



SERVICE MANUAL

This Service Manual is for the LH7-M19BB (A93N2EP) model. For the LH7-M19BB (A93N2EP) model, the letter (A93N2EP) is printed on the Serial Number Label on the back of the unit. Refer to the Serial Number Label on the right.

Serial No. Label



"A93N2EP"

19" COLOR LCD TELEVISION LH7-M19BB



19" COLOR LCD TELEVISION

LH7-M19BB

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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.

SPECIFICATIONS

< TUNER >

VHS/UHF Input ----- 75Ω unbal., IEC Connector
Center IF ----- SECAM-L 38.9MHz, SECAM-L' 33.9MHz

Description	Condition	Unit	Nominal	Limit
1. Video S/N	80	dB	---	40
2. Audio S/N	---	dB	---	40/40

< LCD PANEL >

Description	Condition	Unit	Nominal	Limit
1. Number of Pixels	Horizontal	pixels	1366	---
	Vertical	pixels	768	---
2. Viewing Angle	Horizontal	°	---	-85 to 85
	Vertical	°	---	-80 to 80

<DVB-T>

Description	Condition	Unit	Nominal	Limit
1. RECEIVED FREQ.RANGE (-60dBm, 45ch.) *1, *2	+	kHz	1000	500
	-	kHz	900	167
2. INPUT DYNAMIC RANGE (mix./max)	①:*1 VHF HIGH 8ch.	dBuV	25/101	28/98
	UHF 45ch.	dBuV	25/101	29/98
	②:*2 VHF HIGH 8ch.	dBuV	18/101	21/98
	UHF 45ch.	dBuV	18/101	21/98
3. C/N PERFORMANCE (-50dBm)	①:*1 VHF HIGH 8ch.	dB	15	≤18
	UHF 45ch.	dB	15	≤18
	②:*2 VHF HIGH 8ch.	dB	11	≤14
	UHF 45ch.	dB	11	≤14
4. MULTIPATH (-50dBm) a. Performance with short delay echoes b. Performance with long delay echoes	UHF 45ch.			
	①:*3	dB	18.7	≤23
	②:*4	dB	14.0	≤20
	①:*3	dB	19.1	≤23
	②:*4	dB	13.0	≤18

*1: modulation parameters = [8k 64QAM CR=2/3 GI=1/32]

*2: modulation parameters = [8k 16QAM CR=3/4 GI=1/8]

*3: modulation parameters = [2k 64QAM CR=2/3 GI=1/32]

*4: modulation parameters = [2k 16QAM CR=3/4 GI=1/32]

< VIDEO >

Description	Condition	Unit	Nominal	Limit
1. Over Scan	Horizontal	%	5	---
	Vertical	%	5	---
2. Color Temperature	AT 70% WHITE FIELD	°K	9200	---
	x		0.286	±0.008
	y		0.295	±0.008
3. Resolution	Horizontal	line	400	---
	Vertical	line	350	---
4. Brightness	AT 100% WHITE FIELD	cd/m ²	260	---

< AUDIO >

All items are measured across 16 Ω load at speaker output terminal.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power	10% THD: Lch/Rch	W	3.0/3.0	2.0/2.0
2. Audio Distortion	500mW: Lch/Rch	%	1.5/1.5	3.0/3.0
3. Audio Freq. Response	−6dB: Lch	Hz	70 to 8 k	---
	−6dB: Rch	Hz	70 to 8 k	---
4. Audio S/N	Lch/Rch	dB	---	$\geq 45/45$

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

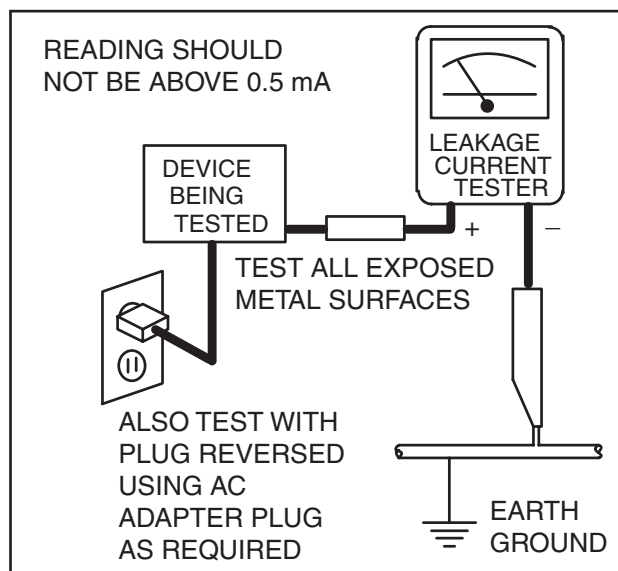
IMPORTANT SAFETY PRECAUTIONS

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 LCD module 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 230 V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American

National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



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

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the LCD module.
3. **Design Alteration Warning** - Do not alter or add to the mechanical or electrical design of this LCD TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. Hot Chassis Warning -

- a.** Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and maybe safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0 V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.
 - b.** Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
 - c.** Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.
- 5.** Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and, e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.
- 6.** Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

- 7. Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a  on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The product's safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm they comply with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

- A.** Parts identified by the ⚠ symbol are critical for safety.
Replace only with part number specified.
- B.** In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.
- C.** Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
- D.** Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers
 - 4) Insulators for transistors.
- E.** When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.
- F.** Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)
- G.** Check that replaced wires do not contact sharp edged or pointed parts.
- H.** When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.
- I.** Also check areas surrounding repaired locations.
- J.** Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
- K.** When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC supply outlet.
- L.** When installing parts or assembling the cabinet parts, be sure to use the proper screws and tighten certainly.

Safety Check after Servicing

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

1. Clearance Distance

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

Table 1 : Ratings for selected area

AC Line Voltage	Clearance Distance (d), (d')
220 to 240 V	$\geq 3\text{mm}(d)$ $\geq 8\text{mm}(d')$

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

2. Leakage Current Test

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

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.

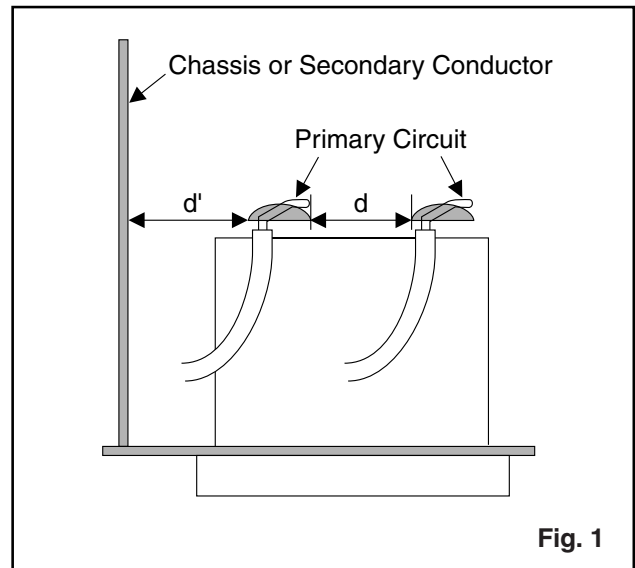


Fig. 1

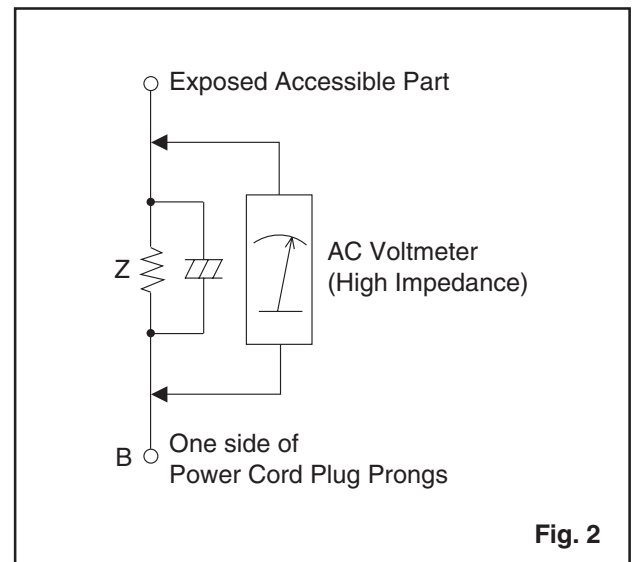


Fig. 2

Table 2: Leakage current ratings for selected areas

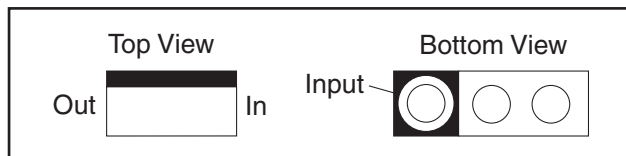
AC Line Voltage	Load Z	Leakage Current (i)	One side of power cord plug prongs (B) to:
220 to 240 V	2k Ω RES. Connected in parallel	$i \leq 0.7\text{mA AC Peak}$ $i \leq 2\text{mA DC}$	RF or Antenna terminals
	50k Ω RES. Connected in parallel	$i \leq 0.7\text{mA AC Peak}$ $i \leq 2\text{mA DC}$	A/V Input, Output

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

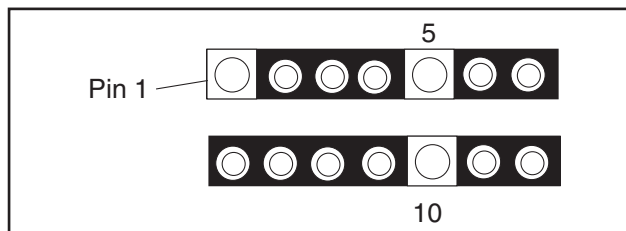
STANDARD NOTES FOR SERVICING

Circuit Board Indications

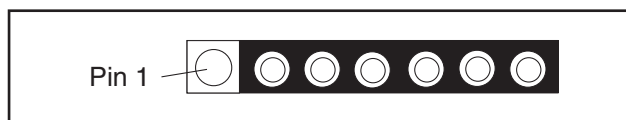
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

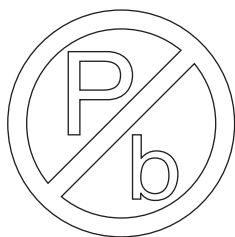


3. The 1st pin of every male connector is indicated as shown.



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)

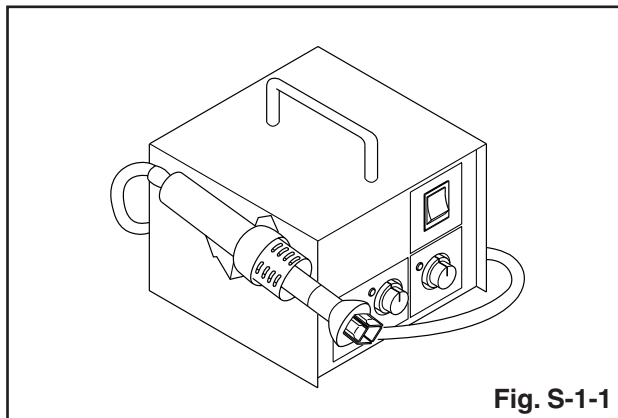


Fig. S-1-1

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.

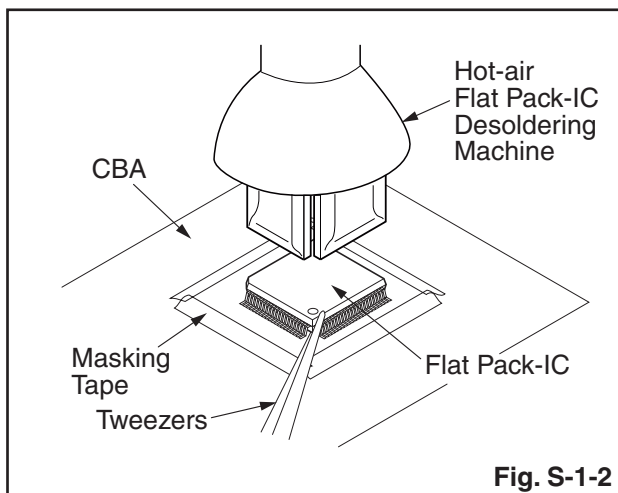
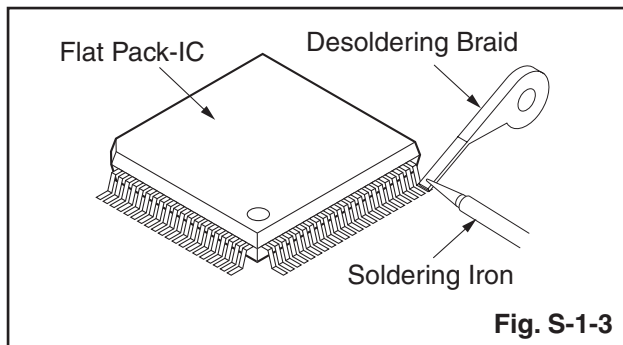


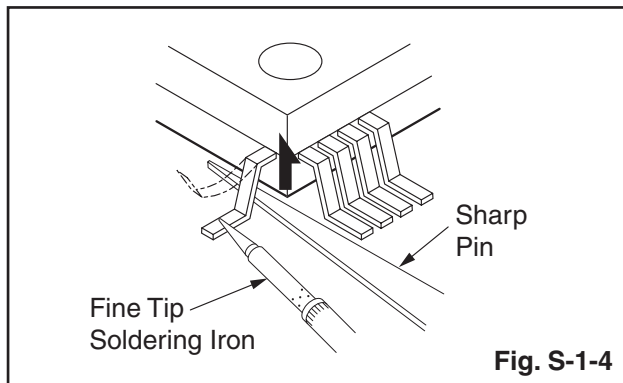
Fig. S-1-2

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)

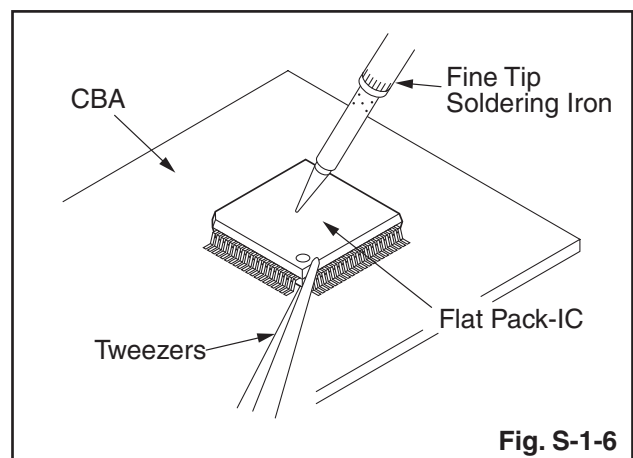
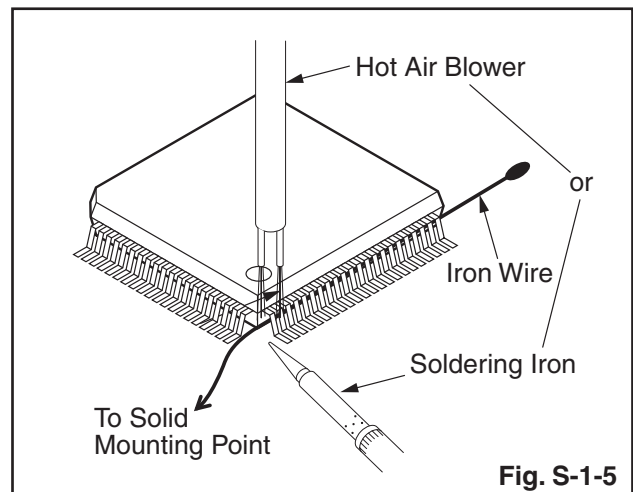


3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

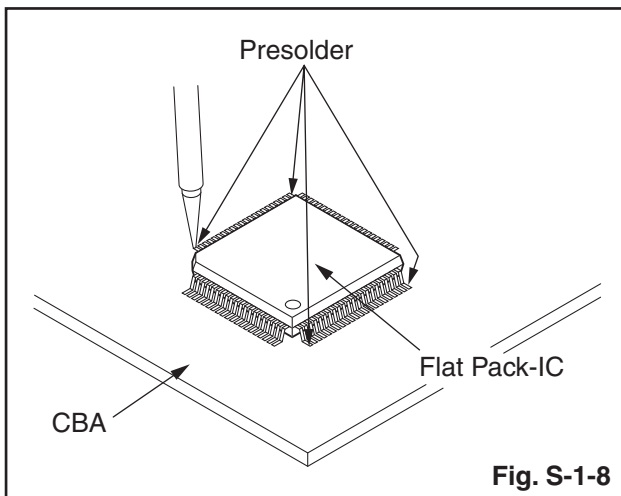
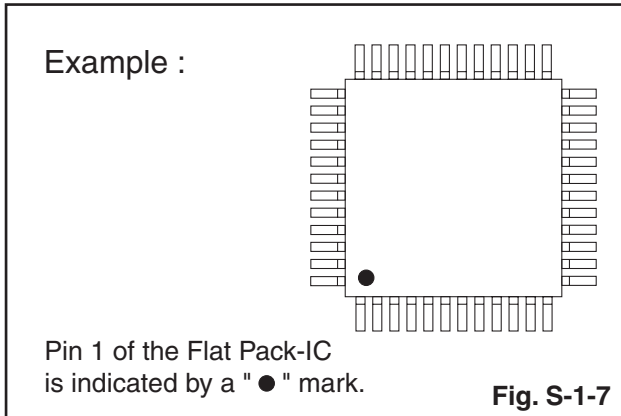
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins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

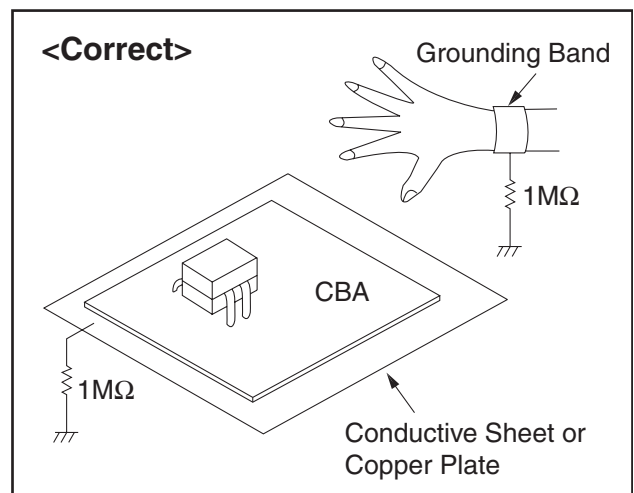
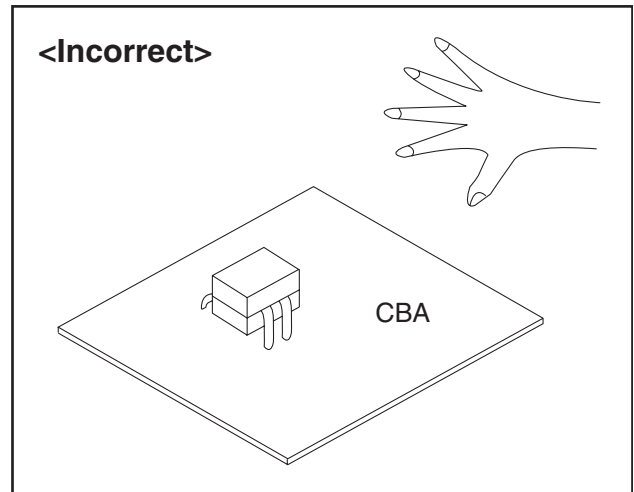
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

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

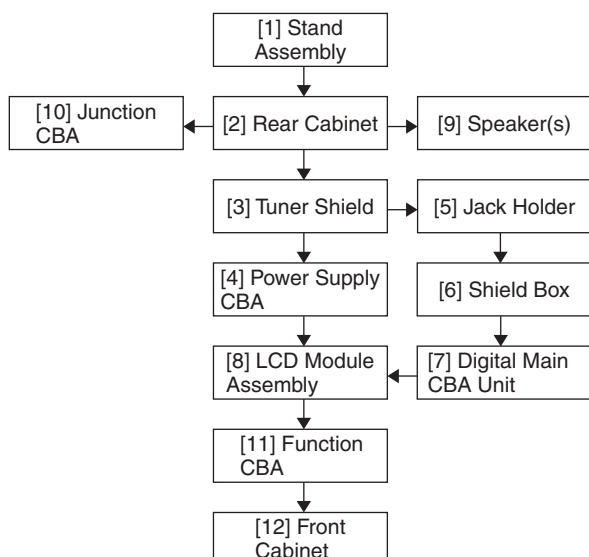
Be sure to place a conductive sheet or copper plate with proper grounding ($1\text{ M}\Omega$) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting 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 item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.



2. Disassembly Method

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[1]	Stand Assembly	D1	3(S-1)	---
[2]	Rear Cabinet	D1	12(S-2), 2(S-3), 3(S-4)	---
[3]	Tuner Shield	D2	(S-5)	---
[4]	Power Supply CBA	D2 D3	9(S-6), *CN152, *CN301, *CN302, *CN303, *CN401, *CN404, *CN801, *CN802, *CN1001, *CN1002	---
[5]	Jack Holder	D2	2(S-7)	---
[6]	Shield Box	D2 D3	4(S-8), (S-9), 5(S-10), 2(H-1), *CN3901	---
[7]	Digital Main CBA Unit	D2 D3	-----	---
[8]	LCD Module Assembly	D2	(S-11)	---
[9]	Speaker(s)	D2	4(S-12), Speaker Holder(s)	---
[10]	Junction CBA	D2 D3	Desolder	---

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[11]	Function CBA	D2 D3	2(S-13)	---
[12]	Front Cabinet	D2	-----	---
↓ (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.
N = Nut, L = Locking Tab, S = Screw,
H = Hex Screw, CN = Connector
* = Unhook, Unlock, Release, Unplug, or Desolder
e.g. 2(S-2) = two Screws (S-2),
2(L-2) = two Locking Tabs (L-2)
- (5) Refer to the following "Reference Notes in the Table."

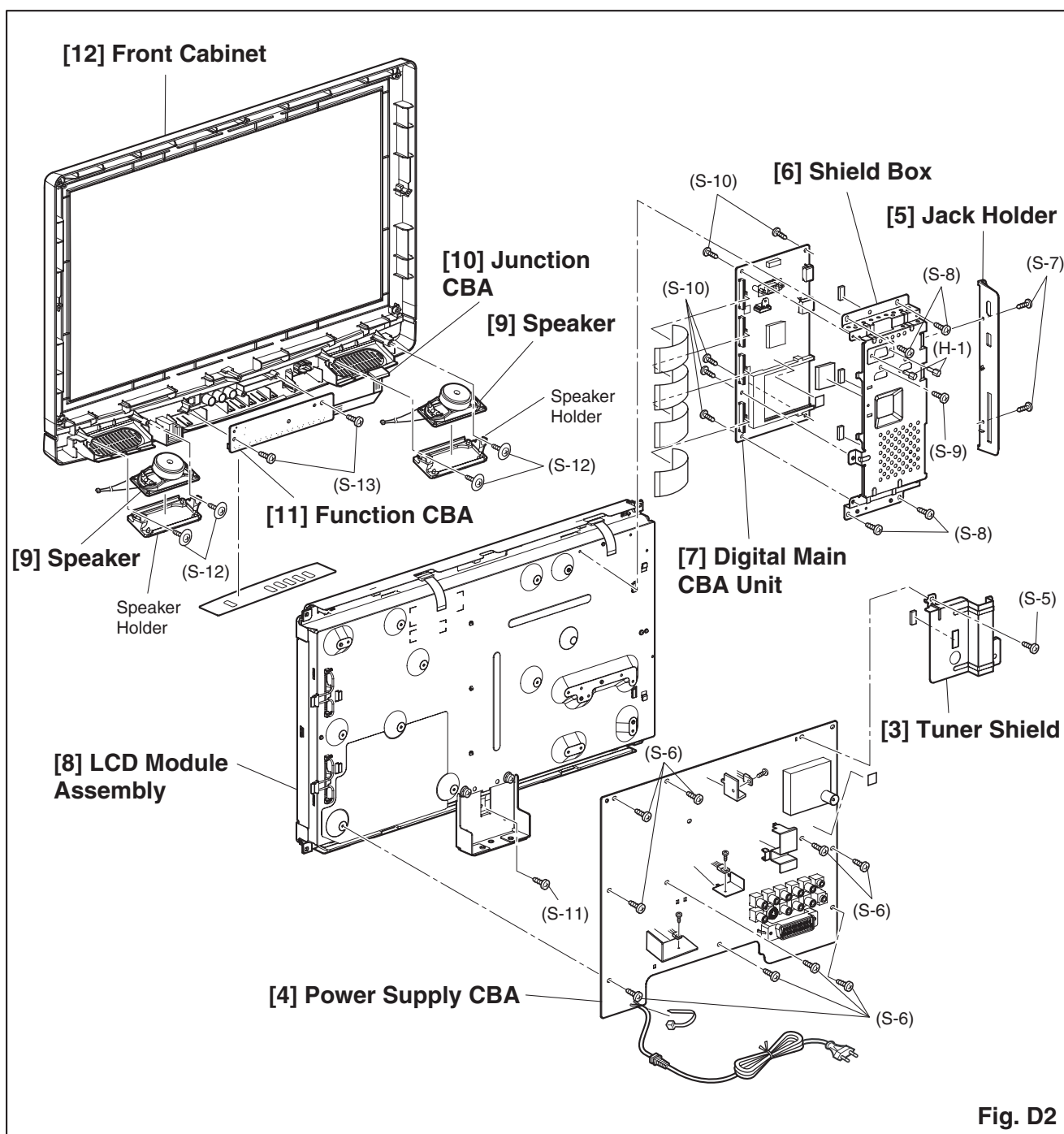


Fig. D2

TV Cable Wiring Diagram

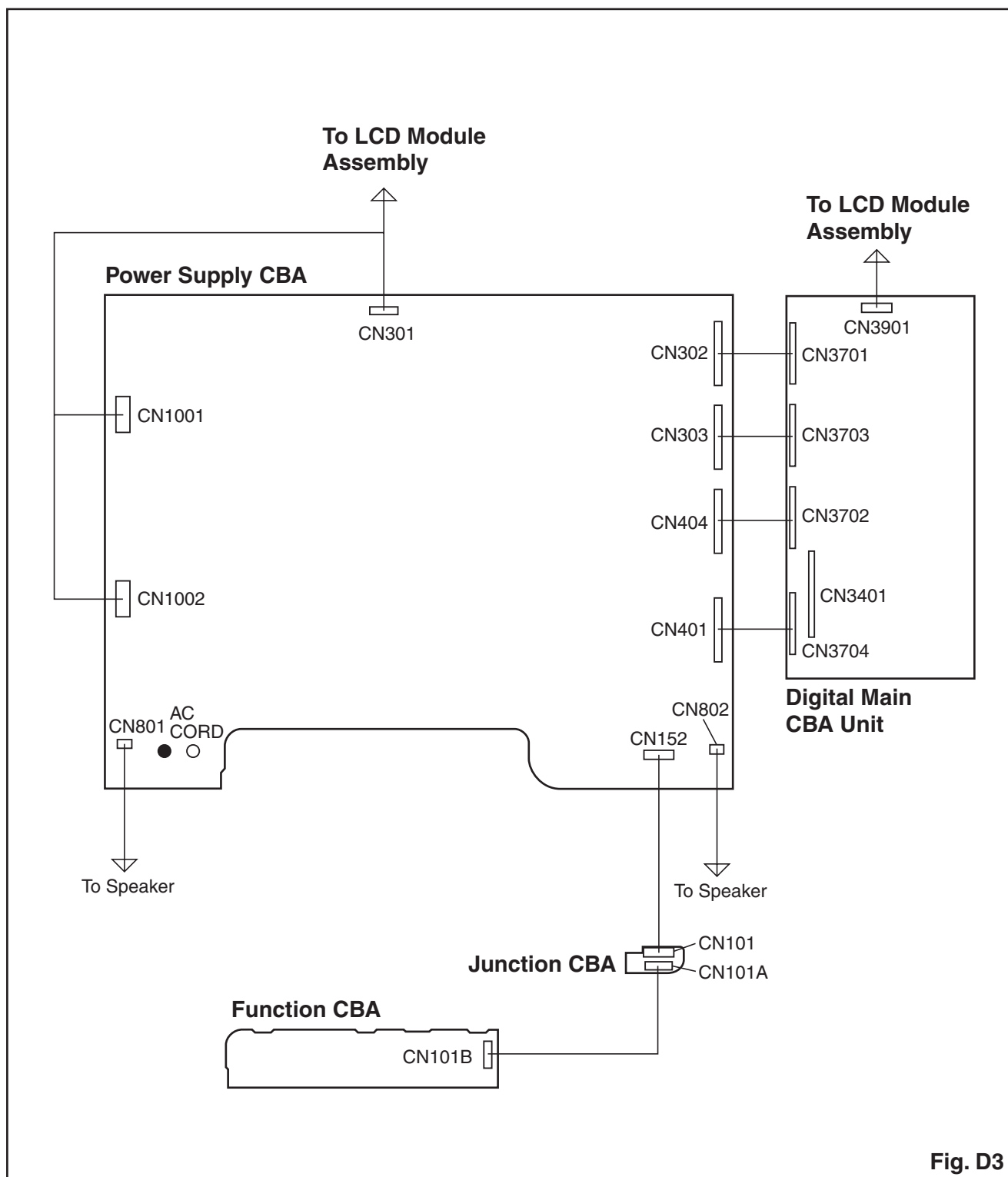


Fig. D3

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: “CBA” is abbreviation for “Circuit Board Assembly.”

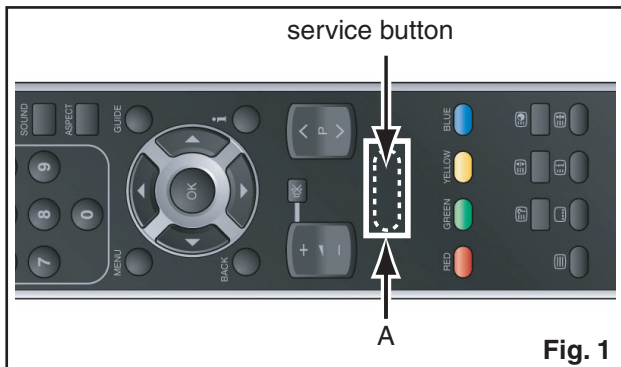
Note: Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. DC Voltmeter
2. Pattern Generator
3. Color Analyzer

How to make the Service remote control unit:

Cut “A” portion of the attached remote control unit as shown in Fig. 1.



