

# ***SYLVANIA***

# **SERVICE MANUAL**

## **Main Section**

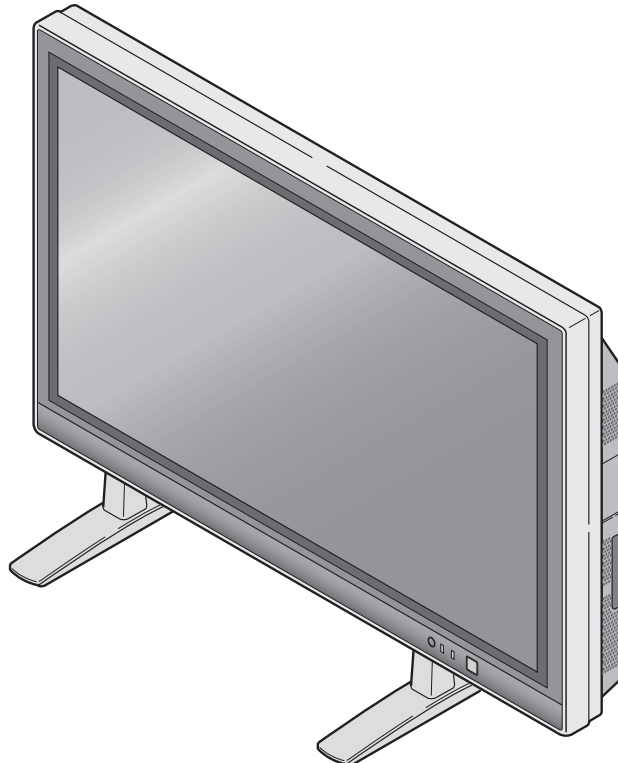
- Specifications
- Adjustment Procedures
- Troubleshooting
- Schematic Diagrams
- CBA's
- Exploded Views
- Parts List

## **Plasma Display Module Section**

- Safety Precautions
- About Lead Free Solder (PbF)
- CBA Structure & Parts List
- Set Serial Label Information
- Trouble Shooting Guide
- Adjustment Procedure

## **PLASMA DISPLAY**

# **6842PF M**



## **IMPORTANT SAFETY NOTICE**

**Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.**

**It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.**

# MAIN SECTION

## PLASMA DISPLAY

### 6842PF M

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| <b>Main Section</b> <ul style="list-style-type: none"><li>● Specifications</li><li>● Adjustment Procedures</li><li>● Troubleshooting</li><li>● Schematic Diagrams</li><li>● CBA's</li><li>● Exploded Views</li><li>● Parts List</li></ul> |
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# SPECIFICATIONS

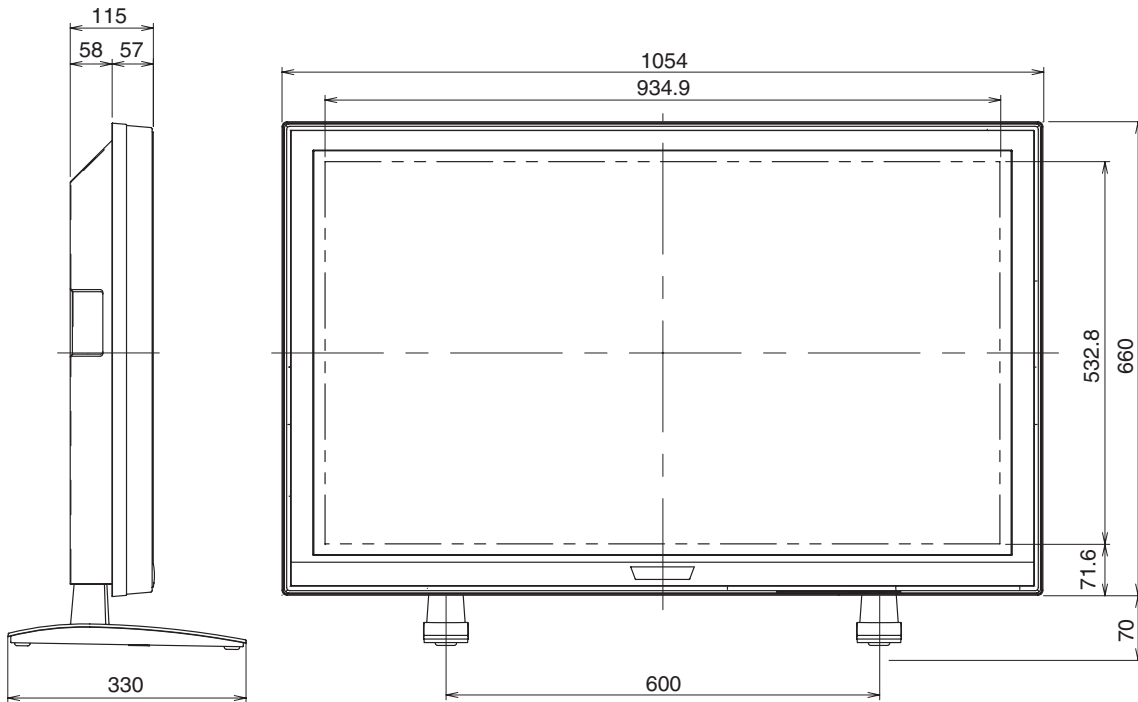
Description	Condition
<b>Display Features</b>	
Type	Plasma panel
Screen Size	42 in. Wide VGA panel
Pixel Resolution	852 (H) x 480 (V)
Output Colors	16.7 million
Screen Aspect Ratio	16:9
Viewing Angle	160 degrees
Contrast Ratio	1000:1
Brightness	400 cd/m <sup>2</sup> (PEAK)
<b>Video Features</b>	
Comb Filter Type	3-Dimensional Y/C Separation
Component Input Format	720p/1080i/480p/480i
<b>Audio Features</b>	
Sound Output	5W + 5W, 10% THD
Speaker	2.8 in x 1.6 in Oval Type x2
<b>Additional Features</b>	
Screen Saver	Off/Slow/Fast
Trilingual OSD	English/Spanish/French
Color Temperature Select	Cool/Normal/Warm
AV Memory	Manual/News/Movie/Sport
Wide screen Modes	4:3 Standard,Full,Wide,Zoom
Sleep Timer	90 minutes
Wall Mount Kit Ready	For VMPLs,SANUS SYSTEMS
<b>Connectors</b>	
Component AV Input (1)	HD component video/Y, Pb(Cb), Pr(Cr), (RCA x 3) - rear audio L/R (RCA x 2) - rear
Component AV Input (2)	HD component video/Y, Pb(Cb), Pr(Cr), (RCA x 3) - rear audio L/R (RCA x 2) - rear
Composite AV Input (1) S-Video (1)	Composite video (RCA x 1) - rear S-Video (4 pin DIN) - rear audio L/R (RCA x 2) - rear
Composite AV Input (2) S-Video (2)	Composite video (RCA x 1) - side S-Video (4 pin DIN) - side audio L/R (RCA x 2) - side
Analog Audio output	audio L/R (RCA x 2) - rear
<b>General</b>	
Power In	120V ±10%, 60Hz/AC
Power Consumption	350 W (standby: 0.8W)

Description	Condition
Exterior Color	Silver & Black
Dimension (Incl. stand) (Width x Height x Depth)	41 1/2 x 28 3/4 x 13 in. (1054 x 730 x 330 mm)
Weight	94.8 lbs (43 kg)

**Note:**

Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

**DIMENSIONS**



# IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

## Safety Precautions for Monitor Circuit

1. **Before returning an instrument to the customer**, always make a safety check of the entire instrument, including, but not limited to, the following items:
  - a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**
  - b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) excessively wide cabinet ventilation slots, and (2) an improperly fitted and/or incorrectly secured cabinet back cover.
  - c. **Leakage Current Cold Check** - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each exposed metallic cabinet part. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.
  - d. **Leakage Current Hot Check** - With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute

(ANSI) C101.1 Leakage Current for Appliances. With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.75 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.

**ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.**

2. Read and comply with all caution and safety-related notes on or inside the cabinet, or on the chassis,
3. **Design Alteration Warning** - Do not alter or add to the mechanical or electrical design of this monitor. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.
4. **Hot Chassis Warning** -
  - a. Some monitor chassis are electrically connected directly to one conductor of the AC power cord and maybe safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.

- b. Some monitor chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
- c. Some monitor chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.
- 5. Observe original lead dress. Take extra care to assure correct lead dress in the following areas:a. near sharp edges,b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts,c. the AC supply,d. high voltage, and,e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.
- 6. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
- 7 **Product Safety Notice** - Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a ( ▲ ) on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The product's safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm they comply with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

## General Caution of Plasma Display

1. Since the Panel module and front filter are made of glass, sufficient care shall be taken when handling the broken module and filter in order to avoid injury.
2. If necessary to replace Panel module, this work must be started after the panel module and the AC/DC Power supply becomes sufficiently cool.
3. Special care must be taken with the display area to avoid damaging its surface.
4. The Panel Module shall not be touched with bare hands to protect its surface from stains.
5. It is recommended to use clean soft gloves during the replacing work of the Panel module in order to protect, not only the display area of the panel module but also the serviceman.
6. The Chip Tube of the panel module (located upper left of the back of the panel module) and flexible cables connecting Panel glasses to the drive circuitry Printed Wiring Boards (P.W.B.) are very weak, so sufficient care must be taken to prevent breaking or cutting any of these. If the Chip Tube breaks the panel module will never work, replacement for a new plasma panel module will be needed.
7. Signal, power supply P.W.B.'s and PDP driving circuits P.W.B.'s are assembled on the rear side of the PDP module, take special care with this fragile circuitry; particularly, Flexible Printed Circuits bonded to surrounding edges of the glass panel. They are not strong enough to withstand harsh outer mechanical forces. Avoid touching the flexible printed circuits by not only your hands, but also tools, chassis, or any other object. Extreme bending of the connectors must be avoided too. In case the flexible printed circuits are damaged, the corresponding addressed portions of the screen will not be lit and exchange of a glass panel will be required.

## PDP Module Handling

When there is need to replace a broken PDP module which is the displaying device from the Plasma display unit, consider the following:

1. When carrying the PDP module, two persons should stand at both shorter-edge sides of the glass-panel and transport it with their palms. Avoid touching the Flexible Printed Circuits or the chip tube on the corner of the glass-panel. Handle only by the surface of the glass panel.
2. When carrying PDP module, watch surrounding objects, such as tables, and also do not carry it alone since it may be dangerous and it will be damaged due to excessive stress to the module (glass-panel).
3. Please do not stand the module with the edge of the glass-panel on the table since this might result in damage to the glass-panel and/or flexible printed circuits due to excessive stress to the module (glass-panel).

## Precautions during Servicing

- A. Parts identified by the (▲) symbol are critical for safety.  
Replace only with part number specified.
- B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.  
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.
- C. Use specified internal wiring. Note especially:
  - 1) Wires covered with PVC tubing
  - 2) Double insulated wires
  - 3) High voltage leads
- D. Use specified insulating materials for hazardous live parts. Note especially:
  - 1) Insulation Tape
  - 2) PVC tubing
  - 3) Spacers
  - 4) Insulators for transistors.
- E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.
- F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)
- G. Check that replaced wires do not contact sharp edged or pointed parts.
- H. Also check areas surrounding repaired locations.
- I. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
- J. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC supply outlet.



## Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

### 1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance ( $d$ ) and ( $d'$ ) between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

**Table 1 : Ratings for selected area**

AC Line Voltage	Region	Clearance Distance ( $d$ ) ( $d'$ )
110 to 130 V	USA or CANADA	$\geq 3.2$ mm (0.126 inches)

**Note:** This table is unofficial and for reference only. Be sure to confirm the precise values.

### 2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (any two parts or contacts, between any part or contact and either pole of the power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

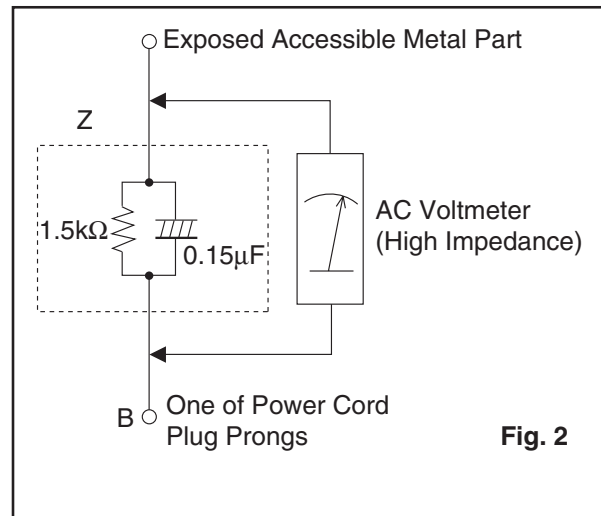
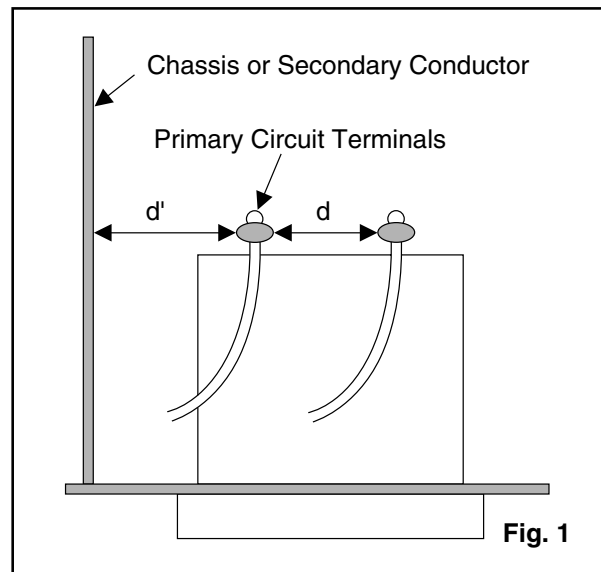
#### Measuring Method: (Power ON)

Insert load Z between B (any two parts or contacts, between any part or contact and either pole of the power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

**Table 2: Leakage current ratings for selected areas**

AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	USA	0.15 $\mu$ F CAP. & 1.5k $\Omega$ RES. connected in parallel	$\leq 0.75$ mA peaks	Exposed accessible parts

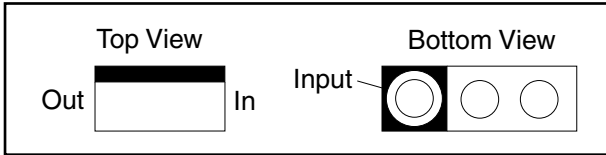
**Note:** This table is unofficial and for reference only. Be sure to confirm the precise values.



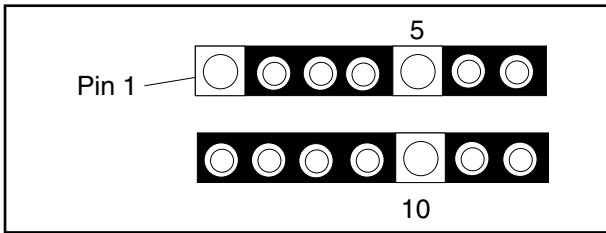
# STANDARD NOTES FOR SERVICING

## Circuit Board Indications

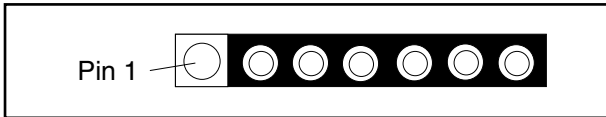
- a. The output pin of the 3 pin Regulator ICs is indicated as shown.



- b. For other ICs, pin 1 and every fifth pin are indicated as shown.

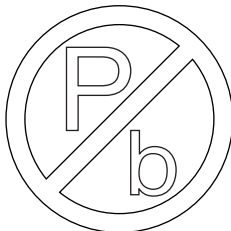


- c. The 1st pin of every male connector is indicated as shown.



## Pb (Lead) Free Solder

**Pb free mark will be found on PCBs which use Pb free solder. (Refer to figure.) For PCBs with Pb free mark, be sure to use Pb free solder. For PCBs without Pb free mark, use standard solder.**



Pb free mark

## How to Remove / Install Flat Pack-IC

### 1. Removal

**With Hot-Air Flat Pack-IC Desoldering Machine:**

- (1) Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

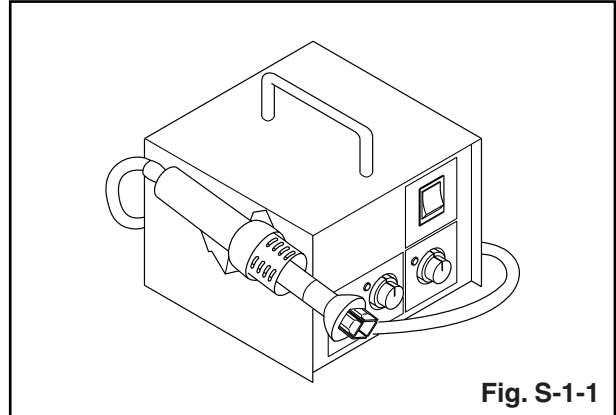


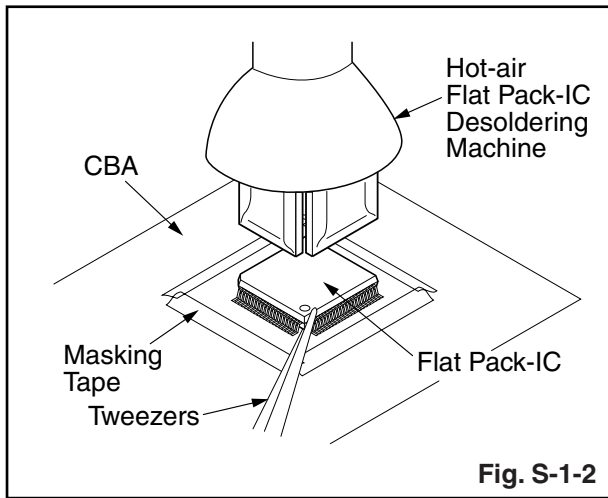
Fig. S-1-1

- (2) Remove the flat pack-IC with tweezers while applying the hot air.
- (3) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
- (4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

### Caution:

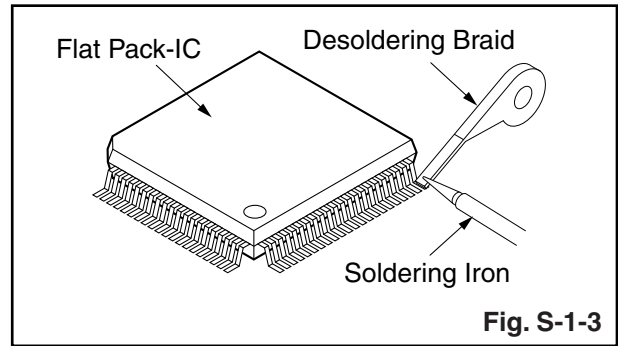
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

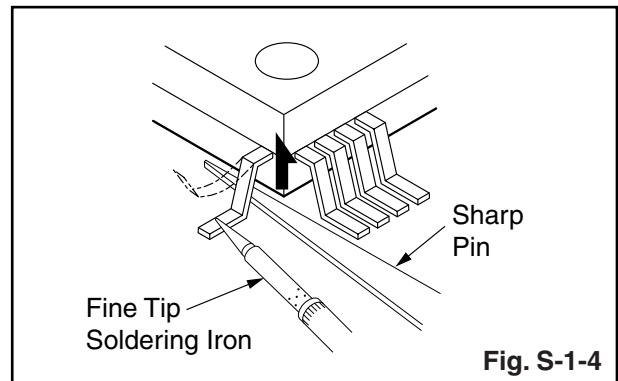


#### With Soldering Iron:

- (1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)



- (2) Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)



- (3) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
- (4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

#### With Iron Wire:

- (1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
- (2) Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
- (3) While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.

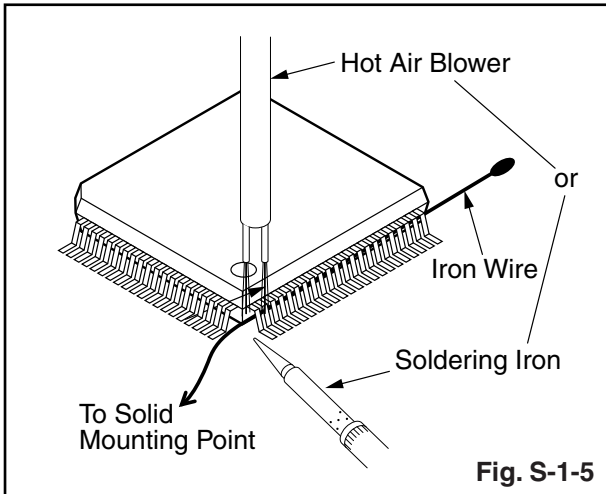
- (4) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
- (5) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

**Note:**

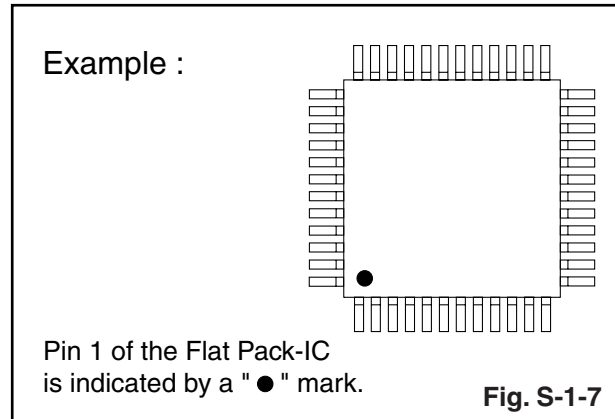
When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

**2. Installation**

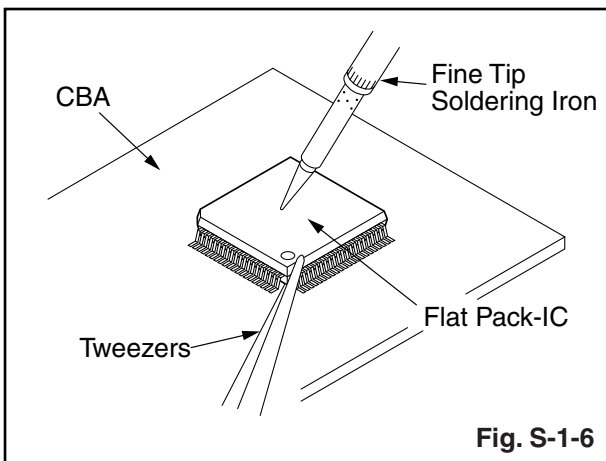
- (1) Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
- (2) The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then pre-solder the four corners of the flat pack-IC. (See Fig. S-1-8.)
- (3) Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.



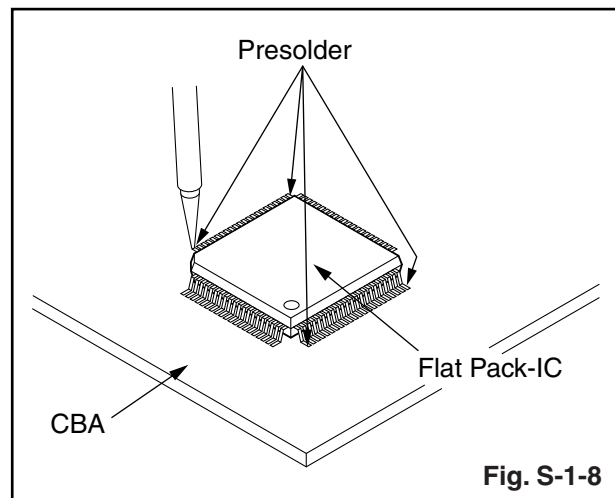
**Fig. S-1-5**



**Fig. S-1-7**



**Fig. S-1-6**



**Fig. S-1-8**

# Instructions for Handling Semiconductors

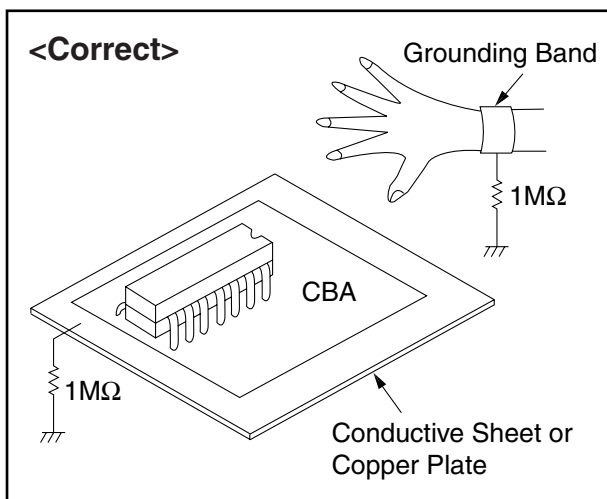
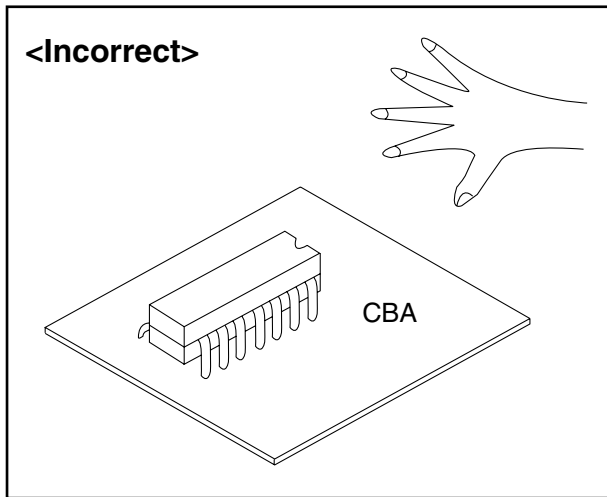
Electrostatic breakdown of the semiconductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

## 1. Ground for Human Body

Be sure to wear a grounding band ( $1M\Omega$ ) that is properly grounded to remove any static electricity that may be charged on the body.

## 2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding ( $1M\Omega$ ) on the workbench or other surface, where the semiconductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semiconductors with your clothing.

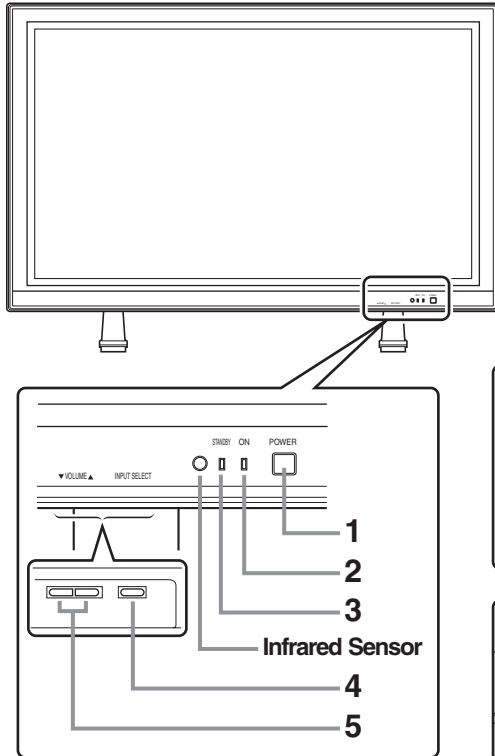


# BASIC SETUP AND OPERATING GUIDE

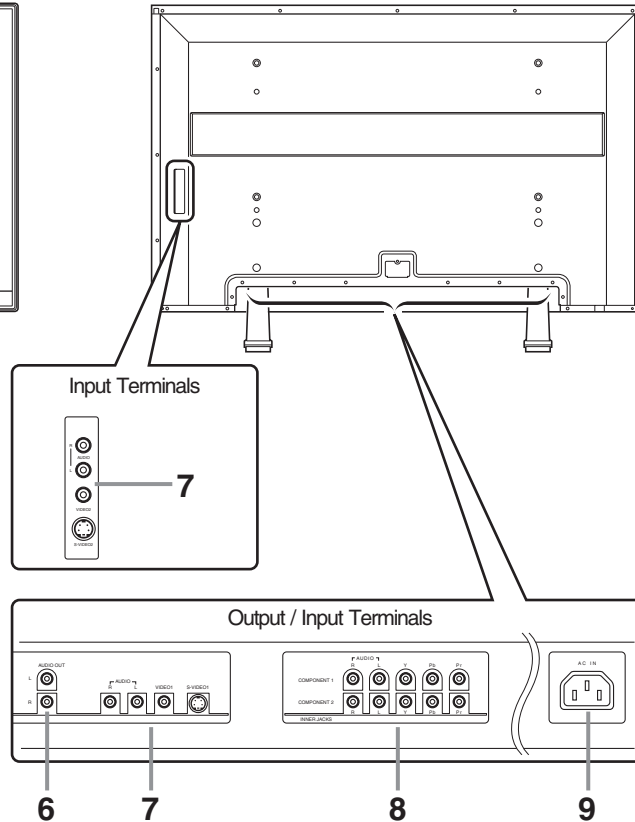
## COMPONENT NAMES

### MAIN UNIT

Front



Rear

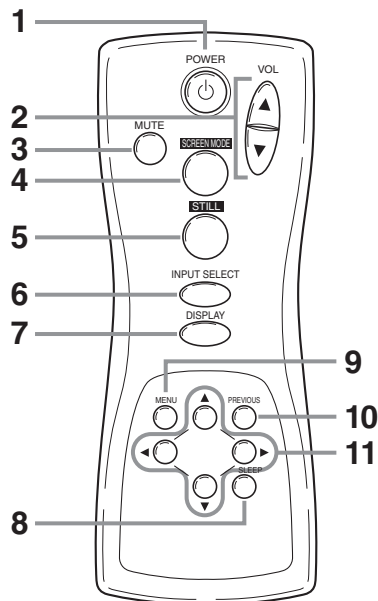


- 1 POWER button:** Turns the power ON or OFF.
- 2 ON indicator:** Lights up when the power is ON.
- 3 STANDBY indicator:** Lights up when the power is in the standby mode. Disappears when the power is ON.
- 4 INPUT SELECT button:** Selects Video input terminals.
- 5 VOLUME ▲(up) / ▼(down) button:** Increases or decreases the volume.
- 6 AUDIO OUT:** Output terminals for audio.
- 7 AUDIO/VIDEO/S-VIDEO:** Input terminals for an audio and video signal. You can select either VIDEO or S-VIDEO.

- 8 COMPONENT:** Input terminals for a component signal. You can make Y-Pb-Pr progressive or interlaced connection.

- 9 AC IN terminal:** Connect the supplied power cable for a standard AC outlet.

## REMOTE CONTROL



**1 POWER button:** Turns the main power ON or OFF.

**2 VOL ▲(up) / ▼(down) button:** Increases or decreases the volume.

**3 MUTE button:** Turns the audio off.

**4 SCREEN MODE button:** Selects aspect ratios available for the screen.

**5 STILL button:** Pauses the image shown on the screen.

**6 INPUT SELECT button:** Selects Video input terminals.

**7 DISPLAY button:** Displays the name of the selected input terminal on the screen.

**8 SLEEP button:** Sets the sleep timer.

**9 MENU button:** Accesses the setup menu, allowing you to access various settings.

**10 PREVIOUS button:** Moves up one level in the setup menu.

**11 ▲(up) / ▼(down) button:** Selects the various modes in the setup menu.

◀(left) / ▶(right) button: Selects and adjusts levels for the various settings.

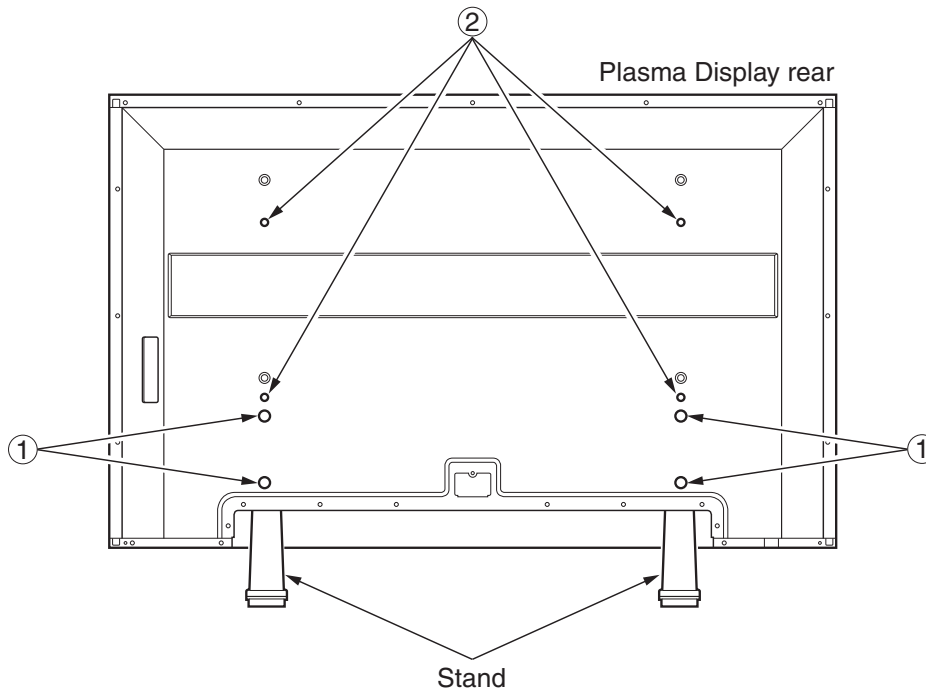
▶(enter) button: Also used as the enter button.

# ATTACHING A WALL MOUNT BRACKET (SOLD SEPARATELY)

The following is a description of the method for attaching a wall mount to the plasma display. When performing this operation, refer to the instruction manual included with the wall mount kit.

## ⚠ CAUTION

- Any damage caused by incorrectly attempting to mount the plasma display is not covered under the terms of the manufacturers warranty.



- 1** Turn the plasma display over and place it screen-first onto a table which has a soft cloth draped over it.

Place the plasma display in a way so that the stands hang over the edge of the table.

### NOTE:

- Make sure to use a table which can support the weight of the plasma display, and is larger than the plasma display.
- Make sure the table is in a stable location.

- 2** Remove the stands from the plasma display. Unscrew the M5 screws indicated by ①, and remove the left and right stands.

### NOTE:

- The screws and stands you have removed are necessary for reattachment at a later date. Make sure to keep them in a safe place.

- 3** Attach the left and right TV rails to the plasma display using the M8 screws included with the wall mount kit.

② indicates the position of the screw holes on the plasma display

### NOTE:

- For instructions on how to attach the TV rails, refer to the instruction manual included with the mount wall kit.
- Use only the number 2 location screw holes for mounting the plasma display.

- 4** Attach the plasma display to the wall.

### NOTE:

- Refer to the instruction manual included with the wall mount when securing the plasma display to the wall.



# MAINTENANCE

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## CLEANING THE PLASMA DISPLAY

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Always unplug the plasma display from the AC outlet before cleaning.

Clean the case of the plasma display with a soft cloth which has been wet and wrung dry.

If the screen of the plasma display is dirty or dusty, wipe it clean with a soft cloth.

### NOTE

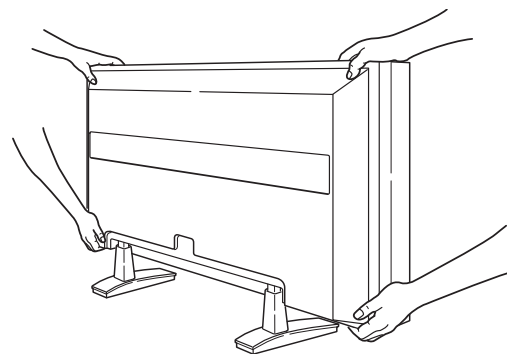
*Never use a solvent, alcohol, or any other abrasive liquid to clean the plasma display.*

*Always make sure the area around vents on the plasma display is clear and clean. Failure to do this may result in fire or cause the plasma display to fail prematurely.*

## WHEN MOVING THE PLASMA DISPLAY

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Due to the weight of this plasma display, two people should be used when moving it. Both people should make sure to grasp the top of the display with one hand, and the base of the display with the other hand, as in the following illustration.



## WARNING

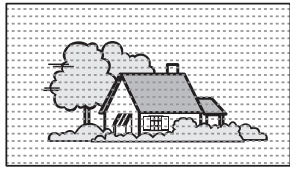



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### Preventing Image Burn on the plasma display

Fixed images displayed on the plasma display for an extended period of several hours may cause uneven pixel aging causing damage to the plasma display. The screensaver mode helps reduce this phenomenon, but in general you should try to avoid displaying fixed images for extended periods on the plasma display.

Images of high luminance displayed on the plasma display for more than 60 seconds may cause lingering images to remain on the screen. These images will automatically disappear, but may take time depending on the luminance of the images and how long they were displayed on the screen.

# TROUBLESHOOTING GUIDE

	<ul style="list-style-type: none"> <li>•IGNITION NOISE: Black spots or horizontal streaks may appear, picture may flutter or drift. Usually caused by interference from automobile ignition systems, neon lamps, electrical drills, and other electrical appliances.</li> </ul>
	<ul style="list-style-type: none"> <li>•GHOSTS: Ghosts are caused by the television signal following two paths. One is the direct path and the other is reflected from tall buildings, hills or some other objects. Changing the direction or position of the antenna may improve reception. Ghosting may also be caused by defects in the antenna system such as unshielded leads or connecting several sets to the same antenna without using multiple antenna couplers. Ghosting occurring when the plasma display is connected to a cable TV system may indicate a bad cable wire or loose connection. Confirm that the cable wire is properly connected.</li> </ul>
	<ul style="list-style-type: none"> <li>•SNOW: If your receiver is located in the fringe area of a television station where the signal is weak, your picture may be marred by the appearance of small dots. When the signal is extremely weak, it may be necessary to install a special antenna to improve the picture. Snowing occurring when the plasma display is connected to a cable TV system may indicate a bad cable wire or loose connection. Confirm that the cable wire is properly connected.</li> </ul>
	<ul style="list-style-type: none"> <li>•RADIO FREQUENCY INTERFERENCE: The interference produces moving ripples or diagonal streaks, and in some cases, causes loss of contrast in the picture.</li> <li>•PREVENTION OF AN OBSTACLE TO RADIO RECEIVERS This monitor has been designed pursuant to the FCC class B Rules. This is to prevent a problem to Radio receivers. If this monitor causes a problem to Radio receivers, then take the following steps: <ul style="list-style-type: none"> <li>- Keep the monitor away from Radio.</li> <li>- Adjust Radio antennas in order for the monitor not to receive interference.</li> <li>- The antenna cable of Radio should be kept away from the monitor.</li> <li>- Use a coaxial cable for antenna.</li> </ul> </li> </ul> <p>You can check if this monitor influences Radio receivers by turning off all other equipment other than the monitor. If you find a problem receiving Radio when using the monitor, check the instructions mentioned above.</p>
<p>Vertical stripes appear, depending on the screen contents.</p>	<ul style="list-style-type: none"> <li>•The plasma display panel is lighting the phosphors by the discharge of internal radiation. Depending on the screen contents, in rare cases this may cause vertical stripes to appear because of failure to light. Please note that this is not a malfunction.</li> </ul>

## TROUBLESHOOTING GUIDE

CHECK THESE ITEMS AND TRY THESE CORRECTIONS	SYMPTOM										
	Remote control does not work	No picture, no sound	Sound OK, picture poor	Picture OK, sound poor	Picture blurred	Weak Picture	Lines or streaks in picture	Picture rolls vertically	No color	Poor picture	Luminous dot on Screen
Be sure external connections are correct.		X	X	X	X	X			X	X	
Be sure power cable is plugged in.	X	X									
Be sure PANEL is power switched "ON"		X									
Check for local interference			X	X	X		X	X			
Adjust Contrast control			X			X					
Adjust Bright control			X								
Adjust Color control								X	X		
Adjust Tint control									X		
Adjust Volume control				X							
Check batteries in Remote control	X										
It is a characteristic of a Plasma Display.											X

### About Interference to Infrared Devices

Please note in advance that using other infrared devices (such as infrared cordless headphones) near the plasma display may cause infrared interference to occur.

### About Pixel Defects

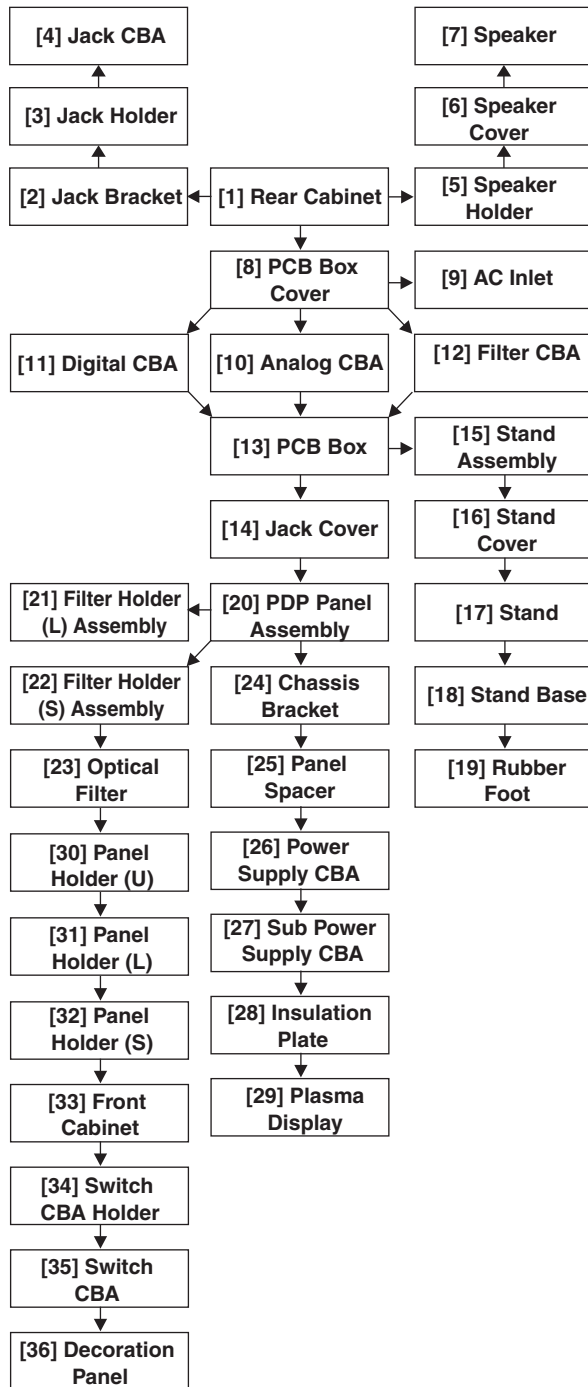
A plasma display is created by using a collection of miniature pixels. It is possible to display more than 99.99% of valid pixels, however a small fraction of pixels over the life of the product may not illuminate or may constantly be illuminated.

