

# PHILIPS

## 32" LCD TV

# Service Manual

## 32HFL5763H/F7 (Serial No.: DS1)

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

## < TUNER / NTSC >

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

Description	Condition	Unit	Nominal	Limit
1. AFT Pull-In Range	---	MHz	$\pm 2.3$	$\pm 2.1$
2. Synchronizing Sens.	TV.ch.4	dB $\mu$	18	26
	CA.ch.31	dB $\mu$	18	26
	CA.ch.87	dB $\mu$	18	29

## < TUNER / ATSC >

Description	Condition	Unit	Nominal	Limit
1. Received Freq. Range (-28dBm)	---	kHz	---	$\pm 100$
2. ATSC Dynamic Range (min / max)	ch.4	dBm	---	-70/0
	ch.10	dBm	---	-70/0
	ch.41	dBm	---	-70/0

## < LCD PANEL >

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

## < VIDEO >

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

## < AUDIO >

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

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

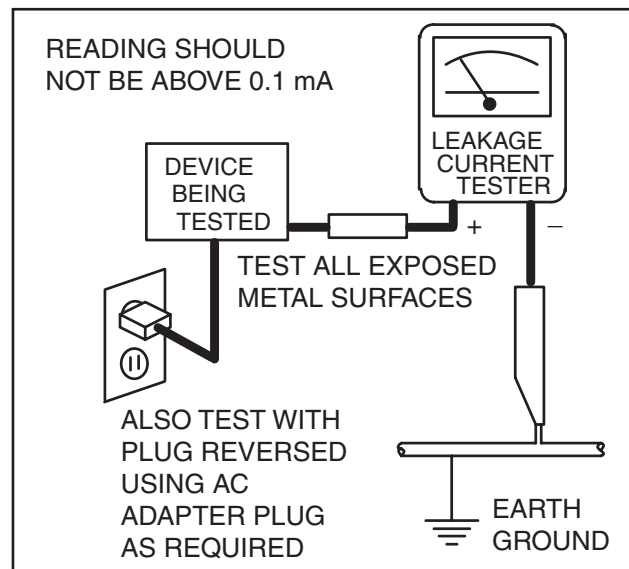
## Safety Precautions for LCD TV Circuit

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

- a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**
- b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the Liquid Crystal Panel and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.


- c. **Antenna Cold Check** - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

- d. **Leakage Current Hot Check** - With the instrument completely reassembled, plug the AC line cord directly into a 120 V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.1 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.

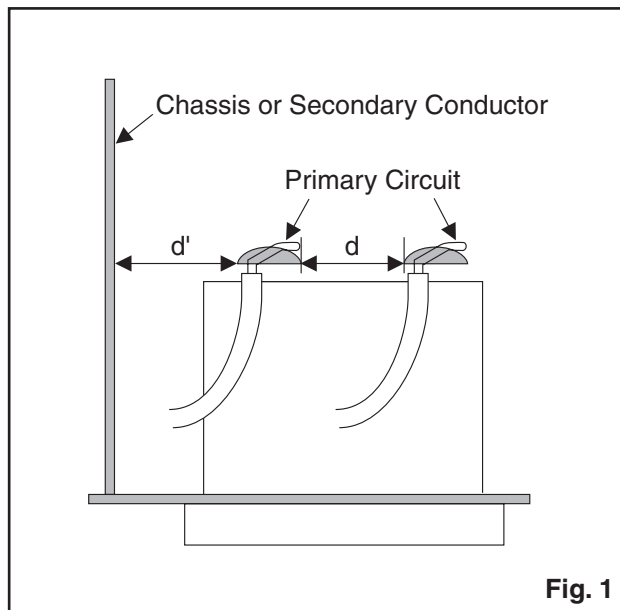
### 1. Clearance Distance

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	$\geq 3.2$ mm (0.126 inches)

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



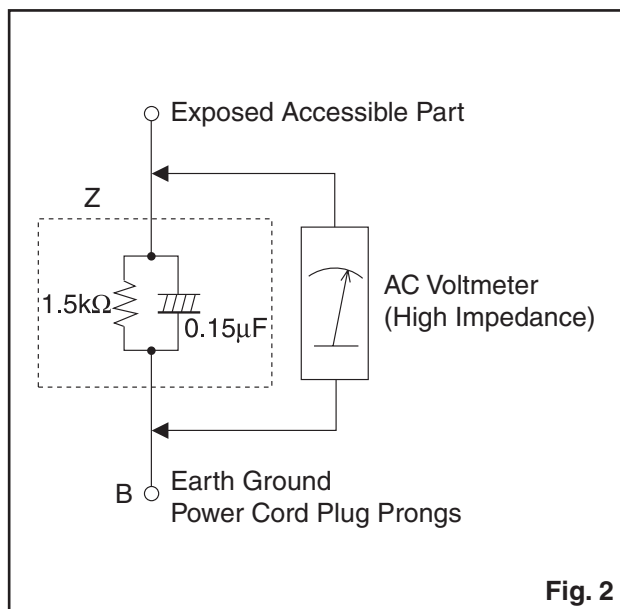
**Fig. 1**

### 2. Leakage Current Test

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

#### Measuring Method: (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.



**Fig. 2**

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

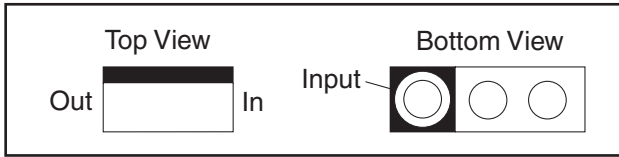
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	U.S.A. or Canada	$0.15 \mu F$ CAP. & $1.5 k\Omega$ RES. Connected in parallel	$i \leq 0.5$ mA rms	Exposed accessible parts

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

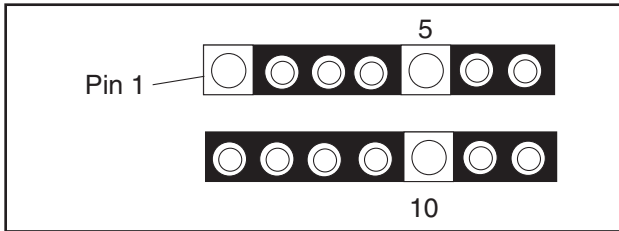
# STANDARD NOTES FOR SERVICING

## Circuit Board Indications

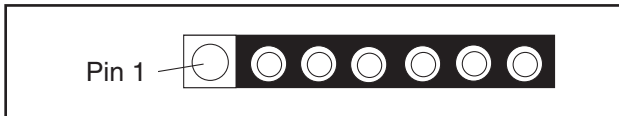
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

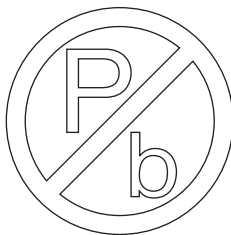


3. The 1st pin of every male connector is indicated as shown.



## 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)

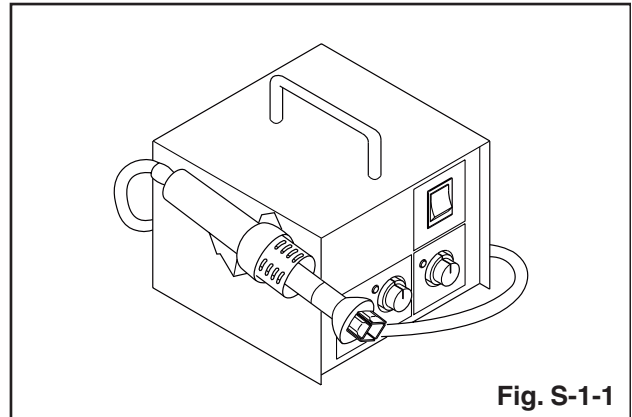


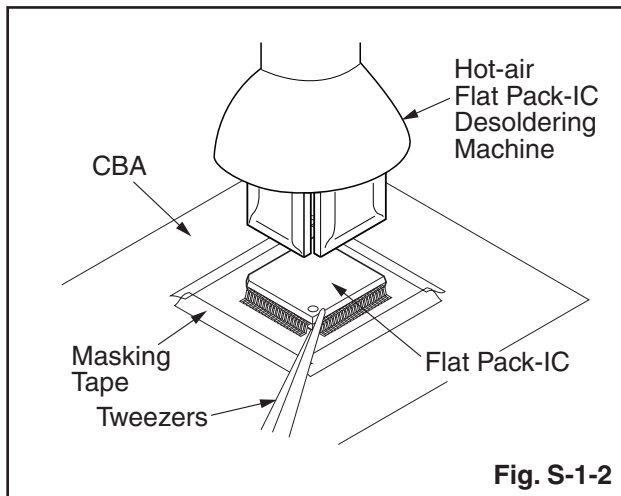
Fig. S-1-1

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:

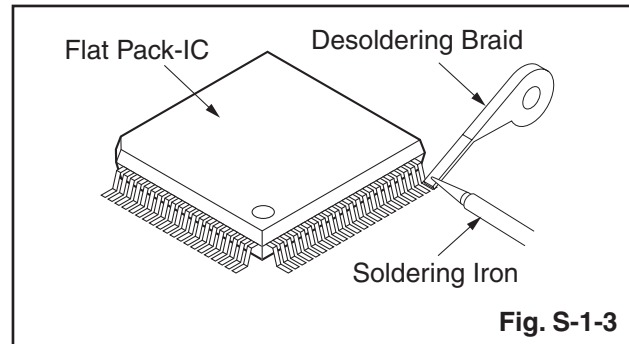
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape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

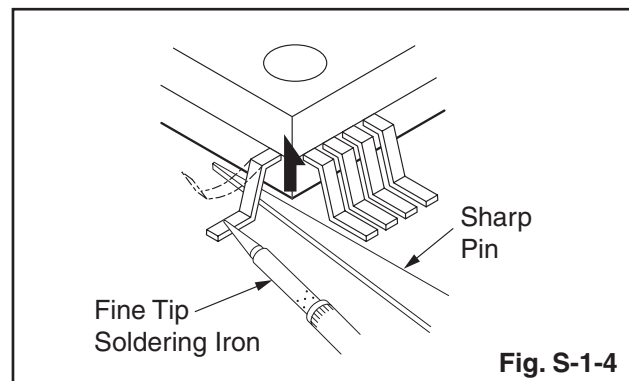


#### With Soldering Iron:

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)

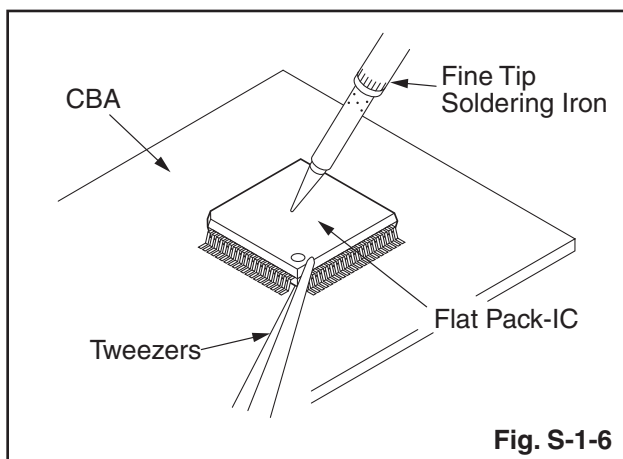
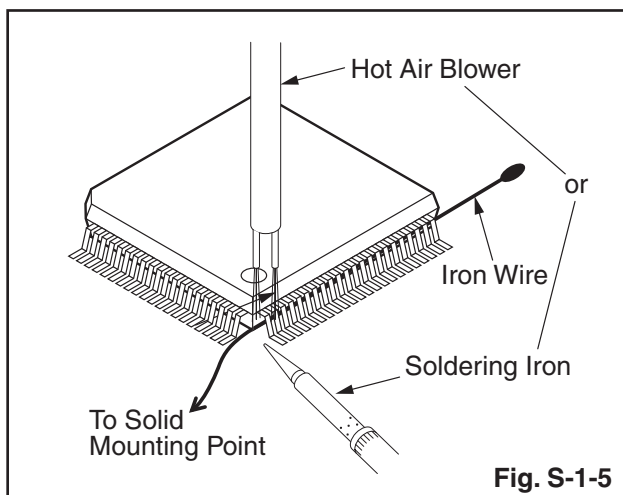


3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

### With Iron Wire:

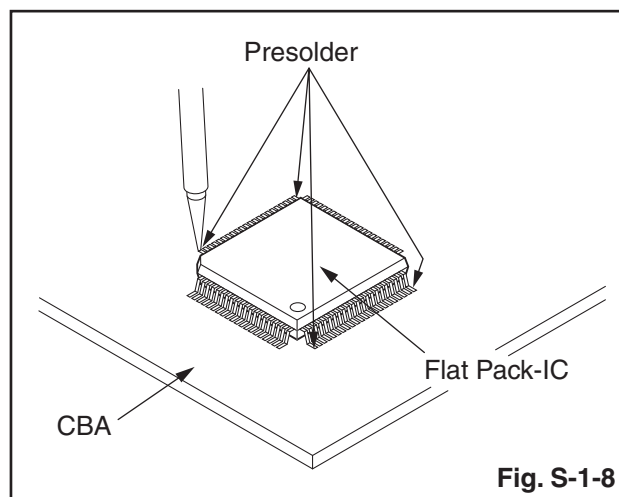
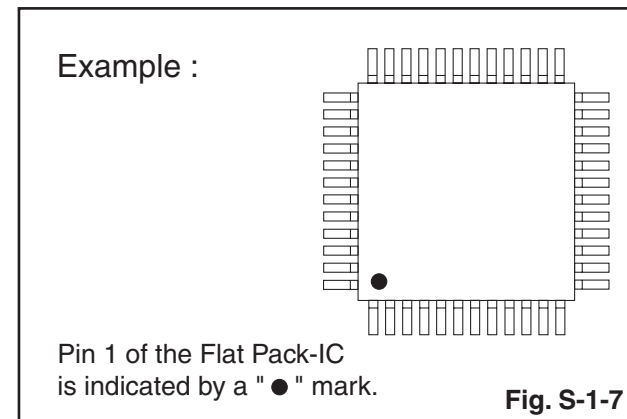
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins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

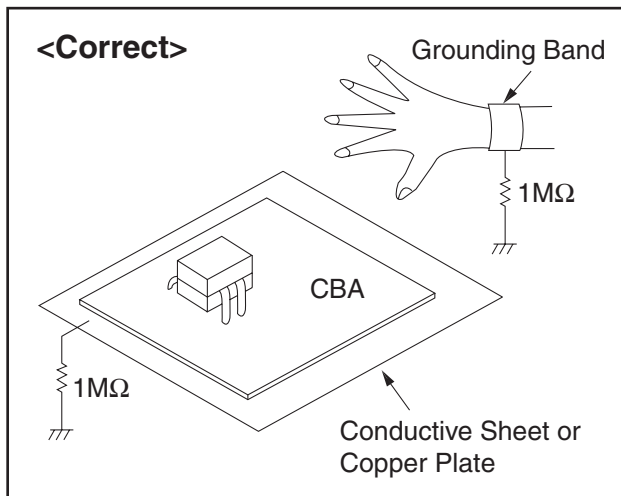
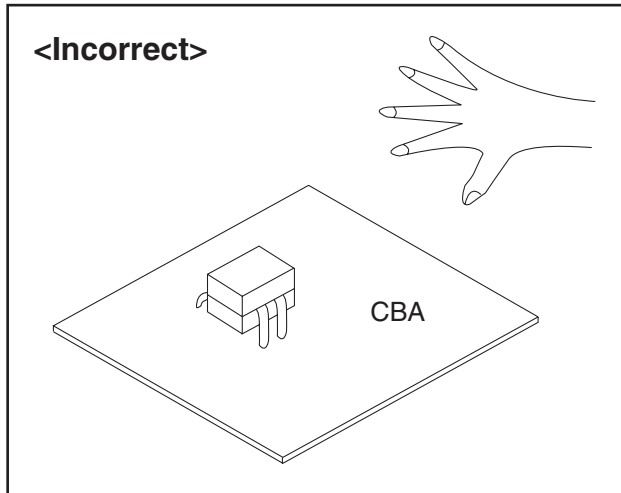
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

## 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.

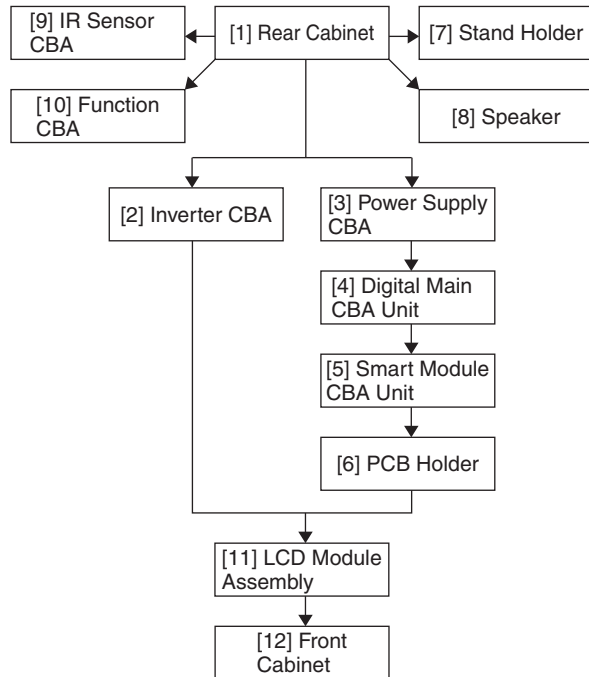




# CABINET DISASSEMBLY INSTRUCTIONS

## 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.



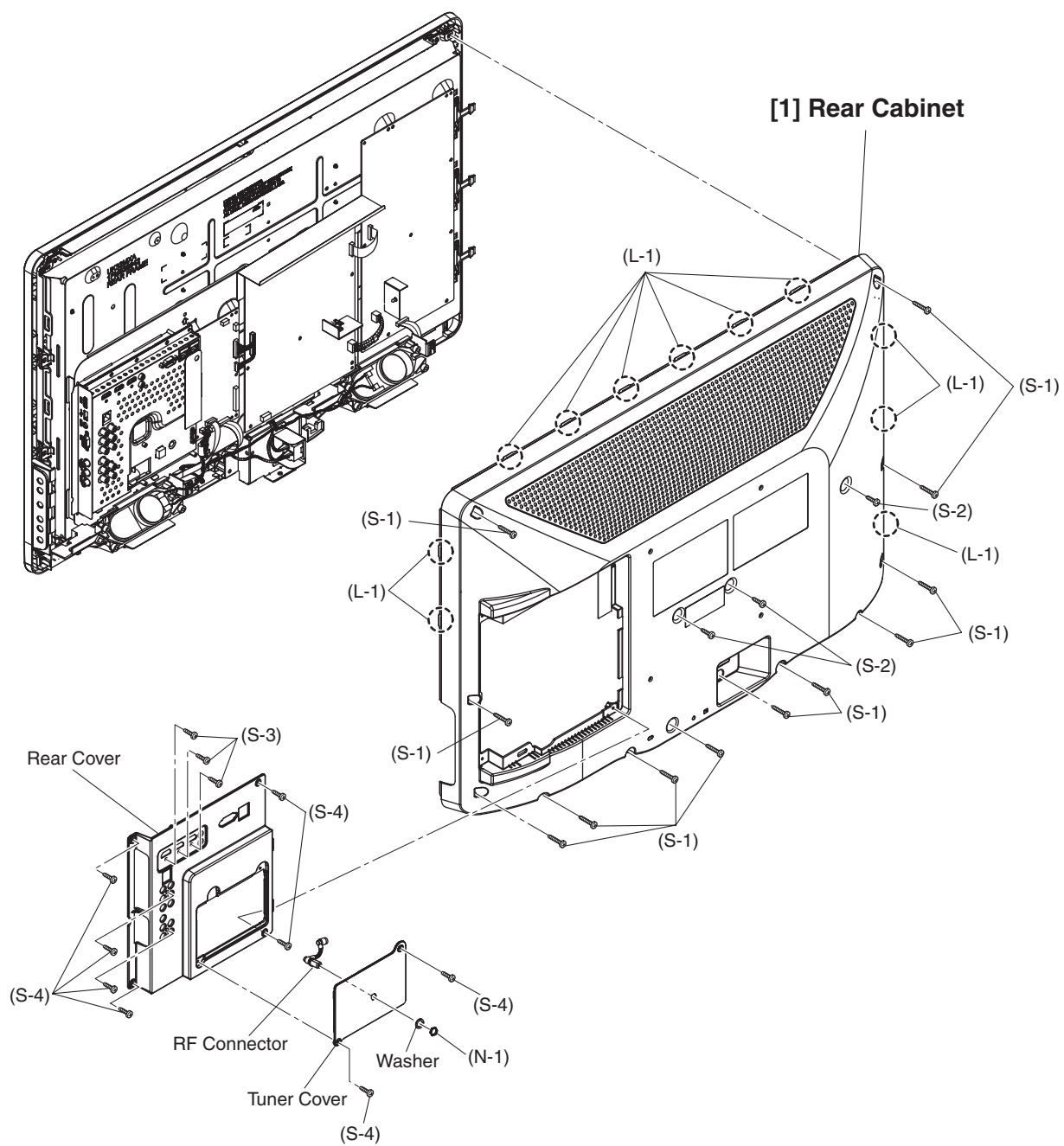
## 2. Disassembly Method

Step/ Loc. No.	Part	Fig. No.	Removal	Note
[1]	Rear Cabinet	D1	12(S-1), 3(S-2), 3(S-3), 8(S-4), (N-1) 11(L-1), Rear Cover, Tuner Cover, RF Connector, Washer	---
[2]	Inverter CBA	D2 D5	7(S-5), CN1001, CN1003, CN1100, CN1101, CN1102, CN1901	---
[3]	Power Supply CBA	D2 D5	5(S-6), CN601, CN651, Water Proof Cover	---
[4]	Digital Main CBA Unit	D2 D5	5(S-7), CN3003, CN3004, CN3801, CN3802, CN3901	---
[5]	Smart Module CBA Unit	D2	6(S-8), Separation Sheet	---
[6]	PCB Holder	D3	9(S-9)	---

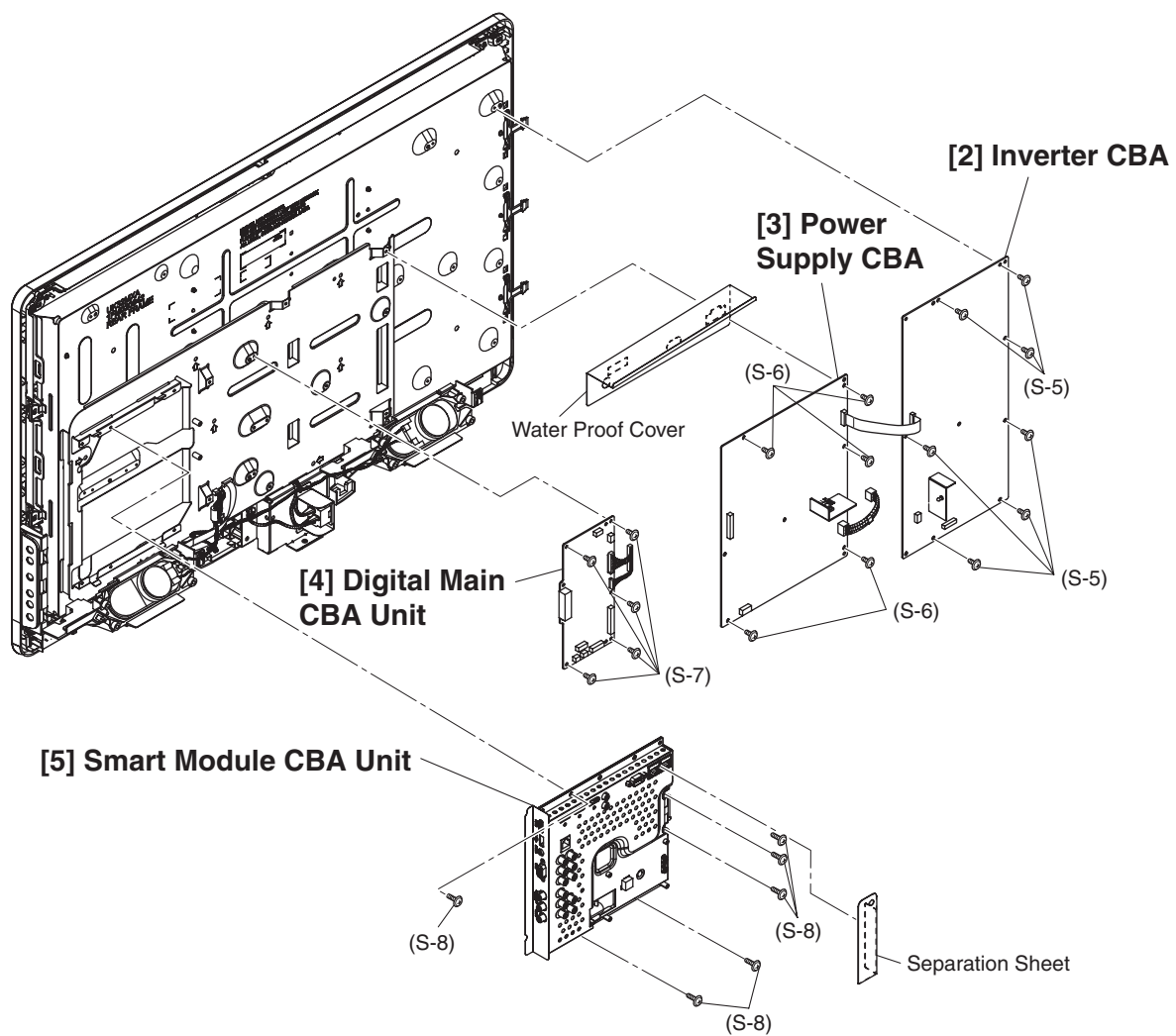
Step/ Loc. No.	Part	Fig. No.	Removal	Note
[7]	Stand Holder	D3	2(S-10), 2(S-11), CL601, AC Inlet Holder	---
[8]	Speaker	D4	4(S-12), Speaker Holder	---
[9]	IR Sensor CBA	D4 D5	CL103A	---
[10]	Function CBA	D4 D5	Function Knob, Knob Frame	---
[11]	LCD Module Assembly	D4	3(S-13)	---
[12]	Front Cabinet	D4	-----	---
↓	↓	↓	↓	↓
(1)	(2)	(3)	(4)	(5)

### Note:

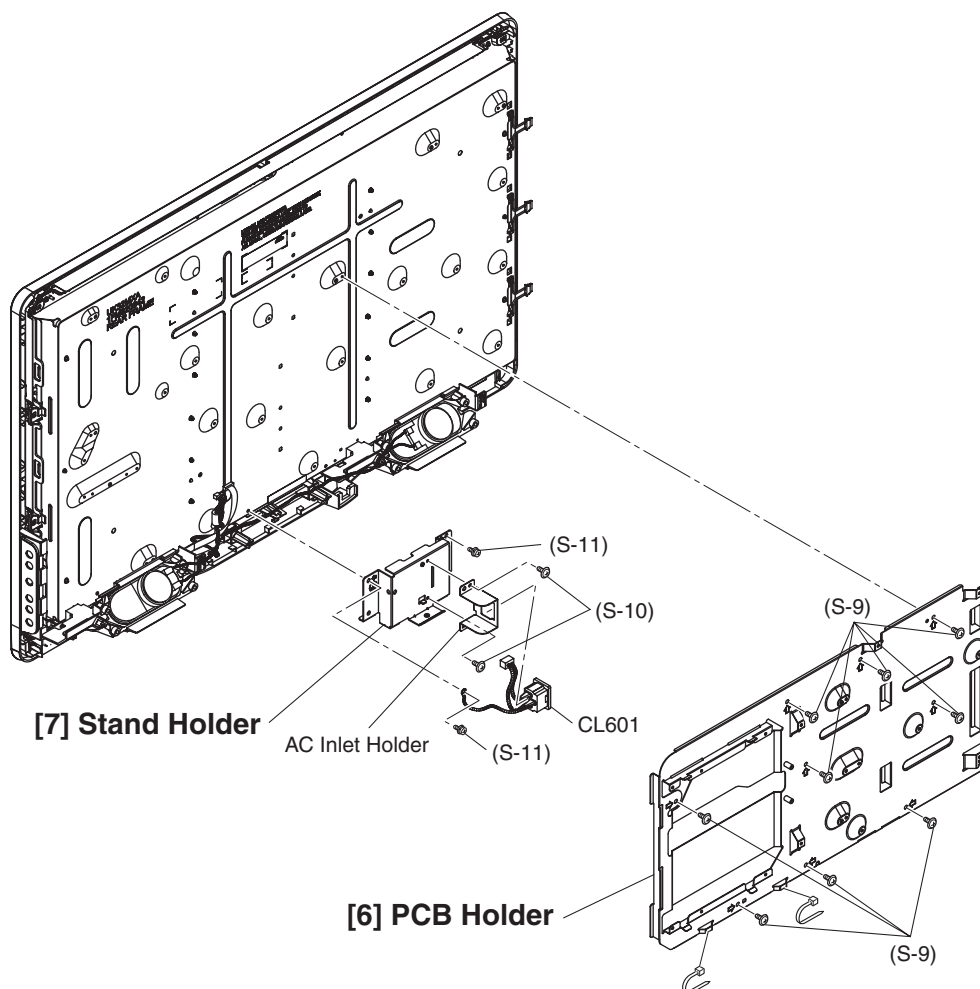
- (1) Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.
- (2) Parts to be removed or installed.
- (3) Fig. No. showing procedure of part location
- (4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.  
P = Spring, L = Locking Tab, S = Screw, H = Hex Screw, CN = Connector, N = Nut  
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."