How to set up the service mode:

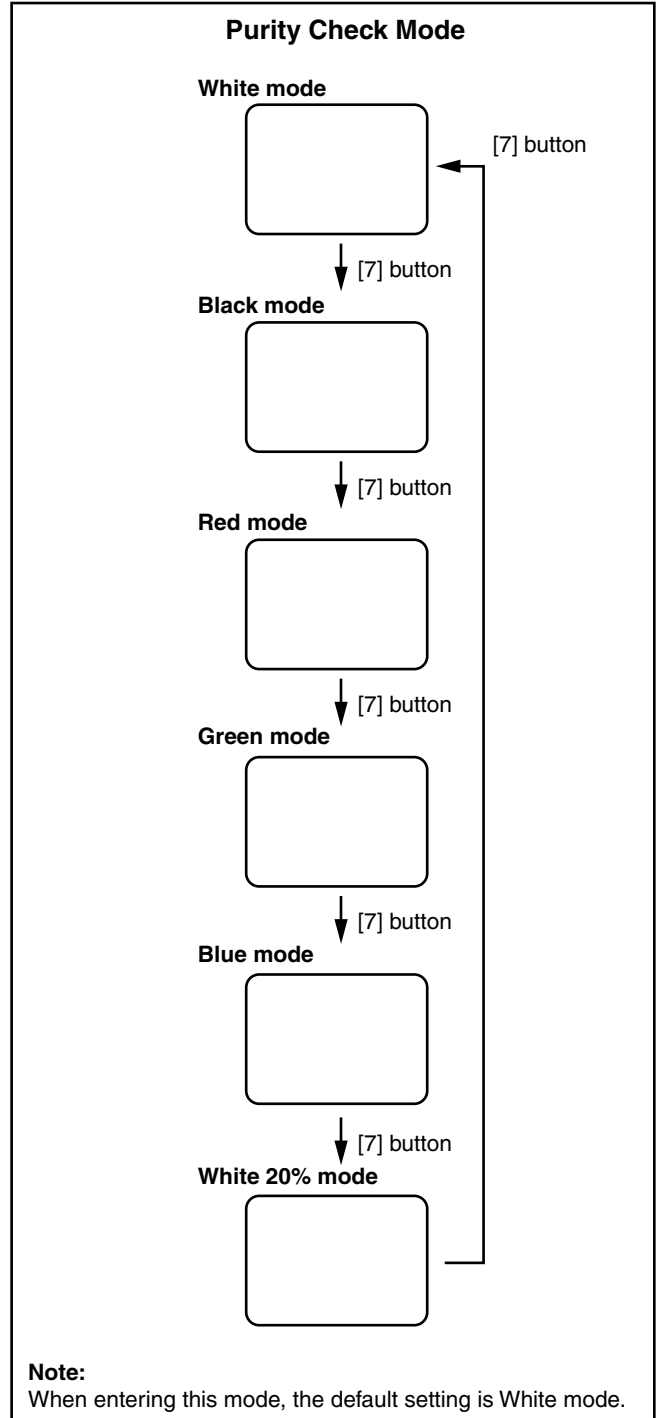
Service mode:

1. Use the service remote control unit.
2. Turn the power on.
3. Press the service button on the service remote control unit as shown in Fig.1.

1. Purity Check Mode

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

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



2. VCOM Adjustment.

Test Point	Adj. Point
Screen	[P ^ / ∨] buttons
M. EQ.	Spec.
Color analyzer	See below
Figure	
To avoid interference from ambient light, this adjustment should be performed in a dark room. Perpendicularity L = 3 cm Color Analyzer	

1. Operate the unit for more than 20 minutes.
2. Set the color analyzer and bring the optical receptor to the center on the LCD-Panel surface after zero point calibration as shown above.
Note: The optical receptor must be set perpendicularly to the LCD Panel surface.
3. Enter the Service mode.
4. Press [3] button on the service remote control unit.
5. Press [P ^ / ∨] buttons on the service remote control unit so that the color analyzer value becomes minimum.

3. Auto Calibration [Component]

Purpose: To bring the color adjustment of each component into standard alignment.

Symptom of Misadjustment: If this adjustment is incorrect, component signals do not reproduce the corresponding color.

1. Input 720P 100% Color Bar signal.
2. Enter the service mode.
3. To enter the Auto Calibration adjustment mode, press [6] button on the service remote control unit.
4. To start auto adjustment, press [P ^] button on the service remote control unit.
 - In the auto adjustment mode, "Calibration Check" appears on the screen.
 - Upon completion, "OK" appears on the screen.

4. Auto Calibration [PC]

Purpose: To bring the color adjustment of PC into standard alignment.

Symptom of Misadjustment: If this adjustment is incorrect, PC signals do not reproduce the corresponding color.

1. Input SVGA 100% White signal.
2. Enter the service mode.
3. To enter the Auto Calibration adjustment mode, press [5] button on the service remote control unit.
4. To start auto adjustment, press [P ^] button on the service remote control unit.
 - In the auto adjustment mode, "Calibration Check" appears on the screen.
 - Upon completion, "OK" appears on the screen.

The following adjustment normally are not attempted in the field. Only when replacing the LCD Panel then adjust as a preparation.

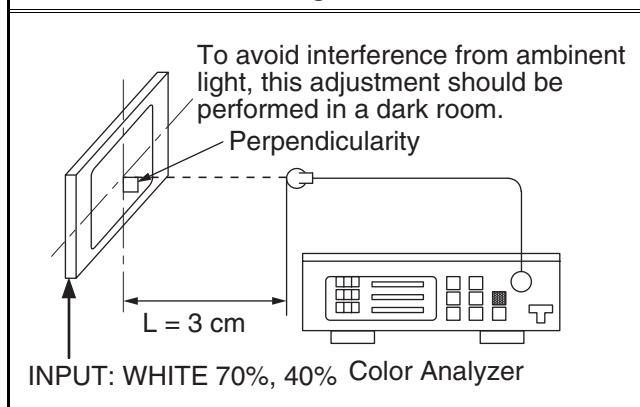
5. White Balance Adjustment [Video/Component/PC]

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

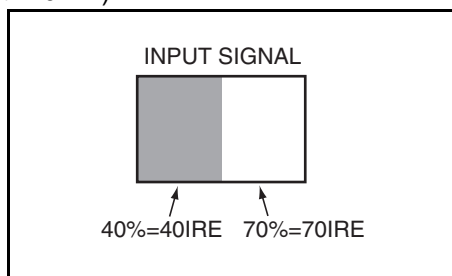
Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	[P ^ / ∨] buttons	[VIDEO] C/D	White Raster (APL 70%) or (APL 40%)
M. EQ.		Spec.	
Pattern Generator, Color analyzer		$x = 0.286 \pm 0.005$ $y = 0.295 \pm 0.005$	

Figure



1. Operate the unit for more than 20 minutes.
2. [VIDEO input]
Input the White Raster (70%=70IRE, 40%=40IRE).
[Component input]
Input the 720P White Raster (70%=70IRE, 40%=40IRE).
[PC input]
Input the SVGA White Raster (70%=70IRE, 40%=40IRE).



3. Set the color analyzer to the CHROMA mode and bring the optical receptor to the center on the LCD-Panel surface after zero point calibration as shown above.
Note: The optical receptor must be set perpendicularly to the LCD Panel surface.

4. Enter the Service mode. Press [▲ -] button on the service remote control unit and select "C/D" mode.
5. **[CUTOFF]**
Press [3] button to select "COB" for Blue Cutoff adjustment. Press [1] button to select "COR" for Red Cutoff adjustment.
[DRIVE]
Press [6] button to select "DB" for Blue Drive adjustment. Press [4] button to select "DR" for Red Drive adjustment.
6. In each color mode, press [P ^ / ∨] buttons to adjust the values of color.
7. Adjust Cutoff and Drive so that the color temperature becomes 9200°K ($x = 0.286 / y = 0.295 \pm 0.005$).
8. Change the video signal input in step 2 and repeat from step 3.

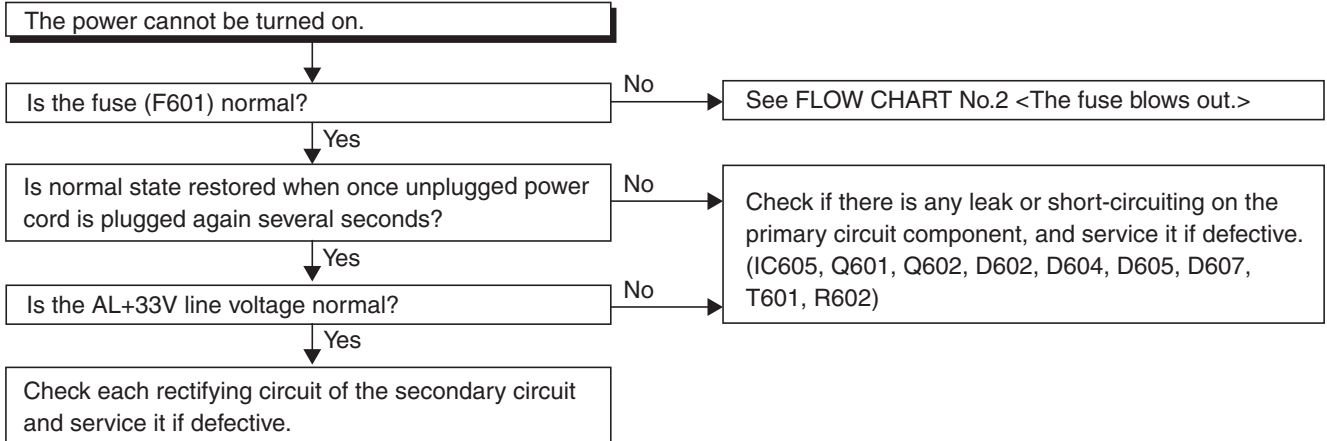
HOW TO INITIALIZE THE LCD TELEVISION

How to initialize the LCD television:

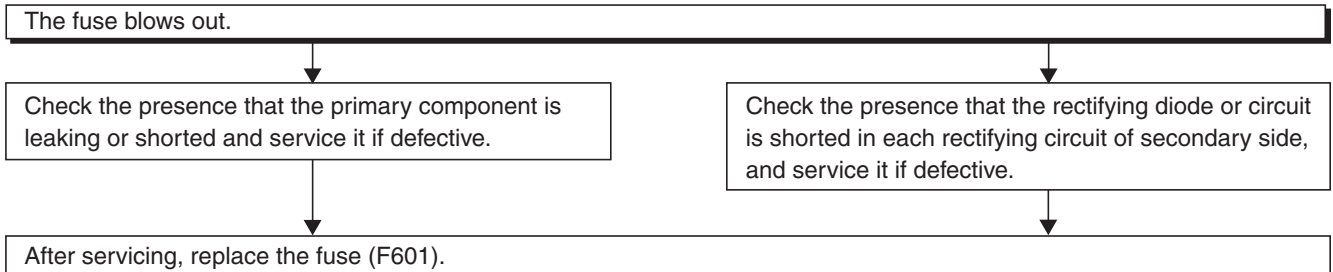
1. Turn the power on.
2. To enter the service mode, press the service button on the service remote control unit. (Refer to page 5-1.)
 - To cancel the service mode, Press [⏻] button on the remote control unit.
3. Press [i] button on the service remote control unit to initialize the LCD television.
4. "INITIALIZED" will appear in the upper right of the screen. "INITIALIZED" color will change to green from red when initializing is complete.

