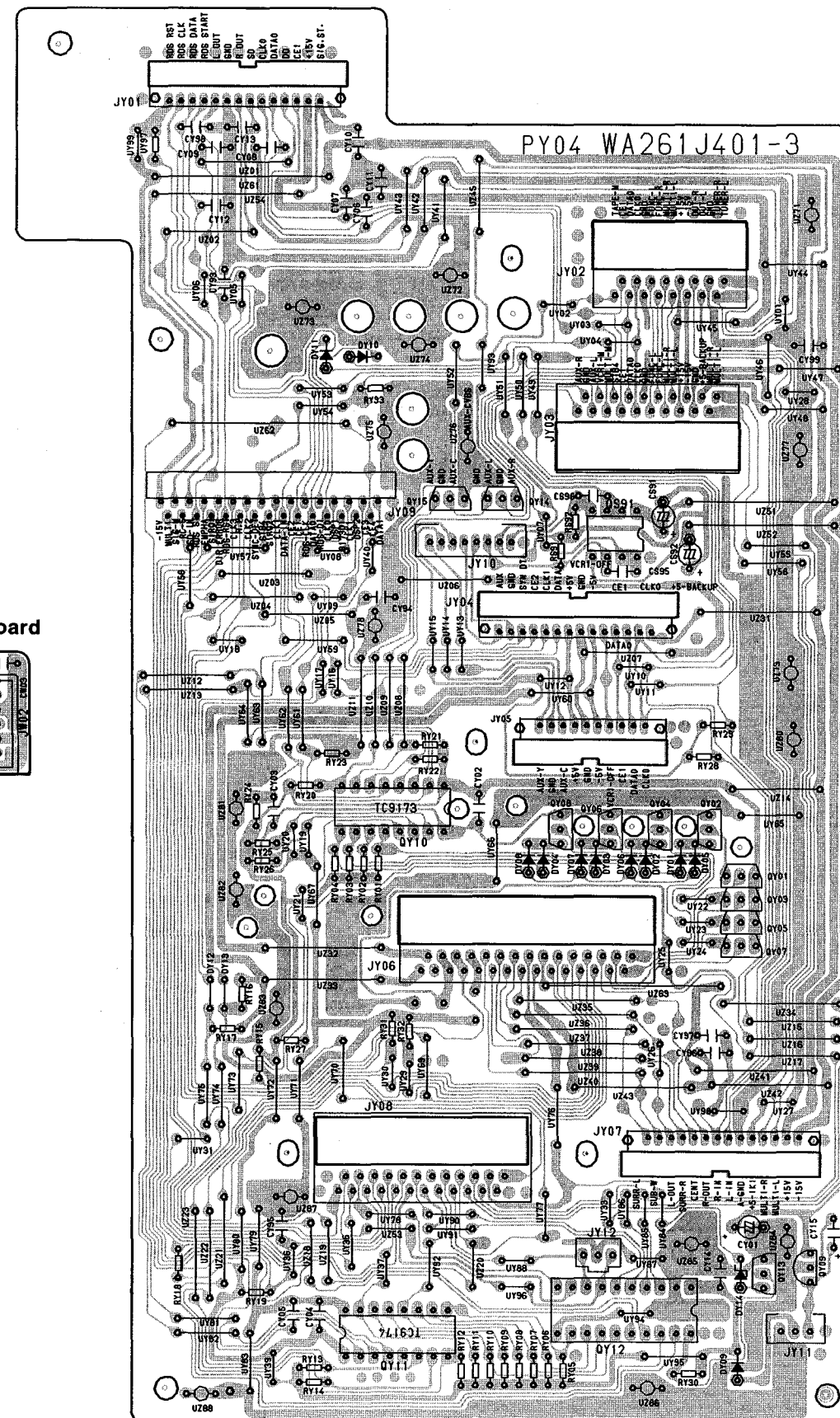


PU94-Power SW P.C. Board

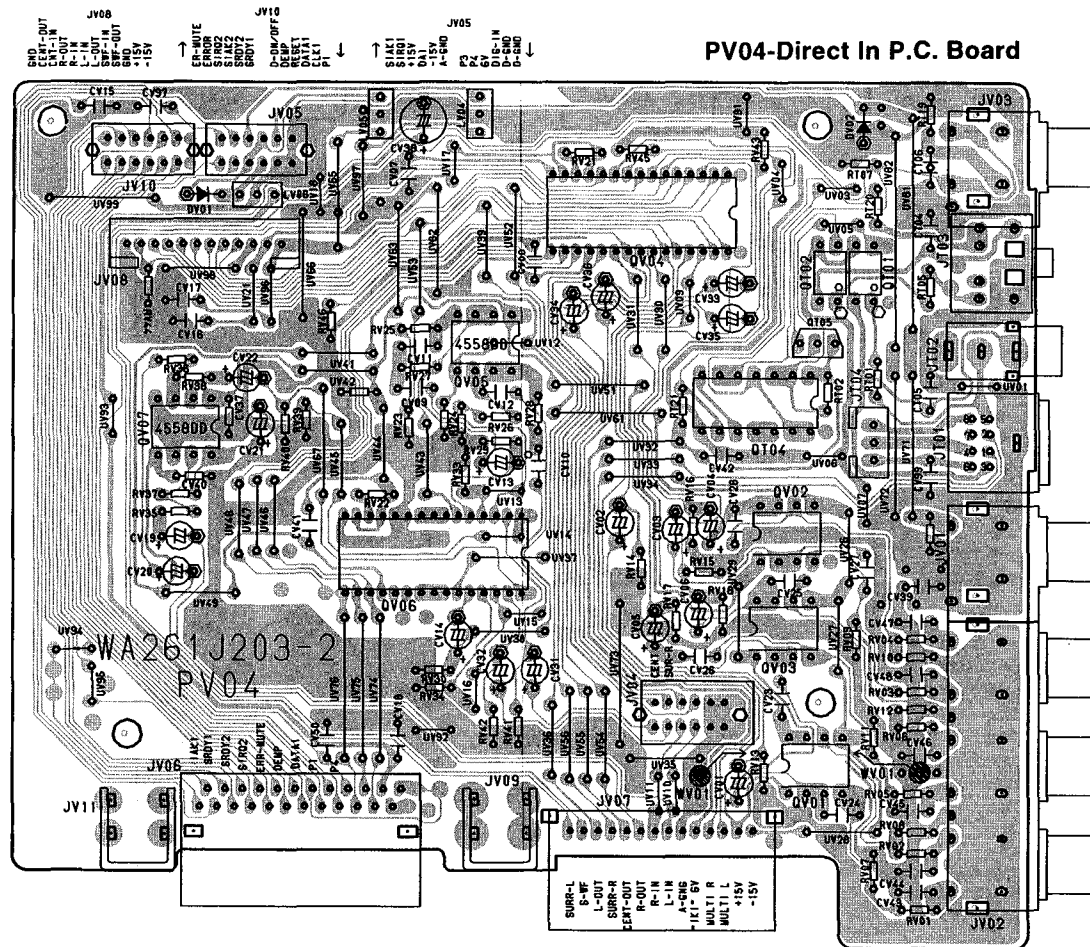
AVR80MK II BK / AVR80 IB [MOMS]



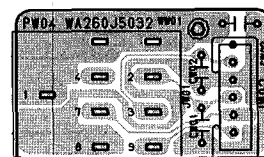
PY04-Connect P.C. Board



PV04-Direct In P.C. Board

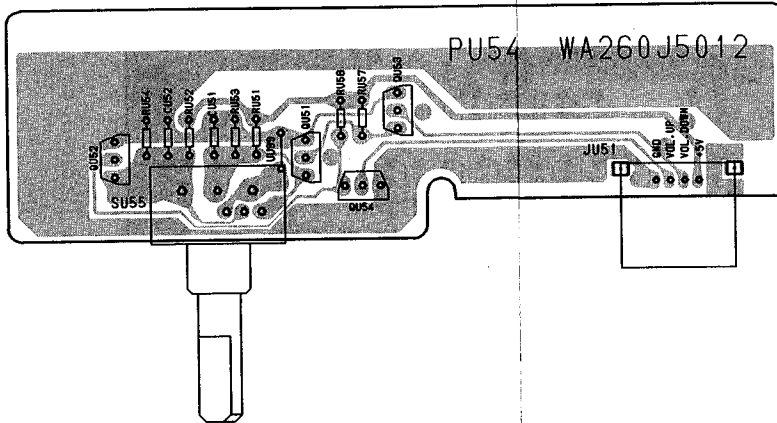


PW04-H.P. P.C. Board



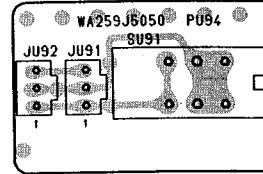
P.C. BOARD ( 6 )

PU54-Master Vol P.C. Board

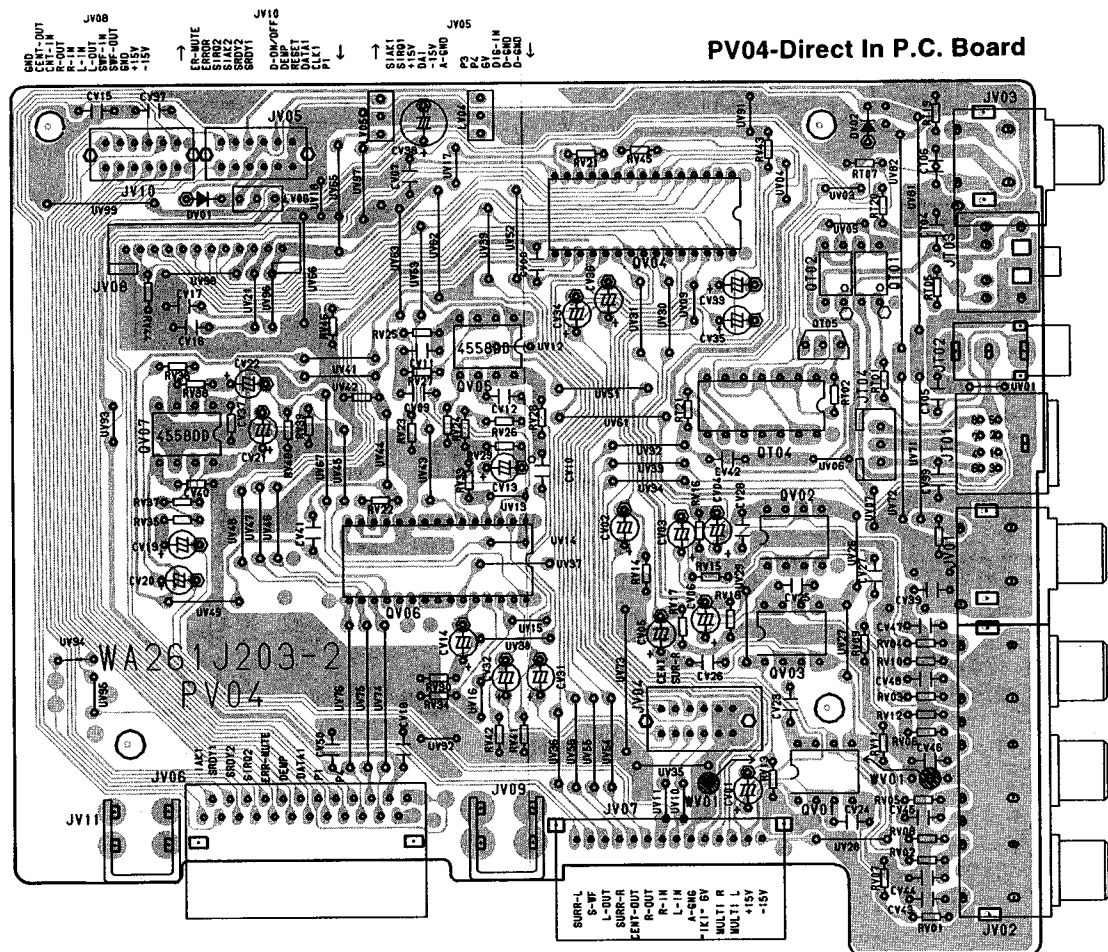


PU94-Power SW P.C. Board

AVR80MK II BK/AVR80



PV04-Direct In P.C. Board



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## PY04-Connect P.C. Board

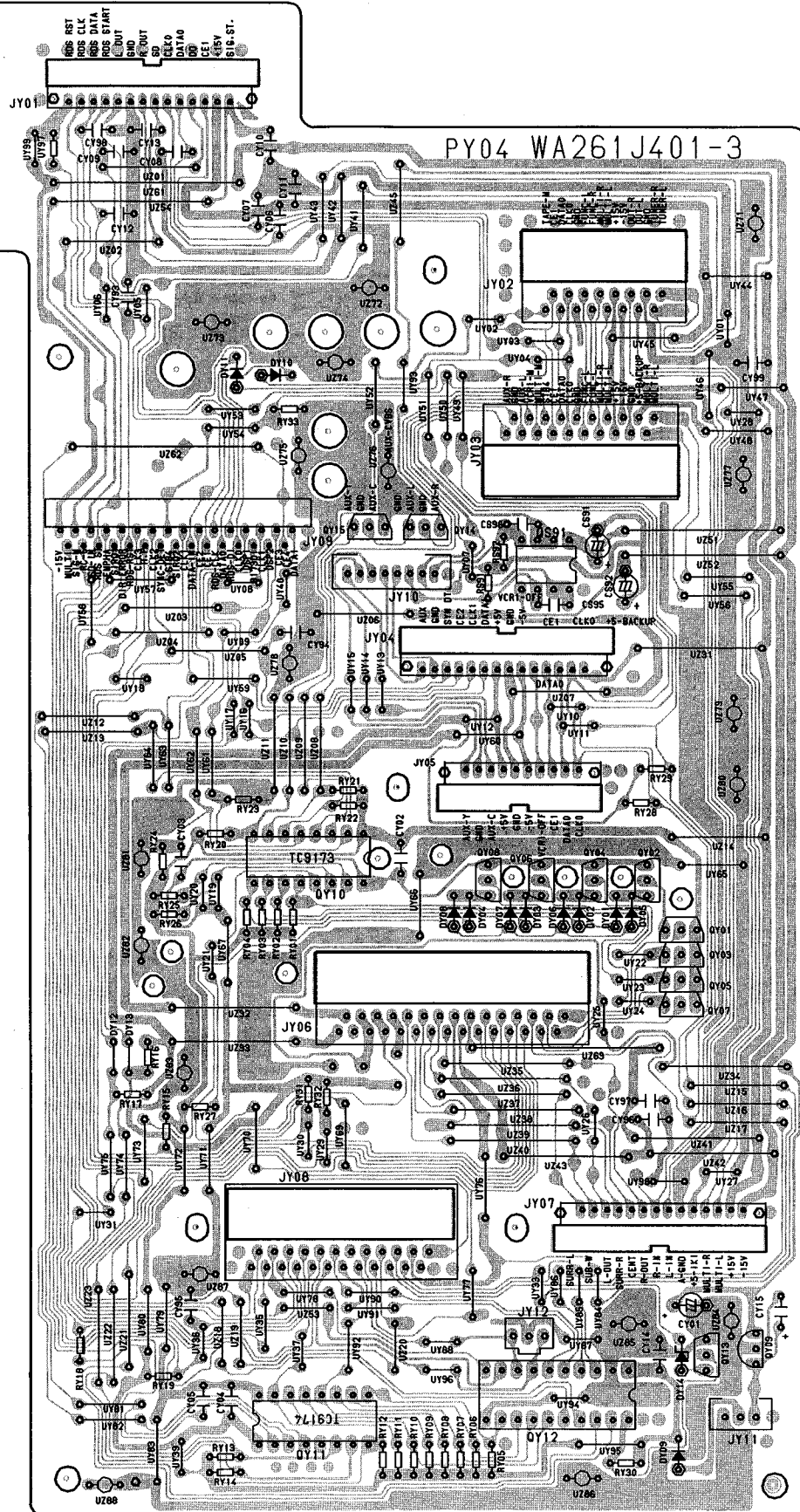
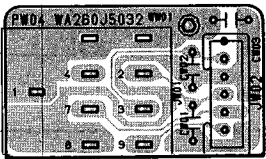
C. Board

VR80 (B) [MOMS]

P094



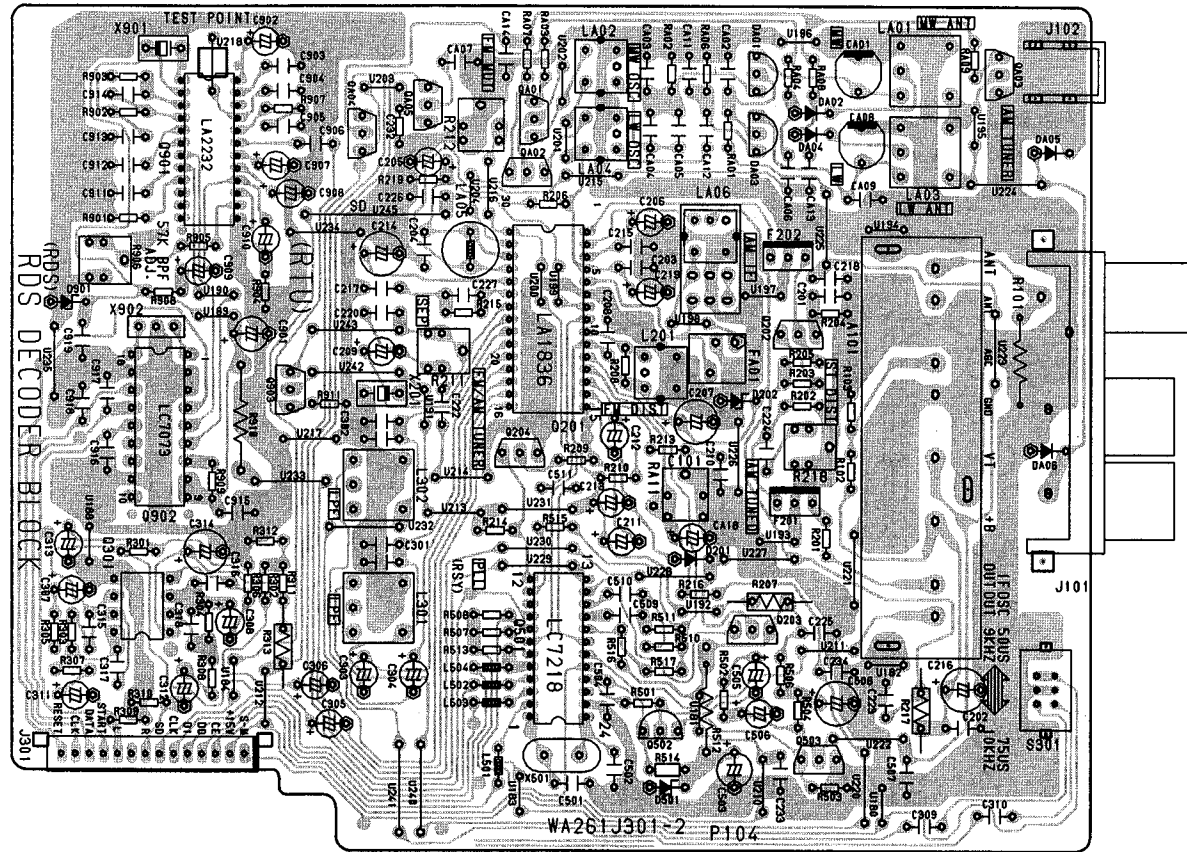
## PW04-H.P. P.C. Board



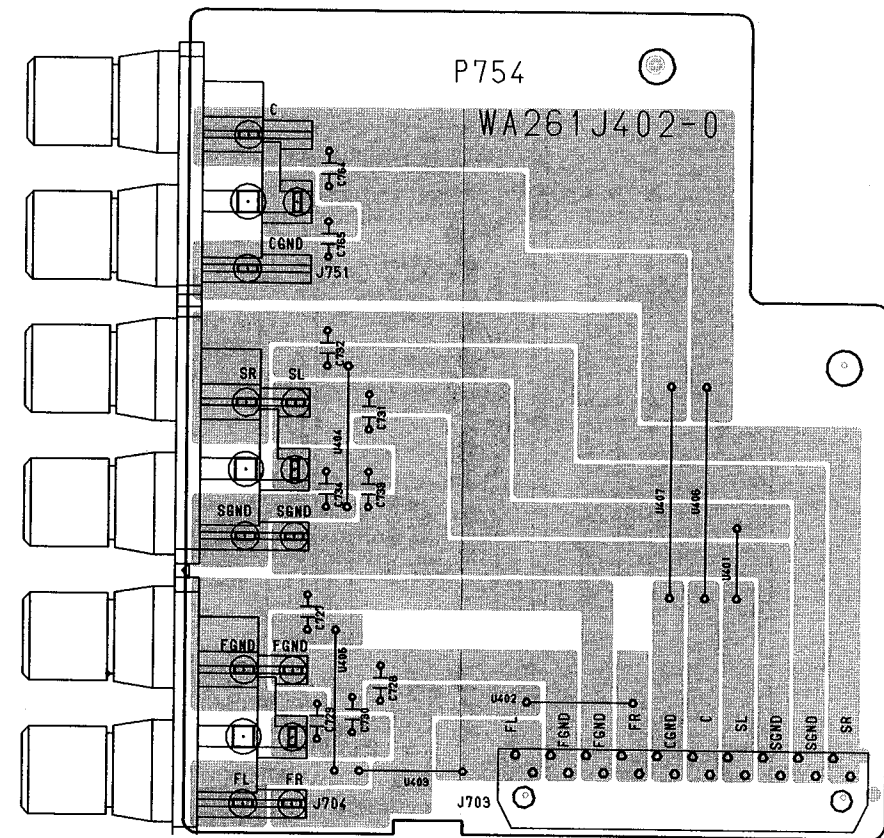


P.C. BOARD ( 7 )

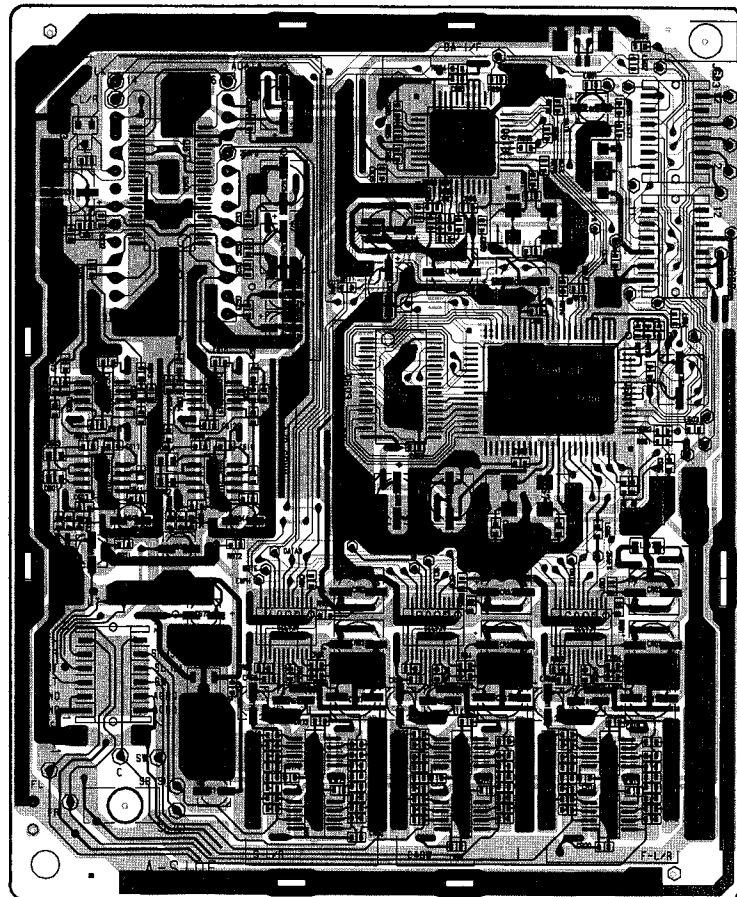
P104-Tuner P.C. Board



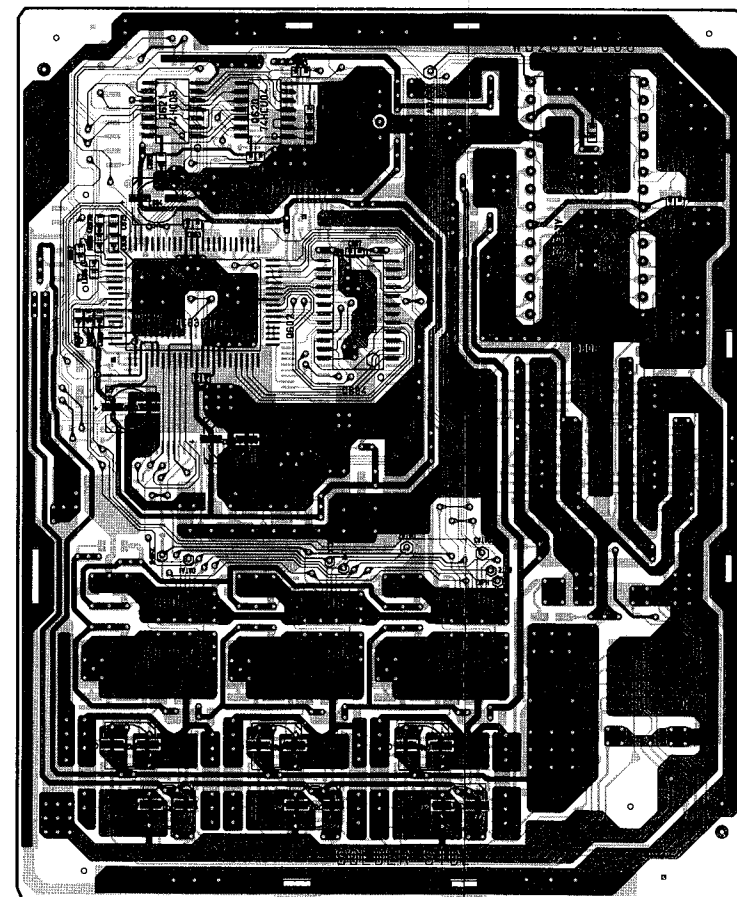
P754-SPK Terminal P.C. Board



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

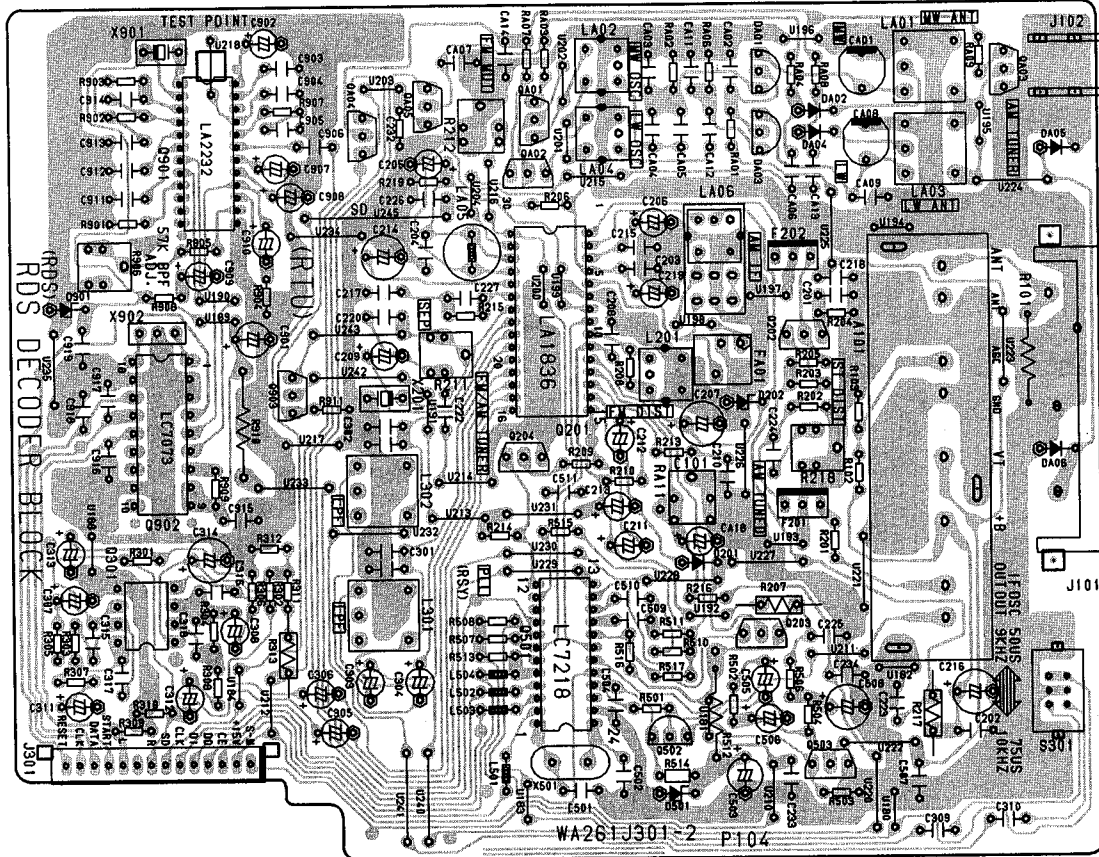


P604-THX Pro-Logic DSP P.C. Board

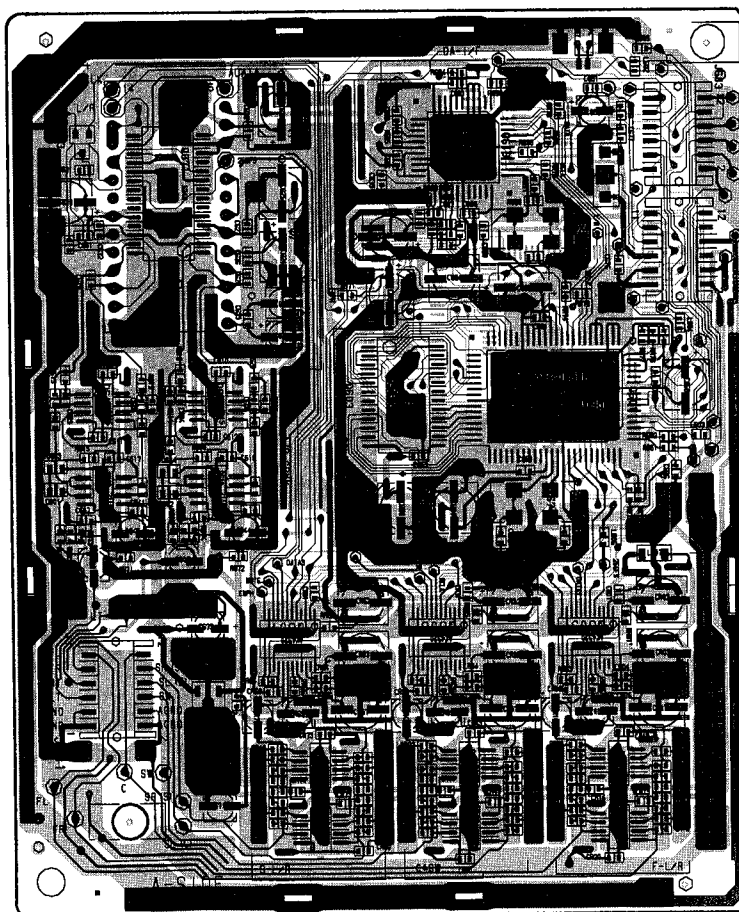


# P.C. BOARD ( 7 )

## P104-Tuner P.C. Board



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



F

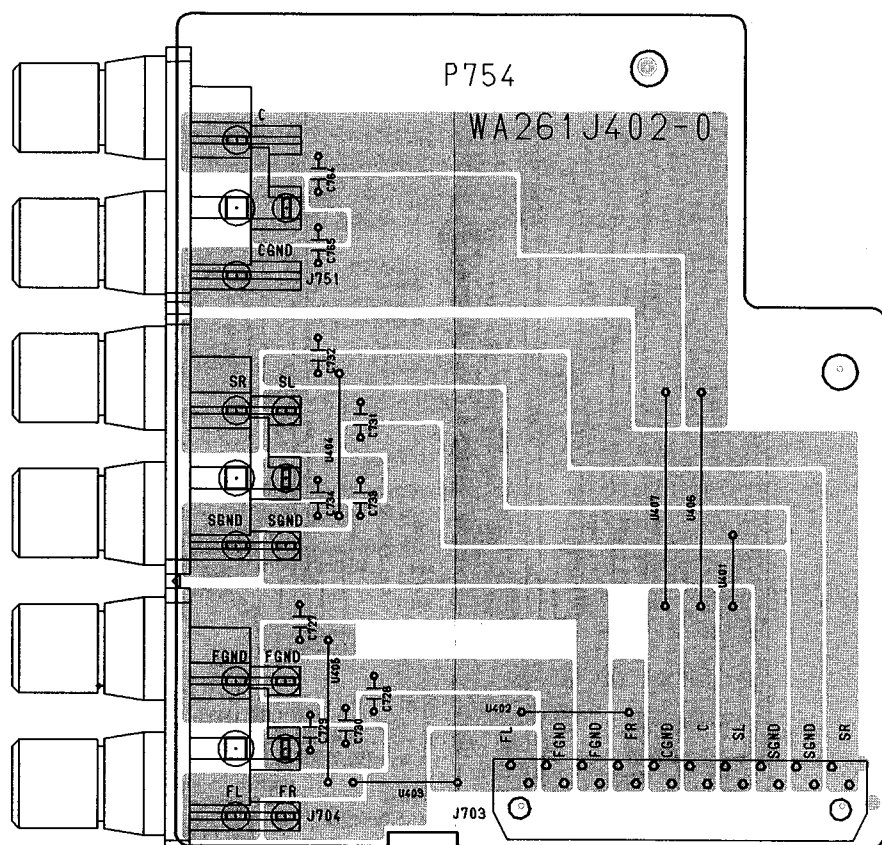
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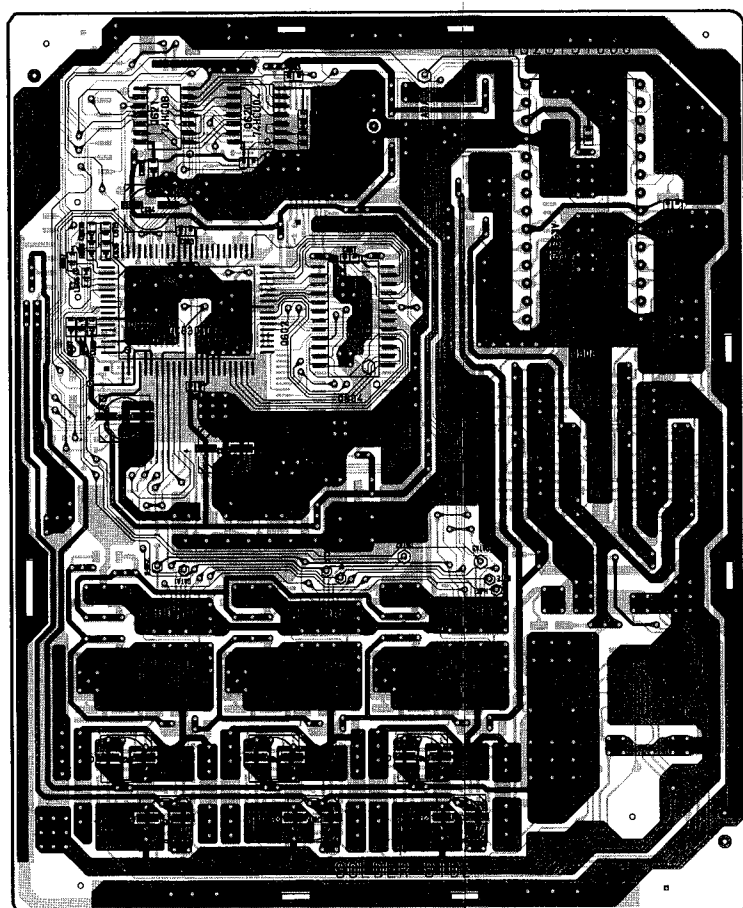
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P754-SPK Terminal P.C. Board



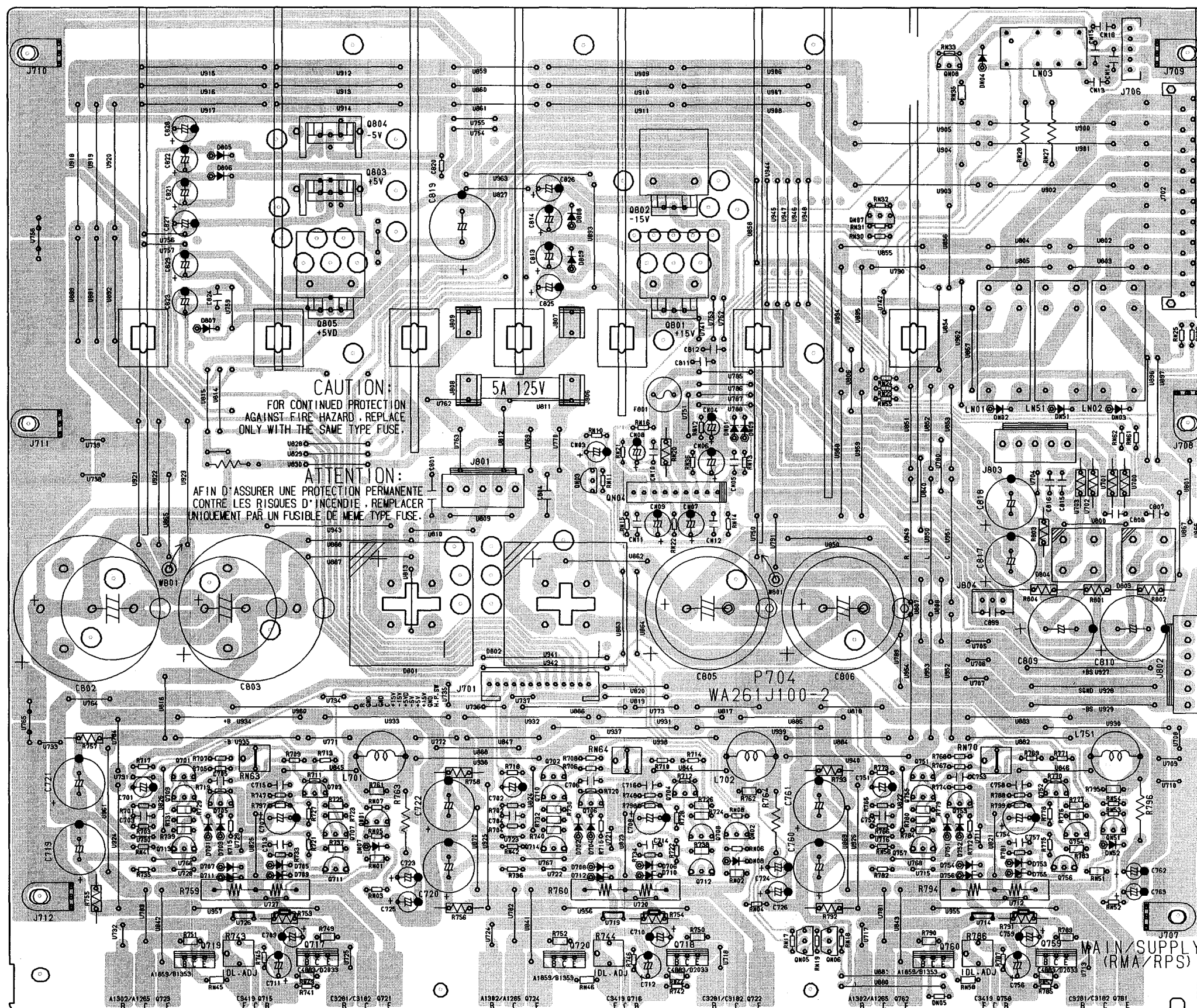
P604-THX Pro-Logic DSP P.C. Board





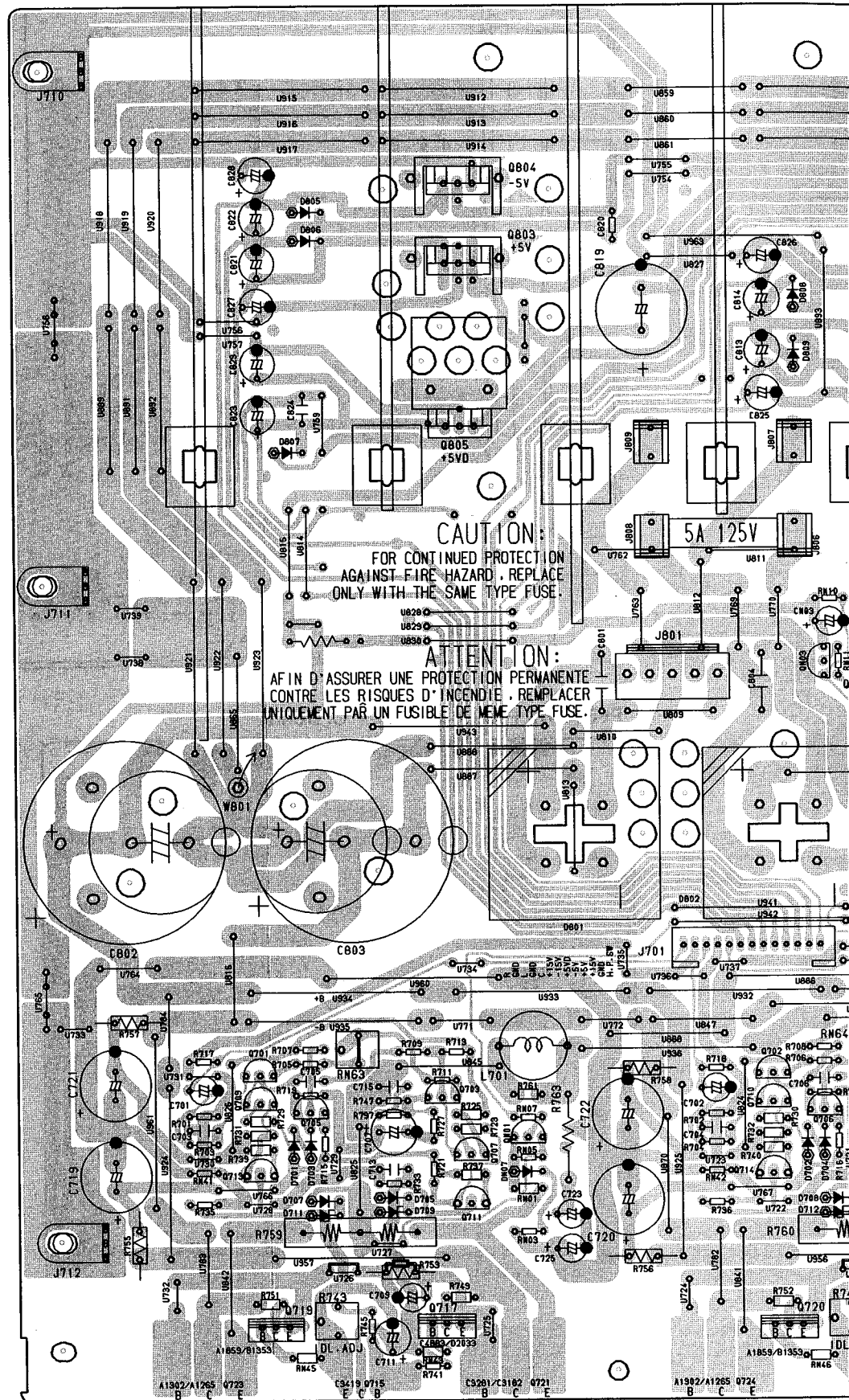
P.C. BOARD ( 8 )

P704-Main Amp P.C. Board

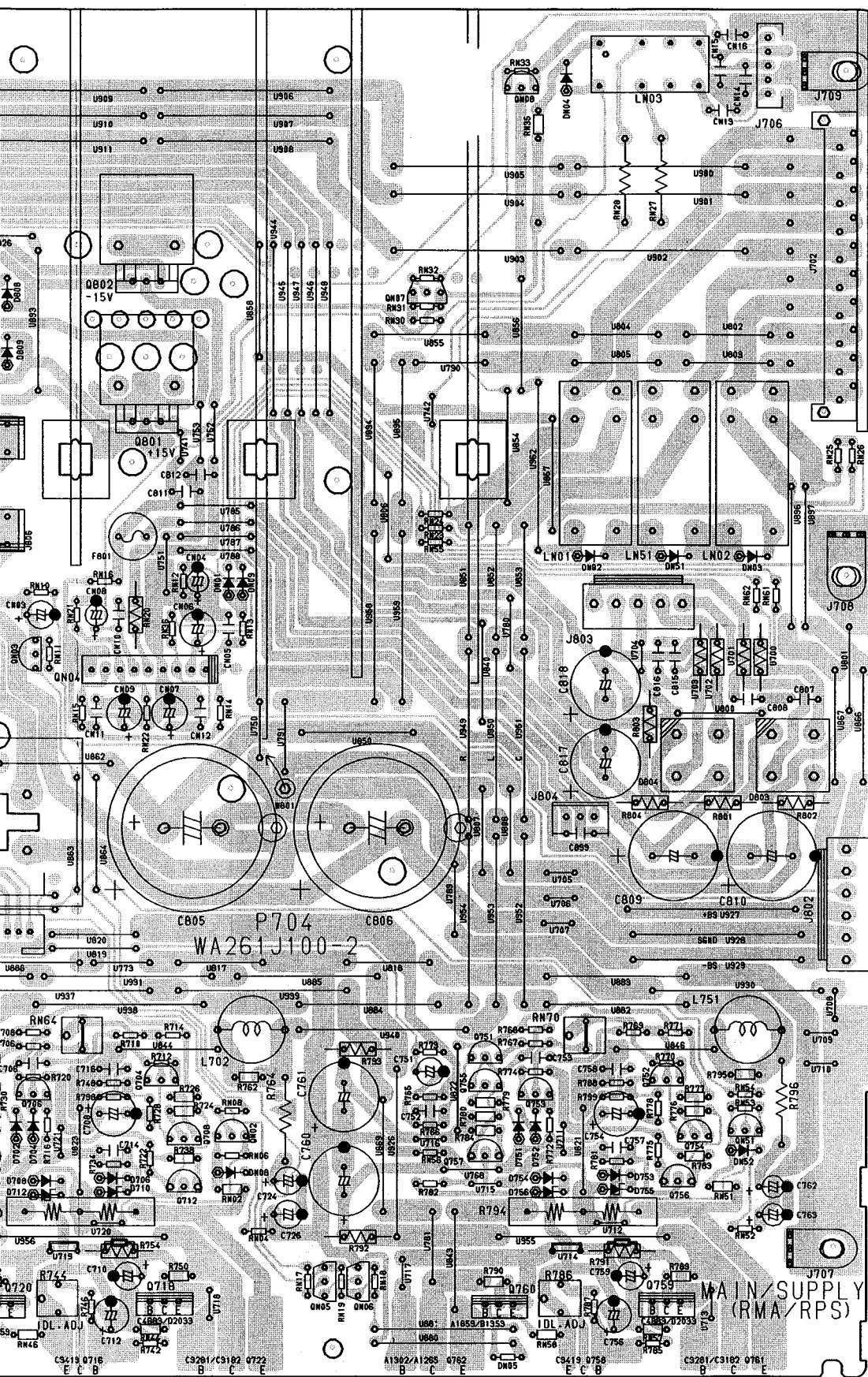


P.C. BOARD ( 8 )

P704-Main Amp P.C. Board









## ELECTRICAL PARTS LIST

| Ref. No.                       | Part. No.  | Description                       | Ref. No.                       | Part. No.  | Description                   |
|--------------------------------|------------|-----------------------------------|--------------------------------|------------|-------------------------------|
| <b>PB04-BACK-UP P.C. BOARD</b> |            |                                   | <b>PE04-ELE.VOL P.C. BOARD</b> |            |                               |
| <b>CAPACITORS</b>              |            |                                   | <b>CAPACITORS</b>              |            |                               |
| CB01                           | EA47703510 | ELECT 470μF 35V                   | CE01                           | OA10601620 | ELECT 10μF 16V                |
| CB02                           | EA10606310 | ELECT 10μF 63V                    | CE02                           | OA10601620 | ELECT 10μF 16V                |
| CB03                           | EA47603510 | ELECT 47μF 35V                    | CE03                           | EJ10601610 | ELECT 10μF 16V                |
| CB05                           | EA47705010 | ELECT 470μF 50V                   | CE04                           | EJ10601610 | ELECT 10μF 16V                |
| CB06                           | EA47603510 | ELECT 47μF 35V                    | CE05                           | EJ10601610 | ELECT 10μF 16V                |
| CB07                           | DK18103310 | CERAMIC 0.01μF +80% -20%          | CE06                           | EJ10601610 | ELECT 10μF 16V                |
| CB08                           | DK18103310 | CERAMIC 0.01μF +80% -20%          | CE07                           | OA47505020 | ELECT 4.7μF 50V               |
| ▲CB09                          | DK17103840 | CERAMIC 0.01μF ±20%               | CE08                           | OA47505020 | ELECT 4.7μF 50V               |
| CB10                           | EA10606310 | ELECT 10μF 63V                    | CE09                           | EJ47502510 | ELECT 4.7μF 25V               |
| <b>RESISTORS</b>               |            |                                   | CE10                           | EJ47502510 | ELECT 4.7μF 25V               |
| ▲RB01                          | GG05100140 | 1/4W 10 Ω ±5%                     | CE11                           | EJ47502510 | ELECT 4.7μF 25V               |
| ▲RB03                          | GA05471010 | 1W 470 Ω ±5%                      | CE12                           | EJ47502510 | ELECT 4.7μF 25V               |
| RB04                           | GD05101160 | 1/6W 100 Ω ±5%                    | CE13                           | OA47505020 | ELECT 4.7μF 50V               |
| RB05                           | GD05101160 | 1/6W 100 Ω ±5%                    | CE14                           | OA47505020 | ELECT 4.7μF 50V               |
| ▲RB07                          | RC10225820 | 1/2W 2.2M Ω ±10% <b>BK</b>        | CE15                           | EJ47502510 | ELECT 4.7μF 25V               |
| RB08                           | GD05103160 | 1/6W 10K Ω ±5%                    | CE16                           | EJ47502510 | ELECT 4.7μF 25V               |
| <b>INTEGRATED CIRCUITS</b>     |            |                                   | CE17                           | EJ47502510 | ELECT 4.7μF 25V               |
| ▲QB01                          | HC38905320 | IC PQ05RR1 Voltage Regulator      | CE18                           | EJ47502510 | ELECT 4.7μF 25V               |
| <b>TRANSISTOR</b>              |            |                                   | CE19                           | OA47505020 | ELECT 4.7μF 50V               |
| QB02                           | HT420331E0 | 2SD2033 (E)                       | CE20                           | OA47505020 | ELECT 4.7μF 50V               |
| <b>DIODES</b>                  |            |                                   | CE21                           | EJ47502510 | ELECT 4.7μF 25V               |
| ▲DB01                          | HD20002710 | 1D3 1A/200V                       | CE22                           | EJ47502510 | ELECT 4.7μF 25V               |
| ▲DB02                          | HD20002710 | 1D3 1A/200V                       | CE23                           | EJ47502510 | ELECT 4.7μF 25V               |
| ▲DB03                          | HD20002710 | 1D3 1A/200V                       | CE24                           | EJ47502510 | ELECT 4.7μF 25V               |
| ▲DB04                          | HD20002710 | 1D3 1A/200V                       | CE25                           | OA47505020 | ELECT 4.7μF 50V               |
| DB05                           | HD33301000 | ZENER MTZJ33D                     | CE26                           | OA47505020 | ELECT 4.7μF 50V               |
| DB06                           | HD30821000 | ZENER NTJ8.2C                     | CE27                           | EJ47502510 | ELECT 4.7μF 25V               |
| ▲DB07                          | HD20002710 | 1D3 1A/200V                       | CE28                           | EJ47502510 | ELECT 4.7μF 25V               |
| ▲DB08                          | HD20002710 | 1D3 1A/200V                       | CE29                           | EJ47502510 | ELECT 4.7μF 25V               |
| <b>MISCELLANEOUS</b>           |            |                                   | CE30                           | EJ47502510 | ELECT 4.7μF 25V               |
| ▲FB01                          | FS10400850 | FUSE S506 4A 250V <b>IB</b>       | CE31                           | OA10601620 | ELECT 10μF 16V                |
| ▲FB01                          | FS10800540 | FUSE SM8 8A 125V <b>BK</b>        | CE32                           | OA10601620 | ELECT 10μF 16V                |
| ▲FB02                          | FS20250200 | FUSE TR5 T2.5A 250V <b>IB</b>     | CE33                           | EJ47502510 | ELECT 4.7μF 25V               |
| ▲FB03                          | FS20250200 | FUSE TR5 T2.5A 250V <b>IB</b>     | CE34                           | EJ47502510 | ELECT 4.7μF 25V               |
| JB01                           | YJ08000580 | JACK, FUSE CLIP [MOMS]            | CE35                           | EJ47502510 | ELECT 4.7μF 25V               |
| JB01                           | YJ08000590 | JACK, FUSE CLIP <b>IB</b> (AVR80) | CE36                           | EJ10601610 | ELECT 10μF 16V                |
| JB01                           | YJ08000170 | JACK, FUSE CLIP <b>BK</b>         | CE41                           | OA10601620 | ELECT 10μF 16V                |
| JB02                           | YJ08000590 | JACK, FUSE CLIP <b>IB</b> [MOMS]  | CE42                           | OA10601620 | ELECT 10μF 16V                |
| JB02                           | YJ08000580 | JACK, FUSE CLIP <b>IB</b> (AVR80) | CE43                           | EJ10601610 | ELECT 10μF 16V                |
| JB02                           | YJ08000170 | JACK, FUSE CLIP <b>BK</b>         | CE44                           | EJ10601610 | ELECT 10μF 16V                |
| ▲JB03                          | YJ04002080 | JACK, AC OUTLET 2P <b>IB</b>      | CE45                           | EJ10601610 | ELECT 10μF 16V                |
| ▲JB03                          | YJ04002040 | JACK, AC OUTLET 2P <b>BK</b>      | CE46                           | EJ10601610 | ELECT 10μF 16V                |
| JB04                           | YP06006670 | PLUG, 7P                          | CV53                           | DF15182350 | FILM 1800PF ±5%               |
| ▲JB05                          | YP04000760 | PLUG, 2P                          | CV54                           | DF15182350 | FILM 1800PF ±5%               |
| ▲JB06                          | YP04000760 | PLUG, 2P                          | CV55                           | DF15182350 | FILM 1800PF ±5%               |
| JB07                           | YL01010240 | TERMINAL, GND                     | CV59                           | DF15472350 | FILM 4700PF ±5%               |
| JB09                           | YP06003830 | PLUG, 3P                          | CV60                           | DF15472350 | FILM 4700PF ±5%               |
| JB10                           | YP06006930 | PLUG, 3P (AVR80MKII)              | CV61                           | DF15472350 | FILM 4700PF ±5%               |
| ▲LB01                          | TS14823240 | POWER TRANSF.                     | CV62                           | DF15104350 | FILM 0.1μF ±5%                |
| ▲LB01                          | TS14823230 | POWER TRANSF. <b>BK</b>           | CV65                           | DK16271300 | CERAMIC 270PF ±10%            |
| ▲LB02                          | LY10240240 | RELAY, VS24MB-NR                  | CV66                           | DK16271300 | CERAMIC 270PF ±10%            |
|                                |            |                                   | CV67                           | DK16271300 | CERAMIC 270PF ±10%            |
|                                |            |                                   | CV68                           | DF15473310 | FILM 0.047μF ±5%              |
|                                |            |                                   | CV71                           | EJ10601610 | ELECT 10μF 16V                |
|                                |            |                                   | CV72                           | EJ10601610 | ELECT 10μF 16V                |
|                                |            |                                   | CV73                           | EJ10601610 | ELECT 10μF 16V                |
|                                |            |                                   | CV74                           | EJ22601610 | ELECT 22μF 16V                |
|                                |            |                                   | CV75                           | DK16471300 | CERAMIC 470PF ±10% <b>IB</b>  |
|                                |            |                                   | CV76                           | DK16471300 | CERAMIC 470PF ±10% <b>IB</b>  |
|                                |            |                                   | CV77                           | DK16221300 | CERAMIC 220PF ±10% <b>IB</b>  |
|                                |            |                                   | CV78                           | DK16221300 | CERAMIC 220PF ±10% <b>IB</b>  |
|                                |            |                                   | CV79                           | DK16221300 | CERAMIC 220PF ±10% <b>IB</b>  |
|                                |            |                                   | CV80                           | DK16102300 | CERAMIC 1000PF ±10% <b>IB</b> |
|                                |            |                                   | CV81                           | DK16221300 | CERAMIC 220PF ±10% <b>IB</b>  |
|                                |            |                                   | CV82                           | DK16221300 | CERAMIC 220PF ±10% <b>IB</b>  |
|                                |            |                                   | CV83                           | DK16221300 | CERAMIC 220PF ±10% <b>IB</b>  |

| Ref. No. | Part. No.  | Description                        |
|----------|------------|------------------------------------|
| CV84     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |
| CV85     | DK16471300 | CERAMIC 470PF $\pm 10\%$ <b>IB</b> |