This is not to be considered a defect in the plasma panel.

# CABINET DISASSEMBLY INSTRUCTIONS

## 1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.



## 2. Disassembly Method

Step/ Loc. No.	Part	Removal		
		Fig. No	Remove/*unlock/release/ unplug/unclamp/desolder	Note
1	Rear Cabinet	1	24(S-1)	1
2	Jack Bracket	2	2(S-2)	2
3	Jack Holder	2	2(S-3)	3
4	Jack CBA	2 9	2(S-4), *CN4451	4
5	Speaker Holder	2 9	4(S-5), *CN4801, *CN4802	5
6	Speaker Cover	2	2(S-6)	6
7	Speaker	2	8(S-7)	7
8	PCB Box Cover	3	10(S-8)	8
9	AC Inlet	3	2(S-9)	9
10	Analog CBA	3 9	*CN4710, *CN4711, *CN4713, *CN4704, *CN4501, *CN4702, *CN4801, *CN4802, 5(S-10A)	10
11	Digital CBA	3 10	*CN3701, *CN3702, *CN3704, *CN3705, *CN3706, *CN3707, *CN3709, 4(S-10B)	11
12	Filter CBA	3 11	*CL4601, *CL4602, *CN2000, 2(S-10C)	12
13	PCB Box	3	7(S-11), 2(S-12), (S-13)	13
14	Jack Cover	3	3(S-14)	14
15	Stand Assembly	3	4(S-15)	15
16	Stand Cover	4	6(S-16)	16
17	Stand	4	4(S-17)	17
18	Stand Base	4	8(S-18)	18
19	Rubber Foot	4	-----	
20	PDP Panel Assembly	5	9(S-19)	19
21	Filter Holder (L) Assembly	5	6(S-20)	20
22	Filter Holder (S) Assembly	5	6(S-21)	21
23	Optical Filter	5	-----	-
24	Chassis Bracket	6	8(S-22)	22
25	Panel Spacer	6	8(S-23)	23
26	Power Supply CBA	6 12	5(S-24), *CN2100, *CN2501, *CN2502, *CN2503, *CN2504, *CN2506,	24
27	Sub Power Supply CBA	6 12	4(S-25), *CN2100, CN2000, *CN2001, *CN2002, *CN2003	25
28	Insulation Plate	6	-----	-
29	Plasma Display	6	-----	-

Step/ Loc. No.	Part	Removal		
		Fig. No	Remove/*unlock/release/ unplug/unclamp/desolder	Note
30	Panel Holder (U)	7	4(S-26)	26
31	Panel Holder (L)	7	9(S-27)	27
32	Panel Holder (S)	7	6(S-28), 4(S-29)	28
33	Front Cabinet	8	13(S-30)	29
34	Switch CBA Holder	8	2(S-31)	30
35	Switch CBA	8	3(S-32), CLN16	31
36	Decoration Panel	8	-----	-

↓                      ↓                      ↓                      ↓                      ↓  
 (1)                      (2)                      (3)                      (4)                      (5)

**Note:**

- (1) Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.
- (2) Parts to be removed or installed.
- (3) Fig. No. showing procedure of part location
- (4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.  
S=Screw, P=Spring, L=Locking Tab, CN=Connector, \*=Unhook, Unlock, Release, Unplug, or Desolder  
2(S-2) = two Screws (S-2)
- (5) Refer to the following "Reference Notes in the Table."

**Reference Notes in the Table**

**Caution:**

Refer to "General Caution of Plasma Display" and "PDP Module Handling" of "IMPORTANT SAFETY PRECAUTIONS" section not to injure and/or break the Plasma Display Module.

1. Removal of the Rear Cabinet. Remove screws 24(S-1).
2. Removal of the Jack Bracket. Remove screws 2(S-2).
3. Removal of the Jack Holder. Remove screws 2(S-3).
4. Removal of the Jack CBA. Remove screws 2(S-4) and disconnect connector \*CN4451.
5. Removal of the Speaker Holder. Remove screws 4(S-5) and disconnect connector \*CN4801 and \*CN4802.
6. Removal of the Speaker Cover. Remove screws 2(S-6).
7. Removal of the Speaker. Remove screws 8(S-7).

8. Removal of the PCB Box Cover. Remove screws 10(S-8).
9. Removal of the AC Inlet. Remove screws 2(S-9).
10. Removal of the Analog CBA. Disconnect connectors \*CN4710, \*CN4711, \*CN4713, \*CN4704, \*CN4501, \*CN4702, \*CN4801 and \*CN4802, and remove screws 5(S-10A).
11. Removal of the Digital CBA. Disconnect connectors \*CN3701, \*CN3702, \*CN3704, \*CN3705, \*CN3706, \*CN3707 and \*CN3709, and remove screws 4(S-10B).
12. Removal of the Filter CBA. Disconnect connector \*CN2000 and remove \*CL4601 and \*CL4602, then remove screws 2(S-10C).
13. Removal of the PCB Box. Remove screws 7(S-11), 2(S-12) and (S-13).
14. Removal of the Jack Cover. Remove screws 3(S-14).
15. Removal of the Stand Assembly. Remove screws 4(S-15).
16. Removal of the Stand Cover. Remove screws 6(S-16).
17. Removal of the Stand. Remove screws 4(S-17).
18. Removal of the Stand Base. Remove screws 8(S-18).
19. Removal of the PDP Panel Assembly. Remove screws 9(S-19).
20. Removal of the Filter Holder (L) Assembly. Remove screws 6(S-20).
21. Removal of the Filter Holder (S) Assembly. Remove screws 6(S-21).
22. Removal of the Chassis Bracket. Remove screws 8(S-22).
23. Removal of the Panel Spacer. Remove screws 8(S-23).
24. Removal of the Power Supply CBA. Disconnect connectors \*CN2100, \*CN2501, \*CN2502, \*CN2503, \*CN2504 and \*CN2506, and remove screws 5(S-24).
25. Removal of the Sub Power Supply CBA. Disconnect connectors \*CN2100, CN2000, \*CN2001, \*CN2002 and \*CN2003, and remove screws 4(S-25).
26. Removal of the Panel Holder (U). Remove screws 4(S-26).
27. Removal of the Panel Holder (L). Remove screws 9(S-27).
28. Removal of the Panel Holder (S). Remove screws 6(S-28) and 4(S-29).
29. Removal of the Front Cabinet. Remove screws 13(S-30).
30. Removal of the Switch CBA Holder. Remove screws 2(S-31).
31. Removal of the Switch CBA. Remove screws 3(S-32) and remove CLN16.

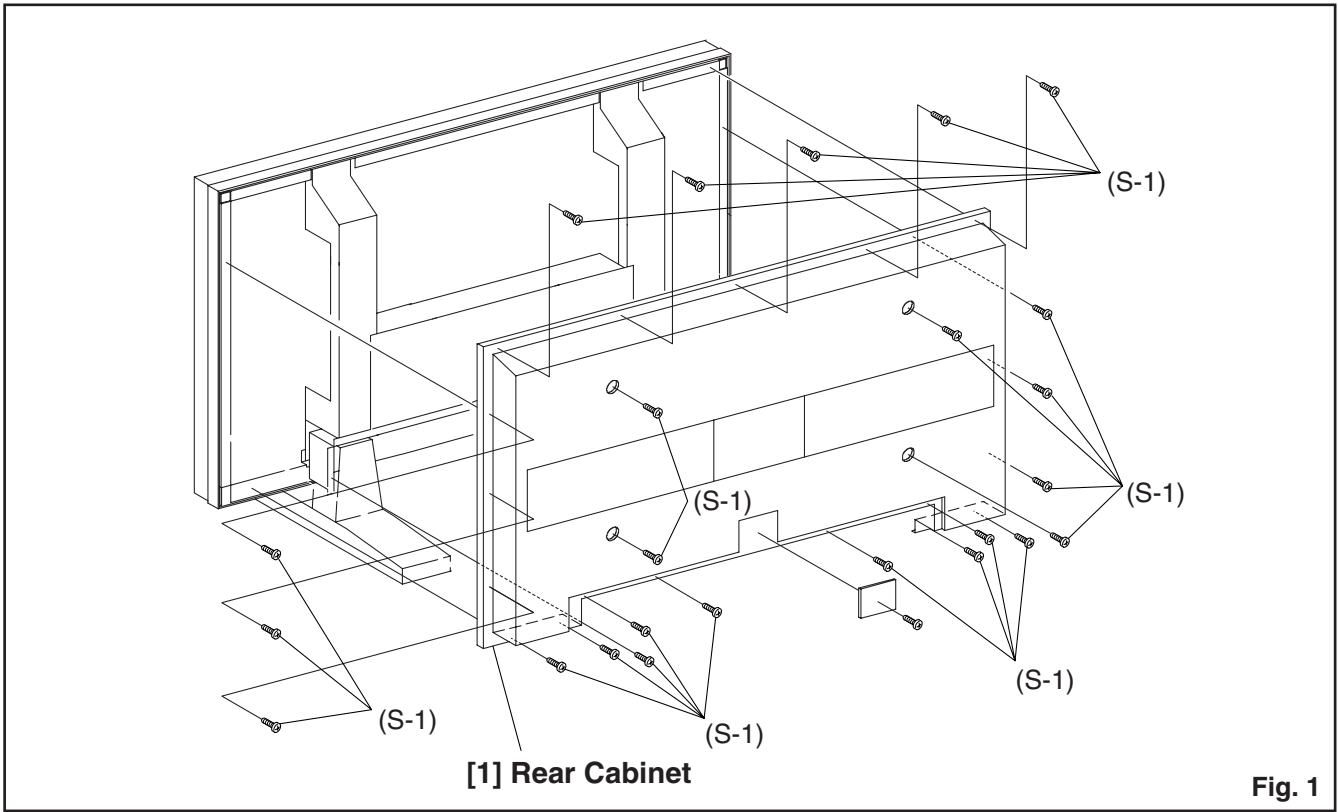


Fig. 1

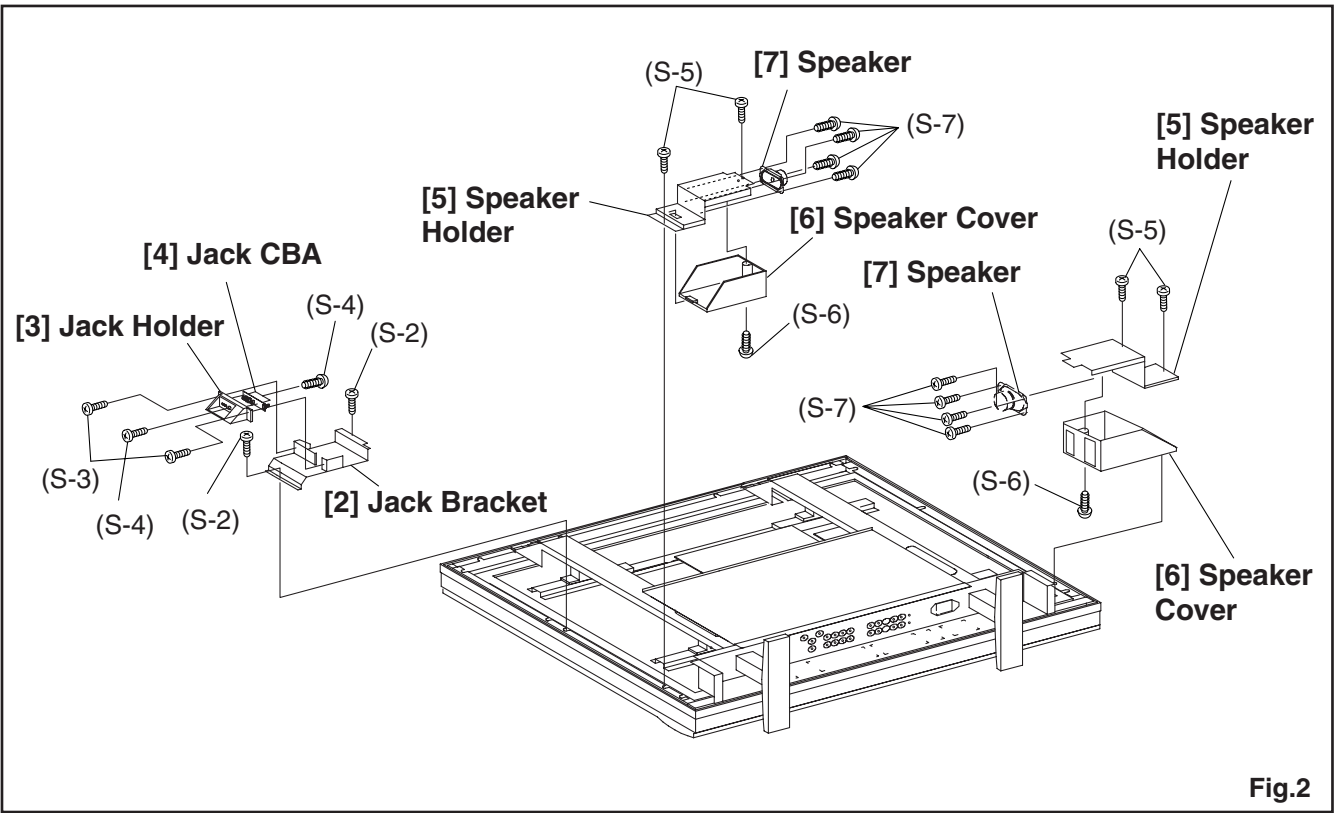
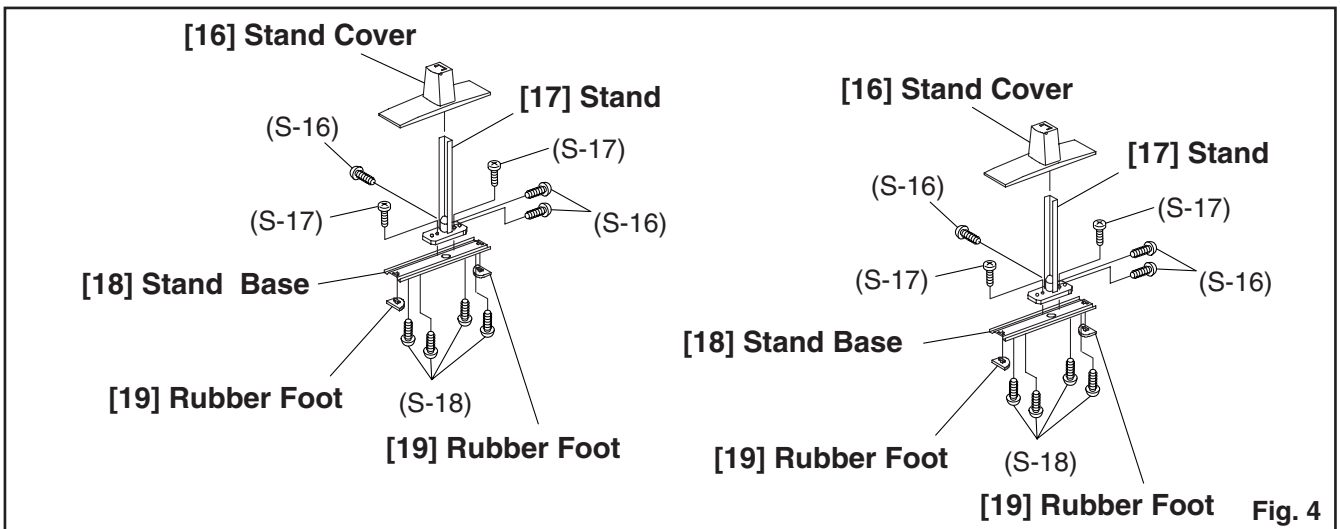
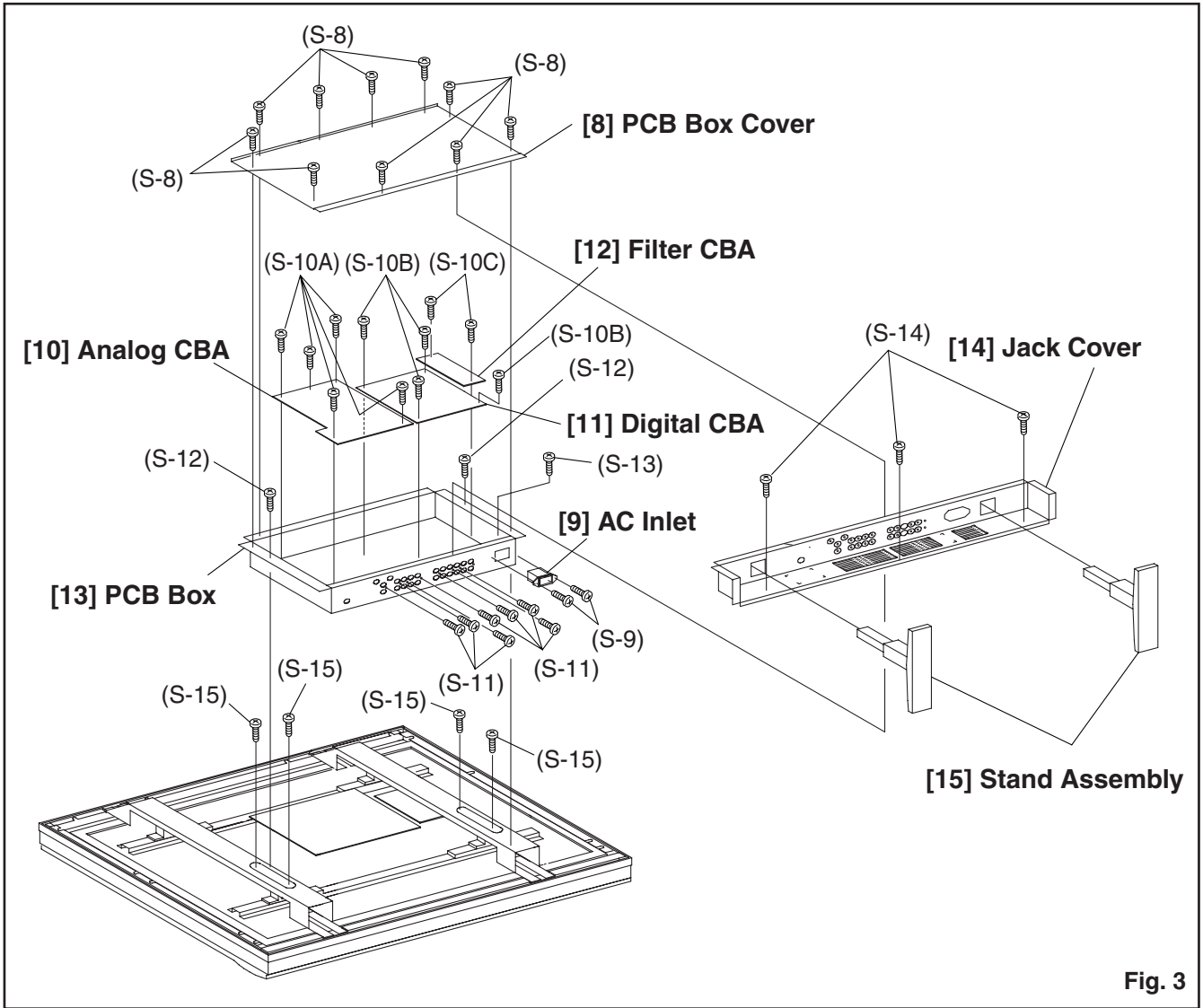


Fig. 2



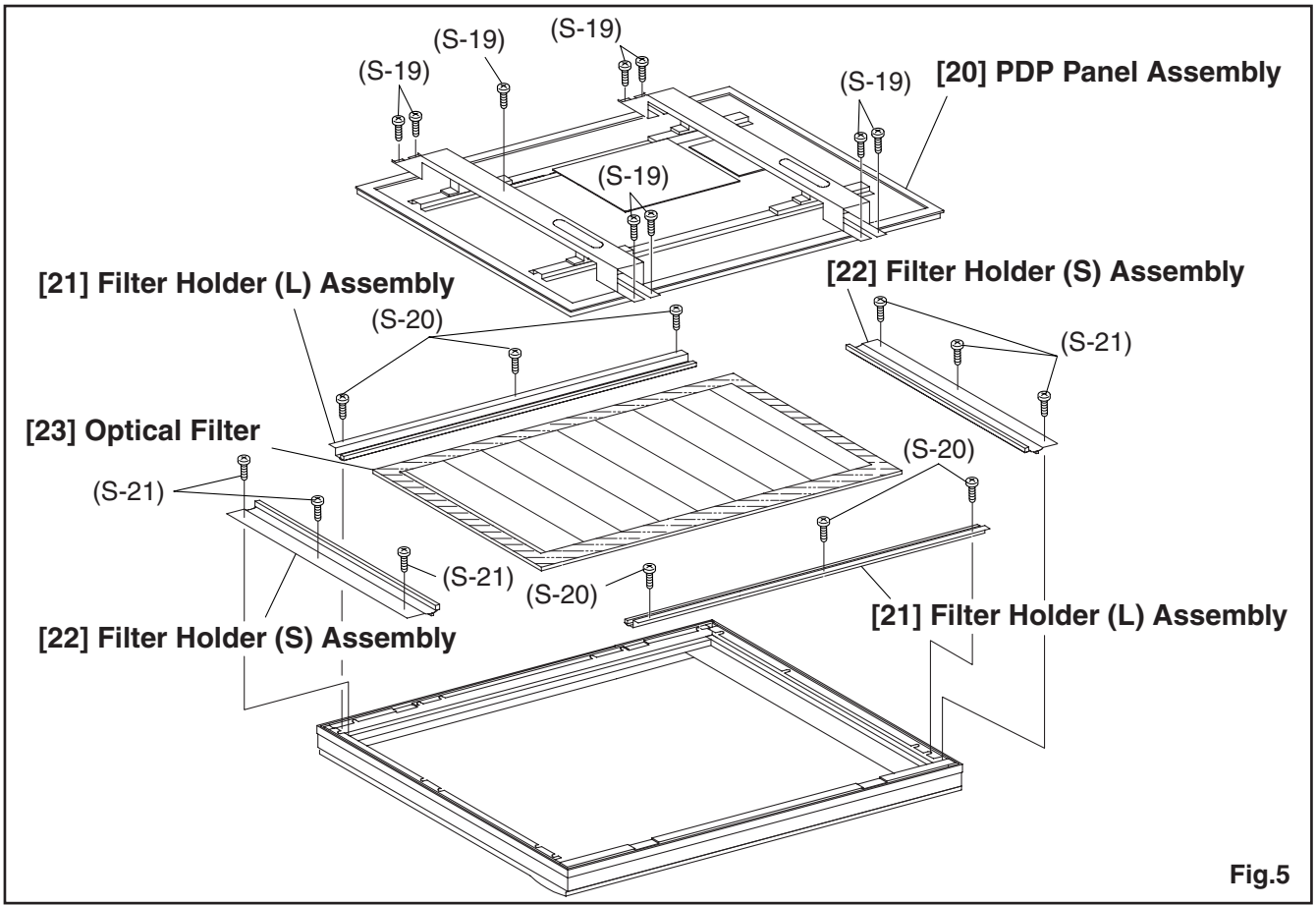


Fig.5

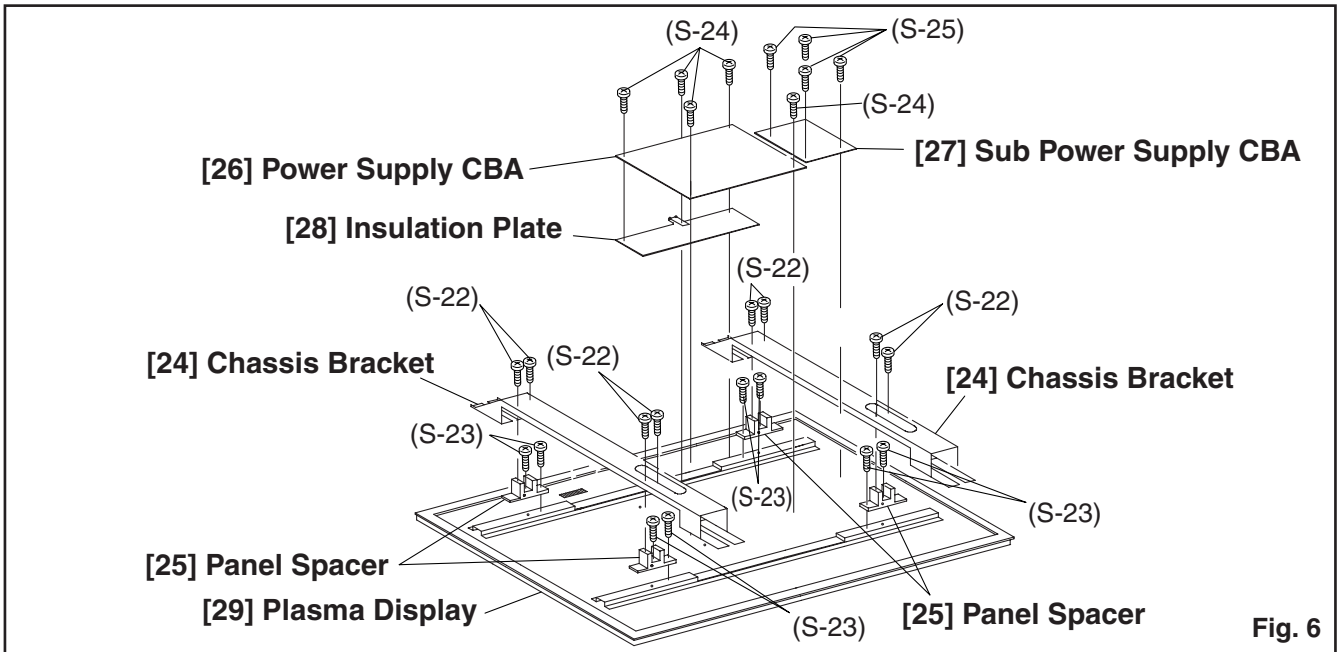


Fig. 6



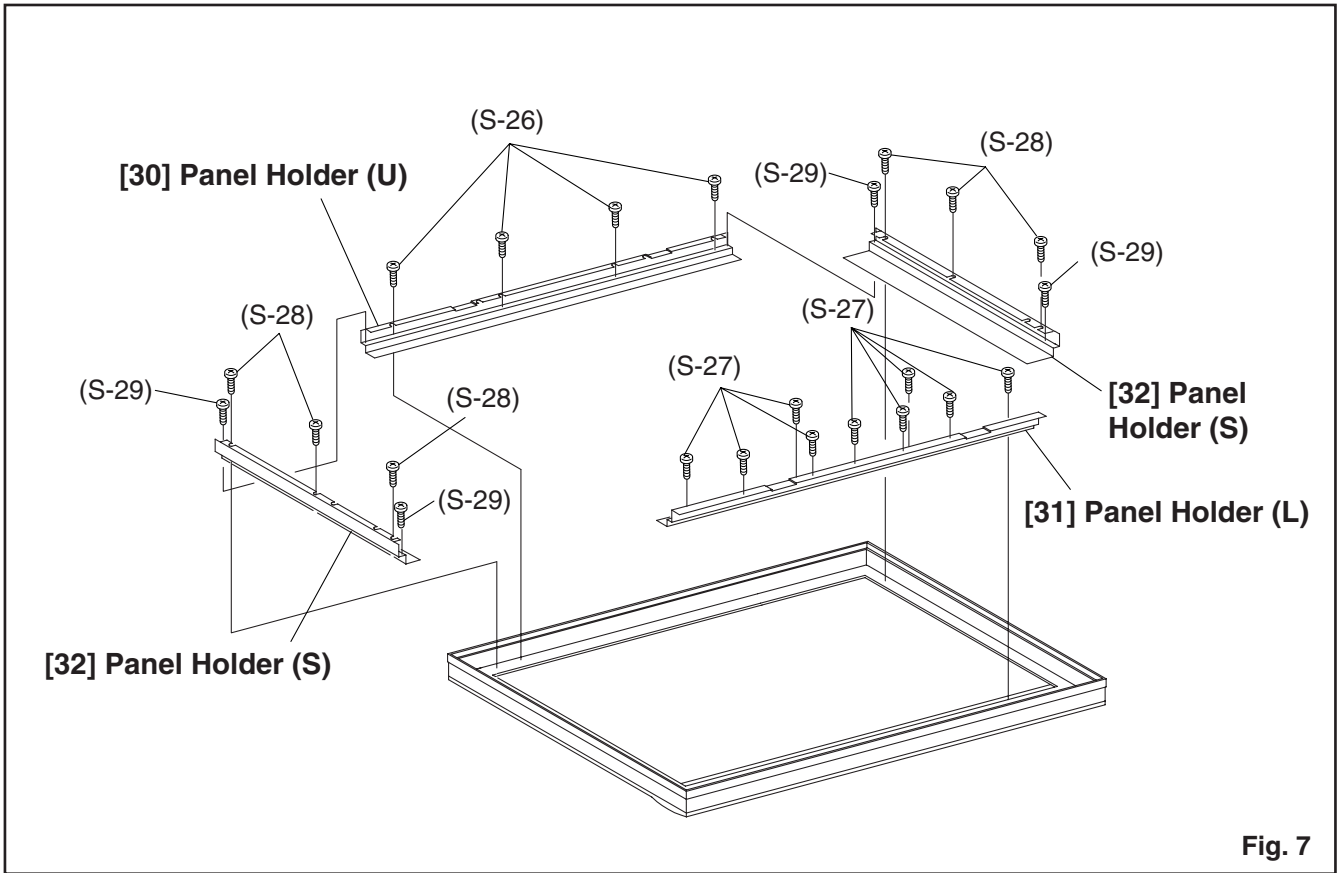


Fig. 7

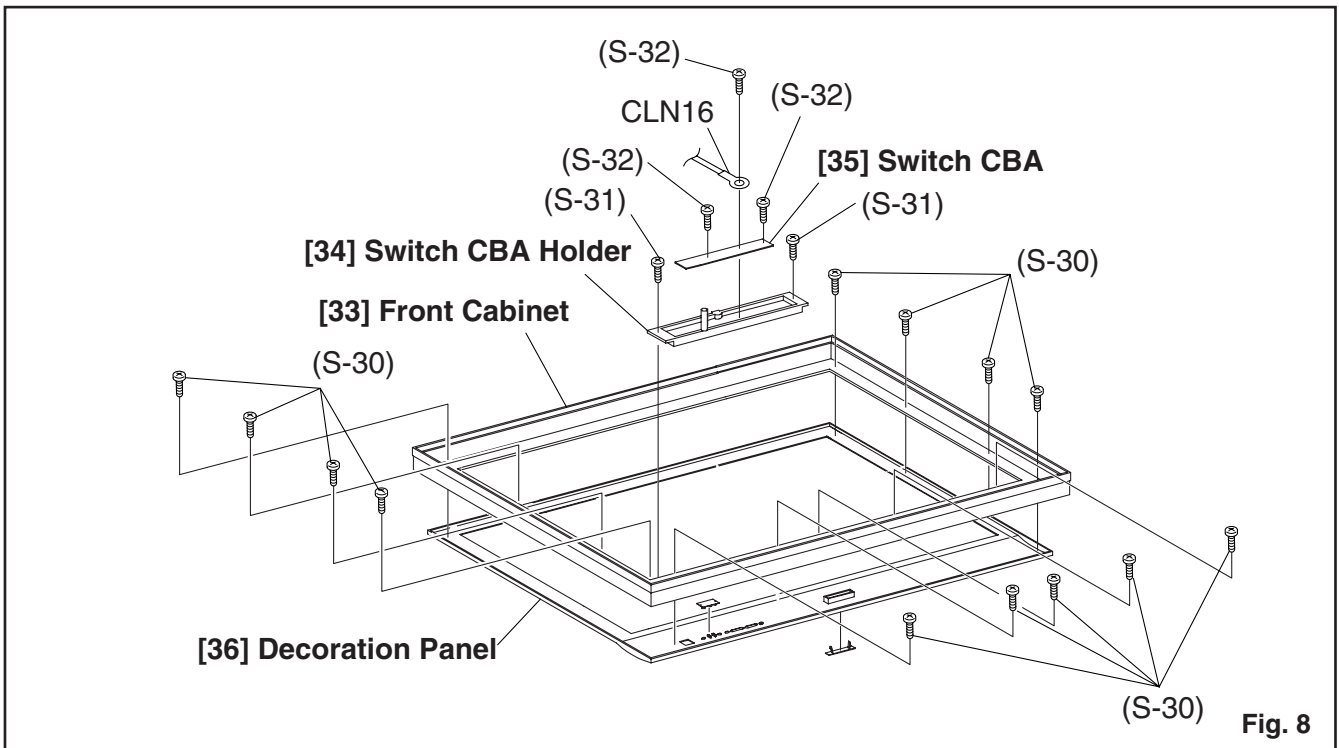
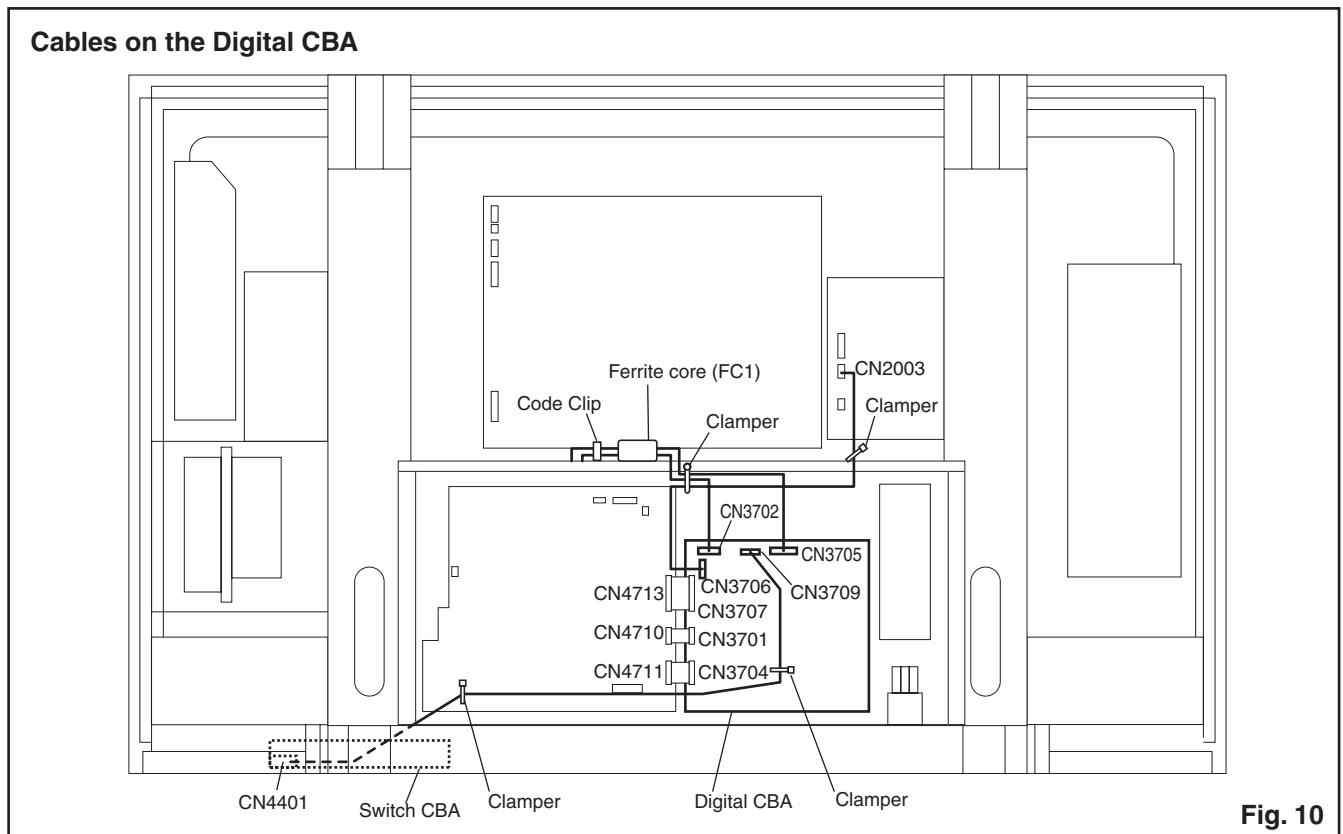
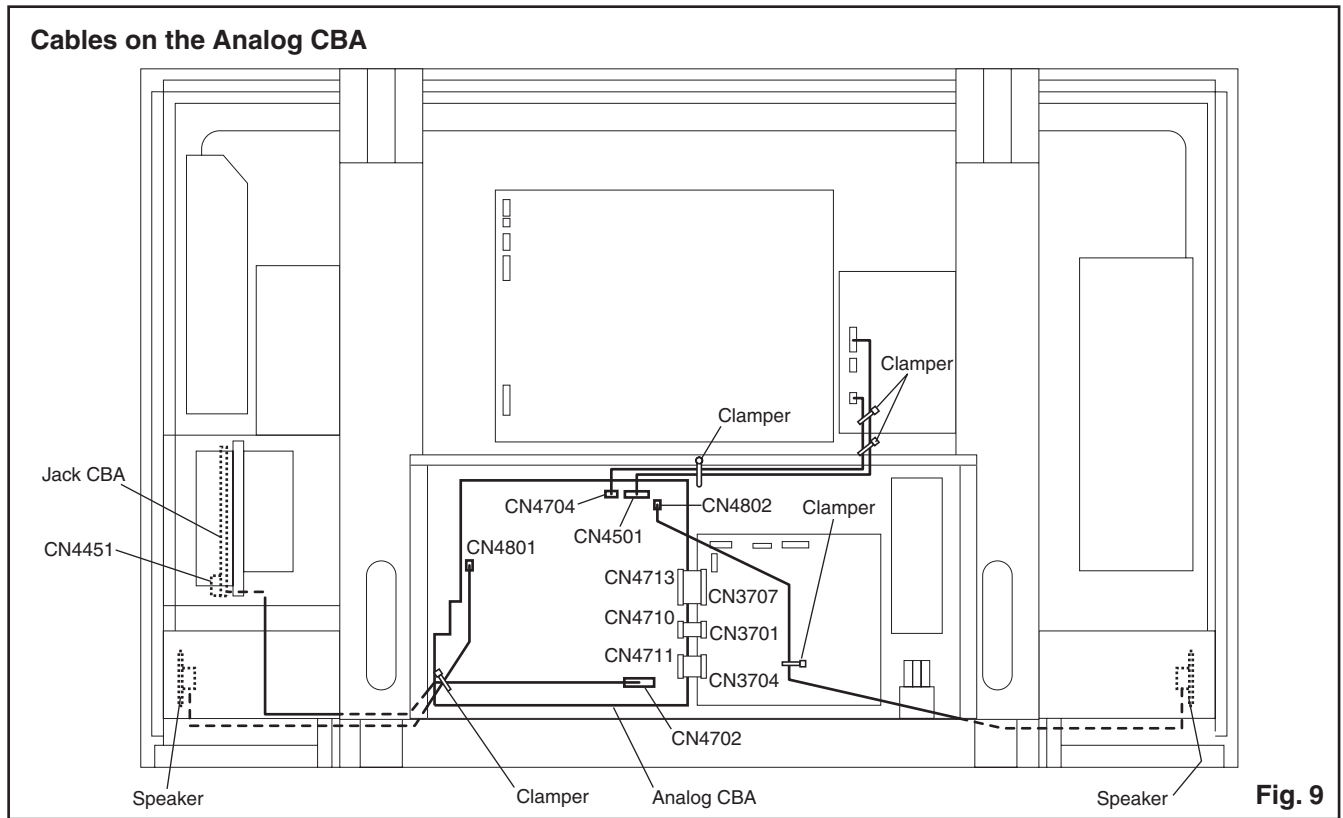
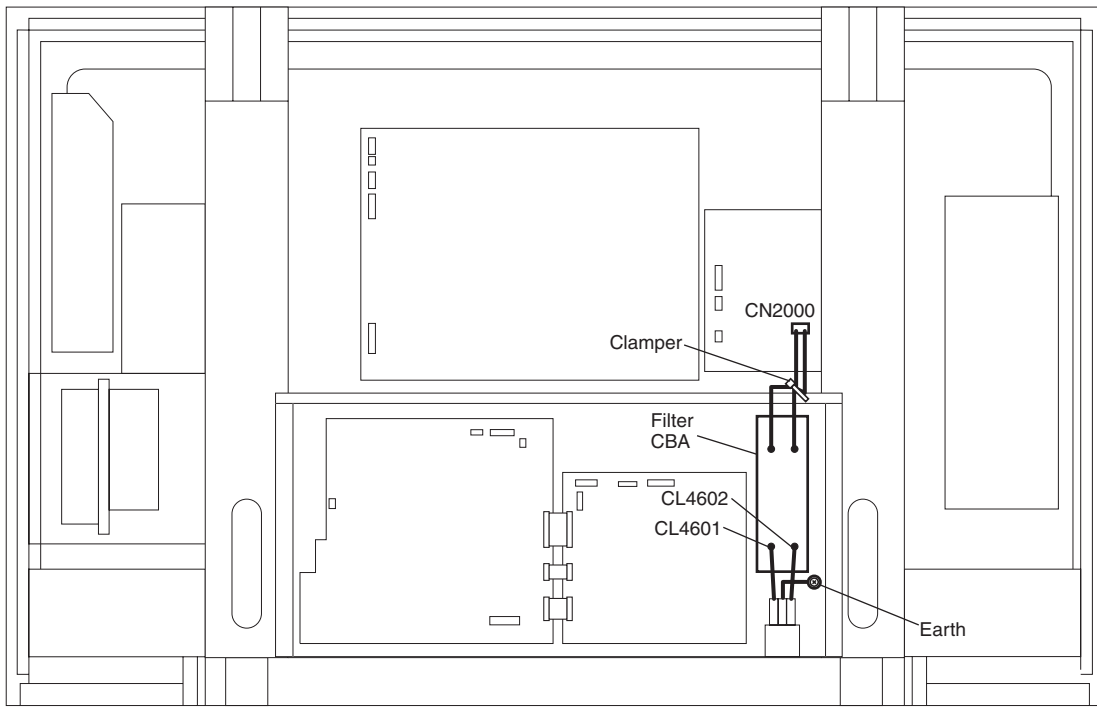


Fig. 8

# Plasma Display Cable Wiring Diagram

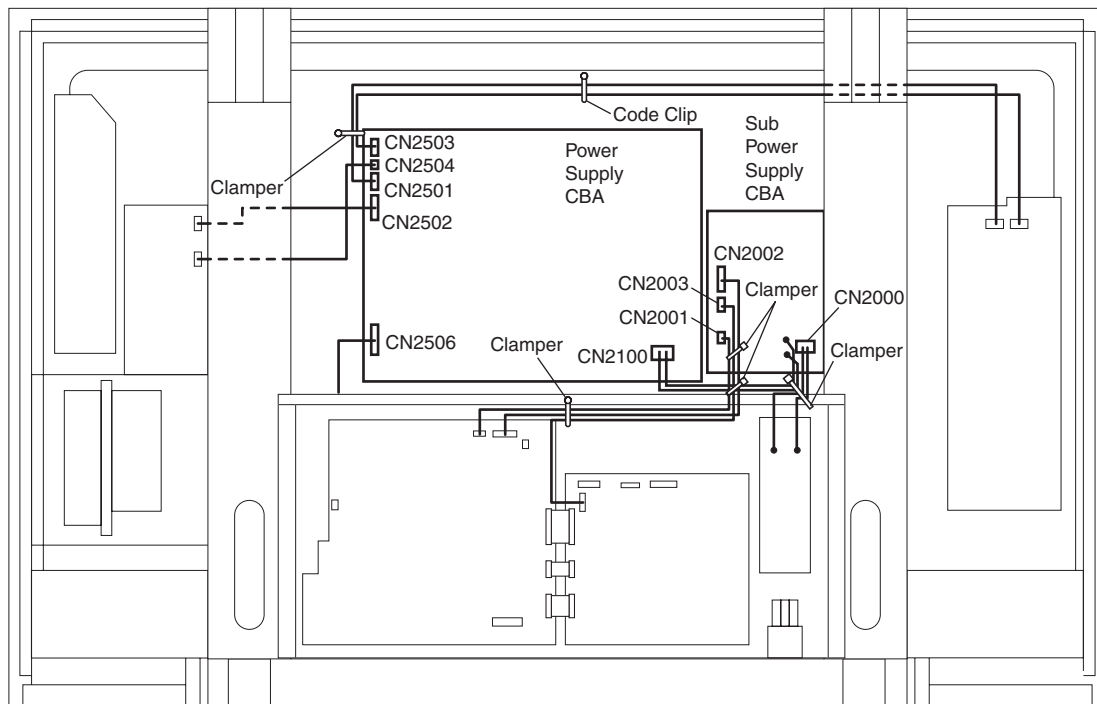


**Cables on the Filter CBA**



**Fig. 11**

**Cables on the Power Supply CBA and Sub Power Supply CBA**



**Fig. 12**

# ELECTRICAL ADJUSTMENT INSTRUCTIONS

## General Note:

"CBA" is abbreviation for "Circuit Board Assembly."