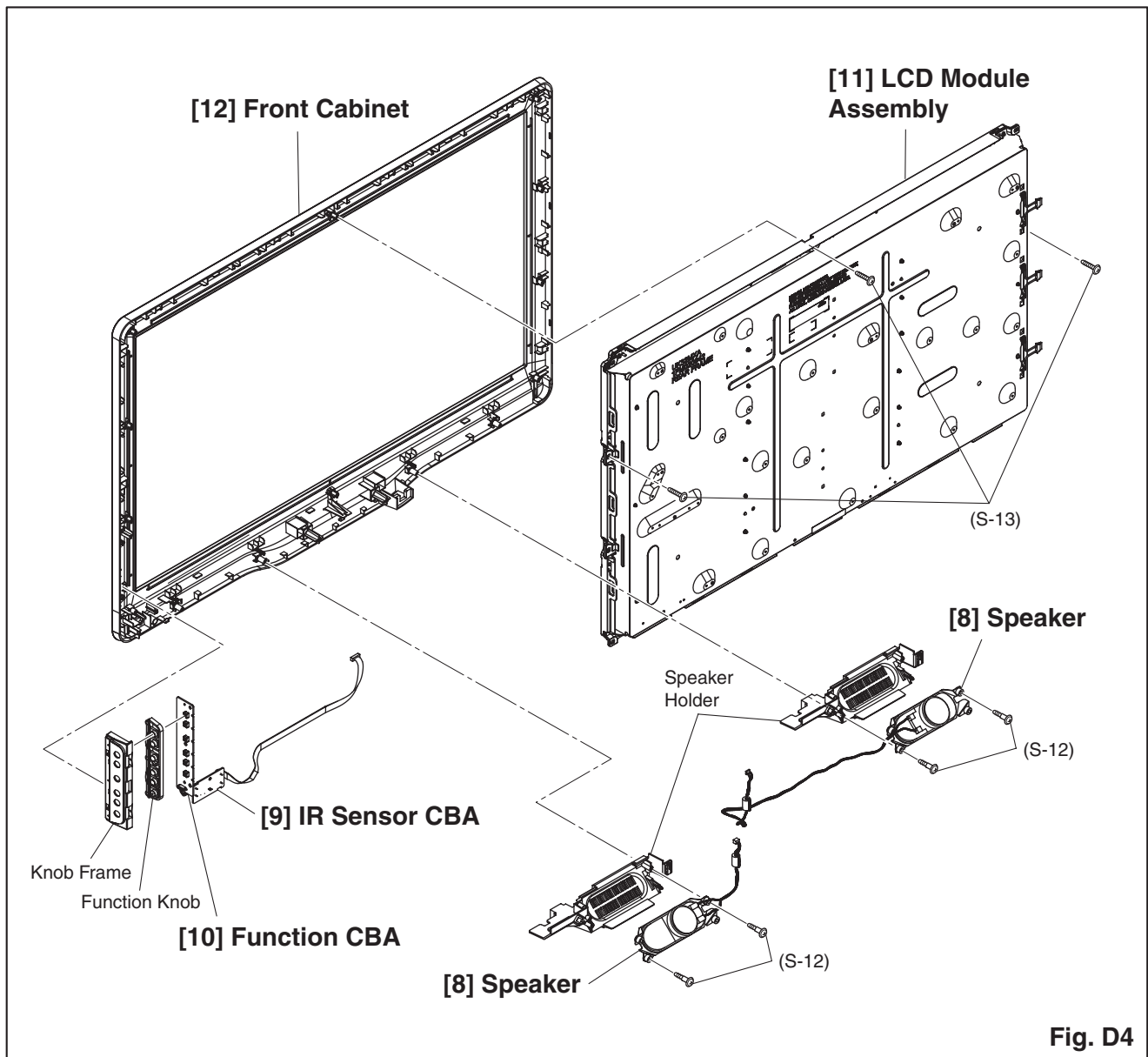
**Fig. D1**



**Fig. D2**

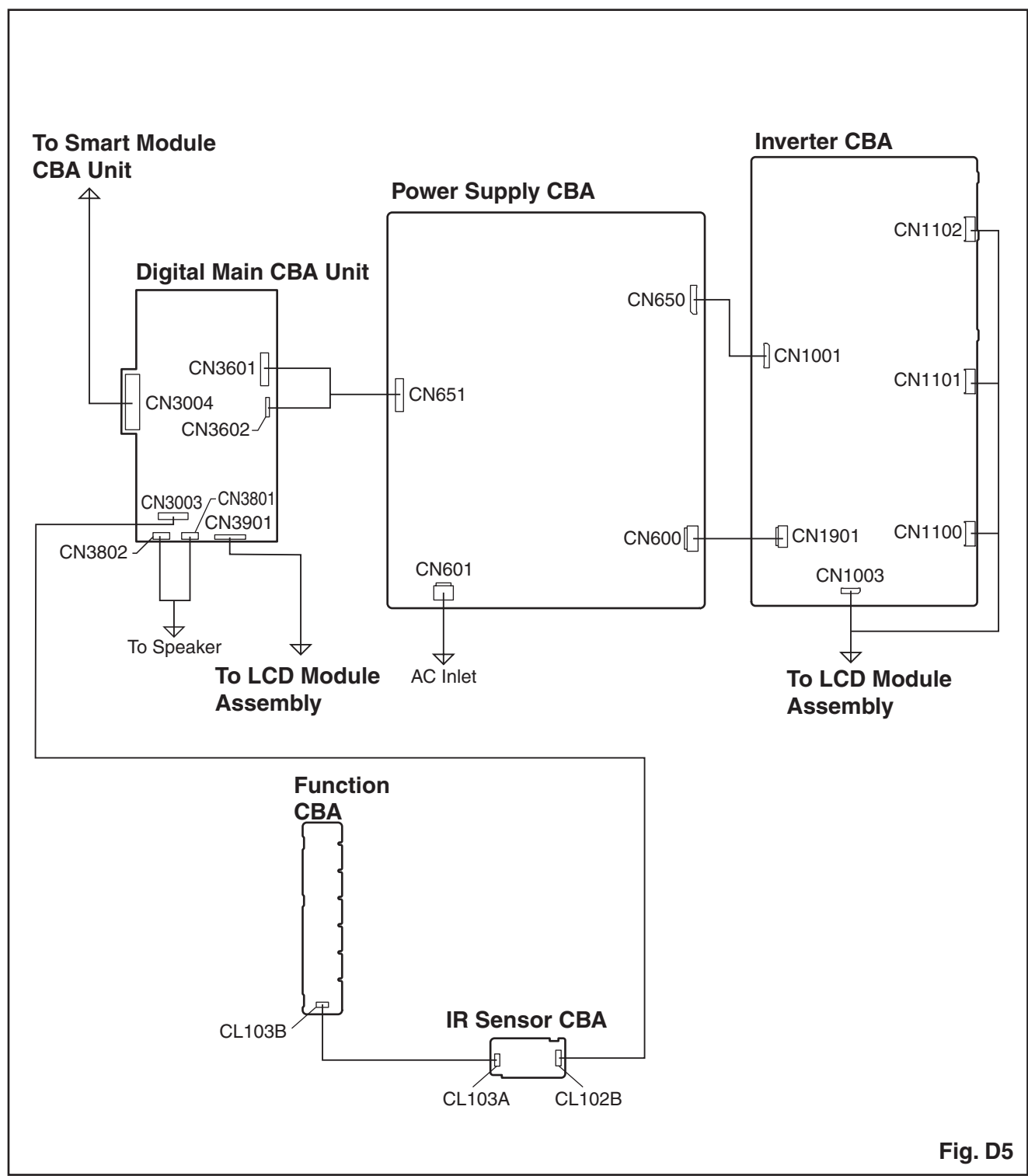


**Fig. D3**



**Fig. D4**

# TV 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. Set up 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 with Set Up Remote Control Unit

1. Turn the power on.
2. Press [0], [6], [2], [5], [9], [6] and [RECALL/INFO] buttons on the set up remote control unit in this order.
3. Select “Quality” - “BE Factory Mode” and press the [OK] button. The following screen appears.

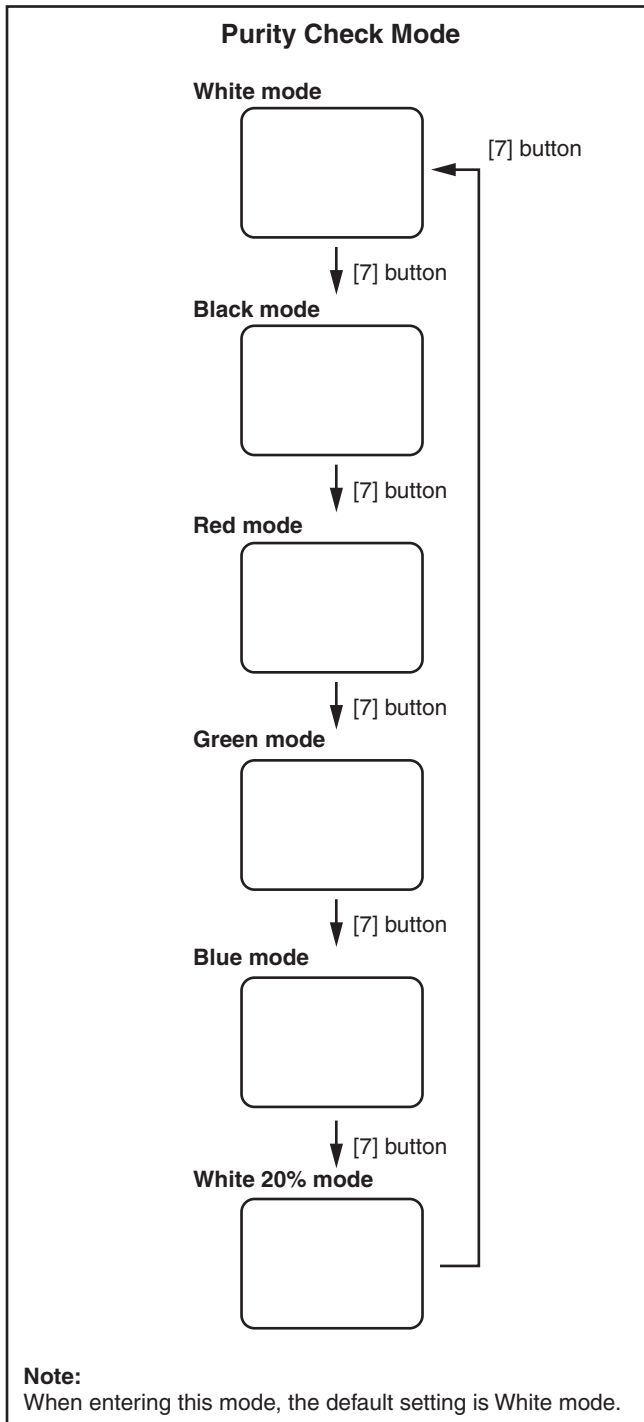
“\*” differs depending on the models.

Code:	*****_**_*_*_*_*_*_*_*_*
Pic code:	*****_**_*_*_*_*_*_*_*_*
Option code:	***_*_*_*_*_*_*_*_*
MIPS:	Push 0 key
Press "POWER" key to exit.	
Safety:	Safety_Non
Total Watch Time:	*****
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 set up remote control unit is pressed, the display changes as follows.

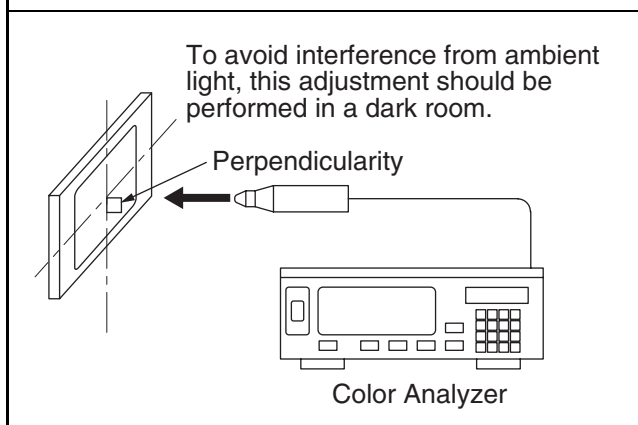


3. To cancel or to exit from the Purity Check Mode, press [BACK/PP] button.

## 2. VCOM Adjustment

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

**Figure**



1. Operate the unit for more than 60 minutes.
2. 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.
3. Enter the service mode.
4. Press [3] button on the set up remote control unit.
5. Press [CH + or -] buttons on the set up remote control unit so that the color analyzer value becomes minimum.
6. To cancel or to exit from the VCOM Adjustment, press [BACK/PP] button.



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

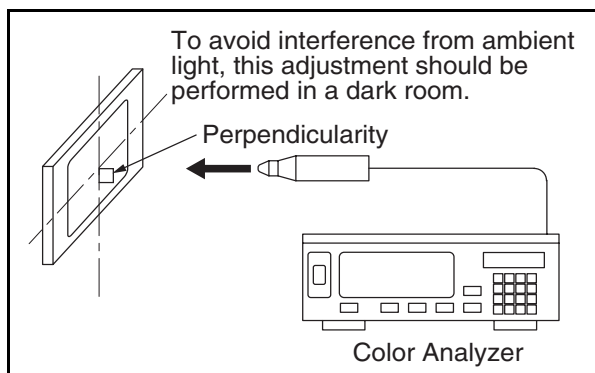
### 3. White Balance Adjustment

**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. (Rich MODE/100IRE Raster HDMI 1080i @ 60)
MODE setting of TV	Rich MODE
Ambient temperature	$25^{\circ}\text{C} \pm 5^{\circ}\text{C}$

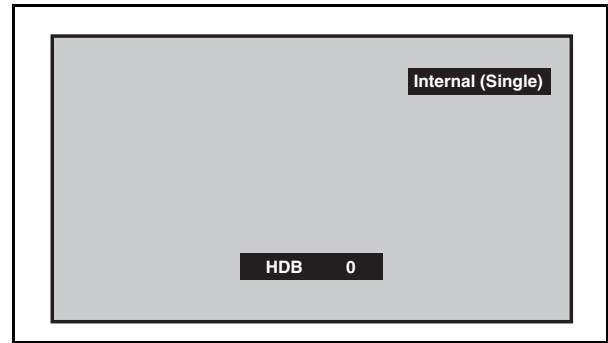
1. Operate the unit for more than 60 minutes.
2. Enter the service mode.
3. Press [VOL -] button two times on the set up remote control unit to select "Drive setting" mode. "Drive" appears in the screen.
4. Set the color analyzer at the CHROMA mode and zero point calibration. Bring the optical receptor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



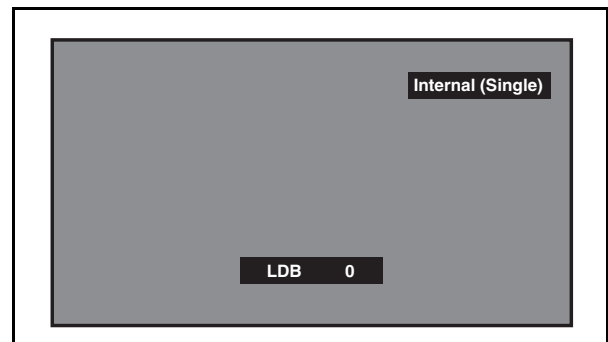
**Note:** The optical receptor must be set perpendicularly to the LCD Panel surface.

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/PP] button.

# HOW TO INITIALIZE THE LCD TV

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

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

**Note:** Disconnect any device from the USB Port before you conduct on this procedure.

1. Turn the power on.
2. Enter the service mode.
3. Press [RC5 GUEST] button on the set up remote control unit.
4. Press [RECALL/INFO] button on the set up remote control unit to initialize the LCD television.
5. After confirming that "INITIALIZED FINISH" appears on the screen, unplug the AC cord.

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

# HOW TO INITIALIZE THE SMART MODULE SETTINGS

**Note:**

Make sure to clone the setting data if necessary before you conduct on this procedure.  
Refer to the “HOSPITALITY TV MODE” for further detail.

1. Press [RC5 GUEST] button on the set up remote control unit.
2. Press [0], [6], [2], [5], [9], [6] and [RECALL/INFO] buttons on the set up remote control unit in this order to enter the service mode.
3. Press [▲], [▼], [▶] or [◀] button to select “Quality”.
4. Press [▲], [▼], [▶] or [◀] button to select “Initialize Settings” and press the [OK] button.

# FIRMWARE RENEWAL MODE

This section enables the upgrading of the TV software via USB, RF or IP. It also allows the configuration of the Auto Update feature to enable the TV to be automatically upgraded.

Guest TV Settings	Source	RF
PPV/VOD Options	Direction	USB
Installer TV Settings	RF Channel Number	IP
TV Clone	Upgrade Path	
TV Upgrade	Upgrade Type	
	SW Version Check	
	Start	
	Auto Update	

- Source: "RF", "USB", "IP" – This function allows you to select the Source from which the TV Upgrade data will be received. Like the TV Clone function, the RF option requires a PSG installed in the property head end to broadcast the data to the TVs. For more information, contact your P&F sales representative.

Guest TV Settings	Source	USB To TV
PPV/VOD Options	Direction	TV To USB
Installer TV Settings	RF Channel Number	
TV Clone	Upgrade Path	
TV Upgrade	Upgrade Type	
	SW Version Check	
	Start	
	Auto Update	

- Direction: "USB To TV", "TV to USB"

Guest TV Settings	Source	• USB
PPV/VOD Options	Direction	• USB To TV
Installer TV Settings	RF Channel Number	• 087
TV Clone	Upgrade Path	• Http://www.philips.com.tw
TV Upgrade	Upgrade Type	• All
	SW Version Check	• Yes
	Start	• >
	Auto Update	• Yes

- RF Channel Number

Guest TV Settings	Source	All
PPV/VOD Options	Direction	Software Update Package
Installer TV Settings	RF Channel Number	Software Asset Package
TV Clone	Upgrade Path	
TV Upgrade	Upgrade Type	
	SW Version Check	
	Start	
	Auto Update	

- Upgrade Type: "All", "Software Upgrade Package", "Software Asset Package"
- This section allows you to select the type of software to be upgraded to the TV.
  - If set to ALL, then all software types (Software Upgrade Package and Software Asset Package) will be upgraded automatically.
  - If set to Software Upgrade Package, there is an option to selectively upgrade individual software components such as main software, standby software and back-end software.
  - If set to Software Asset Package, there is an option to selectively upgrade individual software assets such as Hotel Logo, Channel Logo, Welcome Logo, Customizable UI, Programmable UI and SmartModule Clone Data.

Guest TV Settings	Source	• USB
PPV/VOD Options	Direction	• USB To TV
Installer TV Settings	RF Channel Number	• TV087
TV Clone	Upgrade Path	• Http://www.philips.com.tw
TV Upgrade	Upgrade Type	• All
	SW Version Check	• Yes
	Start	• >
	Auto Update	• Yes

- SW Version Check: "Yes", "No" - If set to Yes, this feature causes the TV to perform a version check of the TV upgrade software to ensure that only a newer version will be installed.

△	
<div>Guest TV Settings</div> <hr/> <div>PPV/VOD Options</div> <hr/> <div>Installer TV Settings</div> <hr/> <div>TV Clone</div> <hr/> <div><b>TV Upgrade</b></div>	Source • USB
	Direction • USB To TV
	RF Channel Number • TV087
	Upgrade Path • Http://www.philips.com.tw
	Upgrade Type • All
	SW Version Check • Yes
	Start • >
	Auto Update • Yes
▽	

- **Start** - This function will initiate the TV upgrading process.

△	
<div>Guest TV Settings</div> <hr/> <div>PPV/VOD Options</div> <hr/> <div>Installer TV Settings</div> <hr/> <div>TV Clone</div> <hr/> <div><b>TV Upgrade</b></div>	Source • USB
	Direction • USB To TV
	RF Channel Number • TV087
	Upgrade Path • Http://www.philips.com.tw
	Upgrade Type • All
	SW Version Check • Yes
	Start • >
	Auto Update • <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
▽	

- **Auto Update: “Yes”, “No”** - This function enables/disables the Auto Update feature of the TV. If set to Yes, then Auto Update will automatically check for new TV upgrades and upgrade the TV software and/or clone data if newer versions are found. Like all previous RF download functions, this too requires a PSG to be installed in the property head end.

△	
<div>Guest TV Settings</div> <hr/> <div>PPV/VOD Options</div> <hr/> <div>Installer TV Settings</div> <hr/> <div>TV Clone</div> <hr/> <div><b>TV Upgrade</b></div>	Direction • USB To TV
	RF Channel Number • TV087
	Upgrade Path • Http://www.philips.com.tw
	Upgrade Type • All
	SW Version Check • Yes
	Start • >
	Auto Update • No
	Auto Update RF Channel • <input type="text" value="087"/>
▽	

- **Auto Update RF Channel:** This function selects the RF channel number where the TV will search for Auto Update data (if Auto Update is enabled).

# HOSPITALITY TV MODE

## TV to USB settings

- The channel map and all other settings except for the factory setting will be copied from TV to USB storage device.
- The Clone data will be stored in the root directory of the USB storage device.
- The picture data such as logos will be stored in “BUH\_Logos” file and any other setting such as the channel map will be stored in “BUH\_SmartSettings” 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 cloning process.
- Audio and Video will be muted during the cloning process.

### How to clone 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 set up remote control to display the menu.
4. Select “TV Clone”.
5. Select “TV to USB” and press the [OK] button.
6. After the successful completion, “Setting copied to USB” message appears on the screen.

## USB to TV settings

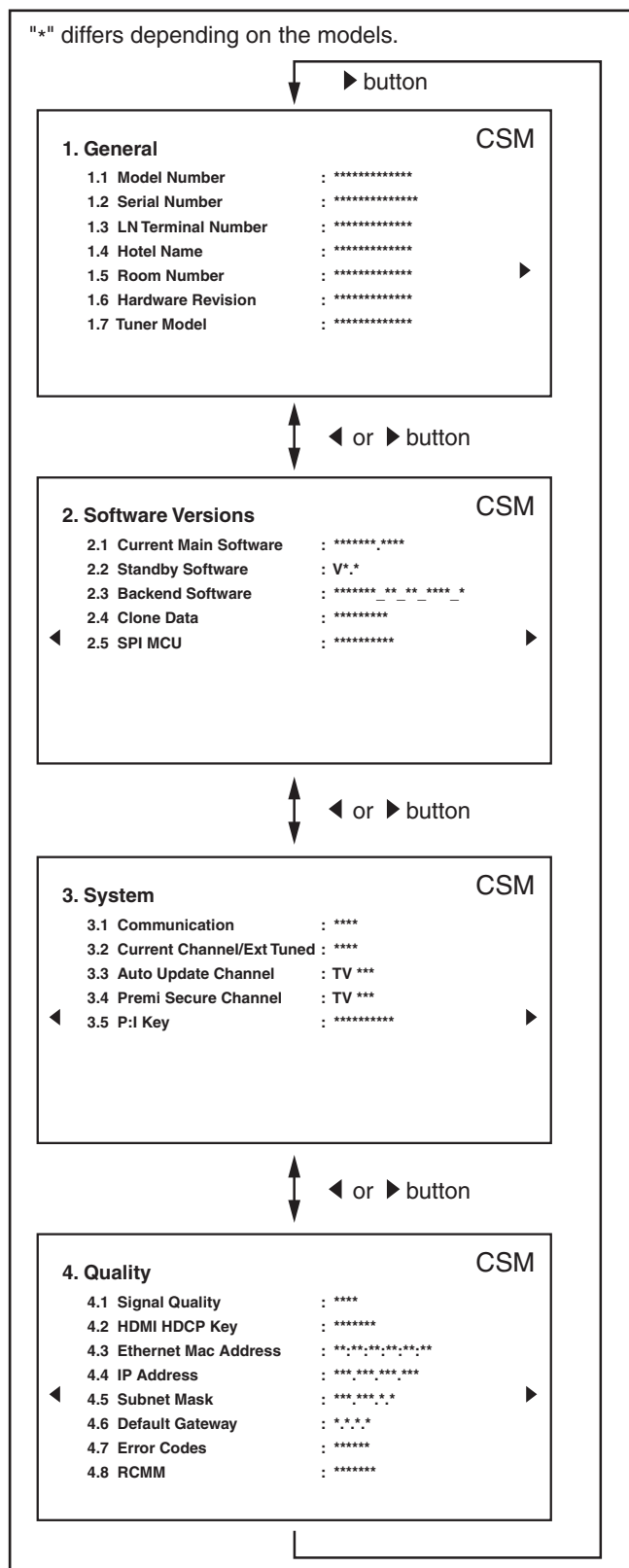
- The channel map and all other settings except for the factory setting will be copied from USB storage device to TV.
- All the key input and the shutdown timers will be invalid during the cloning process.
- Audio and Video will be muted during the cloning process.
- When illegal data exist in the file, the cloning process will be aborted.
- After the successful completion of the cloning 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 set up remote control to display the menu screen.
4. Select “TV Clone”.
5. Select “Source to TV” and press [OK] button.
6. 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.

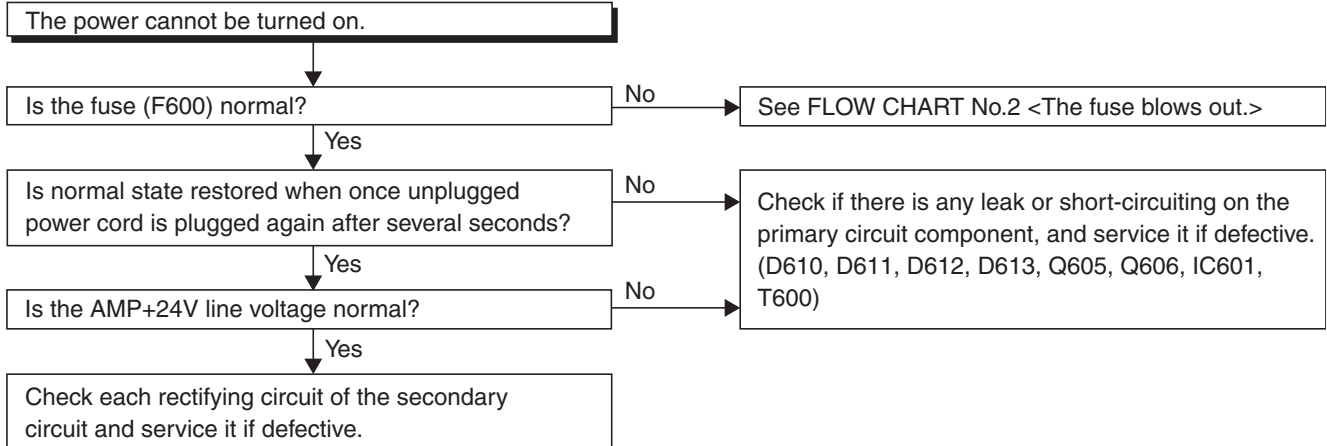
## Status menu screen (optional)

1. Turn the power on.
2. Press the [RECALL/INFO] button on the set up remote control to display the status menu.  
You can switch the screen by using [▶] or [◀] button as shown below.
3. Press the [RECALL/INFO] button again to cancel the status menu.