**RESISTORS**

|      |            |                              |
|------|------------|------------------------------|
| RE01 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE02 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE03 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE04 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE05 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE06 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE07 | GD05332160 | 1/6W 3.3K $\Omega$ $\pm 5\%$ |
| RE08 | GD05332160 | 1/6W 3.3K $\Omega$ $\pm 5\%$ |
| RE09 | GD05332160 | 1/6W 3.3K $\Omega$ $\pm 5\%$ |
| RE10 | GD05332160 | 1/6W 3.3K $\Omega$ $\pm 5\%$ |
| RE11 | GD05332160 | 1/6W 3.3K $\Omega$ $\pm 5\%$ |
| RE12 | GD05332160 | 1/6W 3.3K $\Omega$ $\pm 5\%$ |
| RE13 | GD05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$ |
| RE14 | GD05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$ |
| RE15 | GD05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$ |
| RE16 | GD05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$ |
| RE17 | GD05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$ |
| RE18 | GD05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$ |
| RE19 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE20 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE21 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE22 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE23 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE24 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE25 | GD05331160 | 1/6W 330 $\Omega$ $\pm 5\%$  |
| RE26 | GD05331160 | 1/6W 330 $\Omega$ $\pm 5\%$  |
| RE27 | GD05331160 | 1/6W 330 $\Omega$ $\pm 5\%$  |
| RE28 | GD05331160 | 1/6W 330 $\Omega$ $\pm 5\%$  |
| RE29 | GD05331160 | 1/6W 330 $\Omega$ $\pm 5\%$  |
| RE30 | GD05331160 | 1/6W 330 $\Omega$ $\pm 5\%$  |
| RE31 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE32 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE33 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE34 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE35 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE36 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE37 | GD05334160 | 1/6W 330K $\Omega$ $\pm 5\%$ |
| RE38 | GD05334160 | 1/6W 330K $\Omega$ $\pm 5\%$ |
| RE39 | GD05334160 | 1/6W 330K $\Omega$ $\pm 5\%$ |
| RE40 | GD05334160 | 1/6W 330K $\Omega$ $\pm 5\%$ |
| RE41 | GD05334160 | 1/6W 330K $\Omega$ $\pm 5\%$ |
| RE42 | GD05334160 | 1/6W 330K $\Omega$ $\pm 5\%$ |
| RE43 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE44 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE45 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE46 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE47 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE48 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE49 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE50 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE51 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE52 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE53 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE54 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE55 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE56 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE57 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE58 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE59 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE60 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE61 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE62 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE63 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE64 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE65 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |
| RE66 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$ |

| Ref. No. | Part. No.  | Description                  |
|----------|------------|------------------------------|
| RE73     | GD05105160 | 1/6W 1M $\Omega$ $\pm 5\%$   |
| RE74     | GD05105160 | 1/6W 1M $\Omega$ $\pm 5\%$   |
| RE75     | GD05105160 | 1/6W 1M $\Omega$ $\pm 5\%$   |
| RE76     | GD05105160 | 1/6W 1M $\Omega$ $\pm 5\%$   |
| RE79     | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE80     | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE81     | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RE82     | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV53     | GD05392160 | 1/6W 3.9K $\Omega$ $\pm 5\%$ |
| RV54     | GD05392160 | 1/6W 3.9K $\Omega$ $\pm 5\%$ |
| RV55     | GD05392160 | 1/6W 3.9K $\Omega$ $\pm 5\%$ |
| RV59     | GD05392160 | 1/6W 3.9K $\Omega$ $\pm 5\%$ |
| RV60     | GD05392160 | 1/6W 3.9K $\Omega$ $\pm 5\%$ |
| RV61     | GD05392160 | 1/6W 3.9K $\Omega$ $\pm 5\%$ |
| RV62     | GD05273160 | 1/6W 27K $\Omega$ $\pm 5\%$  |
| RV65     | GD05392160 | 1/6W 3.9K $\Omega$ $\pm 5\%$ |
| RV66     | GD05392160 | 1/6W 3.9K $\Omega$ $\pm 5\%$ |
| RV67     | GD05392160 | 1/6W 3.9K $\Omega$ $\pm 5\%$ |
| RV68     | GD05273160 | 1/6W 27K $\Omega$ $\pm 5\%$  |
| RV69     | GD05471160 | 1/6W 470 $\Omega$ $\pm 5\%$  |
| RV70     | GD05471160 | 1/6W 470 $\Omega$ $\pm 5\%$  |
| RV71     | GD05471160 | 1/6W 470 $\Omega$ $\pm 5\%$  |
| RV72     | GD05471160 | 1/6W 470 $\Omega$ $\pm 5\%$  |
| RV73     | GD05471160 | 1/6W 470 $\Omega$ $\pm 5\%$  |
| RV74     | GD05221160 | 1/6W 220 $\Omega$ $\pm 5\%$  |
| RV75     | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV76     | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV77     | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV78     | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV79     | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV80     | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV81     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |
| RV82     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |
| RV83     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |
| RV84     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |
| RV85     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |
| RV86     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |
| RV87     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |
| RV88     | GD05271160 | 1/6W 270 $\Omega$ $\pm 5\%$  |

**INTEGRATED CIRCUITS**

|      |            |                                  |
|------|------------|----------------------------------|
| QE01 | HC10008090 | IC NJM4558DD Dual OP AMP         |
| QE02 | HC10008090 | IC NJM4558DD Dual OP AMP         |
| QE03 | HC10008090 | IC NJM4558DD Dual OP AMP         |
| QE04 | HC10304050 | IC TC9213P Electric Volume (2ch) |
| QE05 | HC10304050 | IC TC9213P Electric Volume (2ch) |
| QE06 | 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         |
| QV59 | 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) |
| QV56 | HT328782A0 | 2SC2878 (A, B) |
| QV60 | HT328782A0 | 2SC2878 (A, B) |

| Ref. No.             | Part. No.  | Description                         |
|----------------------|------------|-------------------------------------|
| <b>COILS</b>         |            |                                     |
| LV01                 | LC14733800 | CHOKE 47 $\mu$ H <b>IB</b>          |
| LV02                 | LC14733800 | CHOKE 47 $\mu$ H <b>IB</b>          |
| LV03                 | LC14733800 | CHOKE 47 $\mu$ H <b>IB</b>          |
| <b>MISCELLANEOUS</b> |            |                                     |
| JV52                 | YT02060540 | TERMINAL, 6P RCA PIN JACK <b>IB</b> |
| JV52                 | YT02060500 | TERMINAL, 6P RCA PIN JACK <b>BK</b> |
| JV53                 | YT02041160 | TERMINAL, 4P RCA PIN JACK <b>IB</b> |
| JV53                 | YT02041110 | TERMINAL, 4P RCA PIN JACK <b>BK</b> |
| JV54                 | YT02011020 | TERMINAL, 1P RCA PIN JACK <b>IB</b> |
| JV54                 | YT02010780 | TERMINAL, 1P RCA PIN JACK <b>BK</b> |
| JV55                 | YJ06030600 | JACK, 30P                           |
| JV56                 | YP06004570 | PLUG, 13P                           |
| JV57                 | YP06006930 | PLUG, 3P                            |

**PF04-TONE P.C. BOARD**

|                   |            |                                 |
|-------------------|------------|---------------------------------|
| <b>CAPACITORS</b> |            |                                 |
| CF01              | EJ10601610 | ELECT 10 $\mu$ F 16V            |
| CF02              | EJ10601610 | ELECT 10 $\mu$ F 16V            |
| CF03              | EJ10601610 | ELECT 10 $\mu$ F 16V            |
| CF04              | OA47601620 | ELECT 47 $\mu$ F 16V            |
| CF05              | DK16222300 | CERAMIC 2200PF $\pm$ 10%        |
| CF06              | DK16222300 | CERAMIC 2200PF $\pm$ 10%        |
| CF07              | DK16222300 | CERAMIC 2200PF $\pm$ 10%        |
| CF09              | DD15101300 | CERAMIC 100PF $\pm$ 5%          |
| CF10              | DD15101300 | CERAMIC 100PF $\pm$ 5%          |
| CF11              | DD15101300 | CERAMIC 100PF $\pm$ 5%          |
| CF13              | DF15153350 | FILM 0.015 $\mu$ F $\pm$ 5%     |
| CF14              | DF15153350 | FILM 0.015 $\mu$ F $\pm$ 5%     |
| CF15              | DF15153350 | FILM 0.015 $\mu$ F $\pm$ 5%     |
| CF16              | DF15473310 | FILM 0.047 $\mu$ F $\pm$ 5%     |
| CF17              | DF15153350 | FILM 0.015 $\mu$ F $\pm$ 5%     |
| CF18              | DF15153350 | FILM 0.015 $\mu$ F $\pm$ 5%     |
| CF19              | DF15153350 | FILM 0.015 $\mu$ F $\pm$ 5%     |
| CF20              | DF15473310 | FILM 0.047 $\mu$ F $\pm$ 5%     |
| CF21              | OA47601620 | ELECT 47 $\mu$ F 16V            |
| CF22              | OA47601620 | ELECT 47 $\mu$ F 16V            |
| CF23              | OA47601620 | ELECT 47 $\mu$ F 16V            |
| CF25              | OA22601620 | ELECT 22 $\mu$ F 16V            |
| CF26              | OA22601620 | ELECT 22 $\mu$ F 16V            |
| CF27              | OA22601620 | ELECT 22 $\mu$ F 16V            |
| CF28              | OA22601620 | ELECT 22 $\mu$ F 16V            |
| CF29              | DD15470300 | CERAMIC 47PF $\pm$ 5%           |
| CF30              | DD15470300 | CERAMIC 47PF $\pm$ 5%           |
| CF31              | DD15470300 | CERAMIC 47PF $\pm$ 5%           |
| CF32              | DD15470300 | CERAMIC 47PF $\pm$ 5%           |
| CF40              | OA10701620 | ELECT 100 $\mu$ F 16V           |
| CF41              | OA10701620 | ELECT 100 $\mu$ F 16V           |
| CF43              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm$ 20% |
| CF44              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm$ 20% |
| CF45              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm$ 20% |
| CF46              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm$ 20% |
| CF47              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm$ 20% |
| CF48              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm$ 20% |

|                  |            |                            |
|------------------|------------|----------------------------|
| <b>RESISTORS</b> |            |                            |
| RF01             | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5% |
| RF02             | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5% |
| RF03             | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5% |
| RF04             | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5% |
| RF05             | GD05470160 | 1/6W 47 $\Omega$ $\pm$ 5%  |
| RF06             | GD05470160 | 1/6W 47 $\Omega$ $\pm$ 5%  |
| RF07             | GD05470160 | 1/6W 47 $\Omega$ $\pm$ 5%  |
| RF08             | GD05470160 | 1/6W 47 $\Omega$ $\pm$ 5%  |
| RF09             | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% |
| RF10             | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% |
| RF11             | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% |

| Ref. No. | Part. No.  | Description                |
|----------|------------|----------------------------|
| RF13     | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% |
| RF14     | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% |
| RF15     | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% |
| RF17     | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% |
| RF18     | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% |
| RF19     | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% |
| RF20     | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% |
| RF21     | GD05223160 | 1/6W 22K $\Omega$ $\pm$ 5% |
| RF22     | GD05223160 | 1/6W 22K $\Omega$ $\pm$ 5% |
| RF23     | GD05223160 | 1/6W 22K $\Omega$ $\pm$ 5% |
| RF24     | GD05223160 | 1/6W 22K $\Omega$ $\pm$ 5% |
| RF29     | GD05223160 | 1/6W 22K $\Omega$ $\pm$ 5% |
| RF30     | GD05223160 | 1/6W 22K $\Omega$ $\pm$ 5% |
| RF31     | GD05223160 | 1/6W 22K $\Omega$ $\pm$ 5% |
| RF32     | GD05223160 | 1/6W 22K $\Omega$ $\pm$ 5% |
| RF45     | GD05102160 | 1/6W 1K $\Omega$ $\pm$ 5%  |
| RF46     | GD05102160 | 1/6W 1K $\Omega$ $\pm$ 5%  |
| RF81     | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5% |
| RF82     | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5% |
| RF83     | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5% |
| RF84     | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5% |

**CONTROLS**

|      |            |                                 |
|------|------------|---------------------------------|
| RF41 | RG01040140 | VARIABLE, 100K $\Omega$ (B) x 4 |
| RF42 | RG01040140 | VARIABLE, 100K $\Omega$ (B) x 4 |
| RF43 | RK01040620 | VARIABLE, 100K $\Omega$ (W)     |

**INTEGRATED CIRCUITS**

|      |            |                          |
|------|------------|--------------------------|
| QF01 | HC10031090 | IC NJM2058D Quad OP AMP  |
| QF02 | HC10008090 | IC NJM4558DD Dual OP AMP |
| QF03 | HC10008090 | IC NJM4558DD Dual OP AMP |

**MISCELLANEOUS**

|      |            |           |
|------|------------|-----------|
| JF01 | YP06006720 | PLUG, 11P |
|------|------------|-----------|

**PL04-VIDEO SELECTOR P.C. BOARD**

|                   |            |                                 |
|-------------------|------------|---------------------------------|
| <b>CAPACITORS</b> |            |                                 |
| CL01              | EJ22601010 | ELECT 22 $\mu$ F 10V            |
| CL02              | EJ10601610 | ELECT 10 $\mu$ F 16V            |
| CL03              | EJ22601010 | ELECT 22 $\mu$ F 10V            |
| CL04              | EJ10601610 | ELECT 10 $\mu$ F 16V            |
| CL05              | EJ22601010 | ELECT 22 $\mu$ F 10V            |
| CL06              | EJ10601610 | ELECT 10 $\mu$ F 16V            |
| CL09              | EJ22601010 | ELECT 22 $\mu$ F 10V            |
| CL10              | EJ10601610 | ELECT 10 $\mu$ F 16V            |
| CL14              | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%   |
| CL15              | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%   |
| CL16              | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%  |
| CL17              | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%  |
| CL18              | EA22700610 | ELECT 220 $\mu$ F 6.3V          |
| CL19              | EA22700610 | ELECT 220 $\mu$ F 6.3V          |
| CL20              | EJ22601010 | ELECT 22 $\mu$ F 10V            |
| CL21              | EA10701010 | ELECT 100 $\mu$ F 10V           |
| CL22              | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%  |
| CL23              | EJ22601010 | ELECT 22 $\mu$ F 10V            |
| CL31              | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%   |
| CX49              | EJ47502510 | ELECT 4.7 $\mu$ F 25V           |
| CX50              | EA47601010 | ELECT 47 $\mu$ F 10V            |
| CX51              | EA22700610 | ELECT 220 $\mu$ F 6.3V          |
| CX52              | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%  |
| CX53              | EA22700610 | ELECT 220 $\mu$ F 6.3V          |
| CX54              | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%  |
| CX55              | DD15220300 | CERAMIC 22PF $\pm$ 5%           |
| CX56              | DD15220300 | CERAMIC 22PF $\pm$ 5%           |
| CX57              | DD15220300 | CERAMIC 22PF $\pm$ 5% <b>IB</b> |
| CX58              | DD15220300 | CERAMIC 22PF $\pm$ 5% <b>IB</b> |
| CX59              | EJ47405010 | ELECT 0.47 $\mu$ F 50V          |

| Ref. No. | Part. No.  | Description                    |
|----------|------------|--------------------------------|
| CX60     | DD15560300 | CERAMIC 56PF $\pm 5\%$         |
| CX61     | EJ10505010 | ELECT 1 $\mu$ F 50V            |
| CX62     | DK16122300 | CERAMIC 1200PF $\pm 10\%$      |
| CX63     | EJ10505010 | ELECT 1 $\mu$ F 50V            |
| CX64     | DF15682350 | FILM 0.0068 $\mu$ F $\pm 5\%$  |
| CX65     | DF15223350 | FILM 0.022 $\mu$ F $\pm 5\%$   |
| CX66     | DD15470300 | CERAMIC 47PF $\pm 5\%$         |
| CX67     | CT12000200 | TRIMMING 20PF                  |
| CX69     | EA47601010 | ELECT 47 $\mu$ F 10V           |
| CX70     | EJ47502510 | ELECT 4.7 $\mu$ F 25V          |
| CX72     | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% |
| CX73     | EA22700610 | ELECT 220 $\mu$ F 6.3V         |
| CX74     | EJ10505010 | ELECT 1 $\mu$ F 50V            |
| CX75     | EJ22601010 | ELECT 22 $\mu$ F 10V           |
| CX76     | EA10701010 | ELECT 100 $\mu$ F 10V          |

**RESISTORS**

|      |            |                                      |
|------|------------|--------------------------------------|
| RL01 | GD05820160 | 1/6W 82 $\Omega$ $\pm 5\%$           |
| RL02 | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$           |
| RL03 | GD05820160 | 1/6W 82 $\Omega$ $\pm 5\%$           |
| RL04 | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$           |
| RL05 | GD05820160 | 1/6W 82 $\Omega$ $\pm 5\%$           |
| RL06 | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$           |
| RL07 | GD05750160 | 1/6W 75 $\Omega$ $\pm 5\%$           |
| RL09 | GD05820160 | 1/6W 82 $\Omega$ $\pm 5\%$           |
| RL10 | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$           |
| RL11 | GD05750160 | 1/6W 75 $\Omega$ $\pm 5\%$           |
| RL15 | GD05750160 | 1/6W 75 $\Omega$ $\pm 5\%$           |
| RL17 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$         |
| RL18 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$         |
| RL19 | GD05472160 | 1/6W 4.7K $\Omega$ $\pm 5\%$         |
| RX51 | GD05333160 | 1/6W 33K $\Omega$ $\pm 5\%$          |
| RX52 | GD05221160 | 1/6W 220 $\Omega$ $\pm 5\%$          |
| RX53 | GD05105160 | 1/6W 1M $\Omega$ $\pm 5\%$           |
| RX54 | GD05105160 | 1/6W 1M $\Omega$ $\pm 5\%$ <b>IB</b> |
| RX55 | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RX56 | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RX57 | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RX59 | GD05221160 | 1/6W 220 $\Omega$ $\pm 5\%$          |
| RX60 | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$         |
| RX61 | GD05682160 | 1/6W 6.8K $\Omega$ $\pm 5\%$         |
| RX62 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$           |
| RX65 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$           |
| RX66 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$           |
| RX67 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$         |
| RX68 | GD05223160 | 1/6W 22K $\Omega$ $\pm 5\%$          |
| RX69 | GD05471160 | 1/6W 470 $\Omega$ $\pm 5\%$          |

**INTEGRATED CIRCUITS**

|      |            |                               |
|------|------------|-------------------------------|
| QL01 | HC10275030 | IC LC7824 Analogue Switch     |
| QL02 | HC10275030 | IC LC7824 Analogue Switch     |
| QL03 | HC10046170 | IC MC14576 Dual Video AMP     |
| QL04 | HC12233090 | IC NJM2233BD Single Video AMP |
| 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, 22 $\mu$ H  |
| LX52 | LC15623800 | CHOKE, 5.6 $\mu$ H |

**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**

|      |            |                                |
|------|------------|--------------------------------|
| CL51 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL52 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL53 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL54 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL55 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL56 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL57 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL58 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL59 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL60 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL61 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL62 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL63 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL64 | EJ10601610 | ELECT 10 $\mu$ F 16V           |
| CL65 | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%  |
| CL66 | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%  |
| CL67 | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%  |
| CL68 | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%  |
| CL69 | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%  |
| CL70 | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%  |
| CL71 | EA10700610 | ELECT 100 $\mu$ F 6.3V         |
| CL72 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% |
| CL73 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% |
| CL74 | EA10700610 | ELECT 100 $\mu$ F 6.3V         |
| CL75 | EA10700610 | ELECT 100 $\mu$ F 6.3V         |
| CL76 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% |
| CL77 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% |
| CL78 | EA10700610 | ELECT 100 $\mu$ F 6.3V         |
| CL79 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% |

**RESISTORS**

|      |            |                            |
|------|------------|----------------------------|
| RL51 | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$ |
| RL52 | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$ |
| RL53 | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$ |
| RL54 | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$ |
| RL55 | GD05820160 | 1/6W 82 $\Omega$ $\pm 5\%$ |
| RL56 | GD05820160 | 1/6W 82 $\Omega$ $\pm 5\%$ |
| RL57 | GD05820160 | 1/6W 82 $\Omega$ $\pm 5\%$ |
| RL58 | GD05820160 | 1/6W 82 $\Omega$ $\pm 5\%$ |
| RL59 | GD05820160 | 1/6W 82 $\Omega$ $\pm 5\%$ |
| RL60 | GD05820160 | 1/6W 82 $\Omega$ $\pm 5\%$ |
| RL61 | GD05820160 | 1/6W 82 $\Omega$ $\pm 5\%$ |
| RL62 | GD05820160 | 1/6W 82 $\Omega$ $\pm 5\%$ |
| RL63 | GD05750160 | 1/6W 75 $\Omega$ $\pm 5\%$ |
| RL64 | GD05750160 | 1/6W 75 $\Omega$ $\pm 5\%$ |

| Ref. No. | Part. No.  | Description     |
|----------|------------|-----------------|
| RL65     | GD05750160 | 1/6W 75 Ω ±5%   |
| RL66     | 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% |
| RL73     | GD05104160 | 1/6W 100K Ω ±5% |
| RL74     | GD05104160 | 1/6W 100K Ω ±5% |

**INTEGRATED CIRCUITS**

|      |            |                           |
|------|------------|---------------------------|
| QL51 | HC10275030 | IC LC7824 Analogue Switch |
| QL52 | HC10275030 | IC LC7824 Analogue Switch |
| QL53 | HC10275030 | IC LC7824 Analogue Switch |
| QL54 | HC10275030 | IC LC7824 Analogue Switch |
| QL55 | HC10046170 | IC MC14576 Dual Video AMP |
| QL56 | HC10046170 | IC MC14576 Dual Video AMP |
| QL57 | HC10046170 | IC MC14576 Dual Video AMP |

**MISCELLANEOUS**

|      |            |              |
|------|------------|--------------|
| JL51 | YT02021320 | TERMINAL, 2P |
| JL52 | YT02021320 | TERMINAL, 2P |
| JL53 | YT02030350 | TERMINAL, 3P |
| JL54 | YP06020600 | PLUG, 10P    |
| JL55 | YL01010140 | TERMINAL GND |

**PL94-AUX IN P.C. BOARD****CAPACITORS**

|      |            |                                       |
|------|------------|---------------------------------------|
| CL91 | EJ10601610 | ELECT 10μF 16V                        |
| CL92 | EJ22601610 | ELECT 22μF 16V                        |
| CL93 | EJ10601610 | ELECT 10μF 16V                        |
| CL94 | EJ10601610 | ELECT 10μF 16V                        |
| CL95 | DD38104010 | CERAMIC 0.1μF +80% -20%               |
| CL96 | DD38104010 | CERAMIC 0.1μF +80% -20%               |
| CL97 | DK16221300 | CERAMIC 220PF ±10% <b>IB</b> [MOMS]   |
| CL97 | DK16102300 | CERAMIC 1000PF ±10% <b>IB</b> (AVR80) |
| CL98 | DK16221300 | CERAMIC 220PF ±10% <b>IB</b> [MOMS]   |
| CL98 | DK16102300 | CERAMIC 1000PF ±10% <b>IB</b> (AVR80) |

**RESISTORS**

|      |            |                                |
|------|------------|--------------------------------|
| RL91 | GD05100160 | 1/6W 10 Ω ±5%                  |
| RL92 | GD05750160 | 1/6W 75 Ω ±5%                  |
| RL93 | GD05750160 | 1/6W 75 Ω ±5%                  |
| RL94 | GD05750160 | 1/6W 75 Ω ±5%                  |
| RL95 | GD05100160 | 1/6W 10 Ω ±5%                  |
| RL96 | GD05100160 | 1/6W 10 Ω ±5%                  |
| RL97 | GD05102160 | 1/6W 1K Ω ±5% <b>IB</b> [MOMS] |
| RL98 | GD05102160 | 1/6W 1K Ω ±5% <b>IB</b> [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 | BY04040020 | TERMINAL, AUX / S-VIDEO IN |
| JL92 | YP06007260 | PLUG, 8P                   |
| JU05 | YJ06018040 | JACK, 4P                   |
| SU07 | SP01011280 | PUSH SWITCH, TACT          |
| SU09 | SP01011280 | PUSH SWITCH, TACT          |
| SU11 | SP01011280 | PUSH SWITCH, TACT          |

| Ref. No. | Part. No.  | Description         |
|----------|------------|---------------------|
| WL01     | YB00152110 | CONNECTIVE CORD, 1P |

**PN54-SPK PROTECT P.C. BOARD (AVR80MK 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 |

**MISCELLANEOUS**

|      |            |           |
|------|------------|-----------|
| JN81 | YJ06019130 | JACK, 13P |
| JN82 | YP06007130 | PLUG, 3P  |

**PP04-SURROUND AMP P.C. BOARD****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 <b>IB</b> |
| CP07 | DD10030300 | CERAMIC 3PF ±0.25PF <b>BK</b> |
| CP08 | DD11100300 | CERAMIC 10PF ±0.5PF <b>IB</b> |
| CP08 | DD10030300 | CERAMIC 3PF ±0.25PF <b>BK</b> |
| 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% <b>IB</b>    |
| CP22 | DD15470300 | CERAMIC 47PF ±5% <b>IB</b>    |

**RESISTORS**

|      |            |                          |
|------|------------|--------------------------|
| RP01 | GD05102160 | 1/6W 1K Ω ±5% <b>IB</b>  |
| RP01 | GD05471160 | 1/6W 470 Ω ±5% <b>BK</b> |
| RP02 | GD05102160 | 1/6W 1K Ω ±5% <b>IB</b>  |
| RP02 | GD05471160 | 1/6W 470 Ω ±5% <b>BK</b> |
| 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%           |

| Ref. No. | Part. No.  | Description                           |
|----------|------------|---------------------------------------|
| RP07     | GD05182160 | 1/6W 1.8K $\Omega$ $\pm 5\%$          |
| RP08     | GD05182160 | 1/6W 1.8K $\Omega$ $\pm 5\%$          |
| RP09     | GD05513160 | 1/6W 51K $\Omega$ $\pm 5\%$           |
| RP10     | GD05513160 | 1/6W 51K $\Omega$ $\pm 5\%$           |
| ▲RP11    | GO10222030 | 3W 0.22 $\Omega$ $\pm 10\%$           |
| ▲RP12    | GO10222030 | 3W 0.22 $\Omega$ $\pm 10\%$           |
| ▲RP13    | GG05102160 | 1/6W 1K $\Omega$ $\pm 5\%$            |
| ▲RP14    | GG05102160 | 1/6W 1K $\Omega$ $\pm 5\%$            |
| RP15     | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$            |
| RP16     | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$            |
| RP17     | GD05273160 | 1/6W 27K $\Omega$ $\pm 5\%$           |
| RP18     | GD05273160 | 1/6W 27K $\Omega$ $\pm 5\%$           |
| RP19     | GD05223160 | 1/6W 22K $\Omega$ $\pm 5\%$           |
| RP20     | GD05223160 | 1/6W 22K $\Omega$ $\pm 5\%$           |
| ▲RP21    | GA05100010 | 1W 10 $\Omega$ $\pm 5\%$              |
| ▲RP22    | GA05100010 | 1W 10 $\Omega$ $\pm 5\%$              |
| RP23     | GD05221160 | 1/6W 220 $\Omega$ $\pm 5\%$ <b>IB</b> |
| RP23     | GD05181160 | 1/6W 180 $\Omega$ $\pm 5\%$ <b>BK</b> |
| RP24     | GD05221160 | 1/6W 220 $\Omega$ $\pm 5\%$ <b>IB</b> |
| RP24     | GD05181160 | 1/6W 180 $\Omega$ $\pm 5\%$ <b>BK</b> |
| ▲RP25    | GG05101160 | 1/6W 100 $\Omega$ $\pm 5\%$           |
| ▲RP26    | GG05101160 | 1/6W 100 $\Omega$ $\pm 5\%$           |
| RP27     | GD05682160 | 1/6W 6.8K $\Omega$ $\pm 5\%$          |
| RP28     | GD05333160 | 1/6W 33K $\Omega$ $\pm 5\%$           |
| RP29     | GD05100160 | 1/6W 100 $\Omega$ $\pm 5\%$           |
| RP99     | GG05100140 | 1/4W 10 $\Omega$ $\pm 5\%$            |

**INTEGRATED CIRCUITS**

|       |            |                                     |
|-------|------------|-------------------------------------|
| ▲QP01 | HC10357030 | IC STK401-140<br>AF Power AMP (2ch) |
|-------|------------|-------------------------------------|

**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 <b>IB</b> |

**PS04-AUDIO FUNCTION P.C. BOARD****CAPACITORS**

|      |            |                       |
|------|------------|-----------------------|
| CS01 | EJ10601610 | ELECT 10 $\mu$ F 16V  |
| CS02 | EJ10601610 | ELECT 10 $\mu$ F 16V  |
| CS03 | EJ10601610 | ELECT 10 $\mu$ F 16V  |
| CS04 | EJ10601610 | ELECT 10 $\mu$ F 16V  |
| CS05 | EJ10601610 | ELECT 10 $\mu$ F 16V  |
| CS06 | EJ10601610 | ELECT 10 $\mu$ F 16V  |
| CS07 | EJ47502510 | ELECT 4.7 $\mu$ F 25V |
| CS08 | EJ47502510 | ELECT 4.7 $\mu$ F 25V |
| CS09 | EA10701610 | ELECT 100 $\mu$ F 16V |
| CS10 | EA10701610 | ELECT 100 $\mu$ F 16V |
| CS11 | EJ47502510 | ELECT 4.7 $\mu$ F 25V |
| CS12 | EJ47502510 | ELECT 4.7 $\mu$ F 25V |
| CS13 | EA10701610 | ELECT 100 $\mu$ F 16V |
| CS14 | EA10701610 | ELECT 100 $\mu$ F 16V |
| CS15 | EJ47502510 | ELECT 4.7 $\mu$ F 25V |
| CS16 | EJ47502510 | ELECT 4.7 $\mu$ F 25V |
| CS17 | EJ10601610 | ELECT 10 $\mu$ F 16V  |
| CS18 | EJ10601610 | ELECT 10 $\mu$ F 16V  |

| Ref. No. | Part. No.  | Description                        |
|----------|------------|------------------------------------|
| CS19     | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%      |
| CS21     | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%      |
| CS22     | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%      |
| CS23     | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b> |
| CS24     | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b> |
| CS25     | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b> |
| CS26     | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b> |
| CS27     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |
| CS28     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |
| CS29     | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b> |
| CS30     | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b> |
| CS31     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |
| CS32     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |
| CS33     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |
| CS34     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |
| CS35     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |
| CS36     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |
| CS37     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |
| CS38     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |

**RESISTORS**

|      |            |                              |
|------|------------|------------------------------|
| RS01 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS02 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS03 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS04 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS05 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS06 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS07 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RS08 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RS09 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RS10 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RS11 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RS12 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RS13 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS14 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS15 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS16 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS17 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS18 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS19 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS20 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS21 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RS22 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RS23 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS24 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS25 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS26 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RS27 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RS28 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RS29 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RS30 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RS31 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RS32 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RS33 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RS34 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RS37 | GD05182160 | 1/6W 1.8K $\Omega$ $\pm 5\%$ |
| RS38 | GD05182160 | 1/6W 1.8K $\Omega$ $\pm 5\%$ |
| RS39 | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |
| RS40 | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |

**INTEGRATED CIRCUITS**

|      |            |                            |
|------|------------|----------------------------|
| QS01 | HC10008090 | IC NJM4558DD Dual OP AMP   |
| QS02 | HC10008090 | IC NJM4558DD Dual OP AMP   |
| QS03 | HC10008090 | IC NJM4558DD Dual OP AMP   |
| QS05 | HC10008090 | IC NJM4558DD Dual OP AMP   |
| QS11 | HC10308030 | IC LC78211 Analogue Switch |
| QS12 | HC10310030 | IC LC78213 Analogue Switch |
| QS13 | HC10008090 | IC NJM4558DD Dual OP AMP   |



| Ref. No.             | Part. No.  | Description               | Ref. No.         | Part. No.  | Description                        |
|----------------------|------------|---------------------------|------------------|------------|------------------------------------|
| <b>TRANSISTORS</b>   |            |                           | CS95             | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b> |
| QS07                 | HT421442A0 | 2SD2144S (U, V)           | CS96             | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b> |
| QS08                 | HT421442A0 | 2SD2144S (U, V)           | <b>RESISTORS</b> |            |                                    |
| QS09                 | BA20001000 | DIGITAL DTC114ES          | RG51             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
| QS10                 | BA10001000 | DIGITAL DTA114ES          | RG52             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
| <b>MISCELLANEOUS</b> |            |                           | RG53             | GD05471160 | 1/6W 470 $\Omega$ $\pm 5\%$        |
| JS01                 | YT02060460 | TERMINAL, 6P RCA PIN JACK | RG54             | GD05471160 | 1/6W 470 $\Omega$ $\pm 5\%$        |
| JS02                 | YT02040940 | TERMINAL, 4P RCA PIN JACK | RG55             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
| JS03                 | YJ06030570 | JACK, 16P                 | RG56             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
| JS04                 | YL01010140 | TERMINAL, GND             | RG57             | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$       |
|                      |            |                           | RG58             | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$       |
|                      |            |                           | RG59             | GD05334160 | 1/6W 330K $\Omega$ $\pm 5\%$       |
|                      |            |                           | RG60             | GD05334160 | 1/6W 330K $\Omega$ $\pm 5\%$       |
|                      |            |                           | RG61             | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$       |
|                      |            |                           | RG62             | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$       |
|                      |            |                           | RG63             | GD05472160 | 1/6W 4.7K $\Omega$ $\pm 5\%$       |
|                      |            |                           | RG64             | GD05472160 | 1/6W 4.7K $\Omega$ $\pm 5\%$       |
|                      |            |                           | RG65             | GD05331160 | 1/6W 330 $\Omega$ $\pm 5\%$        |
|                      |            |                           | RG66             | GD05331160 | 1/6W 330 $\Omega$ $\pm 5\%$        |
|                      |            |                           | RG67             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RG68             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RG69             | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RG70             | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RG71             | GD05471160 | 1/6W 470 $\Omega$ $\pm 5\%$        |
|                      |            |                           | RG72             | GD05471160 | 1/6W 470 $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS51             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS52             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS53             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS54             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS55             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS56             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS57             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS58             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS59             | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$         |
|                      |            |                           | RS60             | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$         |
|                      |            |                           | RS61             | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$         |
|                      |            |                           | RS62             | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$         |
|                      |            |                           | RS63             | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$         |
|                      |            |                           | RS64             | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$         |
|                      |            |                           | RS65             | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$         |
|                      |            |                           | RS66             | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$         |
|                      |            |                           | RS67             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS68             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS69             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS70             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS71             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS72             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS73             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS74             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS75             | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$       |
|                      |            |                           | RS76             | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$       |
|                      |            |                           | RS77             | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$         |
|                      |            |                           | RS78             | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$         |
|                      |            |                           | RS79             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS80             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS81             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS82             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS83             | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$         |
|                      |            |                           | RS84             | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$         |
|                      |            |                           | RS85             | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$       |
|                      |            |                           | RS86             | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$       |
|                      |            |                           | RS93             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |
|                      |            |                           | RS94             | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$        |

### PS54-V-AUDIO FUNCTION P.C. BOARD

|                   |            |                                     |                            |            |                          |
|-------------------|------------|-------------------------------------|----------------------------|------------|--------------------------|
| <b>CAPACITORS</b> |            |                                     | <b>INTEGRATED CIRCUITS</b> |            |                          |
| CG51              | EJ47502510 | ELECT 4.7 $\mu$ F 25V               | QG55                       | HC10008090 | IC NJM4558DD Dual OP AMP |
| CG52              | EJ47502510 | ELECT 4.7 $\mu$ F 25V               | QG56                       | HC10008090 | IC NJM4558DD Dual OP AMP |
| CG55              | EJ47502510 | ELECT 4.7 $\mu$ F 25V               | QG57                       | HC10304050 | IC TC9213P               |
| CG56              | EJ47502510 | ELECT 4.7 $\mu$ F 25V               |                            |            | Electric Volume (2ch)    |
| CG57              | EJ47502510 | ELECT 4.7 $\mu$ F 25V               |                            |            |                          |
| CG58              | EJ47502510 | ELECT 4.7 $\mu$ F 25V               |                            |            |                          |
| CG59              | EJ47502510 | ELECT 4.7 $\mu$ F 25V               |                            |            |                          |
| CG60              | EJ47502510 | ELECT 4.7 $\mu$ F 25V               |                            |            |                          |
| CG61              | DK16101300 | CERAMIC 100PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CG62              | DK16101300 | CERAMIC 100PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CG63              | EJ47502510 | ELECT 4.7 $\mu$ F 25V               |                            |            |                          |
| CG64              | EJ47502510 | ELECT 4.7 $\mu$ F 25V               |                            |            |                          |
| CS51              | EJ10601610 | ELECT 10 $\mu$ F 16V                |                            |            |                          |
| CS52              | EJ10601610 | ELECT 10 $\mu$ F 16V                |                            |            |                          |
| CS53              | EJ10601610 | ELECT 10 $\mu$ F 16V                |                            |            |                          |
| CS54              | EJ10601610 | ELECT 10 $\mu$ F 16V                |                            |            |                          |
| CS55              | EJ10601610 | ELECT 10 $\mu$ F 16V                |                            |            |                          |
| CS56              | EJ10601610 | ELECT 10 $\mu$ F 16V                |                            |            |                          |
| CS57              | EJ10601610 | ELECT 10 $\mu$ F 16V                |                            |            |                          |
| CS58              | EJ10601610 | ELECT 10 $\mu$ F 16V                |                            |            |                          |
| CS59              | EJ47502510 | ELECT 4.7 $\mu$ F 25V               |                            |            |                          |
| CS60              | EJ47502510 | ELECT 4.7 $\mu$ F 25V               |                            |            |                          |
| CS61              | DD38104010 | CERAMIC 0.1 $\mu$ F $\pm 80\%$ -20% |                            |            |                          |
| CS62              | EA10701610 | ELECT 100 $\mu$ F 16V               |                            |            |                          |
| CS63              | EA10701610 | ELECT 100 $\mu$ F 16V               |                            |            |                          |
| CS65              | EA10701610 | ELECT 100 $\mu$ F 16V               |                            |            |                          |
| CS66              | EA10701610 | ELECT 100 $\mu$ F 16V               |                            |            |                          |
| CS68              | DD38104010 | CERAMIC 0.1 $\mu$ F $\pm 80\%$ -20% |                            |            |                          |
| CS69              | DD38104010 | CERAMIC 0.1 $\mu$ F $\pm 80\%$ -20% |                            |            |                          |
| CS70              | DD38104010 | CERAMIC 0.1 $\mu$ F $\pm 80\%$ -20% |                            |            |                          |
| CS71              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS72              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS73              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS74              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS75              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS76              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS77              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS78              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS79              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS80              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS81              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS82              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS83              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS84              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS85              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS86              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS87              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS88              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS89              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS90              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>  |                            |            |                          |
| CS93              | EJ10601610 | ELECT 10 $\mu$ F 16V                |                            |            |                          |
| CS94              | EJ10601610 | ELECT 10 $\mu$ F 16V                |                            |            |                          |

| Ref. No.             | Part. No.  | Description                | Ref. No.                   | Part. No.  | Description                              |
|----------------------|------------|----------------------------|----------------------------|------------|------------------------------------------|
| QS51                 | HC10008090 | IC NJM4558DD Dual OP AMP   | RU34                       | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$ (AVR80MK II) |
| QS52                 | HC10008090 | IC NJM4558DD Dual OP AMP   | RU36                       | GD05151160 | 1/6W 150 $\Omega$ $\pm 5\%$              |
| QS53                 | HC10008090 | IC NJM4558DD Dual OP AMP   | RU37                       | GD05151160 | 1/6W 150 $\Omega$ $\pm 5\%$              |
| QS54                 | HC10008090 | IC NJM4558DD Dual OP AMP   | RU39                       | GD05471160 | 1/6W 470 $\Omega$ $\pm 5\%$              |
| QS55                 | HC10008090 | IC NJM4558DD Dual OP AMP   | RU40                       | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$              |
| QS56                 | HC10308030 | IC LC78211 Analogue Switch | RU41                       | GD05472160 | 1/6W 4.7K $\Omega$ $\pm 5\%$             |
| QS57                 | HC10309030 | IC LC78212 Analogue Switch | RU42                       | GD05472160 | 1/6W 4.7K $\Omega$ $\pm 5\%$             |
| QS91                 | HC10008090 | IC NJM4558DD Dual OP AMP   | RU43                       | GD05182160 | 1/6W 1.8K $\Omega$ $\pm 5\%$             |
| <b>TRANSISTORS</b>   |            |                            | RU44                       | GD05182160 | 1/6W 1.8K $\Omega$ $\pm 5\%$             |
| QG51                 | HT421442A0 | 2SD2144S, U, V             | RU45                       | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$              |
| QG52                 | HT421442A0 | 2SD2144S, U, V             | RU46                       | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$              |
| QG59                 | HT421442A0 | 2SD2144S, U, V             | <b>INTEGRATED CIRCUITS</b> |            |                                          |
| QG60                 | HT421442A0 | 2SD2144S, U, V             | QU01                       | HU260JT120 | MICROPROCESSOR                           |
| QS59                 | HT421442A0 | 2SD2144S, U, V             | TMP87CP71F                 |            |                                          |
| QS60                 | HT421442A0 | 2SD2144S, U, V             | QU18                       | HC712500B0 | IC 74HC125                               |
| QS61                 | BA10001000 | DIGITAL DTA114ES           | Quad Bus Buffer Gates      |            |                                          |
| QS62                 | BA20001000 | DIGITAL DTC114ES           | <b>TRANSISTORS</b>         |            |                                          |
| <b>MISCELLANEOUS</b> |            |                            | QU02                       | BA10007210 | DIGITAL DTA114ES                         |
| JS51                 | YT02060460 | TERMINAL, 6P RCA PIN JACK  | QU03                       | HT30001000 | 2SC536SP                                 |
| JS52                 | YT02080110 | TERMINAL, 8P RCA PIN JACK  | QU04                       | BA20012210 | DIGITAL DTC144ES                         |
| JS54                 | YJ06030580 | JACK, 20P                  | 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 (AVR80MK II)                    |
|                      |            |                            | QU20                       | HT30001000 | 2SC536SP (AVR80MK II)                    |
|                      |            |                            | QU21                       | HT10001000 | 2SA608SP (AVR80MK II)                    |

## PU04-FRONT P.C. BOARD

| <b>CAPACITORS</b> |            |                                          | <b>DIODES</b> |            |                      |
|-------------------|------------|------------------------------------------|---------------|------------|----------------------|
| CU01              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm 20\%$         | DU01          | HD20029210 | 1SS132 (AVR80MK II)  |
| CU02              | EJ47601010 | ELECT 47 $\mu$ F 10V                     | DU01          | HD20002000 | 1SS176 (AVR80)       |
| CU03              | EJ22700610 | ELECT 220 $\mu$ F 6.3V                   | DU02          | HD20029210 | 1SS132 (AVR80MK II)  |
| CU04              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm 20\%$         | DU02          | HD20002000 | 1SS176 (AVR80)       |
| CU05              | DA17104110 | CERAMIC 0.1 $\mu$ F $\pm 20\%$           | DU03          | HD20029210 | 1SS132 (AVR80MK II)  |
| CU07              | EX22300530 | BIG ELECT 0.22F 5.5V                     | DU03          | HD20002000 | 1SS176 (AVR80)       |
| CU10              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm 20\%$         | DU04          | HD20029210 | 1SS132 (AVR80MK II)  |
| CU11              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm 20\%$         | DU04          | HD20002000 | 1SS176 (AVR80)       |
| CU12              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm 20\%$         | DU05          | HD20002000 | 1SS176               |
| CU13              | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%            | DU06          | HD20002000 | 1SS176               |
| CU14              | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> | DU07          | HD20002000 | 1SS176               |
| CU15              | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> | DU08          | HD20002000 | 1SS176               |
| <b>RESISTORS</b>  |            |                                          | DU09          | HD20002000 | 1SS176               |
| RU01              | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$             | DU10          | HD20002000 | 1SS176               |
| RU02              | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$             | DU14          | HD20029210 | 1SS132               |
| RU03              | GD05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$             | DU17          | HD20029210 | 1SS132 <b>IB</b>     |
| RU04              | GD05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$             | DU19          | HD20002000 | 1SS176               |
| RU05              | GD05332160 | 1/6W 3.3K $\Omega$ $\pm 5\%$             | DU20          | HD20002000 | 1SS176               |
| RU07              | GD05682160 | 1/6W 6.8K $\Omega$ $\pm 5\%$             | DU21          | HD20002000 | 1SS176               |
| RU09              | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$              | DU22          | HI10099320 | L.E.D. GL3ED8        |
| RU11              | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$              | DU23          | HD20002000 | 1SS176               |
| RU14              | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$              | DU24          | HD20002000 | 1SS176               |
| RU15              | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$              | DU25          | HD20002000 | 1SS176               |
| RU16              | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$              | DU26          | HD20002000 | 1SS176               |
| RU17              | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$              | DU27          | HD20002000 | 1SS176               |
| RU18              | GD05183160 | 1/6W 18K $\Omega$ $\pm 5\%$              | DU28          | HD20002000 | 1SS176               |
| RU19              | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$              | DU29          | HI10062320 | L.E.D. LT3D8B (RED)  |
| RU20              | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$              | DU30          | HI10095320 | L.E.D. LT3K44B (GRN) |
| RU22              | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$               | DU31          | HI10095320 | L.E.D. LT3K44B (GRN) |
| RU23              | GD05101160 | 1/6W 100 $\Omega$ $\pm 5\%$              | DU32          | HI10095320 | L.E.D. LT3K44B (GRN) |
| RU24              | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$              | DU33          | HI10095320 | L.E.D. LT3K44B (GRN) |
| RU25              | GD05221160 | 1/6W 220 $\Omega$ $\pm 5\%$              | DU34          | HI10095320 | L.E.D. LT3K44B (GRN) |
| RU26              | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$              | DU35          | HI10095320 | L.E.D. LT3K44B (GRN) |
| RU27              | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$              |               |            |                      |
| RU28              | GD05331160 | 1/6W 330 $\Omega$ $\pm 5\%$              |               |            |                      |
| RU29              | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$              |               |            |                      |
| RU30              | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$              |               |            |                      |
| RU31              | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$ (AVR80MK II) |               |            |                      |
| RU32              | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$ (AVR80MK II) |               |            |                      |
| RU33              | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$ (AVR80MK II) |               |            |                      |

| Ref. No. | Part. No.  | Description          |
|----------|------------|----------------------|
| 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) |
| 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 (AVR80MKII)   |
| DU52     | HD20002000 | 1SS176 (AVR80MKII)   |

**MISCELLANEOUS**

|      |            |                                |
|------|------------|--------------------------------|
| JU01 | YJ07011240 | JACK, 31P                      |
| JU02 | YP06007170 | PLUG, 7P                       |
| JU03 | YJ06030640 | JACK, 4P                       |
| JU04 | YP06020550 | PLUG, 4P                       |
| JU06 | YP06006930 | PLUG, 3P (AVR80MKII)           |
| SU01 | SP01011280 | PUSH SWITCH, TACT              |
| SU02 | SP01011280 | PUSH SWITCH, TACT <b>IB</b>    |
| SU03 | SP01011280 | PUSH SWITCH, TACT              |
| SU04 | SP01011280 | PUSH SWITCH, TACT <b>IB</b>    |
| SU05 | SP01011280 | PUSH SWITCH, TACT              |
| SU06 | SP01011280 | PUSH SWITCH, TACT <b>IB</b>    |
| SU08 | SP01011280 | PUSH SWITCH, TACT              |
| SU10 | SP01011280 | PUSH SWITCH, TACT              |
| SU12 | SP01011280 | PUSH SWITCH, TACT (AVR80)      |
| 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              |
| SU18 | SP01011280 | PUSH SWITCH, TACT              |
| SU19 | SP01011280 | PUSH SWITCH, TACT              |
| SU21 | 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              |
| 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<br>CST8,0MHz |

**PUS4-MASTER VOL P.C. BOARD**

| CAPACITORS |            |                          |
|------------|------------|--------------------------|
| CU51       | DA16101110 | CERAMIC 100PF $\pm 10\%$ |
| CU52       | DA16101110 | CERAMIC 100PF $\pm 10\%$ |

| RESISTORS |            |                                     |
|-----------|------------|-------------------------------------|
| RU51      | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$        |
| RU52      | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$        |
| RU53      | GD05224160 | 1/6W 220K $\Omega$ $\pm 5\%$        |
| RU54      | GD05224160 | 1/6W 220K $\Omega$ $\pm 5\%$        |
| RU55      | GG05010140 | 1/6W 1 $\Omega$ $\pm 5\%$           |
| RU57      | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$ (AVR80) |
| RU58      | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$ (AVR80) |

| Ref. No.           | Part. No.  | Description      |
|--------------------|------------|------------------|
| <b>TRANSISTORS</b> |            |                  |
| QU51               | HT30001000 | 2SC536SP         |
| QU52               | HT30001000 | 2SC536SP         |
| QU53               | HT30001000 | 2SC536SP (AVR80) |
| QU54               | HT30001000 | 2SC536SP (AVR80) |

| <b>MISCELLANEOUS</b> |            |                            |
|----------------------|------------|----------------------------|
| JU51                 | YP06020740 | PLUG, 4P                   |
| SU55                 | SR02010040 | ROTARY SWITCH, MASTER VOL. |

**PU94-POWER SW P.C. BOARD ( AVR80MK II )**

| <b>MISCELLANEOUS</b> |            |                    |
|----------------------|------------|--------------------|
| JU91                 | YP06006930 | PLUG, 3P           |
| JU92                 | YP06006930 | PLUG, 3P           |
| SU91                 | SP02011570 | PUSH SWITCH, POWER |

**PV04-DIRECT IN P.C. BOARD**

| <b>CAPACITORS</b> |            |                                          |
|-------------------|------------|------------------------------------------|
| CT04              | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> |
| CT05              | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> |
| CV01              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV02              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV03              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV04              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV05              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV06              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV07              | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%            |
| CV08              | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%            |
| CV09              | DF15104350 | FILM 0.1 $\mu$ F $\pm 5\%$               |
| CV10              | DF15104350 | FILM 0.1 $\mu$ F $\pm 5\%$               |
| CV11              | DF15104350 | FILM 0.1 $\mu$ F $\pm 5\%$               |
| CV12              | DF15104350 | FILM 0.1 $\mu$ F $\pm 5\%$               |
| CV13              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV14              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV15              | DK16101300 | CERAMIC 100PF $\pm 10\%$ <b>IB</b>       |
| CV16              | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> |
| CV17              | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> |
| CV18              | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> |
| CV19              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV20              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV21              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV22              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV23              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>       |
| CV24              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>       |
| CV25              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>       |
| CV26              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>       |
| CV27              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>       |
| CV28              | DK16151300 | CERAMIC 150PF $\pm 10\%$ <b>IB</b>       |
| CV31              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV32              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV33              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV34              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV35              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV36              | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CV37              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm 20\%$         |
| CV38              | EJ10700610 | ELECT 100 $\mu$ F 6.3V                   |
| CV39              | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%            |
| CV40              | DA17223110 | CERAMIC 0.022 $\mu$ F $\pm 20\%$         |
| CV41              | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%            |
| CV42              | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%            |
| CV43              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>       |
| CV44              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>       |
| CV45              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>       |
| CV46              | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b>       |

| Ref. No. | Part. No.  | Description                        |
|----------|------------|------------------------------------|
| CV47     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |
| CV48     | DK16221300 | CERAMIC 220PF $\pm 10\%$ <b>IB</b> |
| CV50     | DK16101300 | CERAMIC 100PF $\pm 10\%$ <b>IB</b> |
| CV97     | DK16101300 | CERAMIC 100PF $\pm 10\%$ <b>IB</b> |
| CV99     | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%     |

**RESISTORS**

|      |            |                              |
|------|------------|------------------------------|
| RT01 | GD05271160 | 1/6W 270 $\Omega$ $\pm 5\%$  |
| RT02 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RT05 | GD05271160 | 1/6W 270 $\Omega$ $\pm 5\%$  |
| RT07 | GD05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$ |
| RT20 | GD05220160 | 1/6W 22 $\Omega$ $\pm 5\%$   |
| RV01 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RV02 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RV03 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RV04 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RV05 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RV06 | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$   |
| RV07 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV08 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV09 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV10 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV11 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV12 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV13 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV14 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV15 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV16 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV17 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV18 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV21 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV22 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV23 | GD05153160 | 1/6W 15K $\Omega$ $\pm 5\%$  |
| RV24 | GD05153160 | 1/6W 15K $\Omega$ $\pm 5\%$  |
| RV25 | GD05153160 | 1/6W 15K $\Omega$ $\pm 5\%$  |
| RV26 | GD05153160 | 1/6W 15K $\Omega$ $\pm 5\%$  |
| RV27 | GD05223160 | 1/6W 22K $\Omega$ $\pm 5\%$  |
| RV28 | GD05223160 | 1/6W 22K $\Omega$ $\pm 5\%$  |
| RV29 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV30 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV33 | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |
| RV34 | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |
| RV35 | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |
| RV36 | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$  |
| RV37 | GD05562160 | 1/6W 5.6K $\Omega$ $\pm 5\%$ |
| RV38 | GD05562160 | 1/6W 5.6K $\Omega$ $\pm 5\%$ |
| RV39 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV40 | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$ |
| RV41 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV42 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV43 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV44 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV45 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |
| RV46 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$  |

**INTEGRATED CIRCUITS**

|      |            |                                     |
|------|------------|-------------------------------------|
| QT04 | HC713200A0 | IC 74LS132 Quad 2input NAND Schmitt |
| QV01 | HC10008090 | IC NJM4558DD Dual OP AMP            |
| QV02 | HC10008090 | IC NJM4558DD Dual OP AMP            |
| QV03 | HC10008090 | IC NJM4558DD Dual OP AMP            |
| QV04 | HC10309030 | IC LC78212 Analogue Switch          |
| QV05 | HC10008090 | IC NJM4558DD Dual OP AMP            |
| QV06 | HC10310030 | IC LC78213 Analogue Switch          |
| QV07 | HC10008090 | IC NJM4558DD Dual OP AMP            |

**TRANSISTORS**

|      |            |                   |
|------|------------|-------------------|
| QT01 | HW10006320 | PHOTO UNIT PC-817 |
| QT02 | HW10006320 | PHOTO UNIT PC-817 |

| Ref. No.      | Part. No.  | Description      |
|---------------|------------|------------------|
| QT05          | BA10007210 | DIGITAL DTA114ES |
| <b>DIODES</b> |            |                  |
| DV01          | HD20002000 | 1SS176           |
| DV02          | HD20002000 | 1SS176           |

**MISCELLANEOUS**

|      |            |                                     |
|------|------------|-------------------------------------|
| JT01 | YJ11000500 | JACK, 8P DIN                        |
| JT02 | YJ01004220 | JACK, MINI                          |
| JT03 | YJ01004230 | JACK, MINI                          |
| JT04 | YP06003830 | PLUG, 3P                            |
| JV01 | YT02011020 | TERMINAL, 1P RCA PIN JACK <b>IB</b> |
| JV01 | YT02010780 | TERMINAL, 1P RCA PIN JACK <b>BK</b> |
| JV02 | YT02060540 | TERMINAL, 6P RCA PIN JACK <b>IB</b> |
| JV02 | YT02060500 | TERMINAL, 6P RCA PIN JACK <b>BK</b> |
| JV04 | YP06020940 | PLUG, 12P                           |
| JV05 | YP06020940 | PLUG, 12P                           |
| JV06 | YJ06030590 | JACK, 24P                           |
| JV07 | YP06020640 | PLUG, 14P                           |
| JV08 | YP06006720 | PLUG, 12P                           |
| JV09 | YL01010140 | TERMINAL, GND                       |
| JV10 | YP06020940 | PLUG, 12P                           |
| JV11 | YL01010140 | TERMINAL, GND                       |
| LV04 | FM12223010 | EMI FILTER                          |
| LV05 | FM12223010 | EMI FILTER                          |
| LV06 | FM12223010 | EMI FILTER                          |
| WV01 | YB00040430 | CONNECTIVE CORD, 1P                 |

**PW04-H.P P.C. BOARD**
**CAPACITORS**

|      |            |                                          |
|------|------------|------------------------------------------|
| CW01 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> |
| CW02 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> |
| CW03 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> |

**MISCELLANEOUS**

|      |            |                     |
|------|------------|---------------------|
| JW01 | YJ01004240 | JACK, PHONE         |
| JW02 | YP06010450 | PLUG, 5P            |
| WW01 | YB00152110 | CONNECTIVE CORD, 1P |

**PY04-CONNECT P.C. BOARD**
**CAPACITORS**

|      |            |                                          |
|------|------------|------------------------------------------|
| CS91 | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CS92 | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| CY01 | EJ47502510 | ELECT 4.7 $\mu$ F 25V                    |
| CY02 | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%            |
| CY04 | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%            |
| CY06 | DD15470300 | CERAMIC 47PF $\pm 5\%$ <b>IB</b>         |
| CY07 | DD15470300 | CERAMIC 47PF $\pm 5\%$                   |
| CY08 | DD15470300 | CERAMIC 47PF $\pm 5\%$ <b>BK</b>         |
| CY09 | DD15470300 | CERAMIC 47PF $\pm 5\%$                   |
| CY10 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>BK</b> |
| CY12 | DD15470300 | CERAMIC 47PF $\pm 5\%$                   |
| CY14 | DD38104010 | CERAMIC 0.1 $\mu$ F +80% -20%            |
| CY15 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%           |

**RESISTORS**

|      |            |                             |
|------|------------|-----------------------------|
| RS91 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$ |
| RS92 | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$ |
| RY01 | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$ |

| Ref. No. | Part. No.  | Description                          |
|----------|------------|--------------------------------------|
| RY02     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY03     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY04     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY05     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY06     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY07     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY08     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY09     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY10     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY11     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY12     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY13     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY14     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY15     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY18     | GD05472160 | 1/6W 4.7K $\Omega$ $\pm 5\%$         |
| RY19     | GD05472160 | 1/6W 4.7K $\Omega$ $\pm 5\%$         |
| RY20     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY21     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY22     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY23     | GD05332160 | 1/6W 3.3K $\Omega$ $\pm 5\%$         |
| RY24     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY25     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY26     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY27     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY28     | GD05472160 | 1/6W 4.7K $\Omega$ $\pm 5\%$         |
| RY29     | GD05472160 | 1/6W 4.7K $\Omega$ $\pm 5\%$         |
| RY30     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY31     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY32     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| RY33     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$          |
| UY97     | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$ <b>IB</b> |