## NOTE:

Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed.

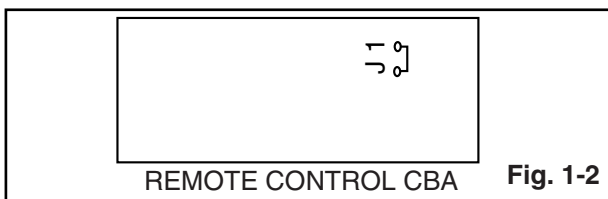
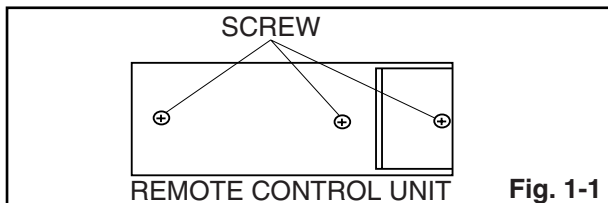
Also, do not attempt these adjustments unless the proper equipment is available.

## Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Gray Scale)
2. Plastic Tip Driver
3. Remote control unit: Part No. N0121UD or N0134UD
4. Color Analyzer

## How to make service remote control unit:

1. Prepare normal remote control unit. (Part No. N0121UD or N0134UD) Remove 3 Screws from the back lid. (Fig. 1-1)
2. Add J1 (Jumper Wire) to the remote control CBA. (Fig. 1-2)



## How to set up the service mode:

### Service mode:

1. To turn the power on, press "POWER" button on the normal remote control unit or the unit.
2. Use the service remote control unit.
3. Press "SLEEP" button on the service remote control unit. Fig. 2 appears on the screen.

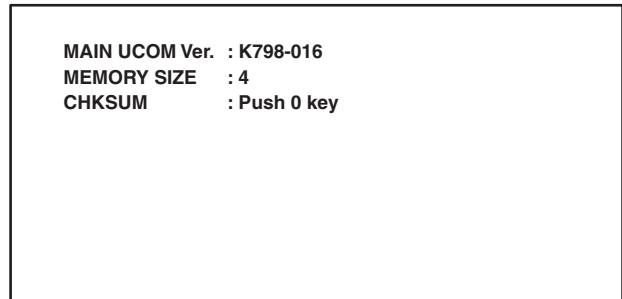


Fig. 2

4. Confirm the following
  - a. Version of main micro computer --- K798-016
  - b. Memory size --- 4
  - c. FLASH DATA Chek Sum (press "0" button on the service remote control unit) --- C97A

### Initial setting:

1. To turn the power on, press "POWER" button on the normal remote control unit or the unit.
2. Enter the service mode.
3. To reset to factory setting, press "DISPLAY" button on the normal remote control unit.
  - "INITIALIZE" (red) appears on the screen as shown in Fig. 3.

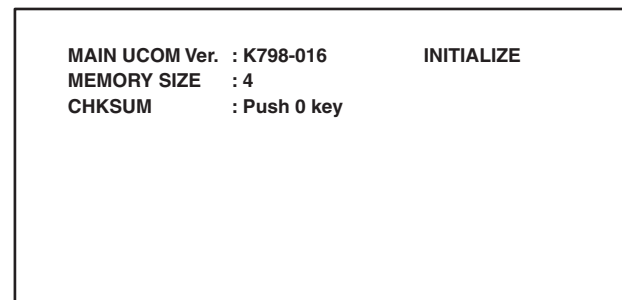


Fig. 3

- After few seconds (completion initialization), color of "INITIALIZE" will change green.

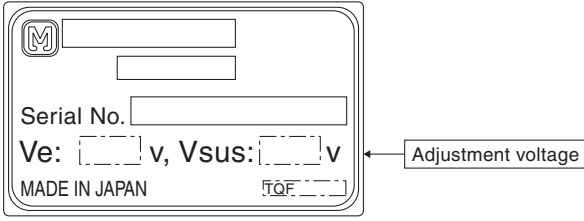
## 1. V-data Adjustment

Test Point	Adj. Point
J2198	VR2350
Condition & Remarks	Spec.
AC input: 120V, Monitor to APL 100% white VIDEO signal	67±0.5 V

**Note:** J2198, VR2350 --- Power Supply CBA

1. Operate the unit more than 20 minutes.
2. Input an APL 100% white VIDEO signal.
3. Adjust VR2350 so that the voltage of J2198 becomes 67±0.5 V.

## 2. V-sus Adjustment

Test Point	Adj. Point
J2164	VR2250
Condition & Remarks	Spec.
AC input: 120V, Monitor to APL 100% white VIDEO signal	X±0.5 V, X: See Panel Label (below)
Panel Label	
<p>Panel Label information</p>  <p>Serial No. _____</p> <p>Ve: _____ v, Vsus: _____ v ← Adjustment voltage</p> <p>MADE IN JAPAN</p>	

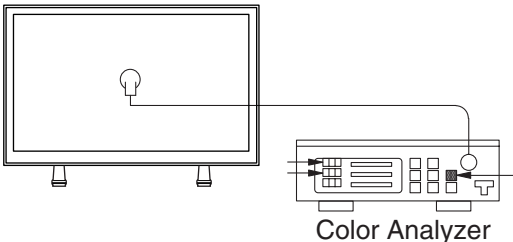
**Note:** J2164, VR2250 --- Power Supply CBA

1. Operate the unit more than 20 minutes.
2. Input an APL 100% white VIDEO signal.
3. Adjust VR2250 so that the voltage of J2164 becomes the specified voltage as shown on the panel label locating on the up-right of the back on the PDP Panel.

## 3. White Balance Adjustment

**Purpose:** To mix red, green and blue beams correctly for pure white.

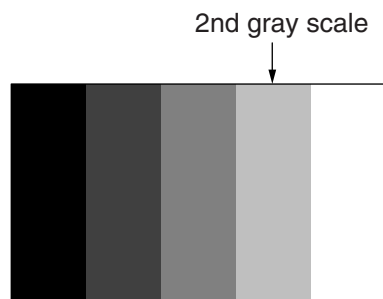
**Symptom of Misadjustment:** White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	CH ▲ / ▼ buttons	Video 1	Gray scale pattern signal (5 scales)
M. EQ.			Spec.
Pattern Generator, Color analyzer			See below
Figure			
 <p style="text-align: center;">Color Analyzer</p> <p style="text-align: center;"><b>Fig. 5</b></p>			

### Notes:

- To only enter the service mode, use service remote control unit.
- This adjustment should be performed in Video 1 mode.

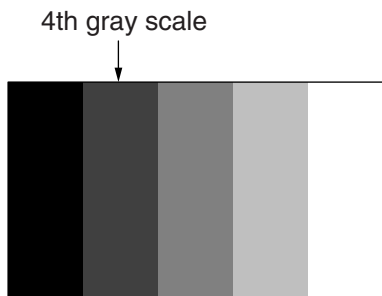
1. Operate the unit more than 20 minutes.
2. Input the gray scale pattern signal (5 scales) from Composite AV Input (1) video jack (Video1).
3. Set the color analyzer to the CHROMA mode and after zero point calibration, for high light adjustment, bring the optical receptor to the 2nd scale as shown below.



**Fig. 6**

4. Enter the Service mode.
5. Enter the component adjustment mode, press "VOL ▼" button once on the normal remote control unit.

6. Press "4" button on the normal remote control unit for Red adjustment. Press "6" button on the normal remote control unit for Blue adjustment.
7. In each color mode, press "CH ▲ / ▼" button to adjust the values of color.
8. Adjust Red and Blue color so that the temperature becomes  $9200^{\circ}\text{K}$ -5MPCD (x: 288 / y: 288)  $\pm 3\%$ .
9. For low light adjustment, bring the optical receptor to the 4th scale as shown below.



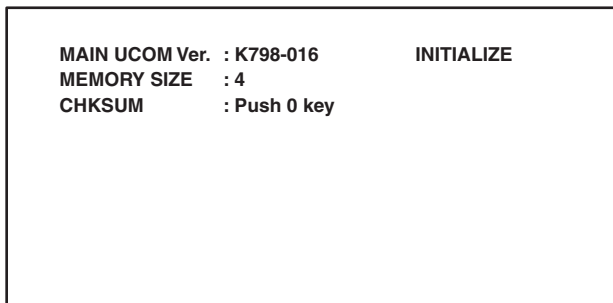
**Fig. 7**

10. Press "1" button on the normal remote control unit for Red adjustment. Press "3" button on the normal remote control unit for Blue adjustment.
11. In each color mode, press "CH ▲ / ▼" button to adjust the values of color.
12. Adjust Red and Blue color so that the temperature becomes  $9200^{\circ}\text{K}$ -5MPCD (x: 288 / y: 288)  $\pm 3\%$ .
13. Check adjustment value in high light adjustment again. If adjustment value is not within specification, repeat steps 2-8.
14. To enter the adjustment mode in the Composite mode (Video 1 mode), press "VOL ▼" button once on the normal remote control unit.

# HOW TO INITIALIZE THE PLASMA DISPLAY

To put the program back at the factory-default, initialize the Plasma Display as the following procedure.

1. To turn the power on, press "POWER" button on the normal remote control unit or the unit.
2. Use the service remote control unit.
3. To enter the service mode, press "SLEEP" button on the service remote control unit.
4. To reset to factory setting, press "DISPLAY" button on the normal remote control unit.
  - "INITIALIZE" (red) appears on the screen as shown in Fig. 1.



**Fig. 1**

- After few seconds (completion initialization), color of "INITIALIZE" will change green.

# TROUBLESHOOTING

## 1. POWER SUPPLY SECTION

Problem	Details of Condition		Checking Parts (Ref. No.)
1. Malfunction occurs in stand-by mode.	The voltage of both ends on C2115 is 0V or lower than 170V.		F2100
	F2100 is cut off. R2101 and R2102 are cut off, emit a heat or smoke.		IC2200, IC2300, IC2400
			Q2101, Q2102
			D2101, D2106B C2115, C2116
	F2300 is cut off.		IC2300
	F2400 is cut off.		IC2400
	5.2V is not outputted to STB 5V. [After oscillating, oscillating stops. (Overvoltage latching)]		IC2402, IC2450
D2401, D2407, D2410, D2411, D2412, D2414			
D2450, D2452, D2455, D2463 F2400			
Stand-by consumption power is too high. (Not oscillating intermittently. Abnormal oscillating.)		IC2401	
		Q2402, Q2403	
		D2400	
2. Cannot power on.	RY2100 does not turn on. DC16V is not outputted.		IC2401
			Q2400, Q2401, Q2404
			D2100, D2402, D2403
	PFC does not oscillate. The voltage of C2115 does not reach for approximately 385V.		IC2100, IC2101
Q2103, Q2104, Q2105, Q2106, Q2108 D2103, D2105, D2109, D2110			
3. The power turns off immediately after turning the power on. (D2500 blinks.)	Protect 1 function.	If removing D2461, the unit turns the power on normally. (5V line is poor.)	Q2450, Q2451
		If removing D2459, the unit turns the power on normally. (12V line is poor.)	IC2452 D2455
		If removing D2458, the unit turns the power on normally. (15V line is poor.)	IC2451 Q2452, Q2453 D2452
	Protect 2 functions.	If D2252 is shorted, the unit turns the power on normally.	Refer to "2. Cannot power on" section.
	S-VADD functions.	The voltage of the S-VADD (IC2500: 32pin) exceeds the range of 2.5±1V.	Refer to "4. Vdata is poor" section.
	S-Vsus functions.	The voltage of the S-Vsus (IC2500: 31pin) exceeds the range of 2.5±1V.	Refer to "5. Vsus is poor" section.
4. Vdata is poor.	The waveform of T2300 stops oscillating or normal.		Q2300 D2302, D2303, D2305, D2308, D2309, D2310, D2311
	The waveform of T2300 stops oscillating after turning the power on.		IC2301, IC2350 D2350
5. Vsus is poor.	The waveform of T2200 stops oscillating or abnormal.		IC2201
			Q2201 D2202, D2204, D2205, D2211, D2212, D2213, D2214, D2215
	The waveform of T2200 stops oscillating after turning the power on. (Overvoltage latching.)		IC2201, IC2250 D2203

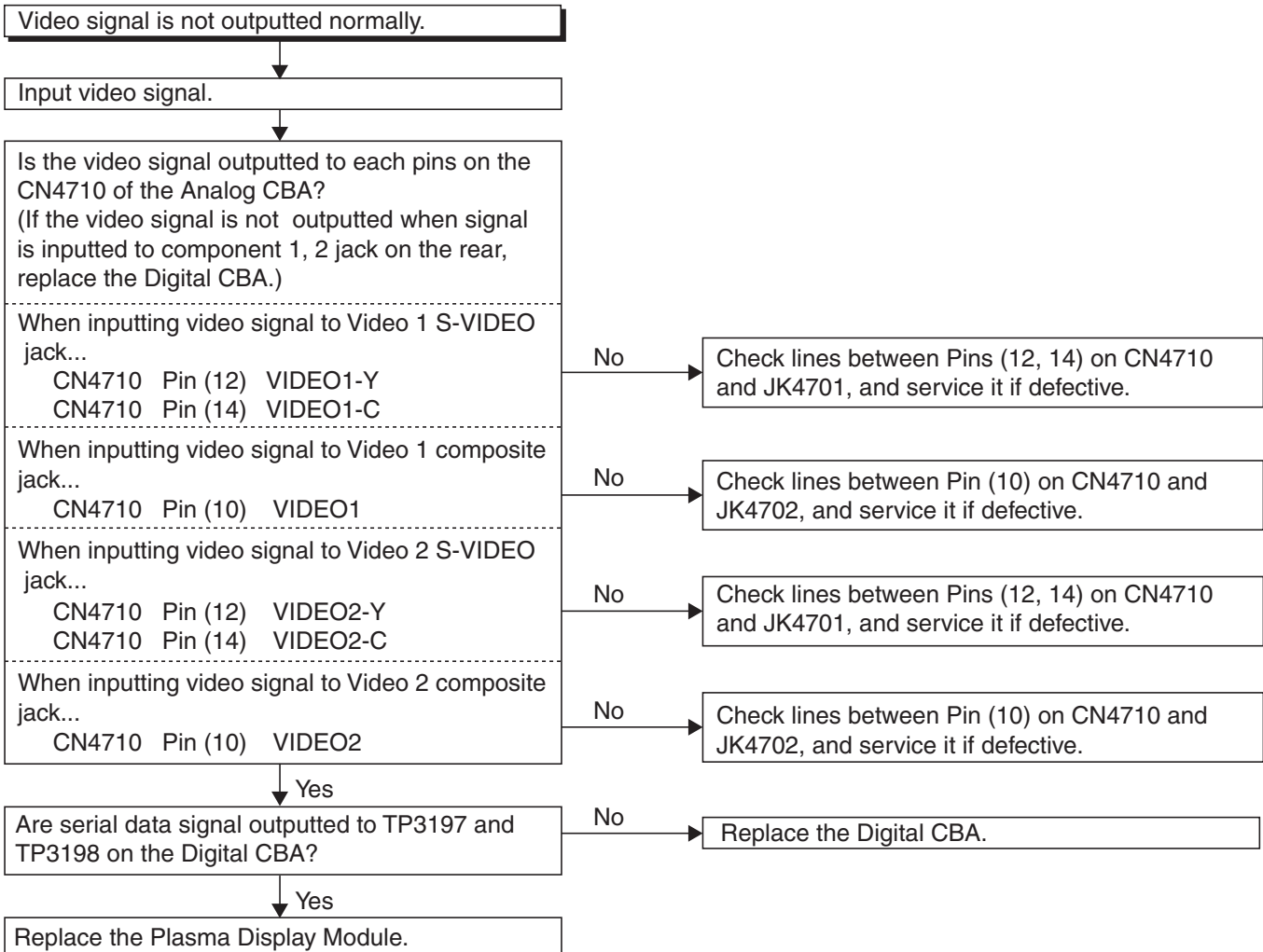


## 2. SUB POWER SUPPLY SECTION

Problem	Details of Condition	Checking Parts (Ref. No.)
Malfunction occurs on the Sub Power Supply CBA.	The voltage of both ends on C2003 is 0V or lower than 170V.	F2000
	F2000 is cut off. R2001 is cut off.	IC2000, IC2050 Q2001, Q2002 D2009, D2067
	3.3V is not outputted to both ends on C2054.	D2072
	5V is not outputted to both ends on C2074.	IC2051 D2062, D2063, D2071
	A+12V is not outputted.	Q2050, Q2051, Q2052 D2058, D2059, D2060
	The detection of decreasing voltage does not function. (The power does not turn off when the decreasing power is input.) Protect 1 functions.	Q2053 D2061, D2069, D2070

## 3. VIDEO AND AUDIO SECTION

### FLOW CHART NO. 1



**FLOW CHART NO. 2**

Audio is not outputted from speakers normally.

Input audio signal.

Is audio signal inputted to each pins on IC4301 and IC4302?  
 [\*\*\*\*] is the check point on the component side.

When inputting to Video 1 jack...  
 IC4302 Pin (13) [C4713 PLUS LEAD] AUDIO1(L)  
 IC4301 Pin (13) [J4150] AUDIO1(R)

When inputting to Video 2 jack...  
 IC4302 Pin (14) [C4728 PLUS LEAD] AUDIO2(L)  
 IC4301 Pin (14) [J4153] AUDIO2(R)

When inputting to component 1 jack...  
 IC4302 Pin (1) [CN4711,14pin] AUDIO3(L)  
 IC4301 Pin (1) [CN4711,13pin] AUDIO3(R)

When inputting to component 2 jack...  
 IC4302 Pin (5) [CN4711,11pin] AUDIO4(L)  
 IC4301 Pin (5) [CN4711,10pin] AUDIO4(R)

No → Check lines between Pin (13) on IC4302 and JK4702, between Pin (13) on IC4301 and JK4702, and service it if defective.

No → Check lines between Pin (14) on IC4302 and JK4402, between Pin (14) on IC4301 and JK4403 and service it if defective.

No → Replace the Digital CBA.

No → Replace the Digital CBA.

Yes

Is input switching signal inputted to each pins on IC4301 and IC4302?  
 [\*\*\*\*] is the check point on the component side.

	Pin (11) [CN4711, 3pin]	Pin (10) [CN4711, 2pin]	Pin (9) [CN4711, 1pin]
Video 1	L	L	L
Video 2	L	L	H
Component 1	H	L	L
Component 2	H	L	H

No → Check lines between each pins on IC4302 and each pins on CN4711, between each pins on IC4301 and each pins on CN4711 and service it if

Pin (9) on IC4301,IC4302 → Pin (1) on CN4711  
 Pin (10) on IC4301,IC4302 → Pin (2) on CN4711  
 Pin (11) on IC4301,IC4302 → Pin (3) on CN4711

Check +5 V line and service it if defective.

No

Is +5V signal inputted to Pin (16) on IC4301 and Pin (16) on IC4302?

Yes

Replace IC4301 or IC4302.

Yes

Is audio signal outputted to each pins on IC4301 and IC4302?  
 [\*\*\*\*] is the check point on the component side.

IC4302 Pin (3) [J4181] L-CH  
 IC4301 Pin (3) [J4172] R-CH

No

Yes

Is audio signal inputted to each pins on IC4801?

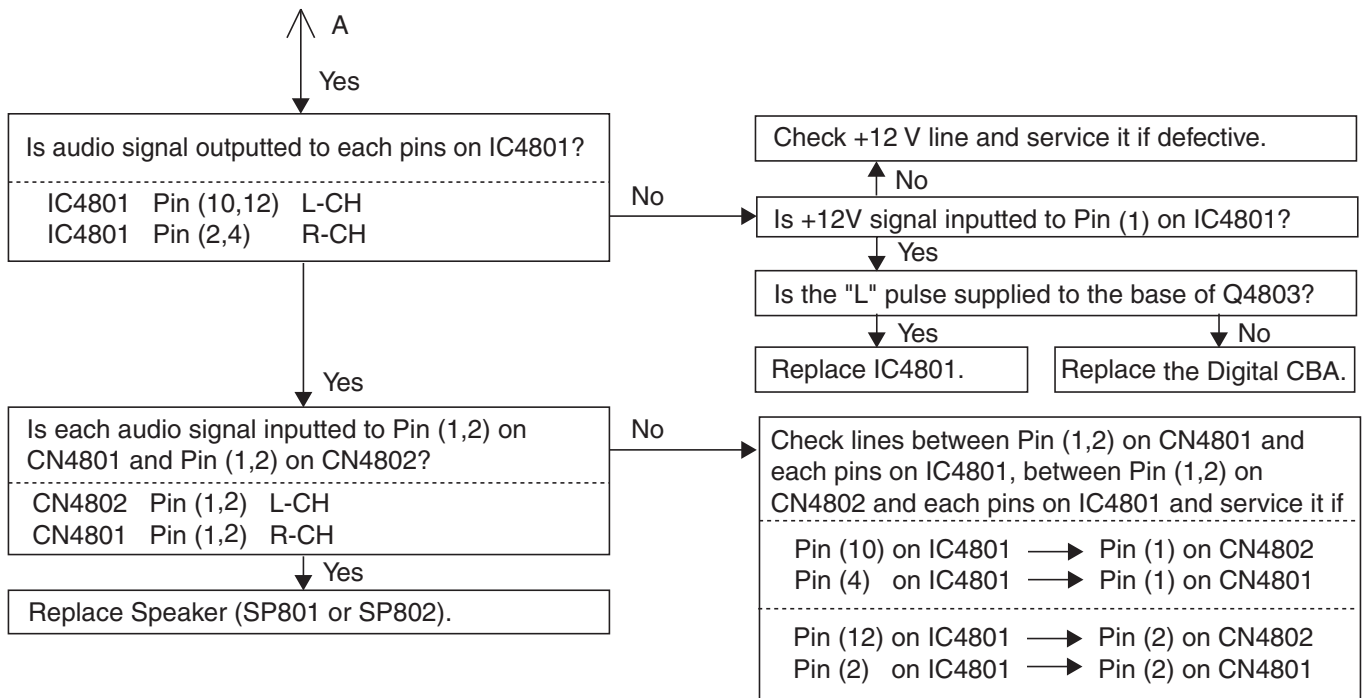
IC4801 Pin (8) L-CH  
 IC4801 Pin (6) R-CH

No

Check lines between each pins on IC4302 and each pins on IC4801, between each pins on IC4301 and each pins on IC4801 and service it if

Pin (3) on IC4301 → Pin (5) on IC4801  
 Pin (3) on IC4302 → Pin (2) on IC4801

√ (continued to "A" on next page)



**FLOW CHART NO. 3**

Audio is not outputted from audio output terminal normally.

Input audio signal.

Is audio signal inputted to each pins on IC4301 and IC4302?  
 [\*\*\*\*] is the check point on the component side.

When inputting to Video 1 jack...  
 IC4302 Pin (13) [J165] AUDIO1(L)  
 IC4301 Pin (13) [J135] AUDIO1(R)

When inputting to Video 2 jack...  
 IC4302 Pin (14) [J166] AUDIO2(L)  
 IC4301 Pin (14) [J129] AUDIO2(R)

When inputting to component 1 jack...  
 IC4302 Pin (15) [CN4711 Pin (1)] AUDIO3(L)  
 IC4301 Pin (15) [CN4711 Pin (2)] AUDIO3(R)

When inputting to component 2 jack...  
 IC4302 Pin (12) [CN4711 Pin (4)] AUDIO4(L)  
 IC4301 Pin (12) [CN4711 Pin (5)] AUDIO4(R)

No → Check lines between Pin (13) on IC4302 and JK4702, between Pin (13) on IC4301 and JK4702, and service it if defective.

No → Check lines between Pin (14) on IC4302 and JK4402, between Pin (14) on IC4301 and JK4403 and service it if defective.

No → Replace the Digital CBA.

No → Replace the Digital CBA.

Yes

Is input switching signal inputted to each pins on IC4301 and IC4302?  
 [\*\*\*\*] is the check point on the component side.

	Pin (11) [CN4711, 3pin]	Pin (10) [CN4711, 2pin]	Pin (9) [CN4711, 1pin]
Video 1	L	L	L
Video 2	L	L	H
Component 1	H	L	L
Component 2	H	L	H

No → Check lines between each pins on IC4302 and each pins on CN4711, between each pins on IC4301 and each pins on CN4711 and service it if

Pin (9) on IC4301, IC4302 → Pin (1) on CN4711  
 Pin (10) on IC4301, IC4302 → Pin (2) on CN4711  
 Pin (11) on IC4301, IC4302 → Pin (3) on CN4711

Check +5 V line and service it if defective.

No

Is +5V signal inputted to Pin (16) on IC4301 and Pin (16) on IC4302?

Yes → Replace IC4301 or IC4302.

Yes

Is audio signal outputted to each pins on IC4301 and IC4302?  
 [\*\*\*\*] is the check point on the component side.

IC4302 Pin (3) [J148] L-CH  
 IC4301 Pin (3) [J142] R-CH

No

Yes

Is audio signal outputted to the IC4802, 1pin (L-CH) and the IC4802, 7pin (R-CH)?

No → Check IC4802 and the periphery circuit, and service it if defective.

Yes

Is the "L" pulse supplied to the base of Q4711 and the base of Q4712?

No → Is the "L" pulse supplied to the base of Q4709, Q4710?

Yes

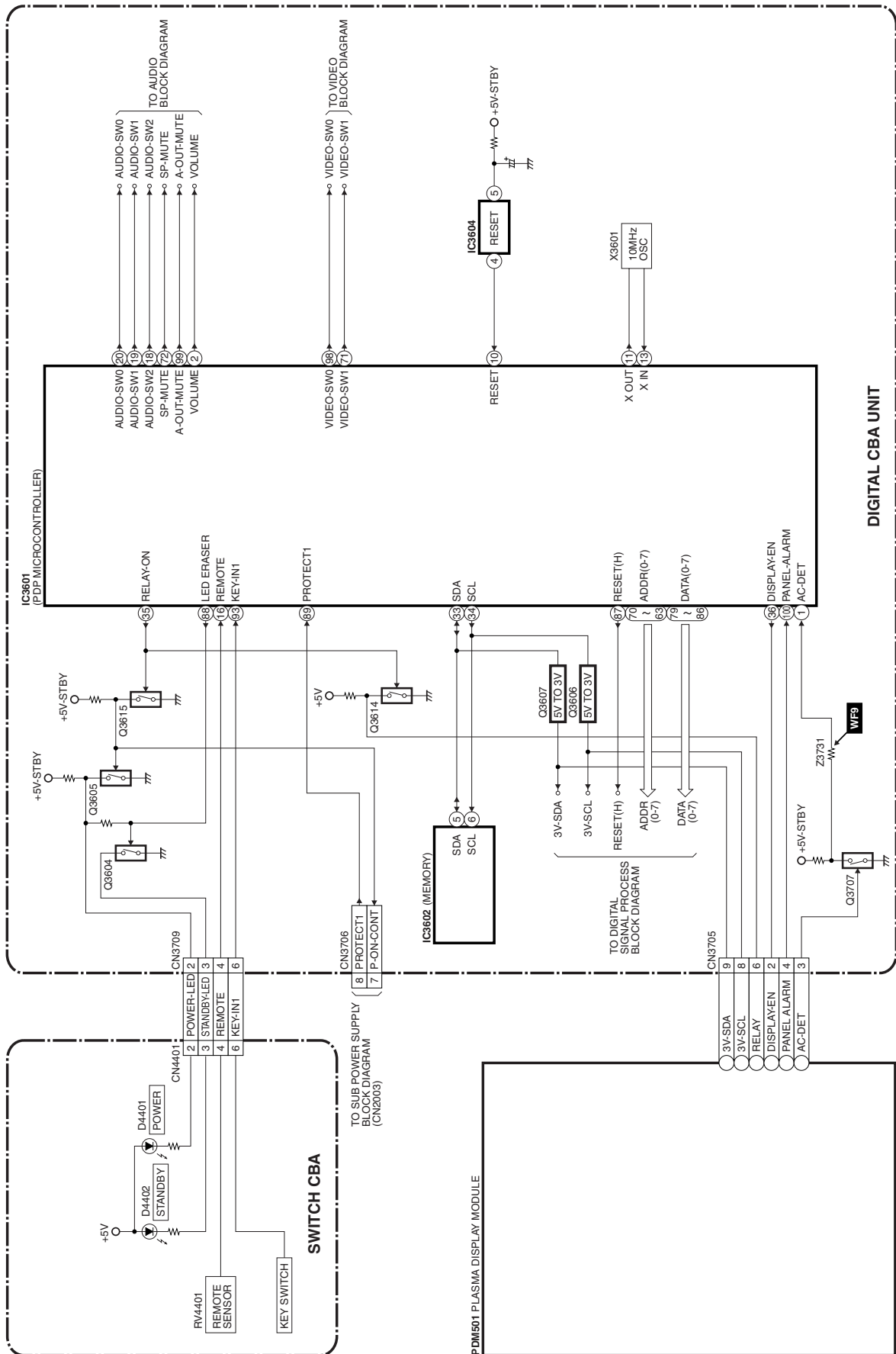
Check lines between IC4802 and JK4703 and service it if defective.

Yes → Check Q4709, Q4710 and the periphery circuit, and service it if defective.

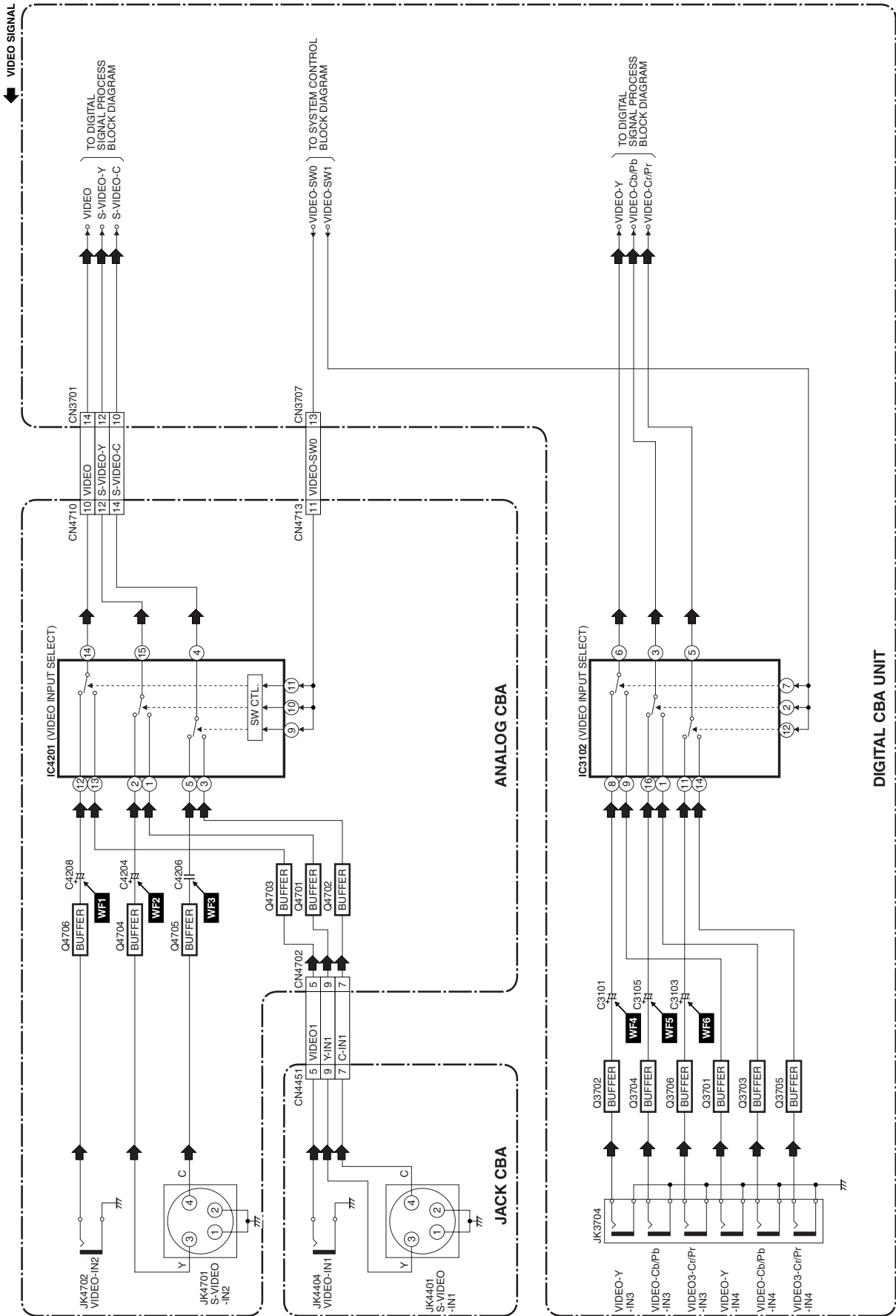
No → Replace the Digital CBA.

# BLOCK DIAGRAMS

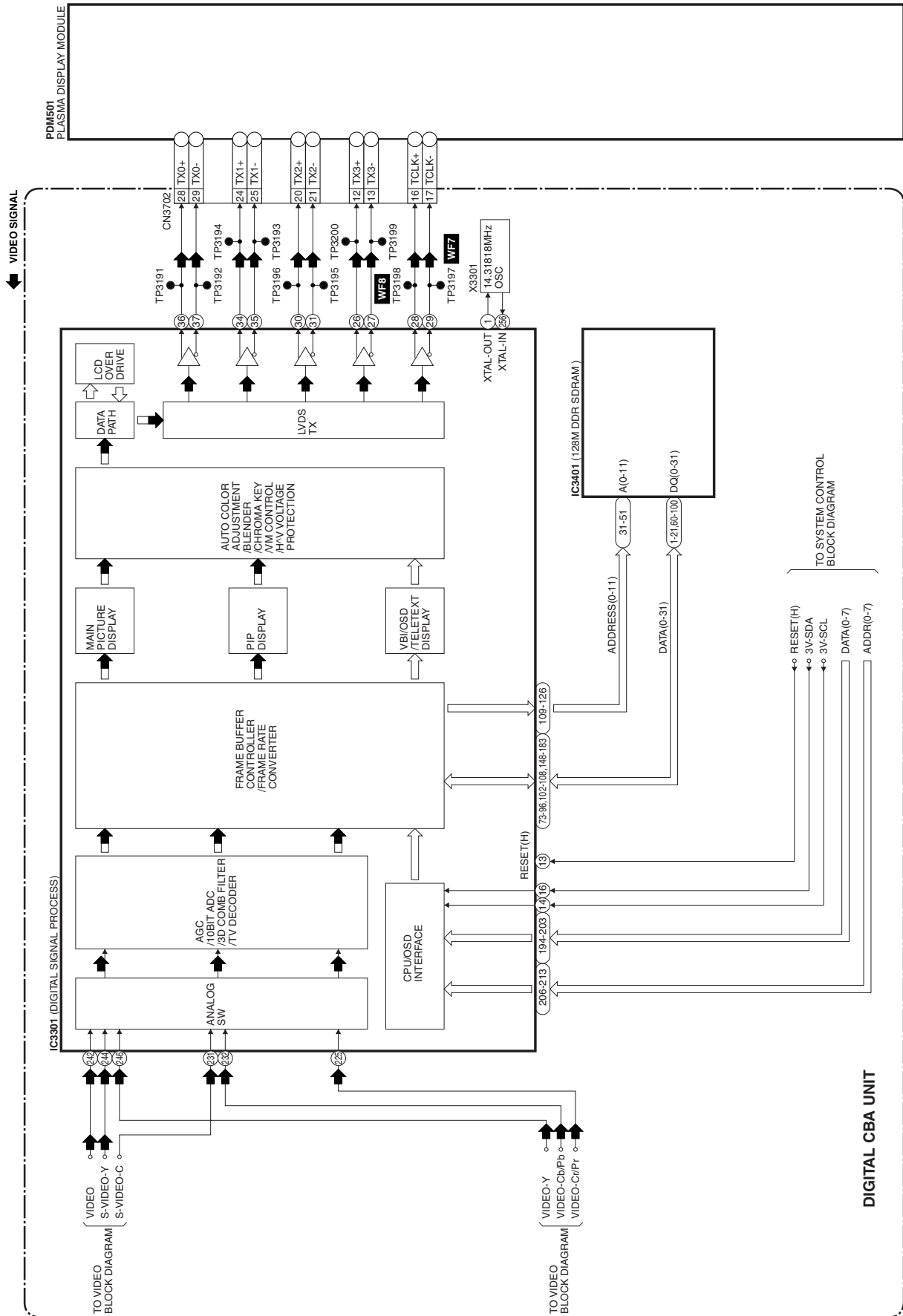
## System Control Block Diagram



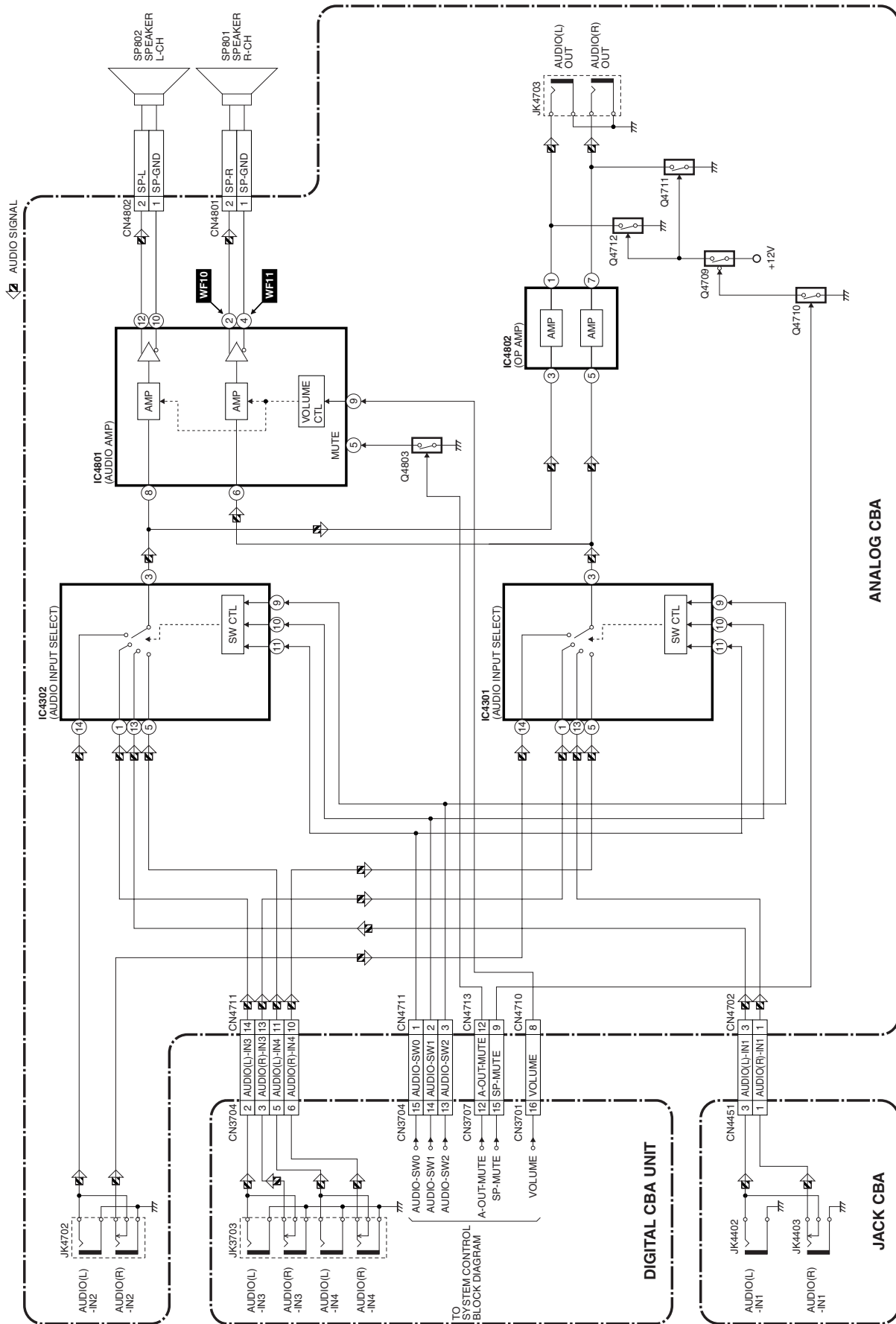
# Video Block Diagram



# Digital Signal Process Block Diagram



# Audio Block Diagram





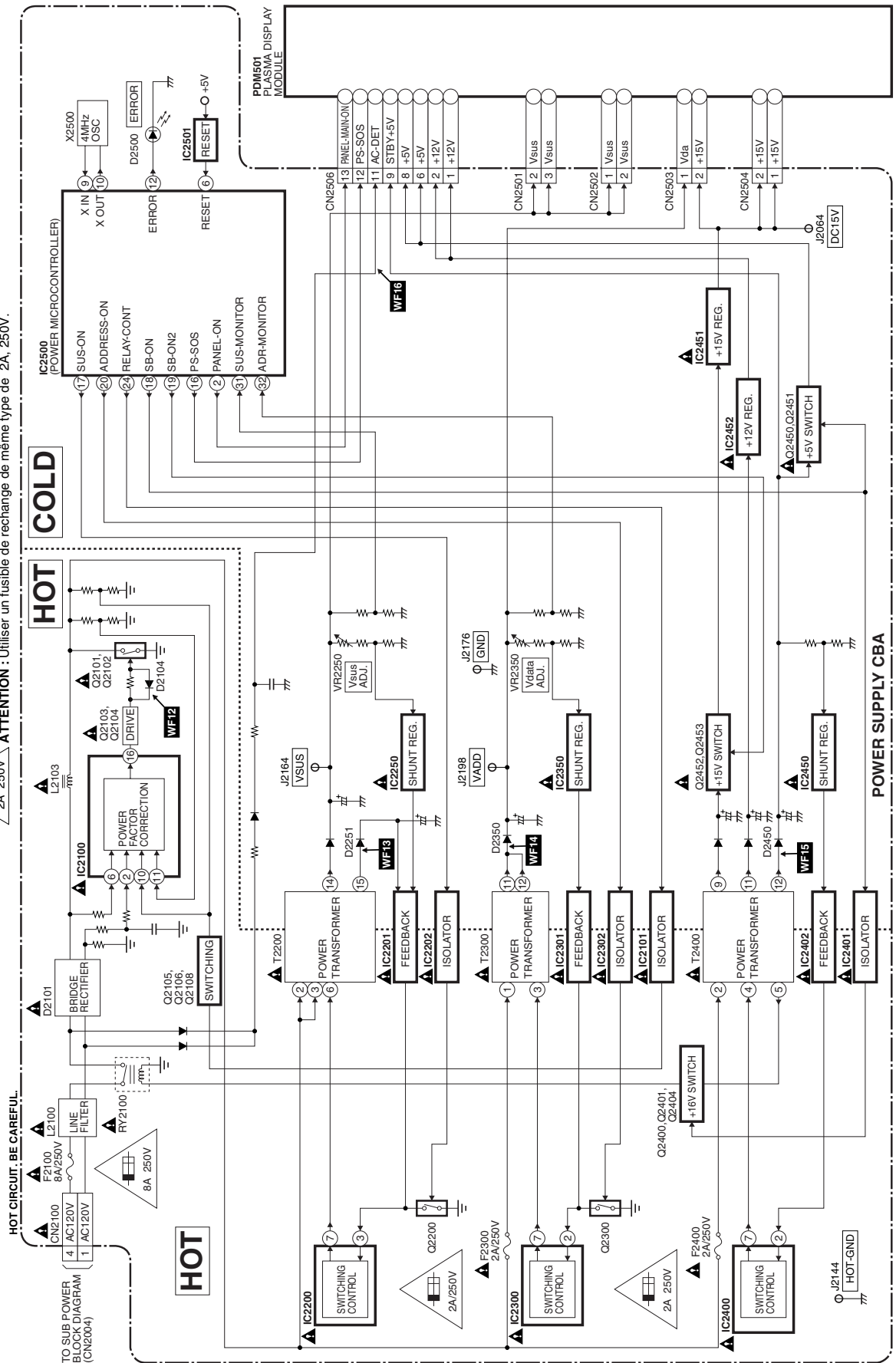
# Main Power Supply Block Diagram

**NOTE:**  
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

**CAUTION 1 :** For continued protection against risk of fire, replace only with same type 8A, 250V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 8A, 250V.