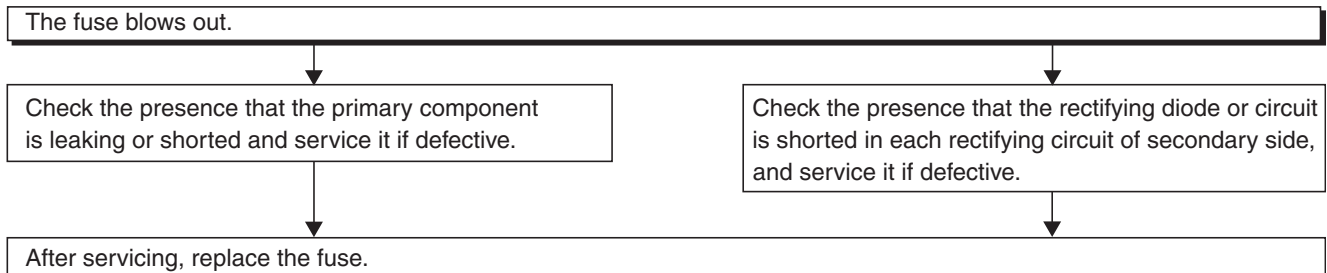


# TROUBLESHOOTING

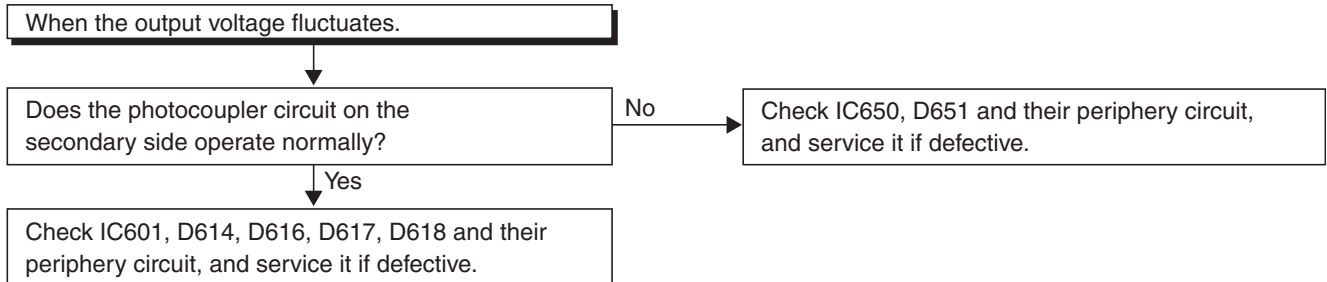
## FLOW CHART NO.1



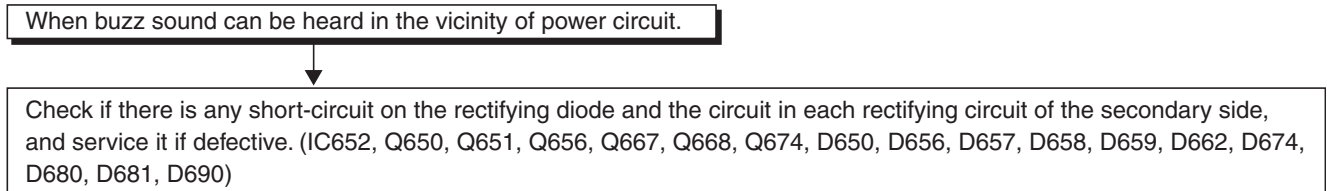
## FLOW CHART NO.2



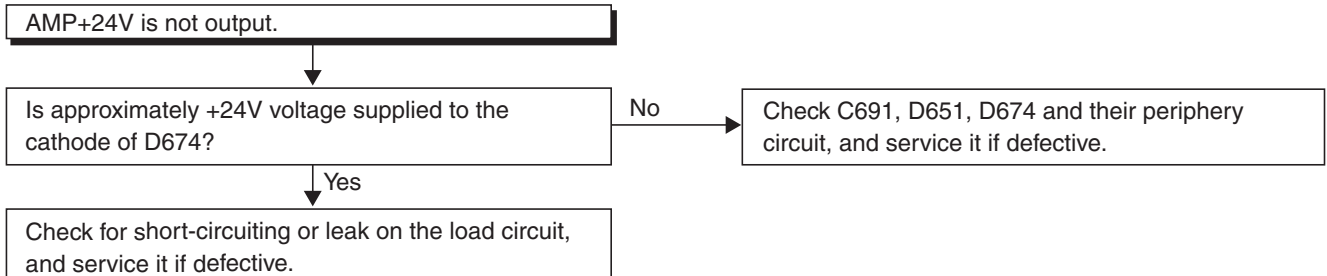
## FLOW CHART NO.3



## FLOW CHART NO.4

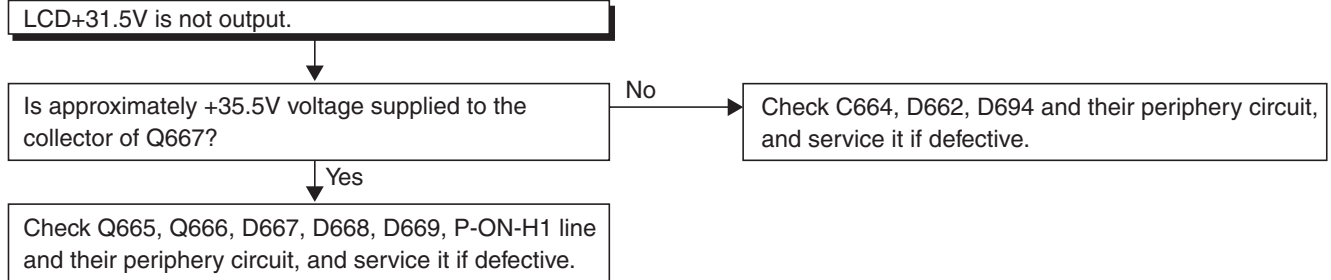


## FLOW CHART NO.5

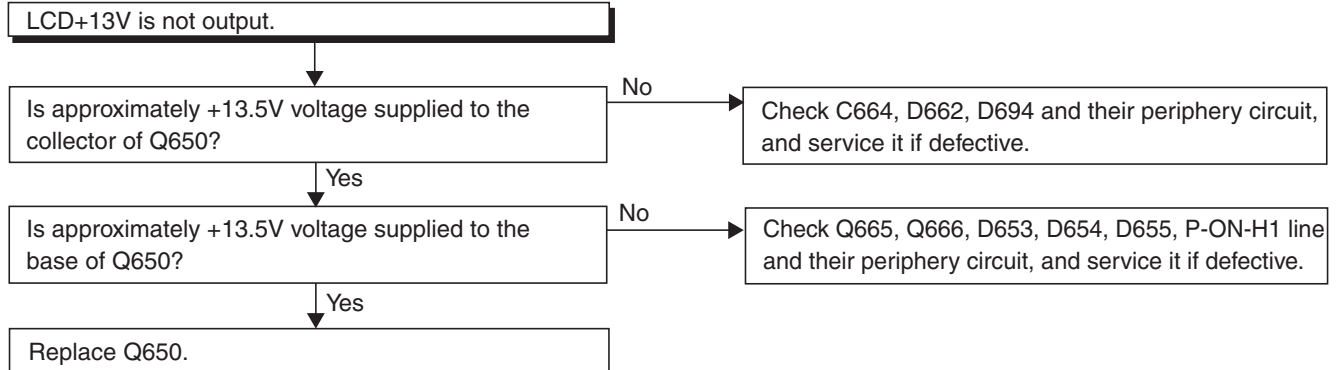




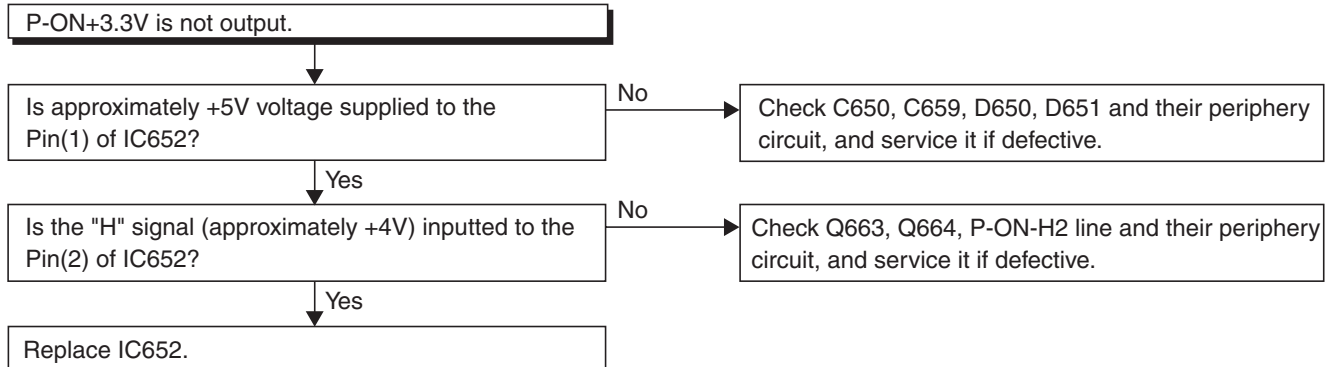
#### FLOW CHART NO.6



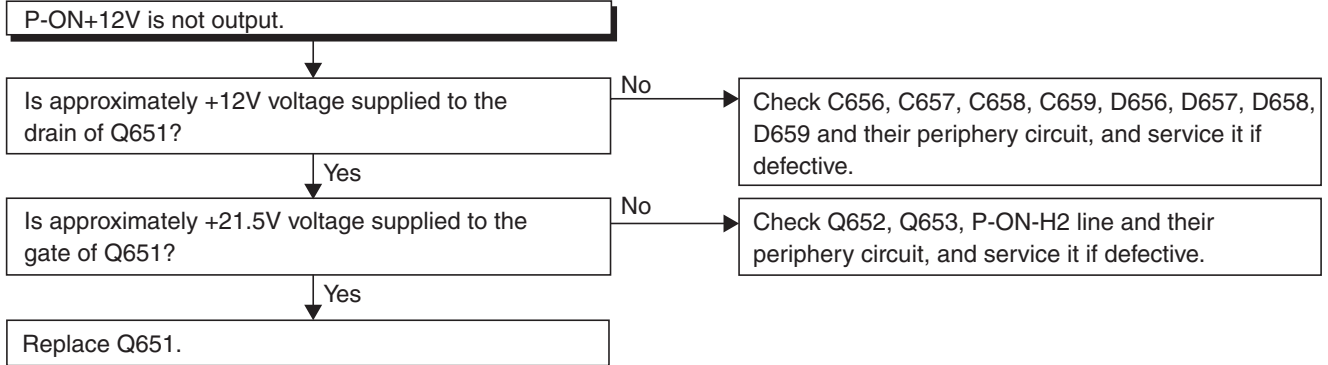
#### FLOW CHART NO.7



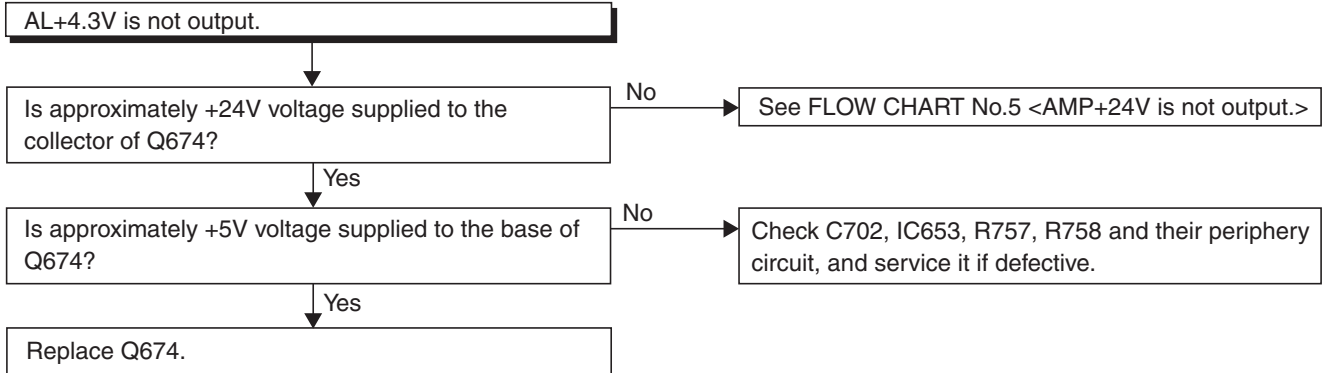
#### FLOW CHART NO.8



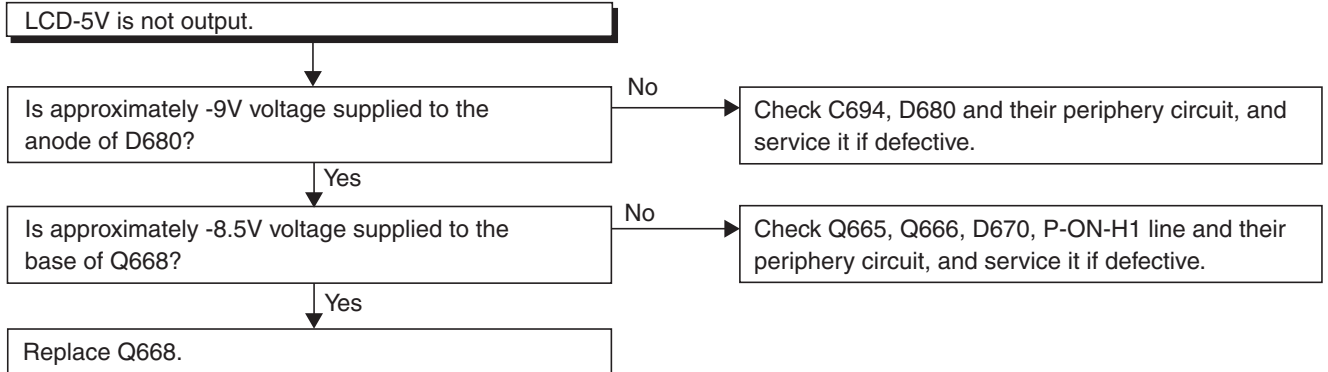
#### FLOW CHART NO.9



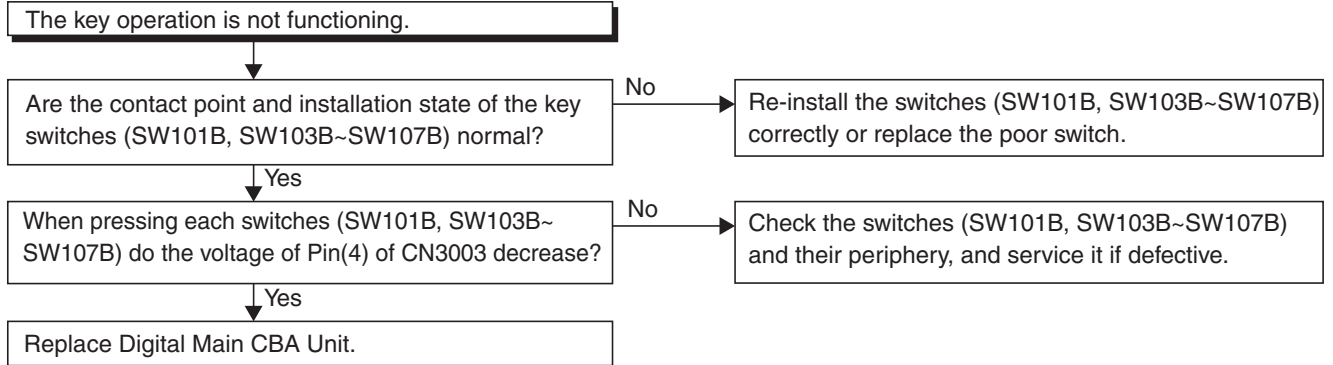
#### FLOW CHART NO.10



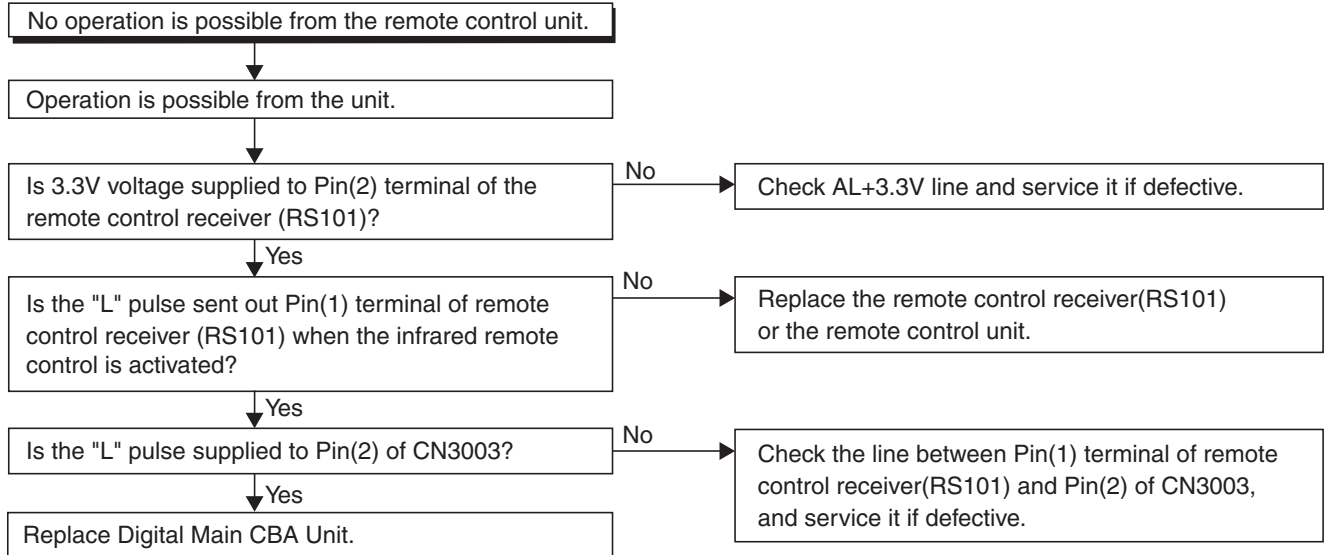
#### FLOW CHART NO.11



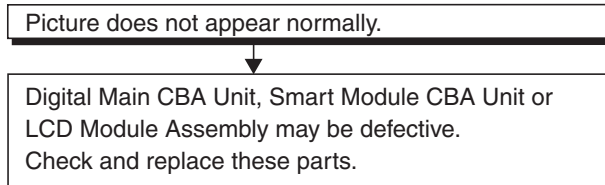
#### FLOW CHART NO.12



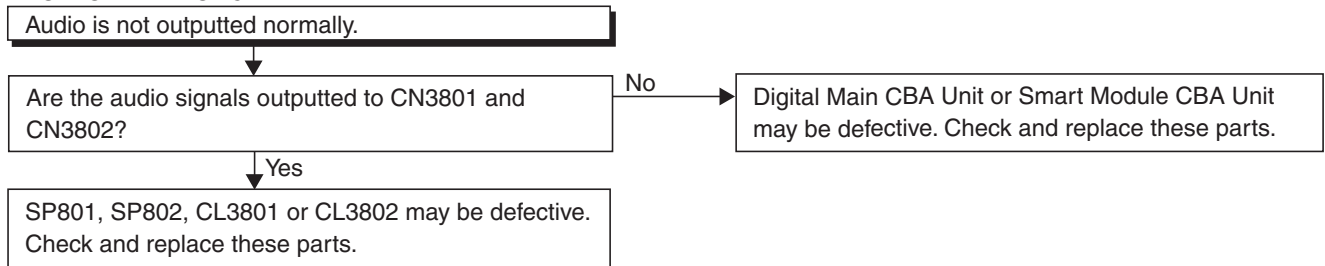
#### FLOW CHART NO.13



#### FLOW CHART NO.14

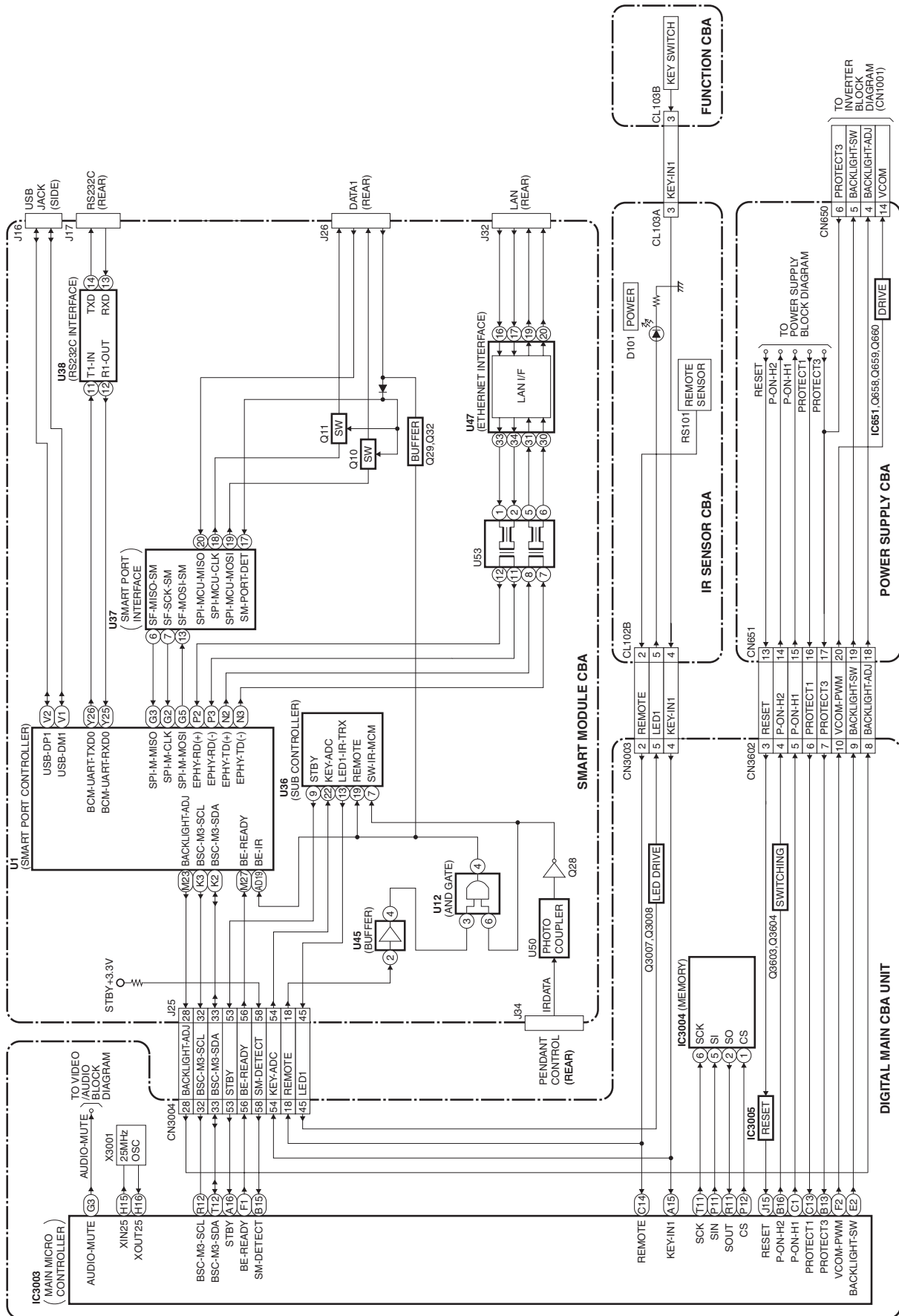


#### FLOW CHART NO.15

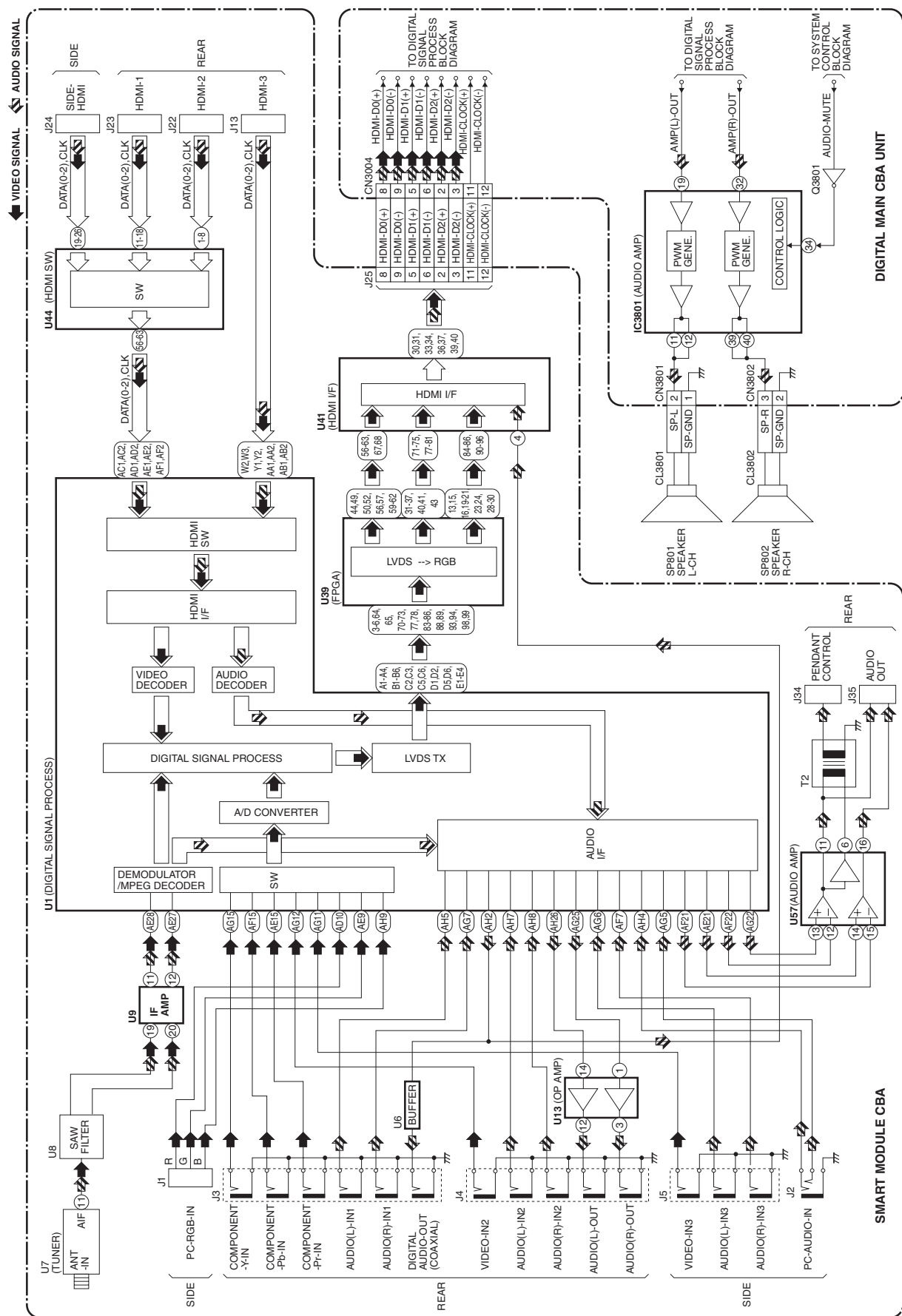


# BLOCK DIAGRAMS

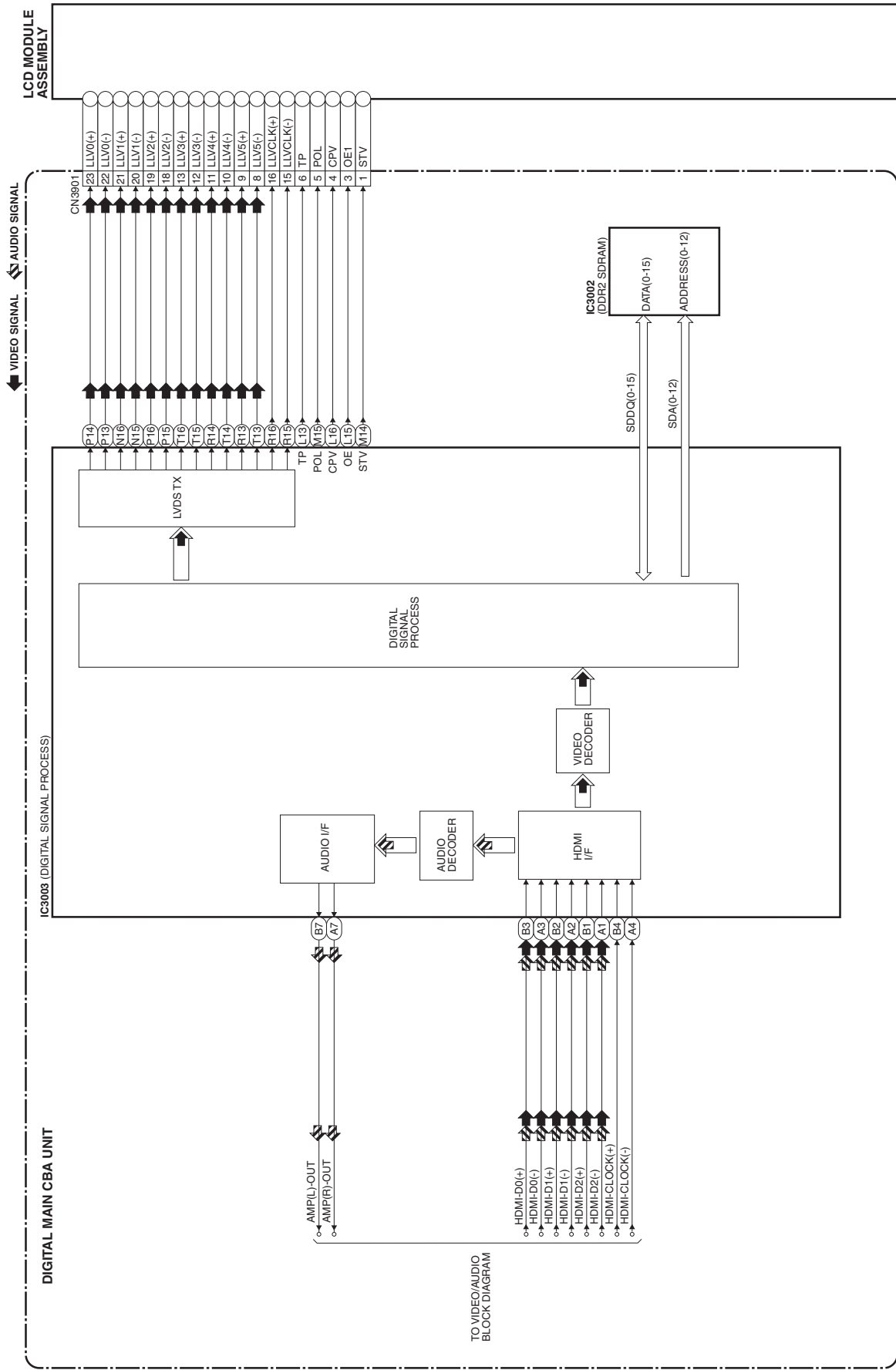
## 1. System Control Block Diagram



## 2. Video/Audio Block Diagram



### 3. Digital Signal Process Block Diagram

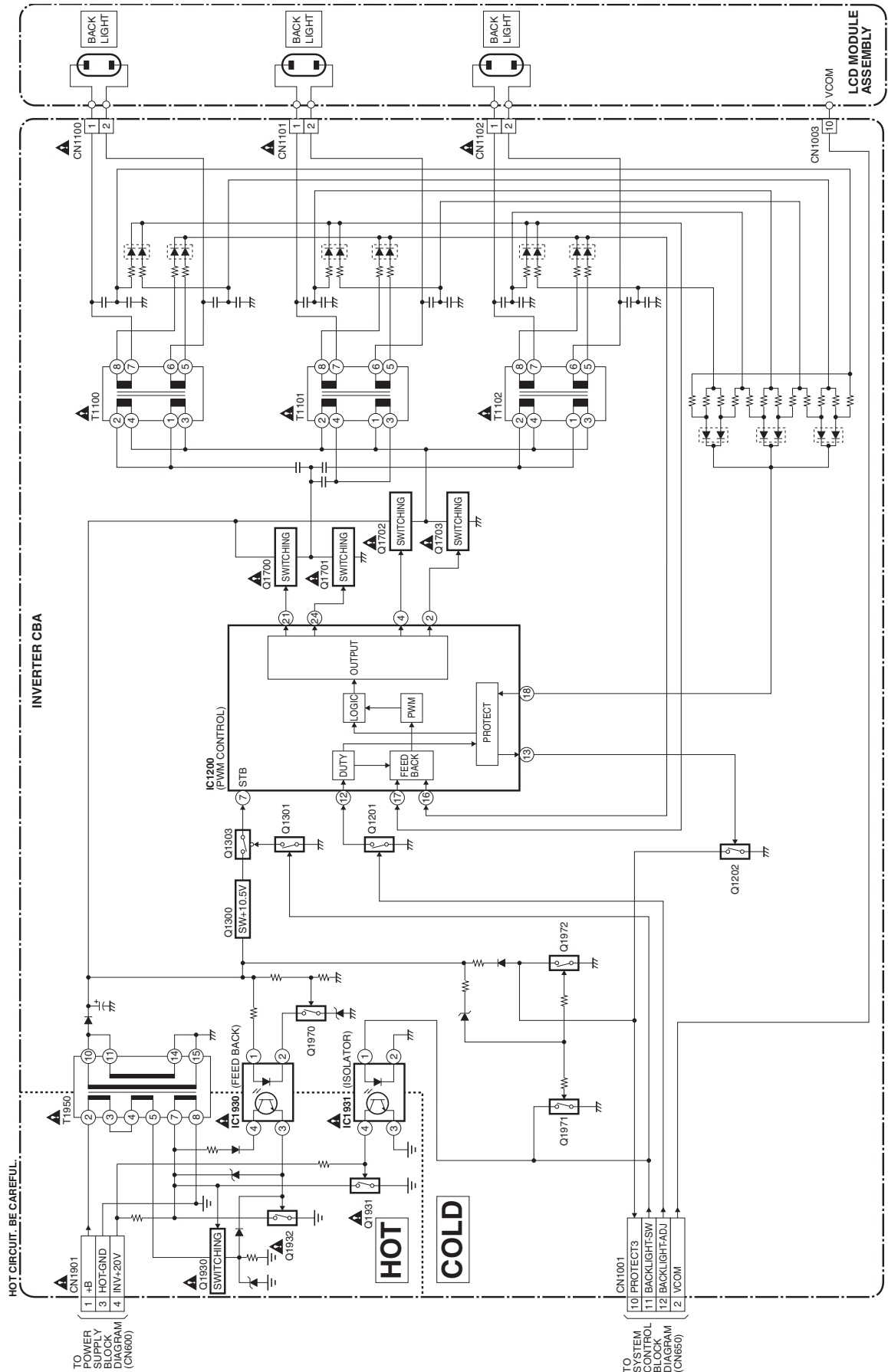


## 4. Inverter Block Diagram (main Inverter CBA)

### 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).

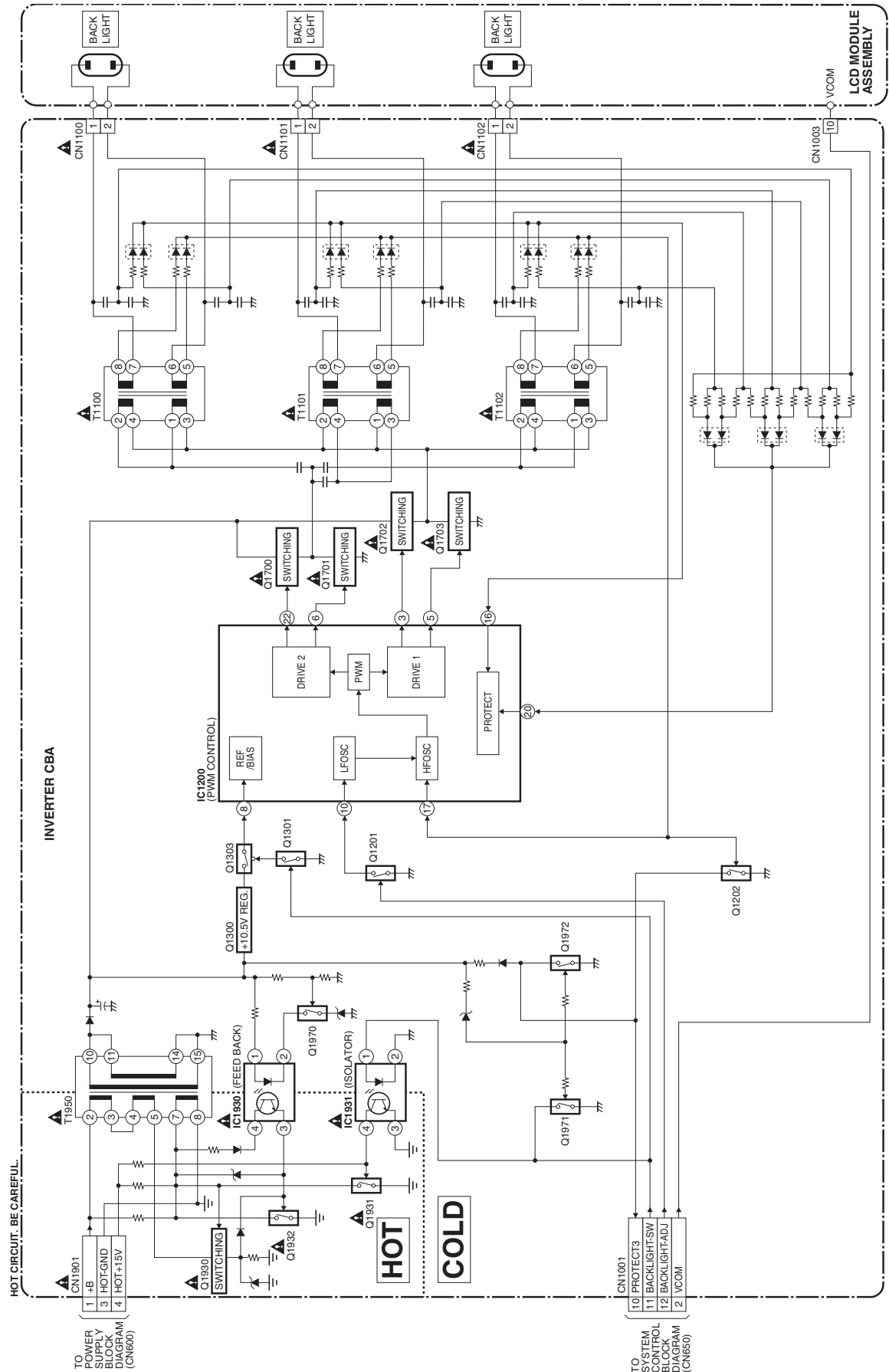


## 4. Inverter Block Diagram (sub Inverter CBA)

### 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. 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).





## 5. Power Supply Block Diagram

**CAUTION !**

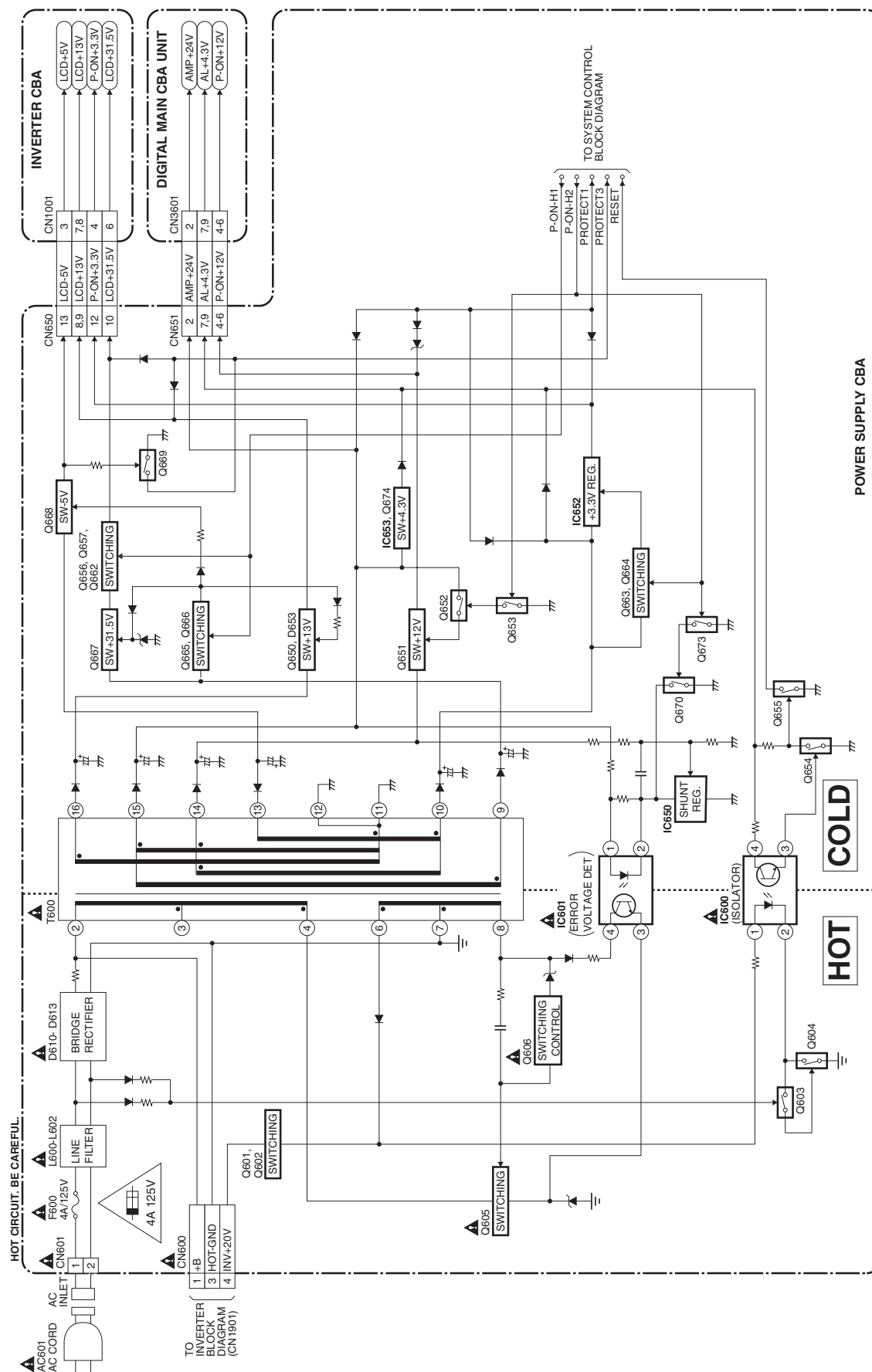
