

PHILIPS

32" DirecTV Monitor

Service Manual

32HFL5763X/F7 (Serial No.: VM1)

In this service manual, there are some models which consist of two Inverter CBAs. The main Inverter CBA and the sub Inverter CBA are compatible with each other for a board level repair but they are not compatible with each other for a component level repair.

When you conduct on a component level repair for the Inverter CBA for any models within this service manual, make sure to refer the right Block Diagrams, Schematic Diagrams/CBA and Parts List.


For the main CBA, the last digit of the board number, which is engraved on every board, should be a number(e.g. BA17F4F0103 2).

For the sub CBA, the last digit of the board number, which is engraved on every board, should be an alphabet(e.g. BA17F4F0103 Z).

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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>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.</p> |
|---|

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SPECIFICATIONS

< LCD PANEL >

| Description | Condition | Unit | Nominal | Limit |
|----------------------------|------------|-------------------|-----------|-------|
| 1. Native Pixel Resolution | Horizontal | pixels | 1366 | --- |
| | Vertical | pixels | 768 | --- |
| 2. Brightness (w / filter) | --- | cd/m ² | 350 | --- |
| 3. Viewing Angle | Horizontal | ° | -88 to 88 | --- |
| | Vertical | ° | -88 to 88 | --- |

< VIDEO >

| Description | Condition | Unit | Nominal | Limit |
|---------------------------------|------------|------|---------|-------|
| 1. Over Scan | Horizontal | % | 5 | 5±5 |
| | Vertical | % | 5 | 5±5 |
| 2. Color Temperature | --- | °K | 12000 | --- |
| | x | | 0.272 | ±3% |
| | y | | 0.278 | ±3% |
| 3. Resolution (composite video) | Horizontal | line | 400 | --- |
| | Vertical | line | 350 | --- |

< AUDIO >

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

| Description | Condition | Unit | Nominal | Limit |
|-----------------------------------|----------------|------|------------|---------|
| 1. Audio Max Output (HDMI 0 dBfs) | Lch/Rch | W | 10.0/10.0 | 8.0/8.0 |
| 2. Audio Distortion (HDMI) | 500mW: Lch/Rch | % | 0.5/0.5 | 2.0/2.0 |
| 3. Audio Freq. Response (HDMI) | −6dB: Lch | Hz | 70 to 10 k | --- |
| | −6dB: Rch | Hz | 70 to 10 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.

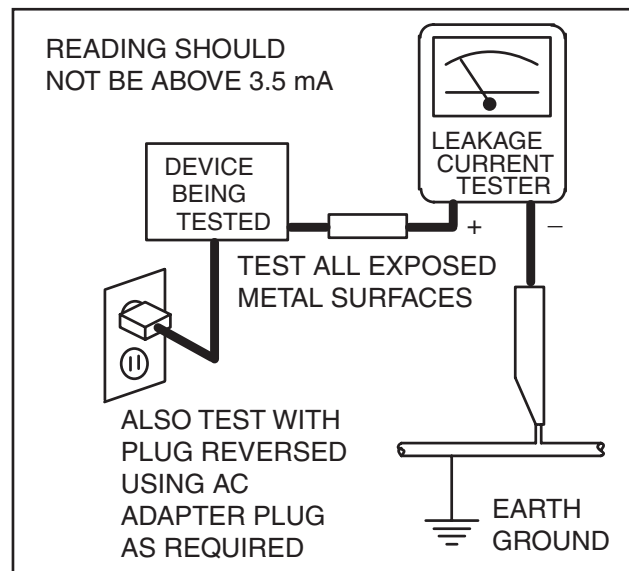
Safety Precautions for DirecTV Monitor Circuit

1. **Before returning an instrument to the customer**, always make a safety check of the entire instrument, including, but not limited to, the following items:

- a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**
- b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) 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 3.5 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 11~13 lb (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 | ≥ 3.2 mm (0.126 inches) |

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

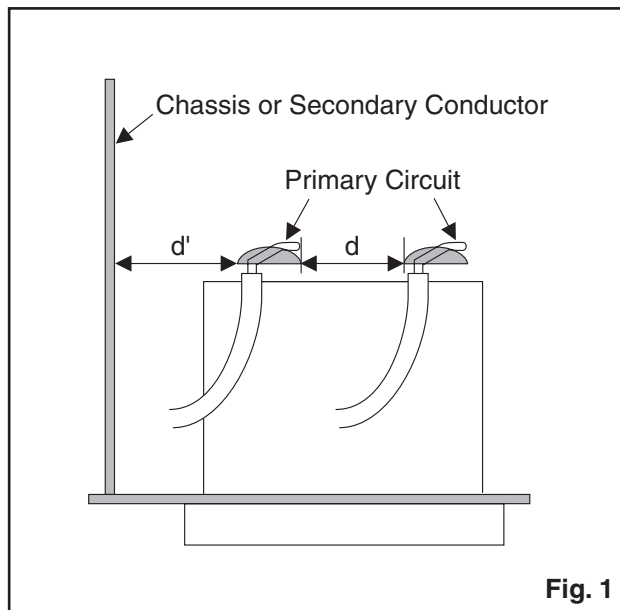


Fig. 1

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.

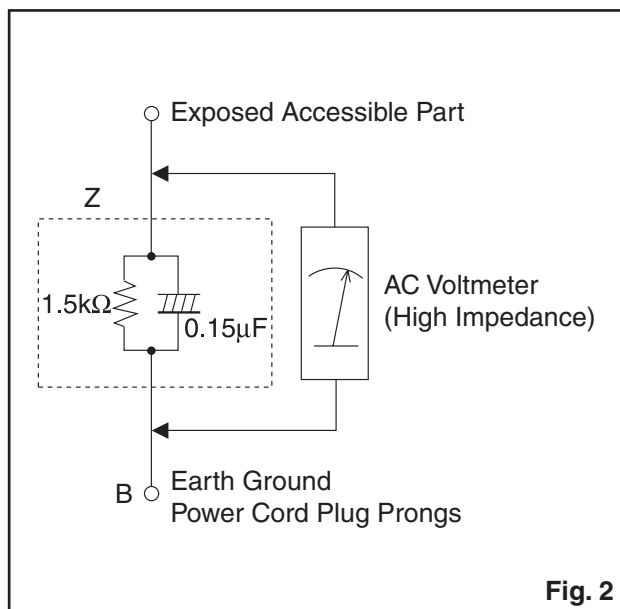


Fig. 2

Table 2: Leakage current ratings for selected areas

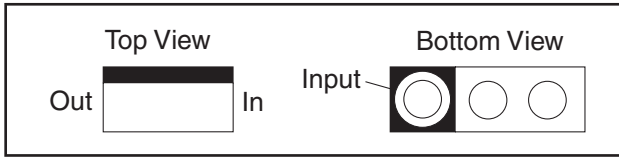
| AC Line Voltage | Region | Load Z | Leakage Current (i) | Earth Ground (B) to: |
|-----------------|------------------|--|-------------------------|--------------------------|
| 110 to 130 V | U.S.A. or Canada | $0.15 \mu F$ CAP. & $1.5 k\Omega$ RES. Connected in parallel | $i \leq 0.5$ mA rms | Exposed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

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

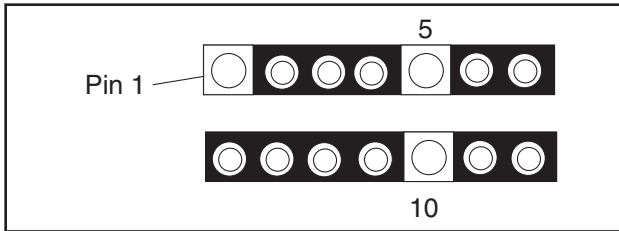
STANDARD NOTES FOR SERVICING

Circuit Board Indications

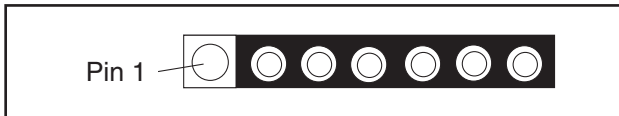
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

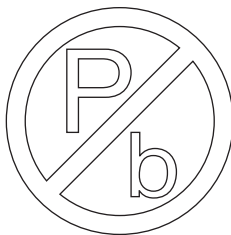


3. The 1st pin of every male connector is indicated as shown.



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)

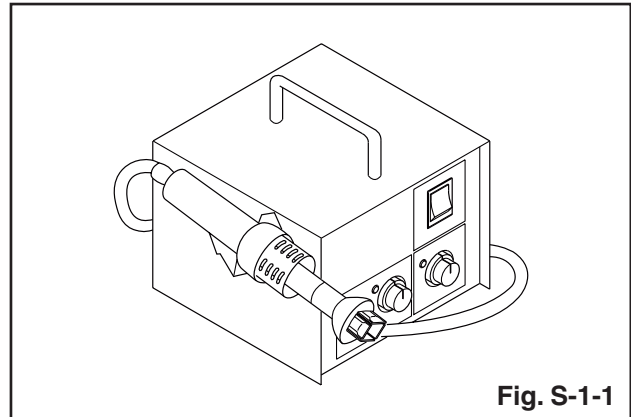


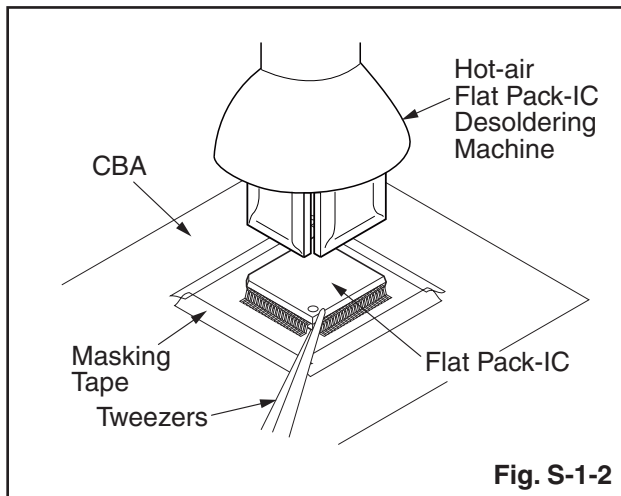
Fig. S-1-1

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:

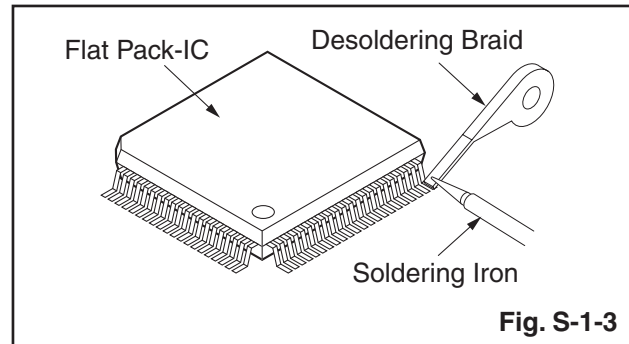
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape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

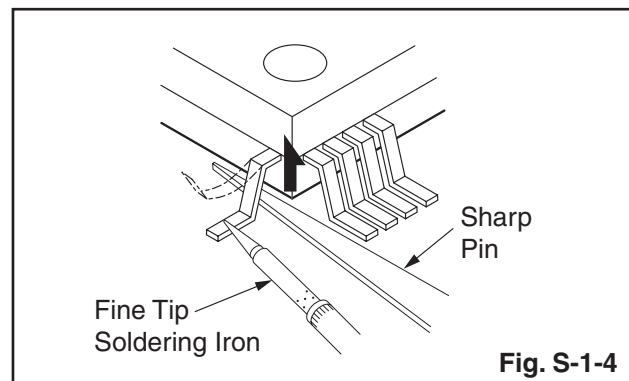


With Soldering Iron:

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)

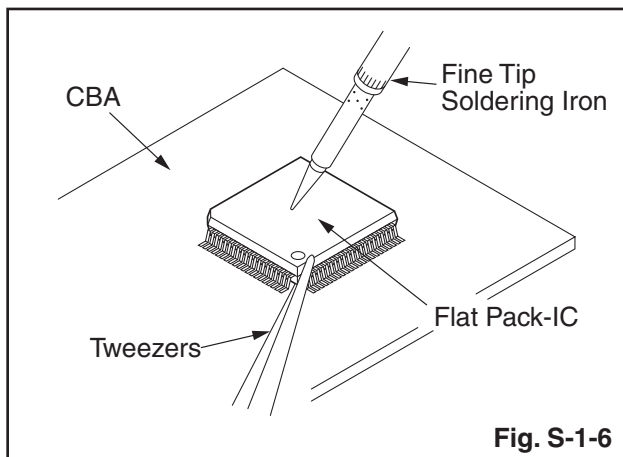
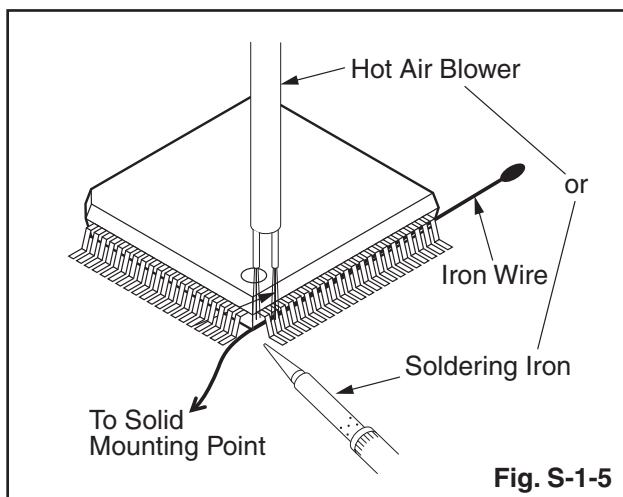


3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

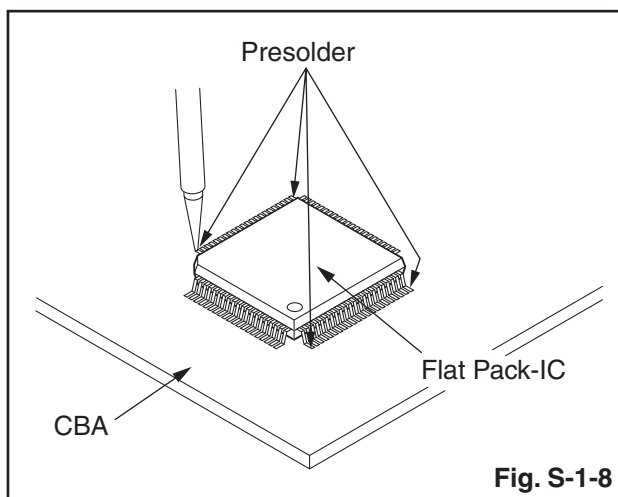
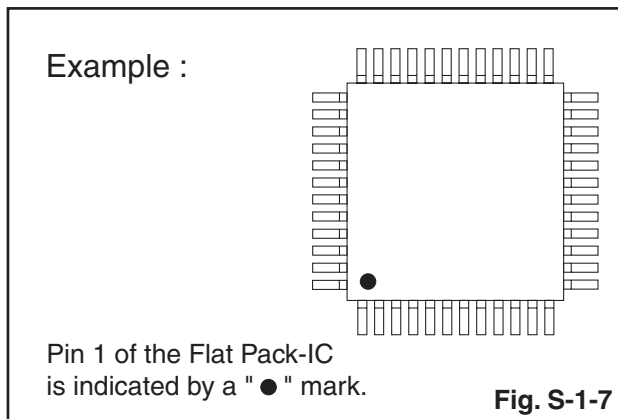
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins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

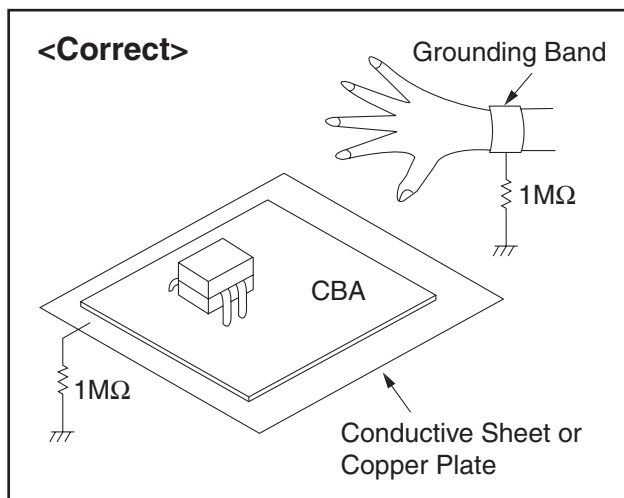
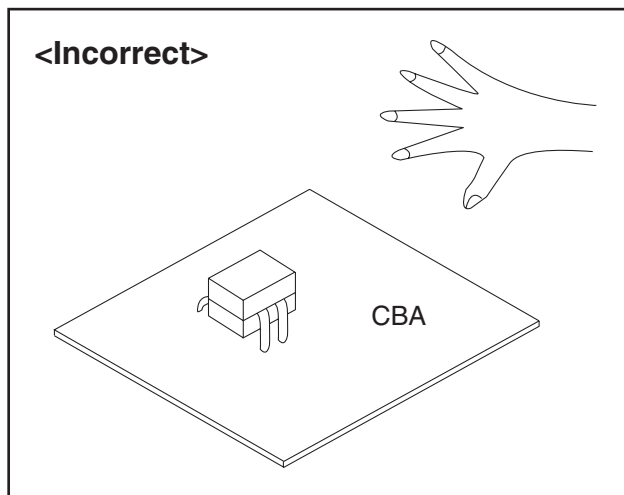
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

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

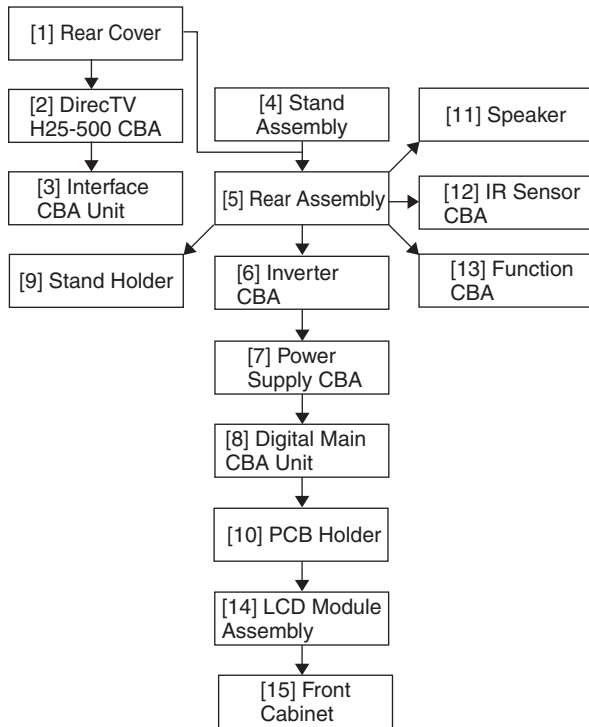
Be sure to place a conductive sheet or copper plate with proper grounding ($1\text{ M}\Omega$) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting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



CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

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



2. Disassembly Method

| Step/ Loc. No. | Part | Fig. No. | Removal | Note |
|----------------------|---------------------|-------------|--|------|
| [1] | Rear Cover | D1 | 4(S-1), Nut, Washer | --- |
| [2] | DirecTV H25-500 CBA | D1 D5 | 3(S-2), Shield Box, CN2004, CN2005, CN2006, JK2007, Smart Card | |
| [3] | Interface CBA Unit | D1 D5 | 4(S-3), Interface PCB Holder, CN2001, CN2002 | |
| [4] | Stand Assembly | D1 | 3(S-4) | --- |
| [5] | Rear Assembly | D1 | 12(S-5), 3(S-6), 11(L-1) | --- |
| [6] | Inverter CBA | D2 D5 | 7(S-7), CN1001, CN1003, CN1100, CN1101, CN1102, CN1901 | --- |

| Step/ Loc. No. | Part | Fig. No. | Removal | Note |
|----------------------|-----------------------|-------------|--|------|
| [7] | Power Supply CBA | D2 D5 | 5(S-8), CN601, CN651 | --- |
| [8] | Digital Main CBA Unit | D2 D5 | 5(S-9), CN3003, CN3801, CN3802, CN3901 | --- |
| [9] | Stand Holder | D3 | 2(S-10), 2(S-11), CL601, AC Inlet Holder | --- |
| [10] | PCB Holder | D3 | 9(S-12) | --- |
| [11] | Speaker | D4 | 4(S-13), Speaker Holder | --- |
| [12] | IR Sensor CBA | D4 D5 | CL103A | --- |
| [13] | Function CBA | D4 D5 | Function Knob, Knob Frame | --- |
| [14] | LCD Module Assembly | D4 | 3(S-14) | --- |
| [15] | Front Cabinet | D4 | ----- | --- |

↓ ↓ ↓ ↓ ↓
 (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
 e.g. 2(S-2) = two Screws of (S-2),
 2(L-2) = two Locking Tabs of (L-2)
- (5) Refer to the following "Reference Notes in the Table."