TROUBLESHOOTING

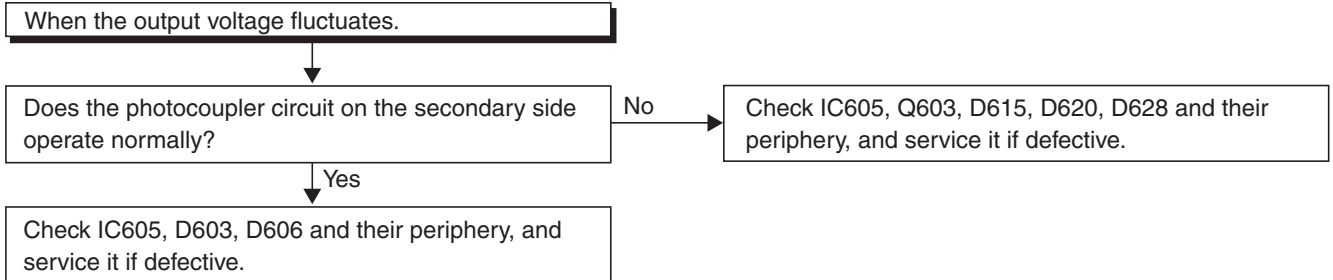
FLOW CHART NO.1



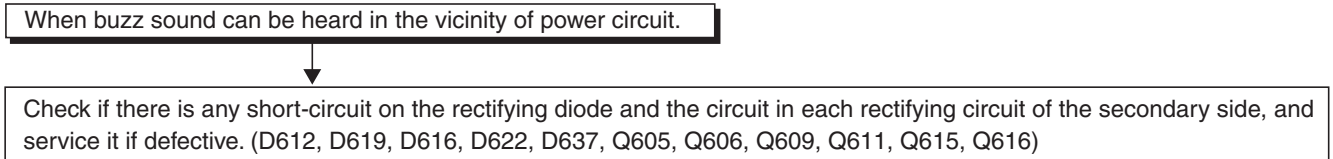
FLOW CHART NO.2



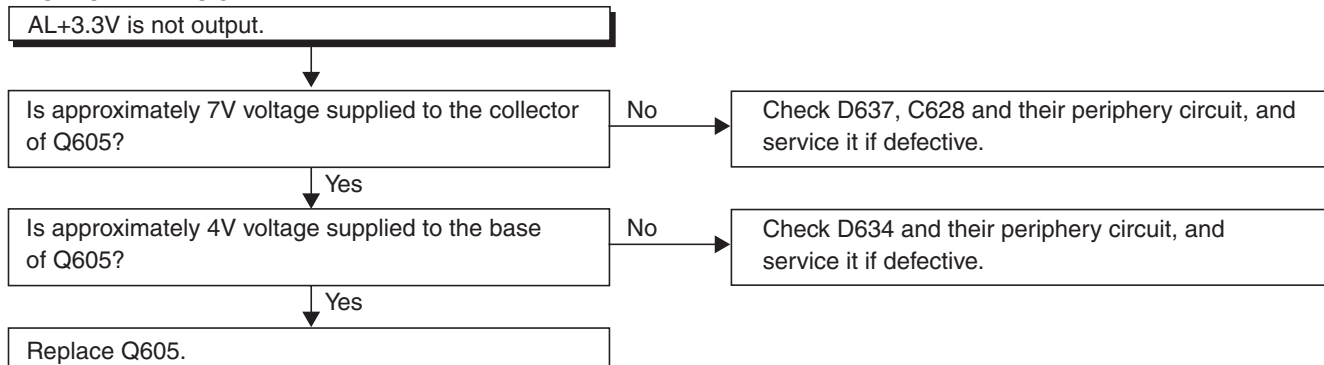
FLOW CHART NO.3



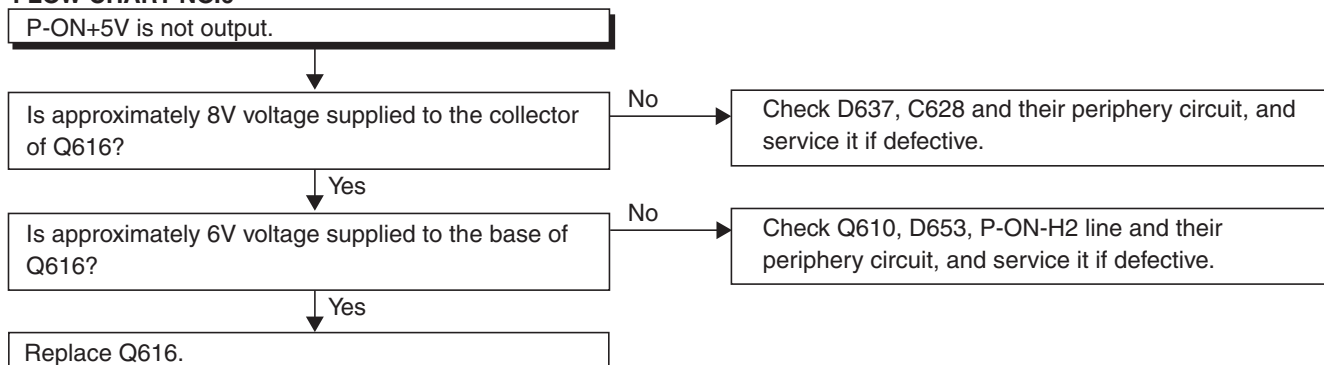
FLOW CHART NO.4



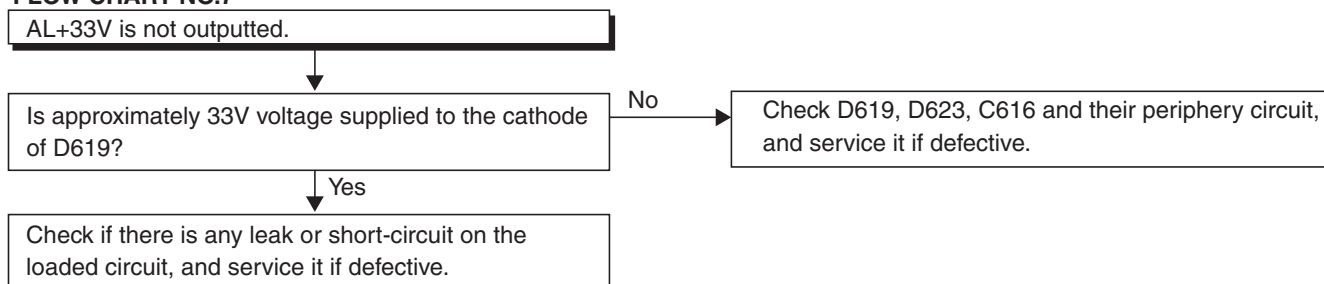
FLOW CHART NO.5



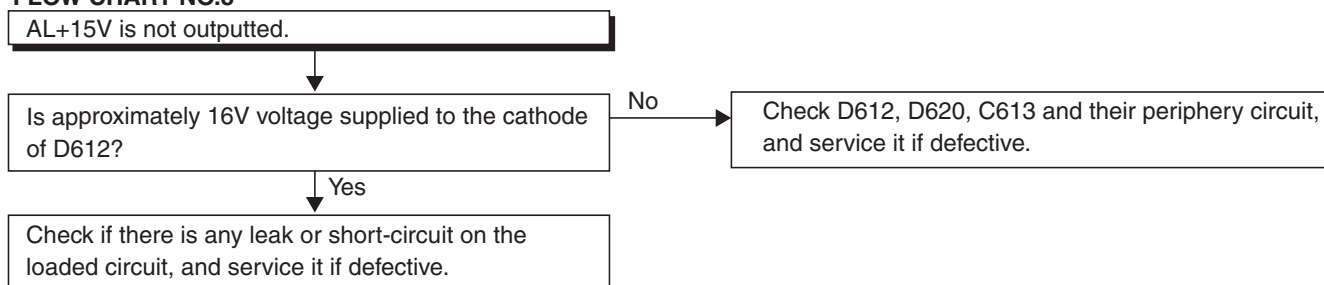
FLOW CHART NO.6



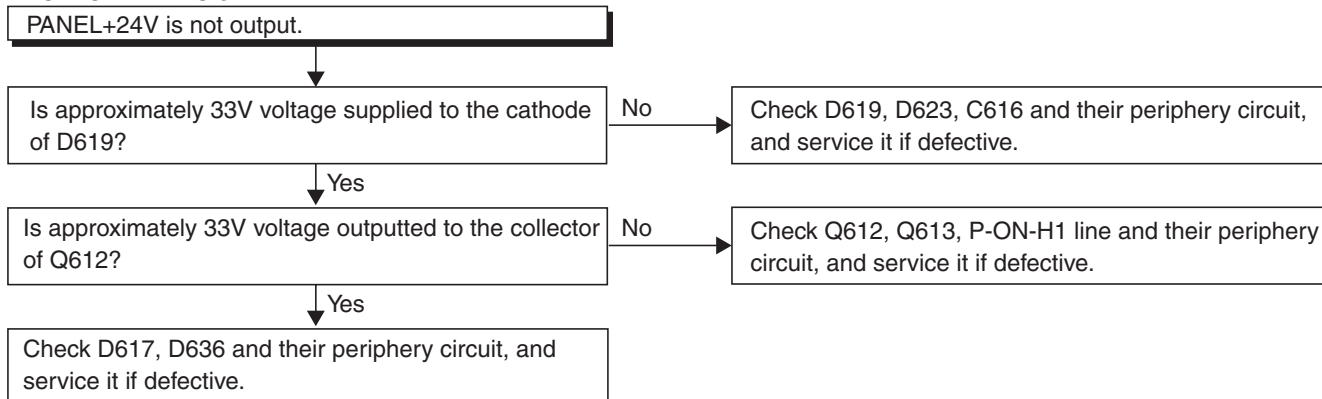
FLOW CHART NO.7



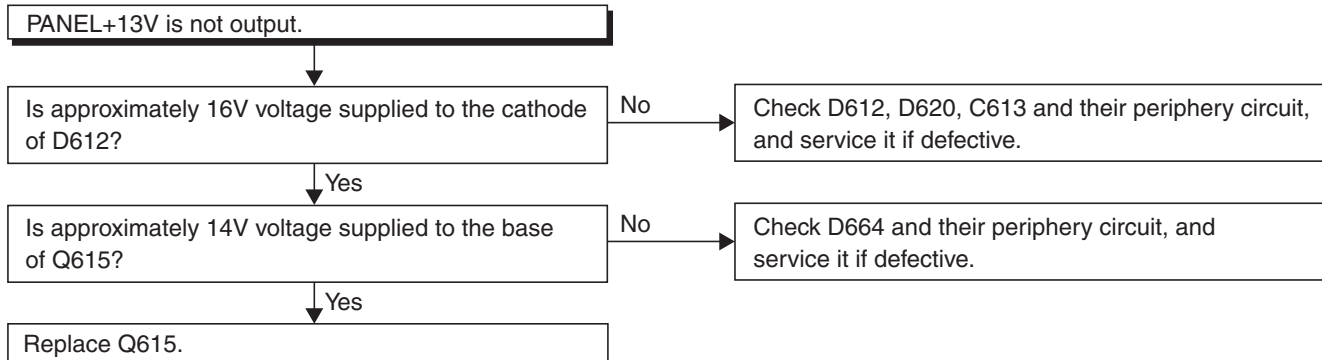
FLOW CHART NO.8



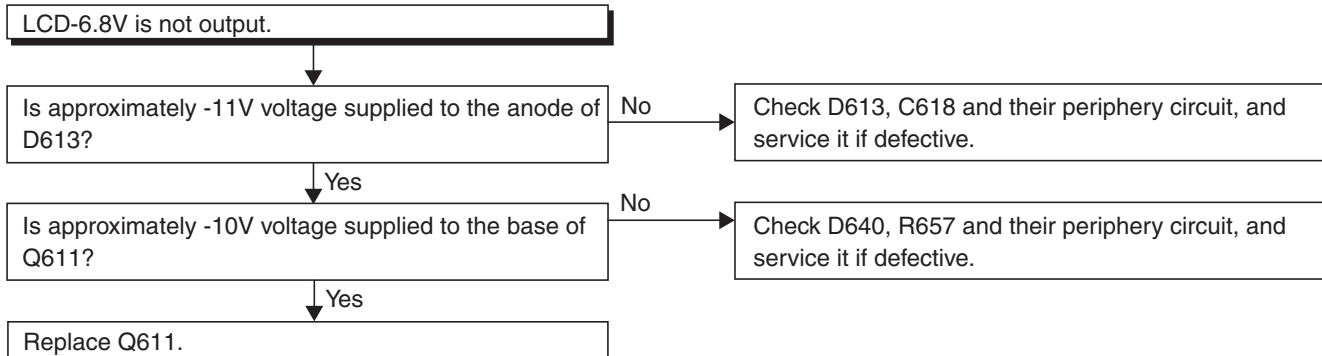
FLOW CHART NO.9



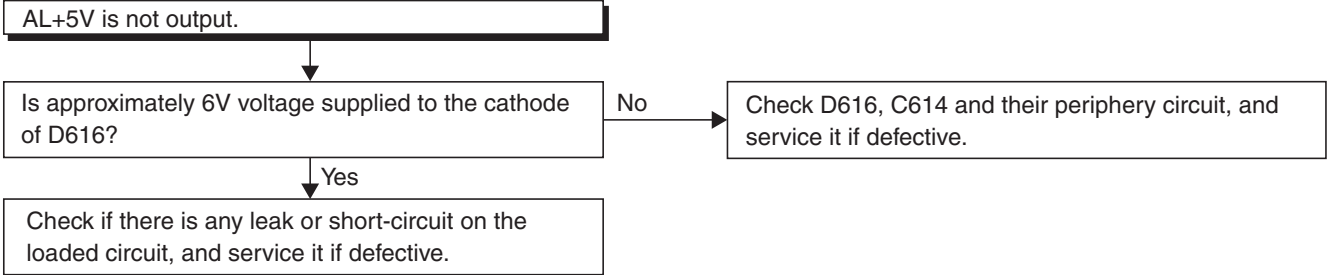
FLOW CHART NO.10



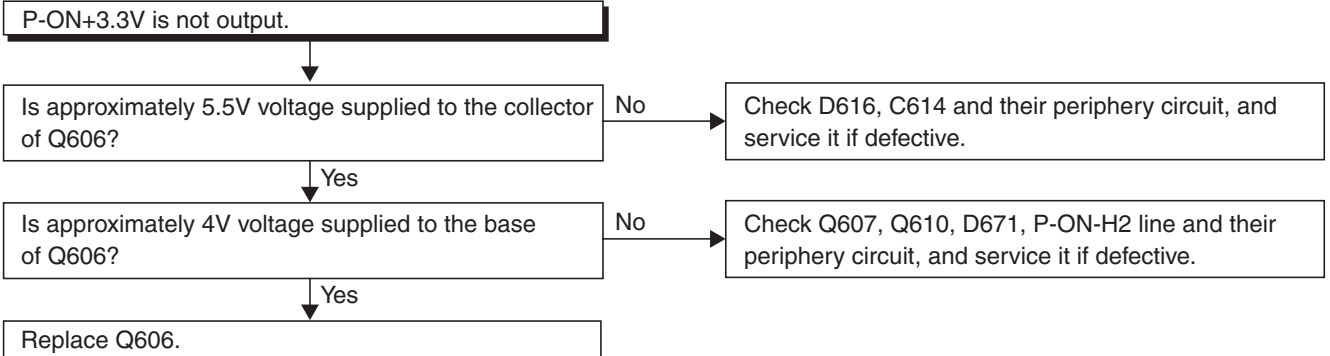
FLOW CHART NO.11



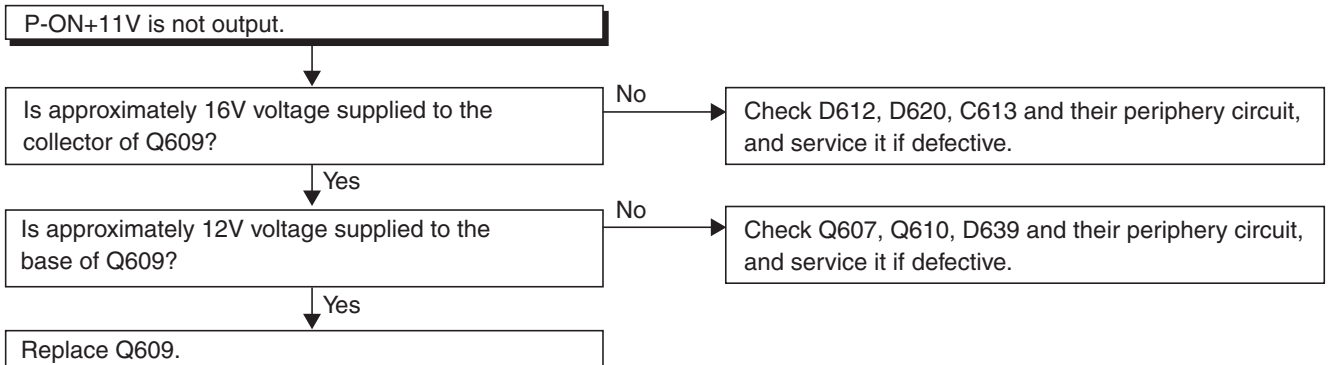
FLOW CHART NO.12



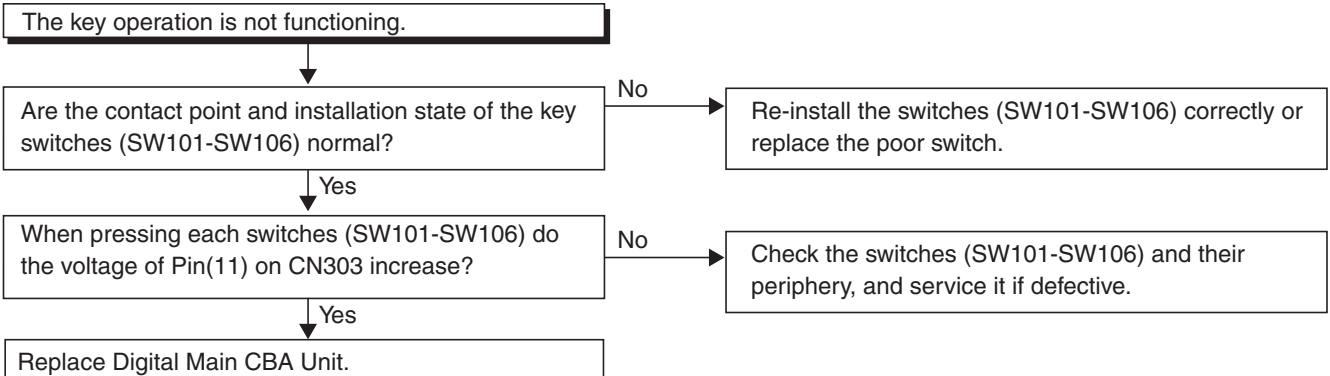
FLOW CHART NO.13



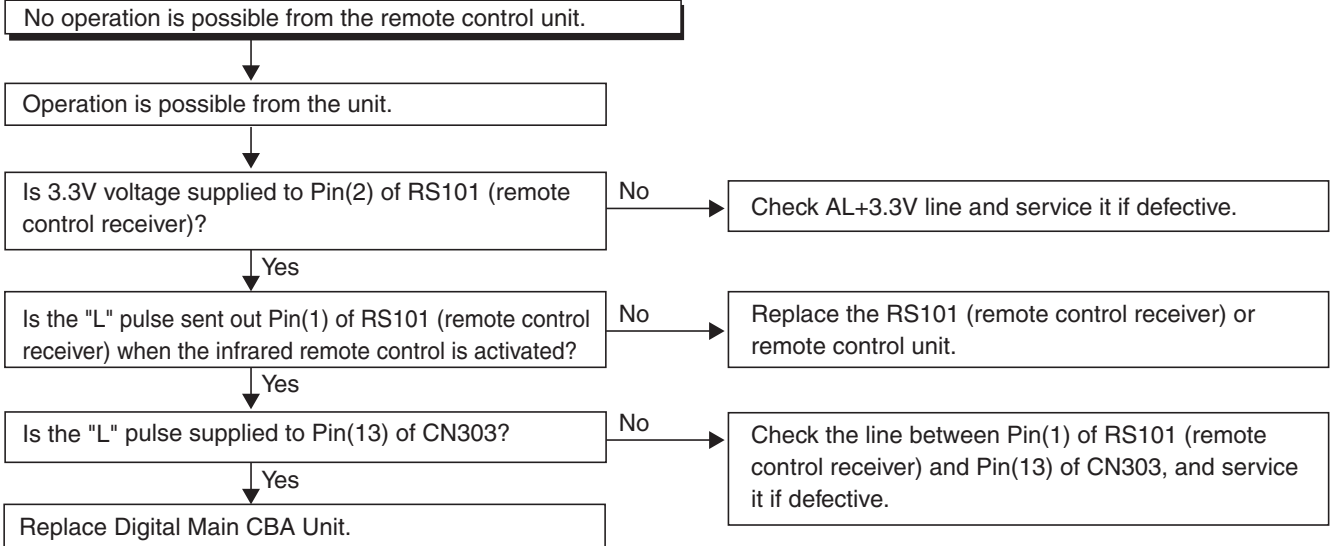
FLOW CHART NO.14



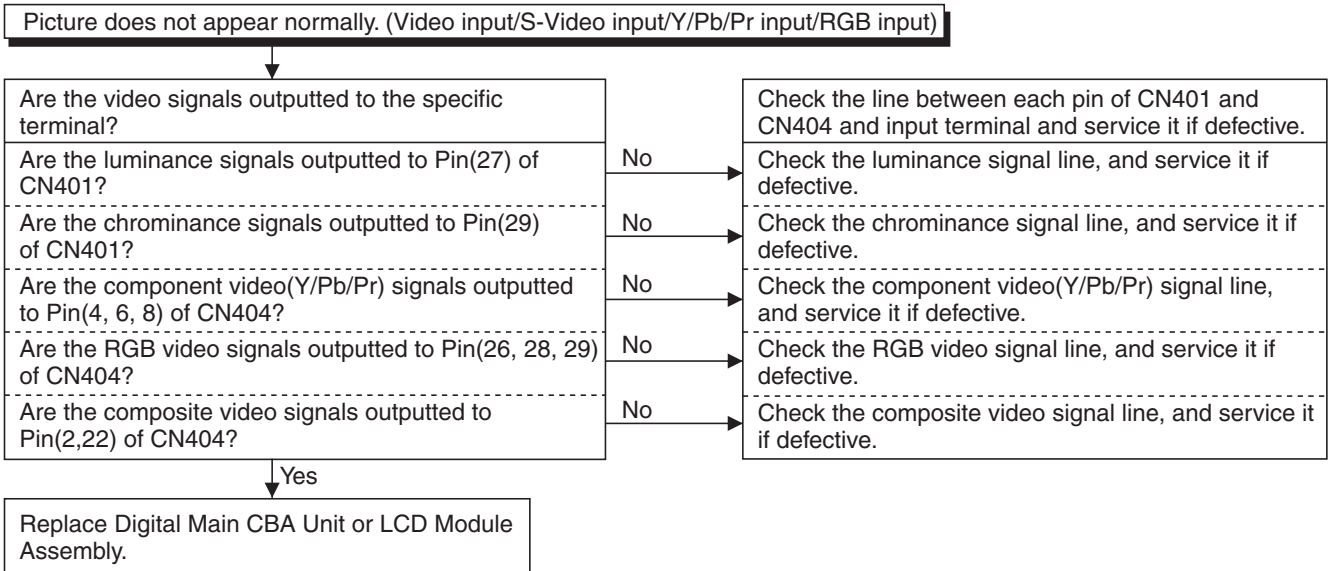
FLOW CHART NO.15



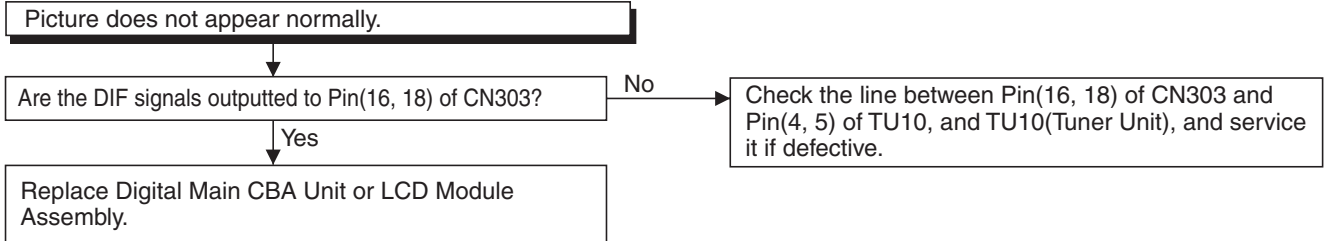
FLOW CHART NO.16



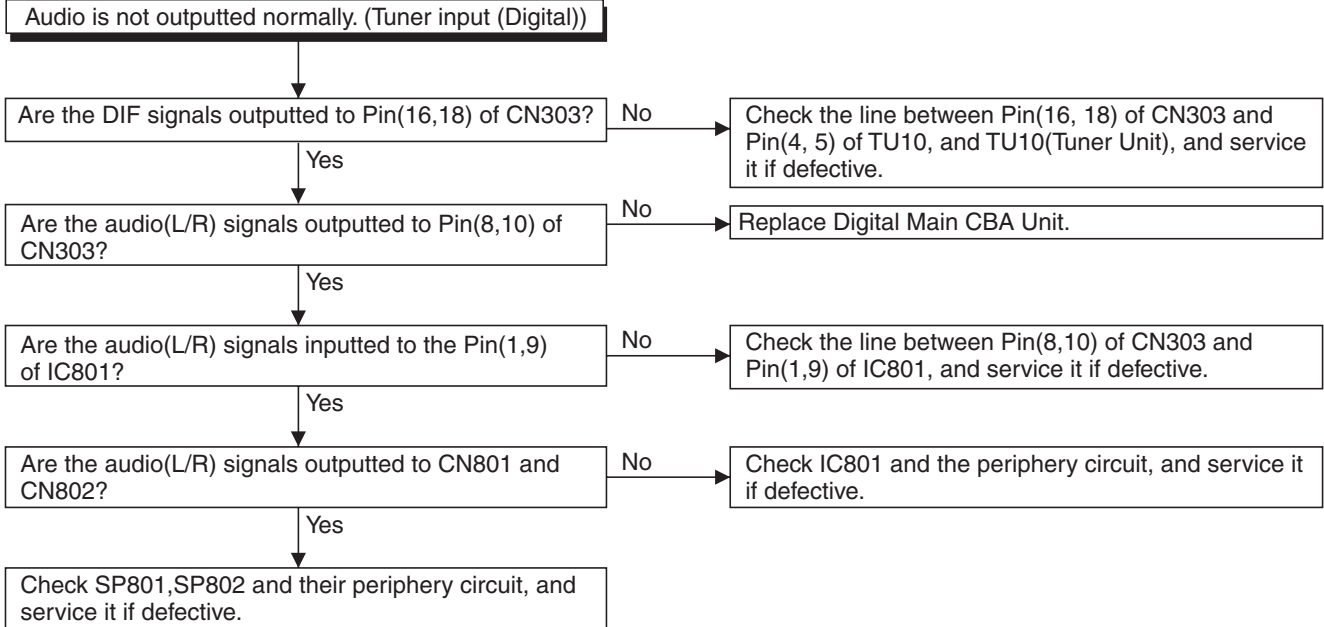
FLOW CHART NO.17



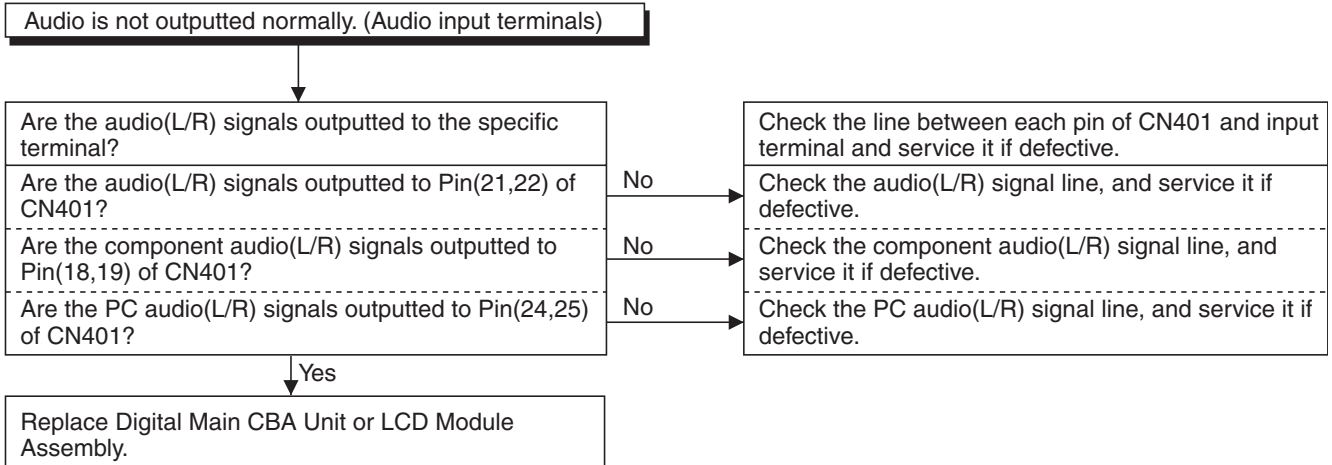
FLOW CHART NO.18



FLOW CHART NO.19

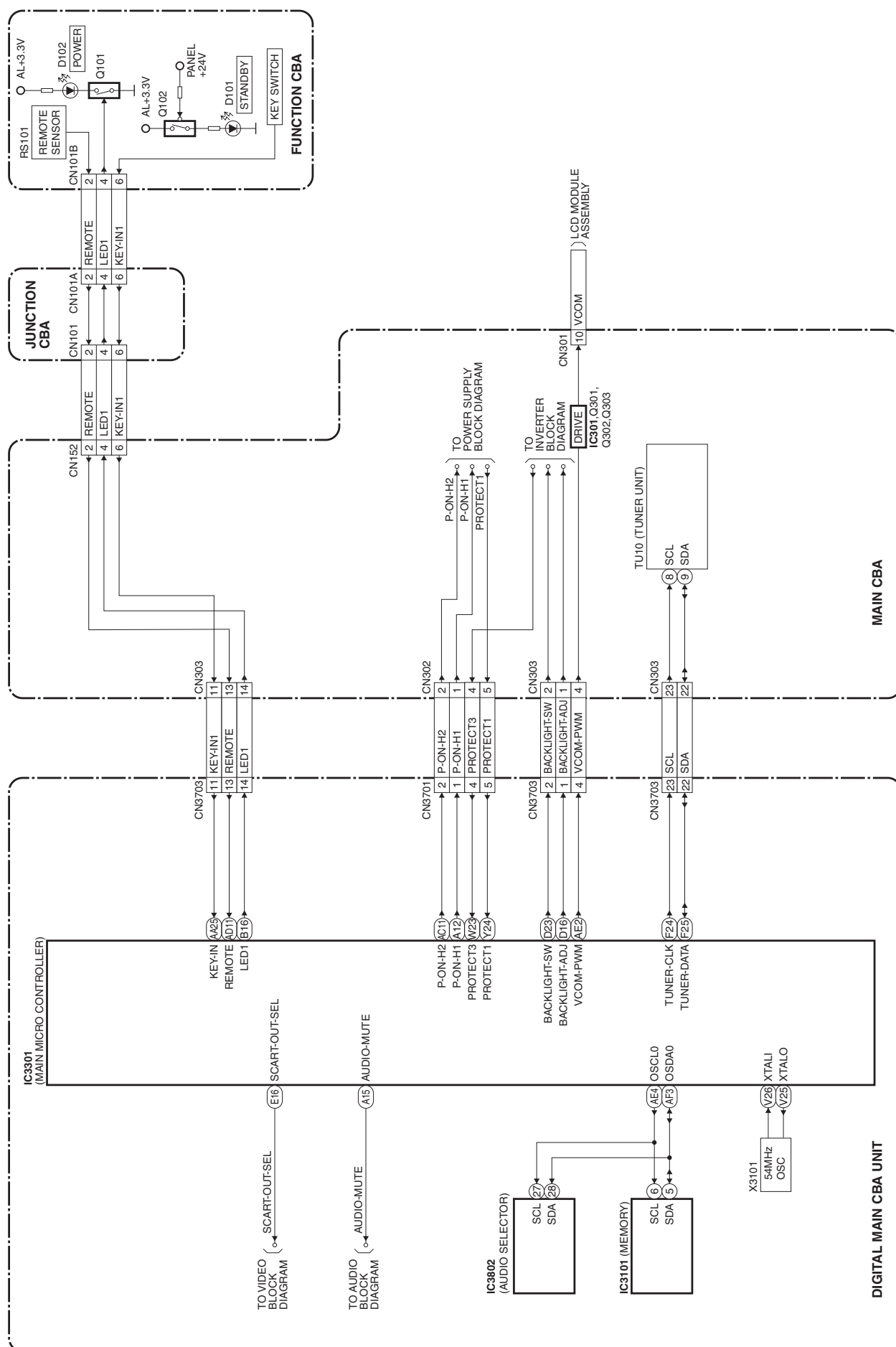


FLOW CHART NO.20

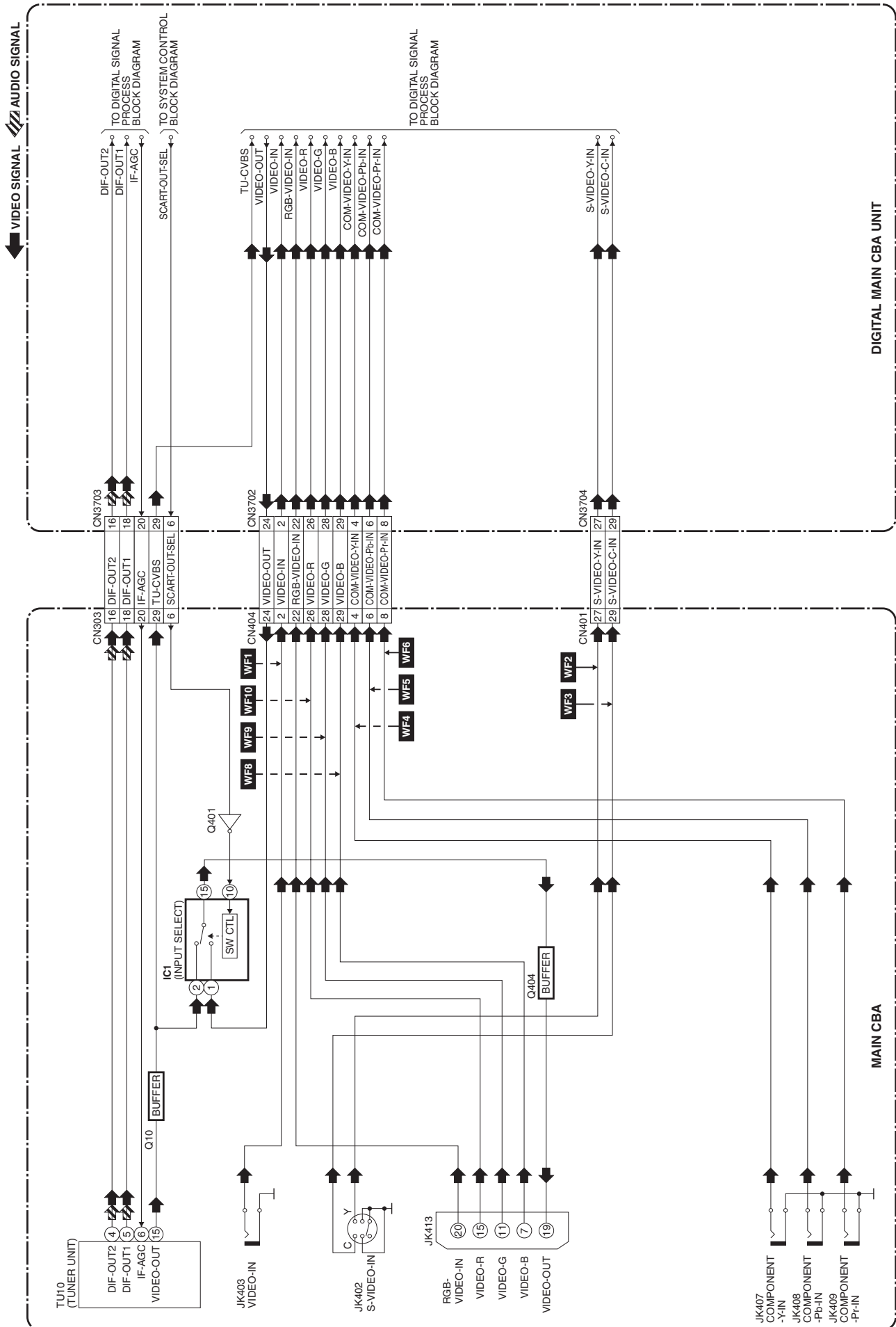


BLOCK DIAGRAMS

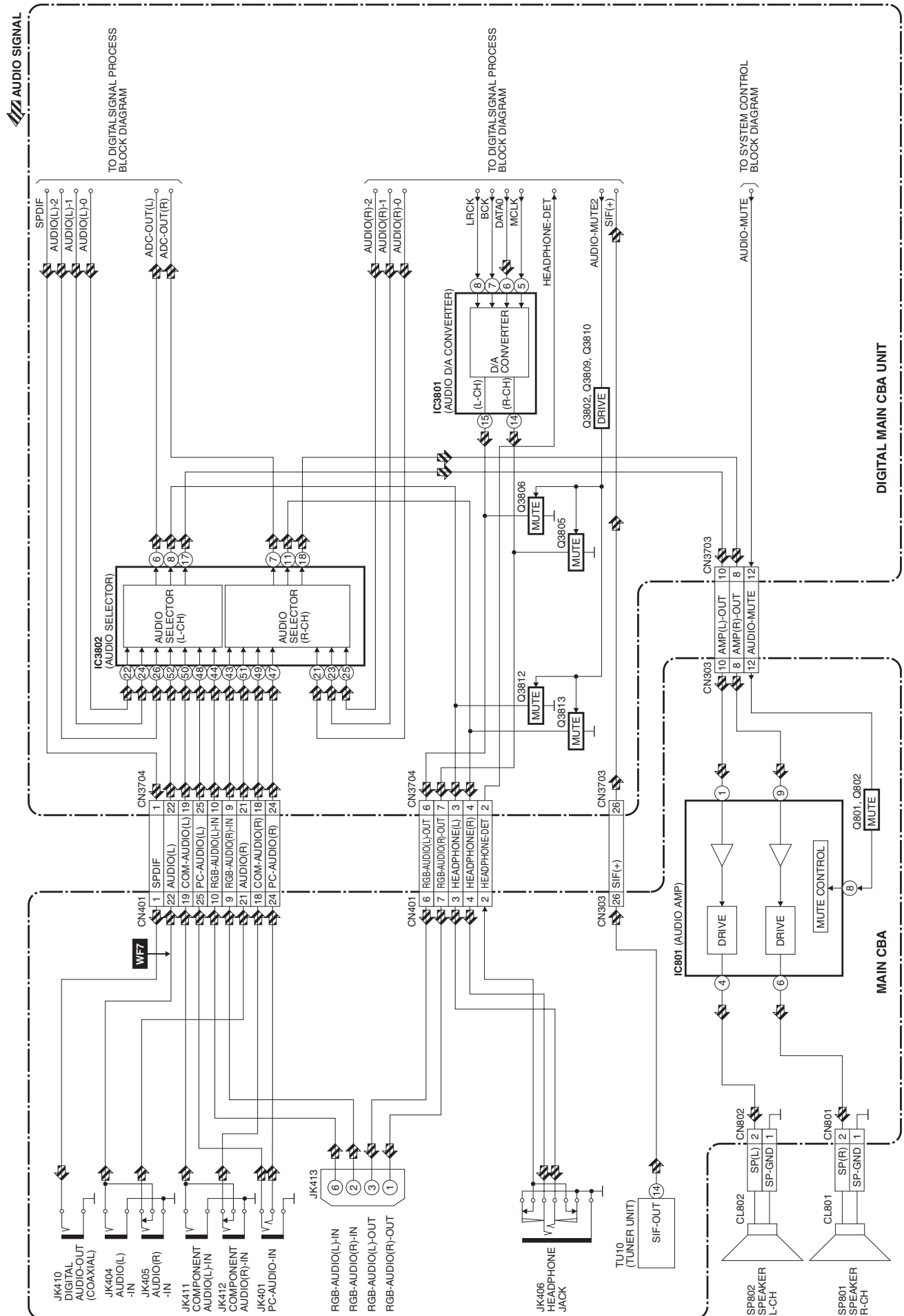
System Control Block Diagram



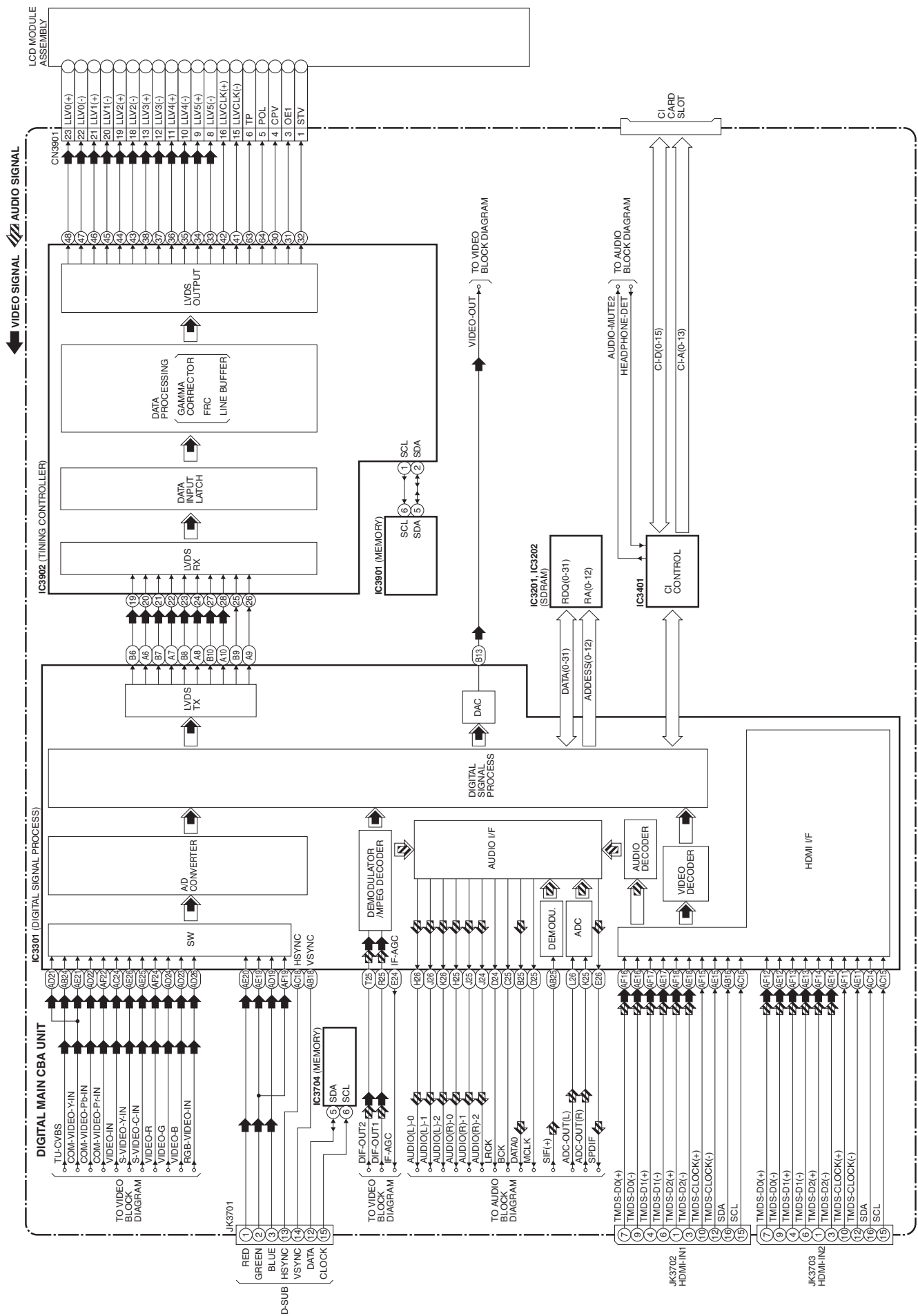
Video Block Diagram



Audio Block Diagram

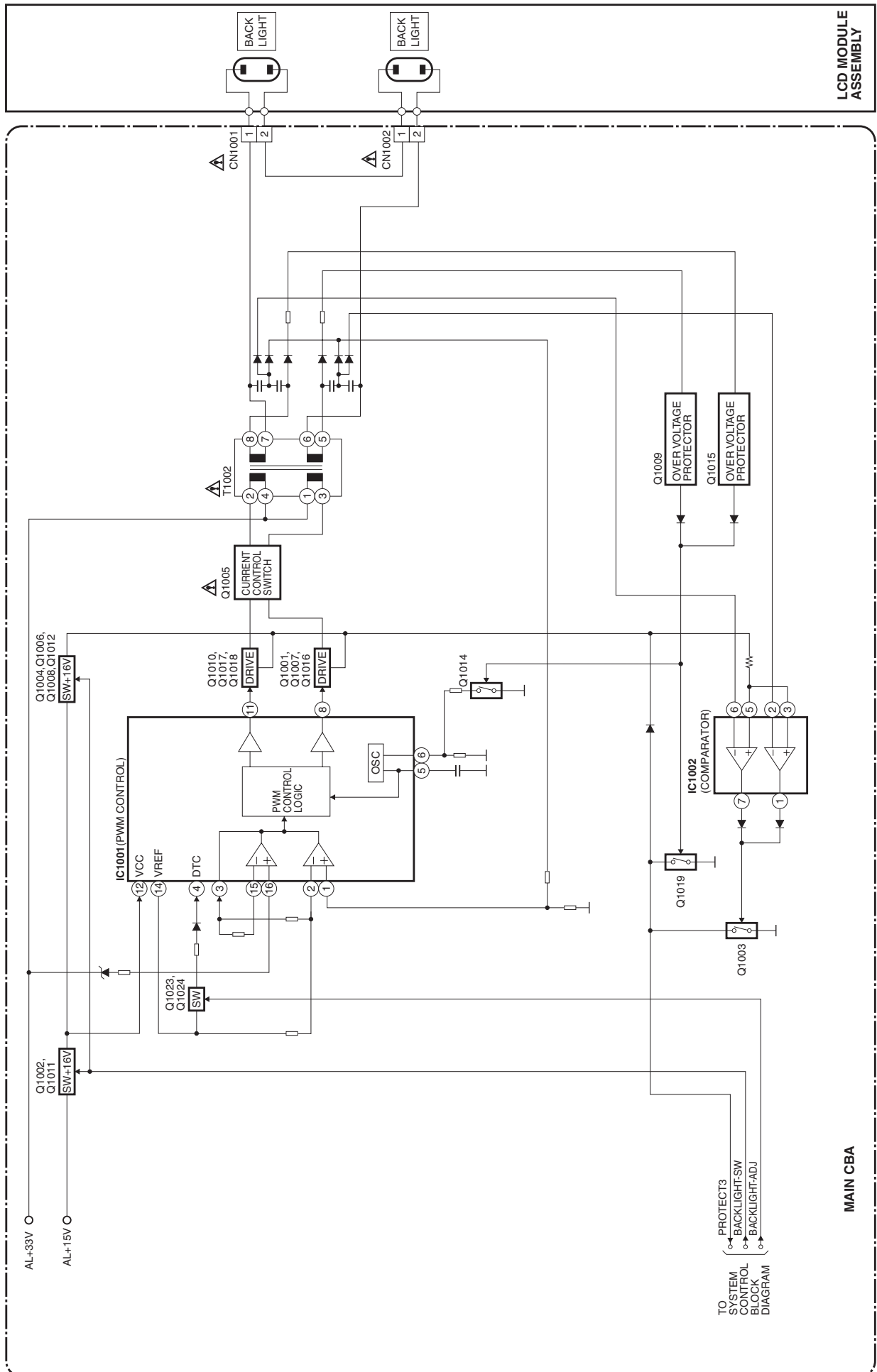


Digital Signal Process Block Diagram



Inverter Block Diagram

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



Power Supply Block Diagram

CAUTION !