**INTEGRATED CIRCUITS**

|      |            |                                      |
|------|------------|--------------------------------------|
| QY09 | HC38115090 | IC NJM78L15A Voltage Regulator       |
| 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 |
| QY14 | BA10001000 | DIGITAL DTA114ES |
| QY15 | BA20002000 | DIGITAL DTC144ES |

**DIODES**

|      |            |             |
|------|------------|-------------|
| DY01 | HD20002000 | 1SS176      |
| DY02 | HD20002000 | 1SS176      |
| DY03 | HD20002000 | 1SS176      |
| DY04 | HD20002000 | 1SS176      |
| DY05 | HD20002000 | 1SS176      |
| DY06 | HD20002000 | 1SS176      |
| DY07 | HD20002000 | 1SS176      |
| DY08 | 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 |
| JY03 | YP06020680 | PLUG, 20P |

| Ref. No. | Part. No.  | Description |
|----------|------------|-------------|
| 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 0.047 $\mu$ F +80% -20%          |
| CA03 | DD15150300 | CERAMIC 15PF $\pm 5\%$                   |
| CA04 | DF15391550 | FILM 390PF $\pm 5\%$                     |
| CA05 | DD15470300 | CERAMIC 47PF $\pm 5\%$                   |
| CA06 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%           |
| CA07 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> |
| CA08 | CT12000200 | TRIM.CAP. 20PF $\pm 1\%$ <b>IB</b>       |
| CA09 | DD15150300 | CERAMIC 15PF $\pm 5\%$ <b>IB</b>         |
| CA11 | DD15680300 | CERAMIC 68PF $\pm 5\%$ <b>IB</b>         |
| CA12 | DD15151300 | CERAMIC 150PF $\pm 5\%$ <b>IB</b>        |
| CA13 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> |
| CA14 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> |
| CA18 | EJ47502510 | ELECT 4.7 $\mu$ F 25V                    |
| C201 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%           |
| C202 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%           |
| C203 | DK18473310 | CERAMIC 0.047 $\mu$ F +80% -20%          |
| C204 | DK18473310 | CERAMIC 0.047 $\mu$ F +80% -20%          |
| C205 | EJ10505010 | ELECT 1 $\mu$ F 50V                      |
| C206 | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| C207 | EA10701610 | ELECT 100 $\mu$ F 16V                    |
| C208 | DK18473310 | CERAMIC 0.047 $\mu$ F +80% -20%          |
| C209 | EJ10505010 | ELECT 1 $\mu$ F 50V                      |
| C210 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%           |
| C211 | EJ22505010 | ELECT 2.2 $\mu$ F 50V                    |
| C212 | EJ10505010 | ELECT 1 $\mu$ F 50V                      |
| C213 | EJ47405010 | ELECT 0.47 $\mu$ F 50V                   |
| C214 | EA47603510 | ELECT 47 $\mu$ F 35V                     |
| C215 | DK18473310 | CERAMIC 0.047 $\mu$ F +80% -20%          |
| C216 | EA10701610 | ELECT 100 $\mu$ F 16V                    |
| C217 | DK16332300 | CERAMIC 3300PF $\pm 10\%$ <b>IB</b>      |
| C217 | DF15822350 | FILM 8200PF $\pm 5\%$ <b>BK</b>          |
| C218 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%           |
| C219 | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| C220 | DK16222300 | CERAMIC 2200PF $\pm 10\%$ <b>IB</b>      |
| C220 | DK16472300 | CERAMIC 4700PF $\pm 10\%$ <b>BK</b>      |
| C222 | DK16152300 | CERAMIC 1500PF $\pm 10\%$                |
| C223 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%           |
| C224 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b> |
| C225 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%           |
| C226 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%           |
| C227 | DK16272300 | CERAMIC 2700PF $\pm 10\%$ <b>BK</b>      |
| C233 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%           |
| C234 | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%           |
| C301 | DF15333310 | FILM 0.033 $\mu$ F $\pm 5\%$ <b>IB</b>   |
| C301 | DF15473310 | FILM 0.047 $\mu$ F $\pm 5\%$ <b>BK</b>   |
| C302 | DF15333310 | FILM 0.033 $\mu$ F $\pm 5\%$ <b>IB</b>   |
| C302 | DF15473310 | FILM 0.047 $\mu$ F $\pm 5\%$ <b>BK</b>   |
| C303 | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| C304 | EJ10601610 | ELECT 10 $\mu$ F 16V                     |
| C305 | EJ47502510 | ELECT 4.7 $\mu$ F 25V <b>IB</b>          |
| C306 | EJ47502510 | ELECT 4.7 $\mu$ F 25V <b>IB</b>          |
| C307 | EJ10601610 | ELECT 10 $\mu$ F 16V <b>IB</b>           |
| C308 | EJ10601610 | ELECT 10 $\mu$ F 16V <b>IB</b>           |
| C311 | EJ47502510 | ELECT 4.7 $\mu$ F 25V                    |
| C312 | EJ47502510 | ELECT 4.7 $\mu$ F 25V                    |

| Ref. No. | Part. No.  | Description                               | Ref. No. | Part. No.  | Description                           |
|----------|------------|-------------------------------------------|----------|------------|---------------------------------------|
| C313     | EJ10601610 | ELECT 10 $\mu$ F 16V <b>IB</b>            | R306     | GD05153160 | 1/6W 15K $\Omega$ $\pm$ 5% <b>IB</b>  |
| C314     | EA47603510 | ELECT 47 $\mu$ F 35V <b>IB</b>            | R307     | GD05221160 | 1/6W 220 $\Omega$ $\pm$ 5%            |
| C315     | DK16151300 | CERAMIC 150PF $\pm$ 10% <b>IB</b>         | R308     | GD05221160 | 1/6W 220 $\Omega$ $\pm$ 5%            |
| C316     | DK16151300 | CERAMIC 150PF $\pm$ 10% <b>IB</b>         | R309     | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5%            |
| C317     | DK16101300 | CERAMIC 100PF $\pm$ 10% <b>IB</b>         | R310     | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5%            |
| C318     | DK16101300 | CERAMIC 100PF $\pm$ 10% <b>IB</b>         | R311     | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5% <b>IB</b>  |
| C501     | DD15470300 | CERAMIC 47PF $\pm$ 5%                     | R312     | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5% <b>IB</b>  |
| C502     | DD15470300 | CERAMIC 47PF $\pm$ 5%                     | R313     | GG05221140 | 1/4W 220 $\Omega$ $\pm$ 5% <b>IB</b>  |
| C503     | EA10700610 | ELECT 100 $\mu$ F 6.3V                    | R501     | GD05102160 | 1/6W 1K $\Omega$ $\pm$ 5%             |
| C504     | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%            | R502     | GD05332160 | 1/6W 3.3K $\Omega$ $\pm$ 5%           |
| C505     | EJ10505010 | ELECT 1 $\mu$ F 50V                       | R503     | GD05102160 | 1/6W 1K $\Omega$ $\pm$ 5%             |
| C506     | EJ10405010 | ELECT 0.1 $\mu$ F 50V                     | R504     | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5%            |
| C507     | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%            | R506     | GD05102160 | 1/6W 1K $\Omega$ $\pm$ 5%             |
| C508     | EA10701610 | ELECT 100 $\mu$ F 16V                     | R507     | GD05332160 | 1/6W 3.3K $\Omega$ $\pm$ 5%           |
| C509     | DK16101300 | CERAMIC 100PF $\pm$ 10%                   | R508     | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5%            |
| C510     | DK16101300 | CERAMIC 100PF $\pm$ 10%                   | R510     | GD05102160 | 1/6W 1K $\Omega$ $\pm$ 5%             |
| C511     | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20%            | R511     | GD05102160 | 1/6W 1K $\Omega$ $\pm$ 5%             |
| C901     | EA10700610 | ELECT 100 $\mu$ F 6.3V <b>IB</b>          | R512     | GA05271010 | 1W 270 $\Omega$ $\pm$ 5%              |
| C902     | EJ10601610 | ELECT 10 $\mu$ F 16V <b>IB</b>            | R513     | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5%            |
| C903     | DK16332300 | CERAMIC 3300PF $\pm$ 10% <b>IB</b>        | R514     | GG05470160 | 1/6W 47 $\Omega$ $\pm$ 5%             |
| C904     | DK16332300 | CERAMIC 3300PF $\pm$ 10% <b>IB</b>        | R515     | GD05683160 | 1/6W 68K $\Omega$ $\pm$ 5%            |
| C905     | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b>  | R516     | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5%            |
| C906     | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b>  | R517     | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5%            |
| C907     | EJ10601610 | ELECT 10 $\mu$ F 16V <b>IB</b>            | R901     | GD05333160 | 1/6W 33K $\Omega$ $\pm$ 5% <b>IB</b>  |
| C908     | EJ10601610 | ELECT 10 $\mu$ F 16V <b>IB</b>            | R902     | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% <b>IB</b>  |
| C909     | EJ47502510 | ELECT 4.7 $\mu$ F 25V <b>IB</b>           | R903     | GD05223160 | 1/6W 22K $\Omega$ $\pm$ 5% <b>IB</b>  |
| C910     | EJ10601610 | ELECT 10 $\mu$ F 16V <b>IB</b>            | R904     | GD05102160 | 1/6W 1K $\Omega$ $\pm$ 5% <b>IB</b>   |
| C911     | DK18223310 | CERAMIC 0.022 $\mu$ F +80% -20% <b>IB</b> | R905     | GD05682160 | 1/6W 6.8K $\Omega$ $\pm$ 5% <b>IB</b> |
| C912     | DF15333310 | FILM 0.033 $\mu$ F $\pm$ 5% <b>IB</b>     | R907     | GD05102160 | 1/6W 1K $\Omega$ $\pm$ 5% <b>IB</b>   |
| C913     | DF15333310 | FILM 0.033 $\mu$ F $\pm$ 5% <b>IB</b>     | R908     | GD05332160 | 1/6W 3.3K $\Omega$ $\pm$ 5% <b>IB</b> |
| C914     | DF15682350 | FILM 0.0068 $\mu$ F $\pm$ 5% <b>IB</b>    | R909     | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% <b>IB</b>  |
| C915     | DK18103310 | CERAMIC 0.01 $\mu$ F +80% -20% <b>IB</b>  | R910     | GA05221010 | 1W 220 $\Omega$ $\pm$ 5% <b>IB</b>    |
| C916     | DD15470300 | CERAMIC 47PF $\pm$ 5% <b>IB</b>           | R911     | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% <b>IB</b>  |

## RESISTORS

|      |            |                                       |
|------|------------|---------------------------------------|
| RA01 | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5%            |
| RA02 | GD05104160 | 1/6W 100K $\Omega$ $\pm$ 5%           |
| RA03 | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% <b>IB</b>  |
| RA04 | GD05154160 | 1/6W 150K $\Omega$ $\pm$ 5% <b>IB</b> |
| RA06 | GD05104160 | 1/6W 100K $\Omega$ $\pm$ 5% <b>IB</b> |
| RA07 | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% <b>IB</b>  |
| RA08 | GD05154160 | 1/6W 150K $\Omega$ $\pm$ 5% <b>IB</b> |
| RA09 | GD05222160 | 1/6W 2.2K $\Omega$ $\pm$ 5% <b>IB</b> |
| R102 | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% <b>IB</b>  |
| R103 | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% <b>IB</b>  |
| R201 | GD05101160 | 1/6W 100 $\Omega$ $\pm$ 5% <b>BK</b>  |
| R202 | GD05471160 | 1/6W 470 $\Omega$ $\pm$ 5% <b>IB</b>  |
| R202 | GD05391160 | 1/6W 390 $\Omega$ $\pm$ 5% <b>BK</b>  |
| R203 | GD05222160 | 1/6W 2.2K $\Omega$ $\pm$ 5%           |
| R204 | GD05471160 | 1/6W 470 $\Omega$ $\pm$ 5%            |
| R205 | GD05331160 | 1/6W 330 $\Omega$ $\pm$ 5%            |
| R206 | GD05153160 | 1/6W 15 $\Omega$ $\pm$ 5%             |
| R207 | GG05181140 | 1/4W 180 $\Omega$ $\pm$ 5%            |
| R208 | GD05392160 | 1/6W 3.9K $\Omega$ $\pm$ 5%           |
| R209 | GD05104160 | 1/6W 100K $\Omega$ $\pm$ 5%           |
| R210 | GD05332160 | 1/6W 3.3K $\Omega$ $\pm$ 5%           |
| R213 | GD05220160 | 1/6W 22 $\Omega$ $\pm$ 5%             |
| R214 | GD05473160 | 1/6W 47K $\Omega$ $\pm$ 5%            |
| R215 | GD05154160 | 1/6W 150K $\Omega$ $\pm$ 5% <b>IB</b> |
| R215 | GD05333160 | 1/6W 33K $\Omega$ $\pm$ 5% <b>BK</b>  |
| R216 | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5%            |
| R217 | GG05181140 | 1/4W 180 $\Omega$ $\pm$ 5% <b>IB</b>  |
| R217 | GG05221140 | 1/4W 220 $\Omega$ $\pm$ 5% <b>BK</b>  |
| R219 | GD05334160 | 1/6W 330K $\Omega$ $\pm$ 5%           |
| R301 | GD05104160 | 1/6W 100K $\Omega$ $\pm$ 5% <b>IB</b> |
| R302 | GD05104160 | 1/6W 100K $\Omega$ $\pm$ 5% <b>IB</b> |
| R303 | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% <b>IB</b>  |
| R304 | GD05103160 | 1/6W 10K $\Omega$ $\pm$ 5% <b>IB</b>  |
| R305 | GD05153160 | 1/6W 15K $\Omega$ $\pm$ 5% <b>IB</b>  |

|      |            |                                       |
|------|------------|---------------------------------------|
| RA11 | RA02230780 | TRIM-POTS 22K $\Omega$                |
| R211 | RA02230780 | TRIM-POTS 22K $\Omega$ (B)            |
| R212 | RA04720780 | TRIM-POTS 4.7K $\Omega$ (B)           |
| R218 | RA04720780 | TRIM-POTS 4.7K $\Omega$ (B) <b>IB</b> |
| R906 | RA04720780 | TRIM-POTS 4.7K $\Omega$ (B) <b>IB</b> |

## INTEGRATED CIRCUITS

|      |            |                                    |
|------|------------|------------------------------------|
| Q201 | HC10342030 | IC LA1836 FM/AM IF, MPX IC         |
| Q301 | HC10008090 | IC NJM4558DD <b>IB</b> Dual OP AMP |
| Q501 | HC10221030 | IC LC7218                          |
|      |            | PLL Frequency Synthesizer          |
| Q901 | HC10315030 | IC LA2232 <b>IB</b>                |
|      |            | RDS Demodulator                    |
| Q902 | HC10333030 | IC LC7073 <b>IB</b>                |
|      |            | RDS Error Corrector                |

## TRANSISTORS

|      |            |                            |
|------|------------|----------------------------|
| QA01 | HT30001000 | 2SC536SP <b>IB</b>         |
| QA02 | HT30001000 | 2SC536SP <b>IB</b>         |
| QA03 | HT421442A0 | 2SD2144S (U, V) <b>IB</b>  |
| QA04 | BA10002000 | DIGITAL DTA144ES <b>IB</b> |
| QA05 | BA10002000 | DIGITAL DTA144ES <b>IB</b> |
| Q202 | HT318091P0 | 2SC1809SP                  |
| Q203 | BA10007210 | DIGITAL DTA114ES           |
| Q204 | BA20002000 | DIGITAL DTC144ES           |
| Q503 | HT30001000 | 2SC536SP                   |
| Q903 | HT30001000 | 2SC536SP <b>IB</b>         |

## F.E.T.

|      |            |          |
|------|------------|----------|
| Q502 | HF200300B0 | 2SK30ATM |
|------|------------|----------|

## DIODES

|      |            |                            |
|------|------------|----------------------------|
| DA01 | HD40009030 | VARICAP SVC342-L           |
| DA02 | HD20017210 | 1SS135 <b>IB</b>           |
| DA03 | HD40009030 | VARICAP SVC342-L <b>IB</b> |
| DA04 | HD20017210 | 1SS135 <b>IB</b>           |



| Ref. No. | Part. No.  | Description                      | Ref. No. | Part. No.  | Description             |
|----------|------------|----------------------------------|----------|------------|-------------------------|
| DA05     | HD20002000 | 1SS176                           | CR34     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| DA06     | HD20002000 | 1SS176                           | CR35     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| D201     | HD20002000 | 1SS176                           | CR36     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| D202     | HD30681000 | ZENER 6.8V                       | CR37     | EY10700620 | ELECT 100μF 6.3V        |
| D501     | HD30511000 | ZENER 5.1V                       | CR38     | DK96103200 | CERAMIC 0.01μF ±10%     |
| D901     | HD30511000 | ZENER 5.1V <b>IB</b>             | CR39     | EY10601620 | ELECT 10μF 16V          |
|          |            |                                  | CR40     | EY10601620 | ELECT 10μF 16V          |
|          |            | <b>COILS</b>                     | CR41     | DD95101300 | CERAMIC 100PF ±5%       |
| LA01     | LA10295170 | ANT, MW 280μH                    | CR42     | DD95101300 | CERAMIC 100PF ±5%       |
| LA02     | LO70013010 | OSC, MW                          | CR43     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| LA03     | LA10295160 | ANT, LW <b>IB</b>                | CR44     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| LA04     | LO70013020 | OSC, LW <b>IB</b>                | CR45     | DD95331300 | CERAMIC 330PF ±5%       |
| LA05     | LC23960710 | CHOKER, 39mH                     | CR46     | DK96104200 | CERAMIC 0.1μF ±10%      |
| L201     | LI70376010 | I.F.T., FM DET                   | CR47     | DD95151300 | CERAMIC 150PF ±5%       |
| L301     | LS10293020 | M.P.X., 19.38KHz                 | CR48     | DK96473200 | CERAMIC 0.047μF ±10%    |
| L302     | LS10293020 | M.P.X., 19.38KHz                 | CR49     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| L501     | LC14733800 | CHOKER, 47μH                     | CR50     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| L502     | LC14733800 | CHOKER, 47μH                     | CR61     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| L503     | LC14733800 | CHOKER, 47μH                     | CR62     | EY10700620 | ELECT 100μF 6.3V        |
| L504     | LC14733800 | CHOKER, 47μH                     | CR63     | EY10700620 | ELECT 100μF 6.3V        |
|          |            | <b>MISCELLANEOUS</b>             | CR64     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| A101     | AV01203020 | VHF TUNER, FE415-G11 <b>IB</b>   | CR65     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| A101     | AV01202220 | VHF TUNER, FE337-A05 <b>BK</b>   | CR66     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| F201     | FF11070620 | CERAMIC FILTER <b>IB</b>         | CR67     | EY10700620 | ELECT 100μF 6.3V        |
| F201     | FF11070610 | CERAMIC FILTER <b>BK</b>         | CR68     | DK96103200 | CERAMIC 0.01μF ±10%     |
| F202     | FF11070620 | CERAMIC FILTER                   | CR69     | EY10601620 | ELECT 10μF 16V          |
| J101     | YT03030020 | TERMINAL, ANT <b>IB</b>          | CR70     | EY10601620 | ELECT 10μF 16V          |
| J101     | YT03030080 | TERMINAL, ANT <b>BK</b>          | CR71     | DD95101300 | CERAMIC 100PF ±5%       |
| J102     | YL01010140 | TERMINAL, GND                    | CR72     | DD95101300 | CERAMIC 100PF ±5%       |
| J301     | YP06020640 | PLUG, 14P                        | CR73     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| LA06     | FF10045330 | CERAMIC FILTER                   | CR74     | DK98104200 | CERAMIC 0.1μF +80% -20% |
| X201     | FQ04563040 | CERAMIC VIB.                     | CR75     | DD95331300 | CERAMIC 330PF ±5%       |
| X501     | JX07001260 | CRYSTAL, 7.2MHz                  | CR76     | DD95331300 | CERAMIC 330PF ±5%       |
| X901     | FQ04563040 | CERAMIC VIB. CSB456F33 <b>IB</b> | CR77     | DD95151300 | CERAMIC 150PF ±5%       |
| X902     | FQ04004030 | CERAMIC VIB. 4.00MHz <b>IB</b>   | 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%       |
|          |            |                                  | C607     | DK98104200 | CERAMIC 0.1μF +80% -20% |
|          |            |                                  | C608     | DK98104200 | CERAMIC 0.1μF +80% -20% |
|          |            |                                  | C609     | DK98104200 | CERAMIC 0.1μF +80% -20% |
|          |            |                                  | C610     | DK98104200 | CERAMIC 0.1μF +80% -20% |
|          |            |                                  | C611     | DK98104200 | CERAMIC 0.1μF +80% -20% |
|          |            |                                  | C612     | DK98104200 | CERAMIC 0.1μF +80% -20% |
|          |            |                                  | C617     | DK98104200 | CERAMIC 0.1μF +80% -20% |
|          |            |                                  | C618     | DK98104200 | CERAMIC 0.1μF +80% -20% |
|          |            |                                  | C619     | DD95471370 | CERAMIC 470PF ±5%       |
|          |            |                                  | C620     | DD95471370 | CERAMIC 470PF ±5%       |
|          |            |                                  | C621     | EY10601620 | ELECT 10μF 16V          |
|          |            |                                  | C622     | EY10601620 | ELECT 10μF 16V          |
|          |            |                                  | C623     | DK98104200 | CERAMIC 0.1μF +80% -20% |
|          |            |                                  | C624     | EY10700620 | ELECT 100μF 6.3V        |
|          |            |                                  | C625     | EY10700620 | ELECT 100μF 6.3V        |
|          |            |                                  | C626     | DK98104200 | CERAMIC 0.1μF +80% -20% |
|          |            |                                  | 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% |
|          |            |                                  | C635     | DK96103200 | CERAMIC 0.01μF ±10%     |
|          |            |                                  | C636     | DK96103200 | CERAMIC 0.01μF ±10%     |
|          |            |                                  | C637     | DK96103200 | CERAMIC 0.01μF ±10%     |
|          |            |                                  | C638     | DK96103200 | CERAMIC 0.01μF ±10%     |
|          |            |                                  | C651     | DK98104200 | CERAMIC 0.1μF +80% -20% |

## 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% |
| CR20 | DK98104200 | CERAMIC 0.1μF +80% -20% |
| CR31 | DK98104200 | CERAMIC 0.1μF +80% -20% |
| CR32 | EY10700620 | ELECT 100μF 6.3V        |
| CR33 | EY10700620 | ELECT 100μF 6.3V        |

| Ref. No. | Part. No.  | Description             | Ref. No. | Part. No.  | Description      |
|----------|------------|-------------------------|----------|------------|------------------|
| C652     | EY10700620 | ELECT 100μF 6.3V        | RR77     | NN05000610 | 1/16W 0 Ω ±5%    |
| C653     | DK98104200 | CERAMIC 0.1μF +80% -20% | RR81     | NN05000610 | 1/16W 0 Ω ±5%    |
| C654     | EY10700620 | ELECT 100μF 6.3V        | RR82     | NN05000610 | 1/16W 0 Ω ±5%    |
| C657     | DK98104200 | CERAMIC 0.1μF +80% -20% | RR85     | NN05000610 | 1/16W 0 Ω ±5%    |
| C658     | EY10700620 | ELECT 100μF 6.3V        | R601     | NN05102610 | 1/16W 1K Ω ±5%   |
| C659     | DK98104200 | CERAMIC 0.1μF +80% -20% | R602     | NN05102610 | 1/16W 1K Ω ±5%   |
| C660     | EY10700620 | ELECT 100μF 6.3V        | R603     | NN05473610 | 1/16W 47K Ω ±5%  |
| C661     | DK98104200 | CERAMIC 0.1μF +80% -20% | R604     | NN05473610 | 1/16W 47K Ω ±5%  |
| C662     | EY10700620 | ELECT 100μF 6.3V        | R605     | NN05103610 | 1/16W 10K Ω ±5%  |
| C663     | DK98104200 | CERAMIC 0.1μF +80% -20% | R606     | NN05103610 | 1/16W 10K Ω ±5%  |
| C664     | EY10700620 | ELECT 100μF 6.3V        | R607     | NN05103610 | 1/16W 10K Ω ±5%  |
| C665     | DK98104200 | CERAMIC 0.1μF +80% -20% | R608     | NN05103610 | 1/16W 10K Ω ±5%  |
| C666     | EY10700620 | ELECT 100μF 6.3V        | R609     | NN05103610 | 1/16W 10K Ω ±5%  |
| C667     | DK98104200 | CERAMIC 0.1μF +80% -20% | R610     | NN05103610 | 1/16W 10K Ω ±5%  |
| C668     | EY10700620 | ELECT 100μF 6.3V        | R611     | NN05103610 | 1/16W 10K Ω ±5%  |
| C671     | EY10601620 | ELECT 10μF 16V          | R612     | NN05103610 | 1/16W 10K Ω ±5%  |
| C672     | DK98104200 | CERAMIC 0.1μF +80% -20% | R613     | NN05103610 | 1/16W 10K Ω ±5%  |
| C673     | EY10601620 | ELECT 10μF 16V          | R614     | NN05103610 | 1/16W 10K Ω ±5%  |
| C676     | DK98104200 | CERAMIC 0.1μF +80% -20% | R615     | NN05221610 | 1/16W 220 Ω ±5%  |
| C677     | DK98104200 | CERAMIC 0.1μF +80% -20% | R616     | NN05221610 | 1/16W 220 Ω ±5%  |
| C678     | DD95101300 | CERAMIC 100PF ±5%       | R617     | NN05103610 | 1/16W 10K Ω ±5%  |
| C679     | DD95101300 | CERAMIC 100PF ±5%       | R618     | NN05103610 | 1/16W 10K Ω ±5%  |
| C681     | DK96103200 | CERAMIC 0.01μF ±10%     | R619     | NN05221610 | 1/16W 220 Ω ±5%  |
| C682     | EY10601620 | ELECT 10μF 16V          | R620     | NN05221610 | 1/16W 220 Ω ±5%  |
| C683     | DK96102300 | CERAMIC 1000PF ±5%      | R621     | NN05103610 | 1/16W 10K Ω ±5%  |
| C684     | DK98104200 | CERAMIC 0.1μF +80% -20% | R622     | NN05000610 | 1/16W 0 Ω ±5%    |
| C685     | DK98104200 | CERAMIC 0.1μF +80% -20% | R661     | NN05222610 | 1/16W 2.2K Ω ±5% |
| C686     | EY10700620 | ELECT 100μF 6.3V        | R662     | NN05222610 | 1/16W 2.2K Ω ±5% |
| C687     | DK96103200 | CERAMIC 0.01μF ±10%     | R666     | NN05222610 | 1/16W 2.2K Ω ±5% |
| C688     | DK98104200 | CERAMIC 0.1μF +80% -20% | R667     | NN05222610 | 1/16W 2.2K Ω ±5% |
| C689     | DD95120300 | CERAMIC 12PF ±5%        | R673     | NN05000610 | 1/16W 0 Ω ±5%    |
| C690     | DD95120300 | CERAMIC 12PF ±5%        | R674     | NN05000610 | 1/16W 0 Ω ±5%    |
| C691     | DK98104200 | CERAMIC 0.1μF +80% -20% | R681     | NN05473610 | 1/16W 47K Ω ±5%  |
| C692     | DK98104200 | CERAMIC 0.1μF +80% -20% | R682     | NN05222610 | 1/16W 2.2K Ω ±5% |
| C693     | DK98104200 | CERAMIC 0.1μF +80% -20% | R683     | NN05750610 | 1/16W 75 Ω ±5%   |
| C694     | EY10700620 | ELECT 100μF 6.3V        | R684     | NN05563610 | 1/16W 56K Ω ±5%  |

## RESISTORS, CHIP

|      |            |       |               |           |
|------|------------|-------|---------------|-----------|
| C641 | NN05000610 | 1/16W | 0 $\Omega$    | $\pm 5\%$ |
| C642 | NN05000610 | 1/16W | 0 $\Omega$    | $\pm 5\%$ |
| C656 | NN05000610 | 1/16W | 0 $\Omega$    | $\pm 5\%$ |
| RR01 | NN05682610 | 1/16W | 6.8K $\Omega$ | $\pm 5\%$ |
| RR02 | NN05682610 | 1/16W | 6.8K $\Omega$ | $\pm 5\%$ |
| RR03 | NN05103610 | 1/16W | 10K $\Omega$  | $\pm 5\%$ |
| RR04 | NN05103610 | 1/16W | 10K $\Omega$  | $\pm 5\%$ |
| RR05 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR06 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR07 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR08 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR09 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR10 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR21 | NN05682610 | 1/16W | 6.8K $\Omega$ | $\pm 5\%$ |
| RR22 | NN05682610 | 1/16W | 6.8K $\Omega$ | $\pm 5\%$ |
| RR23 | NN05103610 | 1/16W | 10K $\Omega$  | $\pm 5\%$ |
| RR24 | NN05103610 | 1/16W | 10K $\Omega$  | $\pm 5\%$ |
| RR25 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR26 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR27 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR28 | NN05273610 | 1/16W | 27K $\Omega$  | $\pm 5\%$ |
| RR29 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR30 | NN05273610 | 1/16W | 27K $\Omega$  | $\pm 5\%$ |
| RR41 | NN05473610 | 1/16W | 47K $\Omega$  | $\pm 5\%$ |
| RR42 | NN05473610 | 1/16W | 47K $\Omega$  | $\pm 5\%$ |
| RR43 | NN05103610 | 1/16W | 10K $\Omega$  | $\pm 5\%$ |
| RR44 | NN05103610 | 1/16W | 10K $\Omega$  | $\pm 5\%$ |
| RR45 | NN05103610 | 1/16W | 10K $\Omega$  | $\pm 5\%$ |
| RR46 | NN05103610 | 1/16W | 10K $\Omega$  | $\pm 5\%$ |
| RR47 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR48 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR49 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |
| RR50 | NN05223610 | 1/16W | 22K $\Omega$  | $\pm 5\%$ |

| Ref. No. | Part. No.  | Description                   |
|----------|------------|-------------------------------|
| RR77     | NN05000610 | 1/16W 0 $\Omega$ $\pm 5\%$    |
| RR81     | NN05000610 | 1/16W 0 $\Omega$ $\pm 5\%$    |
| RR82     | NN05000610 | 1/16W 0 $\Omega$ $\pm 5\%$    |
| RR85     | NN05000610 | 1/16W 0 $\Omega$ $\pm 5\%$    |
| R601     | NN05102610 | 1/16W 1K $\Omega$ $\pm 5\%$   |
| R602     | NN05102610 | 1/16W 1K $\Omega$ $\pm 5\%$   |
| R603     | NN05473610 | 1/16W 47K $\Omega$ $\pm 5\%$  |
| R604     | NN05473610 | 1/16W 47K $\Omega$ $\pm 5\%$  |
| R605     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R606     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R607     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R608     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R609     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R610     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R611     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R612     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R613     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R614     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R615     | NN05221610 | 1/16W 220 $\Omega$ $\pm 5\%$  |
| R616     | NN05221610 | 1/16W 220 $\Omega$ $\pm 5\%$  |
| R617     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R618     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R619     | NN05221610 | 1/16W 220 $\Omega$ $\pm 5\%$  |
| R620     | NN05221610 | 1/16W 220 $\Omega$ $\pm 5\%$  |
| R621     | NN05103610 | 1/16W 10K $\Omega$ $\pm 5\%$  |
| R622     | NN05000610 | 1/16W 0 $\Omega$ $\pm 5\%$    |
| R661     | NN05222610 | 1/16W 2.2K $\Omega$ $\pm 5\%$ |
| R662     | NN05222610 | 1/16W 2.2K $\Omega$ $\pm 5\%$ |
| R666     | NN05222610 | 1/16W 2.2K $\Omega$ $\pm 5\%$ |
| R667     | NN05222610 | 1/16W 2.2K $\Omega$ $\pm 5\%$ |
| R673     | NN05000610 | 1/16W 0 $\Omega$ $\pm 5\%$    |
| R674     | NN05000610 | 1/16W 0 $\Omega$ $\pm 5\%$    |
| R681     | NN05473610 | 1/16W 47K $\Omega$ $\pm 5\%$  |
| R682     | NN05222610 | 1/16W 2.2K $\Omega$ $\pm 5\%$ |
| R683     | NN05750610 | 1/16W 75 $\Omega$ $\pm 5\%$   |
| R684     | NN05563610 | 1/16W 56K $\Omega$ $\pm 5\%$  |
| R685     | NN05333610 | 1/16W 33K $\Omega$ $\pm 5\%$  |
| R686     | NN05123610 | 1/16W 12K $\Omega$ $\pm 5\%$  |
| R687     | NN05562610 | 1/16W 5.6K $\Omega$ $\pm 5\%$ |
| R688     | NN05562610 | 1/16W 5.6K $\Omega$ $\pm 5\%$ |
| R689     | NN05121610 | 1/16W 120 $\Omega$ $\pm 5\%$  |
| R690     | NN05224610 | 1/16W 220K $\Omega$ $\pm 5\%$ |
| R691     | NN05471610 | 1/16W 470 $\Omega$ $\pm 5\%$  |
| R692     | NN05123610 | 1/16W 12K $\Omega$ $\pm 5\%$  |
| R693     | NN05750610 | 1/16W 75 $\Omega$ $\pm 5\%$   |
| R694     | NN05000610 | 1/16W 0 $\Omega$ $\pm 5\%$    |
| R697     | NN05104610 | 1/16W 100K $\Omega$ $\pm 5\%$ |
| L606     | NN05000610 | 1/16W 0 $\Omega$ $\pm 5\%$    |
| L607     | RI05000180 | 1/8W 0 $\Omega$ $\pm 5\%$     |

## INTEGRATED CIRCUITS

|      |            |    |              |                            |
|------|------------|----|--------------|----------------------------|
| Q601 | HC10359030 | IC | LC83016JE    | Digital Signal Processor   |
| Q602 | HC10360030 | IC | LC83017JE    | Digital Signal Processor   |
| Q603 | HC10338030 | IC | LC32464PM-80 | 64kx4bit Dram              |
| Q604 | HC10338030 | IC | LC32464PM-80 | 64kx4bit Dram              |
| Q605 | HC10015480 | IC | AK4320 (DAC) | Digital Analogue Converter |
| Q606 | HC10015480 | IC | AK4320 (DAC) | Digital Analogue Converter |
| Q607 | HC10015480 | IC | AK4320 (DAC) | Digital Analogue Converter |
| Q608 | HC10016480 | IC | AK5389 (ADC) | Analogue Digital Converter |
| Q609 | HC10172090 | IC | NJM2115M     | Dual OP AMP                |
| 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                |
| Q615 | HC10011090 | IC | NJM4558M (Y) | Dual OP AMP                |

| Ref. No. | Part. No.  | Description                  | Ref. No. | Part. No.  | Description                  |
|----------|------------|------------------------------|----------|------------|------------------------------|
| Q616     | HC10011090 | IC NJM4558M (Y) Dual OP AMP  | C752     | DK16681300 | CERAMIC 680PF ±10% <b>IB</b> |
| Q617     | HC10011090 | IC NJM4558M (Y) Dual OP AMP  | C752     | DD15680300 | CERAMIC 68PF ±5% <b>BK</b>   |
| Q618     | HC10011090 | IC NJM4558M (Y) Dual OP AMP  | C753     | DK16331300 | CERAMIC 330PF ±10%           |
| Q619     | HC10339030 | IC LC8903Q                   | C754     | EA47700610 | ELECT 470μF 6.3V             |
|          |            | Digital Audio Interface      | C756     | OA10610020 | ELECT 10μF 100V              |
| Q620     | HC700400Z0 | IC 74HCU04 Hex Inverters     | C757     | DK16221300 | CERAMIC 220PF ±10%           |
| Q621     | HC700800Z0 | IC 74HC08                    | C758     | DD15470300 | CERAMIC 47PF ±5%             |
|          |            | Quad 2input AND gate         | C759     | EA10510010 | ELECT 1μF 100V               |
| Q622     | HC99005090 | IC NJM79L05UA                | C760     | OA47706320 | ELECT 470μF 63V              |
|          |            | Voltage Regulator            | C761     | OA47706320 | ELECT 470μF 63V              |
|          |            | <b>TRANSISTOR</b>            | C762     | EJ10405010 | ELECT 0.1μF 50V              |
| Q623     | BA20004210 | DIGITAL DTC144EK             | C763     | EJ10405010 | ELECT 0.1μF 50V              |
|          |            | <b>MISCELLANEOUS</b>         | ▲C801    | DK18103560 | CERAMIC 0.01μF +80% -20%     |
| J601     | YJ06031000 | JACK, 12P                    | ▲C802    | OB27906310 | ELECT 27000μF 63V            |
| J602     | YJ06031000 | JACK, 12P                    | ▲C803    | OB27906310 | ELECT 27000μF 63V            |
| J603     | YJ06031000 | JACK, 12P                    | ▲C804    | DK18103560 | CERAMIC 0.01μF +80% -20%     |
| L601     | FM32102010 | EMI FILTER                   | ▲C805    | EB10906380 | ELECT 10000μF 63V            |
| L602     | FN31000010 | FEI FILTER                   | ▲C806    | EB10906380 | ELECT 10000μF 63V            |
| L603     | FN31000010 | FEI FILTER                   | C807     | DK18103310 | CERAMIC 0.01μF +80% -20%     |
| L604     | FN31000010 | EMI FILTER                   | C808     | DK18103310 | CERAMIC 0.01μF +80% -20%     |
| L605     | FN31000010 | EMI FILTER                   | C809     | EA33802510 | ELECT 3300μF 25V             |
| X681     | FZ02255030 | CERAMIC RESONATOR 22.5792MHz | 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              |
|          |            |                              |          |            | <b>RESISTORS</b>             |
|          |            |                              | ▲RN01    | GG05122160 | 1/6W 1.2K Ω ±5%              |
|          |            |                              | ▲RN02    | GG05122160 | 1/6W 1.2K Ω ±5%              |
|          |            |                              | RN03     | GD05103160 | 1/6W 10K Ω ±5%               |
|          |            |                              | RN04     | GD05103160 | 1/6W 10K 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%               |

**P704-MAIN AMP P.C. BOARD**

**CAPACITORS**

|      |            |                                    |
|------|------------|------------------------------------|
| CN03 | EA22601610 | ELECT 22μF 16V                     |
| CN04 | EJ33505010 | ELECT 3.3μF 50V <b>IB</b>          |
| CN04 | EJ22505010 | ELECT 2.2μF 50V <b>BK</b>          |
| 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% <b>IB</b>       |
| CN14 | DK16101300 | CERAMIC 100PF ±10% <b>IB</b>       |
| CN15 | DK18103310 | CERAMIC 0.01μF +80% -20% <b>IB</b> |
| CN16 | DK18103310 | CERAMIC 0.01μF +80% -20% <b>IB</b> |
| C701 | OA47601020 | ELECT 47μF 10V                     |
| C702 | OA47601020 | ELECT 47μF 10V                     |
| C703 | DK16681300 | CERAMIC 680PF ±10% <b>IB</b>       |
| C703 | DD15680300 | CERAMIC 68PF ±5% <b>BK</b>         |
| C704 | DK16681300 | CERAMIC 680PF ±10% <b>IB</b>       |
| C704 | DD15680300 | CERAMIC 68PF ±5% <b>BK</b>         |
| 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                     |

| Ref. No. | Part. No.  | Description                           | Ref. No. | Part. No.  | Description                              |
|----------|------------|---------------------------------------|----------|------------|------------------------------------------|
| RN35     | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$            | ▲ R754   | GG05181140 | 1/4W 180 $\Omega$ $\pm 5\%$              |
| RN36     | GG05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$          | ▲ R755   | GG05100140 | 1/4W 10 $\Omega$ $\pm 5\%$               |
| RN41     | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$            | ▲ R756   | GG05100140 | 1/4W 10 $\Omega$ $\pm 5\%$               |
| RN42     | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$            | ▲ R757   | GG05100140 | 1/4W 10 $\Omega$ $\pm 5\%$               |
| ▲ RN43   | GG05101160 | 1/6W 100 $\Omega$ $\pm 5\%$           | ▲ R758   | GG05100140 | 1/4W 10 $\Omega$ $\pm 5\%$               |
| ▲ RN44   | GG05101160 | 1/6W 100 $\Omega$ $\pm 5\%$           | ▲ R759   | BZ10182020 | 0.18 $\Omega$ 5W x 2 ARRAY               |
| ▲ RN45   | GG05101160 | 1/6W 100 $\Omega$ $\pm 5\%$           | ▲ R760   | BZ10182020 | 0.18 $\Omega$ 5W x 2 ARRAY               |
| ▲ RN46   | GG05101160 | 1/6W 100 $\Omega$ $\pm 5\%$           | ▲ R761   | GG05100160 | 1/6W 10 $\Omega$ $\pm 5\%$               |
| ▲ RN51   | GG05122160 | 1/6W 1.2K $\Omega$ $\pm 5\%$          | ▲ R762   | GG05100160 | 1/6W 10 $\Omega$ $\pm 5\%$               |
| RN52     | GD05103160 | 1/6W 10K $\Omega$ $\pm 5\%$           | ▲ R763   | GA05100010 | 1W 10 $\Omega$ $\pm 5\%$                 |
| RN53     | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$            | ▲ R764   | GA05100010 | 1W 10 $\Omega$ $\pm 5\%$                 |
| RN54     | GD05223160 | 1/6W 22K $\Omega$ $\pm 5\%$           | R765     | GD05333160 | 1/6W 33K $\Omega$ $\pm 5\%$              |
| RN55     | GD05683160 | 1/6W 68K $\Omega$ $\pm 5\%$           | R766     | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$               |
| RN56     | GD05100160 | 1/6W 10 $\Omega$ $\pm 5\%$            | R766     | GD05331160 | 1/6W 330 $\Omega$ $\pm 5\%$ <b>IB BK</b> |
| ▲ RN57   | GG05101160 | 1/6W 100 $\Omega$ $\pm 5\%$           | R767     | GD05221160 | 1/6W 220 $\Omega$ $\pm 5\%$              |
| ▲ RN58   | GG05101160 | 1/6W 100 $\Omega$ $\pm 5\%$           | R768     | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$             |
| RN61     | GD05472160 | 1/6W 4.7K $\Omega$ $\pm 5\%$          | R769     | GD05561160 | 1/6W 560 $\Omega$ $\pm 5\%$              |
| RN62     | GD05472160 | 1/6W 4.7K $\Omega$ $\pm 5\%$          | R770     | GD05151160 | 1/6W 150 $\Omega$ $\pm 5\%$              |
| R701     | GD05333160 | 1/6W 33K $\Omega$ $\pm 5\%$           | R771     | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$             |
| R702     | GD05333160 | 1/6W 33K $\Omega$ $\pm 5\%$           | R772     | GD05271160 | 1/6W 270 $\Omega$ $\pm 5\%$              |
| R703     | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$ <b>IB</b>  | R773     | GD05224160 | 1/6W 220K $\Omega$ $\pm 5\%$             |
| R703     | GD05331160 | 1/6W 330 $\Omega$ $\pm 5\%$ <b>BK</b> | R774     | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$              |
| R704     | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$ <b>IB</b>  | R775     | GD05561160 | 1/6W 560 $\Omega$ $\pm 5\%$              |
| R704     | GD05331160 | 1/6W 330 $\Omega$ $\pm 5\%$ <b>BK</b> | ▲ R776   | GG05561160 | 1/6W 560 $\Omega$ $\pm 5\%$              |
| R705     | GD05221160 | 1/6W 220 $\Omega$ $\pm 5\%$           | ▲ R777   | GG05561160 | 1/6W 560 $\Omega$ $\pm 5\%$              |
| R706     | GD05221160 | 1/6W 220 $\Omega$ $\pm 5\%$           | R778     | GD05122160 | 1/6W 1.2K $\Omega$ $\pm 5\%$             |
| R707     | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$          | ▲ R779   | GG05561160 | 1/6W 560 $\Omega$ $\pm 5\%$              |
| R708     | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$          | ▲ R780   | GG05561160 | 1/6W 560 $\Omega$ $\pm 5\%$              |
| R709     | GD05561160 | 1/6W 560 $\Omega$ $\pm 5\%$           | R781     | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$             |
| R710     | GD05561160 | 1/6W 560 $\Omega$ $\pm 5\%$           | ▲ R783   | GG05560160 | 1/6W 56 $\Omega$ $\pm 5\%$               |
| R711     | GD05151160 | 1/6W 150 $\Omega$ $\pm 5\%$           | ▲ R784   | GG05560160 | 1/6W 56 $\Omega$ $\pm 5\%$               |
| R712     | GD05151160 | 1/6W 150 $\Omega$ $\pm 5\%$           | R785     | GD05682160 | 1/6W 6.8K $\Omega$ $\pm 5\%$             |
| R713     | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$          | R787     | GD05272160 | 1/6W 2.7K $\Omega$ $\pm 5\%$             |
| R714     | GD05152160 | 1/6W 1.5K $\Omega$ $\pm 5\%$          | R788     | GD05333160 | 1/6W 33K $\Omega$ $\pm 5\%$              |
| R715     | GD05271160 | 1/6W 270 $\Omega$ $\pm 5\%$           | ▲ R789   | GG05022160 | 1/6W 2.2 $\Omega$ $\pm 5\%$              |
| R716     | GD05271160 | 1/6W 270 $\Omega$ $\pm 5\%$           | ▲ R790   | GG05022160 | 1/6W 2.2 $\Omega$ $\pm 5\%$              |
| R717     | GD05224160 | 1/6W 220K $\Omega$ $\pm 5\%$          | ▲ R791   | GG05181140 | 1/6W 180 $\Omega$ $\pm 5\%$              |
| R718     | GD05224160 | 1/6W 220K $\Omega$ $\pm 5\%$          | ▲ R792   | GG05100140 | 1/4W 10 $\Omega$ $\pm 5\%$               |
| R719     | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$           | ▲ R793   | GG05100140 | 1/4W 10 $\Omega$ $\pm 5\%$               |
| R720     | GD05473160 | 1/6W 47K $\Omega$ $\pm 5\%$           | ▲ R794   | BZ10182020 | 0.18 $\Omega$ 5W x 2 ARRAY               |
| R721     | GD05561160 | 1/6W 560 $\Omega$ $\pm 5\%$           | ▲ R795   | GG05100160 | 1/6W 10 $\Omega$ $\pm 5\%$               |
| R722     | GD05561160 | 1/6W 560 $\Omega$ $\pm 5\%$           | ▲ R796   | GA05100010 | 1W 10 $\Omega$ $\pm 5\%$                 |
| ▲ R723   | GG05561160 | 1/6W 560 $\Omega$ $\pm 5\%$           | R797     | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$ <b>IB</b>     |
| ▲ R724   | GG05561160 | 1/6W 560 $\Omega$ $\pm 5\%$           | R797     | GD05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$ <b>BK</b>   |
| ▲ R725   | GG05561160 | 1/6W 560 $\Omega$ $\pm 5\%$           | R798     | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$ <b>IB</b>     |
| ▲ R726   | GG05561160 | 1/6W 560 $\Omega$ $\pm 5\%$           | R798     | GD05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$ <b>BK</b>   |
| R727     | GD05122160 | 1/6W 1.2K $\Omega$ $\pm 5\%$          | R799     | GD05102160 | 1/6W 1K $\Omega$ $\pm 5\%$ <b>IB</b>     |
| R728     | GD05122160 | 1/6W 1.2K $\Omega$ $\pm 5\%$          | R799     | GD05222160 | 1/6W 2.2K $\Omega$ $\pm 5\%$ <b>BK</b>   |
| ▲ R729   | GG05561160 | 1/6W 560 $\Omega$ $\pm 5\%$           | ▲ R801   | GG05010140 | 1/4W 1 $\Omega$ $\pm 5\%$ <b>BK</b>      |
| ▲ R730   | GG05561160 | 1/6W 560 $\Omega$ $\pm 5\%$           | ▲ R802   | GG05010140 | 1/4W 1 $\Omega$ $\pm 5\%$ <b>BK</b>      |
| ▲ R731   | GG05561160 | 1/6W 560 $\Omega$ $\pm 5\%$           | ▲ R803   | GG05010140 | 1/4W 1 $\Omega$ $\pm 5\%$ <b>BK</b>      |
| ▲ R732   | GG05561160 | 1/6W 560 $\Omega$ $\pm 5\%$           | ▲ R804   | GG05010140 | 1/4W 1 $\Omega$ $\pm 5\%$ <b>BK</b>      |
| R733     | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$          | ▲ U700   | GG05010140 | 1/4W 1 $\Omega$ $\pm 5\%$ <b>IB</b>      |
| R734     | GD05104160 | 1/6W 100K $\Omega$ $\pm 5\%$          | ▲ U701   | GG05010140 | 1/4W 1 $\Omega$ $\pm 5\%$ <b>IB</b>      |
| ▲ R737   | GG05560160 | 1/6W 56 $\Omega$ $\pm 5\%$            | ▲ U702   | GG05010140 | 1/4W 1 $\Omega$ $\pm 5\%$ <b>IB</b>      |
| ▲ R738   | GG05560160 | 1/6W 56 $\Omega$ $\pm 5\%$            | ▲ U703   | GG05010140 | 1/4W 1 $\Omega$ $\pm 5\%$ <b>IB</b>      |
| ▲ R739   | GG05560160 | 1/6W 56 $\Omega$ $\pm 5\%$            |          |            |                                          |
| ▲ R740   | GG05560160 | 1/6W 56 $\Omega$ $\pm 5\%$            |          |            |                                          |
| R741     | GD05682160 | 1/6W 6.8K $\Omega$ $\pm 5\%$          |          |            |                                          |
| R742     | GD05682160 | 1/6W 6.8K $\Omega$ $\pm 5\%$          |          |            |                                          |
| R745     | GD05272160 | 1/6W 2.7K $\Omega$ $\pm 5\%$          |          |            |                                          |
| R746     | GD05272160 | 1/6W 2.7K $\Omega$ $\pm 5\%$          |          |            |                                          |
| R747     | GD05333160 | 1/6W 33K $\Omega$ $\pm 5\%$           |          |            |                                          |
| R748     | GD05333160 | 1/6W 33K $\Omega$ $\pm 5\%$           |          |            |                                          |
| ▲ R749   | GG05022160 | 1/6W 2.2 $\Omega$ $\pm 5\%$           |          |            |                                          |
| ▲ R750   | GG05022160 | 1/6W 2.2 $\Omega$ $\pm 5\%$           |          |            |                                          |
| ▲ R751   | GG05022160 | 1/6W 2.2 $\Omega$ $\pm 5\%$           |          |            |                                          |
| ▲ R752   | GG05022160 | 1/6W 2.2 $\Omega$ $\pm 5\%$           |          |            |                                          |
| ▲ R753   | GG05181140 | 1/4W 180 $\Omega$ $\pm 5\%$           |          |            |                                          |

**CONTROLS**

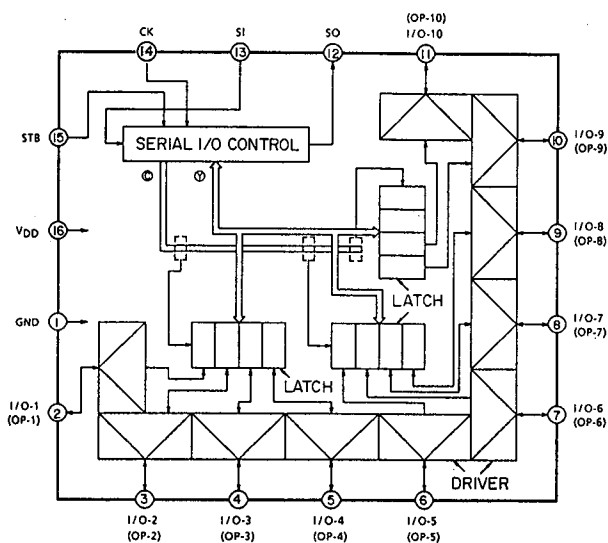
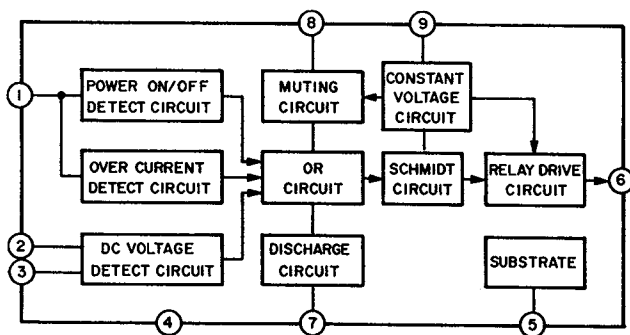
|      |            |                         |
|------|------------|-------------------------|
| RN63 | RA01010780 | TRIM-POTS 100 $\Omega$  |
| RN64 | RA01010780 | TRIM-POTS 100 $\Omega$  |
| RN70 | RA01010780 | TRIM-POTS 100 $\Omega$  |
| R743 | RA02220780 | TRIM-POTS 2.2K $\Omega$ |
| R744 | RA02220780 | TRIM-POTS 2.2K $\Omega$ |
| R786 | RA02220780 | TRIM-POTS 2.2K $\Omega$ |

| Ref. No.                   | Part. No.  | Description                               | Ref. No.                            | Part. No.  | Description                         |
|----------------------------|------------|-------------------------------------------|-------------------------------------|------------|-------------------------------------|
| <b>INTEGRATED CIRCUITS</b> |            |                                           |                                     |            |                                     |
| QN04                       | HC10042050 | IC TA7317P (AVR80)<br>Over Load Protector | D707                                | HD20027010 | HSS81TD                             |
| ▲Q801                      | HC38915090 | IC NJM7815FA Voltage Regulator            | D708                                | HD20027010 | HSS81TD                             |
| ▲Q802                      | HC39915090 | IC NJM7915FA Voltage Regulator            | D709                                | HD30911000 | ZENER, 9.1V                         |
| ▲Q803                      | HC38905090 | IC NJM7805FA Voltage Regulator            | D710                                | HD30911000 | ZENER, 9.1V                         |
| ▲Q804                      | HC39905090 | IC NJM7905FA Voltage Regulator            | D711                                | HD30911000 | ZENER, 9.1V                         |
| ▲Q805                      | HC38905090 | IC NJM7805FA Voltage Regulator            | D712                                | HD30911000 | ZENER, 9.1V                         |
| <b>TRANSISTORS</b>         |            |                                           | D751                                | HD20002000 | 1SS176                              |
| ▲QN01                      | HT322402A0 | 2SC2240 (GR, BL)                          | D752                                | HD20002000 | 1SS176                              |
| ▲QN02                      | HT322402A0 | 2SC2240 (GR, BL)                          | D753                                | HD20027010 | HSS81TD                             |
| QN03                       | HT109702A0 | 2SA970 (GR, BL)                           | D754                                | HD20027010 | HSS81TD                             |
| QN07                       | HT10001000 | 2SA608SP                                  | D755                                | HD30911000 | ZENER, 9.1V                         |
| QN08                       | HT316272B0 | 2SC1627 (O, Y)                            | D756                                | HD30911000 | ZENER, 9.1V                         |
| ▲QN51                      | HT322402A0 | 2SC2240 (GR, BL)                          | ▲D801                               | HE20012290 | D5FB20                              |
| Q701                       | HT109702A0 | 2SA970 (GR, BL)                           | ▲D802                               | HE20012290 | D5FB20                              |
| Q702                       | HT109702A0 | 2SA970 (GR, BL)                           | ▲D803                               | HE20011290 | S2VB20                              |
| Q703                       | HT109702A0 | 2SA970 (GR, BL)                           | ▲D804                               | HE20011290 | S2VB20                              |
| Q704                       | HT109702A0 | 2SA970 (GR, BL)                           | D805                                | HD20002710 | 1D3 1A/200V                         |
| Q705                       | HT109702A0 | 2SA970 (GR, BL)                           | D806                                | HD20002710 | 1D3 1A/200V                         |
| Q706                       | HT109702A0 | 2SA970 (GR, BL)                           | D807                                | HD20002710 | 1D3 1A/200V                         |
| Q707                       | HT327052A0 | 2SC2705 (O, Y)                            | D808                                | HD20002710 | 1D3 1A/200V                         |
| Q708                       | HT327052A0 | 2SC2705 (O, Y)                            | D809                                | HD20002710 | 1D3 1A/200V                         |
| Q709                       | HT327052A0 | 2SC2705 (O, Y)                            | <b>COILS</b>                        |            |                                     |
| Q710                       | HT327052A0 | 2SC2705 (O, Y)                            | L701                                | ML08010030 | AIR, SPK CHOCK                      |
| Q711                       | HT113602A0 | 2SA1360 (O, Y)                            | L702                                | ML08010030 | AIR, SPK CHOCK                      |
| Q712                       | HT113602A0 | 2SA1360 (O, Y)                            | L751                                | ML08010030 | AIR, SPK CHOCK                      |
| Q713                       | HT334232A0 | 2SC3423 (O, Y)                            | <b>MISCELLANEOUS</b>                |            |                                     |
| Q714                       | HT334232A0 | 2SC3423 (O, Y)                            | ▲F801                               | FS20040210 | FUSE TR5 T400MA 250V <b>BK</b>      |
| Q715                       | HT334191Y0 | 2SC3419Y                                  | JN01                                | YP06013130 | PLUG, 13P (AVR80MK II)              |
| Q716                       | HT334191Y0 | 2SC3419Y                                  | J701                                | YP06004570 | PLUG, 13P                           |
| ▲Q717                      | HT348821A0 | 2SC4883 (O, Y)                            | J702                                | YP06019700 | PLUG, 20P                           |
| ▲Q718                      | HT348821A0 | 2SC4883 (O, Y)                            | J706                                | YP06010450 | PLUG, 5P                            |
| ▲Q719                      | HT118592A0 | 2SA1859 (O, Y)                            | J707                                | YL01010240 | TERMINAL, GND                       |
| ▲Q720                      | HT118592A0 | 2SA1859 (O, Y)                            | J708                                | YL01010240 | TERMINAL, GND                       |
| ▲Q721                      | HT332812A0 | 2SC3281 (R, O)                            | J709                                | YL01010240 | TERMINAL, GND                       |
| ▲Q722                      | HT332812A0 | 2SC3281 (R, O)                            | J710                                | YL01010240 | TERMINAL, GND                       |
| ▲Q723                      | HT113022A0 | 2SA1302 (R, O)                            | J711                                | YL01010240 | TERMINAL, GND                       |
| ▲Q724                      | HT113022A0 | 2SA1302 (R, O)                            | J712                                | YL01010240 | TERMINAL, GND                       |
| Q751                       | HT109702A0 | 2SA970 (GR, BL)                           | J801                                | YP06010950 | PLUG, 5P                            |
| Q752                       | HT109702A0 | 2SA970 (GR, BL)                           | J802                                | YP06003690 | PLUG, 6P                            |
| Q753                       | HT109702A0 | 2SA970 (GR, BL)                           | J803                                | YP06010950 | PLUG, 5P                            |
| Q754                       | HT327052A0 | 2SC2705 (O, Y)                            | J804                                | YP06003830 | PLUG, 3P                            |
| Q755                       | HT327052A0 | 2SC2705 (O, Y)                            | LN01                                | LY20180020 | RELAY                               |
| Q756                       | HT113602A0 | 2SA1360 (O, Y)                            | LN02                                | LY20180020 | RELAY                               |
| Q757                       | HT334232A0 | 2SC3423 (O, Y)                            | LN03                                | LY20240410 | RELAY (AVR80MK II)                  |
| Q758                       | HT334191Y0 | 2SC3419Y                                  | LN03                                | LY20240450 | RELAY (AVR80)                       |
| ▲Q759                      | HT348821A0 | 2SC4883 (O, Y)                            | LN51                                | LY20180020 | RELAY                               |
| ▲Q760                      | HT118592A0 | 2SA1859 (O, Y)                            | <b>P754-SPK TERMINAL P.C. BOARD</b> |            |                                     |
| ▲Q761                      | HT332812A0 | 2SC3281 (R, O)                            |                                     |            |                                     |
| ▲Q762                      | HT113022A0 | 2SA1302 (R, O)                            |                                     |            |                                     |
| <b>DIODES</b>              |            |                                           | <b>CAPACITORS</b>                   |            |                                     |
| DN01                       | HD20002710 | 1D3 1A/200V                               | C727                                | DK18103310 | CERAMIC 0.01μF +80% -20% <b>IB</b>  |
| DN02                       | HD20002710 | 1D3 1A/200V                               | C728                                | DK18103310 | CERAMIC 0.01μF +80% -20% <b>IB</b>  |
| DN03                       | HD20002710 | 1D3 1A/200V                               | C729                                | DK18103310 | CERAMIC 0.01μF +80% -20% <b>IB</b>  |
| DN04                       | HD20002710 | 1D3 1A/200V                               | C730                                | DK18103310 | CERAMIC 0.01μF +80% -20% <b>IB</b>  |
| DN07                       | HD20027010 | HSS81TD                                   | C731                                | DK18223310 | CERAMIC 0.022μF +80% -20% <b>IB</b> |
| DN08                       | HD20027010 | HSS81TD                                   | C732                                | DK18223310 | CERAMIC 0.022μF +80% -20% <b>IB</b> |
| DN09                       | HD20002710 | 1D3 1A/200V                               | C733                                | DK18103310 | CERAMIC 0.01μF +80% -20% <b>IB</b>  |
| DN51                       | HD20002710 | 1D3 1A/200V                               | C734                                | DK18103310 | CERAMIC 0.01μF +80% -20% <b>IB</b>  |
| DN52                       | HD20027010 | HSS81TD                                   | C764                                | DK18103310 | CERAMIC 0.01μF +80% -20% <b>IB</b>  |
| D701                       | HD20002000 | 1SS176                                    | C765                                | DK18103310 | CERAMIC 0.01μF +80% -20% <b>IB</b>  |
| D702                       | HD20002000 | 1SS176                                    | <b>MISCELLANEOUS</b>                |            |                                     |
| D703                       | HD20002000 | 1SS176                                    | J703                                | YJ06020800 | JACK, 20P                           |
| D704                       | HD20002000 | 1SS176                                    | J704                                | YT01080120 | TERMINAL, SPK 8P                    |
| D705                       | HD20027010 | HSS81TD                                   | J751                                | YT01020220 | TERMINAL, SPK2P                     |
| D706                       | HD20027010 | HSS81TD                                   |                                     |            |                                     |