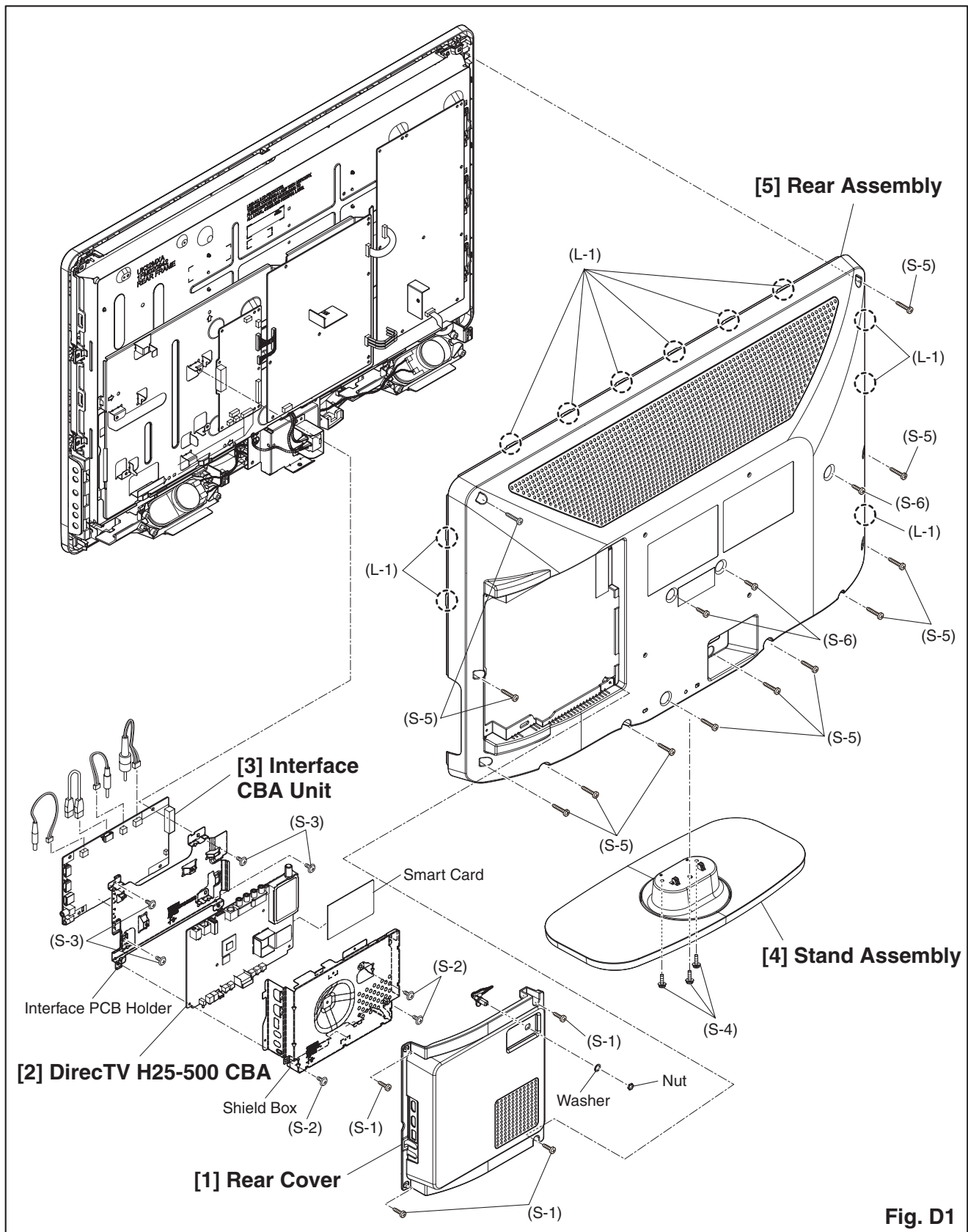


Fig. D1

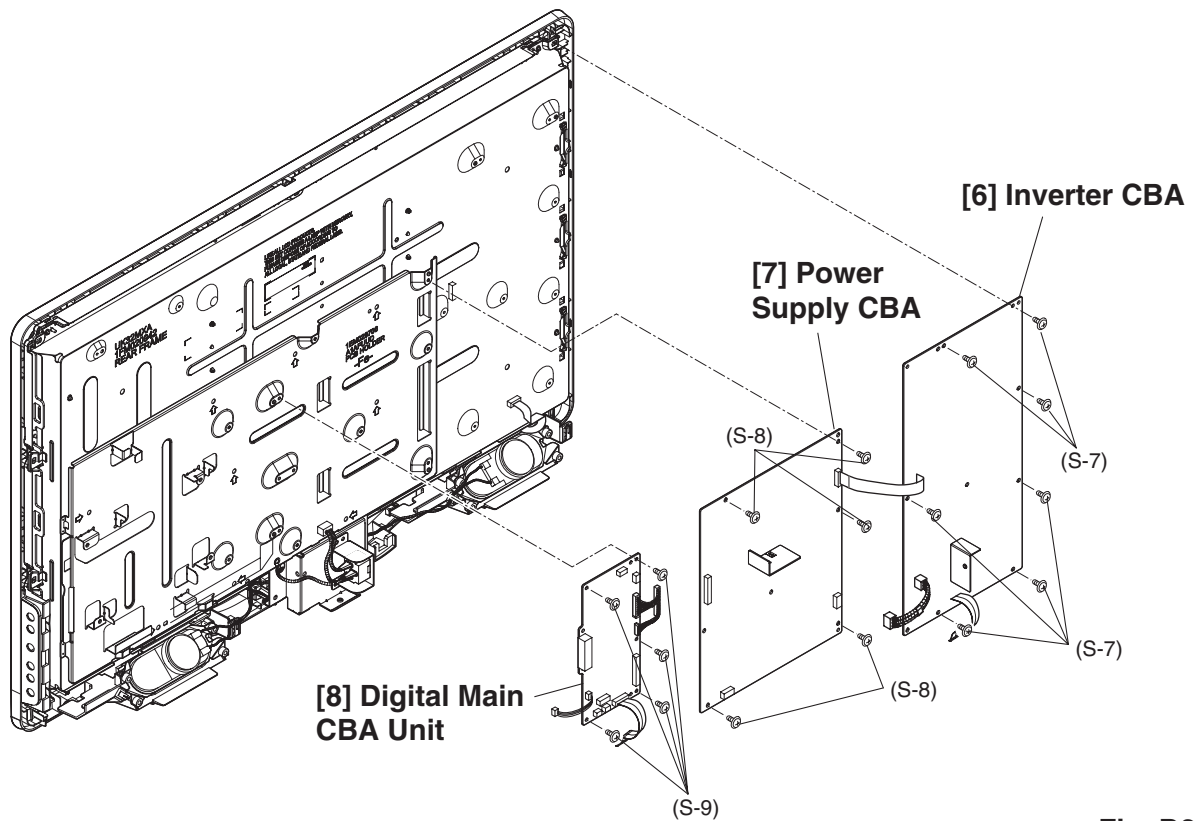


Fig. D2

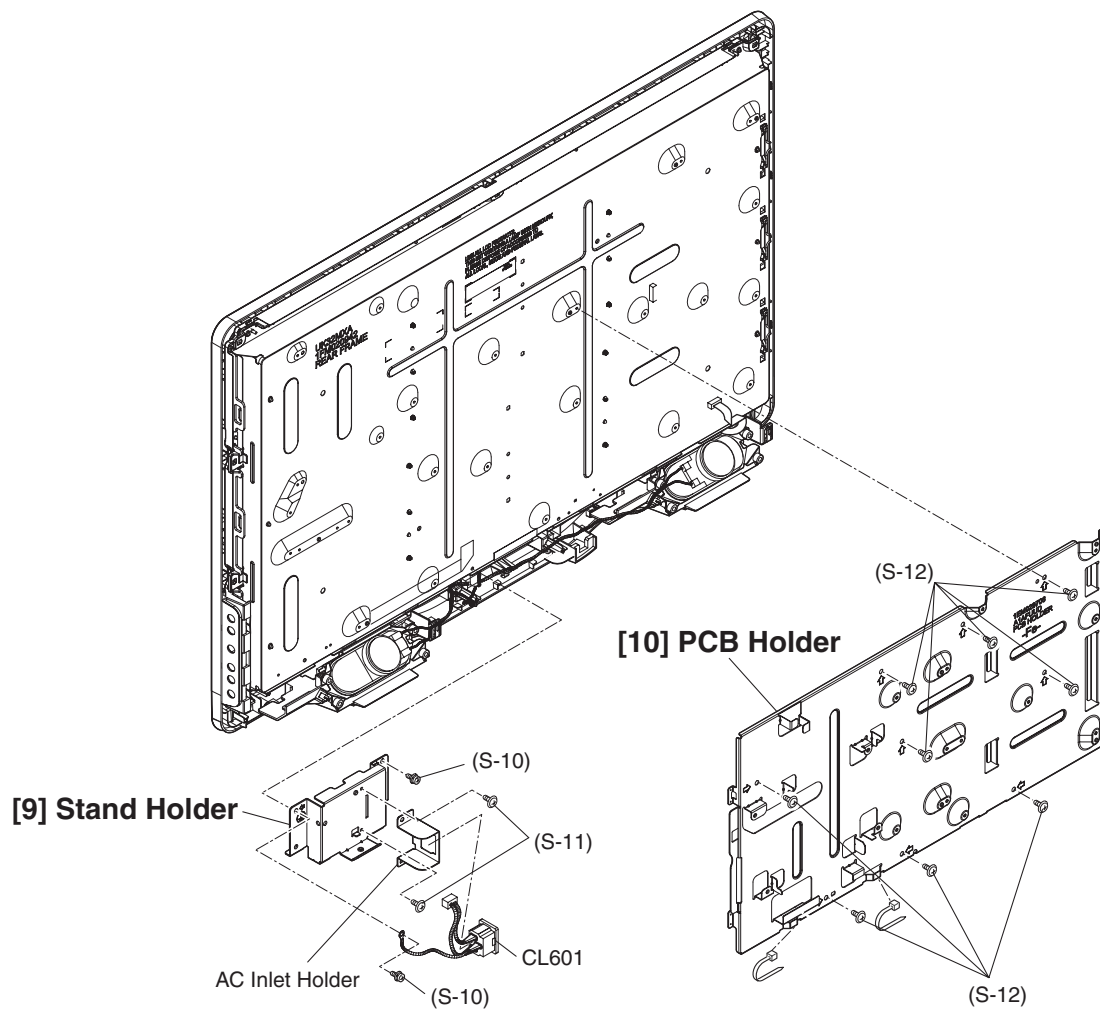


Fig. D3

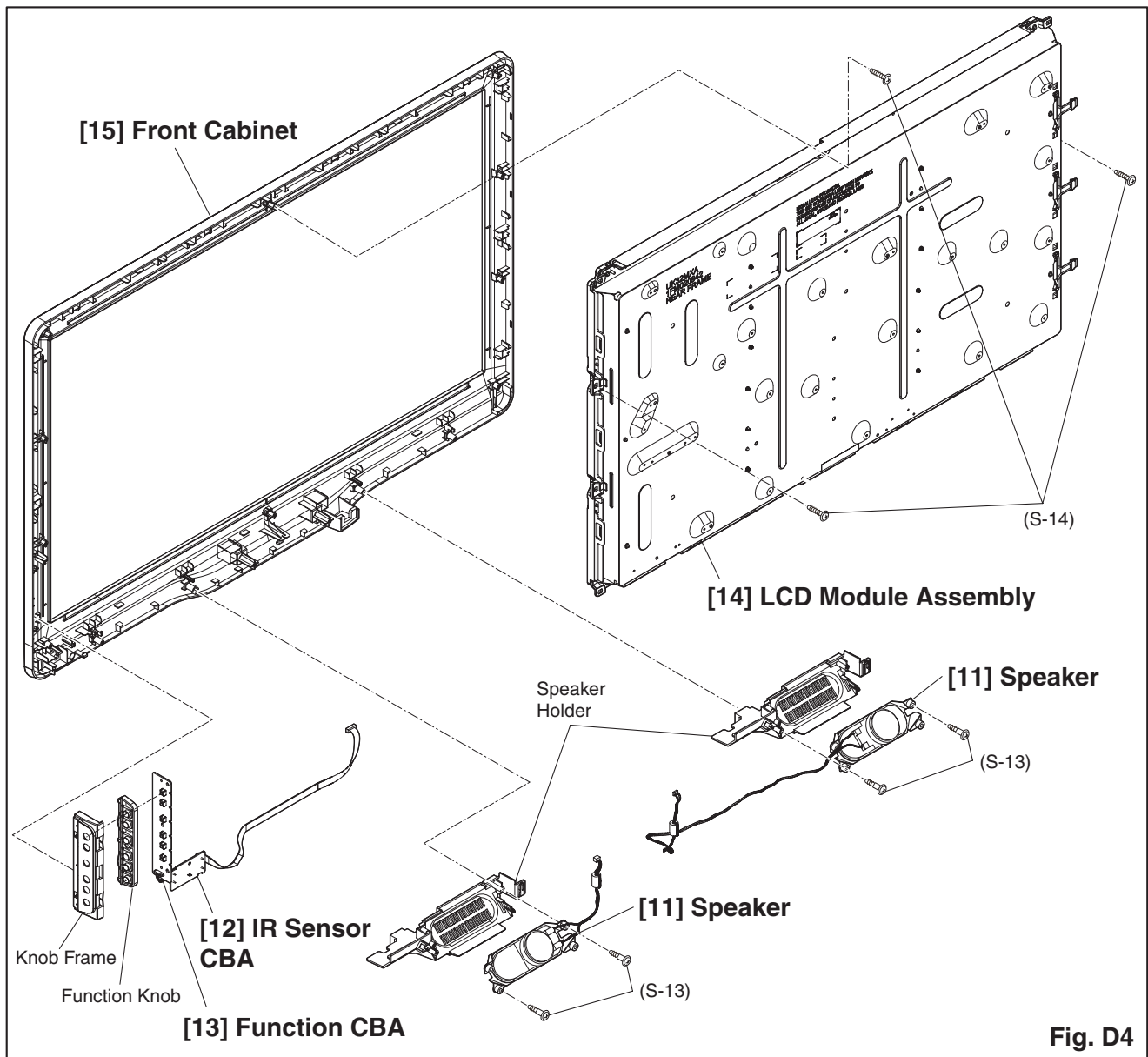
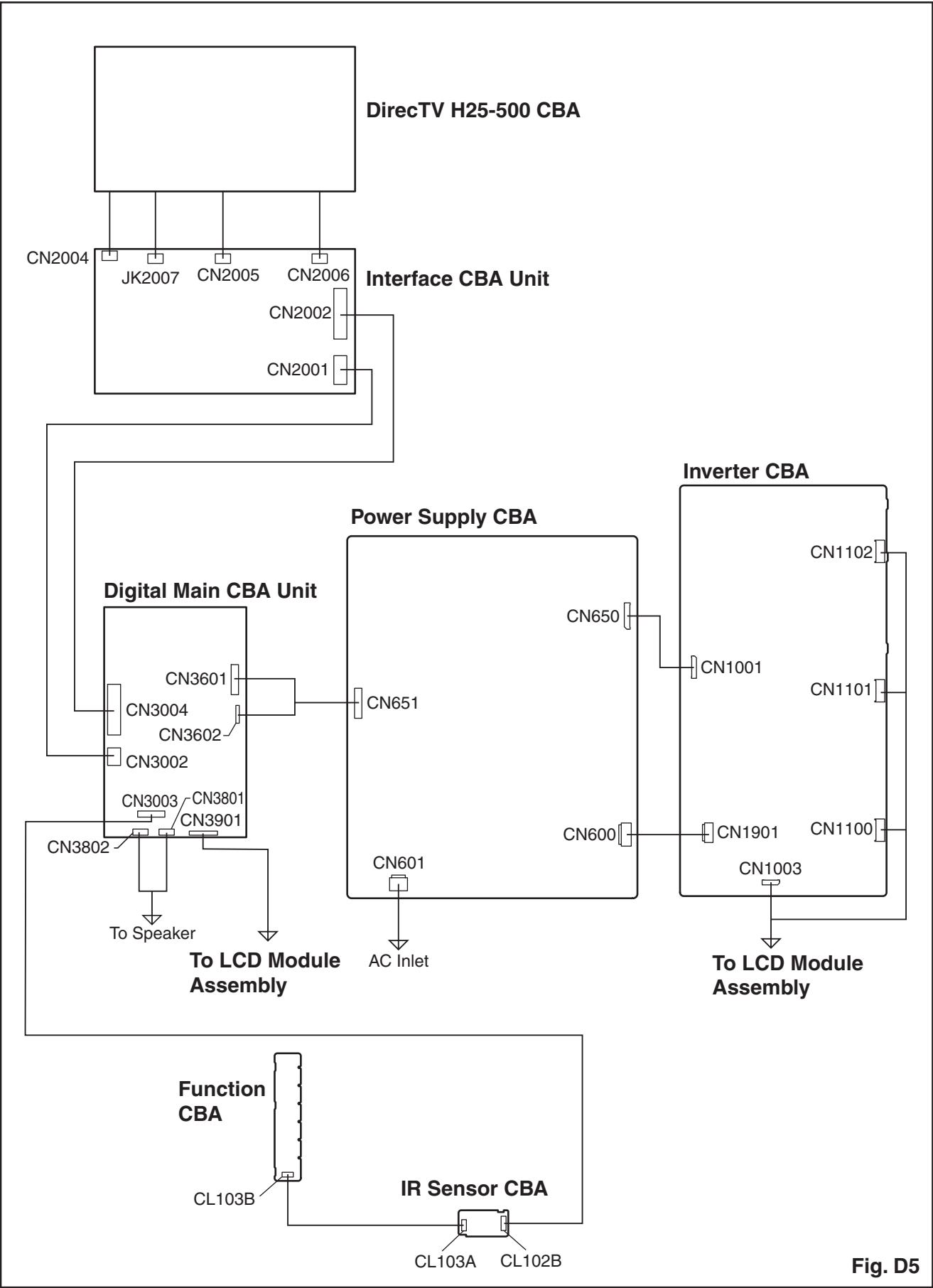


Fig. D4

Cable Wiring Diagram



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. Remote control unit
2. Color Analyzer, CA-310 (KONICA MINOLTA Luminance meter) or measuring instrument as good as CA-310.

How to set up the service mode

How to set up the service mode with Guest Remote Control

1. Turn the power on.
2. Press [3], [1], [9], [7], [5], [3] and [MUTE] buttons on the remote control unit in this order to display the menu.
3. Select “Consumer TV setup” and press the [OK] button to display Setup menu.
4. Select “Features”.
5. Select “Current Software Info”.
6. 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.

| | | | |
|----------------------------|------------------------------|-------------------|------|
| Code: | *****_*_*_*_*_*_*_*_*_* | | |
| Pic code: | *****_*_*_*_*_*_*_*_*_* | | |
| Panel-Option code: | **_*_*_*_*_*_*_*_*_*_*_*_*_* | | |
| MIPS: | Push 0 key | | |
| Press "POWER" key to exit. | | | |
| Tuner: | ****_*_*_*_*_*_*_*_*_* | | |
| Safety: | Safety_Non | Total Watch Time: | **** |
| HDMI EDID: | ** | Lightsensor: | **** |

How to set up the service mode with Set Up Remote Control (optional)

1. Turn the power on.
2. Press the [RC5 SETUP] and [HOME/MENU] button on the set up remote control in this order to display the menu.
3. Select “Consumer TV setup” and press the [OK] button to display Setup menu.
4. Select “Features”.
5. Select “Current Software Info”.
6. Press the [RC5 GUEST], [0], [6], [2], [5], [9], [6] and [RECALL/INFO] buttons on the set up remote control in this order. The following screen appears.

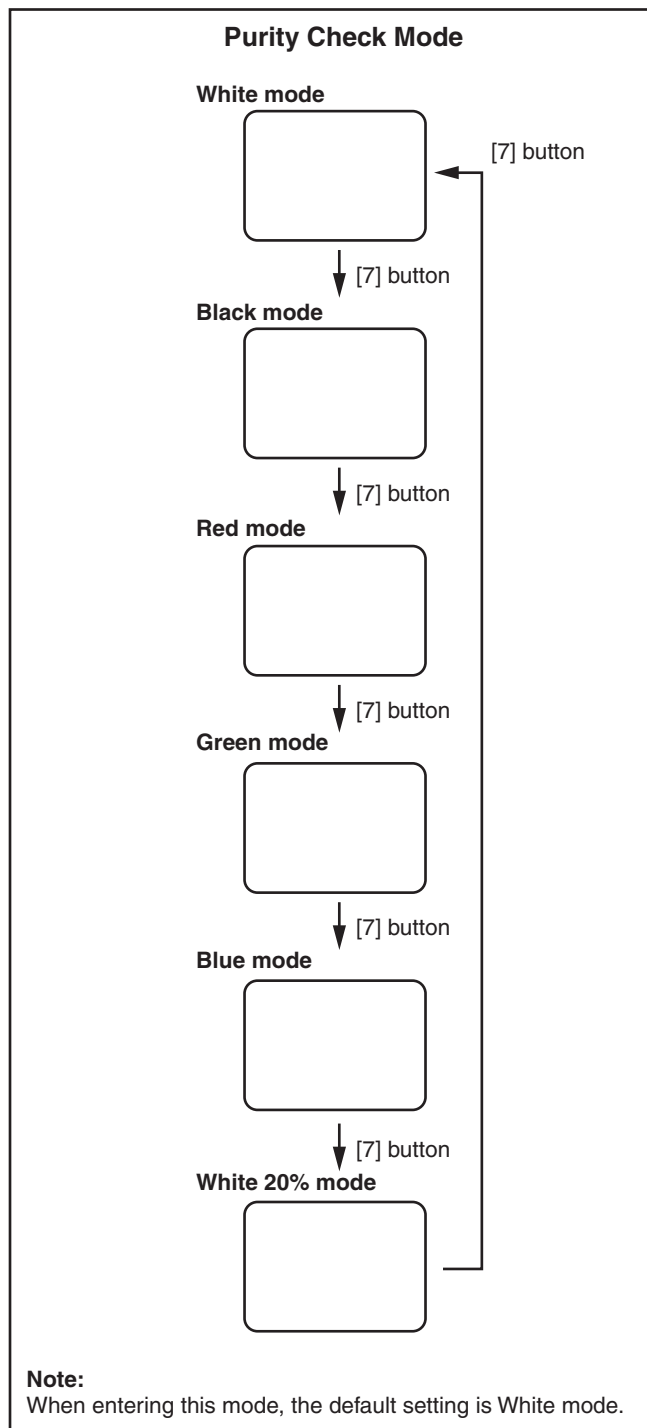
"*" differs depending on the models.

| | | | |
|----------------------------|------------------------------|-------------------|------|
| Code: | *****_*_*_*_*_*_*_*_*_* | | |
| Pic code: | *****_*_*_*_*_*_*_*_*_* | | |
| Panel-Option code: | **_*_*_*_*_*_*_*_*_*_*_*_*_* | | |
| MIPS: | Push 0 key | | |
| Press "POWER" key to exit. | | | |
| Tuner: | ****_*_*_*_*_*_*_*_*_* | | |
| Safety: | Safety_Non | Total Watch Time: | **** |
| HDMI EDID: | ** | Lightsensor: | **** |

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 the [7] button on the remote control unit is pressed, the display changes as follows.

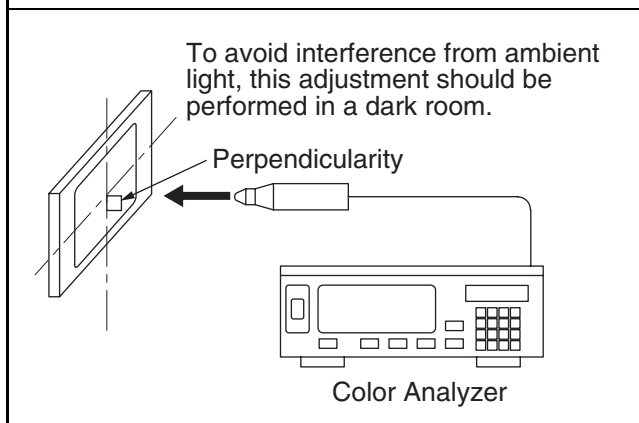


3. To cancel or to exit from the Purity Check Mode, press [BACK] button.

2. VCOM Adjustment

| Test Point | Adj. Point |
|----------------|---------------------|
| Screen | [CH + or -] buttons |
| M. EQ. | Spec. |
| Color analyzer | See below |

Figure



1. Set the color analyzer at the zero point calibration and bring the optical receptor pointing at the center of the LCD-Panel.
Note: The optical receptor must be set perpendicularly to the LCD Panel surface.
2. Enter the service mode.
3. Press [2] button on the remote control unit.
4. Press [CH + or -] buttons on the remote control unit so that the color analyzer value becomes minimum.
5. To cancel or to exit from the VCOM Adjustment, press [BACK] button.

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

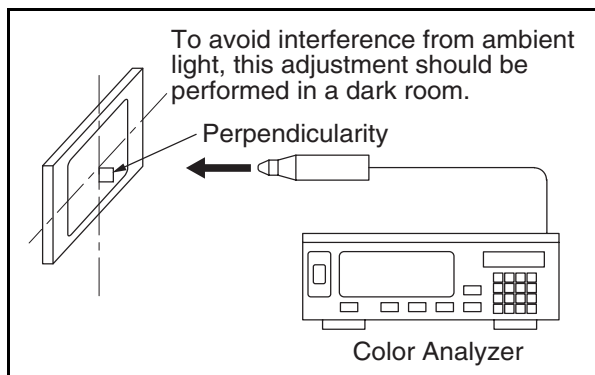
3. White Balance Adjustment

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

Symptom of Misadjustment: White becomes bluish or reddish.

| ITEM | SPECIFICATION |
|---------------------|--|
| Color temperature | $x = 0.272 \pm 0.002$ $y = 0.278 \pm 0.002$ |
| Input Signal | Internal pattern (40/70% raster) |
| Measurement point | Screen center |
| M. EQ. | CA-310 (KONICA MINOLTA Luminance meter) or measuring instrument as good as CA-310. |
| Aging time | 60min. (Retail MODE/100IRE Raster HDMI 1080i @ 60) |
| MODE setting of TV | Shipment setting/ Retail MODE |
| Ambient temperature | $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ |

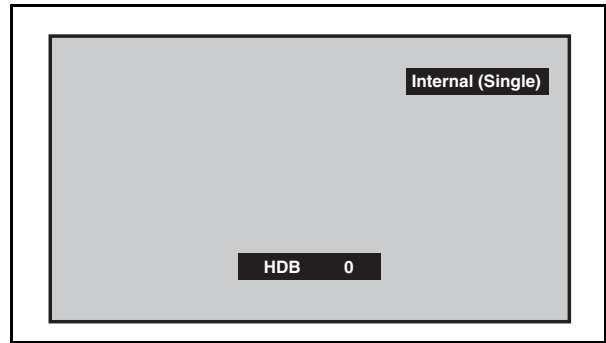
1. Operate the unit for more than 60 minutes.
2. Enter the service mode.
3. Press [VOL -] button three times on the remote control unit to select "Drive setting" mode. "Drive" appears in the screen.
4. Set the color analyzer at the CHROMA mode and zero point calibration. Bring the optical receptor pointing at the center of the LCD-Panel.



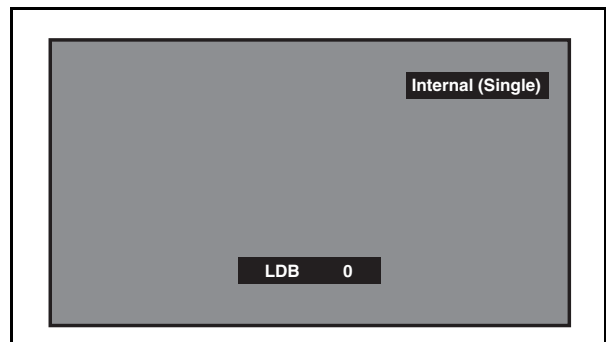
Note: The optical receptor must be set perpendicularly to the LCD Panel surface.

5. Press [3] button to select the "HDB" for High Drive Blue adjustment. ("HDB" appears in the screen.)

6. Press [MENU] button. The internal Raster signal appears in the screen. ("Internal (Single)" appears in the upper right of the screen as shown below.)



7. Press [CH + or -] buttons to adjust the color temperature becomes 12000°K ($x = 0.272 / y = 0.278 \pm 0.002$).
8. Press [1] button to select the "HDR" for High Drive Red adjustment ("HDR" appears in the screen.) and press [CH + or -] buttons to adjust the color temperature.
9. If necessary, adjust the "HDB" or "HDR" again.
10. Press [6] button to select the "LDB" for Low Drive Blue adjustment ("LDB" appears in the screen.) and press [CH + or -] buttons to adjust the color temperature.



11. Press [4] button to select the "LDR" for Low Drive Red adjustment ("LDR" appears in the screen.) and press [CH + or -] buttons to adjust the color temperature.
12. If necessary, adjust the "LDB" or "LDR" again.
13. Press [VOL -] button to shift to the "Debugging Message" mode.
If there is no message under "[WB]" section, this adjustment completes.
If "Drive settings are NG. Retry." is displayed, repeat above steps from 5. to 12. Then check "Debugging Message" again. If "Drive settings are NG. Retry." is displayed, replace the LCD Panel or Digital Main CBA.
14. To cancel or to exit from the White Balance Adjustment, press [BACK] button.

After replacing the DirecTV H25-500 CBA, the following adjustments should be performed.

1. Enter the H25 Diagnostics mode

1. Plug the AC cord into the AC outlet.
2. Turn the power on with guest remote control unit.
3. Press [3], [1], [9], [7], [5], [3] and [MUTE] buttons on the remote control unit in this order to display the menu.
4. Select "Control settings" - "Standby mode" - "Fast" and press [OK].
5. Press [MENU] to exit.
6. Press [SOURCE] button on the remote control unit repeatedly to select "DTV".
7. Press [ON] button on the DirecTV remote control unit.
8. While "Running receiver self-check..." is displayed, press the [SELECT] button on the DirecTV remote control unit to enter the H25 Diagnostics mode. After a few seconds, the H25 Diagnostics mode menu is displayed on the screen.
9. Perform the following procedures.

Note:

The "Running receiver self-check" message will be disappeared in 10 seconds.

If it disappeared before pressing [SELECT], follow the procedures 1, 2, 6 and 7 above to display the message again.

2. Access Card Test

1. Select "Advanced Test Menu" in the H25 Diagnostics mode menu.
2. Select "Internal Components Tests" - "Access Card Test" - "Run Test".
3. Test result is displayed under the "Test Result" section as shown below.
PASS: Access Card is correctly inserted.
NO CARD: Access Card is not inserted.
NOT DETECTED: Access Card is incorrectly inserted.

3. Satellite Tuner Tests

Note: The Modulator and SWM module is required for this test.

1. Select "Advanced Test Menu" in the H25 Diagnostics mode menu.
2. Select "External Interface Tests" - "Satellite Tuner Tests" - "Run Test".
3. If there is no problem, "PASSED (100%)" is displayed under the "Test Result" section.

4. SWM Test

Note: The SWM module is required for this test.

1. Select "Advanced Test Menu" in the H25 Diagnostics mode menu.
2. Select "External Interface Tests" - "SWM Test" - "Run Test".
3. If SWM module is already installed, "PASSED" is displayed under the "Test Result" section.

5. Audio Test

1. Select "Advanced Test Menu" in the H25 Diagnostics mode menu.
2. Select "Interactive Tests" - "Audio Test" - "Run Test".
3. While "Beeping" is displayed under the "Test Status" section, it makes sounds.
4. After confirming the sound, select "Stop Test" to terminate this test.

How to Setup the DirecTV Remote Control

To Program:

Press MUTE + Enter and hold in both keys for 3 seconds (until the visible LED blinks twice).

Then enter the program code and if accepted, the LED will blink twice again.

Program Codes:

11454 – Discrete On/Off

- a. (discrete) ON (Sat 80h) + RC5 0,63
- b. (discrete) OFF (Sat 81h) + RC5 0,61
- c. Vol + RC5 0,16
- d. Vol - RC5 0,17
- e. Mute RC5 0,13
- f. Input RC5 0,56

10054 – Power Toggle

- a. ON (Sat 80h) + RC5 0,12
- b. OFF (Sat 81h) + RC5 0,12
- c. Vol + RC5 0,16
- d. Vol - RC5 0,17
- e. Mute RC5 0,13
- f. Input RC5 0,56

981 – Reset to Factory Default

- a. ON (Sat 80h)
- b. OFF (Sat 81h)
- c. Vol + -
- d. Vol - -
- e. Mute -
- f. Input -



HOW TO INITIALIZE THE DirecTV Monitor

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 DirecTV Monitor using the following procedure.

1. Turn the power on.
2. Enter the service mode.
3. Press [FREEZE] button on the remote control unit to initialize the DirecTV Monitor.
4. "INITIALIZED" will appear in the upper right of the screen. "INITIALIZED" color will change to green from red when initialization is completed.

Note: To cancel the service mode, press [⏻] button on the remote control unit.

FIRMWARE RENEWAL MODE

Equipment Required

- USB storage device
- Remote Control Unit

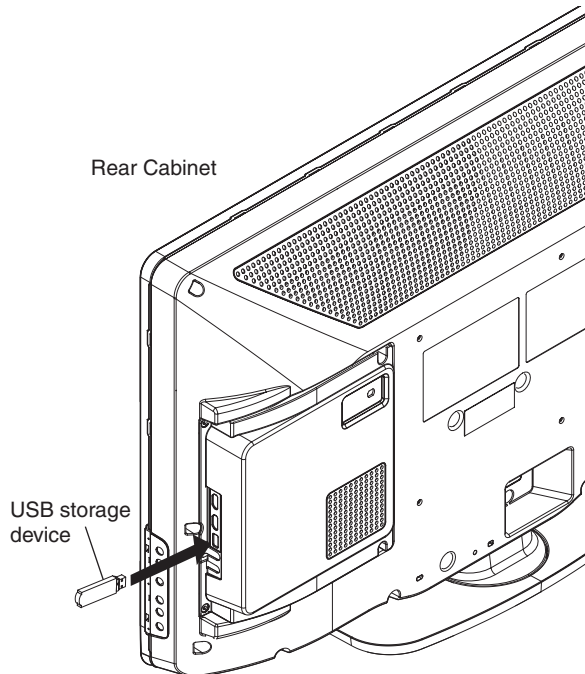
Firmware Update Procedure

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

| | |
|---------------------------------|--|
| User Upgrade | Upgrade the firmware only. The setting values are not initialized. |
| Factory upgrade | Upgrade the firmware and initialize the setting values. |
| Factory Upgrade (Flash upgrade) | Upgrade the firmware and initialize the setting values along with the setting data adjusted at the factory such as White Balance, etc. |

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

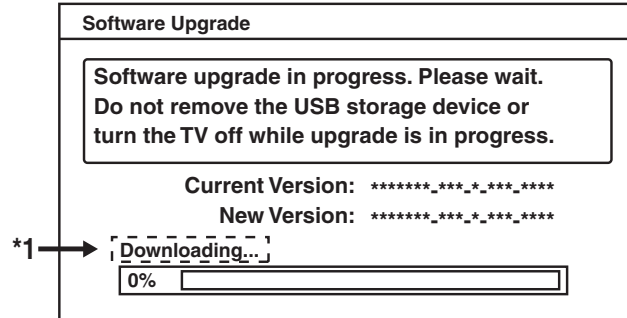
- Turn the power off and unplug the AC Cord.
- Insert the USB storage device to the USB port as shown below.



- Plug the AC cord in the wall outlet and turn the power on.

- The update will start and the following will appear in the screen.

"*" differs depending on the models.

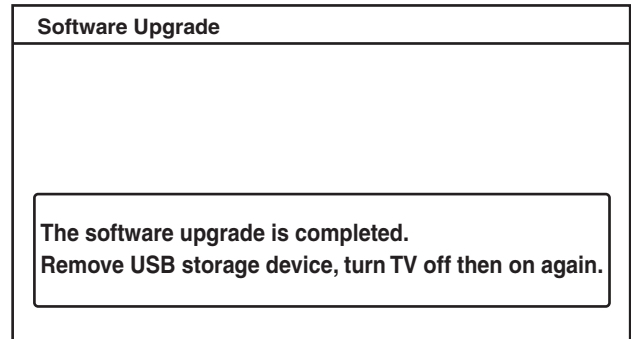


- Note:** If the above screen isn't displayed, repeat from step 1.

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 in 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 in the upper right of the screen. "INITIALIZED" color will change to green from red when initializing is completed.

HOSPITALITY TV MODE

TV to USB settings

- All settings except for the factory setting will be copied from TV to USB storage device.
- The set value will be preserved in the root directory of the USB storage device.
- All settings will be preserved in the third file.
- When a same file name exists in the USB storage device, the new file will overwrite the previous file.
- All the key input and the shutdown timers will be invalid during the copying process.
- Audio and Video will be muted during the copying process.

How to copy the TV settings to USB storage device

1. Turn the power on.
2. Insert an empty USB storage device to the USB port.
3. Press the [HOME/MENU] button on the setup remote control to display the menu.
4. Select "TV to USB", "Start now" and press the [OK] button.
5. After the successful completion, "Setting copied to USB" message appears on the screen.

NOTE:

In case of any error during the copying process, the copying process will be stopped with the warning message "Failed. Please retry" on the screen.

USB to TV settings

- All settings except for the factory setting will be copied from USB storage device to TV.
- All the key input and the shutdown timers will be invalid during the copying process.
- Audio and Video will be muted during the copying process.
- When illegal data exist in the file, the copying process will be aborted.
- After the successful completion of the copying process, the new set of values will be adopted by the TV.

How to read the setting values from the USB storage device

1. Turn the power on.
2. Insert an USB storage device to the USB port.
3. Press the [HOME/MENU] button on the setup remote control to display the menu screen.
4. Select "USB to TV", "Start now" and press [OK] button.
5. After the successful completion, the TV will restart and initialize with the new values. TV shifts to Standby (Green) and TV shifts to Live mode automatically.

NOTE:

In case of any error during the copying process, the copying process will be stopped with the warning message "Failed. Please retry" on the screen.

Status menu screen (optional)

1. Turn the power on.
2. Press the [RECALL/INFO] button on the setup remote control to display the status menu as shown below.

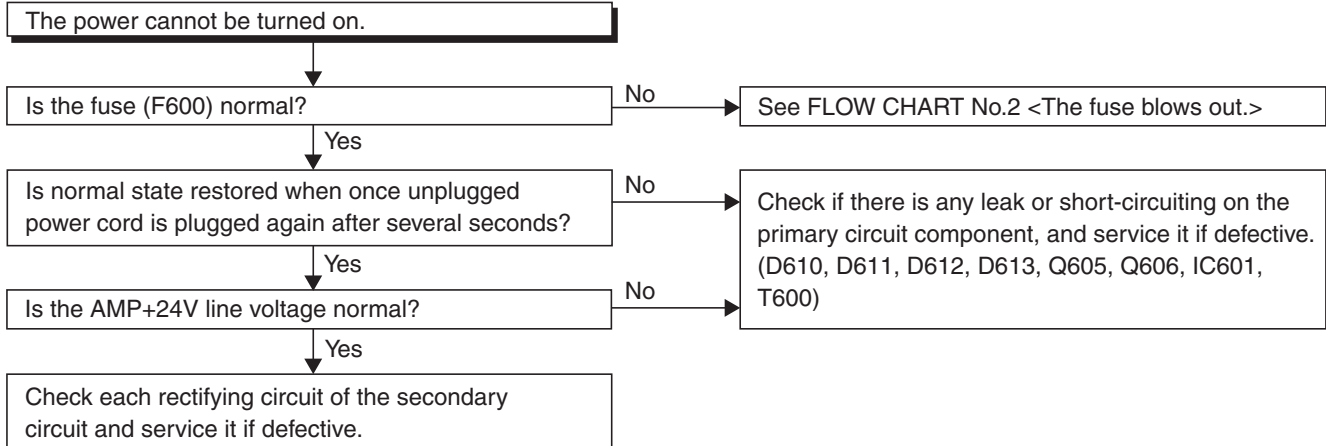
"*" differs depending on the models.

| | |
|---------------------|-------|
| Model number | ***** |
| SW version | ***** |
| Source | ***** |

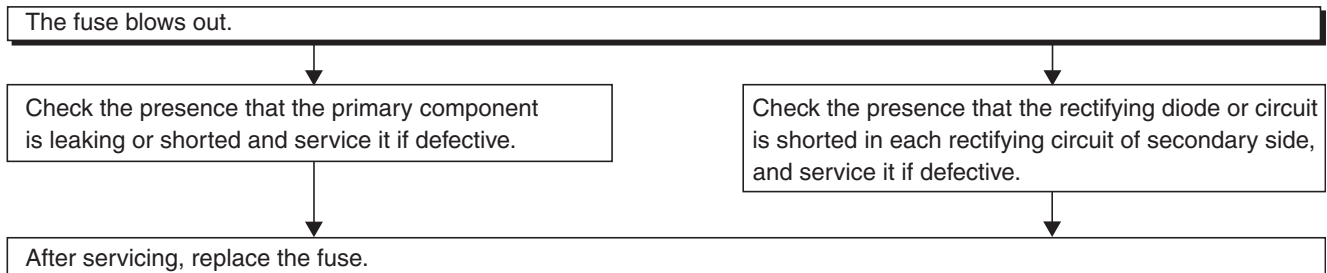
3. Press the [RECALL/INFO] button again to cancel the status menu.