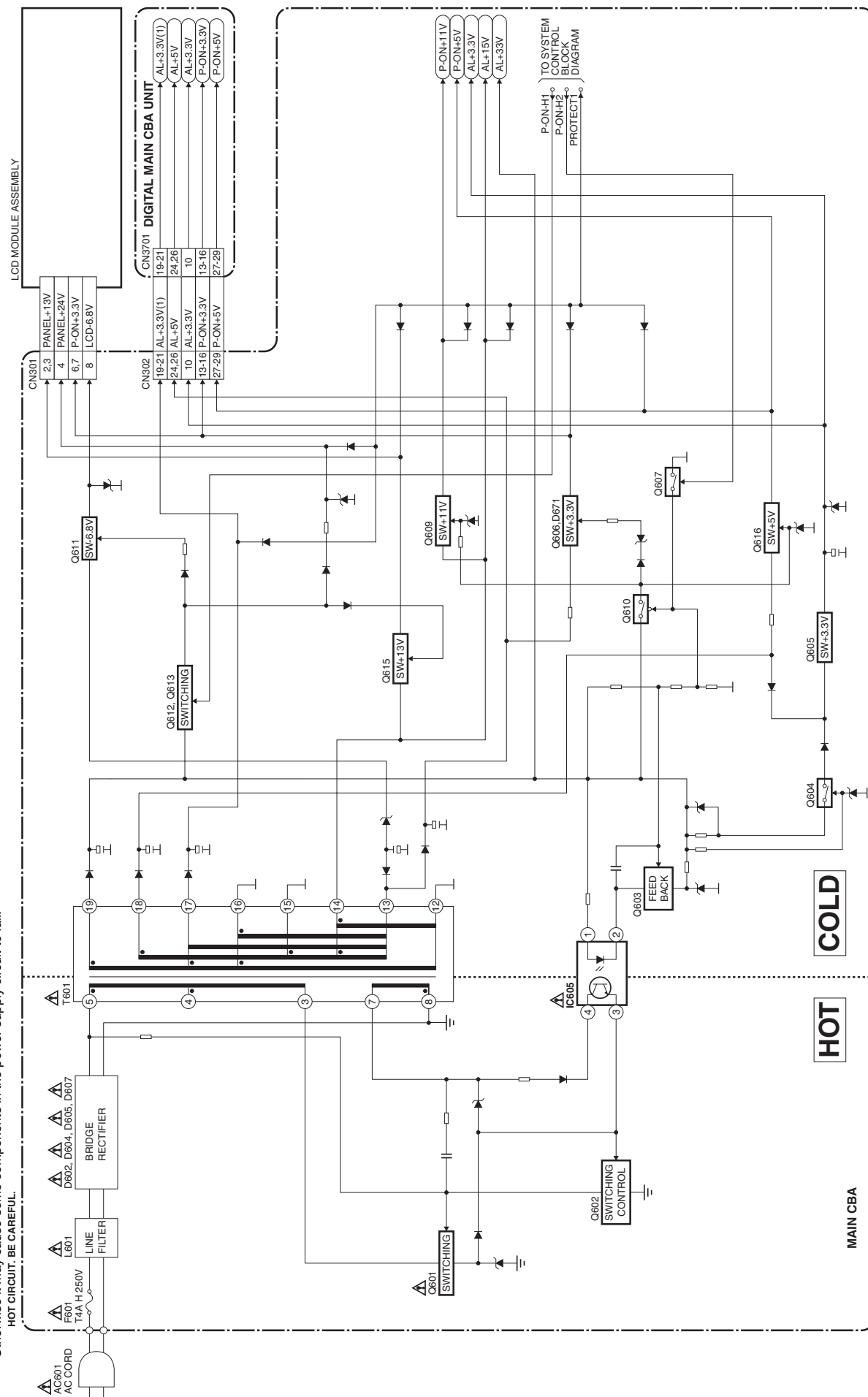
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

CAUTION !

For continued protection against fire hazard, replace only with the same type fuse.

NOTE:

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



SCHEMATIC DIAGRAMS / CBA AND TEST POINTS

Standard Notes

WARNING

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

Notes:

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

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

1. CAUTION:

FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.

2. CAUTION:

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

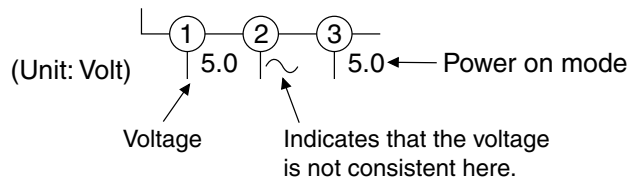
If Main Fuse (F601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

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.:

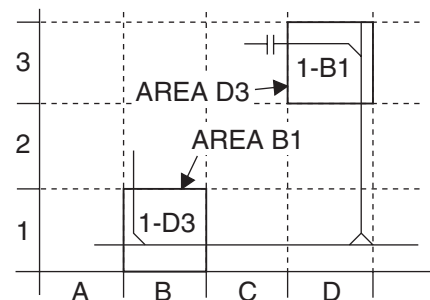


5. How to read converged lines

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.

HOT CIRCUIT. BE CAREFUL.

MAIN CBA

HOT **COLD**

UNLESS OTHERWISE SPECIFIED, DIODES ARE 1SS133.

Pinout Table for CN302 (TO DIGITAL MAIN CBA UNIT CN370):

Pin	Signal
29	P-ON+5V
28	P-ON+5V
27	P-ON+5V
26	AL+5V
25	GND
24	AL+5V
23	GND
22	GND
21	AL+3.3V(1)
20	AL+3.3V(1)
19	AL+3.3V(1)
18	GND
17	GND
16	P-ON+3.3V
15	P-ON+3.3V
14	P-ON+3.3V
13	P-ON+3.3V
12	GND
11	GND
10	AL+3.3V
9	GND
8	GND
7	GND
6	P-ON+11V
5	PROTECT1
4	PROTECT3
3	RESET
2	P-ON+H2
1	P-ON+H1

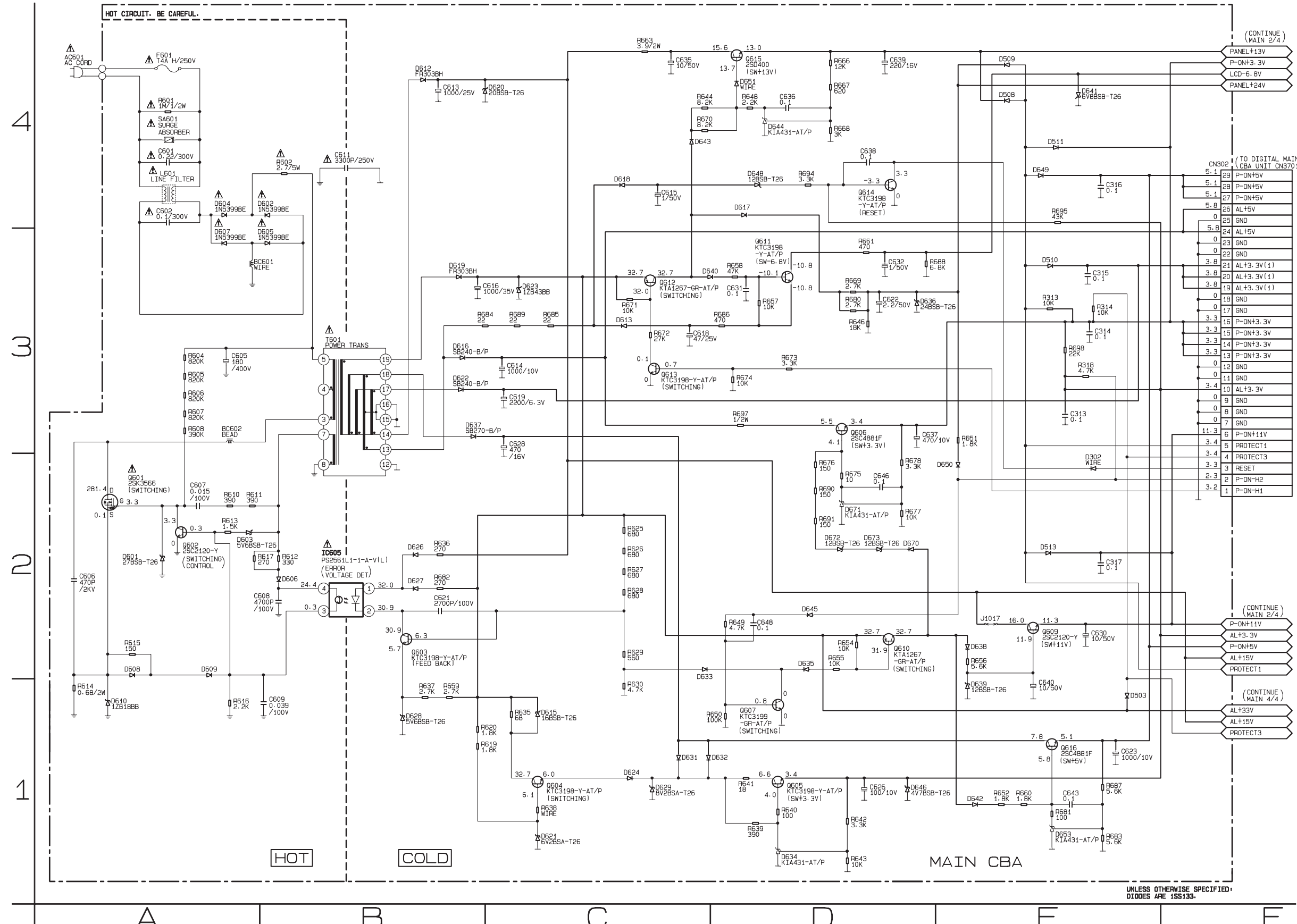
Continuation Labels:

- (CONTINUE MAIN 2/4)
- (CONTINUE MAIN 2/4)
- (CONTINUE MAIN 4/4)

For continued protection against fire hazard,
replace only with the same type fuse.

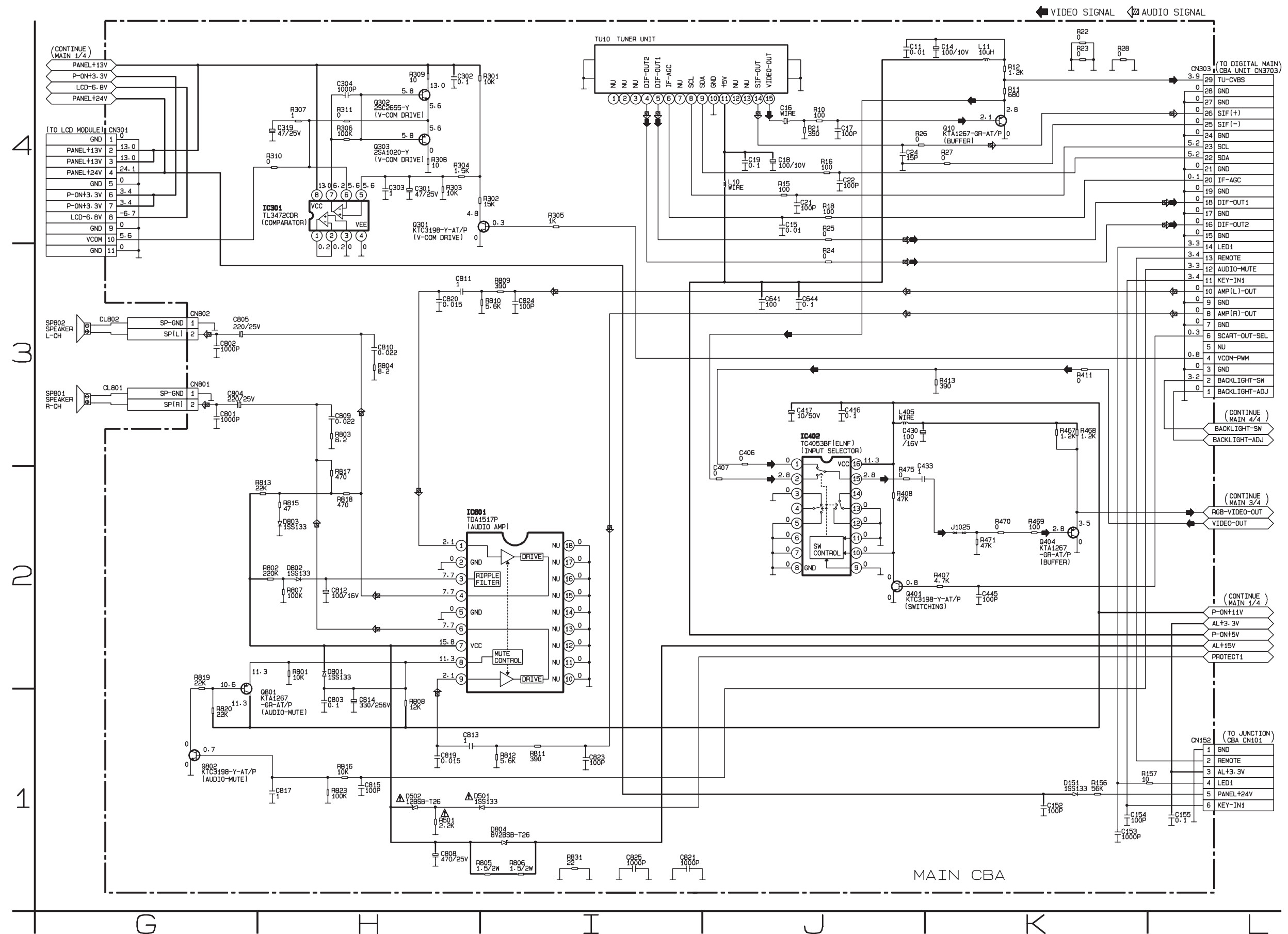
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

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

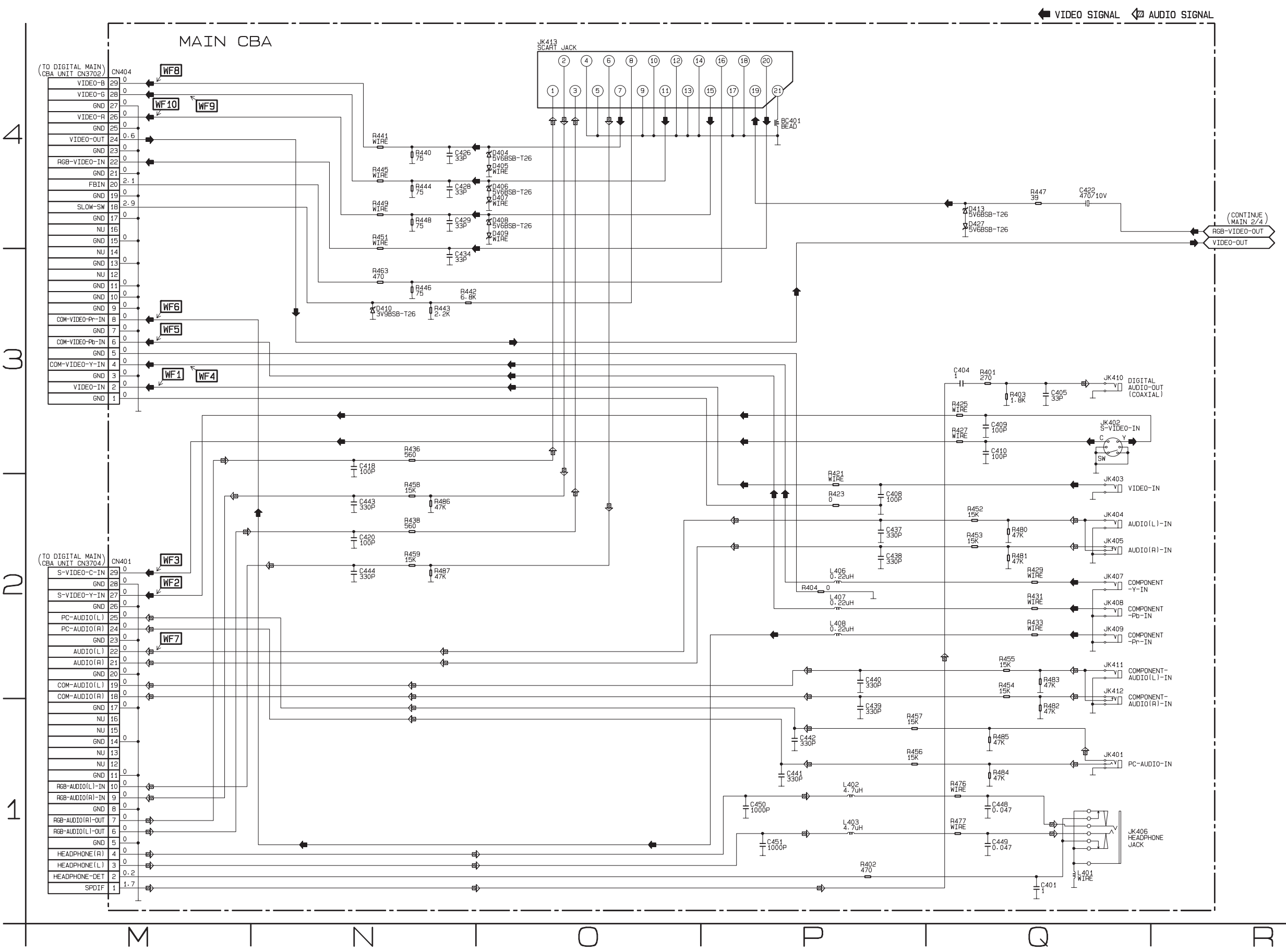


UNLESS OTHERWISE SPECIFIED:
DIODES ARE 1SS133.

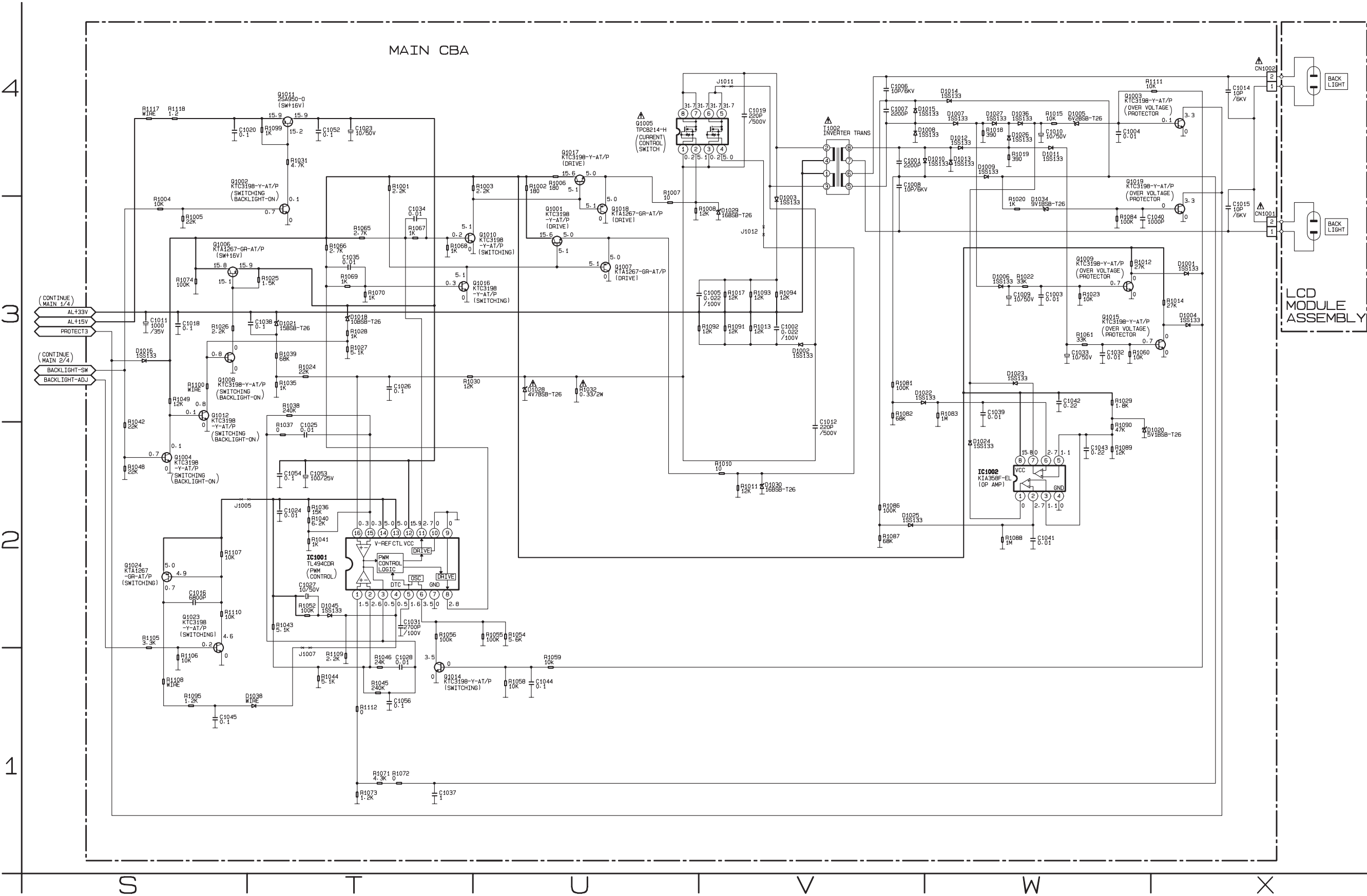
Main 2/4 Schematic Diagram



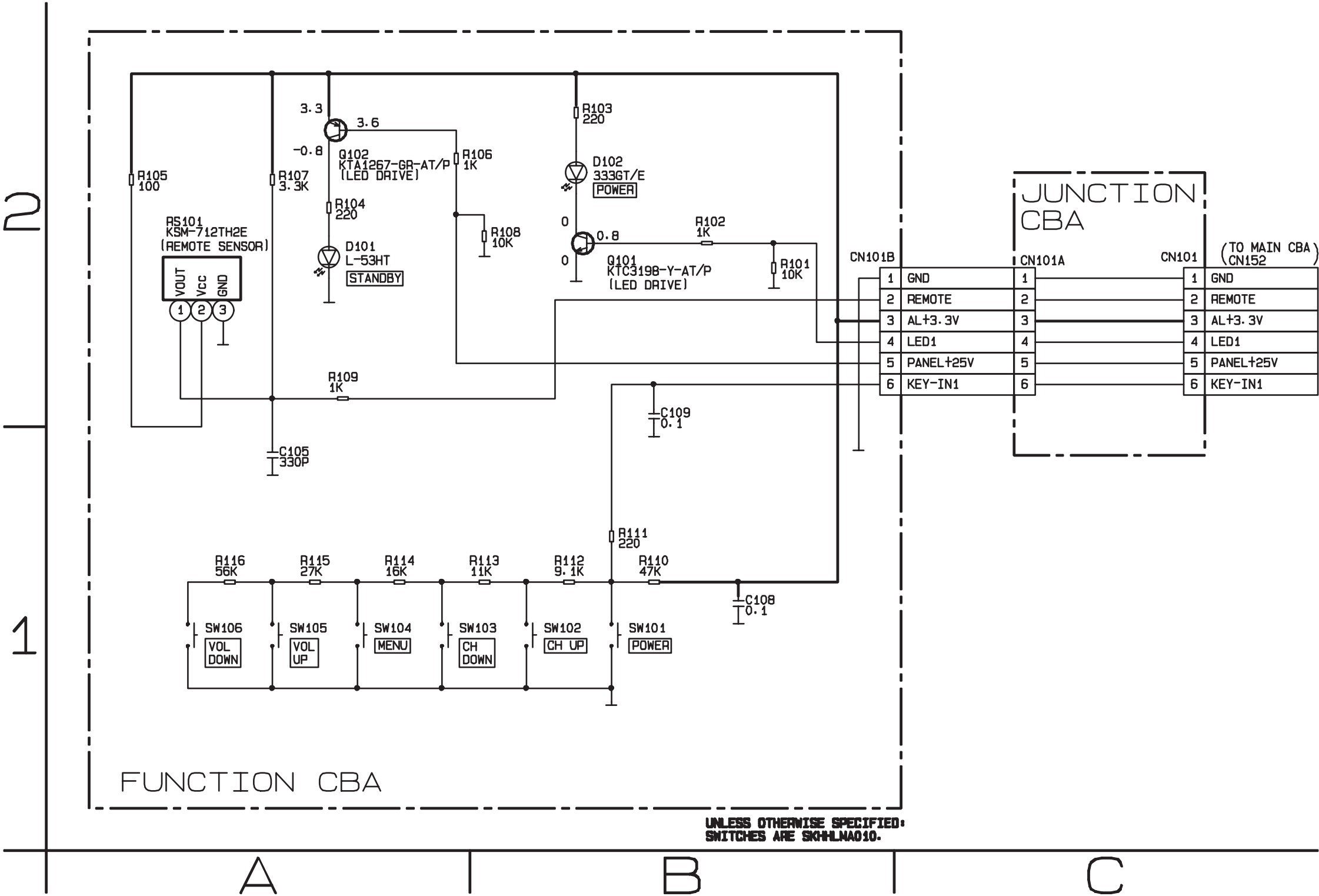
Main 3/4 Schematic Diagram



Main 4/4 Schematic Diagram

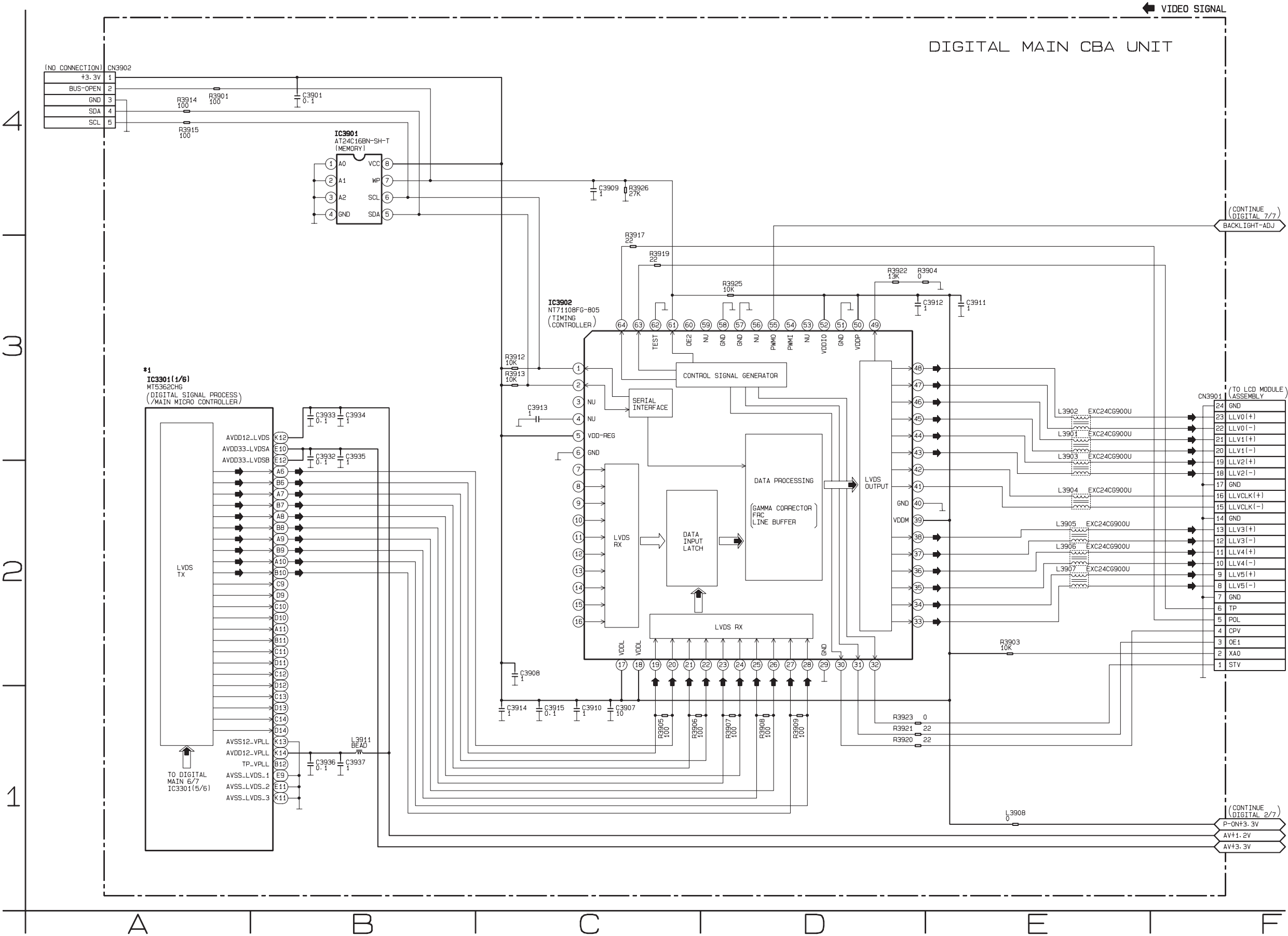


Function & Junction Schematic Diagram



Digital Main 1/7 Schematic Diagram

*1 NOTE:
The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into six and shown as IC3301 (1/6) ~ IC3301 (6/6) in this Digital Main Schematic Diagram Section.