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F600) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power 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  $\mu F$  ( $P = 10^{-6} \mu F$ ).
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.

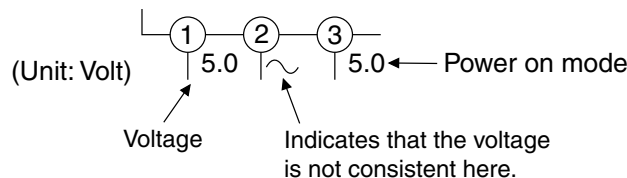
If Main Fuse (F600) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

### 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.:

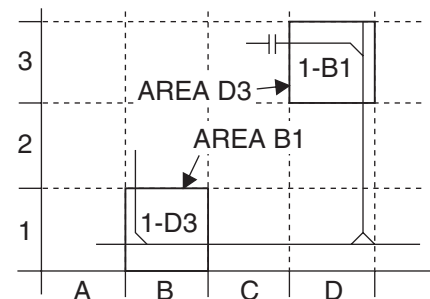


### 5. How to read converged lines

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.

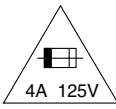
⊗ : Used to indicate a test point with no test pin.

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

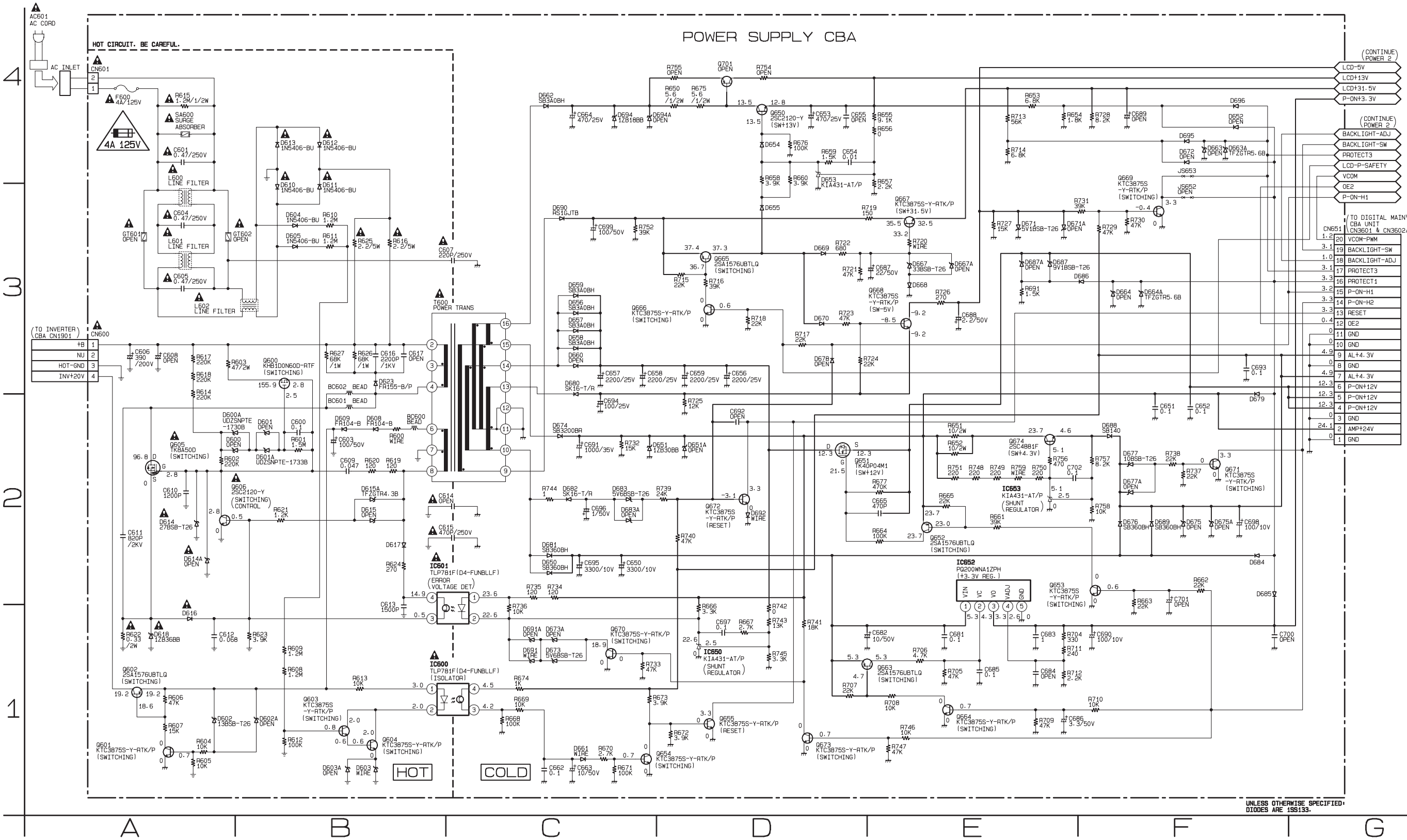
The reference number of parts on Schematic Diagrams/CBA can be retrieved by application search function.

Power Supply 1 Schematic 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.



UNLESS OTHERWISE SPECIFIED,  
DIODES ARE 1SS133.

## 4



### Inverter Schematic Diagram (main Inverter CBA)

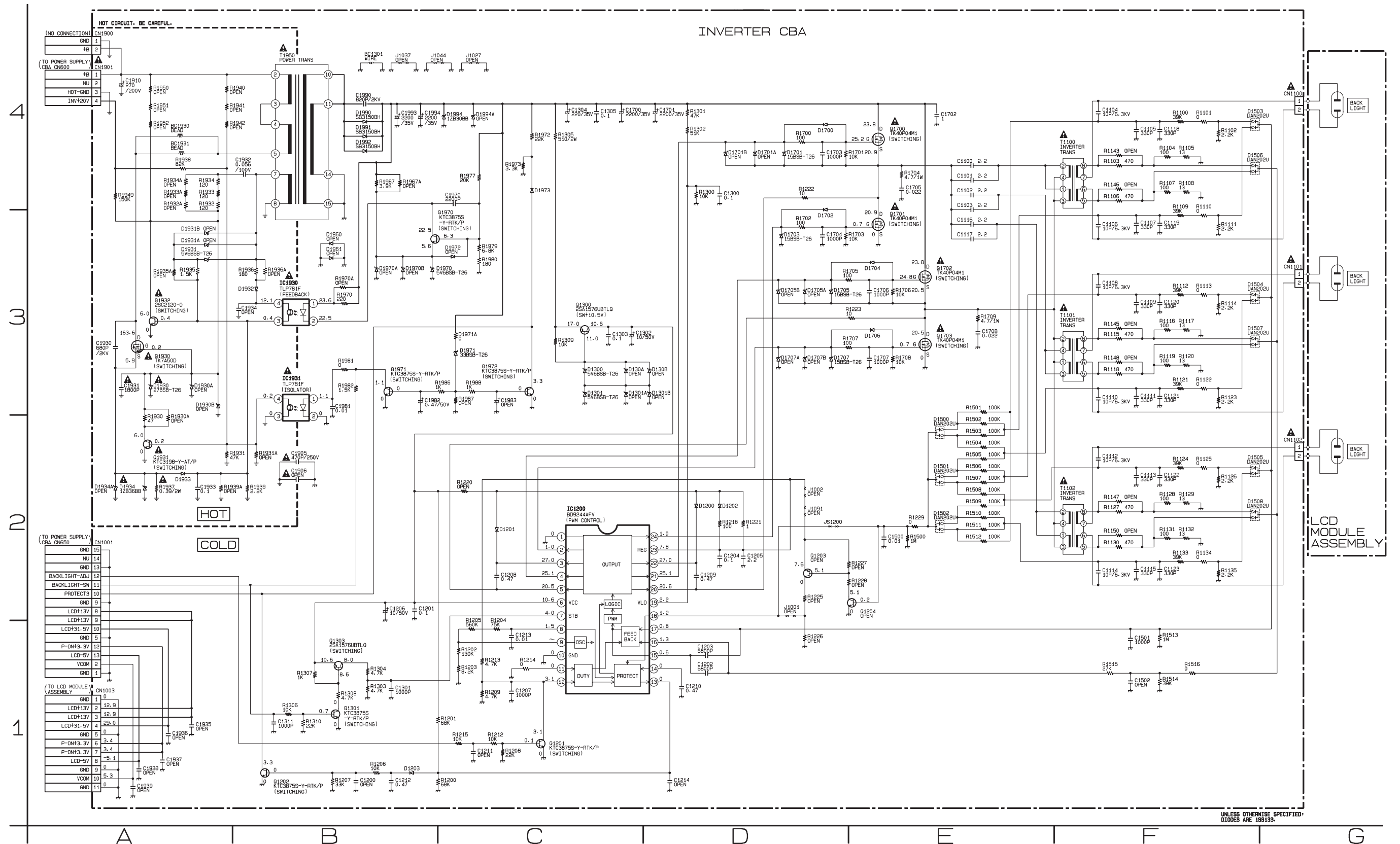
**NOTE:**

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)

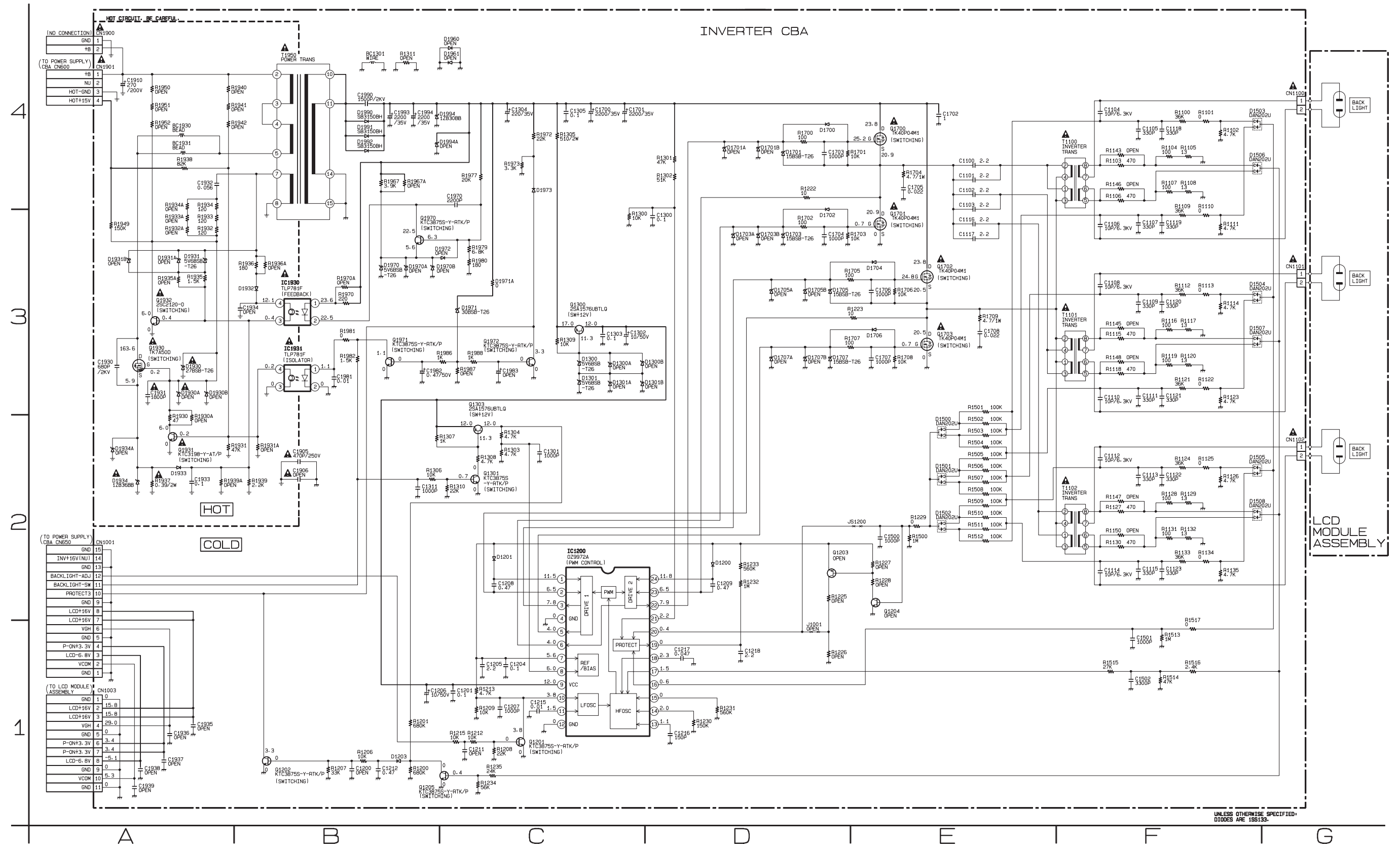
**NOTE:**

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.**

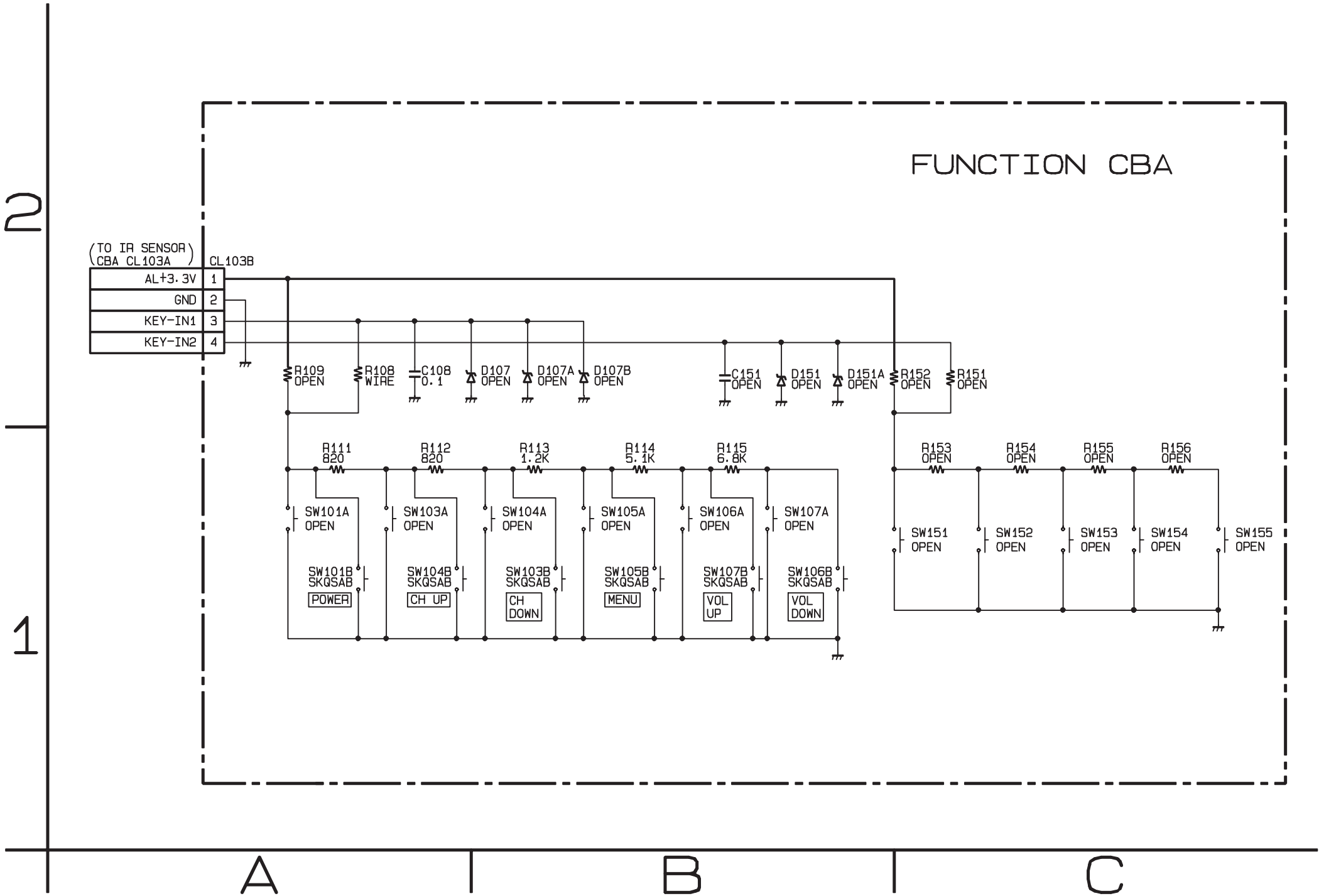
For the main CBA, the last digit of the board number, which is engraved on every board, should be a number(e.g. BA17F4F0103 2).

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).