TROUBLESHOOTING

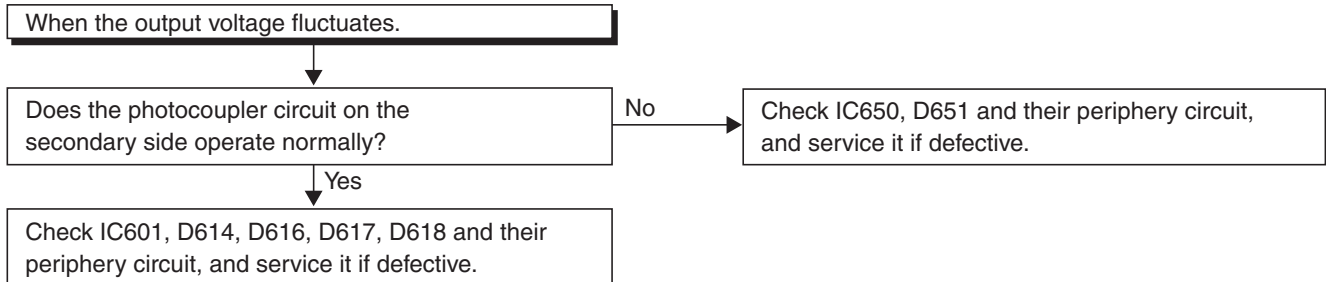
FLOW CHART NO.1



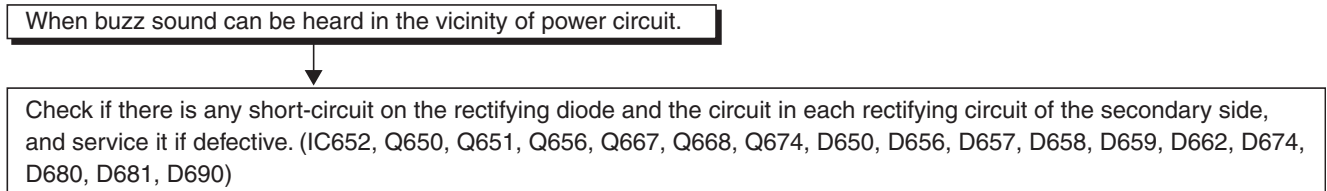
FLOW CHART NO.2



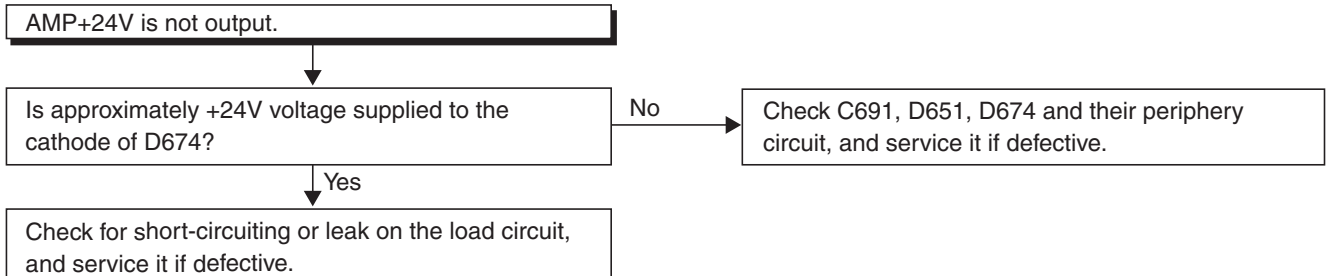
FLOW CHART NO.3



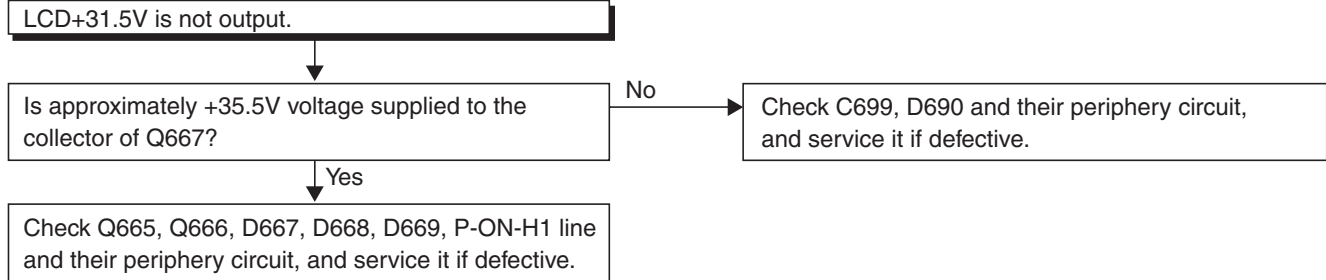
FLOW CHART NO.4



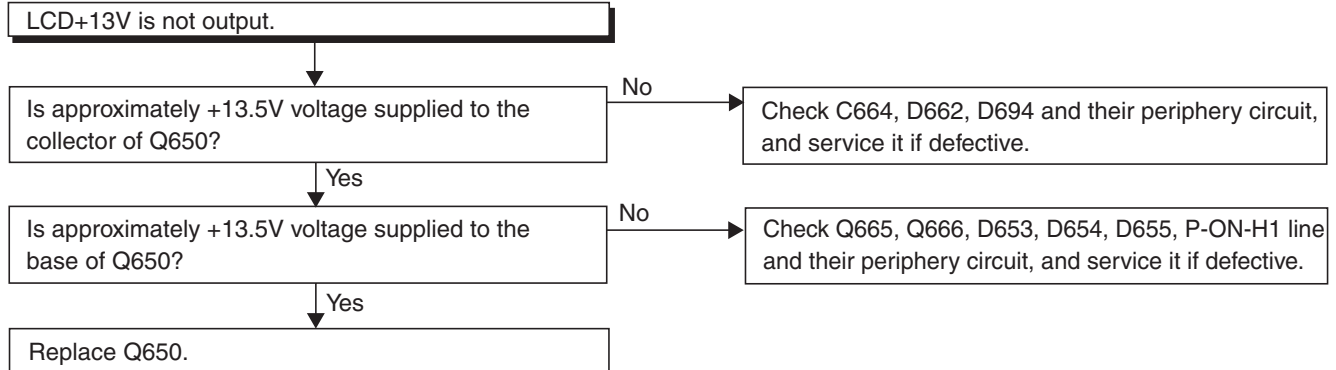
FLOW CHART NO.5



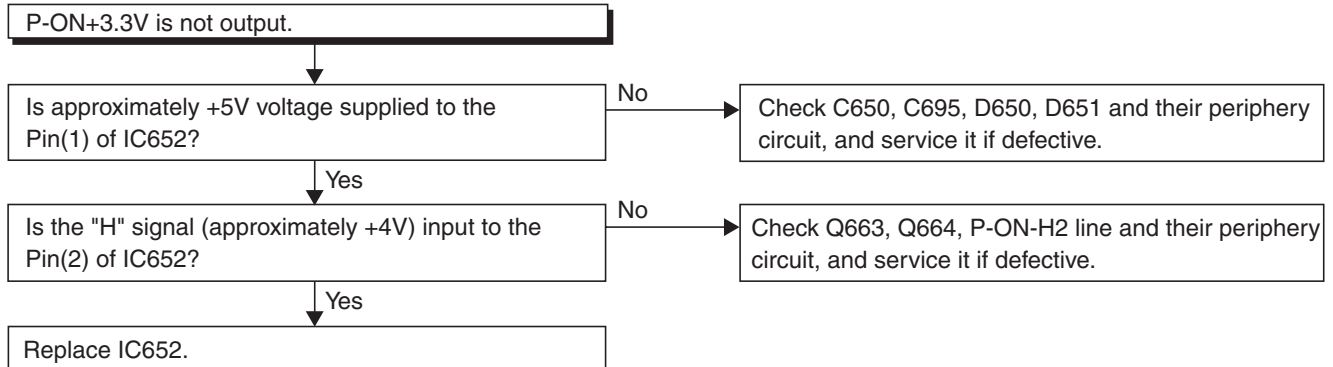
FLOW CHART NO.6



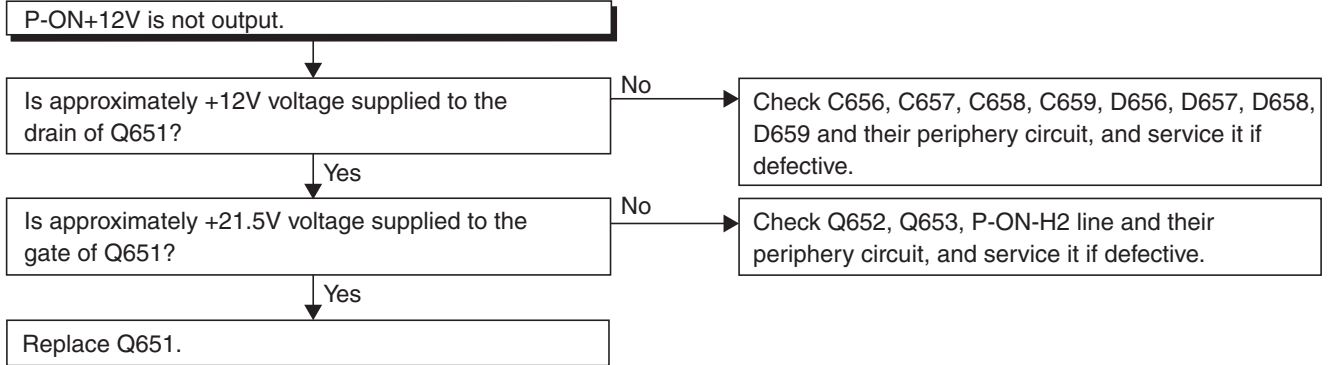
FLOW CHART NO.7



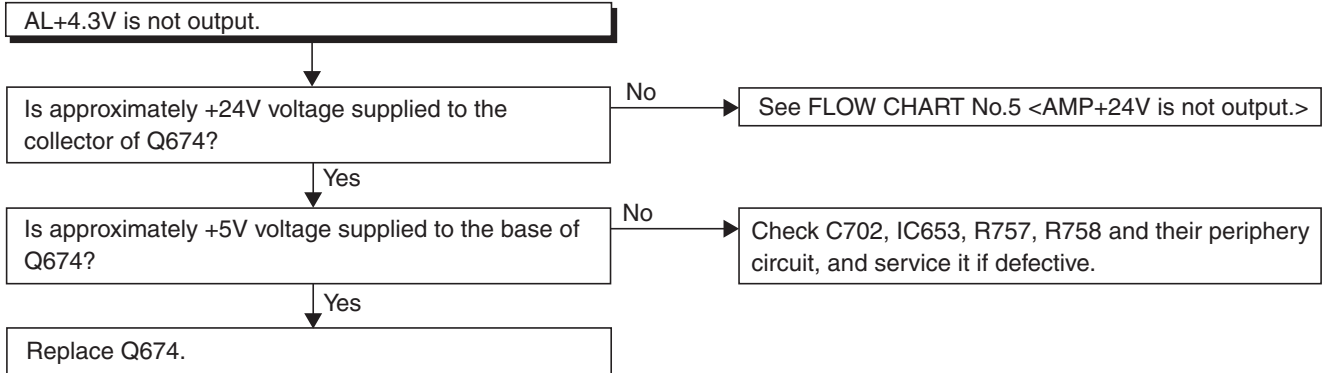
FLOW CHART NO.8



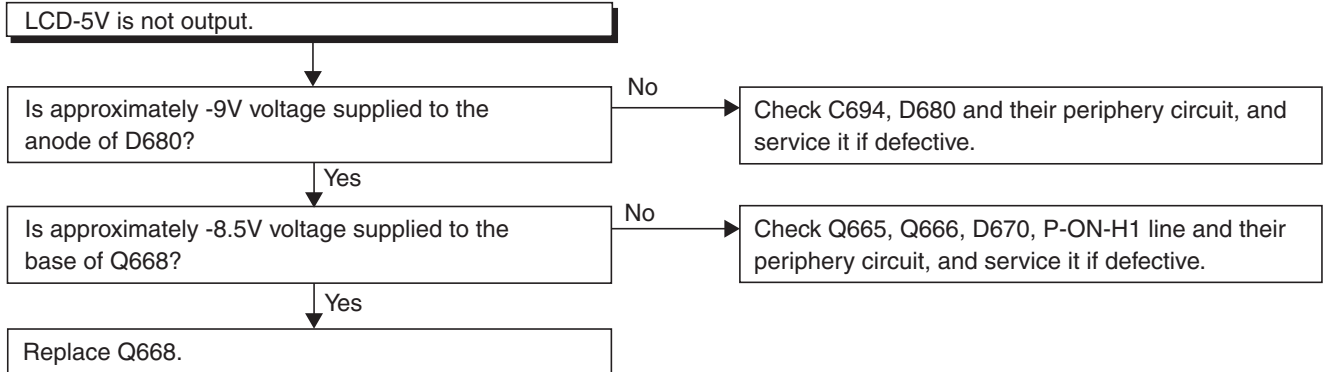
FLOW CHART NO.9



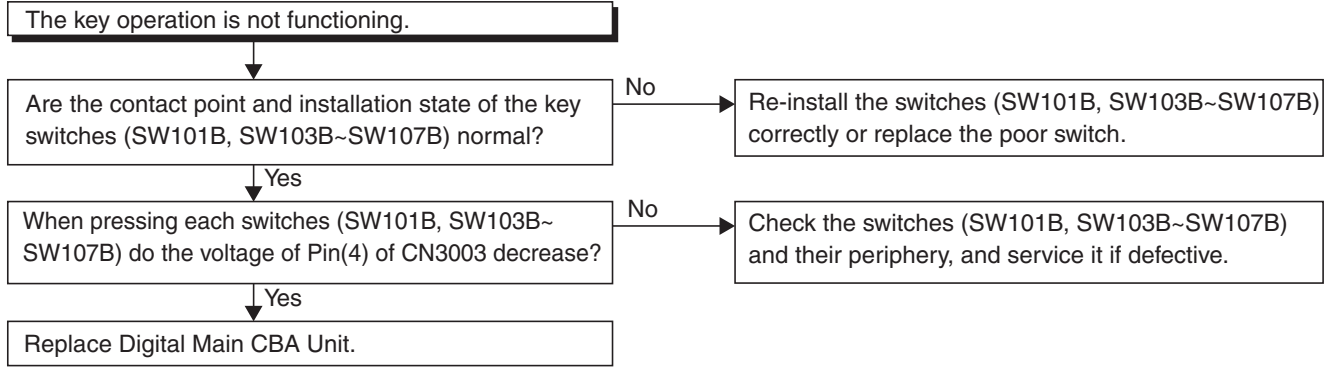
FLOW CHART NO.10



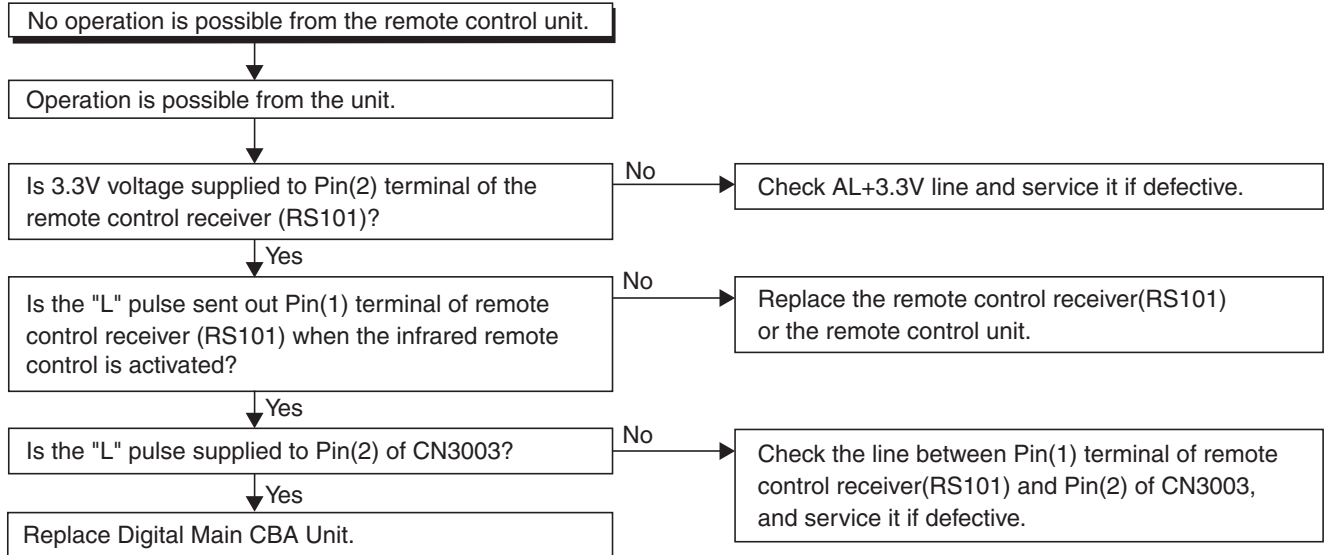
FLOW CHART NO.11



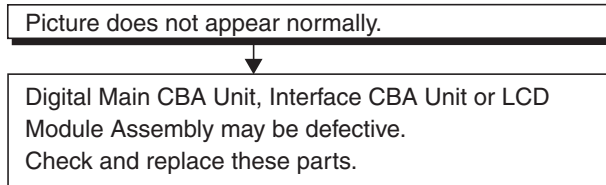
FLOW CHART NO.12



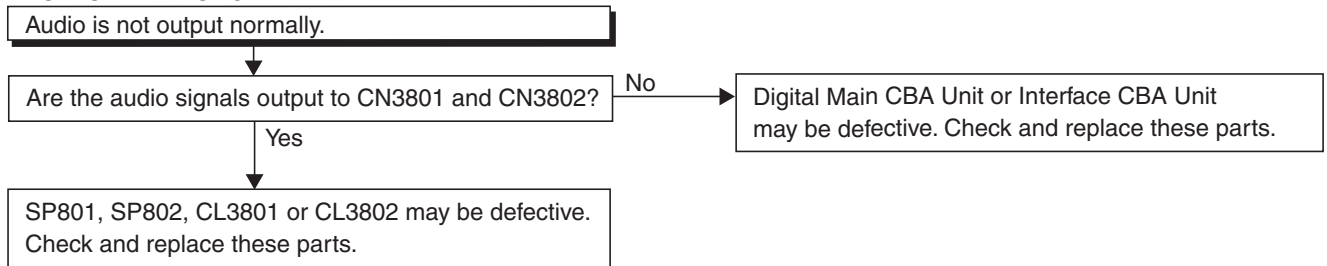
FLOW CHART NO.13



FLOW CHART NO.14

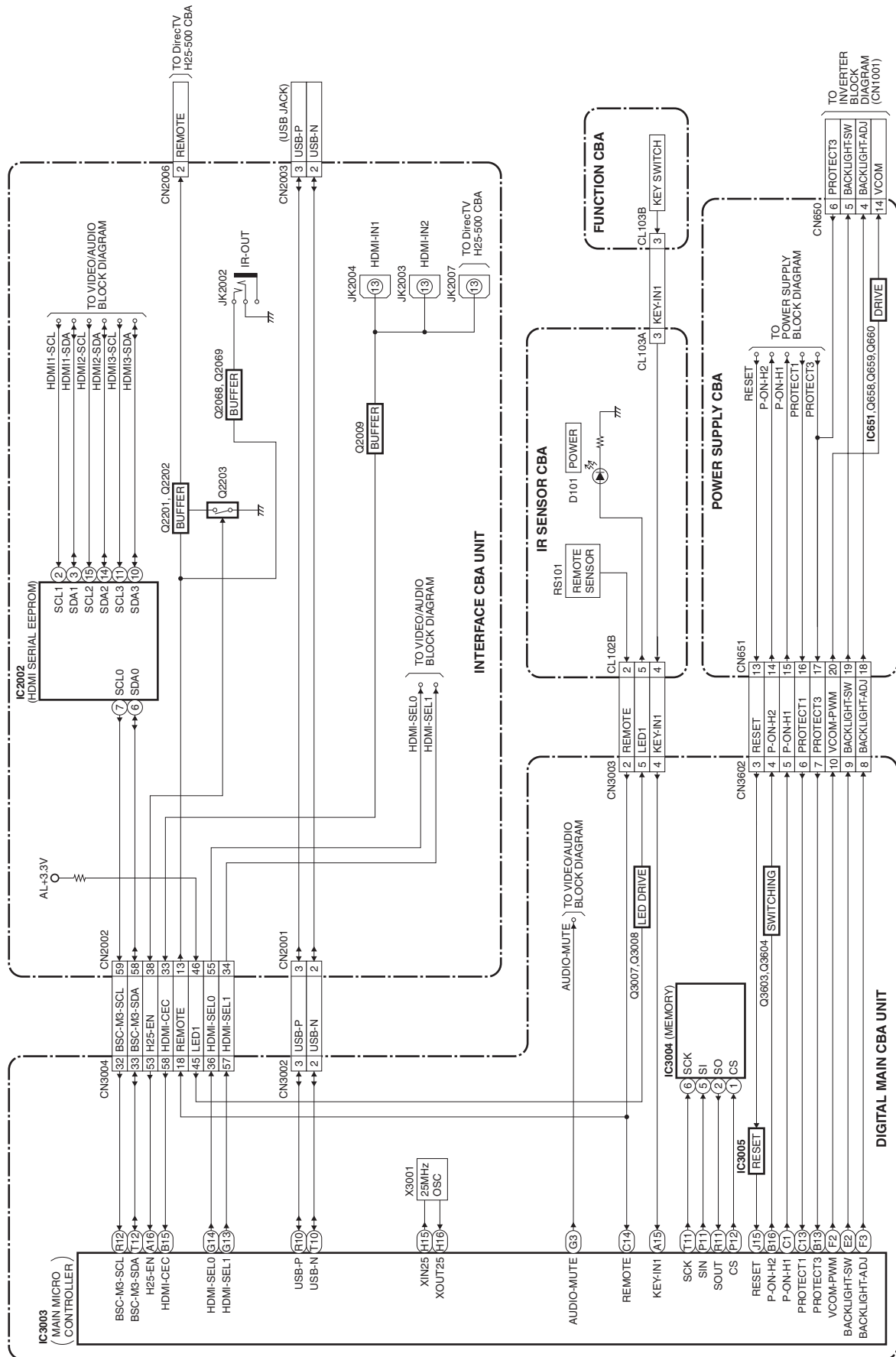


FLOW CHART NO.15

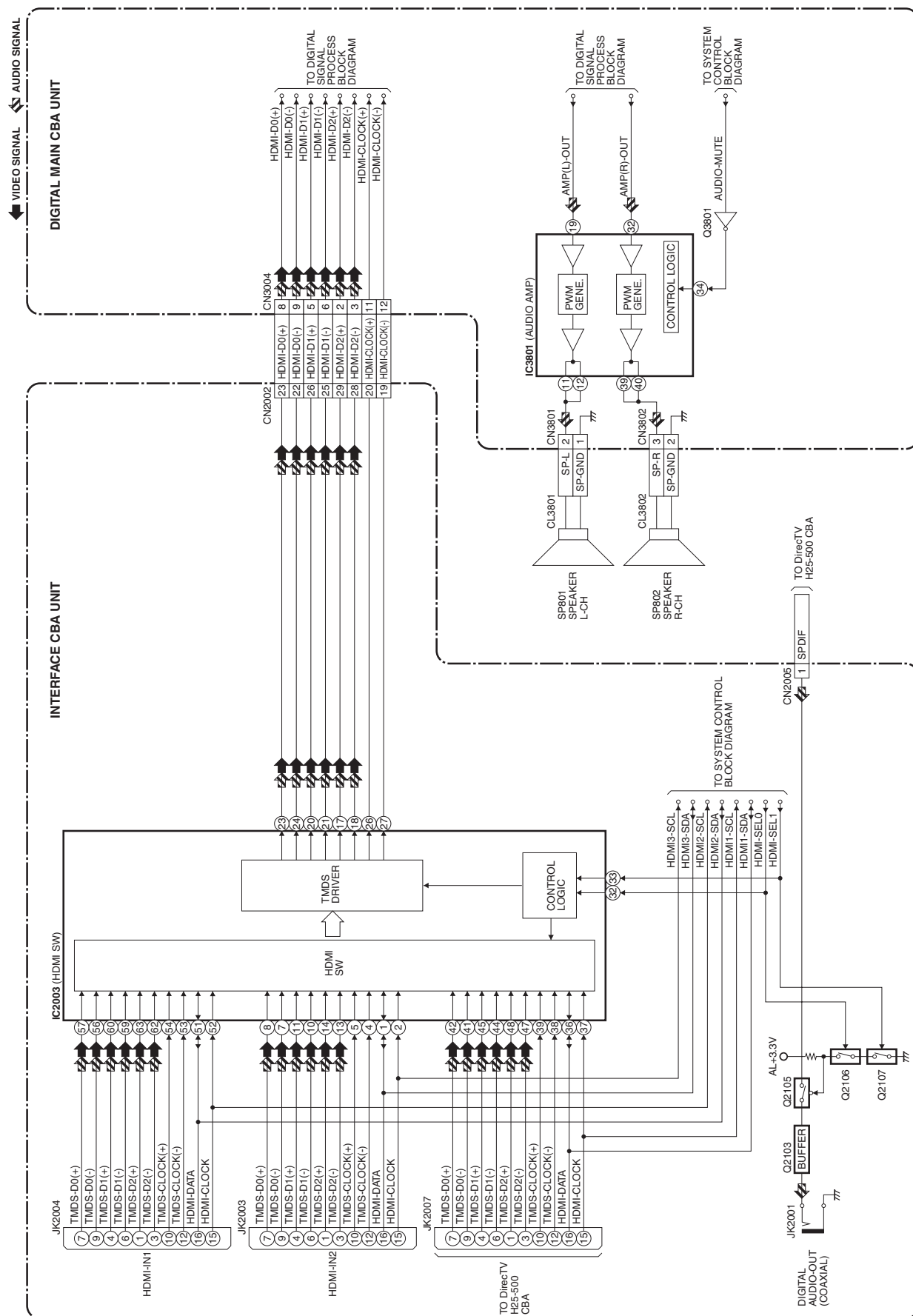


BLOCK DIAGRAMS

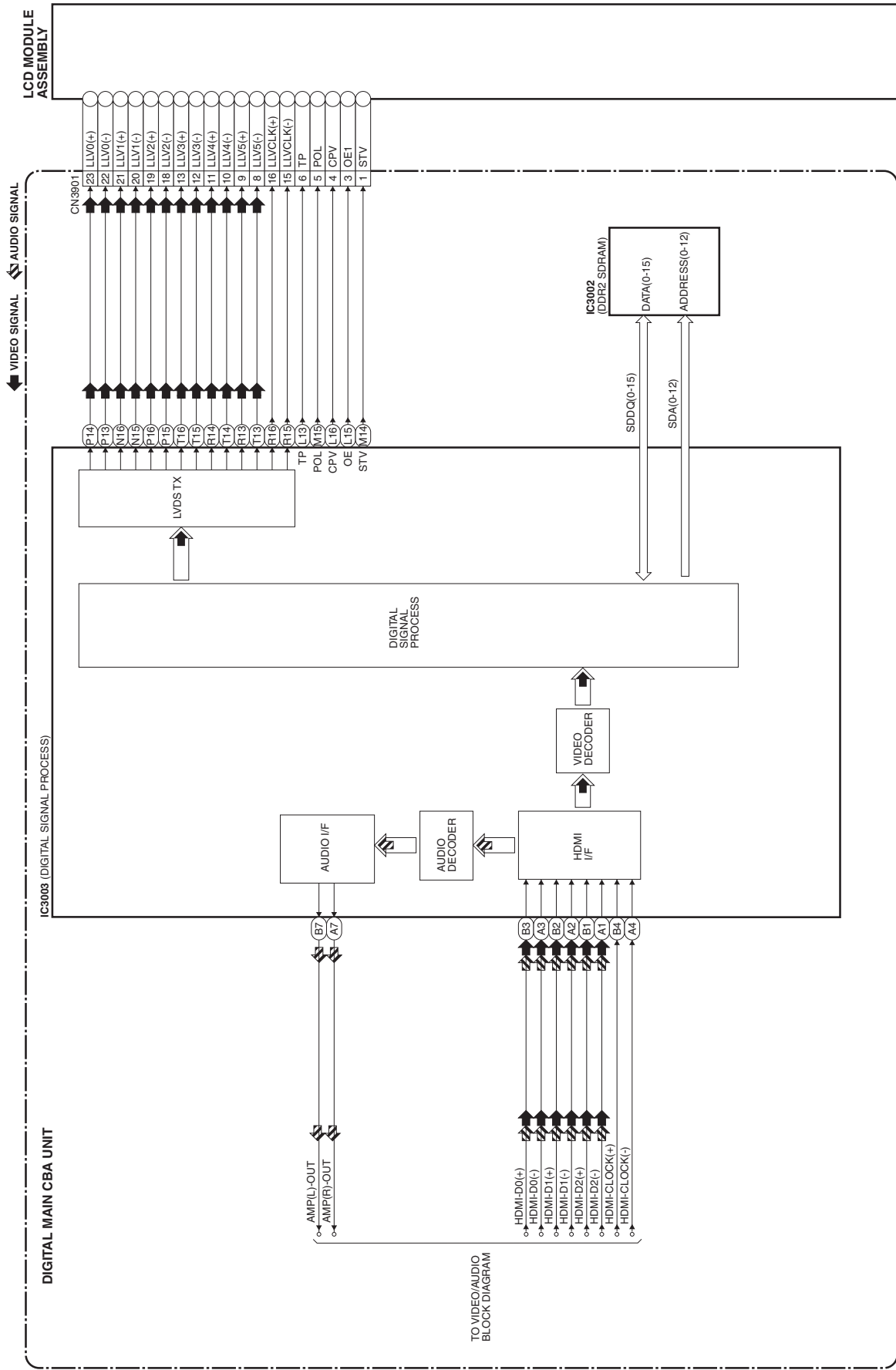
1. System Control Block Diagram



2. Video/Audio Block Diagram



3. Digital Signal Process Block Diagram

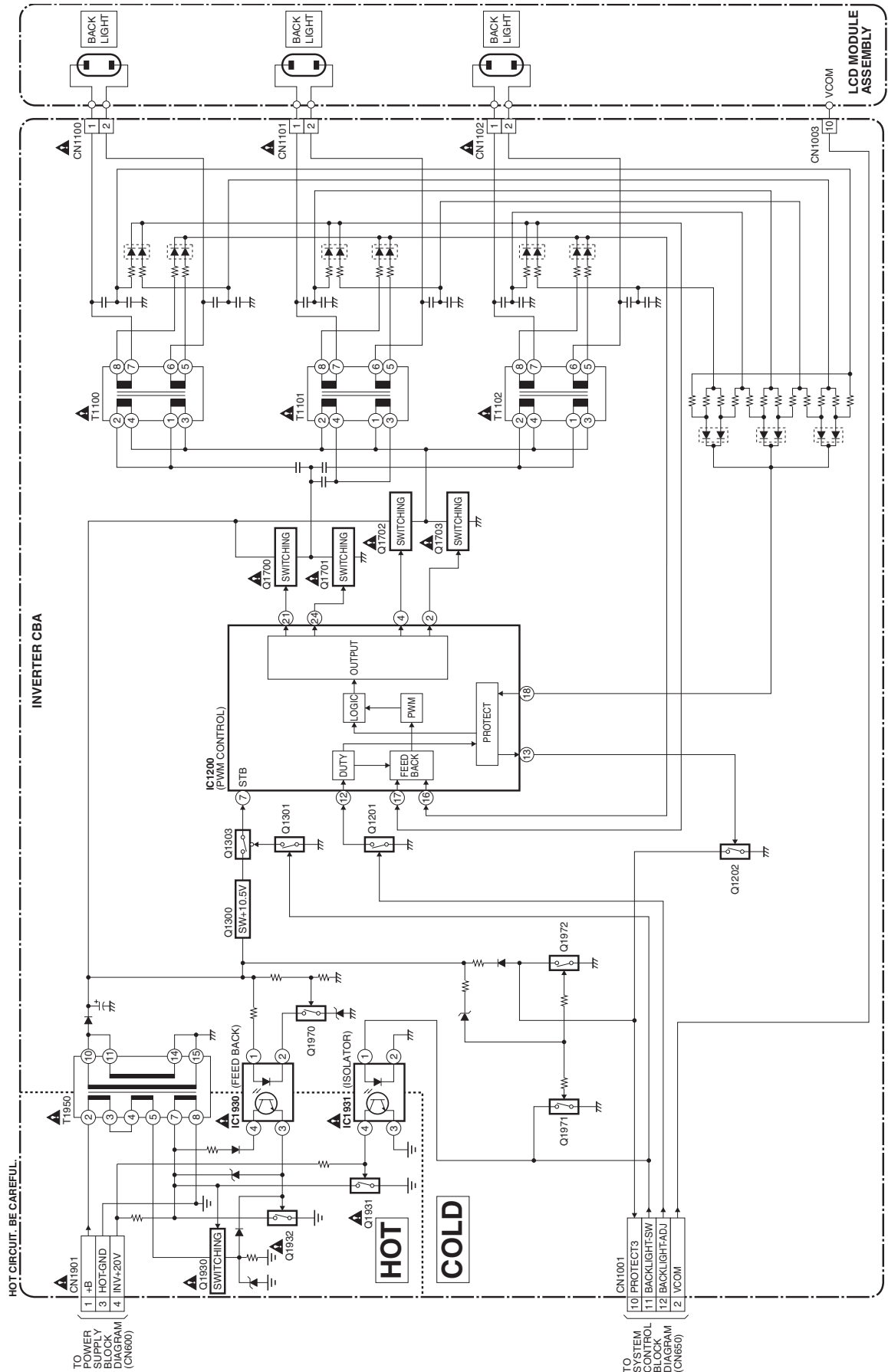


4. Inverter Block Diagram (main Inverter CBA)

NOTE:

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

When you conduct on a component level repair for the Inverter CBA for any models within this service manual, make sure to refer the right Block Diagrams, Schematic Diagrams/CBA and Parts List. For the main CBA, the last digit of the board number, which is engraved on every board, should be a number (e.g. BA17F4F0103 2). For the sub CBA, the last digit of the board number, which is engraved on every board, should be an alphabet (e.g. BA17F4F0103 Z).