**CAUTION 1 :** For continued protection against risk of fire, replace only with same type 2A, 250V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 2A, 250V.

**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F2100, F2300, F2400) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



# Sub Power Supply Block Diagram

**CAUTION !**

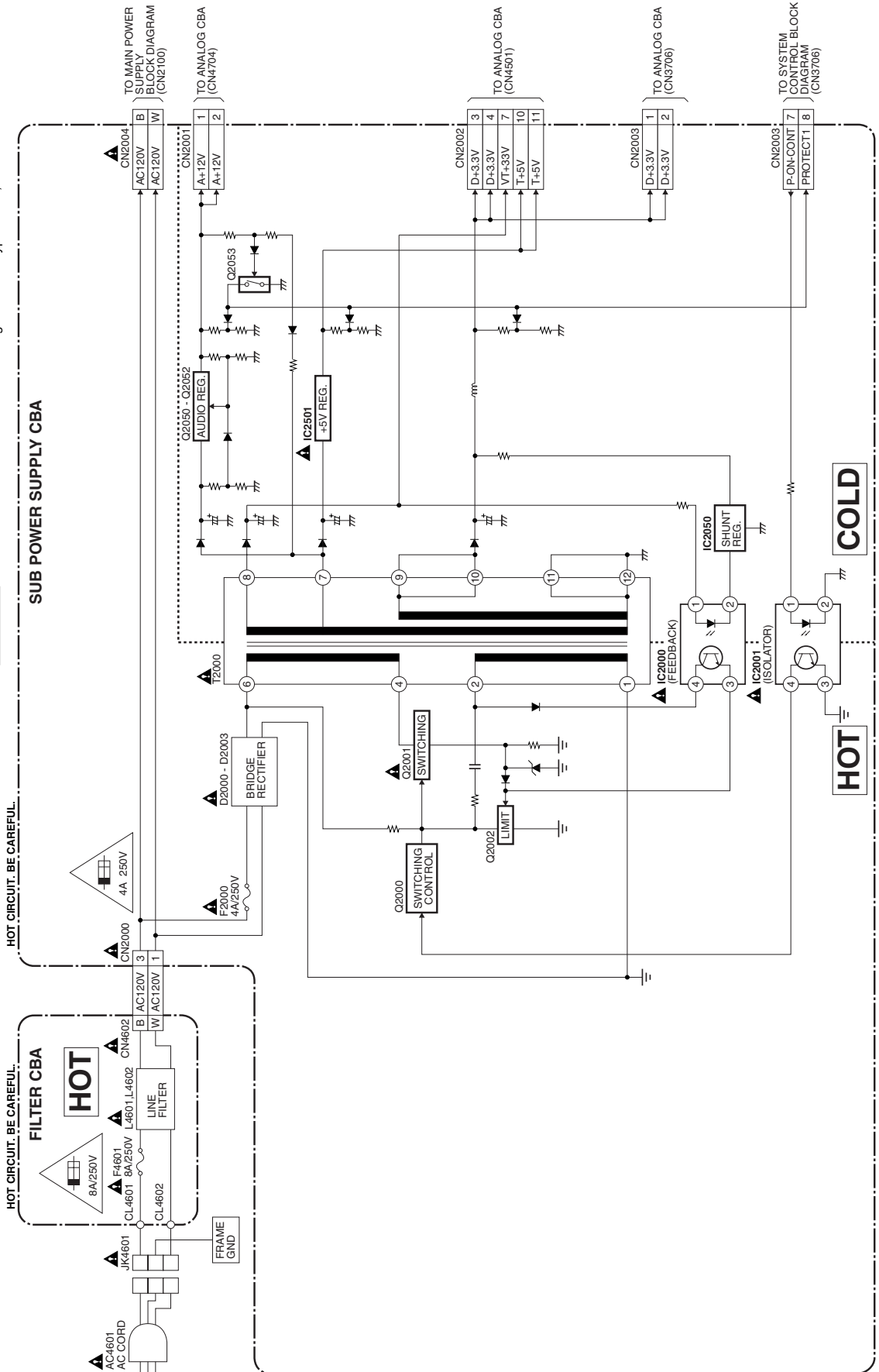
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F2000, F4601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

**CAUTION ! :** For continued protection against risk of fire, replace only with same type 4A, 250V fuse.

**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 250V.

**CAUTION ! :** For continued protection against risk of fire, replace only with same type 8A, 250V fuse.

**ATTENTION :** Utiliser un fusible de rechange de même type de 8A, 250V.



# SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

## Standard Notes

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "▲" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

### Note:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ( $K=10^3$ ,  $M=10^6$ ).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in  $\mu F$  ( $P=10^{-6}\mu F$ ).
5. All voltages are DC voltages unless otherwise specified.

### Note of Capacitors:

ML --- Mylar Cap.    PP --- Metallized Film Cap.    SC --- Semiconductor Cap.    L --- Low Leakage type

### Temperature Characteristics of Capacitors are noted with the following:

B ---  $\pm 10\%$     CH ---  $0\pm 60\text{ppm}/^\circ\text{C}$     CSL ---  $+350\sim -1000\text{ppm}/^\circ\text{C}$

### Tolerance of Capacitors are noted with the following:

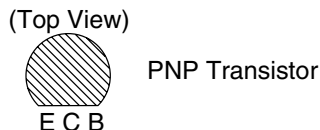
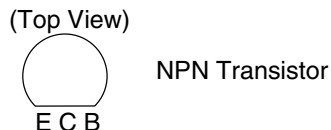
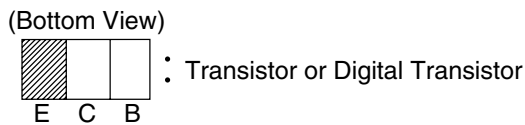
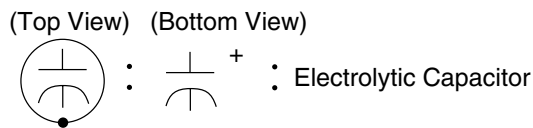
Z ---  $+80\sim -20\%$

### Note of Resistors:

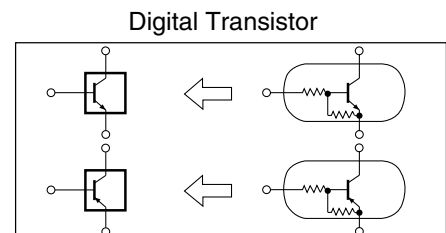
CEM --- Cement Res.    MTL --- Metal Res.    F --- Fuse Res.

### Capacitors and transistors are represented by the following symbols.

#### CBA Symbols



#### Schematic Diagram Symbols



**LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:**

**1. CAUTION:** FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE\_A,\_V FUSE.

**ATTENTION:** UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE\_A,\_V.

**2. CAUTION:**

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.

If Main Fuse (F2000, F2100, F2200, F2400, F4601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

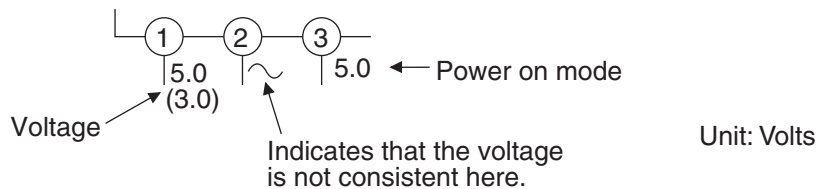
**3. Note:**

(1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.

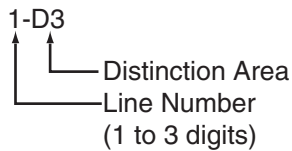
(2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

**4. Voltage indications on the schematics are as shown below:**

Plug the TV power cord into a standard AC outlet.:

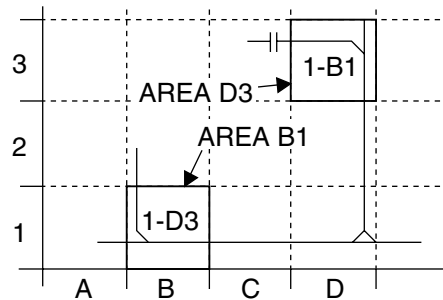


**5. How to read converged lines**



Examples:

1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



**6. Test Point Information**

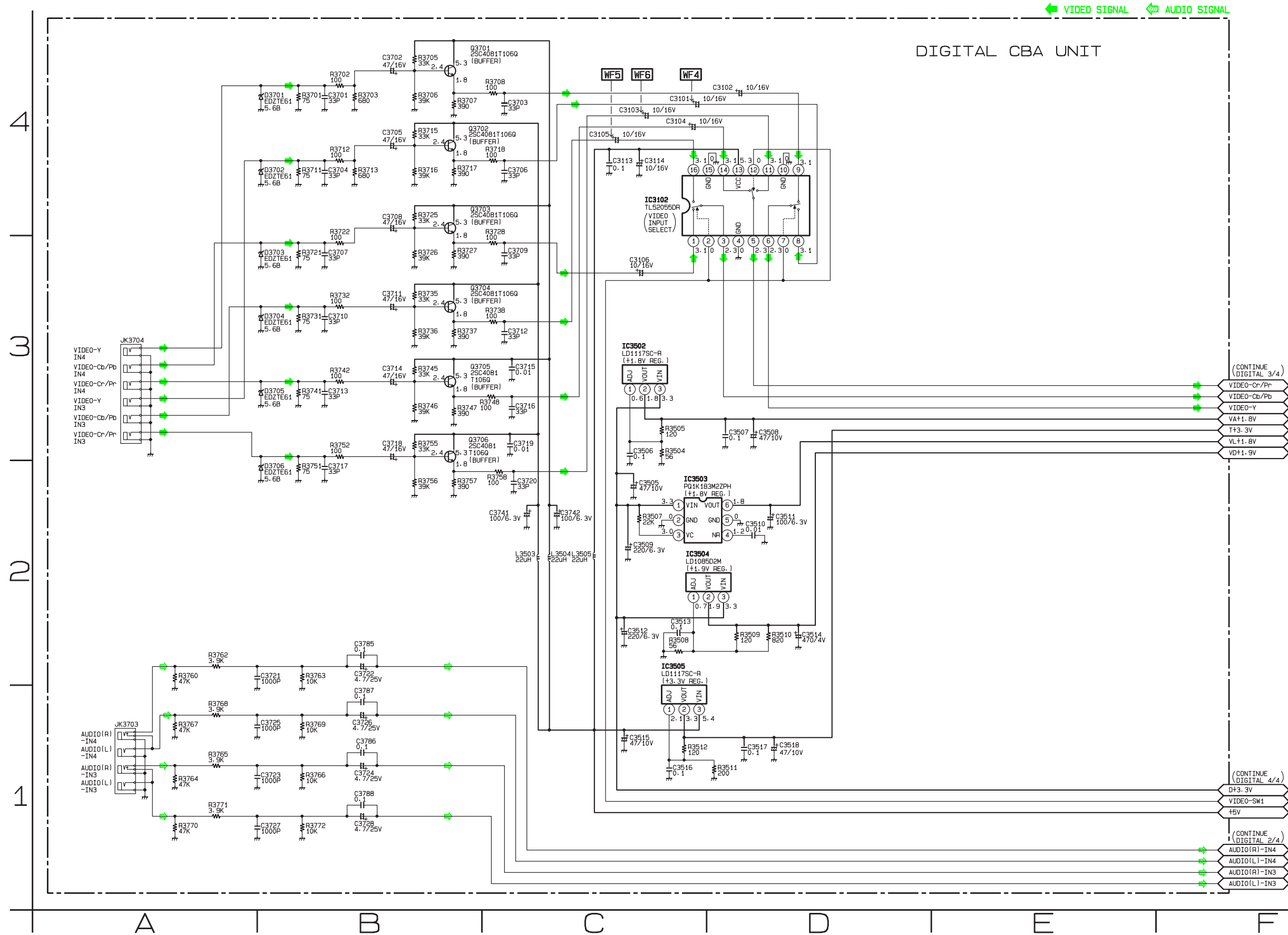
⊙ : Indicates a test point with a jumper wire across a hole in the PCB.

□→ : Used to indicate a test point with a component lead on foil side.

⊘ : Used to indicate a test point with no test pin.

● : Used to indicate a test point with a test pin.

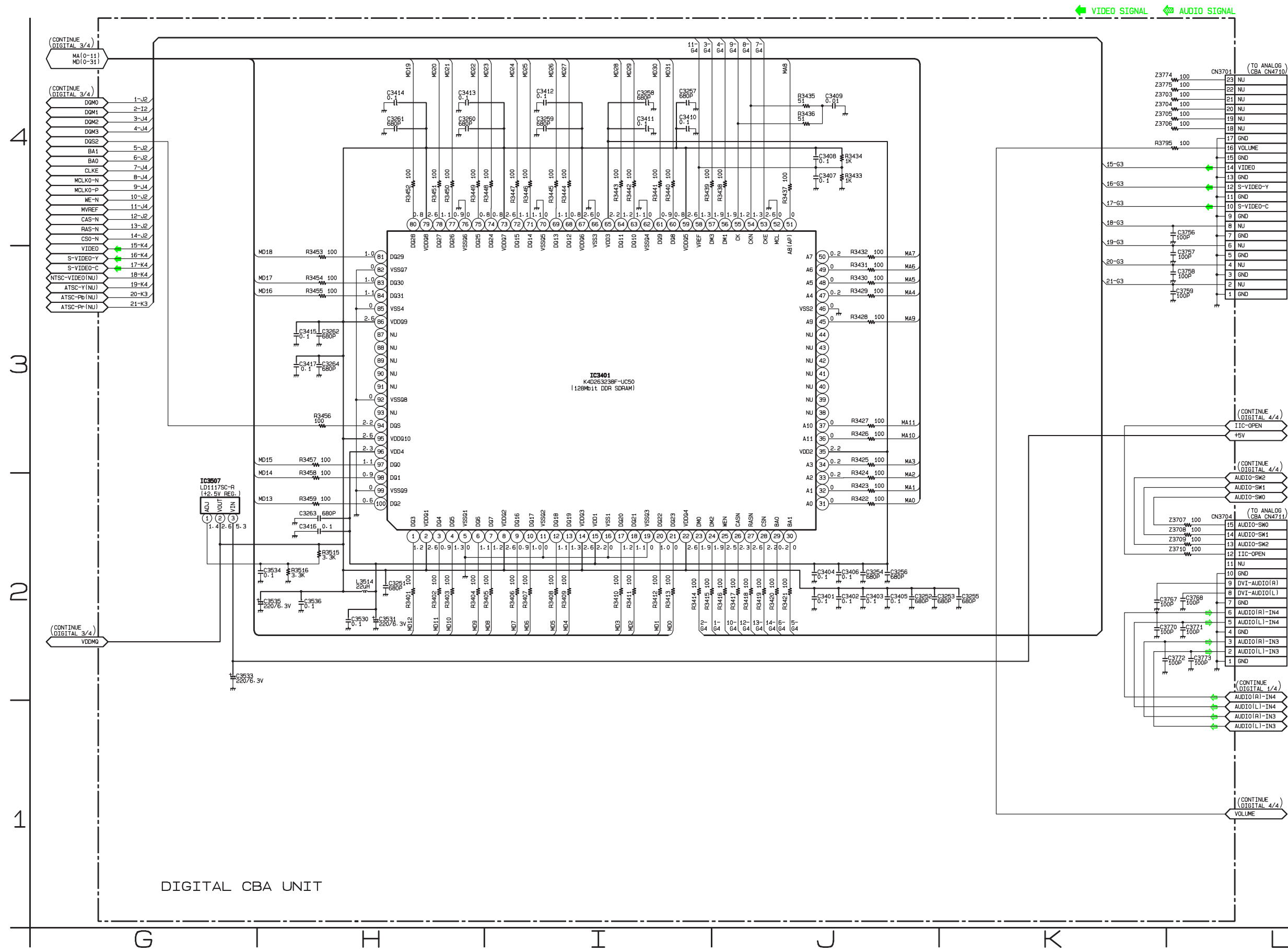
# Digital 1/4 Schematic Diagram



DIGITAL 1/4

Ref No.	Position
ICS	
IC3102	D-4
IC3502	C-3
IC3503	C-2
IC3504	C-2
IC3505	C-1
TRANSISTORS	
Q3701	B-4
Q3702	B-4
Q3703	B-4
Q3704	B-3
Q3705	B-3
Q3706	B-3

# Digital 2/4 Schematic Diagram

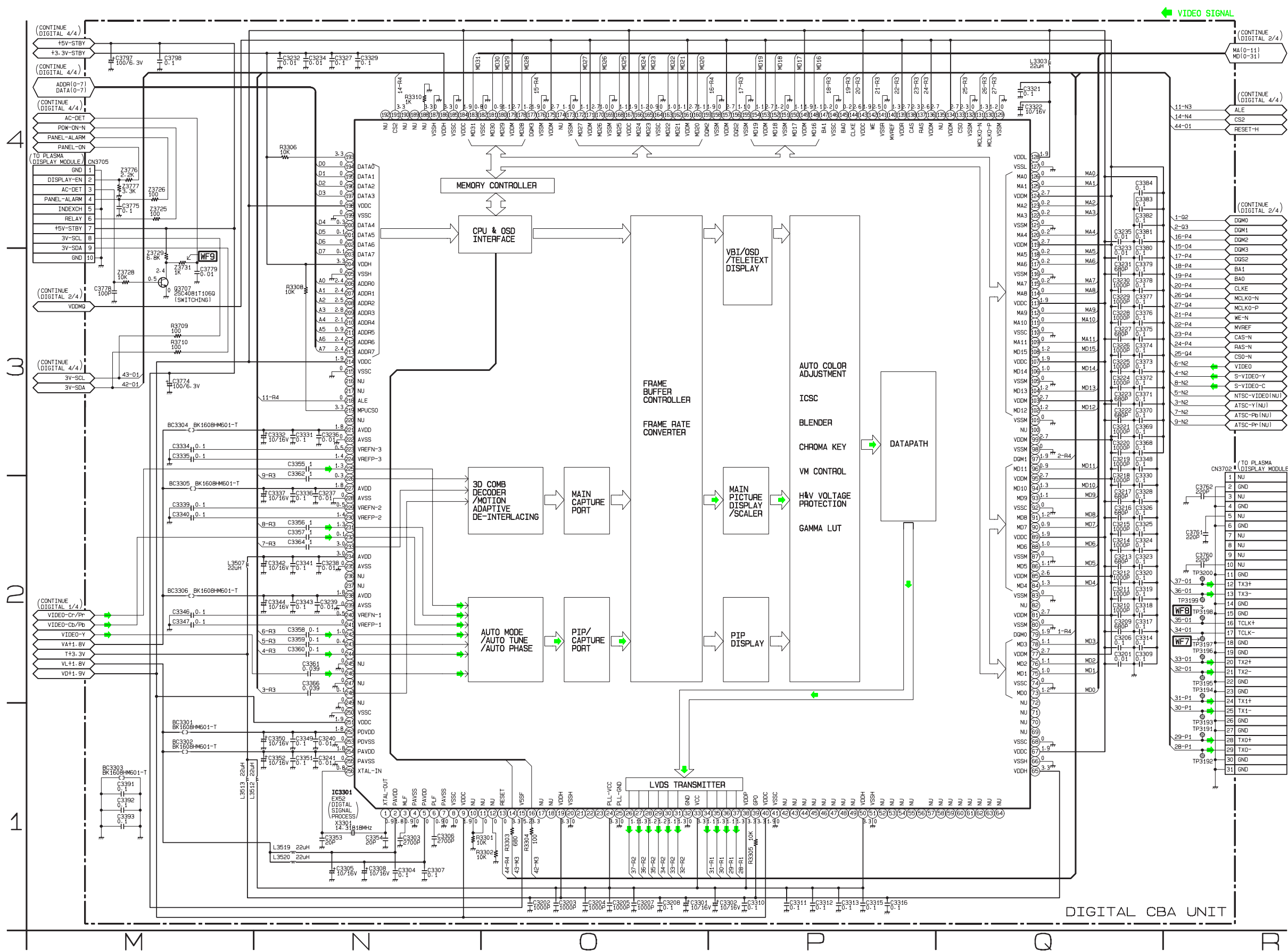


← VIDEO SIGNAL → AUDIO SIGNAL

DIGITAL 2/4

Ref No.	Position
ICS	
IC3401	I-3
IC3507	G-2
CONNECTORS	
CN3701	L-4
CN3704	L-2

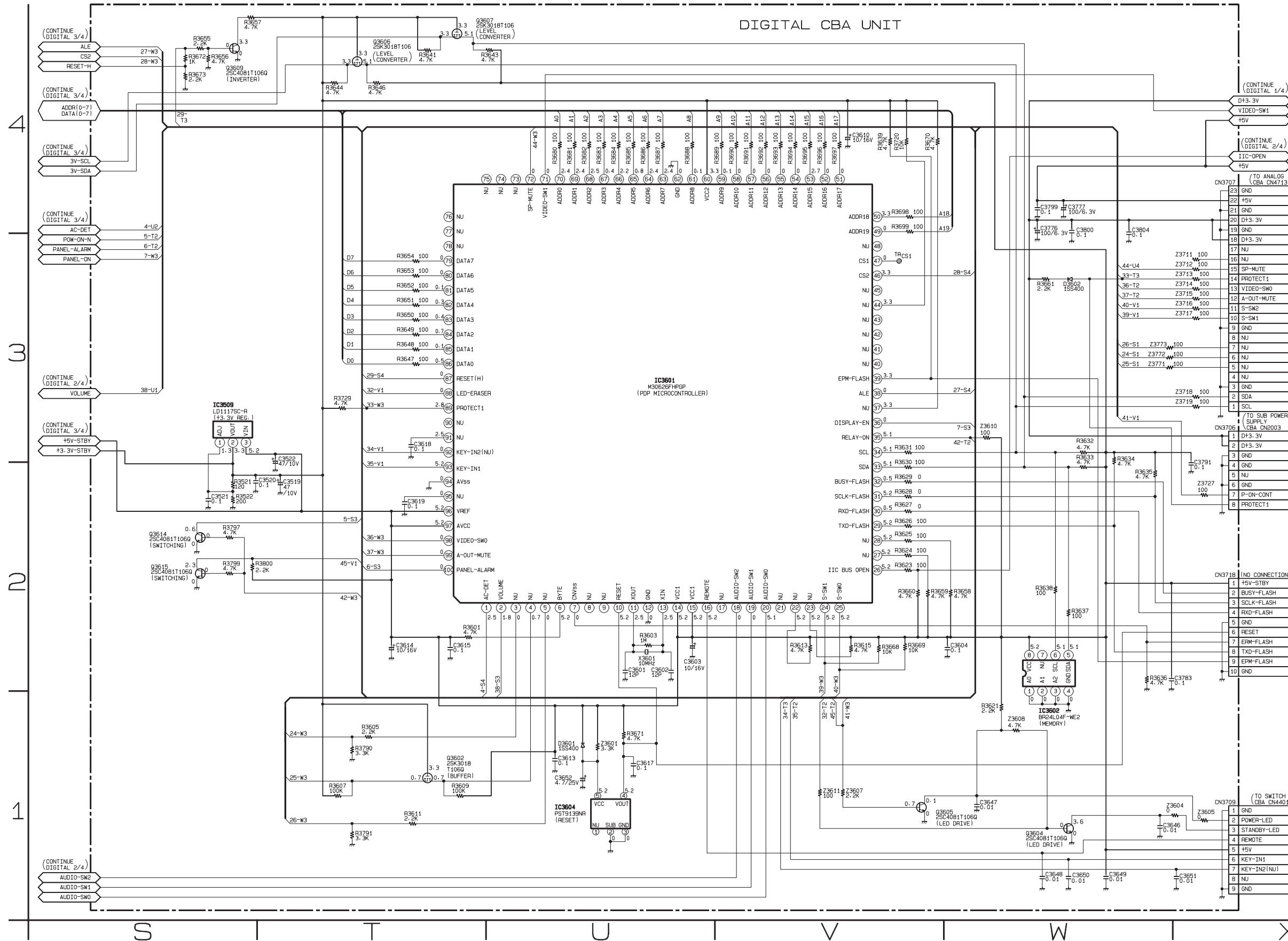
# Digital 3/4 Schematic Diagram



DIGITAL 3/4

Ref No.	Position	IC
IC3301	N-1	TRANSISTOR
Q3707	M-3	CONNECTOR
CN3702	R-2	TEST POINTS
CN3705	M-4	
TP3191	R-1	
TP3192	R-1	
TP3193	R-1	
TP3194	R-2	
TP3195	R-2	
TP3196	R-2	
TP3197	R-2	
TP3198	R-2	
TP3199	R-2	
TP3200	R-2	

# Digital 4/4 Schematic Diagram

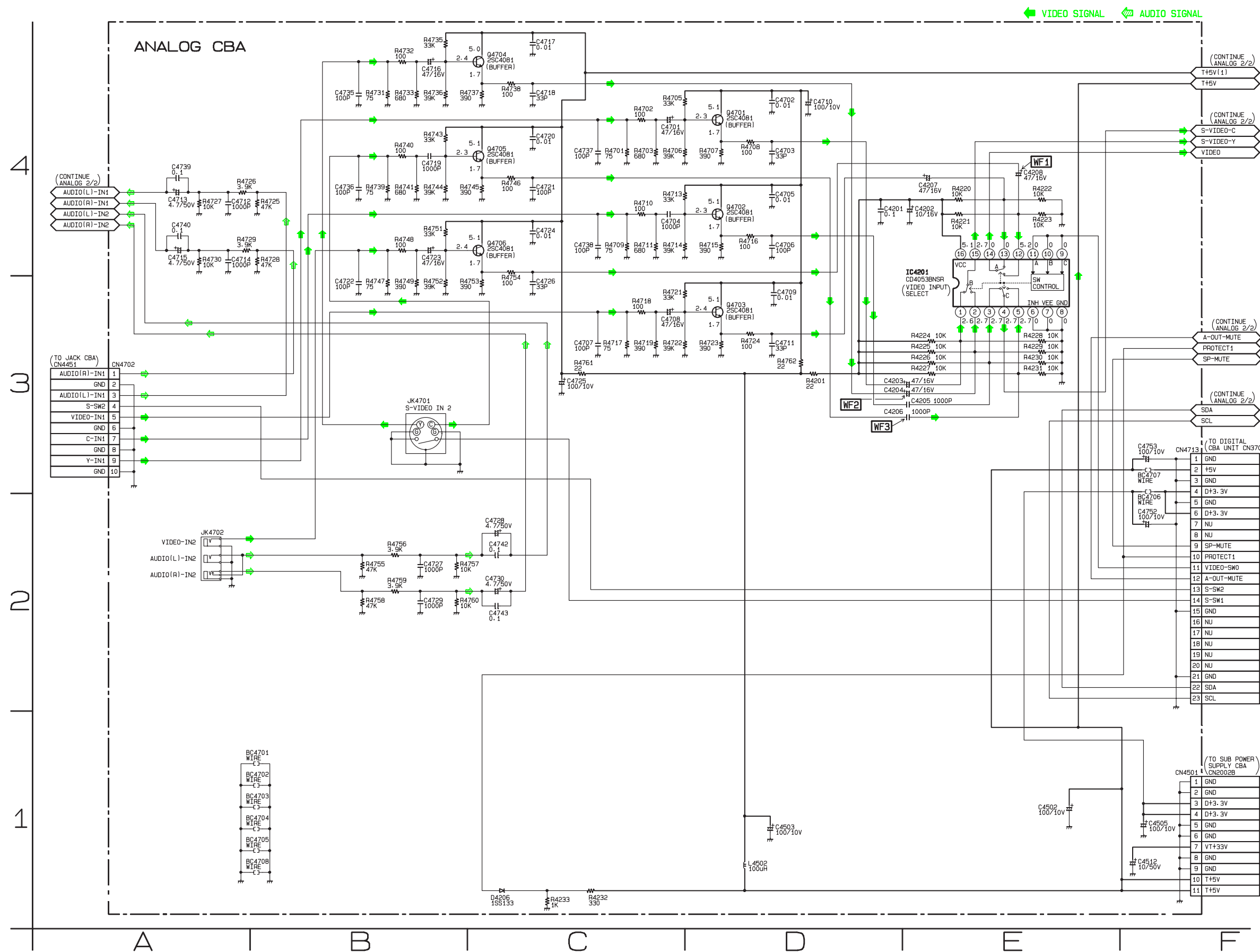


DIGITAL 4/4

Ref No.	Position
ICS	
IC3509	S-3
IC3601	U-3
IC3602	W-2
IC3604	U-1
TRANSISTORS	
Q3602	T-1
Q3604	W-1
Q3605	V-1
Q3606	T-4
Q3607	T-4
Q3609	S-4
Q3614	S-2
Q3615	S-2
CONNECTORS	
CN3706	X-3
CN3707	X-4
CN3709	X-1
CN3718	X-2



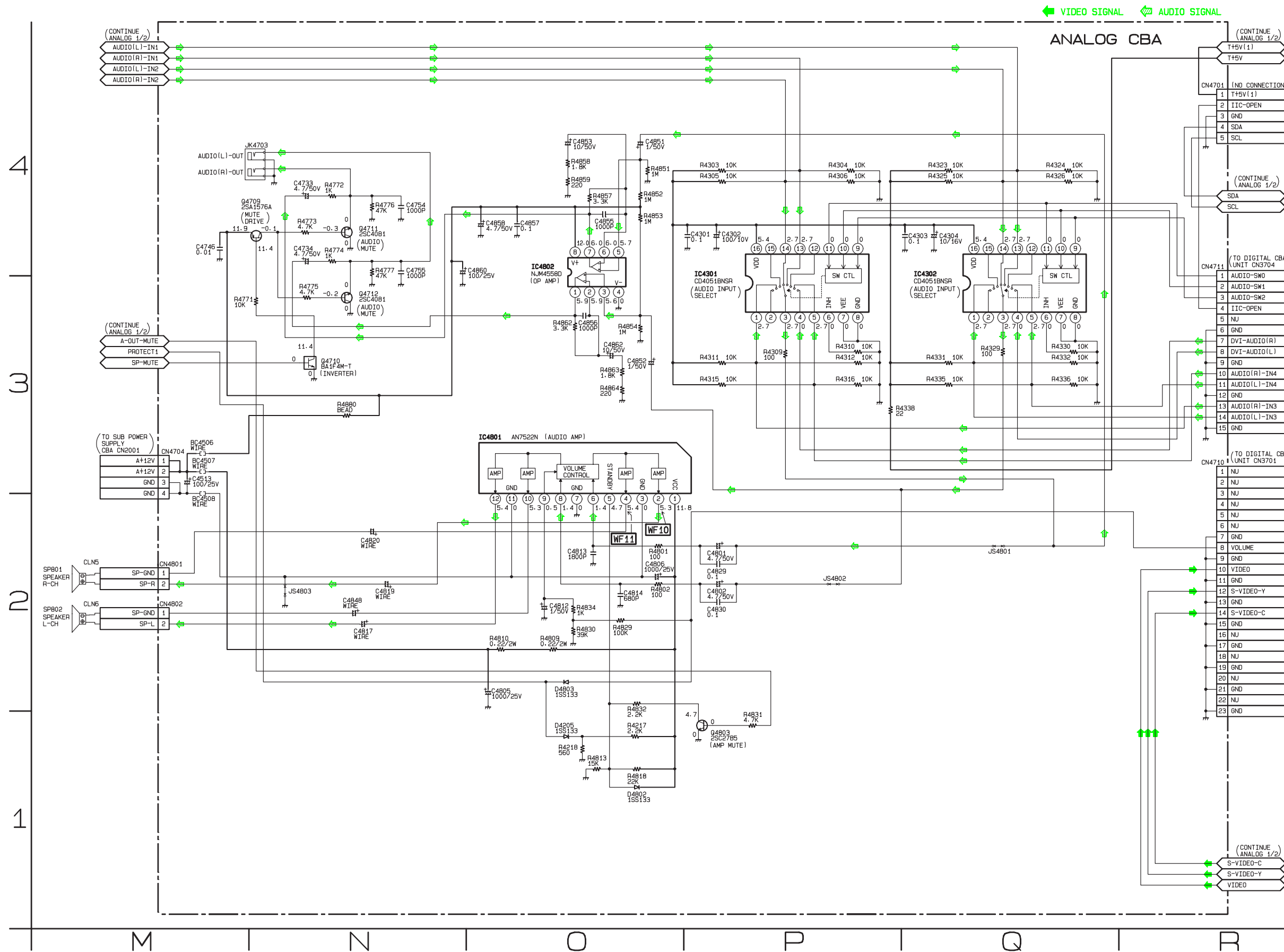
# Analog 1/2 Schematic Diagram



ANALOG 1/2

Ref No.	Position
ICS	
IC4201	E-3
TRANSISTORS	
Q4701	D-4
Q4702	D-4
Q4703	D-3
Q4704	C-4
Q4705	C-4
Q4706	C-4
CONNECTORS	
CN4501	F-1
CN4702	A-3
CN4713	F-3

# Analog 2/2 Schematic Diagram



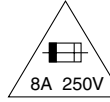
**ANALOG 2/2**

Ref No.	Position
ICS	
IC4301	P-4
IC4302	Q-4
IC4801	O-3
IC4802	O-4
TRANSISTORS	
Q4709	N-4
Q4710	N-3
Q4711	N-4
Q4712	N-3
Q4803	P-1
CONNECTOR	
CN4701	R-4
CN4704	M-3
CN4710	R-3
CN4711	R-3
CN4801	M-2
CN4802	M-2

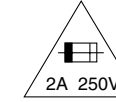
# Power Supply 1/2 Schematic Diagram

## CAUTION !

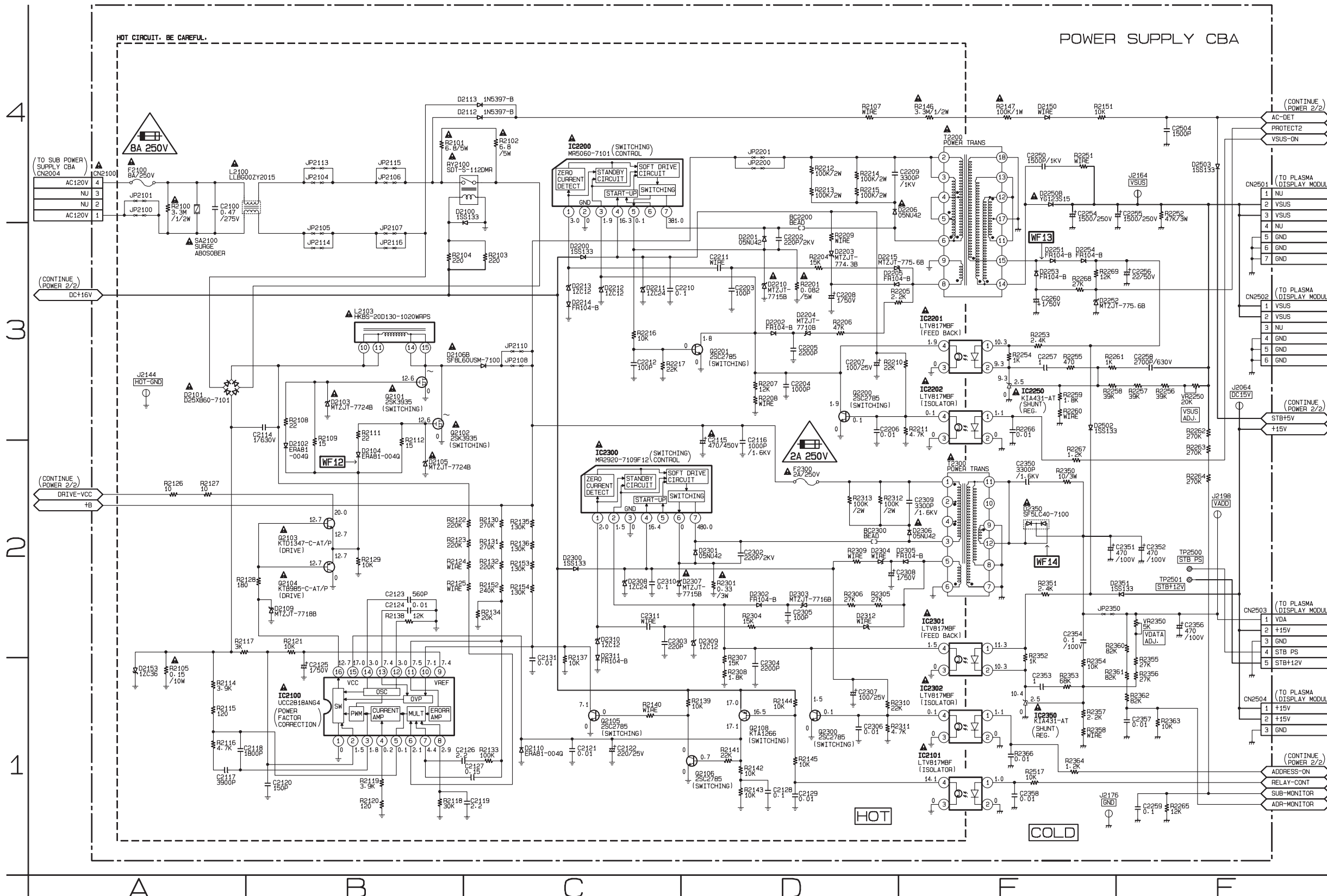
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F2100, F2300) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.