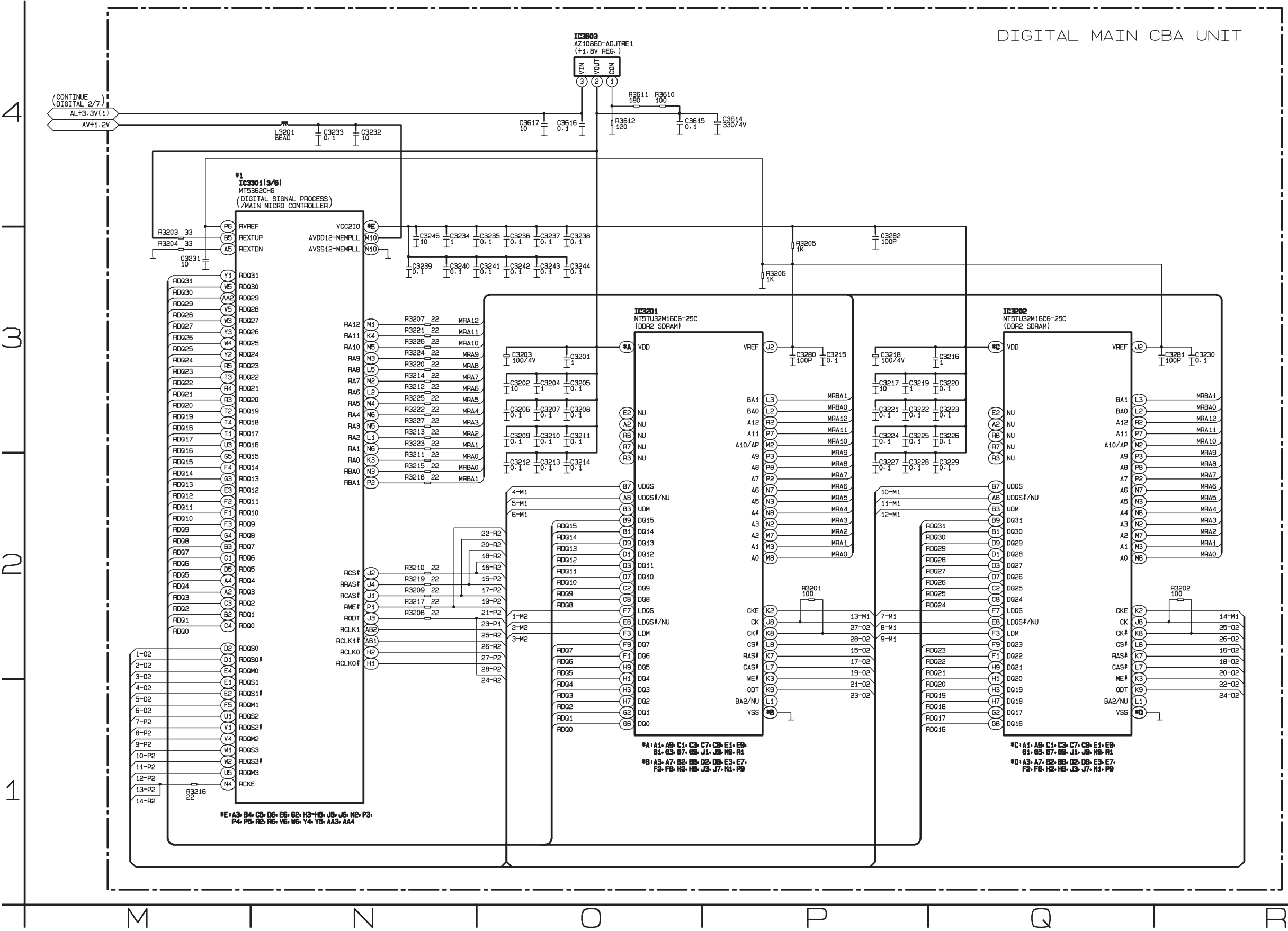
4
—
3
—
2
—
1

IC3301 is divided into six and shown as IC3301 (1/6) ~ IC3301 (6/6) in this Digital Main Schematic Diagram Section.

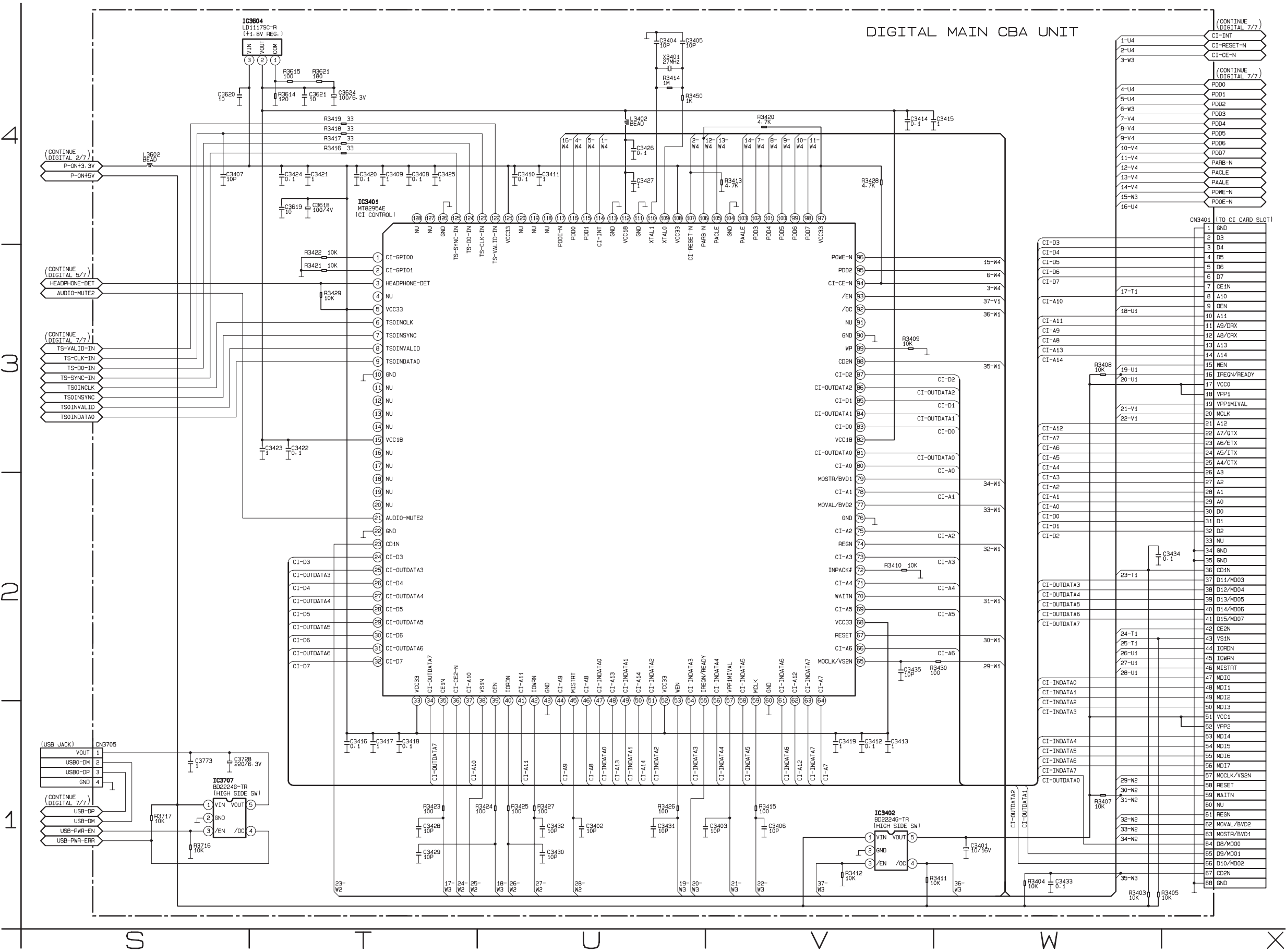


Digital Main 3/7 Schematic Diagram

*1 NOTE:
The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into six and shown as IC3301 (1/6) ~ IC3301 (6/6) in this Digital Main Schematic Diagram Section.

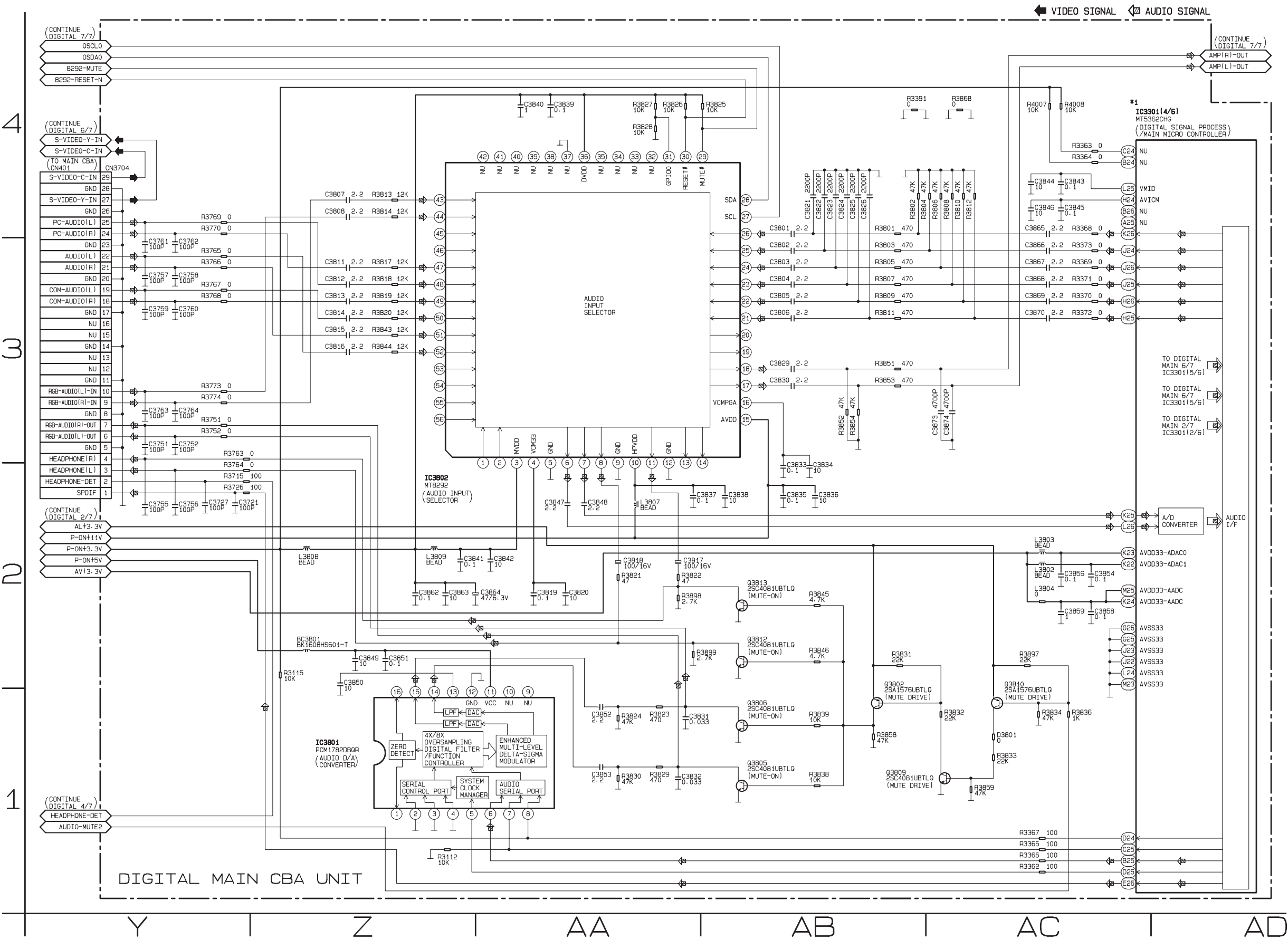


Digital Main 4/7 Schematic Diagram



Digital Main 5/7 Schematic Diagram

*1 NOTE:
The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into six and shown as IC3301 (1/6) ~ IC3301 (6/6) in this Digital Main Schematic Diagram Section.

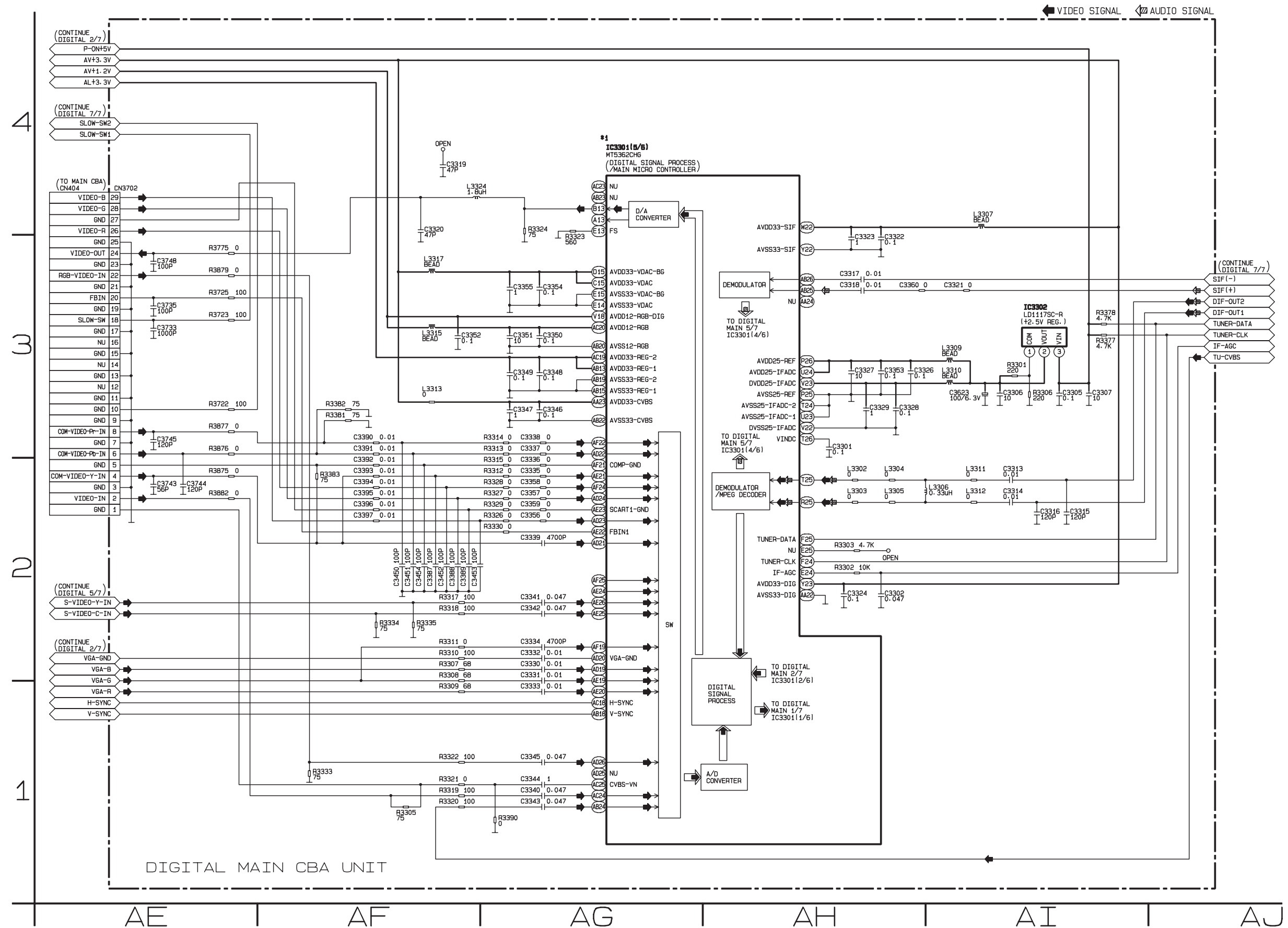


Digital Main 6/7 Schematic Diagram

***1 NOTE:**

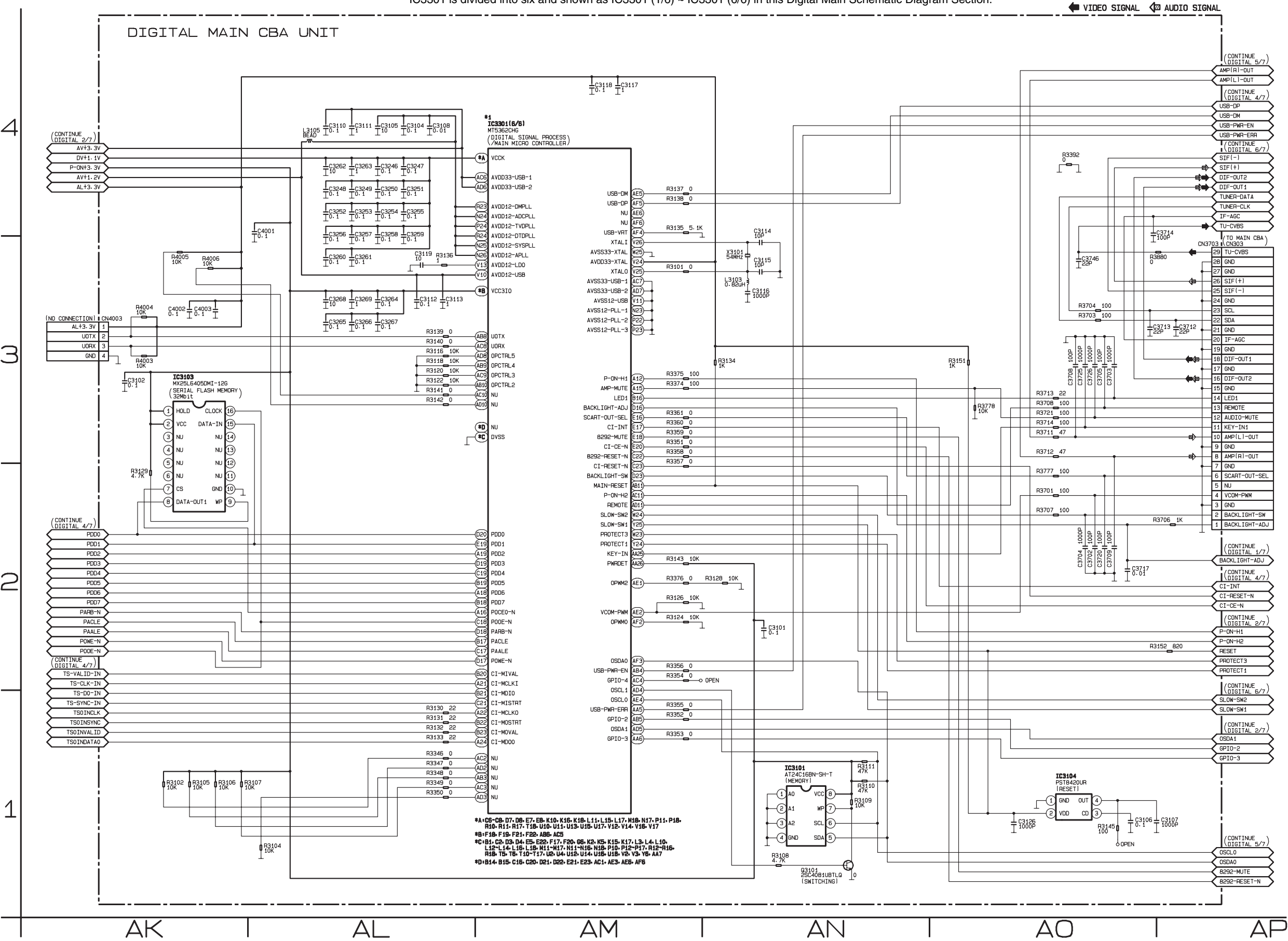
The order of pins shown in this diagram is different from that of actual IC3301.

IC3301 is divided into six and shown as IC3301 (1/6) ~ IC3301 (6/6) in this Digital Main Schematic Diagram Section.



Digital Main 7/7 Schematic Diagram

***1 NOTE:**
The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into six and shown as IC3301 (1/6) ~ IC3301 (6/6) in this Digital Main Schematic Diagram Section.



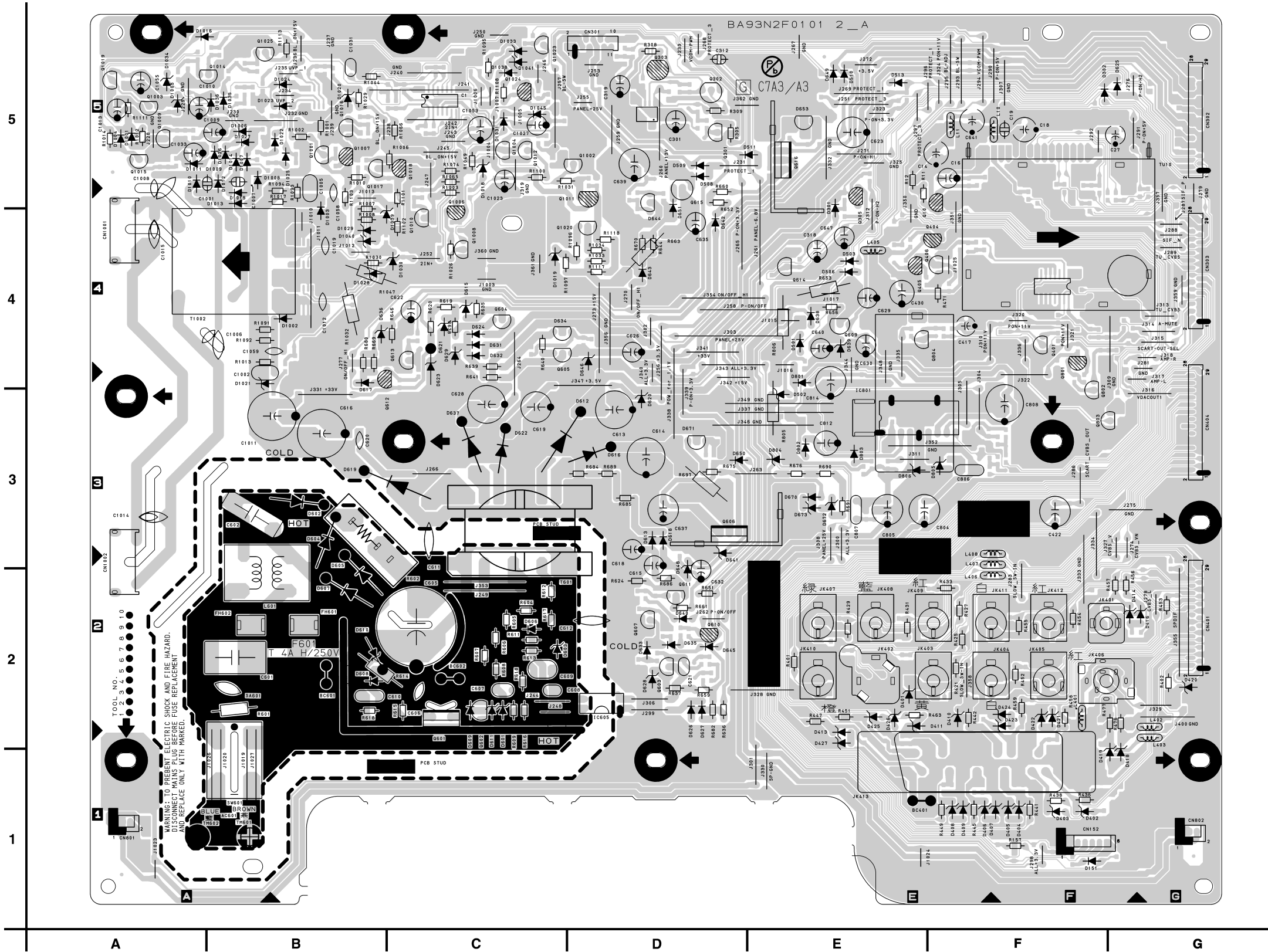
Main CBA Top View

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

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) 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.

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

CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.



Main CBA Bottom View

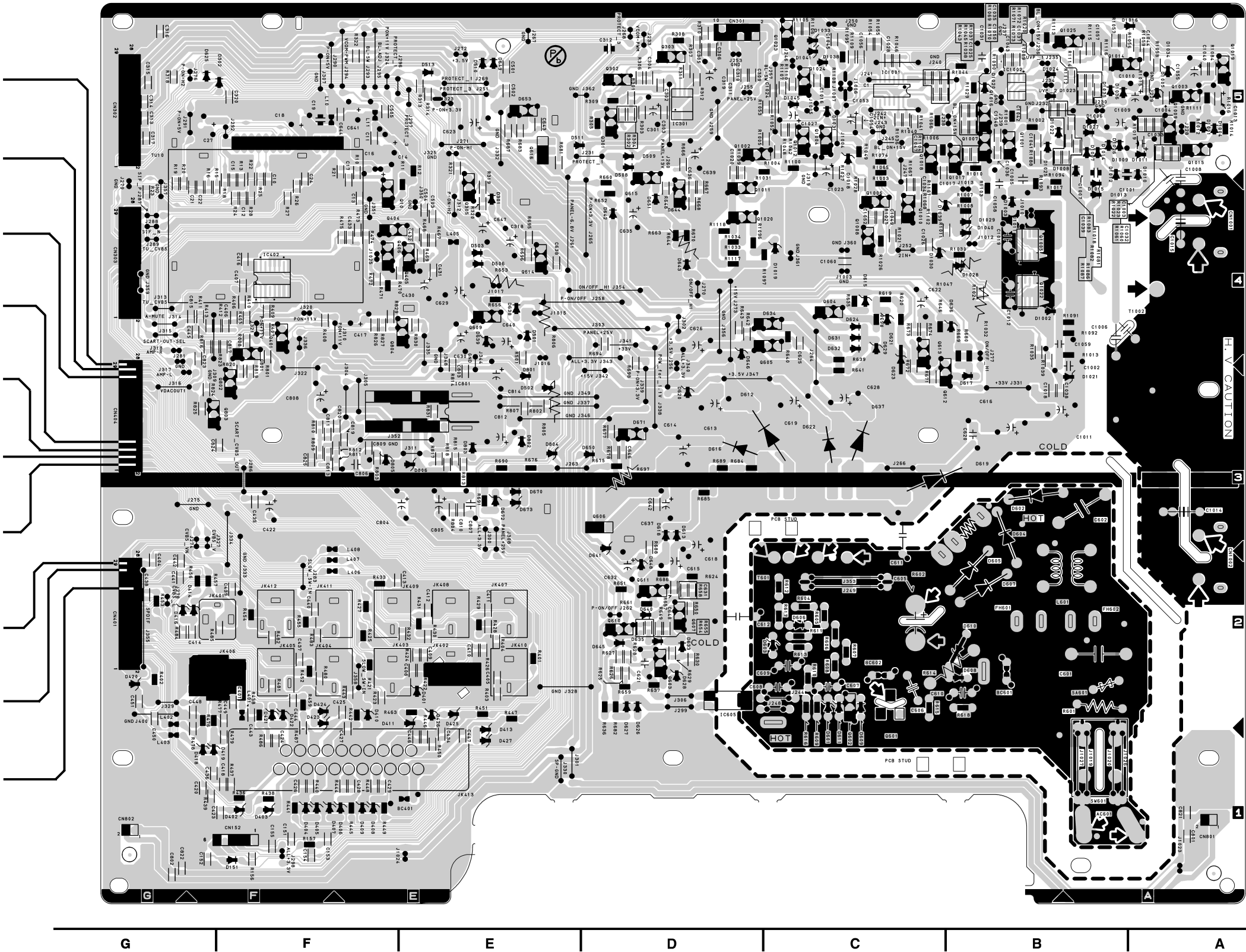
Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) 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.

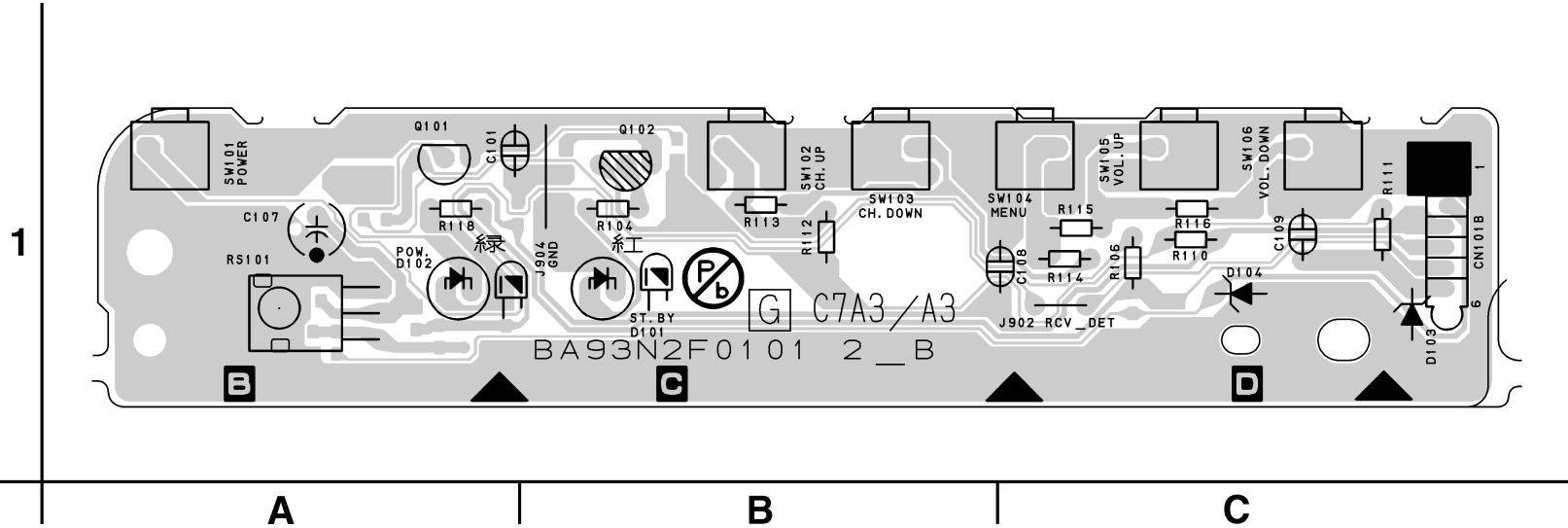
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

CAUTION !
For continued protection against fire hazard, replace only with the same type fuse.