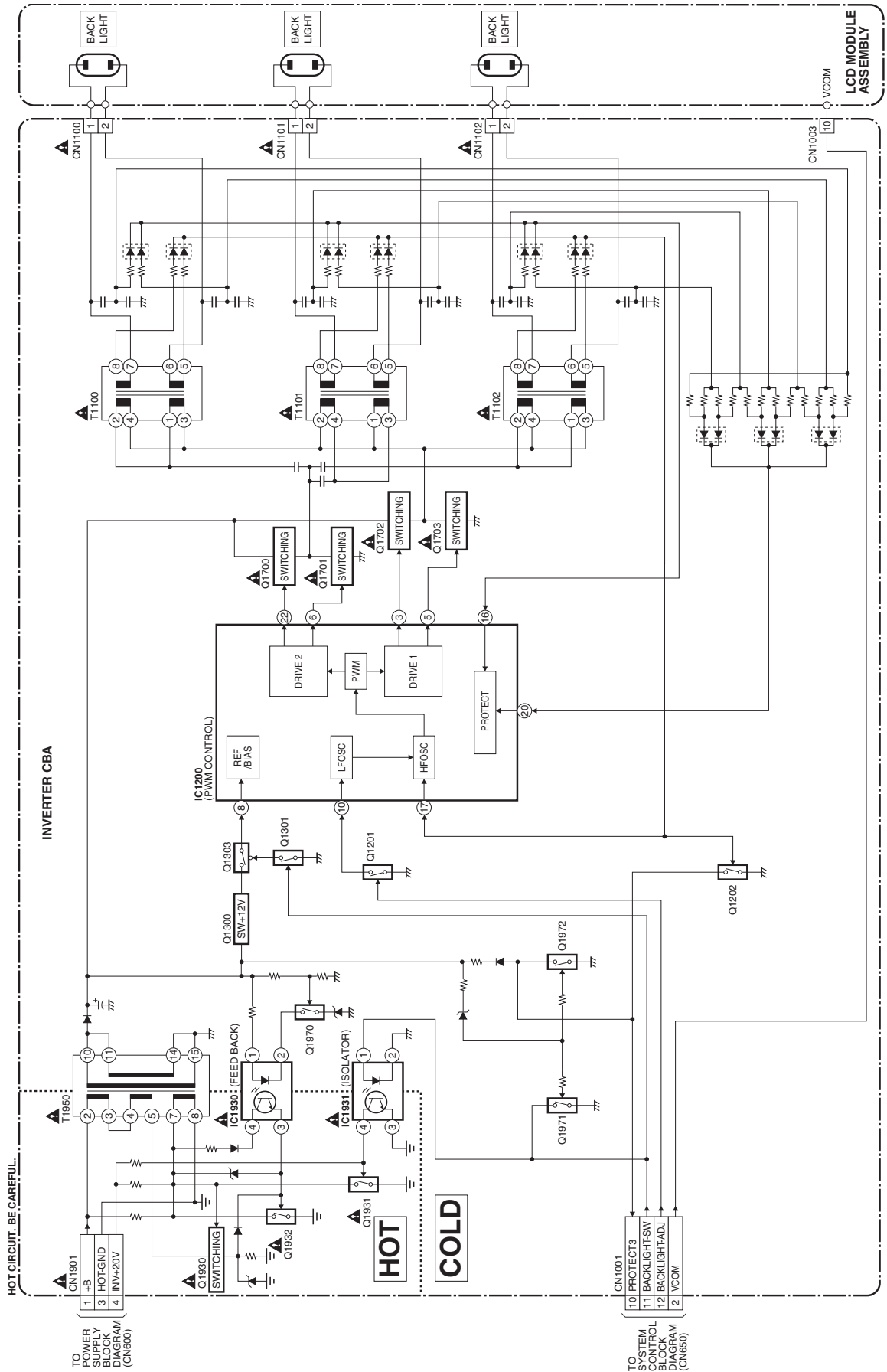
4. Inverter Block Diagram (sub Inverter CBA)

NOTE:

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

When you conduct on a component level repair for the inverter CBA for any models within this service manual, make sure to refer the right Block Diagrams, Schematic Diagrams/CBA and Parts List.

For the main CBA, the last digit of the board number, which is engraved on every board, should be a number (e.g., 1, 2, 3, 4, 5, 6, 7, 8, 9, 0). For the sub CBA, the last digit of the board number, which is engraved on every board, should be an alphabet (e.g., A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z).



5. Power Supply Block Diagram

CAUTION !

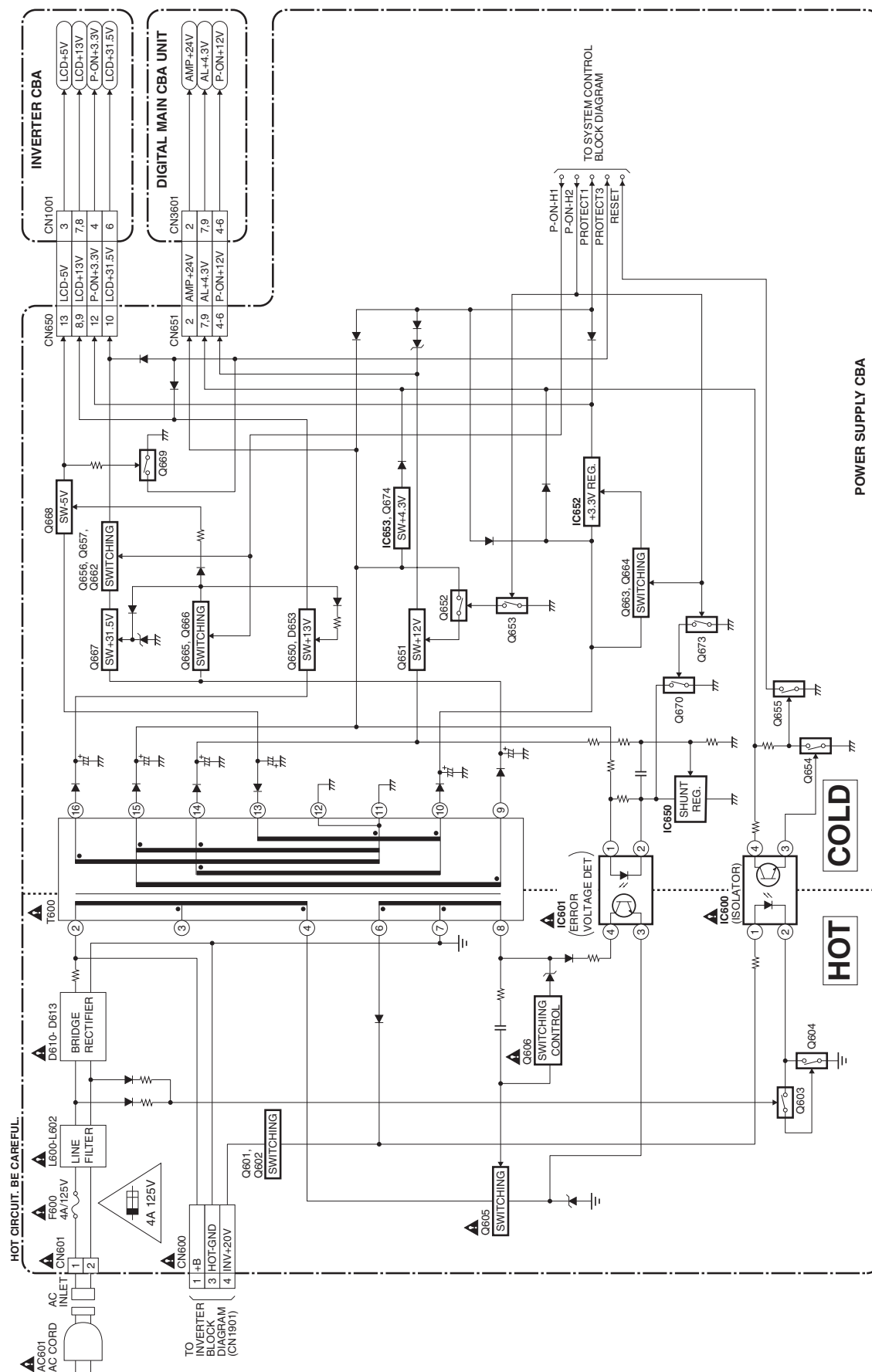
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F600) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !: For continued protection against risk of fire, replace only with same type 4A, 125V fuse.

ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

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 μF ($P = 10^{-6} \mu F$).
5. All voltages are DC voltages unless otherwise specified.

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.

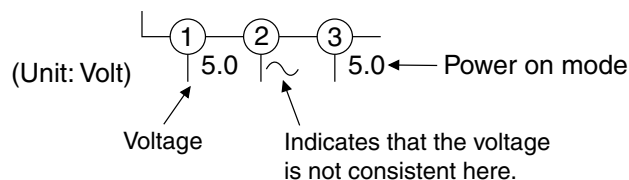
If Main Fuse (F600) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

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.:

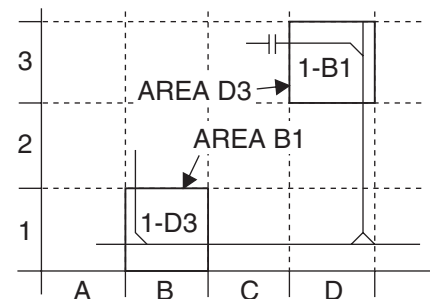


5. How to read converged lines

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.

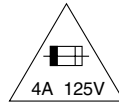
□→ : Used to indicate a test point with a component lead on foil side.

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

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

The reference number of parts on Schematic Diagrams/CBA can be retrieved by application search function.

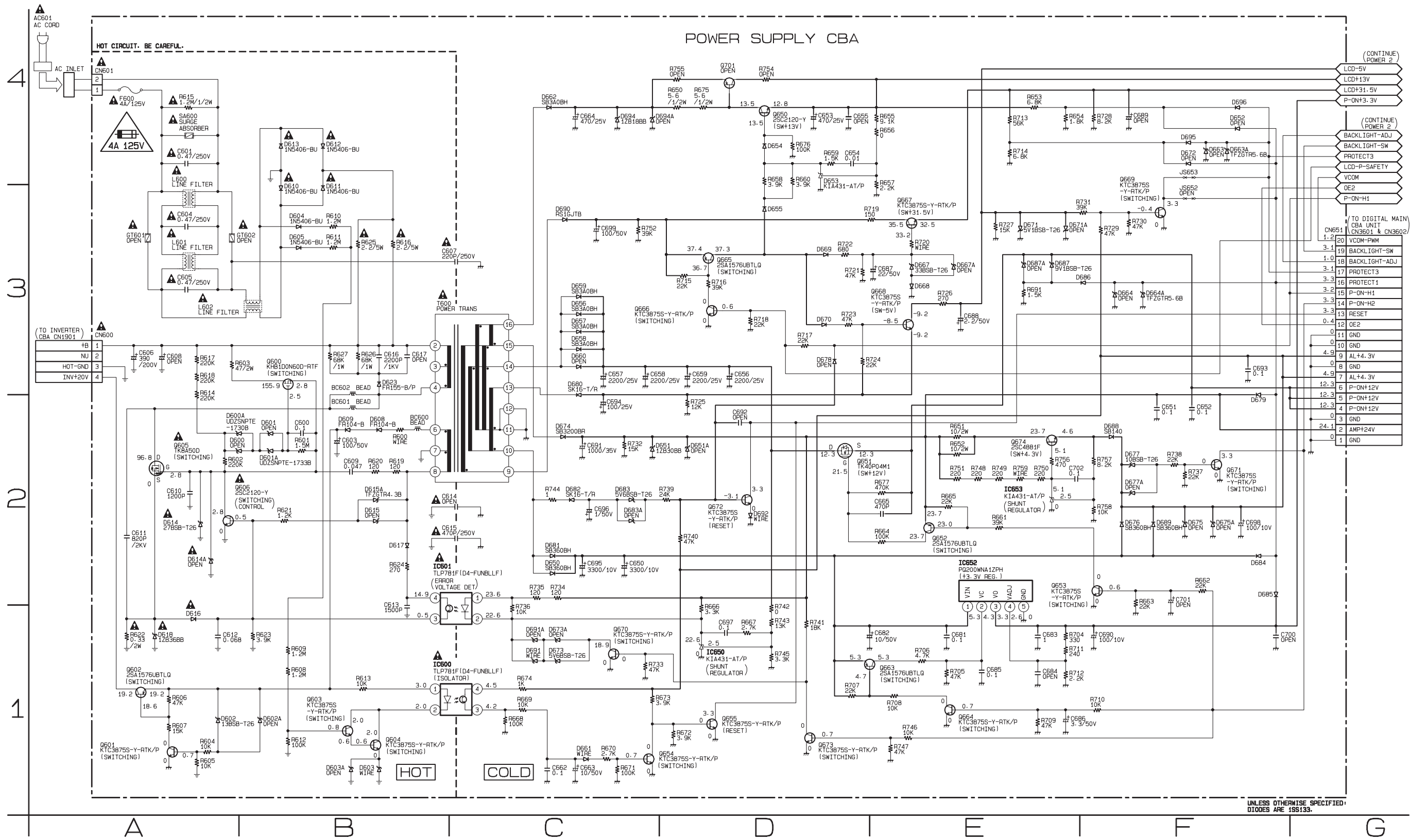
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F600) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



CAUTION ! : For continued protection against risk of fire,
replace only with same type 4A, 125V fuse.

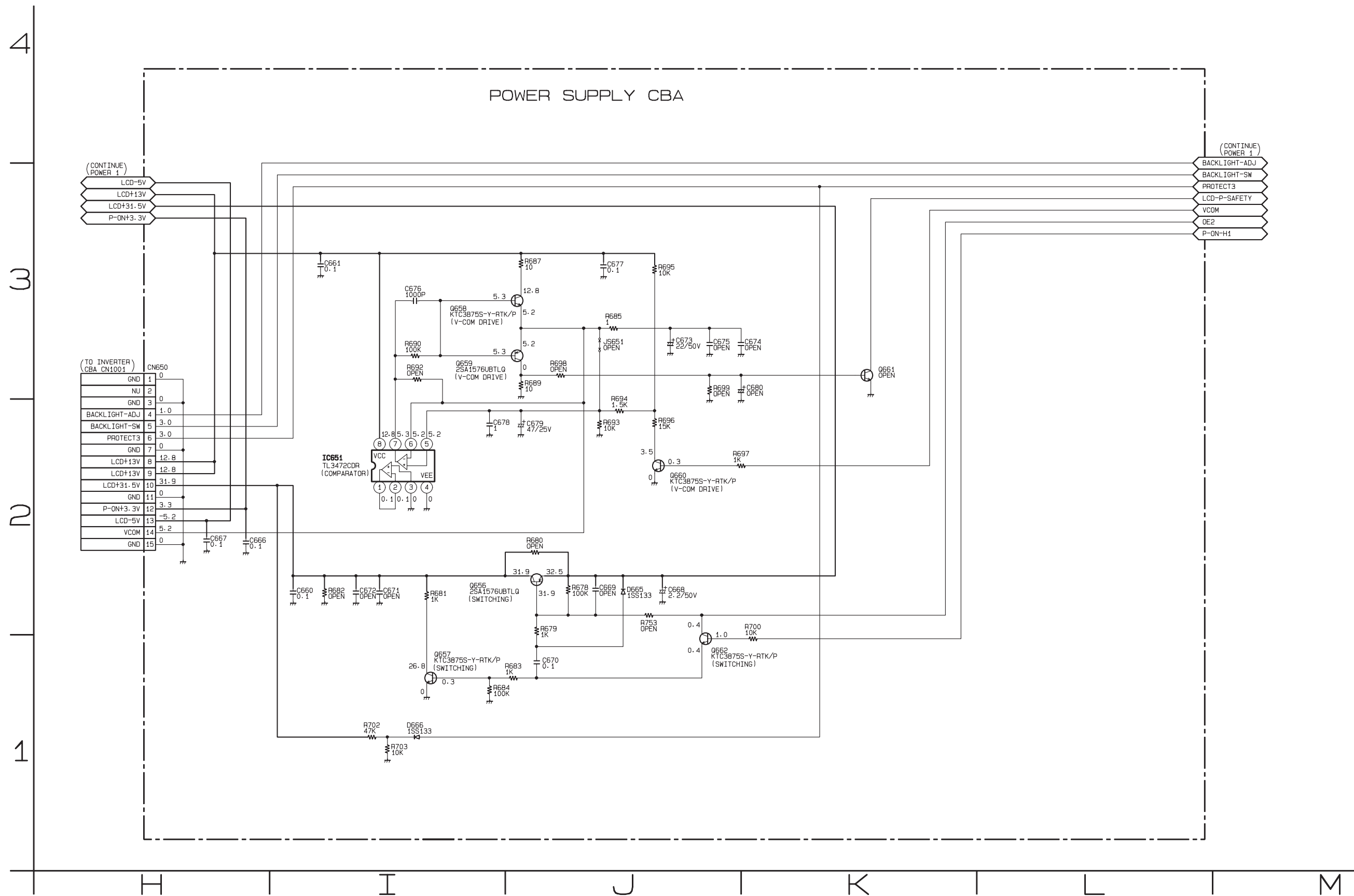
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

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



UNLESS OTHERWISE SPECIFIED:
DIODES ARE 1SS133.

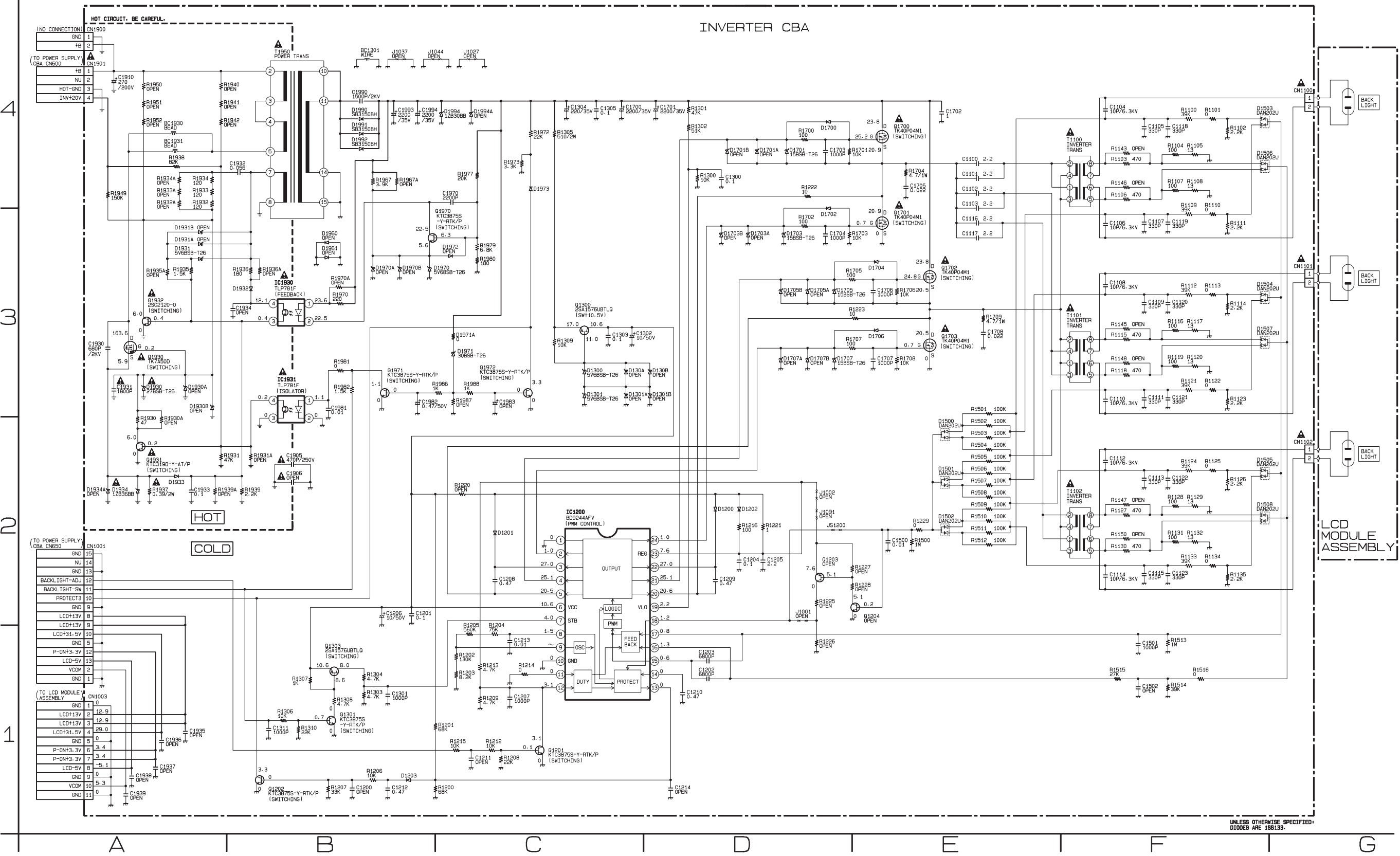
Power Supply 2 Schematic Diagram



Inverter Schematic Diagram (main Inverter CBA)

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

When you conduct on a component level repair for the Inverter CBA for any models within this service manual, make sure to refer the right Block Diagrams, Schematic Diagrams/CBA and Parts List.
For the main CBA, the last digit of the board number, which is engraved on every board, should be a number(e.g. BA17F4F0103 2).
For the sub CBA, the last digit of the board number, which is engraved on every board, should be an alphabet(e.g. BA17F4F0103 Z).



Inverter Schematic Diagram (sub Inverter CBA)

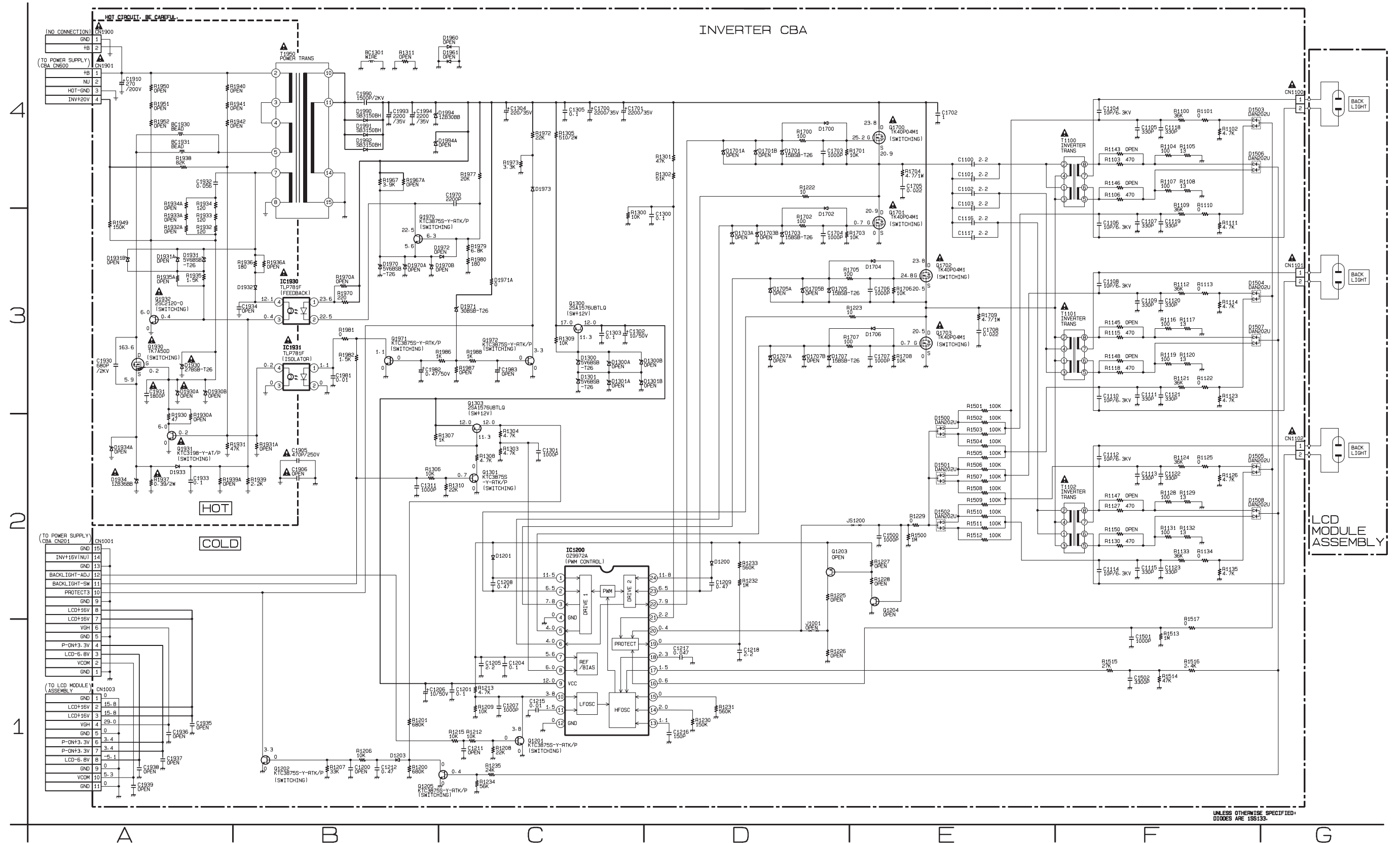
NOTE:

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

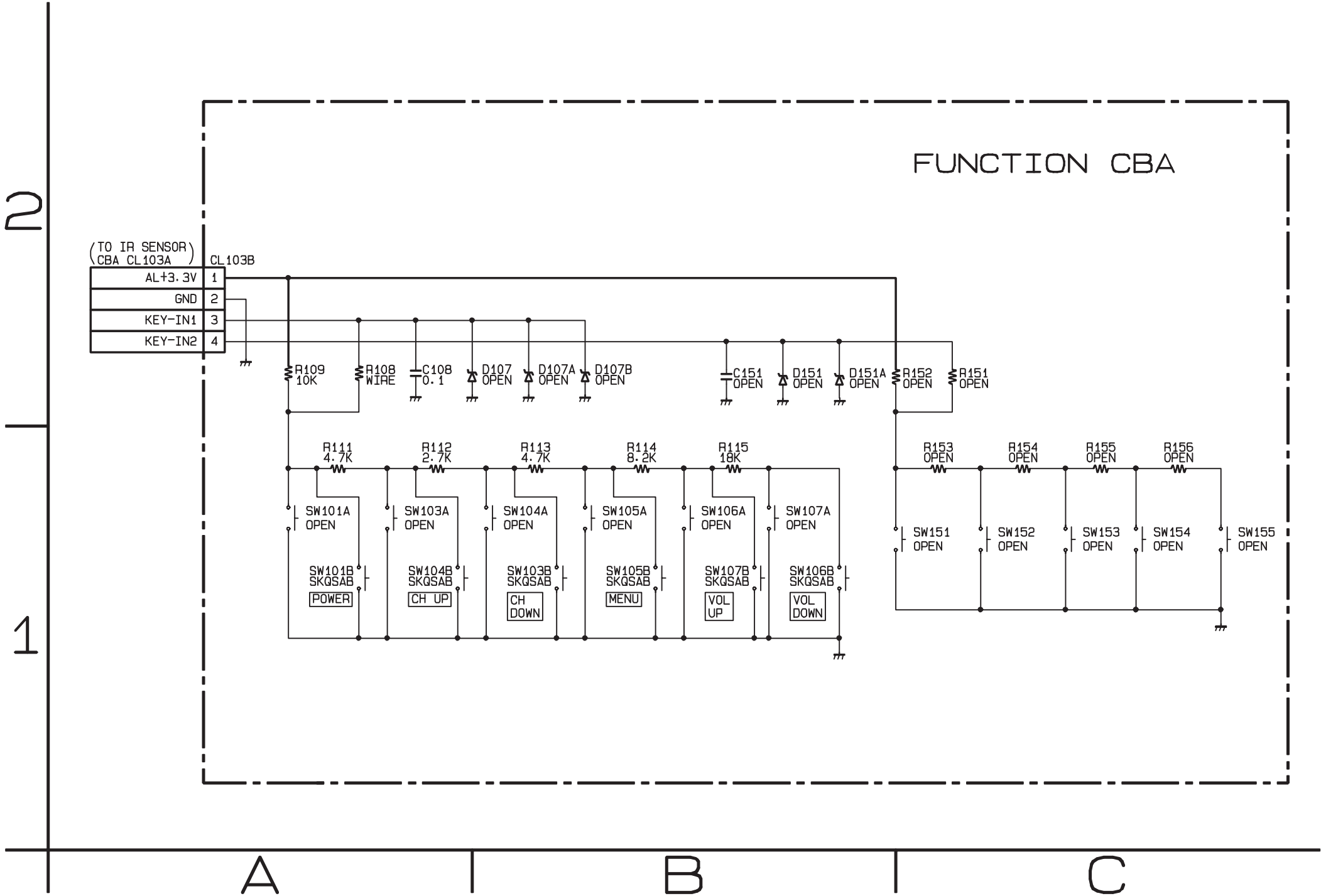
When you conduct on a component level repair for the Inverter CBA for any models within this service manual, make sure to refer the right Block Diagrams, Schematic Diagrams/CBA and Parts List.