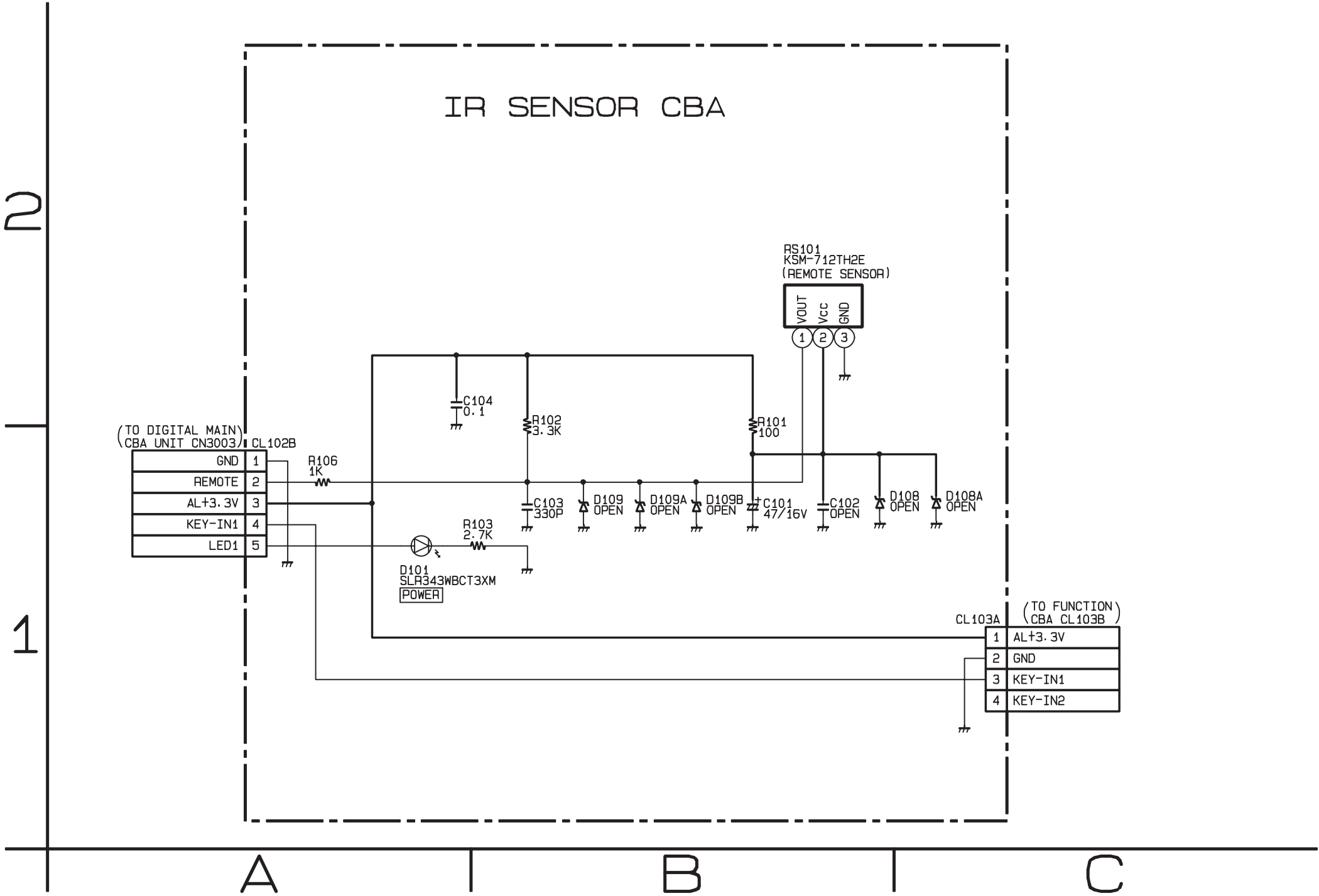


Function Schematic Diagram



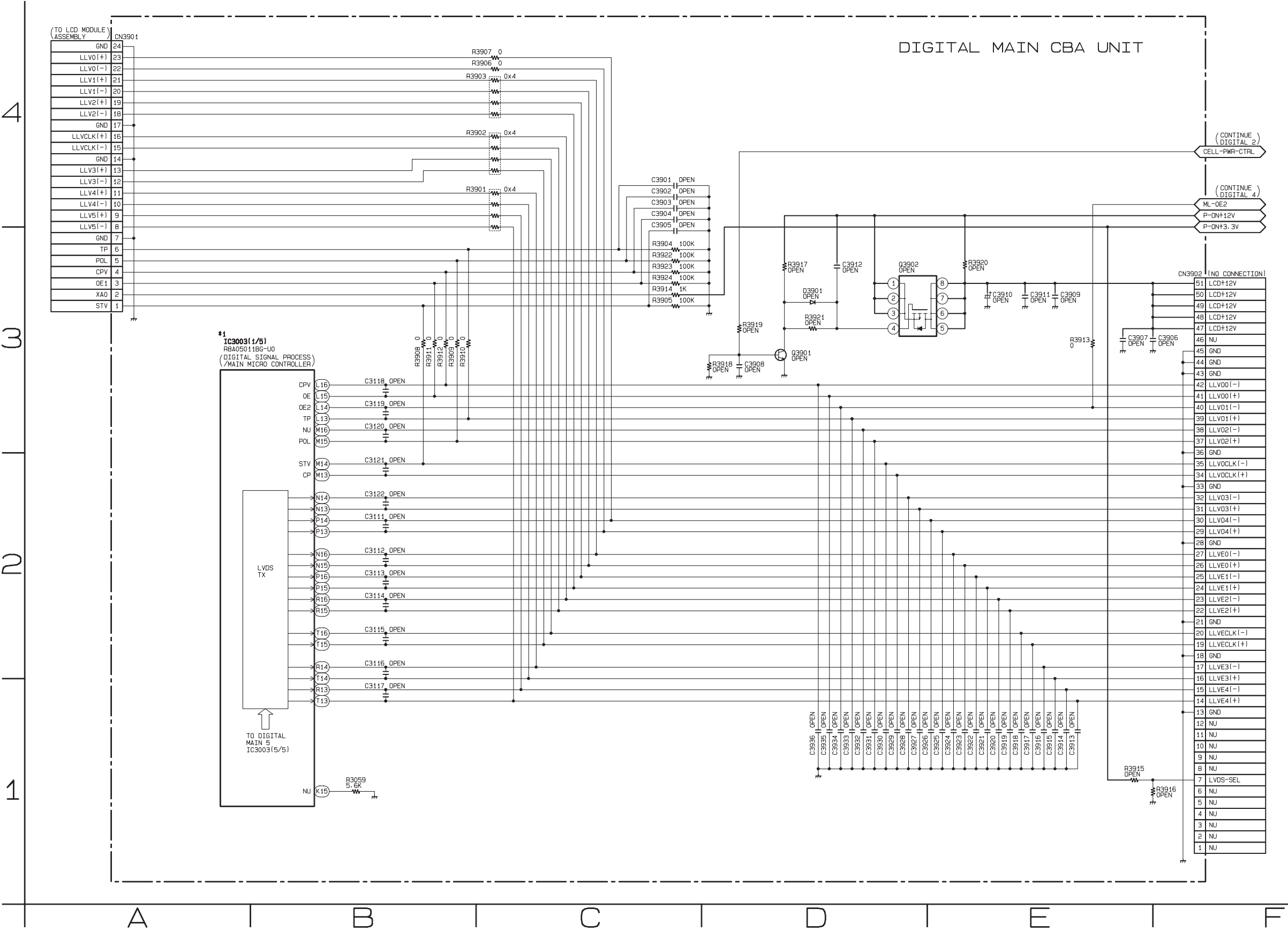


IR Sensor Schematic Diagram



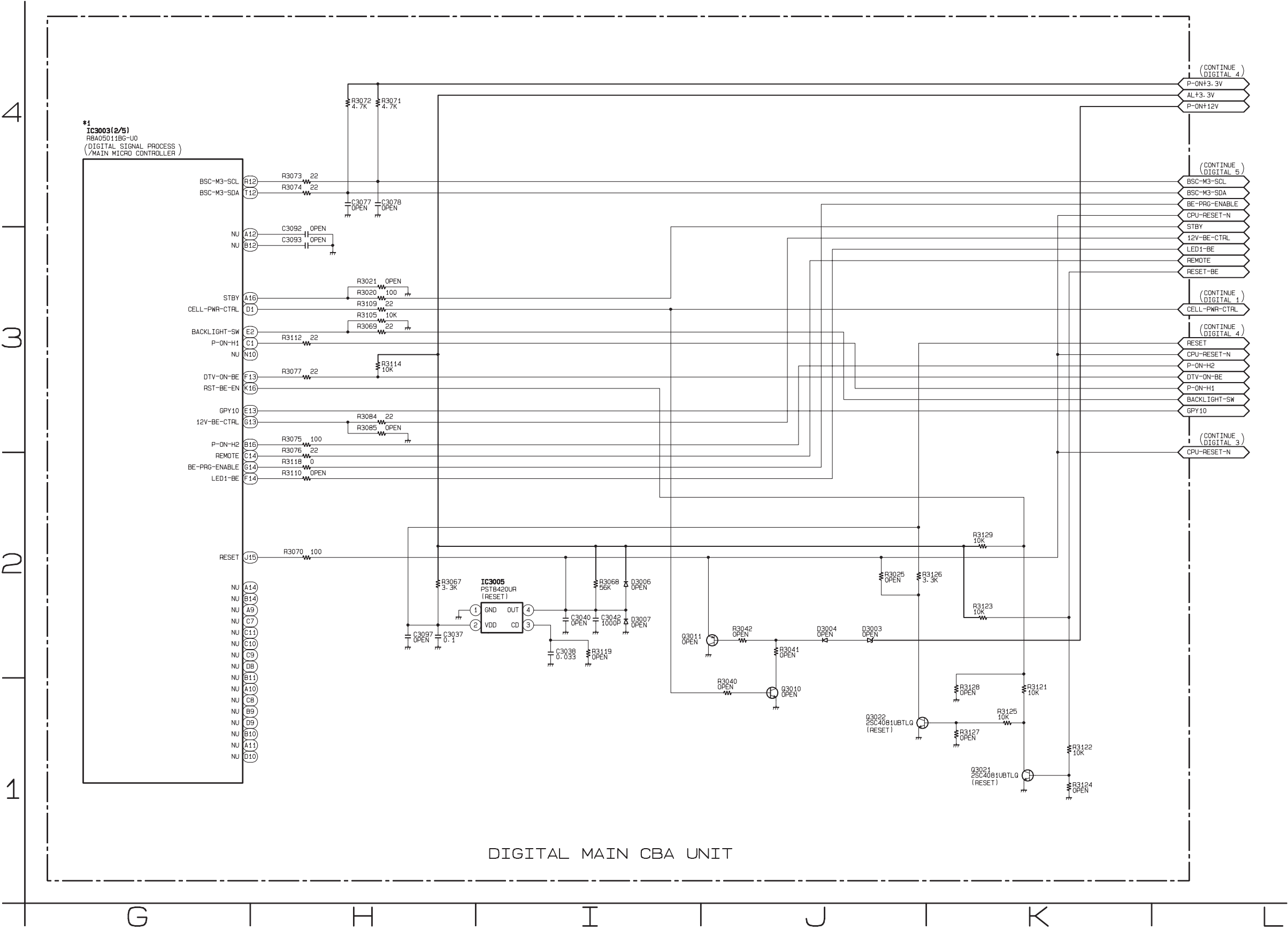
Digital Main 1 Schematic Diagram

\*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.



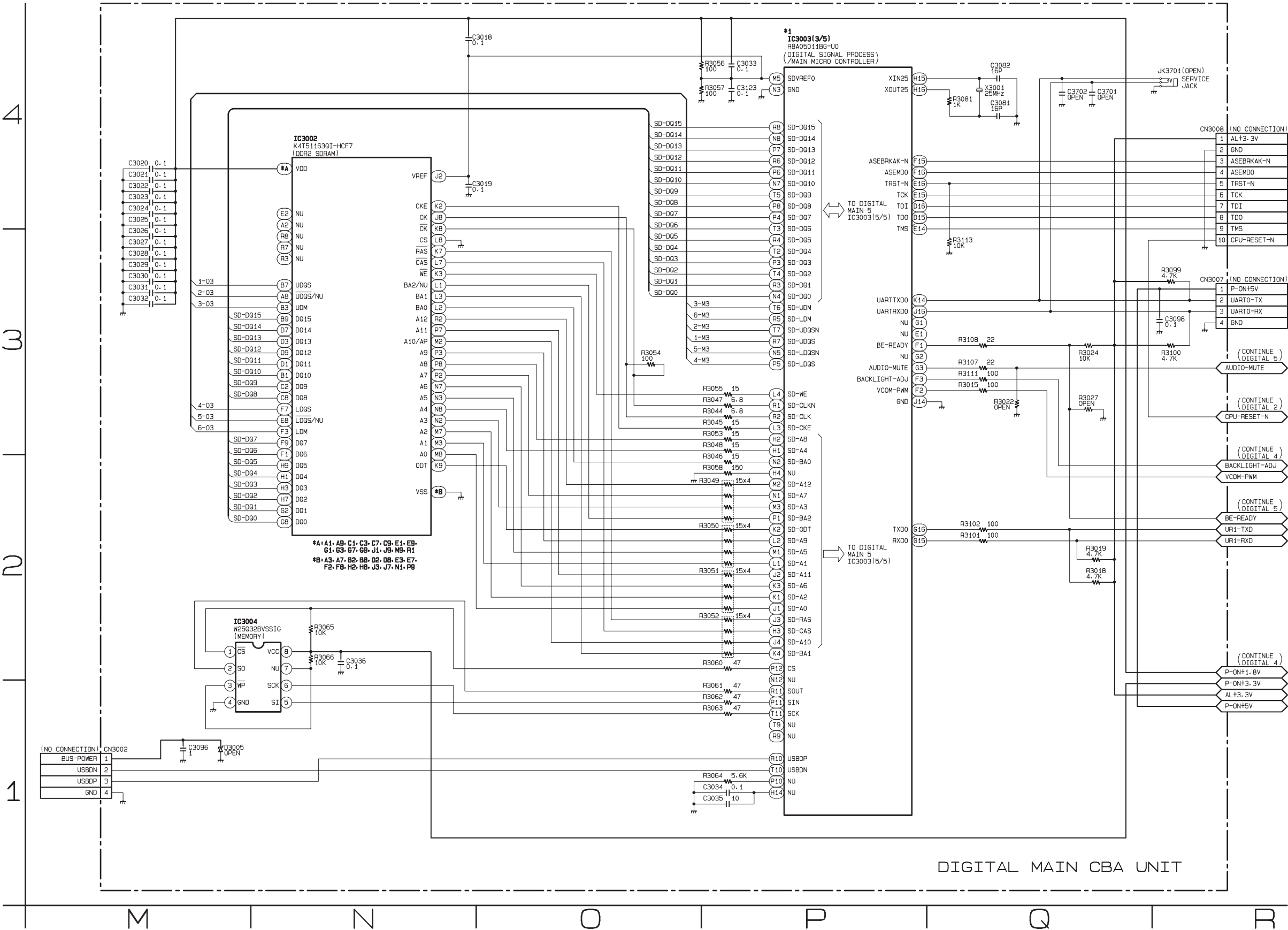
Digital Main 2 Schematic Diagram

\*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.



Digital Main 3 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.

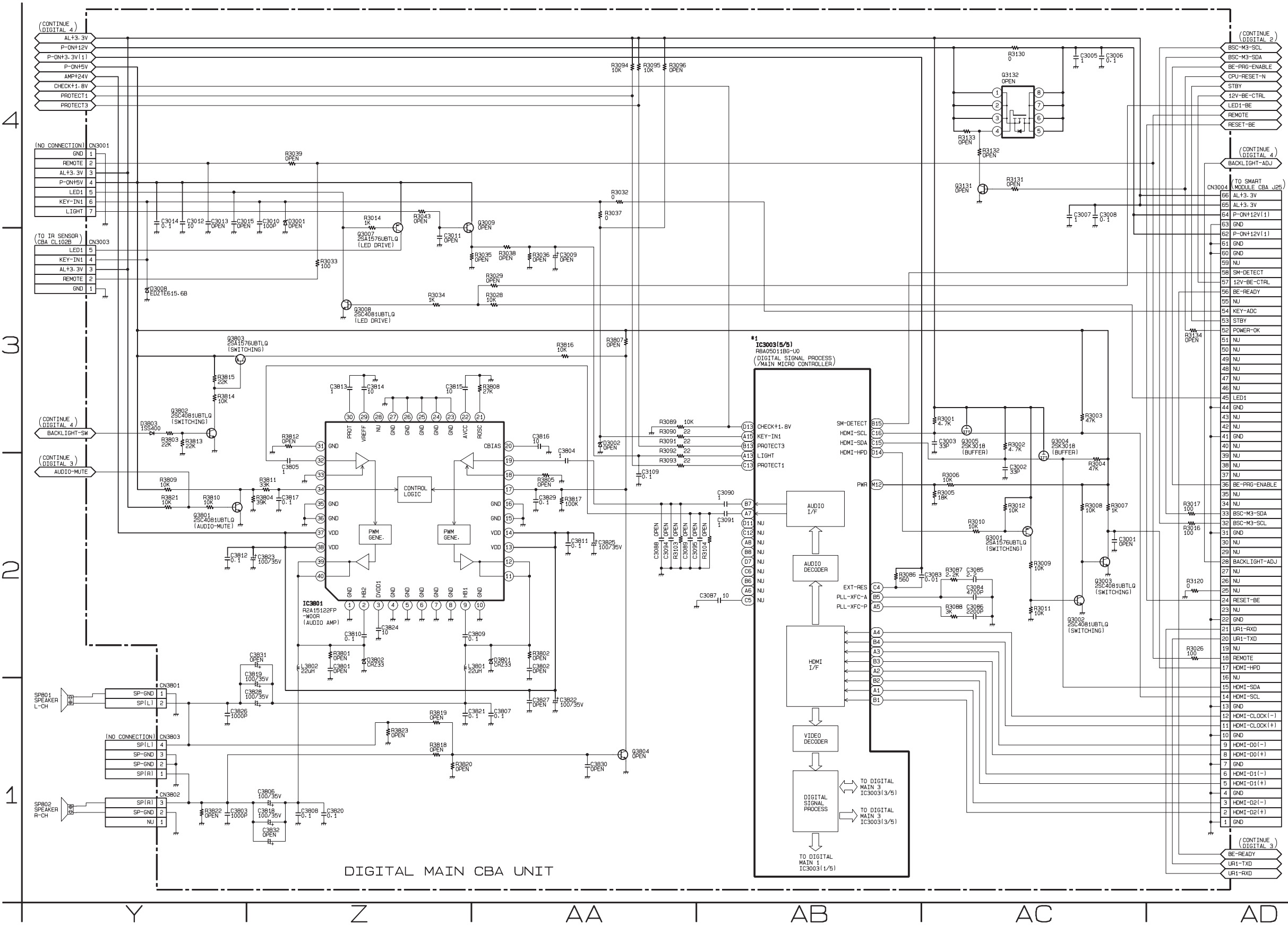


A vertical axis with tick marks labeled 1, 2, 3, and 4.

[illegible]

Digital Main 5 Schematic Diagram

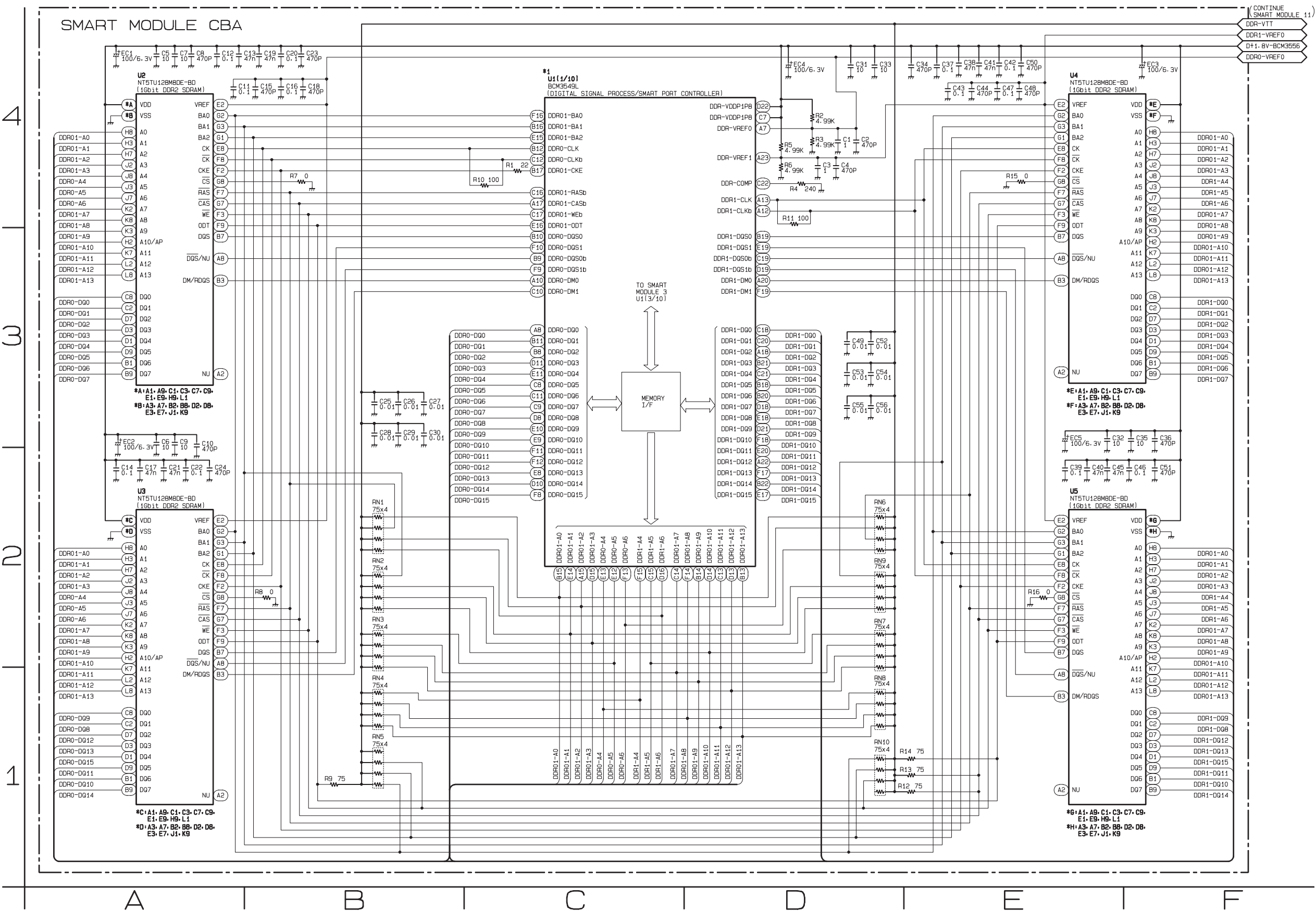
\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual IC3003.  
IC3003 is divided into five and shown as IC3003 (1/5) ~ IC3003 (5/5) in this Digital Main Schematic Diagram Section.





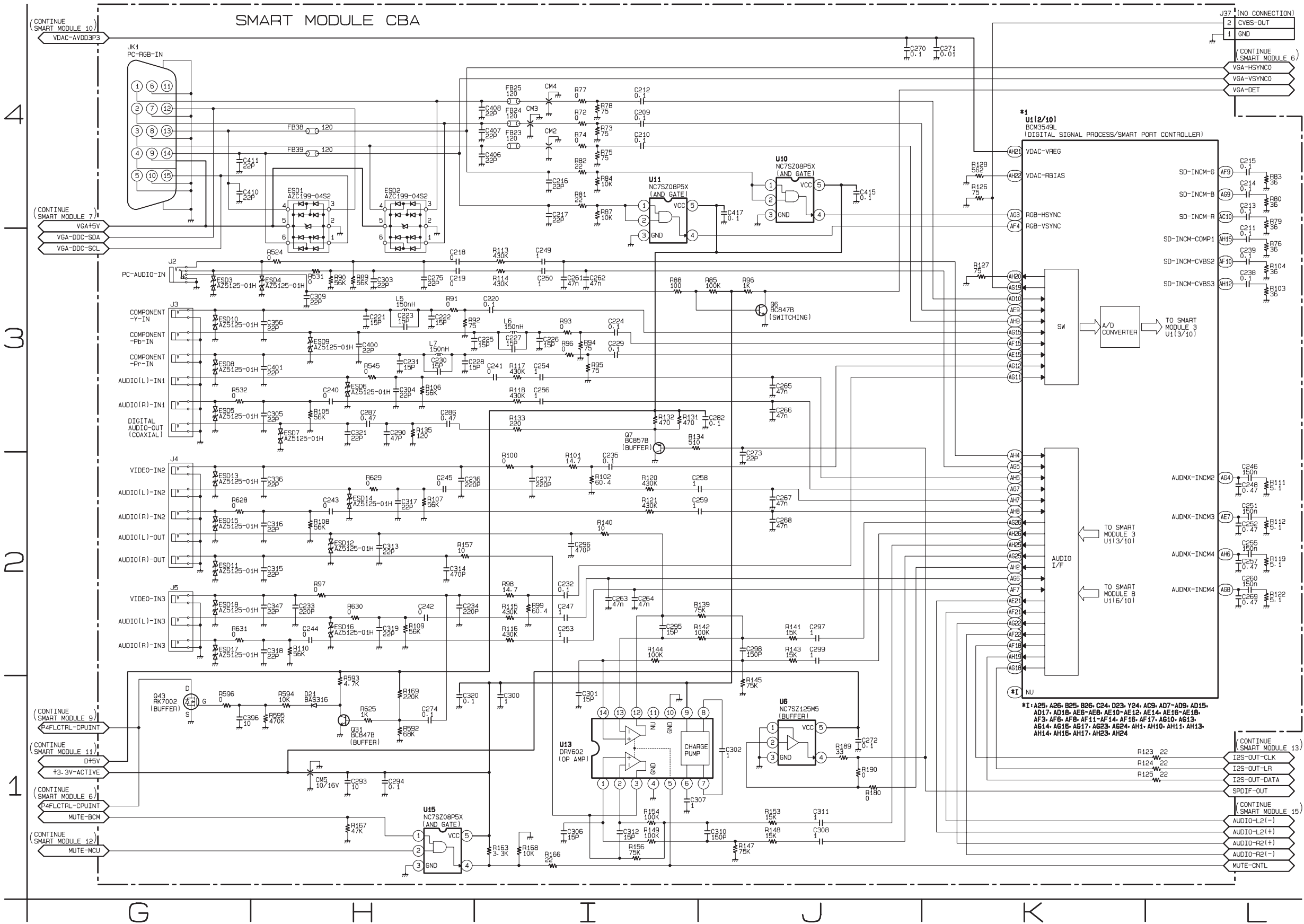
Smart Module 1 Schematic Diagram

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual U1.  
U1 is divided into ten and shown as U1 (1/10) ~ U1 (10/10) in this Smart Module Schematic Diagram Section.



Smart Module 2 Schematic Diagram

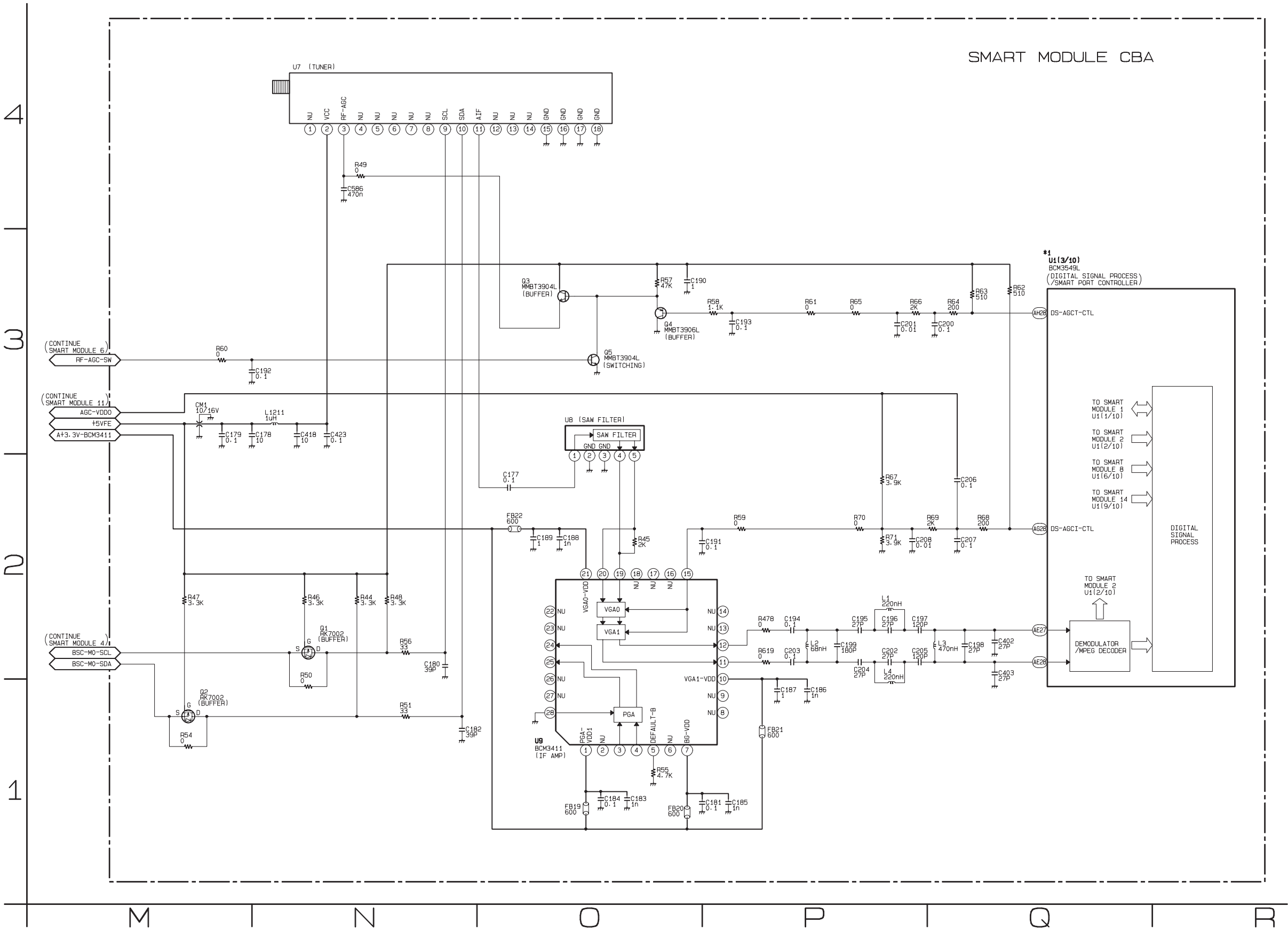
\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual U1.  
U1 is divided into ten and shown as U1 (1/10) ~ U1 (10/10) in this Smart Module Schematic Diagram Section.





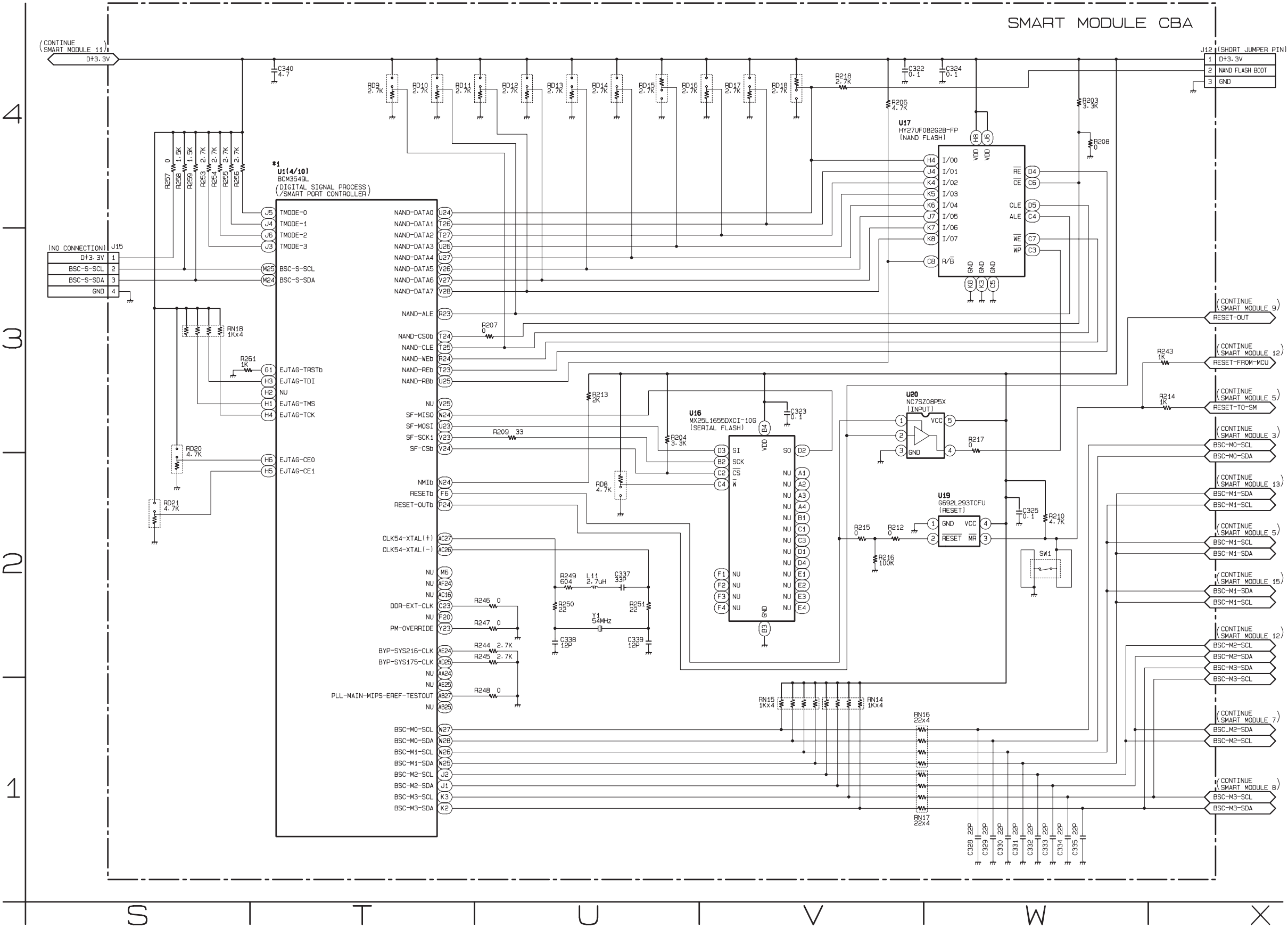
Smart Module 3 Schematic Diagram

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual U1.  
U1 is divided into ten and shown as U1 (1/10) ~ U1 (10/10) in this Smart Module Schematic Diagram Section.