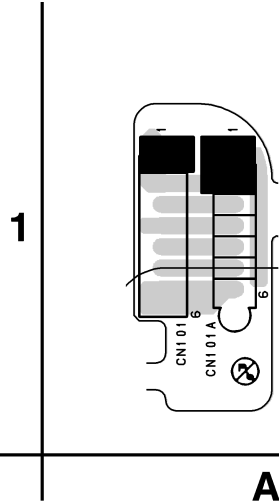
- WF8
PIN 29 OF
CN404
- WF9
PIN 28 OF
CN404
- WF10
PIN 26 OF
CN404
- WF6
PIN 8 OF
CN404
- WF5
PIN 6 OF
CN404
- WF4
PIN 4 OF
CN404
- WF1
PIN 2 OF
CN404
- WF3
PIN 29 OF
CN401
- WF2
PIN 27 OF
CN401
- WF7
PIN 22 OF
CN401



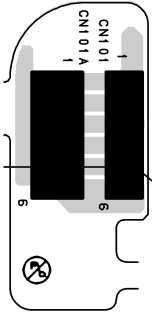
Function CBA Top View



Junction CBA
Top View

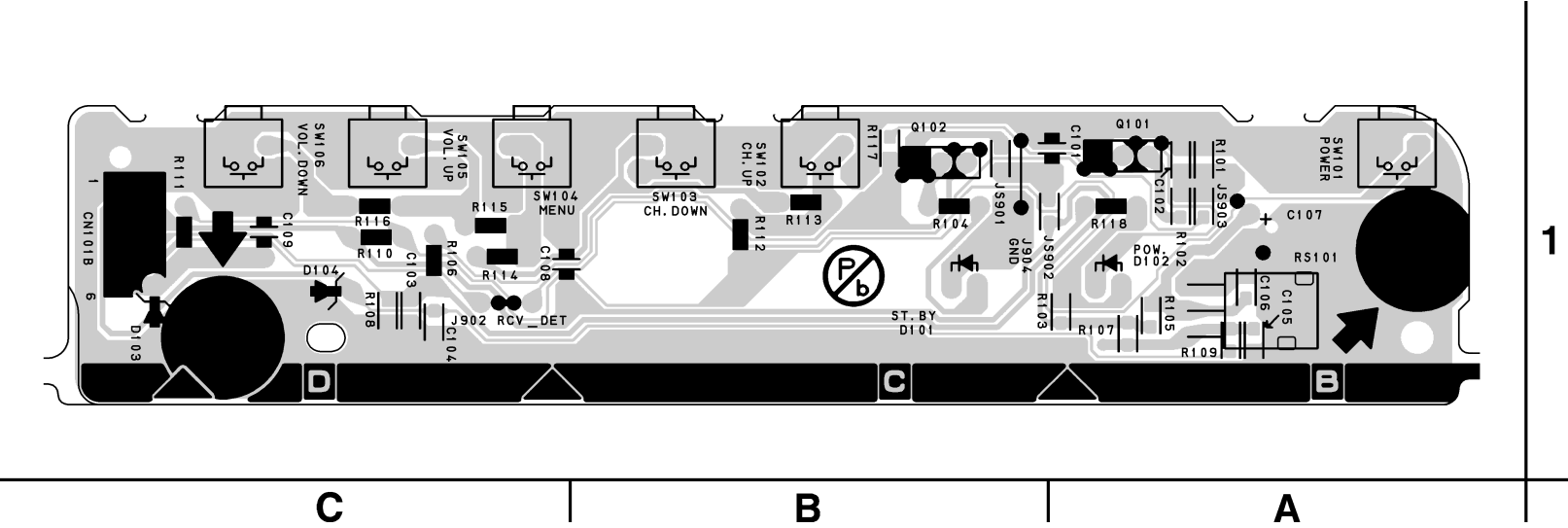


Junction CBA
Bottom View



BA93N2F01012

Function CBA Bottom View



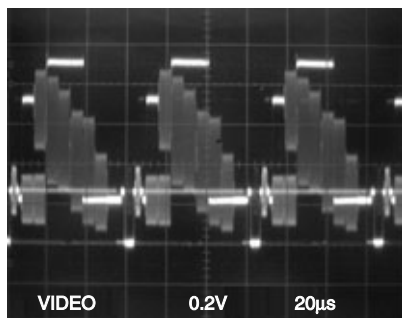
BA93N2F01012B

WAVEFORMS

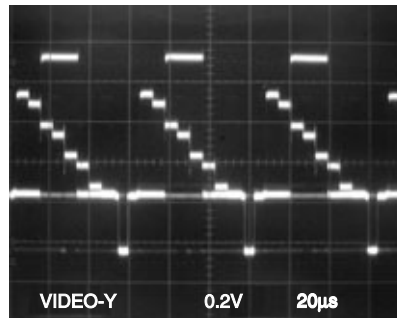
WF1 ~ WF6 = Waveforms to be observed at
Waveform check points.
(Shown in Schematic Diagram.)

Input: PAL Color Bar Signal (with 1kHz Audio Signal)

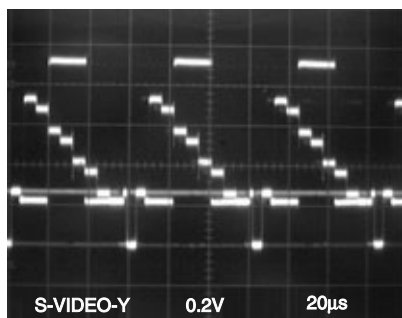
WF1 Pin 2 of CN404



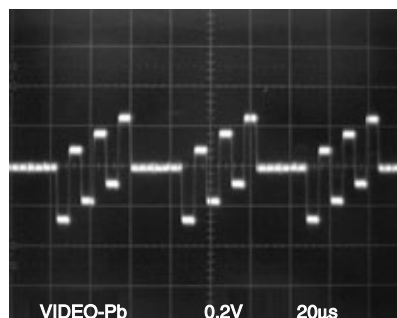
WF4 Pin 4 of CN404



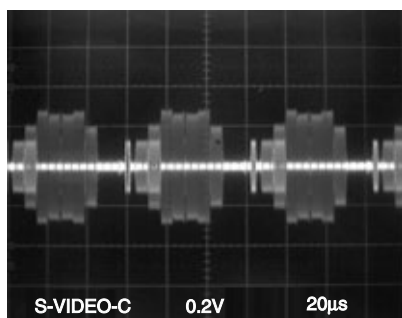
WF2 Pin 27 of CN401



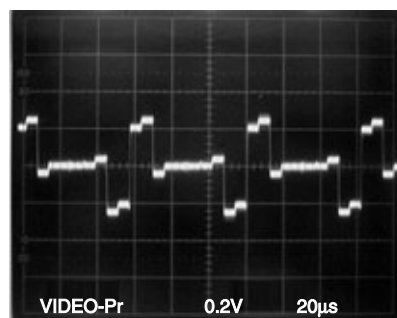
WF5 Pin 6 of CN404



WF3 Pin 29 of CN401



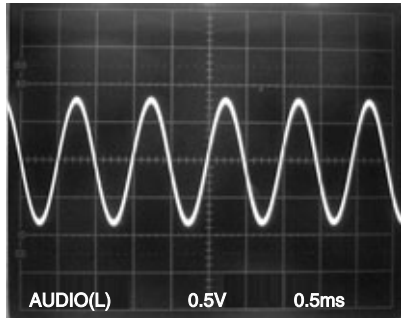
WF6 Pin 8 of CN404



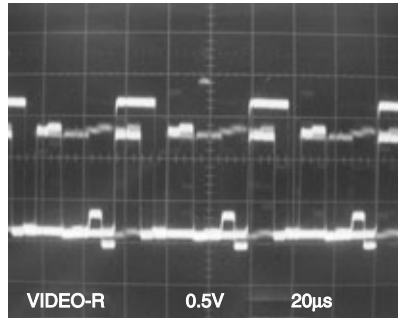
WF7 ~ WF10 = Waveforms to be observed at
Waveform check points.
(Shown in Schematic Diagram.)

Input: PAL Color Bar Signal (with 1kHz Audio Signal)

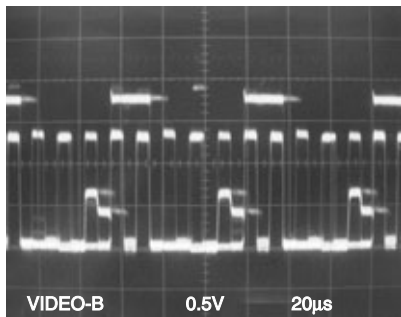
WF7 Pin 22 of CN401



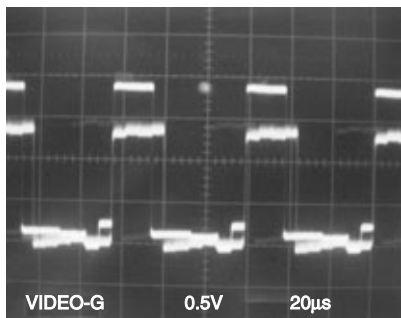
WF10 Pin 26 of CN404



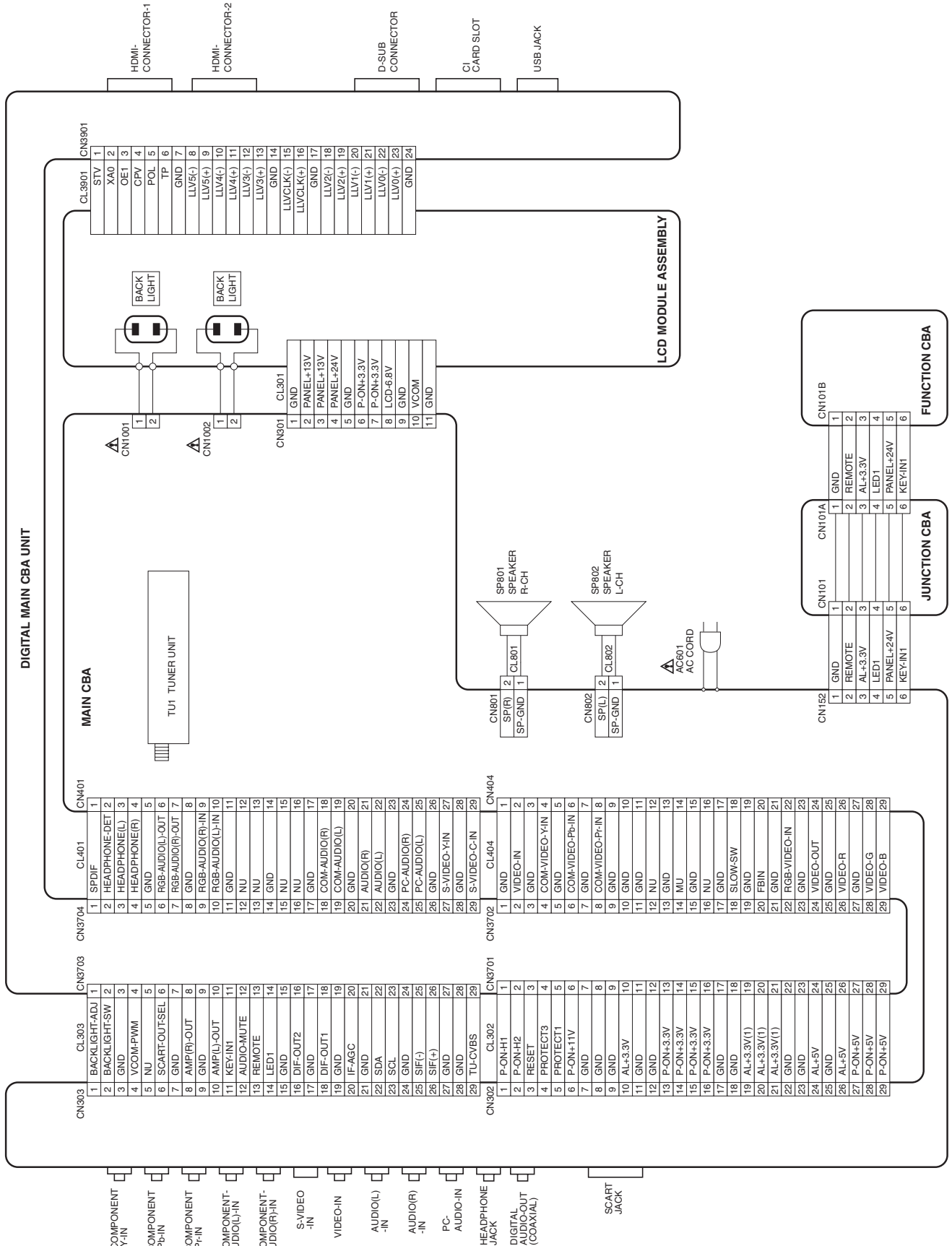
WF8 Pin 29 of CN404



WF9 Pin 28 of CN404

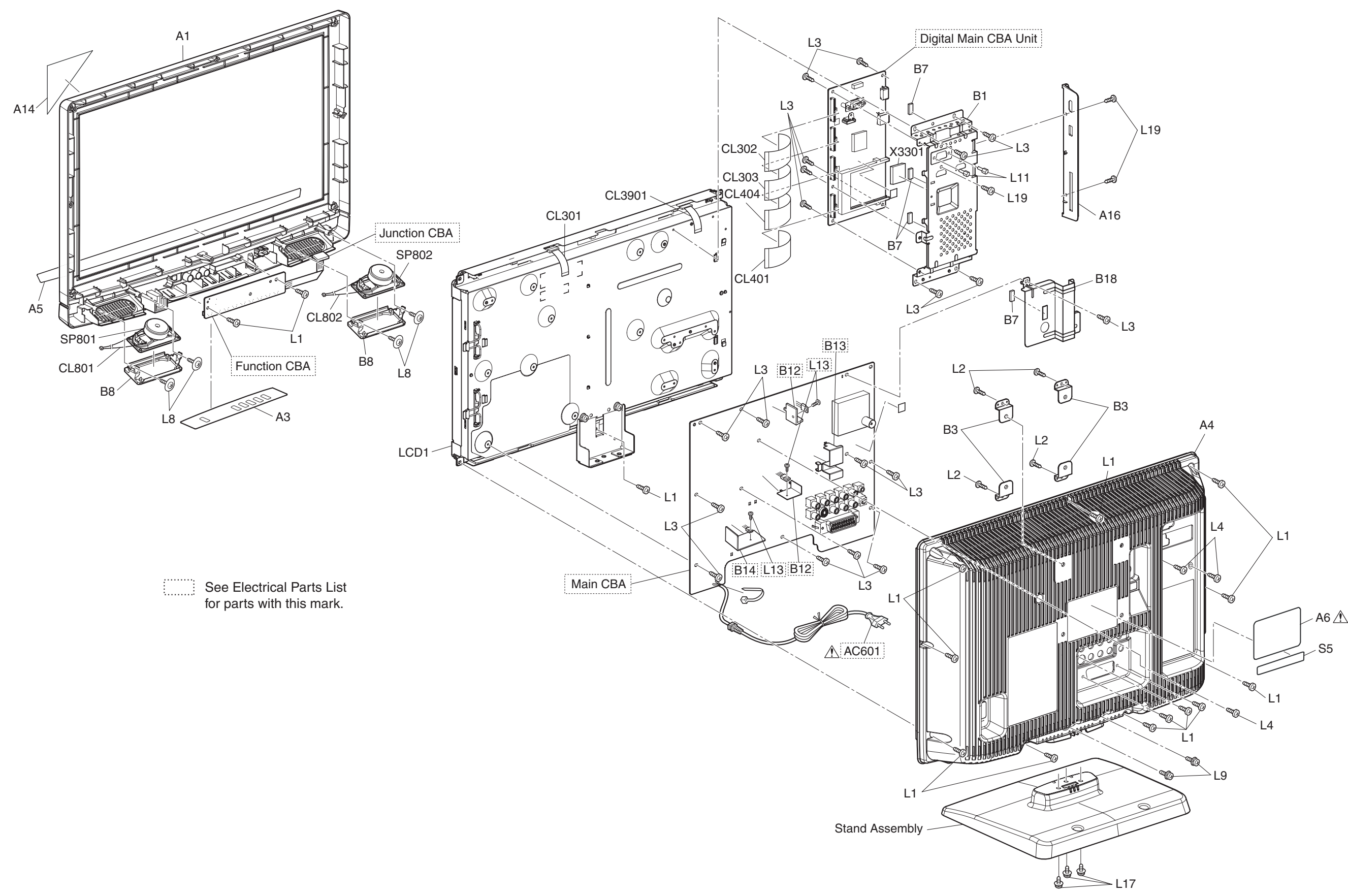


WIRING DIAGRAMS

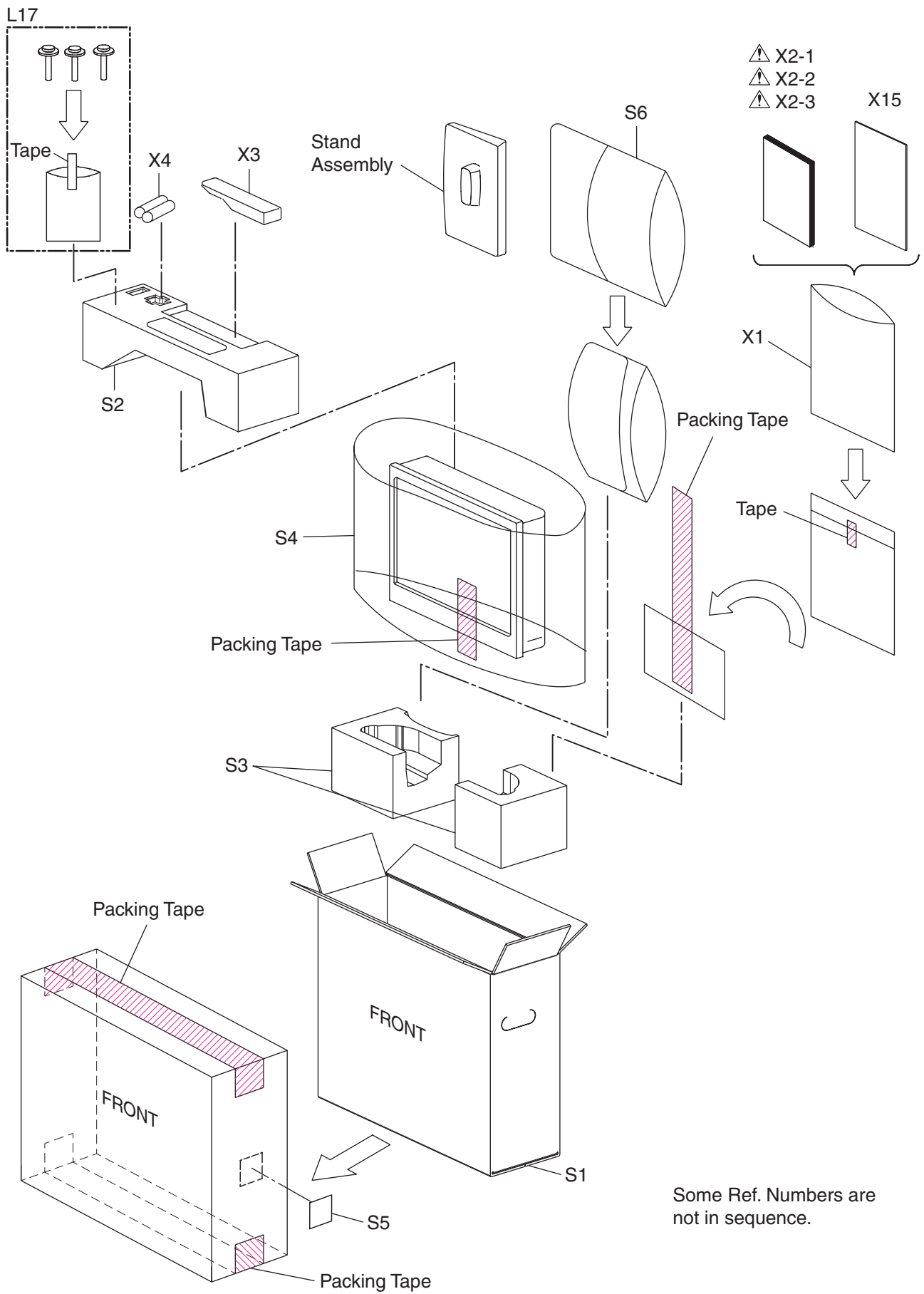


EXPLODED VIEWS

Cabinet



Packing



Some Ref. Numbers are not in sequence.

MECHANICAL PARTS LIST

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

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

Ref. No.	Description	Part No.
	STAND ASSEMBLY A93N2EZ	1ESA20593
A1	FRONT CABINET A93N2EP	1EM123593
A3	CONTROL PLATE A91N0UH	1EM325762
A4	REAR CABINET A93N2EP	1EM024245
A5	DECORATION PLATE A93N2EP	1EM223343
A14	POP LABEL A93F0FP	-----
A16	JACK HOLDER A93F0FP	1EM123494A
B1	SHIELD BOX A93N2EP	1EM123594
B3	WALL MOUNT BRACKET A84N0UH	1EM323797
B7	GASKET A8AF0UH	1EM425861
B8	SPEAKER HOLDER A94N0UH	1EM325677
B18	TUNER SHIELD A93N2EP	1EM326238
CL301	WIRE ASSEMBLY 11PIN FFC 11PIN 75MM	WX1A94N0-105
CL302	WIRE ASSEMBLY 29PIN FFC 29PIN 50MM	WX1A94F0-101
CL303	WIRE ASSEMBLY 29PIN FFC 29PIN 50MM	WX1A94F0-101
CL401	WIRE ASSEMBLY 29PIN FFC 29PIN 50MM	WX1A94F0-101
CL404	WIRE ASSEMBLY 29PIN FFC 29PIN 50MM	WX1A94F0-101
CL801	WIRE ASSEMBLY 2PIN WX1A93N0-001	WX1A93N0-001
CL802	WIRE ASSEMBLY 2PIN WX1A93N0-001	WX1A93N0-001
CL3901	WIRE ASSEMBLY 24PIN FFC 24PIN 65MM	WX1A94N0-106
L1	SCREW P-TIGHT 3X10 BIND HEAD+	GBHP3100
L2	SCREW P-TIGHT M3X8 BIND HEAD+	GBJP3080
L3	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L8	ASSEMBLED SCREW M3X10	1EM420633A
L11	HEX SCREW #4-40 7MM	1EM422042
L19	S-TIGHT SCREW M3X6 BIND HEAD+BLACK	GBHS3060
LCD1	LCD MODULE 18.5INCH WIDE CMO 18.5INCH WXGA	UH19MEA
SP801	SPEAKER S0307F03	DS08070XQ001
SP802	SPEAKER S0307F03	DS08070XQ001
X3301	THERMOSTAR TMS-L-2(12*12HC)	XK10000X4003
PACKING		
S4	SET BAG A81N0UH	1EM322872A
S6	STAND BAG A81N0UH	1EM424597
ACCESSORY		
X3	REMOTE CONTROL NF036RD 170/ECPLC6.501/NF036	NF036RD

Ref. No.	Description	Part No.
A6 	RATING LABEL A93N2EP	-----
L1	SCREW P-TIGHT 3X10 BIND HEAD+	GBHP3100
L3	SCREW S-TIGHT M3X6 BIND HEAD+	GBJS3060
L4	SCREW S-TIGHT M3X8 BIND HEAD+	GBHS3080
L9	DOUBLE SEMS SCREW M4X10 + BLK	FPH34100
L17	STAND SCREW KIT A93N2EP	1ESA21092
PACKING		
S1	CARTON A93N2EP	1EM429178
S2	STYROFOAM TOP A93N2EP	1EM024265
S3	STYROFOAM BOTTOM A93N2EP	1EM024266
S5	SERIAL NO. LABEL L9750UA	-----
ACCESSORIES		
X1	BAG POLYETHYLENE 235X365XT0.03	0EM408420A
X2-1 	OWNERS MANUAL(FR-7) FR ES PT IT DE NL EN	1EMN24919
X2-2 	OWNERS MANUAL(DE-7) DE IT EL SV FR EN TR	1EMN24920
X2-3 	OWNERS MANUAL(PL-6) PL DE HU RO CS SK	1EMN24921
X4	BATTERY R6DB/2PA	XB0M601MS003
X15	WARRANTY CARD A93F2EP	1EMN24799A

ELECTRICAL PARTS LIST

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

NOTES:

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

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

DIGITAL MAIN CBA UNIT

Ref. No.	Description	Part No.
	DIGITAL MAIN CBA UNIT	A93N2MMA-003

POWER ASSEMBLY

Ref. No.	Description	Part No.
	POWER ASSEMBLY Consists of the following:	A93N2MPW-002
	MAIN CBA	-----
	FUNCTION CBA	-----
	JUNCTION CBA	-----

MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA Consists of the following:	-----
CAPACITORS		
C11	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C14	ELECTROLYTIC CAP. 100µF/10V M H7	CE1AMAVSL101
C15	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C16	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
C17	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C18	ELECTROLYTIC CAP. 100µF/10V M H7	CE1AMAVSL101
C19	CAP CERAMIC (AX) 0.1µF/50V/FZ	CA1J104TU062
C21	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C22	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C24	CHIP CERAMIC CAP. CH J 15pF/50V	CHD1JJ3CH150
C152	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C153	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C154	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C155	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C301	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C302	CHIP CERAMIC CAP.(1608) B K 0.1µF/16V	CHD1CK30B104
C303	CHIP CERAMIC CAP. (1608) B K 1µF/16V	CHD1CK30B105
C304	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C313	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C314	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C315	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C316	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C317	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C319	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C401	CHIP CERAMIC CAP.(1608) B K 1µF/10V	CHD1AK30B105

Ref. No.	Description	Part No.
C404	CHIP CERAMIC CAP.(1608) B K 1µF/10V	CHD1AK30B105
C405	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C406	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
C407	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
C408	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C409	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C410	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C416	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C417	ELECTROLYTIC CAP. 10µF/50V M H7	CE1JMAVSL100
C418	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C420	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C422	ELECTROLYTIC CAP. 470µF/10V M	CE1AMASDL471
C426	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C428	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C429	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C430	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C433	CHIP CERAMIC CAP.(1608) B K 1µF/10V	CHD1AK30B105
C434	CHIP CERAMIC CAP.(1608) CH J 33pF/50V	CHD1JJ3CH330
C437	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C438	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C439	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C440	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C441	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C442	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C443	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C444	CHIP CERAMIC CAP. CH J 330pF/50V	CHD1JJ3CH331
C445	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C448	CHIP CERAMIC CAP.(1608) B K 0.047µF/50V	CHD1JK30B473
C449	CHIP CERAMIC CAP.(1608) B K 0.047µF/50V	CHD1JK30B473
C450	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C451	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C601 	CAP METALIZED FILM 0.22µF/300V K 3.5MM or	CT2F224DC004
	CAP METALIZED FILM MPX-224K27B15L3	CT2E224EUR01
C602 	CAP METALIZED FILM 0.1µF/300V K 3.5MM or	CT2F104DC004
	CAP METALIZED FILM MPX-104K27B15L3	CT2E104EUR01
C605	CAP ELECTROLYTIC 180µF/400V/M22/40	CA2H181DYG17
C606	CERAMIC CAP. 470pF/2KV or	CA3D471PAN04
	CERAMIC CAP. BL 470pF/2KV or	CA3D471XF003
	CERAMIC CAP. RB 470pF/2KV	CA3D471TE006
C607	POLYESTER FILM CAP. (PB FREE) 0.015µF/100V J or	CA2A153DT018
	CAP POLYESTER FILM 0.015µF/100V J	CA2A153SER02
C608	POLYESTER FILM CAP. (PB FREE) 0.0047µF/100V J or	CA2A472DT018
	CAP POLYESTER FILM 0.0047µF/100V J	CA2A472SER02
C609	POLYESTER FILM CAP. (PB FREE) 0.039µF/100V J or	CA2A393DT018
	CAP POLYESTER FILM 0.039µF/100V J	CA2A393SER02
C611 	SAFTY CAP. 3300pF/250V or	CCN2EMA0E332
	SAFTY CAP. 3300pF/250V KX or	CA2E332MR101
	SAFTY CAP. 3300pF/250V M	CCN2HMN0E332
C613	ELECTROLYTIC CAP. 1000µF/25V M or	CE1EMZPDL102
	ELECTROLYTIC CAP. 1000µF/25V M	CE1EMZNDL102
C614	ELECTROLYTIC CAP. 1000µF/10V M	CE1AMASDL102
C615	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C616	ELECTROLYTIC CAP. 1000µF/35V M or	CE1GMZNDL102
	ELECTROLYTIC CAP. 1000µF/35V M	CE1GMZPDL102
C618	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C619	CAP ALUMINUM ELECTROLYTIC 2200µF/6.3V M or	CE0KMZNDL222
	ELECTROLYTIC CAP. 2200µF/6.3V M	CE0KMZPDL222
C621	POLYESTER FILM CAP. (PB FREE) 0.0027µF/100V J or	CA2A272DT018

Ref. No.	Description	Part No.
	CAP POLYESTER FILM 0.0027μF/100V J	CA2A272SER02
C622	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C623	ELECTROLYTIC CAP. 1000μF/10V M	CE1AMASDL102
C626	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C628	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C630	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C631	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C632	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C635	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C636	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C637	ELECTROLYTIC CAP. 470μF/10V M	CE1AMASDL471
C638	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C639	ELECTROLYTIC CAP. 220μF/16V M	CE1CMASDL221
C640	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C641	ELECTROLYTIC CAP. 100μF/10V M H7	CE1AMAVSL101
C643	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C644	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C646	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C648	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C801	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C802	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C803	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C804	ELECTROLYTIC CAP. 220μF/25V M	CE1EMASDL221
C805	ELECTROLYTIC CAP. 220μF/25V M	CE1EMASDL221
C808	ELECTROLYTIC CAP. 470μF/25V M	CE1EMASDL471
C809	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C810	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C811	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C812	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C813	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C814	ELECTROLYTIC CAP. 330μF/25V M	CE1EMASDL331
C815	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C817	CHIP CERAMIC CAP.(1608) B K 1μF/10V	CHD1AK30B105
C819	CHIP CERAMIC CAP.(1608) B K 0.015μF/50V	CHD1JK30B153
C820	CHIP CERAMIC CAP.(1608) B K 0.015μF/50V	CHD1JK30B153
C821	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C822	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C823	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C824	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C825	CHIP CERAMIC CAP.(1608) CH J 1000pF/50V	CHD1JJ3CH102
C1001	CAP CERAMIC (AX) 2200pF/50V/B/K	CA1J222TU061
C1002	POLYESTER FILM CAP. (PB FREE) 0.022μF/100V J or	CA2A223DT018
	CAP POLYESTER FILM 0.022μF/100V J	CA2A223SER02
C1003	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1004	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1005	POLYESTER FILM CAP. (PB FREE) 0.022μF/100V J or	CA2A223DT018
	CAP POLYESTER FILM 0.022μF/100V J	CA2A223SER02
C1006	CAP CERAMIC HV 10pF/6KV/SL/J or	CCE1000TE009
	CAP CERAMIC HV 10pF/6.3KV/SL/J	CCC1000MR002
C1007	CAP CERAMIC (AX) 2200pF/50V/B/K	CA1J222TU061
C1008	CAP CERAMIC HV 10pF/6KV/SL/J or	CCE1000TE009
	CAP CERAMIC HV 10pF/6.3KV/SL/J	CCC1000MR002
C1009	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1010	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1011	ELECTROLYTIC CAP. 1000μF/35V M or	CE1GMZNDL102
	ELECTROLYTIC CAP. 1000μF/35V M	CE1GMZPDL102
C1012	CERAMIC CAP. B K 220pF/500V	CCD2JKS0B221
C1014	CAP CERAMIC HV 10pF/6KV/SL/J or	CCE1000TE009
	CAP CERAMIC HV 10pF/6.3KV/SL/J	CCC1000MR002
C1015	CAP CERAMIC HV 10pF/6KV/SL/J or	CCE1000TE009
	CAP CERAMIC HV 10pF/6.3KV/SL/J	CCC1000MR002
C1016	CHIP CERAMIC CAP.(1608) B K 6800pF/50V	CHD1JK30B682
C1018	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1019	CERAMIC CAP. B K 220pF/500V	CCD2JKS0B221
C1020	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1023	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100