For the main CBA, the last digit of the board number, which is engraved on every board, should be a number(e.g. BA17F4F0103 2).

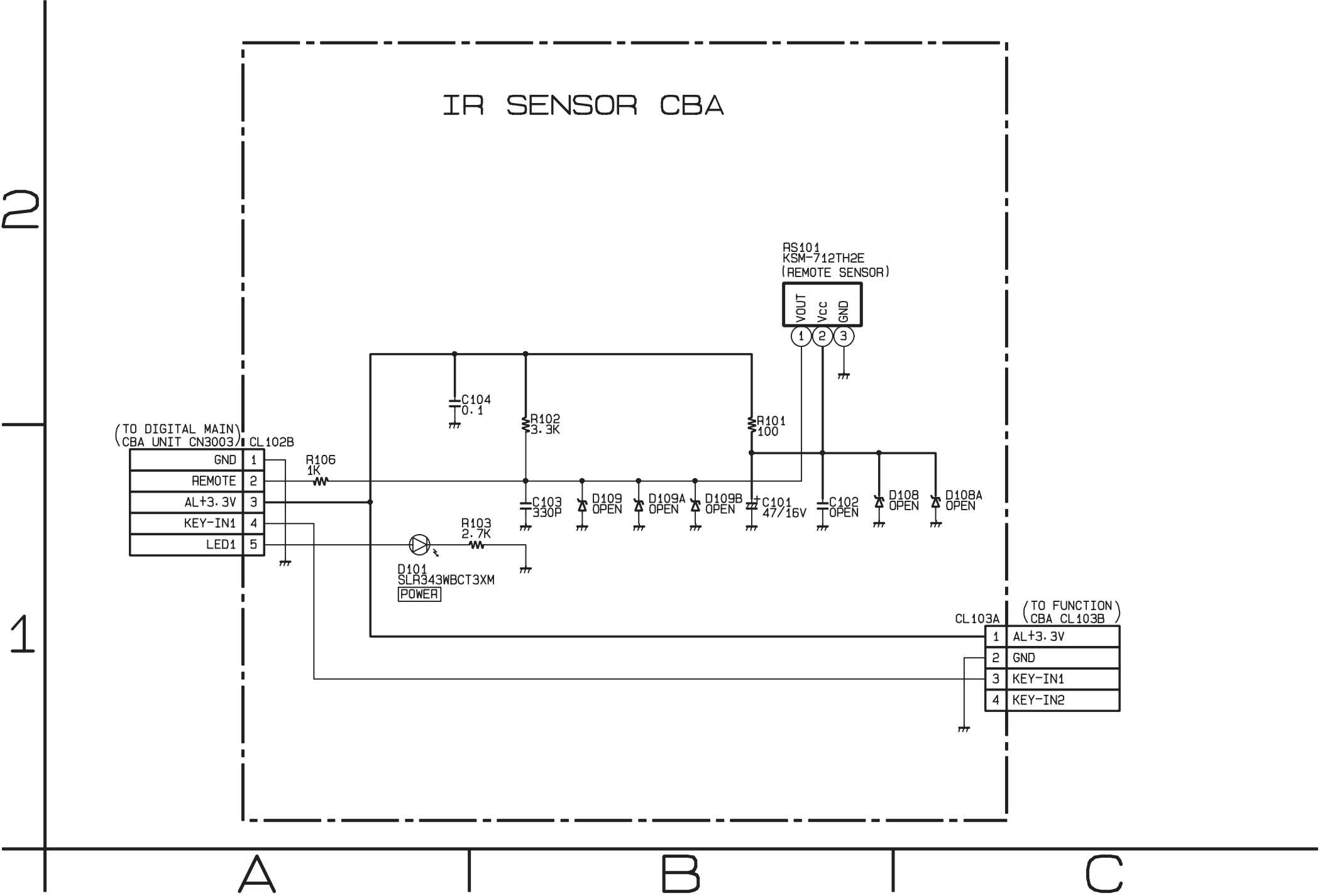
For the sub CBA, the last digit of the board number, which is engraved on every board, should be an alphabet(e.g. BA17F4F0103 Z).



Function Schematic Diagram

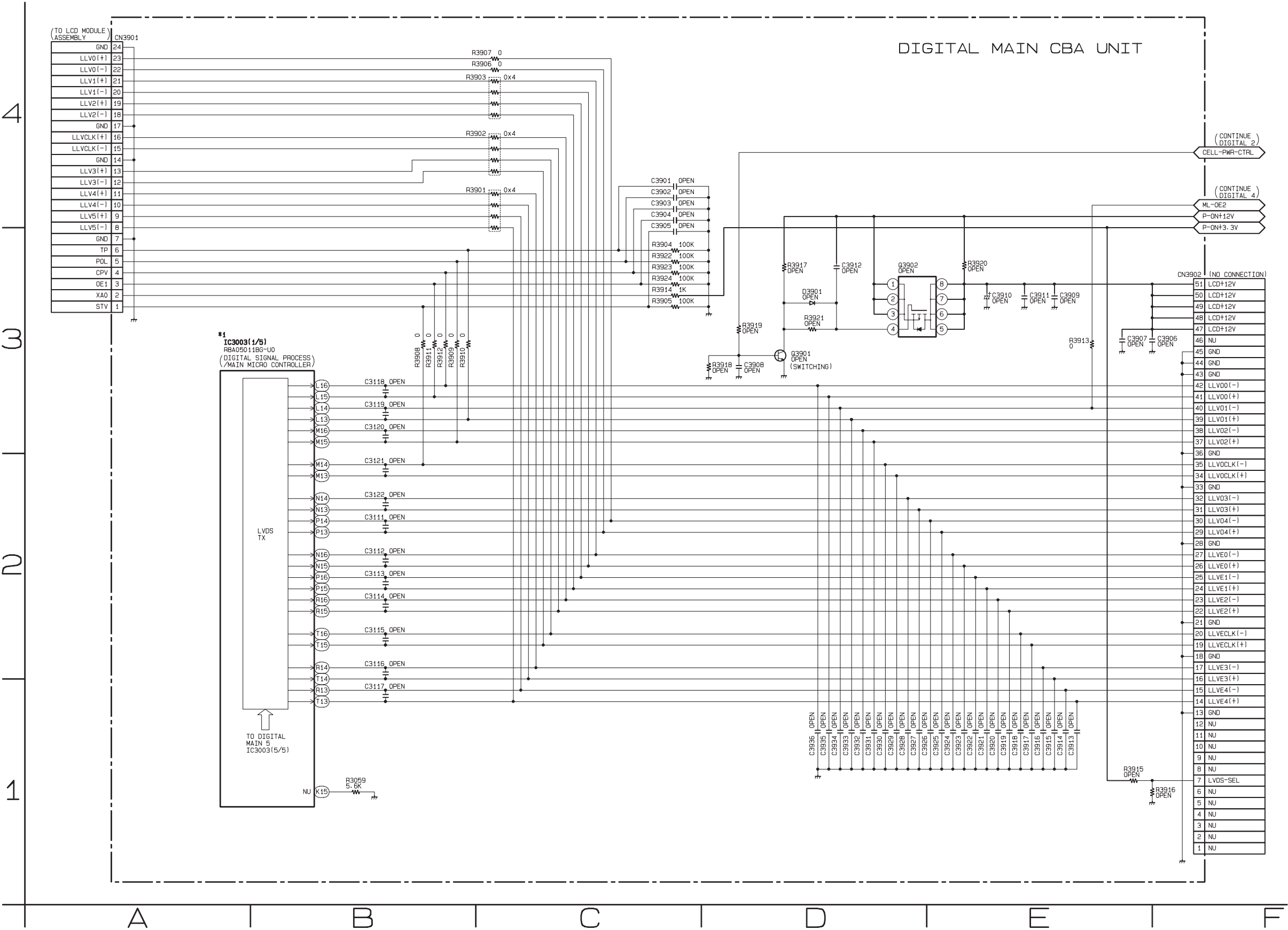


IR Sensor Schematic Diagram



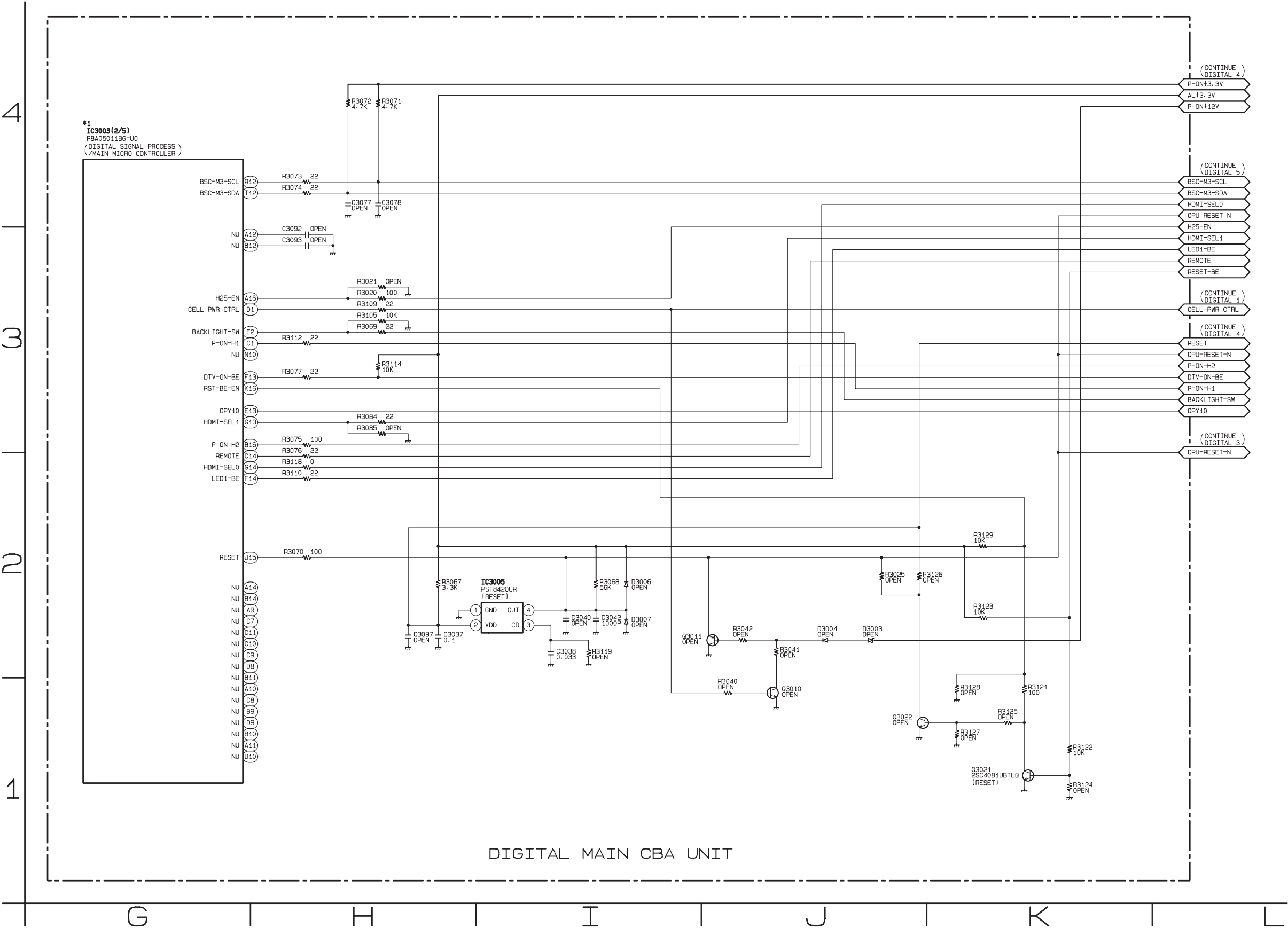
Digital Main 1 Schematic Diagram

*1 NOTE:
The order of pins shown in this diagram is different from that of actual IC3003.
IC3003 is divided into five and shown as IC3003 (1/5) ~ IC3003 (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 IC3003.
IC3003 is divided into five and shown as IC3003 (1/5) ~ IC3003 (5/5) in this Digital Main Schematic Diagram Section.



4

3



1



4

—

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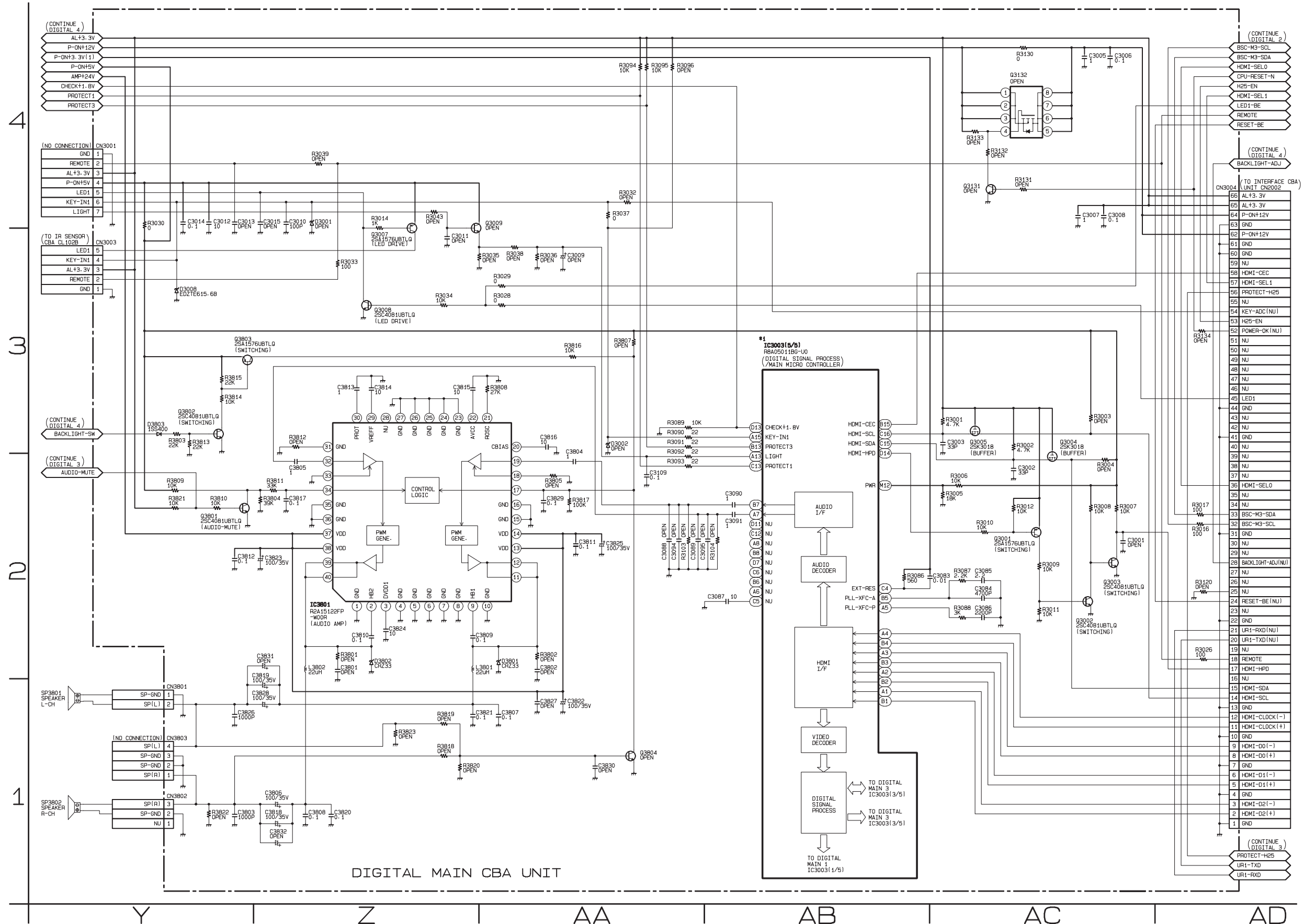
X

Digital Main 5 Schematic Diagram

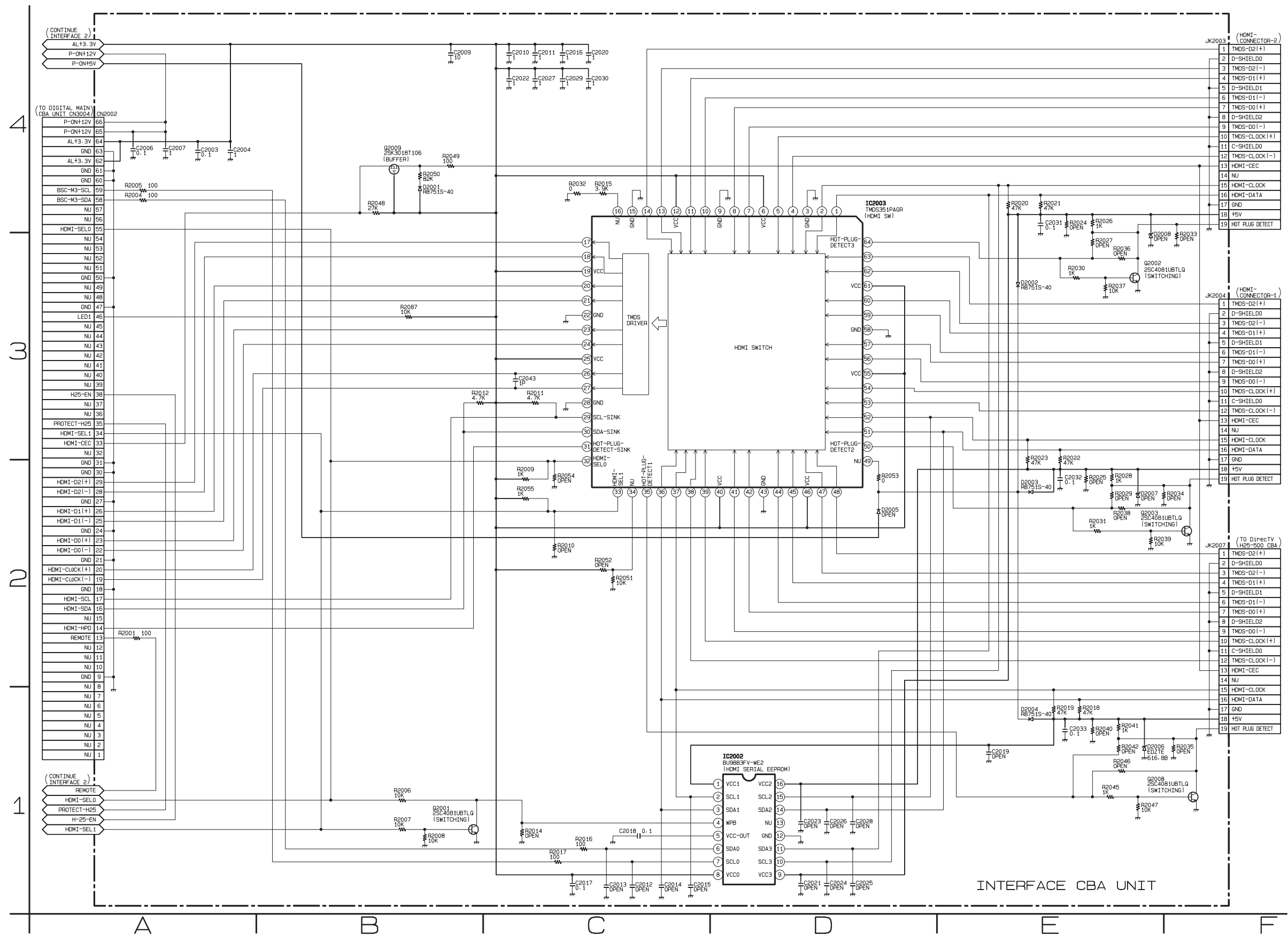
***1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC3003.

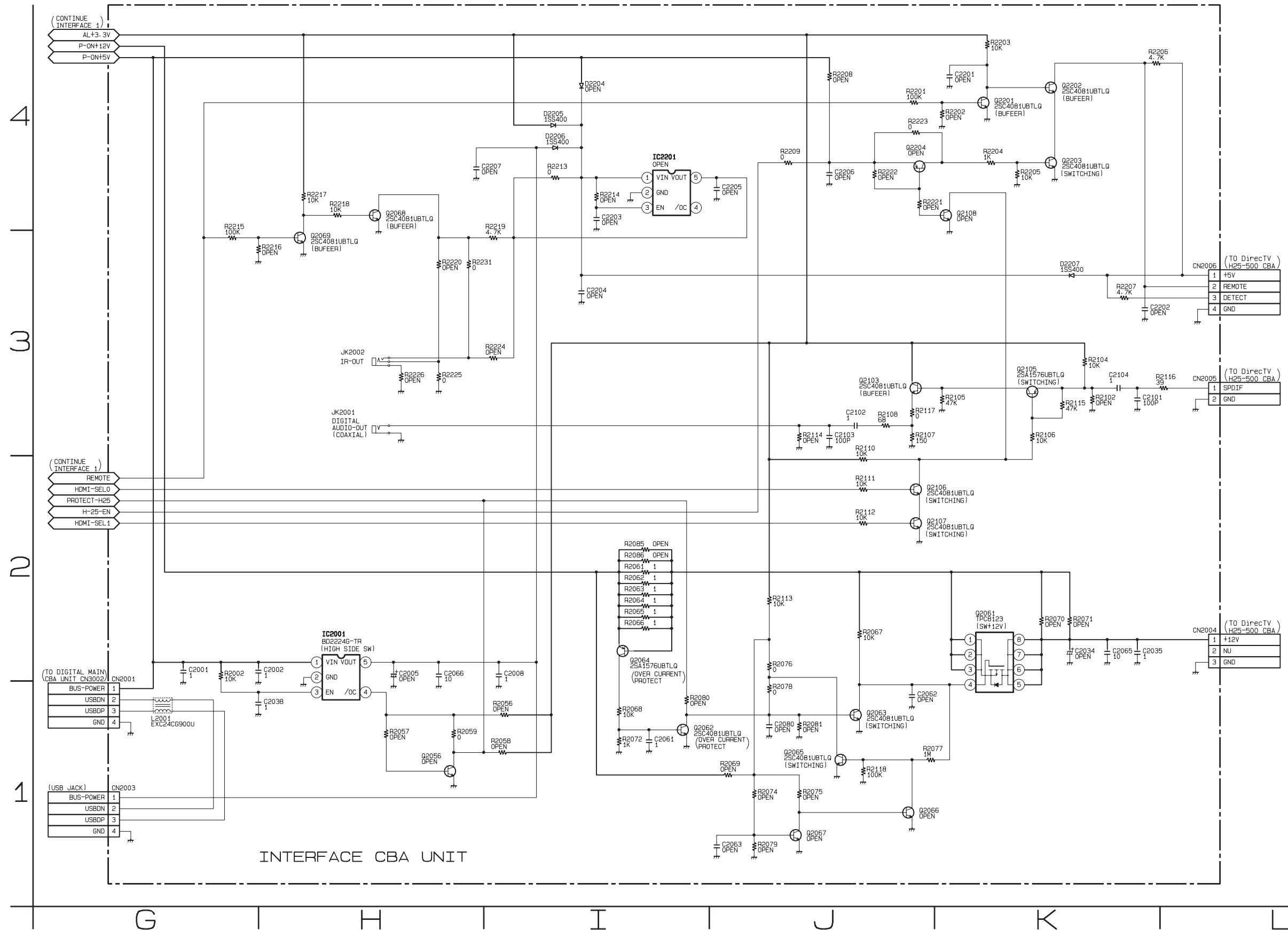
IC3003 is divided into five and shown as IC3003 (1/5) ~ IC3003 (5/5) in this Digital Main Schematic Diagram Section.



Interface 1 Schematic Diagram



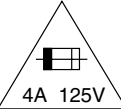
Interface 2 Schematic Diagram



Power Supply CBA Top View

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.

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F600) 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.



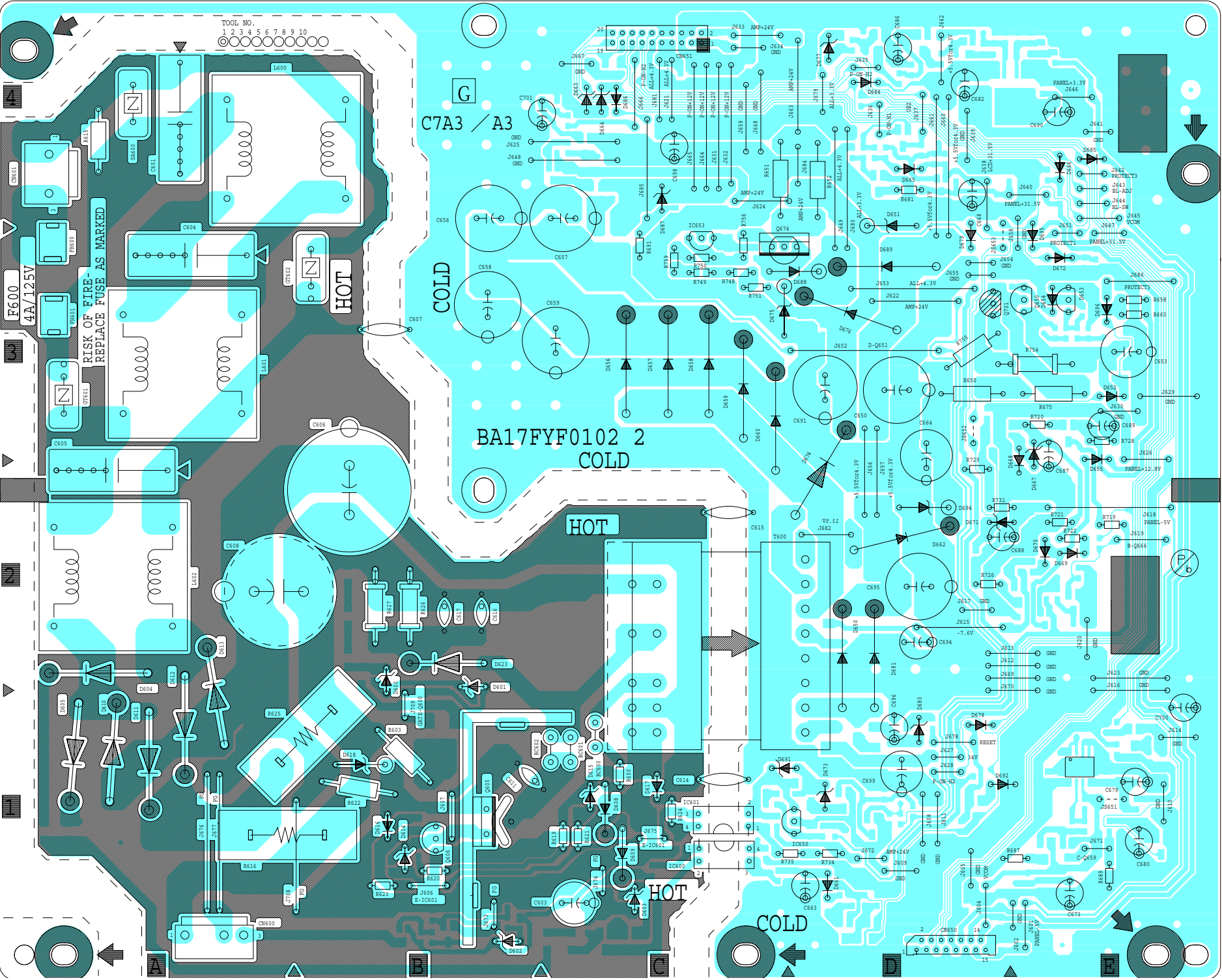
4A 125V

CAUTION ! : For continued protection against risk of fire, replace only with same type 4A, 125V fuse.

ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

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

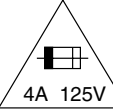
Power Supply CBA



Power Supply CBA Bottom View

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.