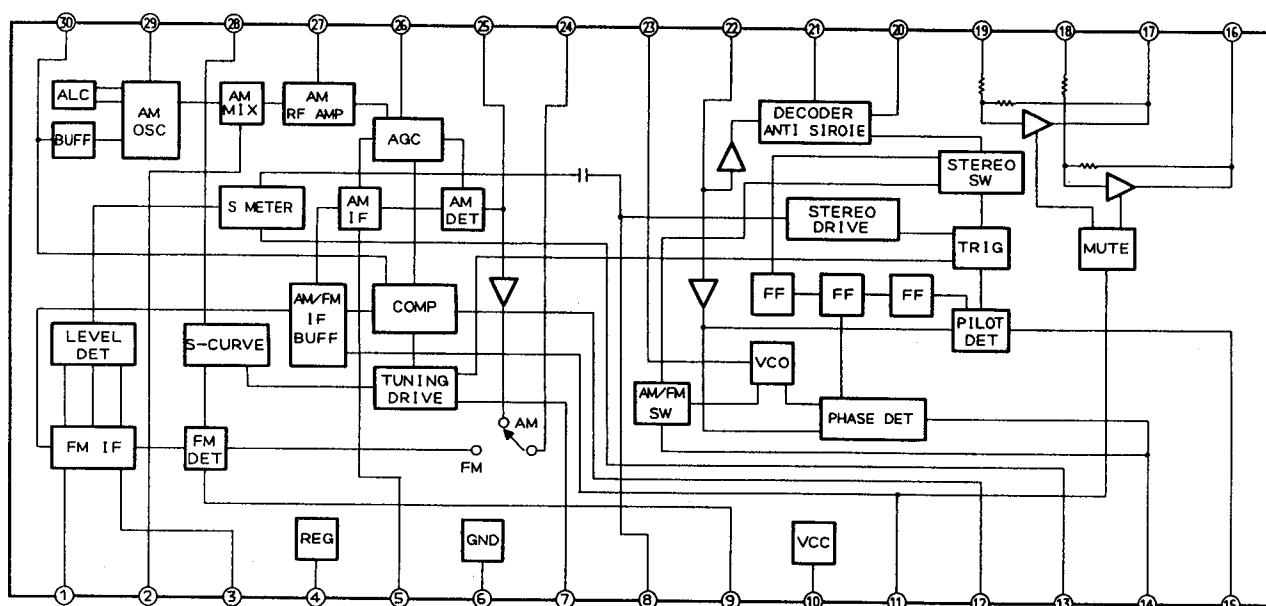
## IC BLOCK DIAGRAMS

QY10 : TC9173    QY11 : TC9174  
PORT EXPANDER

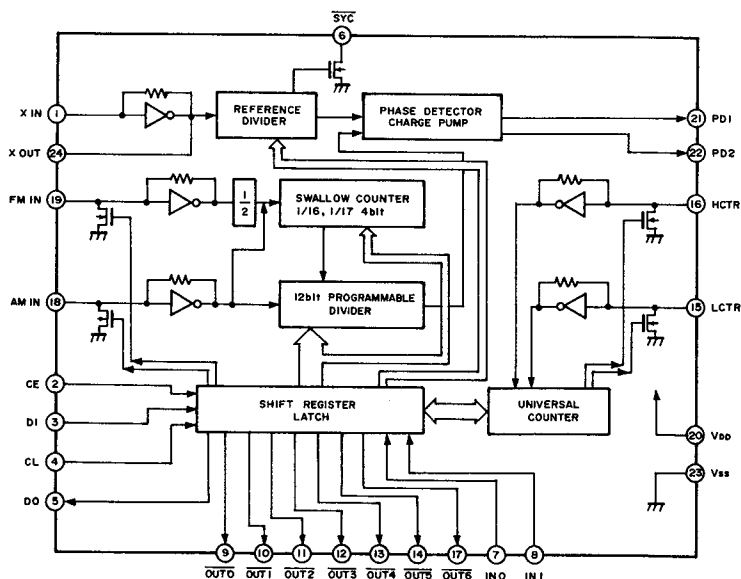
QN04 : TA7317P OVER LOAD PROTECTOR



Q201 : LA1836 FM / AM IF, MPX IC

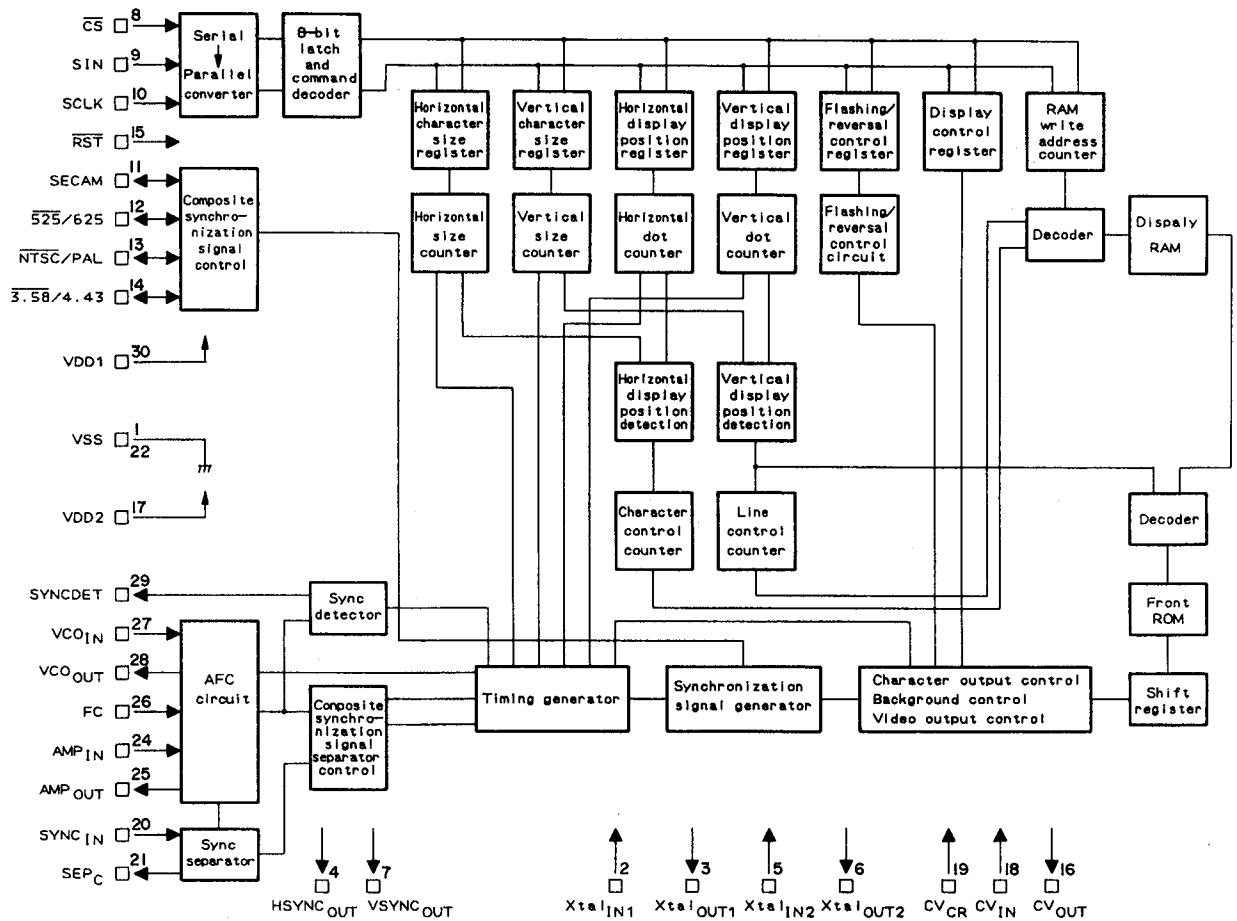
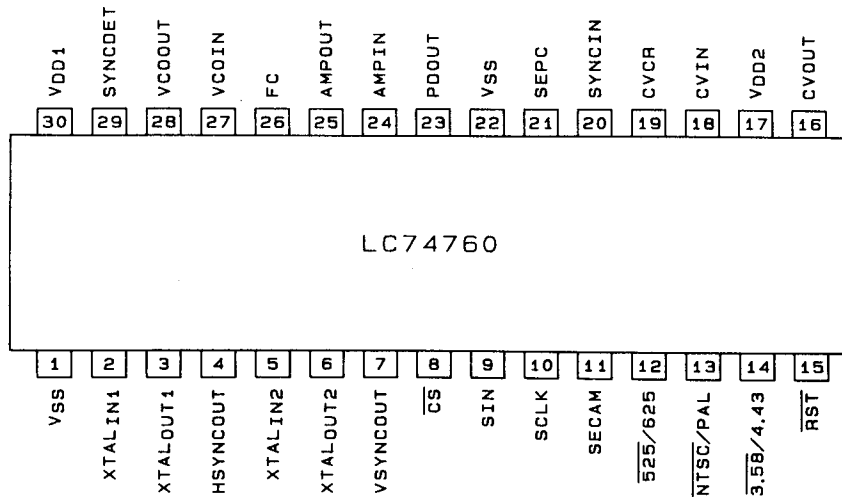


Q501 : LC7218 PLL FREQUENCY SYNTHESIZER





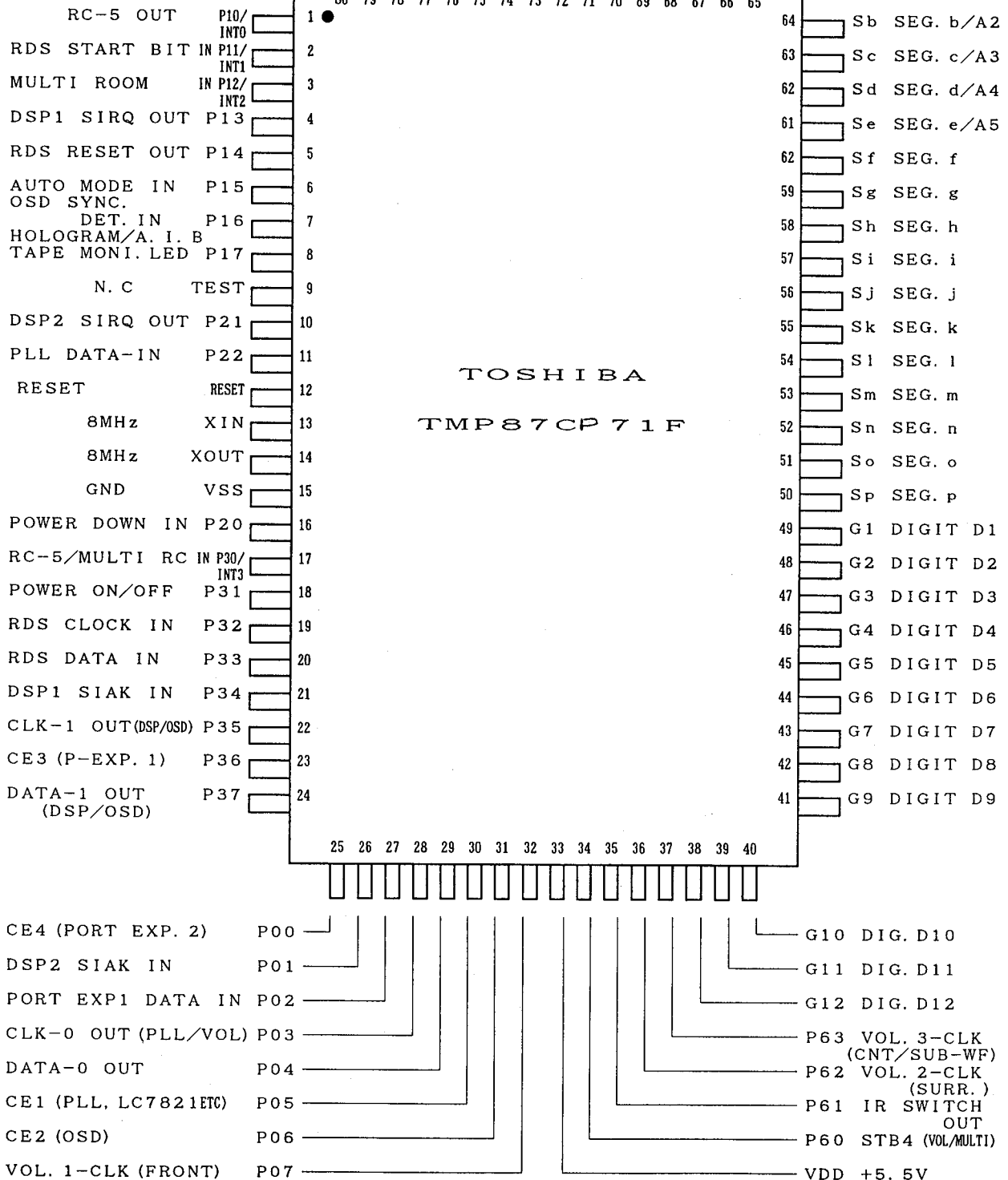
**QX60 : LC74760-9004**  
**OSD LSI**

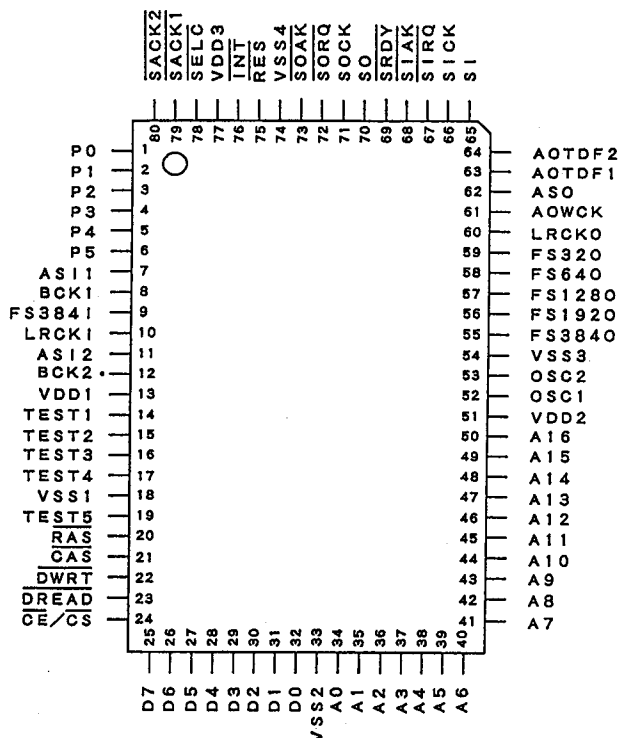
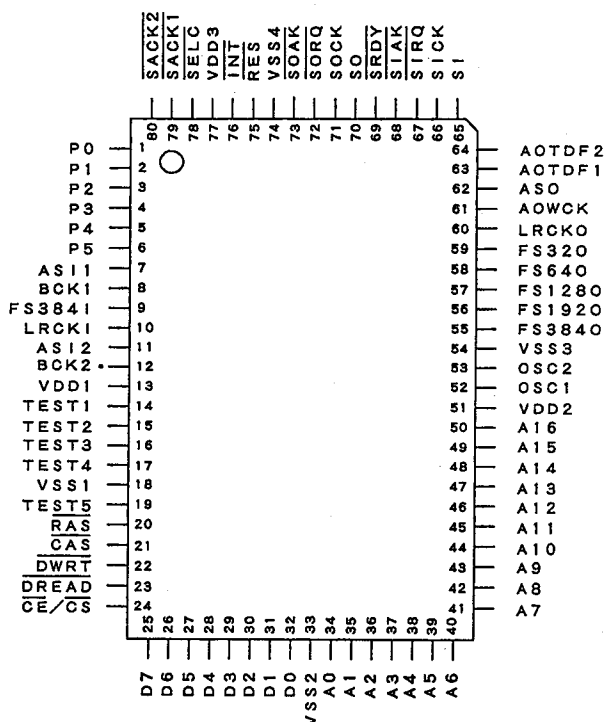
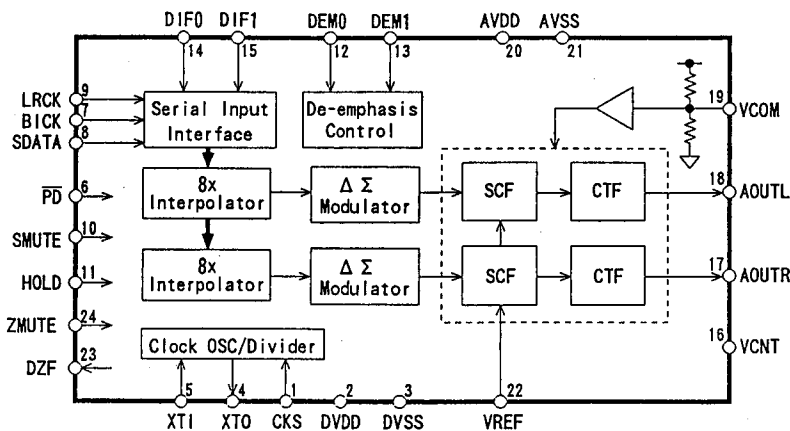


## QU01 : TMP87CP71F MICROPROCESSOR

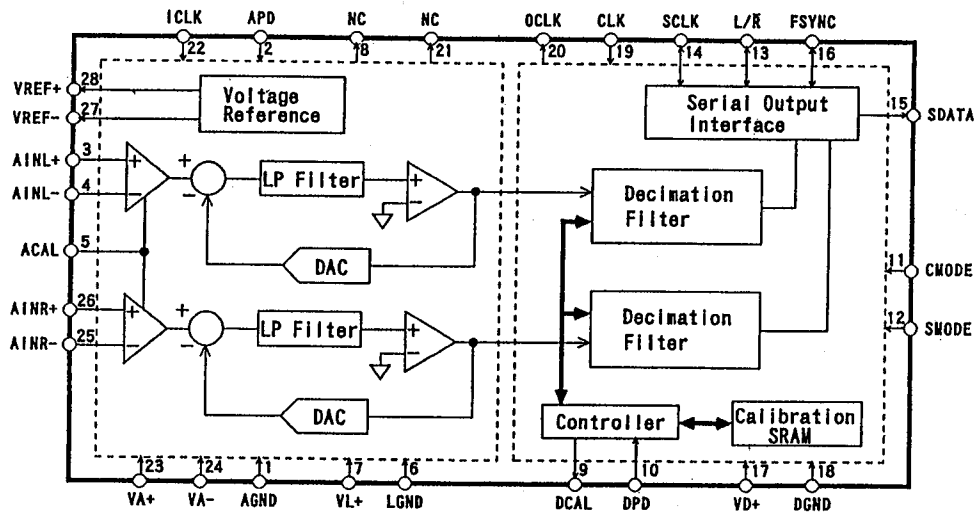
KEY IN CIN1  
KEY IN CIN0  
SD IN  
EMPHASIS IN  
DIG. IR ERROR IN  
SIG. STR. IN  
PLS. ENC (A) IN  
PUS. ENC (B) IN

K5 KEY IN (K5)  
K4 KEY IN (K4)  
K3 KEY IN (K3)  
K2 KEY IN (K2)  
K1 KEY IN (K1)  
K0 KEY IN (K0)  
V<sub>KK</sub> -30V  
Sa SEGMENT a/A1

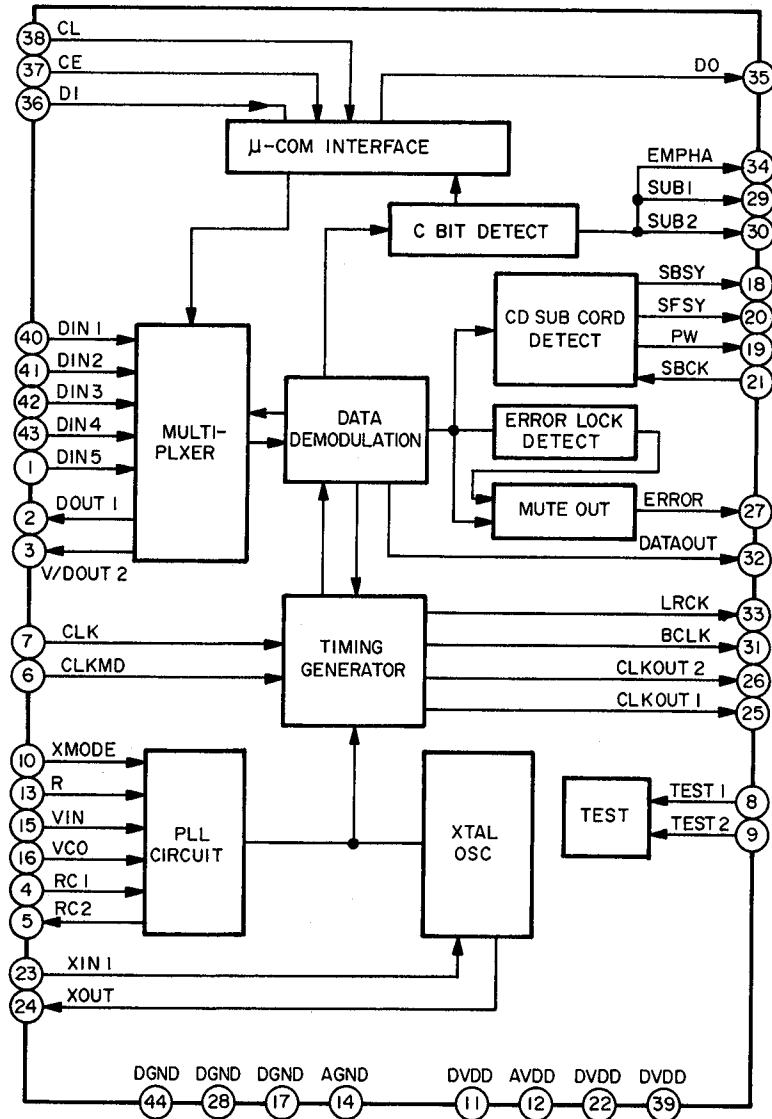


**Q601 : LC83016JE**  
**DIGITAL SIGNAL PROCESSOR**

**Q602 : LC83017JE**  
**DIGITAL SIGNAL PROCESSOR**

**Q605 ~ Q607 : AK4320**  
**DIGITAL ANALOGUE CONVERTER**


**Q608 : AK5389**  
**ANALOGUE DIGITAL CONVERTER**



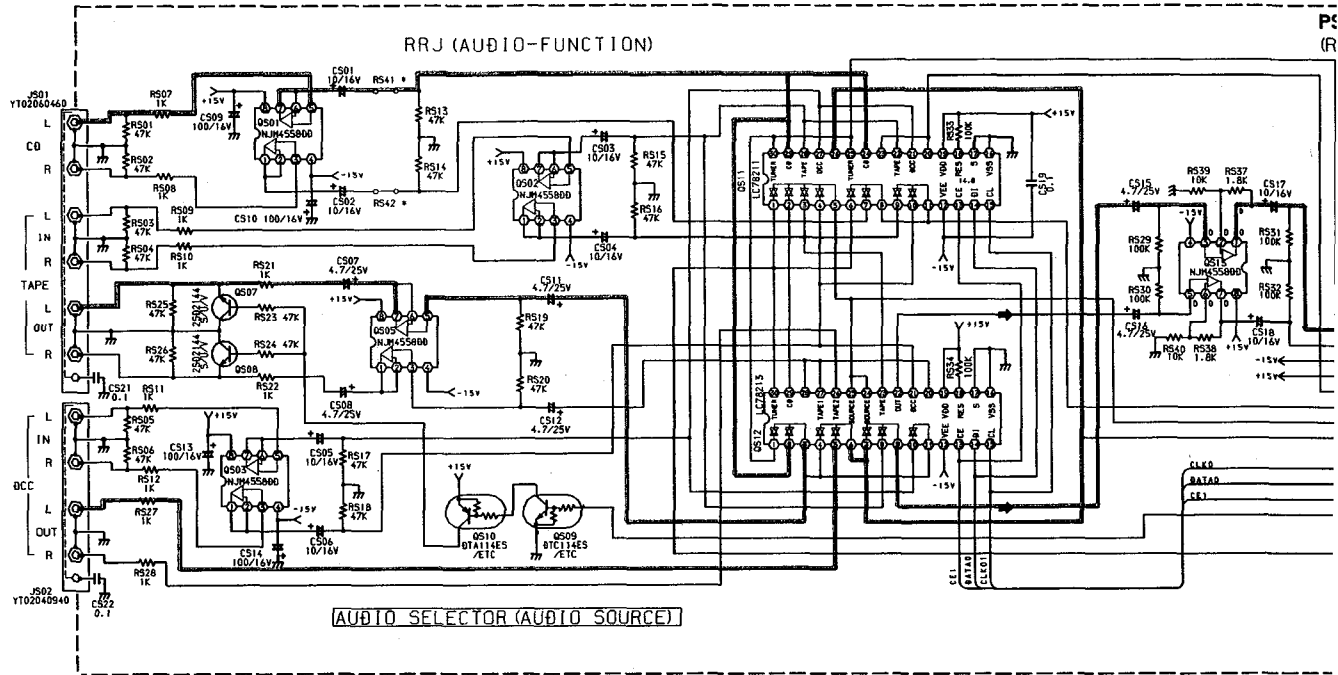
**Q619 : LC8903Q**  
**DIGITAL AUDIO INTERFACE**



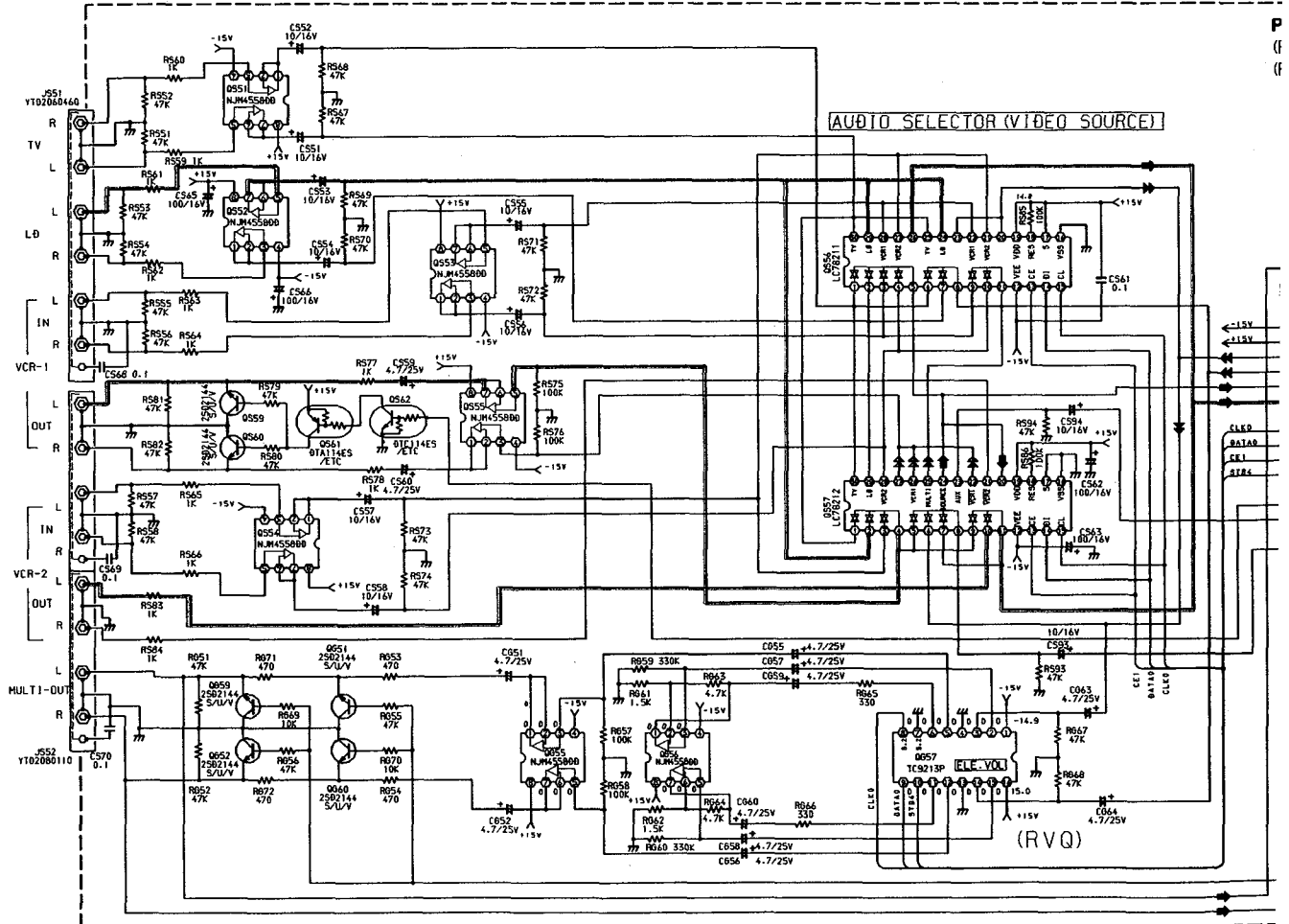


# SCHEMATIC DIAGRAM ( 1 ) BK VERSION

PS04-AUDIO FUNCT



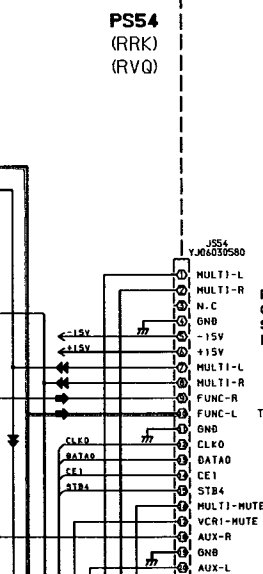
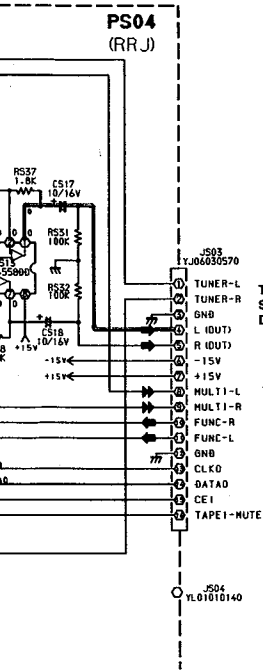
## PS54-V-AUDIO FUNCTION



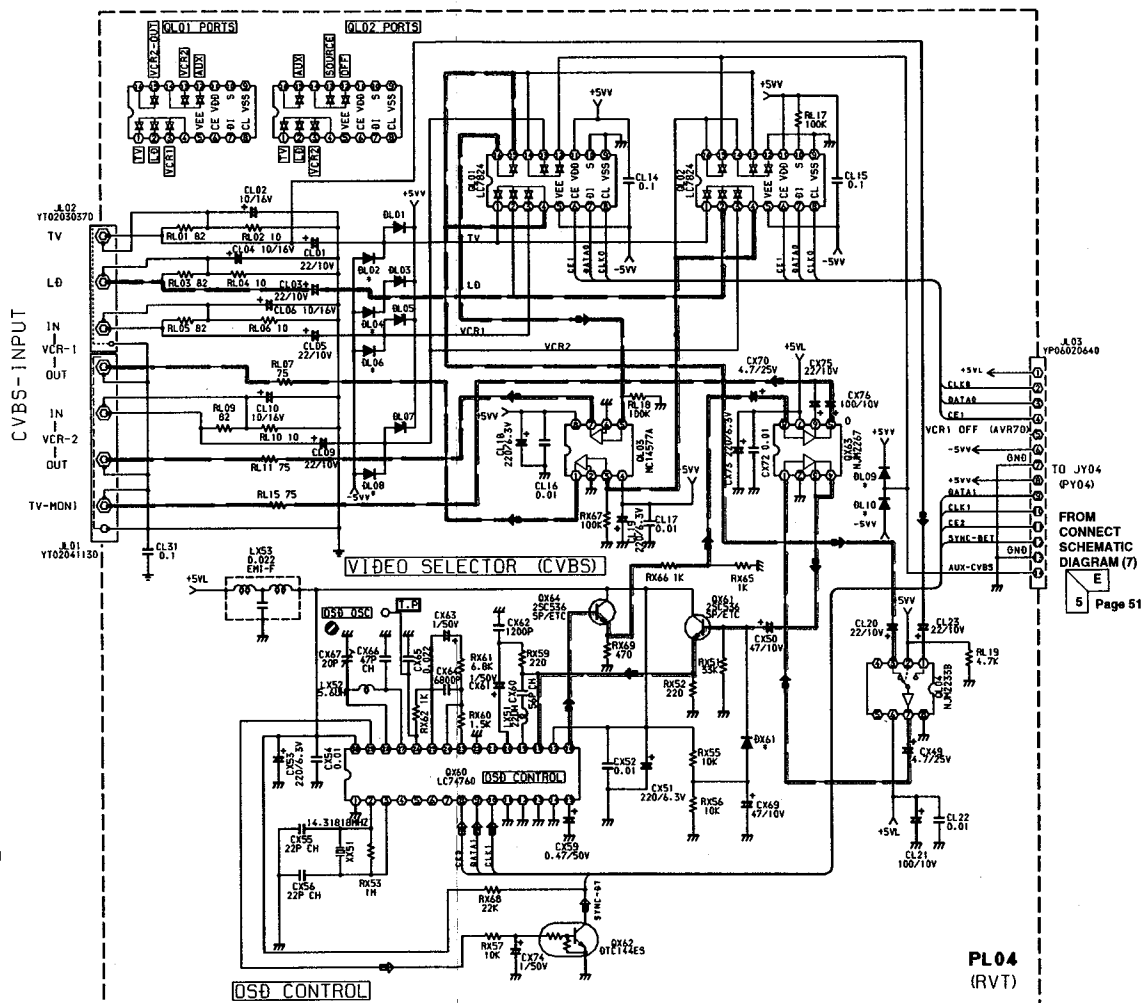


F G H I J

DIO FUNCTION



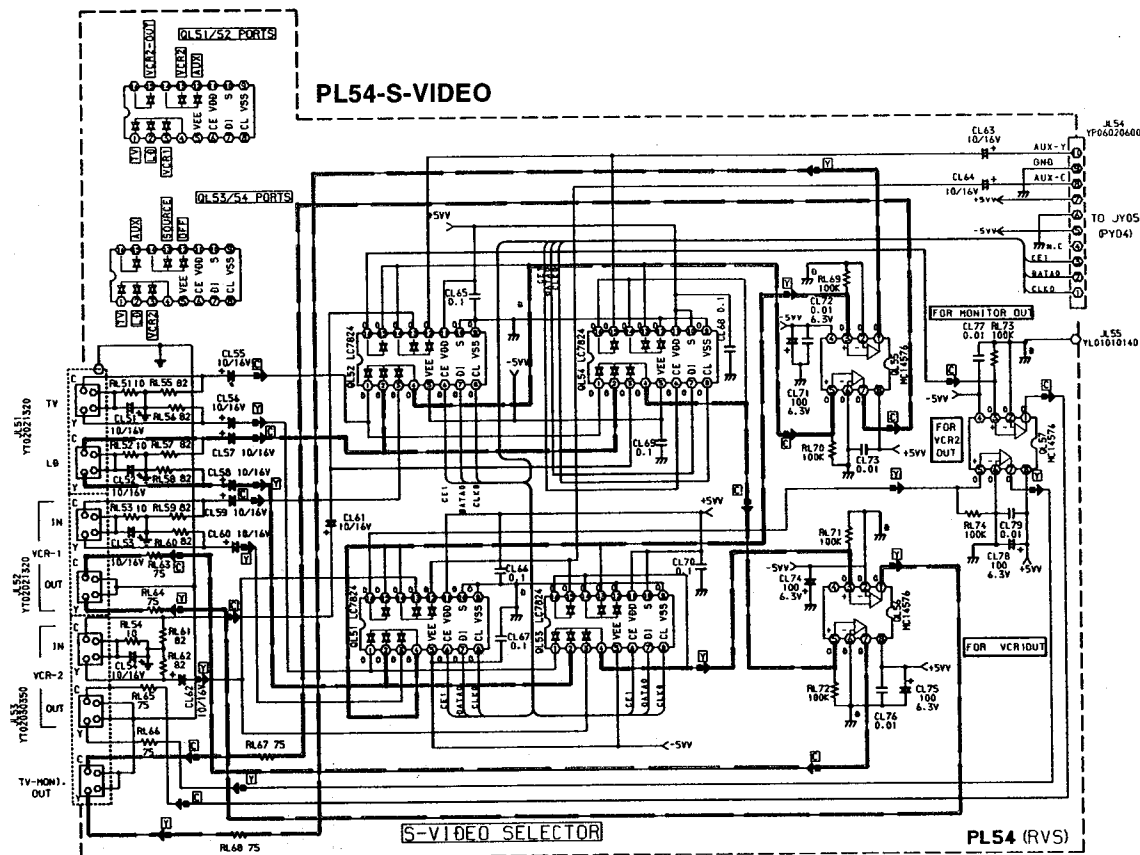
PL04-VIDEO SELECTOR



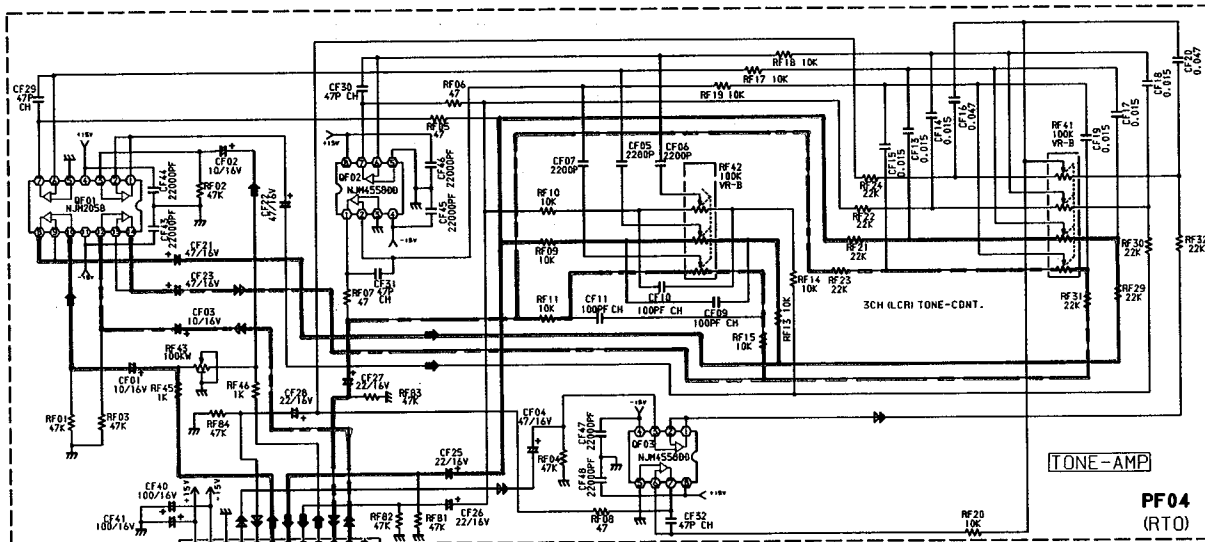
FRONT →  
MULTI ROOM →



SCHEMATIC DIAGRAM ( 2 ) BK VERSION



PF04-TONE



F

G

H

I

J

## PV04-DIRECT IN

TO JY08  
(PY04)FROM  
CONNECT  
SCHEMATIC  
DIAGRAM (7)

2 Page 51

TO THX PRO LOGIC DSP  
SCHEMATIC  
DIAGRAM (10)

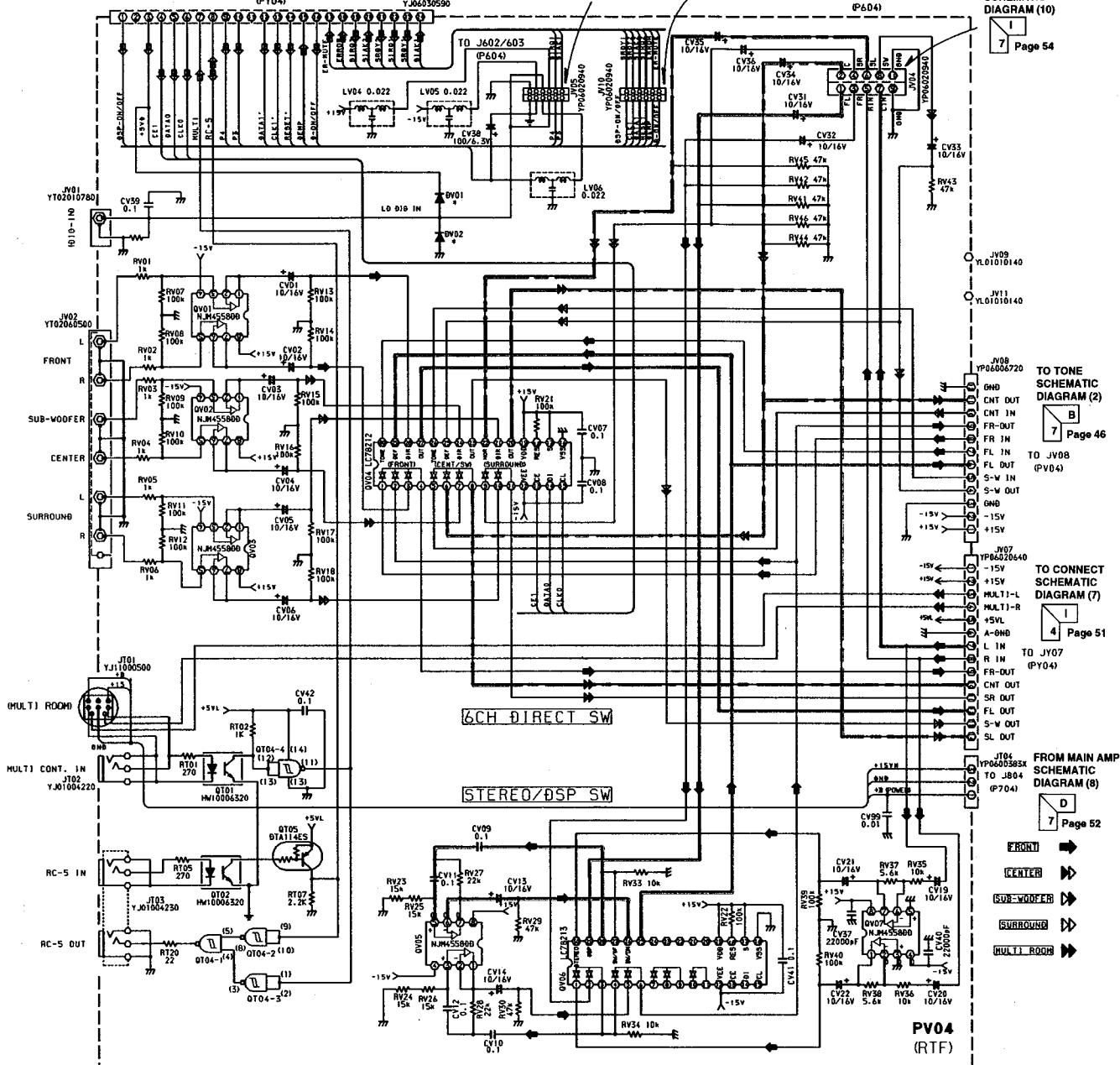
C Page 54

TO THX PRO LOGIC DSP  
SCHEMATIC  
DIAGRAM (10)

B Page 54

FROM  
THX PRO LOGIC  
SCHEMATIC  
DIAGRAM (10)

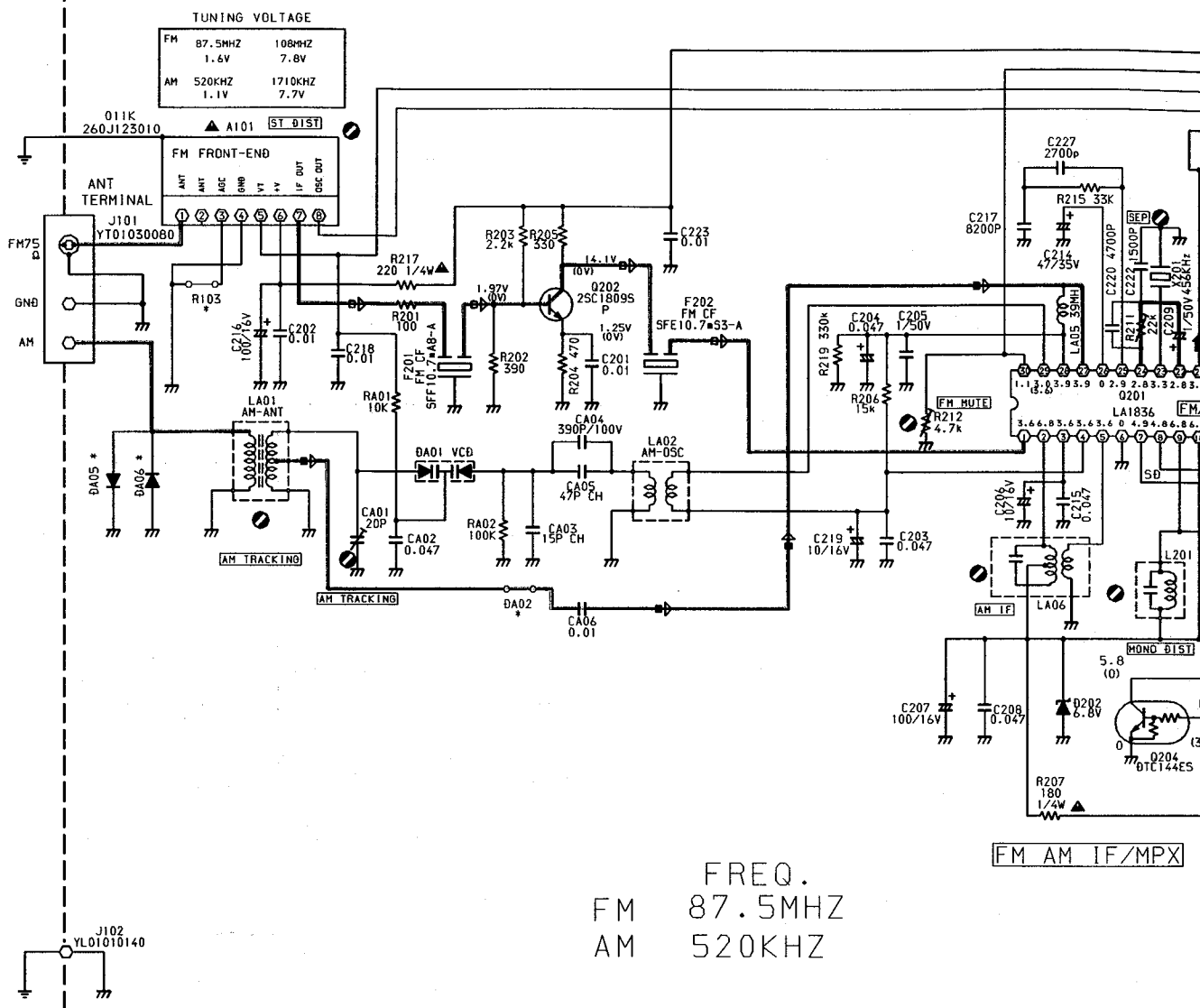
7 Page 54

TO J601  
(P604)



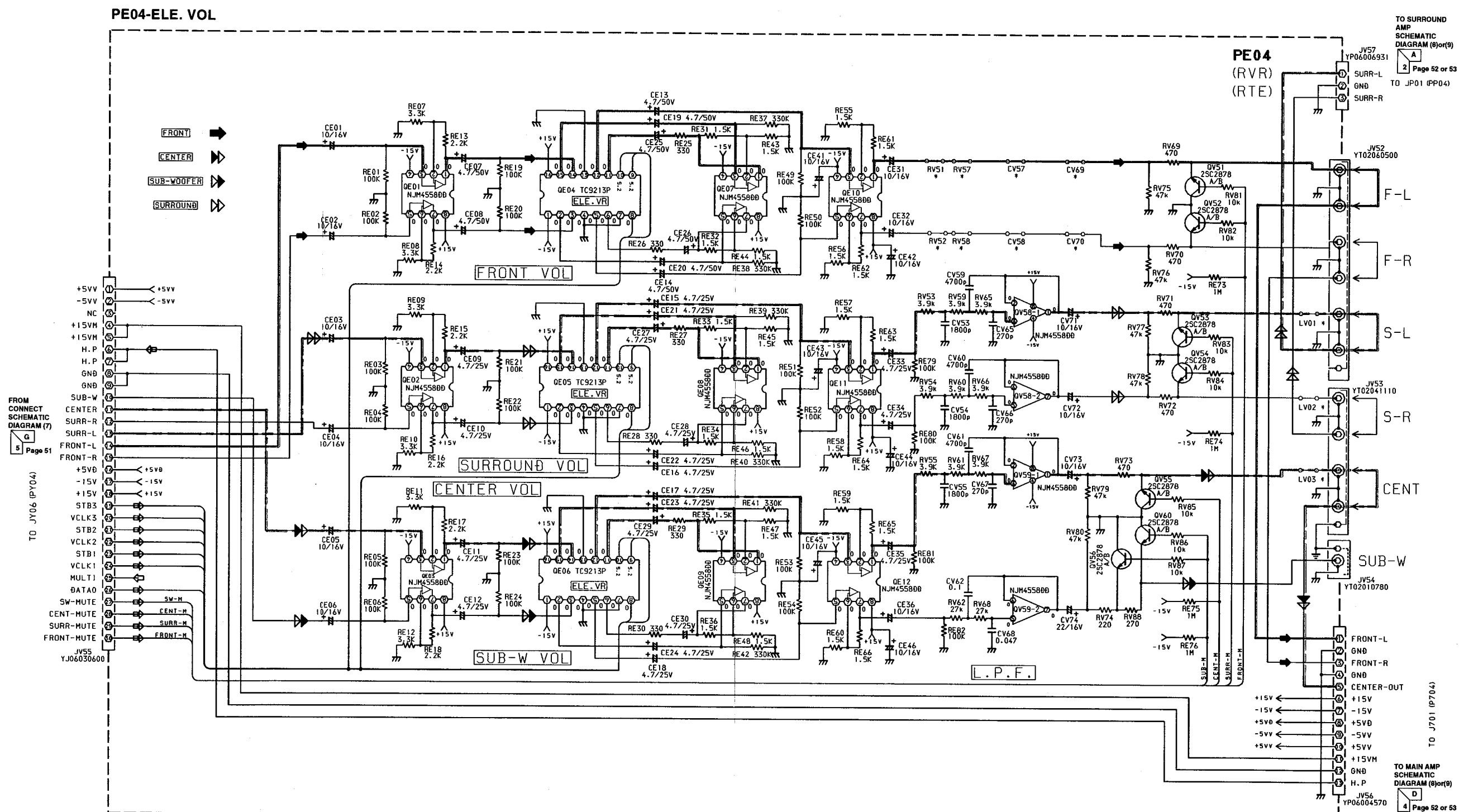
# SCHEMATIC DIAGRAM ( 3 ) **BK** VERSION

