

# PHILIPS

## LCD TV chassis PL10.11

# Service Manual


### Contents

|            |                      |                                 |
|------------|----------------------|---------------------------------|
| <b>32"</b> | <b>32PFL4505D/F7</b> | <b>(Serial No. : DS1A*****)</b> |
| <b>32"</b> | <b>32PFL4505D/F7</b> | <b>(Serial No. : DS2A*****)</b> |

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## **IMPORTANT SAFETY NOTICE**

**Proper service and repair is important to the safe, reliable operation of all P&F Equipment. The service procedures recommended by P&F 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. P&F could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, P&F has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by P&F 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.**

|   |
|---|
| <p><b>The LCD panel is manufactured to provide many years of useful life. Occasionally a few non active pixels may appear as a tiny spec of color. This is not to be considered a defect in the LCD screen.</b></p> |
|---|

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# SPECIFICATIONS

## < TUNER / NTSC >

ANT. Input ----- 75  $\Omega$  Unbal., F type

| Description            | Condition | Unit     | Nominal   | Limit     |
|------------------------|-----------|----------|-----------|-----------|
| 1. AFT Pull-In Range   | ---       | MHz      | $\pm 2.3$ | $\pm 2.1$ |
| 2. Synchronizing Sens. | TV.ch.4   | dB $\mu$ | 18        | 20        |
|                        | CA.ch.31  | dB $\mu$ | 18        | 20        |
|                        | CA.ch.87  | dB $\mu$ | 18        | 23        |

## < TUNER / ATSC >

| Description                       | Condition | Unit | Nominal | Limit     |
|-----------------------------------|-----------|------|---------|-----------|
| 1. Received Freq. Range (-28dBm)  | ---       | kHz  | ---     | $\pm 100$ |
| 2. ATSC Dynamic Range (min / max) | ch.4      | dBm  | ---     | -76/0     |
|                                   | ch.10     | dBm  | ---     | -76/0     |
|                                   | ch.41     | dBm  | ---     | -76/+4    |

## < LCD PANEL >

| Description                | Condition  | Unit              | Nominal   | Limit |
|----------------------------|------------|-------------------|-----------|-------|
| 1. Native Pixel Resolution | Horizontal | pixels            | 1920      | ---   |
|                            | Vertical   | pixels            | 1080      | ---   |
| 2. Brightness (w / filter) | ---        | cd/m <sup>2</sup> | 400       | ---   |
| 3. Viewing Angle           | Horizontal | °                 | -89 to 89 | ---   |
|                            | Vertical   | °                 | -89 to 89 | ---   |

## < VIDEO >

| Description                     | Condition  | Unit | Nominal | Limit     |
|---------------------------------|------------|------|---------|-----------|
| 1. Over Scan                    | Horizontal | %    | 5       | 5 $\pm$ 5 |
|                                 | Vertical   | %    | 5       | 5 $\pm$ 5 |
| 2. Color Temperature            | ---        | °K   | 11500   | ---       |
|                                 | x          | ---  | 0.276   | $\pm 3\%$ |
|                                 | y          | ---  | 0.277   | $\pm 3\%$ |
| 3. Resolution (composite video) | Horizontal | line | 400     | ---       |
|                                 | Vertical   | line | 350     | ---       |

## < AUDIO >

All items are measured across 8  $\Omega$  load at speaker output terminal with L.P.F.

| Description                                   | Condition      | Unit | Nominal     | Limit      |
|---|----------------|------|-------------|------------|
| 1. Audio Output 10 % Distortion (ATSC 0 dBfs) | Lch/Rch        | W    | 10.0/10.0   | 8.0/8.0    |
| 2. Audio Distortion (NTSC)                    | 500mW: Lch/Rch | %    | 0.5/0.5     | 2.0/2.0    |
| 3. Audio Freq. Response (NTSC)                | -6dB: Lch      | Hz   | 300 to 10 k | 350 to 8 k |
|   | -6dB: Rch      | Hz   | 300 to 10 k | 350 to 8 k |



# 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.

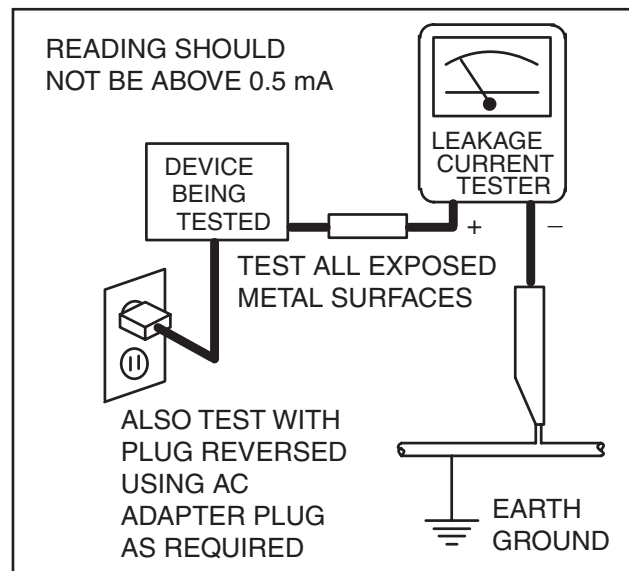
## Safety Precautions for LCD TV Circuit

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) spacing between the Liquid Crystal Panel and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.


- c. **Antenna 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 tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. 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 120 V 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 and Underwriters Laboratories (UL) 1410, (50.7). 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 0.5 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 receiver cabinet, on the receiver chassis, or on the Liquid Crystal Panel.

3. **Design Alteration Warning** - Do not alter or add to the mechanical or electrical design of this TV receiver. 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 TV receiver 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 1.0 V 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 TV receiver 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 TV receiver 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.

## 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 (heat sinks, oxide metal film resistors, fusible resistors, etc.)
- G.** Check that replaced wires do not contact sharp edged or pointed parts.
- H.** When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.
- I.** Also check areas surrounding repaired locations.
- J.** Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
- K.** When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC supply outlet.
- L.** When installing parts or assembling the cabinet parts, be sure to use the proper screws and tighten certainly.

## 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.

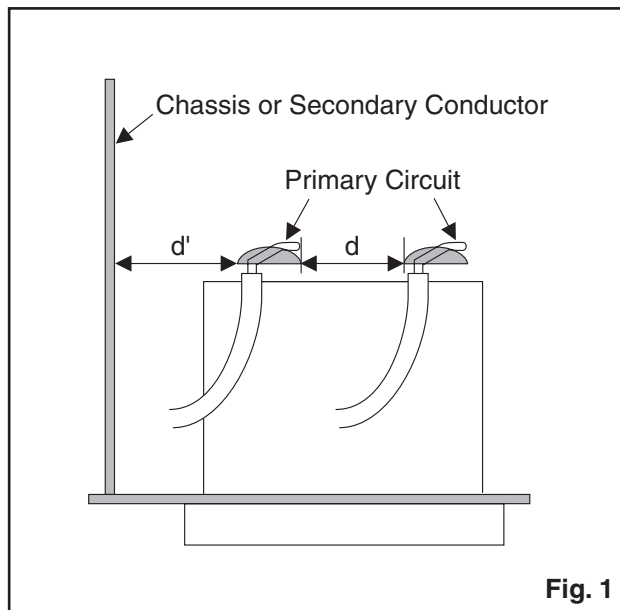
### 1. Clearance Distance

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    | U.S.A. 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.



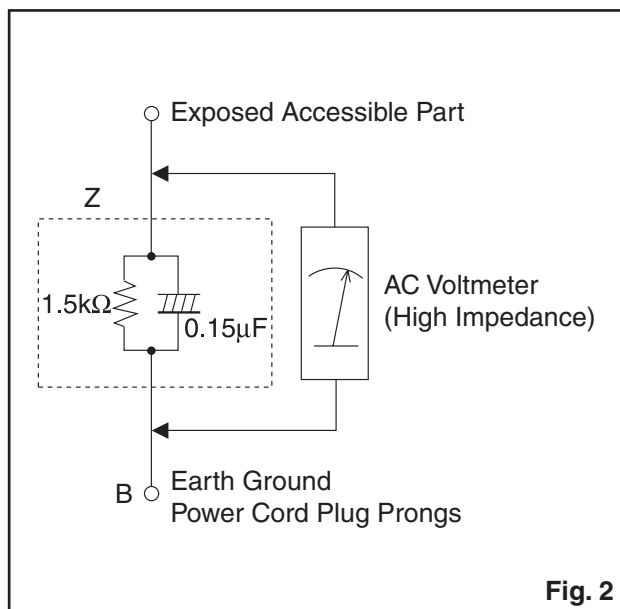
**Fig. 1**

### 2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, 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 (earth ground, 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.



**Fig. 2**

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

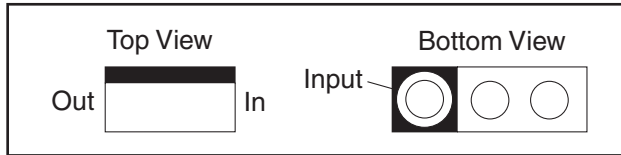
| AC Line Voltage | Region           | Load Z  | Leakage Current (i) | Earth Ground (B) to:     |
|-----------------|------------------|---|---------------------|--------------------------|
| 110 to 130 V    | U.S.A. or Canada | 0.15 $\mu$ F CAP. & 1.5 kΩ RES. Connected in parallel | $i \leq 0.5$ mA rms | Exposed accessible parts |

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

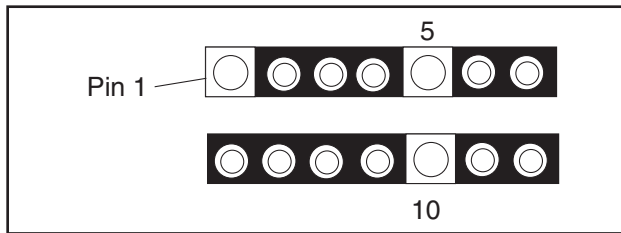
# STANDARD NOTES FOR SERVICING

## Circuit Board Indications

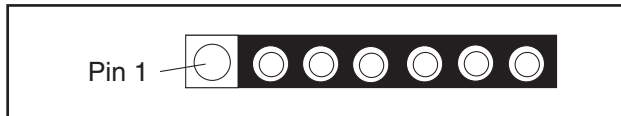
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

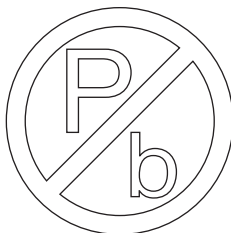


3. The 1st pin of every male connector is indicated as shown.



## 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)

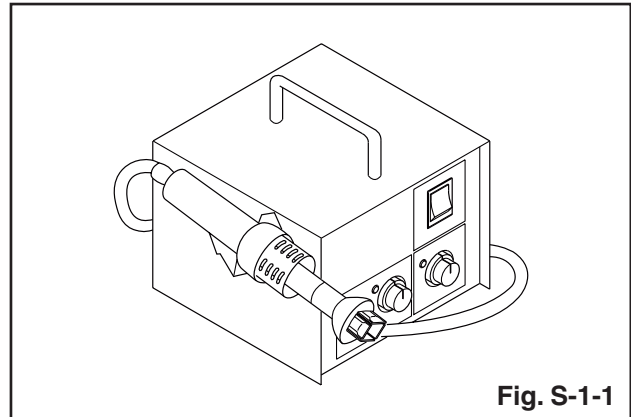


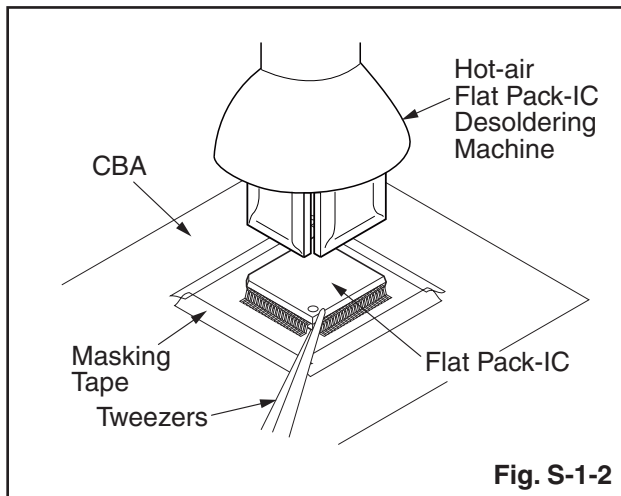
Fig. S-1-1

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:

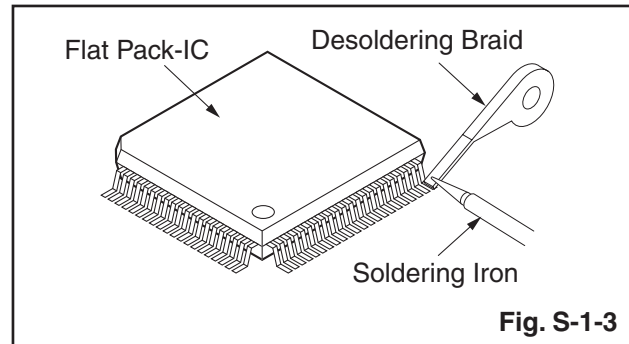
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape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

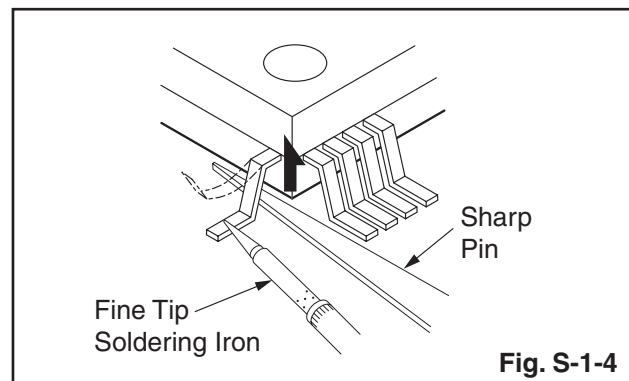


#### With Soldering Iron:

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)

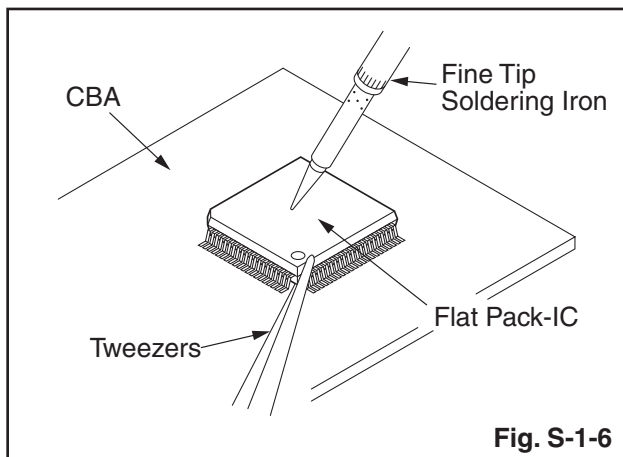
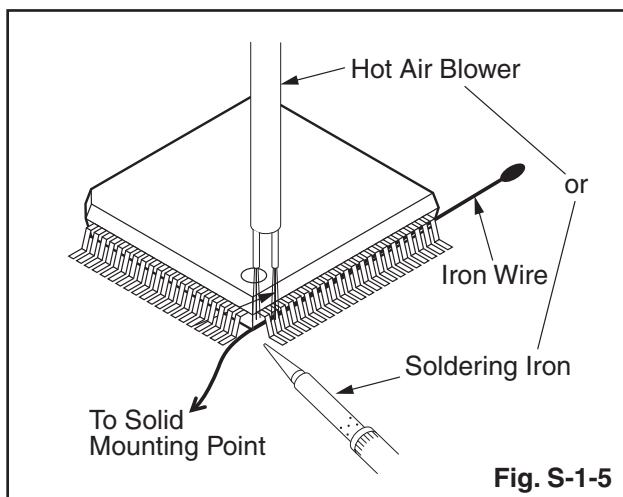


3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

### With Iron Wire:

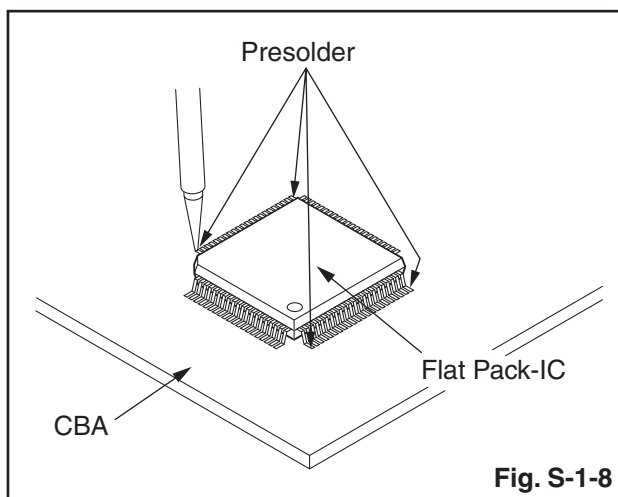
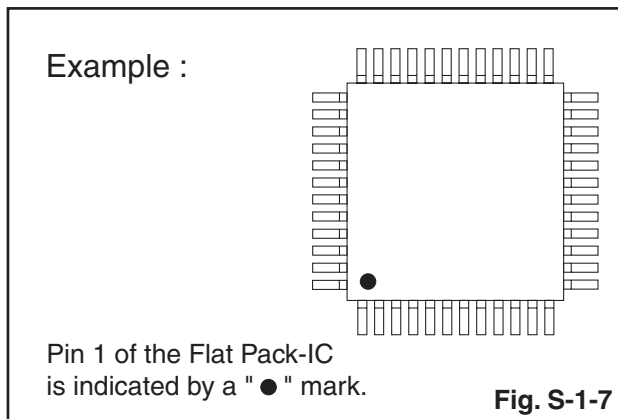
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins 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 pin 1 on the PCB when positioning for installation. Then presolder 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.



# Instructions for Handling Semi-conductors

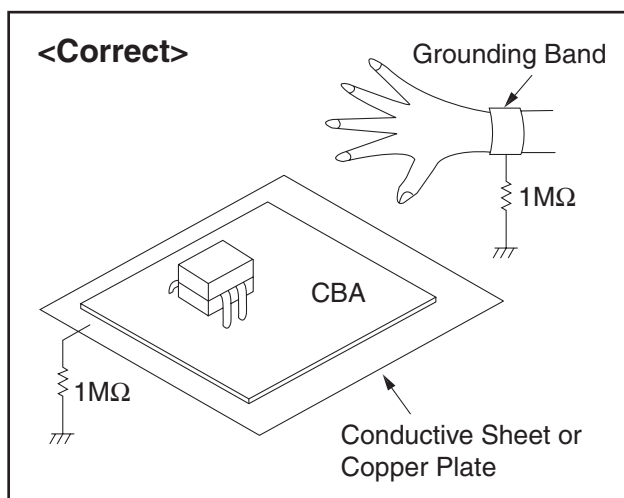
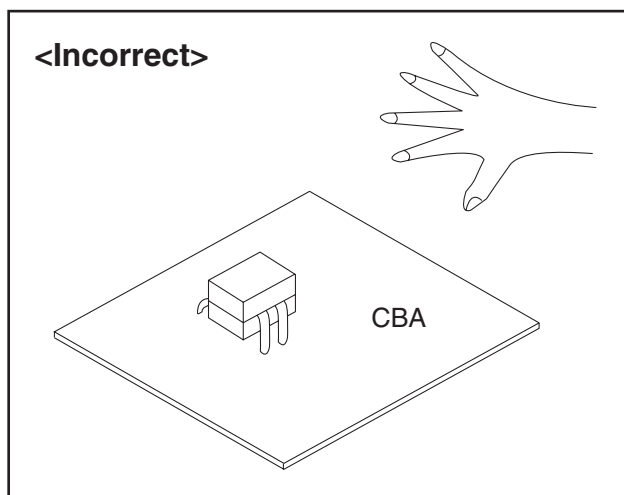
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

## 1. Ground for Human Body

Be sure to wear a grounding band ( $1\text{ M}\Omega$ ) 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 ( $1\text{ M}\Omega$ ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.



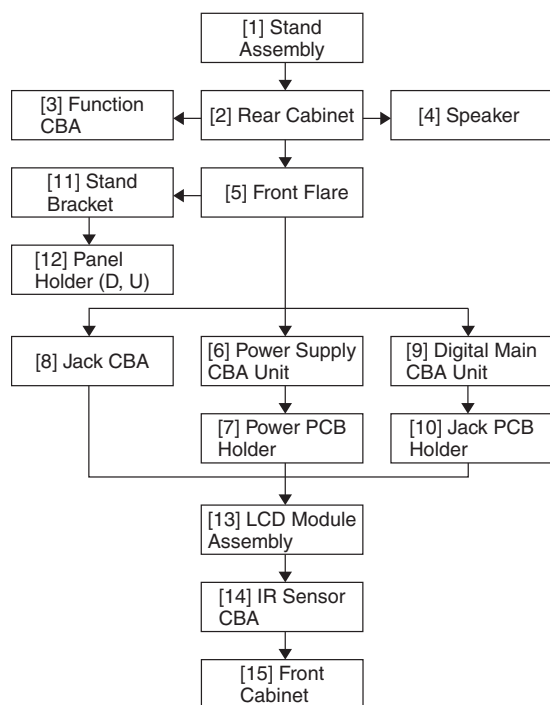


# CABINET DISASSEMBLY INSTRUCTIONS

## [32PFL4505D/F7 (Serial No. : DS1A)]

### 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

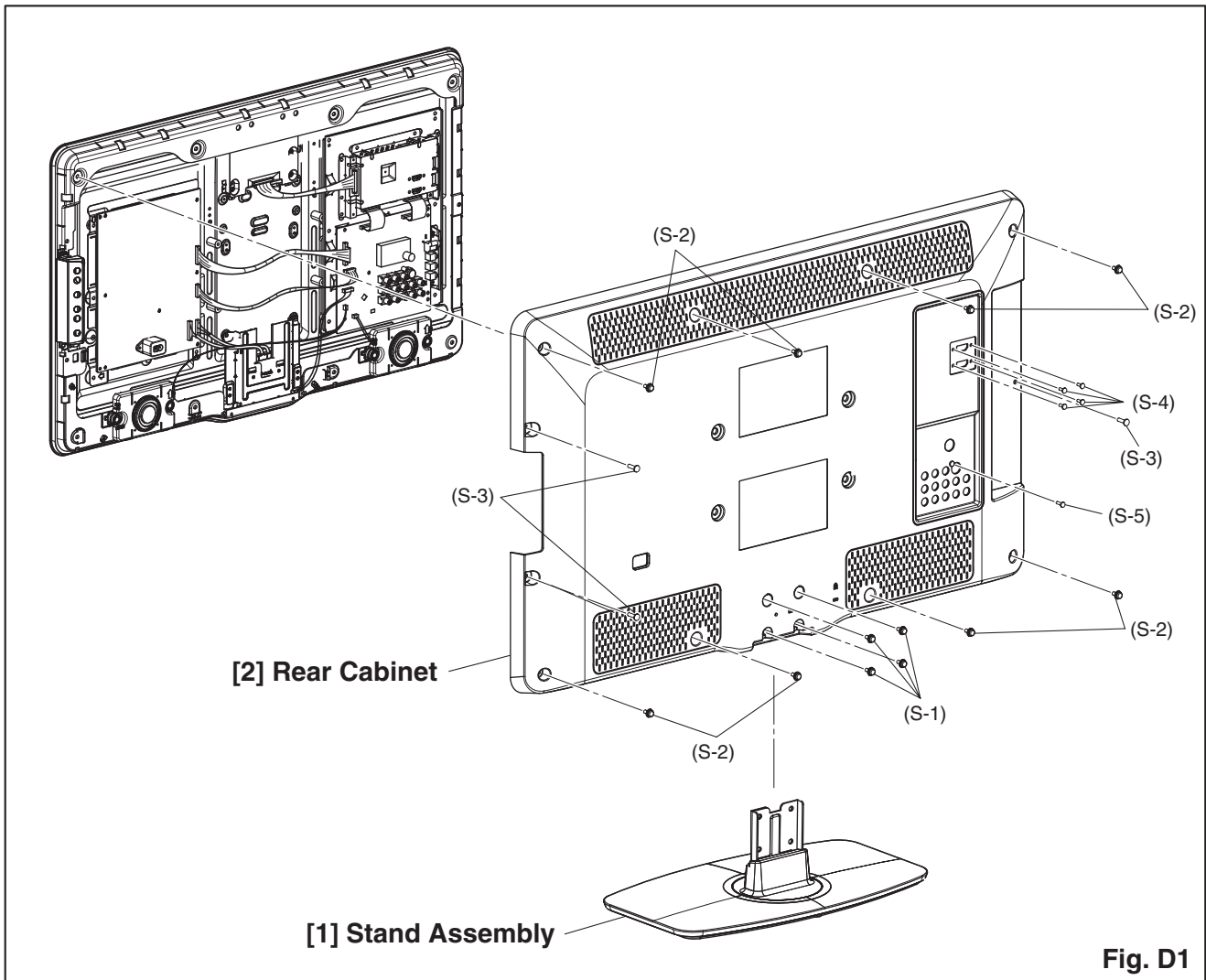
| Step/<br>Loc.<br>No. | Part                  | Removal     |  |      |
|----------------------|-----------------------|-------------|--|------|
|                      |                       | Fig.<br>No. | Remove/*Unhook/<br>Unlock/Release/<br>Unplug/Unclamp/<br>Desolder          | Note |
| [1]                  | Stand Assembly        | D1          | 4(S-1)   | ---  |
| [2]                  | Rear Cabinet          | D1          | 8(S-2), 3(S-3), 4(S-4),<br>(S-5)   | ---  |
| [3]                  | Function CBA          | D2<br>D5    | 2(S-6), *CN2101,<br>Function Knob,<br>Knob Frame                           | ---  |
| [4]                  | Speaker               | D2<br>D5    | 4(S-7), 4(S-8),<br>*CN2801, *CN2802,<br>Speaker Cushion,<br>Speaker Holder | ---  |
| [5]                  | Front Flare           | D2          | 2(S-9), Boss(S)  | ---  |
| [6]                  | Power Supply CBA Unit | D3<br>D5    | 5(S-10), 2(S-11),<br>2(S-12), *CN1, *CN2,<br>*CN4, *P1, *P2                | ---  |

| Step/<br>Loc.<br>No. | Part                  | Removal     |   |      |
|----------------------|-----------------------|-------------|---|------|
|                      |                       | Fig.<br>No. | Remove/*Unhook/<br>Unlock/Release/<br>Unplug/Unclamp/<br>Desolder | Note |
| [7]                  | Power PCB Holder      | D3          | 2(S-13), Separation Sheet   | ---  |
| [8]                  | Jack CBA              | D3<br>D5    | 4(S-14), *CN2133,<br>*CN3701, *CN3702,<br>Jack Holder(A)          | ---  |
| [9]                  | Digital Main CBA Unit | D3<br>D5    | (S-15), 10(S-16),<br>*CN3901,<br>Jack Holder(D),<br>Shield Box(Z) | ---  |
| [10]                 | Jack PCB Holder       | D3          | 3(S-17), (S-18)   | ---  |
| [11]                 | Stand Bracket         | D4          | 4(S-19)   | ---  |
| [12]                 | Panel Holder (D, U)   | D4          | 4(S-20), 2(S-21),<br>3(S-22)                                      | ---  |
| [13]                 | LCD Module Assembly   | D4          | -----   | ---  |
| [14]                 | IR Sensor CBA         | D4<br>D5    | Shield(S)   | ---  |
| [15]                 | Front Cabinet         | D4          | -----   | ---  |