**CAUTION ! :** For continued protection against risk of fire, replace only with same type 8A, 250V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 8A, 250V.



**CAUTION ! :** For continued protection against risk of fire, replace only with same type 2A, 250V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 2A, 250V.



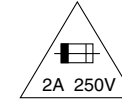
## POWER 1/2

Ref No.	Position
ICS	
IC2100	B-1
IC2101	E-1
IC2200	C-4
IC2201	E-3
IC2202	E-3
IC2250	E-3
IC2300	C-2
IC2301	E-2
IC2302	E-1
IC2350	E-1
TRANSISTORS	
Q2101	B-3
Q2102	B-3
Q2103	B-2
Q2104	B-2
Q2105	C-1
Q2106	D-1
Q2108	D-1
Q2200	D-3
Q2201	D-3
Q2300	D-1
CONNECTORS	
CN2100	A-4
CN2501	F-4
CN2502	F-4
CN2503	F-2
CN2504	F-1
TEST POINTS	
J2064	F-3
J2144	A-3
J2164	F-4
J2176	E-1
J2198	F-2
VARIABLE RESISTORS	
VR2250	F-3
VR2350	F-2

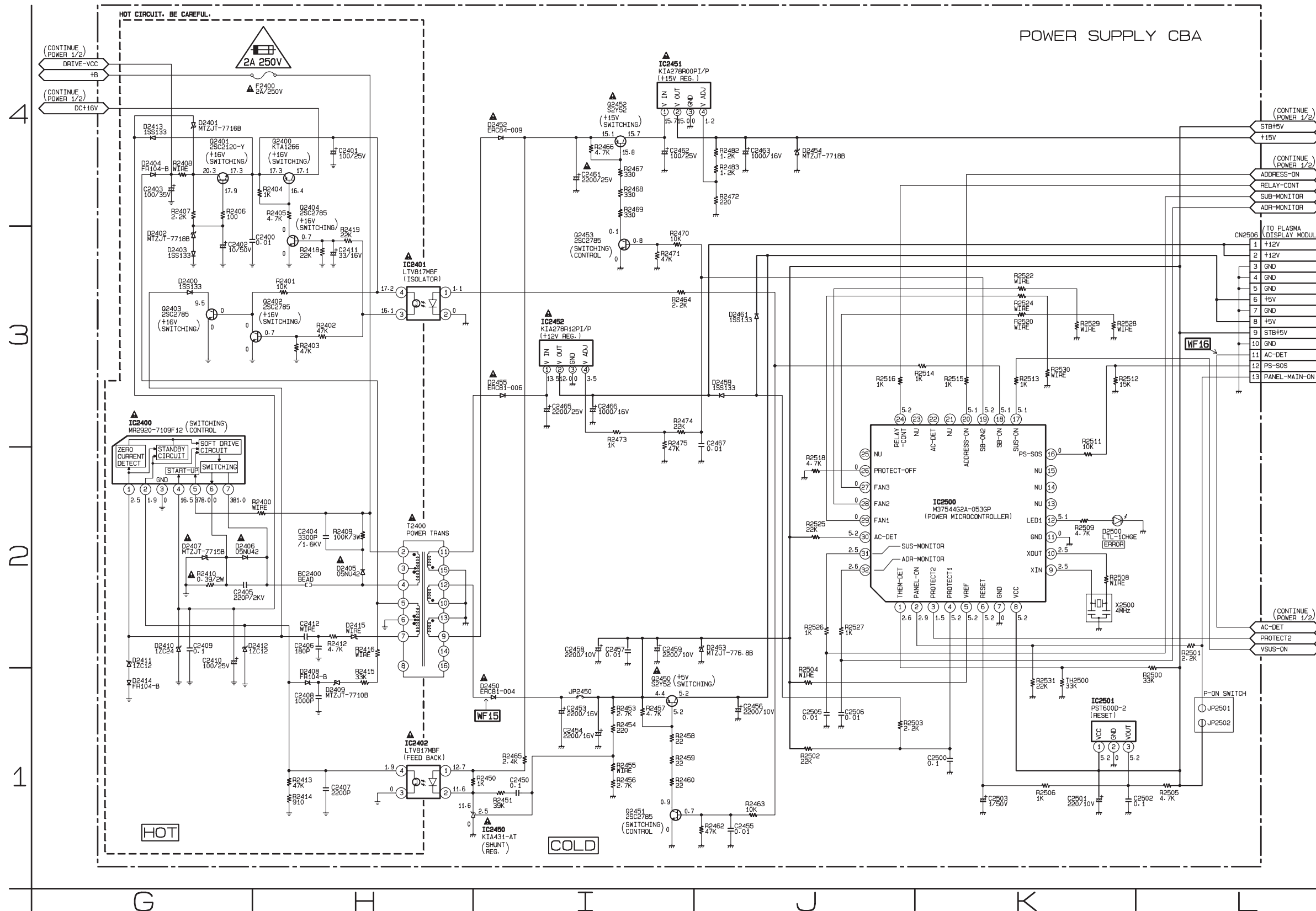
# Power Supply 2/2 Schematic Diagram

## CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F2400) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.



**CAUTION !** : For continued protection against risk of fire, replace only with same type 2A, 250V fuse.  
**ATTENTION** : Utiliser un fusible de rechange de même type de 2A, 250V.



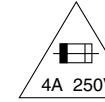
## POWER 2/2

Ref No.	Position
ICs	
IC2400	G-3
IC2401	H-3
IC2402	H-1
IC2450	I-1
IC2452	I-3
IC2500	K-2
IC2501	K-1
TRANSISTORS	
Q2400	H-4
Q2401	G-4
Q2402	H-3
Q2403	G-3
Q2404	H-3
Q2450	I-1
Q2451	I-1
Q2452	I-4
Q2453	I-3
CONNECTORS	
CN2506	L-3

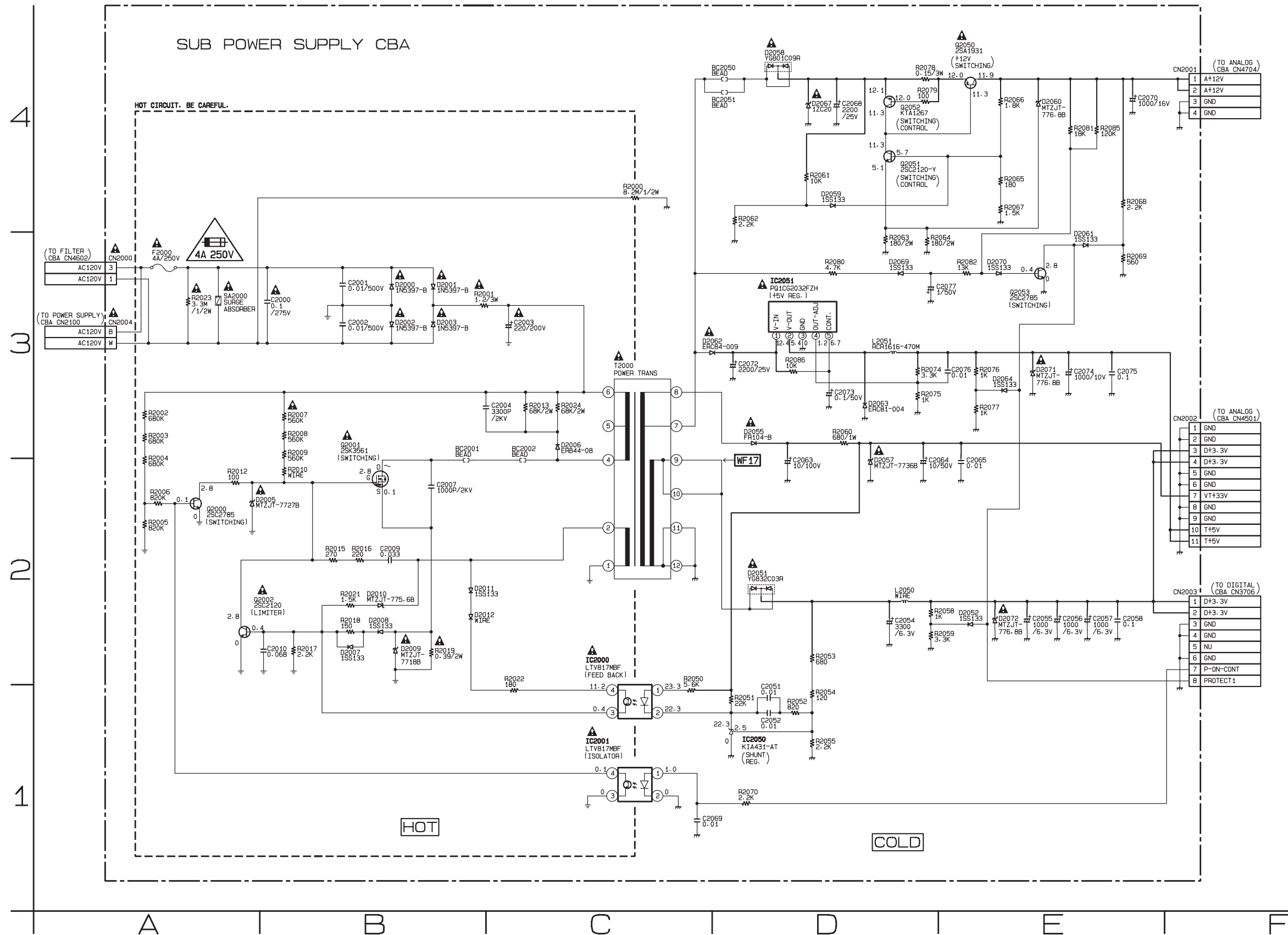
# Sub Power Supply Schematic Diagram

**CAUTION !**

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F2000) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



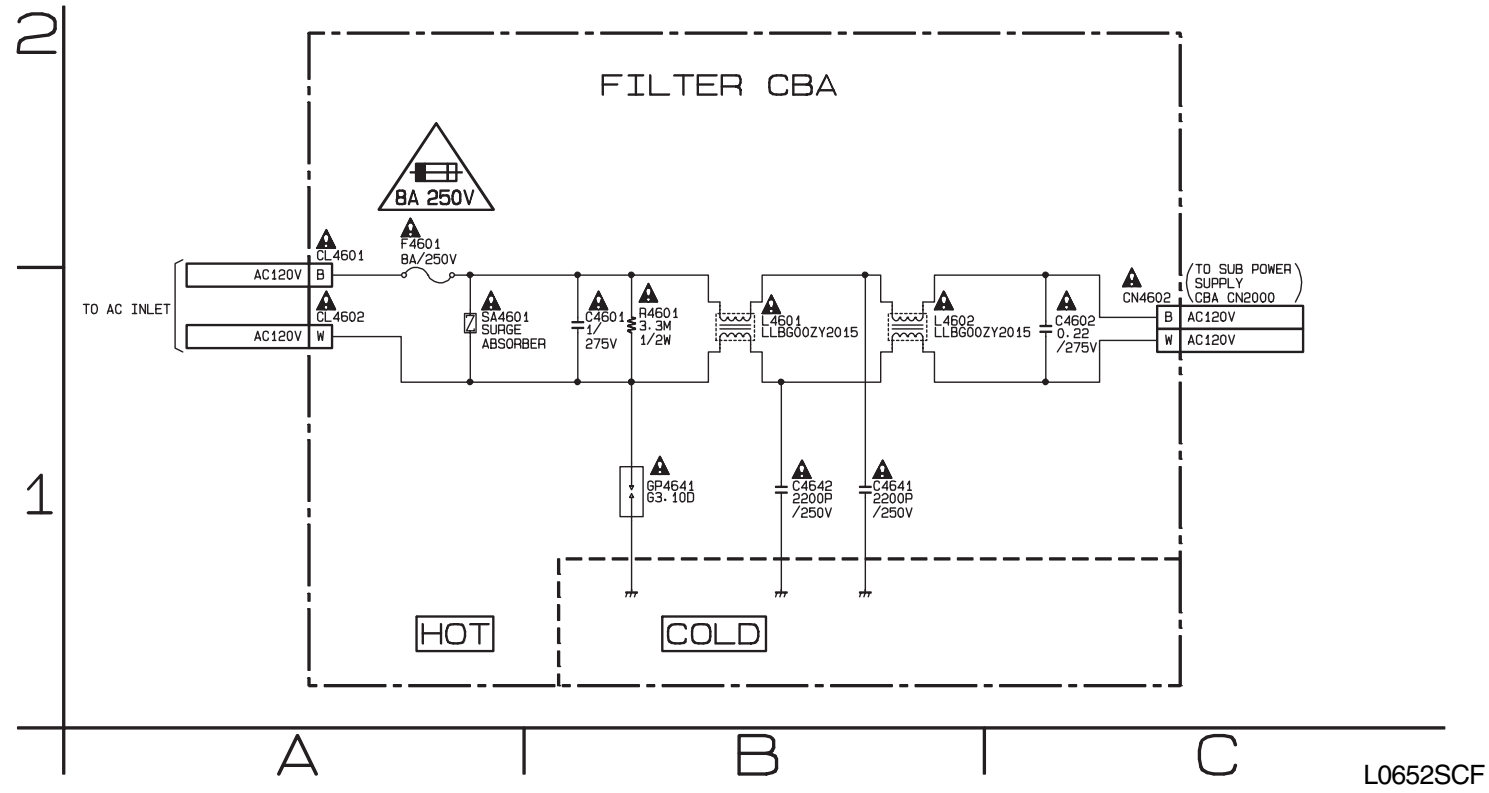
**CAUTION !** : For continued protection against risk of fire, replace only with same type 4A, 250V fuse.  
**ATTENTION** : Utiliser un fusible de rechange de même type de 4A, 250V.



SUB POWER

Ref No.	Position
ICS	
IC2000	C-2
IC2001	C-1
IC2050	D-1
IC2051	D-3
TRANSISTORS	
Q2000	A-2
Q2001	B-2
Q2002	A-2
Q2050	E-4
Q2051	D-4
Q2052	D-4
Q2053	E-3
CONNECTORS	
CN2000	A-3
CN2001	F-4
CN2002	F-3
CN2003	F-2
CN2004	A-3

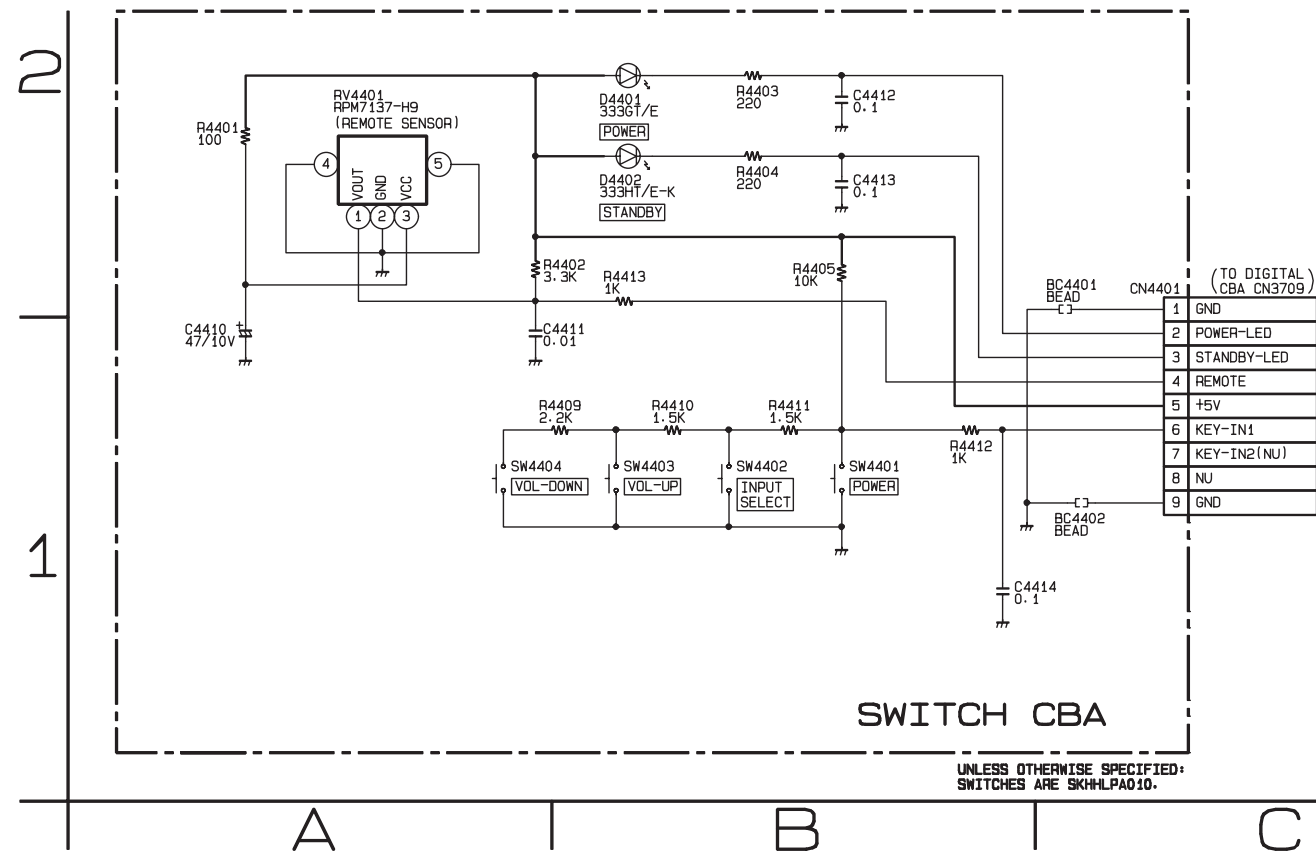
## Filter Schematic Diagram



**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F4601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.

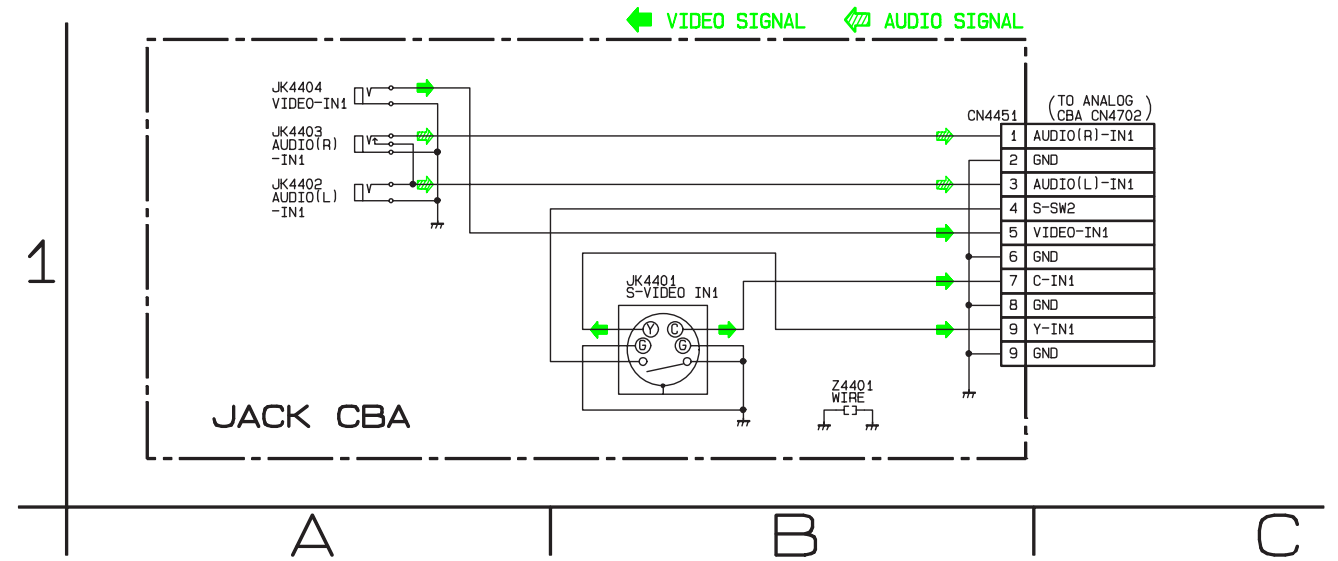
**CAUTION ! :** For continued protection against risk of fire, replace only with same type 8A, 250V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 8A, 250V.

## Switch Schematic Diagram

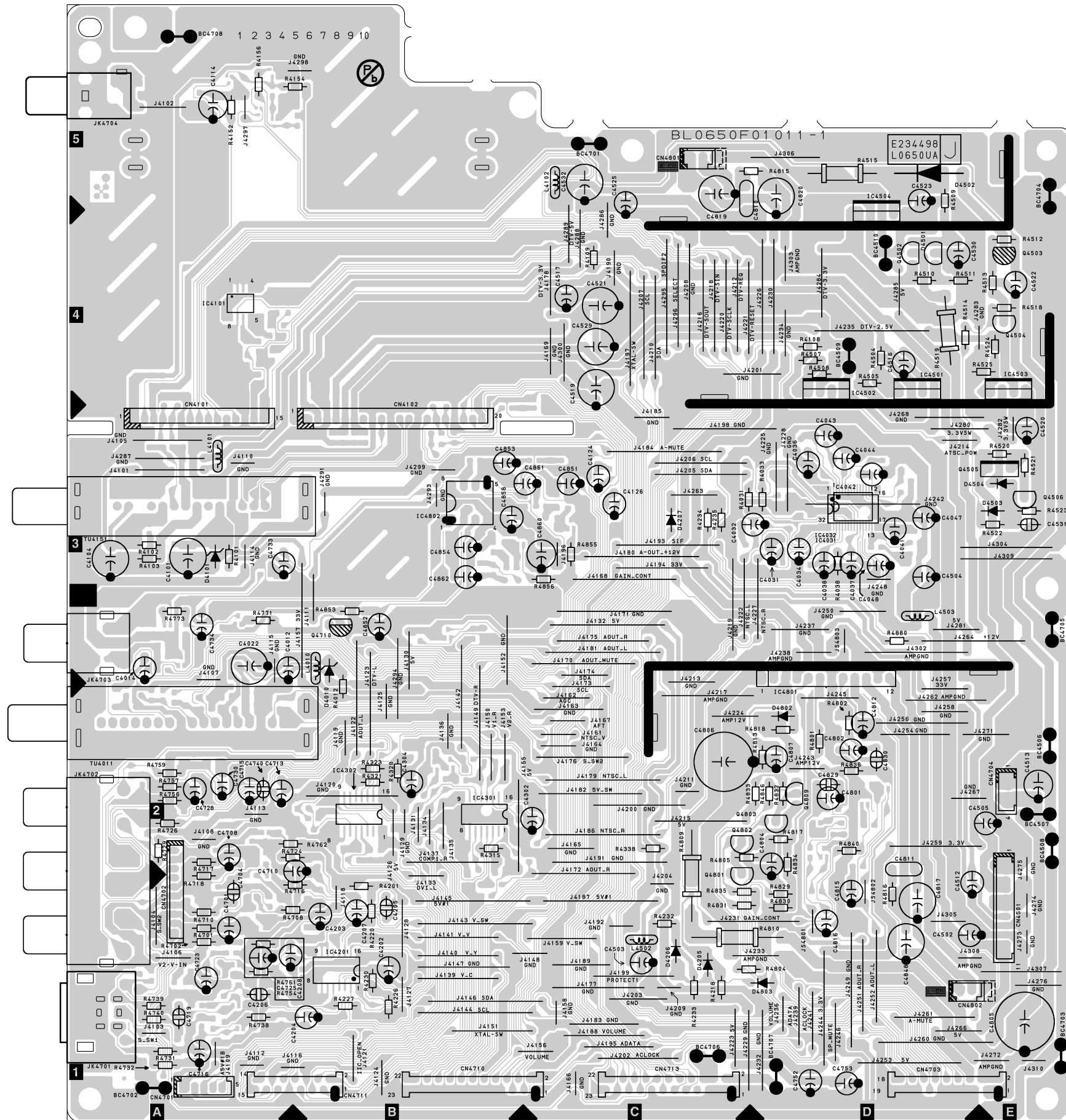


UNLESS OTHERWISE SPECIFIED:  
SWITCHES ARE SKHHPA010.

## Jack Schematic Diagram



# Analog CBA Top View



## ANALOG CBA

Ref No.	Position
ICs	
IC4201	B-1
IC4301	B-2
IC4302	B-2
IC4801	D-2
IC4802	B-3
TRANSISTORS	
Q4701	A-1
Q4702	A-2
Q4703	A-2
Q4704	A-1
Q4705	B-1
Q4706	B-1
Q4709	A-3
Q4710	B-3
Q4711	A-3
Q4712	A-3
Q4803	D-2
CONNECTORS	
CN4501	E-1
CN4701	A-1
CN4702	A-1
CN4704	E-2
CN4710	B-1
CN4711	B-1
CN4713	C-1
CN4801	C-5
CN4802	D-1

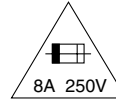




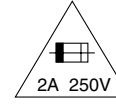
# Power Supply CBA Top View

## CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F2100, F2300, F2400) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.



**CAUTION ! :** For continued protection against risk of fire, replace only with same type 8A, 250V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 8A, 250V.

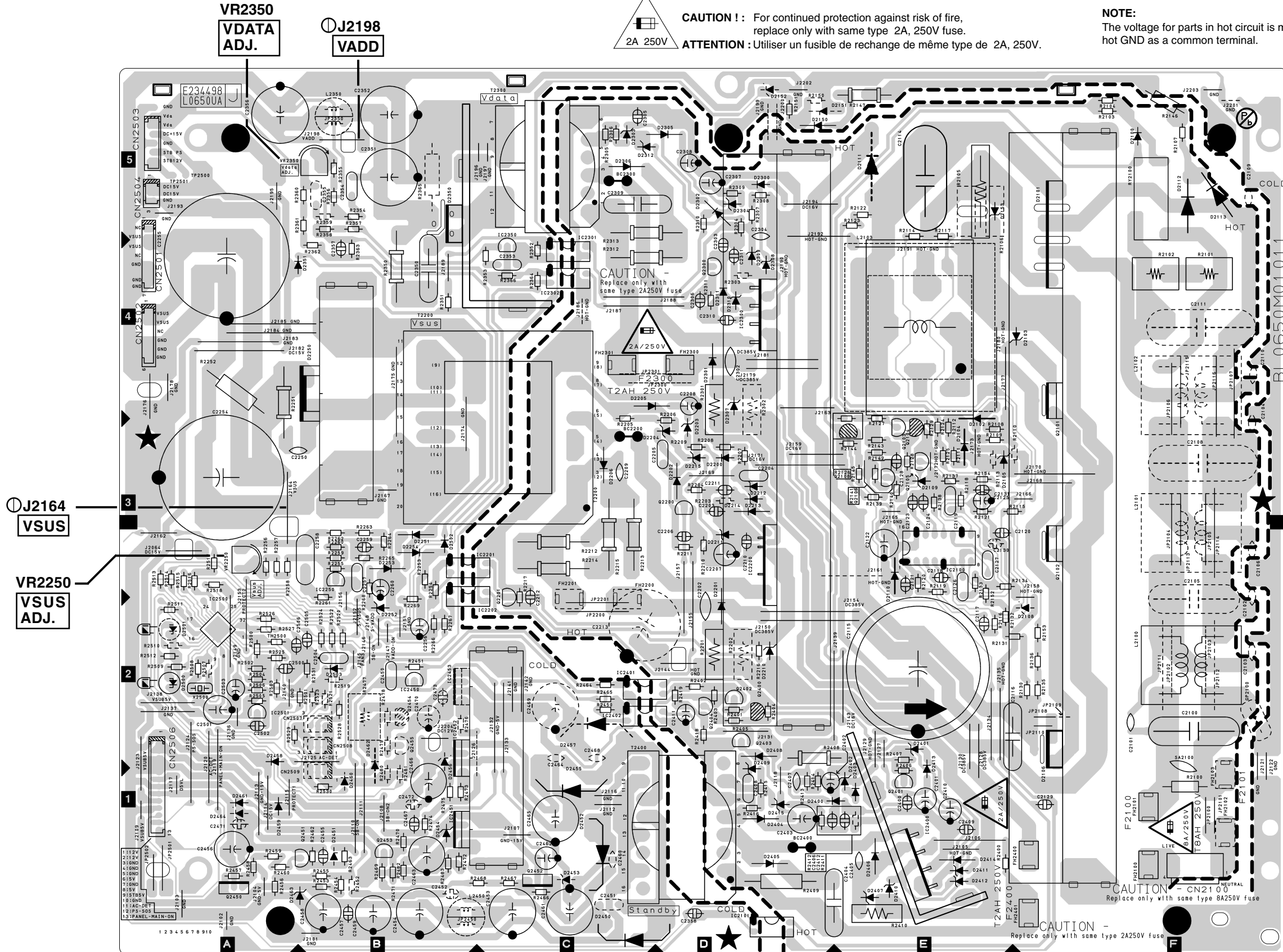


**CAUTION ! :** For continued protection against risk of fire, replace only with same type 2A, 250V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 2A, 250V.

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

## NOTE:

The voltage for parts in hot circuit is measured using hot GND as a common terminal.



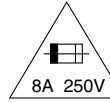
## POWER SUPPLY CBA

Ref No.	Position
ICS	
IC2100	E-3
IC2101	D-1
IC2200	D-3
IC2201	C-3
IC2202	C-2
IC2250	B-3
IC2300	D-4
IC2301	C-5
IC2302	C-4
IC2350	C-5
IC2400	E-1
IC2401	C-2
IC2402	C-2
IC2450	B-2
IC2451	B-1
IC2452	B-2
IC2500	A-2
IC2501	A-2
TRANSISTORS	
Q2101	F-3
Q2102	F-3
Q2103	E-3
Q2104	E-3
Q2105	E-3
Q2106	E-3
Q2108	E-3
Q2200	D-3
Q2201	C-2
Q2300	D-4
Q2400	D-2
Q2401	E-1
Q2402	D-2
Q2403	D-2
Q2404	D-2
Q2450	A-1
Q2451	B-1
Q2452	C-1
Q2453	B-1
CONNECTORS	
CN2100	F-1
CN2501	A-4
CN2502	A-4
CN2503	A-5
CN2504	A-5
CN2506	A-2
TEST POINTS	
J2064	A-3
J2144	D-2
J2164	A-3
J2176	A-4
J2198	B-5
VARIABLE RESISTORS	
VR2250	A-3
VR2350	A-5

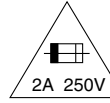
# Power Supply CBA Bottom View

**CAUTION !**

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F2100, F2300, F2400) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



**CAUTION ! :** For continued protection against risk of fire, replace only with same type 8A, 250V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 8A, 250V.

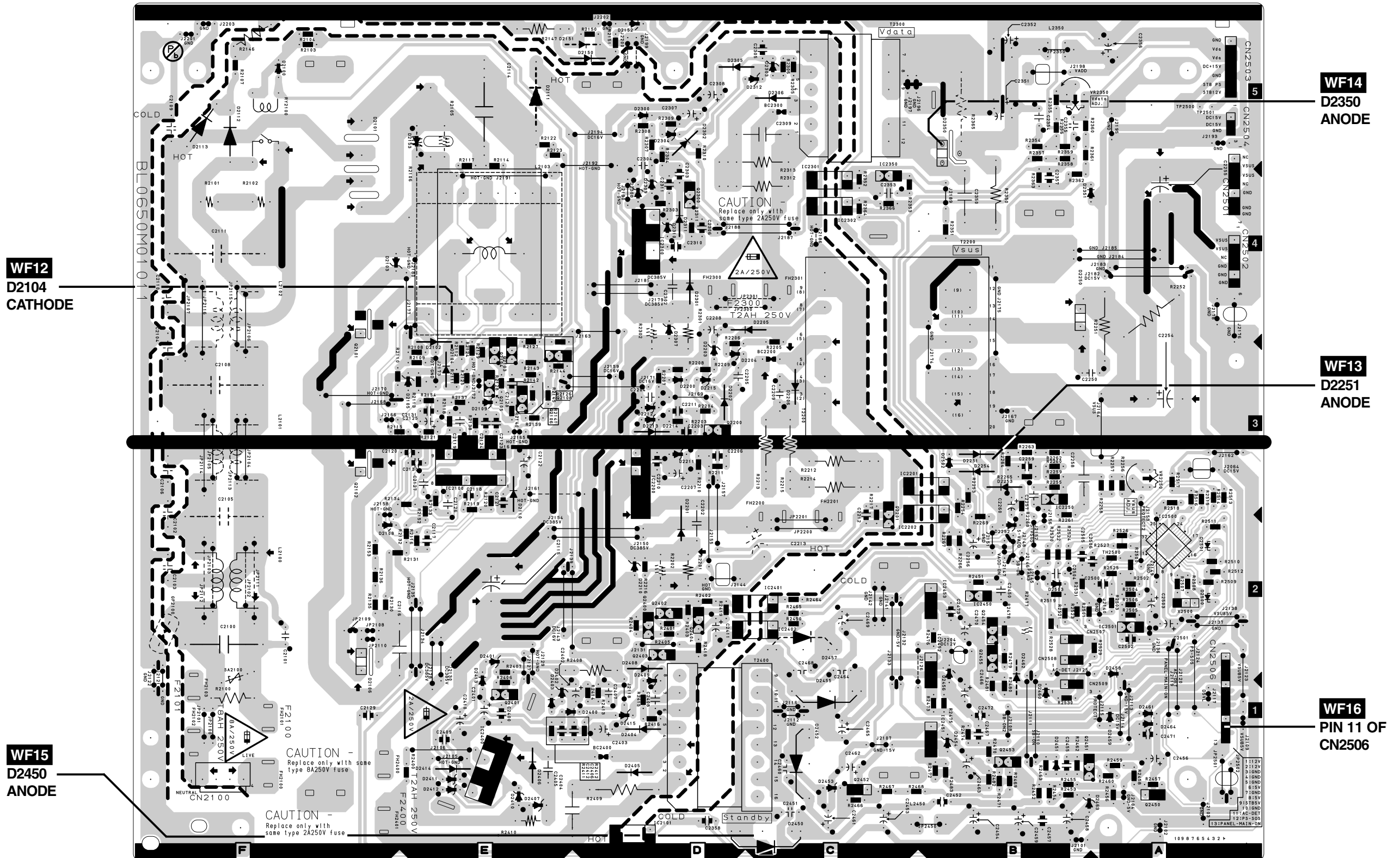


**CAUTION ! :** For continued protection against risk of fire, replace only with same type 2A, 250V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 2A, 250V.

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

**NOTE:**

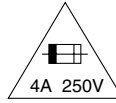
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



# Sub Power Supply CBA Top View

**CAUTION !**

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F2000) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components in the power supply circuit to fail.

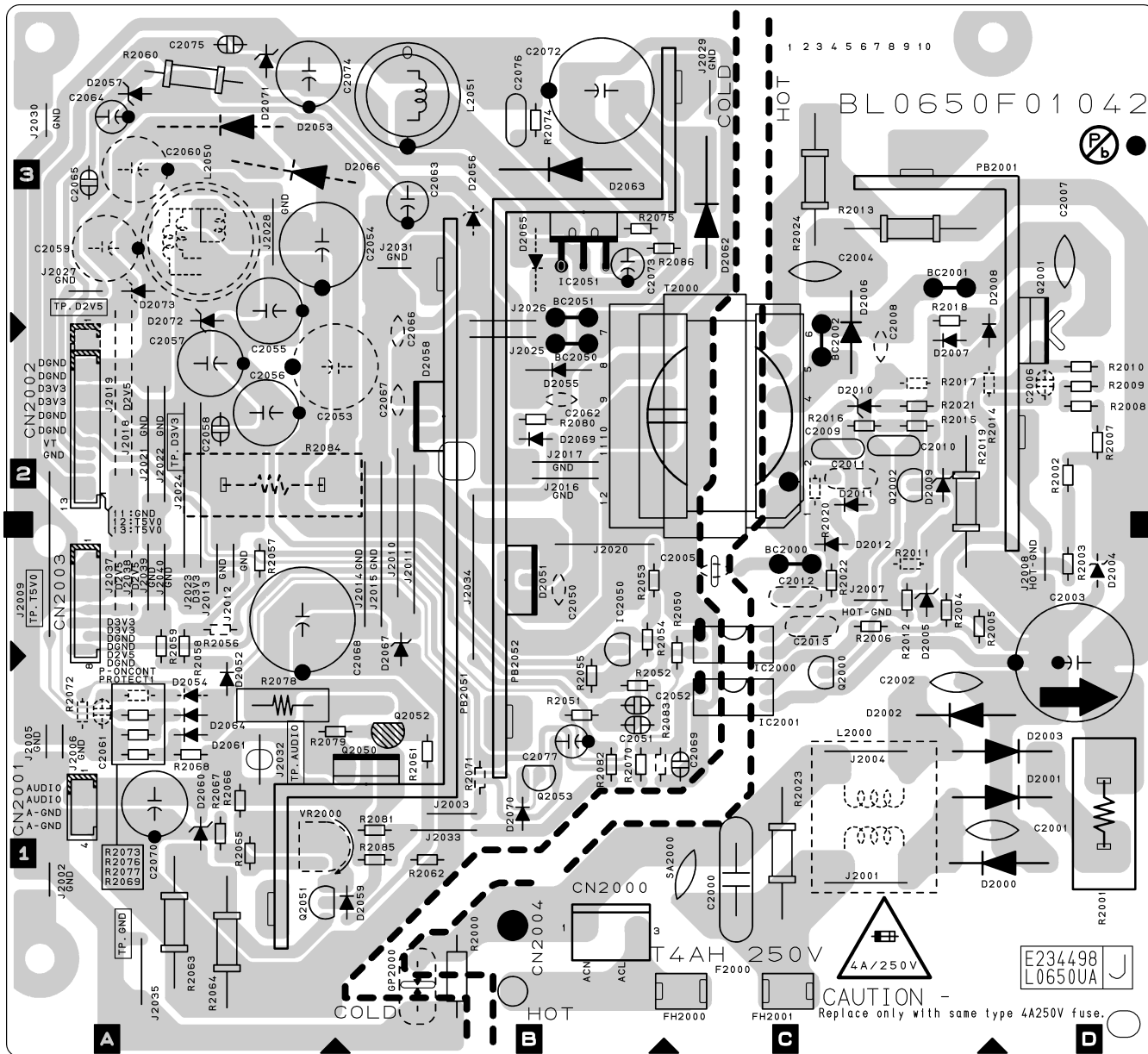


**CAUTION ! :** For continued protection against risk of fire, replace only with same type 4A, 250V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 4A, 250V.

**Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.**

**NOTE:**

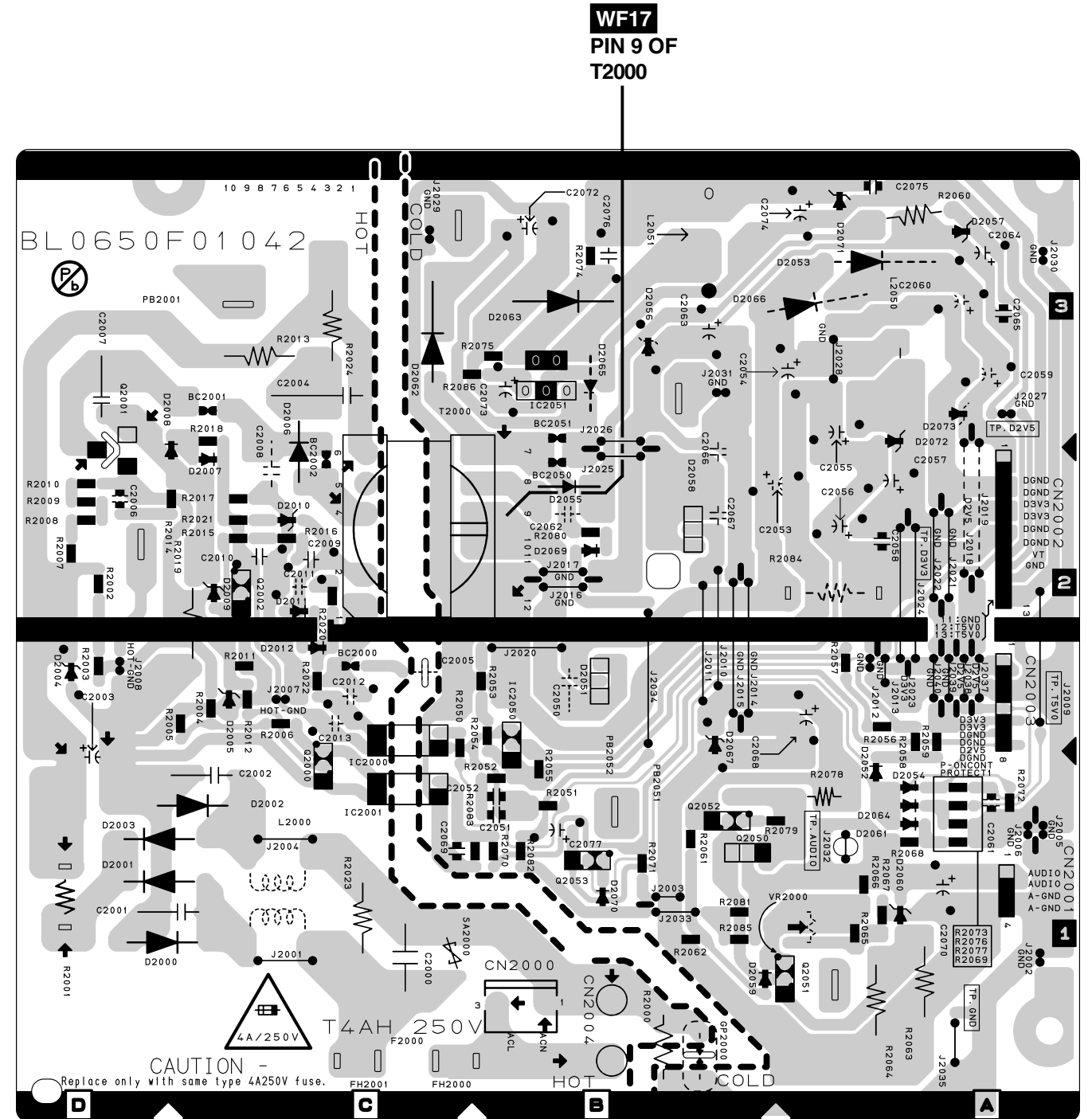
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



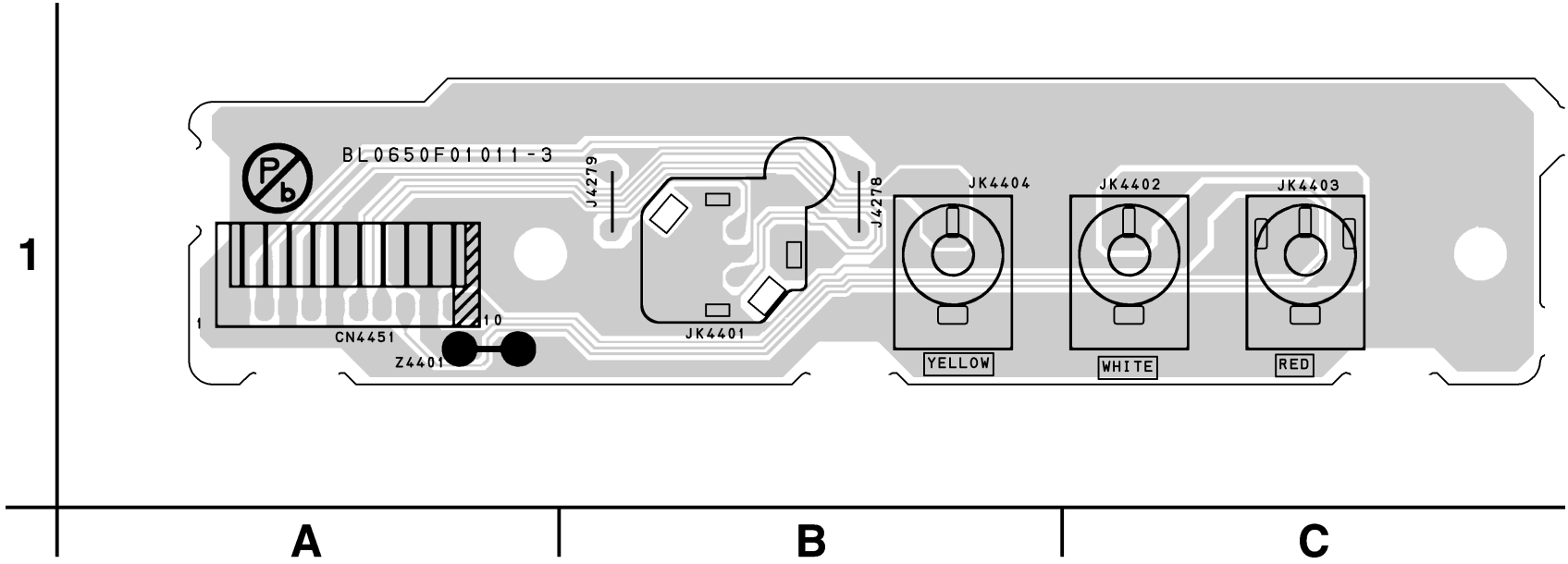
# Sub Power Supply CBA Bottom View

SUB POWER SUPPLY CBA

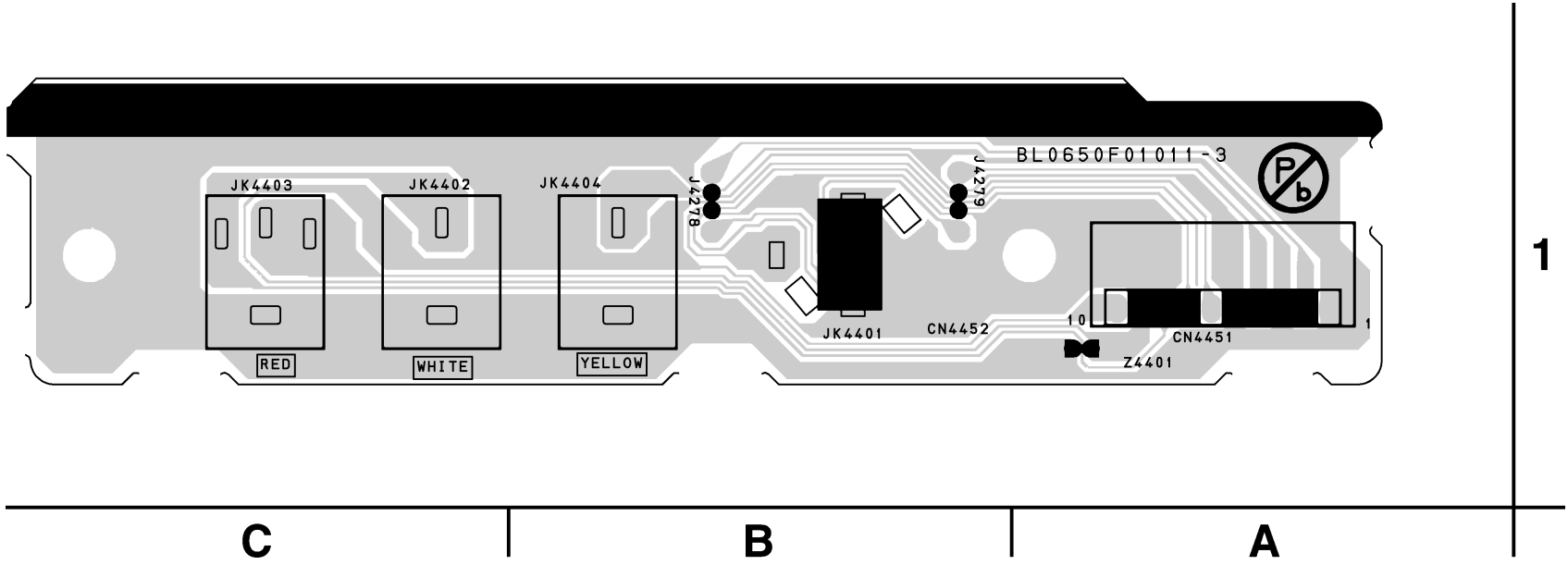
Ref No.	Position	Ref No.	Position
ICS		TRANSISTORS	
IC2000	C-1	Q2051	B-1
IC2001	C-1	Q2052	B-1
IC2050	B-2	Q2053	B-1
IC2051	B-3	CONNECTORS	
TRANSISTORS		CN2000	B-1
Q2000	C-1	CN2001	A-1
Q2001	D-3	CN2002	A-2
Q2002	C-2	CN2003	A-2
Q2050	B-1	CN2004	B-1



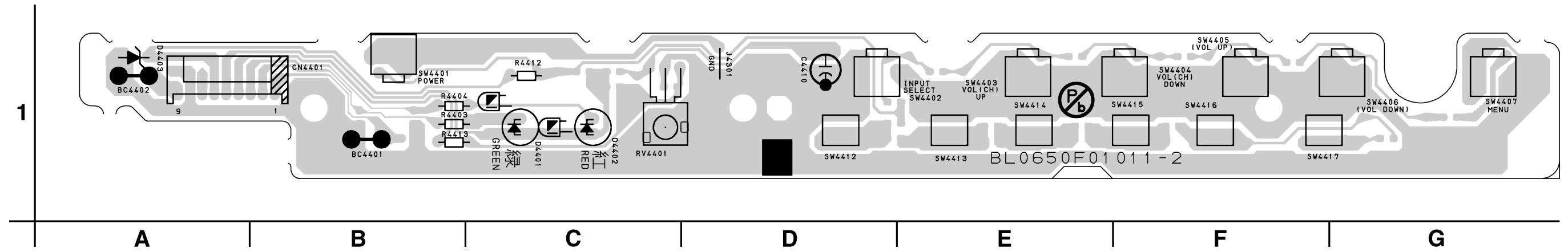
Jack CBA Top View



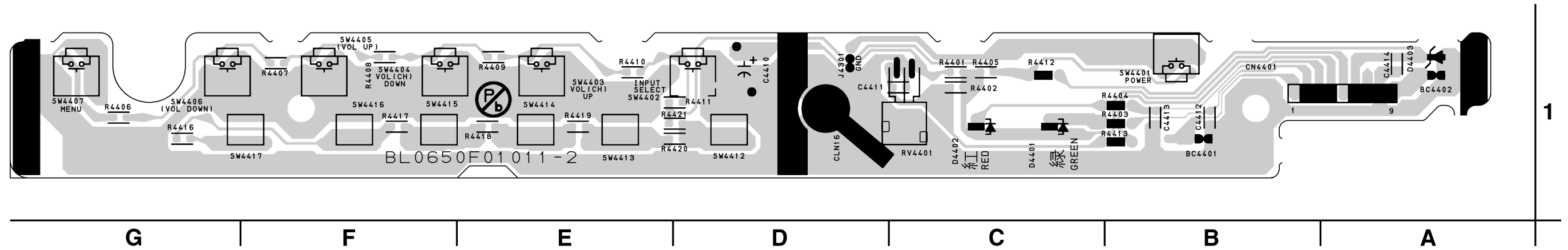
Jack CBA Bottom View



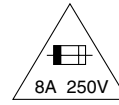
### Switch CBA Top View



### Switch CBA Bottom View



# Filter CBA Top View



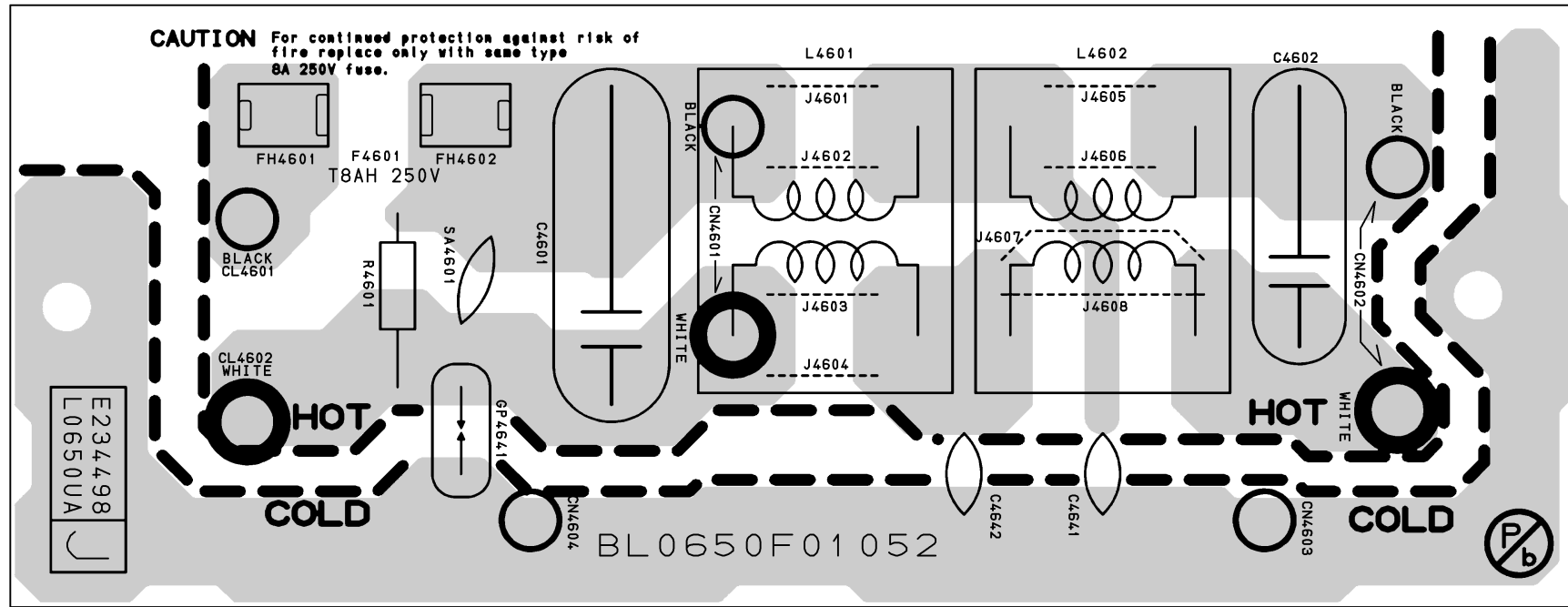
8A 250V

**CAUTION !** : For continued protection against risk of fire, replace only with same type 8A, 250V fuse.  
**ATTENTION** : Utiliser un fusible de rechange de même type de 8A, 250V.

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

**NOTE:**  
 The voltage for parts in hot circuit is measured using hot GND as a common terminal.

1



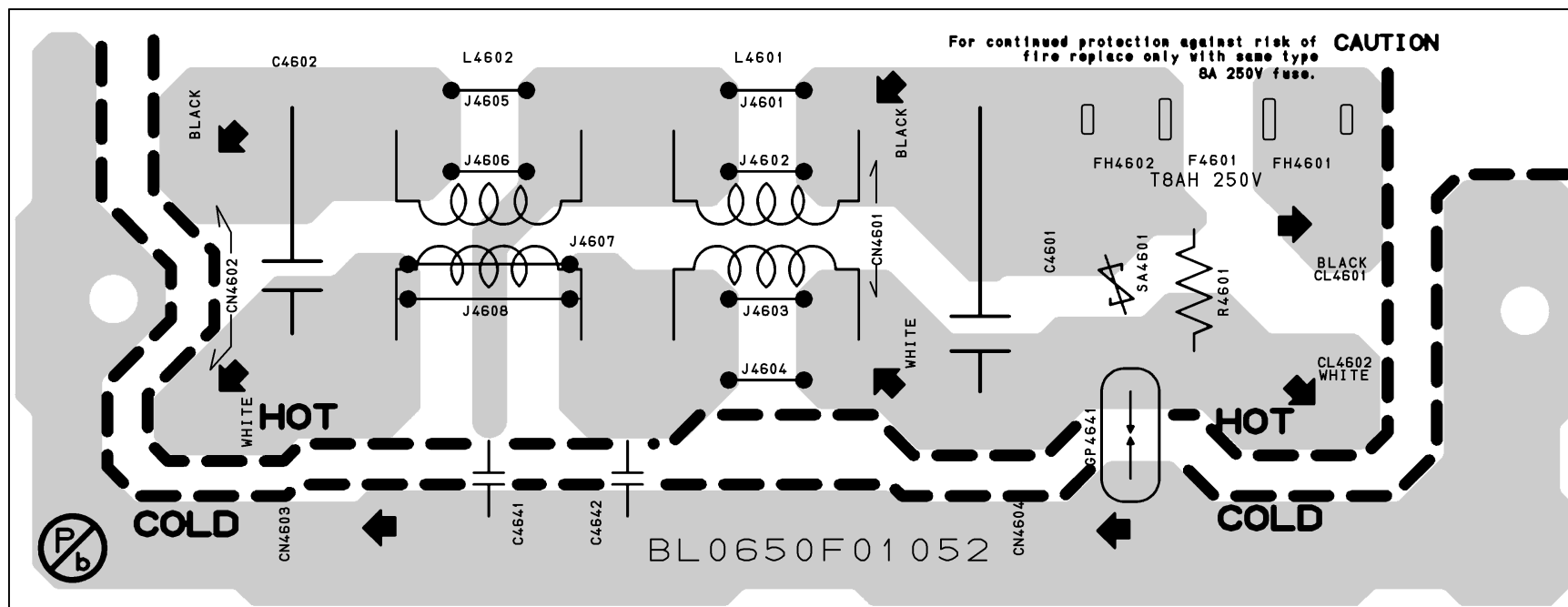
A

B

C

# Filter CBA Bottom View

**CAUTION**  
 For continued protection against risk of fire replace only with same type 8A 250V fuse.

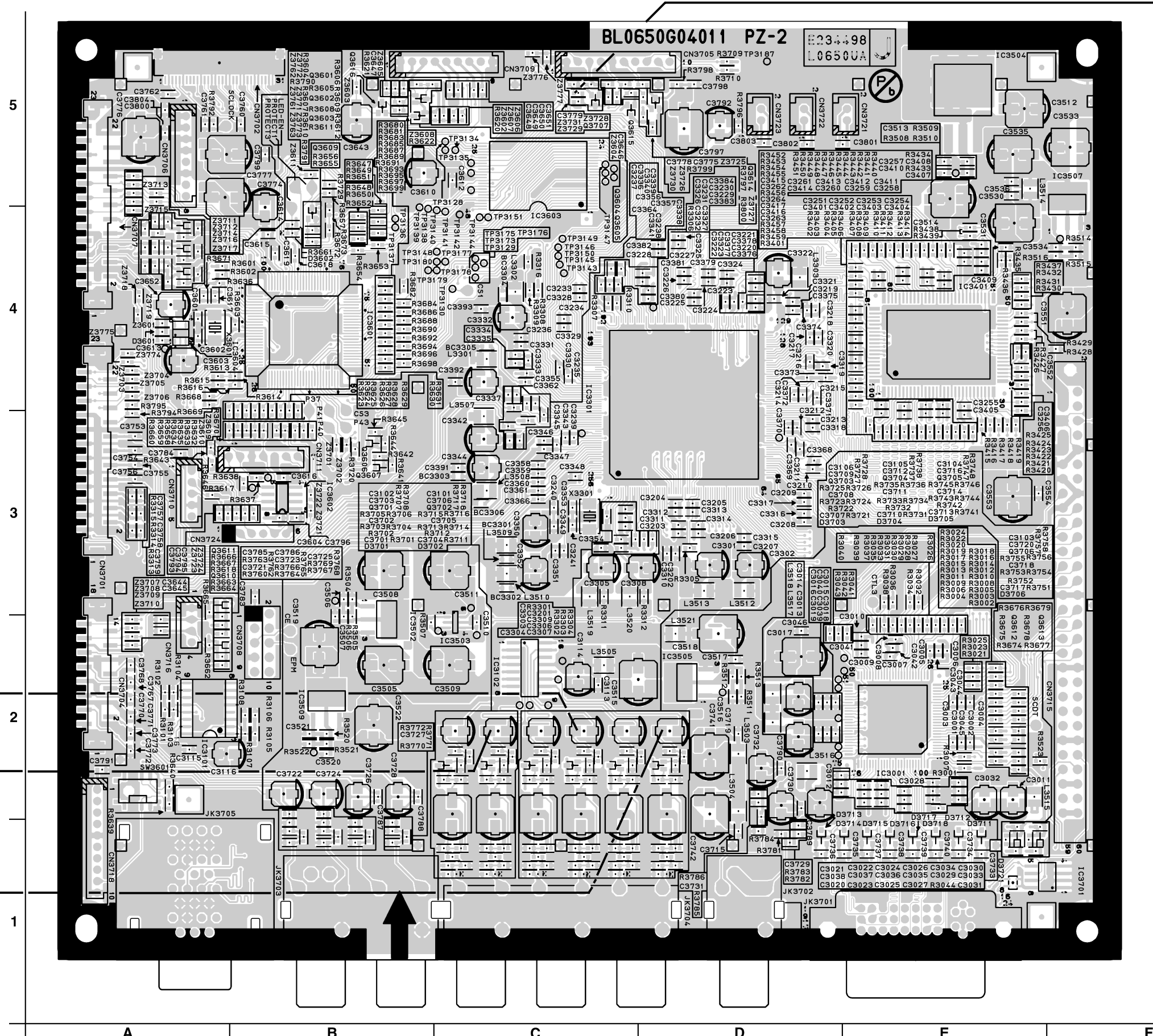


C

B

A

1



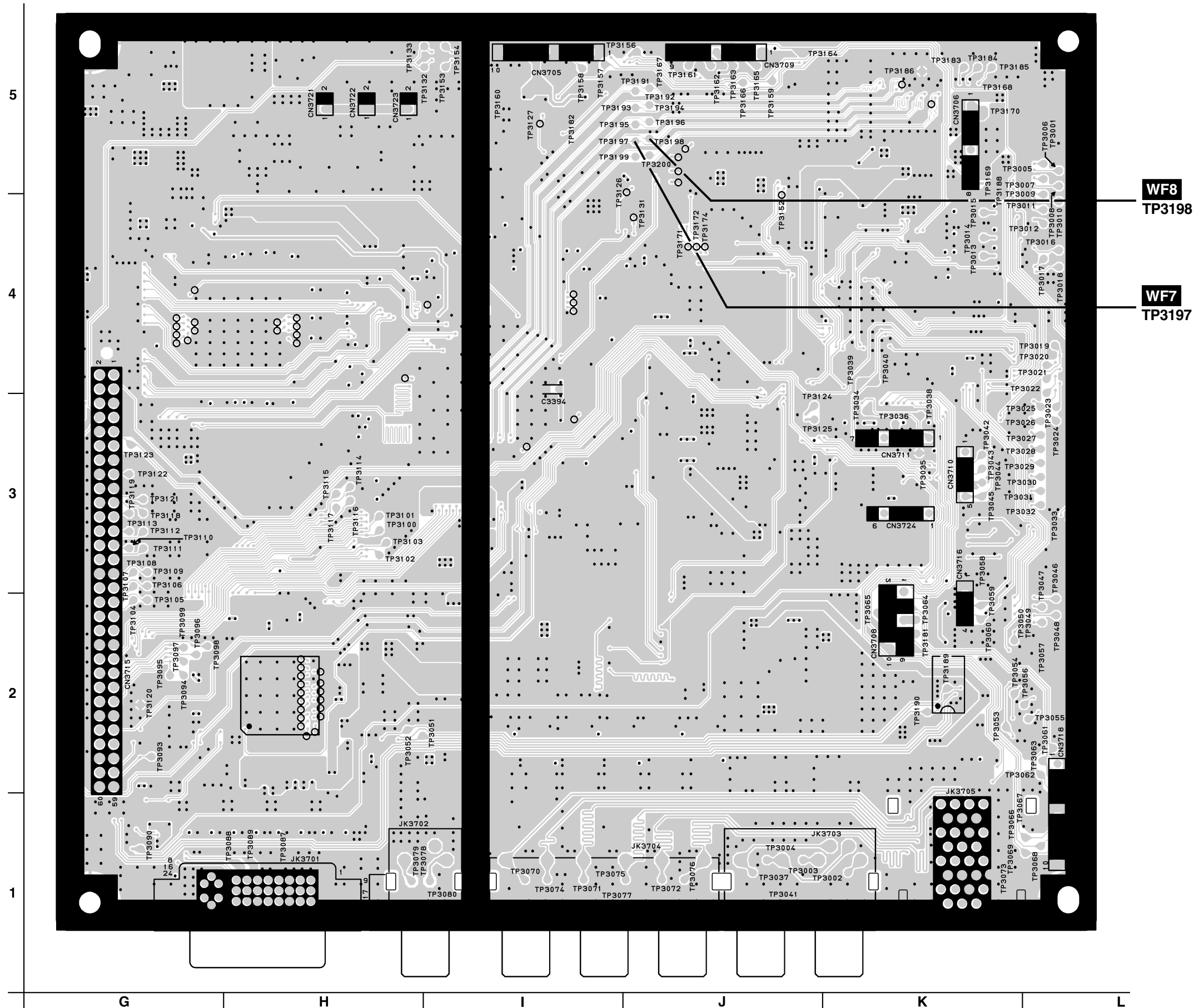
DIGITAL CBA	
Ref No.	Position
ICs	
IC3102	C-2
IC3301	C-4
IC3401	E-4
IC3502	B-2
IC3503	C-2
IC3504	E-5
IC3505	D-2
IC3507	F-5
IC3509	B-2
IC3601	B-4
IC3602	B-3
IC3604	B-4
TRANSISTORS	
Q3602	B-5
Q3604	C-5
Q3605	C-4
Q3606	B-3
Q3607	B-3
Q3609	B-5
Q3614	D-5
Q3615	C-5
Q3701	B-3
Q3702	C-3
Q3703	D-3
Q3704	E-3
Q3705	E-3
Q3706	E-3
Q3707	C-5
CONNECTORS	
CN3701	A-3
CN3702	B-5
CN3704	A-2
CN3705	D-5
CN3706	A-5
CN3707	A-4
CN3709	C-5
CN3718	A-1
TEST POINTS	
TP3191	J-5
TP3192	J-5
TP3193	I-5
TP3194	J-5
TP3195	I-5
TP3196	J-5
TP3197	I-5
TP3198	J-5
TP3199	I-5
TP3200	J-5

WF5  
C3105

WF4  
C3101

WF6  
C3103

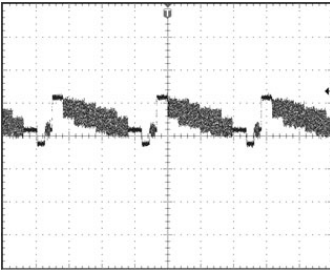
# Digital CBA Bottom View



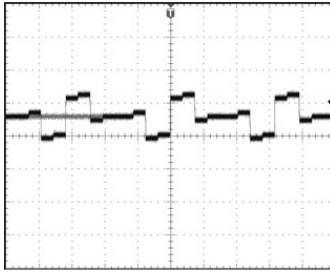


# WAVEFORMS

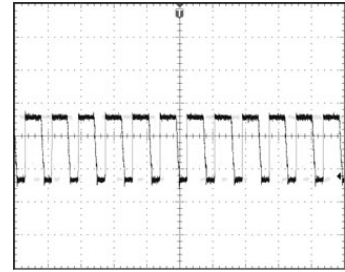
WF1 ~ WF17 = Waveforms to be observed at  
Waveform check points.  
(Shown in Schematic Diagram.)



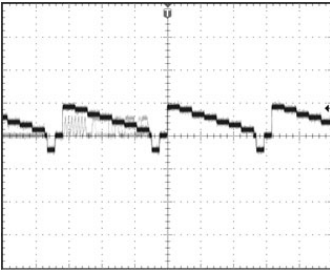
**WF1** 1DIV: 500mV 20 $\mu$ s  
C4208



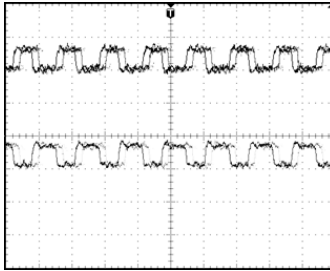
**WF6** 1DIV: 500mV 20 $\mu$ s  
C3103



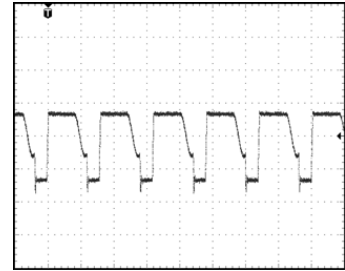
**WF13** 1DIV: 20V 20 $\mu$ s  
D2251 Anode



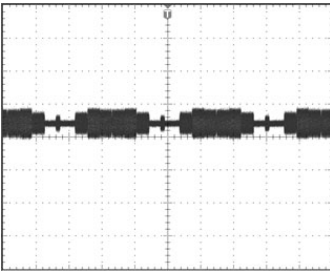
**WF2** 1DIV: 500mV 20 $\mu$ s  
C4204



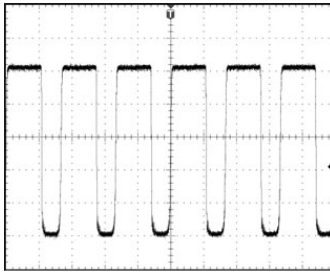
UPPER **WF7** TP3197  
LOWER **WF8** TP3198  
1DIV: 500mV 20ns



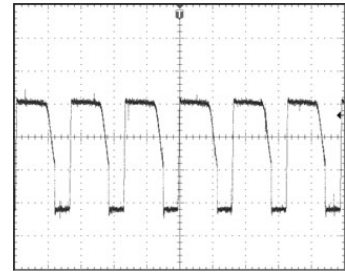
**WF14** 1DIV: 100V 4ms  
D2350 Anode



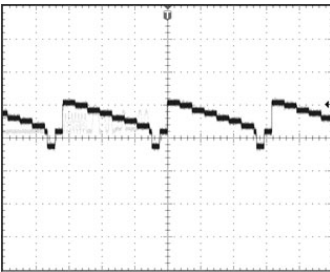
**WF3** 1DIV: 500mV 20 $\mu$ s  
C4206



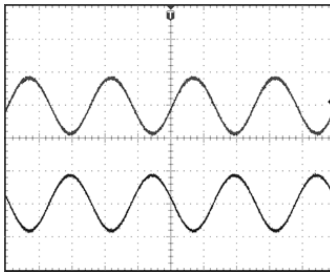
**WF9** 1DIV: 1V 10ms  
Z3731



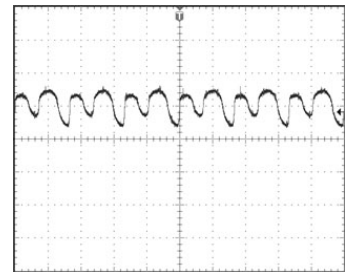
**WF15** 1DIV: 5V 10 $\mu$ s  
D2450 Anode



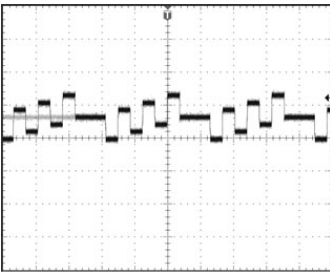
**WF4** 1DIV: 500mV 20 $\mu$ s  
C3101



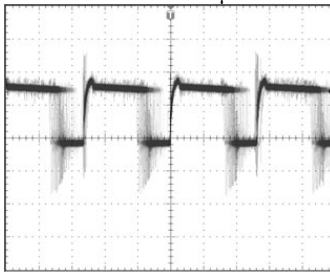
UPPER **WF10** Pin 2 of IC4801  
LOWER **WF11** Pin 4 of IC4801  
1DIV: 5V 400 $\mu$ s



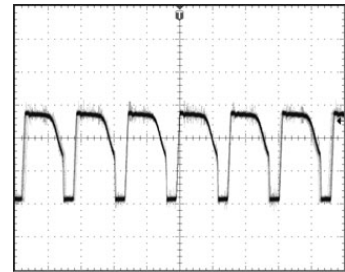
**WF16** 1DIV: 500mV 10ms  
Pin 11 of CN2506



**WF5** 1DIV: 500mV 20 $\mu$ s  
C3105

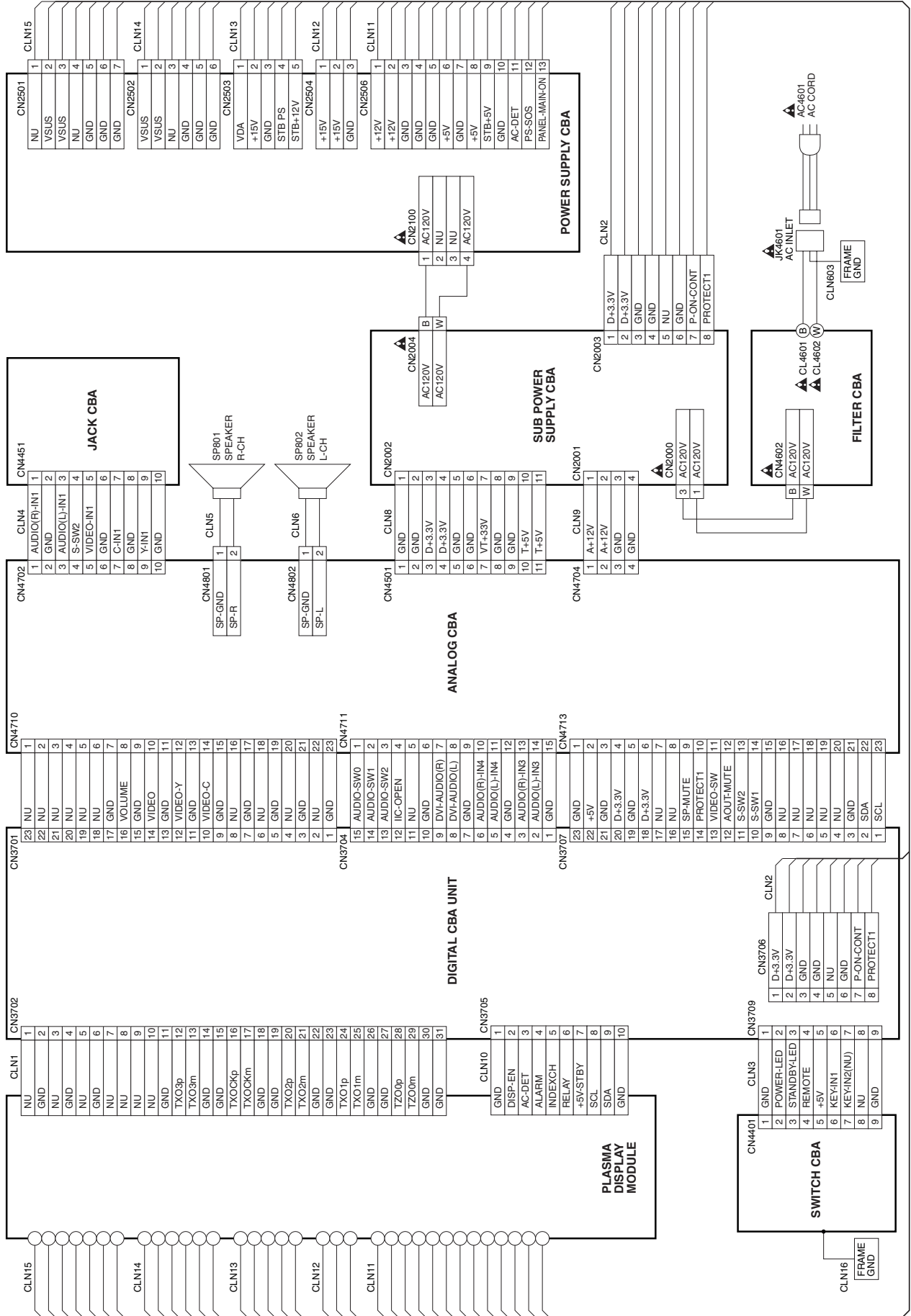


**WF12** 1DIV: 10V 4 $\mu$ s  
D2104 Cathode



**WF17** 1DIV: 5V 4 $\mu$ s  
Pin 9 of T2000

# WIRING DIAGRAM



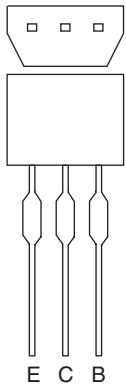
# IC PIN FUNCTIONS

## IC2500 (Micro Controller)

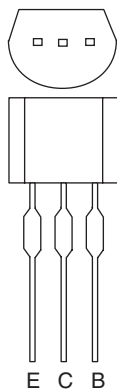
Pin No.	Signal Name	Function
1	THEM-DET	Temperature Sensor Signal
2	PANEL-ON	PANEL-MAIN-ON
3	PROTECT2	Power Supply Protection
4	PROTECT1	Power Supply Protection
5	VREF	Standard Voltage Input for Convert AD
6	RESET	Input Reset Signal
7	GND	GND
8	VCC	Power Supply
9	XIN	Main Clock Input
10	XOUT	Main Clock Output
11	GND	GND
12	LED1	Operation Mode LED Output Signal
13	NU	Not Used
14	NU	Not Used
15	NU	Not Used
16	PS-SOS	PS-SOS Output
17	SUS-ON	SUS Power Supply Control Signal Output
18	SB-ON	SB Power Supply Control Signal Output
19	SB-ON2	SB-ON2 Power Supply Control Signal Output
20	ADDRESS-ON	ADDRESS-ON Power Supply Control Signal Output
21	NU	Not Used
22	AC-DET	AC-DET Detection Signal (AC-DET="L")
23	NU	Not Used
24	RELYA-CONT	RELAY Control Output
25	NU	Not Used
26	PROTECT-OFF	PROTECT Function Invalid Signal
27	FAN3	FAN3 Lock Detection Input
28	FAN2	FAN2 Lock Detection Input
29	FAN1	FAN1 Lock Detection Input
30	AC-DET	Power Failure Detection

Pin No.	Signal Name	Function
31	SUS-MONITOR	SUS-MONITOR
32	ADR-MONITOR	ADR-MONITOR

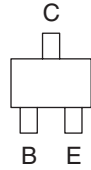
# LEAD IDENTIFICATIONS



2SC2785(F)  
KTA1267(Y)  
KTA1266(GR)  
BA1F4M-T  
KTB985-C-AT/P  
KTD1347-C-AT/P

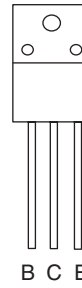


2SC2120-Y(TPE2)

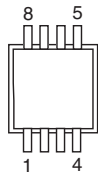


2SA1576A T106Q  
2SC4081 T106 Q

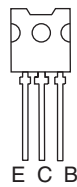
2SA1931(Q)



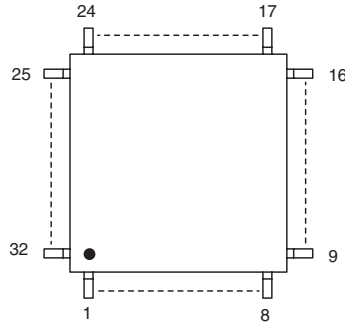
NJM4558D  
UCC2818ANG4



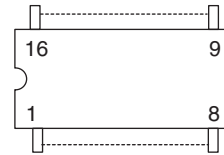
S2Y52



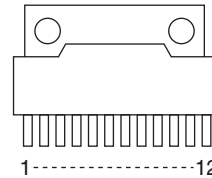
M37544G2A-053GP



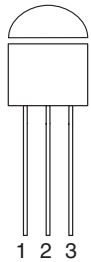
CD4051BNSR



AN7522N

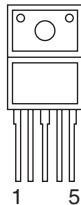


KIA431-AT

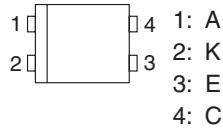


1: R  
2: A  
3: K

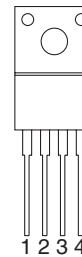
PQ1CG2032FZH



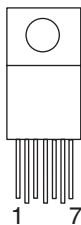
LTV817MBF



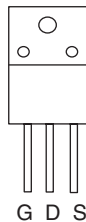
KIA278R00PI/P



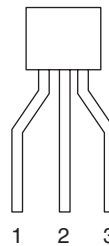
MR5060-7101  
MR2920-7109F12



2SK3935(Q)  
2SK3561



IC-PST600D-2(R59-195)

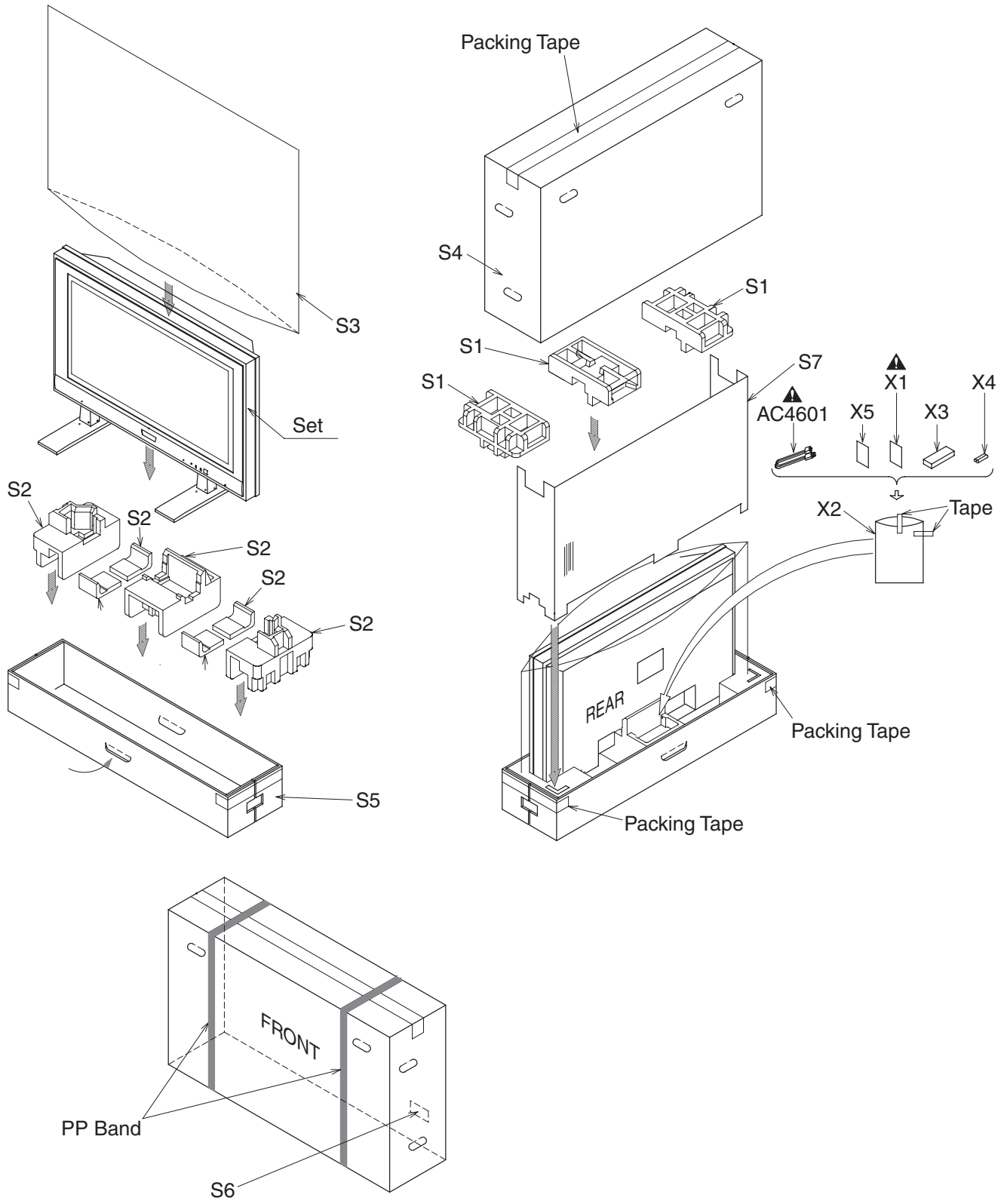


**Note:**

- A: Anode
- K: Cathode
- E: Emitter
- C: Collector
- B: Base
- R: Reference
- S: Source
- G: Gate
- D: Drain