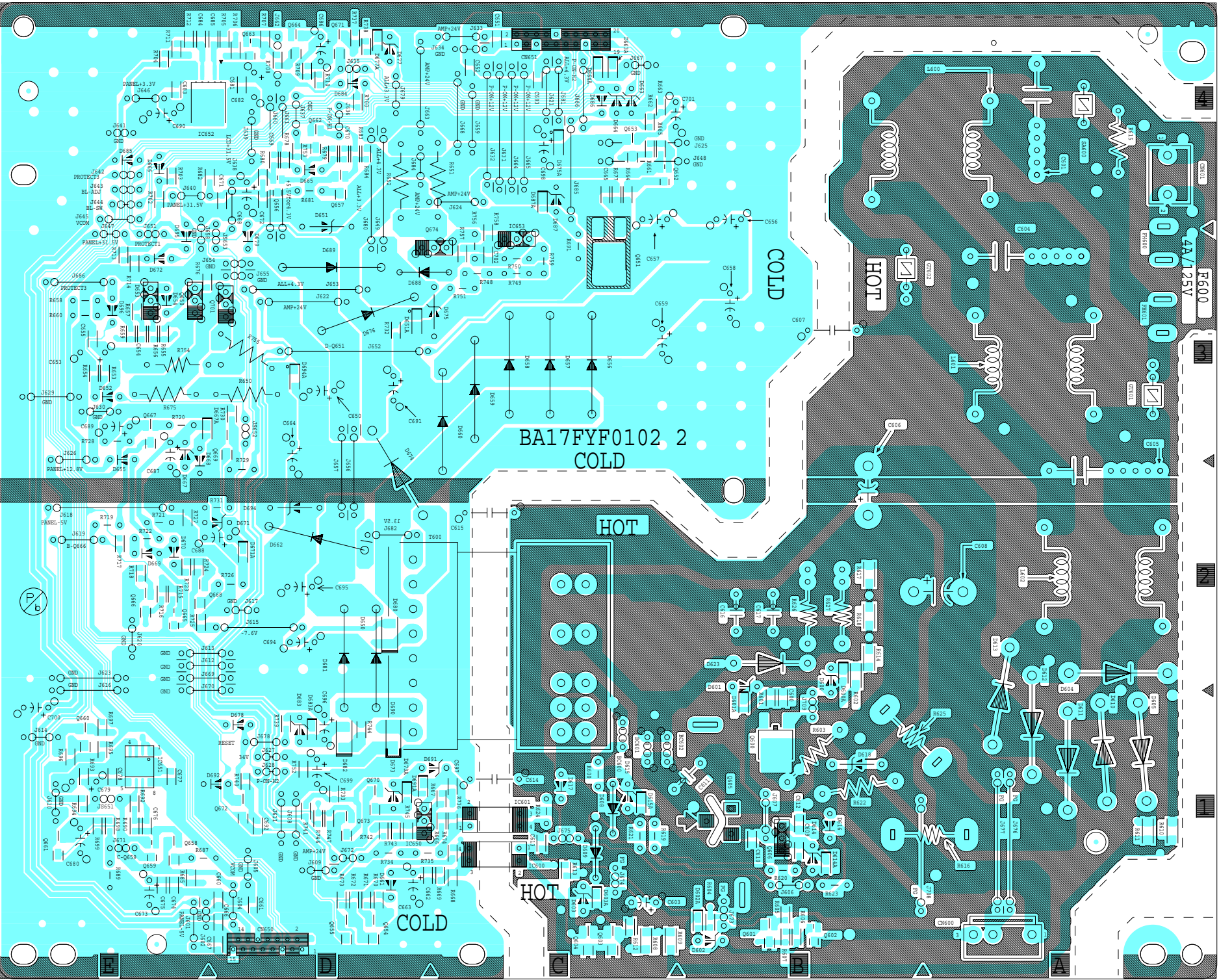
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F600) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



CAUTION ! : For continued protection against risk of fire, replace only with same type 4A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

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

Power Supply CBA

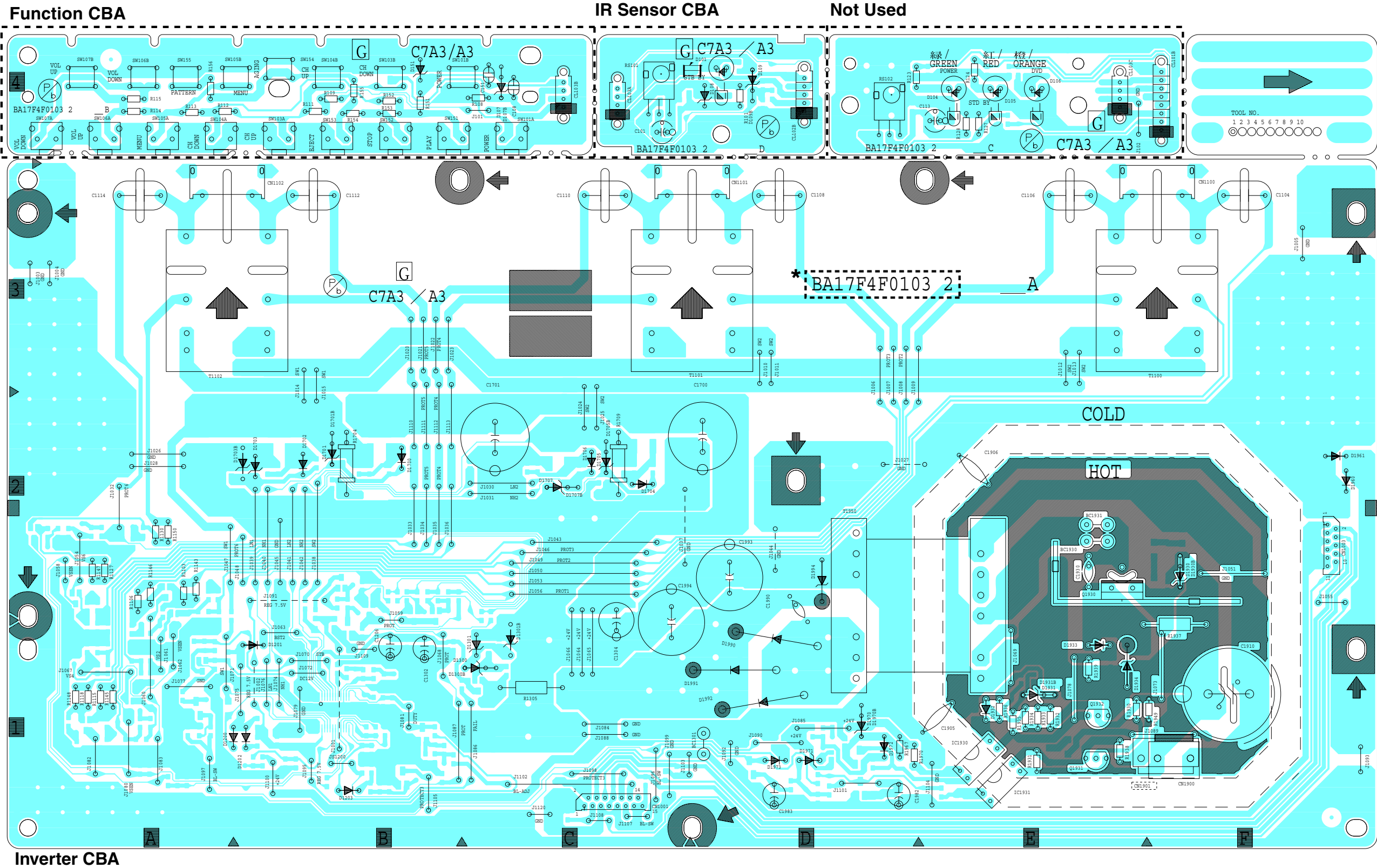


Inverter CBA, Function CBA & IR Sensor CBA Top View (main Inverter CBA)

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.

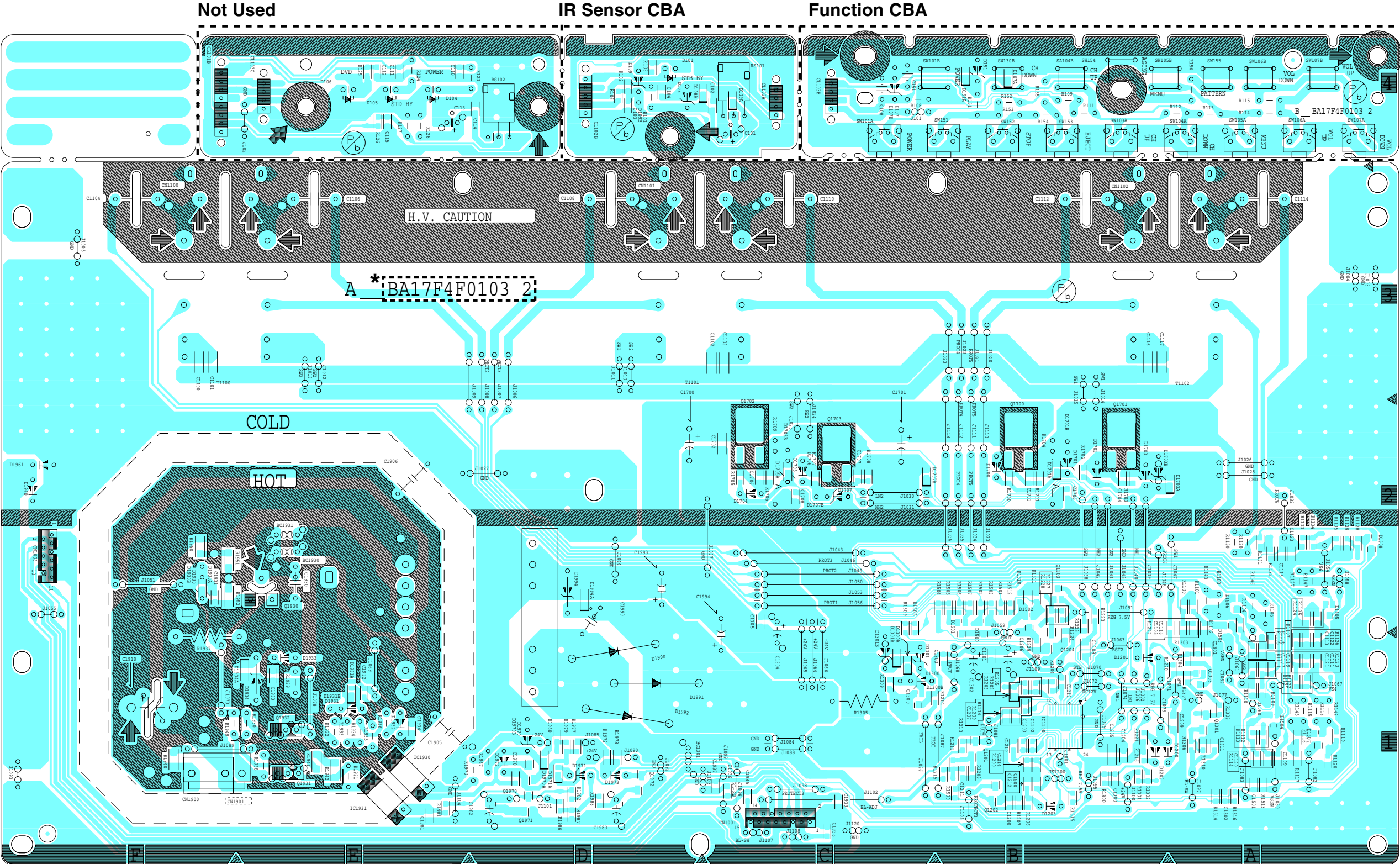
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

***When you conduct on a component level repair for the Inverter CBA for any models within this service manual, make sure to refer the right Block Diagrams, Schematic Diagrams/CBA and Parts List.**
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For the sub CBA, the last digit of the board number, which is engraved on every board, should be an alphabet(e.g. BA17F4F0103 Z).



Inverter CBA, Function CBA & IR Sensor CBA Bottom View (main Inverter CBA)

- 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.
- NOTE:**
The voltage for parts in hot circuit is measured using hot GND as a common terminal.
- * When you conduct on a component level repair for the Inverter CBA for any models within this service manual, make sure to refer the right Block Diagrams, Schematic Diagrams/CBA and Parts List.**
For the main CBA, the last digit of the board number, which is engraved on every board, should be a number(e.g. BA17F4F0103 2).
For the sub CBA, the last digit of the board number, which is engraved on every board, should be an alphabet(e.g. BA17F4F0103 Z).

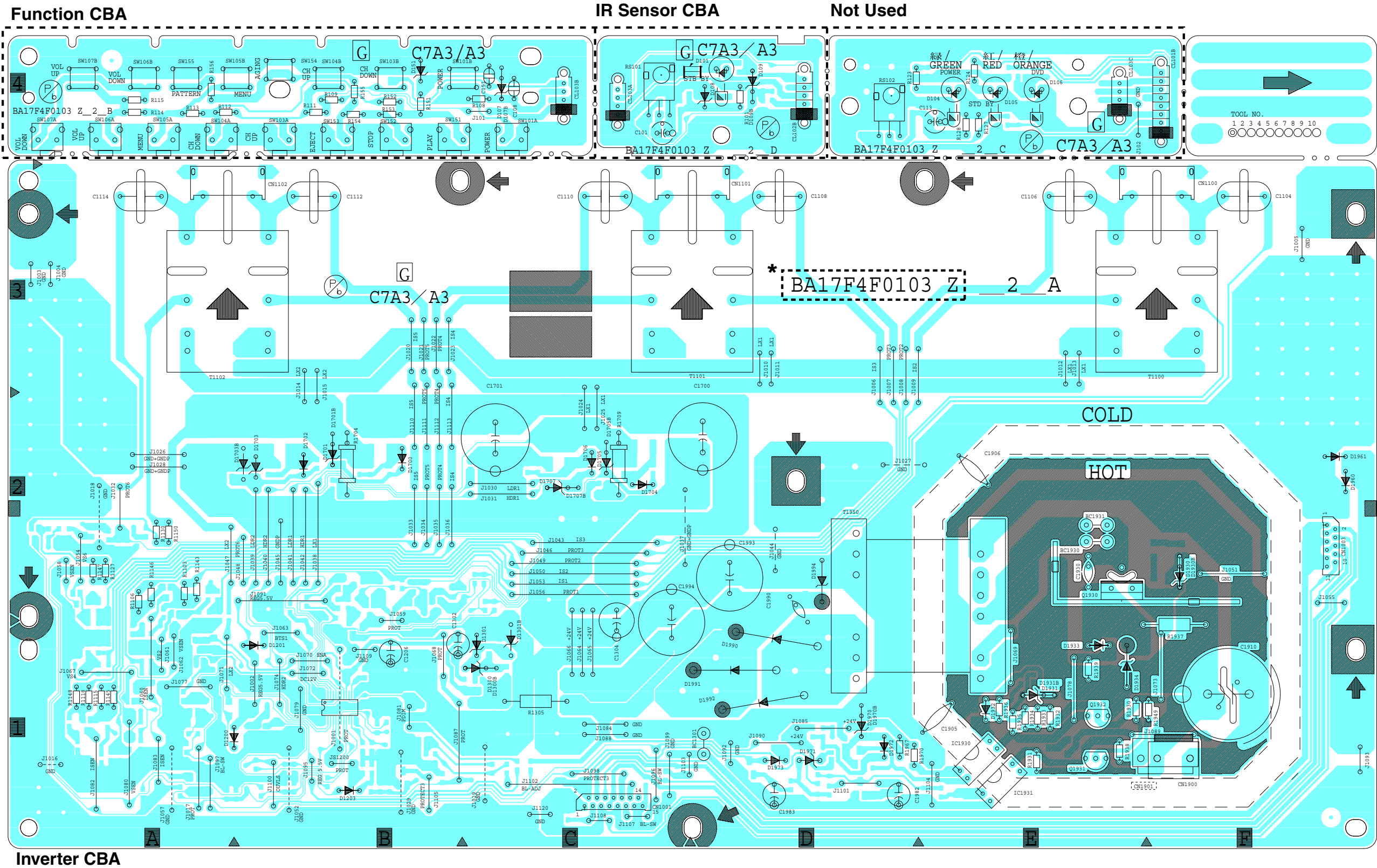


Inverter CBA, Function CBA & IR Sensor CBA Top View (sub Inverter CBA)

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.

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

*** When you conduct on a component level repair for the Inverter CBA for any models within this service manual, make sure to refer the right Block Diagrams, Schematic Diagrams/CBA and Parts List.**
For the main CBA, the last digit of the board number, which is engraved on every board, should be a number(e.g. BA17F4F0103 2).
For the sub CBA, the last digit of the board number, which is engraved on every board, should be an alphabet(e.g. BA17F4F0103 Z).

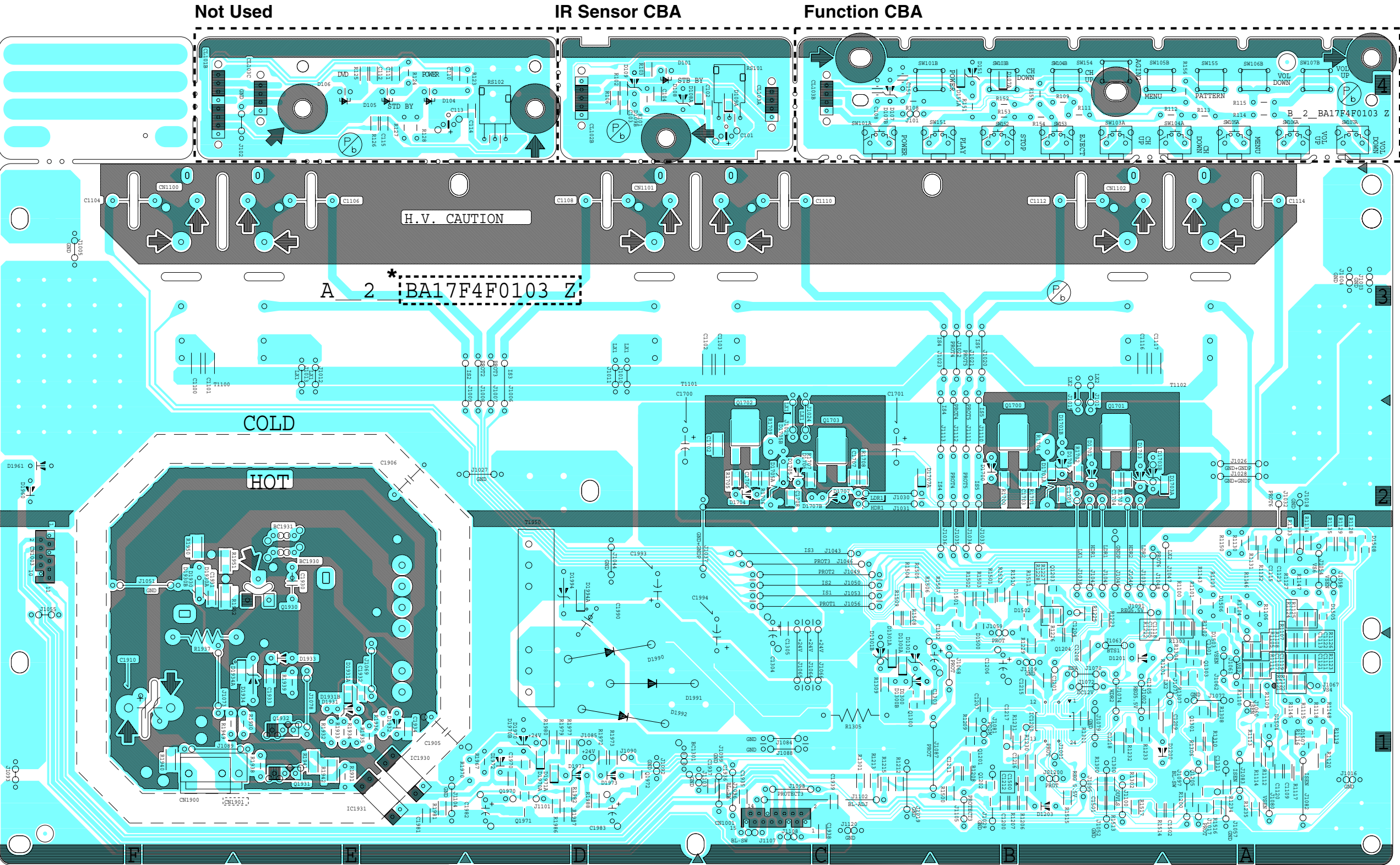


Inverter CBA, Function CBA & IR Sensor CBA Bottom View (sub Inverter CBA)

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.

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

*** When you conduct on a component level repair for the Inverter CBA for any models within this service manual, make sure to refer the right Block Diagrams, Schematic Diagrams/CBA and Parts List.**
For the main CBA, the last digit of the board number, which is engraved on every board, should be a number(e.g. BA17F4F0103 2).
For the sub CBA, the last digit of the board number, which is engraved on every board, should be an alphabet(e.g. BA17F4F0103 Z).



Inverter CBA

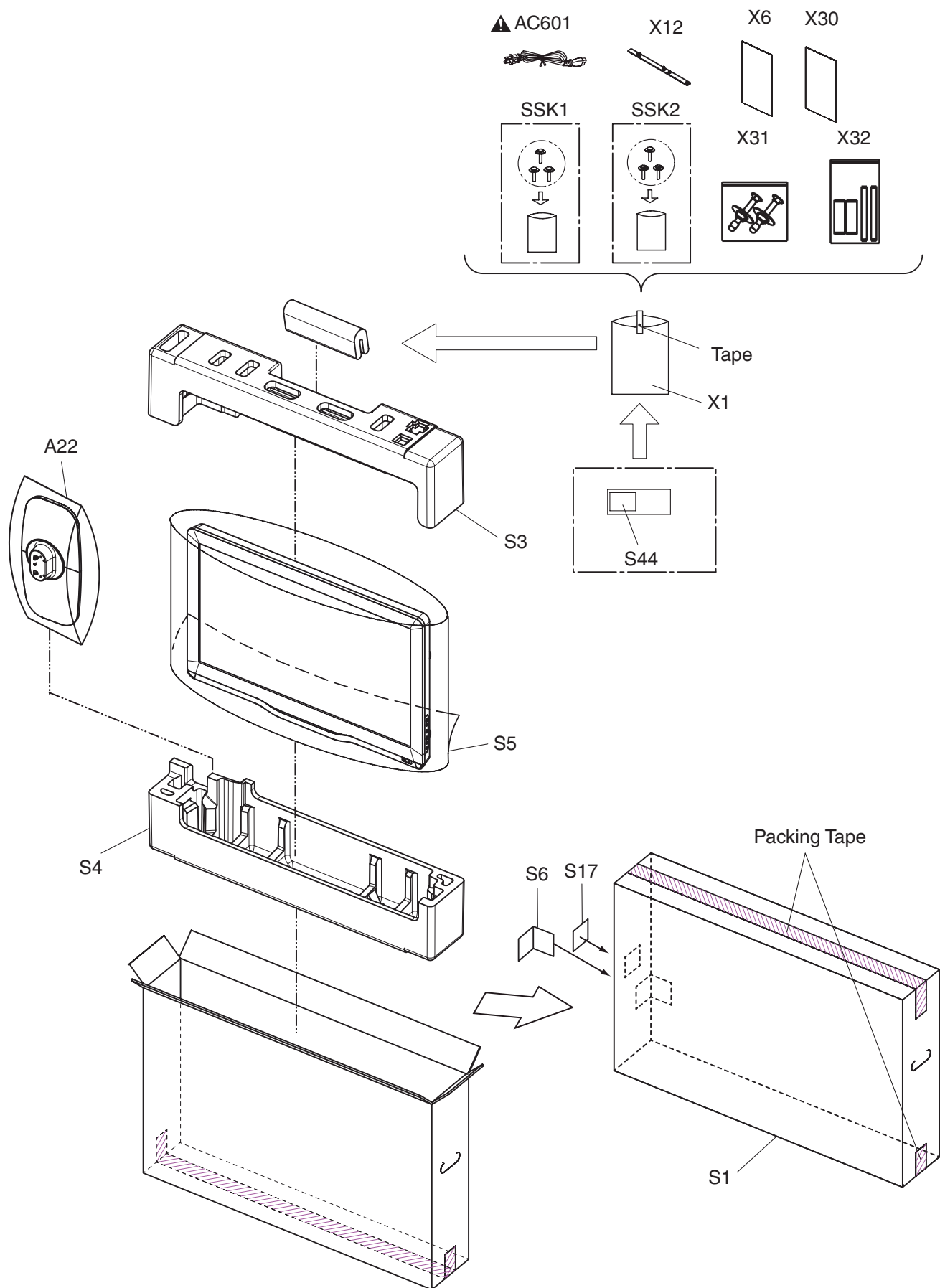
AC CORD



Cabinet




Packing





PARTS LIST

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 A17F6UH | 1EM027428 |
| A2 | REAR CABINET A1AFUUD | 1EM127500 |
| A4 | FUNCTION KNOB A17FXUH | 1EM332258 |
| A5 | KNOB FRAME A1AFUUD | 1EM333740 |
| A12  | RATING LABEL A1AFUUD | ----- |
| A22 | 32W STAND ASSEMBLY A17FZUH | 1EM029953 |
| A41 | SENSOR PLATE A17F6UH | 1EM330357A |
| A42 | ENERGY GUIDE LABEL A1AFUUD | ----- |
| A46 | REAR COVER A1AFUUD | 1EM029705 |
| B1 | SHIELD BOX A1AFUUD | 1EM127393 |
| B5 | STAND HOLDER A17FXUH | 1EM226763 |
| B10 | AC INLET HOLDER A17FXUH | 1EM332058 |
| B11 | SPEAKER HOLDER A17F6UH | 1EM227644 |
| B12 | PCB HOLDER A1AFUUD | 1EM029706 |
| B19 | GASKET A71F0UH | 1EM424393 |
| B22 | WALL MOUNT BRACKET A11N0UH | 1EM434637 |
| B24 | THERMAL SHEET TMS-14-20 12X12 | XK10000X4011 |
| B27 | CLOTH(10X180XT0.5) L0336JG | 0EM408827 |
| B47 | WALL MOUNT COVER A2170UT | 1EM332137 |
| B57 | GASKET(4X15XT3.0) A0CN0EP | 1EM431762 |
| B85 | WASHER(D14XD9.6XT1) ST200UA | 0EM408262A |
| B94 | INTERFACE PCB HOLDER A1AFUUD | 1EM127394 |
| B95 | GASKET(10X50XT2) A91FSUH | 1EM430237 |
| B97 | GASKET(10X50XT4) A1AFUUD | 1EM438008 |
| CL600 | WIRE ASSEMBLY 4PIN 75MM 4PIN/75MM | WX1A17FY-002 |
| CL601 | WIRE ASSEMBLY 3PIN 90MM 3PIN/90MM | WX1A17FY-010 |
| CL650 | FFC WIRE ASSEMBLY 15PIN 70MM 15PIN/70MM | WX1A17FY-001 |
| CL651 | WIRE ASSEMBLY 20PIN 50MM 20PIN/50MM | WX1A17FY-006 |
| CL1003 | WIRE ASSEMBLY 11PIN FFC 11PIN/129MM | WX1A01F4-111 |
| CL2004 | HDMI CABLE HDMI CABLE 105MM | WHZ101SCP001 |
| CL2005 | COAXIAL CABLE 2PIN 2PIN/110MM | WX1A1AFUC003 |
| CL2006 | IR CABLE 4PIN 4PIN/115MM | WX1A1AFUC002 |
| CL2007 | DC JACK CABLE 2PIN 2PIN/70MM | WX1A1AFUC004 |
| CL2100 | RF CABLE RF CABLE 100MM | WPZ101WET001 |
| CL3002 | WIRE ASSEMBLY 4PIN 4PIN/35MM | WX1A1AFUC001 |
| CL3801 | WIRE ASSEMBLY 2PIN 500MM 2PIN/500MM | WX1A17FY-013 |
| CL3802 | WIRE ASSEMBLY 2PIN 120MM 2PIN/120MM | WX1A17FY-024 |
| CL3901 | FFC WIRE ASSEMBLY 24PIN 268MM 24PIN/268MM | WX1A17FY-011 |
| L1 | SCREW P-TIGHT 3X10 BIND HEAD+ | GBHP3100 |
| L19 | ASSEMBLED SCREW (D9 M3X6) A71F0UH | 1EM424392B |
| L23 | SCREW TAP TIGHT M3X10 BIND HEAD+BLK NI | GBHS3100 |
| L30 | SCREW SEMS M4X8 PAN HEAD + | FPJ34080 |
| L33 | SCREW P-TIGHT 3X14 BIND HEAD+ BLK | GBHP3140 |

| Ref. No. | Description | Part No. |
|---|--|--------------|
| L34 | SCREW P-TIGHT 3X14 WASHER HEAD+ | GCJP3140 |
| L42 | SHOULDER SCREW A01Q0UF | 1EM328277 |
| L56 | NUT 3/8-32UNEF | 0EM401451A |
| SSK1 | STAND SCREW KIT A17F1UH (DOUBLE SEMS SCREW M4X14 + BLK) | 1ESA27587 |
| SSK2 | STAND SCREW KIT(SEcurity) A17FZUH (SECURITY SCREW M4X14 A17FZUH) | 1ESA30905 |
| LCD1 | LCD MODULE | UK32AXB |
| CARD-1 | SMART CARD P6K SMART CARD 03203-00020 | UMCJCDHMX001 |
| SP801 | SPEAKER MAGNETIC S0412F28B | DS08130XQ002 |
| SP802 | SPEAKER MAGNETIC S0412F28C | DS08130XQ003 |
| PACKING | | |
| S1 | CARTON A1AFUUD | 1EM438004 |
| S3 | STYROFOAM TOP A17FXUH | 1EM028851A |
| S4 | STYROFOAM BOTTOM A17FXUH | 1EM028852 |
| S5 | SET BAG A17F6UH | 1EM330877 |
| S6 | SERIAL NO. LABEL A17FZUH | ----- |
| S17 | CARTON LABEL A1AFUUD | ----- |
| S44 | ID LABEL A1AFUUD | ----- |
| ACCESSORIES | | |
| AC601  | AC CORD WITH GND WIRE PH8CFEDGNOA-09B/3030 | WBV3020LW001 |
| X1 | BAG POLYETHYLENE 235X365XT0.03 | 0EM408420A |
| X6 | QUICK START GUIDE A1AFUUD | 1EMN29800A |
| X12 | CABLE MANAGEMENT TIE(BLACK) A01F2UH | 1EM431197 |
| X30 | WARRANTY SHEET A17FZUH | 1EMN29039 |
| X31 | SECURITY SCREW KIT A17FZUH | 1EM332298 |
| X32 | SECURITY TAPE KIT A17FZUH | 1EM332299 |

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%

- When you conduct on a component level repair for the Inverter CBA for any models within this service manual, make sure to refer the right Block Diagram/Schematic Diagram/ CBA and Parts List.

For the main CBA, the last digit of the board number, which is engraved on every board, should be a number (e.g. BA17F4F0103 2). For the sub CBA, the last digit of the board number, which is engraved on every board, should be an alphabet (e.g. BA17F4F0103 Z).