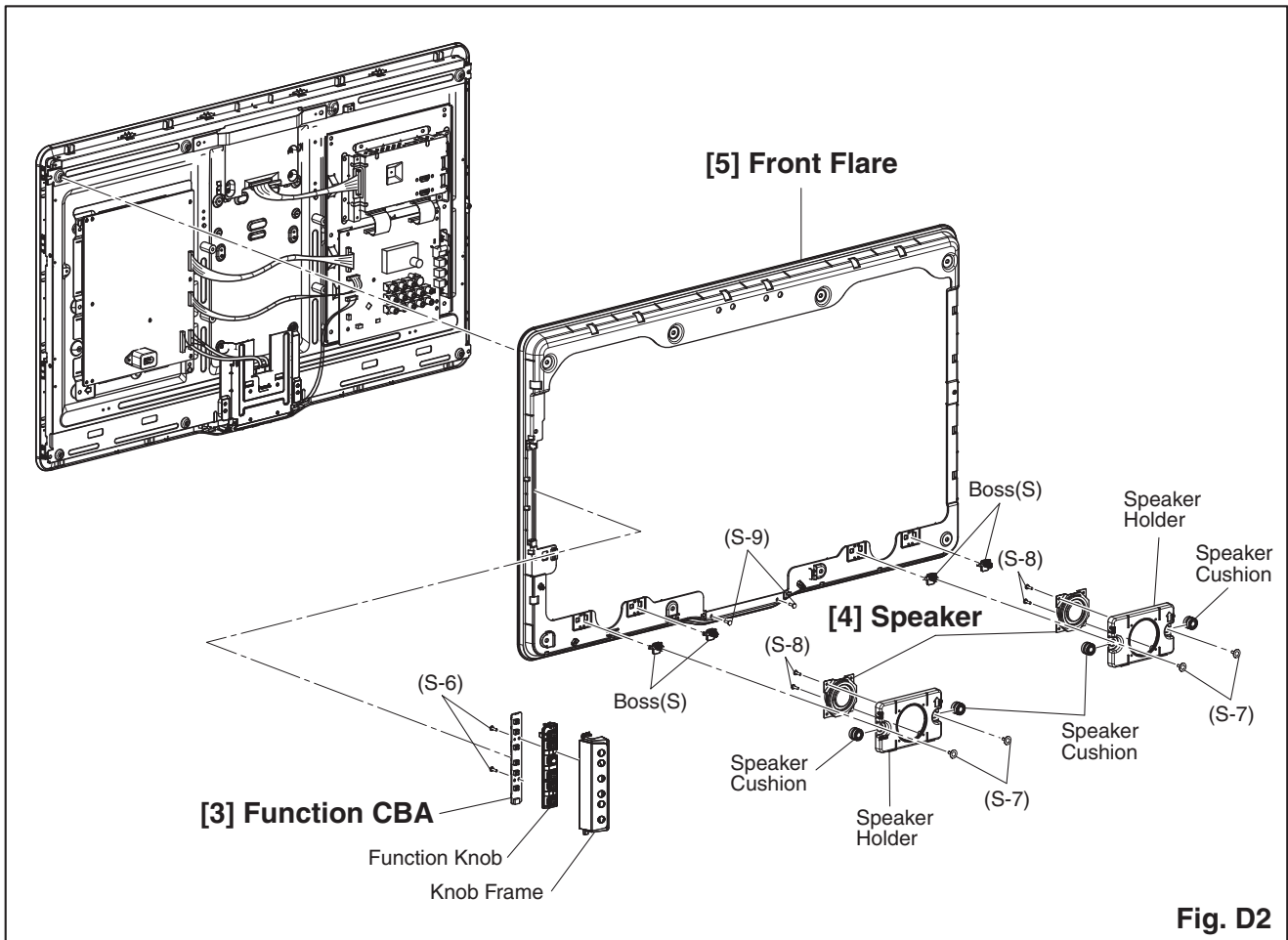
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(1)                      (2)                      (3)                      (4)                      (5)

#### Note:

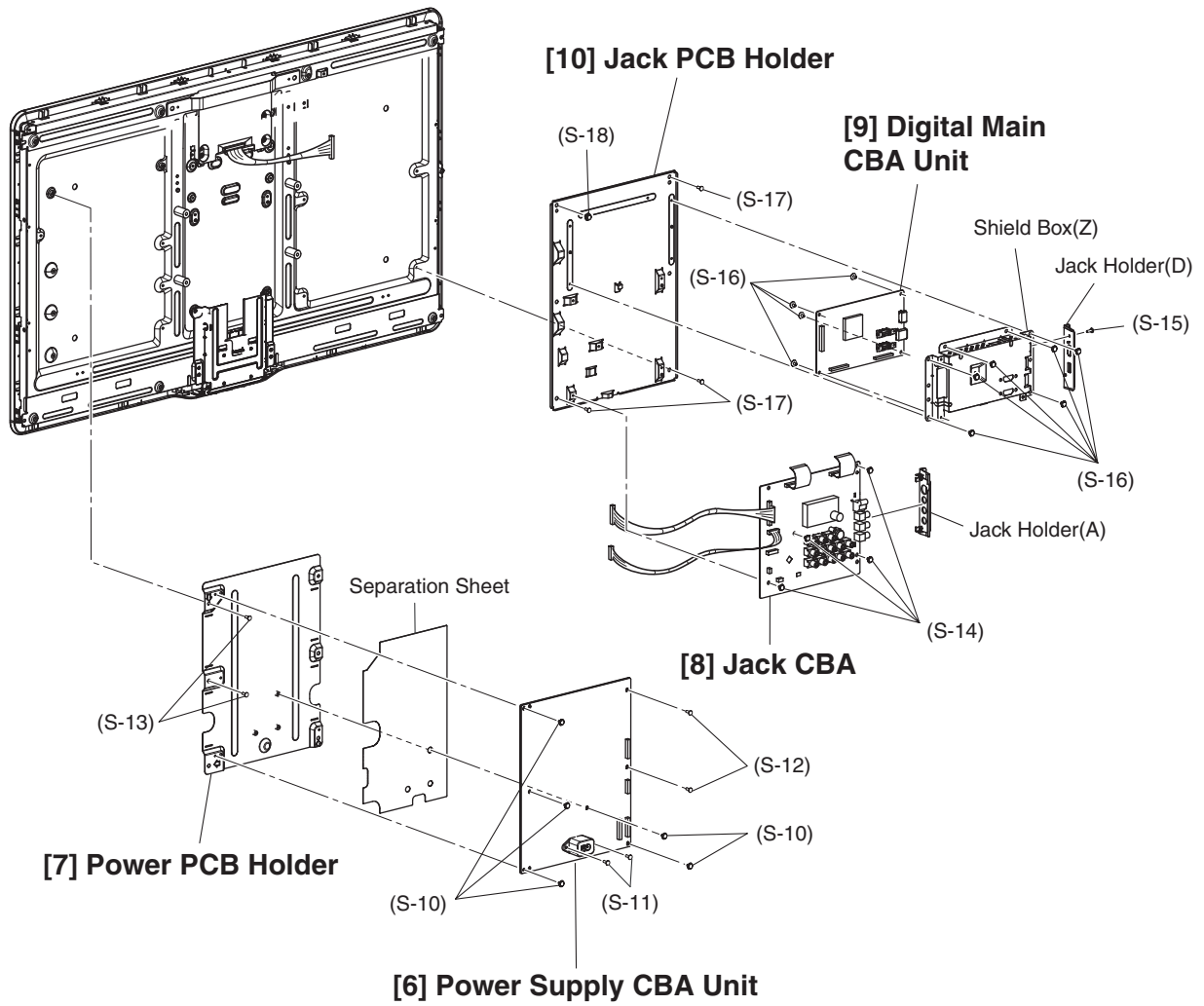
- (1) Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.
- (2) Parts to be removed or installed.
- (3) Fig. No. showing procedure of part location
- (4) Identification of parts to be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



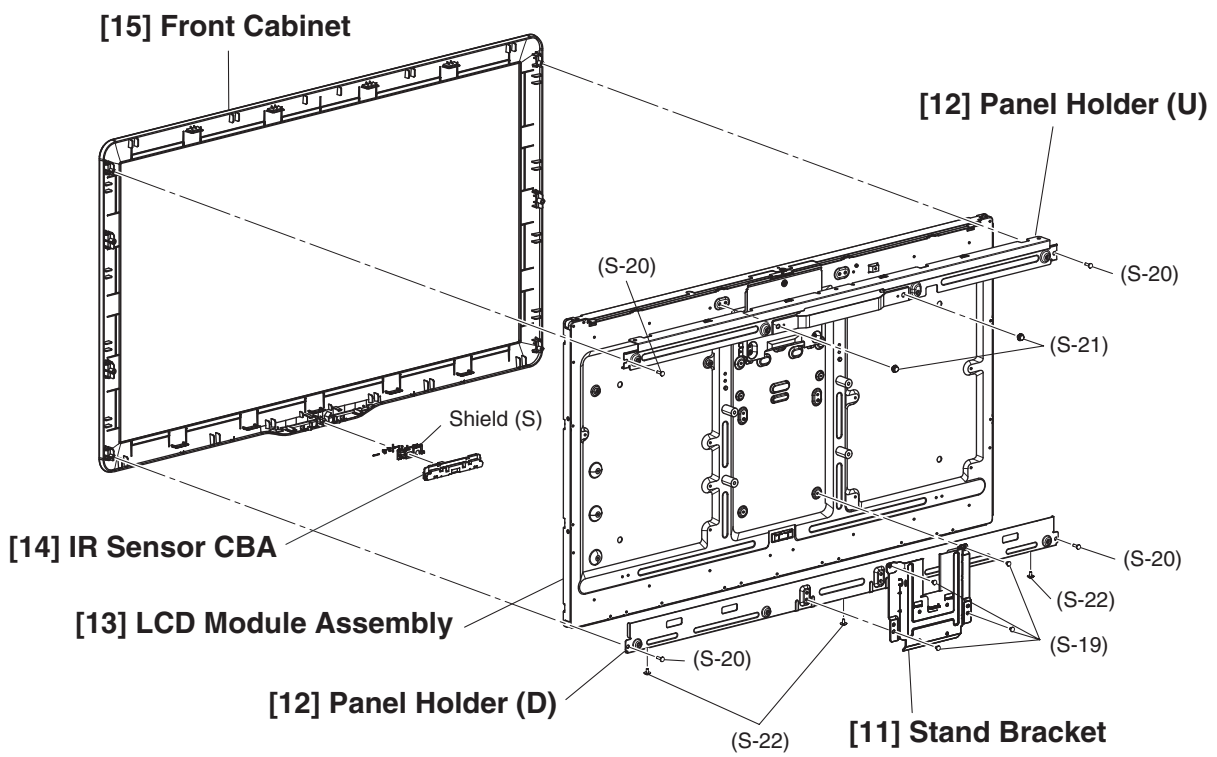
**Fig. D1**



**Fig. D2**



**Fig. D3**



**Fig. D4**

# TV Cable Wiring Diagram

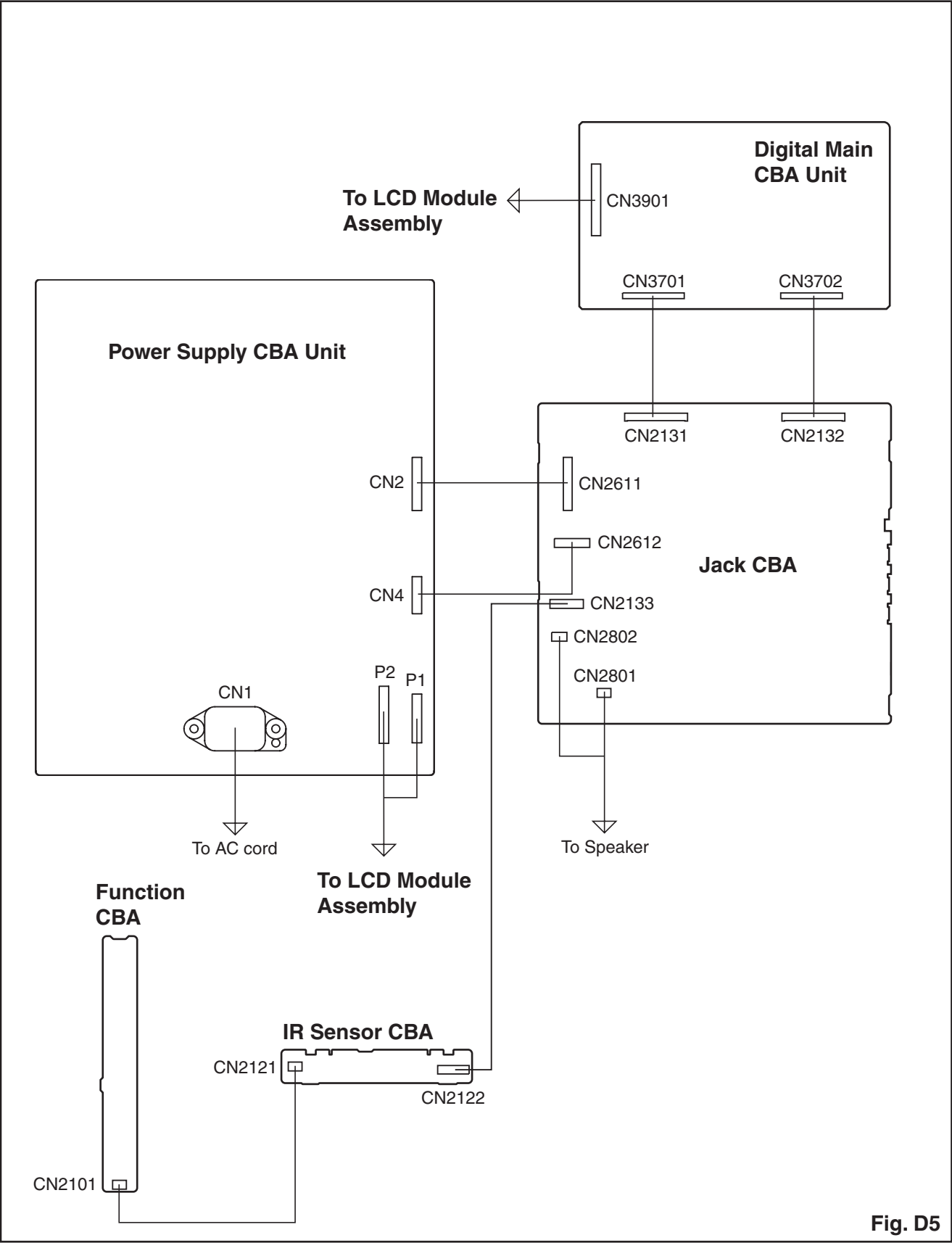


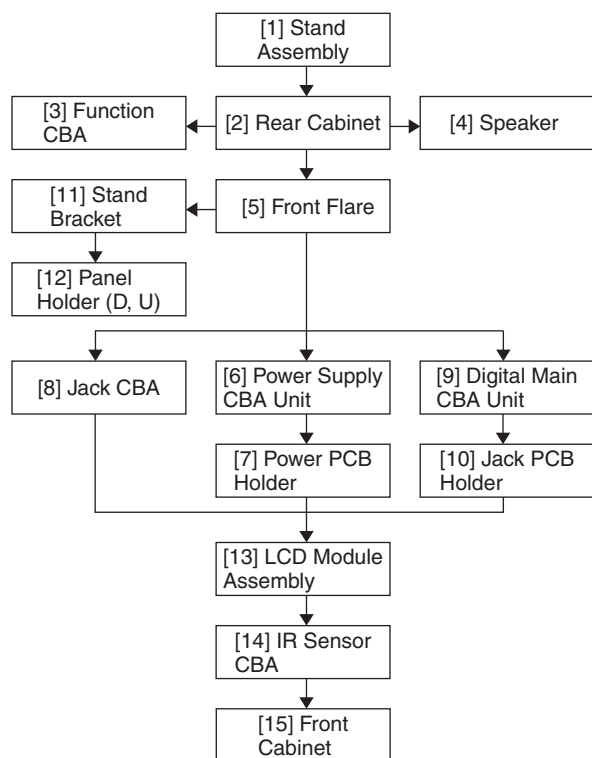
Fig. D5

# CABINET DISASSEMBLY INSTRUCTIONS

## [32PFL4505D/F7 (Serial No. : DS2A)]

### 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/<br>Loc.<br>No. | Part                  | Removal     |   |      |
|----------------------|-----------------------|-------------|---|------|
|                      |                       | Fig.<br>No. | Remove/*Unhook/<br>Unlock/Release/<br>Unplug/Unclamp/<br>Desolder | Note |
| [1]                  | Stand Assembly        | D1          | 4(S-1)  | ---  |
| [2]                  | Rear Cabinet          | D1          | 8(S-2), 3(S-3), 4(S-4),<br>(S-5)                                  | ---  |
| [3]                  | Function CBA          | D2<br>D5    | 2(S-6), *CN2101,<br>Function Knob,<br>Knob Frame                  | ---  |
| [4]                  | Speaker               | D2<br>D5    | *CN2801, *CN2802,<br>Speaker Cushion                              | ---  |
| [5]                  | Front Flare           | D2          | 2(S-7), Boss(S)   | ---  |
| [6]                  | Power Supply CBA Unit | D3<br>D5    | 5(S-8), 2(S-9),<br>2(S-10), *CN1, *CN2,<br>*CN4, *P1, *P2         | ---  |

| Step/<br>Loc.<br>No. | Part                  | Removal     |   |      |
|----------------------|-----------------------|-------------|---|------|
|                      |                       | Fig.<br>No. | Remove/*Unhook/<br>Unlock/Release/<br>Unplug/Unclamp/<br>Desolder | Note |
| [7]                  | Power PCB Holder      | D3          | 2(S-11), Separation Sheet   | ---  |
| [8]                  | Jack CBA              | D3<br>D5    | 4(S-12), *CN2133,<br>*CN3701, *CN3702,<br>Jack Holder(A)          | ---  |
| [9]                  | Digital Main CBA Unit | D3<br>D5    | (S-13), 10(S-14),<br>*CN3901,<br>Jack Holder(D),<br>Shield Box(Z) | ---  |
| [10]                 | Jack PCB Holder       | D3          | 3(S-15), (S-16)   | ---  |
| [11]                 | Stand Bracket         | D4          | 4(S-17)   | ---  |
| [12]                 | Panel Holder (D, U)   | D4          | 4(S-18), 2(S-19),<br>3(S-20)                                      | ---  |
| [13]                 | LCD Module Assembly   | D4          | -----   | ---  |
| [14]                 | IR Sensor CBA         | D4<br>D5    | Shield(S)   | ---  |
| [15]                 | Front Cabinet         | D4          | -----   | ---  |

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

#### Note:

- 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.
- Parts to be removed or installed.
- Fig. No. showing procedure of part location
- Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.  
P = Spring, L = Locking Tab, S = Screw,  
H = Hex Screw, CN = Connector  
\* = Unhook, Unlock, Release, Unplug, or Desolder  
e.g. 2(S-2) = two Screws (S-2),  
2(L-2) = two Locking Tabs (L-2)
- Refer to the following "Reference Notes in the Table."

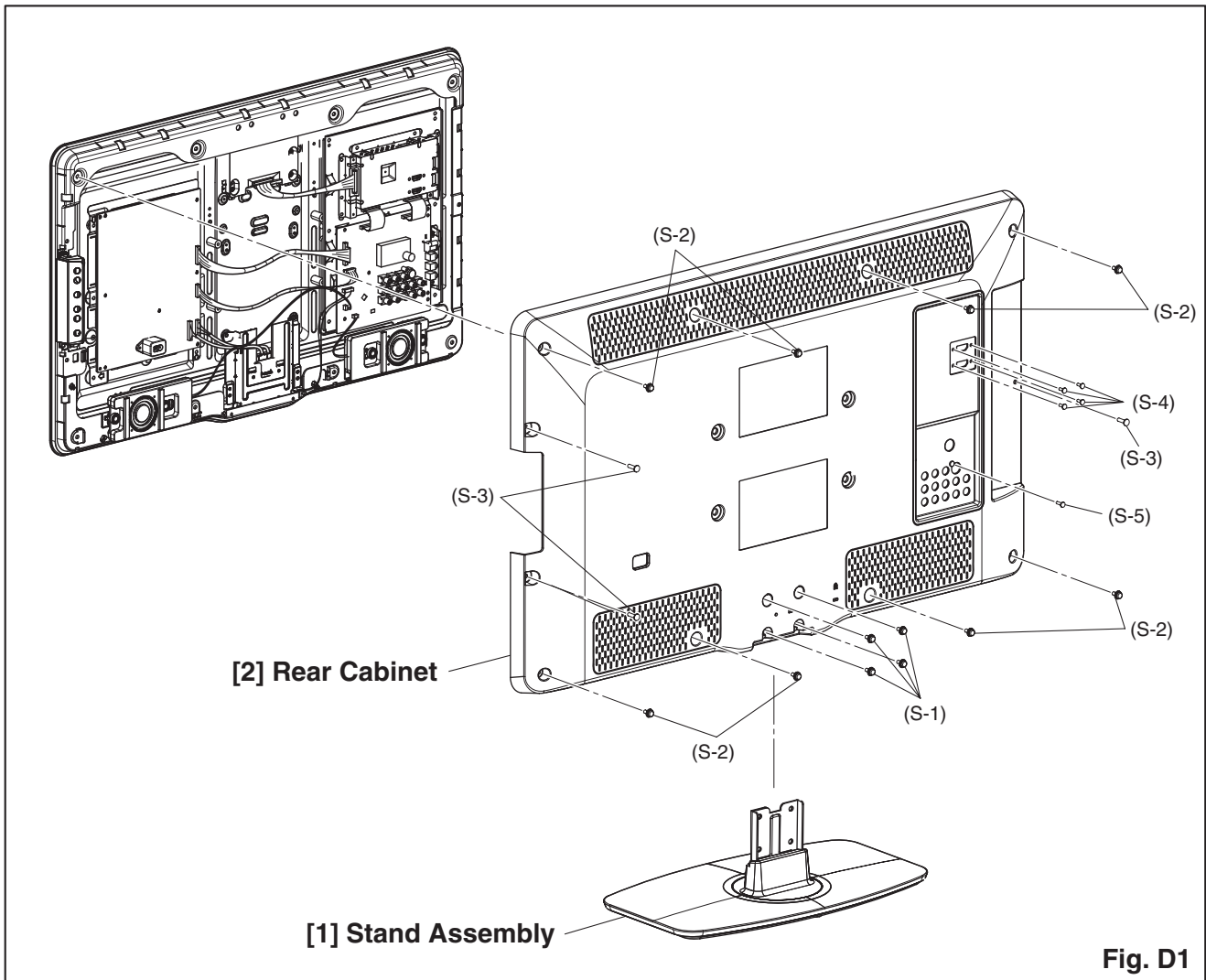
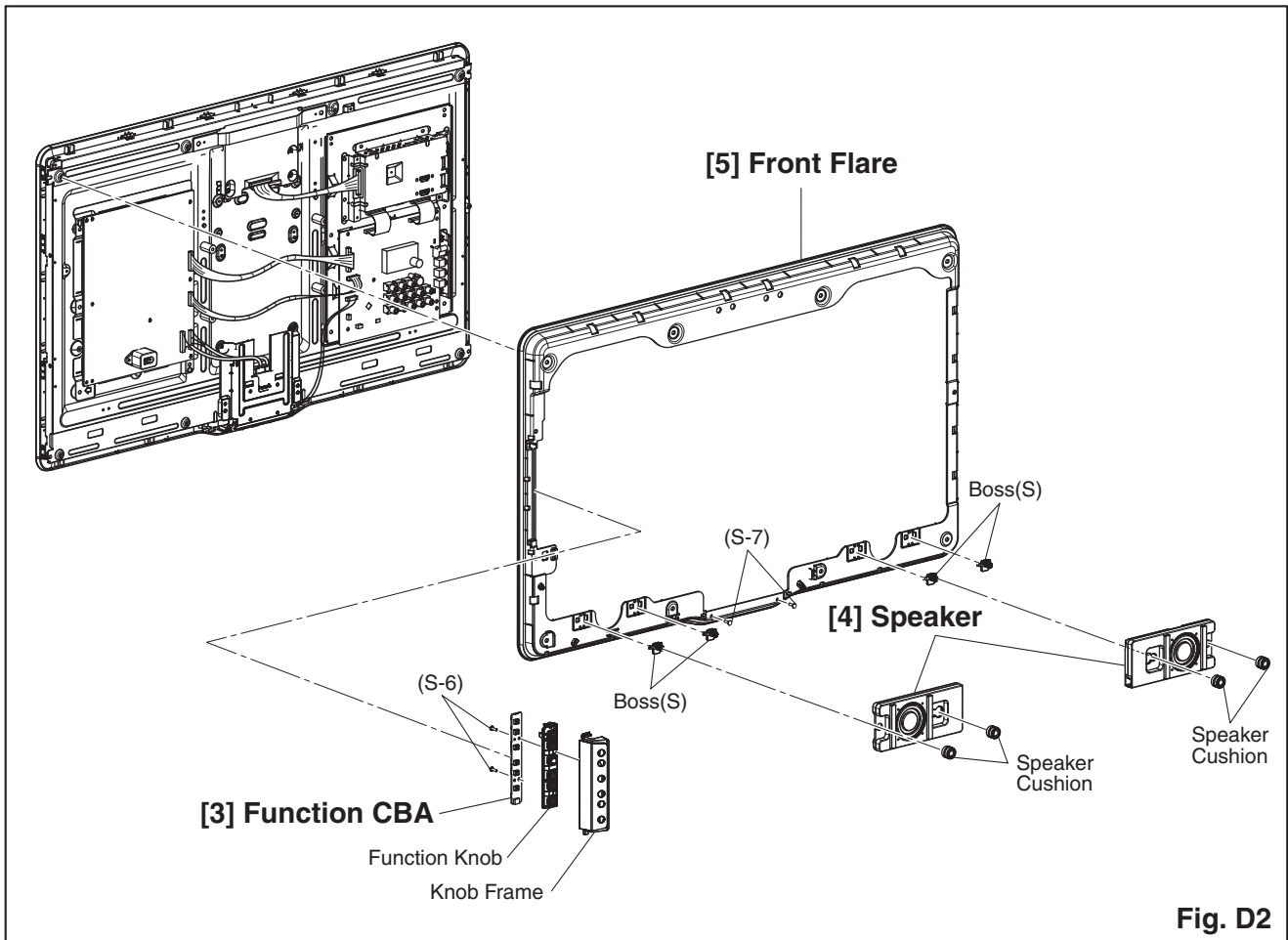
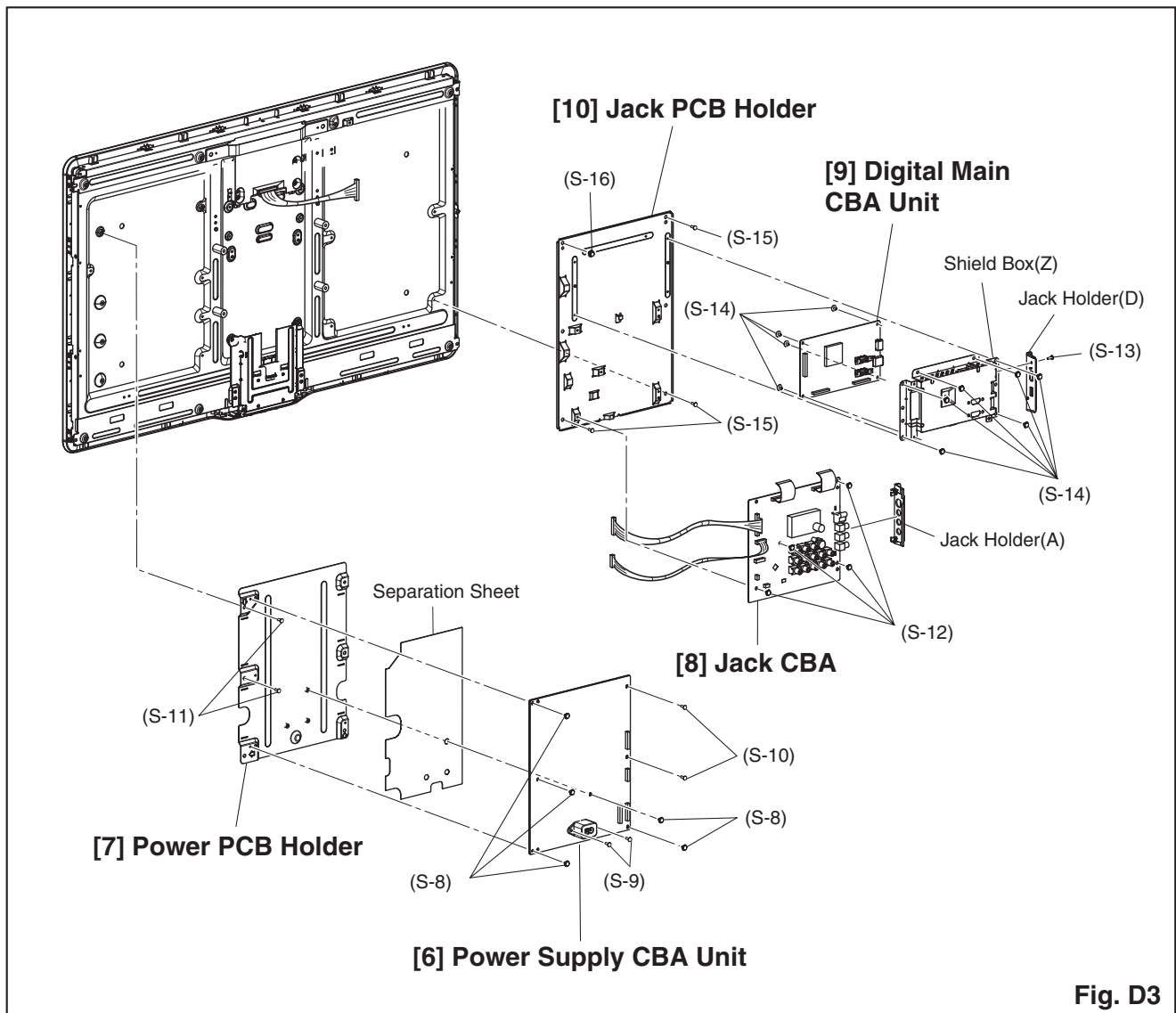