## P104-TUNER



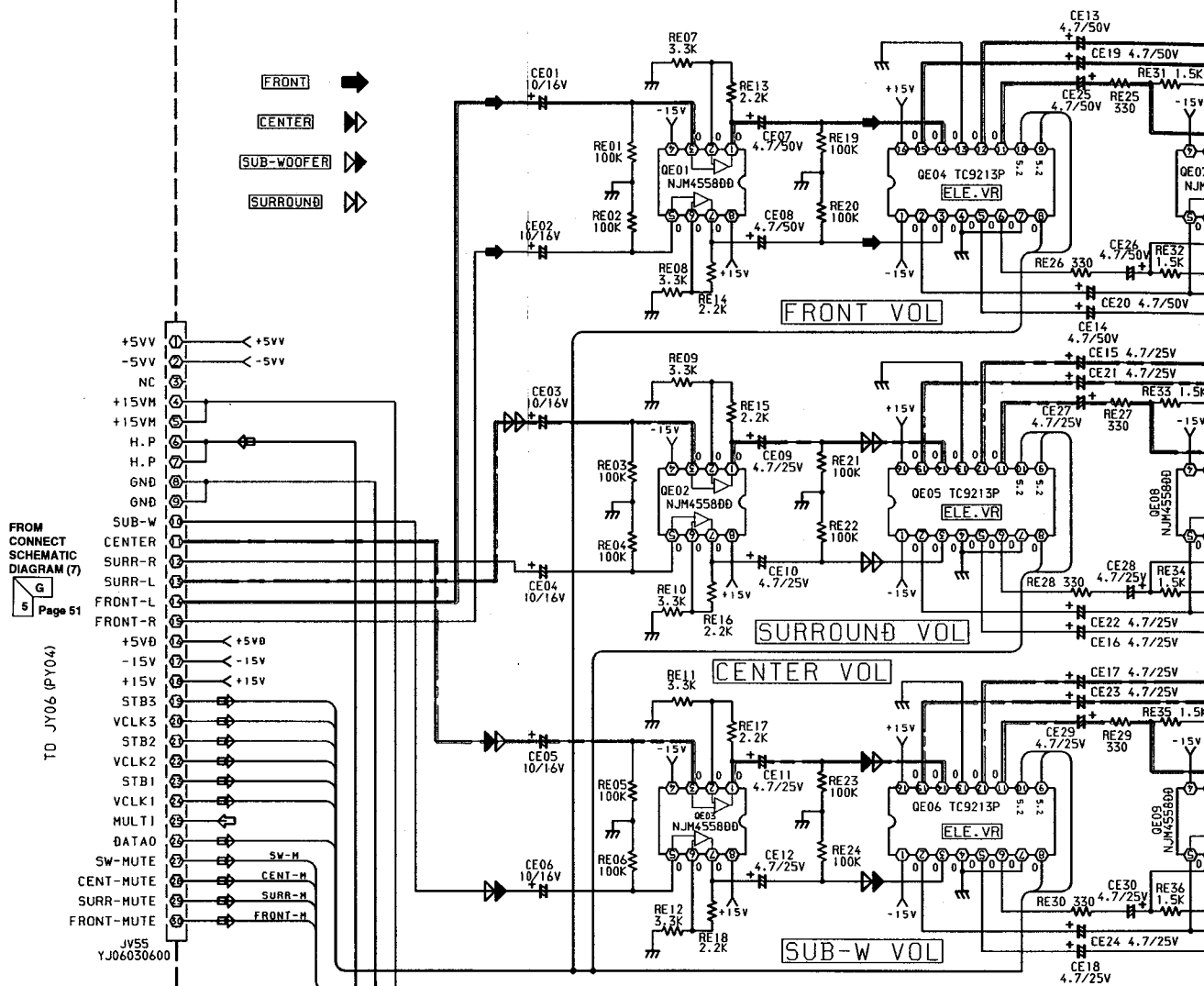




**SCHEMATIC DIAGRAM ( 4 ) BK VERSION**

SCHEMATIC DIAGRAM ( 4 ) BK VERSION

PE04-ELE. VOL



F

G

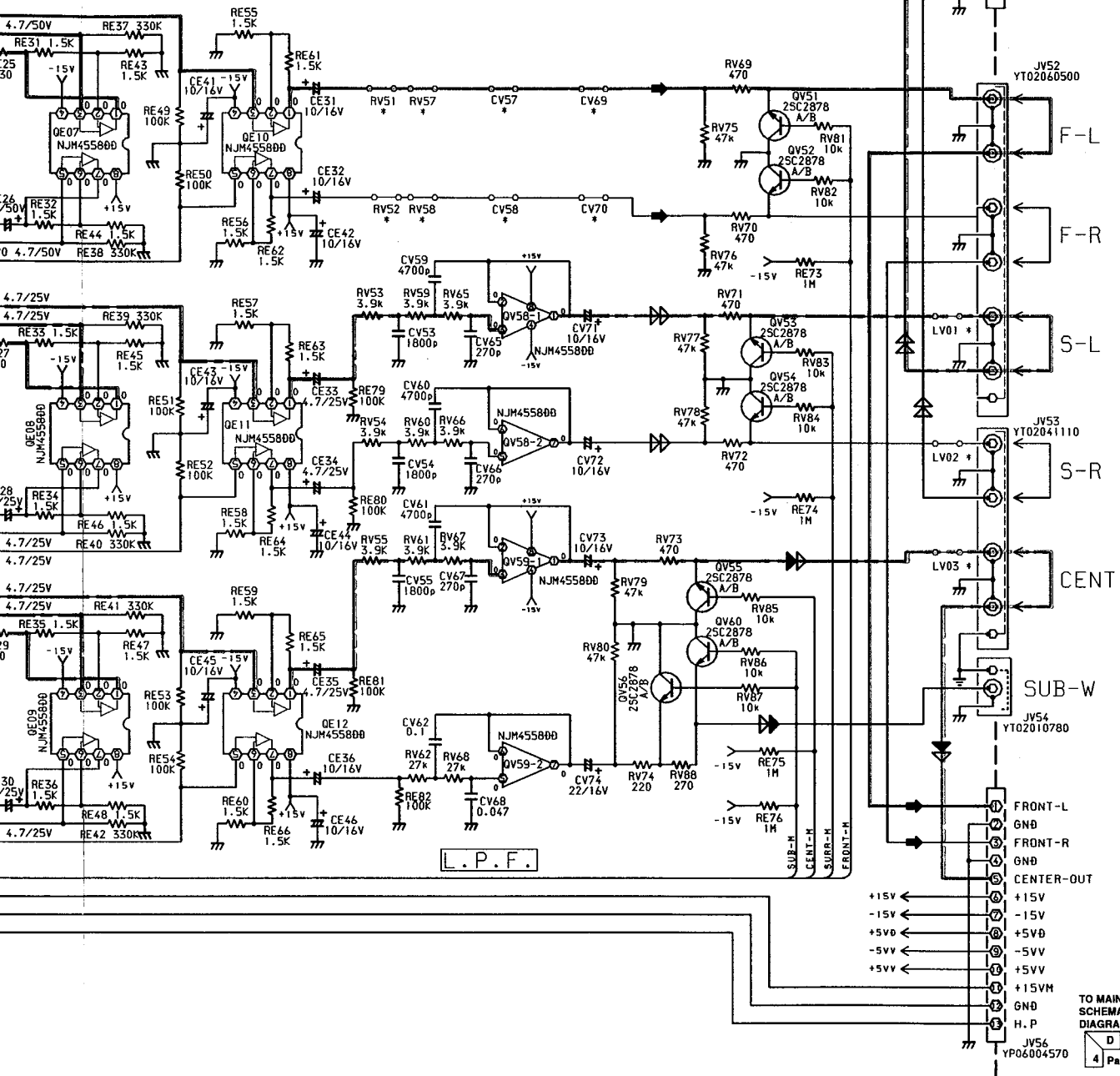
H

I

J

TO SURROUND  
AMP  
SCHEMATIC  
DIAGRAM (8) or (9)  
A  
2 Page 52 or 53  
TO JP01 (PP04)

PE04  
(RVR)  
(RTE)

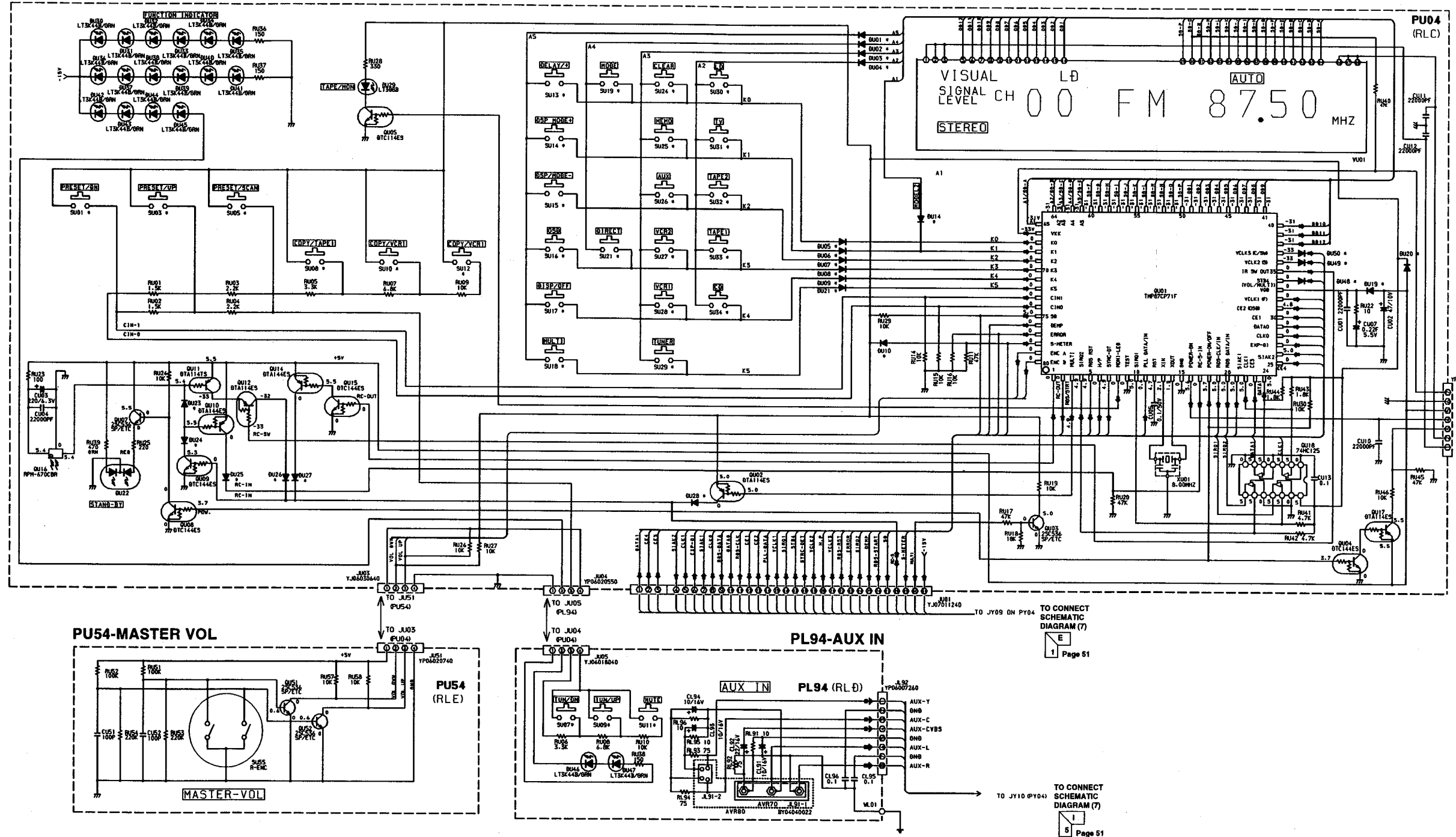


TO J701 (P704)

TO MAIN AMP  
SCHEMATIC  
DIAGRAM (8) or (9)  
D  
4 Page 52 or 53

# SCHEMATIC DIAGRAM ( 5 ) BK VERSION

PU04-FRONT ( AVR80 ) ONLY

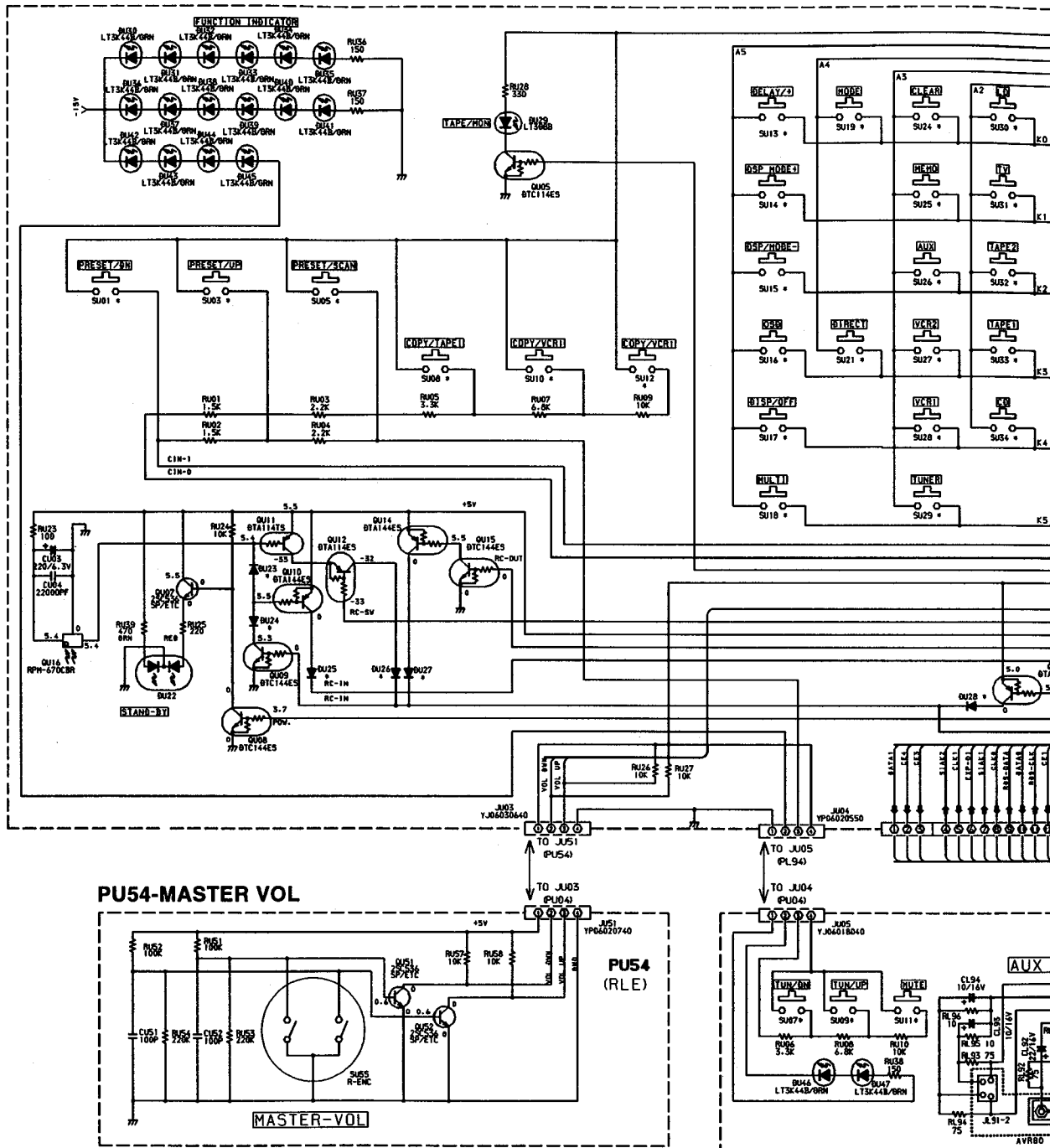


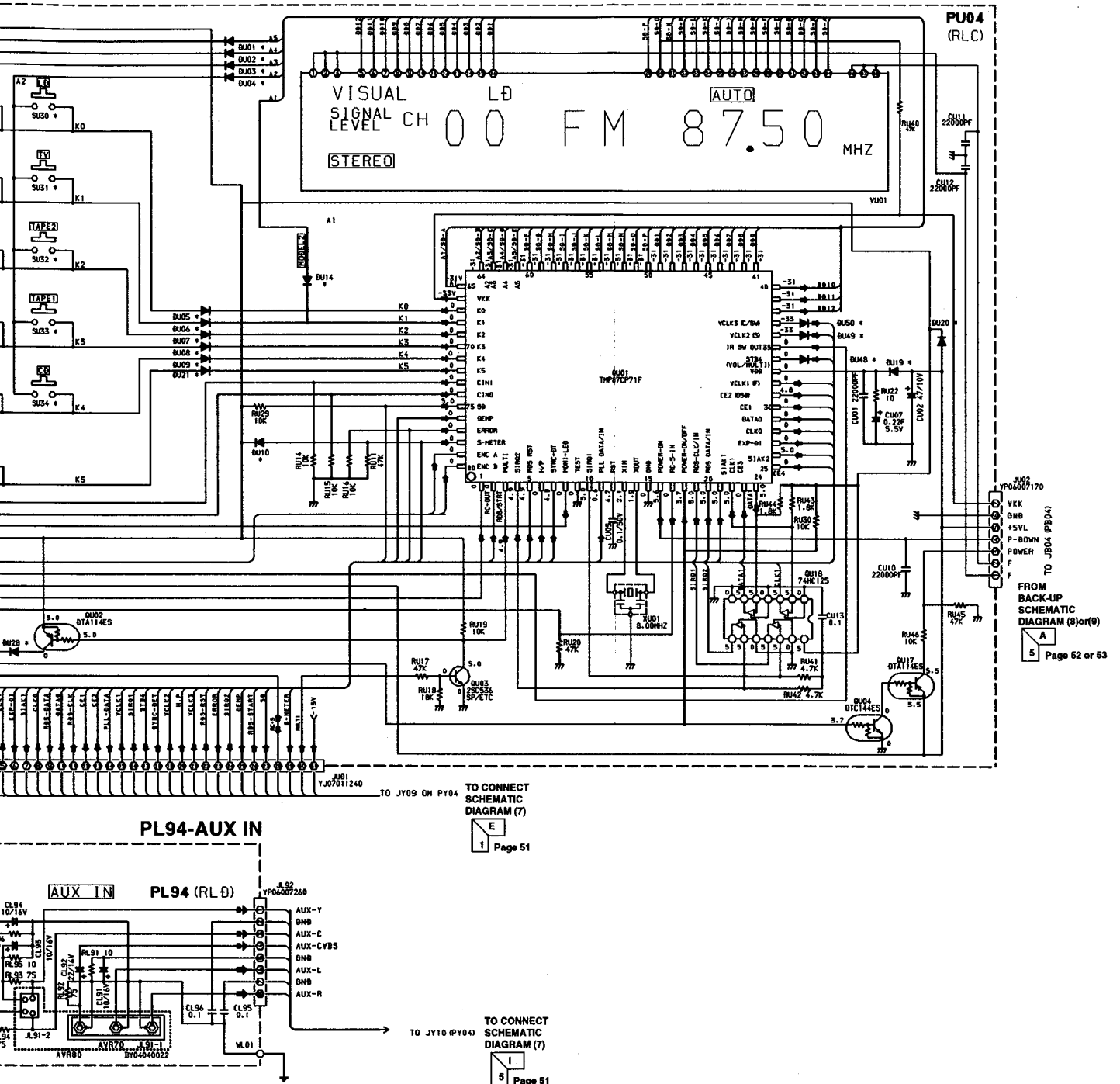
FROM BACK-UP  
SCHEMATIC  
DIAGRAM (8) or (9)  
A  
Page 52 or 53

TO CONNECT  
SCHEMATIC  
DIAGRAM (7)  
E  
Page 51

TO CONNECT  
SCHEMATIC  
DIAGRAM (7)  
E  
Page 51

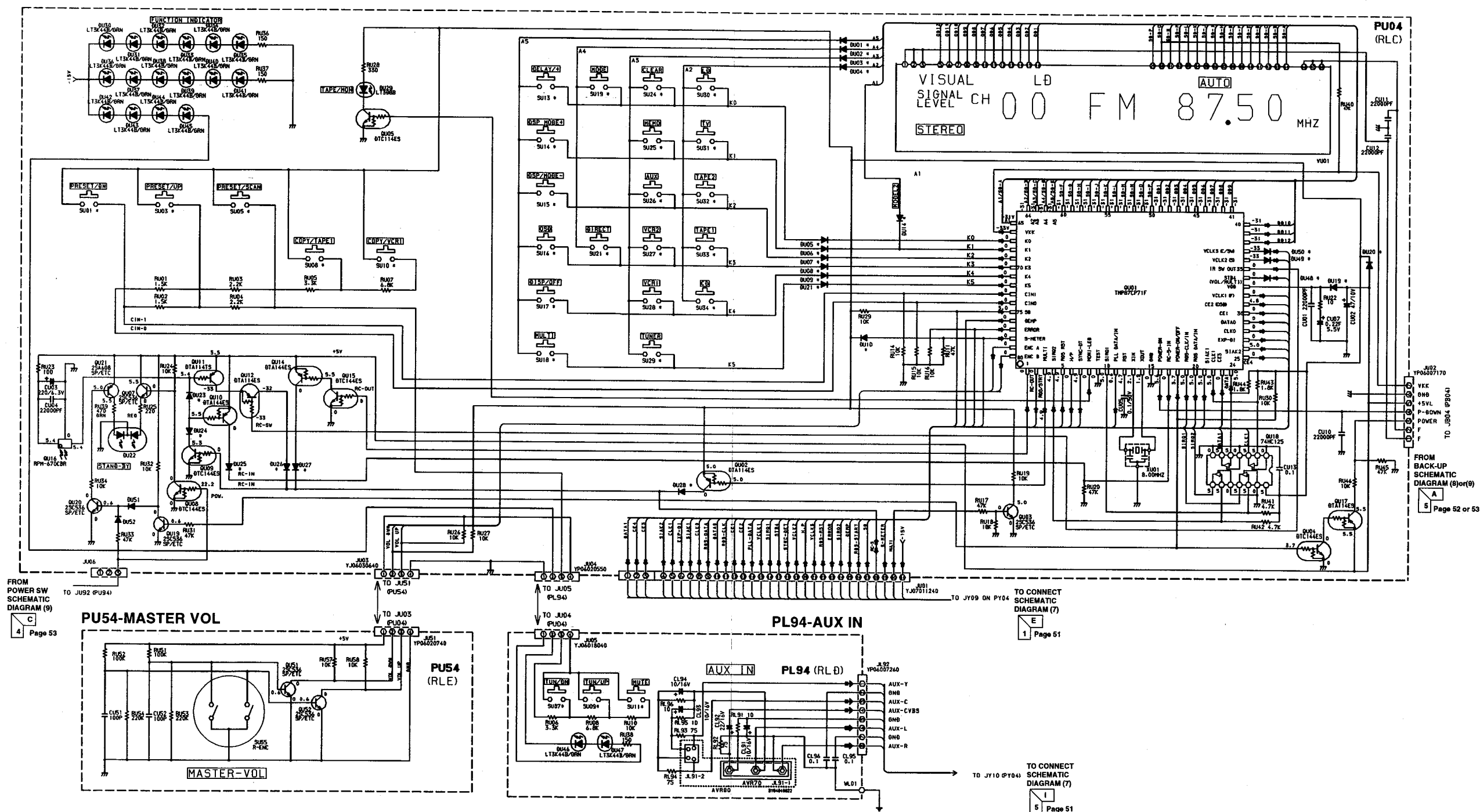
**PU04-FRONT ( AVR80 ) ONLY**







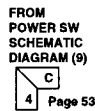
**SCHEMATIC DIAGRAM ( 6 ) BK VERSION**  
**PU04-FRONT ( AVR80MK II ) ONLY**



FROM BACK-UP  
 SCHEMATIC  
 DIAGRAM (8) or (9)  
 Page 52 or 53

TO CONNECT  
 SCHEMATIC  
 DIAGRAM (7)  
 Page 51

TO CONNECT  
 SCHEMATIC  
 DIAGRAM (7)  
 Page 51





[illegible]

# SCHEMATIC DIAGRAM ( 7 ) BK VERSION

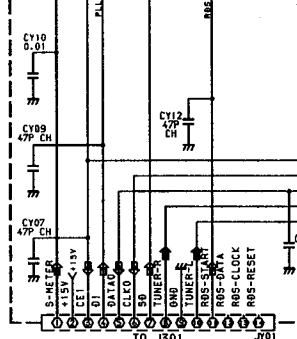
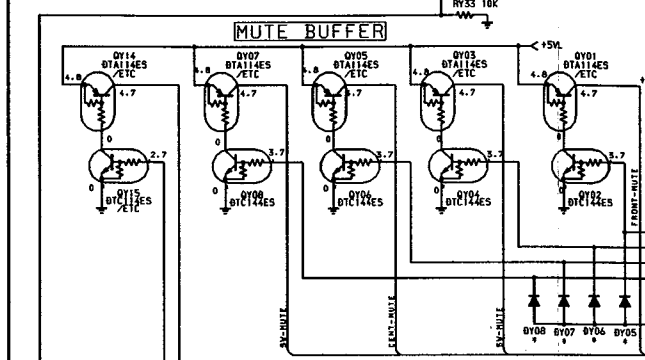
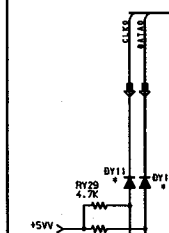
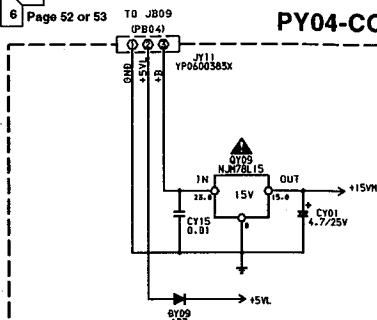
FROM  
BACK-UP  
SCHEMATIC  
DIAGRAM (8) or (9)

6 Page 52 or 53

PY04-CONNECT

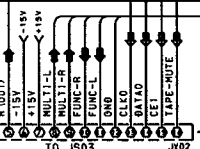
FROM FRONT  
SCHEMATIC  
DIAGRAM (5) or (6)

5 Page 49 or 50 TO JU01  
(PU04)



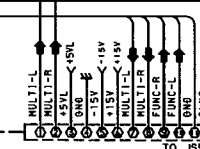
FROM TUNER  
FUNCTION  
SCHEMATIC  
DIAGRAM (3)

4 Page 47



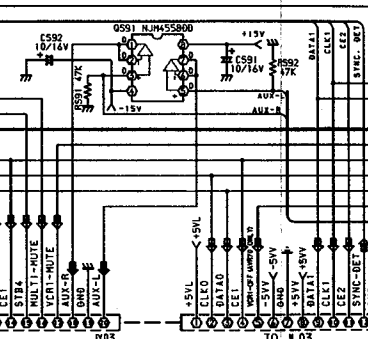
FROM AUDIO  
FUNCTION  
SCHEMATIC  
DIAGRAM (1)

2 Page 45



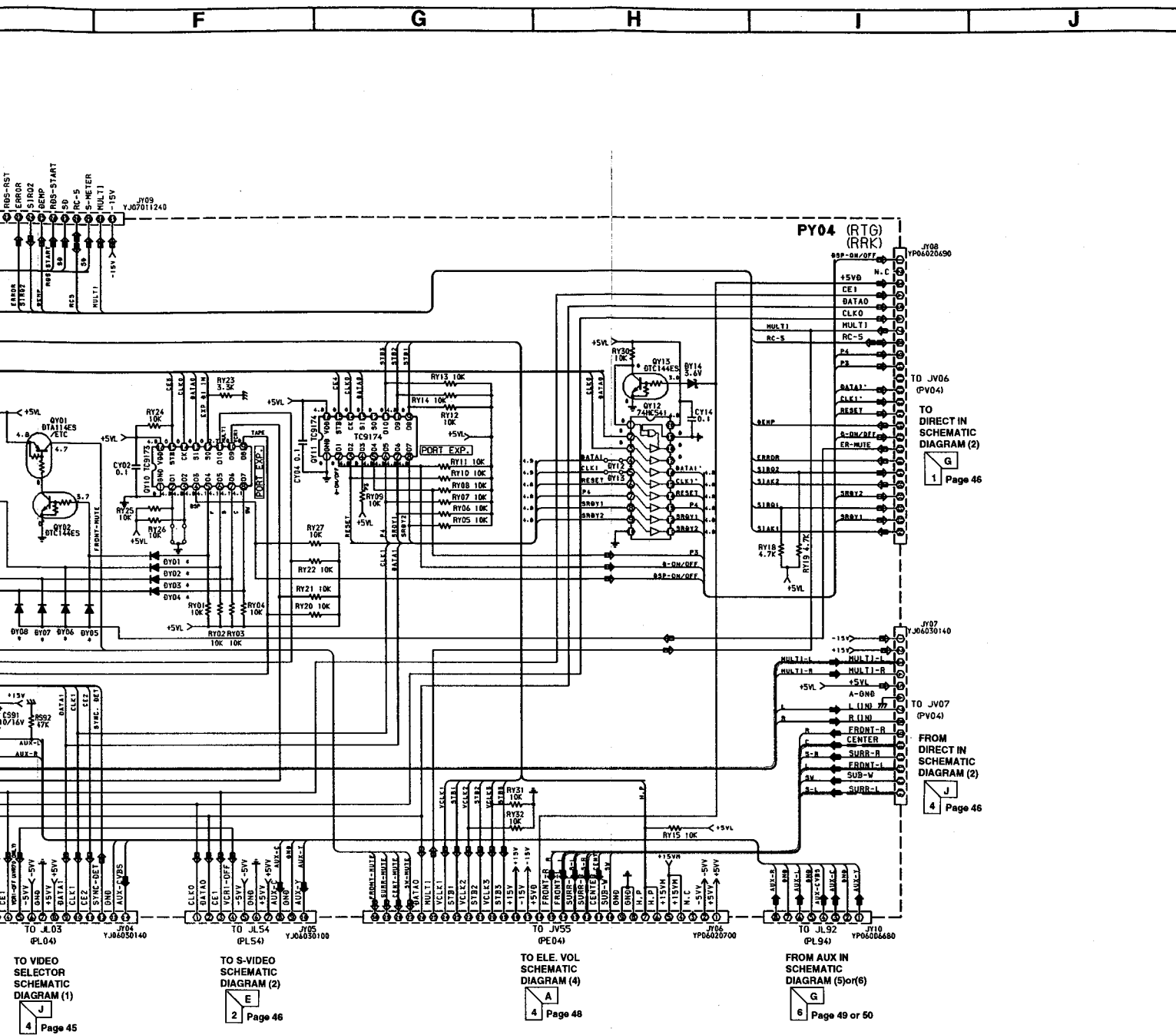
TO V-AUDIO  
FUNCTION  
SCHEMATIC  
DIAGRAM (1)

5 Page 45



TO VIDEO  
SELECTOR  
SCHEMATIC  
DIAGRAM (1)

4 Page 45

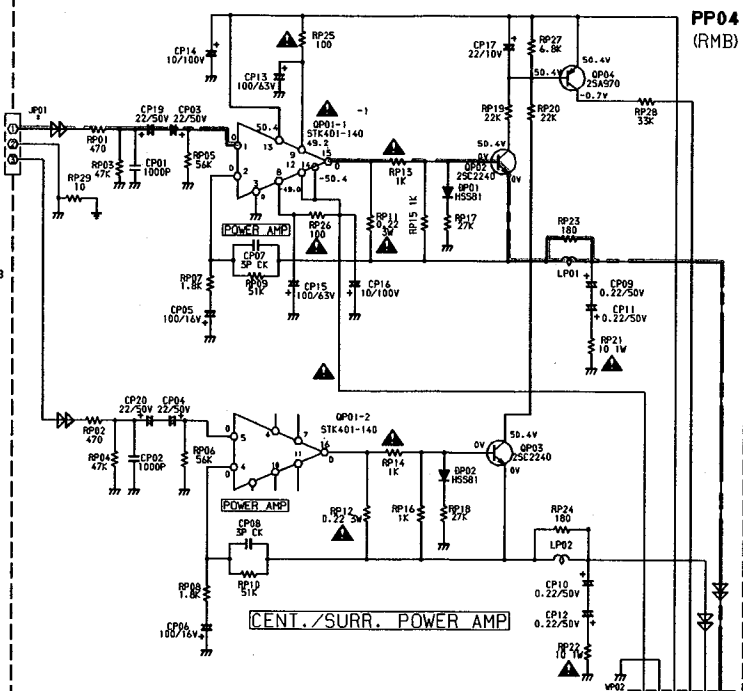


# SCHEMATIC DIAGRAM ( 8 ) BK VERSION

## P704-MAIN AMP ( AVR80 ) ONLY

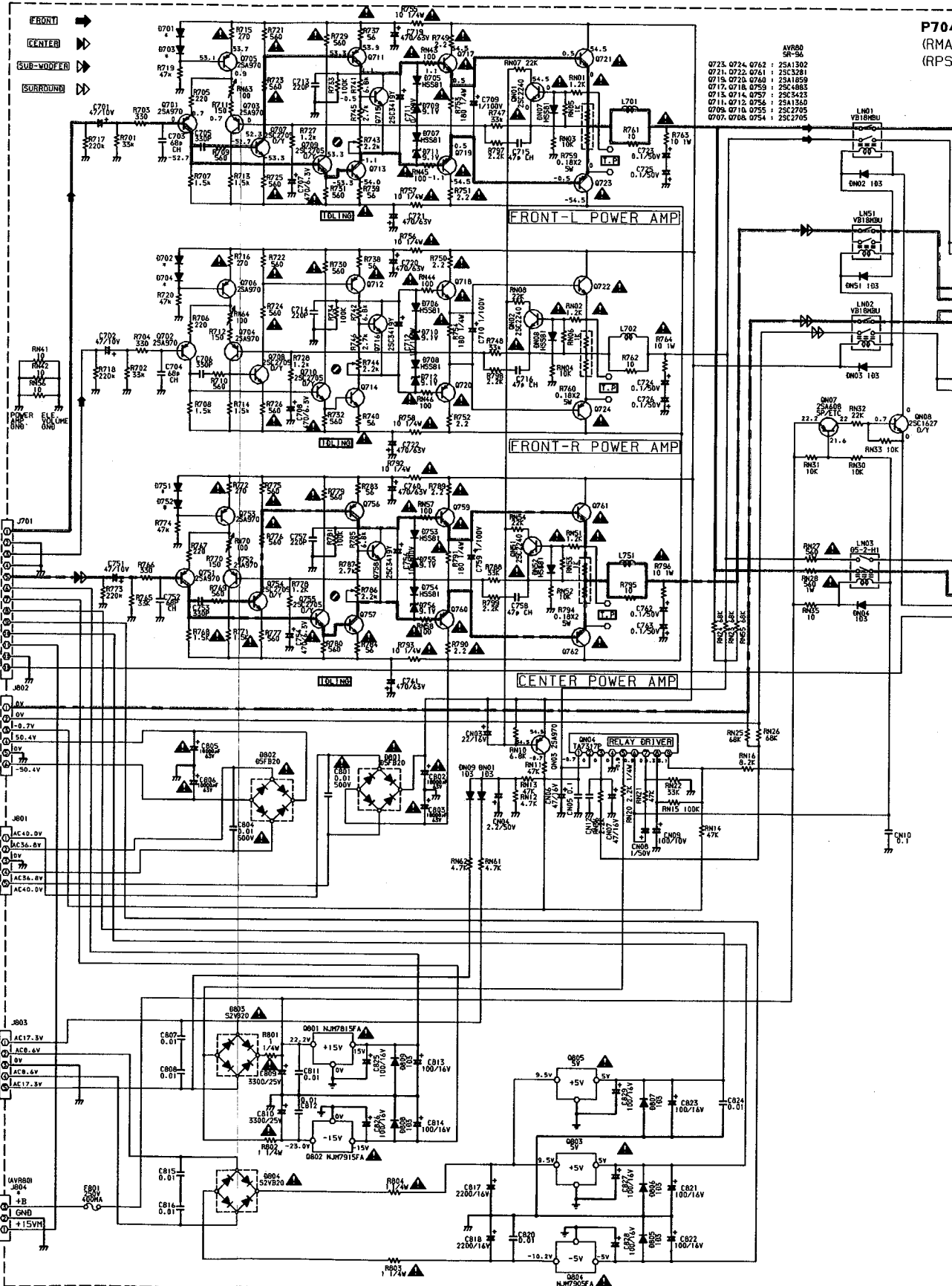
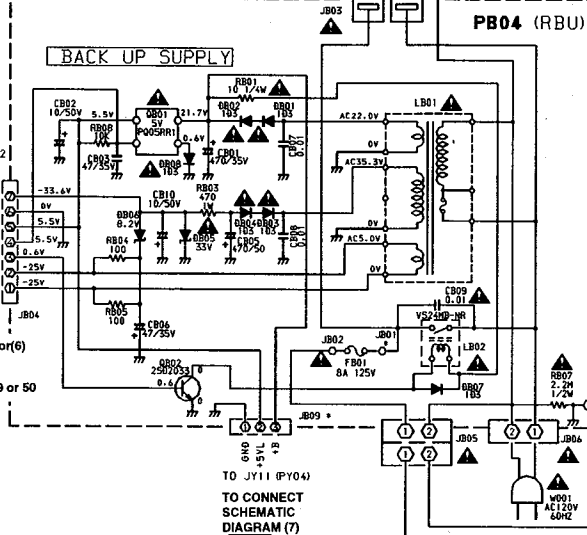
### PP04-SURROUND AMP

PP04  
(RMB)



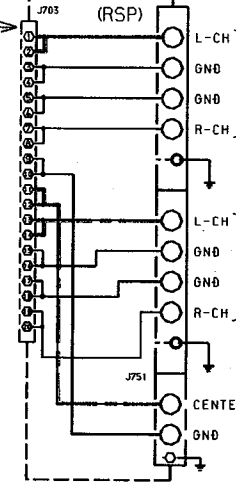
### PB04-BACK-UP ( AVR80 ) ONLY

PB04  
(RBU)



### P754-SPK TERMINAL

P754  
(RSP)



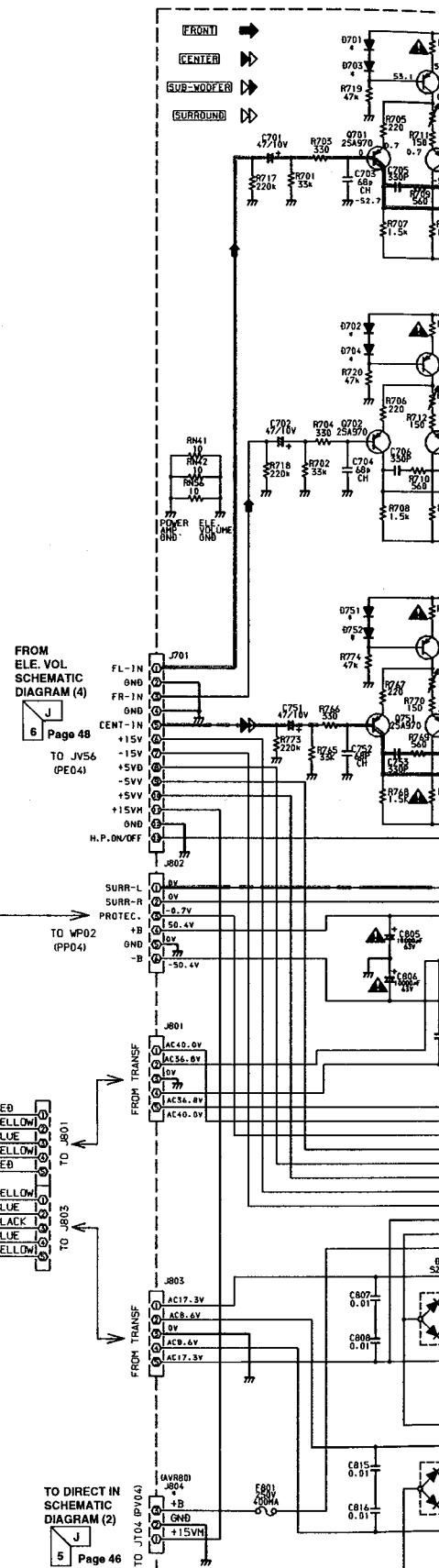
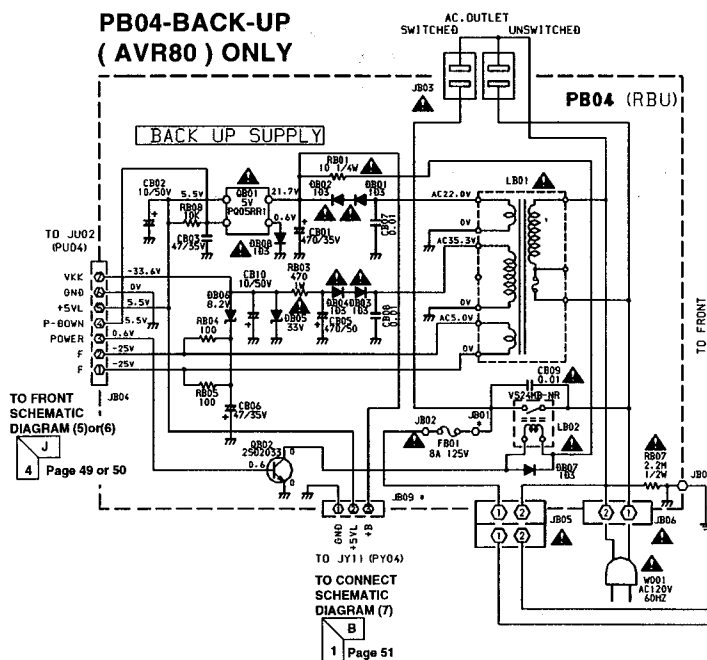
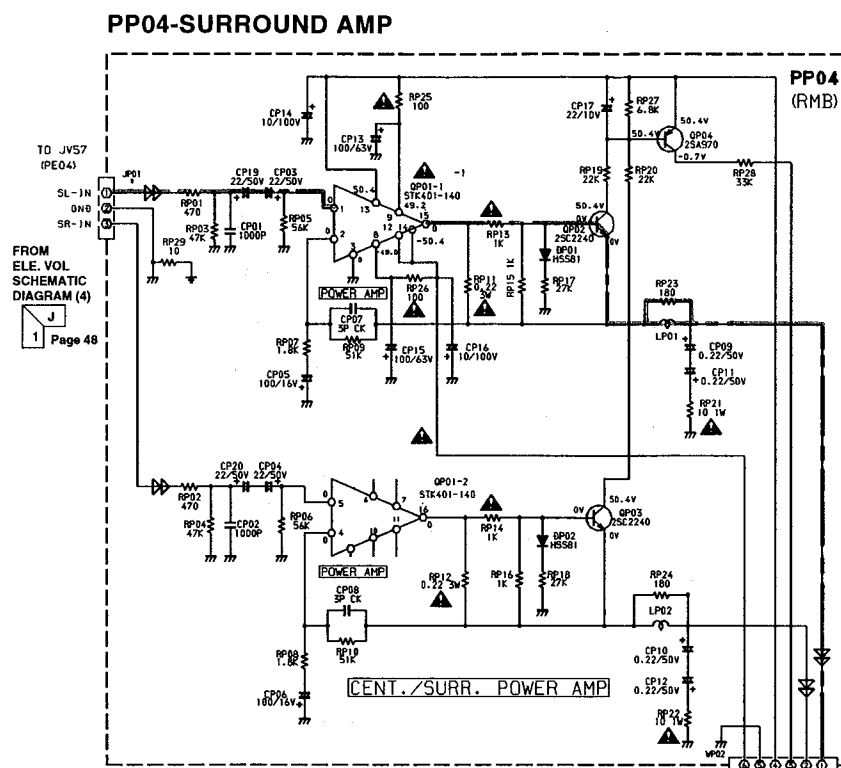
### PW04-H.P.

PW04  
(RHP)

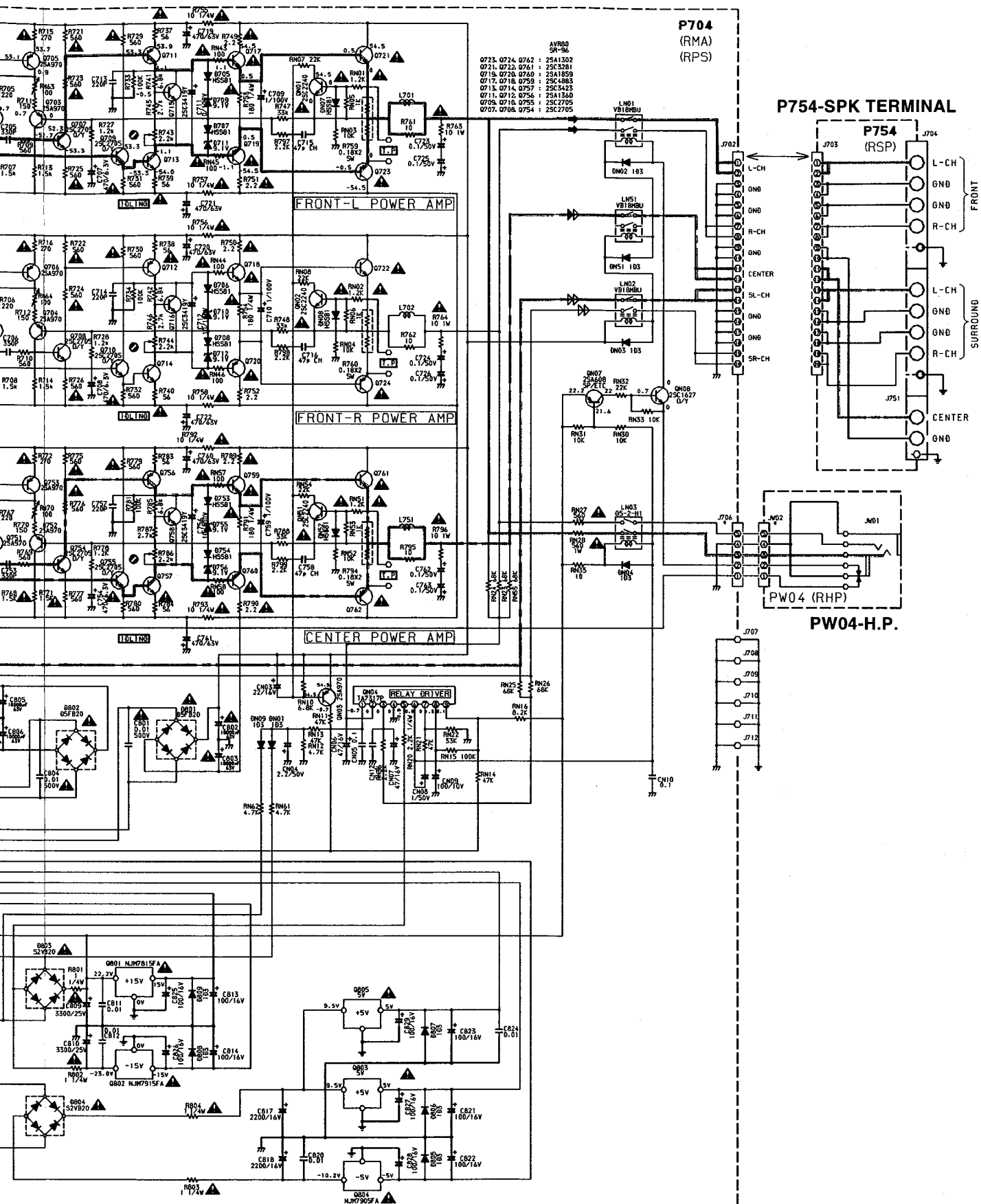




## P704-MAIN AMP ( AVR80



(VR80) ONLY

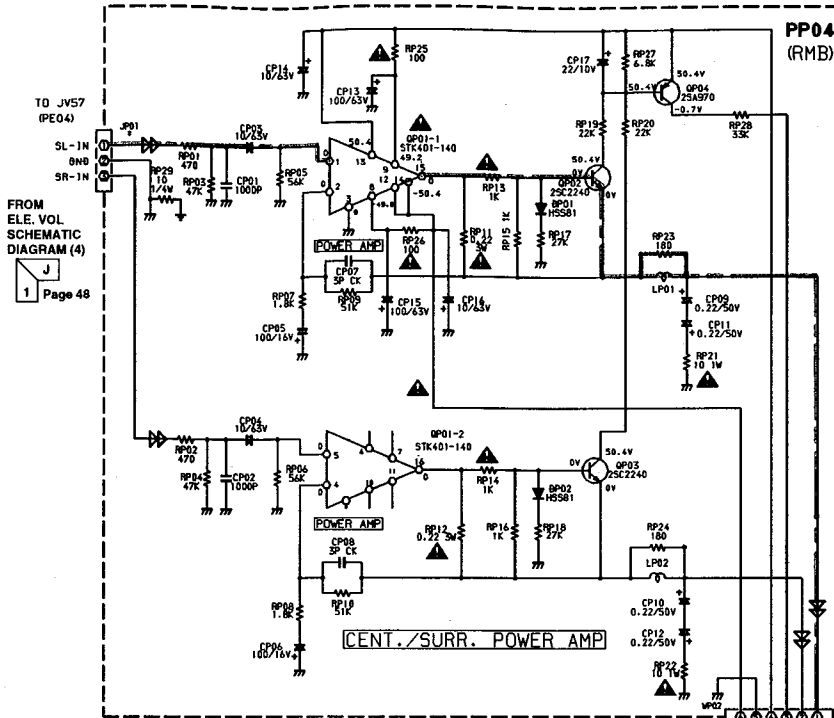




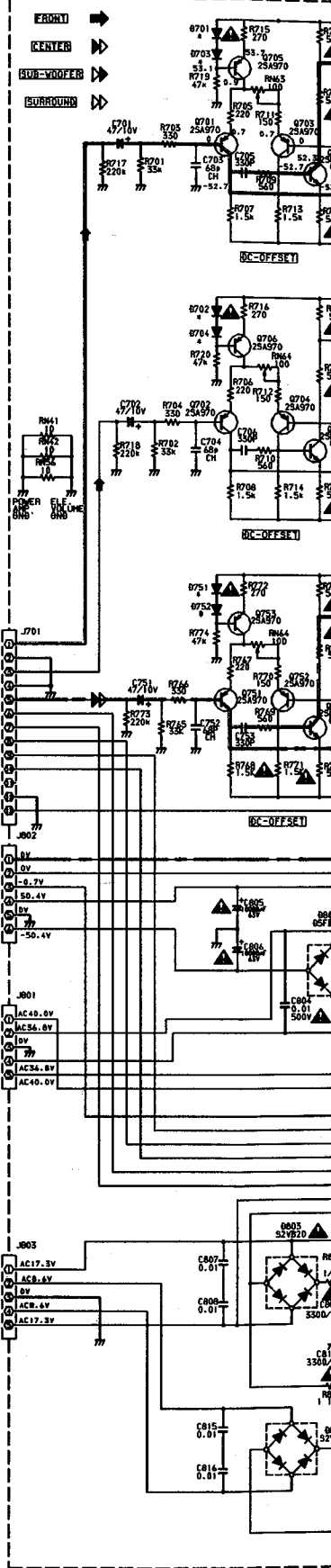
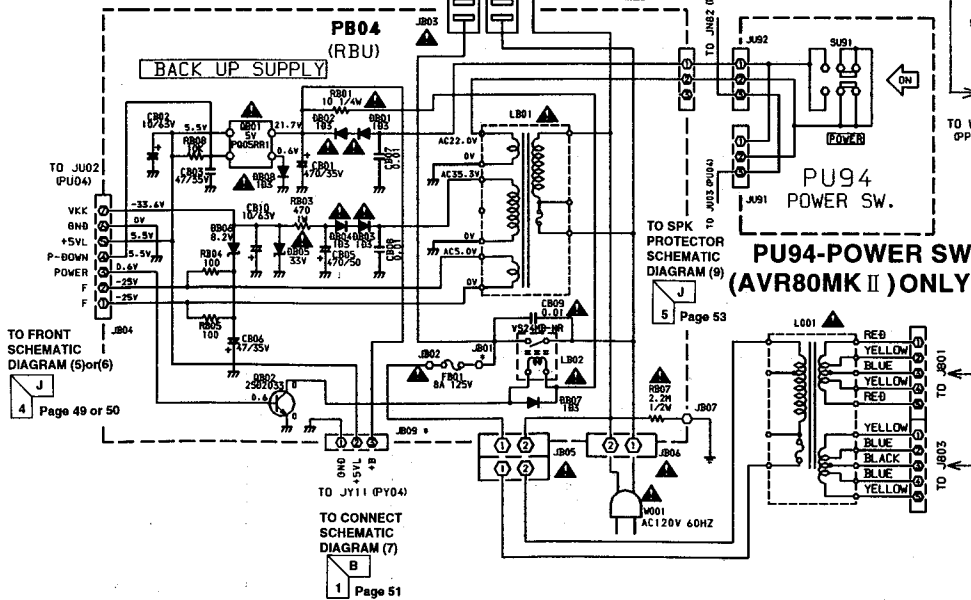
# SCHEMATIC DIAGRAM ( 9 ) (BK) VERSION

P704-MAIN AMP ( AVR80MK I

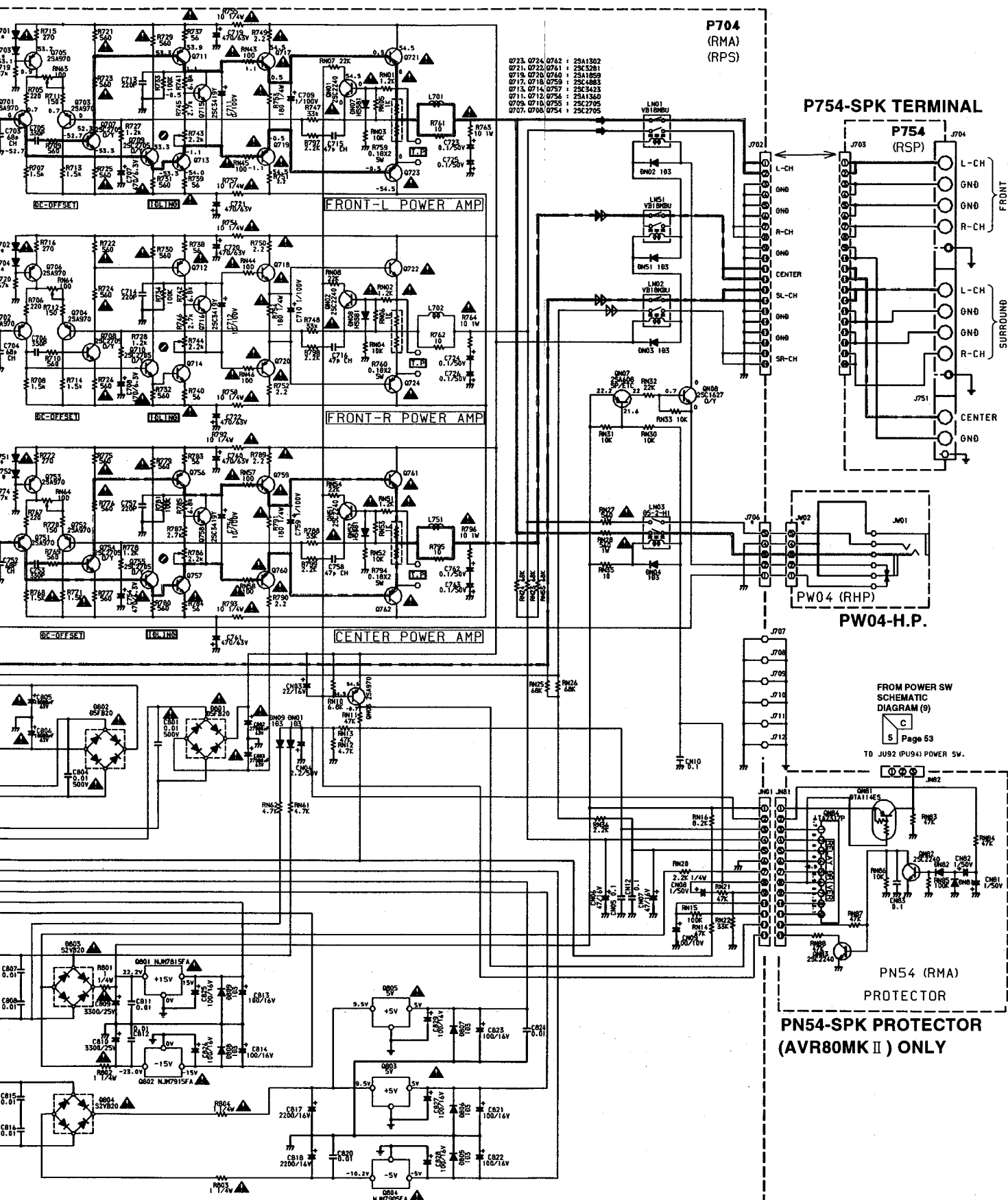
## PP04-SURROUND AMP



## PB04-BACK-UP ( AVR80MK II ) ONLY

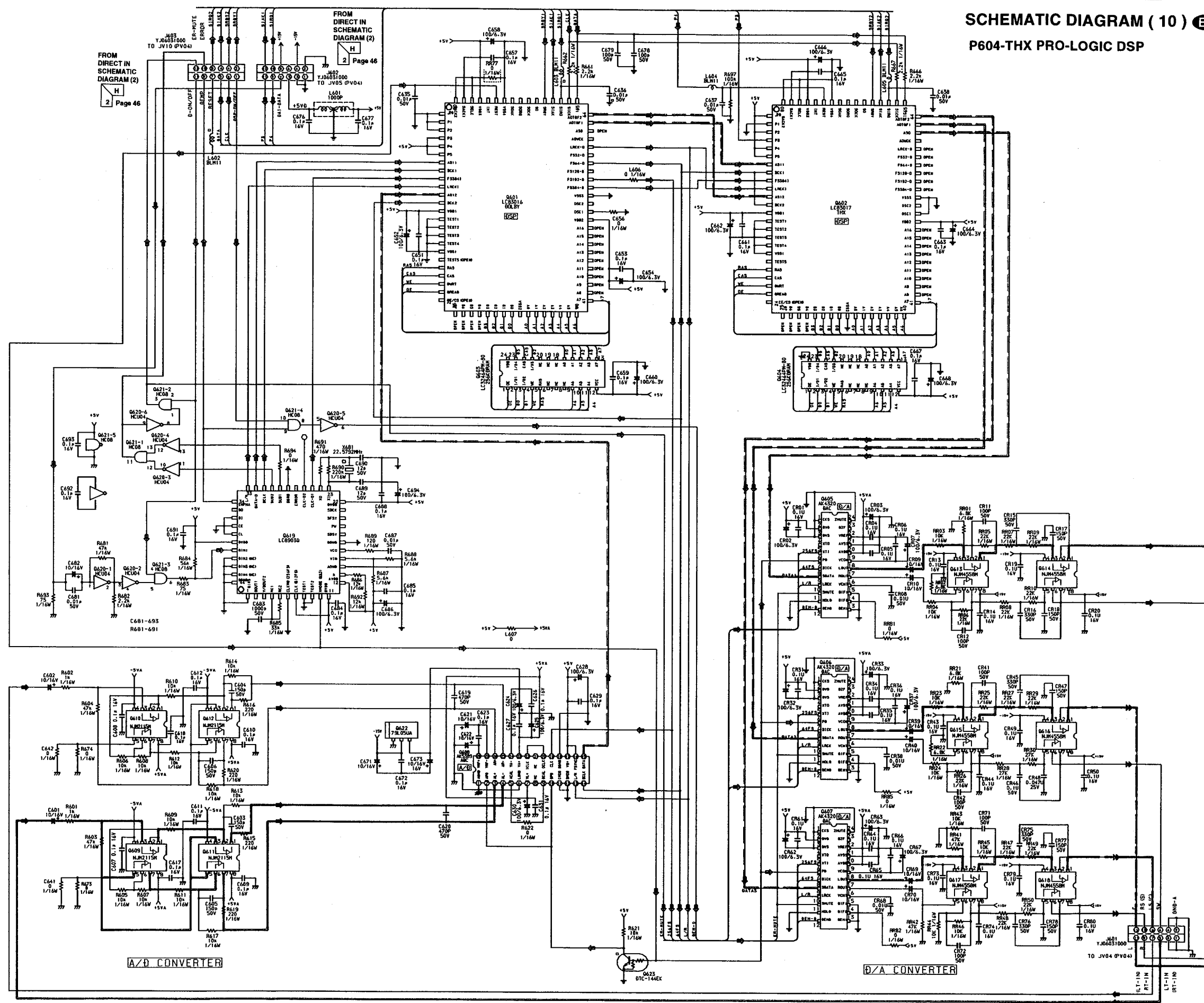


(AVR80MK II) ONLY



# SCHEMATIC DIAGRAM ( 10 ) **EK** VERSION

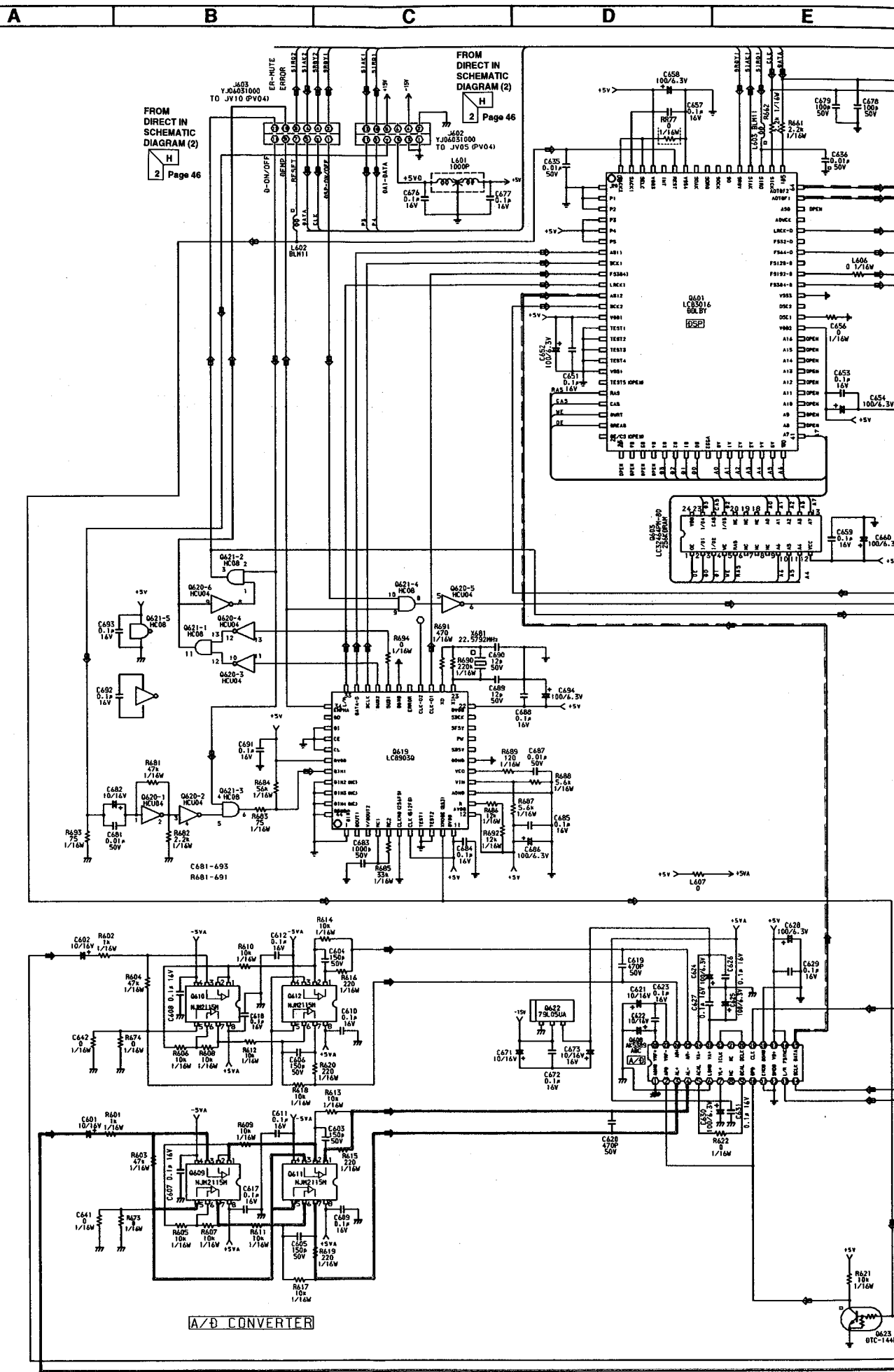
## P604-THX PRO-LOGIC DSP



TO DIRECT IN SCHEMATIC DIAGRAM (2)

