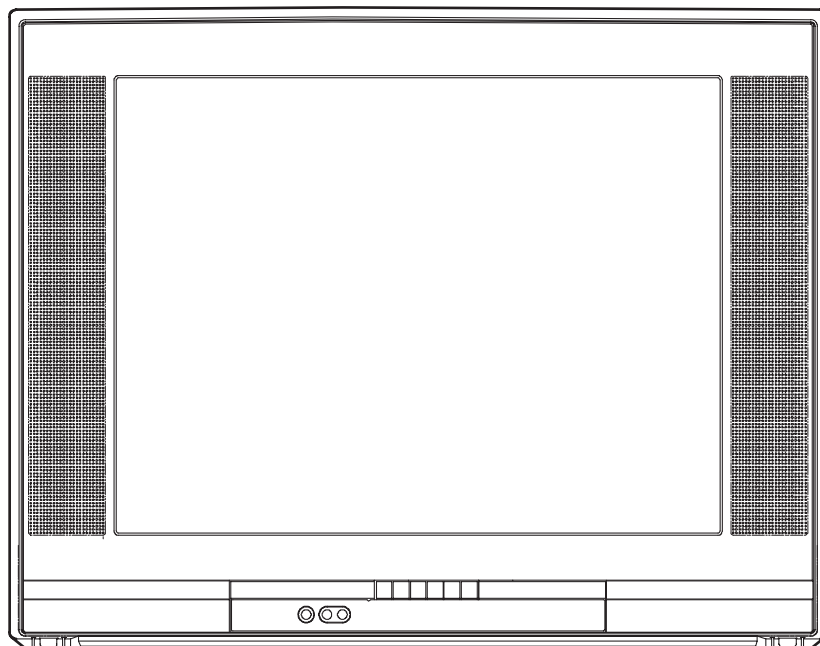


SYLVANIA

SERVICE MANUAL

**27" ANALOG/DIGITAL
COLOR TELEVISION**

6427GFF



IMPORTANT SAFETY NOTICE

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

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

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SPECIFICATIONS

Test input

Video Input: 1V p-p
 Audio input: 500mV rms
 Tuner: Ant input (80dBuV) Video 87.5%

< DEFLECTION >

Description	Condition	Unit	Limit
1. Over Scan	Horizontal	%	90±5
	Vertical	%	90±5
2. Linearity	Horizontal	%	±15
	Vertical	%	±10
3. High Voltage	---	kV	25 to 33

< VIDEO & CHROMA >

Description	Condition	Unit	Limit
1. Contrast control range	---	dB	>6
2. Brightness	APL 100%	ft-L	>20
3. Color Temperature	---	°K	9200

< TUNER >

Description	Condition	Unit	Limit
1. Video S/N	---	dB	>43
2. Audio S/N (W/LPF)	---	dB	>45

< ATSC >

Description	Condition	Unit	Limit
1. RECEIVED FREQ. RANGE (-28dBm)	+	kHz	>100
	-	kHz	>100
2. ATSC DYNAMIC RANGE (min./max.) VHF LOW BAND. CH.4 VHF HI BAND. CH.10 UHF BAND. CH.41	---	dBm	-76/0
		dBm	-76/0
		dBm	-74/4
3. ATSC SUSCEPTIBILITY TO RANDOM NOISE VHF LOW BAND. CH.4 VHF HI BAND. CH.10 UHF BAND. CH.41	---	dB	<26
		dB	<26
		dB	<26
4. NTSC CO-CHANNEL INTERFERENCE VHF LOW BAND. CH.4 VHF HI BAND. CH.10 UHF BAND. CH.41	---	dB	>-6
		dB	>-6
		dB	>-6

Description	Condition	Unit	Limit
5. MULTIPATH	A	dB	<6
	B	dB	<6
	C	dB	<6
	D	dB	<6
	E	dB	<6
	F	dB	<6
	FF	dB	<6
	G	dB	<6
6. Audio S/N (0dBfs)	L	dB	>50
	R	dB	>50
7. Audio DIST. (0dBfs)	L	%	<3
	R	%	<3

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.