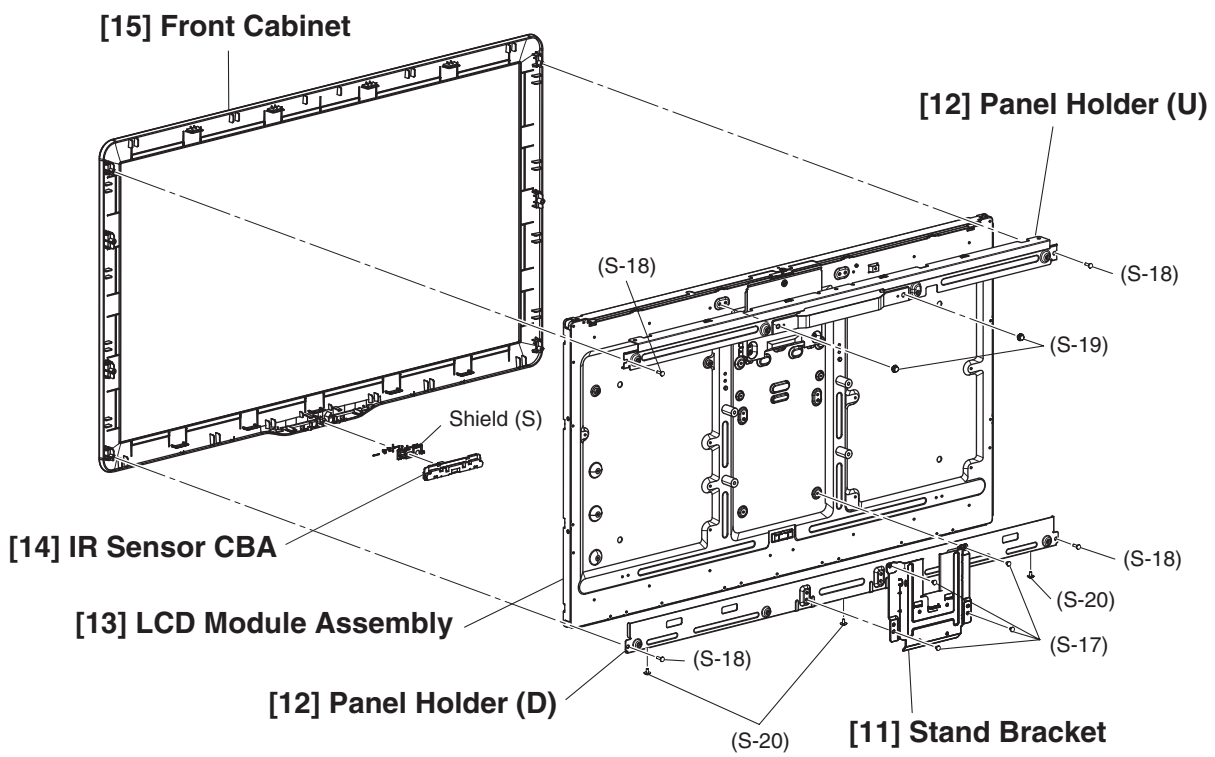
Fig. D1







**Fig. D3**



**Fig. D4**

# TV Cable Wiring Diagram

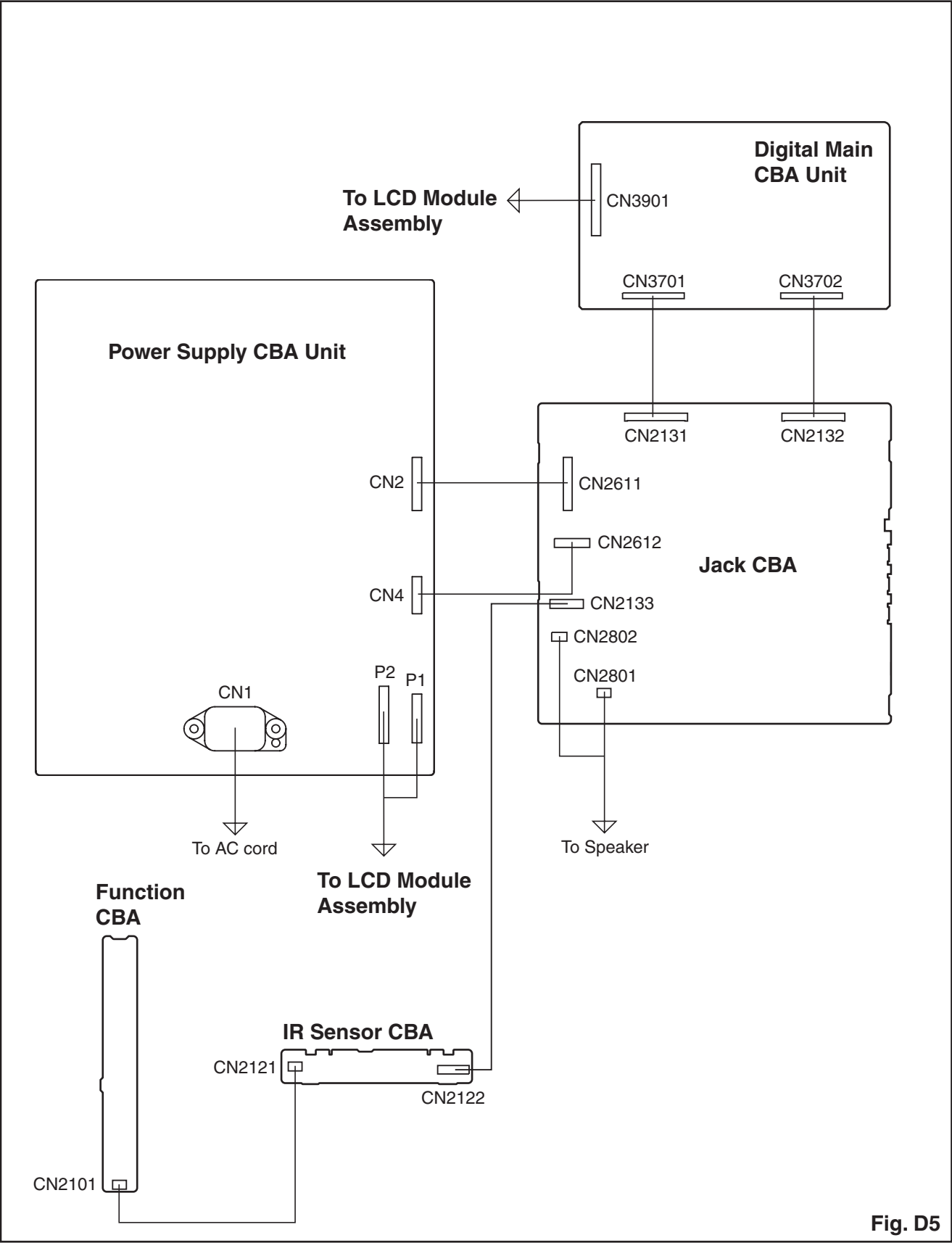


Fig. D5

# 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

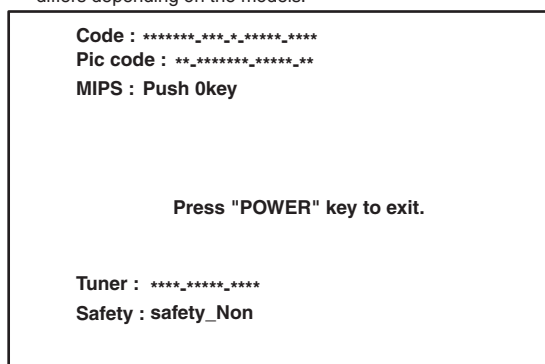
1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. Remote control unit
3. Color Analyzer

## How to set up the service mode:

### Service mode:

1. Turn the power on.
2. Press [MENU] button to display Setup menu.
3. Select “Features”.
4. Select “Current Software Info”.
5. Press [0], [6], [2], [5], [9], [6] and [Info] buttons on the remote control unit in this order. The following screen appears.

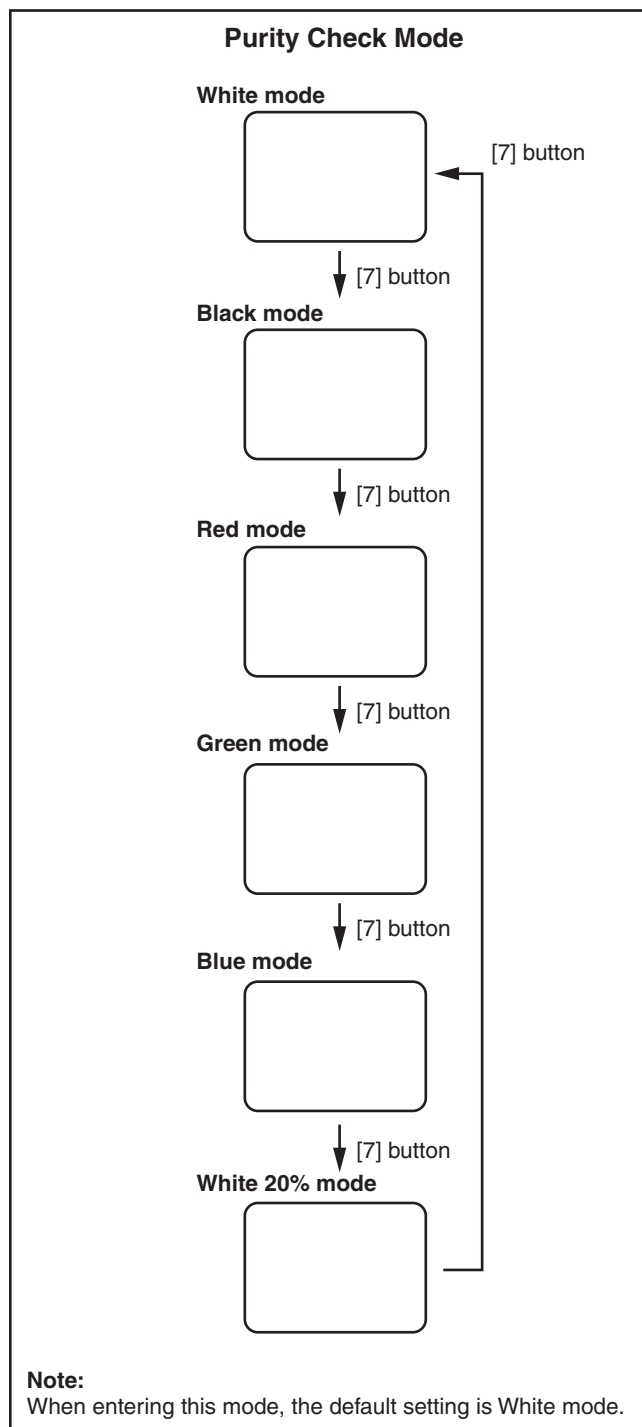
"\*" differs depending on the models.



## 1. Purity Check Mode

This mode cycles through full-screen displays of red, green, blue, and white to check for non-active pixels.

1. Enter the Service mode.
2. Each time pressing [7] button on the remote control unit, the display changes as follows.



3. To cancel or to exit from the Purity Check Mode, press [PREV CH] button.

**The White Balance Adjustment should be performed when replacing the LCD Panel or Digital Main CBA.**

## 2. White Balance Adjustment

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

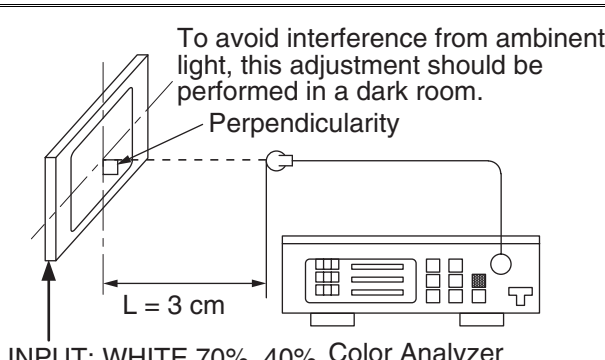
**Symptom of Misadjustment:** White becomes bluish or reddish.

| Test Point                        | Adj. Point           | Mode   | Input                               |
|-----------------------------------|----------------------|--|-------------------------------------|
| Screen                            | [VOLUME DOWN] button | [VIDEO1] C/D                                   | White Raster (APL 70%) or (APL 40%) |
| M. EQ.                            |                      | Spec.  |                                     |
| Pattern Generator, Color analyzer |                      | $x = 0.272 \pm 0.005$<br>$y = 0.278 \pm 0.005$ |                                     |

**Figure**

To avoid interference from ambient light, this adjustment should be performed in a dark room.

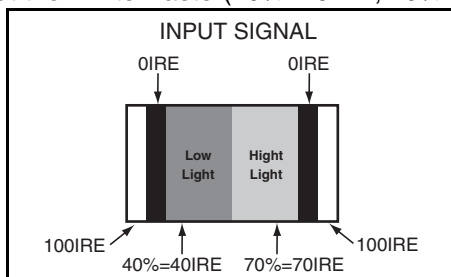
Perpendicularity



L = 3 cm

INPUT: WHITE 70%, 40% Color Analyzer

1. Operate the unit for more than 60 minutes.
2. Input the White Raster(70%=70IRE, 40%=40IRE).



3. Set the color analyzer to the CHROMA mode and bring the optical receptor to the center on the LCD-Panel surface after zero point calibration as shown above.

**Note:** The optical receptor must be set perpendicularly to the LCD Panel surface.

4. Enter the Service mode. Press [VOLUME DOWN] button on the remote control unit and select "C/D" mode.

### 5. [CUTOFF]

Press [1] button to select "COR" for Red Cutoff adjustment. Press [3] button to select "COB" for Blue Cutoff adjustment.

### [DRIVE]

Press [4] button to select "DR" for Red Drive adjustment. Press [6] button to select "DB" for Blue Drive adjustment.

6. In each color mode, press [CHANNEL UP/DOWN] buttons to adjust the values of color.
7. Adjust Cutoff and Drive so that the color temperature becomes 12000°K ( $x = 0.272$  /  $y = 0.278 \pm 0.005$ ).
8. To cancel or to exit from the White Balance Adjustment, press [PREV CH] button.

# HOW TO INITIALIZE THE LCD TV

The purpose of initialization is to place the set in a new out of box condition. The customer will be prompted to select a language and program channels after the set has been initialized.

To put the program back at the factory-default, initialize the LCD TV using the following procedure.

1. Turn the power on.
2. Enter the service mode.
  - To cancel the service mode, press [POWER] button on the remote control unit.
3. Press [INFO] button on the remote control unit to initialize the LCD television.
4. "INITIALIZED" will appear in the upper right of the screen. "INITIALIZED" color will change to green from red when initializing is completed.

# FIRMWARE RENEWAL MODE

## Equipment Required

- USB storage device
- Remote Control Unit

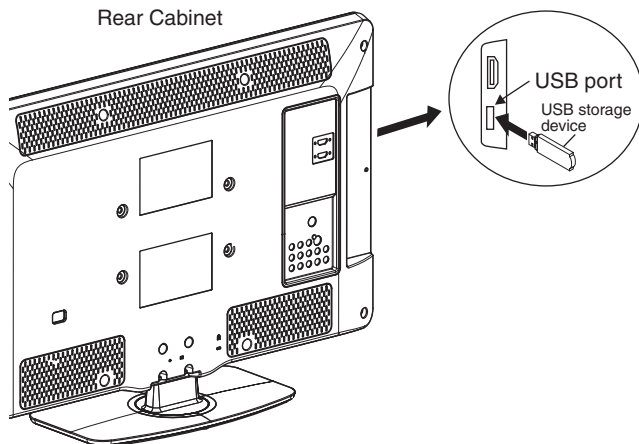
## Firmware Update Procedure

**Note:** There are two states (the User Upgrade and the Factory Upgrade) in firmware update.

|                 |   |
|-----------------|---|
| User Upgrade    | Upgrade the firmware only.<br>The setting values are not initialized. |
| Factory upgrade | Upgrade the firmware and initialize the setting values.               |

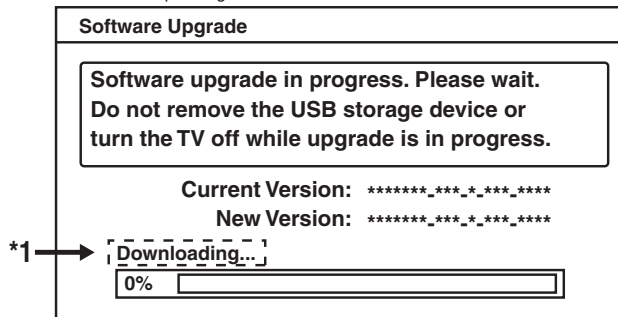
The identification of User Upgrade and Factory Upgrade are done by the filename.

- Turn the power off and unplug the AC Cord.
- Insert the USB storage device to the USB port as shown below.



- Plug the AC cord in the wall outlet and turn the power on.
- The update will start and the following will appear on the screen.

"\*" differs depending on the models.

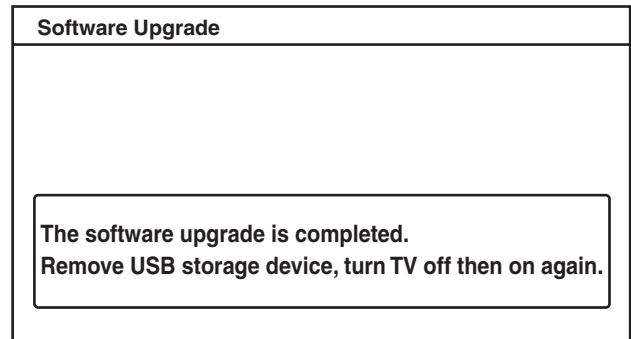


**Note:** If the above screen isn't displayed, repeat from step 1.

The appearance shown in \*1 is described as follows.

| Appearance     | State   |
|----------------|---|
| Downloading... | Downloading the firmware from the USB storage device. |
| Writing...     | Writing the downloaded firmware in flash memory.      |
| Checking...    | Checking the new firmware.                            |

- When the firmware update is completed, the following will appear on the screen.



Remove the USB storage device from the USB port.

Turn the power off and turn the power on again.

### Note:

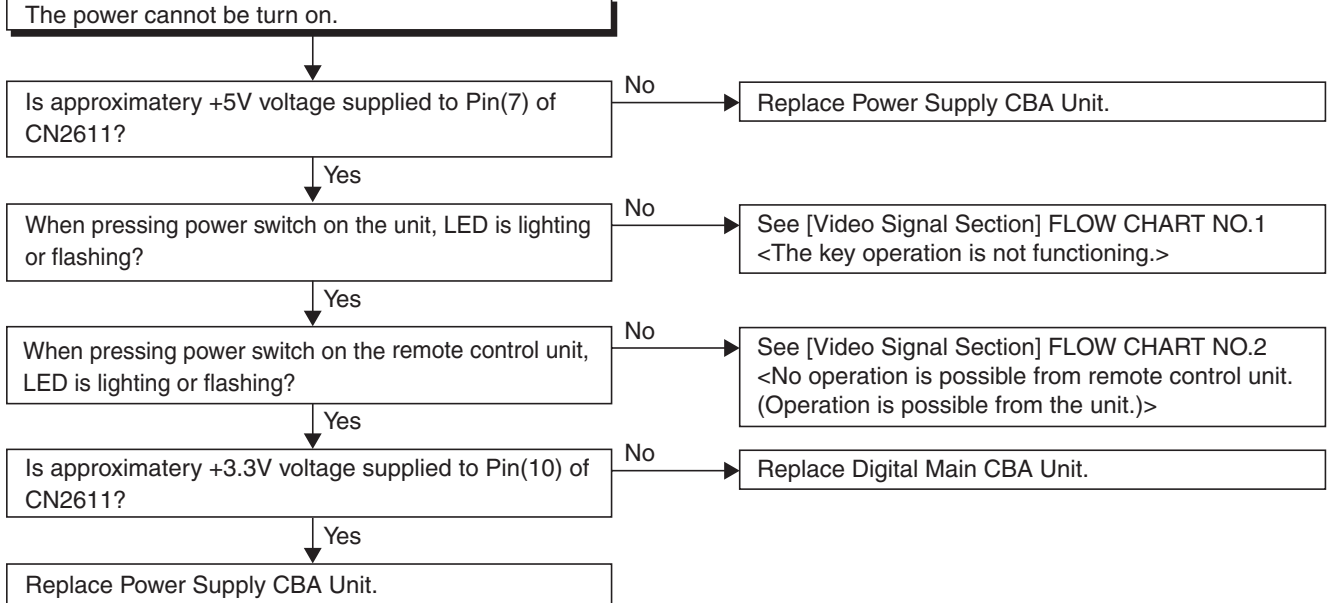
When the Factory Upgrade is used, after restarting TV, shift to initial screen menu in service mode. "INITIALIZED" will appear on the upper right of the screen. "INITIALIZED" color will change to green from red when initializing is completed.



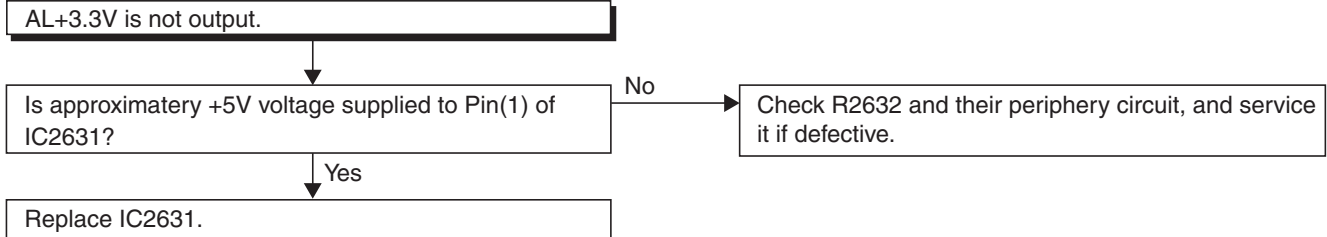
# TROUBLESHOOTING

## [ Power Supply Section ]

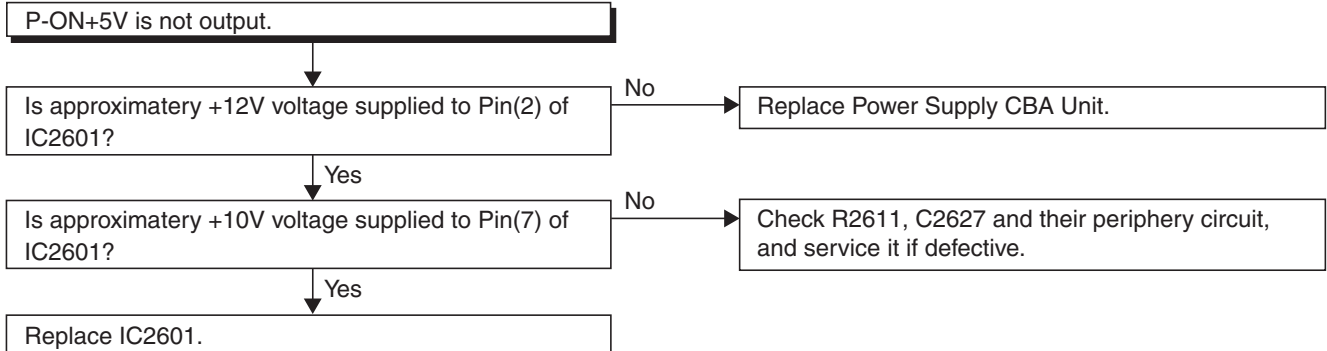
### FLOW CHART NO.1



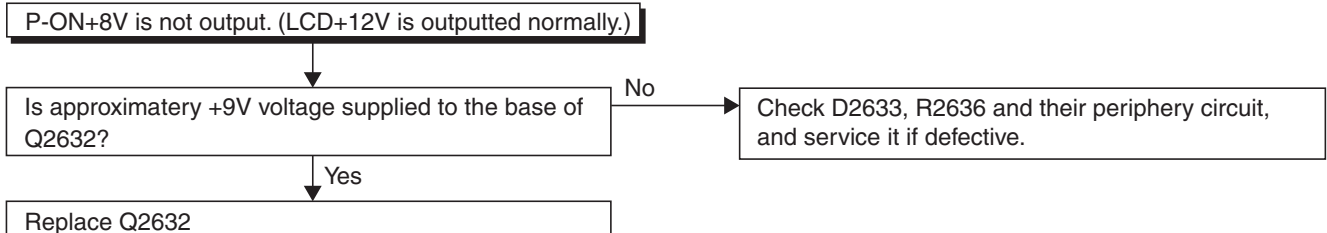
### FLOW CHART NO.2



### FLOW CHART NO.3

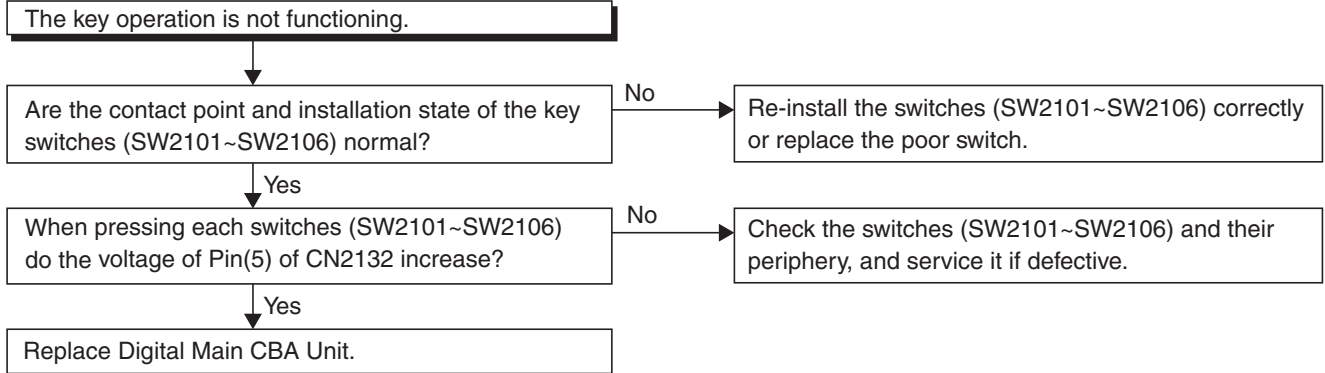


### FLOW CHART NO.4

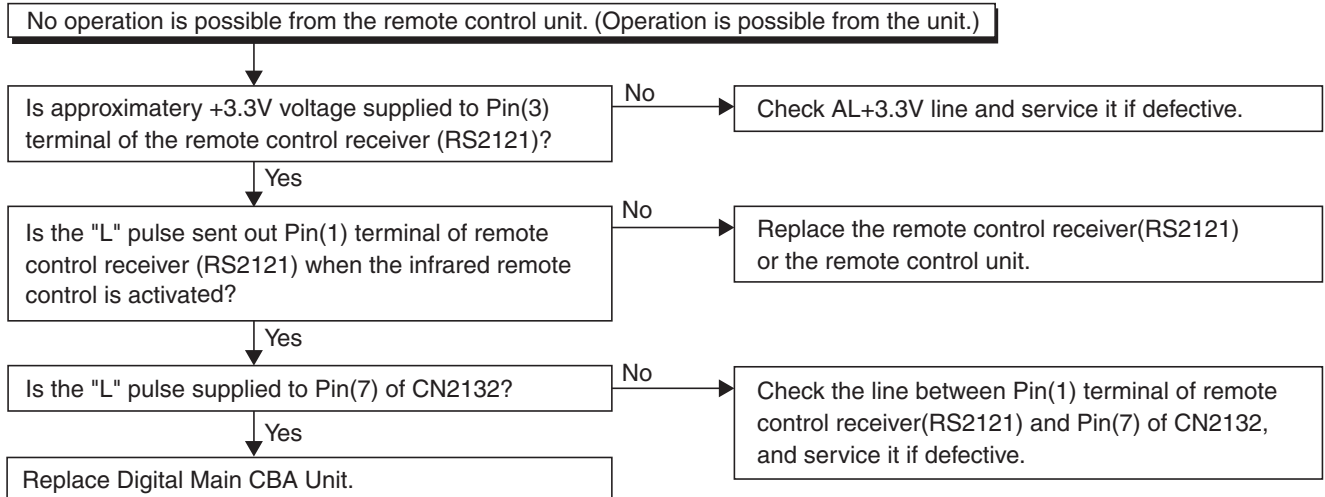


## [ Video Signal Section ]

### FLOW CHART NO.1

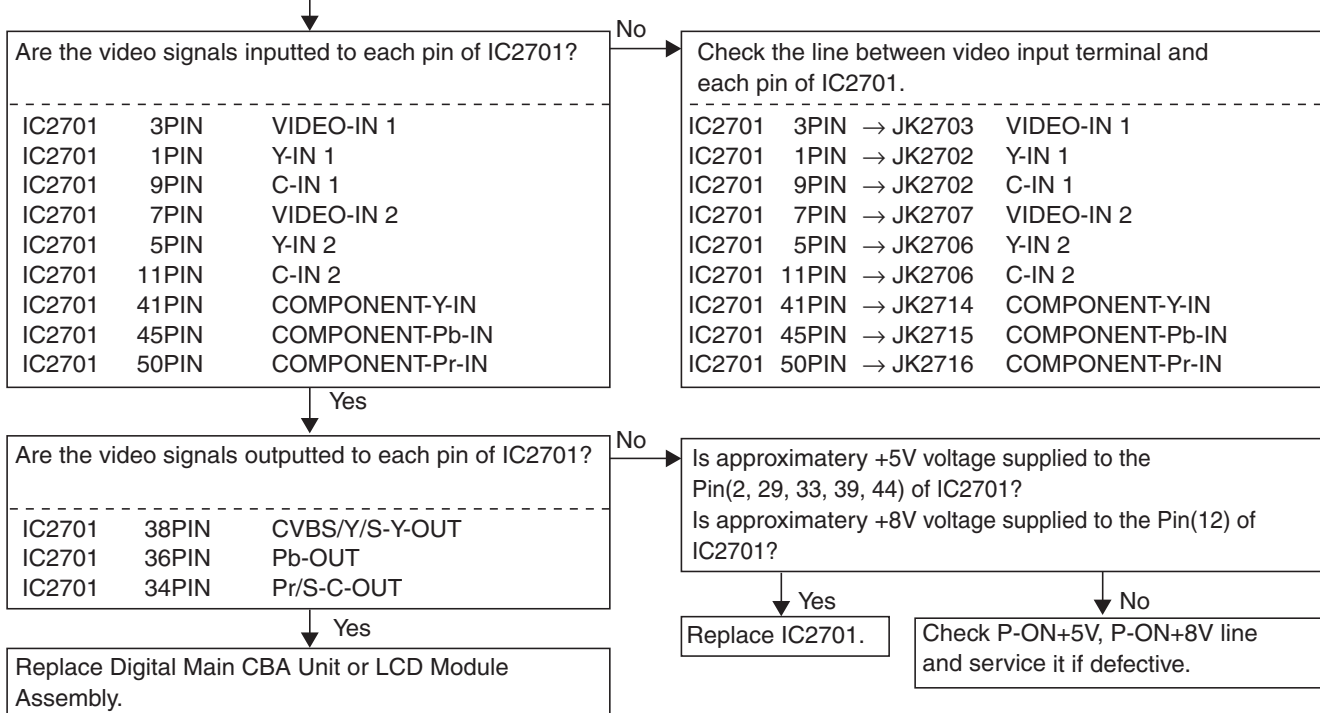


### FLOW CHART NO.2



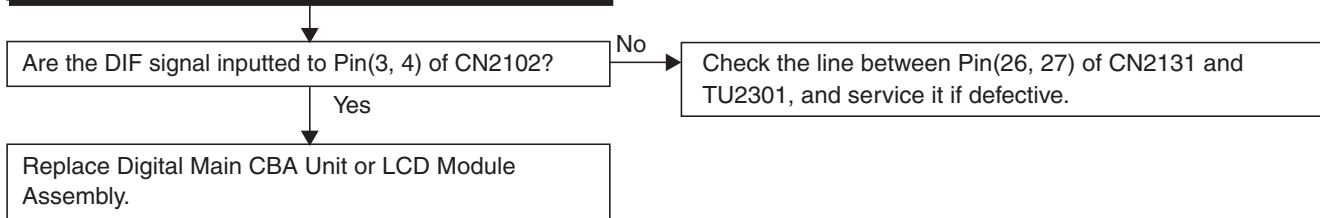
### FLOW CHART NO.3

Picture does not appear normally. (EXT. input)