1 Page 46

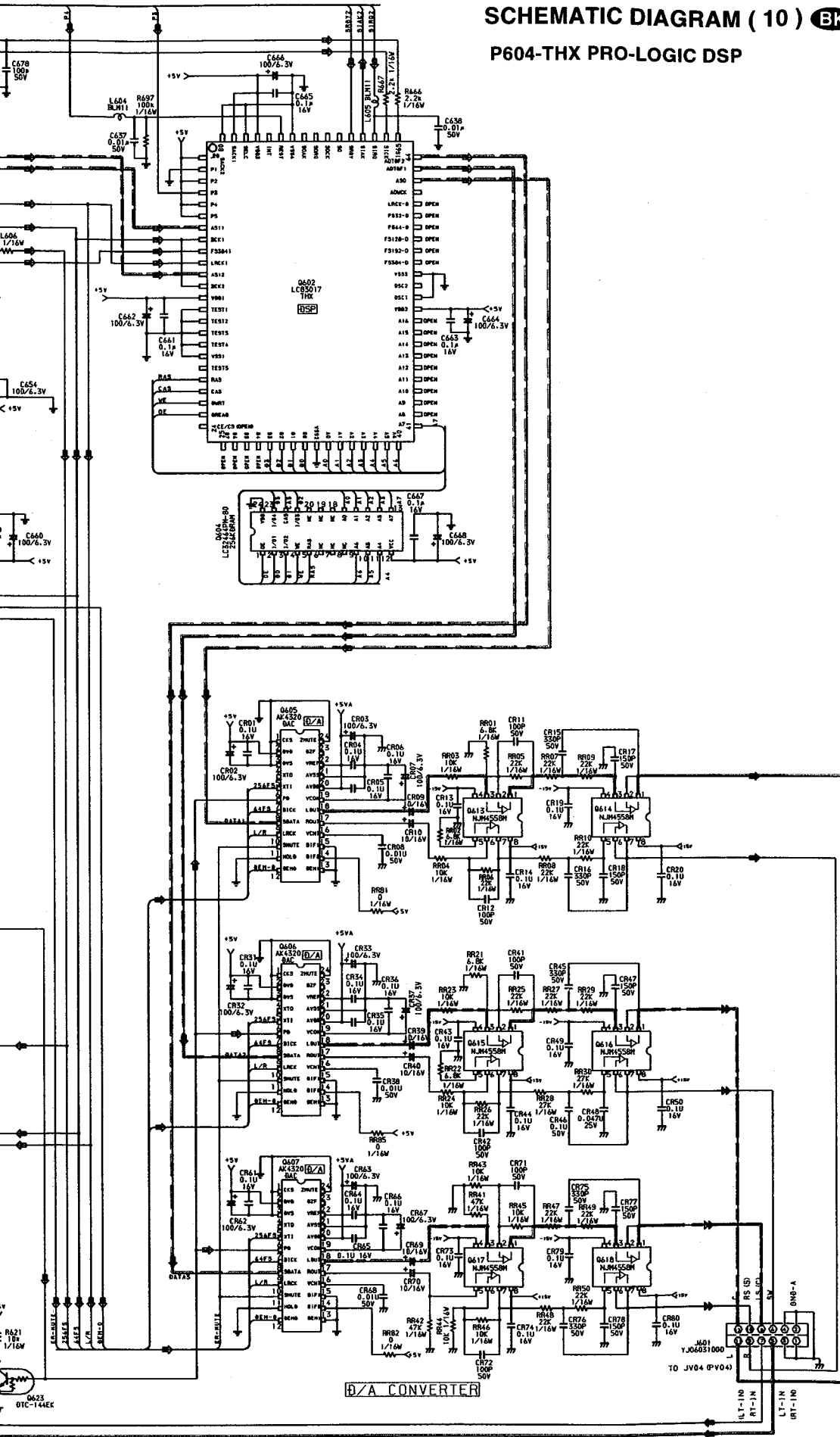
1  
2  
3  
4  
5  
6  
7





# SCHEMATIC DIAGRAM ( 10 ) BK VERSION

## P604-THX PRO-LOGIC DSP



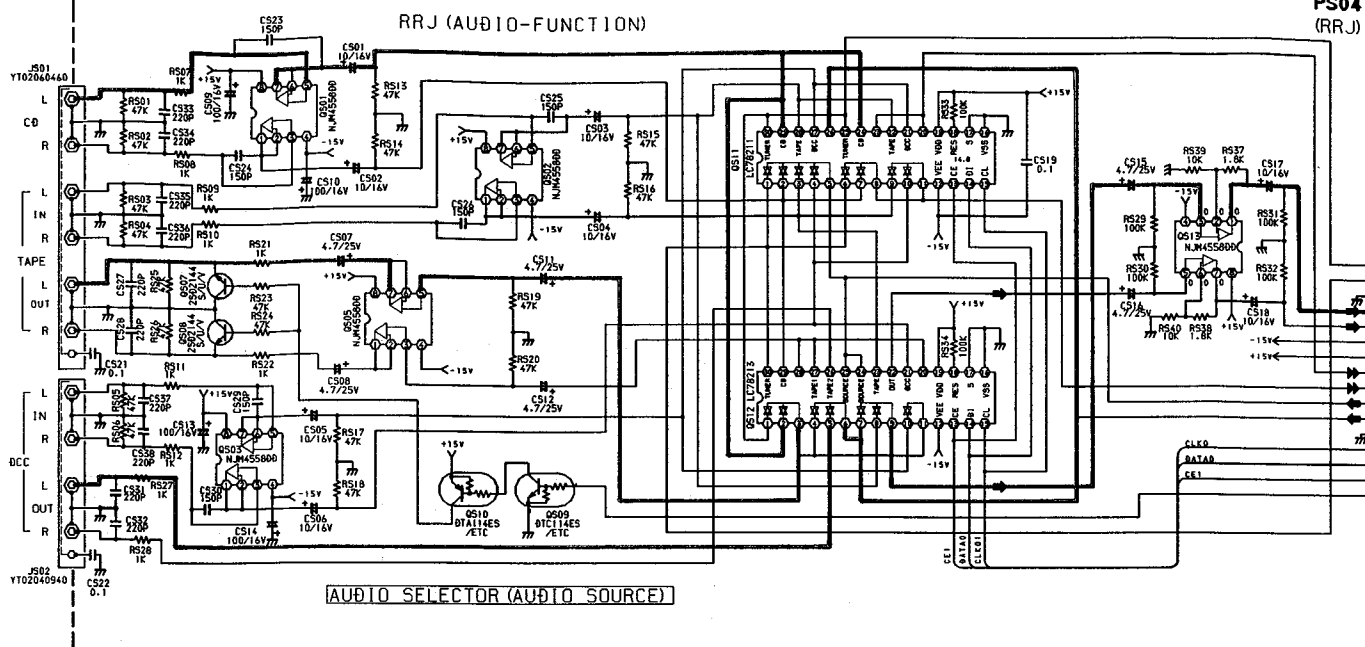
- DIGITAL ⇨
- FRONT ⇨
- CENTER ⇨
- SUB-WOOFER ⇨
- SURROUND ⇨



# SCHEMATIC DIAGRAM ( 11 ) (B) VERSION

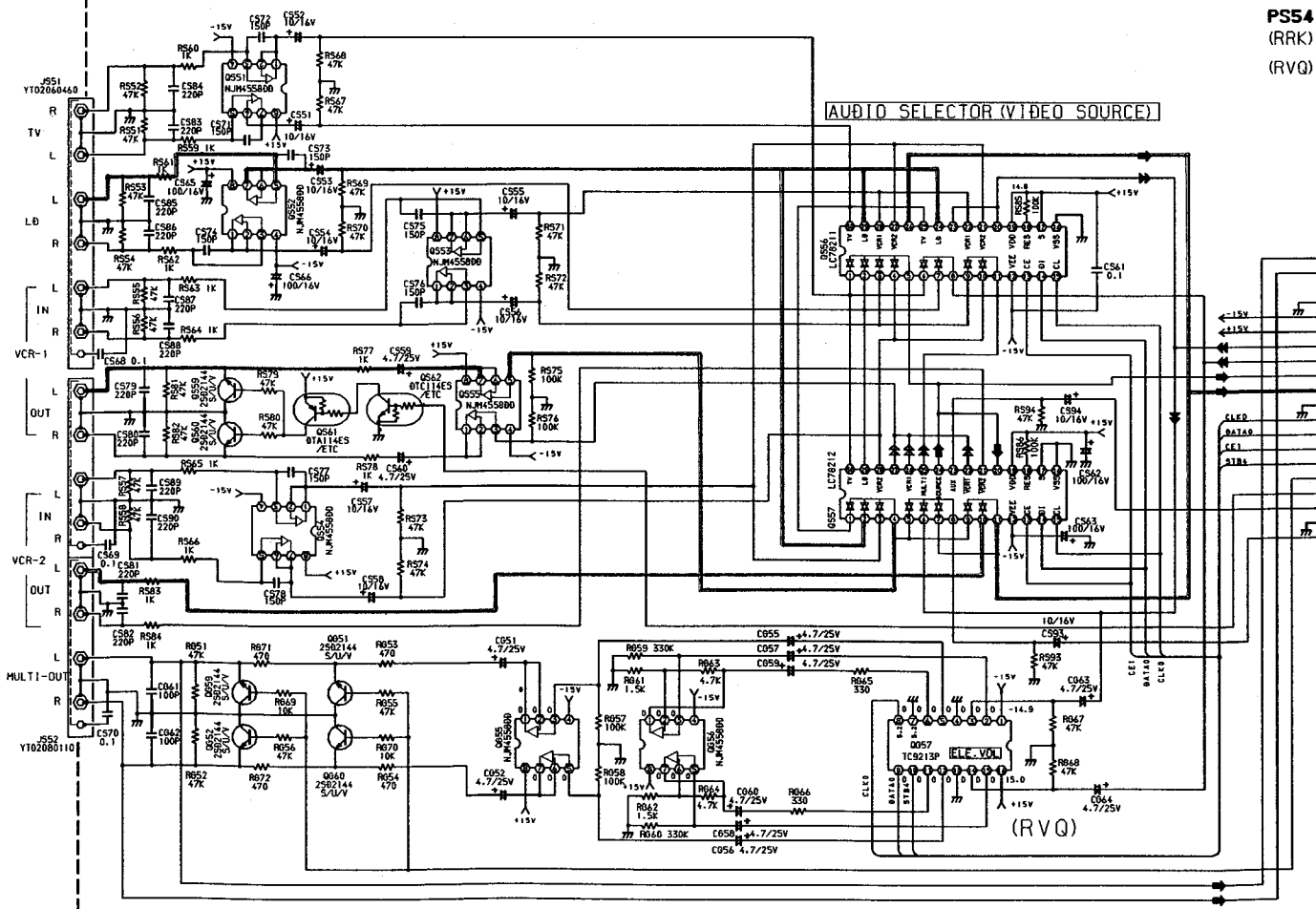
PS04-AUDIO FUNCTION

PS04  
(RRJ)



## PS54-V-AUDIO FUNCTION

PS54  
(RRK)  
(RVQ)



F

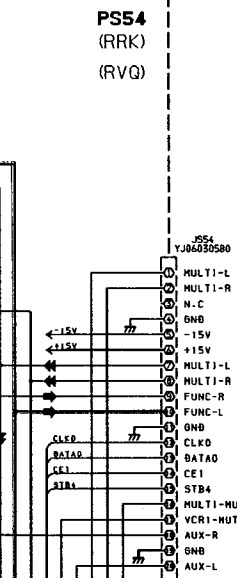
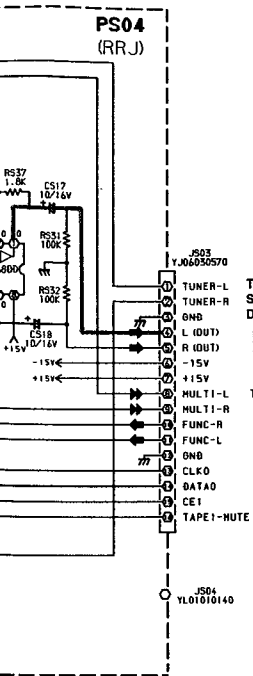
G

H

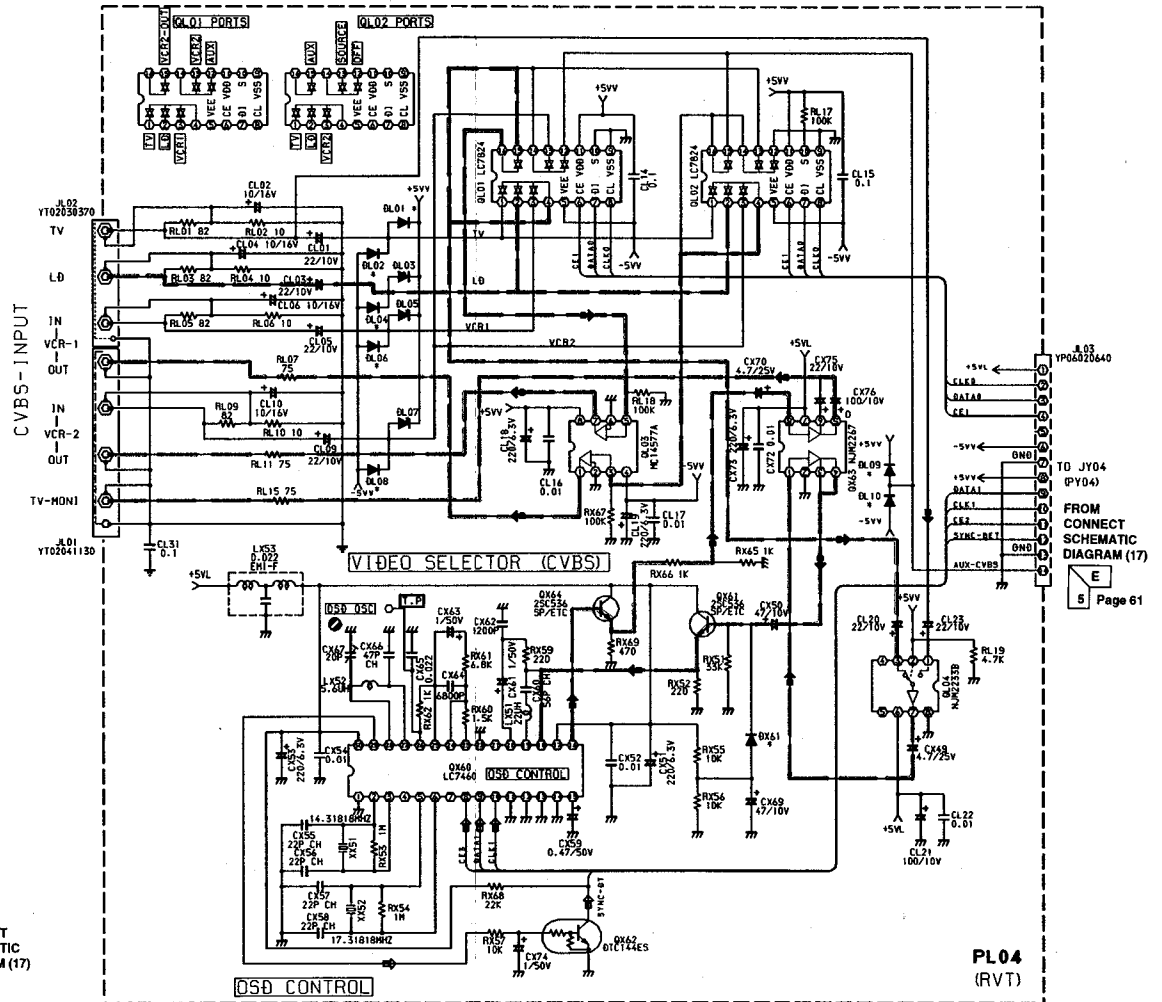
I

J

## IO FUNCTION



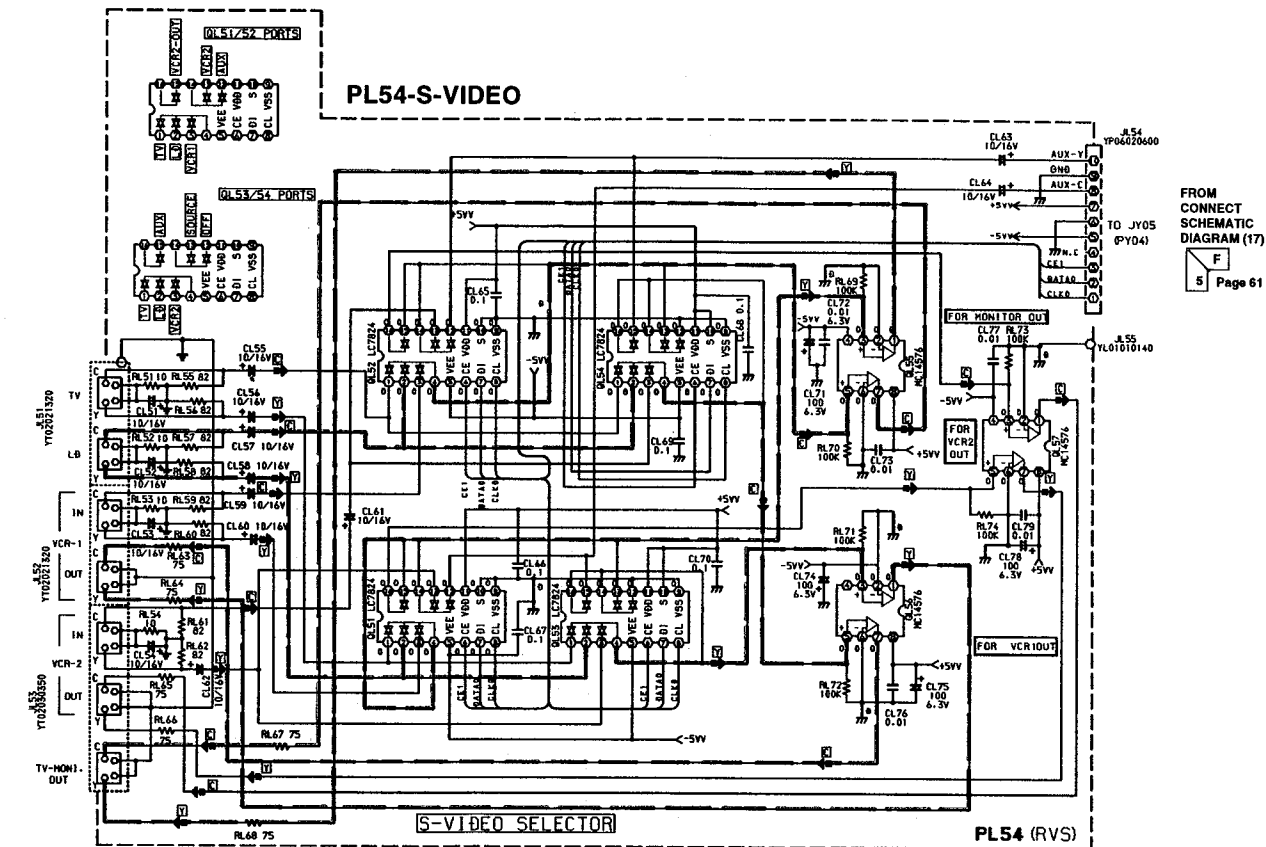
## PL04-VIDEO SELECTOR



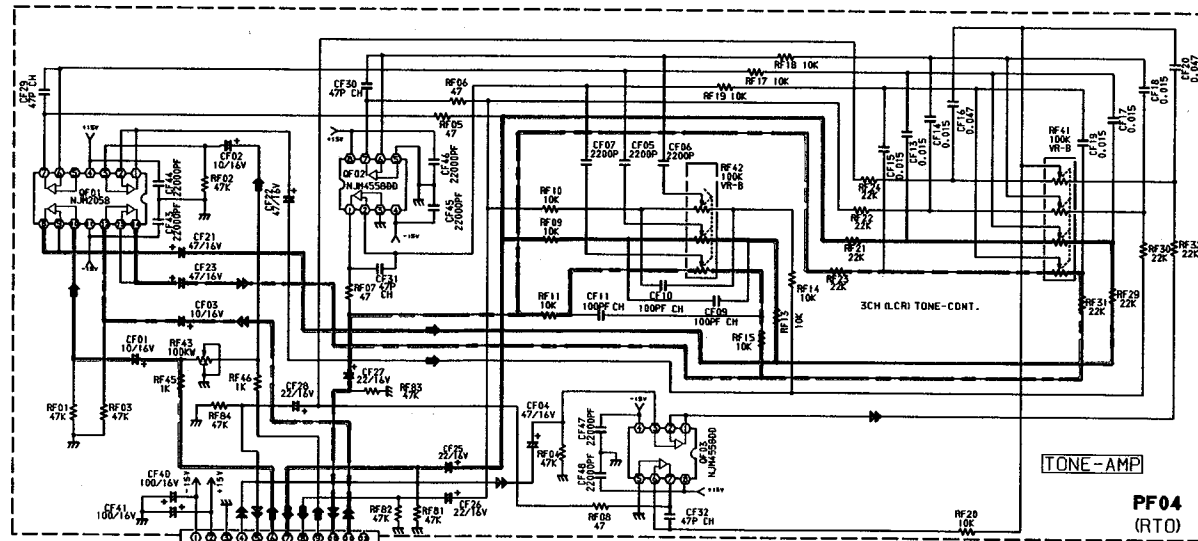
FRONT ➡

MULTI ROOM ➡

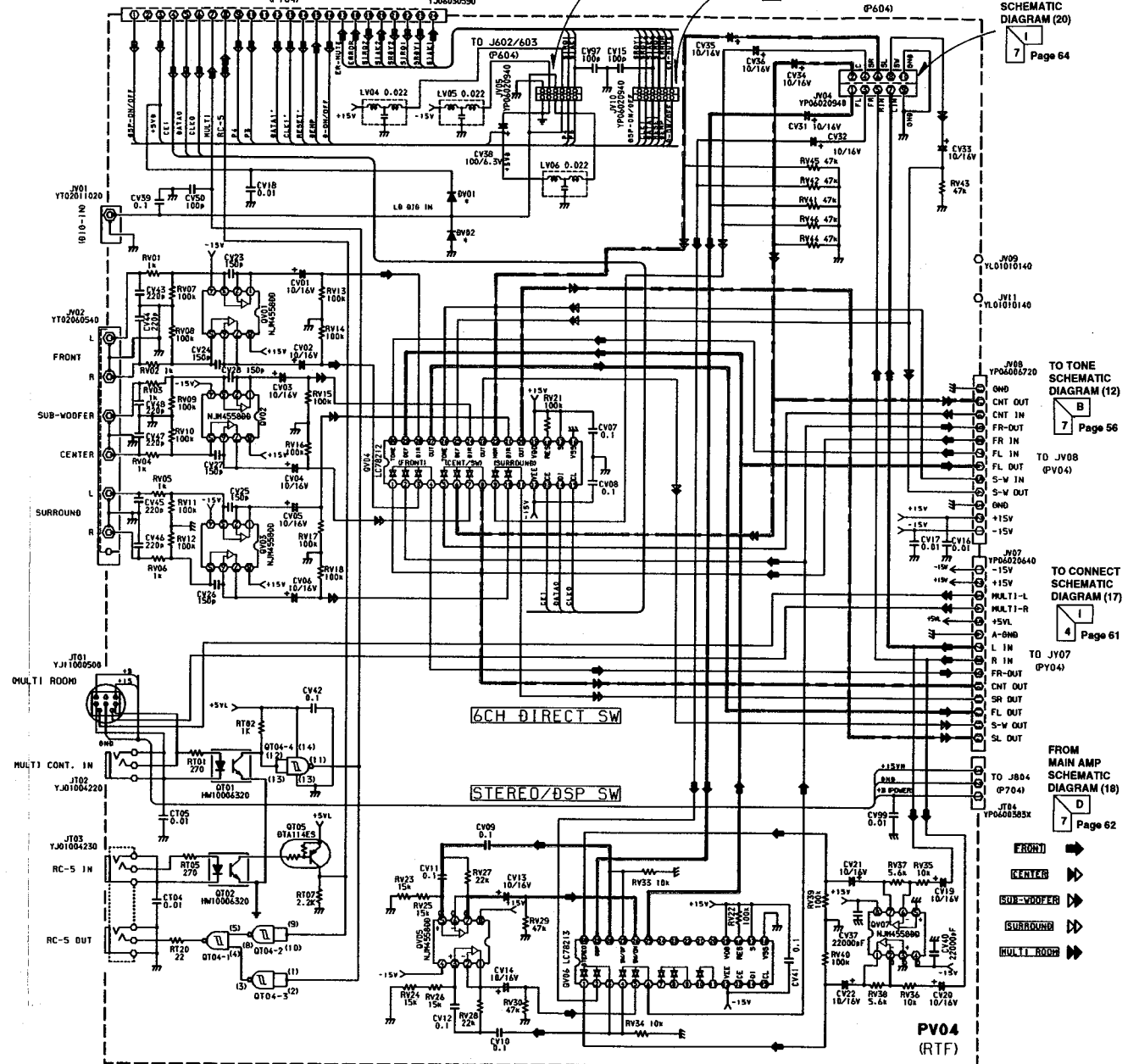
# SCHEMATIC DIAGRAM ( 12 ) **IB** VERSION



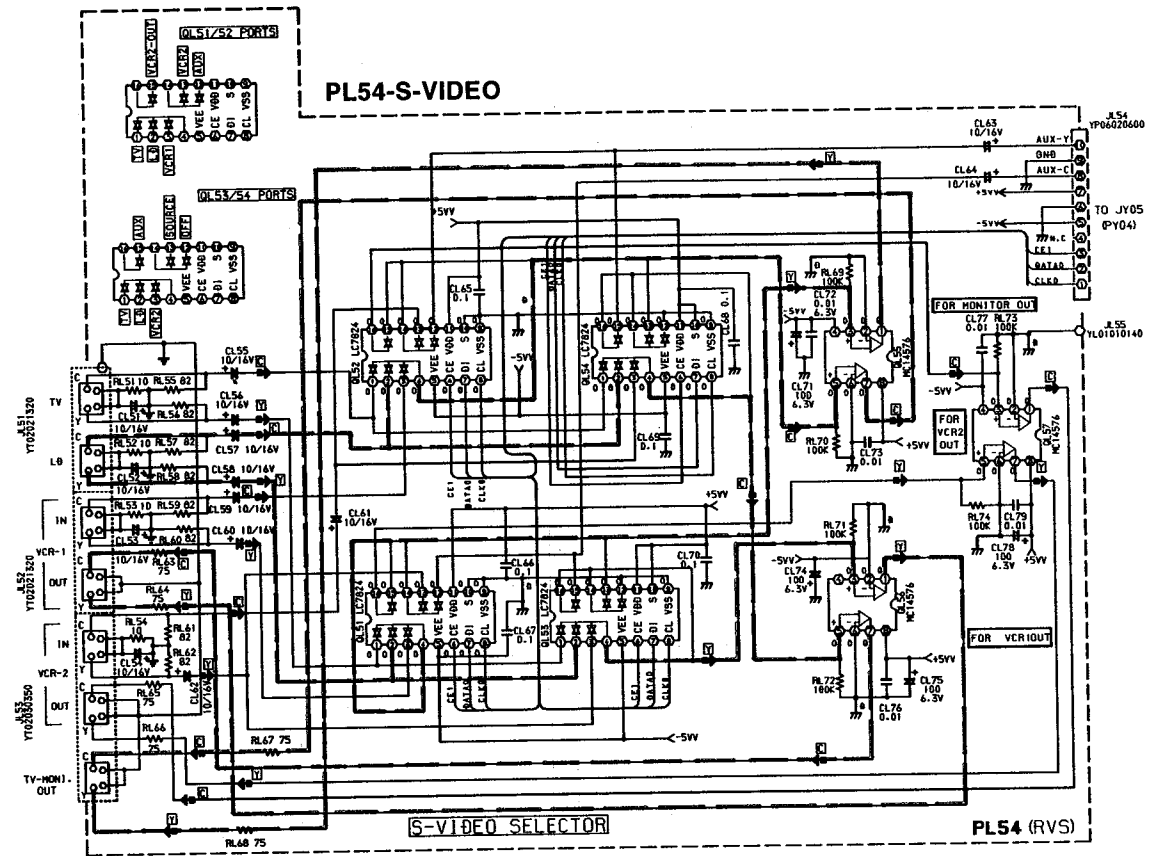
## PF04-TONE



## PV04-DIRECT IN

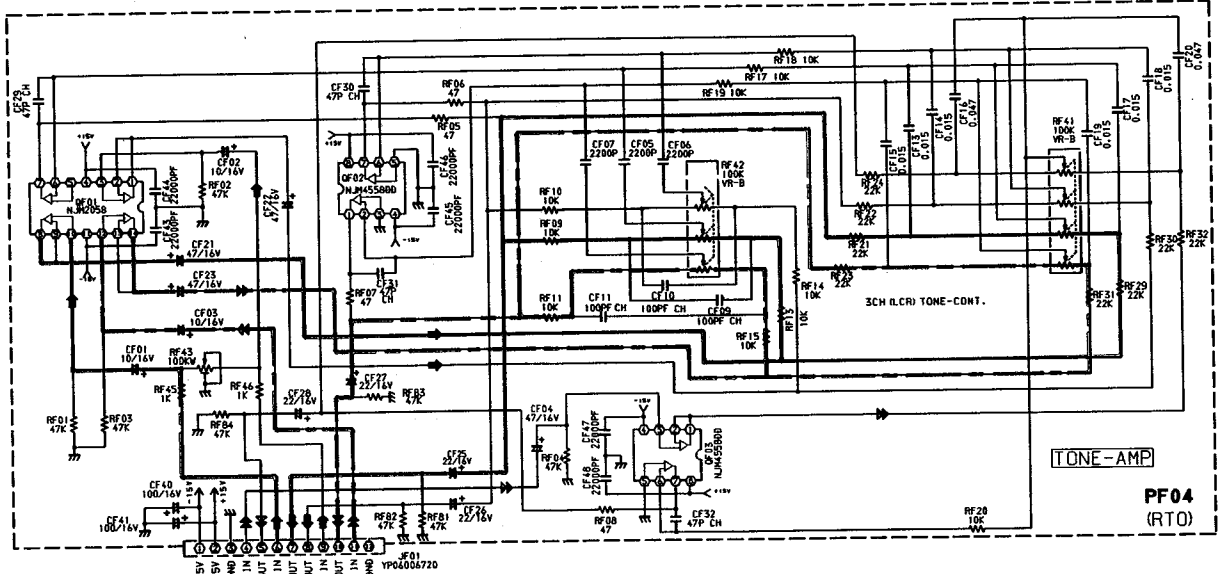


SCHEMATIC DIAGRAM ( 12 ) IB VERSION

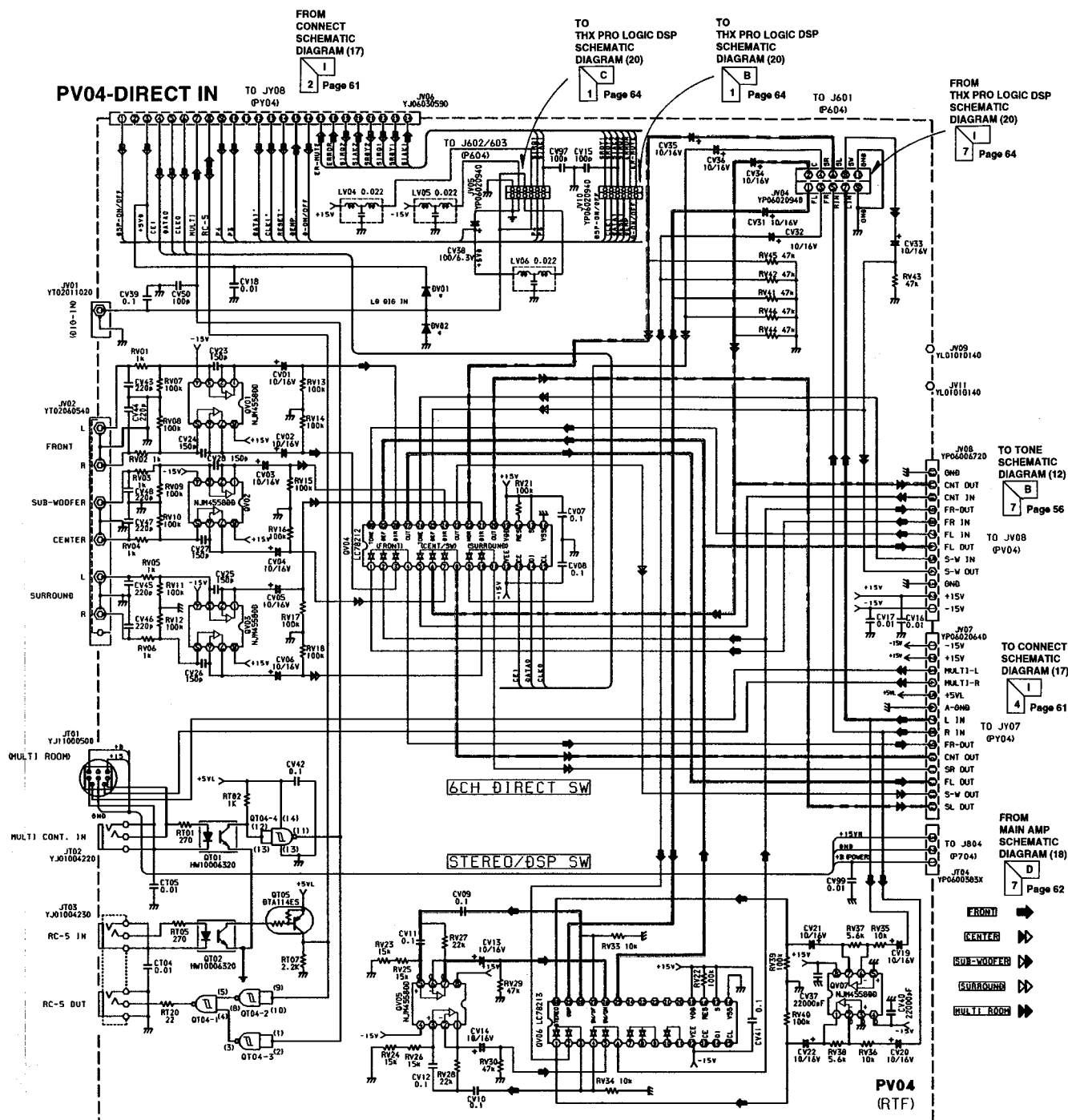


FROM CONNECT SCHEMATIC DIAGRAM (17)  
F  
Page 61

PF04-TONE



TO JY08 (PY04)  
FROM DIRECT IN SCHEMATIC DIAGRAM (12)  
J  
Page 56

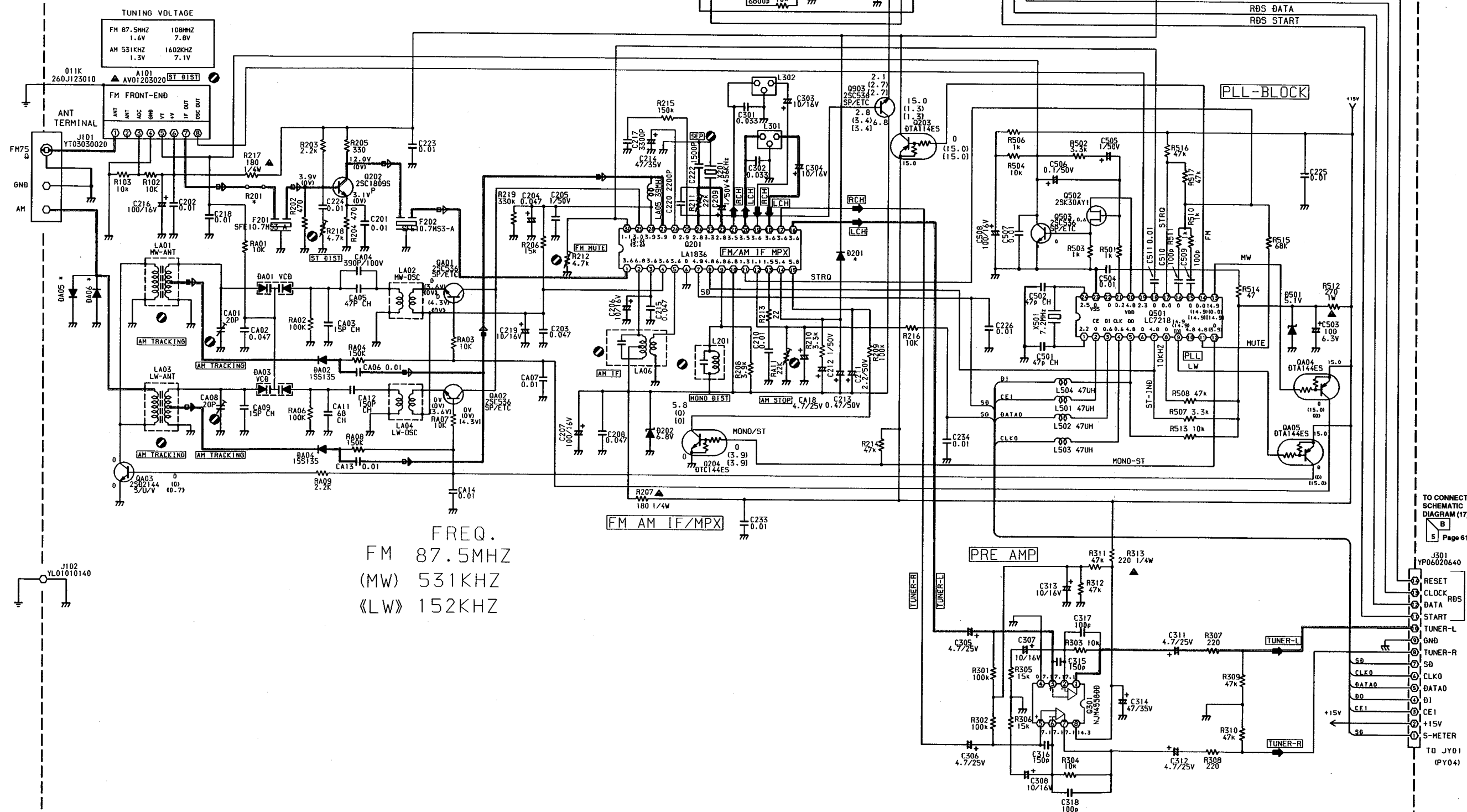




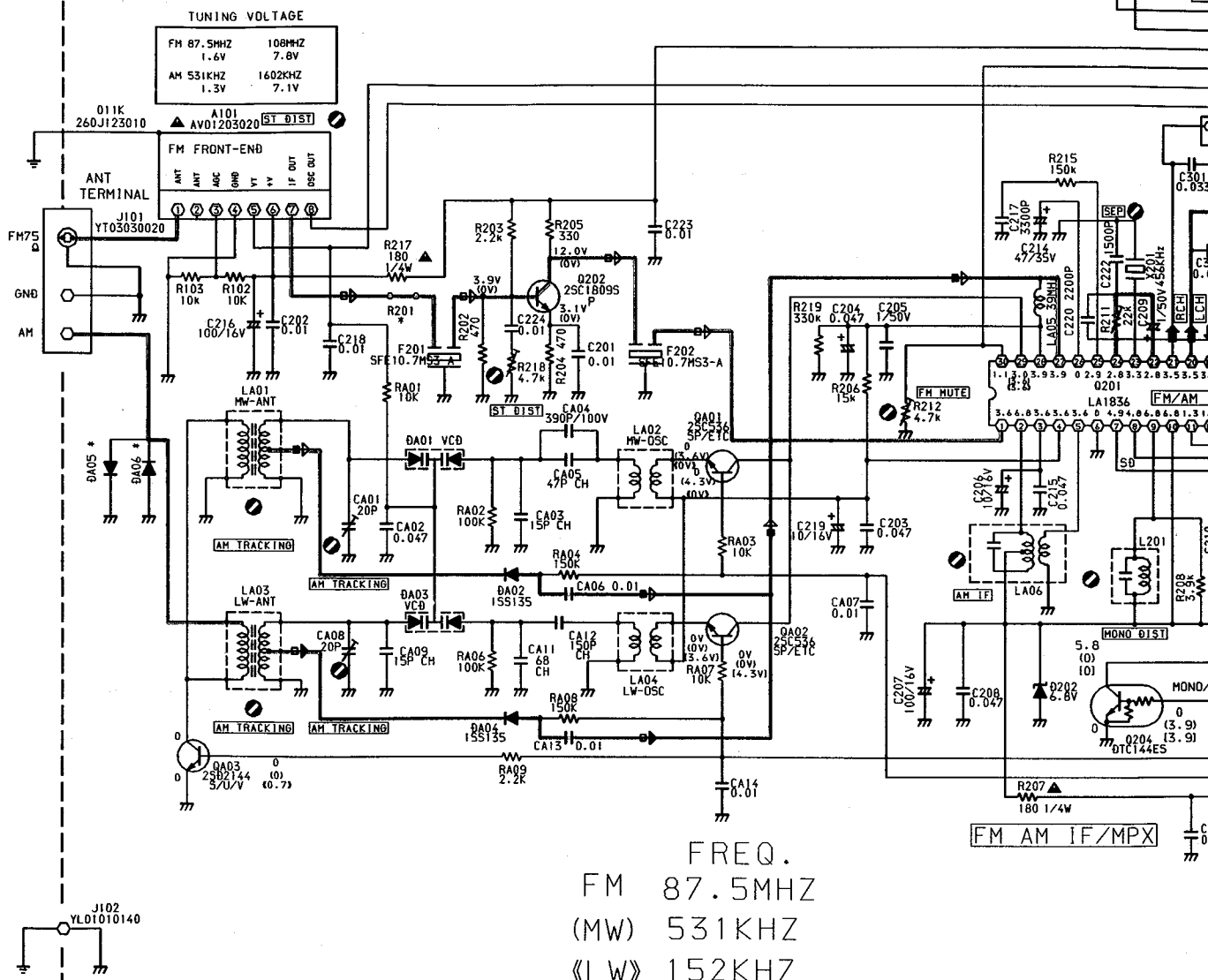
## SCHEMATIC DIAGRAM ( 13 ) B VERSION

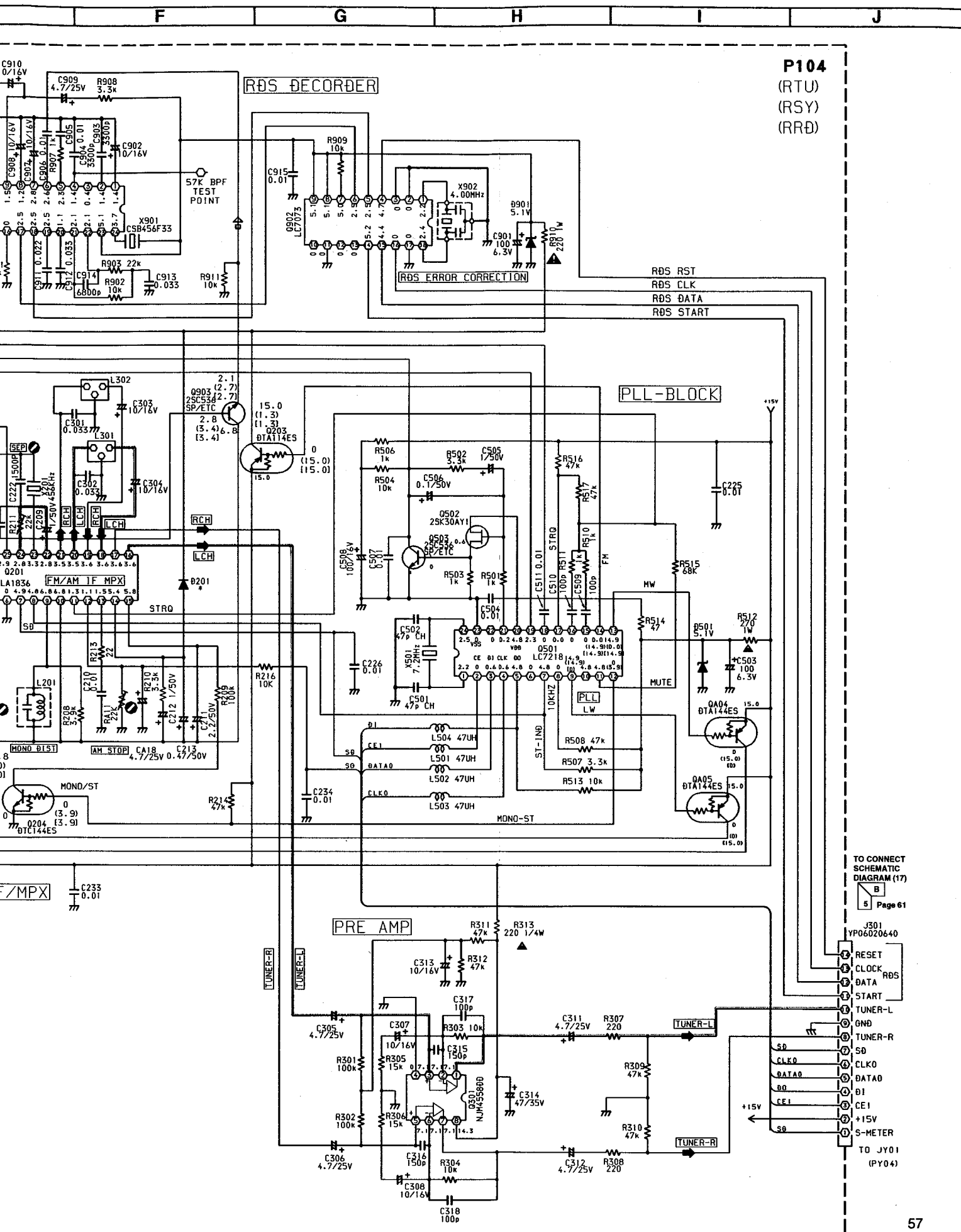
P104-TUNER

P104

(RTU)  
(RSY)  
(RRD)

## P104-TUNER





**P104**  
(RTU)  
(RSY)  
(RRD)

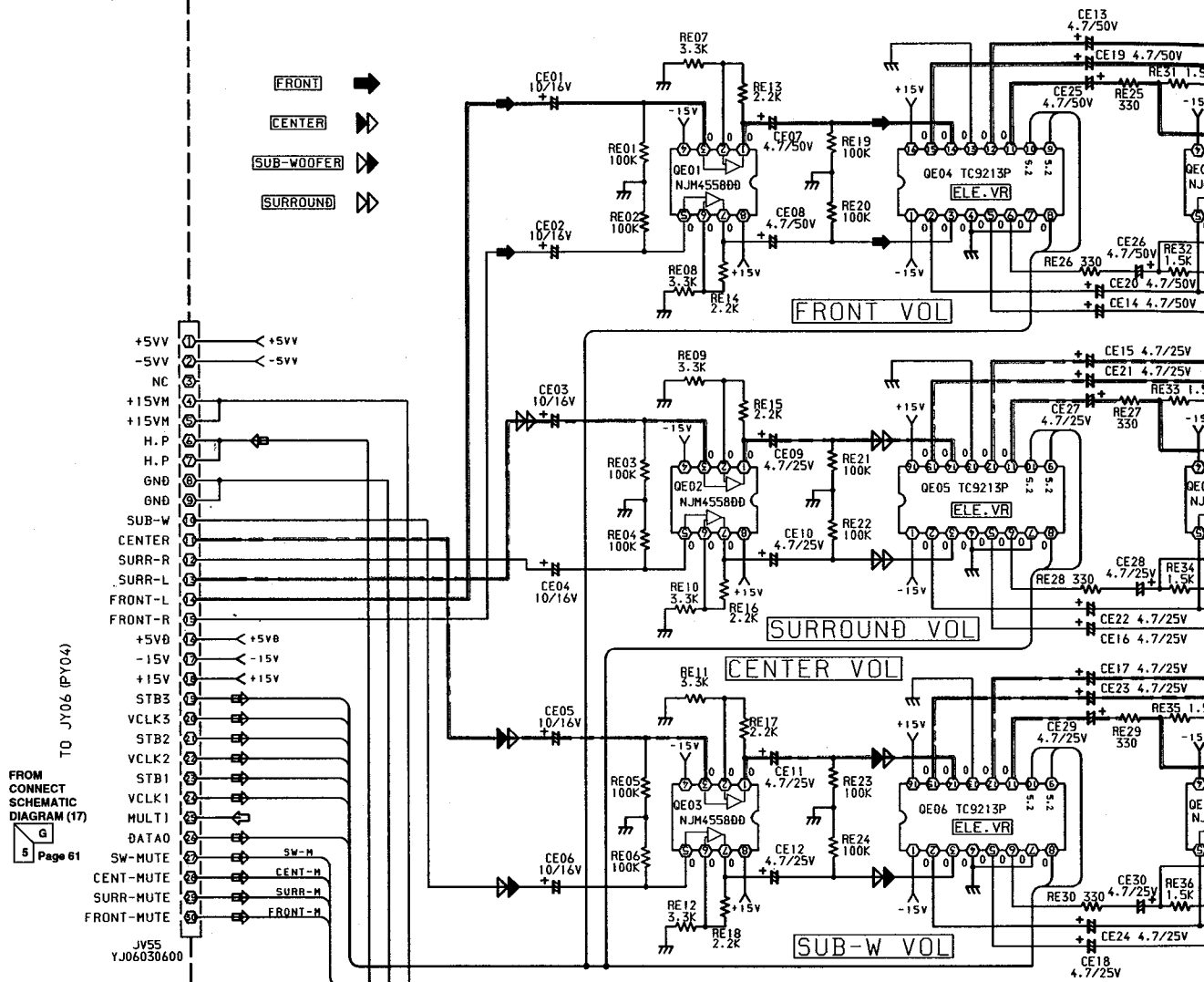
TO CONNECT  
SCHEMATIC  
DIAGRAM (17)  
B  
5 Page 61

- J301 YP06020640
  - 1 RESET
  - 2 CLOCK
  - 3 DATA
  - 4 START
  - 5 TUNER-L
  - 6 GND
  - 7 TUNER-R
  - 8 S0
  - 9 CLK0
  - 10 DATA0
  - 11 D0
  - 12 CE1
  - 13 +15V
  - 14 S-METER
- TO JY01 (PY04)