Ref. No.	Description	Part No.
C1024	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1025	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1026	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1027	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1028	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1031	POLYESTER FILM CAP. (PB FREE) 0.0027μF/100V J or	CA2A272DT018
	CAP POLYESTER FILM 0.0027μF/100V J	CA2A272SER02
C1032	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1033	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1034	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1035	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1037	CHIP CERAMIC CAP. (1608) B K 1μF/16V	CHD1CK30B105
C1038	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1039	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1040	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1041	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1042	CHIP CERAMIC CAP.(1608) F Z 0.22μF/50V	CHD1JZ30F224
C1043	CHIP CERAMIC CAP.(1608) B K 0.22μF/16V	CHD1CK30B224
C1044	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1045	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1052	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1053	ELECTROLYTIC CAP. 100μF/25V M	CE1EMASDL101
C1054	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1056	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
CONNECTORS		
CN152	242 SERIES CONNECTOR 224202106W1	J322C06TG001
CN301	FFC CONNECTOR IMSA-9615S-11A-PP-A or	JC96J11ER007
	CONNECTOR PRINT MES 00 6232 011 006 800+	JC62G11UG026
CN302	FFC CONNECTOR IMSA-9615S-29A-PP-A or	JC96J29ER007
	CONNECTOR PRINT MES 00 6232 029 006 800+	JC62G29UG026
CN303	FFC CONNECTOR IMSA-9615S-29A-PP-A or	JC96J29ER007
	CONNECTOR PRINT MES 00 6232 029 006 800+	JC62G29UG026
CN401	FFC CONNECTOR IMSA-9615S-29A-PP-A or	JC96J29ER007
	CONNECTOR PRINT MES 00 6232 029 006 800+	JC62G29UG026
CN404	FFC CONNECTOR IMSA-9615S-29A-PP-A or	JC96J29ER007
	CONNECTOR PRINT MES 00 6232 029 006 800+	JC62G29UG026
CN801	PH CONNECTOR TOP 2P B2B-PH-K-S (LF)(SN) or	J3PHC02JG029
	CONNECTOR PRINT OSU TOP 2P 440054-2 or	J344C02AP001
	CONNECTOR PRINT OSU JS-1125-02KK	J3JT02CHY002
CN802	PH CONNECTOR TOP 2P B2B-PH-K-S (LF)(SN) or	J3PHC02JG029
	CONNECTOR PRINT OSU TOP 2P 440054-2 or	J344C02AP001
	CONNECTOR PRINT OSU JS-1125-02KK	J3JT02CHY002
CN1001 	CONNECTOR/JACK 1747386-1	JB17J02AP002
CN1002 	CONNECTOR/JACK 1747386-1	JB17J02AP002
DIODES		
D151	SWITCHING DIODE 1SS133(T-77) or	QDT2001SS133
	DIODE SWITCHING HSS4148TE-E or	QDT20HSS4148
	DIODE SWITCHING 1N4148-F0021	NDT201N4148F
D302	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
D404	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D405	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
D406	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D407	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001

Ref. No.	Description	Part No.
D408	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D409	WIRE CP STP-S-0.50 or	XZ40FOREN001
	WIRE CP STP-S-0.60 or	XZ40FOREN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
D410	DIODE ZENER 3V9BSB-T26	NDTB3R9BST26
D413	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D427	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D501 [△]	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
[△]	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
[△]	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D502 [△]	DIODE ZENER 12BSB-T26	NDTB012BST26
D503	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D508	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D509	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D510	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D511	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D513	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D601	DIODE ZENER 22BSB-T26	NDTB022BST26
D602 [△]	DIODE 1N5399BE	NDL1001N5399
D603	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D604 [△]	DIODE 1N5399BE	NDL1001N5399
D605 [△]	DIODE 1N5399BE	NDL1001N5399
D606	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D607 [△]	DIODE 1N5399BE	NDL1001N5399
D608	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D609	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D610	DIODE ZENER 1ZB18BB	NDWZ0001ZB18
D612	DIODE FAST RECOVERY FR303BH	NDWZ0FR303BH
D613	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D615	DIODE ZENER 16BSB-T26	NDTB016BST26
D616	SCHOTTKY BARRIER DIODE SB240-B/P	NDWZ000SB240
D617	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D618	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D619	DIODE FAST RECOVERY FR303BH	NDWZ0FR303BH
D620	DIODE ZENER 20BSB-T26	NDTB020BST26
D621	DIODE ZENER 6V2BSA-T26	NDTA6R2BST26
D622	SCHOTTKY BARRIER DIODE SB240-B/P	NDWZ000SB240
D623	DIODE ZENER 1ZB43BB	NDWZ0001ZB43
D624	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D626	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133

Ref. No.	Description	Part No.
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D627	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D628	DIODE ZENER 5V6BSB-T26	NDTB5R6BST26
D629	DIODE ZENER 8V2BSA-T26	NDTA8R2BST26
D631	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D632	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D633	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D634	IC SHUNT REGULATOR KIA431-AT/P or	NSZBA0TJY036
	IC SHUNT REGULATOR SL431A-AT or	NSZBA0TAUK01
	IC SHUNT REGULATOR AS431BZTR-E1	NSZBA0BCD01
D635	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D636	DIODE ZENER 24BSB-T26	NDTB024BST26
D637	SCHOTTKY BARRIER DIODE SB270-B/P	NDWZ000SB270
D638	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D639	DIODE ZENER 12BSB-T26	NDTB012BST26
D640	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D641	DIODE ZENER 6V8BSB-T26	NDTB6R8BST26
D642	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D643	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D644	IC SHUNT REGULATOR KIA431-AT/P or	NSZBA0TJY036
	IC SHUNT REGULATOR SL431A-AT or	NSZBA0TAUK01
	IC SHUNT REGULATOR AS431BZTR-E1	NSZBA0BCD01
D645	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D646	DIODE ZENER 4V7BSB-T26	NDTB4R7BST26
D648	DIODE ZENER 12BSB-T26	NDTB012BST26
D649	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D650	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D651	WIRE CP STP-S-0.50 or	XZ40FOREN001
	WIRE CP STP-S-0.60 or	XZ40FOREN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
D653	IC SHUNT REGULATOR KIA431-AT/P or	NSZBA0TJY036
	IC SHUNT REGULATOR SL431A-AT or	NSZBA0TAUK01
	IC SHUNT REGULATOR AS431BZTR-E1	NSZBA0BCD01
D670	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D671	IC SHUNT REGULATOR KIA431-AT/P or	NSZBA0TJY036
	IC SHUNT REGULATOR SL431A-AT or	NSZBA0TAUK01
	IC SHUNT REGULATOR AS431BZTR-E1	NSZBA0BCD01
D672	DIODE ZENER 12BSB-T26	NDTB012BST26
D673	DIODE ZENER 12BSB-T26	NDTB012BST26

Ref. No.	Description	Part No.
D801	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D802	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D803	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D804	DIODE ZENER 8V2BSB-T26	NDTB8R2BST26
D1001	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1002	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1003	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1004	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1005	DIODE ZENER 6V2BSB-T26	NDTB6R2BST26
D1006	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1007	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1008	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1009	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1010	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1011	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1012	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1013	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1014	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1015	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1016	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1018	DIODE ZENER 10BSB-T26	NDTB010BST26
D1020	DIODE ZENER 5V1BSB-T26	NDTB5R1BST26
D1021	DIODE ZENER 15BSB-T26	NDTB015BST26
D1022	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1023	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1024	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148

Ref. No.	Description	Part No.
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1025	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1026	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1027	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1028 [△]	DIODE ZENER 4V7BSB-T26	NDTB4R7BST26
D1029	DIODE ZENER 16BSB-T26	NDTB016BST26
D1030	DIODE ZENER 16BSB-T26	NDTB016BST26
D1034	DIODE ZENER 9V1BSB-T26	NDTB9R1BST26
D1036	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
D1038	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
D1045	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	DIODE SWITCHING HSS4148TE-E or	QDTZ0HSS4148
	DIODE SWITCHING 1N4148-F0021	NDTZ01N4148F
ICS		
IC301	IC TL3472CDR or	NSZBA0TTY115
	IC MC34072L-S08-R	QSZBA0TUTC01
IC402	IC SWITCH TC4053BF(EL N F) or	QSZBA0TTS163
	IC SWITCH 4053L-S16-R or	NSZBA0TUTC04
	IC ANALOG MULTIPLEXERS HCF4053M013TR or	NSZBA0SSS002
	IC ANALOG MULTIPLEXER CD4053BNSR	NSZBA0TTY093
IC605 [△]	PHOTO COUPLER PS2561L1-1-A-V(L)	QPEL561L11AV
IC801	AUDIO AMP IC TDA1517P/N3 112	NSCA0SNXP003
IC1001	IC PULSE-WIDTH-MODULATION CONT TL494CDR	NSCA0T0TY006
IC1002	IC OPERATIONNAL AMPLIFIER KIA358F-EL	NSZBA0TJY030
COILS		
L10	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
L11	INDUCTOR 10μH-K-5FT	LLARKBSTU100
L401	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
L402	INDUCTOR 4.7μH-J-26T	LLAXJATTU4R7
L403	INDUCTOR 4.7μH-J-26T	LLAXJATTU4R7
L405	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
L406	INDUCTOR 0.22μH-J-26T	LLAXJATTUR22
L407	INDUCTOR 0.22μH-J-26T	LLAXJATTUR22
L408	INDUCTOR 0.22μH-J-26T	LLAXJATTUR22
L601 [△]	COIL LINE FILTER JLB20108 or	LLEG0Z0XB008
[△]	COIL LINE FILTER LCL-2027 18.0MH	LLEG0ZMEK001
TRANSISTORS		
Q10	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(Te2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(Te2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q301	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P

Ref. No.	Description	Part No.
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(Te2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(Te2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q302	TRANSISTOR 2SC2655-Y(Te6 F M)	QQSY2SC2655F
Q303	TRANSISTOR 2SA1020-Y(Te6 F M) or	QQSY2SA1020F
	TRANSISTOR KTA1281-Y-AT/P	NQVYKTA1281P
Q401	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(Te2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(Te2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q404	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(Te2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(Te2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q601 	FET 2SK3566(Q) or	QFWZ02SK3566
	FET 2SK3566(Q M)	QFQZSK3566QM
Q602	TRANSISTOR 2SC2120-Y(Te2 F T) or	QQSY2SC2120F
	TRANSISTOR 2SC2120-O(Te2 F T) or	QQS02SC2120F
	TRANSISTOR KTC3203-Y-AT/P or	NQSYKTC3203P
	TRANSISTOR KTC3203-O-AT/P or	NQS0KTC3203P
	NPN TRANSISTOR 2SC5344 Y or	NQSY02SC5344
	NPN TRANSISTOR 2SC5344O-AT	NQS002SC5344
Q603	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(Te2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(Te2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q604	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(Te2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(Te2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q605	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(Te2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(Te2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q606	NPN TRANSISTOR POWER 2SC4881F HFE MAX320 or	QQWZ2SC4881F
	TRANSISTOR(PB FREE) KTC2026-Y/P or	NQEYKTC2026P
	NPN TRANSISTOR STC403	NQEZ00STC403

Ref. No.	Description	Part No.
Q607	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-GR(Te2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT	NQSG2SC5343M
Q609	TRANSISTOR 2SC2120-Y(Te2 F T) or	QQSY2SC2120F
	TRANSISTOR 2SC2120-O(Te2 F T) or	QQS02SC2120F
	TRANSISTOR KTC3203-Y-AT/P or	NQSYKTC3203P
	TRANSISTOR KTC3203-O-AT/P or	NQS0KTC3203P
	NPN TRANSISTOR 2SC5344 Y or	NQSY02SC5344
	NPN TRANSISTOR 2SC5344O-AT	NQS002SC5344
Q610	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(Te2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(Te2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q611	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(Te2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(Te2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q612	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(Te2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(Te2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q613	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(Te2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(Te2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q614	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(Te2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(Te2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q615	TRANSISTOR 2SD400(F) or	QQUF002SD400
	TRANSISTOR 2SD400(E) or	QQUE002SD400
	TRANSISTOR KTC3205-Y-AT/P or	NQSYKTC3205P
	NPN TRANSISTOR STD1862O or	NQS00STD1862
	NPN TRANSISTOR STD1862 or	NQSY0STD1862
	TRANSISTOR KTC3205OAT	NQS00KTC3205
Q616	NPN TRANSISTOR POWER 2SC4881F HFE MAX320 or	QQWZ2SC4881F
	TRANSISTOR(PB FREE) KTC2026-Y/P or	NQEYKTC2026P
	NPN TRANSISTOR STC403	NQEZ00STC403
Q801	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(Te2 F T) or	QQSY2SA1015F

Ref. No.	Description	Part No.
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1017	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1018	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(TE2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(TE2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
Q1019	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1023	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(TE2 F T) or	QQSY2SC1815F
	TRANSISTOR 2SC1815-GR(TE2 F T) or	QQS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q1024	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(TE2 F T) or	QQSY2SA1015F
	TRANSISTOR 2SA1015-GR(TE2 F T) or	QQS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
RESISTORS		
R10	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R11	RES CARBON FILM T 1/4W J 680 Ω or	RCX4681T1001
	RES CARBON FILM 1/4W J 680 Ω	RCX4681FS002
R12	RES CARBON FILM T 1/4W J 1.2k Ω or	RCX4122T1001
	RES CARBON FILM 1/4W J 1.2k Ω	RCX4122FS002
R15	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R16	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R18	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R21	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R22	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R23	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R24	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R25	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000

Ref. No.	Description	Part No.
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R26	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R27	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R28	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R156	CHIP RES. 1/10W J 56k Ω or	RRXAJR5Z0563
	RES CHIP 1608 1/10W J 56k Ω	RRXA563YF002
R157	RES CARBON FILM T 1/4W J 10 Ω or	RCX4100T1001
	RES CARBON FILM 1/4W J 10 Ω	RCX4100FS002
R301	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R302	CHIP RES. 1/10W J 15k Ω or	RRXAJR5Z0153
	RES CHIP 1608 1/10W J 15k Ω	RRXA153YF002
R303	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R304	CHIP RES. 1/10W J 1.5k Ω or	RRXAJR5Z0152
	RES CHIP 1608 1/10W J 1.5k Ω	RRXA152YF002
R305	RES CARBON FILM T 1/4W J 1.0k Ω or	RCX4102T1001
	RES CARBON FILM 1/4W J 1k Ω	RCX4102FS002
R306	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R307	CHIP RES. 1/10W J 1 Ω or	RRXAJR5Z01R0
	RES CHIP 1608 1/10W J 1 Ω	RRXA1R0YF002
R308	RES CARBON FILM T 1/4W J 10 Ω or	RCX4100T1001
	RES CARBON FILM 1/4W J 10 Ω	RCX4100FS002
R309	RES CARBON FILM T 1/4W J 10 Ω or	RCX4100T1001
	RES CARBON FILM 1/4W J 10 Ω	RCX4100FS002
R310	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R311	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R313	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R314	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R318	CHIP RES. 1/10W J 4.7k Ω or	RRXAJR5Z0472
	RES CHIP 1608 1/10W J 4.7k Ω	RRXA472YF002
R401	RES CARBON FILM T 1/4W J 270 Ω or	RCX4271T1001
	RES CARBON FILM 1/4W J 270 Ω	RCX4271FS002
R402	RES CARBON FILM T 1/4W J 470 Ω or	RCX4471T1001
	RES CARBON FILM 1/4W J 470 Ω	RCX4471FS002
R403	CHIP RES. 1/10W J 1.8k Ω or	RRXAJR5Z0182
	RES CHIP 1608 1/10W J 1.8k Ω	RRXA182YF002
R404	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R407	CHIP RES. 1/10W J 4.7k Ω or	RRXAJR5Z0472
	RES CHIP 1608 1/10W J 4.7k Ω	RRXA472YF002
R408	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R411	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R413	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R421	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R423	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R425	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R427	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002

Ref. No.	Description	Part No.
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R429	WIRE CP STP-S-0.50 or	XZ40FOREN001
	WIRE CP STP-S-0.60 or	XZ40FOREN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R431	WIRE CP STP-S-0.50 or	XZ40FOREN001
	WIRE CP STP-S-0.60 or	XZ40FOREN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R433	WIRE CP STP-S-0.50 or	XZ40FOREN001
	WIRE CP STP-S-0.60 or	XZ40FOREN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R436	RES CARBON FILM T 1/4W J 560 Ω or	RCX4561T1001
	RES CARBON FILM 1/4W J 560 Ω	RCX4561FS002
R438	RES CARBON FILM T 1/4W J 560 Ω or	RCX4561T1001
	RES CARBON FILM 1/4W J 560 Ω	RCX4561FS002
R440	CHIP RES. 1/10W J 75 Ω or	RRXAJR5Z0750
	RES CHIP 1608 1/10W J 75 Ω	RRXA750YF002
R441	WIRE CP STP-S-0.50 or	XZ40FOREN001
	WIRE CP STP-S-0.60 or	XZ40FOREN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R442	RES CARBON FILM T 1/4W J 6.8k Ω or	RCX4682T1001
	RES CARBON FILM 1/4W J 6.8k Ω	RCX4682FS002
R443	CHIP RES. 1/10W J 2.2k Ω or	RRXAJR5Z0222
	RES CHIP 1608 1/10W J 2.2k Ω	RRXA222YF002
R444	CHIP RES. 1/10W J 75 Ω or	RRXAJR5Z0750
	RES CHIP 1608 1/10W J 75 Ω	RRXA750YF002
R445	WIRE CP STP-S-0.50 or	XZ40FOREN001
	WIRE CP STP-S-0.60 or	XZ40FOREN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R446	CHIP RES. 1/10W J 75 Ω or	RRXAJR5Z0750
	RES CHIP 1608 1/10W J 75 Ω	RRXA750YF002
R447	RES CARBON FILM T 1/4W J 39 Ω or	RCX4390T1001
	RES CARBON FILM 1/4W J 39 Ω	RCX4390FS002
R448	CHIP RES. 1/10W J 75 Ω or	RRXAJR5Z0750
	RES CHIP 1608 1/10W J 75 Ω	RRXA750YF002
R449	WIRE CP STP-S-0.50 or	XZ40FOREN001
	WIRE CP STP-S-0.60 or	XZ40FOREN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R451	WIRE CP STP-S-0.50 or	XZ40FOREN001
	WIRE CP STP-S-0.60 or	XZ40FOREN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R452	RES CARBON FILM T 1/4W J 15k Ω or	RCX4153T1001
	RES CARBON FILM 1/4W J 15k Ω	RCX4153FS002
R453	RES CARBON FILM T 1/4W J 15k Ω or	RCX4153T1001
	RES CARBON FILM 1/4W J 15k Ω	RCX4153FS002
R454	RES CARBON FILM T 1/4W J 15k Ω or	RCX4153T1001
	RES CARBON FILM 1/4W J 15k Ω	RCX4153FS002
R455	RES CARBON FILM T 1/4W J 15k Ω or	RCX4153T1001
	RES CARBON FILM 1/4W J 15k Ω	RCX4153FS002
R456	RES CARBON FILM T 1/4W J 15k Ω or	RCX4153T1001
	RES CARBON FILM 1/4W J 15k Ω	RCX4153FS002
R457	RES CARBON FILM T 1/4W J 15k Ω or	RCX4153T1001
	RES CARBON FILM 1/4W J 15k Ω	RCX4153FS002
R458	RES CARBON FILM T 1/4W J 15k Ω or	RCX4153T1001
	RES CARBON FILM 1/4W J 15k Ω	RCX4153FS002
R459	RES CARBON FILM T 1/4W J 15k Ω or	RCX4153T1001
	RES CARBON FILM 1/4W J 15k Ω	RCX4153FS002
R463	RES CARBON FILM T 1/4W J 470 Ω or	RCX4471T1001
	RES CARBON FILM 1/4W J 470 Ω	RCX4471FS002
R467	CHIP RES. 1/10W J 1.2k Ω or	RRXAJR5Z0122

Ref. No.	Description	Part No.
	RES CHIP 1608 1/10W J 1.2k Ω	RRXA122YF002
R468	CHIP RES. 1/10W J 1.2k Ω or	RRXAJR5Z0122
	RES CHIP 1608 1/10W J 1.2k Ω	RRXA122YF002
R469	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R470	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R471	RES CARBON FILM T 1/4W J 47k Ω or	RCX4473T1001
	RES CARBON FILM 1/4W J 47k Ω	RCX4473FS002
R475	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R476	WIRE CP STP-S-0.50 or	XZ40FOREN001
	WIRE CP STP-S-0.60 or	XZ40FOREN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R477	WIRE CP STP-S-0.50 or	XZ40FOREN001
	WIRE CP STP-S-0.60 or	XZ40FOREN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R480	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R481	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R482	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R483	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R484	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R485	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R486	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R487	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R501△	CHIP RES. 1/10W J 2.2k Ω or	RRXAJR5Z0222
△	RES CHIP 1608 1/10W J 2.2k Ω	RRXA222YF002
R601△	GLASS GLAZE RES. 1/2W J 1M Ω	RXX2JLZ0105
R602△	CEMENT RESISTOR 5W K 2.7 Ω or	RW052R7PAK10
△	CEMENT RES. 5W K 2.7 Ω	RW052R7PG001
R604	RES CARBON FILM T 1/4W J 820k Ω or	RCX4824T1001
	RES CARBON FILM 1/4W J 820k Ω	RCX4824FS002
R605	RES CARBON FILM T 1/4W J 820k Ω or	RCX4824T1001
	RES CARBON FILM 1/4W J 820k Ω	RCX4824FS002
R606	RES CARBON FILM T 1/4W J 820k Ω or	RCX4824T1001
	RES CARBON FILM 1/4W J 820k Ω	RCX4824FS002
R607	RES CARBON FILM T 1/4W J 820k Ω or	RCX4824T1001
	RES CARBON FILM 1/4W J 820k Ω	RCX4824FS002
R608	RES CARBON FILM T 1/4W J 390k Ω or	RCX4394T1001
	RES CARBON FILM 1/4W J 390k Ω	RCX4394FS002
R610	RES CARBON FILM T 1/4W J 390 Ω or	RCX4391T1001
	RES CARBON FILM 1/4W J 390 Ω	RCX4391FS002
R611	RES CARBON FILM T 1/4W J 390 Ω or	RCX4391T1001
	RES CARBON FILM 1/4W J 390 Ω	RCX4391FS002
R612	RES CARBON FILM T 1/4W J 330 Ω or	RCX4331T1001
	RES CARBON FILM 1/4W J 330 Ω	RCX4331FS002
R613	RES CARBON FILM T 1/4W J 1.5k Ω or	RCX4152T1001
	RES CARBON FILM 1/4W J 1.5k Ω	RCX4152FS002
R614	METAL OXIDE FILM RES. 2W J 0.68 Ω	RN02R68ZU001
R615	RES CARBON FILM T 1/4W J 150 Ω or	RCX4151T1001
	RES CARBON FILM 1/4W J 150 Ω	RCX4151FS002
R616	RES CARBON FILM T 1/4W J 2.2k Ω or	RCX4222T1001
	RES CARBON FILM 1/4W J 2.2k Ω	RCX4222FS002
R617	RES CARBON FILM T 1/4W J 270 Ω or	RCX4271T1001
	RES CARBON FILM 1/4W J 270 Ω	RCX4271FS002
R619	RES CARBON FILM T 1/4W J 1.8k Ω or	RCX4182T1001
	RES CARBON FILM 1/4W J 1.8k Ω	RCX4182FS002

Ref. No.	Description	Part No.
R620	RES CARBON FILM T 1/4W J 1.8k Ω or	RCX4182T1001
	RES CARBON FILM 1/4W J 1.8k Ω	RCX4182FS002
R625	CHIP RES. 1/10W F 680 Ω or	RRXAFR5H6800
	CHIP RES.(1608) 1/10W F 680 Ω or	RRXAFR5Z6800
	RES CHIP 1608 1/10W F 680 Ω	RTW6800YF002
R626	CHIP RES. 1/10W F 680 Ω or	RRXAFR5H6800
	CHIP RES.(1608) 1/10W F 680 Ω or	RRXAFR5Z6800
	RES CHIP 1608 1/10W F 680 Ω	RTW6800YF002
R627	CHIP RES. 1/10W F 680 Ω or	RRXAFR5H6800
	CHIP RES.(1608) 1/10W F 680 Ω or	RRXAFR5Z6800
	RES CHIP 1608 1/10W F 680 Ω	RTW6800YF002
R628	CHIP RES. 1/10W F 680 Ω or	RRXAFR5H6800
	CHIP RES.(1608) 1/10W F 680 Ω or	RRXAFR5Z6800
	RES CHIP 1608 1/10W F 680 Ω	RTW6800YF002
R629	CHIP RES. 1/10W F 560 Ω or	RRXAFR5H5600
	CHIP RES.(1608) 1/10W F 560 Ω or	RRXAFR5Z5600
	RES CHIP 1608 1/10W F 560 Ω	RTW5600YF002
R630	CHIP RES. 1/10W F 4.7k Ω or	RRXAFR5H4701
	CHIP RES.(1608) 1/10W F 4.7k Ω or	RRXAFR5Z4701
	RES CHIP 1608 1/10W F 4.7k Ω	RTW4701YF002
R635	RES CARBON FILM T 1/4W J 68 Ω or	RCX4680T1001
	RES CARBON FILM 1/4W J 68 Ω	RCX4680FS002
R636	RES CARBON FILM T 1/4W J 270 Ω or	RCX4271T1001
	RES CARBON FILM 1/4W J 270 Ω	RCX4271FS002
R637	RES CARBON FILM T 1/4W J 2.7k Ω or	RCX4272T1001
	RES CARBON FILM 1/4W J 2.7k Ω	RCX4272FS002
R638	WIRE CP STP-S-0.50 or	XZ40FOREN001
	WIRE CP STP-S-0.60 or	XZ40FOREN002
	WIRE CP 6113-05603-0220 or	XZ40FOSHG001
	WIRE CP CP0.56	XZ40FOXRC001
R639	RES CARBON FILM T 1/4W J 390 Ω or	RCX4391T1001
	RES CARBON FILM 1/4W J 390 Ω	RCX4391FS002
R640	RES CARBON FILM T 1/4W J 100 Ω or	RCX4101T1001
	RES CARBON FILM 1/4W J 100 Ω	RCX4101FS002
R641	RES CARBON FILM T 1/4W J 18 Ω or	RCX4180T1001
	RES CARBON FILM 1/4W J 18 Ω	RCX4180FS002
R642	CHIP RES. 1/10W F 3.3k Ω or	RRXAFR5H3301
	CHIP RES.(1608) 1/10W F 3.3k Ω or	RRXAFR5Z3301
	RES CHIP 1608 1/10W F 3.3k Ω	RTW3301YF002
R643	CHIP RES. 1/10W F 10k Ω or	RRXAFR5H1002
	CHIP RES. 1/10W F 10k Ω or	RRXAFR5Z1002
	RES CHIP 1608 1/10W F 10.0k Ω	RTW1002YF002
R644	RES CARBON FILM T 1/4W J 8.2k Ω or	RCX4822T1001
	RES CARBON FILM 1/4W J 8.2k Ω	RCX4822FS002
R646	RES CARBON FILM T 1/4W J 18k Ω or	RCX4183T1001
	RES CARBON FILM 1/4W J 18k Ω	RCX4183FS002
R648	CHIP RES. 1/10W J 2.2k Ω or	RRXAJR5Z0222
	RES CHIP 1608 1/10W J 2.2k Ω	RRXA222YF002
R649	CHIP RES. 1/10W J 4.7k Ω or	RRXAJR5Z0472
	RES CHIP 1608 1/10W J 4.7k Ω	RRXA472YF002
R650	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R651	RES CARBON FILM T 1/4W J 1.8k Ω or	RCX4182T1001
	RES CARBON FILM 1/4W J 1.8k Ω	RCX4182FS002
R652	RES CARBON FILM T 1/4W J 1.8k Ω or	RCX4182T1001
	RES CARBON FILM 1/4W J 1.8k Ω	RCX4182FS002
R654	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R655	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R656	RES CARBON FILM T 1/4W J 5.6k Ω or	RCX4562T1001
	RES CARBON FILM 1/4W J 5.6k Ω	RCX4562FS002
R657	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R658	CHIP RES. 1/10W J 47k Ω or	RRXAJR5Z0473
	RES CHIP 1608 1/10W J 47k Ω	RRXA473YF002
R659	RES CARBON FILM T 1/4W J 2.7k Ω or	RCX4272T1001