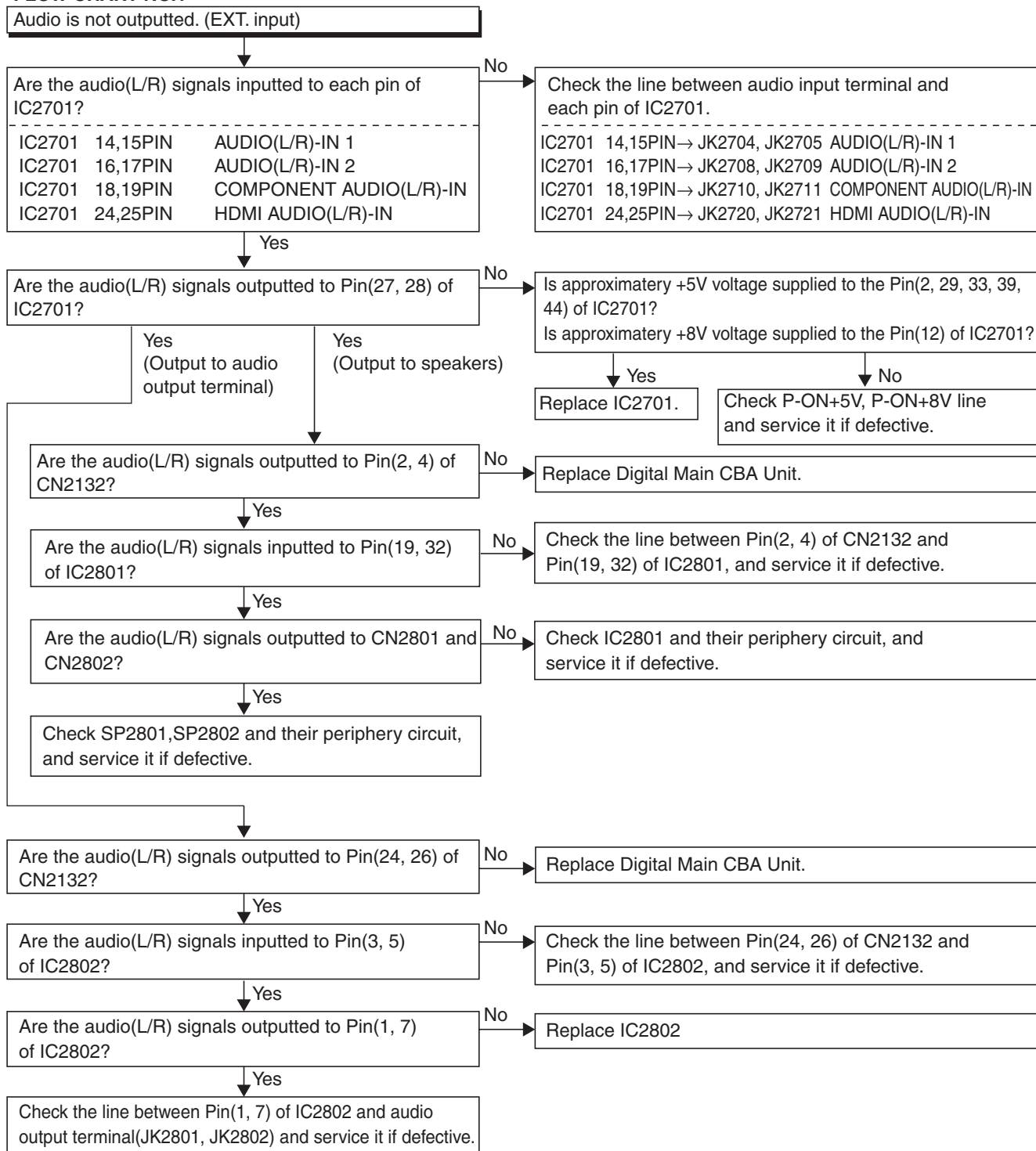
### FLOW CHART NO.4

Picture does not appear normally. (Tuner input)

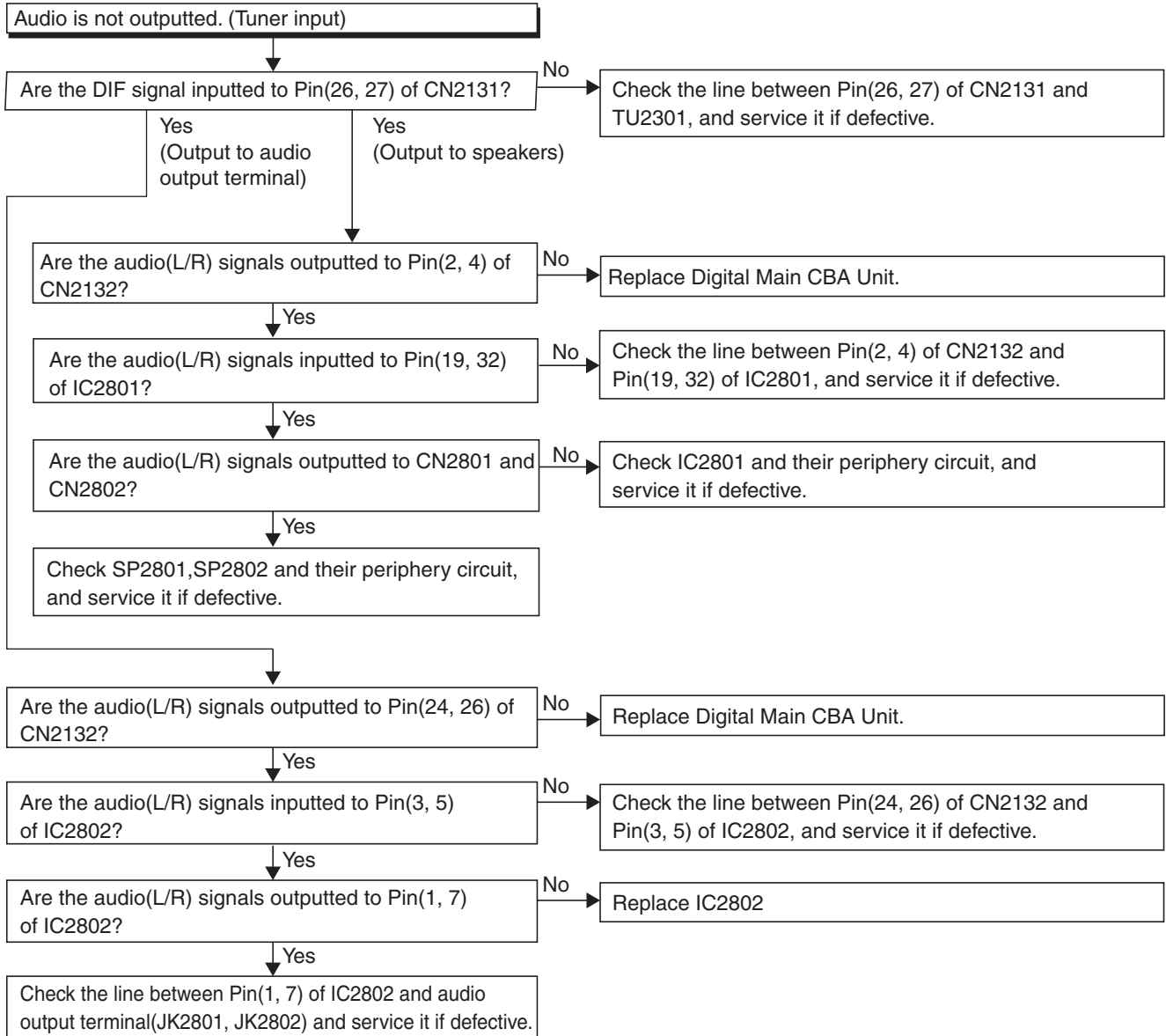


# [ Audio Signal Section ]

## FLOW CHART NO.1

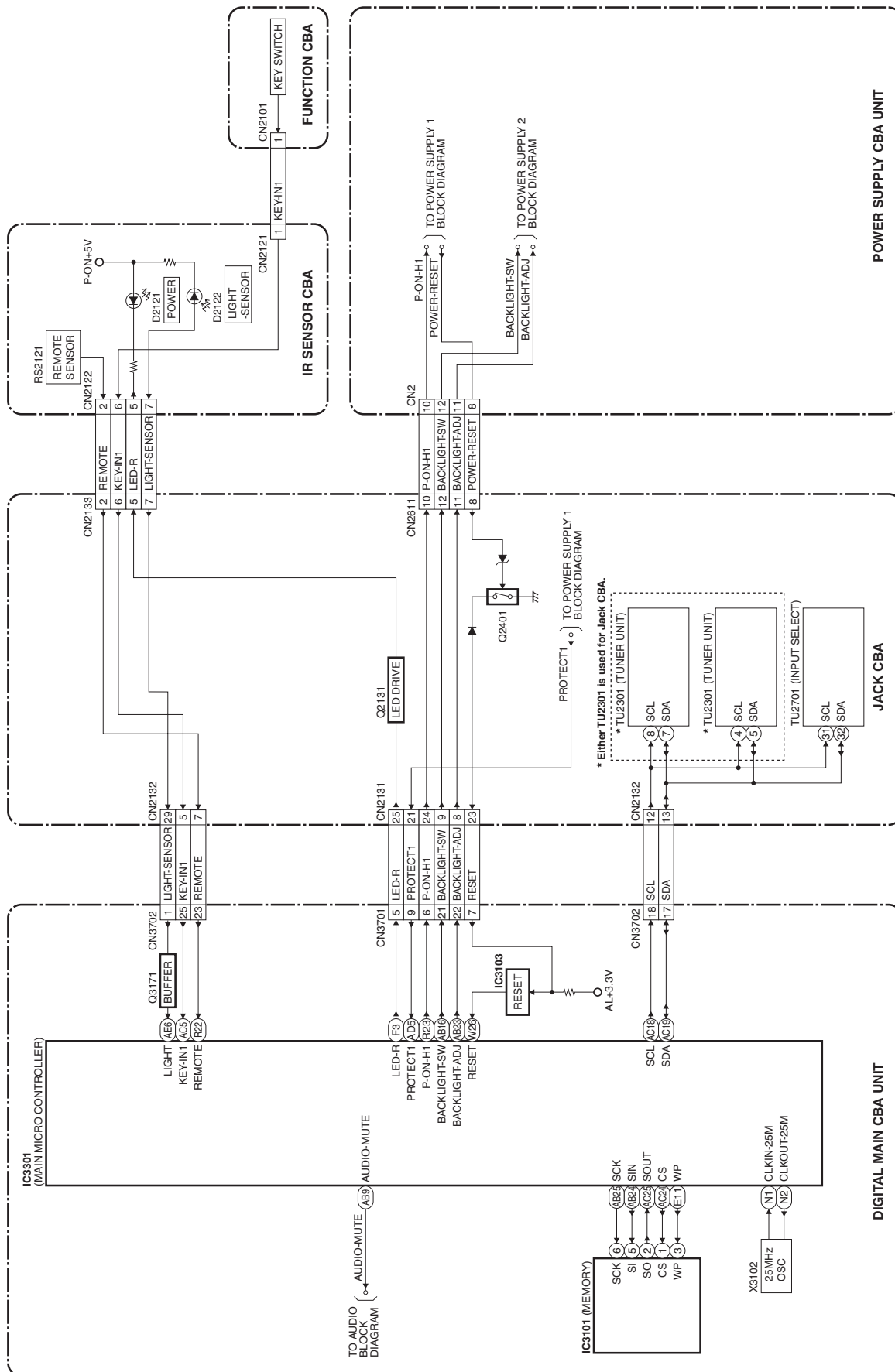


## FLOW CHART NO.2

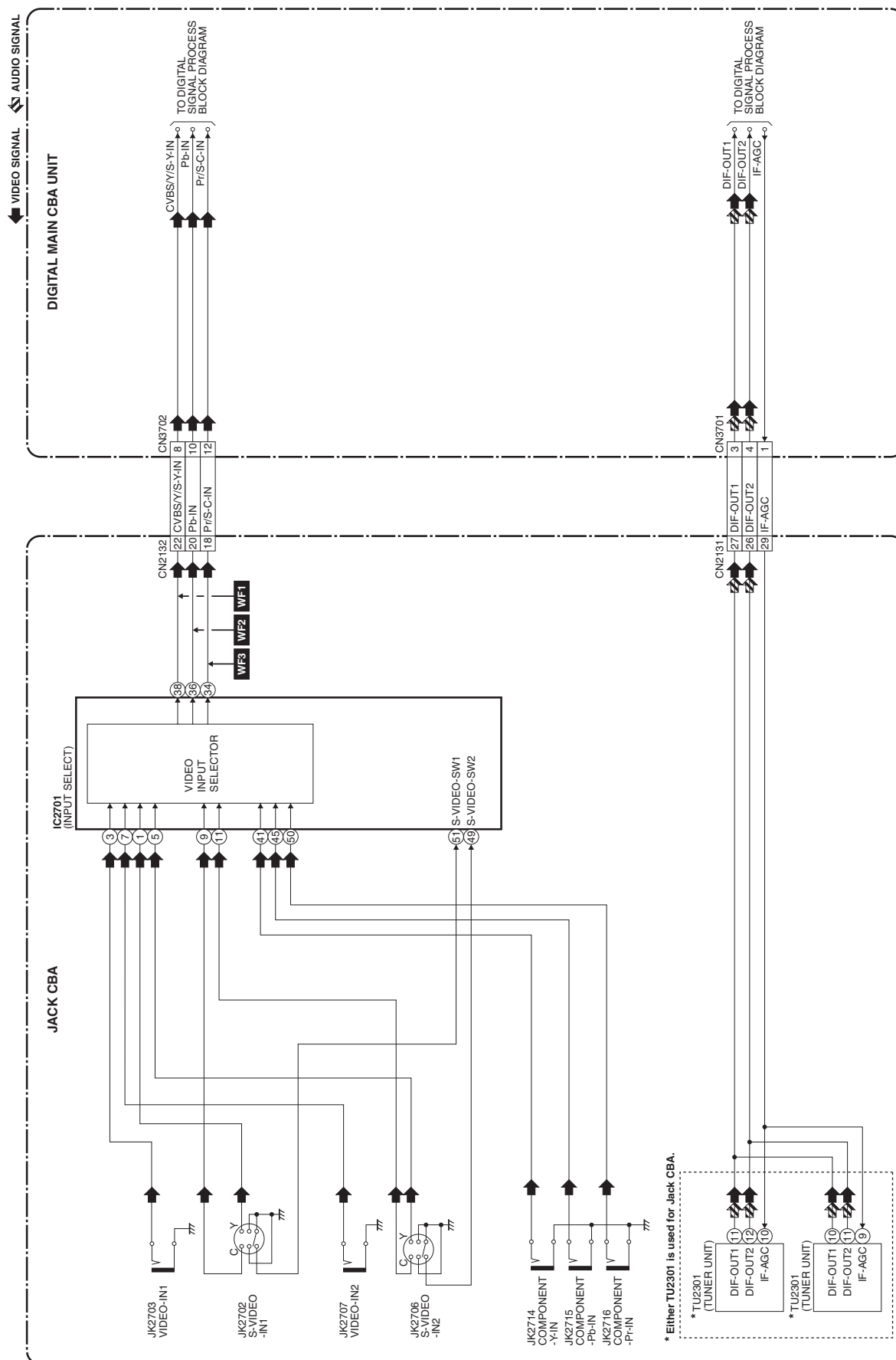


# BLOCK DIAGRAMS

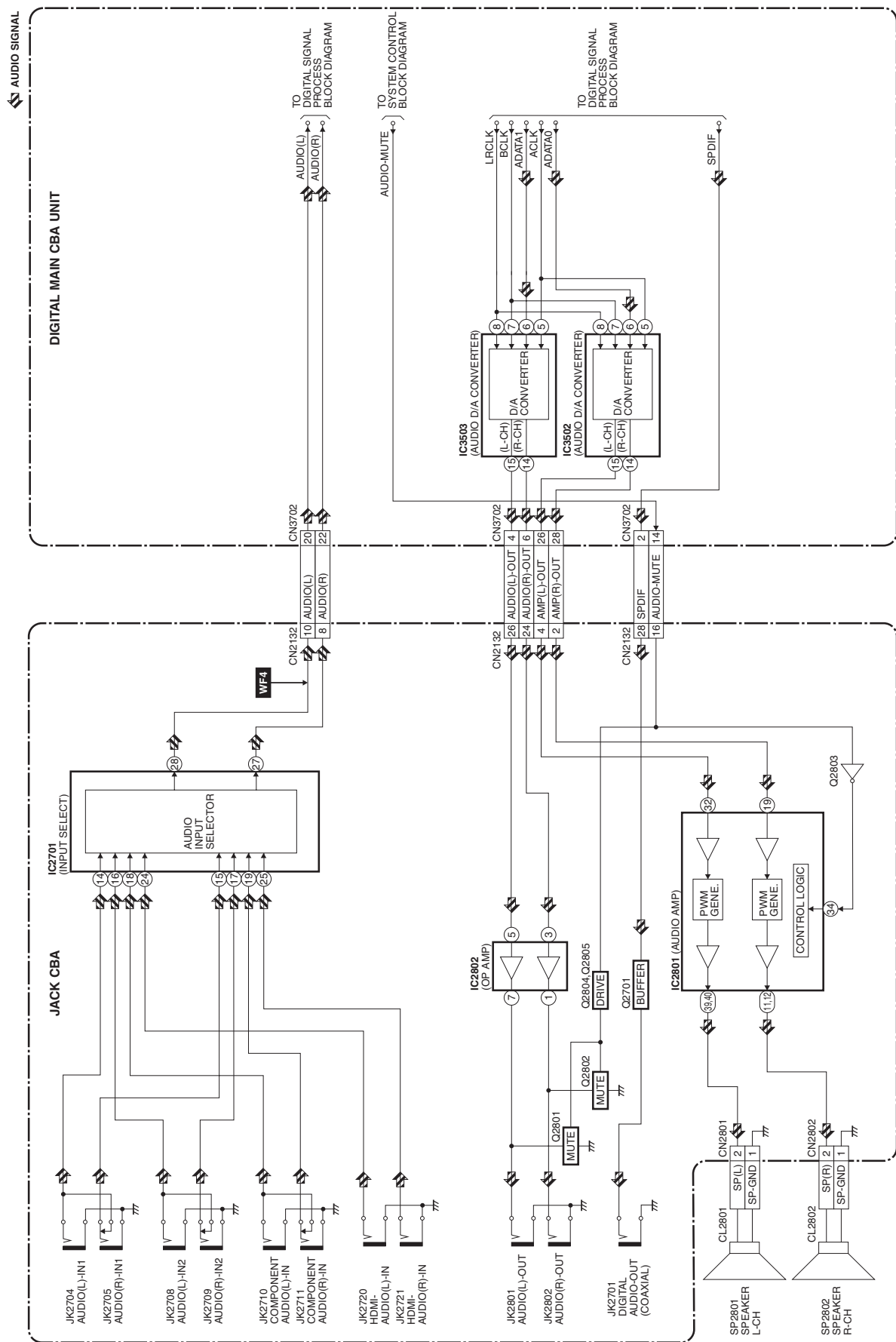
## System Control Block Diagram



## Video Block Diagram

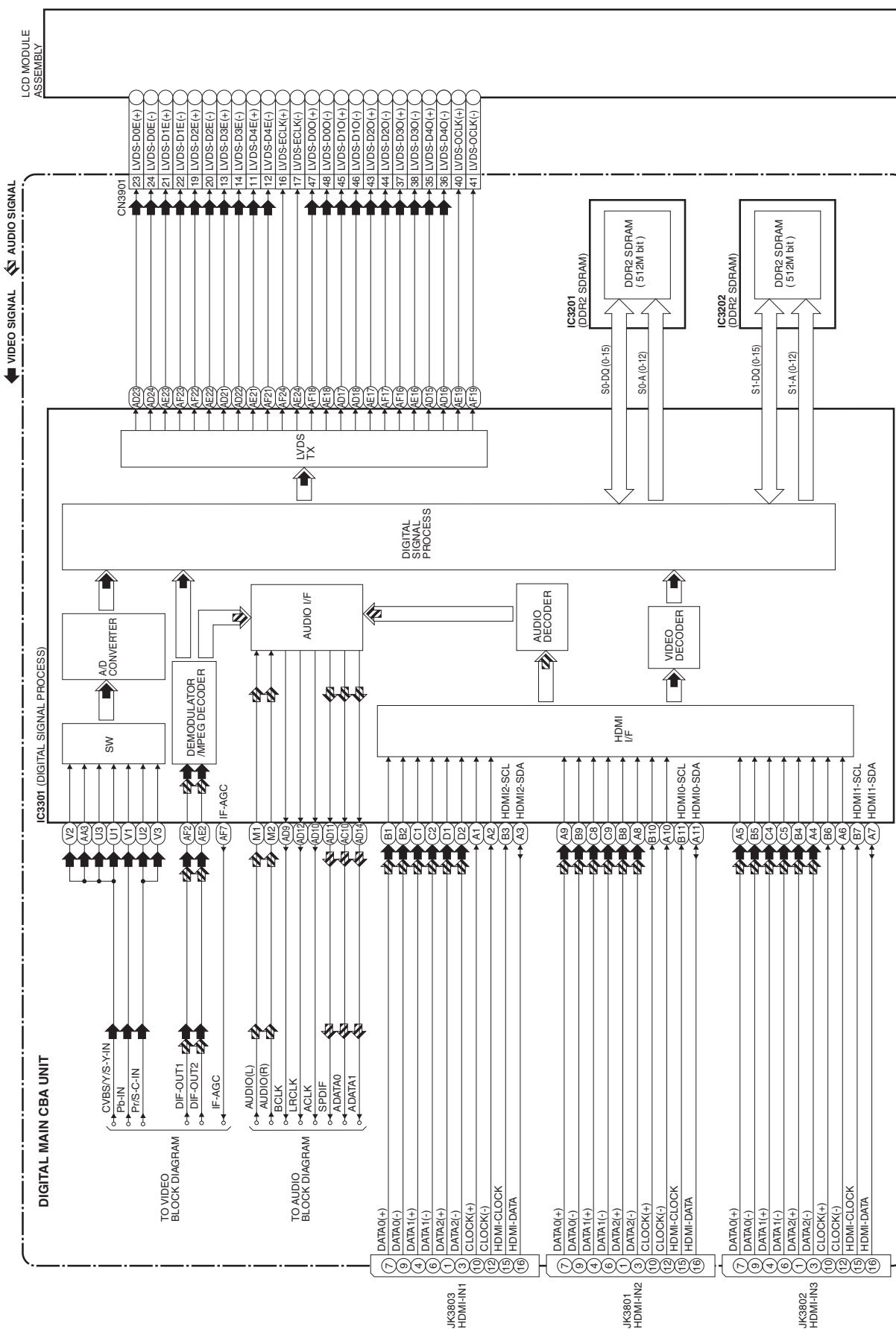


# Audio Block Diagram





## Digital Signal Process Block Diagram



## Power Supply1 Block Diagram

**CAUTION !**

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1) 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.

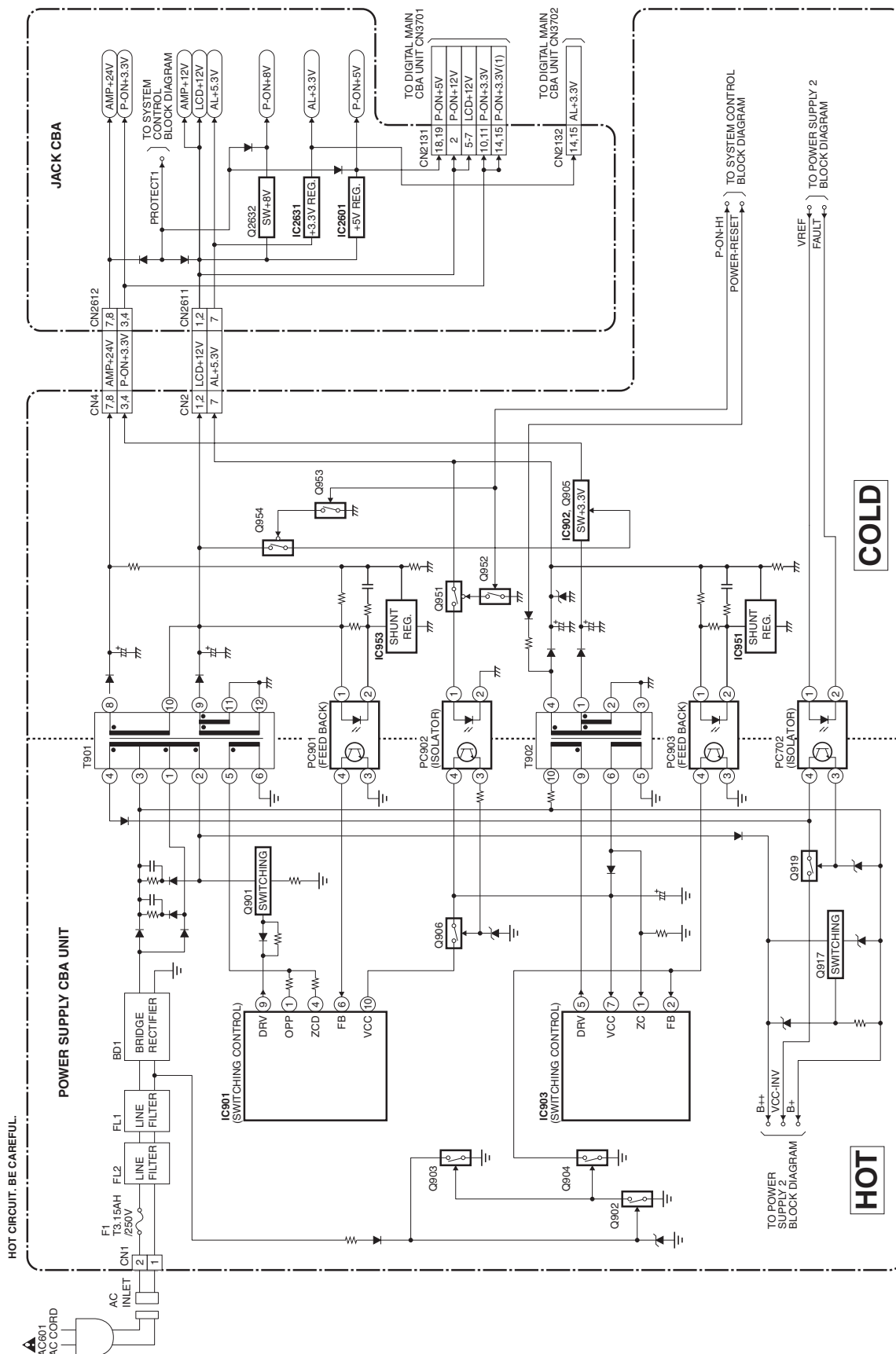
3.15A/250V

**CAUTION !:** For continued protection against risk of fire, replace only with same type 3.15A, 250V fuses.

**ATTENTION :** Utiliser un fusible de rechange de même type de 3.15A, 250V.

**NOTE:**

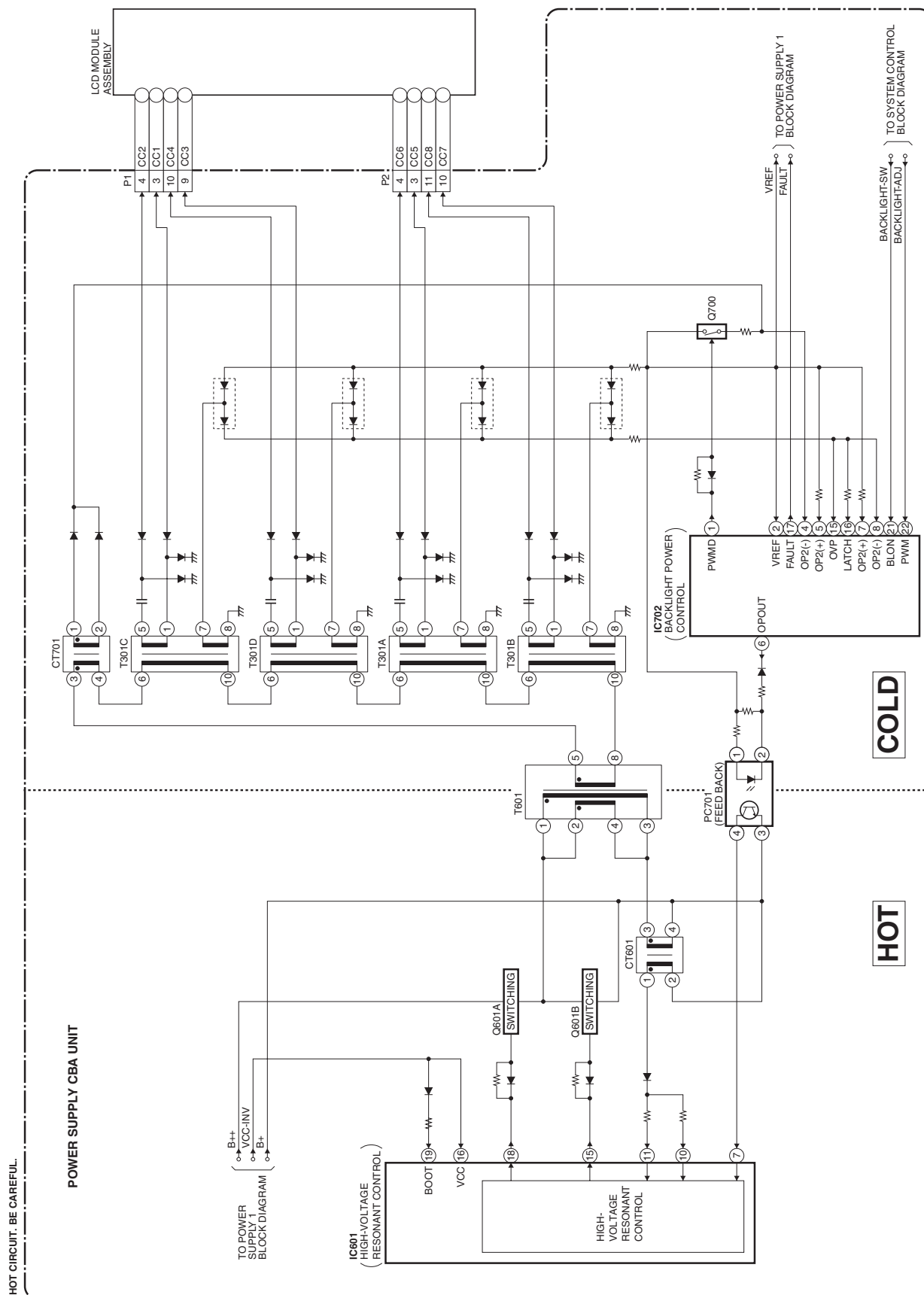
The voltage for parts in hot circuit is measured using hot GND as a common terminal.