SCHEMATIC DIAGRAM ( 14 ) 13 VERSION

PE04-ELE. VOL



F

G

H

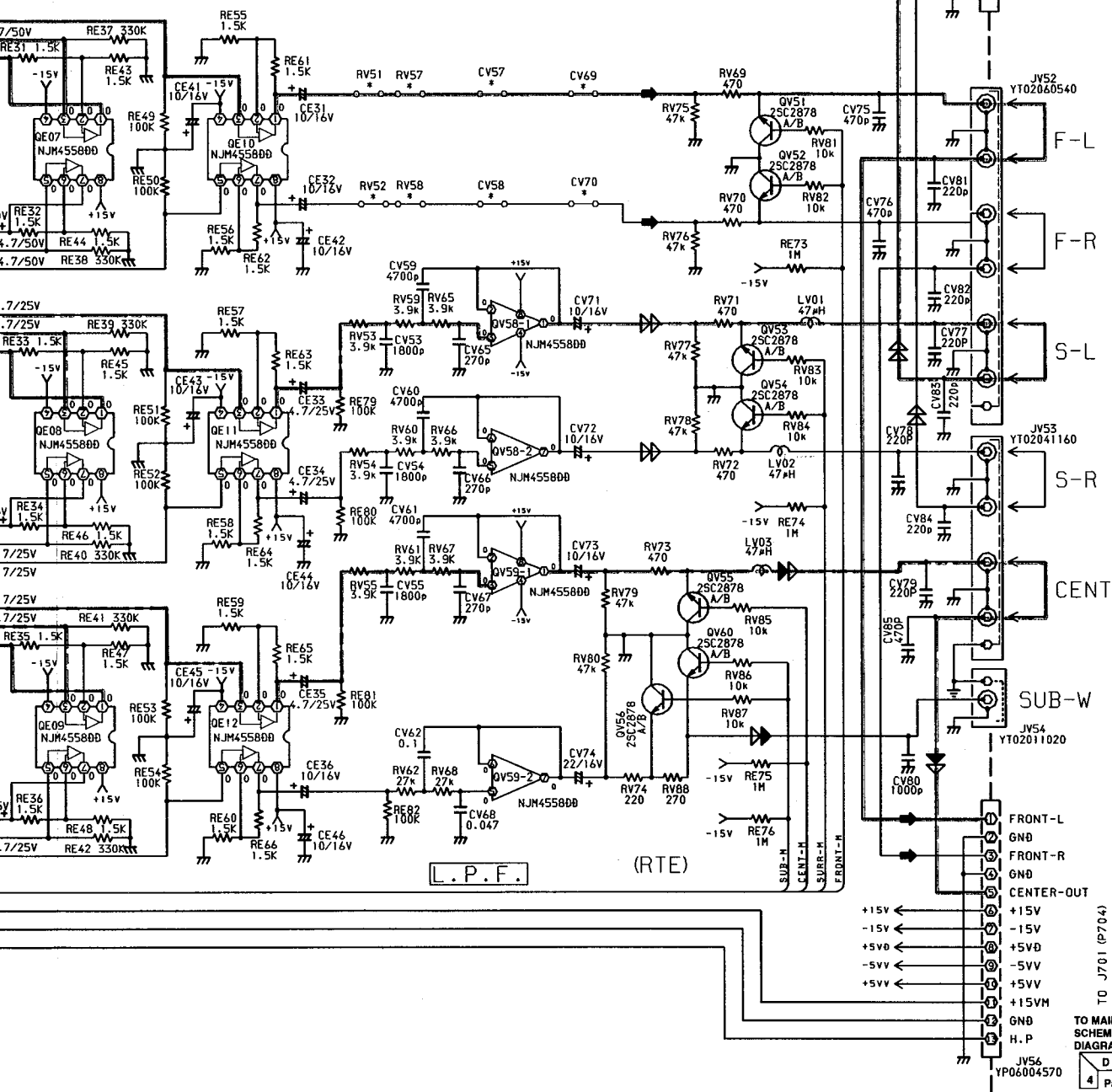
I

J

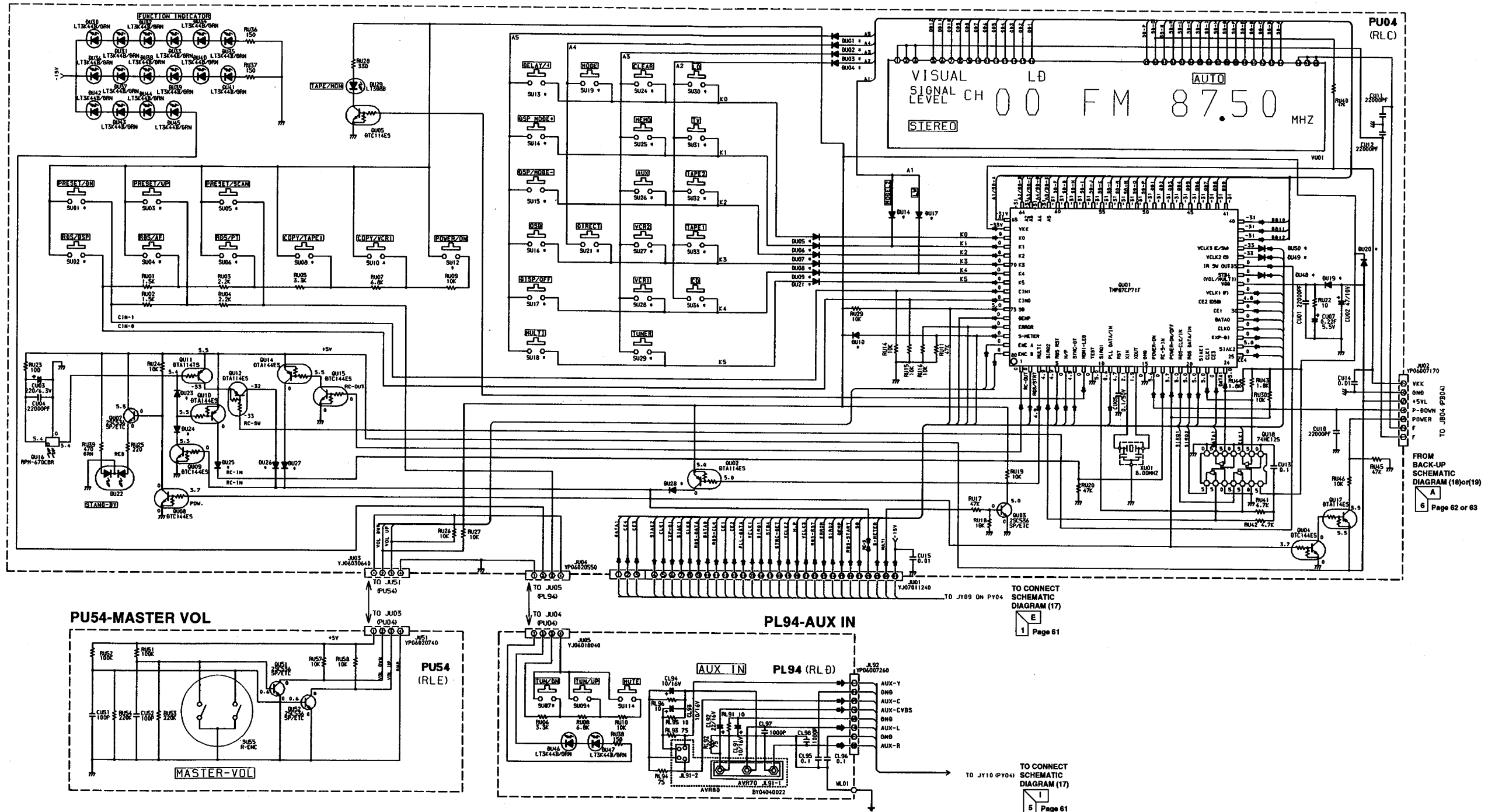
PE04

(RVR)

(RTE)

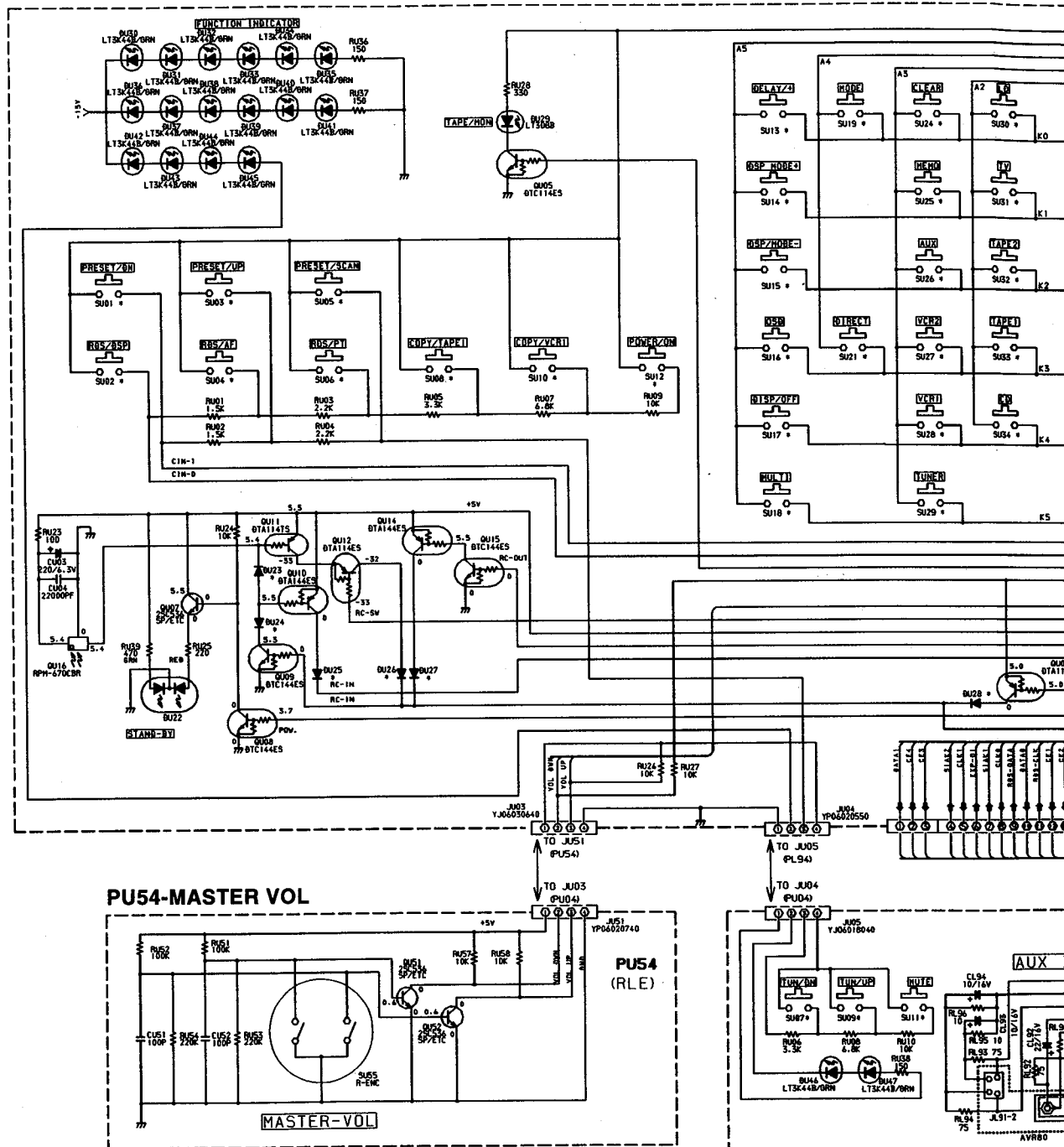
TO SURROUND AMP  
SCHEMATIC  
DIAGRAM (18) or (19)A  
2Page 62 or 63  
TO JP01 (PP04)

## 5 Page 61

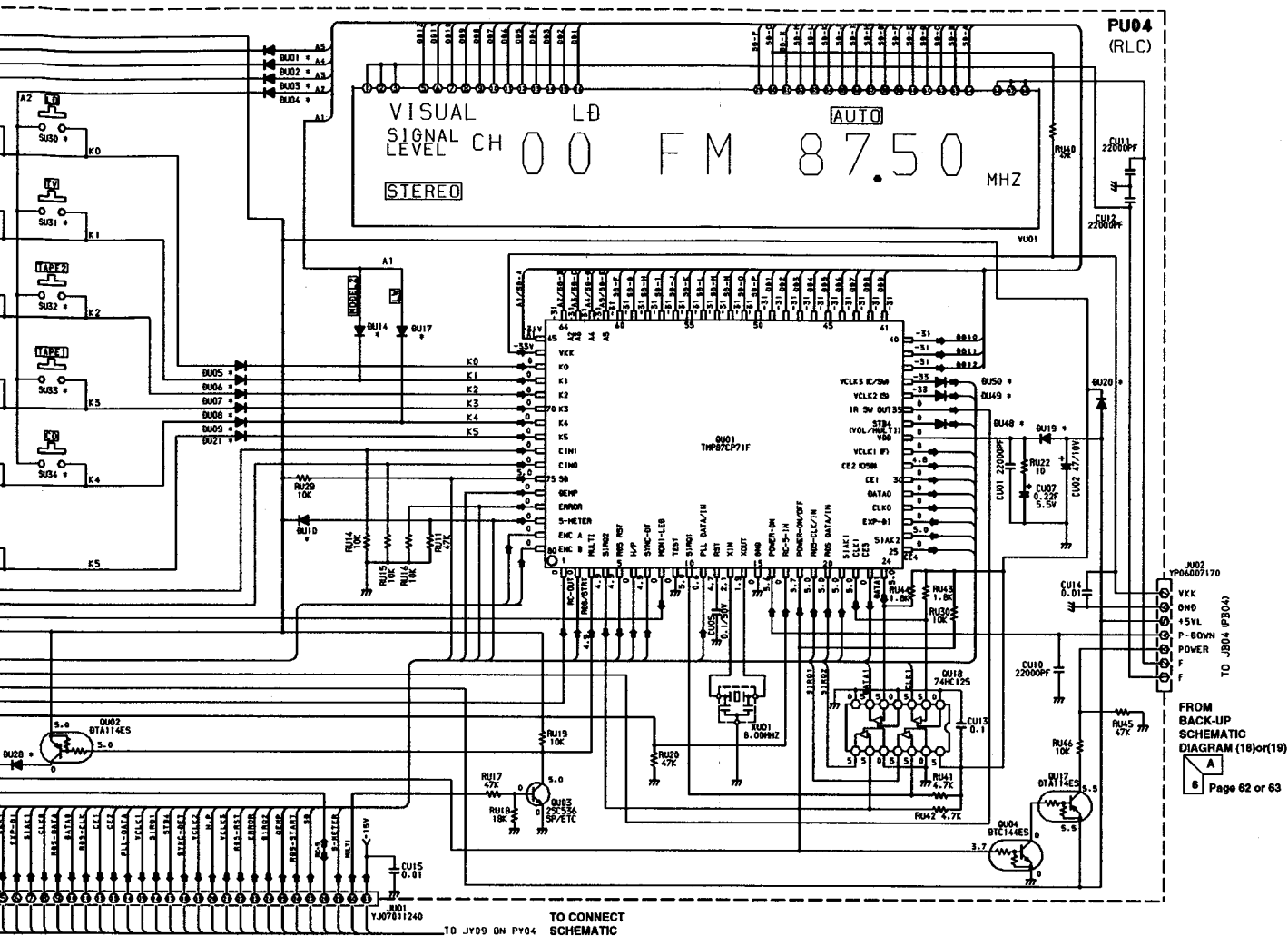




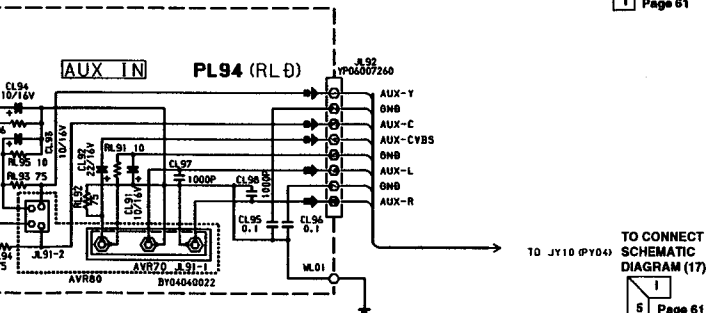
**PU04-FRONT (AVR80) ONLY**



F G H I J

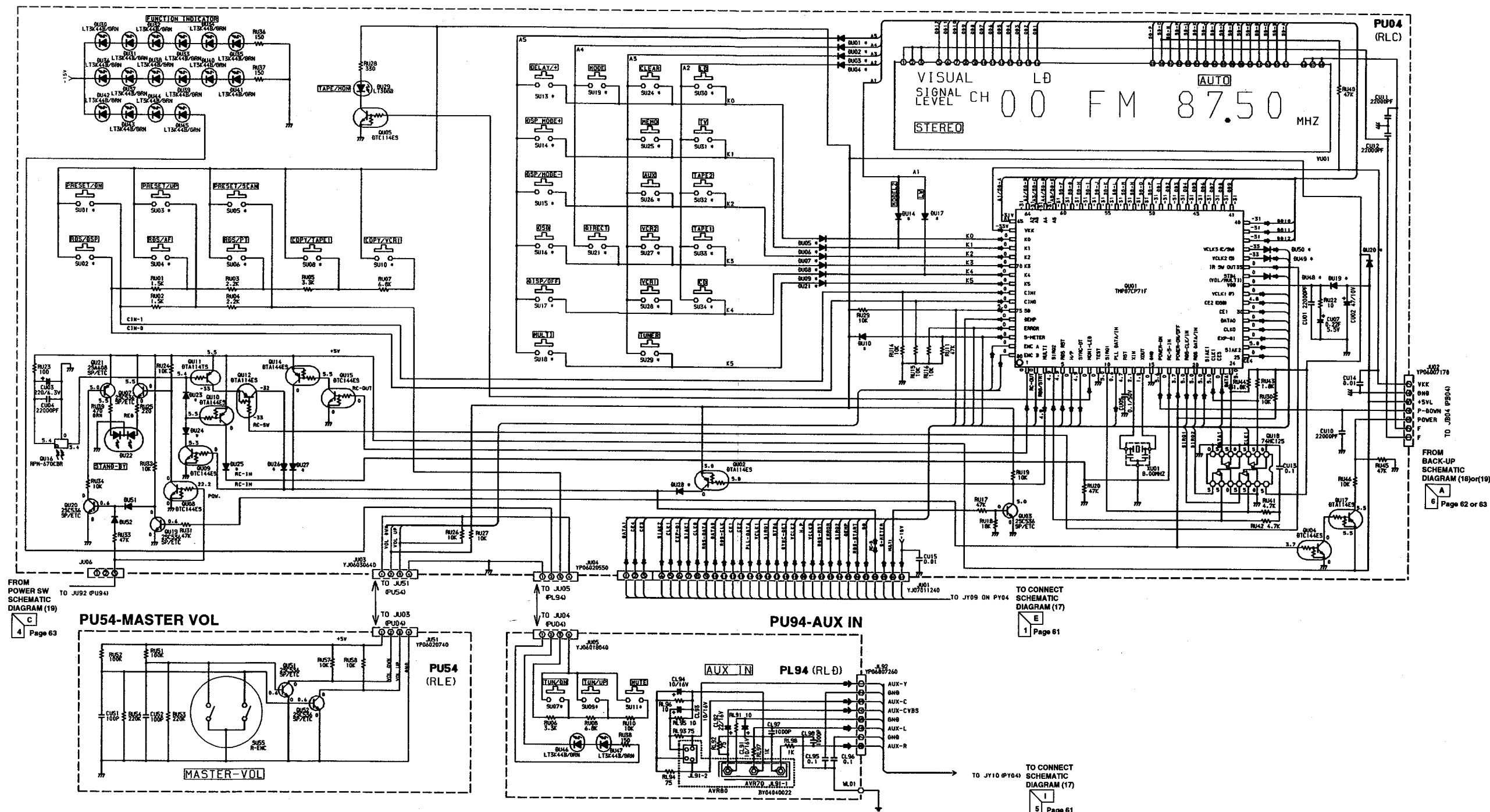


# PL94-AUX IN



# SCHEMATIC DIAGRAM ( 16 ) (B) VERSION

PU04-FRONT (AVR80) [MOMS] ONLY



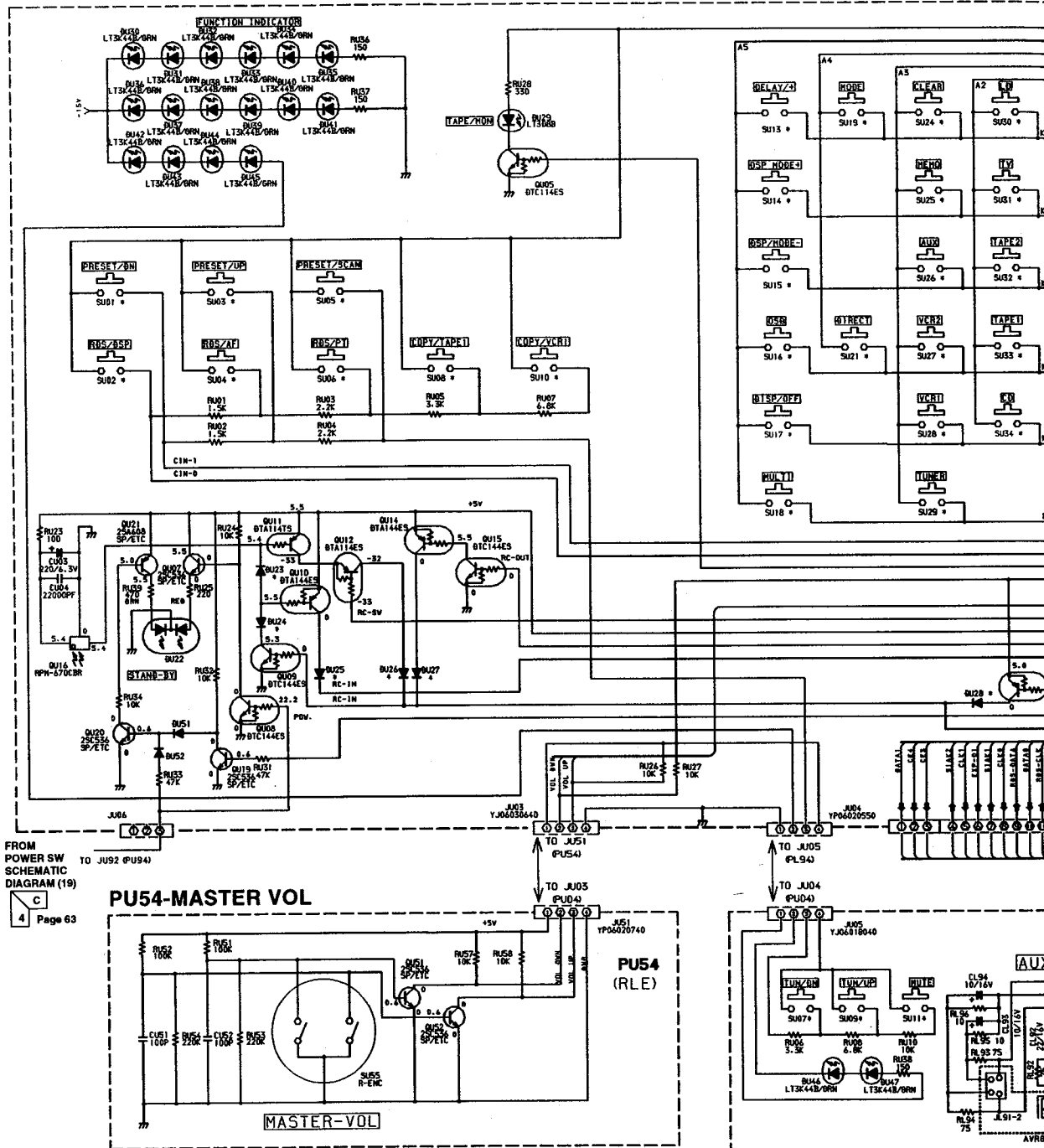
FROM BACK-UP SCHEMATIC DIAGRAM (18) or (19)  
 Page 62 or 63

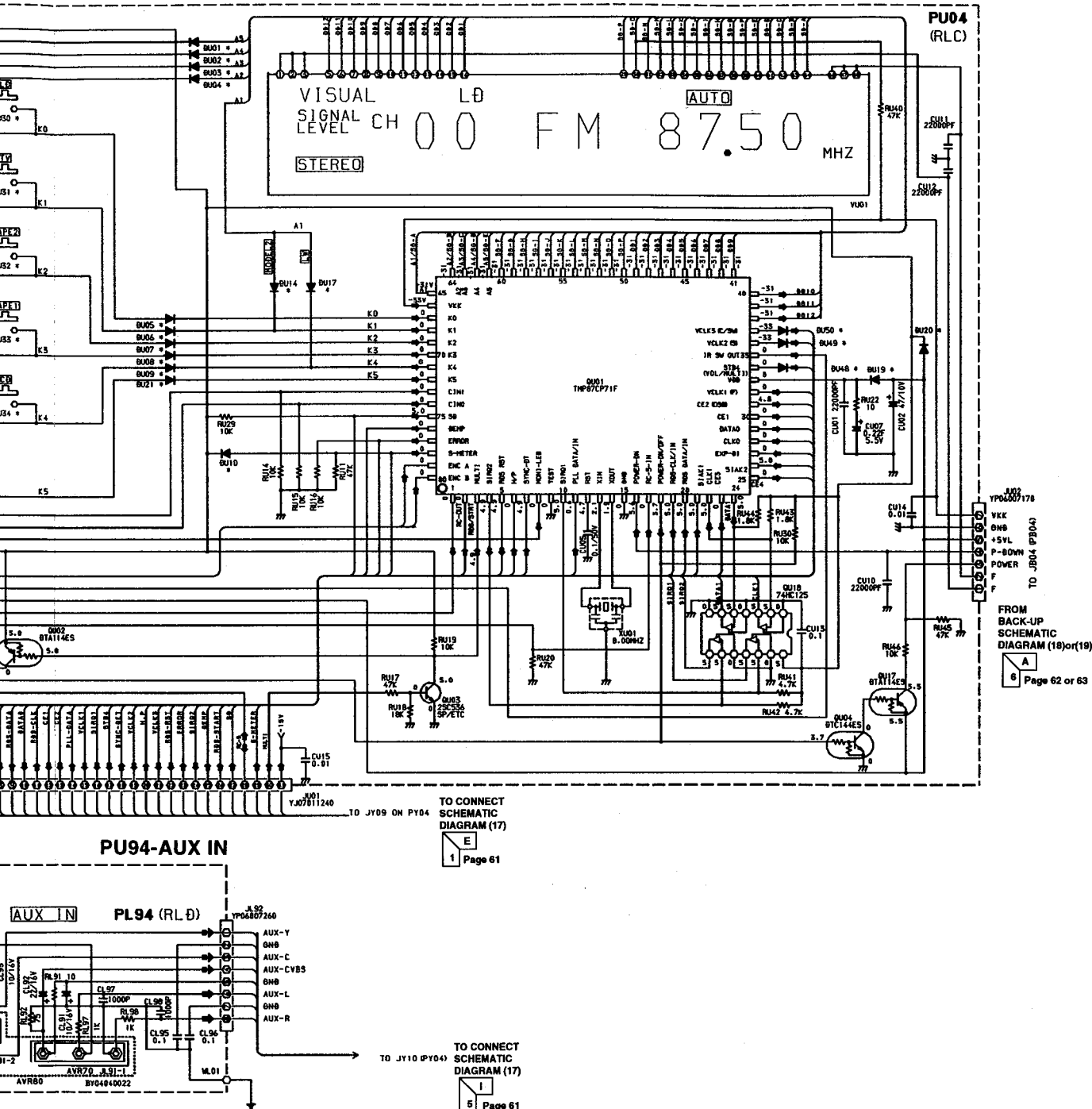
TO CONNECT SCHEMATIC DIAGRAM (17)  
 Page 61

TO CONNECT SCHEMATIC DIAGRAM (17)  
 Page 61

SCHEMATIC DIAGRAM ( 16 ) **IB** VERSION

PU04-FRONT (AVR80) [MOMS] ONLY





FROM BACK-UP  
SCHEMATIC  
DIAGRAM (18) or (19)

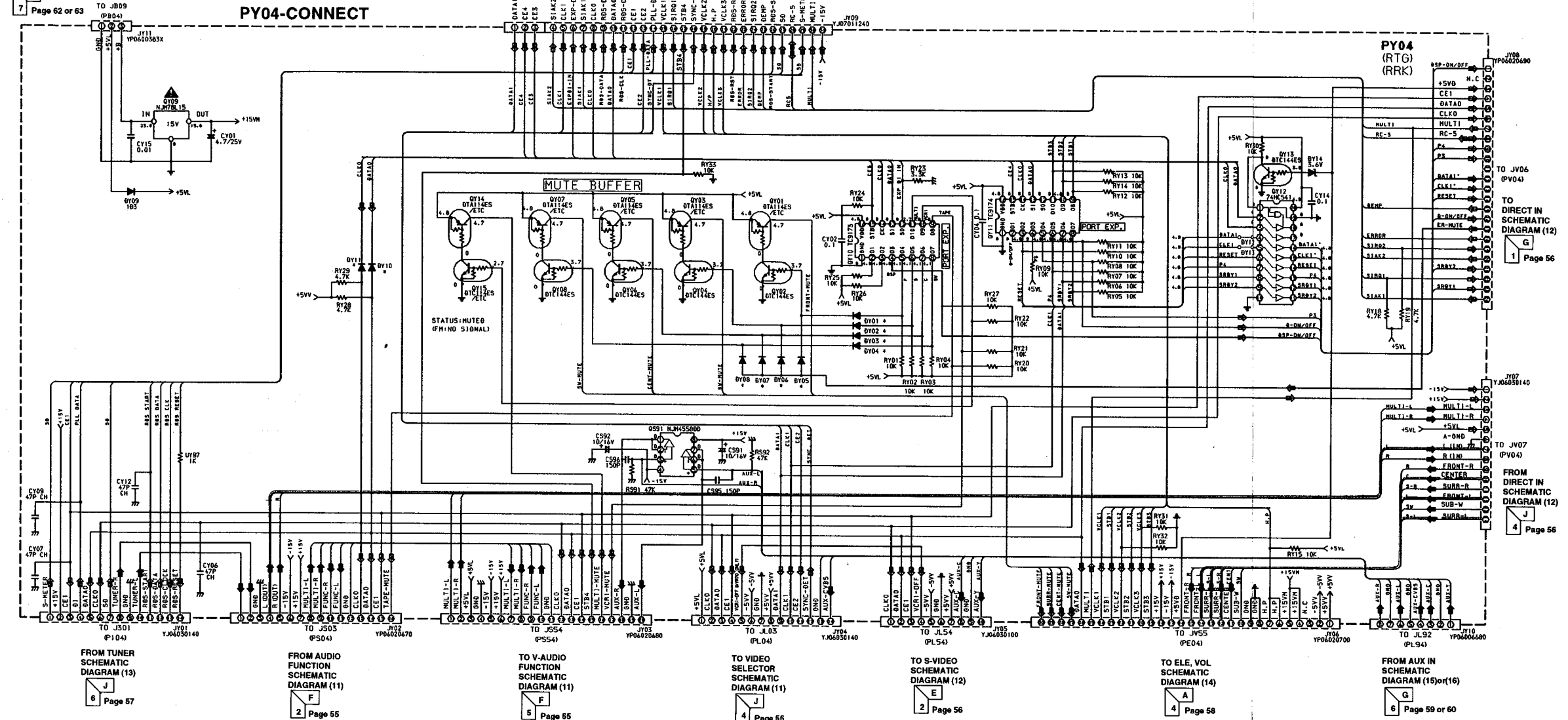
 B  
7

Page 62 or 63

FROM FRONT  
SCHEMATIC  
DIAGRAM (15) or (16)



Page 59 or 60



|   |   |   |   |   |
|---|---|---|---|---|
| A | B | C | D | E |
|---|---|---|---|---|

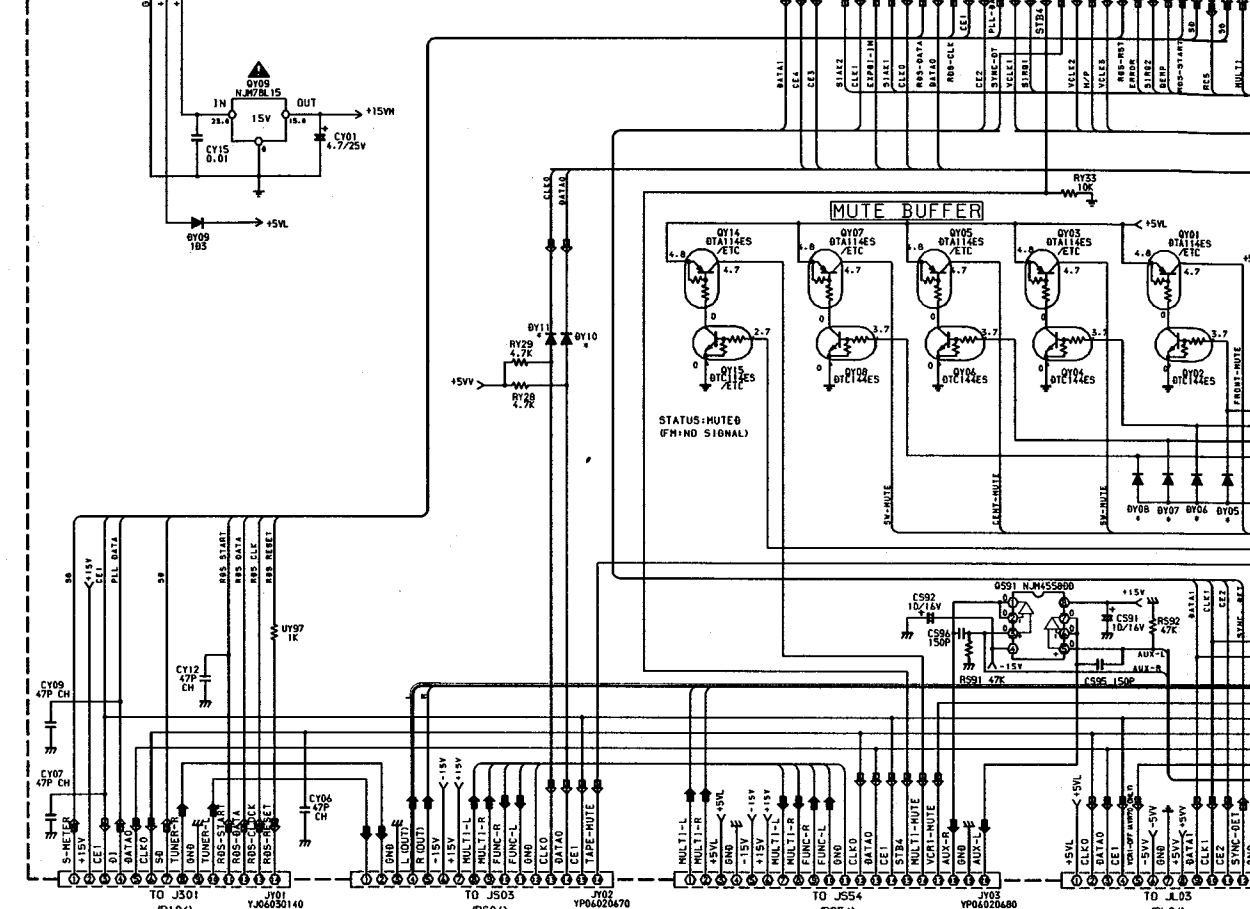
7 Page 62 of 63

Page 59 or 60

Page 59 or 60

TO JU01  
(PU04)

ND SVL B JY11 YP0600383X



6 Page 57

Page 57

F  
2 Page 55

2 Page 55

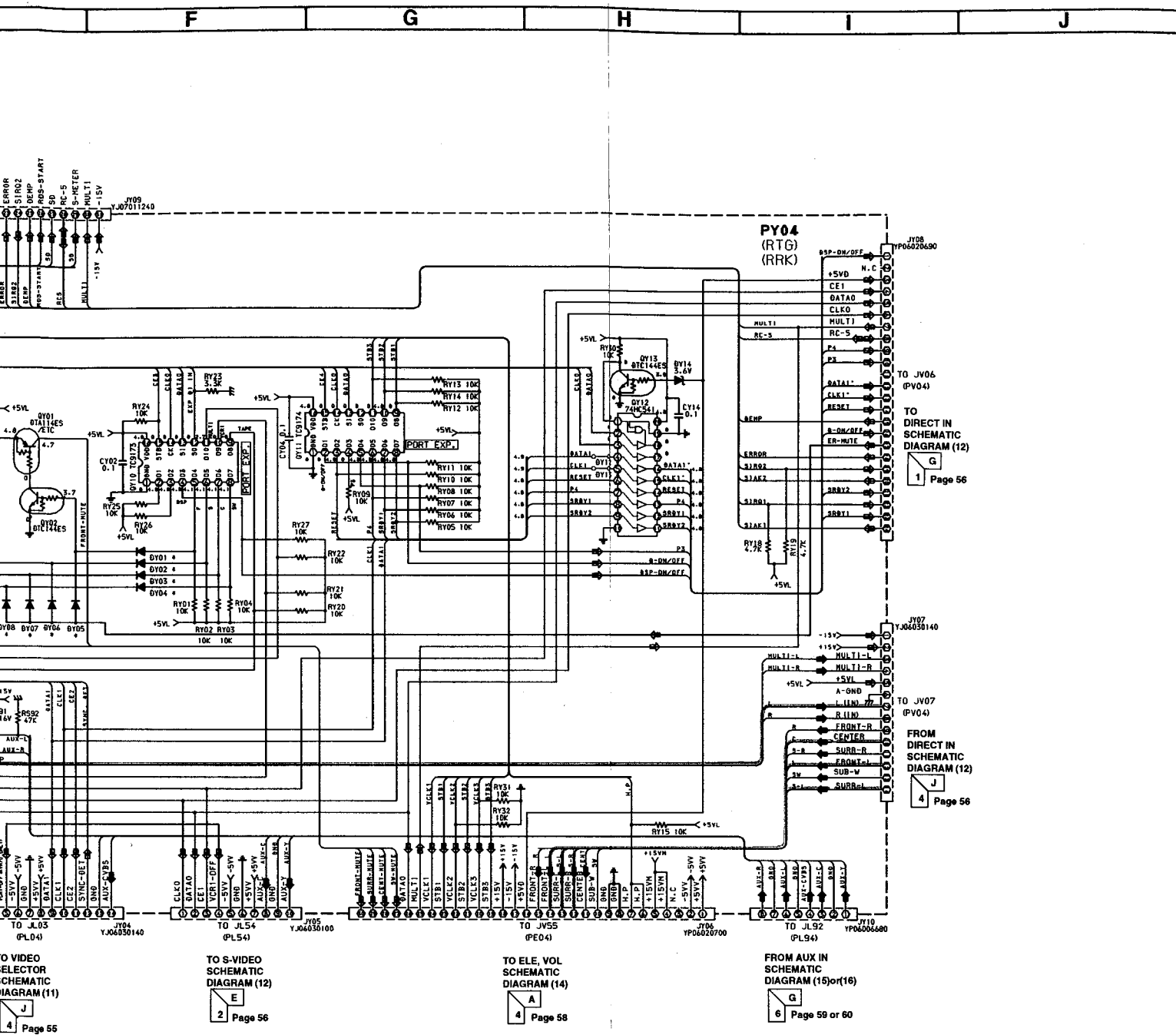
5  
Page 55

5 Page 55

Page 55

4 Page 55



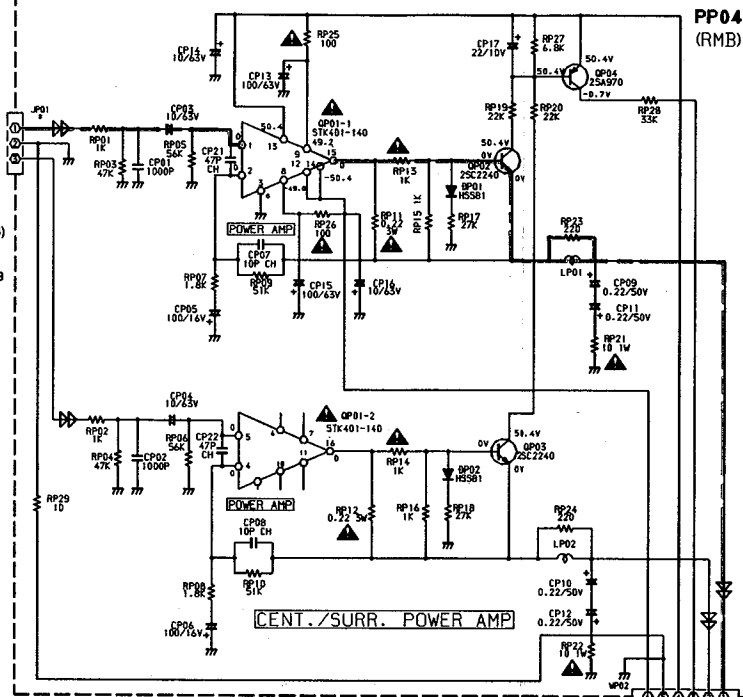


SCHEMATIC DIAGRAM ( 18 ) **IB** VERSION

P704-MAIN AMP ( AVR80 ) ONLY

PP04-SURROUND AMP

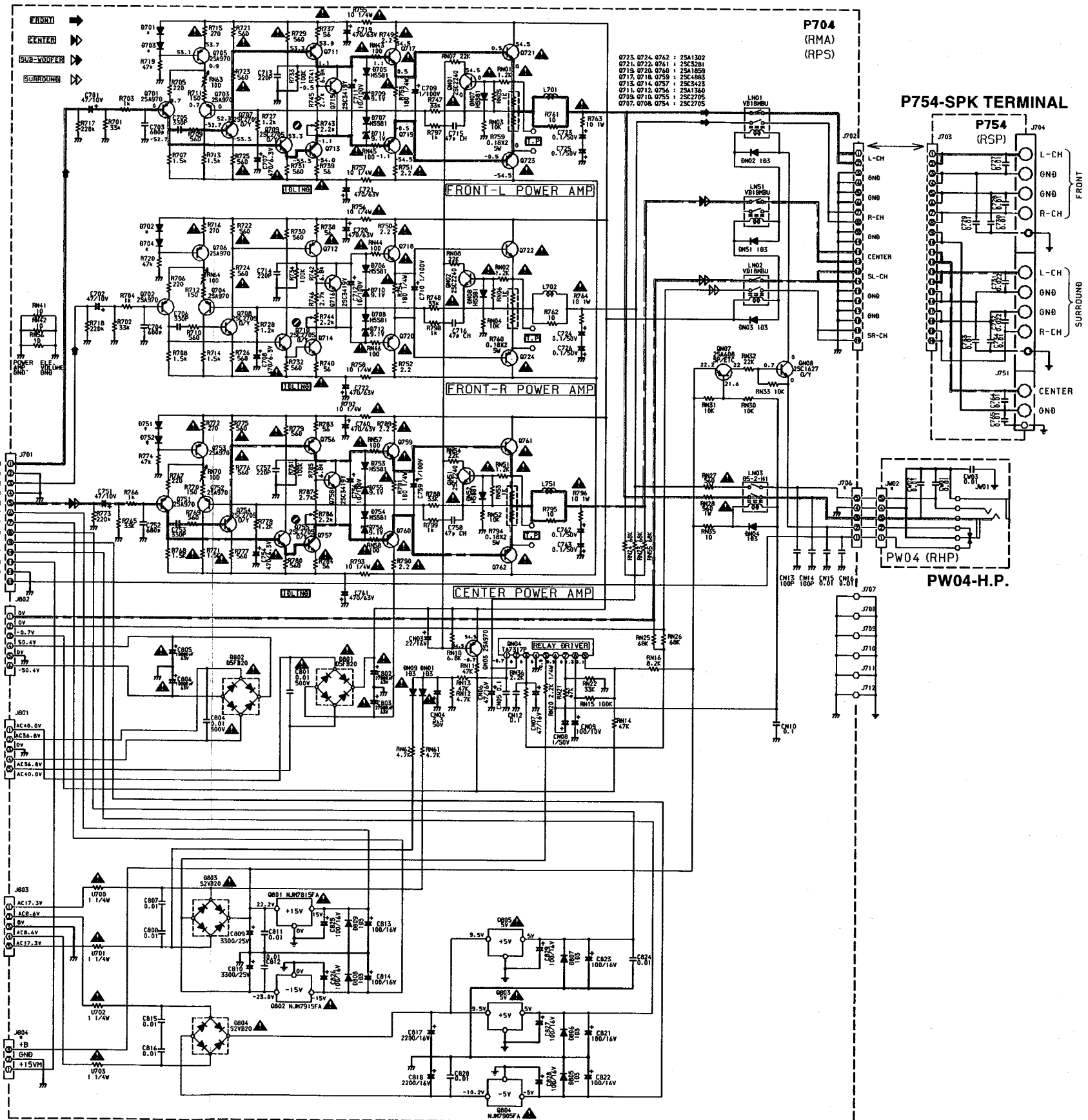
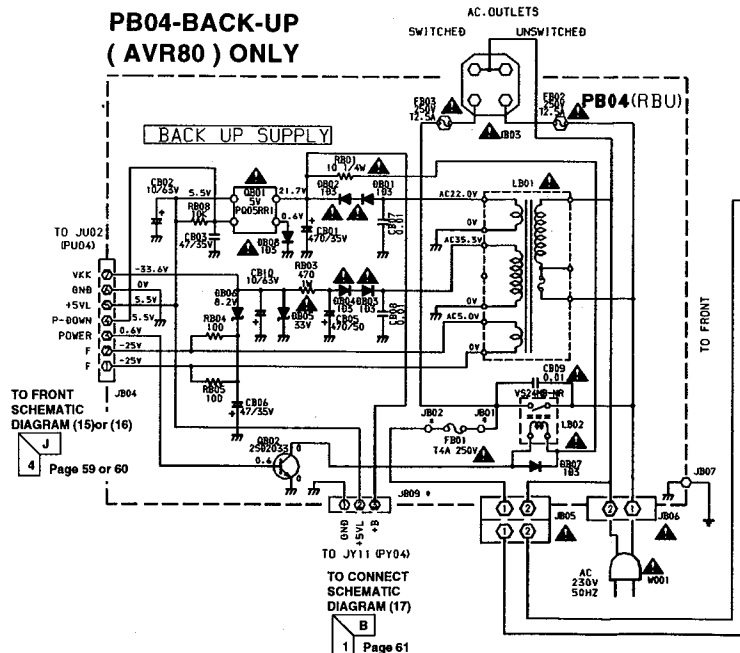
PP04 (RMB)



PB04-BACK-UP ( AVR80 ) ONLY

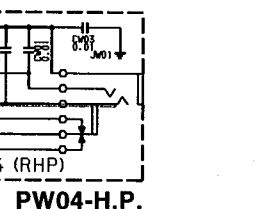
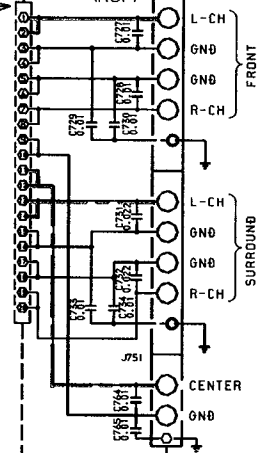
AC OUTLETS  
SWITCHED UNSWITCHED

PB04(RBU)



P754-SPK TERMINAL

P754 (RSP)

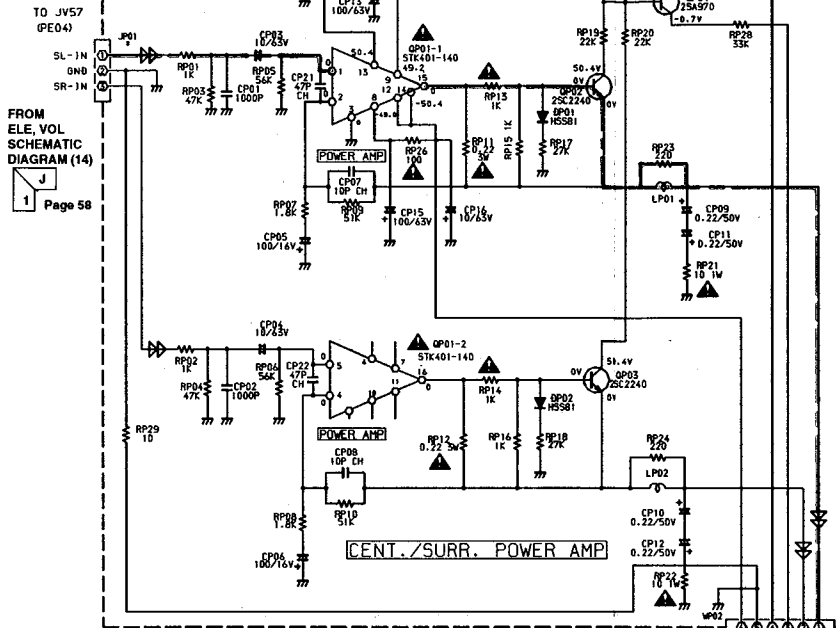


SCHEMATIC DIAGRAM ( 18 ) (B) VERSION

P704-MAIN AMP ( AVR80 )

PP04-SURROUND AMP

PP04  
(RMB)



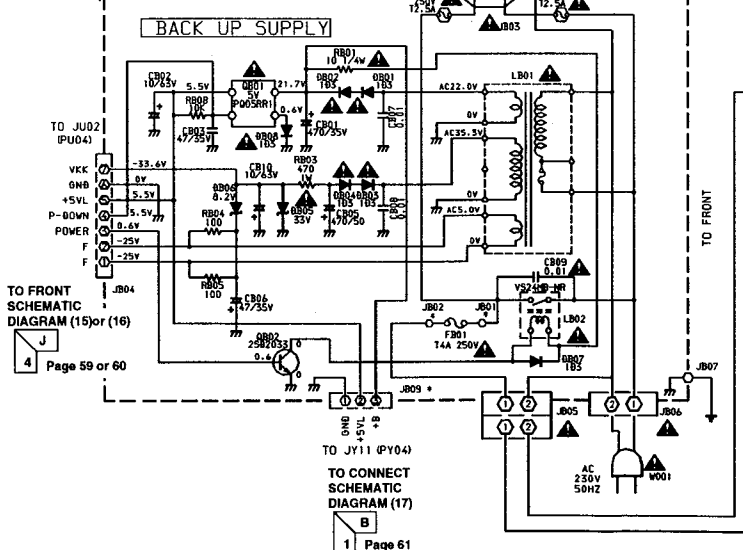
FROM ELE, VOL  
SCHEMATIC  
DIAGRAM (14)  
J  
Page 58

TO JVS6  
(PE04)

PB04-BACK-UP  
( AVR80 ) ONLY

AC. OUTLETS  
SWITCHED UNSWITCHED

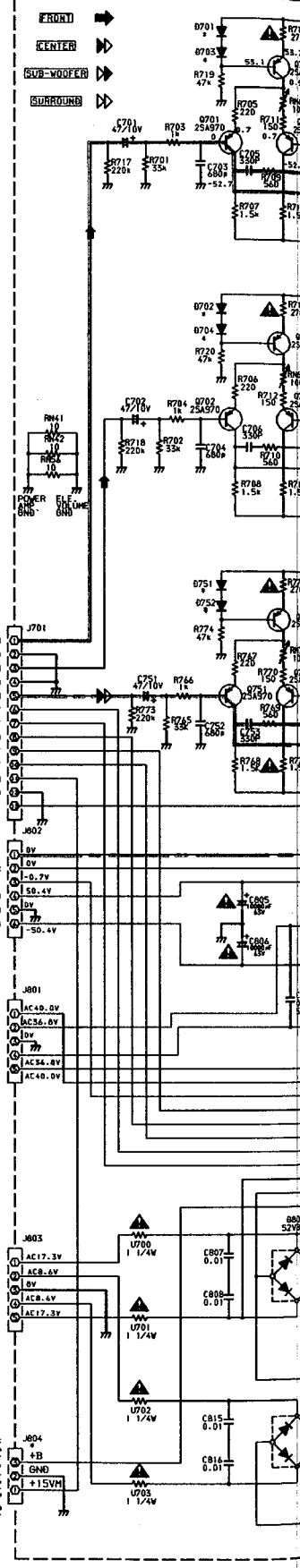
PB04(RBU)



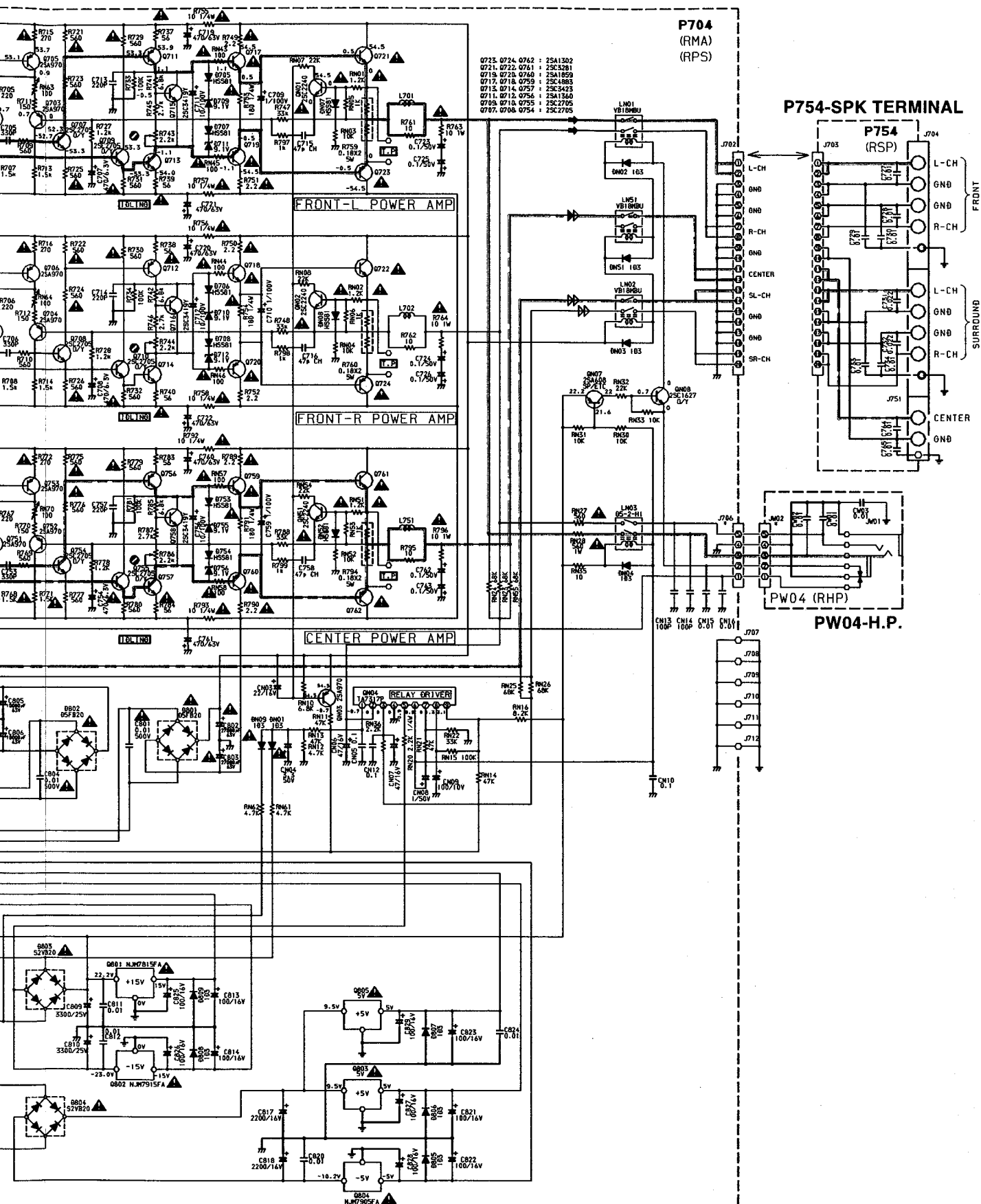
TO FRONT  
SCHEMATIC  
DIAGRAM (15) or (16)  
J  
Page 59 or 60

TO JY11 (PY04)  
TO CONNECT  
SCHEMATIC  
DIAGRAM (17)  
B  
Page 61

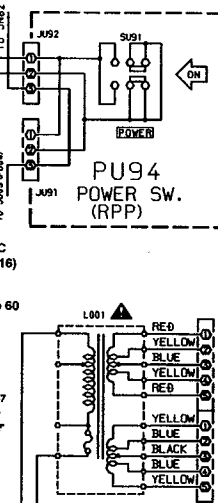
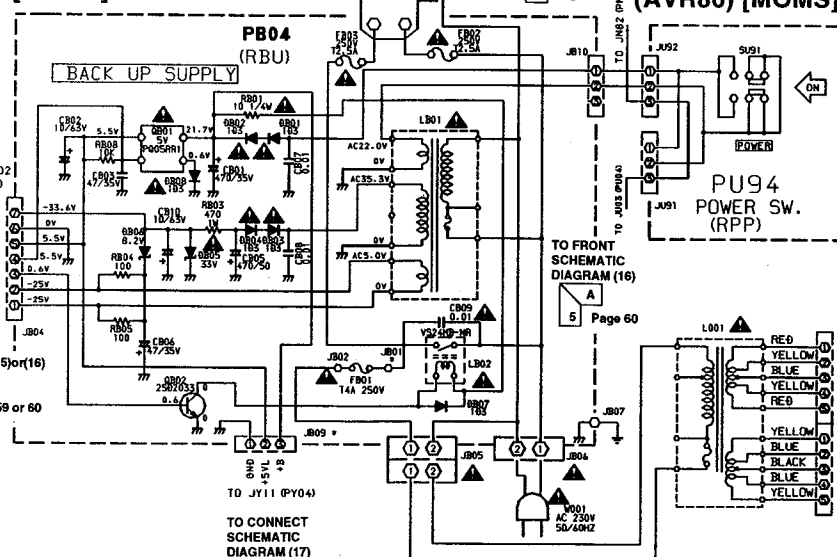
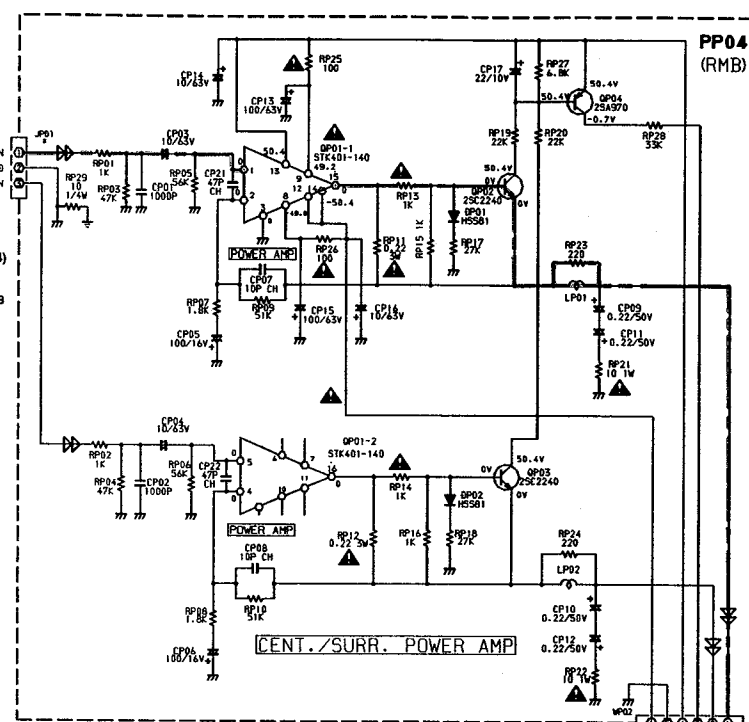
TO DIRECT IN  
SCHEMATIC  
DIAGRAM (12)  
J  
Page 56



VR80 ) ONLY

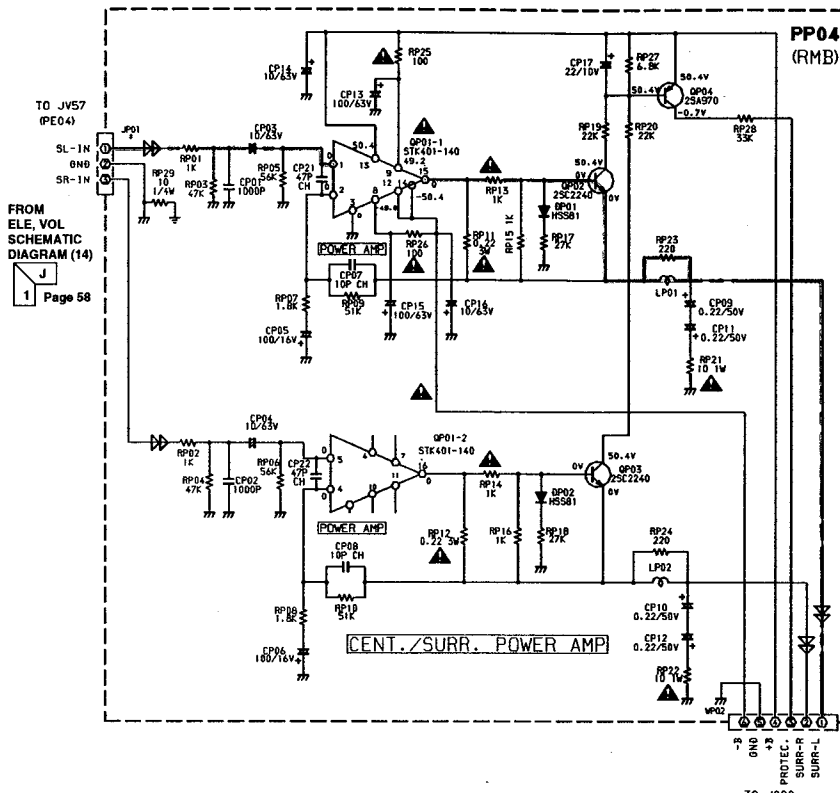


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| 1 |
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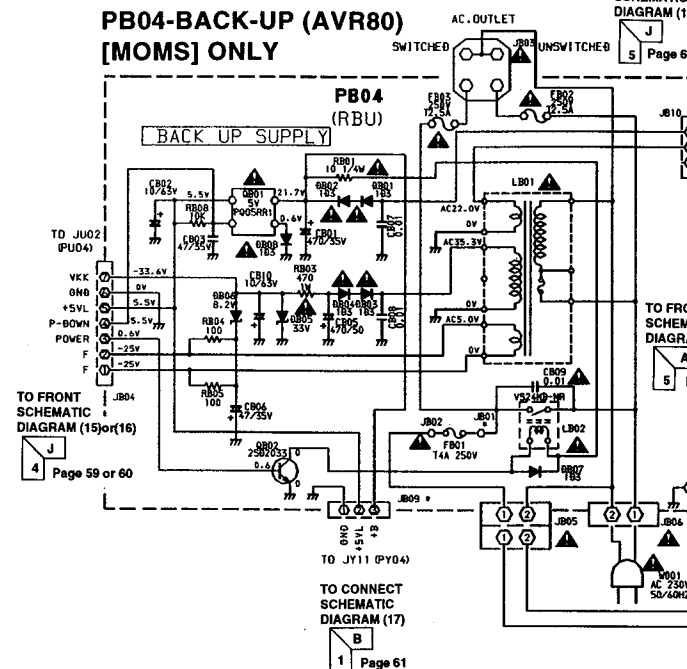


# SCHEMATIC DIAGRAM ( 19 ) IB VERSION

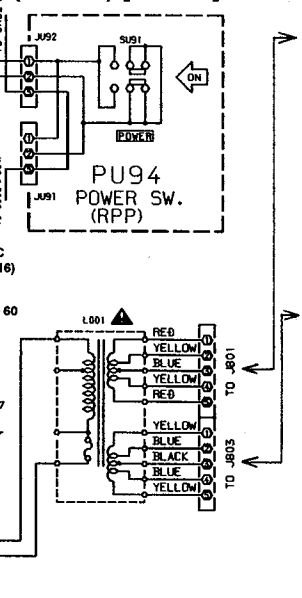
## PP04-SURROUND AMP



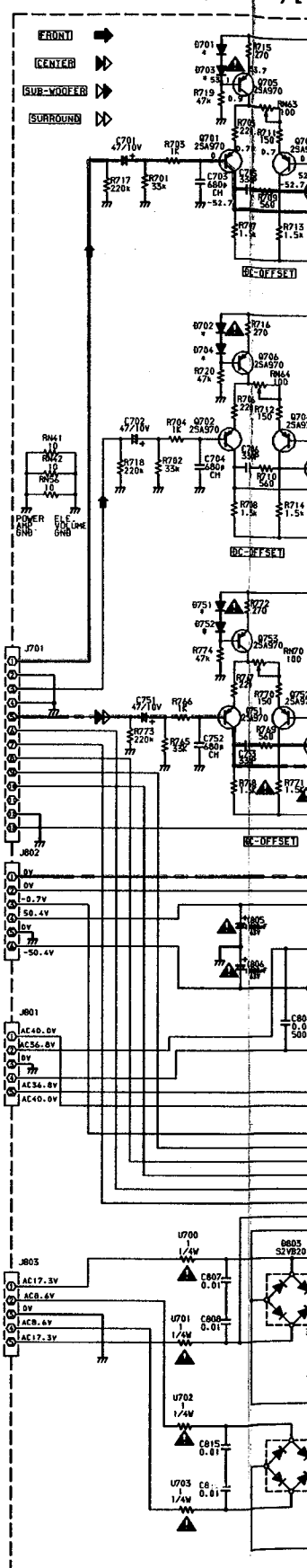
## PB04-BACK-UP (AVR80) [MOMS] ONLY



## PU94-POWER SW (AVR80) [MOMS] ONLY



## P704-MAIN AMP (AVR80) [MOMS] ONLY



[illegible]

## P754-SPK TERMINAL

The diagram shows the internal circuitry of the P754 (RSP) component. It features two main sections: 'FRONT' and 'SURROUND'. The 'FRONT' section includes L-CH, GND, and R-CH channels. The 'SURROUND' section includes L-CH, GND, and R-CH channels. The circuit is powered by a 9V battery (J752) and includes several capacitors (C727, C728, C729, C730, C731, C732, C734, C735, C744, C745) with values ranging from 0.01 to 0.022. The component is connected to pins J703, J704, J751, and J752. The output is connected to L-CH, GND, R-CH, and CENTER channels.