Smart Module 4 Schematic Diagram

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual U1.  
U1 is divided into ten and shown as U1 (1/10) ~ U1 (10/10) in this Smart Module Schematic Diagram Section.

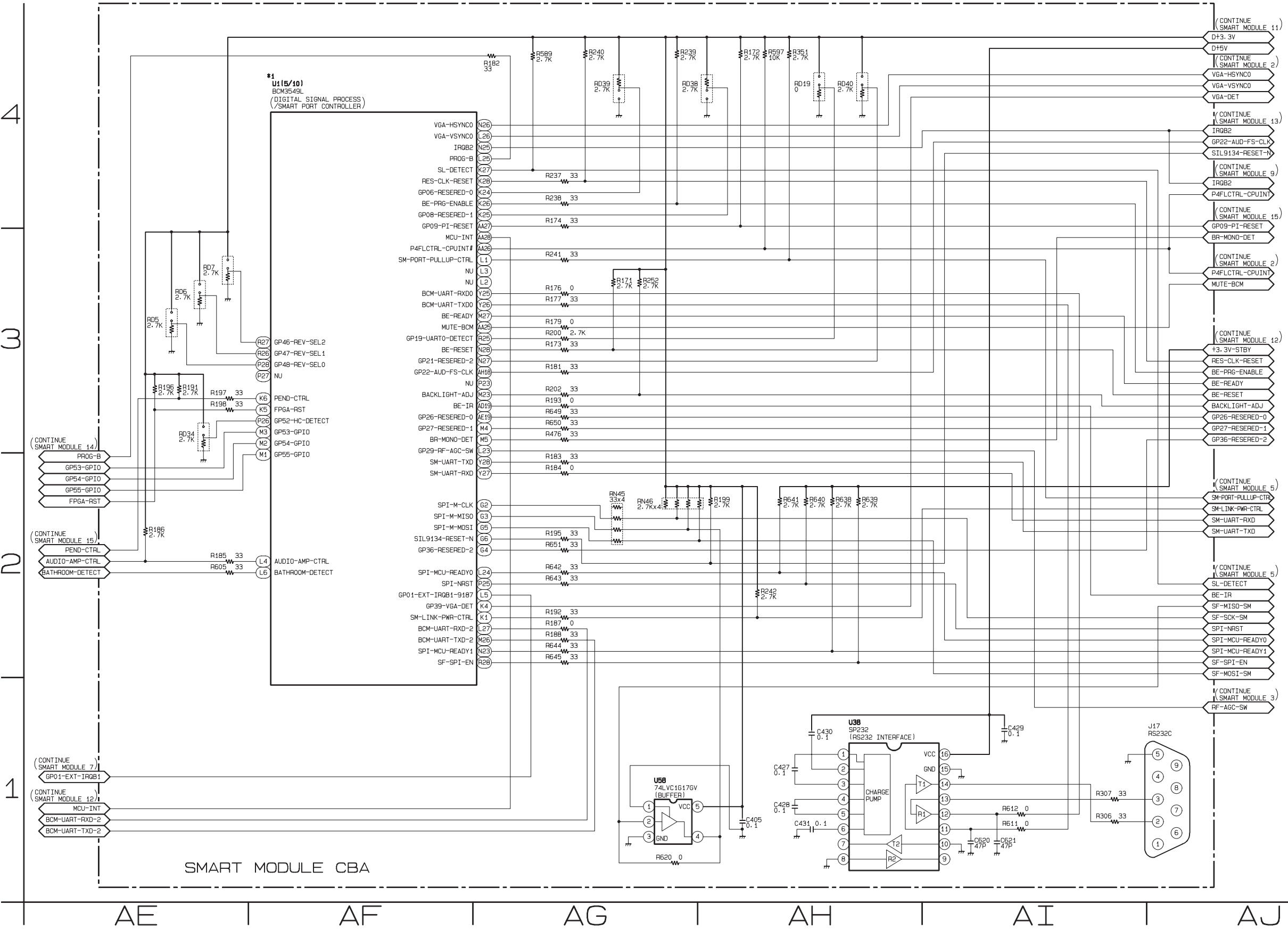


4  
—  
3  
—  
2  
—  
1

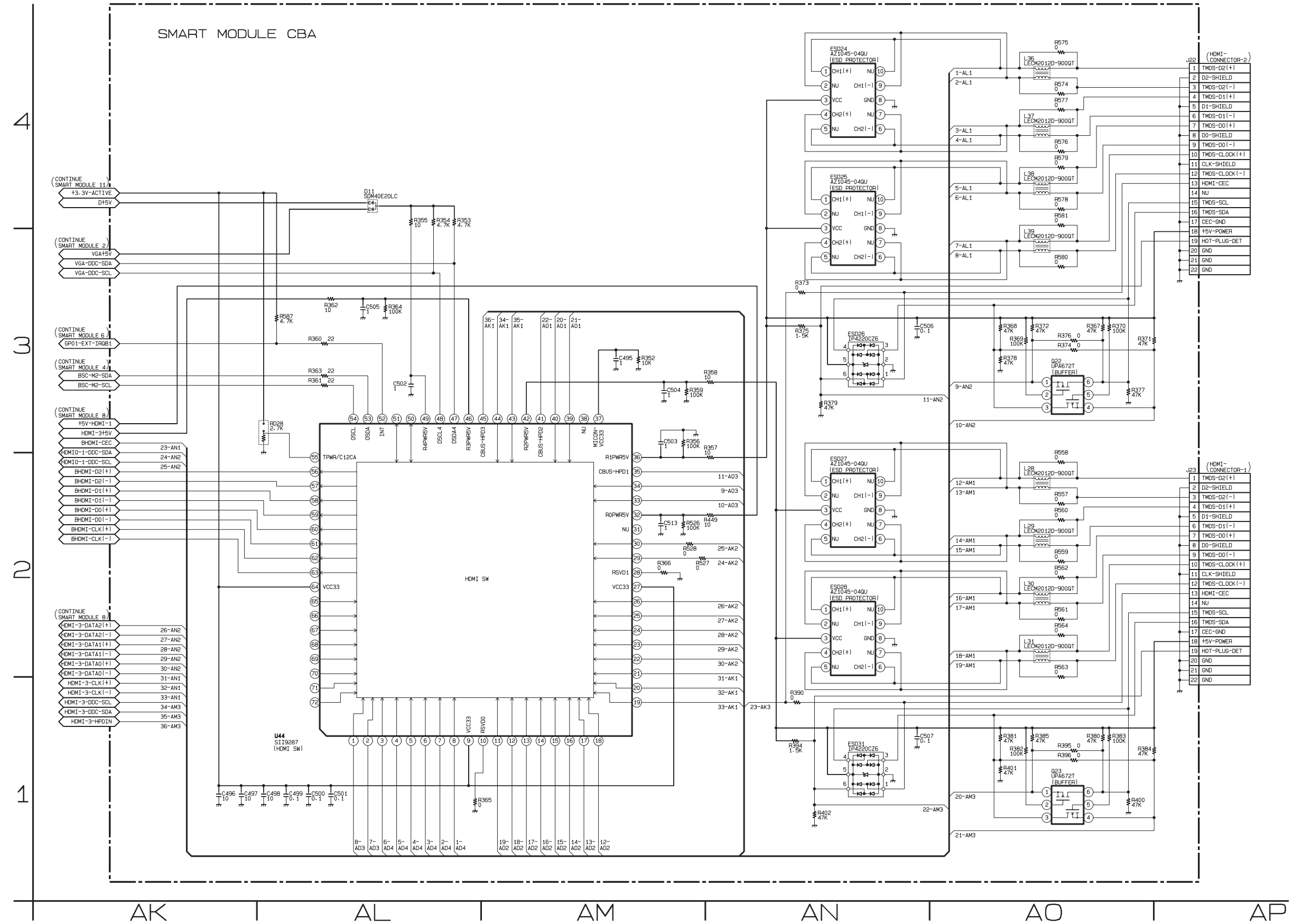


Smart Module 6 Schematic Diagram

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual U1.  
U1 is divided into ten and shown as U1 (1/10) ~ U1 (10/10) in this Smart Module Schematic Diagram Section.

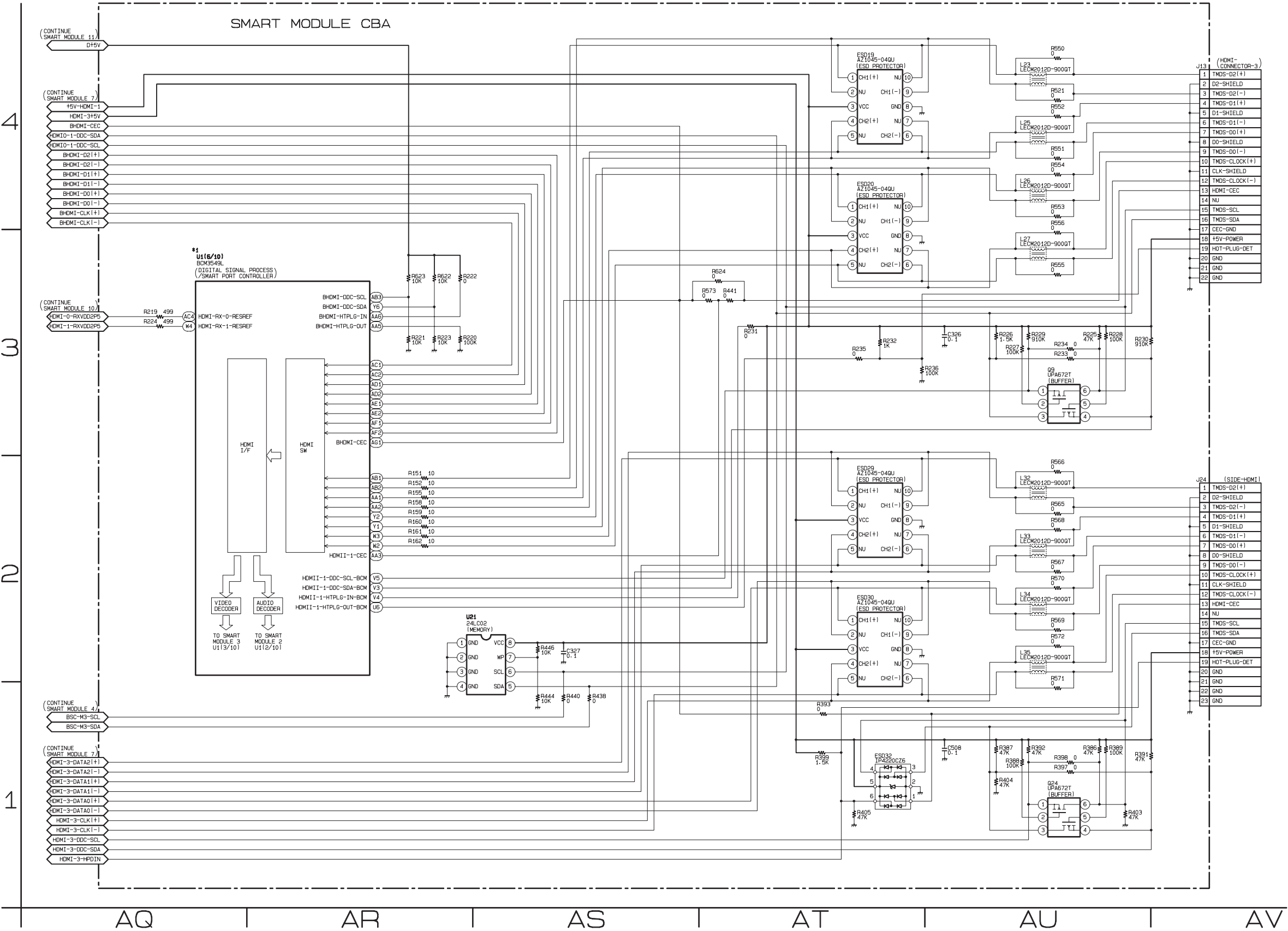


## Smart Module 7 Schematic Diagram



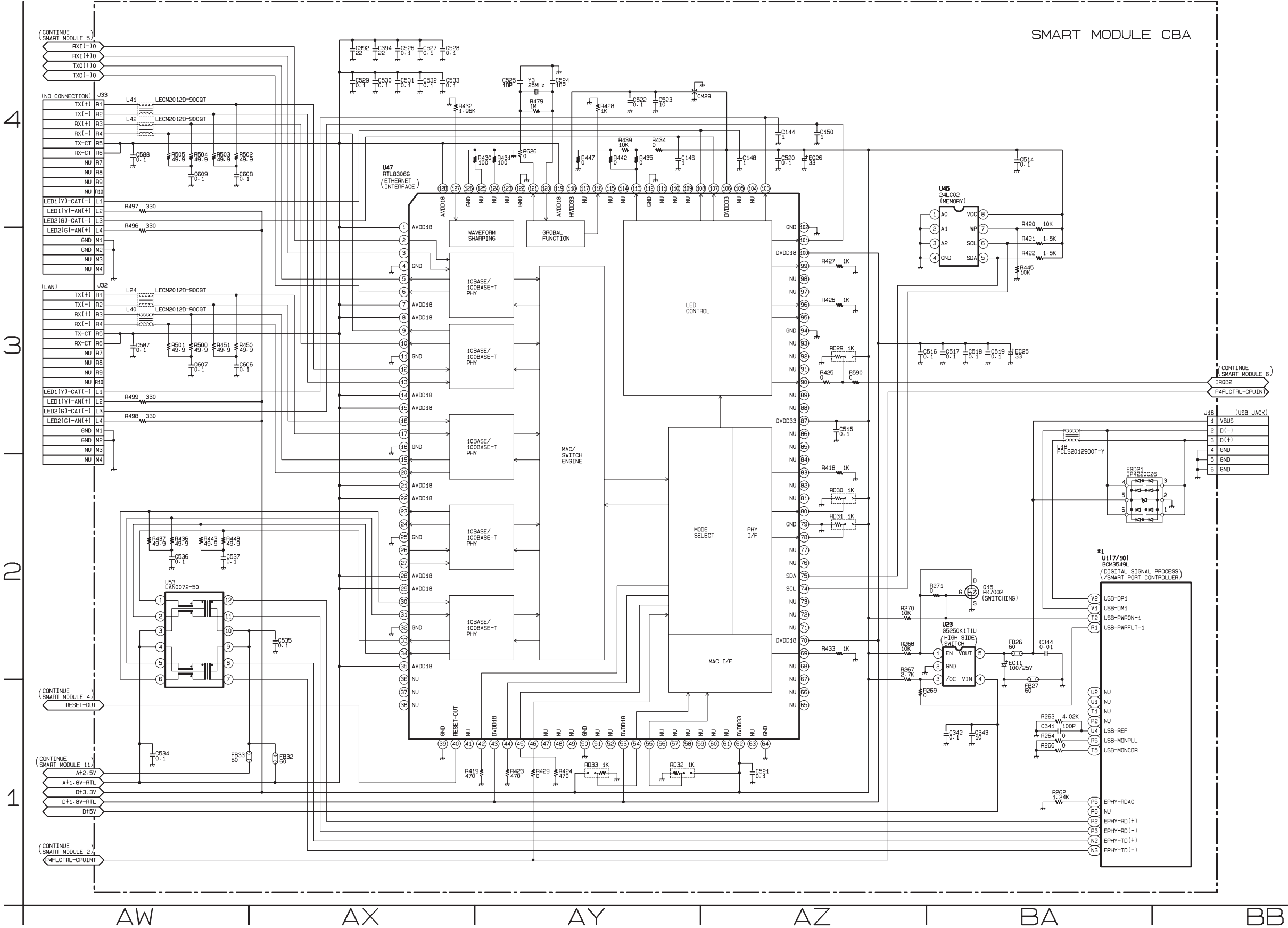
Smart Module 8 Schematic Diagram

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual U1.  
U1 is divided into ten and shown as U1 (1/10) ~ U1 (10/10) in this Smart Module Schematic Diagram Section.



Smart Module 9 Schematic Diagram

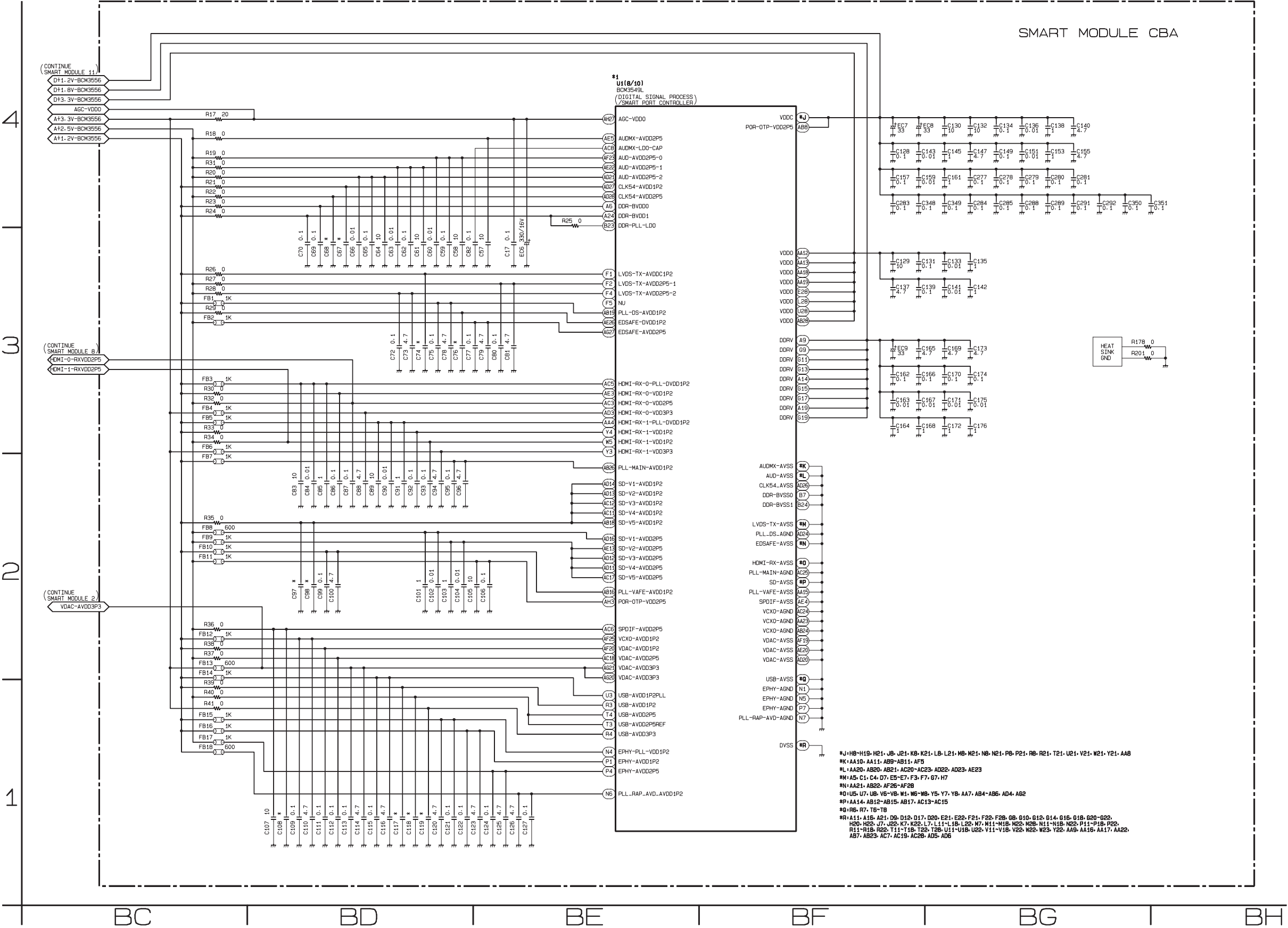
\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual U1.  
U1 is divided into ten and shown as U1 (1/10) ~ U1 (10/10) in this Smart Module Schematic Diagram Section.





Smart Module 10 Schematic Diagram

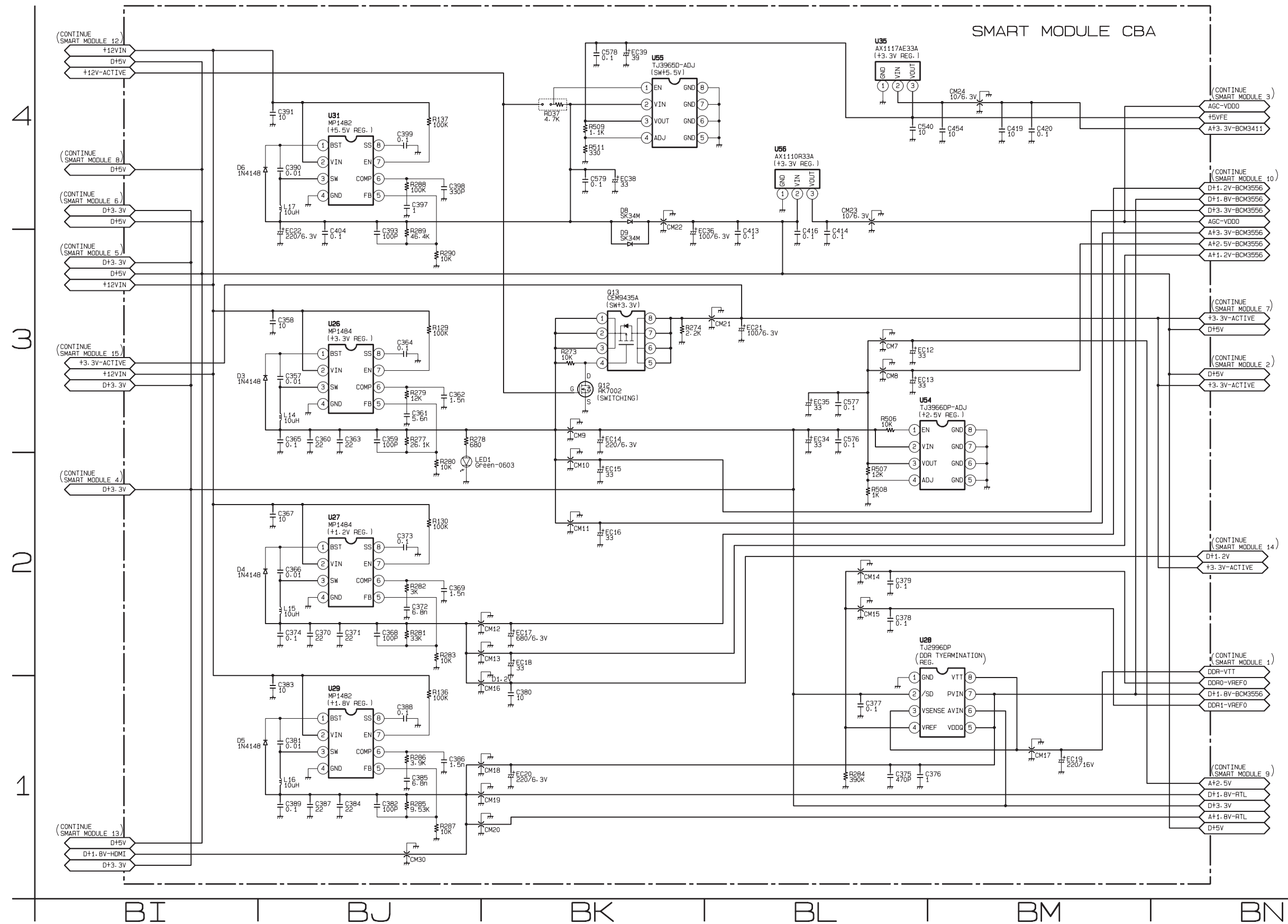
\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual U1.  
U1 is divided into ten and shown as U1 (1/10) ~ U1 (10/10) in this Smart Module Schematic Diagram Section.



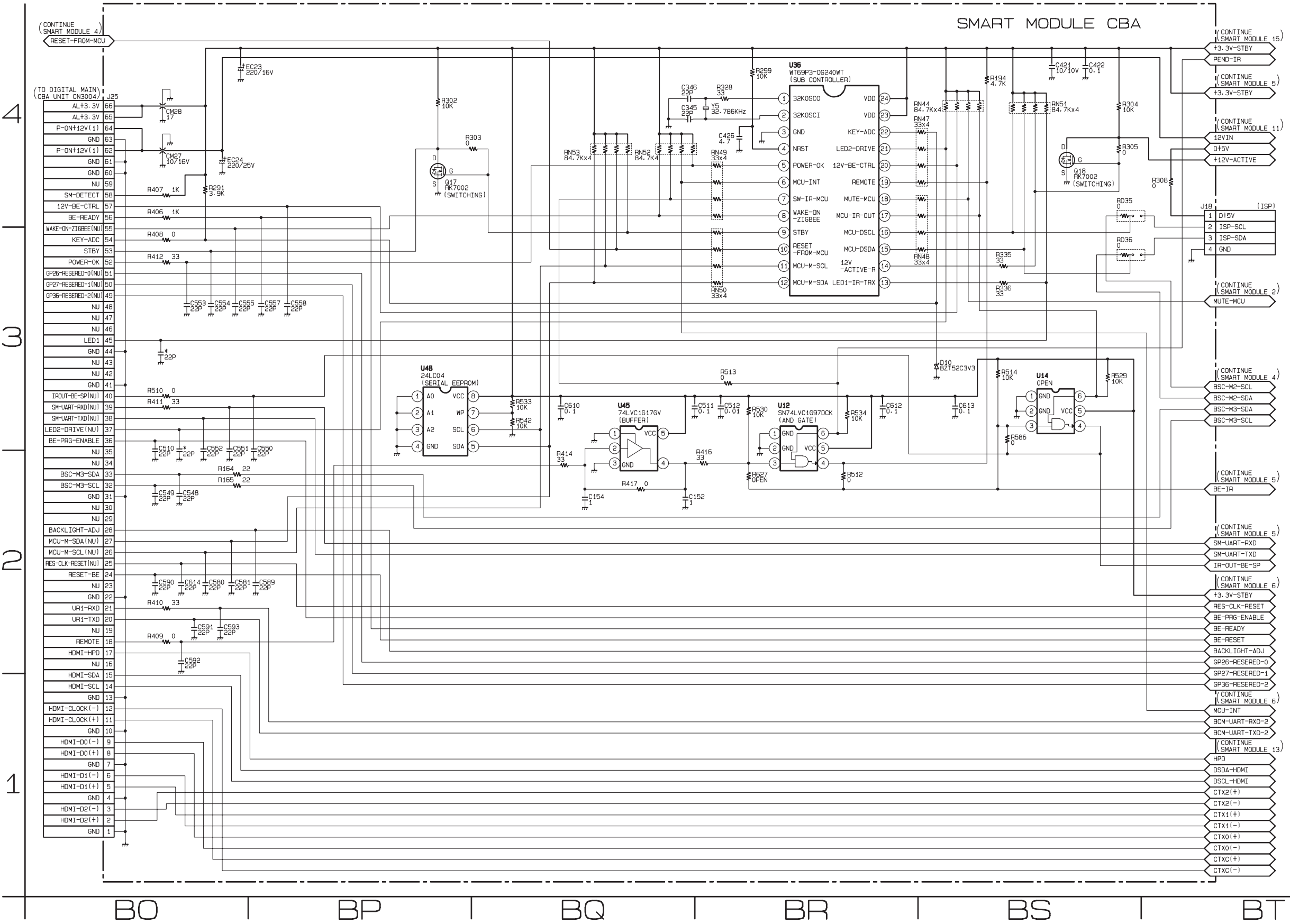
U1: H8-H19, H21-J8, J21-K8, K21-L8, L21-M8, M21-N8, N21-P8, P21-R8, R21-T21, U21-V21, V21-Y21, Y21-AA8  
K: AA10, AA11, AB9-AB11, AF9  
L: AA20, AB20, AB21, AC20-AC23, AD22, AD23, AE23  
M: A5, C1, C4, D7, E5-E7, F3, F7, G7, H7  
N: AA21, AB22, AF26-AF28  
Q: U5, U7, U8, V6-V8, M1, M6-M8, Y5, Y7, Y8, AA7, AB4-AB6, AD4, A62  
R: AA14, AB12-AB15, AB17, AC13-AC15  
S: R6, R7, T5-T8  
T: A11, A16, A21, D9, D12, D17, D20, E21, E22, F21, F22, F26, G8, G10, G12, G14, G16, G18, G20, G22, H20, H22, J7, J22, K7, K22, L7, L11-L18, L22, M7, N11-N18, N22, N26, N28, N11-N18, N22, P11-P18, P22, R11-R18, R22, T11-T18, T22, T26, U11-U18, U22, V11-V18, V22, N22, W23, Y22, AA9, AA16, AA17, AA22, AB7, AB23, AC7, AC19, AC26, AD5, AD6