Ref. No.	Description	Part No.
	RES CARBON FILM 1/4W J 2.7k Ω	RCX4272FS002
R660	RES CARBON FILM T 1/4W J 1.8k Ω or	RCX4182T1001
	RES CARBON FILM 1/4W J 1.8k Ω	RCX4182FS002
R661	RES CARBON FILM T 1/4W J 470 Ω or	RCX4471T1001
	RES CARBON FILM 1/4W J 470 Ω	RCX4471FS002
R663	METAL OXIDE FILM RES. 2W J 3.9 Ω	RN023R9ZU001
R666	CHIP RES. 1/10W F 12k Ω or	RRXAFR5H1202
	CHIP RES.(1608) 1/10W F 12k Ω or	RRXAFR5Z1202
	RES CHIP 1608 1/10W F 12.0k Ω	RTW1202YF002
R667	CHIP RES. 1/10W F 620 Ω or	RRXAFR5H6200
	CHIP RES. 1/10W F 620 Ω or	RRXAFR5Z6200
	RES CHIP 1608 1/10W F 620 Ω	RTW6200YF002
R668	CHIP RES. 1/10W F 3k Ω or	RRXAFR5H3001
	CHIP RES. 1/10W F 3.0k Ω or	RRXAFR5Z3001
	RES CHIP 1608 1/10W F 3.00k Ω	RTW3001YF002
R669	RES CARBON FILM T 1/4W J 2.7k Ω or	RCX4272T1001
	RES CARBON FILM 1/4W J 2.7k Ω	RCX4272FS002
R670	RES CARBON FILM T 1/4W J 8.2k Ω or	RCX4822T1001
	RES CARBON FILM 1/4W J 8.2k Ω	RCX4822FS002
R671	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R672	CHIP RES. 1/10W J 27k Ω or	RRXAJR5Z0273
	RES CHIP 1608 1/10W J 27k Ω	RRXA273YF002
R673	CHIP RES. 1/10W J 3.3k Ω or	RRXAJR5Z0332
	RES CHIP 1608 1/10W J 3.3k Ω	RRXA332YF002
R674	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R675	RES CARBON FILM T 1/4W J 10 Ω or	RCX4100T1001
	RES CARBON FILM 1/4W J 10 Ω	RCX4100FS002
R676	RES CARBON FILM T 1/4W J 150 Ω or	RCX4151T1001
	RES CARBON FILM 1/4W J 150 Ω	RCX4151FS002
R677	CHIP RES. 1/10W F 10k Ω or	RRXAFR5H1002
	CHIP RES. 1/10W F 10k Ω or	RRXAFR5Z1002
	RES CHIP 1608 1/10W F 10.0k Ω	RTW1002YF002
R678	CHIP RES. 1/10W F 3.3k Ω or	RRXAFR5H3301
	CHIP RES.(1608) 1/10W F 3.3k Ω or	RRXAFR5Z3301
	RES CHIP 1608 1/10W F 3.30k Ω	RTW3301YF002
R680	RES CARBON FILM T 1/4W J 2.7k Ω or	RCX4272T1001
	RES CARBON FILM 1/4W J 2.7k Ω	RCX4272FS002
R681	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R682	RES CARBON FILM T 1/4W J 270 Ω or	RCX4271T1001
	RES CARBON FILM 1/4W J 270 Ω	RCX4271FS002
R683	CHIP RES. 1/10W F 5.6k Ω or	RRXAFR5H5601
	CHIP RES. 1/10W F 5.6k Ω or	RRXAFR5Z0562
	RES CHIP 1608 1/10W F 5.60k Ω	RTW5601YF002
R684	RES CARBON FILM T 1/4W J 22 Ω or	RCX4220T1001
	RES CARBON FILM 1/4W J 22 Ω	RCX4220FS002
R685	RES CARBON FILM T 1/4W J 22 Ω or	RCX4220T1001
	RES CARBON FILM 1/4W J 22 Ω	RCX4220FS002
R686	RES CARBON FILM T 1/4W J 470 Ω or	RCX4471T1001
	RES CARBON FILM 1/4W J 470 Ω	RCX4471FS002
R687	CHIP RES. 1/10W F 5.6k Ω or	RRXAFR5H5601
	CHIP RES. 1/10W F 5.6k Ω or	RRXAFR5Z0562
	RES CHIP 1608 1/10W F 5.60k Ω	RTW5601YF002
R688	CHIP RES. 1/10W J 6.8k Ω or	RRXAJR5Z0682
	RES CHIP 1608 1/10W J 6.8k Ω	RRXA682YF002
R689	RES CARBON FILM T 1/4W J 22 Ω or	RCX4220T1001
	RES CARBON FILM 1/4W J 22 Ω	RCX4220FS002
R690	RES CARBON FILM T 1/4W J 150 Ω or	RCX4151T1001
	RES CARBON FILM 1/4W J 150 Ω	RCX4151FS002
R691	RES CARBON FILM T 1/4W J 150 Ω or	RCX4151T1001
	RES CARBON FILM 1/4W J 150 Ω	RCX4151FS002
R694	CHIP RES. 1/10W F 3.3k Ω or	RRXAFR5H3301
	CHIP RES.(1608) 1/10W F 3.3k Ω or	RRXAFR5Z3301
	RES CHIP 1608 1/10W F 3.30k Ω	RTW3301YF002
R695	CHIP RES. 1/10W J 43k Ω or	RRXAJR5Z0433

Ref. No.	Description	Part No.
	RES CHIP 1608 1/10W J 43k Ω	RRXA433YF002
R697	METAL OXIDE FILM RES. 2W J 1 Ω	RN021R0ZU001
R698	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R801	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R802	CHIP RES. 1/10W J 220k Ω or	RRXAJR5Z0224
	RES CHIP 1608 1/10W J 220k Ω	RRXA224YF002
R803	CHIP RES. 1/10W J 8.2 Ω or	RRXAJR5Z08R2
	RES CHIP 1608 1/10W J 8.2 Ω	RRXA8R2YF002
R804	CHIP RES. 1/10W J 8.2 Ω or	RRXAJR5Z08R2
	RES CHIP 1608 1/10W J 8.2 Ω	RRXA8R2YF002
R805	METAL OXIDE FILM RES. 2W J 1.5 Ω	RN021R5ZU001
R806	METAL OXIDE FILM RES. 2W J 1.5 Ω	RN021R5ZU001
R807	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R808	CHIP RES. 1/10W J 12k Ω or	RRXAJR5Z0123
	RES CHIP 1608 1/10W J 12k Ω	RRXA123YF002
R809	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R810	CHIP RES. 1/10W J 5.6k Ω or	RRXAJR5Z0562
	RES CHIP 1608 1/10W J 5.6k Ω	RRXA562YF002
R811	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R812	CHIP RES. 1/10W J 5.6k Ω or	RRXAJR5Z0562
	RES CHIP 1608 1/10W J 5.6k Ω	RRXA562YF002
R813	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R815	CHIP RES. 1/10W J 47 Ω or	RRXAJR5Z0470
	RES CHIP 1608 1/10W J 47 Ω	RRXA470YF002
R816	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R817	CHIP RES. 1/10W J 470 Ω or	RRXAJR5Z0471
	RES CHIP 1608 1/10W J 470 Ω	RRXA471YF002
R818	CHIP RES. 1/10W J 470 Ω or	RRXAJR5Z0471
	RES CHIP 1608 1/10W J 470 Ω	RRXA471YF002
R819	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R820	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R823	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R831	CHIP RES. 1/10W J 22 Ω or	RRXAJR5Z0220
	RES CHIP 1608 1/10W J 22 Ω	RRXA220YF002
R1001	RES CARBON FILM T 1/4W J 2.2k Ω or	RCX4222T1001
	RES CARBON FILM 1/4W J 2.2k Ω	RCX4222FS002
R1002	RES CARBON FILM T 1/4W J 180 Ω or	RCX4181T1001
	RES CARBON FILM 1/4W J 180 Ω	RCX4181FS002
R1003	RES CARBON FILM T 1/4W J 2.2k Ω or	RCX4222T1001
	RES CARBON FILM 1/4W J 2.2k Ω	RCX4222FS002
R1004	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1005	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R1006	RES CARBON FILM T 1/4W J 180 Ω or	RCX4181T1001
	RES CARBON FILM 1/4W J 180 Ω	RCX4181FS002
R1007	RES CARBON FILM T 1/4W J 10 Ω or	RCX4100T1001
	RES CARBON FILM 1/4W J 10 Ω	RCX4100FS002
R1008	RES CARBON FILM T 1/4W J 12k Ω or	RCX4123T1001
	RES CARBON FILM 1/4W J 12k Ω	RCX4123FS002
R1010	RES CARBON FILM T 1/4W J 10 Ω or	RCX4100T1001
	RES CARBON FILM 1/4W J 10 Ω	RCX4100FS002
R1011	CHIP RES. 1/10W J 12k Ω or	RRXAJR5Z0123
	RES CHIP 1608 1/10W J 12k Ω	RRXA123YF002
R1012	RES CARBON FILM T 1/4W J 27k Ω or	RCX4273T1001
	RES CARBON FILM 1/4W J 27k Ω	RCX4273FS002
R1013	RES CARBON FILM T 1/4W J 12k Ω or	RCX4123T1001

Ref. No.	Description	Part No.
	RES CARBON FILM 1/4W J 12k Ω	RCX4123FS002
R1014	RES CARBON FILM T 1/4W J 27k Ω or	RCX4273T1001
	RES CARBON FILM 1/4W J 27k Ω	RCX4273FS002
R1015	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1017	RES CARBON FILM T 1/4W J 12k Ω or	RCX4123T1001
	RES CARBON FILM 1/4W J 12k Ω	RCX4123FS002
R1018	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R1019	CHIP RES. 1/10W J 390 Ω or	RRXAJR5Z0391
	RES CHIP 1608 1/10W J 390 Ω	RRXA391YF002
R1020	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1022	CHIP RES. 1/10W J 33k Ω or	RRXAJR5Z0333
	RES CHIP 1608 1/10W J 33k Ω	RRXA333YF002
R1023	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1024	CHIP RES. 1/10W F 22k Ω or	RRXAFR5H2202
	CHIP RES.(1608) 1/10W F 22k Ω or	RRXAFR5Z2202
	RES CHIP 1608 1/10W F 22.0k Ω	RTW2202YF002
R1025	CHIP RES. 1/10W J 1.5k Ω or	RRXAJR5Z0152
	RES CHIP 1608 1/10W J 1.5k Ω	RRXA152YF002
R1026	RES CARBON FILM T 1/4W J 2.2k Ω or	RCX4222T1001
	RES CARBON FILM 1/4W J 2.2k Ω	RCX4222FS002
R1027	CHIP RES. 1/10W J 5.1k Ω or	RRXAJR5Z0512
	RES CHIP 1608 1/10W J 5.1k Ω	RRXA512YF002
R1028	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1029	RES CARBON FILM T 1/4W J 1.8k Ω or	RCX4182T1001
	RES CARBON FILM 1/4W J 1.8k Ω	RCX4182FS002
R1030	RES CARBON FILM T 1/4W J 12k Ω or	RCX4123T1001
	RES CARBON FILM 1/4W J 12k Ω	RCX4123FS002
R1031	RES CARBON FILM T 1/4W J 4.7k Ω or	RCX4472T1001
	RES CARBON FILM 1/4W J 4.7k Ω	RCX4472FS002
R1032	METAL OXIDE FILM RES. 2W J 0.33 Ω	RN02R33ZU001
R1035	CHIP RES. 1/10W F 1.0k Ω or	RRXAFR5H1001
	CHIP RES. 1/10W F 1k Ω or	RRXAFR5Z1001
	RES CHIP 1608 1/10W F 1.00k Ω	RTW1001YF002
R1036	CHIP RES. 1/10W F 15k Ω or	RRXAFR5H1502
	CHIP RES. 1/10W F 15k Ω or	RRXAFR5Z1502
	RES CHIP 1608 1/10W F 15.0k Ω	RTW1502YF002
R1037	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R1038	CHIP RES. 1/10W J 240k Ω or	RRXAJR5Z0244
	RES CHIP 1608 1/10W J 240k Ω	RRXA244YF002
R1039	CHIP RES. 1/10W F 68k Ω or	RRXAFR5H6802
	CHIP RES. 1/10W F 68k Ω or	RRXAFR5Z6802
	RES CHIP 1608 1/10W F 68.0k Ω	RTW6802YF002
R1040	CHIP RES. 1/10W F 6.2k Ω or	RRXAFR5H6201
	CHIP RES.(1608) 1/10W F 6.2k Ω or	RRXAFR5Z6201
	RES CHIP 1608 1/10W F 6.20k Ω	RTW6201YF002
R1041	CHIP RES. 1/10W F 1.0k Ω or	RRXAFR5H1001
	CHIP RES. 1/10W F 1k Ω or	RRXAFR5Z1001
	RES CHIP 1608 1/10W F 1.00k Ω	RTW1001YF002
R1042	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R1043	CHIP RES. 1/10W F 5.1k Ω or	RRXAFR5H5101
	CHIP RES. 1/10W F 5.1k Ω or	RRXAFR5Z0512
	RES CHIP 1608 1/10W F 5.10k Ω	RTW5101YF002
R1044	RES CARBON FILM T 1/4W G 5.1k Ω	RCX4512T1002
R1045	CHIP RES. 1/10W J 240k Ω or	RRXAJR5Z0244
	RES CHIP 1608 1/10W J 240k Ω	RRXA244YF002
R1046	CHIP RES. 1/10W J 24k Ω or	RRXAJR5Z0243
	RES CHIP 1608 1/10W J 24k Ω	RRXA243YF002
R1048	CHIP RES. 1/10W J 22k Ω or	RRXAJR5Z0223
	RES CHIP 1608 1/10W J 22k Ω	RRXA223YF002
R1049	RES CARBON FILM T 1/4W J 12k Ω or	RCX4123T1001

Ref. No.	Description	Part No.
	RES CARBON FILM 1/4W J 12k Ω	RCX4123FS002
R1052	CHIP RES. 1/10W F 100k Ω or	RRXAFR5H1003
	CHIP RES. 1/10W F 100k Ω or	RRXAFR5Z1003
	RES CHIP 1608 1/10W F 100k Ω	RTW1003YF002
R1054	CHIP RES. 1/10W F 5.6k Ω or	RRXAFR5H5601
	CHIP RES. 1/10W F 5.6k Ω or	RRXAFR5Z0562
	RES CHIP 1608 1/10W F 5.60k Ω	RTW5601YF002
R1055	CHIP RES. 1/10W F 100k Ω or	RRXAFR5H1003
	CHIP RES. 1/10W F 100k Ω or	RRXAFR5Z1003
	RES CHIP 1608 1/10W F 100k Ω	RTW1003YF002
R1056	CHIP RES. 1/10W F 100k Ω or	RRXAFR5H1003
	CHIP RES. 1/10W F 100k Ω or	RRXAFR5Z1003
	RES CHIP 1608 1/10W F 100k Ω	RTW1003YF002
R1058	CHIP RES. 1/10W F 10k Ω or	RRXAFR5H1002
	CHIP RES. 1/10W F 10k Ω or	RRXAFR5Z1002
	RES CHIP 1608 1/10W F 10.0k Ω	RTW1002YF002
R1059	CHIP RES. 1/10W F 10k Ω or	RRXAFR5H1002
	CHIP RES. 1/10W F 10k Ω or	RRXAFR5Z1002
	RES CHIP 1608 1/10W F 10.0k Ω	RTW1002YF002
R1060	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1061	CHIP RES. 1/10W J 33k Ω or	RRXAJR5Z0333
	RES CHIP 1608 1/10W J 33k Ω	RRXA333YF002
R1065	RES CARBON FILM T 1/4W J 2.7k Ω or	RCX4272T1001
	RES CARBON FILM 1/4W J 2.7k Ω	RCX4272FS002
R1066	RES CARBON FILM T 1/4W J 2.7k Ω or	RCX4272T1001
	RES CARBON FILM 1/4W J 2.7k Ω	RCX4272FS002
R1067	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1068	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1069	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1070	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1071	CHIP RES. 1/10W F 4.3k Ω or	RRXAFR5H4301
	CHIP RES.(1608) 1/10W F 4.3k Ω or	RRXAFR5Z4301
	RES CHIP 1608 1/10W F 4.30k Ω	RTW4301YF002
R1072	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R1073	CHIP RES. 1/10W F 1.2k Ω or	RRXAFR5H1201
	CHIP RES.(1608) 1/10W F 1.2k Ω or	RRXAFR5Z1201
	RES CHIP 1608 1/10W F 1.20k Ω	RTW1201YF002
R1074	RES CARBON FILM T 1/4W J 100k Ω or	RCX4104T1001
	RES CARBON FILM 1/4W J 100k Ω	RCX4104FS002
R1081	CHIP RES. 1/10W F 100k Ω or	RRXAFR5H1003
	CHIP RES. 1/10W F 100k Ω or	RRXAFR5Z1003
	RES CHIP 1608 1/10W F 100k Ω	RTW1003YF002
R1082	CHIP RES. 1/10W F 68k Ω or	RRXAFR5H6802
	CHIP RES. 1/10W F 68k Ω or	RRXAFR5Z6802
	RES CHIP 1608 1/10W F 68.0k Ω	RTW6802YF002
R1083	CHIP RES. 1/10W F 1M Ω or	RRXAFR5H1004
	CHIP RES. 1/10W F 1M Ω or	RRXAFR5Z1004
	RES CHIP 1608 1/10W F 1.00M Ω	RTW1004YF002
R1084	CHIP RES. 1/10W J 100k Ω or	RRXAJR5Z0104
	RES CHIP 1608 1/10W J 100k Ω	RRXA104YF002
R1086	CHIP RES. 1/10W F 100k Ω or	RRXAFR5H1003
	CHIP RES. 1/10W F 100k Ω or	RRXAFR5Z1003
	RES CHIP 1608 1/10W F 100k Ω	RTW1003YF002
R1087	CHIP RES. 1/10W F 68k Ω or	RRXAFR5H6802
	CHIP RES. 1/10W F 68k Ω or	RRXAFR5Z6802
	RES CHIP 1608 1/10W F 68.0k Ω	RTW6802YF002
R1088	CHIP RES. 1/10W F 1M Ω or	RRXAFR5H1004
	CHIP RES. 1/10W F 1M Ω or	RRXAFR5Z1004
	RES CHIP 1608 1/10W F 1.00M Ω	RTW1004YF002
R1089	CHIP RES. 1/10W F 12k Ω or	RRXAFR5H1202
	CHIP RES.(1608) 1/10W F 12k Ω or	RRXAFR5Z1202

Ref. No.	Description	Part No.
	RES CHIP 1608 1/10W F 12.0k Ω	RTW1202YF002
R1090	CHIP RES. 1/10W F 47.0 k Ω or	RRXAFR5H4702
	CHIP RES.(1608) 1/10W F 47k Ω or	RRXAFR5Z4702
	RES CHIP 1608 1/10W F 47.0k Ω	RTW4702YF002
R1091	RES CARBON FILM T 1/4W J 12k Ω or	RCX4123T1001
	RES CARBON FILM 1/4W J 12k Ω	RCX4123FS002
R1092	RES CARBON FILM T 1/4W J 12k Ω or	RCX4123T1001
	RES CARBON FILM 1/4W J 12k Ω	RCX4123FS002
R1093	RES CARBON FILM T 1/4W J 12k Ω or	RCX4123T1001
	RES CARBON FILM 1/4W J 12k Ω	RCX4123FS002
R1094	RES CARBON FILM T 1/4W J 12k Ω or	RCX4123T1001
	RES CARBON FILM 1/4W J 12k Ω	RCX4123FS002
R1095	RES CARBON FILM T 1/4W J 1.2k Ω or	RCX4122T1001
	RES CARBON FILM 1/4W J 1.2k Ω	RCX4122FS002
R1099	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R1100	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R1105	CHIP RES. 1/10W J 3.3k Ω or	RRXAJR5Z0332
	RES CHIP 1608 1/10W J 3.3k Ω	RRXA332YF002
R1106	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1107	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1108	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R1109	CHIP RES. 1/10W F 2.2k Ω or	RRXAFR5H2201
	CHIP RES.(1608) 1/10W F 2.2k Ω or	RRXAFR5Z2201
	RES CHIP 1608 1/10W F 2.20k Ω	RTW2201YF002
R1110	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R1111	RES CARBON FILM T 1/4W J 10k Ω or	RCX4103T1001
	RES CARBON FILM 1/4W J 10k Ω	RCX4103FS002
R1112	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
R1117	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
R1118	RES CARBON FILM T 1/4W J 1.2 Ω or	RCX41R2T1001
	RES CARBON FILM 1/4W J 1.2 Ω	RCX41R2FS002
MISCELLANEOUS		
AC601△	AC CORD W/O A GND WIRE CEE/1760MM/NO/BLACK or	WAE1720LW001
△	AC CORD W/O A GND WIRE CEE/1760MM/NO/BLACK	WAE172ZHN001
B12	MODULE HEAT SINK PMC P7150UT	1EM423968
B13	HEAT SINK PMU A8A70UH	1EM324377
B14	HEAT SINK PMR ASSEMBLY A8CN0FP	1EM425837A
BC401	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC601	WIRE CP STP-S-0.50 or	XZ40F0REN001
	WIRE CP STP-S-0.60 or	XZ40F0REN002
	WIRE CP 6113-05603-0220 or	XZ40F0SHG001
	WIRE CP CP0.56	XZ40F0XRC001
BC602	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
F601△	FUSE 4A/250V(PB FREE) 0215004.MXP	PBGZ20BAG021
FH601	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
FH602	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
JK401	JACK HPEP SML PCB S P.J-358H or	JXSJ020YUQ01
	JACK HPEP SML PCB S 02 MSJ-035-29D (ABS)	JXSJ020LY001
JK402	JACK SW DIN PCB S 04/DIN-417HA-01 or	JYEJ040YUQ03
	JACK SW DIN PCB S 04 MDC-076H-A LF	JYEJ040LY002

Ref. No.	Description	Part No.
JK403	JACK RCA PCB S YELLOW 01/RCA-101H(YL) or	JXRJ010YUQ05
	JACK RCA PCB S (YELLOW) 01 MTJ-032-04B-40 FE	JXRJ010LY032
JK404	JACK RCA PCB S WHITE 01/RCA-101H(WH) or	JXRJ010YUQ02
	JACK RCA PCB S (WHITE) 01 MTJ-032-04B-41 FE	JXRJ010LY031
JK405	JACK SW RCA PCB S RED RCA-102H(RD) or	JYRJ010YUQ03
	JACK SW RCA PCB S(RED) 01 MTJ-032-04A-75 FE	JYRJ010LY031
JK406	JACK SE HPEP SML PCM S MSJ-035-04A LF or	JYSJ020LY002
	JACK SW HPEP SML PCB S PJ-362H-7	JYSJ020YUQ02
JK407	JACK RCA PCB S GREEN 01/RCA-101H(GN) or	JXRJ010YUQ03
	JACK RCA PCB S(GREEN) 01 MTJ-032-04B-73 FE	JXRJ010LY030
JK408	JACK RCA PCB S BLUE 01/RCA-101H(BL) or	JXRJ010YUQ04
	JACK RCA PCB S(BLUE) 01 MTJ-032-04B-74 FE	JXRJ010LY033
JK409	JACK RCA PCB S RED 01/RCA-101H(RD) or	JXRJ010YUQ01
	JACK RCA PCB S(RED) 01 MTJ-032-04B-75 FE	JXRJ010LY028
JK410	JACK RCA PCB S ORANGE 01/RCA-101H(OR) or	JXRJ010YUQ06
	JACK RCA PCB S(ORANGE) 01 MTJ-032-04B-76 FE	JXRJ010LY029
JK411	JACK RCA PCB S WHITE 01/RCA-101H(WH) or	JXRJ010YUQ02
	JACK RCA PCB S (WHITE) 01 MTJ-032-04B-41 FE	JXRJ010LY031
JK412	JACK SW RCA PCB S RED RCA-102H(RD) or	JYRJ010YUQ03
	JACK SW RCA PCB S(RED) 01 MTJ-032-04A-75 FE	JYRJ010LY031
JK413	JACK RGB PCB S 01/RGB-11HS	JXGJ21YUQ001
L13	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080
SA601 [△]	SURGE ABSORBER 470V+10PER or	NVQZ10D471KB
[△]	VARIATOR 10D 471K SVR	NVQZVR10D471
T601 [△]	TRANS POWER BCK-28-9920 or	LTT2PE0XB048
[△]	TRANS POWER BCK-28AK	LTT2PEMEK006
TM601	EYELET TYPE D-1	0VM406868
TM602	EYELET TYPE D-1	0VM406868
T1002 [△]	TRANS INVERTER HVT-160 or	LITZ3P20XB014
[△]	TRANS INVERTER TK.7611A.101	LITZ3PZDAR009

FUNCTION CBA

Ref. No.	Description	Part No.
	FUNCTION CBA Consists of the following:	-----
CAPACITORS		
C105	CHIP CERAMIC CAP. B K 330pF/50V	CHD1JK30B331
C107	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470
C108	CAP CERAMIC (AX) 0.1μF/50V/F/Z	CA1J104TU062
C109	CAP CERAMIC (AX) 0.1μF/50V/F/Z	CA1J104TU062
DIODES		
D101	LED L-53HT or	NP4Z000L53HT
	LED 333HT/E-L or	NPHL00333HTE
	LED 333HT/E-K	NPHK00333HTE
D102	LED GREEN 333GT/E(FNA) or	NPWZ33GTEFNA
	LED(GREEN) LTL-4234	NPWZ0LTL4234
TRANSISTORS		
Q101	TRANSISTOR KTC3198-Y-AT/P or	NQSYKTC3198P
	TRANSISTOR KTC3199-GR-AT/P or	NQS4KTC3199P
	TRANSISTOR KTC3198-GR-AT/P or	NQS4KTC3198P
	TRANSISTOR 2SC1815-Y(Te2 F T) or	QOSY2SC1815F
	TRANSISTOR 2SC1815-GR(Te2 F T) or	QOS12SC1815F
	NPN TRANSISTOR 2SC5343Y-AT or	NQSY02SC5343
	NPN TRANSISTOR 2SC5343G-AT or	NQSG02SC5343
	NPN TRANSISTOR 2SC5343MG-AT or	NQSG2SC5343M
	NPN TRANSISTOR 2SC5343M Y	NQSY2SC5343M
Q102	TRANSISTOR KTA1267-GR-AT/P or	NQS1KTA1267P
	TRANSISTOR KTA-1266-GR-AT/P or	NQS4KTA1266P
	TRANSISTOR 2SA1015-Y(Te2 F T) or	QOSY2SA1015F

Ref. No.	Description	Part No.
	TRANSISTOR 2SA1015-GR(Te2 F T) or	QOS12SA1015F
	PNP TRANSISTOR 2SA1980Y-AT or	NQSY02SA1980
	PNP TRANSISTOR 2SA1980 G or	NQSG02SA1980
	PNP TRANSISTOR 2SA1980M Y or	NQSY2SA1980M
	PNP TRANSISTOR 2SA1980MG-AT	NQSG2SA1980M
RESISTORS		
R101	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R102	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R103	CHIP RES. 1/10W J 220 Ω or	RRXAJR5Z0221
	RES CHIP 1608 1/10W J 220 Ω	RRXA221YF002
R104	RES CARBON FILM T 1/4W J 220 Ω or	RCX4221T1001
	RES CARBON FILM 1/4W J 220 Ω	RCX4221FS002
R105	CHIP RES. 1/10W J 100 Ω or	RRXAJR5Z0101
	RES CHIP 1608 1/10W J 100 Ω	RRXA101YF002
R106	RES CARBON FILM T 1/4W J 1.0k Ω or	RCX4102T1001
	RES CARBON FILM 1/4W J 1k Ω	RCX4102FS002
R107	CHIP RES. 1/10W J 3.3k Ω or	RRXAJR5Z0332
	RES CHIP 1608 1/10W J 3.3k Ω	RRXA332YF002
R108	CHIP RES. 1/10W J 10k Ω or	RRXAJR5Z0103
	RES CHIP 1608 1/10W J 10k Ω	RRXA103YF002
R109	CHIP RES. 1/10W J 1k Ω or	RRXAJR5Z0102
	RES CHIP 1608 1/10W J 1.0k Ω	RRXA102YF002
R110	RES CARBON FILM T 1/4W G 47k Ω	RCX4473T1002
R111	RES CARBON FILM T 1/4W J 220 Ω or	RCX4221T1001
	RES CARBON FILM 1/4W J 220 Ω	RCX4221FS002
R112	RES CARBON FILM T 1/4W G 9.1k Ω	RCX4912T1002
R113	RES CARBON FILM T 1/4W G 11k Ω	RCX4113T1002
R114	RES CARBON FILM T 1/4W G 16k Ω	RCX4163T1002
R115	RES CARBON FILM T 1/4W G 27k Ω	RCX4273T1002
R116	RES CARBON FILM T 1/4W G 56k Ω	RCX4563T1002
SWITCHES		
SW101	TACT SWITCH SKHHLMA010 or	SST0101AL049
	TACT SWITCH KSMC632A	SST0101HH025
SW102	TACT SWITCH SKHHLMA010 or	SST0101AL049
	TACT SWITCH KSMC632A	SST0101HH025
SW103	TACT SWITCH SKHHLMA010 or	SST0101AL049
	TACT SWITCH KSMC632A	SST0101HH025
SW104	TACT SWITCH SKHHLMA010 or	SST0101AL049
	TACT SWITCH KSMC632A	SST0101HH025
SW105	TACT SWITCH SKHHLMA010 or	SST0101AL049
	TACT SWITCH KSMC632A	SST0101HH025
SW106	TACT SWITCH SKHHLMA010 or	SST0101AL049
	TACT SWITCH KSMC632A	SST0101HH025
MISCELLANEOUS		
JS901	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
JS902	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
JS903	CHIP RES.(1608) 1/10W 0 Ω or	RRXAZR5Z0000
	RES CHIP 1608 1/10W J 0 Ω	RRXA000YF002
RS101	SENSOR REMOTE RECEIVER KSM-712TH2E or	USESJR5KK044
	SENSOR REMOTE RECEIVER KSM-712TH2M	USEJR50KK001

JUNCTION CBA

Ref. No.	Description	Part No.
	JUNCTION CBA Consists of the following:	-----
CONNECTORS		
CN101	242 SERIES CONNECTOR TUC-P06X-B1 WHT ST	JCTUB06TG002
CN101A	WIRE ASSEMBLY 6PIN WX1A93N0-002	WX1A93N0-002

Ref. No.	Description	Part No.
MISCELLANEOUS		
TU10	TUNER UNIT DT0S40AML201A	UTNPSG0SM001