DirecTV H25-500 CBA

| Ref. No. | Description | Part No. |
|----------|---------------------|---------------|
| | DirecTV H25-500 CBA | UPBMATHIMX001 |




DIGITAL MAIN CBA UNIT

| Ref. No. | Description | Part No. |
|----------|-----------------------|--------------|
| | DIGITAL MAIN CBA UNIT | A1AFUMMZ-002 |

INTERFACE CBA UNIT



| Ref. No. | Description | Part No. |
|----------|--------------------|--------------|
| | INTERFACE CBA UNIT | A1AFUM1F-001 |

POWER SUPPLY CBA

| Ref. No. | Description | Part No. |
|--|--|--------------|
| | POWER SUPPLY CBA Consists of the following: | A17FYMPW-001 |
| CAPACITORS | | |
| C600 | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V | CHD1JZ30F104 |
| C601  | CAP METALIZED FILM 0.47µF/250V/K/MPX | CTA474EUR001 |
| C603 | ELECTROLYTIC CAP. 100µF/50V M | CE1JMASDL101 |
| C604  | CAP METALIZED FILM 0.47µF/250V/K/MPX | CTA474EUR001 |
| C605  | CAP METALIZED FILM 0.47µF/250V/K/MPX | CTA474EUR001 |
| C606 | CAP ELECTROLYTIC 390µF/200V | CEB391DYG006 |

| Ref. No. | Description | Part No. |
|--|---|--------------|
| C607  | SAFTY CAP. 220pF/250V KX | CA2E221MR100 |
| C609 | CHIP CERAMIC CAP.(1608) B K 0.047µF/50V | CHD1JK30B473 |
| C610 | CHIP CERAMIC CAP. B K 1200pF/50V | CHD1JK30B122 |
| C611 | CERAMIC CAP. 820pF/2KV | CA3D821PAN04 |
| C612 | CHIP CERAMIC CAP. B K 0.068µF/50V | CHD1JK30B683 |
| C613 | CHIP CERAMIC CAP. B K 1500pF/50V | CHD1JK30B152 |
| C615  | CAP CERAMIC 470pF/250V KX | CA2E471MR100 |
| C616 | CERAMIC CAP. 2200pF/1KV | CCD3AKA0R222 |
| C650 | ELECTROLYTIC CAP 3300µF/10V | CE1AMZNDL332 |
| C651 | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V | CHD1JZ30F104 |
| C652 | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V | CHD1JZ30F104 |
| C653 | ELECTROLYTIC CAP. 470µF/25V M | CE1EMASDL471 |
| C654 | CHIP CERAMIC CAP.(1608) B K 0.01µF/50V | CHD1JK30B103 |
| C656 | ELECTROLYTIC CAP. 2200µF/25V M | CE1EMZNDL222 |
| C657 | ELECTROLYTIC CAP. 2200µF/25V M | CE1EMZNDL222 |
| C658 | ELECTROLYTIC CAP. 2200µF/25V M | CE1EMZNDL222 |
| C659 | ELECTROLYTIC CAP. 2200µF/25V M | CE1EMZNDL222 |
| C660 | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V | CHD1JZ30F104 |
| C661 | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V | CHD1JZ30F104 |
| C662 | CHIP CERAMIC CAP.(1608) B K 0.1µF/50V | CHD1JK30B104 |
| C663 | ELECTROLYTIC CAP. 10µF/50V M | CE1JMASDL100 |
| C664 | ELECTROLYTIC CAP. 470µF/25V M | CE1EMASDL471 |
| C665 | CHIP CERAMIC CAP. B K 470pF/50V | CHD1JK30B471 |
| C666 | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V | CHD1JZ30F104 |
| C667 | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V | CHD1JZ30F104 |
| C668 | ELECTROLYTIC CAP. 2.2µF/50V M | CE1JMASDL2R2 |
| C670 | CHIP CERAMIC CAP.(1608) B K 0.1µF/50V | CHD1JK30B104 |
| C673 | ELECTROLYTIC CAP. 22µF/50V M | CE1JMASDL220 |
| C676 | CHIP CERAMIC CAP.(1608) CH J 1000pF/50V | CHD1J3CH102 |
| C677 | CHIP CERAMIC CAP.(1608) B K 0.1µF/50V | CHD1JK30B104 |
| C678 | CHIP CERAMIC CAP.(1608) B K 1µF/25V | CHD1EK30B105 |
| C679 | ELECTROLYTIC CAP. 47µF/25V M | CE1EMASDL470 |
| C681 | CHIP CERAMIC CAP.(1608) B K 0.1µF/50V | CHD1JK30B104 |
| C682 | ELECTROLYTIC CAP. 10µF/50V M | CE1JMASDL100 |
| C683 | CHIP CERAMIC CAP.(1608) B K 1µF/25V | CHD1EK30B105 |
| C685 | CHIP CERAMIC CAP.(1608) B K 0.1µF/50V | CHD1JK30B104 |
| C686 | ELECTROLYTIC CAP. 3.3µF/50V M | CE1JMASDL3R3 |
| C687 | ELECTROLYTIC CAP. 22µF/50V M | CE1JMASDL220 |
| C688 | ELECTROLYTIC CAP. 2.2µF/50V M | CE1JMASDL2R2 |
| C690 | ELECTROLYTIC CAP. 100µF/10V M | CE1AMASDL101 |
| C691 | ELECTROLYTIC CAP. 1000µF/35V M | CE1GMZADL102 |
| C693 | CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V | CHD1JZ30F104 |
| C694 | ELECTROLYTIC CAP. 100µF/25V M | CE1EMASDL101 |
| C695 | ELECTROLYTIC CAP 3300µF/10V | CE1AMZNDL332 |
| C696 | ELECTROLYTIC CAP. 1µF/50V M | CE1JMASDL1R0 |
| C697 | CHIP CERAMIC CAP.(1608) B K 0.1µF/50V | CHD1JK30B104 |
| C698 | ELECTROLYTIC CAP. 100µF/10V M | CE1AMASDL101 |
| C699 | ELECTROLYTIC CAP. 100µF/50V M | CE1JMASDL101 |
| C702 | CHIP CERAMIC CAP.(1608) B K 0.1µF/50V | CHD1JK30B104 |

CONNECTORS

| | | |
|---|---|--------------|
| CN600  | CONNECTOR PRINT OSU 3 S B3P4-VH-L | J3VH030JG015 |
| CN601  | CONNECTOR B2P3-VH(LF)(SN) | J3VH020JG001 |
| CN650 | FFC CONNECTOR 15P IMSA-9615S-15A-PP-A | JC96J15ER007 |
| CN651 | PH CONNECTOR TOP 20P B20B-PHDSS-B(LF)(SN) | J3F5D20JG003 |

DIODES

| | | |
|-------|--------------------------------|--------------|
| D600A | DIODE ZENER SMD UDZSNPTE-1730B | QD1B0UDZNP30 |
| D601A | DIODE ZENER SMD UDZSNPTE-1733B | QD1B0UDZNP33 |
| D602 | DIODE ZENER 13BSB-T26 | NDTB013BST26 |
| D603 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |

| Ref. No. | Description | Part No. |
|------------|--------------------------------------|--------------|
| D604 | DIODE GENERAL PURPOSE 1N5406-BU | NDLZ1N5406BU |
| D605 | DIODE GENERAL PURPOSE 1N5406-BU | NDLZ1N5406BU |
| D608 | DIODE FR104-B | NDLZ000FR104 |
| D609 | DIODE FR104-B | NDLZ000FR104 |
| D610▲ | DIODE GENERAL PURPOSE 1N5406-BU | NDLZ1N5406BU |
| D611▲ | DIODE GENERAL PURPOSE 1N5406-BU | NDLZ1N5406BU |
| D612▲ | DIODE GENERAL PURPOSE 1N5406-BU | NDLZ1N5406BU |
| D613▲ | DIODE GENERAL PURPOSE 1N5406-BU | NDLZ1N5406BU |
| D614▲ | DIODE ZENER 27BSB-T26 | NDTB027BST26 |
| D615A | ZENER DIODE SMD TFZGTR4.3B | QD1B00TFZ4R3 |
| D616▲ | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D617 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D618▲ | DIODE ZENER 1ZB36BB | NDWZ0001ZB36 |
| D623 | DIODE FAST RECOVERY FR155-B/P | NDWZ0FR155BP |
| D650 | DIODE SCHOTTKY SB360BH | NDWZ000SB360 |
| D651 | DIODE ZENER 1ZB30BB | NDWZ0001ZB30 |
| D653 | IC SHUNT REGULATOR KIA431-AT/P | NSZBA0TJY036 |
| D654 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D655 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D656 | DIODE SCHOTTKY SB3A0BH | NDWZ000SB3A0 |
| D657 | DIODE SCHOTTKY SB3A0BH | NDWZ000SB3A0 |
| D658 | DIODE SCHOTTKY SB3A0BH | NDWZ000SB3A0 |
| D659 | DIODE SCHOTTKY SB3A0BH | NDWZ000SB3A0 |
| D661 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| D662 | DIODE SCHOTTKY SB3A0BH | NDWZ000SB3A0 |
| D663A | ZENER DIODE SMD TFZGTR5.6B | QD1B00TFZ5R6 |
| D664A | ZENER DIODE SMD TFZGTR5.6B | QD1B00TFZ5R6 |
| D665 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D666 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D667 | DIODE ZENER 33BSB-T26 | NDTB033BST26 |
| D668 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D669 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D670 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D671 | DIODE ZENER 5V1BSB-T26 | NDTB5R1BST26 |
| D673 | DIODE ZENER 5V6BSB-T26 | NDTB5R6BST26 |
| D674 | DIODE SHOTTKY SB3200BR | NDWZ3200D027 |
| D676 | DIODE SCHOTTKY SB360BH | NDWZ000SB360 |
| D677 | DIODE ZENER 10BSB-T26 | NDTB010BST26 |
| D679 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D680 | DIODE SK16-T/R | ND1Z0000SK16 |
| D681 | DIODE SCHOTTKY SB360BH | NDWZ000SB360 |
| D682 | DIODE SK16-T/R | ND1Z0000SK16 |
| D683 | DIODE ZENER 5V6BSB-T26 | NDTB5R6BST26 |
| D684 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D685 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D686 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D687 | DIODE ZENER 9V1BSB-T26 | NDTB9R1BST26 |
| D688 | SCHOTTKY BARRIER DIODE SB140 | NDWZ000SB140 |
| D689 | DIODE SCHOTTKY SB360BH | NDWZ000SB360 |
| D690 | DIODE FAST RECOVERY RS1GJTB | ND1Z0RS1GJTB |
| D691 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| D692 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| D694 | DIODE ZENER 1ZB18BB | NDWZ0001ZB18 |
| D695 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D696 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| ICS | | |
| IC600▲ | IC PHOTOCOUPLER TLP781F(D4-FUNBLL F) | OPEL781FBLLF |
| IC601▲ | IC PHOTOCOUPLER TLP781F(D4-FUNBLL F) | OPEL781FBLLF |
| IC650 | IC SHUNT REGULATOR KIA431-AT/P | NSZBA0TJY036 |
| IC651 | IC TL3472CDR | NSZBA0TTY115 |
| IC652 | IC(REGULATOR) PQ200WNA1ZPH | QSZBA0TSH072 |
| IC653 | IC SHUNT REGULATOR KIA431-AT/P | NSZBA0TJY036 |

| Ref. No. | Description | Part No. |
|--------------------|--|--------------|
| COILS | | |
| L600▲ | COIL LINE FILTER ST1107ET28H-019/25MH | LLEG0Z0Y2037 |
| L601▲ | COIL LINE FILTER ST1107ET28H-019/25MH | LLEG0Z0Y2037 |
| L602▲ | COIL LINE FILTER ST1107ET28H-019/25MH | LLEG0Z0Y2037 |
| TRANSISTORS | | |
| Q600 | FET POWER MOS SMD KHB1D0N60D-RTF/PMC | NF1ZKH1D0N6 |
| Q601 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q602 | PNP TRANSISTOR SMD 2SA1576UBTLQ | QQ1Q2SA1576U |
| Q603 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q604 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q605▲ | MOS FET TK8A50D | QFWZTK8A50DQ |
| Q606▲ | TRANSISTOR 2SC2120-Y(Te2 F T) | QQSY2SC2120F |
| Q650 | TRANSISTOR 2SC2120-Y(Te2 F T) | QQSY2SC2120F |
| Q651 | FET MOS SMD TK40P04M1(T6RSS-Q) | QF1ZK40P04M1 |
| Q652 | PNP TRANSISTOR SMD 2SA1576UBTLQ | QQ1Q2SA1576U |
| Q653 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q654 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q655 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q656 | PNP TRANSISTOR SMD 2SA1576UBTLQ | QQ1Q2SA1576U |
| Q657 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q658 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q659 | PNP TRANSISTOR SMD 2SA1576UBTLQ | QQ1Q2SA1576U |
| Q660 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q662 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q663 | PNP TRANSISTOR SMD 2SA1576UBTLQ | QQ1Q2SA1576U |
| Q664 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q665 | PNP TRANSISTOR SMD 2SA1576UBTLQ | QQ1Q2SA1576U |
| Q666 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q667 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q668 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q669 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q670 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q671 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q672 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q673 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q674 | NPN TRANSISTOR POWER 2SC4881F HFE MAX320 | QQWZ2SC4881F |
| RESISTORS | | |
| R600 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| R601 | RES CHIP 1608 1/10W J 1.5M Ω | RRXA155HH013 |
| R602 | RES CHIP 3216 1/4W J 220k Ω | RRX4224HH034 |
| R603 | METAL OXIDE FILM RES. 2W J 47 Ω | RN02470ZU001 |
| R604 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R605 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R606 | RES CHIP 1608 1/10W J 47k Ω | RRXA473HH013 |
| R607 | RES CHIP 1608 1/10W J 15k Ω | RRXA153HH013 |
| R608 | RES CHIP 3216 1/4W J 1.2M Ω | RRX4125HH034 |
| R609 | RES CHIP 3216 1/4W J 1.2M Ω | RRX4125HH034 |
| R610 | RES CHIP 3216 1/4W J 1.2M Ω | RRX4125HH034 |
| R611 | RES CHIP 3216 1/4W J 1.2M Ω | RRX4125HH034 |
| R612 | RES CHIP 1608 1/10W J 100k Ω | RRXA104HH013 |
| R613 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R614 | RES CHIP 3216 1/4W J 220k Ω | RRX4224HH034 |
| R615▲ | RES. CARBON FILM J 1/2W J 1.2M Ω | RCX2125T1003 |
| R616▲ | CEMENT RESISTOR 5W J 2.2 Ω H 10MM | RW052R2PAK10 |
| R617 | RES CHIP 3216 1/4W J 220k Ω | RRX4224HH034 |
| R618 | RES CHIP 3216 1/4W J 220k Ω | RRX4224HH034 |
| R619 | RES CARBON FILM T 1/4W J 120 Ω | RCX4121T1001 |
| R620 | RES CARBON FILM T 1/4W J 120 Ω | RCX4121T1001 |
| R621 | RES CARBON FILM T 1/4W J 1.2k Ω | RCX4122T1001 |
| R622▲ | METAL OXIDE FILM RES. 2W J 0.33 Ω | RN02R33ZU001 |
| R623 | RES CARBON FILM T 1/4W J 3.9k Ω | RCX4392T1001 |

| Ref. No. | Description | Part No. |
|----------|-----------------------------------|--------------|
| R624 | RES CARBON FILM T 1/4W J 270 Ω | RCX4271T1001 |
| R625▲ | CEMENT RESISTOR 5W J 2.2 Ω H 10MM | RW052R2PAK10 |
| R626 | METAL OXIDE FILM RES. 1W J 68k Ω | RN01683ZU001 |
| R627 | METAL OXIDE FILM RES. 1W J 68k Ω | RN01683ZU001 |
| R650 | RES. CARBON FILM J 1/2W J 5.6 Ω | RCX25R6T1003 |
| R651 | METAL OXIDE FILM RES. 2W J 10 Ω | RN02100ZU001 |
| R652 | METAL OXIDE FILM RES. 2W J 10 Ω | RN02100ZU001 |
| R653 | RES CHIP 1608 1/10W J 6.8k Ω | RRXA682HH013 |
| R654 | RES CHIP 1608 1/10W J 1.8k Ω | RRXA182HH013 |
| R655 | RES CHIP 1608 1/10W F 9.10k Ω | RTW9101HH008 |
| R656 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R657 | RES CHIP 1608 1/10W F 2.20k Ω | RTW2201HH008 |
| R658 | RES CARBON FILM T 1/4W J 3.9k Ω | RCX4392T1001 |
| R659 | RES CHIP 1608 1/10W J 1.5k Ω | RRXA152HH013 |
| R660 | RES CARBON FILM T 1/4W J 3.9k Ω | RCX4392T1001 |
| R661 | RES CHIP 1608 1/10W J 39k Ω | RRXA393HH013 |
| R662 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R663 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R664 | RES CHIP 1608 1/10W J 100k Ω | RRXA104HH013 |
| R665 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R666 | RES CHIP 1608 1/10W J 3.3k Ω | RRXA332HH013 |
| R667 | RES CHIP 1608 1/10W J 2.7k Ω | RRXA272HH013 |
| R668 | RES CHIP 1608 1/10W J 100k Ω | RRXA104HH013 |
| R669 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R670 | RES CHIP 1608 1/10W J 2.7k Ω | RRXA272HH013 |
| R671 | RES CHIP 1608 1/10W J 100k Ω | RRXA104HH013 |
| R672 | RES CHIP 1608 1/10W J 3.9k Ω | RRXA392HH013 |
| R673 | RES CHIP 1608 1/10W J 3.9k Ω | RRXA392HH013 |
| R674 | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102HH013 |
| R675 | RES. CARBON FILM J 1/2W J 5.6 Ω | RCX25R6T1003 |
| R676 | RES CHIP 1608 1/10W J 100k Ω | RRXA104HH013 |
| R677 | RES CHIP 1608 1/10W J 470k Ω | RRXA474HH013 |
| R678 | RES CHIP 1608 1/10W J 100k Ω | RRXA104HH013 |
| R679 | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102HH013 |
| R681 | RES CARBON FILM T 1/4W J 1.0k Ω | RCX4102T1001 |
| R683 | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102HH013 |
| R684 | RES CHIP 1608 1/10W J 100k Ω | RRXA104HH013 |
| R685 | RES CHIP 1608 1/10W J 1.0 Ω | RRXA1R0HH013 |
| R687 | RES CARBON FILM T 1/4W J 10 Ω | RCX4100T1001 |
| R689 | RES CARBON FILM T 1/4W J 10 Ω | RCX4100T1001 |
| R690 | RES CHIP 1608 1/10W J 100k Ω | RRXA104HH013 |
| R691 | RES CARBON FILM T 1/4W J 1.5k Ω | RCX4152T1001 |
| R693 | RES CHIP 1608 1/10W F 10.0k Ω | RTW1002HH008 |
| R694 | RES CHIP 1608 1/10W F 1.50k Ω | RTW1501HH008 |
| R695 | RES CHIP 1608 1/10W F 10.0k Ω | RTW1002HH008 |
| R696 | RES CHIP 1608 1/10W F 15.0k Ω | RTW1502HH008 |
| R697 | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102HH013 |
| R700 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R702 | RES CHIP 1608 1/10W J 47k Ω | RRXA473HH013 |
| R703 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R704 | RES CHIP 1608 1/10W F 330 Ω | RTW3300HH008 |
| R705 | RES CHIP 1608 1/10W J 47k Ω | RRXA473HH013 |
| R706 | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472HH013 |
| R707 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R708 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R709 | RES CHIP 1608 1/10W J 47k Ω | RRXA473HH013 |
| R710 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R711 | RES CHIP 1608 1/10W F 240 Ω | RTW2400HH008 |
| R712 | RES CHIP 1608 1/10W F 2.20k Ω | RTW2201HH008 |
| R713 | RES CHIP 1608 1/10W J 56k Ω | RRXA563HH013 |
| R714 | RES CHIP 1608 1/10W J 6.8k Ω | RRXA682HH013 |
| R715 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R716 | RES CHIP 1608 1/10W J 39k Ω | RRXA393HH013 |

| Ref. No. | Description | Part No. |
|----------------------|---------------------------------|--------------|
| R717 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R718 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R719 | RES CARBON FILM T 1/4W J 150 Ω | RCX4151T1001 |
| R720 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| R721 | RES CARBON FILM T 1/4W J 47k Ω | RCX4473T1001 |
| R722 | RES CARBON FILM T 1/4W J 680 Ω | RCX4681T1001 |
| R723 | RES CHIP 1608 1/10W J 47k Ω | RRXA473HH013 |
| R724 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R725 | RES CHIP 1608 1/10W J 12k Ω | RRXA123HH013 |
| R726 | RES CARBON FILM T 1/4W J 270 Ω | RCX4271T1001 |
| R727 | RES CHIP 1608 1/10W J 15k Ω | RRXA153HH013 |
| R728 | RES CARBON FILM T 1/4W J 8.2k Ω | RCX4822T1001 |
| R729 | RES CARBON FILM T 1/4W J 47k Ω | RCX4473T1001 |
| R730 | RES CHIP 1608 1/10W J 47k Ω | RRXA473HH013 |
| R731 | RES CARBON FILM T 1/4W J 39k Ω | RCX4393T1001 |
| R732 | RES CHIP 1608 1/10W J 15k Ω | RRXA153HH013 |
| R733 | RES CHIP 1608 1/10W J 47k Ω | RRXA473HH013 |
| R734 | RES CARBON FILM T 1/4W J 120 Ω | RCX4121T1001 |
| R735 | RES CARBON FILM T 1/4W J 120 Ω | RCX4121T1001 |
| R736 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R737 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R738 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R739 | RES CHIP 1608 1/10W F 24.0k Ω | RTW2402HH008 |
| R740 | RES CHIP 1608 1/10W F 47.0k Ω | RTW4702HH008 |
| R741 | RES CHIP 1608 1/10W J 18k Ω | RRXA183HH013 |
| R742 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R743 | RES CHIP 1608 1/10W F 13.0k Ω | RTW1302HH008 |
| R744 | RES CHIP 1608 1/10W J 1.0 Ω | RRXA1R0HH013 |
| R745 | RES CHIP 1608 1/10W F 3.30k Ω | RTW3301HH008 |
| R746 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R747 | RES CHIP 1608 1/10W J 47k Ω | RRXA473HH013 |
| R748 | RES CARBON FILM T 1/4W J 220 Ω | RCX4221T1001 |
| R749 | RES CARBON FILM T 1/4W J 220 Ω | RCX4221T1001 |
| R750 | RES CARBON FILM T 1/4W J 220 Ω | RCX4221T1001 |
| R751 | RES CARBON FILM T 1/4W J 220 Ω | RCX4221T1001 |
| R752 | RES CHIP 1608 1/10W J 39k Ω | RRXA393HH013 |
| R756 | RES CARBON FILM T 1/4W J 470 Ω | RCX4471T1001 |
| R757 | RES CHIP 1608 1/10W F 8.20k Ω | RTW8201HH008 |
| R758 | RES CHIP 1608 1/10W F 10.0k Ω | RTW1002HH008 |
| R759 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| MISCELLANEOUS | | |
| B14 | HEAT SINK PNB ASSEMBLY A94FOUH | 1EM428123 |
| BC600 | BEADS INDUCTOR FBR07HA121SB-00 | LLBF00STU030 |
| BC601 | BEADS INDUCTOR FBR07HA121SB-00 | LLBF00STU030 |
| BC602 | BEADS INDUCTOR FBR07HA121SB-00 | LLBF00STU030 |
| F600▲ | FUSE STC4A125V U/CT | PAGE20CW3402 |
| FH600 | FUSE HOLDER MSF-015 | XH01Z00LY001 |
| FH601 | FUSE HOLDER MSF-015 | XH01Z00LY001 |
| JS653 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| L17 | SCREW B-TIGHT D3X8 BIND HEAD+ | GBJB3080 |
| SA600▲ | SURGE ABSORBER 470V+10PER | NVQZ10D471KB |
| T600▲ | TRANS POWER BCK-35BW | LTT3PCMEK018 |

INVERTER ASSEMBLY (main CBA)

| Ref. No. | Description | Part No. |
|----------|---|-------------------|
| | INVERTER ASSEMBLY Consists of the following: | A1AFUM1V-001 |
| | INVERTER CBA | A1AFUM1V-001-IV |
| | FUNCTION CBA IR SENSOR CBA | A1AFUM1V-001-FNIR |

INVERTER CBA

| Ref. No. | Description | Part No. |
|-------------------|--|--------------|
| | INVERTER CBA Consists of the following: | ----- |
| CAPACITORS | | |
| C1100 | CHIP CERAMIC CAP. F Z 2.2μF/50V | CHF1JZ30F225 |
| C1101 | CHIP CERAMIC CAP. F Z 2.2μF/50V | CHF1JZ30F225 |
| C1102 | CHIP CERAMIC CAP. F Z 2.2μF/50V | CHF1JZ30F225 |
| C1103 | CHIP CERAMIC CAP. F Z 2.2μF/50V | CHF1JZ30F225 |
| C1104 | CAP CERAMIC HV 10pF/6.3KV/SL/J | CCC1000MR007 |
| C1105 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1106 | CAP CERAMIC HV 10pF/6.3KV/SL/J | CCC1000MR007 |
| C1107 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1108 | CAP CERAMIC HV 10pF/6.3KV/SL/J | CCC1000MR007 |
| C1109 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1110 | CAP CERAMIC HV 10pF/6.3KV/SL/J | CCC1000MR007 |
| C1111 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1112 | CAP CERAMIC HV 10pF/6.3KV/SL/J | CCC1000MR007 |
| C1113 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1114 | CAP CERAMIC HV 10pF/6.3KV/SL/J | CCC1000MR007 |
| C1115 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1116 | CHIP CERAMIC CAP. F Z 2.2μF/50V | CHF1JZ30F225 |
| C1117 | CHIP CERAMIC CAP. F Z 2.2μF/50V | CHF1JZ30F225 |
| C1118 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1119 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1120 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1121 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1122 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1123 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1201 | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V | CHD1JK30B104 |
| C1202 | CHIP CERAMIC CAP.(1608) B K 6800pF/50V | CHD1JK30B682 |
| C1203 | CHIP CERAMIC CAP.(1608) B K 6800pF/50V | CHD1JK30B682 |
| C1204 | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V | CHD1JK30B104 |
| C1205 | CHIP CERAMIC CAP. F Z 2.2μF/50V | CHF1JZ30F225 |
| C1206 | ELECTROLYTIC CAP. 10μF/50V M | CE1JMASDL100 |
| C1207 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1208 | CAP CHIP 3216 B K 0.47μF/50V | CA1J474TE142 |
| C1209 | CAP CHIP 3216 B K 0.47μF/50V | CA1J474TE142 |
| C1210 | CHIP CERAMIC CAP.(1608) B K 0.47μF/16V | CHD1CK30B474 |
| C1212 | CHIP CERAMIC CAP.(1608) B K 0.47μF/16V | CHD1CK30B474 |
| C1213 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V | CHD1JK30B103 |
| C1300 | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V | CHD1JK30B104 |
| C1301 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1302 | ELECTROLYTIC CAP. 10μF/50V M | CE1JMASDL100 |
| C1303 | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V | CHD1JK30B104 |
| C1304 | ELECTROLYTIC CAP. 220μF/35V M | CE1GMASDL221 |
| C1305 | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V | CHD1JK30B104 |
| C1311 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1500 | CHIP CERAMIC CAP.(1608) B K 0.01μF/50V | CHD1JK30B103 |
| C1501 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1700 | ELECTROLYTIC CAP. 2200μF/35V M | CE1GMZNDL222 |
| C1701 | ELECTROLYTIC CAP. 2200μF/35V M | CE1GMZNDL222 |
| C1702 | CAP CHIP 3216 B K 1μF/50V | CA1J105TE142 |
| C1703 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1704 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1705 | CHIP CERAMIC CAP.(1608) B K 0.022μF/50V | CHD1JK30B223 |
| C1706 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1707 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1708 | CHIP CERAMIC CAP.(1608) B K 0.022μF/50V | CHD1JK30B223 |
| C1905▲ | CAP CERAMIC 470pF/250V KX | CA2E471MR100 |
| C1910 | CAP ELECTROLYTIC 270μF/200V | CEA271DYG005 |
| C1930 | CERAMIC CAP. 680pF/2KV | CA3D681PAN04 |
| C1931▲ | CHIP CERAMIC CAP. B K 1800pF/50V | CHD1JK30B182 |

| Ref. No. | Description | Part No. |
|--------------------|--|--------------|
| C1932 | CHIP CERAMIC CAP. B K 0.056μF/50V | CHD1JK30B563 |
| C1933 | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V | CHD1JK30B104 |
| C1970 | CHIP CERAMIC CAP. B K 2200pF/50V | CHD1JK30B222 |
| C1981 | CHIP CERAMIC CAP. F Z 0.01μF/50V | CHD1JZ30F103 |
| C1982 | ELECTROLYTIC CAP. 0.47μF/50V M | CE1JMASDLR47 |
| C1990 | CERAMIC CAP. 1500pF/2KV | CA3D152PAN04 |
| C1993 | ELECTROLYTIC CAP. 2200μF/35V M | CE1GMZNDL222 |
| C1994 | ELECTROLYTIC CAP. 2200μF/35V M | CE1GMZNDL222 |
| CONNECTORS | | |
| CN1001 | FFC CONNECTOR 15P IMSA-9615S-15A-PP-A | JC96J15ER007 |
| CN1003 | FFC CONNECTOR IMSA-9615S-11A-PP-A | JC96J11ER007 |
| CN1100▲ | CONNECTOR/JACK 1747386-1 | JB17J02AP002 |
| CN1101▲ | CONNECTOR/JACK 1747386-1 | JB17J02AP002 |
| CN1102▲ | CONNECTOR/JACK 1747386-1 | JB17J02AP002 |
| CN1901▲ | CONNECTOR PRINT OSU 3 S B3P4-VH-L | J3VH030JG015 |
| DIODES | | |
| D1200 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1201 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1202 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1203 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1300 | DIODE ZENER 5V6BSB-T26 | NDTB5R6BST26 |
| D1301 | DIODE ZENER 5V6BSB-T26 | NDTB5R6BST26 |
| D1500 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1501 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1502 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1503 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1504 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1505 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1506 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1507 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1508 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1700 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1701 | DIODE ZENER 15BSB-T26 | NDTB015BST26 |
| D1702 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1703 | DIODE ZENER 15BSB-T26 | NDTB015BST26 |
| D1704 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1705 | DIODE ZENER 15BSB-T26 | NDTB015BST26 |
| D1706 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1707 | DIODE ZENER 15BSB-T26 | NDTB015BST26 |
| D1930▲ | DIODE ZENER 27BSB-T26 | NDTB027BST26 |
| D1931 | DIODE ZENER 5V6BSB-T26 | NDTB5R6BST26 |
| D1932 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1933 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1934▲ | DIODE ZENER 1ZB36BB | NDWZ0001ZB36 |
| D1970 | DIODE ZENER 5V6BSB-T26 | NDTB5R6BST26 |
| D1971 | DIODE ZENER 30BSB-T26 | NDTB030BST26 |
| D1971A | CHIP RES.(2125) 1/8W 0 Ω | RRX8000HH024 |
| D1973 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1990 | DIODE SCHOTTKY SB3150BH | NDWZ00SB3150 |
| D1991 | DIODE SCHOTTKY SB3150BH | NDWZ00SB3150 |
| D1992 | DIODE SCHOTTKY SB3150BH | NDWZ00SB3150 |
| D1994 | DIODE ZENER 1ZB30BB | NDWZ0001ZB30 |
| ICS | | |
| IC1200 | IC INVERTER CONTROL BD9244AFV/SSOP/24PIN | QSCA0T0RM222 |
| IC1930▲ | IC PHOTOCOUPLER TLP781F(D4-FUNBLL F) | QPEL781FBLLF |
| IC1931▲ | IC PHOTOCOUPLER TLP781F(D4-FUNBLL F) | QPEL781FBLLF |
| TRANSISTORS | | |
| Q1201 | CHIP TRANSISTOR KTC3875S-YRTK/P | NQ1YKTC3875S |
| Q1202 | CHIP TRANSISTOR KTC3875S-YRTK/P | NQ1YKTC3875S |
| Q1300 | PNP TRANSISTOR SMD 2SA1576UBTLQ | QQ1Q2SA1576U |
| Q1301 | CHIP TRANSISTOR KTC3875S-YRTK/P | NQ1YKTC3875S |
| Q1303 | PNP TRANSISTOR SMD 2SA1576UBTLQ | QQ1Q2SA1576U |

| Ref. No. | Description | Part No. |
|------------------|----------------------------------|--------------|
| Q1700▲ | FET MOS SMD TK40P04M1(T6RSS-Q) | QF1ZK40P04M1 |
| Q1701▲ | FET MOS SMD TK40P04M1(T6RSS-Q) | QF1ZK40P04M1 |
| Q1702▲ | FET MOS SMD TK40P04M1(T6RSS-Q) | QF1ZK40P04M1 |
| Q1703▲ | FET MOS SMD TK40P04M1(T6RSS-Q) | QF1ZK40P04M1 |
| Q1930▲ | MOS FET TK7A50D(FUNAI) | QEWZTK7A50DQ |
| Q1931▲ | TRANSISTOR KTC3198-Y-AT/P | NQSYKTC3198P |
| Q1932▲ | TRANSISTOR 2SC2120-Q(T2 F T) | QQS02SC2120F |
| Q1970 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q1971 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q1972 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| RESISTORS | | |
| R1100 | RES CHIP 1608 1/10W F 39.0k Ω | RTW3902HH008 |
| R1101 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1102 | RES CHIP 1608 1/10W F 2.20k Ω | RTW2201HH008 |
| R1103 | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R1104 | RES CHIP 1608 1/10W F 100 Ω | RTW1000HH008 |
| R1105 | RES CHIP 1608 1/10W F 13.0 Ω | RTW13R0HH008 |
| R1106 | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R1107 | RES CHIP 1608 1/10W F 100 Ω | RTW1000HH008 |
| R1108 | RES CHIP 1608 1/10W F 13.0 Ω | RTW13R0HH008 |
| R1109 | RES CHIP 1608 1/10W F 39.0k Ω | RTW3902HH008 |
| R1110 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1111 | RES CHIP 1608 1/10W F 2.20k Ω | RTW2201HH008 |
| R1112 | RES CHIP 1608 1/10W F 39.0k Ω | RTW3902HH008 |
| R1113 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1114 | RES CHIP 1608 1/10W F 2.20k Ω | RTW2201HH008 |
| R1115 | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R1116 | RES CHIP 1608 1/10W F 100 Ω | RTW1000HH008 |
| R1117 | RES CHIP 1608 1/10W F 13.0 Ω | RTW13R0HH008 |
| R1118 | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R1119 | RES CHIP 1608 1/10W F 100 Ω | RTW1000HH008 |
| R1120 | RES CHIP 1608 1/10W F 13.0 Ω | RTW13R0HH008 |
| R1121 | RES CHIP 1608 1/10W F 39.0k Ω | RTW3902HH008 |
| R1122 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1123 | RES CHIP 1608 1/10W F 2.20k Ω | RTW2201HH008 |
| R1124 | RES CHIP 1608 1/10W F 39.0k Ω | RTW3902HH008 |
| R1125 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1126 | RES CHIP 1608 1/10W F 2.20k Ω | RTW2201HH008 |
| R1127 | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R1128 | RES CHIP 1608 1/10W F 100 Ω | RTW1000HH008 |
| R1129 | RES CHIP 1608 1/10W F 13.0 Ω | RTW13R0HH008 |
| R1130 | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R1131 | RES CHIP 1608 1/10W F 100 Ω | RTW1000HH008 |
| R1132 | RES CHIP 1608 1/10W F 13.0 Ω | RTW13R0HH008 |
| R1133 | RES CHIP 1608 1/10W F 39.0k Ω | RTW3902HH008 |
| R1134 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1135 | RES CHIP 1608 1/10W F 2.20k Ω | RTW2201HH008 |
| R1200 | RES CHIP 1608 1/10W J 68k Ω | RRXA683HH013 |
| R1201 | RES CHIP 1608 1/10W J 68k Ω | RRXA683HH013 |
| R1202 | RES CHIP 1608 1/10W F 130k Ω | RTW1303HH008 |
| R1203 | RES CHIP 1608 1/10W F 8.20k Ω | RTW8201HH008 |
| R1204 | RES CHIP 1608 1/10W F 75.0k Ω | RTW7502HH008 |
| R1205 | RES CHIP 1608 1/10W F 560k Ω | RTW5603HH008 |
| R1206 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1207 | RES CHIP 1608 1/10W J 33k Ω | RRXA333HH013 |
| R1208 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R1209 | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472HH013 |
| R1212 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1213 | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472HH013 |
| R1214 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1215 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1216 | RES CHIP 1608 1/10W J 100 Ω | RRXA101HH013 |