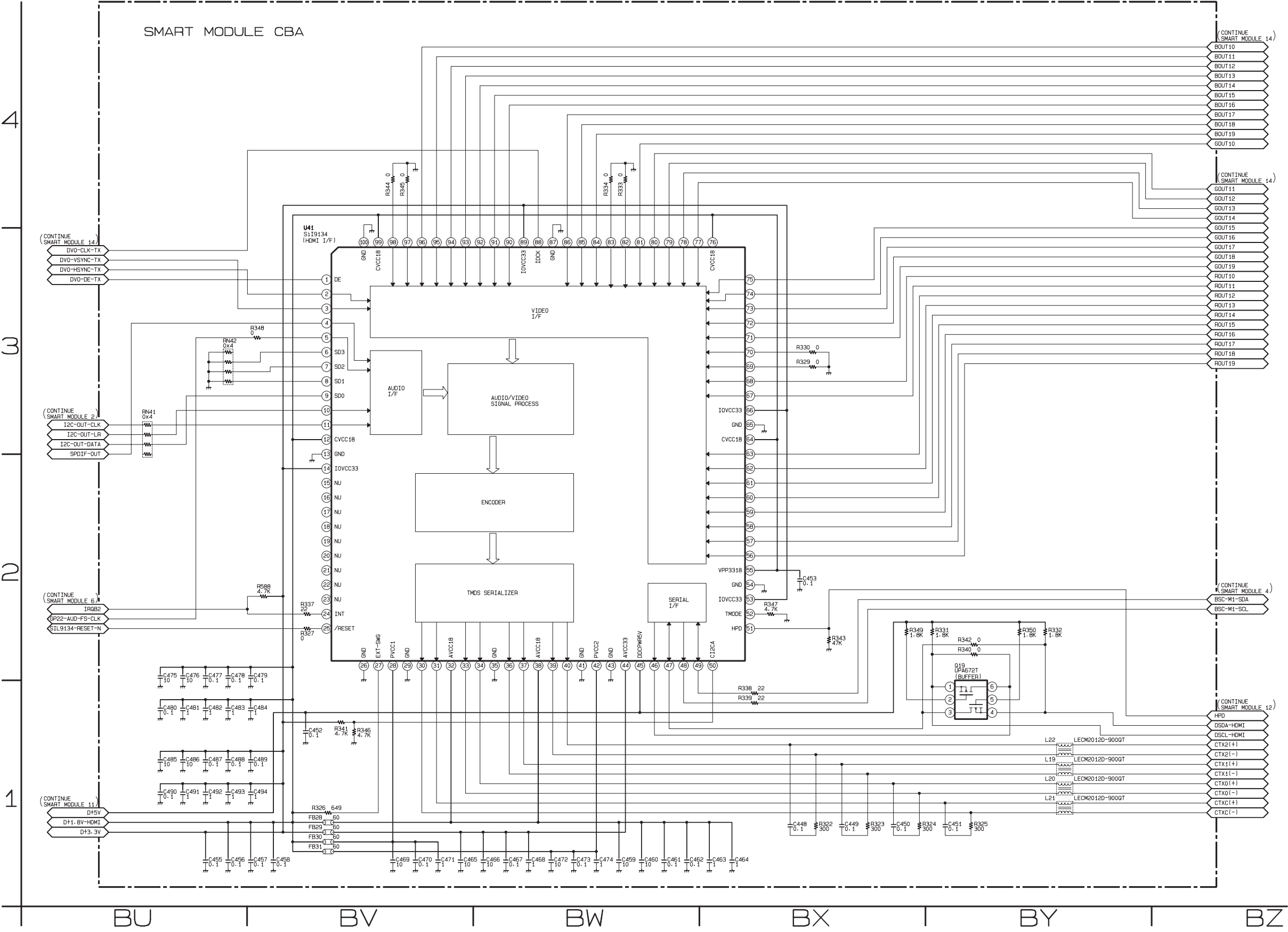
### Smart Module 11 Schematic Diagram



Smart Module 12 Schematic Diagram

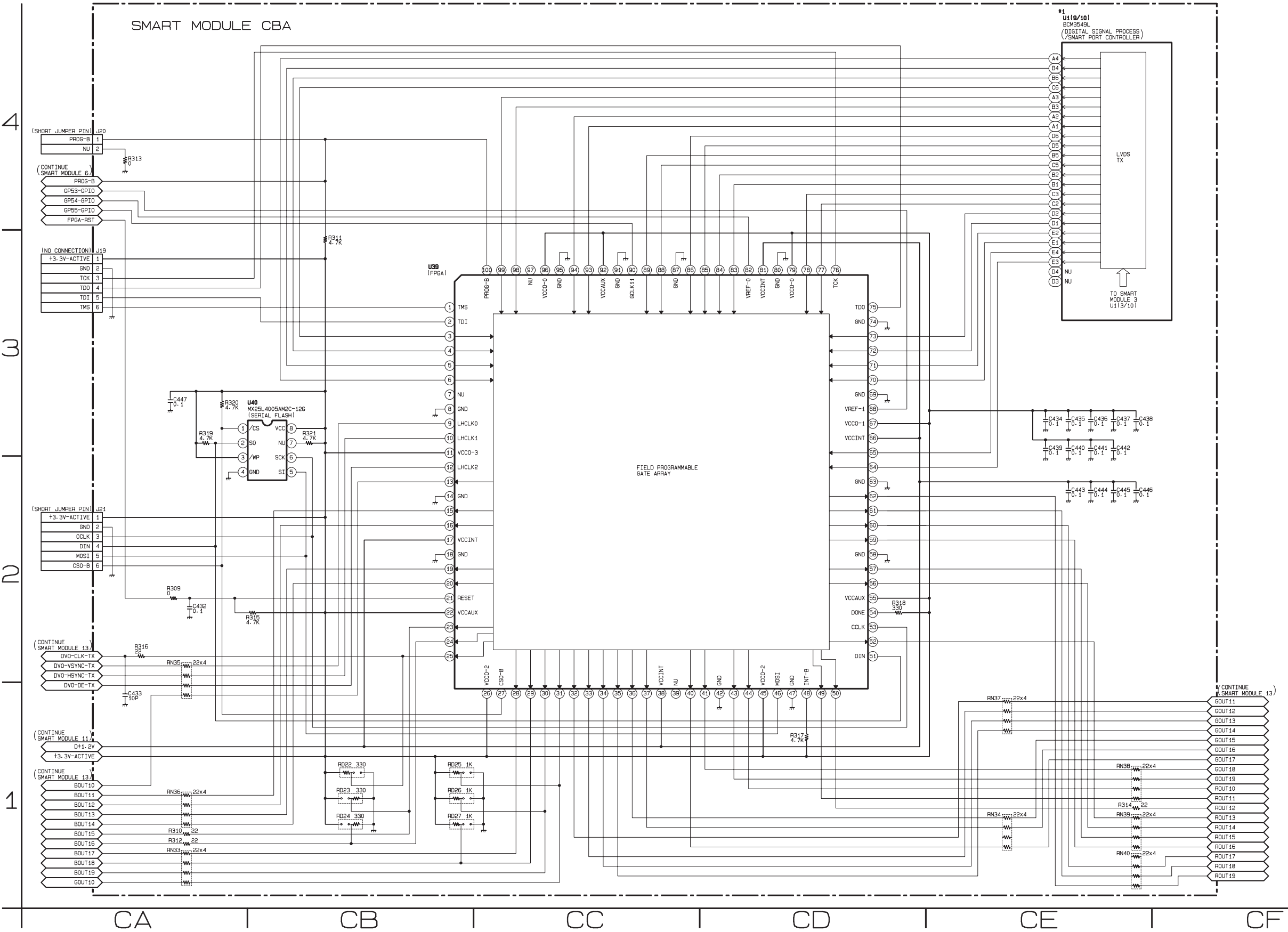


Smart Module 13 Schematic Diagram



Smart Module 14 Schematic Diagram

\*1 NOTE:  
The order of pins shown in this diagram is different from that of actual U1.  
U1 is divided into ten and shown as U1 (1/10) ~ U1 (10/10) in this Smart Module Schematic Diagram Section.



## 4

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3



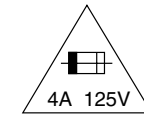


## Power Supply CBA Top View

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.



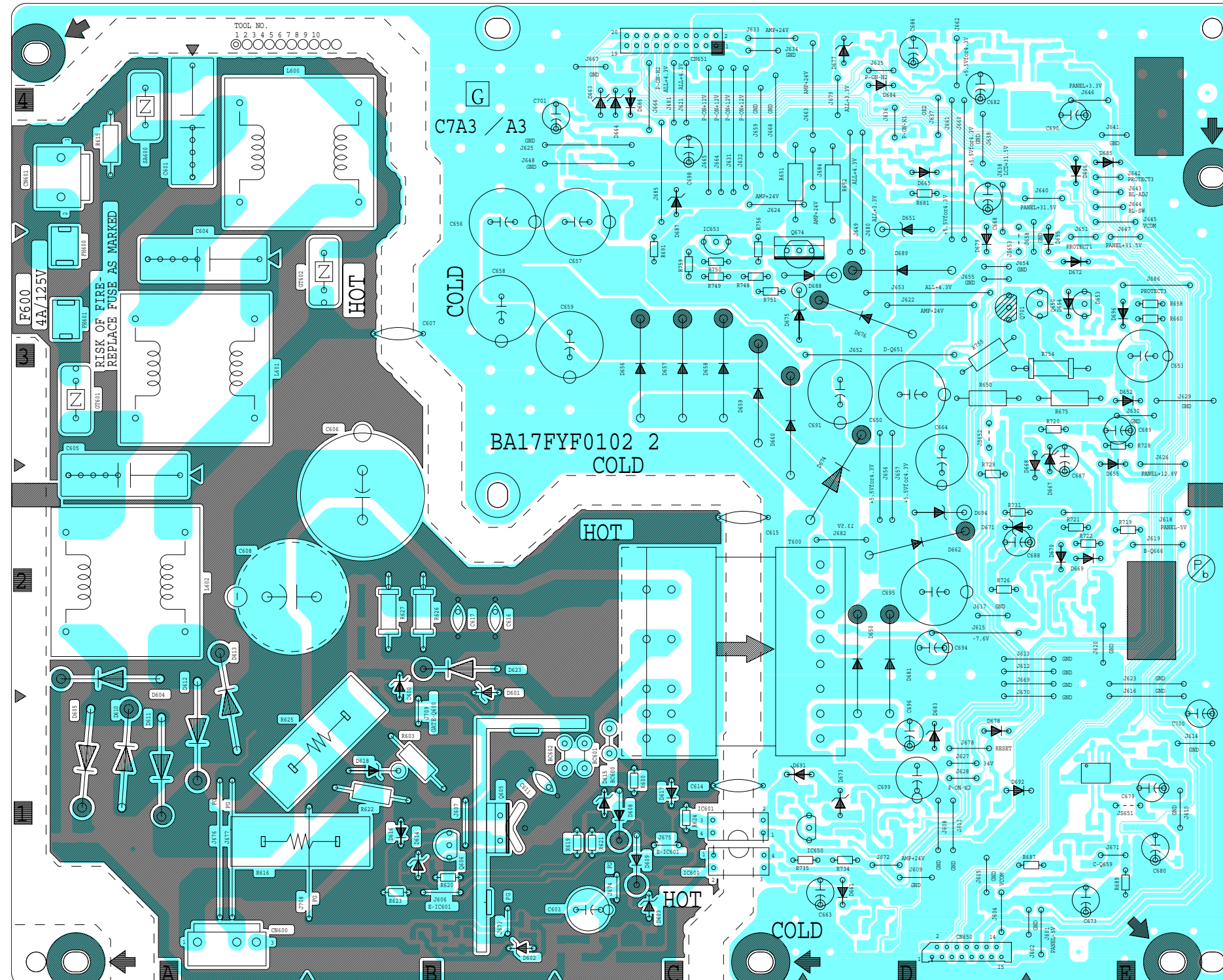
**CAUTION ! :** For continued protection against risk of fire,  
replace only with same type 4A, 125V fuse.

**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.

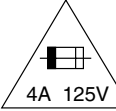
## Power Supply CBA



# 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.

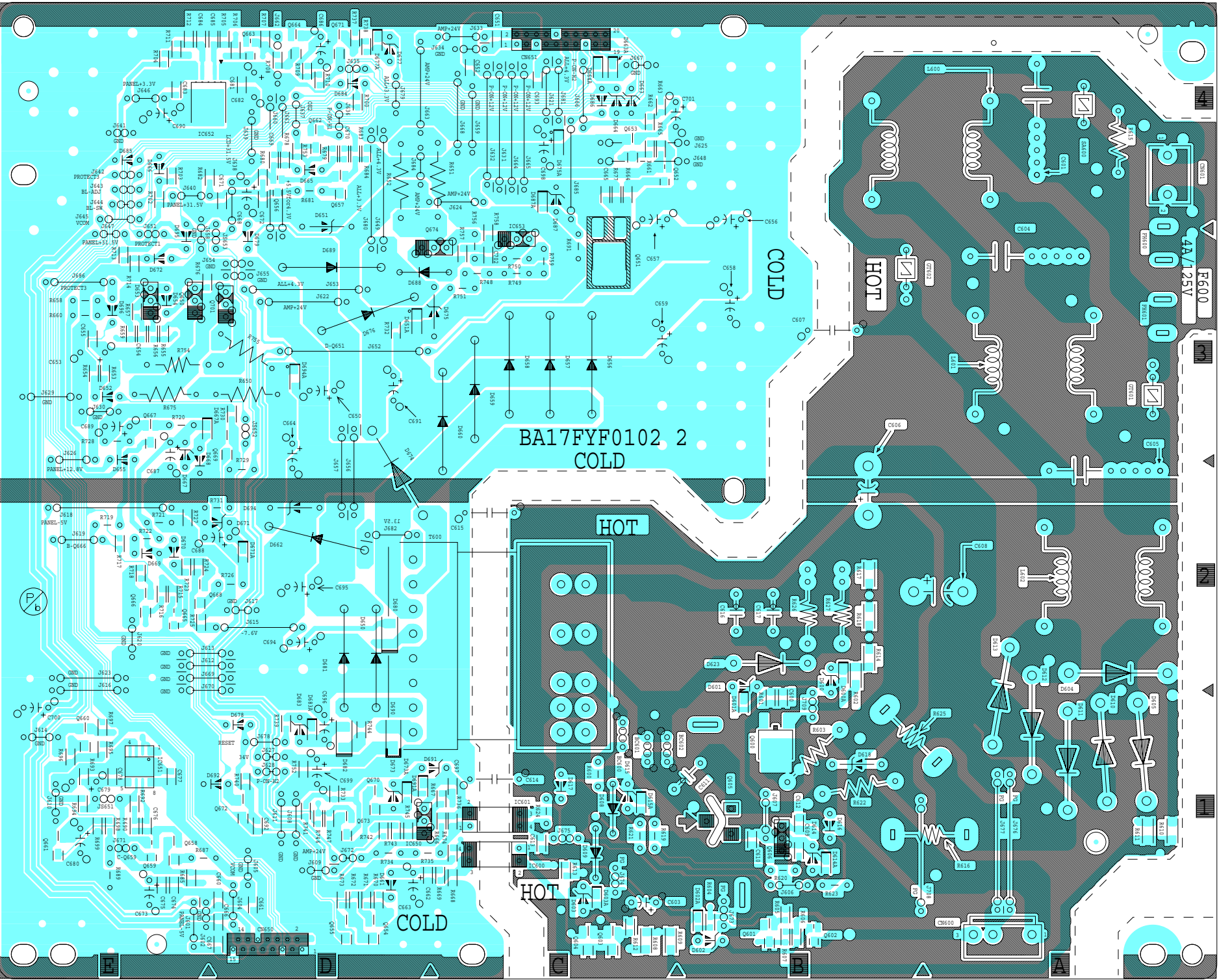
**CAUTION !**  
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.  
If Main Fuse (F600) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.  
Otherwise it may cause some components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



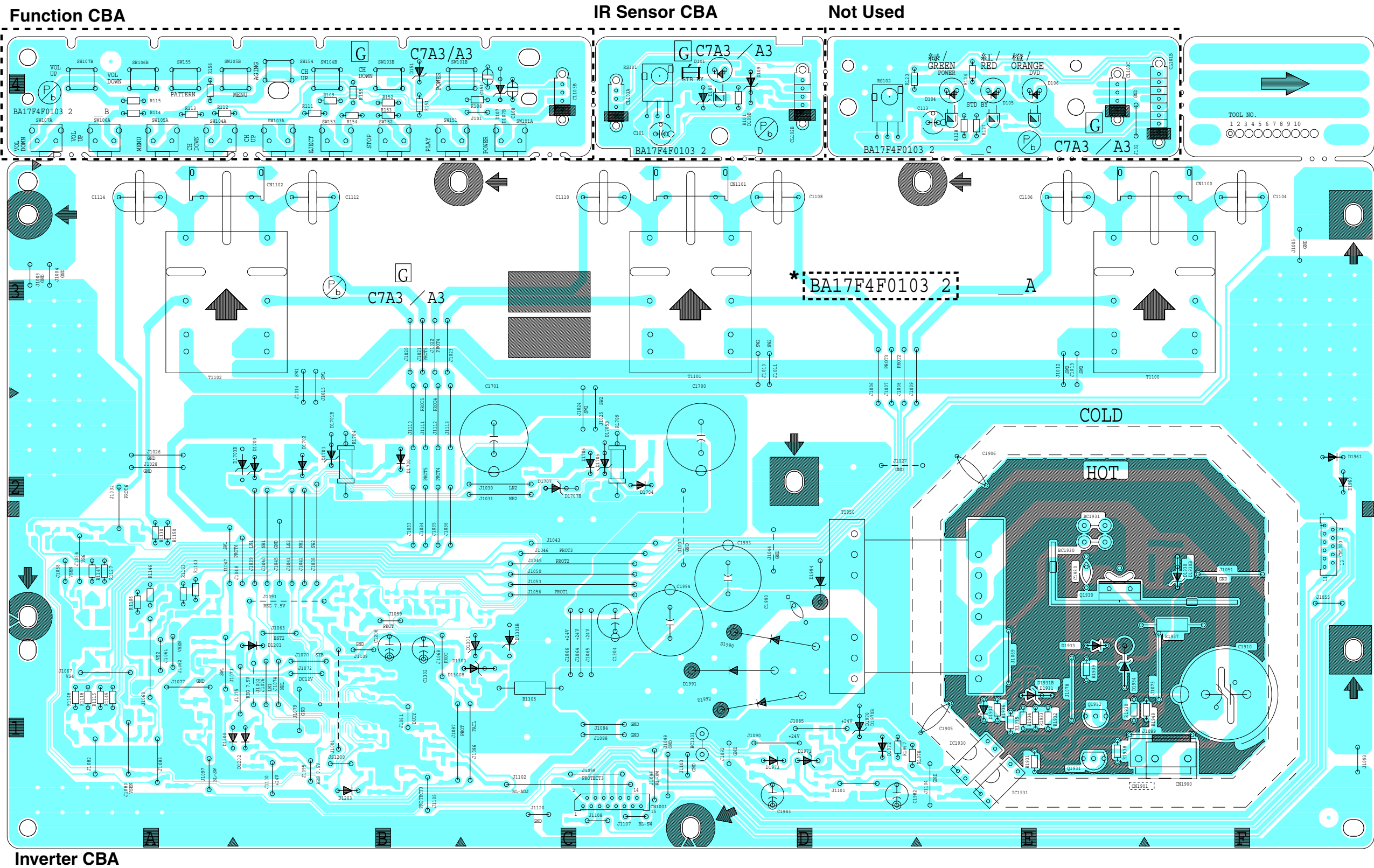


Inverter CBA, Function CBA & IR Sensor CBA Top View (main Inverter CBA)

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.**  
**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).**



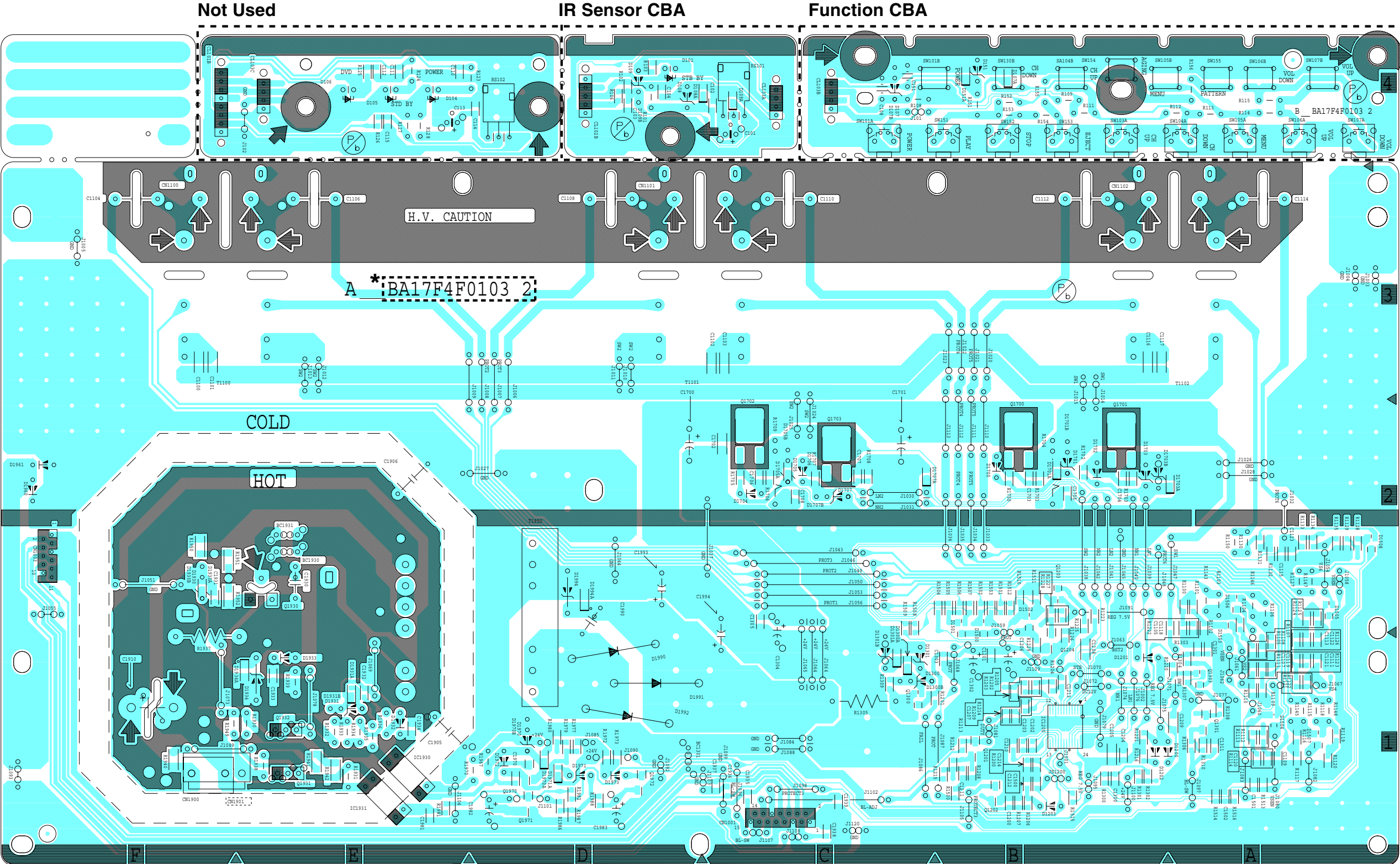


Inverter CBA, Function CBA & IR Sensor CBA Bottom View (main Inverter CBA)

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).**



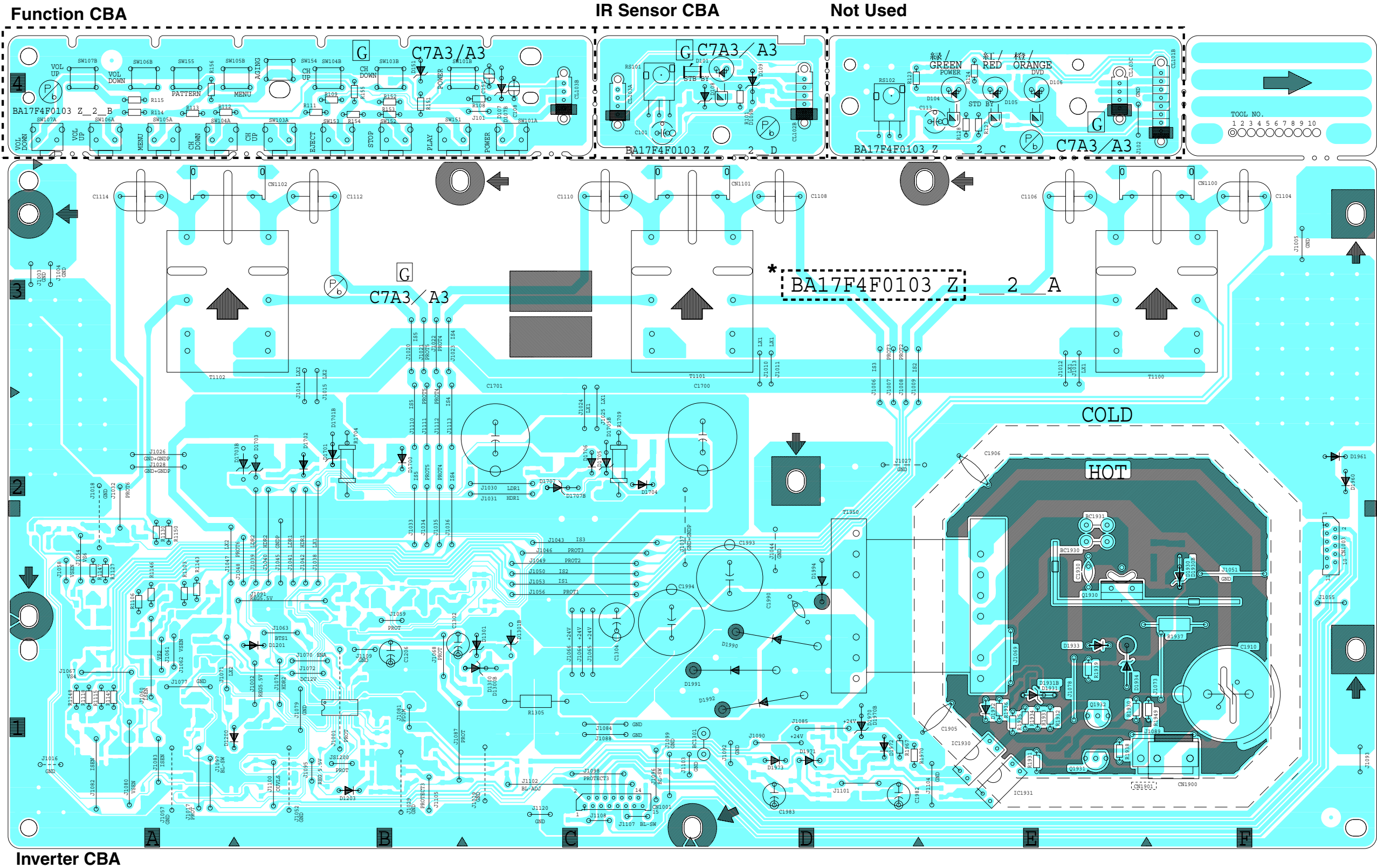
Inverter CBA

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).**



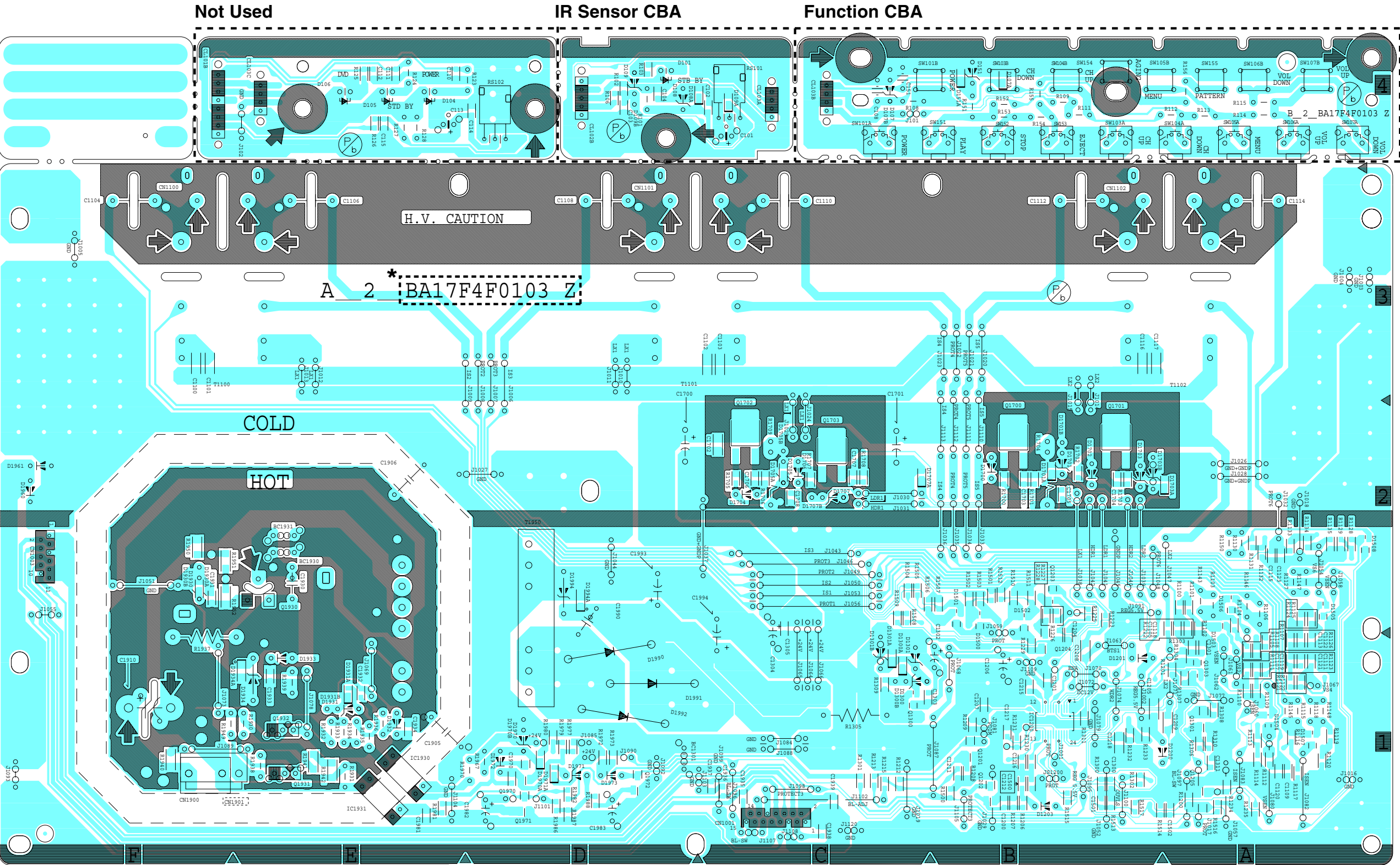


Inverter CBA, Function CBA & IR Sensor CBA Bottom View (sub Inverter CBA)

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.