## Power Supply2 Block Diagram

**NOTE:**

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



# SCHEMATIC DIAGRAMS / CBA AND TEST POINTS

## Standard Notes

### WARNING

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.

### Notes:

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.
6. This schematic diagrams are masterized version that should cover the entire PL10.11 chassis models.  
Thus some parts in detail illustrated on this schematic diagrams may vary depend on the model within the PL10.11 chassis.  
Please refer to the parts lists for each models.
7. The Circuit Board layout illustrated on this service manual is the latest version for this chassis at the moment of making this service manual.  
Depend on the mass production date of each model, the actual layout of each Board may differ slightly from this version.

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

### 1. CAUTION:

**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.

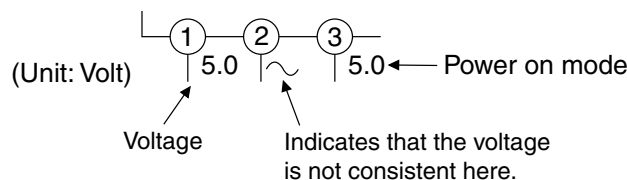
If Main Fuse (F1) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

### 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.:

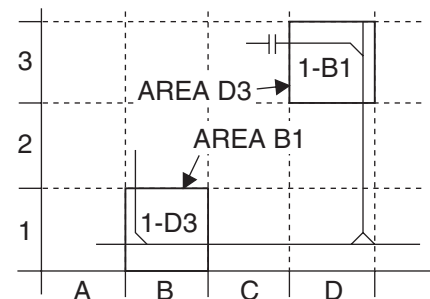


### 5. How to read converged lines

1-D3  
 ↑ Distinction Area  
 Line Number  
 (1 to 3 digits)

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

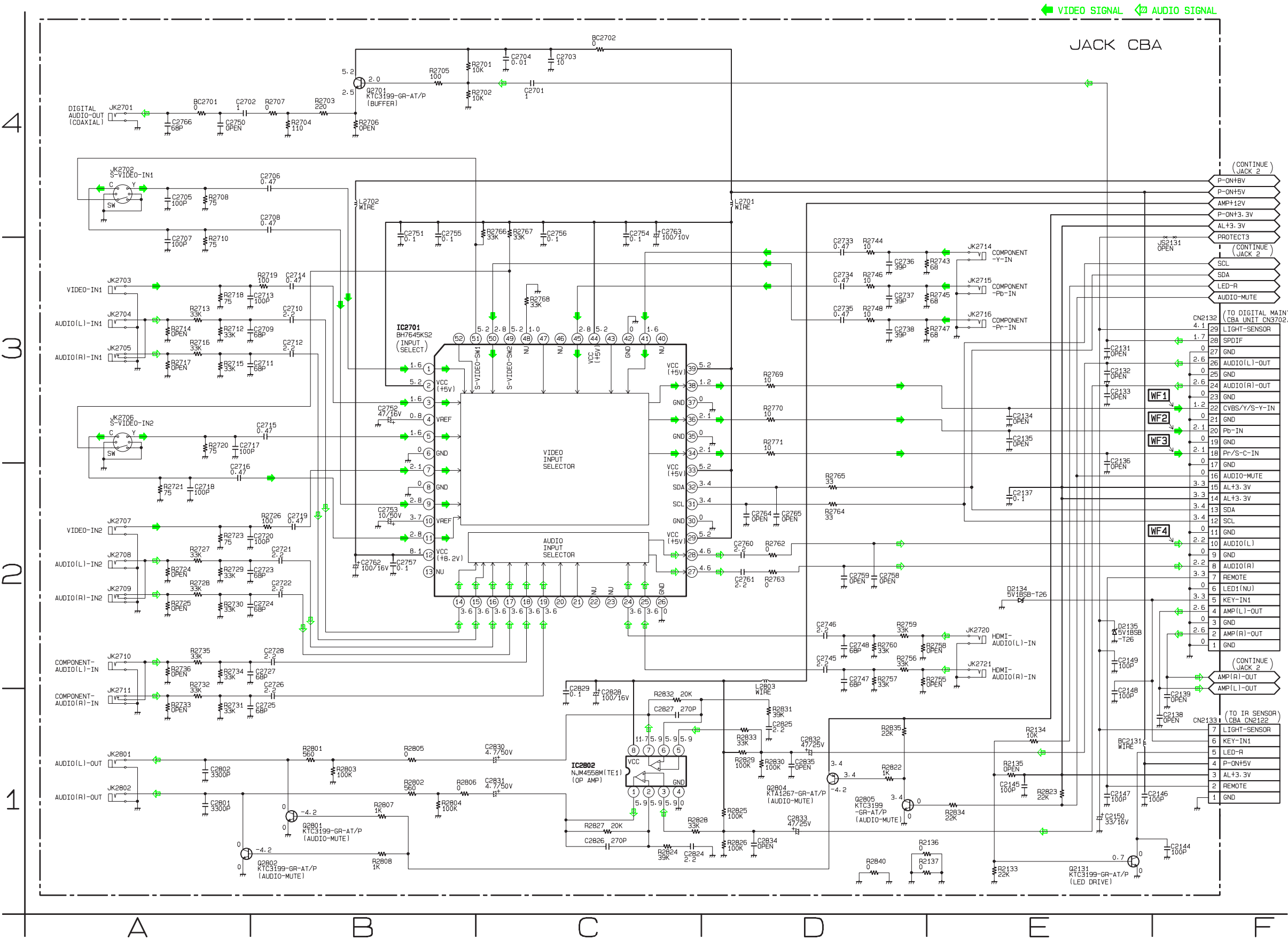
⊙ : Indicates a test point with a jumper wire across a hole in the PCB.

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

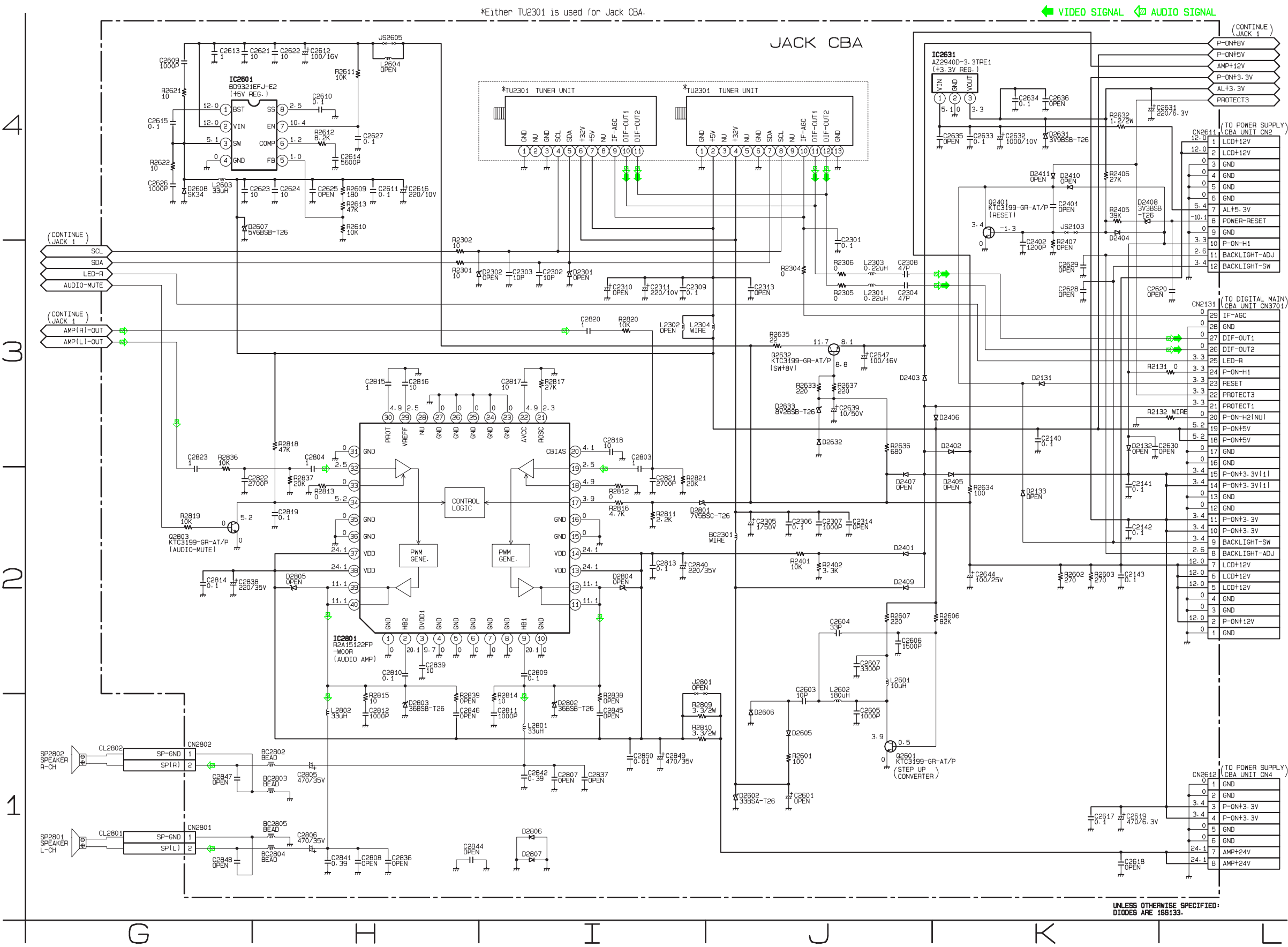
⊗ : Used to indicate a test point with no test pin.

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

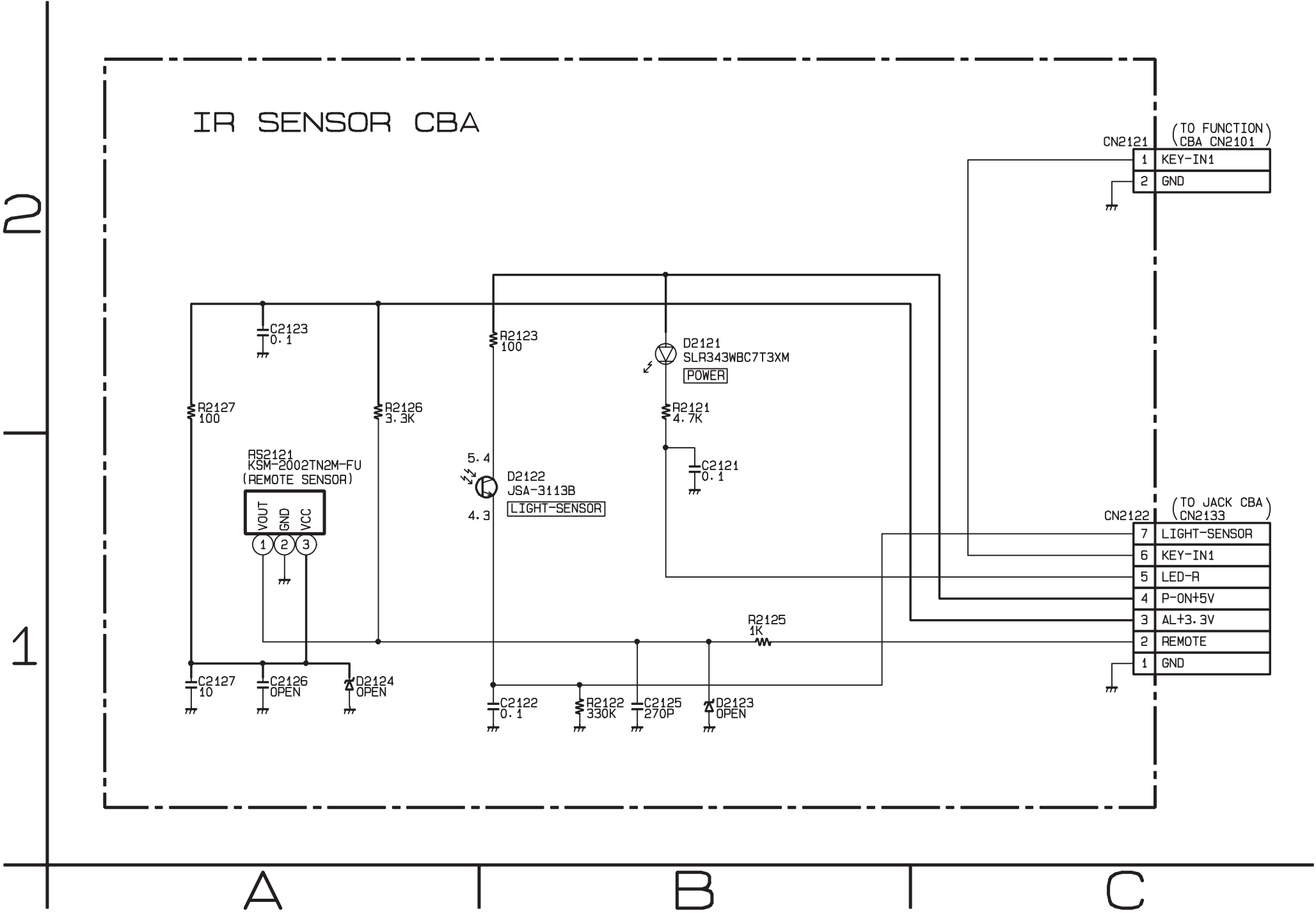
Jack 1 Schematic Diagram



Jack 2 Schematic Diagram

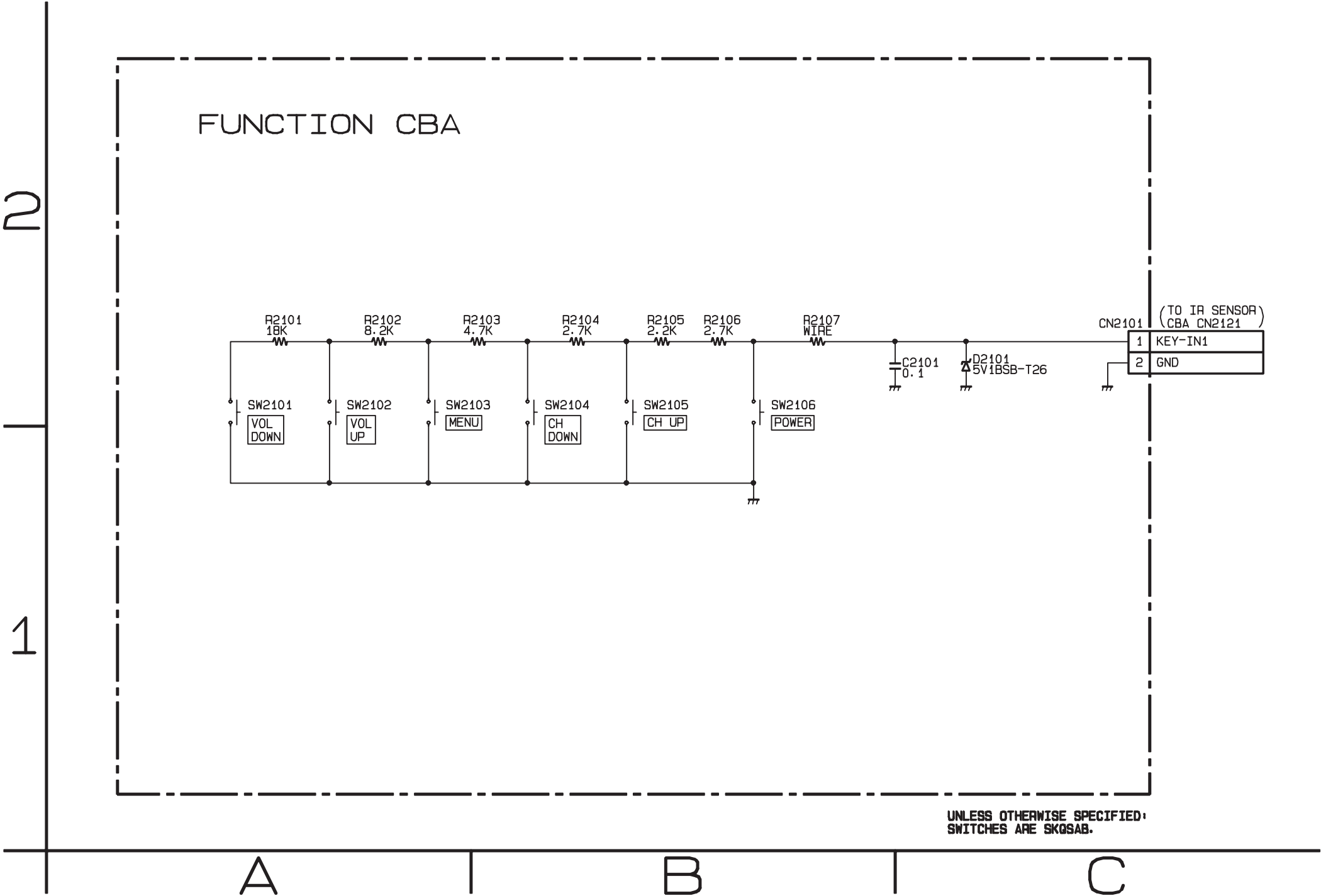


IR Sensor Schematic Diagram



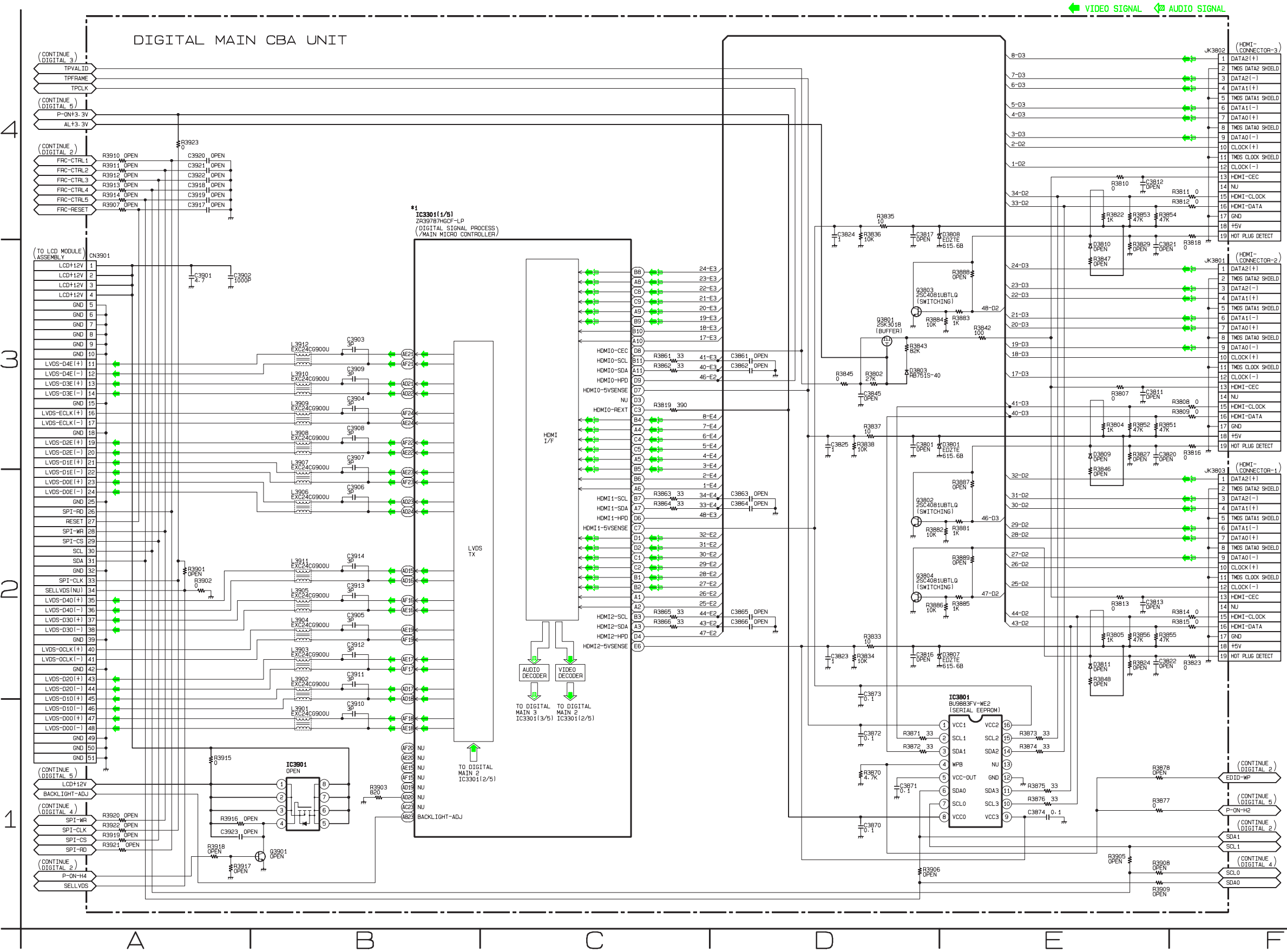


Function Schematic Diagram



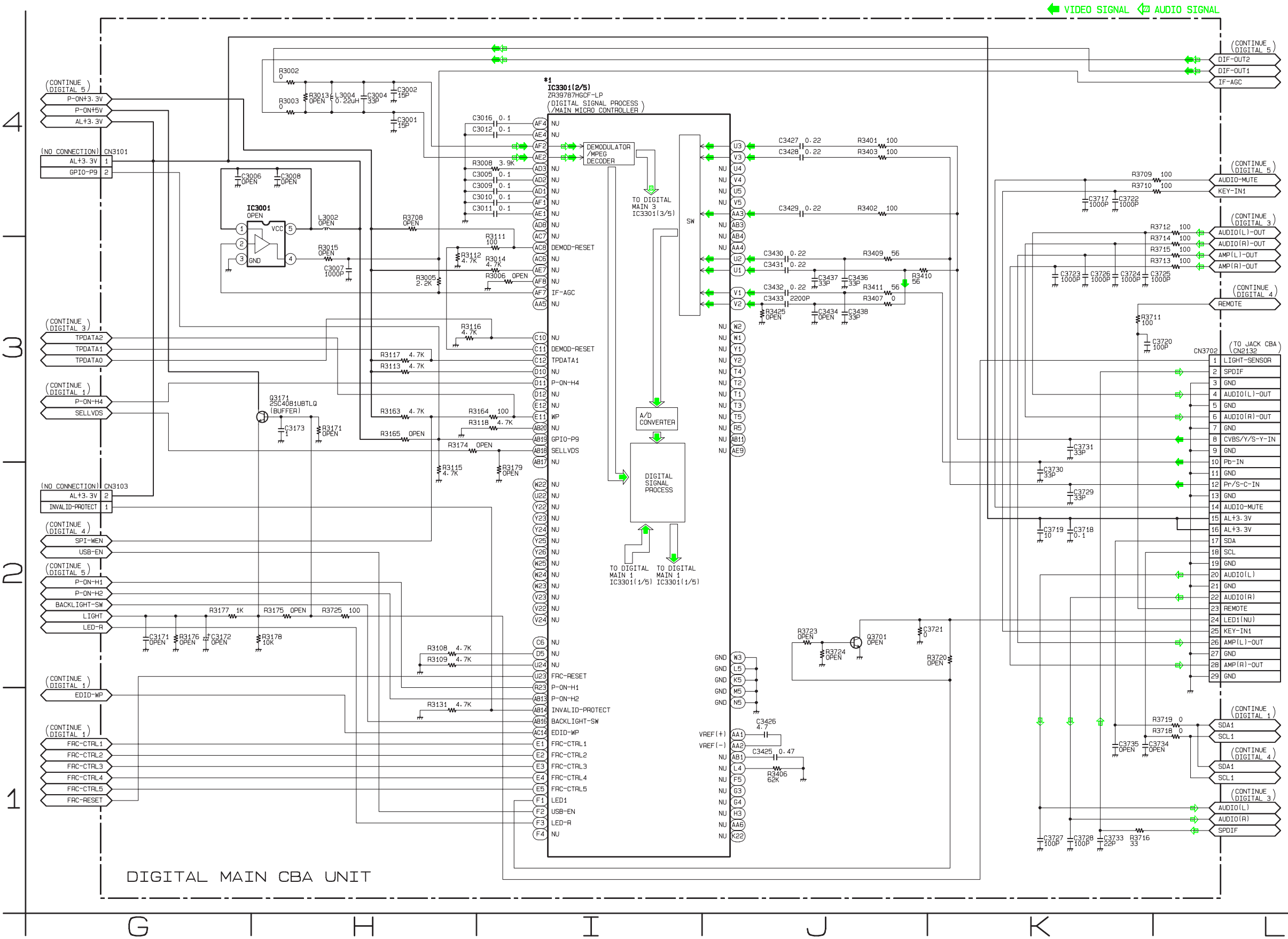
Digital Main 1 Schematic Diagram

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC3301.  
IC3301 is divided into five and shown as IC3301 (1/5) ~ IC3301 (5/5) in this Digital Main Schematic Diagram Section.