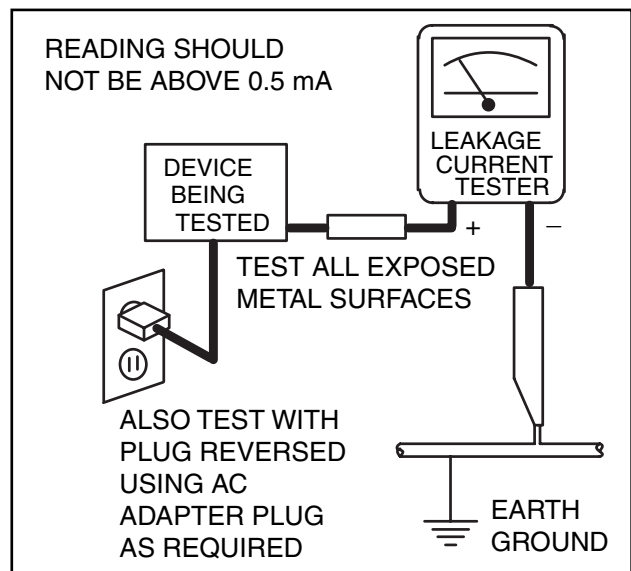
IMPORTANT SAFETY PRECAUTIONS

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 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 picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.
 - c. **Antenna Cold Check** - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.
 - d. **Leakage Current Hot Check** - With the instrument completely reassembled, plug the

AC line cord directly into a 120 V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.




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

- e. **X-Radiation and High Voltage Limits** - Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original.

Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servicing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called “horizontal disable” or “hold down.”) Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.


2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.
3. **Design Alteration Warning** - Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.
4. **Picture Tube Implosion Protection Warning** - The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some “in-line” picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such “permanently attached” yokes from the picture tube.
5. **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 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.

- b. Some 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.
6. 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.
 7. 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.
 8. **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.** Crimp type wire connector
The power transformer uses crimp type connectors which connect the power cord and the primary side of the transformer. When replacing the transformer, follow these steps carefully and precisely to prevent shock hazards.
Replacement procedure
 - 1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector (discard it).
 - 2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

- 3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
- 4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.
- L.** When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC supply outlet.

Safety Check after Servicing

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

1. Clearance Distance

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

Table 1: Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d), (d')
110 to 130 V	U.S.A. or Canada	≥ 3.2 mm (0.126 inches)

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

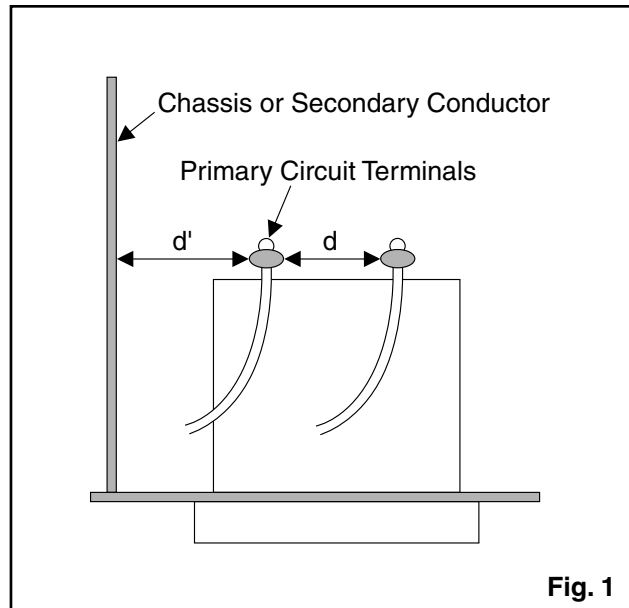


Fig. 1

2. Leakage Current Test

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

Measuring Method: (Power ON)