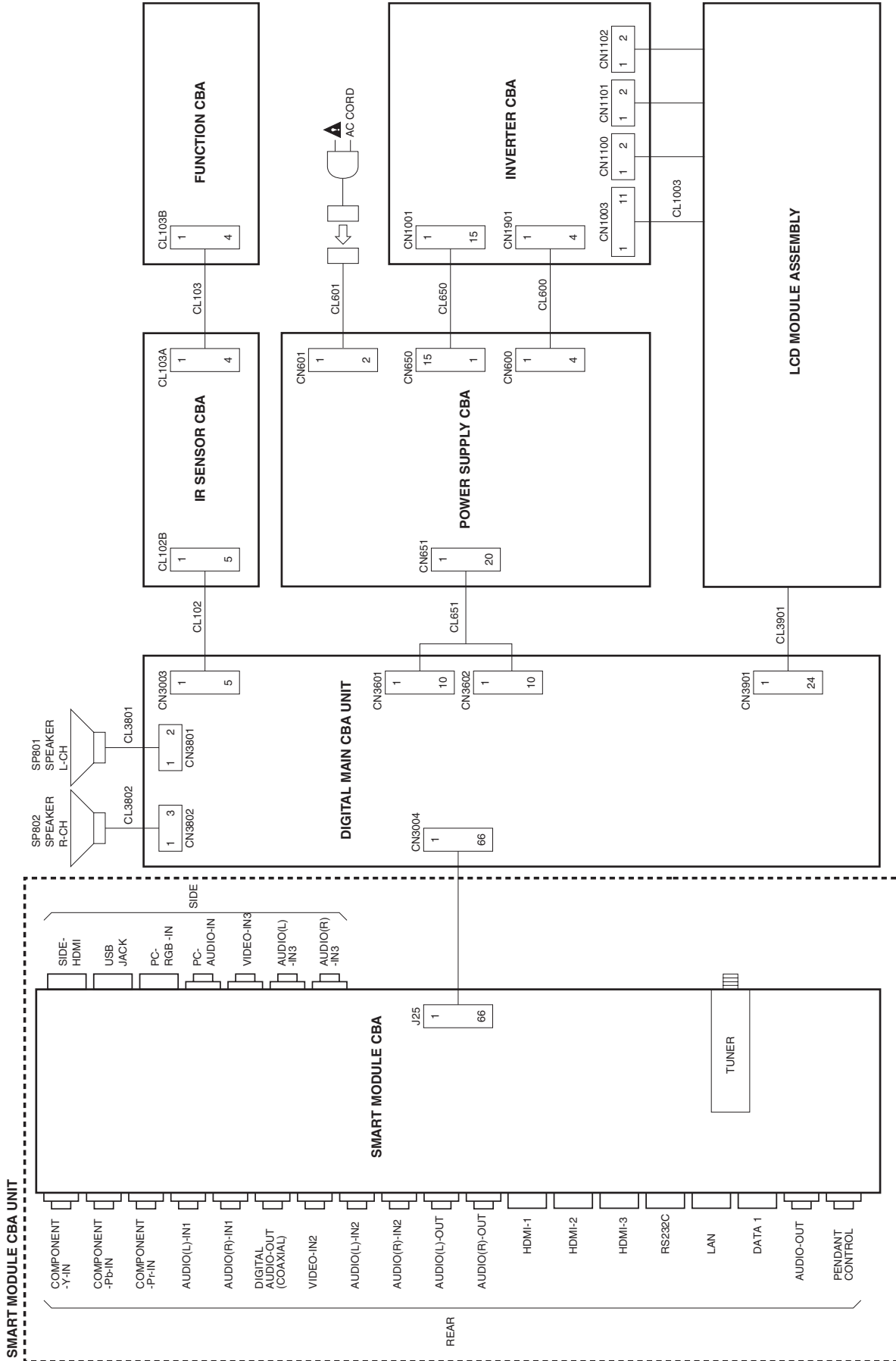
**NOTE:**  
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

**\* 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).**



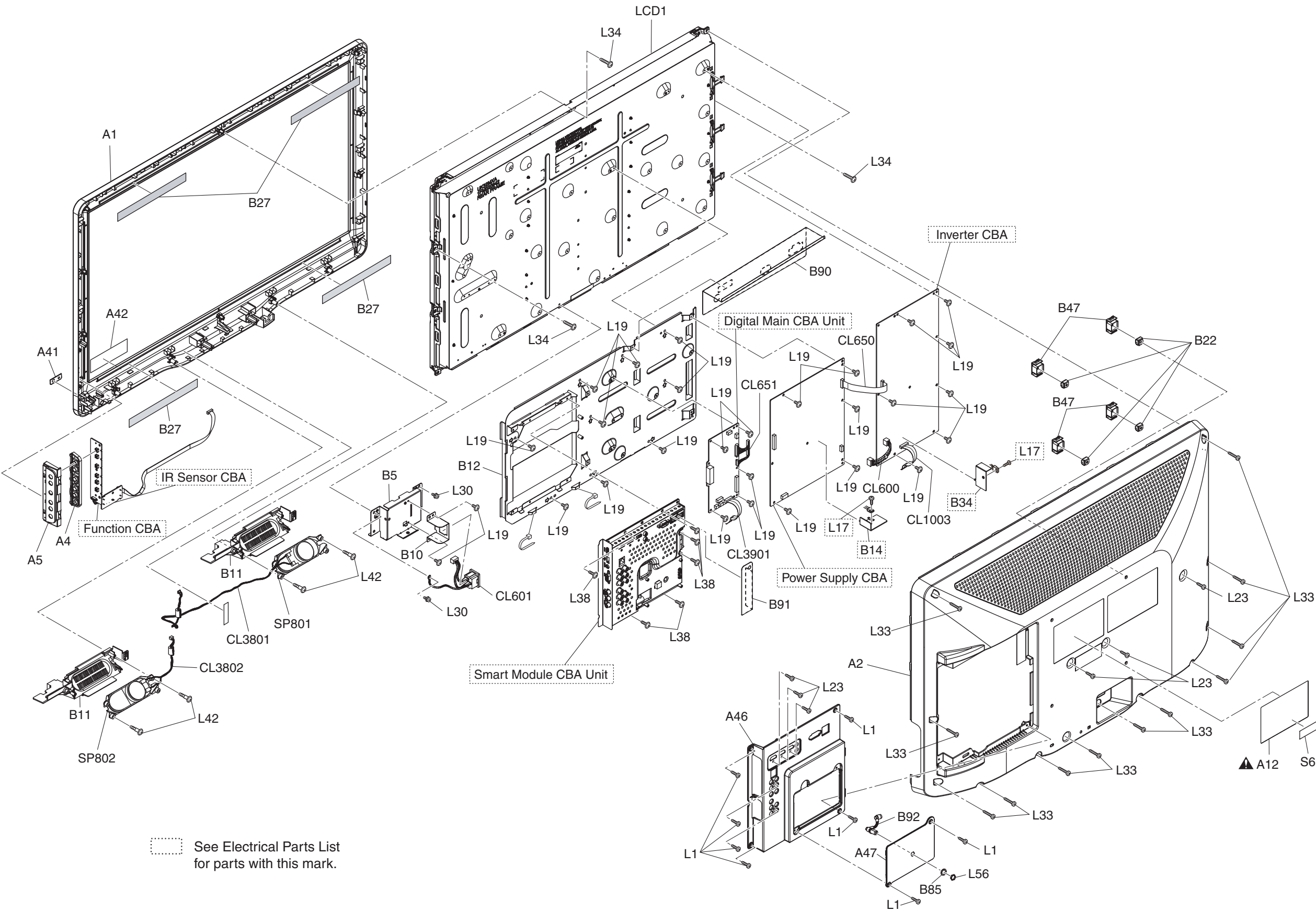
Inverter CBA

# WIRING DIAGRAM

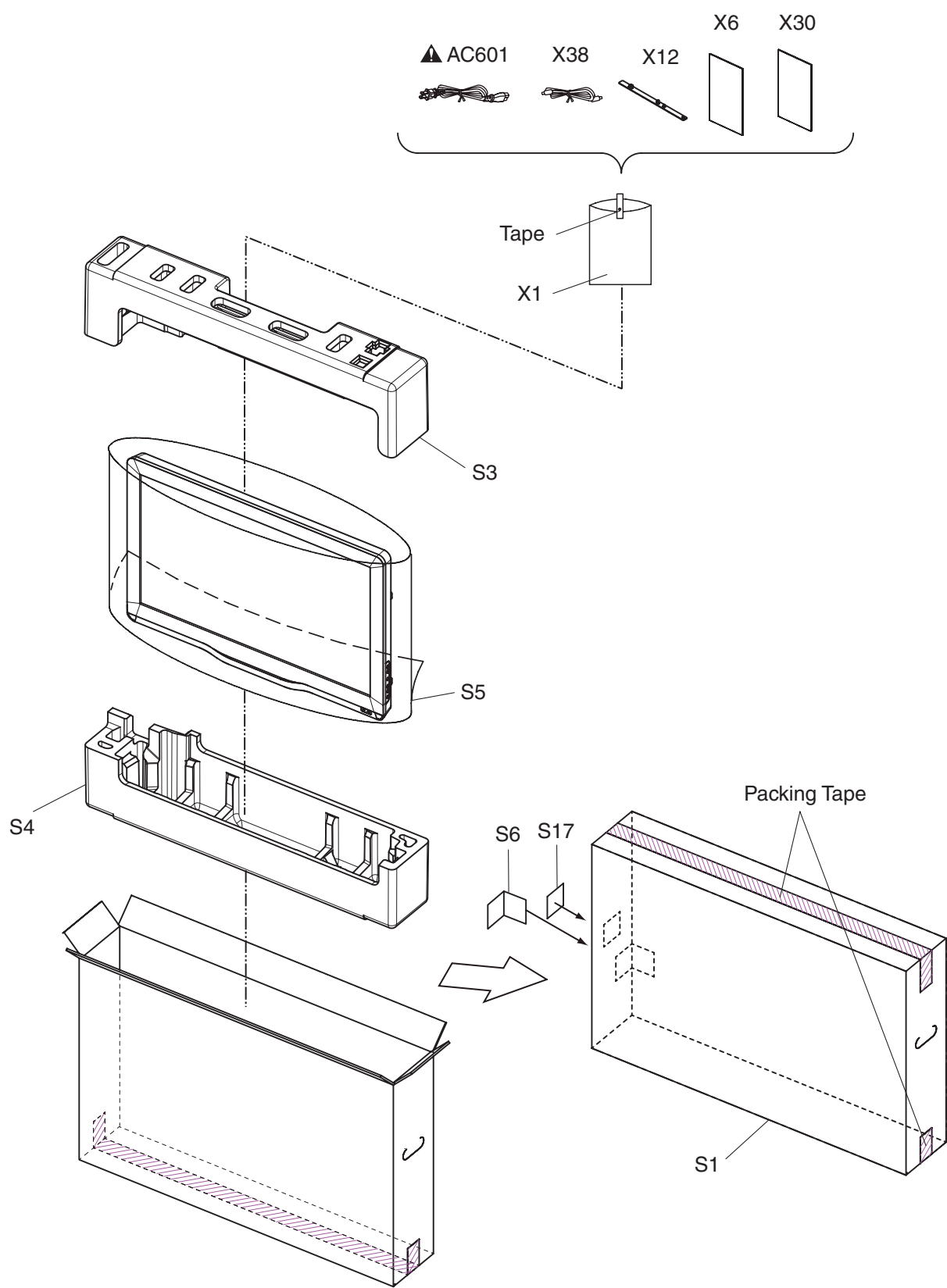


EXPLODED VIEWS

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 A17FXUH	1EM028705
A4	FUNCTION KNOB A17FXUH	1EM332258
A5	KNOB FRAME A17FXUH	1EM332259
A12 	RATING LABEL A1AFWUH	-----
A41	SENSOR PLATE A17F6UH	1EM330357A
A42	ENERGY GUIDE LABEL A1AFWUH	-----
A46	REAR COVER A17FXUH	1EM027580
A47	TUNER COVER A17FYUH	1EM331999
B5	STAND HOLDER A17FXUH	1EM226763
B10	AC INLET HOLDER A17FXUH	1EM332058
B11	SPEAKER HOLDER A17F6UH	1EM126056
B12	PCB HOLDER A17FXUH	1EM028706
B22	WALL MOUNT BRACKET A11N0UH	1EM434637
B27	CLOTH(10X180XT0.5) L0336JG	0EM408827
B47	WALL MOUNT COVER A2170UT	1EM332137
B85	WASHER(D14XD9.6XT1) ST200UA	0EM408262A
B90	WATER PROOF COVER A1AFWUH	1EM227263
B91	SEPARATION SHEET ESD A17FXUH	1EM333017
B92	F TO RCA CONNECTOR FR360-7ZNNNP0-B	UCGANTDNU001
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
CL3801	WIRE ASSEMBLY 2PIN 500MM 2PIN/500MM	WX1A17FY-013
CL3802	WIRE ASSEMBLY 2PIN 140MM 2PIN/140MM	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
L34	SCREW P-TIGHT 3X14 WASHER HEAD+	GCJP3140
L38	SCREW S-TIGHT 3X8 WASHER HEAD+BLAC	GCHS3080
L42	SHOULDER SCREW A01Q0UF	1EM328277
L56	NUT 3/8-32UNEF	0EM401451A
LCD1	LCD MODULE	UK32AXB
SP801	SPEAKER MAGNETIC S0412F28B	DS08130XQ002
SP802	SPEAKER MAGNETIC S0412F28C	DS08130XQ003
<b>PACKING</b>		
S1	CARTON A17FXUH	1EM436940
S3	STYROFOAM TOP A17FXUH	1EM028851

Ref. No.	Description	Part No.
S4	STYROFOAM BOTTOM A17FXUH	1EM028852
S5	SET BAG A17F6UH	1EM330877
S6	SERIAL NO. LABEL A17FZUH	-----
S17	CARTON LABEL A1AFWUH	-----
<b>ACCESSORIES</b>		
AC601 	AC CORD WITH GND WIRE PJ8C2E9G10A-060/1800	WBV1820LW002
X1	BAG POLYETHYLENE 235X365XT0.03	0EM408420A
X6	QUICK START GUIDE A1APWUH	1EMN28743A
X12	CABLE MANAGEMENT TIE(BLACK) A01F2UH	1EM431197
X30	WARRANTY SHEET A17FZUH	1EMN29039
X38	AV CORD CFM0310001/1000MM	WPV102SCP001



# 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).

## SMART MODULE CBA UNIT

Ref. No.	Description	Part No.
	SMART MODULE CBA UNIT	UPBMATZNW001

## DIGITAL MAIN CBA UNIT

Ref. No.	Description	Part No.
	DIGITAL MAIN CBA UNIT	A1AFWMMMA-001

## POWER SUPPLY CBA

Ref. No.	Description	Part No.
	POWER SUPPLY CBA Consists of the following:	A1AFWMPW-001
<b>CAPACITORS</b>		
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
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

Ref. No.	Description	Part No.
C613	CHIP CERAMIC CAP. B K 1500pF/50V	CHD1JK30B152
C615▲	CAP CERAMIC 470pF/250V KX	CA2E471MR100
C616	CERAMIC CAP. 2200pF/1KV	CCD3AKAOR222
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	CHD1JJ3CH102
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-PHDSB-B(LF)(SN)	J3F5D20JG003

## DIODES

D600A	DIODE ZENER SMD UDZSNPTE-1730B	QD1BOUDZNP30
D601A	DIODE ZENER SMD UDZSNPTE-1733B	QD1BOUDZNP33
D602	DIODE ZENER 13BSB-T26	NDTB013BST26
D603	WIRE COPPER 6111-06003-0120	XZ40C0SHG002
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



Ref. No.	Description	Part No.
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
<b>ICS</b>		
IC600▲	IC PHOTOCOUPLER TLP781F(D4-FUNBLL F)	QPEL781FBLLF
IC601▲	IC PHOTOCOUPLER TLP781F(D4-FUNBLL F)	QPEL781FBLLF
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
<b>COILS</b>		
L600▲	COIL LINE FILTER ST1107ET28H-019/25MH	LLEG0Z0Y2037
L601▲	COIL LINE FILTER ST1107ET28H-019/25MH	LLEG0Z0Y2037
L602▲	COIL LINE FILTER ST1107ET28H-019/25MH	LLEG0Z0Y2037
<b>TRANSISTORS</b>		

Ref. No.	Description	Part No.
Q600	FET POWER MOS SMD KHB1D0N60D-RTF/PMC	NF1ZKHB1D0N6
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
<b>RESISTORS</b>		
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
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

Ref. No.	Description	Part No.
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
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

Ref. No.	Description	Part No.
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
<b>MISCELLANEOUS</b>		
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-35CQ	LTT3PCMEK024

## INVERTER ASSEMBLY (main CBA)

Ref. No.	Description	Part No.
	INVERTER ASSEMBLY Consists of the following:	A17FYM1V-001
	INVERTER CBA	A17FYM1V-001-IV
	FUNCTION CBA IR SENSOR CBA	A17FYM1V-001-FNIR

## INVERTER CBA

Ref. No.	Description	Part No.
	INVERTER CBA Consists of the following:	-----
<b>CAPACITORS</b>		
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
<b>CONNECTORS</b>		
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
<b>DIODES</b>		
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
<b>ICS</b>		
IC1200	IC INVERTER CONTROL BD9244AFV/SSOP/24PIN	QSCA0T0RM222
IC1930▲	IC PHOTOCOUPLER TLP781F(D4-FUNBLL F)	QPEL781FBLLF
IC1931▲	IC PHOTOCOUPLER TLP781F(D4-FUNBLL F)	QPEL781FBLLF
<b>TRANSISTORS</b>		
Q1201	CHIP TRANSISTOR KTC3875S-Y-RTK/P	NQ1YKTC3875S
Q1202	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

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
<b>RESISTORS</b>		
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 $\Omega$	RRXA102HH013
<b>MISCELLANEOUS</b>		
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:	-----
<b>CAPACITOR</b>		
C108	CAP CERAMIC (AX) 0.1 $\mu$ F/50V/F/Z	CA1J104TU062
<b>RESISTORS</b>		
R108	WIRE COPPER 6111-06003-0120	XZ40C0SHG002
R111	RES CARBON FILM T 1/4W G 820 $\Omega$	RCX4821T1002
R112	RES CARBON FILM T 1/4W G 820 $\Omega$	RCX4821T1002
R113	RES CARBON FILM T 1/4W G 1.2k $\Omega$	RCX4122T1002
R114	RES CARBON FILM T 1/4W G 5.1k $\Omega$	RCX4512T1002
R115	RES CARBON FILM T 1/4W G 6.8k $\Omega$	RCX4682T1002
<b>SWITCHES</b>		
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:	-----
<b>CAPACITORS</b>		
C101	ELECTROLYTIC CAP. 47 $\mu$ F/16V M H7	CE1CMAVSL470
C103	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C104	CHIP CERAMIC CAP.(1608) F Z 0.1 $\mu$ F/50V	CHD1JZ30F104
<b>DIODE</b>		
D101	LED (WHITE) SLR343WBC7T3XM	QPWM343WBC7T
<b>RESISTORS</b>		
R101	RES CARBON FILM T 1/4W J 100 $\Omega$	RCX4101T1001
R102	RES CHIP 1608 1/10W J 3.3k $\Omega$	RRXA332HH013
R103	RES CHIP 1608 1/10W J 2.7k $\Omega$	RRXA272HH013
R106	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
<b>MISCELLANEOUS</b>		
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:	A17FYM1Z-001
	INVERTER CBA	A17FYM1Z-001-IV
	FUNCTION CBA IR SENSOR CBA	A17FYM1Z-001-FNIR

## INVERTER CBA

Ref. No.	Description	Part No.
	INVERTER CBA Consists of the following:	-----
<b>CAPACITORS</b>		
C1100	CHIP CERAMIC CAP. F Z 2.2 $\mu$ F/50V	CHF1JZ30F225
C1101	CHIP CERAMIC CAP. F Z 2.2 $\mu$ F/50V	CHF1JZ30F225
C1102	CHIP CERAMIC CAP. F Z 2.2 $\mu$ F/50V	CHF1JZ30F225
C1103	CHIP CERAMIC CAP. F Z 2.2 $\mu$ F/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 2.2 $\mu$ F/50V	CHF1JZ30F225
C1117	CHIP CERAMIC CAP. F Z 2.2 $\mu$ 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 $\mu$ F/50V	CHD1JK30B104
C1204	CHIP CERAMIC CAP.(1608) B K 0.1 $\mu$ F/50V	CHD1JK30B104
C1205	CHIP CERAMIC CAP. F Z 2.2 $\mu$ F/50V	CHF1JZ30F225
C1206	ELECTROLYTIC CAP. 10 $\mu$ F/50V M	CE1JMASDL100
C1207	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1208	CAP CHIP 3216 B K 0.47 $\mu$ F/50V	CA1J474TE142
C1209	CAP CHIP 3216 B K 0.47 $\mu$ F/50V	CA1J474TE142
C1212	CHIP CERAMIC CAP.(1608) B K 0.47 $\mu$ F/16V	CHD1CK30B474
C1215	CHIP CERAMIC CAP.(1608) B K 0.01 $\mu$ F/50V	CHD1JK30B103
C1216	CHIP CERAMIC CAP. CH J 150pF/50V	CHD1JJ3CH151
C1217	CHIP CERAMIC CAP.(1608) B K 0.047 $\mu$ F/50V	CHD1JK30B473
C1218	CHIP CERAMIC CAP.(3216) B K 2.2 $\mu$ F/50V	CA1J225MR082
C1300	CHIP CERAMIC CAP.(1608) B K 0.1 $\mu$ F/50V	CHD1JK30B104
C1301	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1302	ELECTROLYTIC CAP. 10 $\mu$ F/50V M	CE1JMASDL100
C1303	CHIP CERAMIC CAP.(1608) B K 0.1 $\mu$ F/50V	CHD1JK30B104
C1304	ELECTROLYTIC CAP. 220 $\mu$ F/35V M	CE1GMASDL221
C1305	CHIP CERAMIC CAP.(1608) B K 0.1 $\mu$ 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 $\mu$ F/35V M	CE1GMZNDL222
C1701	ELECTROLYTIC CAP. 2200 $\mu$ F/35V M	CE1GMZNDL222
C1702	CAP CHIP 3216 B K 1 $\mu$ 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
<b>CONNECTORS</b>		
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
<b>DIODES</b>		
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
<b>ICS</b>		

Ref. No.	Description	Part No.
IC1200	IC INVERTER CONTROLLER OZ9972A/24PIN/ SOP	NSCA0TTMC005
IC1930▲	IC PHOTOCOUPLER TLP781F(D4-FUNBLL F)	QPEL781FBLLF
IC1931▲	IC PHOTOCOUPLER TLP781F(D4-FUNBLL F)	QPEL781FBLLF
<b>TRANSISTORS</b>		
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-Q(Te2 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
<b>RESISTORS</b>		
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
R1208	RES CHIP 1608 1/10W J 22k Ω	RRXA223HH013

Ref. No.	Description	Part No.
R1209	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1212	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1213	RES CHIP 1608 1/10W J 4.7k $\Omega$	RRXA472HH013
R1215	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1222	RES CHIP 1608 1/10W J 10 $\Omega$	RRXA100HH013
R1223	RES CHIP 1608 1/10W J 10 $\Omega$	RRXA100HH013
R1229	RES CHIP 1608 1/10W 0 $\Omega$	RRXA000HH014
R1230	RES CHIP 1608 1/10W F 150k $\Omega$	RTW1503HH008
R1231	RES CHIP 1608 1/10W F 560k $\Omega$	RTW5603HH008
R1232	RES CHIP 1608 1/10W J 1.0M $\Omega$	RRXA105HH013
R1233	RES CHIP 1608 1/10W J 560k $\Omega$	RRXA564HH013
R1234	RES CHIP 1608 1/10W F 56.0k $\Omega$	RTW5602HH008
R1235	RES CHIP 1608 1/10W F 24.0k $\Omega$	RTW2402HH008
R1300	RES CHIP 1608 1/10W F 10.0k $\Omega$	RTW1002HH008
R1301	RES CHIP 1608 1/10W F 47.0k $\Omega$	RTW4702HH008
R1302	RES CHIP 1608 1/10W F 51.0k $\Omega$	RTW5102HH008
R1303	RES CHIP 1608 1/10W J 4.7k $\Omega$	RRXA472HH013
R1304	RES CHIP 1608 1/10W J 4.7k $\Omega$	RRXA472HH013
R1305	METAL OXIDE RES. 2W J 510 $\Omega$	RN02511ZU001
R1306	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1307	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
R1308	RES CHIP 1608 1/10W J 4.7k $\Omega$	RRXA472HH013
R1309	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1310	RES CHIP 1608 1/10W J 22k $\Omega$	RRXA223HH013
R1500	RES CHIP 1608 1/10W F 1.00M $\Omega$	RTW1004HH008
R1501	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1502	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1503	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1504	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1505	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1506	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1507	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1508	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1509	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1510	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1511	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1512	RES CHIP 1608 1/10W F 100k $\Omega$	RTW1003HH008
R1513	RES CHIP 1608 1/10W F 1.00M $\Omega$	RTW1004HH008
R1514	RES CHIP 1608 1/10W F 47.0k $\Omega$	RTW4702HH008
R1515	RES CHIP 1608 1/10W F 27.0k $\Omega$	RTW2702HH008
R1516	RES CHIP 1608 1/10W F 2.40k $\Omega$	RTW2401HH008
R1517	RES CHIP 1608 1/10W 0 $\Omega$	RRXA000HH014
R1700	RES CHIP 1608 1/10W J 100 $\Omega$	RRXA101HH013
R1701	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1702	RES CHIP 1608 1/10W J 100 $\Omega$	RRXA101HH013
R1703	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1704	METAL OXIDE FILM RES. 1W J 4.7 $\Omega$	RN014R7ZU001
R1705	RES CHIP 1608 1/10W J 100 $\Omega$	RRXA101HH013
R1706	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1707	RES CHIP 1608 1/10W J 100 $\Omega$	RRXA101HH013
R1708	RES CHIP 1608 1/10W J 10k $\Omega$	RRXA103HH013
R1709	METAL OXIDE FILM RES. 1W J 4.7 $\Omega$	RN014R7ZU001
R1930	RES CARBON FILM T 1/4W J 47 $\Omega$	RCX4470T1001
R1931	RES CARBON FILM T 1/4W J 47k $\Omega$	RCX4473T1001
R1932	RES CARBON FILM T 1/4W J 120 $\Omega$	RCX4121T1001
R1933	RES CARBON FILM T 1/4W J 120 $\Omega$	RCX4121T1001
R1934	RES CARBON FILM T 1/4W J 120 $\Omega$	RCX4121T1001
R1935	RES CARBON FILM T 1/4W J 1.5k $\Omega$	RCX4152T1001
R1936	RES CARBON FILM T 1/4W J 180 $\Omega$	RCX4181T1001
R1937▲	METAL OXIDE FILM RES. 2W J 0.39 $\Omega$	RN02R39ZU001
R1938	RES CARBON FILM T 1/4W J 82k $\Omega$	RCX4823T1001
R1939	RES CARBON FILM T 1/4W J 2.2k $\Omega$	RCX4222T1001
R1949	RES CARBON FILM T 1/4W J 150k $\Omega$	RCX4154T1001

Ref. No.	Description	Part No.
R1967	RES CARBON FILM T 1/4W J 3.9k $\Omega$	RCX4392T1001
R1970	RES CARBON FILM T 1/4W J 220 $\Omega$	RCX4221T1001
R1972	RES CHIP 1608 1/10W J 22k $\Omega$	RRXA223HH013
R1973	RES CHIP 1608 1/10W J 3.3k $\Omega$	RRXA332HH013
R1977	RES CHIP 1608 1/10W F 20.0k $\Omega$	RTW2002HH008
R1979	RES CHIP 1608 1/10W F 6.80k $\Omega$	RTW6801HH008
R1980	RES CHIP 1608 1/10W F 180 $\Omega$	RTW1800HH008
R1981	RES CHIP 1608 1/10W 0 $\Omega$	RRXA000HH014
R1982	RES CHIP 1608 1/10W J 1.5k $\Omega$	RRXA152HH013
R1986	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
R1988	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
<b>MISCELLANEOUS</b>		
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	WX1A17FY-012
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:	-----
<b>CAPACITOR</b>		
C108	CAP CERAMIC (AX) 0.1 $\mu$ F/50V/F/Z	CA1J104TU062
<b>RESISTORS</b>		
R108	WIRE COPPER 6111-06003-0120	XZ40C0SHG002
R111	RES CARBON FILM T 1/4W G 820 $\Omega$	RCX4821T1002
R112	RES CARBON FILM T 1/4W G 820 $\Omega$	RCX4821T1002
R113	RES CARBON FILM T 1/4W G 1.2k $\Omega$	RCX4122T1002
R114	RES CARBON FILM T 1/4W G 5.1k $\Omega$	RCX4512T1002
R115	RES CARBON FILM T 1/4W G 6.8k $\Omega$	RCX4682T1002
<b>SWITCHES</b>		
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:	-----
<b>CAPACITORS</b>		
C101	ELECTROLYTIC CAP. 47 $\mu$ F/16V M H7	CE1CMAVSL470
C103	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1J3CH331
C104	CHIP CERAMIC CAP.(1608) F Z 0.1 $\mu$ F/50V	CHD1JZ30F104
<b>DIODE</b>		
D101	LED (WHITE) SLR343WBC7T3XM	QPWM343WBC7T

Ref. No.	Description	Part No.
<b>RESISTORS</b>		
R101	RES CARBON FILM T 1/4W J 100 $\Omega$	RCX4101T1001
R102	RES CHIP 1608 1/10W J 3.3k $\Omega$	RRXA332HH013
R103	RES CHIP 1608 1/10W J 2.7k $\Omega$	RRXA272HH013
R106	RES CHIP 1608 1/10W J 1.0k $\Omega$	RRXA102HH013
<b>MISCELLANEOUS</b>		
CL103	WIRE ASSEMBLY 4PIN 4PIN/35MM	WX1A17F6-202
RS101	SENSOR REMOTE RECEIVER KSM-712TH2E	USESJRSKK044