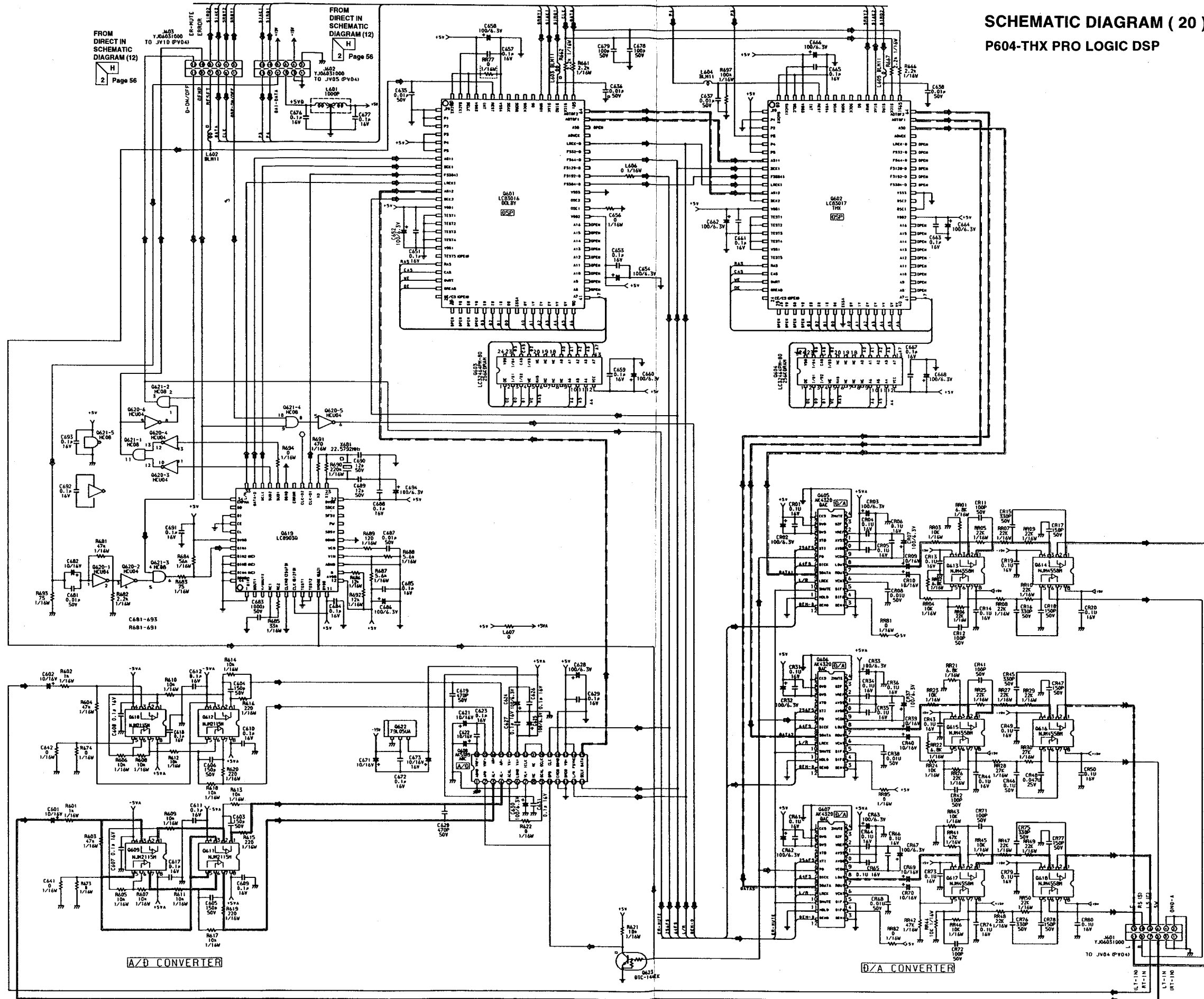
PW04-H.P.

FROM  
POWER SW  
SCHEMATIC  
DIAGRAM (19)

TO JU92 (PU94) POWER SW.

PN54 (RMC)  
PROTECTOR

**PN54-SPK PROTECTOR  
(AVR80) [MOMS] ONLY**

SCHEMATIC DIAGRAM ( 20 ) **IB** VERSION  
P604-THX PRO LOGIC DSP

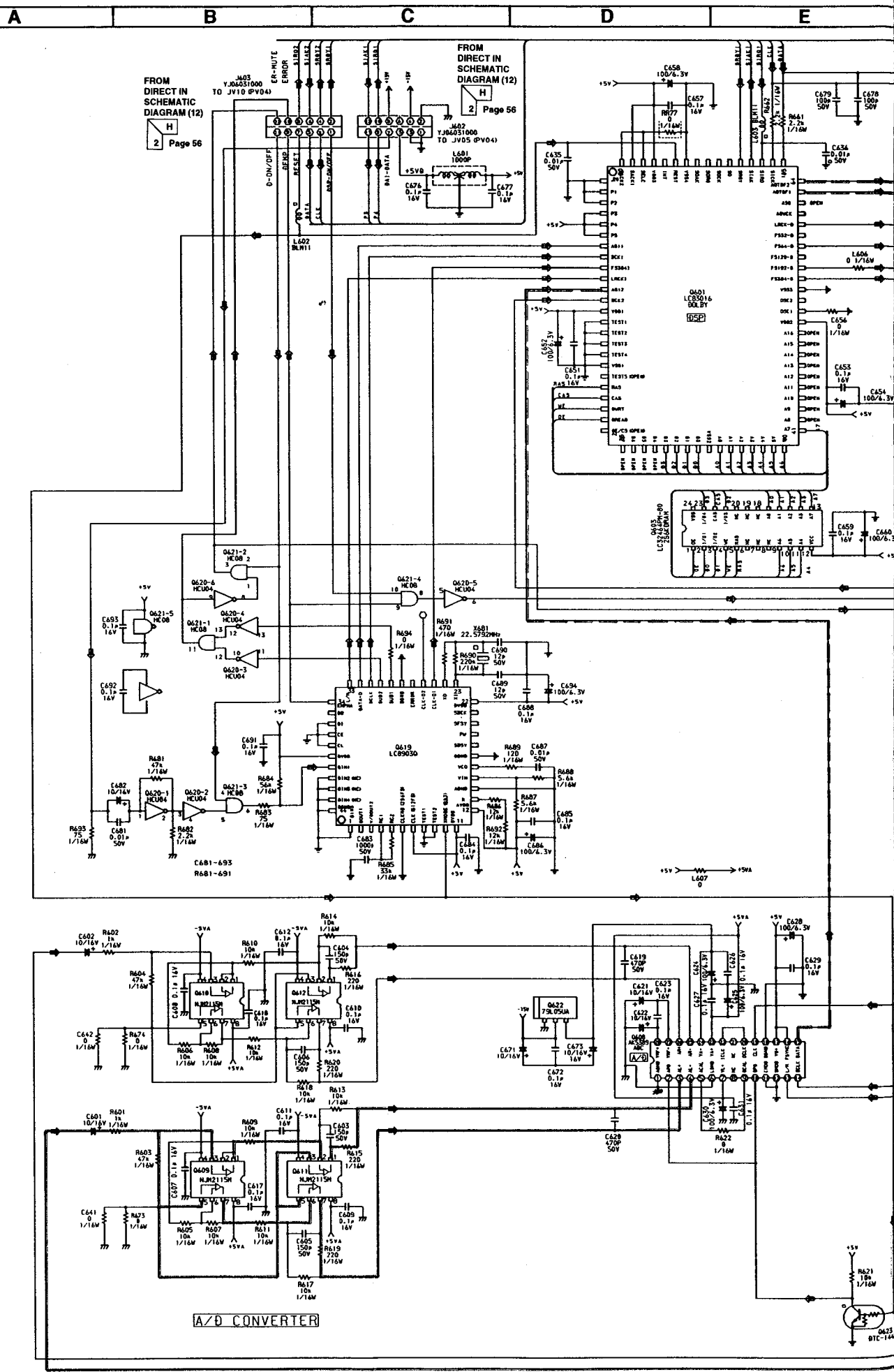
DIGITAL →  
FRONT →  
CENTER →  
SUB-AMPLIFIER →  
SURROUND →

TO DIRECT IN  
SCHEMATIC DIAGRAM (11)

Page 56

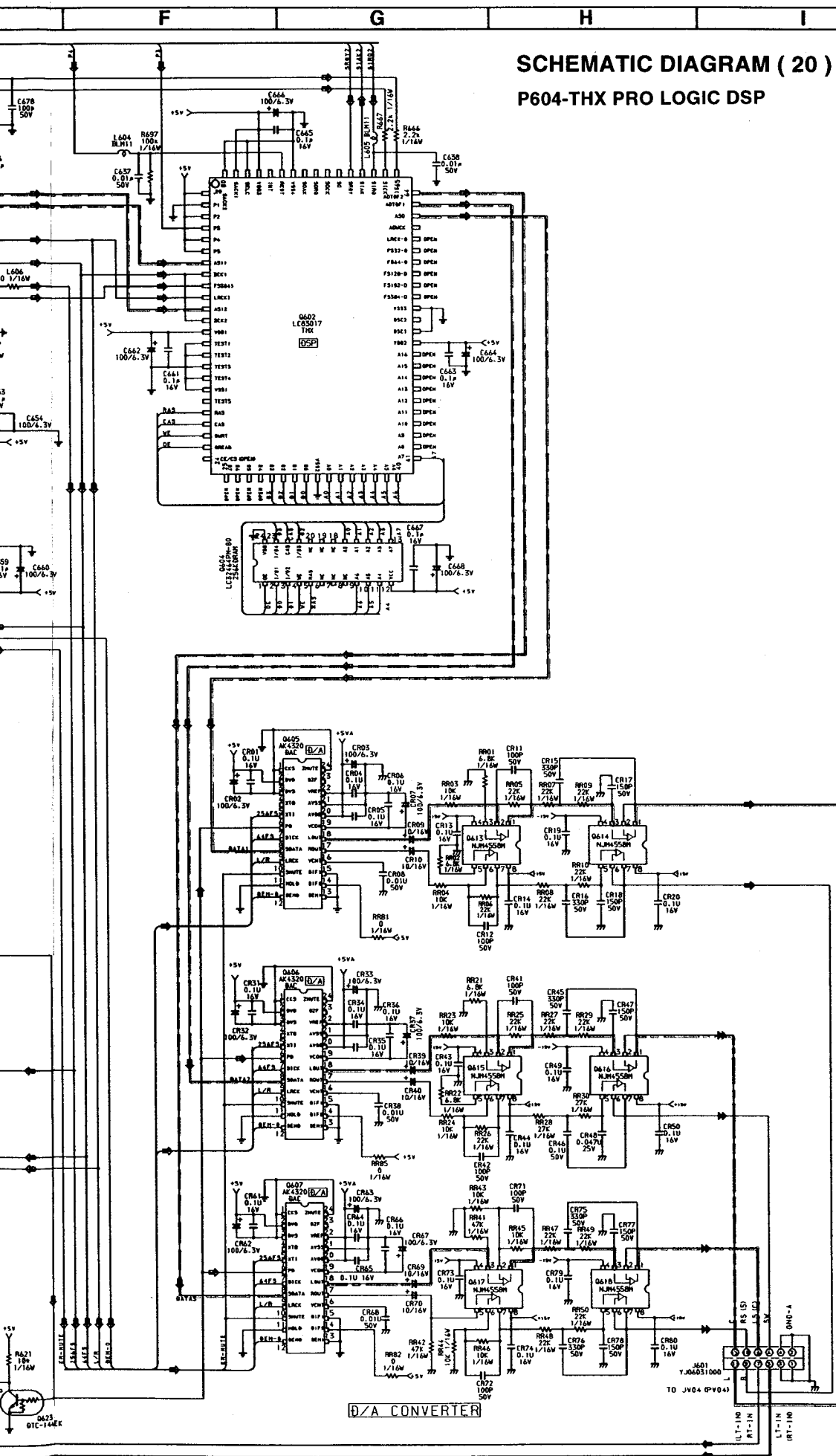


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A/D CONVERTER

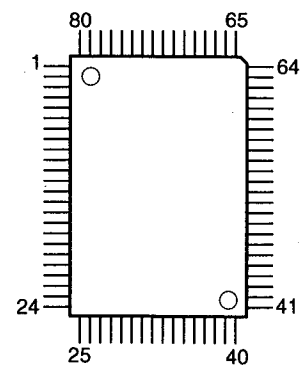
# SCHEMATIC DIAGRAM ( 20 ) **B** VERSION P604-THX PRO LOGIC DSP



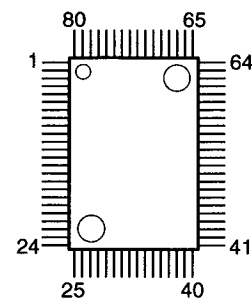
- DIGITAL  $\Rightarrow$
- FROM  $\Rightarrow$
- CENTER  $\Rightarrow$
- SUB-WOOFER  $\Rightarrow$
- SURROUND  $\Rightarrow$

TO DIRECT IN  
SCHEMATIC DIAGRAM (11)

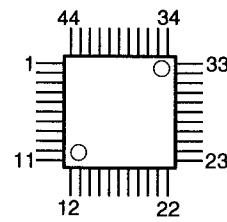
# PIN CONNECTION DIAGRAM



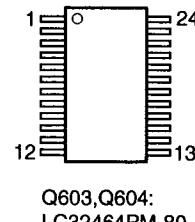
Q601: LC83016JE  
Q602: LC83017JE



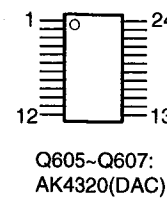
QU01: TMP87CP71F



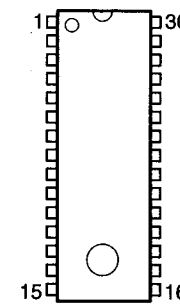
Q619: LC8903Q



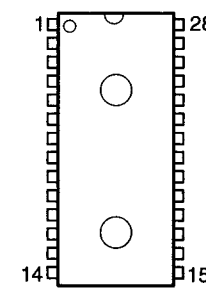
Q603, Q604:  
LC32464PM-80



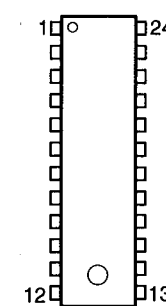
Q605~Q607:  
AK4320(DAC)



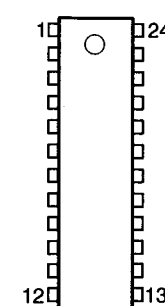
Q201: LA1836  
QS11, QS12, QS56: LC78211  
QS57, QV04: LC78212  
QV06: LC78213  
QX60: LC4760-9004



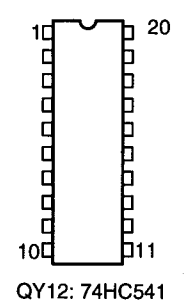
Q608: AK5389(DAK)



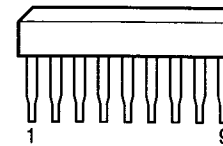
Q901: LA2232



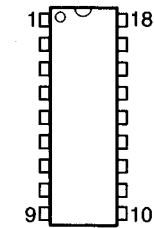
Q501: LC7218



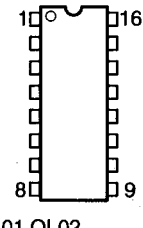
QY12: 74HC541



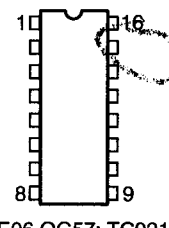
QN04, QN84: TA7317P



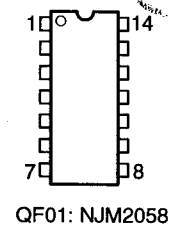
Q902: LC7073



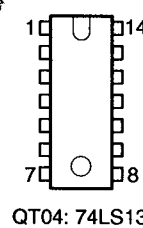
QL01, QL02,  
QL51~QL54: LC7824



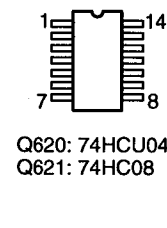
QE04~QE06, QG57: TC9213P  
QY10: TC9173P  
QY11: TC9174P



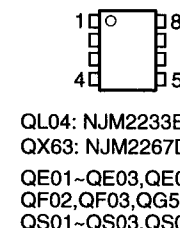
QF01: NJM2058D  
QU18: 74HC125



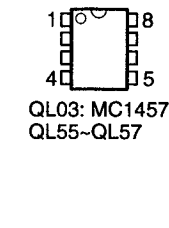
QT04: 74LS132



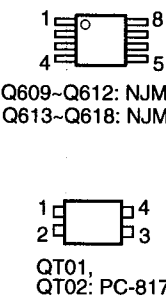
Q620: 74HCU04  
Q621: 74HC08



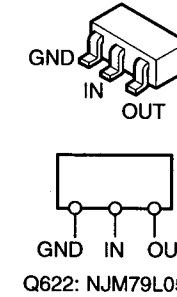
QL04: NJM2233BD  
QX63: NJM2267D



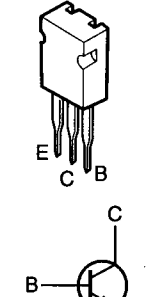
QL03: MC14576  
QL55~QL57



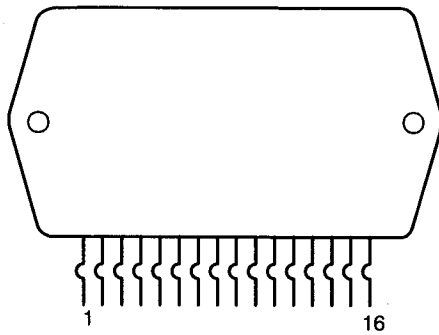
Q609~Q612: NJM2115M  
Q613~Q618: NJM4558M



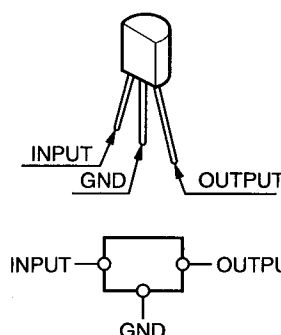
Q622: NJM79L05UA



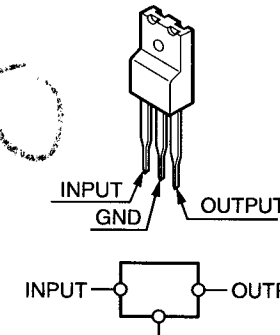
Q802:  
2SD2033(E)



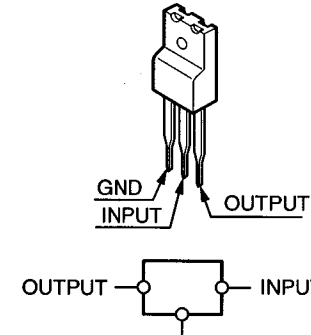
QP01: STK401-140



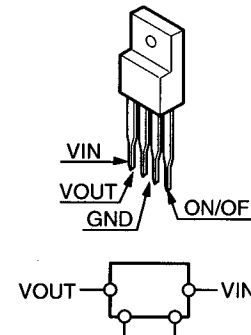
QY09: NJM78L15A



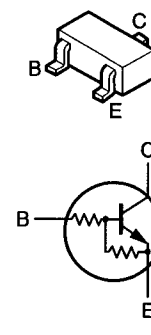
Q801: NJM7815FA  
Q803, Q805: NJM7805FA



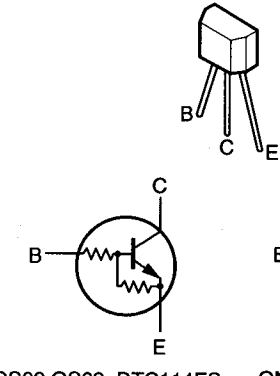
Q802: NJM7915FA  
Q804: NJM7905FA



QB01: PQ05RR1

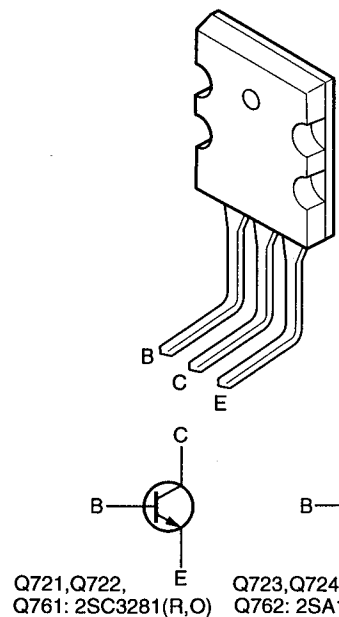


Q623: DTC144EK

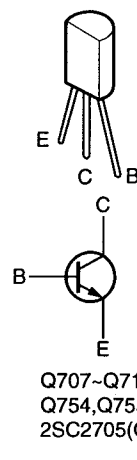


QS09, QS62: DTC114ES  
QU04, QU05, QU08, QU09,  
QU15, QX62, QY02, QY04,  
QY06, QY08, QY13, QY15,  
Q204: DTC144ES

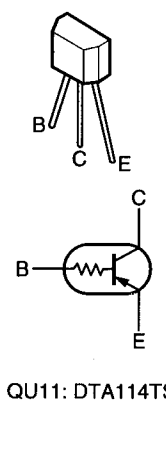
QN81, QS10, QS61, QT05,  
QU02, QU12, QU17, QY01,  
QY03, QY05, QY07, QY14,  
Q203: DTA114ES  
QA04, QA05, QU10, QU14:  
DTA144ES



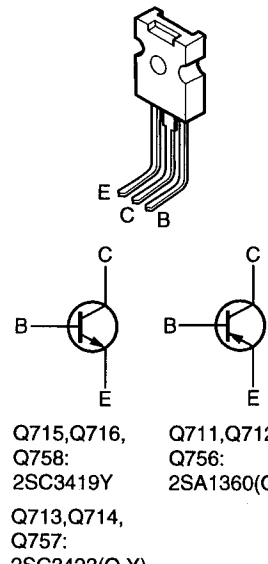
Q721, Q722,  
Q761: 2SC3281(R,O)  
Q723, Q724,  
Q762: 2SA1302(R,O)



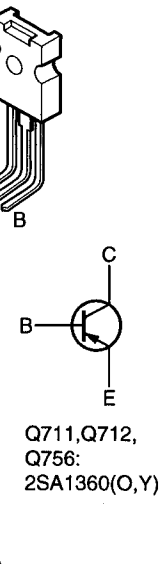
Q707~Q710,  
Q754, Q755:  
2SC2705(Q,Y)



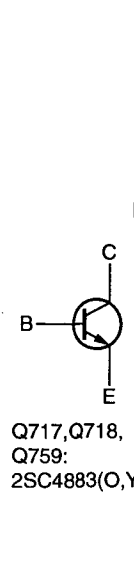
QU11: DTA114TS



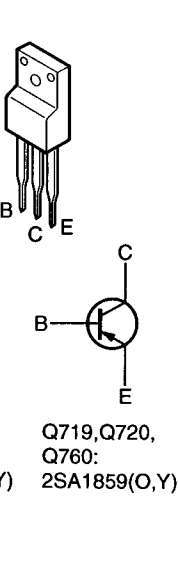
Q715, Q716,  
Q758:  
2SC3419Y  
Q713, Q714,  
Q757:  
2SC3423(O,Y)



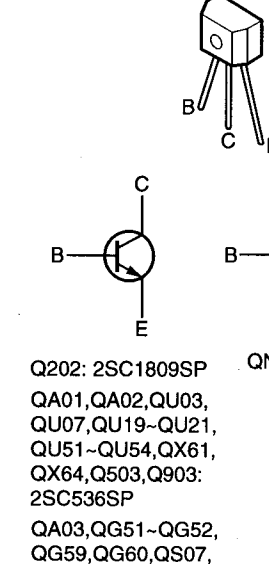
Q711, Q712,  
Q756:  
2SA1360(O,Y)



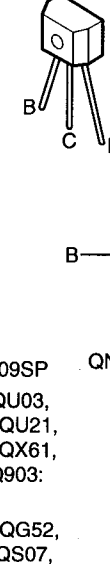
Q717, Q718,  
Q759:  
2SC4883(O,Y)



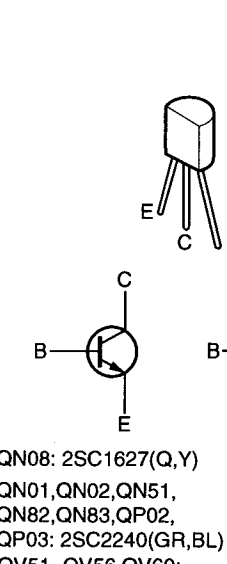
Q719, Q720,  
Q760:  
2SA1859(O,Y)



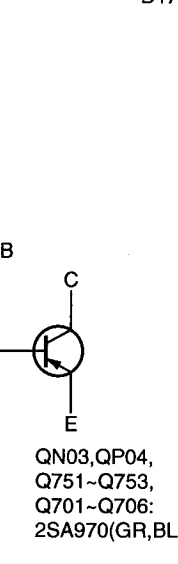
Q202: 2SC1809SP  
QA01, QA02, QU03,  
QU07, QU19~QU21,  
QU51~QU54, QX61,  
QX64, Q503, Q903:  
2SC536SP  
QA03, QG51~QG52,  
QG59, QG60, QS07,  
QS08, QS59, QS60  
: 2SD2144S



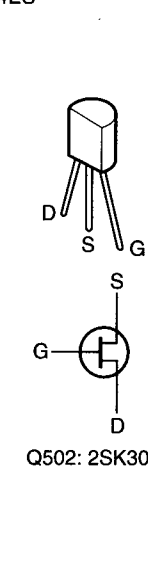
QN07: 2SA608SP



QN08: 2SC1627(Q,Y)  
QN01, QN02, QN51,  
QN82, QN83, QP02,  
QP03: 2SC2240(GR,BL)  
QV51~QV56, QV60:  
2SC2878(A,B)

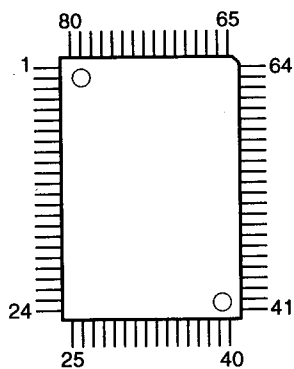


QN03, QP04,  
Q751~Q753,  
Q701~Q706:  
2SA970(GR,BL)

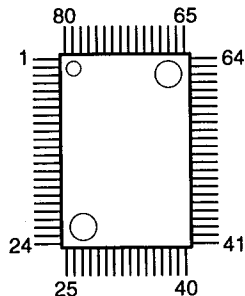


Q502: 2SK30ATM

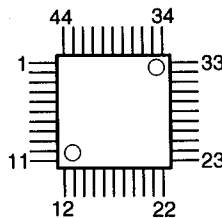
# PIN CONNECTION DIAGRAM



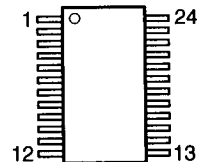
Q601: LC83016JE  
Q602: LC83017JE



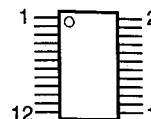
QU01: TMP87CP71F



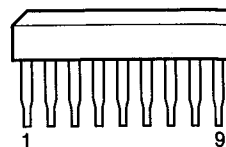
Q619: LC8903Q



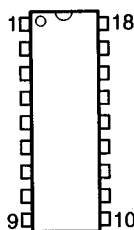
Q603, Q604:  
LC32464PM-80



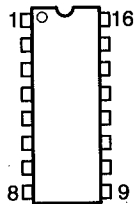
Q605-Q607:  
AK4320(DAC)



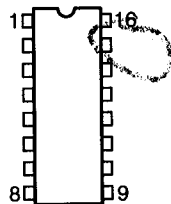
QN04, QN84: TA7317P



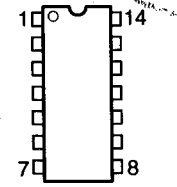
Q902: LC7073



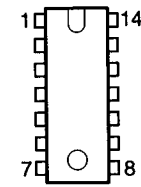
QL01, QL02,  
QL51-QL54: LC7824



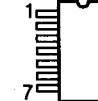
QE04-QE06, QG57: TC9213P  
QY10: TC9173P  
QY11: TC9174P



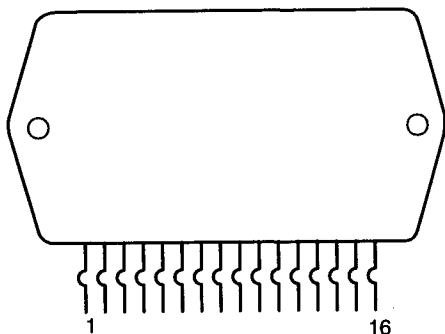
QF01: NJM2058D  
QU18: 74HC125



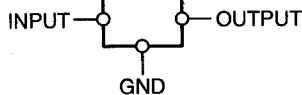
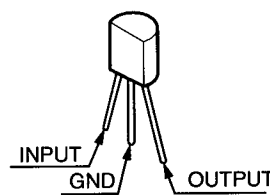
QT04: 74LS132



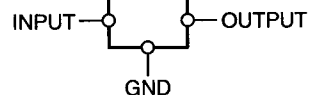
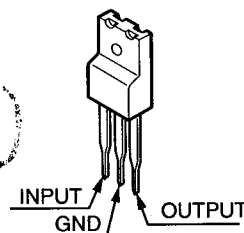
Q620: 74H  
Q621: 74H



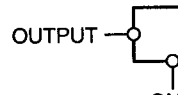
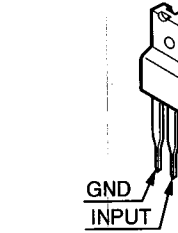
QP01: STK401-140



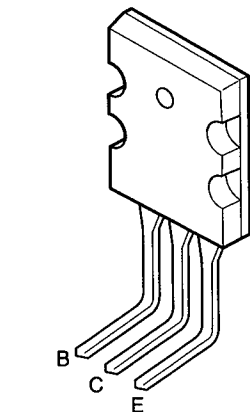
QY09: NJM78L15A



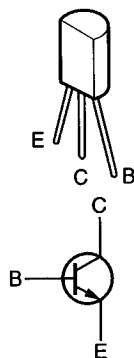
Q801: NJM7815FA  
Q803, Q805: NJM7805FA



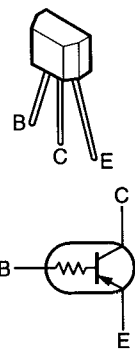
Q802: NJM  
Q804: NJM



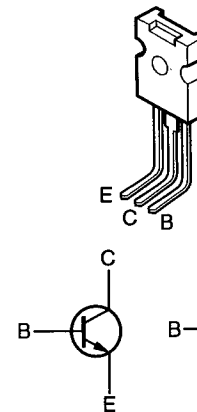
Q721, Q722,  
Q761: 2SC3281(R,O)  
Q723, Q724,  
Q762: 2SA1302(R,O)



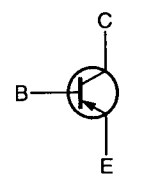
Q707-Q710,  
Q754, Q755:  
2SC2705(Q,Y)



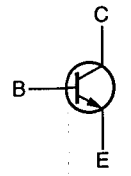
QU11: DTA114TS



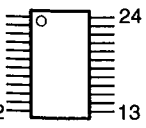
Q715, Q716,  
Q758:  
2SC3419Y  
Q713, Q714,  
Q757:  
2SC3423(O,Y)



Q711, Q712,  
Q756:  
2SA1360(O,Y)



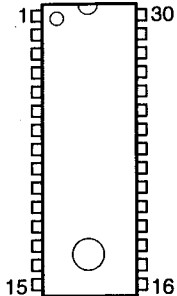
Q717, Q718,  
Q759:  
2SC4883(O,Y)



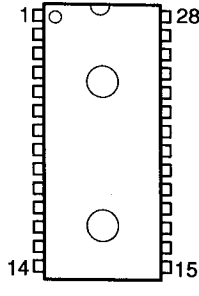
Q605~Q607:  
AK4320(DAC)



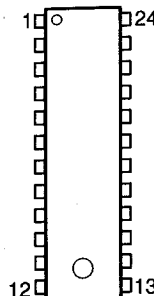
7317P



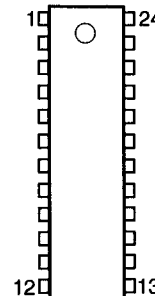
Q201: LA1836  
QS11, QS12, QS56: LC78211  
QS57, QV04: LC78212  
QV06: LC78213  
QX60: LC4760-9004



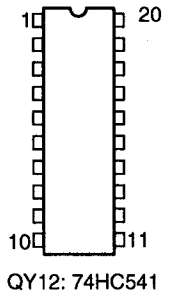
Q608: AK5389(DAK)



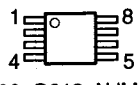
Q901: LA2232



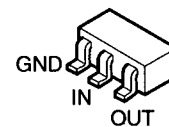
Q501: LC7218



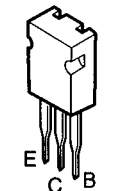
QY12: 74HC541



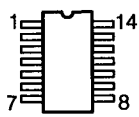
Q609~Q612: NJM2115M  
Q613~Q618: NJM4558M



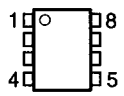
Q622: NJM79L05UA



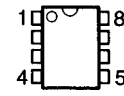
QB02:  
2SD2033(E)



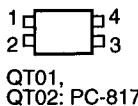
Q620: 74HCU04  
Q621: 74HC08



QL04: NJM2233BD  
QX63: NJM2267D

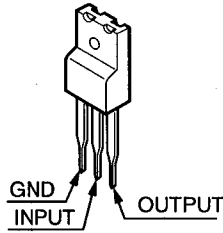


QL03: MC14576  
QL55~QL57

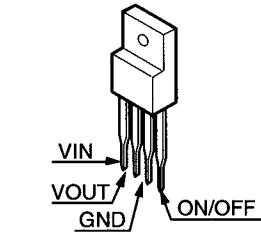


QT01,  
QT02: PC-817

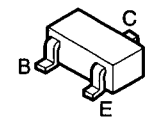
QE01~QE03, QE07~QE12,  
QF02, QF03, QG55, QG56,  
QS01~QS03, QS05, QS13,  
QS51~QS55, QS91,  
QV01~QV03, QV05, QV07,  
QV57, QV58, Q301: NJM4558DD



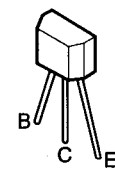
Q802: NJM7915FA  
Q804: NJM7905FA



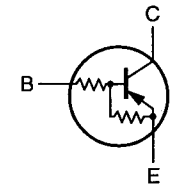
QB01: PQ05RR1



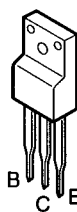
Q623: DTC144EK



QS09, QS62: DTC114ES  
QU04, QU05, QU08, QU09,  
QU15, QX62, QY02, QY04,  
QY06, QY08, QY13, QY15,  
Q204: DTC144ES

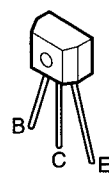


QN81, QS10, QS61, QT05,  
QU02, QU12, QU17, QY01,  
QY03, QY05, QY07, QY14,  
Q203: DTA114ES  
QA04, QA05, QU10, QU14:  
DTA144ES

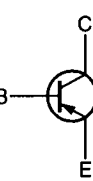


Q717, Q718,  
Q759:  
SC4883(O, Y)

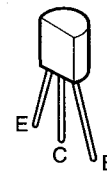
Q719, Q720,  
Q760:  
2SA1859(O, Y)



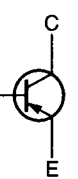
Q202: 2SC1809SP  
QA01, QA02, QU03,  
QU07, QU19~QU21,  
QU51~QU54, QX61,  
QX64, Q503, Q903:  
2SC536SP  
QA03, QG51~QG52,  
QG59, QG60, QS07,  
QS08, QS59, QS60  
: 2SD2144S



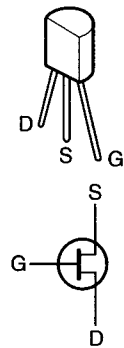
QN07: 2SA608SP



QN08: 2SC1627(Q, Y)  
QN01, QN02, QN51,  
QN82, QN83, QP02,  
QP03: 2SC2240(GR, BL)  
QV51~QV56, QV60:  
2SC2878(A, B)

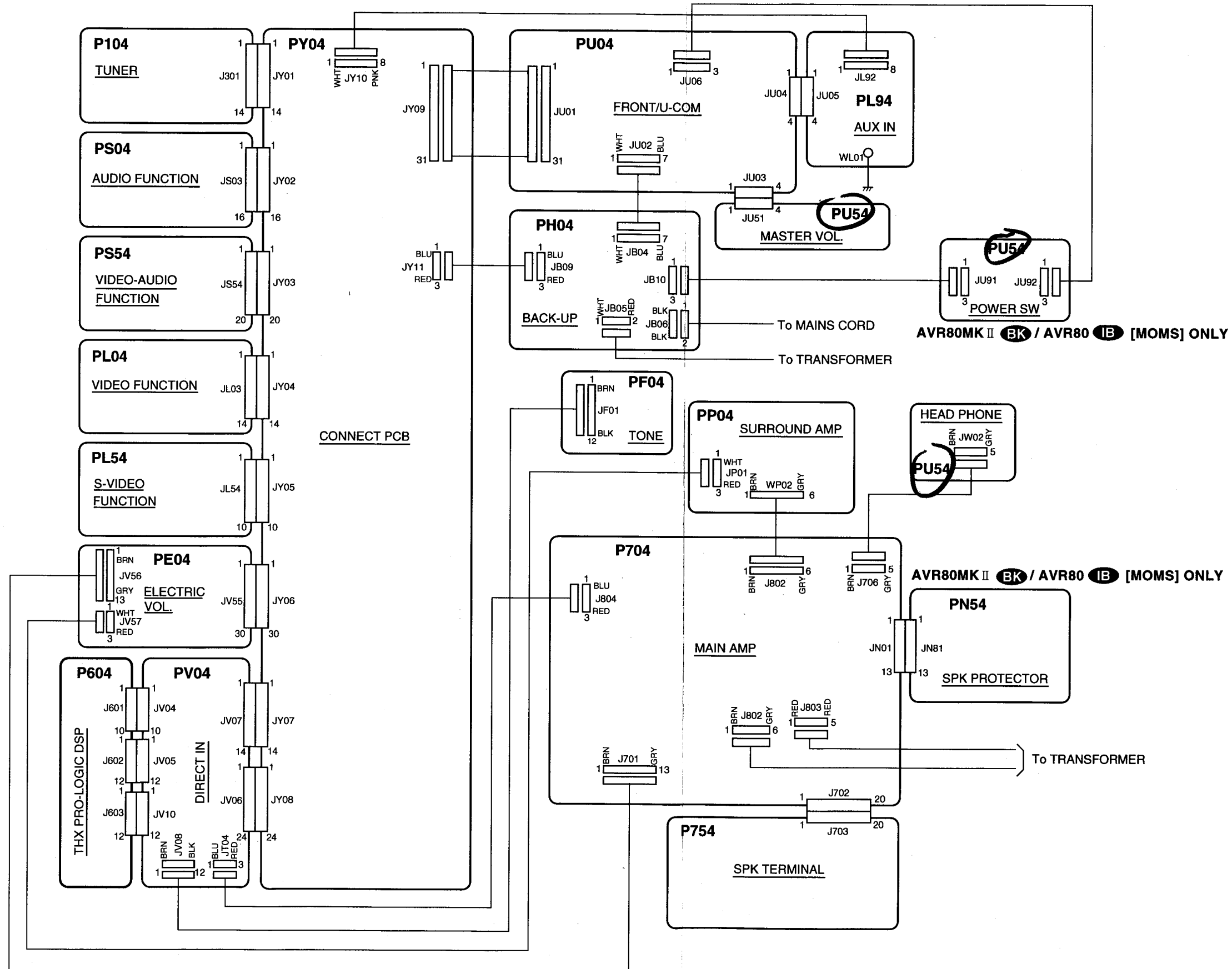


QN03, QP04,  
Q751~Q753,  
Q701~Q706:  
2SA970(GR, BL)

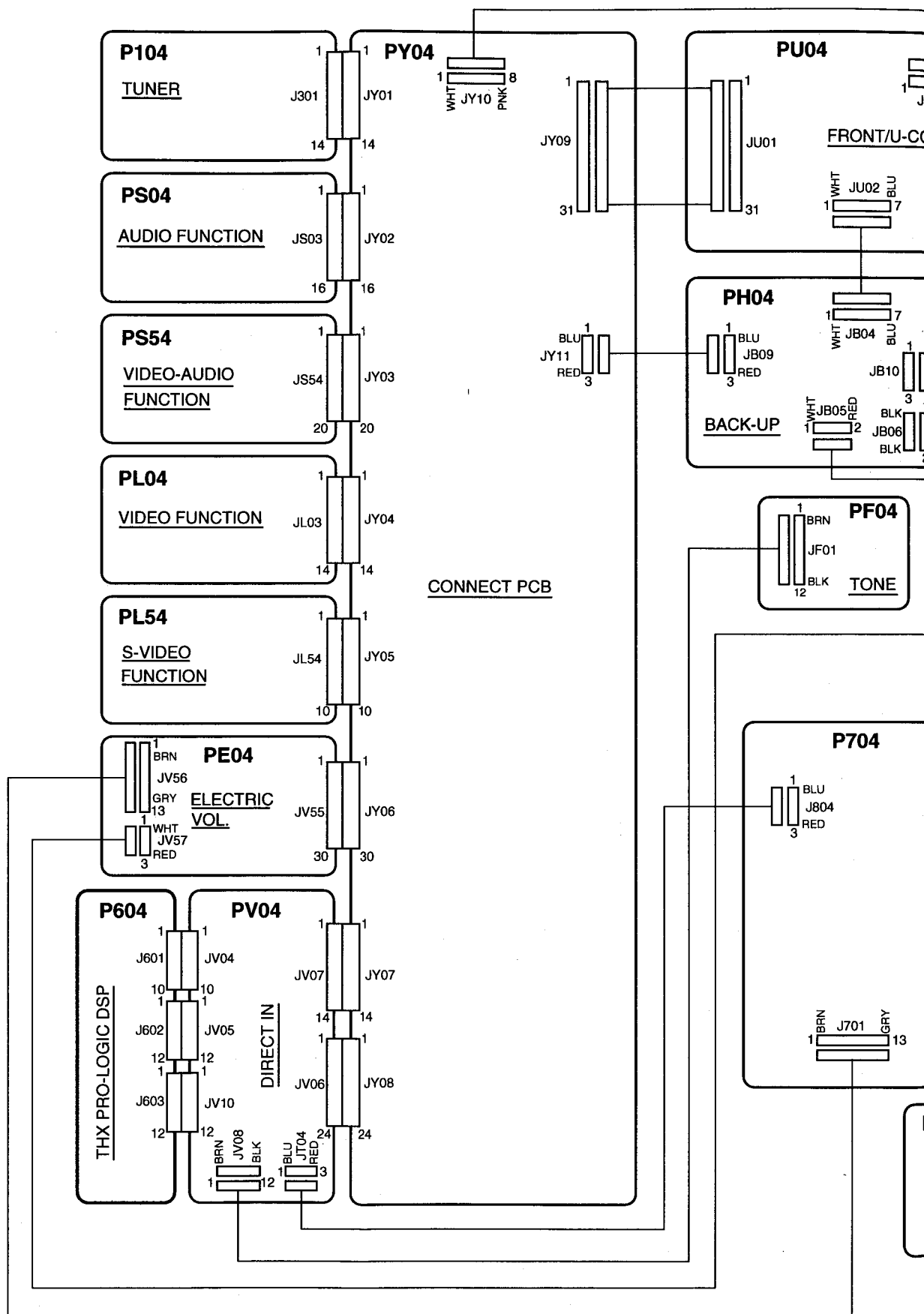


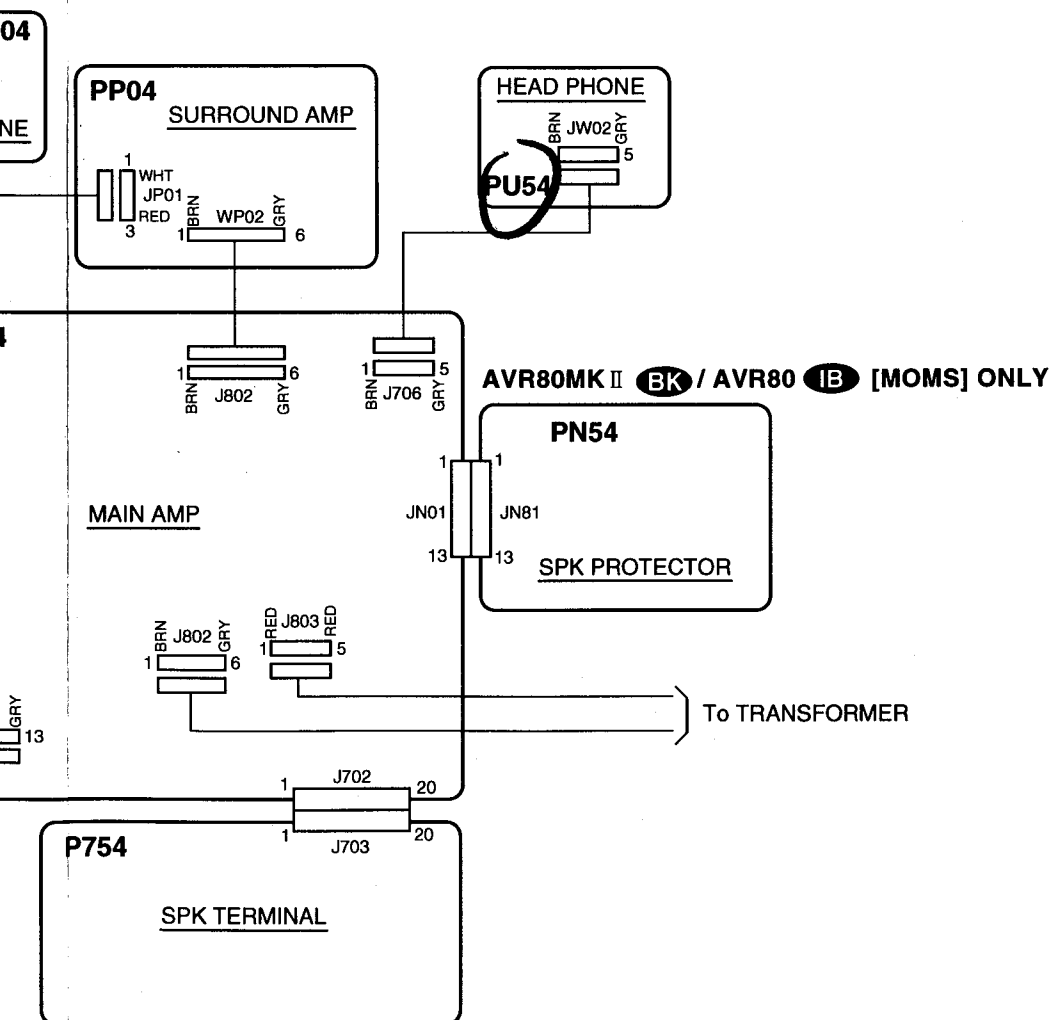
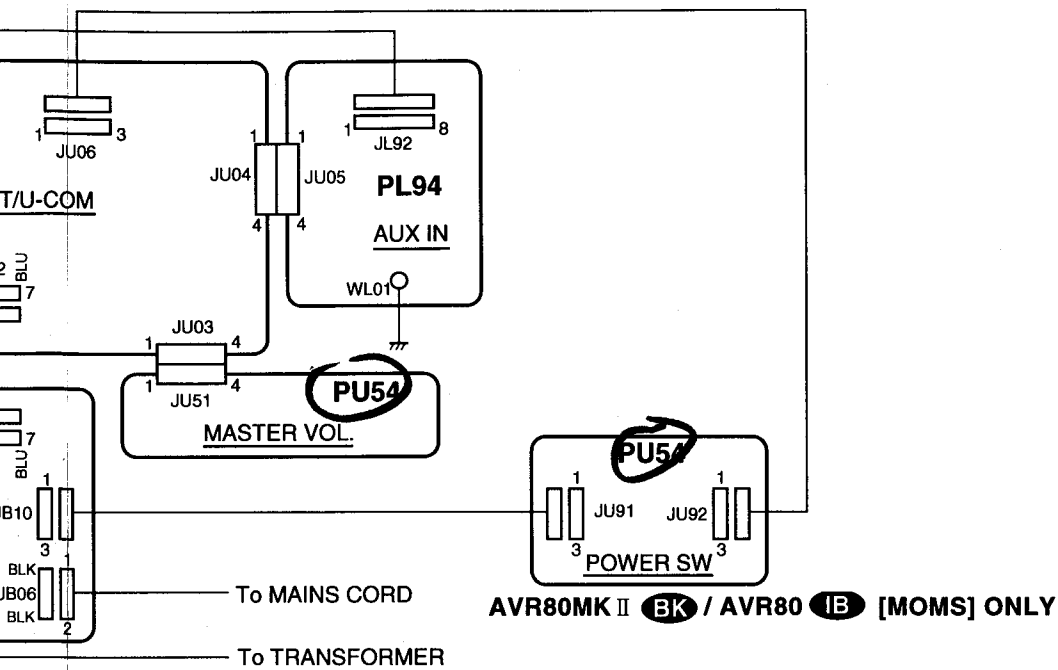
Q502: 2SK30ATM

## WIRING DIAGRAM



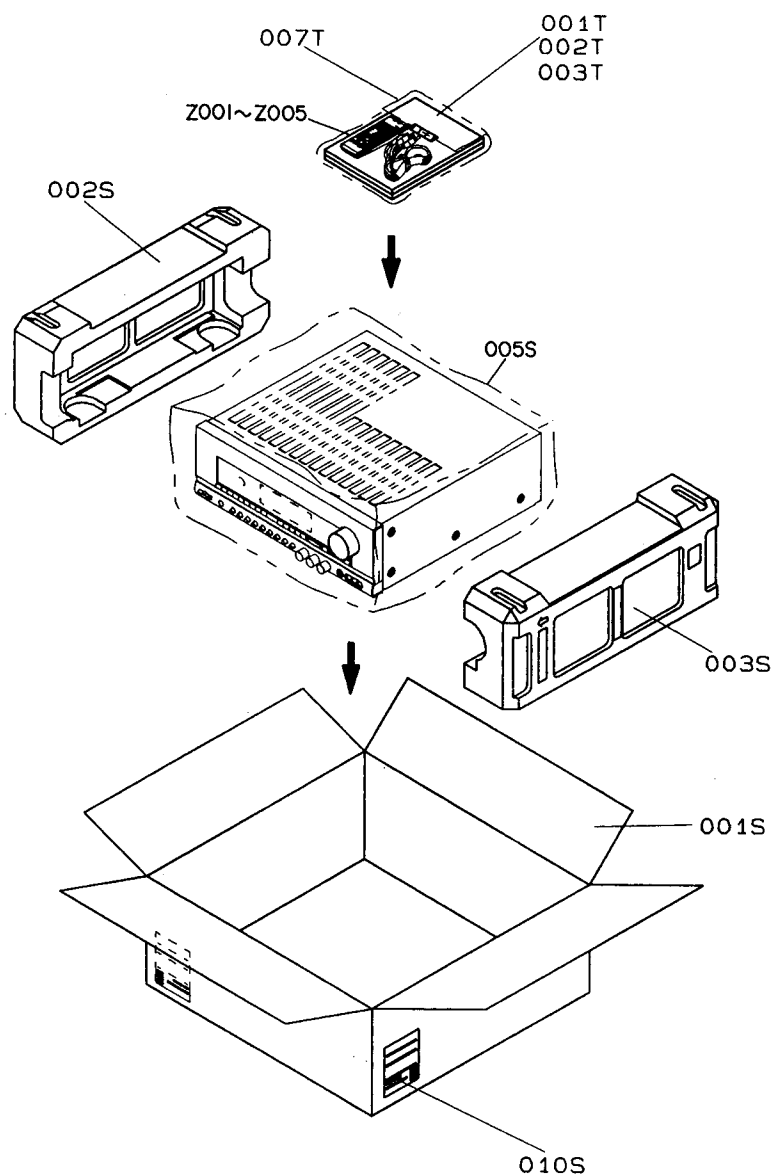
# WIRING DIAGRAM







# PACKING MATERIAL



| Ref. No. | Part. No.  | Description                   | Q'TY |
|----------|------------|-------------------------------|------|
| 001S     | 260J801010 | PACKING CASE (IB)             | 1    |
| 001S     | 260J801020 | PACKING CASE (BK)             | 1    |
| 002S     | 260J809010 | CUSHION, (L)                  | 1    |
| 003S     | 260J809020 | CUSHION, (R)                  | 1    |
| 005S     | 9091111030 | POLYETHY SHEET                | 1    |
| 010S     | 9510901260 | LABEL                         | 2    |
| 001T     | 260J851310 | USER MANUAL (IB) (AVR80)      | 1    |
| 001T     | 260J851360 | USER MANUAL (IB) [MOMS]       | 1    |
| 001T     | 260J851250 | USER MANUAL (BK) (AVR80)      | 1    |
| 001T     | 260J851260 | USER MANUAL (BK) (AVR80MK II) | 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    |