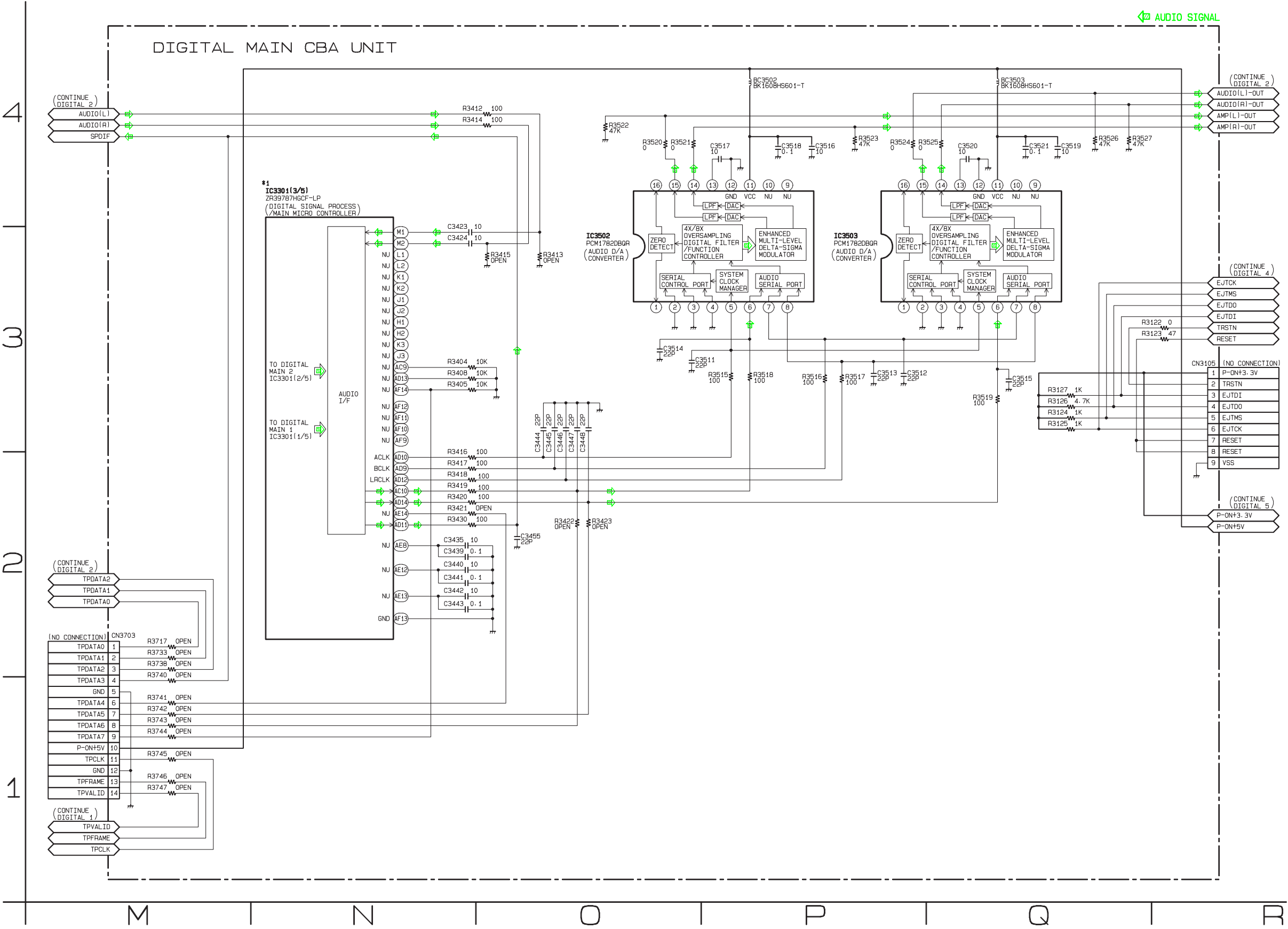
Digital Main 2 Schematic Diagram

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC3301.  
IC3301 is divided into five and shown as IC3301 (1/5) ~ IC3301 (5/5) in this Digital Main Schematic Diagram Section.



Digital Main 3 Schematic Diagram

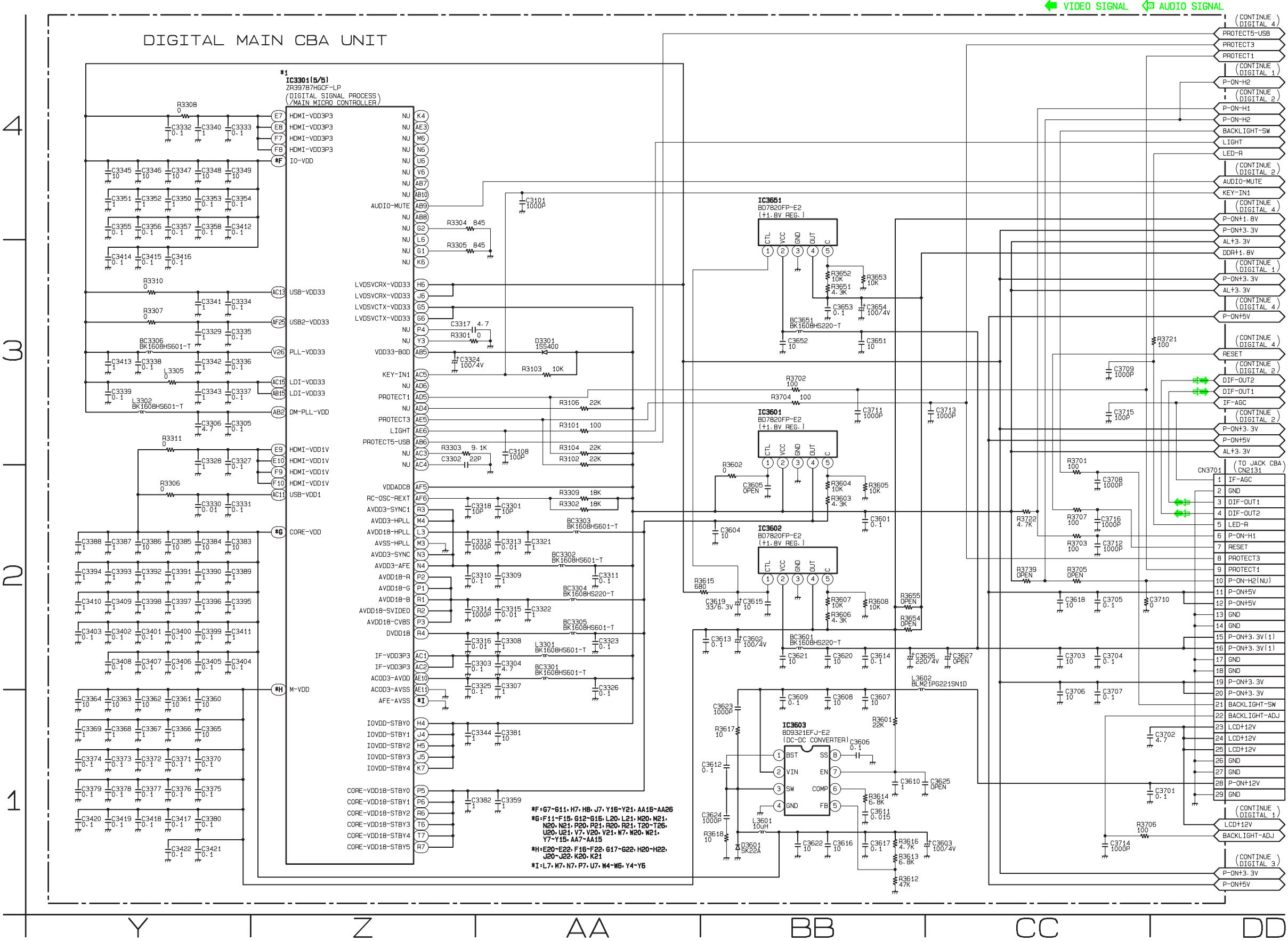
\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC3301.  
IC3301 is divided into five and shown as IC3301 (1/5) ~ IC3301 (5/5) in this Digital Main Schematic Diagram Section.



The order of pins shown in this diagram is different from that of actual IC3301.  
IC3301 is divided into five and shown as IC3301 (1/5) ~ IC3301 (5/5) in this Digital Main Schematic Diagram Section.

Digital Main 5 Schematic Diagram

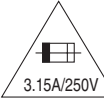
\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC3301.  
IC3301 is divided into five and shown as IC3301 (1/5) ~ IC3301 (5/5) in this Digital Main Schematic Diagram Section.





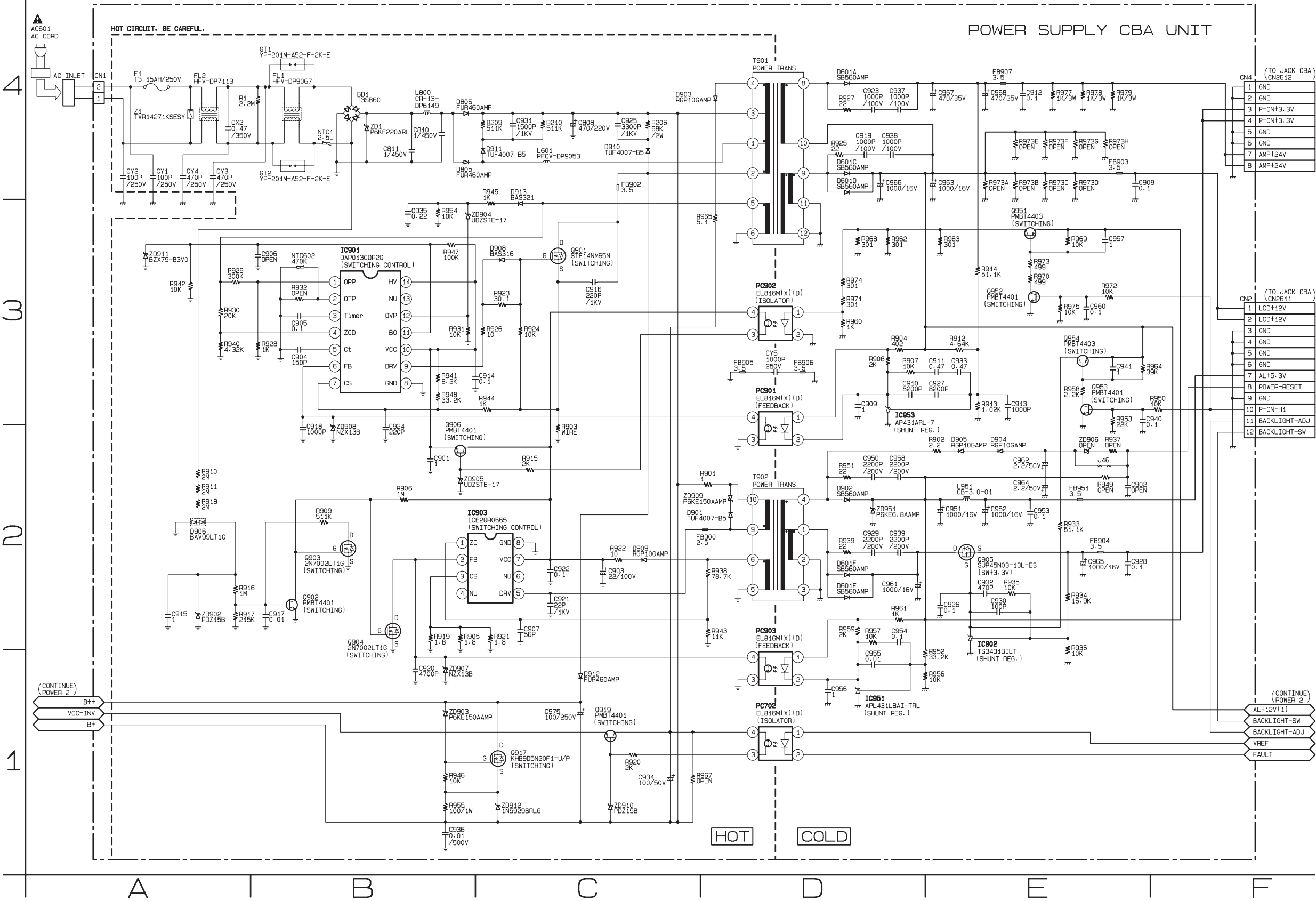
Power Supply 1 Schematic Diagram

**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F1) 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.



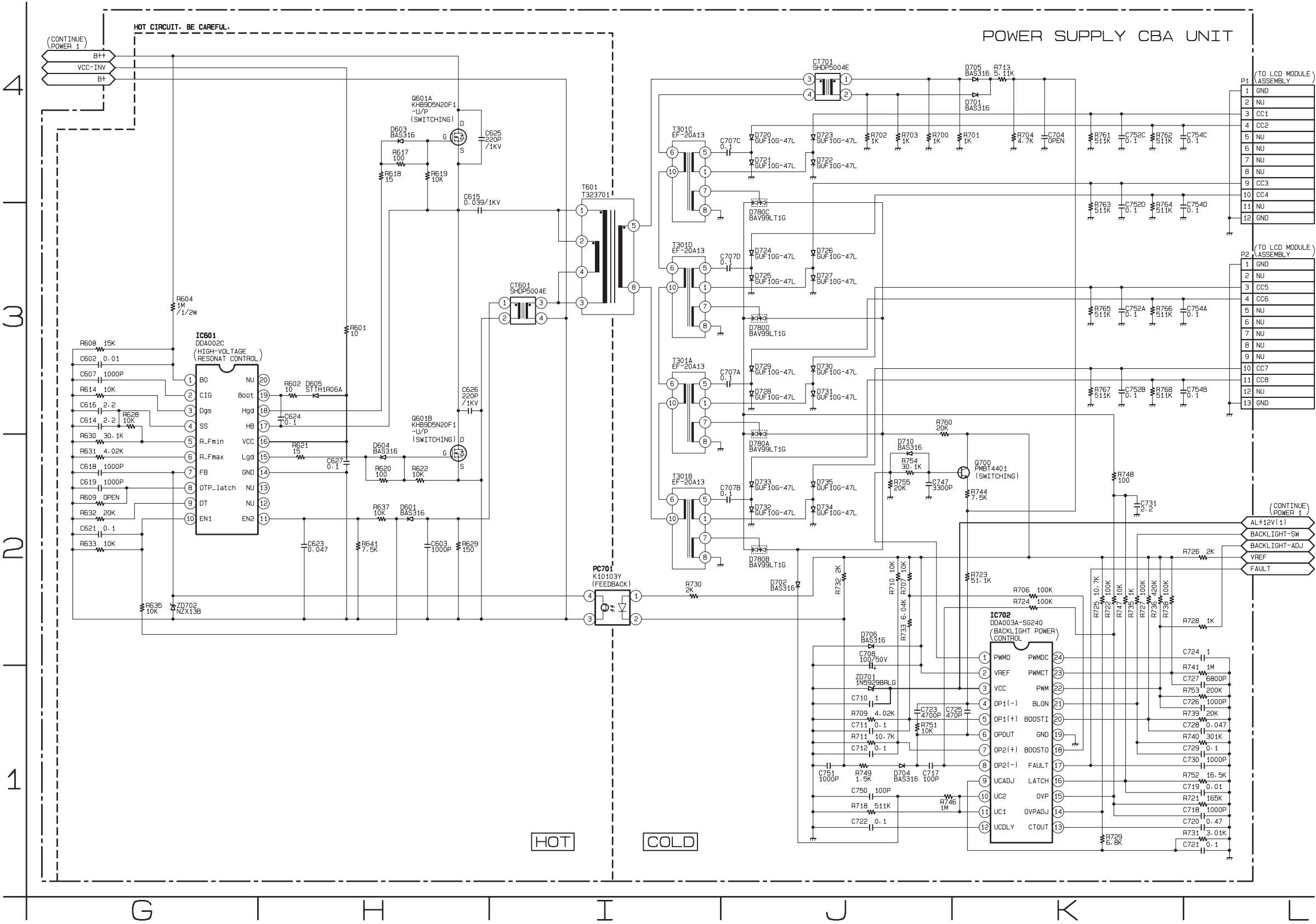
**CAUTION ! :** For continued protection against risk of fire,  
replace only with same type 3.15A, 250V fuse.  
**ATTENTION :** Utiliser un fusible de rechange de même type de 3.15A, 250V.

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



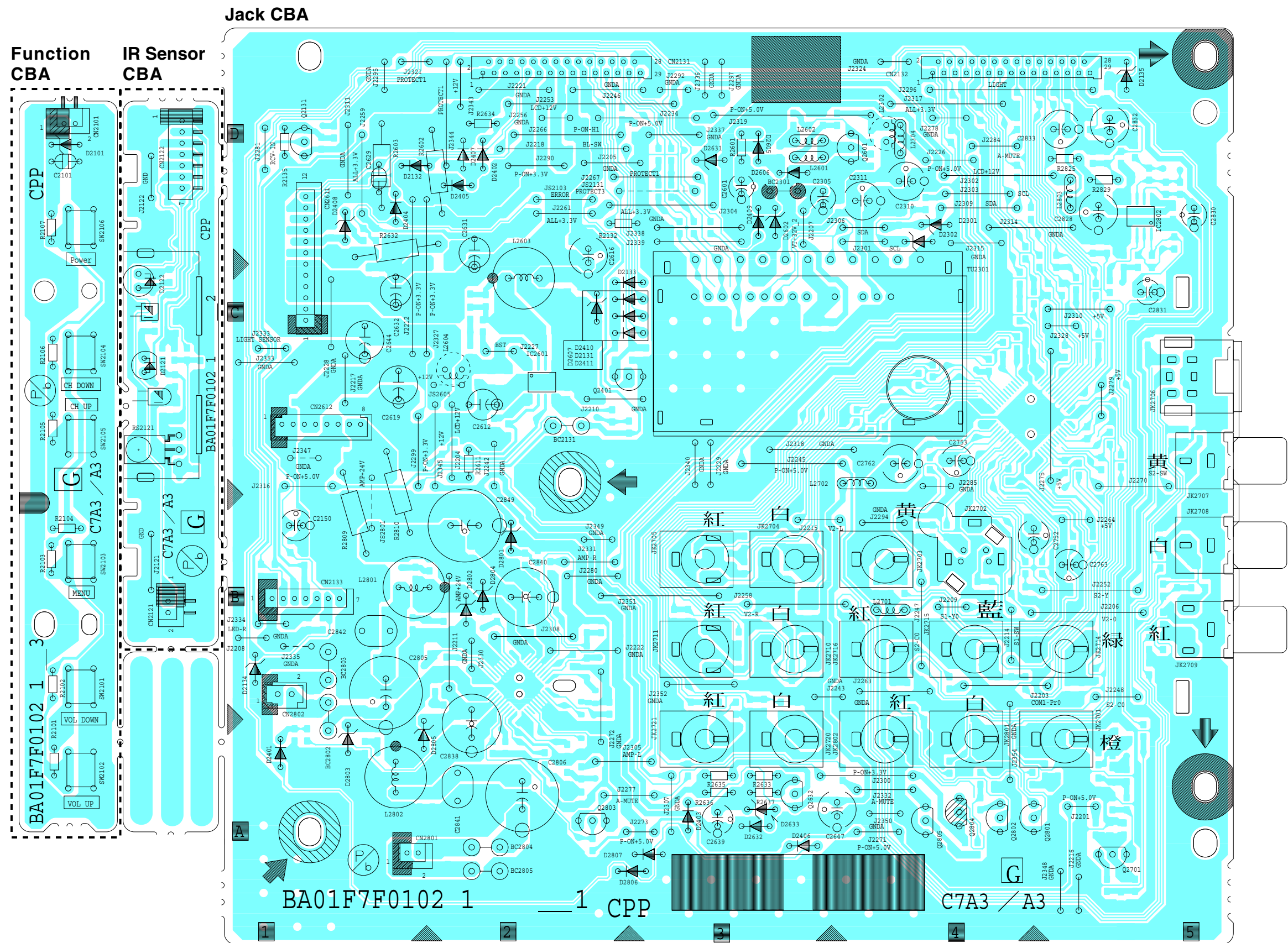
Power Supply 2 Schematic Diagram

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

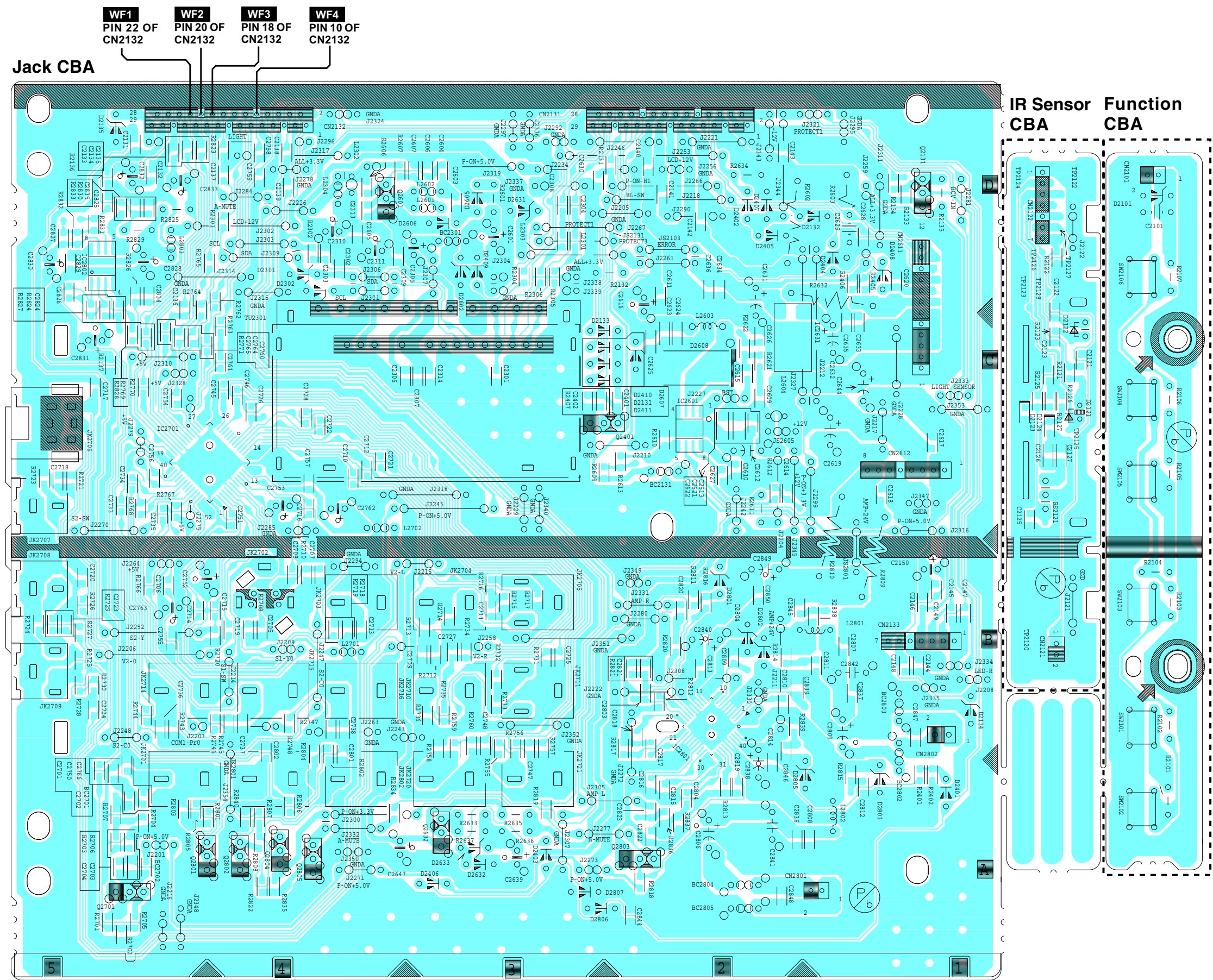




Jack CBA, IR Sensor CBA & Function CBA Top View




Jack CBA, IR Sensor CBA & Function CBA Bottom View



Power Supply CBA Unit Top View

**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F1) 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.

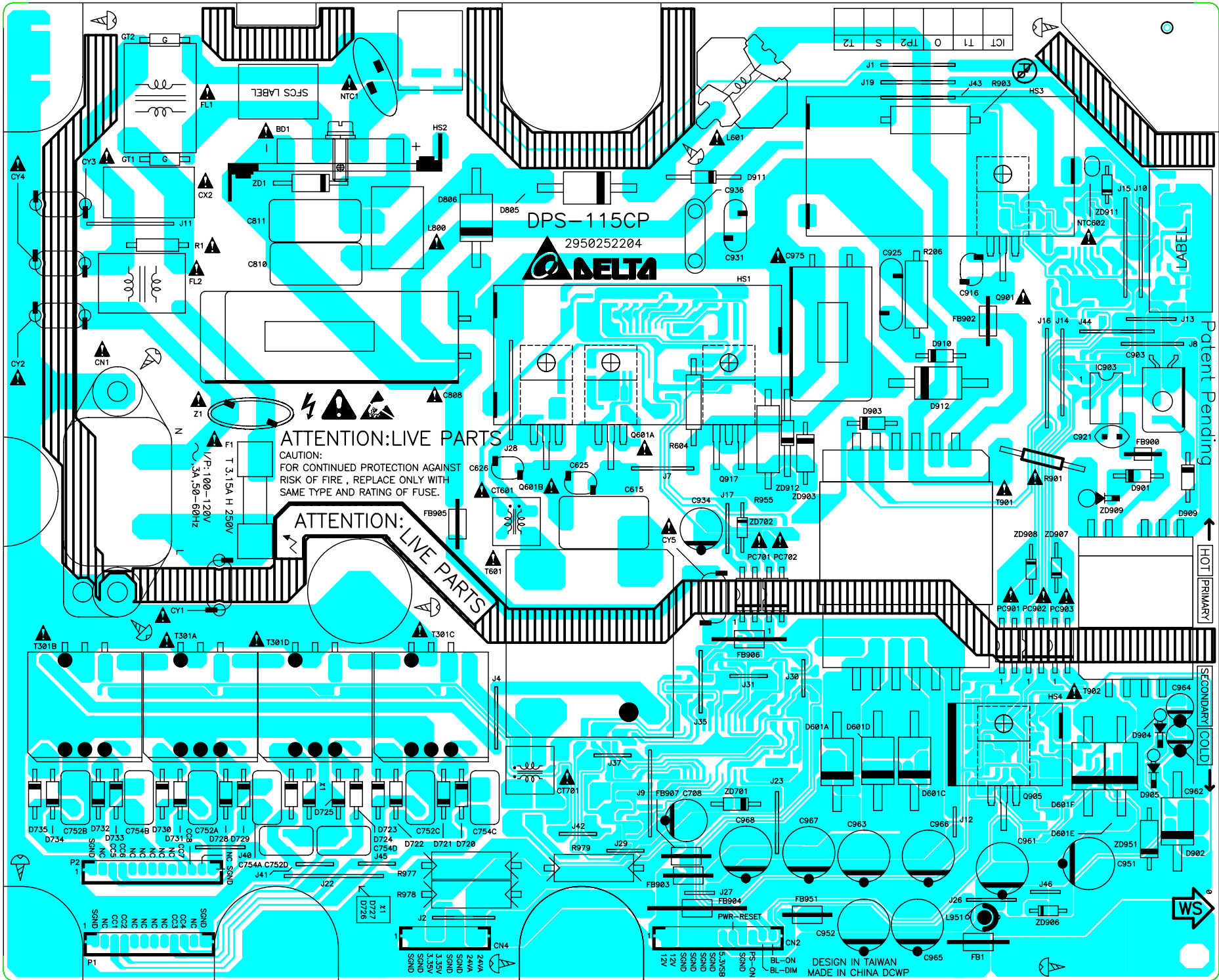


3.15A/250V

**CAUTION ! :** For continued protection against risk of fire,  
replace only with same type 3.15A, 250V fuse.

**ATTENTION :** Utiliser un fusible de rechange de même type de 3.15A, 250V.

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







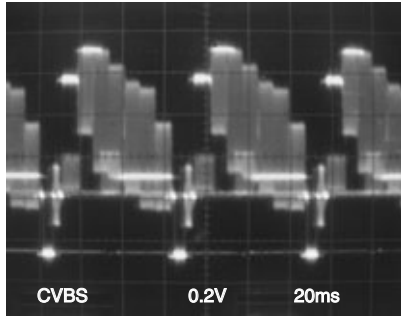
# WAVEFORMS

**WF1 ~ WF4 =** Waveforms to be observed at  
Waveform check points.  
(Shown in Schematic Diagram.)

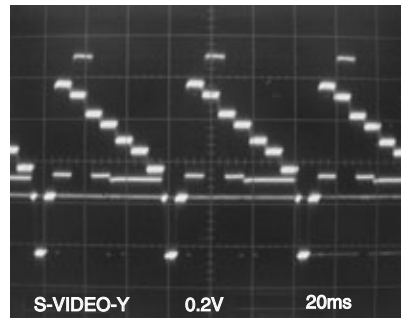
**Input:** NTSC Color Bar Signal (with 1kHz Audio Signal)

**WF1** Pin 22 of CN2132

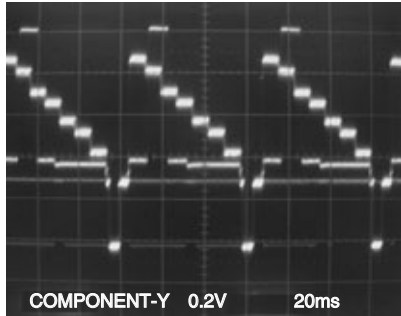
(VIDEO IN)



(S-VIDEO IN)

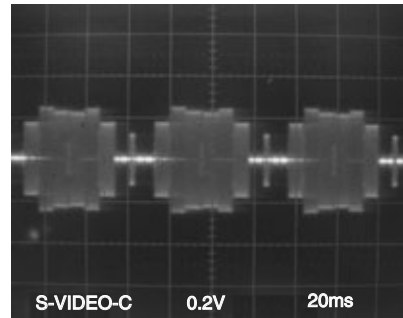


(COMPONENT IN)