# Packing



# MECHANICAL PARTS LIST


**PRODUCT SAFETY NOTE:** Products marked with a ▲ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

**NOTE:** Parts that are not assigned part numbers (-----) are not available.

Ref. No.	Description	Part No.
A1	STAND COVER L0600UA	0EM000953
A2	STAND L0600UA	0EM201832
A3	STAND BASE L0600UA	0EM201865
A4	RUBBER FOOT L0600UA	0EM408992
A5	JACK COVER L0652UC	1EM020487
A6▲	JACK LABEL(R) L0652UC	-----
A7▲	JACK LABEL(L) L0652UC	-----
A8▲	RATING LABEL L0652UC	-----
A9	FRONT CABINET L0652UC	1EM020490
A10	DECORATION PANEL L0600UA	1EM020390
A11	SENSOR/LED LENS L0600UA	0EM408988
A12	BRAND BADGE L0600UA	0EM409093
A13	REAR CABINET L0600UA	0EM000907
A14	REAR COVER L0600UA	0EM408989
A15▲	AC CORD LABEL L0600UA	-----
A16	JACK HOLDER L0600UA	0EM201861
A28	SW PCB HOLDER L0650UA	1EM120488
A29	CONTROL PLATE L0600UA	0EM302072
B3	EARTH LABEL L0600UA	-----
B4	PANEL HOLDER(U) L0650UA	1EM020408
B5	PANEL HOLDER(L) L0650UA	1EM020407
B6	FILTER HOLDER(L) L0650UA	1EM020467
B7	FILTER HOLDER(S) L0650UA	1EM120669
B8	PANEL HOLDER(S) L0650UA	1EM120490
B10	SPEAKER HOLDER L0650UA	1EM220421
B11	SPEAKER COVER L0600UA	1EM220002
B12	PCB BOX L0650UA	1EM020249
B14	CHASSIS BRACKET L0650UA	1EM020409
B15	PANEL SPACER L0600UA	0EM201835
B16	JACK BRACKET L0650UA	1EM120489
B17	GASKET-B L0600UA	0EM409061
B18	GASKET(L) L0650UA	1EM421664
B25	CUSHION(L) L0650UA	1EM421666
B26	CUSHION(S) L0650UA	1EM421667
B28	CLOTH 10X30XT3.0	1EM420537
B29	PCB POST L0650UA	1EM421819
B30	INSULATION PLATE L0652UC	1EM321040
B31	CAUTION LABEL L3207UH	-----
B32	SCOTCH TAPE #880 25X45 L9710UL	0EZZ00132
CLN1	WIRE ASSEMBLY 17P(LVDS) WX1L0650-001	WX1L0650-001
CLN2	WIRE ASSEMBLY 7P(DIGITAL PCB POWR) WX1L0650-002	WX1L0650-002
CLN3	WIRE ASSEMBLY 9P(SW PCB) WX1L0650-004	WX1L0650-004
CLN4	WIRE ASSEMBLY 10P(JACK PCB) WX1L0650-005	WX1L0650-005
CLN5	WIRE ASSEMBLY 2P(R CH SPEAKER) WX1L0650-006	WX1L0650-006
CLN6	WIRE ASSEMBLY 2P(L CH SPEAKER) WX1L0650-007	WX1L0650-007

Ref. No.	Description	Part No.
CLN8	WIRE ASSEMBLY 11P(ANALOG PCB POWER) WX1L0650-010	WX1L0650-010
CLN9	WIRE ASSEMBLY 4P(AUDIO POWER) WX1L0650-011	WX1L0650-011
CLN10	WIRE ASSEMBLY 11P WX1L0650-012	WX1L0650-012
CLN11	WIRE ASSEMBLY 20P WX1L0650-013	WX1L0650-013
CLN12	WIRE ASSEMBLY 3P WX1L0650-014	WX1L0650-014
CLN13	WIRE ASSEMBLY 5P WX1L0650-015	WX1L0650-015
CLN14	WIRE ASSEMBLY 6P WX1L0650-016	WX1L0650-016
CLN15	WIRE ASSEMBLY 7P WX1L0650-017	WX1L0650-017
CLN16	WIRE ASSEMBLY 1P WX1L0650-018	WX1L0650-018
CLN603	WIRE ASSEMBLY 1P WX1L0600-018	WX1L0600-018
FC1	FERRITE CORE RFC-8	XL06034WD002
FL501	OPTICAL FILTER PS08FZ001	XA00000SM006
JK4601▲	AC INLET FILTER 10GEEG3C	JTDCFZODEL01
L1	SCREW P-TIGHT D3X10 BIND HEAD	GBMP3100
L2	SCREW P-TIGHT M3X8 BIND HEAD+ BLK	GBKP3080
L3	DOUBLE SEMS SCREW M4X25 PAN HEAD+	0EM409073
L4	SCREW B-TIGHT D3X8 BIND HEAD+	GBMB3080
L5	DOUBLE SEMS SCREW M4X8 PAN HEAD+	0EM409074
L6	SCREW P-TIGHT 4X18 BIND HEAD +	GBMP4180
L7	BINDING HEAD SCREW M3X10	SBM33100
L8	DOUBLE SEMS SCREW M3X8 PAN HEAD+	0EM409075
L9	SCREW ASSEMBLED M3X6 BLACK	0EM409078
L10	DOUBLE SEMS SCREW 5X16 PAN HEAD+ 5X16 PAN HEAD+	0EM409236
L11	SCREW P-TIGHT 4X12 BIND HEAD+	GBMP4120
L12	DOUBLE SEMS SCREW M5X20 PAN HEAD+	0EM409077
L14	DOUBLE SEMS SCREW M4X12 PAN HEAD+	1EM420188
L15	SCREW M3X8 BIND HEAD+BLACK	SBK33080
L16	SCREW B-TIGHT D3X8 BIND HEAD + BLK	GBK33080
PDM501	PLASMA DISPLAY MODULE MD-42M8	UDPULSMS001
SP801	SPEAKER S0407F08A	DSD0807XQ003
SP802	SPEAKER S0407F08A	DSD0807XQ003
<b>PACKING</b>		
S1	STYROFOAM TOP L0650UA	1EM020247
S2	STYROFOAM BOTTOM L0650UA	1EM020248
S3	SET BAG(L) L0600UA	0EM302075
S4	CARTON(U) L0652UC	1EM320880
S5	CARTON(L) L0652UC	1EM320860
S6	SERIAL NO. LABEL L0652UC	-----
S7	HOLD PAD L0652UC	1EM421919
<b>ACCESSORIES</b>		
AC4601▲	AC CORD PH8F3EDGNOA-063	WBC0192LW001
X1▲	OWNERS MANUAL ENGLISH/SPANISH	1EMN20890
X2	BAG POLYETHYLENE 235X365XT0.03	0EM408420A
X3	REMOTE CONTROL NE801UD	NE801UD
X4	DRY BATTERY R6P/2S	XB0M451T0001
X5	EASY SET UP GUIDE L0652UC	1EMN20891

# ELECTRICAL PARTS LIST

**PRODUCT SAFETY NOTE:** Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

**NOTES:**

- Parts that are not assigned part numbers (-----) are not available.
- Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%    D.....±0.5%    F.....±1%  
 G.....±2%    J.....±5%    K.....±10%  
 M.....±20%    N.....±30%    Z.....+80/-20%

## DIGITAL CBA

Ref. No.	Description	Part No.
	DIGITAL CBA	1ESA10890

## ANALOG PCB ASSEMBLY

Ref. No.	Description	Part No.
	ANALOG PCB ASSEMBLY Consists of the following:	1ESA11490
	ANALOG CBA	-----
	JACK CBA	-----
	SWITCH CBA	-----

## ANALOG CBA

Ref. No.	Description	Part No.
	ANALOG CBA Consists of the following:	-----
<b>CAPACITORS</b>		
C4201	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C4202	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASSTL100
C4203	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASSTL470
C4204	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASSTL470
C4205	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C4206	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C4207	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASSTL470
C4208	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASSTL470
C4301	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C4302	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASSTL101
C4303	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C4304	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASSTL100
C4502	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASSTL101
C4503	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASSTL101
C4505	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASSTL101
C4512	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASSTL100
C4513	ELECTROLYTIC CAP. 100µF/25V M	CE1EMASSTL101
C4701	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASSTL470
C4702	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C4703	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C4704	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C4705	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C4706	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101

Ref. No.	Description	Part No.
C4707	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4708	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASSTL470
C4709	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C4710	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASSTL101
C4711	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C4712	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4713	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASSTL4R7
C4714	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4715	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASSTL4R7
C4716	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASSTL470
C4717	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C4718	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C4719	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C4720	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C4721	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4722	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4723	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASSTL470
C4724	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C4725	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASSTL101
C4726	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C4727	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4728	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASSTL4R7
C4729	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4730	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASSTL4R7
C4733	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASSTL4R7
C4734	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASSTL4R7
C4735	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4736	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4737	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4738	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C4739	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C4740	CERAMIC CAP B K 0.1µF/50V	CA1J104TU011
C4742	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C4743	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C4746	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C4752	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASSTL101
C4753	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASSTL101
C4754	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4755	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C4801	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASSTL4R7
C4802	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASSTL4R7
C4805	ELECTROLYTIC CAP. 1000µF/25V M	CE1EMZNTL102
C4806	ELECTROLYTIC CAP. 1000µF/25V M	CE1EMZNTL102
C4812	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASSTL1R0
C4813	CHIP CERAMIC CAP. B K 680pF/50V	CHD1JK30B681
C4814	CHIP CERAMIC CAP. B K 680pF/50V	CHD1JK30B681
C4817	PCB JUMPER D0.6-P5.0	JW5.0T
C4819	PCB JUMPER D0.6-P5.0	JW5.0T
C4820	PCB JUMPER D0.6-P5.0	JW5.0T
C4829	CERAMIC CAP B K 0.1µF/50V	CA1J104TU011
C4830	CERAMIC CAP B K 0.1µF/50V	CA1J104TU011
C4848	PCB JUMPER D0.6-P5.0	JW5.0T
C4851	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASSTL1R0
C4852	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASSTL1R0
C4853	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASSTL100
C4855	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C4856	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C4857	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C4858	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASSTL4R7
C4860	ELECTROLYTIC CAP. 100µF/25V M	CE1EMASSTL101



Ref. No.	Description	Part No.
C4862	ELECTROLYTIC CAP. 10 $\mu$ F/50V M	CE1JMASTL100
<b>CONNECTORS</b>		
CN4501	PH CONNECTOR TOP 11P B11B-PH-K-S(LF)(SN)	J3PHC11JG029
CN4701	242 SERIES CONNECTOR 224202105W1	J322C05TG001
CN4702	STRAIGHT CONNECTOR BASE 008283101200000S+	J383C10UG004
CN4704	PH CONNECTOR TOP 4P B4B-PH-K-S(LF)(SN)	J3PHC04JG029
CN4710	TWG CONNECTOR 23P TWG-P23P-A1	J3TWA23TG001
CN4711	TWG CONNECTOR 15P TWG-P15P-A1	J3TWA15TG001
CN4713	TWG CONNECTOR 23P TWG-P23P-A1	J3TWA23TG001
CN4801	CONNECTOR BASE 2P(EH) B 2B-EH-A(LF)(SN)	J3EHC02JG010
CN4802	CONNECTOR BASE 2P(EH) B 2B-EH-A(LF)(SN)	J3EHC02JG010
<b>DIODES</b>		
D4205	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D4206	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D4802	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D4803	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
<b>ICS</b>		
IC4201	IC ANALOG MULTIPLEXER CD4053BNSR	NSZBA0TTY093
IC4301	IC ANALOG MULTIPLEXER CD4051BNSR	NSZBA0TTY157
IC4302	IC ANALOG MULTIPLEXER CD4051BNSR	NSZBA0TTY157
IC4801	AUDIO POWER IC AN7522N	QSZBA0SMS037
IC4802	IC OP AMP NJM4558D	QSZBA0SJR006
<b>COIL</b>		
L4502	INDUCTOR 100 $\mu$ H-K-5FT	LLARKBSTU101
<b>TRANSISTORS</b>		
Q4701	TRANSISTOR 2SC4081 T106 Q	QQ1Q02SC4081
Q4702	TRANSISTOR 2SC4081 T106 Q	QQ1Q02SC4081
Q4703	TRANSISTOR 2SC4081 T106 Q	QQ1Q02SC4081
Q4704	TRANSISTOR 2SC4081 T106 Q	QQ1Q02SC4081
Q4705	TRANSISTOR 2SC4081 T106 Q	QQ1Q02SC4081
Q4706	TRANSISTOR 2SC4081 T106 Q	QQ1Q02SC4081
Q4709	TRANSISTOR 2SA1576A T106Q	QQ1Q2SA1576A
Q4710	RES. BUILT-IN TRANSISTOR BA1F4M-T	QQS200BA1F4M
Q4711	TRANSISTOR 2SC4081 T106 Q	QQ1Q02SC4081
Q4712	TRANSISTOR 2SC4081 T106 Q	QQ1Q02SC4081
Q4803	TRANSISTOR 2SC2785(F)	QQSF02SC2785
<b>RESISTORS</b>		
R4201	CARBON RES. 1/4W J 22 $\Omega$	RCX4JATZ0220
R4217	CHIP RES.(1608) 1/10W J 2.2k $\Omega$	RRXAJR5Z0222
R4218	CARBON RES. 1/4W J 560 $\Omega$	RCX4JATZ0561
R4220	CARBON RES. 1/4W J 10k $\Omega$	RCX4JATZ0103
R4221	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4222	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4223	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4224	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4225	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4226	CARBON RES. 1/4W J 10k $\Omega$	RCX4JATZ0103
R4227	CARBON RES. 1/4W J 10k $\Omega$	RCX4JATZ0103
R4228	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4229	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4230	CARBON RES. 1/4W J 10k $\Omega$	RCX4JATZ0103
R4231	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4232	CARBON RES. 1/4W J 330 $\Omega$	RCX4JATZ0331
R4233	CARBON RES. 1/4W J 1k $\Omega$	RCX4JATZ0102
R4303	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4304	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4305	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4306	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4309	CHIP RES.(1608) 1/10W J 100 $\Omega$	RRXAJR5Z0101

Ref. No.	Description	Part No.
R4310	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4311	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4312	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4315	CARBON RES. 1/4W J 10k $\Omega$	RCX4JATZ0103
R4316	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4323	CARBON RES. 1/4W J 10k $\Omega$	RCX4JATZ0103
R4324	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4325	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4326	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4329	CHIP RES.(1608) 1/10W J 100 $\Omega$	RRXAJR5Z0101
R4330	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4331	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4332	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4335	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4336	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4338	CARBON RES. 1/4W J 22 $\Omega$	RCX4JATZ0220
R4701	CARBON RES. 1/4W J 75 $\Omega$	RCX4JATZ0750
R4702	CARBON RES. 1/4W J 100 $\Omega$	RCX4JATZ0101
R4703	CHIP RES.(1608) 1/10W J 680 $\Omega$	RRXAJR5Z0681
R4705	CHIP RES.(1608) 1/10W J 33k $\Omega$	RRXAJR5Z0333
R4706	CHIP RES.(1608) 1/10W J 39k $\Omega$	RRXAJR5Z0393
R4707	CHIP RES.(1608) 1/10W J 390 $\Omega$	RRXAJR5Z0391
R4708	CARBON RES. 1/4W J 100 $\Omega$	RCX4JATZ0101
R4709	CHIP RES.(1608) 1/10W J 75 $\Omega$	RRXAJR5Z0750
R4710	CARBON RES. 1/4W J 100 $\Omega$	RCX4JATZ0101
R4711	CHIP RES.(1608) 1/10W J 680 $\Omega$	RRXAJR5Z0681
R4713	CHIP RES.(1608) 1/10W J 33k $\Omega$	RRXAJR5Z0333
R4714	CHIP RES.(1608) 1/10W J 39k $\Omega$	RRXAJR5Z0393
R4715	CHIP RES.(1608) 1/10W J 390 $\Omega$	RRXAJR5Z0391
R4716	CARBON RES. 1/4W J 100 $\Omega$	RCX4JATZ0101
R4717	CARBON RES. 1/4W J 75 $\Omega$	RCX4JATZ0750
R4718	CARBON RES. 1/4W J 100 $\Omega$	RCX4JATZ0101
R4719	CHIP RES.(1608) 1/10W J 390 $\Omega$	RRXAJR5Z0391
R4721	CHIP RES.(1608) 1/10W J 33k $\Omega$	RRXAJR5Z0333
R4722	CHIP RES.(1608) 1/10W J 39k $\Omega$	RRXAJR5Z0393
R4723	CHIP RES.(1608) 1/10W J 390 $\Omega$	RRXAJR5Z0391
R4724	CARBON RES. 1/4W J 100 $\Omega$	RCX4JATZ0101
R4725	CHIP RES.(1608) 1/10W J 47k $\Omega$	RRXAJR5Z0473
R4726	CARBON RES. 1/4W J 3.9k $\Omega$	RCX4JATZ0392
R4727	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4728	CHIP RES.(1608) 1/10W J 47k $\Omega$	RRXAJR5Z0473
R4729	CARBON RES. 1/4W J 3.9k $\Omega$	RCX4JATZ0392
R4730	CHIP RES.(1608) 1/10W J 10k $\Omega$	RRXAJR5Z0103
R4731	CARBON RES. 1/4W J 75 $\Omega$	RCX4JATZ0750
R4732	CARBON RES. 1/4W J 100 $\Omega$	RCX4JATZ0101
R4733	CHIP RES.(1608) 1/10W J 680 $\Omega$	RRXAJR5Z0681
R4735	CHIP RES.(1608) 1/10W J 33k $\Omega$	RRXAJR5Z0333
R4736	CHIP RES.(1608) 1/10W J 39k $\Omega$	RRXAJR5Z0393
R4737	CHIP RES.(1608) 1/10W J 390 $\Omega$	RRXAJR5Z0391
R4738	CARBON RES. 1/4W J 100 $\Omega$	RCX4JATZ0101
R4739	CARBON RES. 1/4W J 75 $\Omega$	RCX4JATZ0750
R4740	CARBON RES. 1/4W J 100 $\Omega$	RCX4JATZ0101
R4741	CHIP RES.(1608) 1/10W J 680 $\Omega$	RRXAJR5Z0681
R4743	CHIP RES.(1608) 1/10W J 33k $\Omega$	RRXAJR5Z0333
R4744	CHIP RES.(1608) 1/10W J 39k $\Omega$	RRXAJR5Z0393
R4745	CHIP RES.(1608) 1/10W J 390 $\Omega$	RRXAJR5Z0391
R4746	CHIP RES.(1608) 1/10W J 100 $\Omega$	RRXAJR5Z0101
R4747	CHIP RES.(1608) 1/10W J 75 $\Omega$	RRXAJR5Z0750
R4748	CHIP RES.(1608) 1/10W J 100 $\Omega$	RRXAJR5Z0101
R4749	CHIP RES.(1608) 1/10W J 390 $\Omega$	RRXAJR5Z0391
R4751	CHIP RES.(1608) 1/10W J 33k $\Omega$	RRXAJR5Z0333
R4752	CHIP RES.(1608) 1/10W J 39k $\Omega$	RRXAJR5Z0393
R4753	CHIP RES.(1608) 1/10W J 390 $\Omega$	RRXAJR5Z0391

Ref. No.	Description	Part No.
R4754	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R4755	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R4756	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R4757	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R4758	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R4759	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R4760	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R4761	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R4762	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R4771	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R4772	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R4773	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R4774	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R4775	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R4776	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R4777	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R4801	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R4802	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R4809	METAL OXIDE FILM RES. 2W J 0.22 Ω	RN02R22ZU001
R4810	METAL OXIDE FILM RES. 2W J 0.22 Ω	RN02R22ZU001
R4813	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R4818	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R4829	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R4830	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R4831	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R4832	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R4834	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R4851	CHIP RES.(1608) 1/10W J 1M Ω	RRXAJR5Z0105
R4852	CHIP RES.(1608) 1/10W J 1M Ω	RRXAJR5Z0105
R4853	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R4854	CHIP RES.(1608) 1/10W J 1M Ω	RRXAJR5Z0105
R4857	CHIP RES.(1608) 1/10W F 3.3k Ω	RRXAFR5Z3301
R4858	CHIP RES. 1/10W F 1.8k Ω	RRXAFR5Z1801
R4859	CHIP RES.(1608) 1/10W F 220 Ω	RRXAFR5Z2200
R4862	CHIP RES.(1608) 1/10W F 3.3k Ω	RRXAFR5Z3301
R4863	CHIP RES. 1/10W F 1.8k Ω	RRXAFR5Z1801
R4864	CHIP RES.(1608) 1/10W F 220 Ω	RRXAFR5Z2200
R4880	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
<b>MISCELLANEOUS</b>		
BC4506	PCB JUMPER D0.6-P5.0	JW5.0T
BC4507	PCB JUMPER D0.6-P5.0	JW5.0T
BC4508	PCB JUMPER D0.6-P5.0	JW5.0T
BC4701	PCB JUMPER D0.6-P5.0	JW5.0T
BC4702	PCB JUMPER D0.6-P5.0	JW5.0T
BC4703	PCB JUMPER D0.6-P5.0	JW5.0T
BC4704	PCB JUMPER D0.6-P5.0	JW5.0T
BC4705	PCB JUMPER D0.6-P5.0	JW5.0T
BC4706	PCB JUMPER D0.6-P5.0	JW5.0T
BC4707	PCB JUMPER D0.6-P5.0	JW5.0T
BC4708	PCB JUMPER D0.6-P5.0	JW5.0T
JK4701	Y/C JACK 1P(SW) UKF51-5586N	JYEL040JC003
JK4702	RCA JACK YKC21-4616N	JYRL030JC008
JK4703	RCA JACK(WHITE/RED) YKC21-4042N	JXRL020JC024
JS4801	PCB JUMPER D0.6-P5.0	JW5.0T
JS4802	PCB JUMPER D0.6-P5.0	JW5.0T
JS4803	PCB JUMPER D0.6-P5.0	JW5.0T
PB-3	HEAT SINK PKF ASSEMBLY L0650UZ	1EM421000A

## JACK CBA

Ref. No.	Description	Part No.
	JACK CBA Consists of the following:	-----
<b>CONNECTOR</b>		
CN4451	CONNECTOR BASE 008283101100000S+	J383C10UG003
<b>MISCELLANEOUS</b>		
JK4401	Y/C JACK YKF51-5558N	JYEJ040JC001
JK4402	RCA JACK AV1-06-022 WHITE	JXRJ010RP011
JK4403	RCA JACK AV1-06-023 RED	JYRJ010RP002
JK4404	RCA JACK AV1-06-021 YELLOW	JXRJ010RP010

## SWITCH CBA

Ref. No.	Description	Part No.
	SWITCH CBA Consists of the following:	-----
<b>CAPACITORS</b>		
C4410	ELECTROLYTIC CAP. 47μF/10V M H7	CE1AMASSL470
C4411	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C4412	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4413	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C4414	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
<b>CONNECTOR</b>		
CN4401	PH CONNECTOR SIDE 9P S9B-PH-K-S(LF)(SN)	J3PHC09JG030
<b>DIODES</b>		
D4401	LED 333GT/E	NPHZ00333GTE
D4402	LED 333HT/E-K	NPHK00333HTE
<b>RESISTORS</b>		
R4401	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R4402	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJR5Z0332
R4403	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R4404	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R4405	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R4409	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R4410	CHIP RES.(1608) 1/10W J 1.5k Ω	RRXAJR5Z0152
R4411	CHIP RES.(1608) 1/10W J 1.5k Ω	RRXAJR5Z0152
R4412	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R4413	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
<b>SWITCHES</b>		
SW4401	TACT SWITCH SKHHLPA010	SST0101AL056
SW4402	TACT SWITCH SKHHLPA010	SST0101AL056
SW4403	TACT SWITCH SKHHLPA010	SST0101AL056
SW4404	TACT SWITCH SKHHLPA010	SST0101AL056
<b>MISCELLANEOUS</b>		
BC4401	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC4402	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
RV4401	PHOTO LINK MODULE RPM7137-H9	USESJRSRM008

## FILTER CBA

Ref. No.	Description	Part No.
	FILTER CBA Consists of the following:	1ESA10896
<b>CAPACITORS</b>		
C4601	METALIZED FILM CAP. 1μF/275V K	CT2E105HJE08
C4602	METALIZED FILM CAP 0.22μF/275V K	CT2E224HJE07
C4641▲	SAFETY CAP. 2200pF/250V	CCD2EMA0E222
C4642	SAFETY CAP. 2200pF/250V	CCD2EMA0E222
<b>COILS</b>		
L4601▲	FILTER LLBG00ZY2015	LLBG00ZY2015

Ref. No.	Description	Part No.
L4602	FILTER LLBG00ZY2015	LLBG00ZY2015
<b>RESISTOR</b>		
R4601	SOLID RES.(UL) 1/2W 3.3M Ω	RSX2335KE010
<b>MISCELLANEOUS</b>		
CL4601	WIRE ASSEMBLY 1P WX1L0600-020	WX1L0600-020
CL4602	WIRE ASSEMBLY 1P WX1L0600-019	WX1L0600-019
CN4602	WIRE ASSEMBLY 2P WX1L0650-003	WX1L0650-003
GP4641	GAP G3.10D	FAZ000LD6004
F4601	FUSE 8A/250V(PB FREE) 0215008.MXP	PBGZ20BAG022
FH4601	FUSE HOLDER MSF-015	XH01Z00LY001
FH4602	FUSE HOLDER MSF-015	XH01Z00LY001
SA4601	SURGE ABSORBER JVR-07N471K	NVQZVR07N471

## POWER SUPPLY CBA

Ref. No.	Description	Part No.
	POWER SUPPLY CBA Consists of the following:	1ESA11368
<b>CAPACITORS</b>		
C2100	METALIZED FILM CAP 0.47μF/275V K	CT2E474HJE08
C2114	METALIZED PLYESTER CAP. 1μF/630V K	CT2K105MS064
C2115▲	ELECTROLYTIC CAP. 470μF/450V (D35MM)	CA2N471NC227
C2116	P.P. CAP 0.001μF/1.6K J	CA3C102VC010
C2117	CERAMIC CAP B K 0.0039μF/50V	CA1J392TU011
C2118	CERAMIC CAP B K 0.0018μF/50V	CA1J182TU011
C2119	METALIZED POLYESTER FILM CAP. 2.2μF/50V J	CT1J225DT040
C2120	CERAMIC CAP.(AX) B K 150pF/50V	CCA1JKT0B151
C2121	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C2122	ELECTROLYTIC CAP. 220μF/25V M(105C)	CE1EMASTJ221
C2123	CERAMIC CAP B K 560pF/50V	CCA1JKT0B561
C2124	CERAMIC CAP B K 0.01μF/50V	CA1J103TU011
C2125	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTJ1R0
C2126	METALIZED POLYESTER FILM CAP. 2.2μF/50V J	CT1J225DT040
C2127	STACKED FILM CAP. 0. 0.15μF/50V J	CMA1JJS00154
C2128	CERAMIC CAP B K 0.1μF/50V	CA1J104TU011
C2129	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C2131	CERAMIC CAP B K 0.01μF/50V	CA1J103TU011
C2202	CERAMIC CAP. B K 220pF/2KV	CCD3DKD0B221
C2203	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C2204	FILM CAP.(P) 0.001μF/50V J	CMA1JJS00102
C2205	FILM CAP.(P) 0.002μF/50V J	CMA1JJS00222
C2206	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C2207	ELE.CAP 100μF/25V M(105C)	CE1EMASTJ101
C2208	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTJ1R0
C2209	CERAMIC CAP. B K 3300pF/1KV	CCD3AKD0B332
C2210	CERAMIC CAP B K 0.1μF/50V	CA1J104TU011
C2211	PCB JUMPER D0.6-P5.0	JW5.0T
C2212	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C2250	CERAMIC CAP. B K 1500pF/1KV	CCD3AKD0B152
C2254	ELECTROLYTIC CAP. 1500μF/200V (D30MM)	CA2D152NC226
C2255	ELECTROLYTIC CAP. 1500μF/200V (D30MM)	CA2D152NC226
C2256	ELECTROLYTIC CAP. 22μF/50V M(105C)	CE1JMASTJ220
C2257	TF CAP. 1μF/50V J	CT1J105MS044
C2258	P.P. CAPACITOR 0.0027μF/630V K	CT2K272DT037
C2259	CERAMIC CAP B K 0.1μF/50V	CA1J104TU011
C2260	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTJ1R0
C2302	CERAMIC CAP. B K 220pF/2KV	CCD3DKD0B221
C2303	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C2304	CERAMIC CAP B K 2200pF/50V	CA1J222TU011
C2305	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C2306	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103

Ref. No.	Description	Part No.
C2307	ELE.CAP 100μF/25V M(105C)	CE1EMASTJ101
C2308	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTJ1R0
C2309	PP CAP. 0.0033μF/1.6KV J	CA3C332VC010
C2310	CERAMIC CAP B K 0.1μF/50V	CA1J104TU011
C2311	PCB JUMPER D0.6-P5.0	JW5.0T
C2350	PP CAP. 0.0033μF/1.6KV J	CA3C332VC010
C2351	ELECTROLYTIC CAP. 470μF/100V M	CE2AMZNTJ471
C2352	ELECTROLYTIC CAP. 470μF/100V M	CE2AMZNTJ471
C2353	TF CAP. 1μF/50V J	CT1J105MS044
C2354	FILM CAP.(P) 0.1μF/100V J	CMA2AJS00104
C2356	ELECTROLYTIC CAP. 470μF/100V M	CE2AMZNTJ471
C2357	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C2358	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C2400	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C2401	ELE.CAP 100μF/25V M(105C)	CE1EMASTJ101
C2402	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTJ100
C2403	ELECTROLYTIC CAP. 100μF/35V M	CE1GMASTJ101
C2404	PP CAP. 0.0033μF/1.6KV J	CA3C332VC010
C2405	CERAMIC CAP. BN J 220pF/2KV	CCD3DKA0B221
C2406	CERAMIC CAP.(AX) B K 180pF/50V	CCA1JKT0B181
C2407	CERAMIC CAP B K 2200pF/50V	CA1J222TU011
C2408	FILM CAP.(P) 0.001μF/50V J	CMA1JJS00102
C2409	CERAMIC CAP B K 0.1μF/50V	CA1J104TU011
C2410	ELE.CAP 100μF/25V M(105C)	CE1EMASTJ101
C2411	ELECTROLYTIC CAP. 33μF/16V M	CE1CMASTJ330
C2412	PCB JUMPER D0.6-P5.0	JW5.0T
C2450	FILM CAP.(P) 0.1μF/50V J	CMA1JJS00104
C2453	ELECTROLYTIC CAP. 2200μF/16V M	CE1CMZNTJ222
C2454	ELECTROLYTIC CAP. 2200μF/16V M	CE1CMZNTJ222
C2455	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C2456	ELECTROLYTIC CAP. 2200μF/10V M	CE1AMZNTJ222
C2457	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C2458	ELECTROLYTIC CAP. 2200μF/10V M	CE1AMZNTJ222
C2459	ELECTROLYTIC CAP. 2200μF/10V M	CE1AMZNTJ222
C2461▲	ELECTROLYTIC CAP. 2200μF/25V M	CE1EMZNTJ222
C2462	ELE.CAP 100μF/25V M(105C)	CE1EMASTJ101
C2463	ELECTROLYTIC CAP. 1000μF/16V M(VR/HC)	CE1CMZNTJ102
C2465	ELECTROLYTIC CAP. 2200μF/25V M	CE1EMZNTJ222
C2466	ELECTROLYTIC CAP. 1000μF/16V M(VR/HC)	CE1CMZNTJ102
C2467	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C2500	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZTFZ104
C2501	ELECTROLYTIC CAP. 220μF/10V M	CE1AMASTJ221
C2502	CERAMIC CAP B K 0.1μF/50V	CA1J104TU011
C2503	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTJ1R0
C2504	FILM CAP.(P) 0.0015μF/50V J	CMA1JJS00152
C2505	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C2506	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
<b>CONNECTORS</b>		
CN2100▲	CONNECTOR B2P4-VH(LF)(SN)	J3VHC02JG013
CN2501	EH CONNECTOR TOP 7P B 7B-EH-A(LF)(SN)	J3EHC07JG010
CN2502	EH CONNECTOR B 6B-EH-A(LF)(SN)	J3EHC06JG010
CN2503	EH CONNECTOR B 5B-EH-A(LF)(SN)	J3EHC05JG010
CN2504	PH CONNECTOR TOP 3P B3B-PH-K-S(LF)(KS)	J3PHC03JG029
CN2506	CONNECTOR BASE TOP 13P B13B-PH-K-S(LF)(KS)	J3PHC13JG029
<b>DIODES</b>		
D2100	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2101▲	DIODE BRIDGE D25XB60-7101	QDEZD25XB607
D2102	SCHOTTKY BARRIER DIODE ERA81-004Q	QDLZRA81004Q
D2103▲	ZENER DIODE MTZJT-7724B	QDTB00MTZJ24
D2104	SCHOTTKY BARRIER DIODE ERA81-004Q	QDLZRA81004Q
D2105▲	ZENER DIODE MTZJT-7724B	QDTB00MTZJ24
D2106▲	LOWLOSS DIODE SF8L60USM-7100	QDEZL60USM7

Ref. No.	Description	Part No.
D2109	ZENER DIODE MTZJT-7718B	QDTB00MTZJ18
D2110	SCHOTTKY BARRIER DIODE ERA81-004Q	QDLZRA81004Q
D2112	DIODE 1N5397-B	NDLZ001N5397
D2113	DIODE 1N5397-B	NDLZ001N5397
D2150	PCB JUMPER D0.6-P10.0	JW10.0T
D2153	DIODE 1ZC36(Q)	QDLZ001ZC36Q
D2200	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2201	DIODE 05NU42	QDTZ005NU42Q
D2202	DIODE FR104-B	NDLZ000FR104
D2203	ZENER DIODE MTZJT-774.3B	QDTB00MTZJ4R3
D2204	ZENER DIODE MTZJT-7710B	QDTB00MTZJ10
D2205	DIODE FR104-B	NDLZ000FR104
D2206▲	DIODE 05NU42	QDTZ005NU42Q
D2210▲	ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
D2211	DIODE 1ZC24(Q)	QDLZ001ZC24Q
D2212	DIODE 1ZC12(Q)	QDLZ001ZC12Q
D2213	DIODE 1ZC12(Q)	QDLZ001ZC12Q
D2214	DIODE FR104-B	NDLZ000FR104
D2215	ZENER DIODE MTZJT-775.6B	QDTB00MTZJ5R6
D2250B▲	SCHOTTKY BARRIER DIODE YG123S15	QDWZYG123S15
D2251	DIODE FR104-B	NDLZ000FR104
D2252	ZENER DIODE MTZJT-775.6B	QDTB00MTZJ5R6
D2253	DIODE FR104-B	NDLZ000FR104
D2254	DIODE FR104-B	NDLZ000FR104
D2300	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2301	DIODE 05NU42	QDTZ005NU42Q
D2302	DIODE FR104-B	NDLZ000FR104
D2303	ZENER DIODE MTZJT-7716B	QDTB00MTZJ16
D2304	PCB JUMPER D0.6-P5.0	JW5.0T
D2305	DIODE FR104-B	NDLZ000FR104
D2306▲	DIODE 05NU42	QDTZ005NU42Q
D2307▲	ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
D2308	DIODE 1ZC24(Q)	QDLZ001ZC24Q
D2309	DIODE 1ZC12(Q)	QDLZ001ZC12Q
D2310	DIODE 1ZC12(Q)	QDLZ001ZC12Q
D2311	DIODE FR104-B	NDLZ000FR104
D2312	PCB JUMPER D0.6-P5.0	JW5.0T
D2350▲	LOWLOSS DIODE SF5LC40-7100	QDEZSF5LC407
D2351	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2400	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2401	ZENER DIODE MTZJT-7716B	QDTB00MTZJ16
D2402	ZENER DIODE MTZJT-7718B	QDTB00MTZJ18
D2403	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2404	DIODE FR104-B	NDLZ000FR104
D2405▲	DIODE 05NU42	QDTZ005NU42Q
D2406▲	DIODE 05NU42	QDTZ005NU42Q
D2407▲	ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
D2408	DIODE FR104-B	NDLZ000FR104
D2409	ZENER DIODE MTZJT-7710B	QDTB00MTZJ10
D2410	DIODE 1ZC24(Q)	QDLZ001ZC24Q
D2411	DIODE 1ZC12(Q)	QDLZ001ZC12Q
D2412	DIODE 1ZC12(Q)	QDLZ001ZC12Q
D2413	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2414	DIODE FR104-B	NDLZ000FR104
D2415	PCB JUMPER D0.6-P5.0	JW5.0T
D2450▲	SCHOT BAR DIODE ERC81-004	QDPZERC81004
D2452▲	SCHOT BAR DIODE ERC84-009	QDLZERC84009
D2454	ZENER DIODE MTZJT-7718B	QDTB00MTZJ18
D2455▲	SCHOTTKY BARRIER DIODE ERC81-006	QDQZERC81006
D2459	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2461	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2463	ZENER DIODE MTZJT-776.8B	QDTB00MTZJ6R8
D2500	LED(GREEN) LTL-1CHGE	NPQZLTL1CHGE

Ref. No.	Description	Part No.
D2502	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2503	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
<b>ICS</b>		
IC2100▲	POWER FACTOR PREREGULATOR UCC2818ANG4	NSZBA0STY226
IC2101▲	PHOTO COUPLER LTV817MBF	NPEBLTV817MF
IC2200▲	POWER SUPPLY IC MODULE MR5060-7101	QSZBA0SSD005
IC2201▲	PHOTO COUPLER LTV817MBF	NPEBLTV817MF
IC2202▲	PHOTO COUPLER LTV817MBF	NPEBLTV817MF
IC2250▲	IC SHUNT REGULATOR KIA431-AT	NSZLA0TJY001
IC2300▲	POWER SUPPLY IC MODVLE MR2920-7109F12	QSZBA0SSD004
IC2301▲	PHOTO COUPLER LTV817MBF	NPEBLTV817MF
IC2302▲	PHOTO COUPLER LTV817MBF	NPEBLTV817MF
IC2350▲	IC SHUNT REGULATOR KIA431-AT	NSZLA0TJY001
IC2400▲	POWER SUPPLY IC MODVLE MR2920-7109F12	QSZBA0SSD004
IC2401▲	PHOTO COUPLER LTV817MBF	NPEBLTV817MF
IC2402▲	PHOTO COUPLER LTV817MBF	NPEBLTV817MF
IC2450▲	IC SHUNT REGULATOR KIA431-AT	NSZLA0TJY001
IC2451▲	IC REGULATOR KIA278R00PI/P	NSZBA0SJY044
IC2452▲	IC REGULATOR KIA278R12PI/P	NSZBA0SJY050
IC2500	MICRO COMPUTER M37544G2A-053GP	QSZAA0RHT083
IC2501	IC RESET IC-PST600D-2(R59-195	QSBLA0TMM010
<b>COILS</b>		
L2100▲	FILTER LLBG00ZY2015	LLBG00ZY2015
L2103▲	TOROIDAL COIL HKBS-20D130-1020WRPS	LLBT00ZBF005
<b>TRANSISTORS</b>		
Q2101▲	FET 2SK3935(Q)	QFQZ2SK3935Q
Q2102▲	FET 2SK3935(Q)	QFQZ2SK3935Q
Q2103▲	TRANSISTOR KTD1347-C-AT/P	NQSCKTD1347P
Q2104▲	TRANSISTOR KTB985-C-AT/P	NQSCOKTB985P
Q2105	TRANSISTOR 2SC2785(F)	QFSF02SC2785
Q2106	TRANSISTOR 2SC2785(F)	QFSF02SC2785
Q2108	TRANSISTOR KTA1266(GR)	NQS40KTA1266
Q2200	TRANSISTOR 2SC2785(F)	QFSF02SC2785
Q2201	TRANSISTOR 2SC2785(F)	QFSF02SC2785
Q2300	TRANSISTOR 2SC2785(F)	QFSF02SC2785
Q2400	TRANSISTOR KTA1266(GR)	NQS40KTA1266
Q2401	TRANSISTOR 2SC2120-Y(TPE2)	QFSY02SC2120
Q2402	TRANSISTOR 2SC2785(F)	QFSF02SC2785
Q2403	TRANSISTOR 2SC2785(F)	QFSF02SC2785
Q2404	TRANSISTOR 2SC2785(F)	QFSF02SC2785
Q2450▲	TRANSISTOR S2Y52(FUNAI)	QQWZ000S2Y52
Q2451	TRANSISTOR 2SC2785(F)	QFSF02SC2785
Q2452▲	TRANSISTOR S2Y52(FUNAI)	QQWZ000S2Y52
Q2453	TRANSISTOR 2SC2785(F)	QFSF02SC2785
<b>RESISTORS</b>		
R2100▲	SOLID RES.(UL) 1/2W 3.3M Ω	RSX2335KE010
R2101▲	CEMENT RES.(PB FREE) 5W K 6.8 Ω	RW056R8KA049
R2102▲	CEMENT RES.(PB FREE) 5W K 6.8 Ω	RW056R8KA049
R2103	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2104	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2105▲	METAL PLATE CEMENT RESISTOR 10W K 0.15 Ω	RW10R15KA051
R2107	PCB JUMPER D0.6-P5.0	JW5.0T
R2108	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R2109▲	CARBON RES. 1/4W J 15 Ω	RCX4JATZ0150
R2111	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R2112▲	CARBON RES. 1/4W J 15 Ω	RCX4JATZ0150
R2114	METAL FILM RES. 1/4W F 3.9k Ω	RMX4FATH3901
R2115	CARBON RES. 1/4W J 120 Ω	RCX4JATZ0121
R2116	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R2117	CARBON RES. 1/4W J 3k Ω	RCX4JATZ0302