| Ref. No. | Description | Part No. |
|----------|-----------------------------------|--------------|
| R1221 | RES CHIP 1608 1/10W J 1.0 Ω | RRXA1R0HH013 |
| R1222 | RES CHIP 1608 1/10W J 10 Ω | RRXA100HH013 |
| R1223 | RES CHIP 1608 1/10W J 10 Ω | RRXA100HH013 |
| R1229 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1300 | RES CHIP 1608 1/10W F 10.0k Ω | RTW1002HH008 |
| R1301 | RES CHIP 1608 1/10W F 47.0k Ω | RTW4702HH008 |
| R1302 | RES CHIP 1608 1/10W F 51.0k Ω | RTW5102HH008 |
| R1303 | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472HH013 |
| R1304 | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472HH013 |
| R1305 | METAL OXIDE RES. 2W J 510 Ω | RN02511ZU001 |
| R1306 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1307 | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102HH013 |
| R1308 | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472HH013 |
| R1309 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1310 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R1500 | RES CHIP 1608 1/10W F 1.00M Ω | RTW1004HH008 |
| R1501 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1502 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1503 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1504 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1505 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1506 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1507 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1508 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1509 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1510 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1511 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1512 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1513 | RES CHIP 1608 1/10W F 1.00M Ω | RTW1004HH008 |
| R1514 | RES CHIP 1608 1/10W F 39.0k Ω | RTW3902HH008 |
| R1515 | RES CHIP 1608 1/10W F 27.0k Ω | RTW2702HH008 |
| R1516 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1700 | RES CHIP 1608 1/10W J 100 Ω | RRXA101HH013 |
| R1701 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1702 | RES CHIP 1608 1/10W J 100 Ω | RRXA101HH013 |
| R1703 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1704 | METAL OXIDE FILM RES. 1W J 4.7 Ω | RN014R7ZU001 |
| R1705 | RES CHIP 1608 1/10W J 100 Ω | RRXA101HH013 |
| R1706 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1707 | RES CHIP 1608 1/10W J 100 Ω | RRXA101HH013 |
| R1708 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1709 | METAL OXIDE FILM RES. 1W J 4.7 Ω | RN014R7ZU001 |
| R1930 | RES CARBON FILM T 1/4W J 47 Ω | RCX4470T1001 |
| R1931 | RES CARBON FILM T 1/4W J 47k Ω | RCX4473T1001 |
| R1932 | RES CARBON FILM T 1/4W J 120 Ω | RCX4121T1001 |
| R1933 | RES CARBON FILM T 1/4W J 120 Ω | RCX4121T1001 |
| R1934 | RES CARBON FILM T 1/4W J 120 Ω | RCX4121T1001 |
| R1935 | RES CARBON FILM T 1/4W J 1.5k Ω | RCX4152T1001 |
| R1936 | RES CARBON FILM T 1/4W J 180 Ω | RCX4181T1001 |
| R1937▲ | METAL OXIDE FILM RES. 2W J 0.39 Ω | RN02R39ZU001 |
| R1938 | RES CARBON FILM T 1/4W J 82k Ω | RCX4823T1001 |
| R1939 | RES CARBON FILM T 1/4W J 2.2k Ω | RCX4222T1001 |
| R1949 | RES CARBON FILM T 1/4W J 150k Ω | RCX4154T1001 |
| R1967 | RES CARBON FILM T 1/4W J 3.9k Ω | RCX4392T1001 |
| R1970 | RES CARBON FILM T 1/4W J 220 Ω | RCX4221T1001 |
| R1972 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R1973 | RES CHIP 1608 1/10W J 3.3k Ω | RRXA332HH013 |
| R1977 | RES CHIP 1608 1/10W F 20.0k Ω | RTW2002HH008 |
| R1979 | RES CHIP 1608 1/10W F 6.80k Ω | RTW6801HH008 |
| R1980 | RES CHIP 1608 1/10W F 180 Ω | RTW1800HH008 |
| R1981 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1982 | RES CHIP 1608 1/10W J 1.5k Ω | RRXA152HH013 |
| R1986 | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102HH013 |

| Ref. No. | Description | Part No. |
|---|-------------------------------------|--------------|
| R1988 | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102HH013 |
| MISCELLANEOUS | | |
| B34 | POW HEAT SINK A7120UH | 1EM423993 |
| BC1301 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| BC1930 | BEADS INDUCTOR FBR07HA121SB-00 | LLBF00STU030 |
| BC1931 | BEADS INDUCTOR FBR07HA121SB-00 | LLBF00STU030 |
| CL102 | WIRE ASSEMBLY 5PIN 335MM 5PIN/310MM | WX1A17FY012 |
| JS1200 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| L17 | SCREW B-TIGHT D3X8 BIND HEAD+ | GBJB3080 |
| T1950▲ | TRANS POWER BCK-28CM | LT2PCMEK031 |
| When you replace one of the below Trans Inverters on this CBA, please replace with the one that has same parts number. Do not mix different parts number's Trans Inverter. | | |
| T1100▲ | TRANS INV TZ.7617A.101 | LTZ3PZDAR014 |
| T1101▲ | TRANS INV TZ.7617A.101 | LTZ3PZDAR014 |
| T1102▲ | TRANS INV TZ.7617A.101 | LTZ3PZDAR014 |
| or | | |
| T1100▲ | TRANS INV HVT-325 | LTZ3PZ0XB018 |
| T1101▲ | TRANS INV HVT-325 | LTZ3PZ0XB018 |
| T1102▲ | TRANS INV HVT-325 | LTZ3PZ0XB018 |

FUNCTION CBA

| Ref. No. | Description | Part No. |
|------------------|--|--------------|
| | FUNCTION CBA Consists of the following: | ----- |
| CAPACITOR | | |
| C108 | CAP CERAMIC (AX) 0.1 μ F/50V/F/Z | CA1J104TU062 |
| RESISTORS | | |
| R108 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| R109 | RES CARBON FILM T 1/4W G 10k Ω | RCX4103T1002 |
| R111 | RES CARBON FILM T 1/4W G 4.7k Ω | RCX4472T1002 |
| R112 | RES CARBON FILM T 1/4W G 2.7k Ω | RCX4272T1002 |
| R113 | RES CARBON FILM T 1/4W G 4.7k Ω | RCX4472T1002 |
| R114 | RES CARBON FILM T 1/4W G 8.2k Ω | RCX4822T1002 |
| R115 | RES CARBON FILM T 1/4W G 18k Ω | RCX4183T1002 |
| SWITCHES | | |
| SW101B | TACT SWITCH SKQSAB | SST0101AL038 |
| SW103B | TACT SWITCH SKQSAB | SST0101AL038 |
| SW104B | TACT SWITCH SKQSAB | SST0101AL038 |
| SW105B | TACT SWITCH SKQSAB | SST0101AL038 |
| SW106B | TACT SWITCH SKQSAB | SST0101AL038 |
| SW107B | TACT SWITCH SKQSAB | SST0101AL038 |

IR SENSOR CBA

| Ref. No. | Description | Part No. |
|----------------------|---|--------------|
| | IR SENSOR CBA Consists of the following: | ----- |
| CAPACITORS | | |
| C101 | ELECTROLYTIC CAP. 47 μ F/16V M H7 | CE1CMAVSL470 |
| C103 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C104 | CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V | CHD1JZ30F104 |
| DIODE | | |
| D101 | LED (WHITE) SLR343WBC7T3XM | QPWM343WBC7T |
| RESISTORS | | |
| R101 | RES CARBON FILM T 1/4W J 100 Ω | RCX4101T1001 |
| R102 | RES CHIP 1608 1/10W J 3.3k Ω | RRXA332HH013 |
| R103 | RES CHIP 1608 1/10W J 2.7k Ω | RRXA272HH013 |
| R106 | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102HH013 |
| MISCELLANEOUS | | |
| CL103 | WIRE ASSEMBLY 4PIN 4PIN/35MM | WX1A17F6-202 |
| RS101 | SENSOR REMOTE RECEIVER KSM-712TH2E | USESJRSKK044 |

INVERTER ASSEMBLY (sub CBA)

| Ref. No. | Description | Part No. |
|----------|---|-------------------|
| | INVERTER ASSEMBLY Consists of the following: | A1AFUM1Z-001 |
| | INVERTER CBA | A1AFUM1Z-001-IV |
| | FUNCTION CBA IR SENSOR CBA | A1AFUM1Z-001-FNIR |

INVERTER CBA

| Ref. No. | Description | Part No. |
|-------------------|---|--------------|
| | INVERTER CBA Consists of the following: | ----- |
| CAPACITORS | | |
| C1100 | CHIP CERAMIC CAP. F Z 2.2 μ F/50V | CHF1JZ30F225 |
| C1101 | CHIP CERAMIC CAP. F Z 2.2 μ F/50V | CHF1JZ30F225 |
| C1102 | CHIP CERAMIC CAP. F Z 2.2 μ F/50V | CHF1JZ30F225 |
| C1103 | CHIP CERAMIC CAP. F Z 2.2 μ F/50V | CHF1JZ30F225 |
| C1104 | CAP CERAMIC HV 10pF/6.3KV/SLJ | CCC1000MR007 |
| C1105 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1106 | CAP CERAMIC HV 10pF/6.3KV/SLJ | CCC1000MR007 |
| C1107 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1108 | CAP CERAMIC HV 10pF/6.3KV/SLJ | CCC1000MR007 |
| C1109 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1110 | CAP CERAMIC HV 10pF/6.3KV/SLJ | CCC1000MR007 |
| C1111 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1112 | CAP CERAMIC HV 10pF/6.3KV/SLJ | CCC1000MR007 |
| C1113 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1114 | CAP CERAMIC HV 10pF/6.3KV/SLJ | CCC1000MR007 |
| C1115 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1116 | CHIP CERAMIC CAP. F Z 2.2 μ F/50V | CHF1JZ30F225 |
| C1117 | CHIP CERAMIC CAP. F Z 2.2 μ F/50V | CHF1JZ30F225 |
| C1118 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1119 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1120 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1121 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1122 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1123 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C1201 | CHIP CERAMIC CAP.(1608) B K 0.1 μ F/50V | CHD1JK30B104 |
| C1204 | CHIP CERAMIC CAP.(1608) B K 0.1 μ F/50V | CHD1JK30B104 |
| C1205 | CHIP CERAMIC CAP. F Z 2.2 μ F/50V | CHF1JZ30F225 |
| C1206 | ELECTROLYTIC CAP. 10 μ F/50V M | CE1JMASDL100 |
| C1207 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1208 | CAP CHIP 3216 B K 0.47 μ F/50V | CA1J474TE142 |
| C1209 | CAP CHIP 3216 B K 0.47 μ F/50V | CA1J474TE142 |
| C1212 | CHIP CERAMIC CAP.(1608) B K 0.47 μ F/16V | CHD1CK30B474 |
| C1215 | CHIP CERAMIC CAP.(1608) B K 0.01 μ F/50V | CHD1JK30B103 |
| C1216 | CHIP CERAMIC CAP. CH J 150pF/50V | CHD1JJ3CH151 |
| C1217 | CHIP CERAMIC CAP.(1608) B K 0.047 μ F/50V | CHD1JK30B473 |
| C1218 | CHIP CERAMIC CAP.(3216) B K 2.2 μ F/50V | CA1J225MR082 |
| C1300 | CHIP CERAMIC CAP.(1608) B K 0.1 μ F/50V | CHD1JK30B104 |
| C1301 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1302 | ELECTROLYTIC CAP. 10 μ F/50V M | CE1JMASDL100 |
| C1303 | CHIP CERAMIC CAP.(1608) B K 0.1 μ F/50V | CHD1JK30B104 |
| C1304 | ELECTROLYTIC CAP. 220 μ F/35V M | CE1GMASDL221 |
| C1305 | CHIP CERAMIC CAP.(1608) B K 0.1 μ F/50V | CHD1JK30B104 |
| C1311 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1500 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1501 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1502 | CHIP CERAMIC CAP.(1608) B K 3300pF/50V | CHD1JK30B332 |
| C1700 | ELECTROLYTIC CAP. 2200 μ F/35V M | CE1GMZNDL222 |
| C1701 | ELECTROLYTIC CAP. 2200 μ F/35V M | CE1GMZNDL222 |
| C1702 | CAP CHIP 3216 B K 1 μ F/50V | CA1J105TE142 |

| Ref. No. | Description | Part No. |
|-------------------|---|--------------|
| C1703 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1704 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1705 | CHIP CERAMIC CAP.(1608) B K 0.022μF/50V | CHD1JK30B223 |
| C1706 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1707 | CHIP CERAMIC CAP.(1608) B K 1000pF/50V | CHD1JK30B102 |
| C1708 | CHIP CERAMIC CAP.(1608) B K 0.022μF/50V | CHD1JK30B223 |
| C1905▲ | CAP CERAMIC 470pF/250V KX | CA2E471MR100 |
| C1910 | CAP ELECTROLYTIC 270μF/200V | CEA271DYG005 |
| C1930 | CERAMIC CAP. 680pF/2KV | CA3D681PAN04 |
| C1931▲ | CHIP CERAMIC CAP. B K 1800pF/50V | CHD1JK30B182 |
| C1932 | CHIP CERAMIC CAP. B K 0.056μF/50V | CHD1JK30B563 |
| C1933 | CHIP CERAMIC CAP.(1608) B K 0.1μF/50V | CHD1JK30B104 |
| C1970 | CHIP CERAMIC CAP. B K 2200pF/50V | CHD1JK30B222 |
| C1981 | CHIP CERAMIC CAP. F Z 0.01μF/50V | CHD1JZ30F103 |
| C1982 | ELECTROLYTIC CAP. 0.47μF/50V M | CE1JMASDLR47 |
| C1990 | CERAMIC CAP. 1500pF/2KV | CA3D152PAN04 |
| C1993 | ELECTROLYTIC CAP. 2200μF/35V M | CE1GMZNDL222 |
| C1994 | ELECTROLYTIC CAP. 2200μF/35V M | CE1GMZNDL222 |
| CONNECTORS | | |
| CN1001 | FFC CONNECTOR 15P IMSA-9615S-15A-PP-A | JC96J15ER007 |
| CN1003 | FFC CONNECTOR IMSA-9615S-11A-PP-A | JC96J11ER007 |
| CN1100▲ | CONNECTOR/JACK 1747386-1 | JB17J02AP002 |
| CN1101▲ | CONNECTOR/JACK 1747386-1 | JB17J02AP002 |
| CN1102▲ | CONNECTOR/JACK 1747386-1 | JB17J02AP002 |
| CN1901▲ | CONNECTOR PRINT OSU 3 S B3P4-VH-L | J3VH030JG015 |
| DIODES | | |
| D1200 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1201 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1203 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1300 | DIODE ZENER 5V6BSB-T26 | NDTB5R6BST26 |
| D1301 | DIODE ZENER 5V6BSB-T26 | NDTB5R6BST26 |
| D1500 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1501 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1502 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1503 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1504 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1505 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1506 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1507 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1508 | SWITCHING DIODE DAN202U T106 | QD1Z0DAN202U |
| D1700 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1701 | DIODE ZENER 15BSB-T26 | NDTB015BST26 |
| D1702 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1703 | DIODE ZENER 15BSB-T26 | NDTB015BST26 |
| D1704 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1705 | DIODE ZENER 15BSB-T26 | NDTB015BST26 |
| D1706 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1707 | DIODE ZENER 15BSB-T26 | NDTB015BST26 |
| D1930▲ | DIODE ZENER 27BSB-T26 | NDTB027BST26 |
| D1931 | DIODE ZENER 5V6BSB-T26 | NDTB5R6BST26 |
| D1932 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1933 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1934▲ | DIODE ZENER 1ZB36BB | NDWZ0001ZB36 |
| D1970 | DIODE ZENER 5V6BSB-T26 | NDTB5R6BST26 |
| D1971 | DIODE ZENER 30BSB-T26 | NDTB030BST26 |
| D1971A | CHIP RES.(2125) 1/8W 0 Ω | RRX8000HH024 |
| D1973 | SWITCHING DIODE 1SS133(T-77) | QDTZ001SS133 |
| D1990 | DIODE SCHOTTKY SB3150BH | NDWZ00SB3150 |
| D1991 | DIODE SCHOTTKY SB3150BH | NDWZ00SB3150 |
| D1992 | DIODE SCHOTTKY SB3150BH | NDWZ00SB3150 |
| D1994 | DIODE ZENER 1ZB30BB | NDWZ0001ZB30 |

| Ref. No. | Description | Part No. |
|--------------------|---|--------------|
| ICS | | |
| IC1200 | IC INVERTER CONTROLLER OZ9972A/24PIN/ SOP | NSCA0TTMC005 |
| IC1930▲ | IC PHOTOCOUPLER TLP781F(D4-FUNBLL F) | QPEL781FBLLF |
| IC1931▲ | IC PHOTOCOUPLER TLP781F(D4-FUNBLL F) | QPEL781FBLLF |
| TRANSISTORS | | |
| Q1201 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q1202 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q1205 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q1300 | PNP TRANSISTOR SMD 2SA1576UBTLQ | QQ1Q2SA1576U |
| Q1301 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q1303 | PNP TRANSISTOR SMD 2SA1576UBTLQ | QQ1Q2SA1576U |
| Q1700▲ | FET MOS SMD TK40P04M1(T6RSS-Q) | QF1ZK40P04M1 |
| Q1701▲ | FET MOS SMD TK40P04M1(T6RSS-Q) | QF1ZK40P04M1 |
| Q1702▲ | FET MOS SMD TK40P04M1(T6RSS-Q) | QF1ZK40P04M1 |
| Q1703▲ | FET MOS SMD TK40P04M1(T6RSS-Q) | QF1ZK40P04M1 |
| Q1930▲ | MOS FET TK7A50D(FUNAI) | QEWZTK7A50DQ |
| Q1931▲ | TRANSISTOR KTC3198-Y-AT/P | NQSYKTC3198P |
| Q1932▲ | TRANSISTOR 2SC2120-O(Te2 F T) | QOS02SC2120F |
| Q1970 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q1971 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| Q1972 | CHIP TRANSISTOR KTC3875S-Y-RTK/P | NQ1YKTC3875S |
| RESISTORS | | |
| R1100 | RES CHIP 1608 1/10W F 36.0k Ω | RTW3602HH008 |
| R1101 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1102 | RES CHIP 1608 1/10W F 4.70k Ω | RTW4701HH008 |
| R1103 | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R1104 | RES CHIP 1608 1/10W F 100 Ω | RTW1000HH008 |
| R1105 | RES CHIP 1608 1/10W F 13.0 Ω | RTW13R0HH008 |
| R1106 | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R1107 | RES CHIP 1608 1/10W F 100 Ω | RTW1000HH008 |
| R1108 | RES CHIP 1608 1/10W F 13.0 Ω | RTW13R0HH008 |
| R1109 | RES CHIP 1608 1/10W F 36.0k Ω | RTW3602HH008 |
| R1110 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1111 | RES CHIP 1608 1/10W F 4.70k Ω | RTW4701HH008 |
| R1112 | RES CHIP 1608 1/10W F 36.0k Ω | RTW3602HH008 |
| R1113 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1114 | RES CHIP 1608 1/10W F 4.70k Ω | RTW4701HH008 |
| R1115 | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R1116 | RES CHIP 1608 1/10W F 100 Ω | RTW1000HH008 |
| R1117 | RES CHIP 1608 1/10W F 13.0 Ω | RTW13R0HH008 |
| R1118 | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R1119 | RES CHIP 1608 1/10W F 100 Ω | RTW1000HH008 |
| R1120 | RES CHIP 1608 1/10W F 13.0 Ω | RTW13R0HH008 |
| R1121 | RES CHIP 1608 1/10W F 36.0k Ω | RTW3602HH008 |
| R1122 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1123 | RES CHIP 1608 1/10W F 4.70k Ω | RTW4701HH008 |
| R1124 | RES CHIP 1608 1/10W F 36.0k Ω | RTW3602HH008 |
| R1125 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1126 | RES CHIP 1608 1/10W F 4.70k Ω | RTW4701HH008 |
| R1127 | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R1128 | RES CHIP 1608 1/10W F 100 Ω | RTW1000HH008 |
| R1129 | RES CHIP 1608 1/10W F 13.0 Ω | RTW13R0HH008 |
| R1130 | RES CARBON FILM T 1/4W G 470 Ω | RCX4471T1002 |
| R1131 | RES CHIP 1608 1/10W F 100 Ω | RTW1000HH008 |
| R1132 | RES CHIP 1608 1/10W F 13.0 Ω | RTW13R0HH008 |
| R1133 | RES CHIP 1608 1/10W F 36.0k Ω | RTW3602HH008 |
| R1134 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1135 | RES CHIP 1608 1/10W F 4.70k Ω | RTW4701HH008 |
| R1200 | RES CHIP 1608 1/10W J 680k Ω | RRXA684HH013 |
| R1201 | RES CHIP 1608 1/10W J 680k Ω | RRXA684HH013 |
| R1206 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1207 | RES CHIP 1608 1/10W J 33k Ω | RRXA333HH013 |

| Ref. No. | Description | Part No. |
|----------|--|--------------|
| R1208 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R1209 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1212 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1213 | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472HH013 |
| R1215 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1222 | RES CHIP 1608 1/10W J 10 Ω | RRXA100HH013 |
| R1223 | RES CHIP 1608 1/10W J 10 Ω | RRXA100HH013 |
| R1229 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1230 | RES CHIP 1608 1/10W F 150k Ω | RTW1503HH008 |
| R1231 | RES CHIP 1608 1/10W F 560k Ω | RTW5603HH008 |
| R1232 | RES CHIP 1608 1/10W J 1.0M Ω | RRXA105HH013 |
| R1233 | RES CHIP 1608 1/10W J 560k Ω | RRXA564HH013 |
| R1234 | RES CHIP 1608 1/10W F 56.0k Ω | RTW5602HH008 |
| R1235 | RES CHIP 1608 1/10W F 24.0k Ω | RTW2402HH008 |
| R1300 | RES CHIP 1608 1/10W F 10.0k Ω | RTW1002HH008 |
| R1301 | RES CHIP 1608 1/10W F 47.0k Ω | RTW4702HH008 |
| R1302 | RES CHIP 1608 1/10W F 51.0k Ω | RTW5102HH008 |
| R1303 | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472HH013 |
| R1304 | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472HH013 |
| R1305 | METAL OXIDE RES. 2W J 510 Ω | RN02511ZU001 |
| R1306 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1307 | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102HH013 |
| R1308 | RES CHIP 1608 1/10W J 4.7k Ω | RRXA472HH013 |
| R1309 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1310 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R1500 | RES CHIP 1608 1/10W F 1.00M Ω | RTW1004HH008 |
| R1501 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1502 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1503 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1504 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1505 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1506 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1507 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1508 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1509 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1510 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1511 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1512 | RES CHIP 1608 1/10W F 100k Ω | RTW1003HH008 |
| R1513 | RES CHIP 1608 1/10W F 1.00M Ω | RTW1004HH008 |
| R1514 | RES CHIP 1608 1/10W F 47.0k Ω | RTW4702HH008 |
| R1515 | RES CHIP 1608 1/10W F 27.0k Ω | RTW2702HH008 |
| R1516 | RES CHIP 1608 1/10W F 2.40k Ω | RTW2401HH008 |
| R1517 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1700 | RES CHIP 1608 1/10W J 100 Ω | RRXA101HH013 |
| R1701 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1702 | RES CHIP 1608 1/10W J 100 Ω | RRXA101HH013 |
| R1703 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1704 | METAL OXIDE FILM RES. 1W J 4.7 Ω | RN014R7ZU001 |
| R1705 | RES CHIP 1608 1/10W J 100 Ω | RRXA101HH013 |
| R1706 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1707 | RES CHIP 1608 1/10W J 100 Ω | RRXA101HH013 |
| R1708 | RES CHIP 1608 1/10W J 10k Ω | RRXA103HH013 |
| R1709 | METAL OXIDE FILM RES. 1W J 4.7 Ω | RN014R7ZU001 |
| R1930 | RES CARBON FILM T 1/4W J 47 Ω | RCX4470T1001 |
| R1931 | RES CARBON FILM T 1/4W J 47k Ω | RCX4473T1001 |
| R1932 | RES CARBON FILM T 1/4W J 120 Ω | RCX4121T1001 |
| R1933 | RES CARBON FILM T 1/4W J 120 Ω | RCX4121T1001 |
| R1934 | RES CARBON FILM T 1/4W J 120 Ω | RCX4121T1001 |
| R1935 | RES CARBON FILM T 1/4W J 1.5k Ω | RCX4152T1001 |
| R1936 | RES CARBON FILM T 1/4W J 180 Ω | RCX4181T1001 |
| R1937▲ | METAL OXIDE FILM RES. 2W J 0.39 Ω | RN02R39ZU001 |
| R1938 | RES CARBON FILM T 1/4W J 82k Ω | RCX4823T1001 |
| R1939 | RES CARBON FILM T 1/4W J 2.2k Ω | RCX4222T1001 |

| Ref. No. | Description | Part No. |
|---|--|--------------|
| R1949 | RES CARBON FILM T 1/4W J 150k Ω | RCX4154T1001 |
| R1967 | RES CARBON FILM T 1/4W J 3.9k Ω | RCX4392T1001 |
| R1970 | RES CARBON FILM T 1/4W J 220 Ω | RCX4221T1001 |
| R1972 | RES CHIP 1608 1/10W J 22k Ω | RRXA223HH013 |
| R1973 | RES CHIP 1608 1/10W J 3.3k Ω | RRXA332HH013 |
| R1977 | RES CHIP 1608 1/10W F 20.0k Ω | RTW2002HH008 |
| R1979 | RES CHIP 1608 1/10W F 6.80k Ω | RTW6801HH008 |
| R1980 | RES CHIP 1608 1/10W F 180 Ω | RTW1800HH008 |
| R1981 | RES CHIP 1608 1/10W 0 Ω | RRXA000HH014 |
| R1982 | RES CHIP 1608 1/10W J 1.5k Ω | RRXA152HH013 |
| R1986 | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102HH013 |
| R1988 | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102HH013 |
| MISCELLANEOUS | | |
| B34 | POW HEAT SINK A7120UH | 1EM423993 |
| BC1301 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| BC1930 | BEADS INDUCTOR FBR07HA121SB-00 | LLBF00STU030 |
| BC1931 | BEADS INDUCTOR FBR07HA121SB-00 | LLBF00STU030 |
| CL102 | WIRE ASSEMBLY 5PIN 335MM 5PIN/310MM | WX1A17FY012 |
| JS1200 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| L17 | SCREW B-TIGHT D3X8 BIND HEAD+ | GBJB3080 |
| T1950▲ | TRANS POWER BCK-28CM | LTT2PCMEK031 |
| When you replace one of the below Trans Inverters on this CBA, please replace with the one that has same parts number. Do not mix different parts number's Trans Inverter. | | |
| T1100▲ | TRANS INV TZ.7617A.101 | LTZ3PZDAR014 |
| T1101▲ | TRANS INV TZ.7617A.101 | LTZ3PZDAR014 |
| T1102▲ | TRANS INV TZ.7617A.101 | LTZ3PZDAR014 |
| or | | |
| T1100▲ | TRANS INV HVT-325 | LTZ3PZ0XB018 |
| T1101▲ | TRANS INV HVT-325 | LTZ3PZ0XB018 |
| T1102▲ | TRANS INV HVT-325 | LTZ3PZ0XB018 |

FUNCTION CBA

| Ref. No. | Description | Part No. |
|------------------|--|--------------|
| | FUNCTION CBA Consists of the following: | ----- |
| CAPACITOR | | |
| C108 | CAP CERAMIC (AX) 0.1 μ F/50V/FZ | CA1J104TU062 |
| RESISTORS | | |
| R108 | WIRE COPPER 6111-06003-0120 | XZ40C0SHG002 |
| R109 | RES CARBON FILM T 1/4W G 10k Ω | RCX4103T1002 |
| R111 | RES CARBON FILM T 1/4W G 4.7k Ω | RCX4472T1002 |
| R112 | RES CARBON FILM T 1/4W G 2.7k Ω | RCX4272T1002 |
| R113 | RES CARBON FILM T 1/4W G 4.7k Ω | RCX4472T1002 |
| R114 | RES CARBON FILM T 1/4W G 8.2k Ω | RCX4822T1002 |
| R115 | RES CARBON FILM T 1/4W G 18k Ω | RCX4183T1002 |
| SWITCHES | | |
| SW101B | TACT SWITCH SKQSAB | SST0101AL038 |
| SW103B | TACT SWITCH SKQSAB | SST0101AL038 |
| SW104B | TACT SWITCH SKQSAB | SST0101AL038 |
| SW105B | TACT SWITCH SKQSAB | SST0101AL038 |
| SW106B | TACT SWITCH SKQSAB | SST0101AL038 |
| SW107B | TACT SWITCH SKQSAB | SST0101AL038 |

IR SENSOR CBA

| Ref. No. | Description | Part No. |
|-------------------|---|--------------|
| | IR SENSOR CBA Consists of the following: | ----- |
| CAPACITORS | | |
| C101 | ELECTROLYTIC CAP. 47 μ F/16V M H7 | CE1CMAVSL470 |
| C103 | CHIP CERAMIC CAP. CH J 330pF/50V | CHD1JJ3CH331 |
| C104 | CHIP CERAMIC CAP.(1608) F Z 0.1 μ F/50V | CHD1JZ30F104 |

| Ref. No. | Description | Part No. |
|----------------------|---------------------------------------|--------------|
| DIODE | | |
| D101 | LED (WHITE) SLR343WBC7T3XM | QPWM343WBC7T |
| RESISTORS | | |
| R101 | RES CARBON FILM T 1/4W J 100 Ω | RCX4101T1001 |
| R102 | RES CHIP 1608 1/10W J 3.3k Ω | RRXA332HH013 |
| R103 | RES CHIP 1608 1/10W J 2.7k Ω | RRXA272HH013 |
| R106 | RES CHIP 1608 1/10W J 1.0k Ω | RRXA102HH013 |
| MISCELLANEOUS | | |
| CL103 | WIRE ASSEMBLY 4PIN 4PIN/35MM | WX1A17F6-202 |
| RS101 | SENSOR REMOTE RECEIVER KSM-712TH2E | USESJRSKK044 |