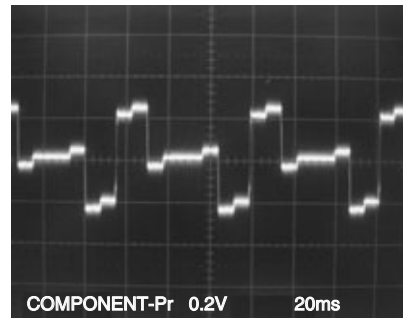


**WF3** Pin 18 of CN2132

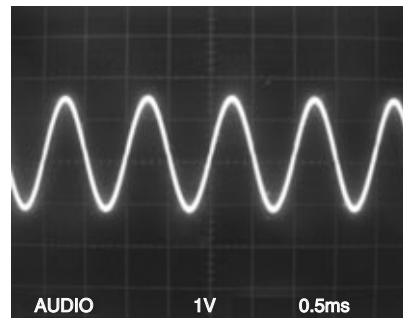
(S-VIDEO IN)



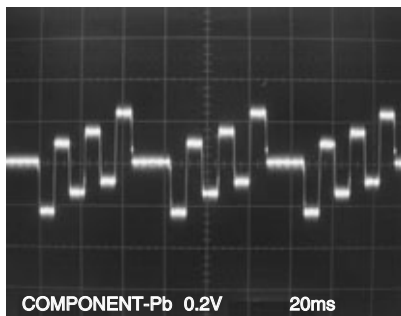
(COMPONENT IN)



**WF4** Pin 10 of CN2132



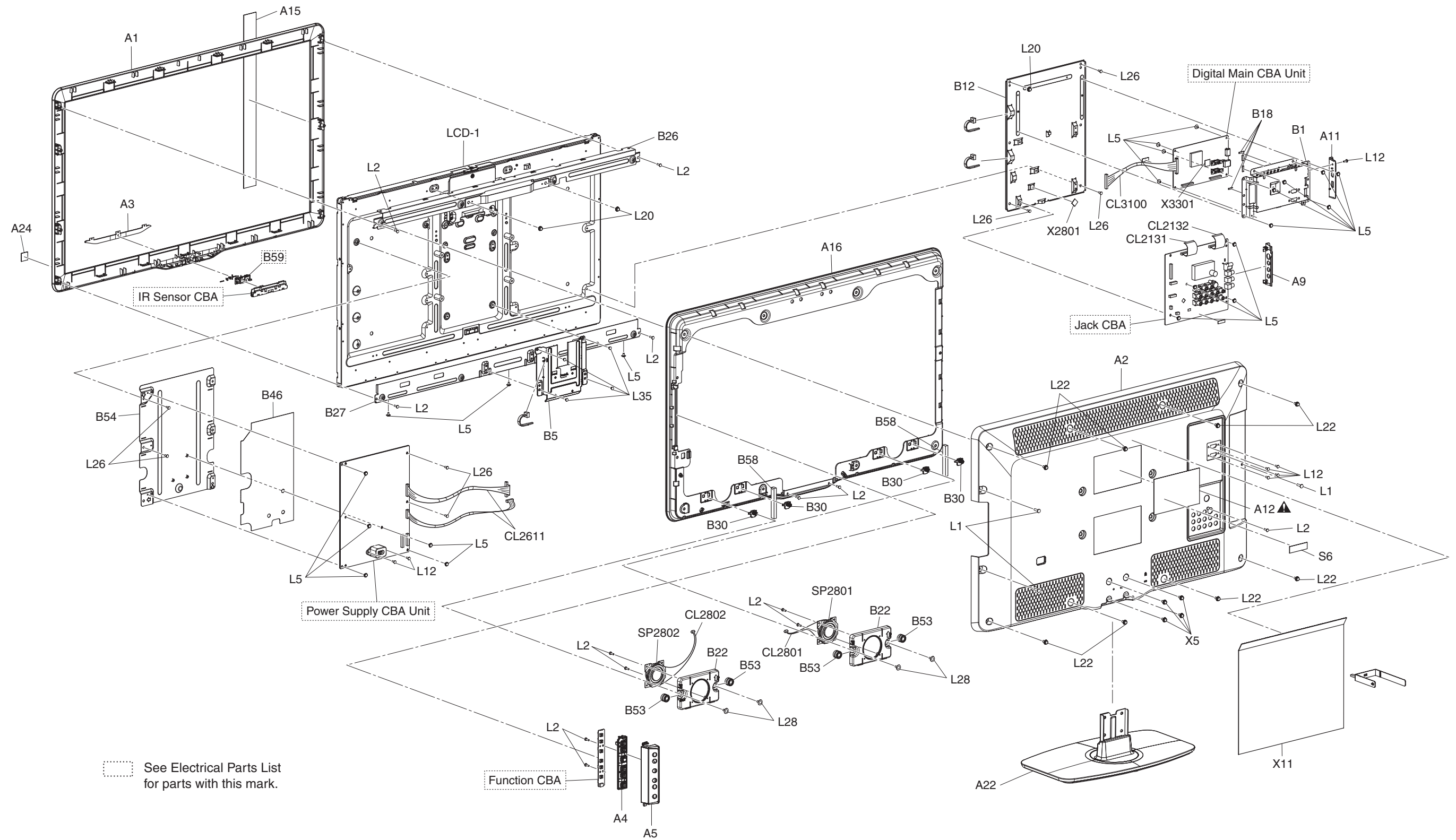
**WF2** Pin 20 of CN2132



[illegible]

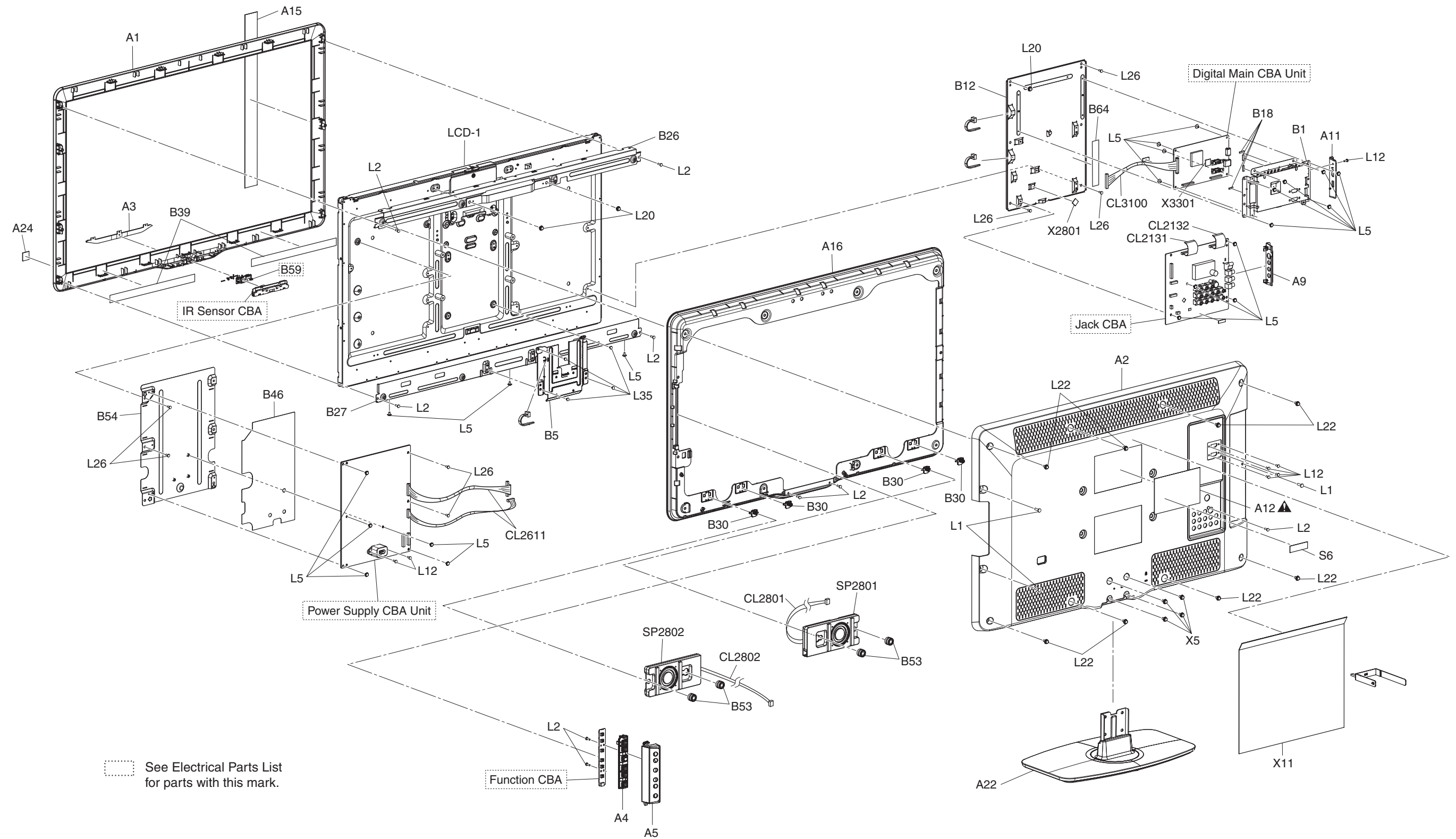
# EXPLODED VIEWS

Cabinet [32PFL4505D/F7 (Serial No. : DS1A)]



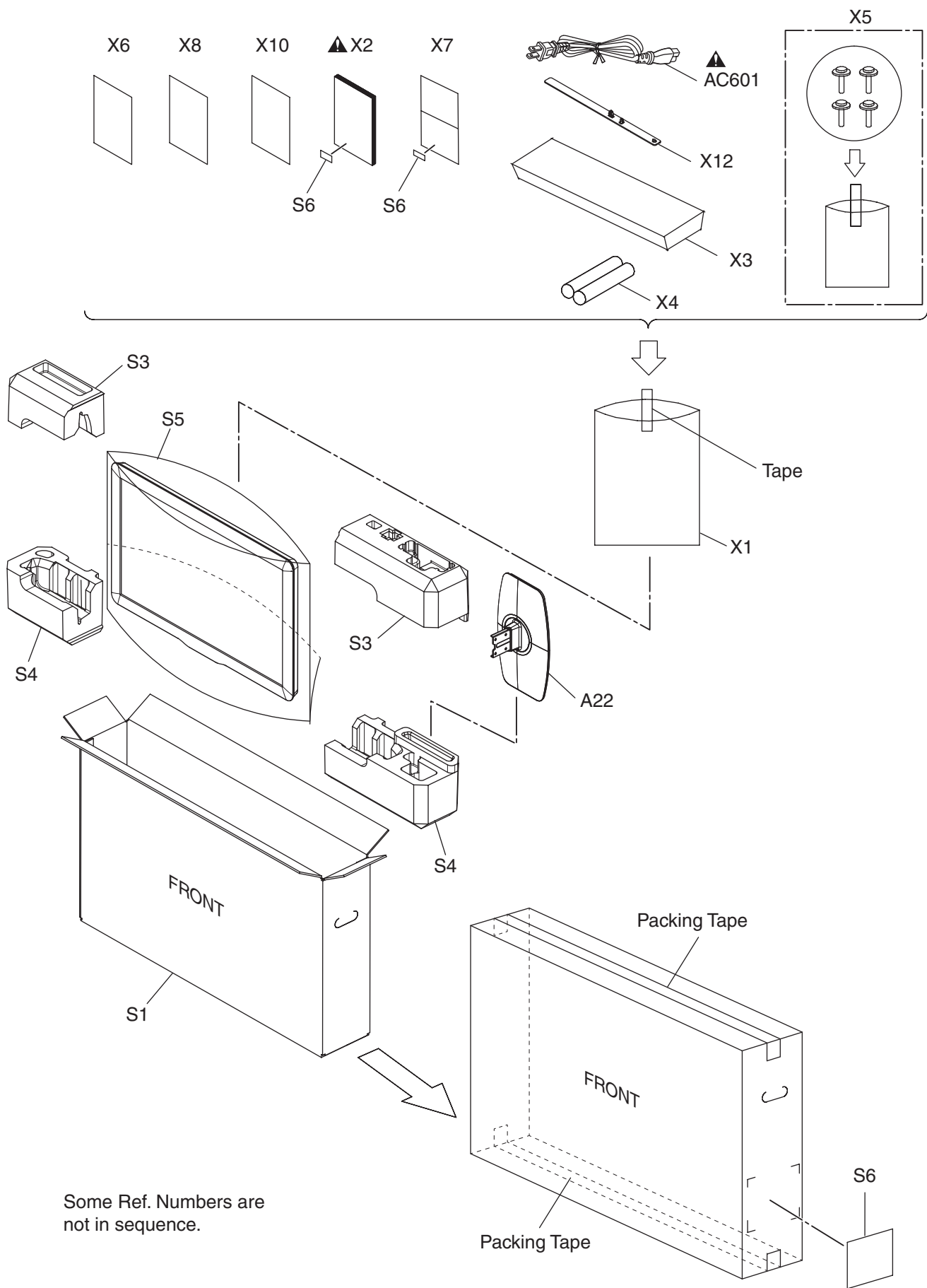
# EXPLODED VIEWS

## Cabinet [32PFL4505D/F7 (Serial No. : DS2A)]






Packing






# PARTS LIST [32PFL4505D/F7 (Serial No. : DS1A)]

## Mechanical Parts


**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  | FRONT CABINET A01F7UH                         | 1EM025786    |
| A2  | REAR CABINET A01F7UH                          | 1EM025788    |
| A3  | DECORATION PLATE A01F7UH                      | 1EM224607    |
| A4  | FUNCTION KNOB A01N7UH                         | 1EM224363    |
| A5  | KNOB FRAME A01N7UH                            | 1EM224383    |
| A9  | JACK HOLDER(A) A01F7UH                        | 1EM224605    |
| A11   | JACK HOLDER(D) A01F7UH                        | 1EM224606    |
| A12  | RATING LABEL A01F7UH                          | -----        |
| A15   | POP LABEL A01F7UH                             | -----        |
| A16   | FRONT FLARE A01F7UH                           | 1EM025787    |
| A22   | STAND ASSEMBLY A01F7UH                        | 1EMN26519    |
| A24   | ENERGY STAR LABEL A91F2UH                     | -----        |
| B1  | SHIELD BOX(Z) A01P0UH                         | 1EM124034    |
| B5  | STAND BRACKET A01F7UH                         | 1EM224608    |
| B12   | JACK PCB HOLDER A01F7UH                       | 1EM124936    |
| B18   | GASKET A8AF0UH                                | 1EM425861    |
| B22   | SPEAKER HOLDER A01F7UH                        | 1EM224643    |
| B26   | PANEL HOLDER(U) A01F7UH                       | 1EM025789    |
| B27   | PANEL HOLDER(D) A01F7UH                       | 1EM025790    |
| B30   | BOSS(S) A01N7UH                               | 1EM327957    |
| B46   | SEPARATION SHEET A01F7UH                      | 1EM224663    |
| B53   | SPEAKER CUSHION A01F7UH                       | 1EM431823    |
| B54   | POWER PCB HOLDER A01F7UH                      | 1EM124937    |
| B58   | FAN SPONGE A94H0UH                            | 1EM428437    |
| CL2131  | WIRE ASSEMBLY 29PIN FFC 29PIN 50MM            | WX1A94H0-101 |
| CL2132  | WIRE ASSEMBLY 29PIN FFC 29PIN 50MM            | WX1A94H0-101 |
| CL2611  | WIRE ASSEMBLY 8PIN+12PIN 8PIN+12PIN/320MM/AWG | WX1A01F7-207 |
| CL2801  | WIRE ASSEMBLY 2PIN 2PIN/140MM/AWG 24          | WX1A01F7-201 |
| CL2802  | WIRE ASSEMBLY 2PIN 2PIN/420MM/AWG 24          | WX1A01F7-202 |
| CL3100  | WIRE ASSEMBLY 51PIN 51PIN/190MM               | WX1A01F7-302 |
| L1  | SCREW P-TIGHT M4X14 BIND HEAD+BLK             | GBHP4140     |
| L2  | SCREW P-TIGHT 3X10 BIND HEAD+                 | GBHP3100     |
| L5  | ASSEMBLED SCREW ( D9 M3X6 ) A71F0UH           | 1EM424392B   |
| L12   | SCREW S-TIGHT M3X8 BIND HEAD+                 | GBHS3080     |
| L20   | DOUBLE SEMS SCREW M4X6 M4X6                   | FPJ34060     |
| L22   | DOUBLE SEMS SCREW M4X10 + BLK                 | FPH34100     |
| L26   | SCREW S-TIGHT M3X6 BIND HEAD+                 | GBJS3060     |
| L28   | ASSEMBLED SCREW M3X10                         | 1EM420633A   |
| L35   | SCREW S-TIGHT M3X4 BIND HEAD                  | GBJS3040     |
| LCD-1   | LCD MODULE 31.5W T315HW05 V4                  | UDULCD07A003 |
| SP2801  | SPEAKER MAGNETIC 8OHM/10W S05N44              | DS08050XQ001 |
| SP2802  | SPEAKER MAGNETIC 8OHM/10W S05N44              | DS08050XQ001 |
| X2801   | THERMOSTAR TMS-L-2(12*12HC)                   | XK10000X4003 |
| X3301   | THERMOSTAR TMS-L-2(12*12HC)                   | XK10000X4003 |

| Ref. No.  | Description                              | Part No.     |
|---|--|--------------|
| <b>PACKING</b>  |  |              |
| S1  | CARTON A01F7UH                           | 1EM328677    |
| S3  | STYROFOAM TOP A01F7UH                    | 1EM026107    |
| S4  | STYROFOAM BOTTOM A01F7UH                 | 1EM026108    |
| S5  | SET BAG (900X850) A8AFFUH                | 1EM324904A   |
| S6  | SERIAL NO. LABEL A01P0UH                 | -----        |
| <b>ACCESSORIES</b>  |  |              |
| AC601  | CORD W/O A GND WIRE UL/CSA/ 162/NO/BLACK | WAV0162LW001 |
| X1  | BAG POLYETHYLENE 235X365XT0.03           | 0EM408420A   |
| X2     | OWNERS MANUAL A01F7UH                    | 1EMN26520    |
| X3  | REMOTE CONTROL TRANSMITTER YKF259-001    | URMT34JHG001 |
| X4  | BATTERY R03-B500/01S                     | XB0M451CZB01 |
| X5  | STAND SCREW KIT A01F7UH                  | 1ESA24868    |
| X6  | QUICK START GUIDE A01F7UH                | 1EMN26521    |
| X7  | REGISTRATION CARD(PHILIPS) A01F2UH       | 1EMN25799B   |
| X8  | CHILD SAFETY SHEET A91H2UH               | 1EMN24526    |
| X10   | WALL MOUNT INSTRUCTION A01N7UH           | 1EMN26499    |
| X11   | CONNECTION GUIDE A01F7UH                 | 1EM328500    |
| X12   | CABLE MANAGEMENT TIE(BLACK) A01F2UH      | 1EM431197    |

# Electrical Parts

**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%

## POWER SUPPLY CBA UNIT

| Ref. No. | Description           | Part No.    |
|----------|-----------------------|-------------|
|          | POWER SUPPLY CBA UNIT | UPBSPDEL005 |

## DIGITAL MAIN CBA UNIT

| Ref. No. | Description           | Part No.     |
|----------|-----------------------|--------------|
|          | DIGITAL MAIN CBA UNIT | A01F7MMA-001 |

## JACK ASSEMBLY

| Ref. No. | Description                                 | Part No.          |
|----------|---|-------------------|
|          | JACK ASSEMBLY<br>Consists of the following: | A01F7MJC-001      |
|          | JACK CBA                                    | A01F7MJC-001-JK   |
|          | FUNCTION CBA<br>IR SENSOR CBA               | A01F7MJC-001-FNIR |

## JACK CBA

| Ref. No.          | Description                            | Part No.     |
|-------------------|--|--------------|
|                   | JACK CBA<br>Consists of the following: | -----        |
| <b>CAPACITORS</b> |  |              |
| C2137             | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V  | CHD1JZ30F104 |
| C2140             | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V  | CHD1JZ30F104 |
| C2141             | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V  | CHD1JZ30F104 |
| C2142             | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V  | CHD1JZ30F104 |
| C2143             | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V  | CHD1JZ30F104 |
| C2144             | CHIP CERAMIC CAP.(1608) CH J 100pF/50V | CHD1JJ3CH101 |
| C2145             | CHIP CERAMIC CAP.(1608) CH J 100pF/50V | CHD1JJ3CH101 |
| C2146             | CHIP CERAMIC CAP.(1608) CH J 100pF/50V | CHD1JJ3CH101 |
| C2147             | CHIP CERAMIC CAP.(1608) CH J 100pF/50V | CHD1JJ3CH101 |
| C2148             | CHIP CERAMIC CAP.(1608) CH J 100pF/50V | CHD1JJ3CH101 |
| C2149             | CHIP CERAMIC CAP.(1608) CH J 100pF/50V | CHD1JJ3CH101 |
| C2150             | ELECTROLYTIC CAP. 33µF/16V M H7        | CE1CMAVSL330 |
| C2301             | CHIP CERAMIC CAP.(1608) B K 0.1µF/50V  | CHD1JK30B104 |
| C2302             | CHIP CERAMIC CAP.(1608) CH J 10pF/50V  | CHD1JJ3CH100 |
| C2303             | CHIP CERAMIC CAP.(1608) CH J 10pF/50V  | CHD1JJ3CH100 |
| C2304             | CHIP CERAMIC CAP.(1608) CH J 47pF/50V  | CHD1JJ3CH470 |

| Ref. No. | Description                            | Part No.     |
|----------|--|--------------|
| C2305    | ELECTROLYTIC CAP. 1µF/50V M H7         | CE1JMAVSL1R0 |
| C2306    | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V  | CHD1JZ30F104 |
| C2307    | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C2308    | CHIP CERAMIC CAP.(1608) CH J 47pF/50V  | CHD1JJ3CH470 |
| C2309    | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V  | CHD1JZ30F104 |
| C2311    | ELECTROLYTIC CAP. 220µF/10V M H7       | CE1AMAVSL221 |
| C2402    | CHIP CERAMIC CAP. B K 1200pF/50V       | CHD1JK30B122 |
| C2603    | CHIP CERAMIC CAP.(1608) CH J 10pF/50V  | CHD1JJ3CH100 |
| C2604    | CHIP CERAMIC CAP.(1608) CH J 33pF/50V  | CHD1JJ3CH330 |
| C2605    | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C2606    | CHIP CERAMIC CAP. B K 1500pF/50V       | CHD1JK30B152 |
| C2607    | CHIP CERAMIC CAP.(1608) B K 3300pF/50V | CHD1JK30B332 |
| C2609    | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C2610    | CHIP CERAMIC CAP.(1608) B K 0.1µF/50V  | CHD1JK30B104 |
| C2611    | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V  | CHD1JZ30F104 |
| C2612    | ELECTROLYTIC CAP. 100µF/16V M          | CE1CMASDL101 |
| C2613    | CHIP CERAMIC CAP. (1608) B K 1µF/16V   | CHD1CK30B105 |
| C2614    | CHIP CERAMIC CAP.(1608) B K 5600pF/50V | CHD1JK30B562 |
| C2615    | CHIP CERAMIC CAP.(1608) B K 0.1µF/50V  | CHD1JK30B104 |
| C2616    | ELECTROLYTIC CAP. 220µF/10V M H7       | CE1AMAVSL221 |
| C2617    | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V  | CHD1JZ30F104 |
| C2619    | ELECTROLYTIC CAP. 470µF/6.3V M         | CE0KMASDL471 |
| C2621    | CAP CHIP 3216 B M 10µF/16V             | CA1C106TE143 |
| C2622    | CAP CHIP 3216 B M 10µF/16V             | CA1C106TE143 |
| C2623    | CHIP CERAMIC CAP. B K 10µF/10V         | CHE1AK30B106 |
| C2624    | CHIP CERAMIC CAP. B K 10µF/10V         | CHE1AK30B106 |
| C2626    | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C2627    | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V  | CHD1JZ30F104 |
| C2631    | ELECTROLYTIC CAP. 220µF/6.3V M         | CE0KMASDL221 |
| C2632    | ELECTROLYTIC CAP. 100µF/10V M          | CE1AMASDL101 |
| C2633    | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V  | CHD1JZ30F104 |
| C2634    | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V  | CHD1JZ30F104 |
| C2639    | ELECTROLYTIC CAP. 10µF/50V M H7        | CE1JMAVSL100 |
| C2644    | ELECTROLYTIC CAP. 100µF/25V M          | CE1EMASDL101 |
| C2647    | ELECTROLYTIC CAP. 100µF/16V M H7       | CE1CMAVSL101 |
| C2701    | CHIP CERAMIC CAP. (1608) B K 1µF/16V   | CHD1CK30B105 |
| C2702    | CHIP CERAMIC CAP. (1608) B K 1µF/16V   | CHD1CK30B105 |
| C2703    | CHIP CERAMIC CAP. B K 10µF/10V         | CHE1AK30B106 |
| C2704    | CHIP CERAMIC CAP.(1608) B K 0.01µF/50V | CHD1JK30B103 |
| C2705    | CHIP CERAMIC CAP.(1608) CH J 100pF/50V | CHD1JJ3CH101 |
| C2706    | CHIP CERAMIC CAP. F Z 0.47µF/16V       | CHD1CZ30F474 |
| C2707    | CHIP CERAMIC CAP.(1608) CH J 100pF/50V | CHD1JJ3CH101 |
| C2708    | CHIP CERAMIC CAP. F Z 0.47µF/16V       | CHD1CZ30F474 |
| C2709    | CHIP CERAMIC CAP.(1608) CH J 68pF/50V  | CHD1JJ3CH680 |
| C2710    | CHIP CERAMIC CAP.(1608) B K 2.2µF/10V  | CHD1AK30B225 |
| C2711    | CHIP CERAMIC CAP.(1608) CH J 68pF/50V  | CHD1JJ3CH680 |
| C2712    | CHIP CERAMIC CAP.(1608) B K 2.2µF/10V  | CHD1AK30B225 |
| C2713    | CHIP CERAMIC CAP.(1608) CH J 100pF/50V | CHD1JJ3CH101 |
| C2714    | CHIP CERAMIC CAP. F Z 0.47µF/16V       | CHD1CZ30F474 |
| C2715    | CHIP CERAMIC CAP. F Z 0.47µF/16V       | CHD1CZ30F474 |
| C2716    | CHIP CERAMIC CAP. F Z 0.47µF/16V       | CHD1CZ30F474 |
| C2717    | CHIP CERAMIC CAP.(1608) CH J 100pF/50V | CHD1JJ3CH101 |
| C2718    | CHIP CERAMIC CAP.(1608) CH J 100pF/50V | CHD1JJ3CH101 |
| C2719    | CHIP CERAMIC CAP. F Z 0.47µF/16V       | CHD1CZ30F474 |
| C2720    | CHIP CERAMIC CAP.(1608) CH J 100pF/50V | CHD1JJ3CH101 |
| C2721    | CHIP CERAMIC CAP.(1608) B K 2.2µF/10V  | CHD1AK30B225 |
| C2722    | CHIP CERAMIC CAP.(1608) B K 2.2µF/10V  | CHD1AK30B225 |
| C2723    | CHIP CERAMIC CAP.(1608) CH J 68pF/50V  | CHD1JJ3CH680 |
| C2724    | CHIP CERAMIC CAP.(1608) CH J 68pF/50V  | CHD1JJ3CH680 |