Ref. No.	Description	Part No.
R2118	CARBON RES. 1/4W J 30k Ω	RCX4JATZ0303
R2119	METAL FILM RES. 1/4W F 3.9k Ω	RMX4FATH3901
R2120	CARBON RES. 1/4W J 120 Ω	RCX4JATZ0121
R2121	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2122	CARBON RES. 1/4W J 220k Ω	RCX4JATZ0224
R2123	CARBON RES. 1/4W J 220k Ω	RCX4JATZ0224
R2124	PCB JUMPER D0.6-P5.0	JW5.0T
R2125	PCB JUMPER D0.6-P5.0	JW5.0T
R2126	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100
R2127	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100
R2128	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R2129	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2130	CARBON RES. 1/4W J 270k Ω	RCX4JATZ0274
R2131	CARBON RES. 1/4W J 270k Ω	RCX4JATZ0274
R2132	CARBON RES. 1/4W J 220k Ω	RCX4JATZ0224
R2133	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R2134	CARBON RES. 1/4W J 20k Ω	RCX4JATZ0203
R2135	METAL FILM RES. 1/4W F 130k Ω	RDC1303HH001
R2136	METAL FILM RES. 1/4W F 130k Ω	RDC1303HH001
R2137	METAL FILM RES. 1/4W F 10k Ω	RMX4FATH1002
R2138	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R2139	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2140	PCB JUMPER D0.6-P5.0	JW5.0T
R2141	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2142	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2143	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2144	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2145	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2146▲	SOLID RES.(UL) 1/2W 3.9M Ω	RSX2335KE010
R2147▲	METAL OXIDE FILM RES. 1W J 100k Ω	RN01104ZU001
R2151	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2152	CARBON RES. 1/4W J 240k Ω	RCX4JATZ0244
R2153	METAL FILM RES. 1/4W F 130k Ω	RDC1303HH001
R2154	METAL FILM RES. 1/4W F 130k Ω	RDC1303HH001
R2201▲	METAL PLATE CEMENT RESISTOR 5W K 0.082 Ω	RW05L82KA051
R2204	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R2205	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2206	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2207	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R2208	PCB JUMPER D0.6-P5.0	JW5.0T
R2209	PCB JUMPER D0.6-P5.0	JW5.0T
R2210	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2211	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R2212	METAL OXIDE FILM RES. 2W J 100k Ω	RN02104ZU001
R2213	METAL OXIDE FILM RES. 2W J 100k Ω	RN02104ZU001
R2214	METAL OXIDE FILM RES. 2W J 100k Ω	RN02104ZU001
R2215	METAL OXIDE FILM RES. 2W J 100k Ω	RN02104ZU001
R2216	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2217	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2251	PCB JUMPER D0.6-P20.0	JW20.0T
R2252	METAL OXIDE FILM RES. 3W J 47k Ω	RN03473ZU001
R2253	CARBON RES. 1/4W J 2.4k Ω	RCX4JATZ0242
R2254	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2255	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R2256	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R2257	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R2258	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R2259	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R2260	PCB JUMPER D0.6-P5.0	JW5.0T
R2261	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2262	CARBON RES. 1/4W J 270k Ω	RCX4JATZ0274
R2263	CARBON RES. 1/4W J 270k Ω	RCX4JATZ0274

Ref. No.	Description	Part No.
R2264	CARBON RES. 1/4W J 270k Ω	RCX4JATZ0274
R2265	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R2266	CERAMIC CAP B K 0.01μF/50V	CA1J103TU011
R2267	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R2268	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R2269	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R2301▲	METAL PLATE CEMENT RESISTOR 3W K 0.33 Ω	RW03R33KA051
R2304	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R2305	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R2306	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R2307	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R2308	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R2309	PCB JUMPER D0.6-P5.0	JW5.0T
R2310	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2311	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R2312	METAL OXIDE FILM RES. 2W J 100k Ω	RN02104ZU001
R2313	METAL OXIDE FILM RES. 2W J 100k Ω	RN02104ZU001
R2350	METAL OXIDE FILM RES. 3W J 10 Ω	RN03100ZU001
R2351	CARBON RES. 1/4W J 2.4k Ω	RCX4JATZ0242
R2352	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2353	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R2354	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2355	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R2356	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R2357	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2358	PCB JUMPER D0.6-P5.0	JW5.0T
R2360	CARBON RES. 1/4W J 82k Ω	RCX4JATZ0823
R2361	CARBON RES. 1/4W J 82k Ω	RCX4JATZ0823
R2362	CARBON RES. 1/4W J 82k Ω	RCX4JATZ0823
R2363	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2364	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R2366	CERAMIC CAP B K 0.01μF/50V	CA1J103TU011
R2400	PCB JUMPER D0.6-P5.0	JW5.0T
R2401	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2402	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2403	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2404	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2405	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R2406	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R2407	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2408	PCB JUMPER D0.6-P12.5	JW12.5T
R2409	METAL OXIDE FILM RES. 3W J 100k Ω	RN03104ZU001
R2410▲	METAL PLATE CEMENT RESISTOR 2W K 0.39 Ω	RW02R39KA051
R2412	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R2413	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2414	CARBON RES. 1/4W J 910 Ω	RCX4JATZ0911
R2415	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R2416	PCB JUMPER D0.6-P5.0	JW5.0T
R2418	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2419	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2450	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2451	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R2453	METAL FILM RES. 1/4W F 2.7k Ω	RMX4FATH2701
R2454	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2455	PCB JUMPER D0.6-P5.0	JW5.0T
R2456	METAL FILM RES. 1/4W F 2.7k Ω	RMX4FATH2701
R2457	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R2458	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R2459	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R2460	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R2462	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473

Ref. No.	Description	Part No.
R2463	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2464	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2465	CARBON RES. 1/4W J 2.4k Ω	RCX4JATZ0242
R2466	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R2467	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R2468	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R2469	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R2470	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2471	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2472	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2473	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2474	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2475	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R2482	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R2483	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R2500	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R2501	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2502	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2503	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2504	PCB JUMPER D0.6-P5.0	JW5.0T
R2505	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R2506	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2508	PCB JUMPER D0.6-P5.0	JW5.0T
R2509	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R2511	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2512	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R2513	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2514	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2515	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2516	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2517	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2518	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R2520	PCB JUMPER D0.6-P5.0	JW5.0T
R2522	PCB JUMPER D0.6-P5.0	JW5.0T
R2524	PCB JUMPER D0.6-P5.0	JW5.0T
R2525	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2526	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2527	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2528	PCB JUMPER D0.6-P5.0	JW5.0T
R2529	PCB JUMPER D0.6-P5.0	JW5.0T
R2530	PCB JUMPER D0.6-P5.0	JW5.0T
R2531	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
<b>MISCELLANEOUS</b>		
BC2200	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC2300	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC2400▲	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
F2100▲	FUSE 8A/250V(PB FREE) 0215008.MXP	PBGZ20BAG022
F2300	FUSE (2.0A/250V) 0215002.MXP	PBGZ20BAG012
F2400	FUSE (2.0A/250V) 0215002.MXP	PBGZ20BAG012
FH2100	FUSE HOLDER MSF-015	XH01Z00LY001
FH2101	FUSE HOLDER MSF-015	XH01Z00LY001
FH2300	FUSE HOLDER MSF-015	XH01Z00LY001
FH2301	FUSE HOLDER MSF-015	XH01Z00LY001
FH2400	FUSE HOLDER MSF-015	XH01Z00LY001
FH2401	FUSE HOLDER MSF-015	XH01Z00LY001
JP2100	PCB JUMPER D0.6-P10.0	JW10.0T
JP2101	PCB JUMPER D0.6-P10.0	JW10.0T
JP2104	PCB JUMPER D0.6-P20.0	JW20.0T
JP2105	PCB JUMPER D0.6-P20.0	JW20.0T
JP2106	PCB JUMPER D0.6-P20.0	JW20.0T
JP2107	PCB JUMPER D0.6-P25.0	JW25.0T
JP2108	PCB JUMPER D0.6-P5.0	JW5.0T

Ref. No.	Description	Part No.
JP2110	PCB JUMPER D0.6-P5.0	JW5.0T
JP2113	PCB JUMPER D0.6-P20.0	JW20.0T
JP2114	PCB JUMPER D0.6-P25.0	JW25.0T
JP2115	PCB JUMPER D0.6-P20.0	JW20.0T
JP2116	PCB JUMPER D0.6-P22.5	JW22.5T
JP2200	PCB JUMPER D0.6-P17.5	JW17.5T
JP2201	PCB JUMPER D0.6-P17.5	JW17.5T
JP2350	PCB JUMPER D0.6-P10.0	JW10.0T
JP2450	PCB JUMPER D0.6-P10.0	JW10.0T
JP2501	PCB JUMPER D0.6-P12.5	JW12.5T
JP2502	PCB JUMPER D0.6-P10.0	JW10.0T
PB-1	HEAT SINK PKH ASSEMBLY L3201UB	1EM420648
PB-5	HEAT SINK(EX)ASSEMBLY L0650UZ	1EM421622A
PB-6	HEAT SINK(EZ)ASSEMBLY L0650UZ	1EM421625
PB-7	POW HEAT SINK PKG ASSEMBLY L3201UB	1EM420650
PB-8	HEAT SINK(EY)ASSEMBLY L0650UZ	1EM421624
RY2100▲	POWER RELAY SDT-S-112DMR	MRNDC12QN016
SA2100▲	SURGE ABSORBER JVR-07N471K	NVQZVR07N471
T2200▲	SWITCHING TRANS ETS49BP153AD	LTT00CPMS026
T2300▲	SWITCHING TRANS 5748	LTT00CPKT195
T2400▲	SWITCHING TRANS 5747	LTT00CPKT196
TH2500	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
VR2250	CARBON P.O.T. VZ067TL1 B203 PB(F)	VRCB203HH014
VR2350	CARBON P.O.T. VZ067TL1 B502 PB(F)	VRCB502HH014
X2500	CERAMIC RESONATOR Q4.0MT(QCR-4.0MT05)	FY0405PQUA01

## SUB POWER SUPPLY CBA

Ref. No.	Description	Part No.
	SUB POWER SUPPLY CBA Consists of the following:	1ESA10913
<b>CAPACITORS</b>		
C2000▲	METALIZED FILM CAP. 0.1μF/275V K	CT2E104HJE06
C2001	CERAMIC CAP. F Z 0.01μF/500V	CCD2JZD0F103
C2002	CERAMIC CAP. F Z 0.01μF/500V	CCD2JZD0F103
C2003▲	ELECTROLYTIC CAP. 220μF/200V M	CE2DMZNTJ221
C2004	CERAMIC CAP. 0.0033μF/2KV	CCD3DKPOB332
C2007	CERAMIC CAP. B K 1000pF/2KV	CCD3DKPOB102
C2009	FILM CAP.(P) 0.033μF/50V J	CA1J333MS029
C2010	FILM CAP.(P) 0.068μF/50V J	CA1J683MS029
C2051	CERAMIC CAP B K 0.01μF/50V	CA1J103TU011
C2052	CERAMIC CAP B K 0.01μF/50V	CA1J103TU011
C2054	ELECTROLYTIC CAP. 3300μF/6.3V M	CE0KMZNTJ332
C2055	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASTJ102
C2056	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASTJ102
C2057	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASTJ102
C2058	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZTFZ104
C2063	ELECTROLYTIC CAP. 10μF/100V M	CE2AMASTJ100
C2064	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASTJ100
C2065	CERAMIC CAP B K 0.01μF/50V	CA1J103TU011
C2068	ELECTROLYTIC CAP. 2200μF/25V M	CE1EMZNTJ222
C2069	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C2070	ELECTROLYTIC CAP. 1000μF/16V M(VR/HC)	CE1CMZNTJ102
C2072	ELECTROLYTIC CAP. 1000μF/25V M	CE1EMZNTJ102
C2073	ELECTROLYTIC CAP. 0.1μF/50V M	CE1JMASTJR10
C2074	ELECTROLYTIC CAP. 1000μF/10V M	CE1AMZNTJ102
C2075	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZTFZ104
C2076	FILM CAP.(P) 0.01μF/50V J	CA1J103MS029
C2077	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASTJ1R0
<b>CONNECTORS</b>		
CN2000▲	CONNECTOR BASE 2P B2P3-VH-3.3(LF)(SN)	J3VHC02JG012
CN2001	PH CONNECTOR TOP 4P B4B-PH-K-S (LF)(SN)	J3PHC04JG029

Ref. No.	Description	Part No.
CN2002	PH CONNECTOR TOP 11P B11B-PH-K-S(LF)(SN)	J3PHC11JG029
CN2003	PH CONNECTOR TOP 8P B8B-PH-K-S(LF)(SN)	J3PHC08JG029
CN2004▲	WIRES ASSEMBLY WX1L0650-009	WX1L0650-009
<b>DIODES</b>		
D2000▲	DIODE 1N5397-B	NDLZ001N5397
D2001▲	DIODE 1N5397-B	NDLZ001N5397
D2002▲	DIODE 1N5397-B	NDLZ001N5397
D2003▲	DIODE 1N5397-B	NDLZ001N5397
D2005▲	ZENER DIODE MTZJT-7727B	QDTB00MTZJ27
D2006	FAST RECOVERY DIODE ERB44-08	QDPZ0ERB4408
D2007	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2008	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2009▲	ZENER DIODE MTZJT-7718B	QDTB00MTZJ18
D2010	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D2011	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2012	PCB JUMPER D0.6-P5.0	JW5.0T
D2051▲	SCHOTTKY BARRIER DIODE YG832C03R	QDWZG832C03R
D2052	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2055▲	DIODE FR104-B	NDLZ000FR104
D2057▲	ZENER DIODE MTZJT-7736B	QDTB00MTZJ36
D2058▲	SCHOTTKY BARRIER DIODE YG801C09R	QDWZG801C09R
D2059	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2060	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D2061	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2062▲	SCHOT BAR DIODE ERC84-009	QDLZERC84009
D2063	SCHOT BAR DIODE ERC81-004	QDPZERC81004
D2064	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2067▲	DIODE 1ZC20(Q)	QDLZ001ZC20Q
D2069	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2070	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2071▲	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D2072▲	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
<b>ICs</b>		
IC2000▲	PHOTO COUPLER LTV817MBF	NPEBLTV817MF
IC2001▲	PHOTO COUPLER LTV817MBF	NPEBLTV817MF
IC2050	IC SHUNT REGULATOR KIA431-AT	NSZLA0TJY001
IC2051▲	REGULATOR PQ1CG2032FZH	QSZBA0SSH071
<b>COILS</b>		
L2050	PCB JUMPER D0.6-P7.5	JW7.5T
L2051	POWER INDUCTOR RCR1616-470M	LLC470MSF009
<b>TRANSISTORS</b>		
Q2000	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q2001▲	MOS FET 2SK3561	QFWZ02SK3561
Q2002▲	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q2050▲	TRANSISTOR 2SA1931(Q)	QQZZ2SA1931Q
Q2051	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q2052	TRANSISTOR KTA1267(Y)	NQSYOKTA1267
Q2053	TRANSISTOR 2SC2785(F)	QQSF02SC2785
<b>RESISTORS</b>		
R2000	SOLID RES.(UL) 1/2W 8.2M Ω	RSX2825KE010
R2001▲	CEMENT RES 3W K 1.2 Ω	RW031R2PG007
R2002	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R2003	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R2004	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R2005	CARBON RES. 1/4W J 820k Ω	RCX4JATZ0824
R2006	CARBON RES. 1/4W J 820k Ω	RCX4JATZ0824
R2007▲	CARBON RES. 1/4W J 560k Ω	RCX4JATZ0564
R2008	CARBON RES. 1/4W J 560k Ω	RCX4JATZ0564
R2009	CARBON RES. 1/4W J 560k Ω	RCX4JATZ0564
R2010	PCB JUMPER D0.6-P5.0	JW5.0T
R2012	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101

Ref. No.	Description	Part No.
R2013	METAL OXIDE FILM RES. 2W J 68k Ω	RN02683ZU001
R2015	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R2016	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2017	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2018	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R2019▲	METAL OXIDE FILM RES. 2W J 0.39 Ω	RN02R39ZU001
R2021	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2022	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R2023▲	SOLID RES.(UL) 1/2W 3.3M Ω	RSX2335KE010
R2024	METAL OXIDE FILM RES. 2W J 68k Ω	RN02683ZU001
R2050	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R2051	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2052	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R2053	METALIZED FILM RES. 1/4W F 680 Ω	RMX4FATH6800
R2054	METALIZED FILM RES. 1/4W F 120 Ω	RMX4FATH1200
R2055	METALIZED FILM RES. 1/4W F 2.2k Ω	RMX4FATH2201
R2058	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2059	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R2060	METAL OXIDE FILM RES. 1W J 680 Ω	RN01681ZU001
R2061	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R2062	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2063	METAL OXIDE FILM RES. 2W J 180 Ω	RN02181ZU001
R2064	METAL OXIDE FILM RES. 2W J 180 Ω	RN02181ZU001
R2065	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R2066	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R2067	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2068	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2069	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R2070	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2074	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R2075	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2076	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2077	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2078	METAL OXIDE FILM RES. 2W J 0.15 Ω	RN02R15DP004
R2079	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R2080	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R2081	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R2082	CARBON RES. 1/4W J 13k Ω	RCX4JATZ0133
R2084	CEMENT RESISTOR 5W J 6.8 Ω	RW056R8PAK10
R2085	CARBON RES. 1/4W J 120k Ω	RCX4JATZ0124
R2086	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
<b>MISCELLANEOUS</b>		
BC2001	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC2002	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC2050	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC2051	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
F2000▲	FUSE 4A/250V(PB FREE) 0215004.MXP	PBGZ20BAG021
FH2000	FUSE HOLDER MSF-015	XH01Z00LY001
FH2001	FUSE HOLDER MSF-015	XH01Z00LY001
PB-1	HEAT SINK PKH ASSEMBLY L3201UB	1EM420648
PB-2	HEAT SINK(PIH)ASSEMBLY L2405UF	OEM408978
SA2000▲	SURGE ABSORBER JVR-07N471K	NVQZVR07N471
T2000▲	SWITHING TRANS 5775	LT00CPKT186

# PLASMA DISPLAY MODULE SECTION

## PLASMA DISPLAY

### 6842PF M

#### Plasma Display Module Section

- Safety Precautions
- About Lead Free Solder (PbF)
- CBA Structure & Parts List
- Set Serial Label Information
- Trouble Shooting Guide
- Adjustment Procedure

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# Safety Precautions

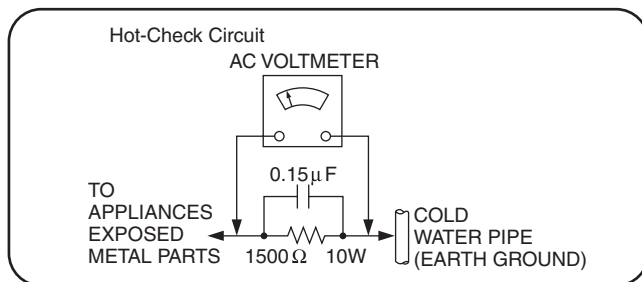
## General Guidelines

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

## Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between  $1M\Omega$  and  $5.2M\Omega$ .

When the exposed metal does not have a return path to the chassis, the reading must be  $\infty$ .



## Leakage Current Hot Check (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a  $1.5k\Omega$ , 10 watts resistor, in parallel with a  $0.15\mu F$  capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

# Prevention of Electro Static Discharge (ESD) to 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 electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, 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 (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges 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 (ESD) sufficient to damage an ES device.)

### IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by  $\triangle$  in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

# About Lead Free Solder (PbF)


**Note:** Lead is listed as (Pb) in the periodic table of elements.

In the information below, Pb will refer to Lead solder, and PbF will refer to Lead Free Solder.

The Lead Free Solder used in our manufacturing process and discussed below is (Sn+Ag+Cu).

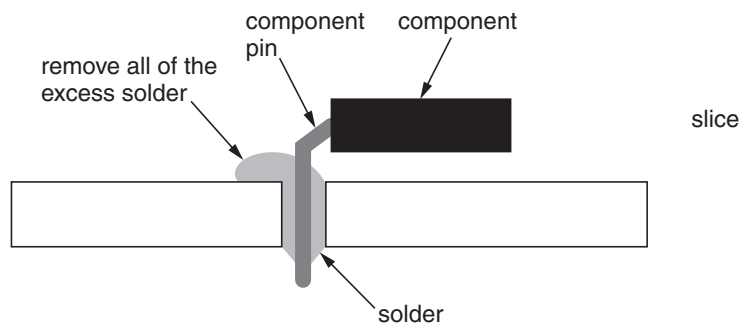
That is Tin (Sn), Silver (Ag) and Copper (Cu) although other types are available.

This model uses Pb Free solder in it's manufacture due to environmental conservation issues. For service and repair work, we'd suggest the use of Pb free solder as well, although Pb solder may be used.

PCBs manufactured using lead free solder will have the PbF within a leaf Symbol  stamped on the back of PCB.

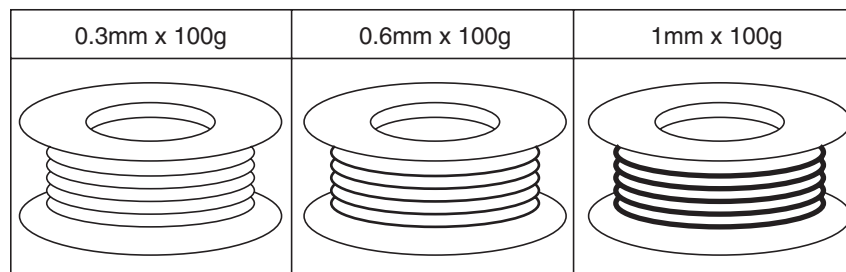
## Caution

- Pb free solder has a higher melting point than standard solder. Typically the melting point is 50 ~ 70 °F (30 ~ 40 °C) higher. Please use a high temperature soldering iron and set it to 700 ± 20 °F (370 ± 10 °C).
- Pb free solder will tend to splash when heated too high (about 1100 °F or 600 °C).
- If you must use Pb solder, please completely remove all of the Pb free solder on the pins or solder area before applying Pb solder. If this is not practical, be sure to heat the Pb free solder until it melts, before applying Pb solder.
- After applying PbF solder to double layered boards, please check the component side for excess solder which may flow onto the opposite side (see figure below).

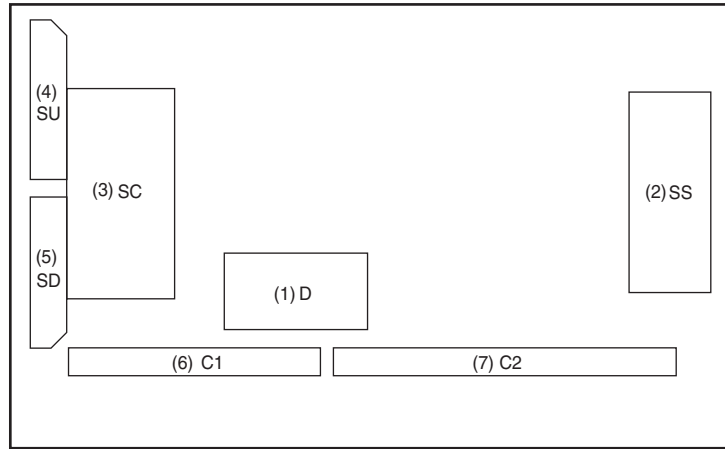


## Suggested Pb free solder

There are several kinds of Pb free solder available for purchase. This product uses Sn+Ag+Cu (tin, silver, copper) solder. However, Sn+Cu (tin, copper), Sn+Zn+Bi (tin, zinc, bismuth) solder can also be used.

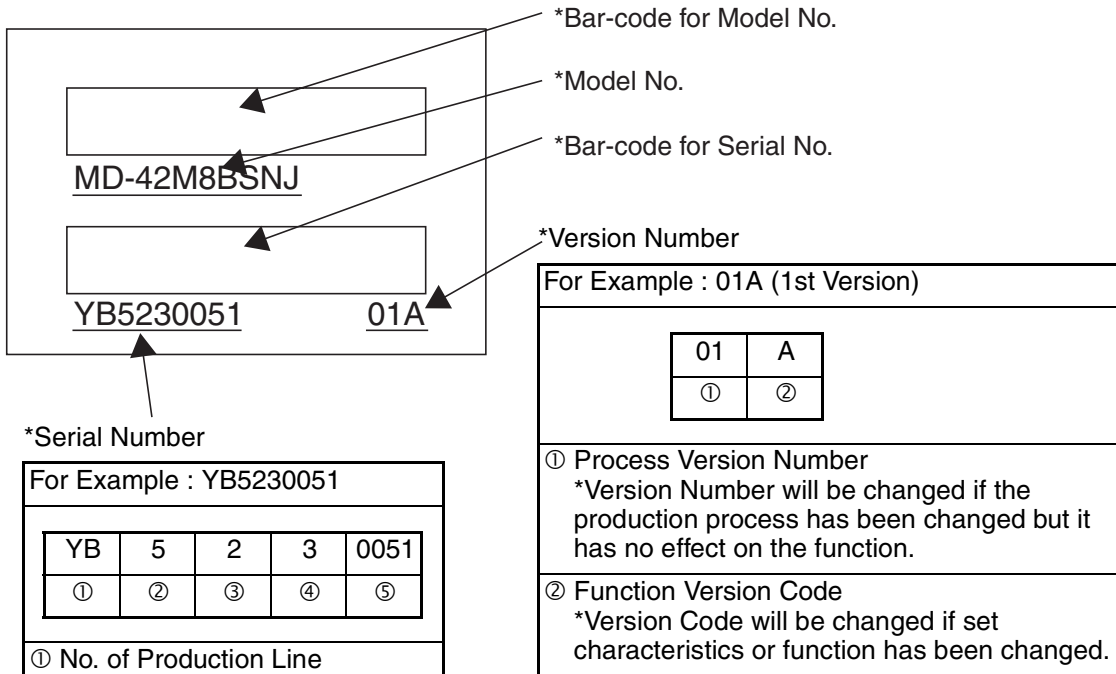


# CBA Structure & Parts List



LOCATION	PART NO.	PART NAME	CBA NAME
(1) D	1EDM12190	PANEL D PCB FOR SERVICE PARTS	Interface & Digital Process Unit
(2) SS	1EDM12191	PANEL SS PCB FOR SERVICE PARTS	Sustain Drive Unit
(3) SC	1EDM12192	PANEL SC PCB FOR SERVICE PARTS	Scan Drive Unit
(4) SU	1EDM12193	PANEL SU PCB FOR SERVICE PARTS	Scan Drive Output (Upper) Unit
(5) SD	1EDM12194	PANEL SD PCB FOR SERVICE PARTS	Scan Drive Output (Lower) Unit
(6) C1	1EDM12195	PANEL C1 PCB FOR SERVICE PARTS	Data Drive (Left) Unit
(7) C2	1EDM12196	PANEL C2 PCB FOR SERVICE PARTS	Data Drive (Right) Unit

# Set Serial Label Information



① No. of Production Line

② Production Year  
\* 4 : 2004  
\* 5 : 2005  
\* 6 : 2006

③ Production Month  
\* 1 : JAN-FEB  
\* 2 : MAR-APR  
\* 3 : MAY-JUN  
\* 4 : JLY-AUG  
\* 5 : SEP-OCT  
\* 6 : NOV-DEC

④ Production Period (Day)  
\* 1 : BEG (1-10)  
\* 2 : MID (11-20)  
\* 3 : END (21-31)  
\* 4 : BEG (1-10)  
\* 5 : MID (11-20)  
\* 6 : END (21-31)

⑤ Serial Number  
From 0001---

## How to read Model Number

an Example

①		②	③	④	⑤	⑥	⑦	⑧
MD	-	42	M	8	B	S	N	J

①	PDP Module
②	Size of PDP Panel * 42 : 42 inch
③	Type of PDP Panel * M : Standard Panel
④	Version Number * 5 : 2002 model * 6 : 2003 model * 7 : 2004 model * 8 : 2005 model
⑤	Type of Power Supply Circuit * B : without Power Supply Circuit (Board)
⑥	Type of PDP Module * S : Standard
⑦	Type of Packing Materials (for transportation) * N : One way Packing
⑧	Country of Origin * J : Japan

### Note

The packing materials for only Single Packing Type are spare parts. (The packing materials for One way and Returnable type are not as spare parts.)

# Trouble Shooting Guide

## How to identify SOS Signal

When an abnormality has occurred in the PDP module, the protection circuit operates and reset to the stand-by mode.

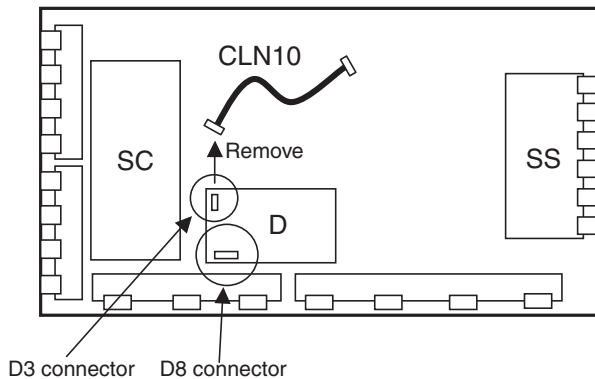
Below are how to identify SOS signal. We can specify the portion which is out of order by this method. It is conditions that main power CBA, sub power CBA, analog CBA and digital CBA are normal.

### [How to check]

Remove CLN10(from Digital CBA to D board), connect an oscilloscope to the No. 3 pin of D8 connector on D board.

Then connect AC cord, a power supply will be automatically turned on.

If power is shut down by protection circuit, a waveform as shown in the following figure is observed.



## Timing Chart of Waveform

Number of Pulse	SOS Signal timing (at the No. 3 pin of D8 connector)	Contents & Check point
2	<p>High Low 0.5 sec 3 sec</p>	12V SOS (D board)
3		3.3V SOS (D board)
5		5V SOS (D board)
6		Driver SOS1 (SC board)
7		Driver SOS2 (SU, SD, SC board)
8		Driver SOS3 (SS board)
9		FPGA Config (D board)

## Local screen failure

Plasma display may have local area failure on the screen. Fig. 7-1 is the possible defect CBA for each local area.

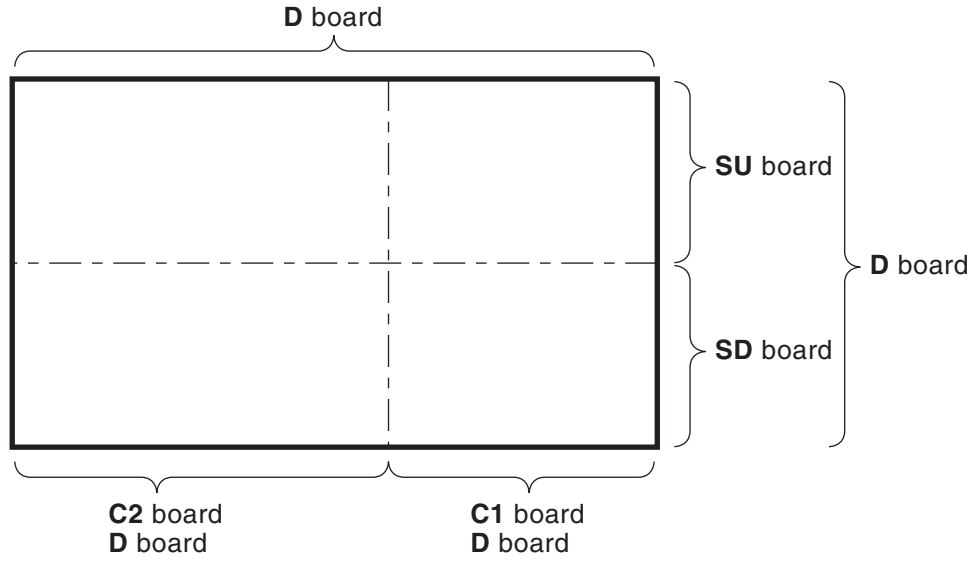
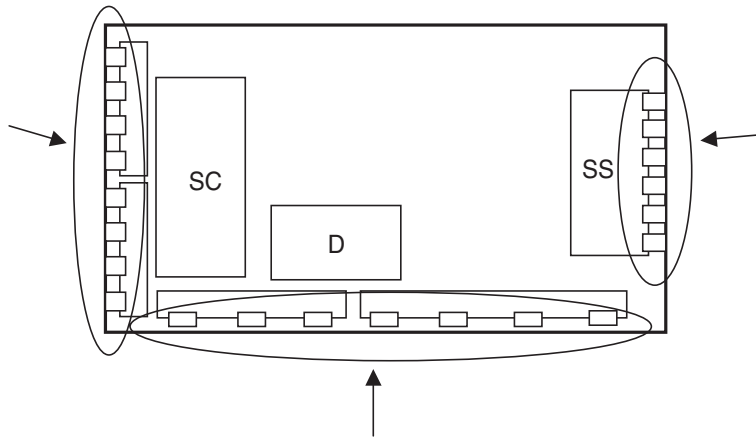


Fig. 7-1

## The example of failure


### Note

Check connection and damage of a flat cable in advance.




**[Example and Check point]**


dark or no display in screen right-hand side.



vertical line in screen right-hand side.




vertical bar in screen right-hand side.




→ Check C1 and D board, or replace.


dark or no display in screen left-hand side.



vertical line in screen left-hand side.



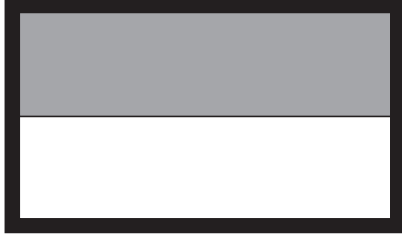
vertical bar in screen left-hand side.



→ Check C2 and D board, or replace.



dark or no display in screen upper half.



horizontal line in screen upper half.



horizontal bar in screen upper half.



→ Check SC and SU board, or replace.

dark or no display in screen lower half.



horizontal line in screen lower half.



horizontal bar in screen lower half.



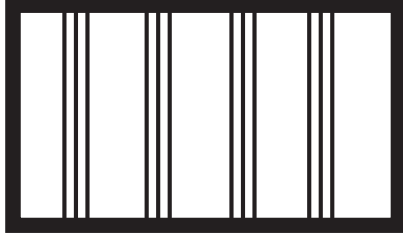
→ Check SC and SD board, or replace.

picture dark or no display in the whole screen.



→ Check SC, SS, and D board, or replace.

vertical lines occurs disorderly.



horizontal lines occurs disorderly.



→ Check D board and PDP panel, or replace.

# Adjustment Procedure

## Driver Set-up

### Item / Preparation

1. Input an APL 100% white signal.

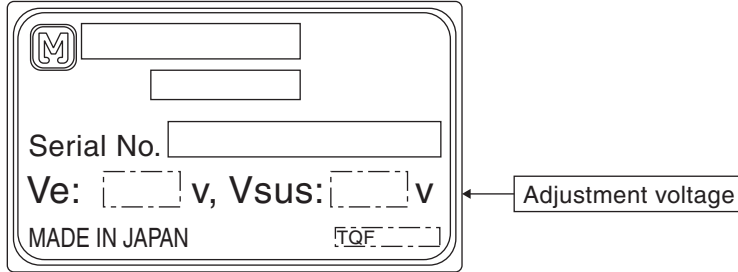
### Adjustments

Adjust driver section voltages referring the panel on the panel data label.

Name	Test Point	Voltage	Volume	Remarks
Ve	TPVE (SS)	$Ve \pm 1V$	VR6074 (SS)	*
Vset	TPVSET (SC)	$232V \pm 6V$	Fixed	
Vad	TPVAD (SC)	$-90V \pm 1V$	VR6477 (SC)	
Vscn	TPVSCN (SC)	$Vad + 120V \pm 3V$	Fixed	

\*See the Panel label.

Panel Label information

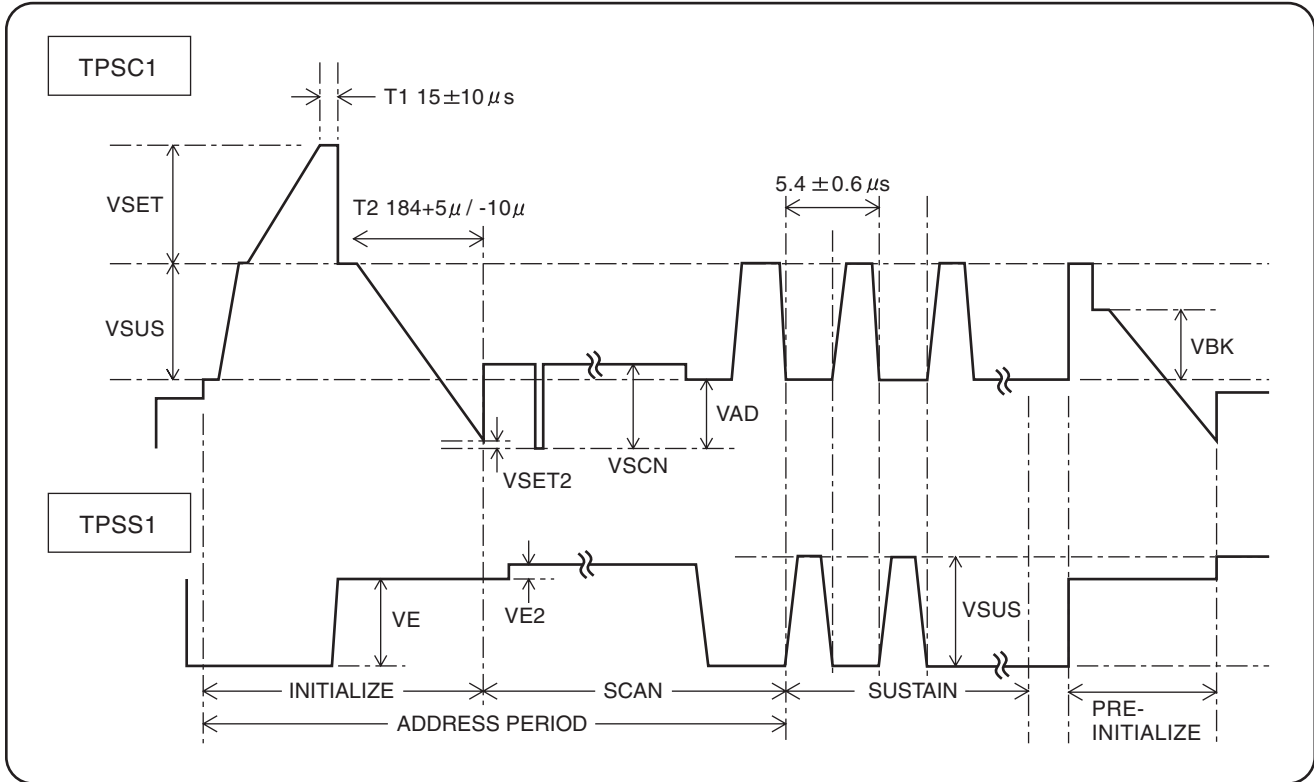


# Initialization pulse Adjust

1. Input a Cross hatch signal.

Adjust the indicated test point for the specified wave form.

	Test point	Volume	Level
T1	TPSC1 (SC)	---	$15 \pm 10 \mu \text{ Sec}$
T2	TPSC1 (SC)	VR6557 (SC)	$184 + 5 \mu / - 10 \mu \text{ Sec}$



# CBA exchange

## Caution

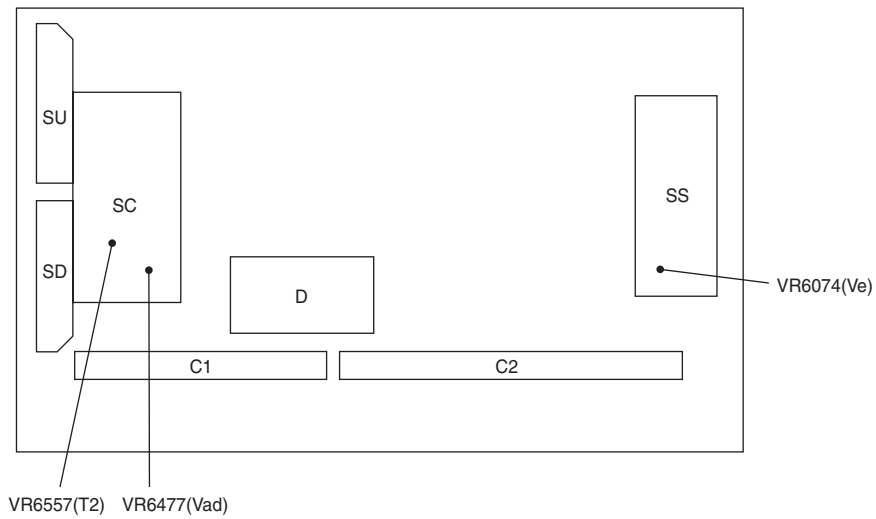
1. To remove CBA wait 1 minute after power was off for discharge from electrolysis capacitors.

## Quick adjustment after CBA exchange

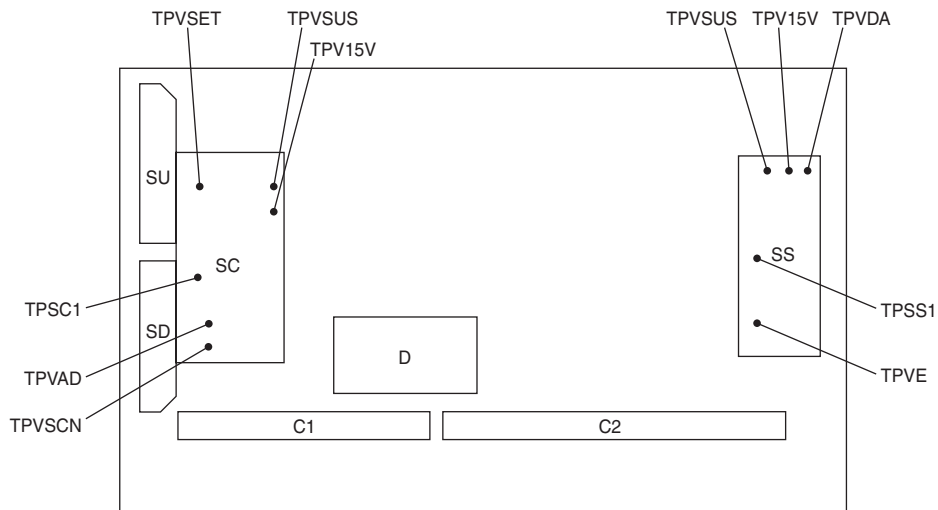
CBA	Name	Test Point	Voltage	Volume	Remarks
SC Board	Vad	TPVAD (SC)	-90V ± 1V	VR6477 (SC)	
SS Board	Ve	TPVE (SS)	Ve ± 1V	VR6074 (SS)	*

\*See the Panel label.

## Adjustment Volume Location



## Test Point Location



# WIRING DIAGRAM