| Ref. No. | Description                                | Part No.     |
|----------|--|--------------|
| C2725    | CHIP CERAMIC CAP.(1608) CH J 68pF/50V      | CHD1JJ3CH680 |
| C2726    | CHIP CERAMIC CAP.(1608) B K 2.2μF/10V      | CHD1AK30B225 |
| C2727    | CHIP CERAMIC CAP.(1608) CH J 68pF/50V      | CHD1JJ3CH680 |
| C2728    | CHIP CERAMIC CAP.(1608) B K 2.2μF/10V      | CHD1AK30B225 |
| C2733    | CHIP CERAMIC CAP. F Z 0.47μF/16V           | CHD1CZ30F474 |
| C2734    | CHIP CERAMIC CAP. F Z 0.47μF/16V           | CHD1CZ30F474 |
| C2735    | CHIP CERAMIC CAP. F Z 0.47μF/16V           | CHD1CZ30F474 |
| C2736    | CHIP CERAMIC CAP. CH J 39pF/50V            | CHD1JJ3CH390 |
| C2737    | CHIP CERAMIC CAP. CH J 39pF/50V            | CHD1JJ3CH390 |
| C2738    | CHIP CERAMIC CAP. CH J 39pF/50V            | CHD1JJ3CH390 |
| C2745    | CHIP CERAMIC CAP.(1608) B K 2.2μF/10V      | CHD1AK30B225 |
| C2746    | CHIP CERAMIC CAP.(1608) B K 2.2μF/10V      | CHD1AK30B225 |
| C2747    | CHIP CERAMIC CAP.(1608) CH J 68pF/50V      | CHD1JJ3CH680 |
| C2748    | CHIP CERAMIC CAP.(1608) CH J 68pF/50V      | CHD1JJ3CH680 |
| C2751    | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V      | CHD1JZ30F104 |
| C2752    | ELECTROLYTIC CAP. 47μF/16V M H7            | CE1CMAVSL470 |
| C2753    | ELECTROLYTIC CAP. 10μF/50V M H7            | CE1JMAVSL100 |
| C2754    | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V      | CHD1JZ30F104 |
| C2755    | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V      | CHD1JZ30F104 |
| C2756    | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V      | CHD1JZ30F104 |
| C2757    | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V      | CHD1JZ30F104 |
| C2760    | CHIP CERAMIC CAP.(1608) B K 2.2μF/10V      | CHD1AK30B225 |
| C2761    | CHIP CERAMIC CAP.(1608) B K 2.2μF/10V      | CHD1AK30B225 |
| C2762    | ELECTROLYTIC CAP. 100μF/16V M H7           | CE1CMAVSL101 |
| C2763    | ELECTROLYTIC CAP. 100μF/10V M H7           | CE1AMAVSL101 |
| C2766    | CHIP CERAMIC CAP.(1608) CH J 68pF/50V      | CHD1JJ3CH680 |
| C2801    | CHIP CERAMIC CAP.(1608) B K 3300pF/50V     | CHD1JK30B332 |
| C2802    | CHIP CERAMIC CAP.(1608) B K 3300pF/50V     | CHD1JK30B332 |
| C2803    | CHIP CERAMIC CAP. (1608) B K 1μF/16V       | CHD1CK30B105 |
| C2804    | CHIP CERAMIC CAP. (1608) B K 1μF/16V       | CHD1CK30B105 |
| C2805    | CAP ELE KR1 470μF/35V/M/85 H12.5           | CEM471KSN014 |
| C2806    | CAP ELE KR1 470μF/35V/M/85 H12.5           | CEM471KSN014 |
| C2809    | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V      | CHD1JK30B104 |
| C2810    | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V      | CHD1JK30B104 |
| C2811    | CHIP CERAMIC CAP.(1608) B K 1000pF/50V     | CHD1JK30B102 |
| C2812    | CHIP CERAMIC CAP.(1608) B K 1000pF/50V     | CHD1JK30B102 |
| C2813    | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V      | CHD1JK30B104 |
| C2814    | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V      | CHD1JK30B104 |
| C2815    | CHIP CERAMIC CAP.(1608) B K 1μF/16V        | CHD1CK30B105 |
| C2816    | CHIP CERAMIC CAP. B K 10μF/10V             | CHE1AK30B106 |
| C2817    | CHIP CERAMIC CAP. B K 10μF/10V             | CHE1AK30B106 |
| C2818    | CHIP CERAMIC CAP. B K 10μF/10V             | CHE1AK30B106 |
| C2819    | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V      | CHD1JK30B104 |
| C2820    | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V      | CHD1JK30B104 |
| C2821    | CHIP CERAMIC CAP.(1608) B K 2700pF/50V     | CHD1JK30B272 |
| C2822    | CHIP CERAMIC CAP.(1608) B K 2700pF/50V     | CHD1JK30B272 |
| C2823    | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V      | CHD1JK30B104 |
| C2824    | CHIP CERAMIC CAP.(1608) B K 2.2μF/10V      | CHD1AK30B225 |
| C2825    | CHIP CERAMIC CAP.(1608) B K 2.2μF/10V      | CHD1AK30B225 |
| C2826    | CHIP CERAMIC CAP.(1608) CH J 270pF/50V     | CHD1JJ3CH271 |
| C2827    | CHIP CERAMIC CAP.(1608) CH J 270pF/50V     | CHD1JJ3CH271 |
| C2828    | ELECTROLYTIC CAP. 100μF/16V M H7           | CE1CMAVSL101 |
| C2829    | CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V      | CHD1JZ30F104 |
| C2830    | ELECTROLYTIC CAP. 4.7μF/50V M H7           | CE1JMAVSL4R7 |
| C2831    | ELECTROLYTIC CAP. 4.7μF/50V M H7           | CE1JMAVSL4R7 |
| C2832    | ELECTROLYTIC CAP. 47μF/25V M H7            | CE1EMAVSL470 |
| C2833    | ELECTROLYTIC CAP. 47μF/25V M H7            | CE1EMAVSL470 |
| C2838    | CAP ELE KR1 220μF/35V/M/85 H9.0            | CEM221KSN014 |
| C2839    | CAP CHIP 3216 B M 10μF/16V                 | CA1C106TE143 |
| C2840    | CAP ELE KR1 220μF/35V/M/85 H9.0            | CEM221KSN014 |
| C2841    | METALIZED POLYESTER FILM CAP. 0.39μF/50V J | CT1J394DT040 |

| Ref. No.           | Description                                     | Part No.     |
|--------------------|---|--------------|
| C2842              | METALIZED POLYESTER FILM CAP. 0.39μF/50V J      | CT1J394DT040 |
| C2849              | CAP ELE KR1 470μF/35V/M/85 H12.5                | CEM471KSN014 |
| C2850              | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V          | CHD1JK30B103 |
| <b>CONNECTORS</b>  |   |              |
| CN2131             | FFC CONNECTOR IMSA-9615S-29A-PP-A               | JC96J29ER007 |
| CN2132             | FFC CONNECTOR IMSA-9615S-29A-PP-A               | JC96J29ER007 |
| CN2133             | CONNECTOR PRINT OSU C S B7B-PH-K-S(LF)(S)       | J3PHC07JG029 |
| CN2611             | PH CONNECTOR TOP 12P B12B-PH-K-S(LF)(SN)        | J3PHC12JG029 |
| CN2612             | PH CONNECTOR TOP 8P B8B-PH-K-S(LF)(SN)          | J3PHC08JG029 |
| CN2801             | PH CONNECTOR TOP 2P B2B-PH-K-S(LF)(SN)          | J3PHC02JG029 |
| CN2802             | CONNECTOR BASE 2P(EH) B 2B-EH-A(LF)(SN)         | J3EHC02JG010 |
| <b>DIODES</b>      |   |              |
| D2131              | SWITCHING DIODE 1SS133(T-77)                    | QDTZ001SS133 |
| D2134              | DIODE ZENER 5V1BSB-T26                          | NDTB5R1BST26 |
| D2135              | DIODE ZENER 5V1BSB-T26                          | NDTB5R1BST26 |
| D2401              | SWITCHING DIODE 1SS133(T-77)                    | QDTZ001SS133 |
| D2402              | SWITCHING DIODE 1SS133(T-77)                    | QDTZ001SS133 |
| D2403              | SWITCHING DIODE 1SS133(T-77)                    | QDTZ001SS133 |
| D2404              | SWITCHING DIODE 1SS133(T-77)                    | QDTZ001SS133 |
| D2406              | SWITCHING DIODE 1SS133(T-77)                    | QDTZ001SS133 |
| D2408              | DIODE ZENER 3V3BSB-T26                          | NDTB3R3BST26 |
| D2409              | SWITCHING DIODE 1SS133(T-77)                    | QDTZ001SS133 |
| D2602              | DIODE ZENER 33BSA-T26                           | NDTA033BST26 |
| D2605              | SWITCHING DIODE 1SS133(T-77)                    | QDTZ001SS133 |
| D2606              | SWITCHING DIODE 1SS133(T-77)                    | QDTZ001SS133 |
| D2607              | DIODE ZENER 5V6BSB-T26                          | NDTB5R6BST26 |
| D2608              | SCHOTTKY BARRIER DIODE SMD SK34                 | ND1Z0000SK34 |
| D2631              | DIODE ZENER 3V9BSB-T26                          | NDTB3R9BST26 |
| D2632              | SWITCHING DIODE 1SS133(T-77)                    | QDTZ001SS133 |
| D2633              | DIODE ZENER 8V2BSB-T26                          | NDTB8R2BST26 |
| D2801              | DIODE ZENER 7V5BSC-T26                          | NDTC7R5BST26 |
| D2802              | DIODE ZENER 36BSB-T26                           | NDTB036BST26 |
| D2803              | DIODE ZENER 36BSB-T26                           | NDTB036BST26 |
| D2806              | SWITCHING DIODE 1SS133(T-77)                    | QDTZ001SS133 |
| D2807              | SWITCHING DIODE 1SS133(T-77)                    | QDTZ001SS133 |
| <b>ICS</b>         |   |              |
| IC2601             | IC DC-DC CONVERTER BD9321EFJ-E2                 | QSCA0T0RM102 |
| IC2631             | IC REGULATOR AZ2940D-3.3TRE1                    | NSCA0TBCD017 |
| IC2701             | IC WIED BROADWIDTH AV SW BH7645KS2              | QSCA0R0RM008 |
| IC2801             | IC D-CLASS POWER AMPLIFIER R2A15122FP-W00R/HQFP | QSCA0T0HT005 |
| IC2802             | IC OP AMP NJM4558M(Te1)-#ZZZB                   | QSZBA0TJR089 |
| <b>COILS</b>       |   |              |
| L2301              | CHIP INDUCTOR LK1608R22K-T                      | LLACKB3TUR22 |
| L2303              | CHIP INDUCTOR LK1608R22K-T                      | LLACKB3TUR22 |
| L2304              | WIRE CP STP-S-0.50                              | XZ40F0REN001 |
| L2601              | INDUCTOR 10μH-H-J-26T                           | LLAXJATTU100 |
| L2602              | INDUCTOR 180μH-H-J-26T                          | LLAXJATTU181 |
| L2603              | COIL RADIAL LHL10NB330M 33μH                    | LLF3300TU003 |
| L2701              | WIRE CP STP-S-0.50                              | XZ40F0REN001 |
| L2702              | WIRE CP STP-S-0.50                              | XZ40F0REN001 |
| L2801              | COIL RADIAL LHL10NB330M 33μH                    | LLF3300TU003 |
| L2802              | COIL RADIAL LHL10NB330M 33μH                    | LLF3300TU003 |
| L2803              | WIRE CP STP-S-0.50                              | XZ40F0REN001 |
| <b>TRANSISTORS</b> |   |              |
| Q2131              | TRANSISTOR KTC3199-GR-AT/P                      | NQS4KTC3199P |
| Q2401              | TRANSISTOR KTC3199-GR-AT/P                      | NQS4KTC3199P |
| Q2601              | TRANSISTOR KTC3199-GR-AT/P                      | NQS4KTC3199P |
| Q2632              | TRANSISTOR KTC3199-GR-AT/P                      | NQS4KTC3199P |

| Ref. No.         | Description                      | Part No.     |
|------------------|----------------------------------|--------------|
| Q2701            | TRANSISTOR KTC3199-GR-AT/P       | NQS4KTC3199P |
| Q2801            | TRANSISTOR KTC3199-GR-AT/P       | NQS4KTC3199P |
| Q2802            | TRANSISTOR KTC3199-GR-AT/P       | NQS4KTC3199P |
| Q2803            | TRANSISTOR KTC3199-GR-AT/P       | NQS4KTC3199P |
| Q2804            | TRANSISTOR KTA1267-GR-AT/P       | NQS1KTA1267P |
| Q2805            | TRANSISTOR KTC3199-GR-AT/P       | NQS4KTC3199P |
| <b>RESISTORS</b> |                                  |              |
| R2131            | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| R2132            | WIRE CP STP-S-0.50               | XZ40FOREN001 |
| R2133            | CHIP RES. 1/10W J 22k Ω          | RRXAJR5Z0223 |
| R2134            | CHIP RES. 1/10W J 10k Ω          | RRXAJR5Z0103 |
| R2136            | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| R2137            | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| R2301            | CHIP RES. 1/10W J 10 Ω           | RRXAJR5Z0100 |
| R2302            | CHIP RES. 1/10W J 10 Ω           | RRXAJR5Z0100 |
| R2304            | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| R2305            | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| R2306            | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| R2401            | CHIP RES. 1/10W J 10k Ω          | RRXAJR5Z0103 |
| R2402            | CHIP RES. 1/10W J 3.3k Ω         | RRXAJR5Z0332 |
| R2405            | CHIP RES. 1/10W F 39k Ω          | RRXAFR5H3902 |
| R2406            | CHIP RES. 1/10W F 27k Ω          | RRXAFR5H2702 |
| R2601            | RES CARBON FILM T 1/4W J 100 Ω   | RCX4101T1001 |
| R2602            | METAL RES. 2W J 270 Ω            | RN02271ZU001 |
| R2603            | METAL RES. 2W J 270 Ω            | RN02271ZU001 |
| R2606            | CHIP RES. 1/10W J 82k Ω          | RRXAJR5Z0823 |
| R2607            | CHIP RES. 1/10W J 220 Ω          | RRXAJR5Z0221 |
| R2609            | CHIP RES. 1/10W F 180 Ω          | RRXAFR5H1800 |
| R2610            | RES CHIP.(1608) 1/10W D 10k Ω    | RRXADR5H1002 |
| R2611            | RES CARBON FILM T 1/4W J 10k Ω   | RCX4103T1001 |
| R2612            | CHIP RES. 1/10W J 8.2k Ω         | RRXAJR5Z0822 |
| R2613            | CHIP RES.(1608) 1/10W D 47k Ω    | RRXADR5H4702 |
| R2621            | CHIP RES. 1/10W J 10 Ω           | RRXAJR5Z0100 |
| R2622            | CHIP RES. 1/10W J 10 Ω           | RRXAJR5Z0100 |
| R2632            | METAL OXIDE FILM RES. 2W J 1.2 Ω | RN021R2ZU001 |
| R2633            | RES CARBON FILM T 1/4W J 220 Ω   | RCX4221T1001 |
| R2634            | RES CARBON FILM T 1/4W J 100 Ω   | RCX4101T1001 |
| R2635            | RES CARBON FILM T 1/4W J 22 Ω    | RCX4220T1001 |
| R2636            | RES CARBON FILM T 1/4W J 680 Ω   | RCX4681T1001 |
| R2637            | RES CARBON FILM T 1/4W J 220 Ω   | RCX4221T1001 |
| R2701            | CHIP RES. 1/10W J 10k Ω          | RRXAJR5Z0103 |
| R2702            | CHIP RES. 1/10W J 10k Ω          | RRXAJR5Z0103 |
| R2703            | CHIP RES. 1/10W J 220 Ω          | RRXAJR5Z0221 |
| R2704            | CHIP RES. 1/10W J 110 Ω          | RRXAJR5Z0111 |
| R2705            | CHIP RES. 1/10W J 100 Ω          | RRXAJR5Z0101 |
| R2707            | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| R2708            | CHIP RES. 1/10W J 75 Ω           | RRXAJR5Z0750 |
| R2710            | CHIP RES. 1/10W J 75 Ω           | RRXAJR5Z0750 |
| R2712            | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2713            | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2715            | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2716            | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2718            | CHIP RES. 1/10W J 75 Ω           | RRXAJR5Z0750 |
| R2719            | CHIP RES. 1/10W J 100 Ω          | RRXAJR5Z0101 |
| R2720            | CHIP RES. 1/10W J 75 Ω           | RRXAJR5Z0750 |
| R2721            | CHIP RES. 1/10W J 75 Ω           | RRXAJR5Z0750 |
| R2723            | CHIP RES. 1/10W J 75 Ω           | RRXAJR5Z0750 |
| R2726            | CHIP RES. 1/10W J 100 Ω          | RRXAJR5Z0101 |
| R2727            | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2728            | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2729            | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2730            | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |

| Ref. No.             | Description                      | Part No.     |
|----------------------|----------------------------------|--------------|
| R2731                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2732                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2734                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2735                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2743                | CHIP RES. 1/10W J 68 Ω           | RRXAJR5Z0680 |
| R2744                | CHIP RES. 1/10W J 10 Ω           | RRXAJR5Z0100 |
| R2745                | CHIP RES. 1/10W J 68 Ω           | RRXAJR5Z0680 |
| R2746                | CHIP RES. 1/10W J 10 Ω           | RRXAJR5Z0100 |
| R2747                | CHIP RES. 1/10W J 68 Ω           | RRXAJR5Z0680 |
| R2748                | CHIP RES. 1/10W J 10 Ω           | RRXAJR5Z0100 |
| R2756                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2757                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2759                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2760                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2762                | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| R2763                | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| R2764                | CHIP RES. 1/10W J 33 Ω           | RRXAJR5Z0330 |
| R2765                | CHIP RES. 1/10W J 33 Ω           | RRXAJR5Z0330 |
| R2766                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2767                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2768                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2769                | CHIP RES. 1/10W J 10 Ω           | RRXAJR5Z0100 |
| R2770                | CHIP RES. 1/10W J 10 Ω           | RRXAJR5Z0100 |
| R2771                | CHIP RES. 1/10W J 10 Ω           | RRXAJR5Z0100 |
| R2801                | CHIP RES. 1/10W J 560 Ω          | RRXAJR5Z0561 |
| R2802                | CHIP RES. 1/10W J 560 Ω          | RRXAJR5Z0561 |
| R2803                | CHIP RES. 1/10W J 100k Ω         | RRXAJR5Z0104 |
| R2804                | CHIP RES. 1/10W J 100k Ω         | RRXAJR5Z0104 |
| R2805                | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| R2806                | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| R2807                | CHIP RES. 1/10W J 1k Ω           | RRXAJR5Z0102 |
| R2808                | CHIP RES. 1/10W J 1k Ω           | RRXAJR5Z0102 |
| R2809                | METAL OXIDE FILM RES. 2W J 3.3 Ω | RN023R3ZU001 |
| R2810                | METAL OXIDE FILM RES. 2W J 3.3 Ω | RN023R3ZU001 |
| R2811                | CHIP RES. 1/10W J 2.2k Ω         | RRXAJR5Z0222 |
| R2812                | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| R2814                | CHIP RES. 1/10W J 10 Ω           | RRXAJR5Z0100 |
| R2815                | CHIP RES. 1/10W J 10 Ω           | RRXAJR5Z0100 |
| R2816                | CHIP RES. 1/10W J 4.7k Ω         | RRXAJR5Z0472 |
| R2817                | CHIP RES. 1/10W J 27k Ω          | RRXAJR5Z0273 |
| R2818                | CHIP RES. 1/10W J 47k Ω          | RRXAJR5Z0473 |
| R2819                | CHIP RES. 1/10W J 10k Ω          | RRXAJR5Z0103 |
| R2820                | CHIP RES. 1/10W J 10k Ω          | RRXAJR5Z0103 |
| R2821                | CHIP RES. 1/10W J 20k Ω          | RRXAJR5Z0203 |
| R2822                | CHIP RES. 1/10W J 1k Ω           | RRXAJR5Z0102 |
| R2823                | CHIP RES. 1/10W J 22k Ω          | RRXAJR5Z0223 |
| R2824                | CHIP RES. 1/10W J 39k Ω          | RRXAJR5Z0393 |
| R2825                | RES CARBON FILM T 1/4W J 100k Ω  | RCX4104T1001 |
| R2826                | CHIP RES. 1/10W J 100k Ω         | RRXAJR5Z0104 |
| R2827                | CHIP RES. 1/10W J 20k Ω          | RRXAJR5Z0203 |
| R2828                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2829                | RES CARBON FILM T 1/4W J 100k Ω  | RCX4104T1001 |
| R2830                | CHIP RES. 1/10W J 100k Ω         | RRXAJR5Z0104 |
| R2831                | CHIP RES. 1/10W J 39k Ω          | RRXAJR5Z0393 |
| R2832                | CHIP RES. 1/10W J 20k Ω          | RRXAJR5Z0203 |
| R2833                | CHIP RES. 1/10W J 33k Ω          | RRXAJR5Z0333 |
| R2834                | CHIP RES. 1/10W J 22k Ω          | RRXAJR5Z0223 |
| R2835                | CHIP RES. 1/10W J 22k Ω          | RRXAJR5Z0223 |
| R2836                | CHIP RES. 1/10W J 10k Ω          | RRXAJR5Z0103 |
| R2837                | CHIP RES. 1/10W J 20k Ω          | RRXAJR5Z0203 |
| R2840                | CHIP RES.(1608) 1/10W 0 Ω        | RRXAZR5Z0000 |
| <b>MISCELLANEOUS</b> |                                  |              |

| Ref. No. | Description                           | Part No.     |
|----------|---------------------------------------|--------------|
| BC2131   | WIRE CP STP-S-0.50                    | XZ40FOREN001 |
| BC2301   | WIRE CP STP-S-0.50                    | XZ40FOREN001 |
| BC2701   | CHIP RES.(1608) 1/10W 0 Ω             | RRXAZR5Z0000 |
| BC2702   | CHIP RES.(1608) 1/10W 0 Ω             | RRXAZR5Z0000 |
| BC2802   | BEADS INDUCTOR FBR07HA121SB-00        | LLBF00STU030 |
| BC2803   | BEADS INDUCTOR FBR07HA121SB-00        | LLBF00STU030 |
| BC2804   | BEADS INDUCTOR FBR07HA121SB-00        | LLBF00STU030 |
| BC2805   | BEADS INDUCTOR FBR07HA121SB-00        | LLBF00STU030 |
| JK2701   | JACK RCA PCB S ORANGE 01/RCA-101H(OR) | JXRJ010YUQ06 |
| JK2702   | JACK SW DIN PCB S 04/DIN-417HA-01     | JYEJ040YUQ03 |
| JK2703   | JACK RCA PCB S YELLOW 01/RCA-101H(YL) | JXRJ010YUQ05 |
| JK2704   | JACK RCA PCB S WHITE 01/RCA-101H(WH)  | JXRJ010YUQ02 |
| JK2705   | JACK SW RCA PCB S RED RCA-102H(RD)    | JYRJ010YUQ03 |
| JK2706   | JACK SW DIN PCB L DIN-435C(777D)      | JYEL040YUQ03 |
| JK2707   | JACK RCA PCB L RCA-101S(1)-03         | JXRL010YUQ12 |
| JK2708   | JACK RCA PCB L RCA-101S(1)-04         | JXRL010YUQ13 |
| JK2709   | JACK SW RCA PCB L RCA-102F(RD)        | JYRL010YUQ05 |
| JK2710   | JACK RCA PCB S WHITE 01/RCA-101H(WH)  | JXRJ010YUQ02 |
| JK2711   | JACK SW RCA PCB S RED RCA-102H(RD)    | JYRJ010YUQ03 |
| JK2714   | JACK RCA PCB S GREEN 01/RCA-101H(GN)  | JXRJ010YUQ03 |
| JK2715   | JACK RCA PCB S BLUE 01/RCA-101H(BL)   | JXRJ010YUQ04 |
| JK2716   | JACK RCA PCB S RED 01/RCA-101H(RD)    | JXRJ010YUQ01 |
| JK2720   | JACK RCA PCB S WHITE 01/RCA-101H(WH)  | JXRJ010YUQ02 |
| JK2721   | JACK RCA PCB S RED 01/RCA-101H(RD)    | JXRJ010YUQ01 |
| JK2801   | JACK RCA PCB S WHITE 01/RCA-101H(WH)  | JXRJ010YUQ02 |
| JK2802   | JACK RCA PCB S RED 01/RCA-101H(RD)    | JXRJ010YUQ01 |
| JS2103   | WIRE CP STP-S-0.50                    | XZ40FOREN001 |
| JS2605   | WIRE CP STP-S-0.50                    | XZ40FOREN001 |
| TU2301   | TUNER UNIT ATSC/NTSC/QAM TDYU4-D02A   | UTNATS0AL001 |

| Ref. No.             | Description                             | Part No.     |
|----------------------|---|--------------|
| C2123                | CHIP CERAMIC CAP(1608) F Z 0.1μF/50V    | CHD1JZ30F104 |
| C2125                | CHIP CERAMIC CAP(1608) CH J 270pF/50V   | CHD1JJ3CH271 |
| C2127                | CHIP CERAMIC CAP(2125) F Z 10μF/10V     | CHE1AZ30F106 |
| <b>CONNECTORS</b>    |   |              |
| CN2121               | WIRE ASSEMBLY 2PIN 2PIN/480MM/RED BLACK | WX1A01F7-206 |
| CN2122               | WIRE ASSEMBLY 7PIN 7PIN/230MM/RED BLACK | WX1A01F7-205 |
| <b>DIODES</b>        |   |              |
| D2101                | DIODE ZENER 5V1BSB-T26                  | NDTB5R1BST26 |
| D2121                | LED (WHITE) SLR343WBC7T3XM              | QPWM343WBC7T |
| <b>RESISTORS</b>     |   |              |
| R2121                | CHIP RES. 1/10W J 4.7k Ω                | RRXAJR5Z0472 |
| R2122                | CHIP RES. 1/10W J 330k Ω                | RRXAJR5Z0334 |
| R2123                | CHIP RES. 1/10W J 100 Ω                 | RRXAJR5Z0101 |
| R2125                | CHIP RES. 1/10W J 1k Ω                  | RRXAJR5Z0102 |
| R2126                | CHIP RES. 1/10W J 3.3k Ω                | RRXAJR5Z0332 |
| R2127                | CHIP RES. 1/10W J 100 Ω                 | RRXAJR5Z0101 |
| <b>MISCELLANEOUS</b> |   |              |
| B59                  | SHIELD(S) A01F7UH                       | 1EM328738    |
| RS2121               | SENSOR REMOTE RECEIVER KSM-2002TN2M-FU  | USEJRS0KK009 |

## FUNCTION CBA


| Ref. No.         | Description                                | Part No.     |
|------------------|--|--------------|
|                  | FUNCTION CBA<br>Consists of the following: | -----        |
| <b>CAPACITOR</b> |  |              |
| C2101            | CAP CERAMIC (AX) 0.1μF/50V/F/Z             | CA1J104TU062 |
| <b>DIODE</b>     |  |              |
| D2122            | O-E DEVICE PHOTO TRANSISTOR JSA-3113B      | NPWZJSA3113B |
| <b>RESISTORS</b> |  |              |
| R2101            | RES CARBON FILM T 1/4W G 18k Ω             | RCX4183T1002 |
| R2102            | RES CARBON FILM T 1/4W G 8.2k Ω            | RCX4822T1002 |
| R2103            | RES CARBON FILM T 1/4W G 4.7k Ω            | RCX4472T1002 |
| R2104            | RES CARBON FILM T 1/4W G 2.7k Ω            | RCX4272T1002 |
| R2105            | RES CARBON FILM T 1/4W G 2.2k Ω            | RCX4222T1002 |
| R2106            | RES CARBON FILM T 1/4W G 2.7k Ω            | RCX4272T1002 |
| R2107            | WIRE CP STP-S-0.50                         | XZ40FOREN001 |
| <b>SWITCHES</b>  |  |              |
| SW2101           | TACT SWITCH SKQSAB                         | SST0101AL038 |
| SW2102           | TACT SWITCH SKQSAB                         | SST0101AL038 |
| SW2103           | TACT SWITCH SKQSAB                         | SST0101AL038 |
| SW2104           | TACT SWITCH SKQSAB                         | SST0101AL038 |
| SW2105           | TACT SWITCH SKQSAB                         | SST0101AL038 |
| SW2106           | TACT SWITCH SKQSAB                         | SST0101AL038 |

## IR SENSOR CBA

| Ref. No.          | Description                                 | Part No.     |
|-------------------|---|--------------|
|                   | IR SENSOR CBA<br>Consists of the following: | -----        |
| <b>CAPACITORS</b> |   |              |
| C2121             | CHIP CERAMIC CAP(1608) F Z 0.1μF/50V        | CHD1JZ30F104 |
| C2122             | CHIP CERAMIC CAP(1608) F Z 0.1μF/50V        | CHD1JZ30F104 |

# PARTS LIST [32PFL4505D/F7 (Serial No. : DS2A)]

## Mechanical Parts


**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.

### Different parts from the original model 32PFL4505D/F7 (Serial No. : DS1A)

| Ref. No. | Description                 | Part No.     |
|----------|-----------------------------|--------------|
| B22      | Not used                    |              |
| B27      | PANEL HOLDER(D) A01F7UH     | 1EM025790A   |
| B39      | CLOTH(10X180XT0.5) L0336JG  | 0EM408827    |
| B58      | Not used                    |              |
| B64      | CLOTH(15X110XT 0.5) L0110UA | 0EM408385    |
| L28      | Not used                    |              |
| SP2801   | SPEAKER MAGNETIC SB-05N44C  | DS08050XQ005 |
| SP2802   | SPEAKER MAGNETIC SB-05N44C  | DS08050XQ005 |

# Electrical Parts

**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:

1. Parts that are not assigned part numbers (-----) are not available.
2. 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%

## Different parts from the original model 32PFL4505D/F7 (Serial No. : DS1A)

| Ref. No. | Description                                | Part No.          |
|----------|--|-------------------|
|          | DIGITAL MAIN CBA UNIT                      | A01F7MMAS003      |
|          |  |                   |
|          | JACK ASSEMBLY<br>Consists of the following | A01F7MJC-002      |
|          | JACK CBA                                   | A01F7MJC-002-JK   |
|          | FUNCTION CBA<br>IR SENSOR CBA              | A01F7MJC-002-FNIR |
|          | JACK CBA                                   | -----             |
| C2820    | CHIP CERAMIC CAP. (1608) B K 1µF/16V       | CHD1CK30B105      |
| C2823    | CHIP CERAMIC CAP. (1608) B K 1µF/16V       | CHD1CK30B105      |
| R2812    | Not used                                   |                   |
| R2813    | CHIP RES.(1608) 1/10W 0 Ω                  | RRXAZR5Z0000      |



# REVISION HISTORY

## Chassis PL10.11

- 2010-07-08 32PFL4505D/F7 (Serial No. : DS1A) added
- 2010-09-10 32PFL4505D/F7 (Serial No. : DS2A) added