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

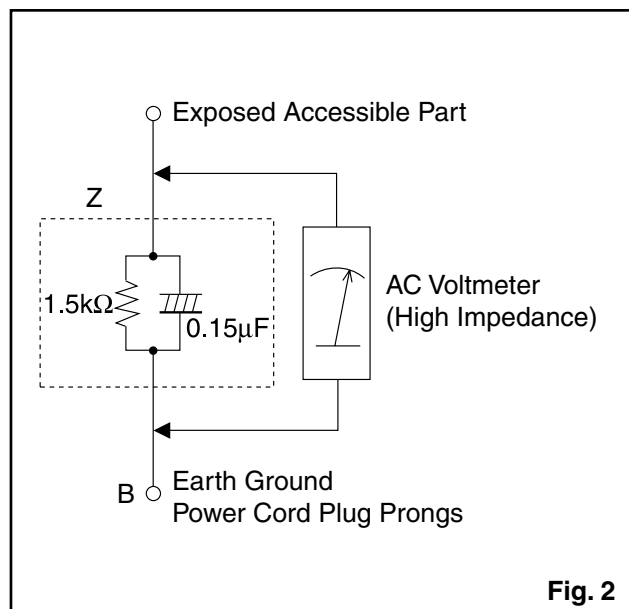


Fig. 2

Table 2: Leakage current ratings for selected areas

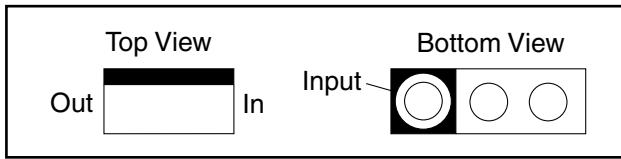
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	U.S.A. or Canada	0.15 μF CAP. & 1.5 kΩ RES. Connected in parallel	$i \leq 0.5$ mA rms	Exposed accessible parts

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

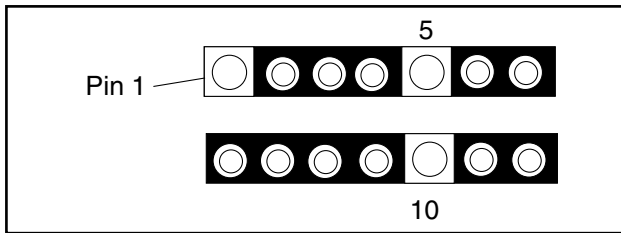
STANDARD NOTES FOR SERVICING

Circuit Board Indications

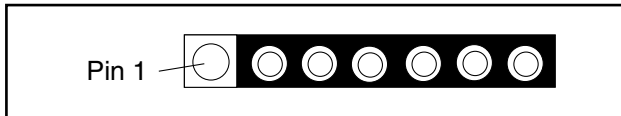
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

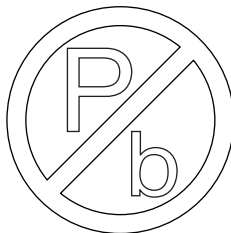


3. The 1st pin of every male connector is indicated as shown.



Pb (Lead) Free Solder

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



Pb free mark

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

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

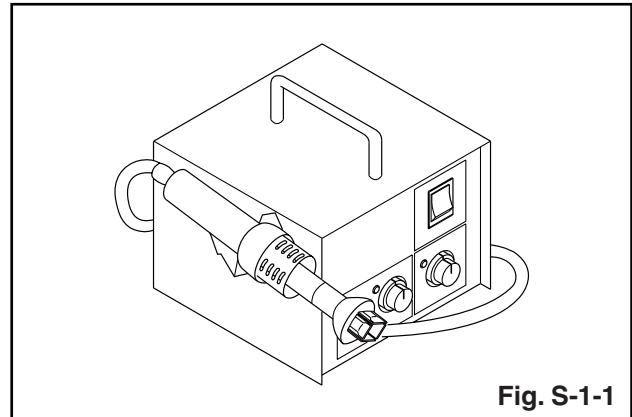


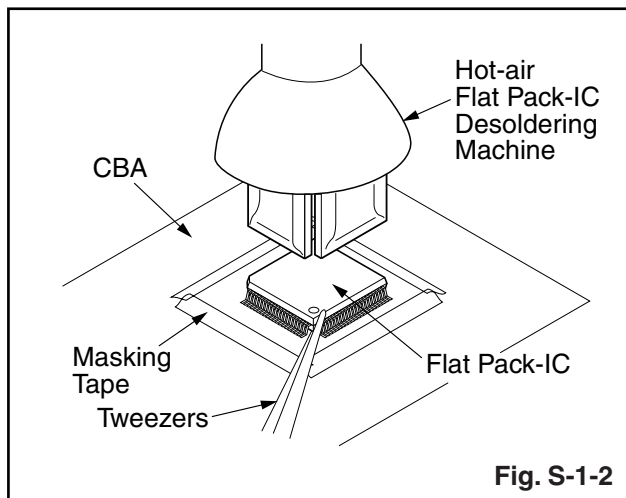
Fig. S-1-1

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

CAUTION:

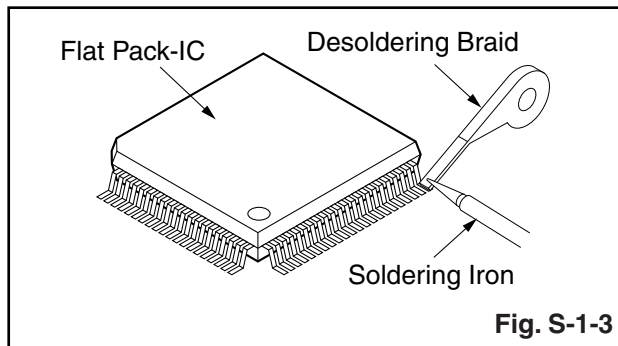
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape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

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

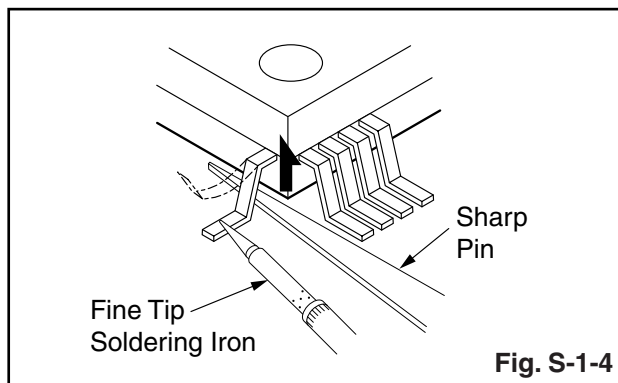


With Soldering Iron:

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



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

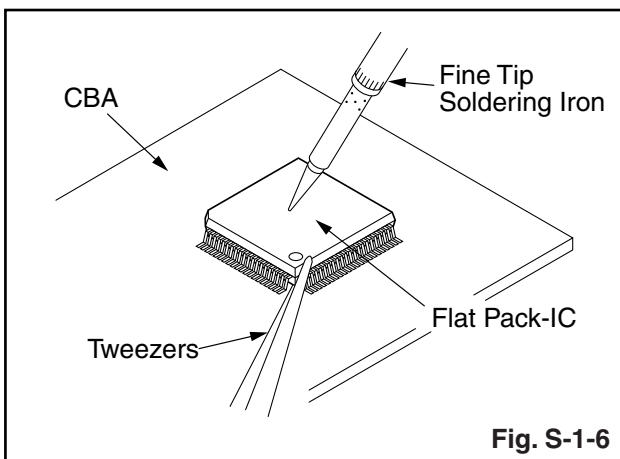
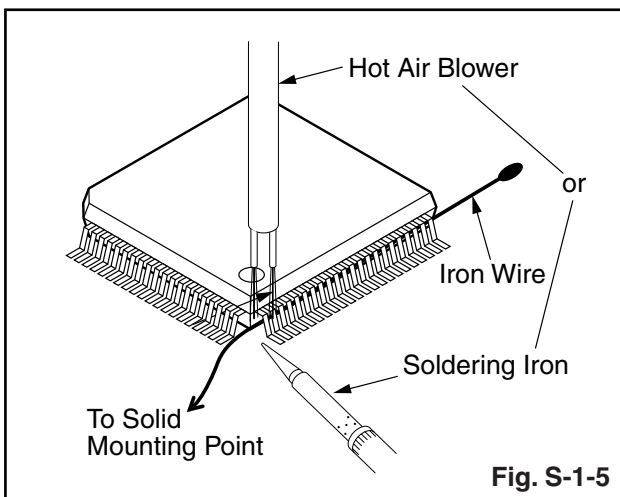


3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

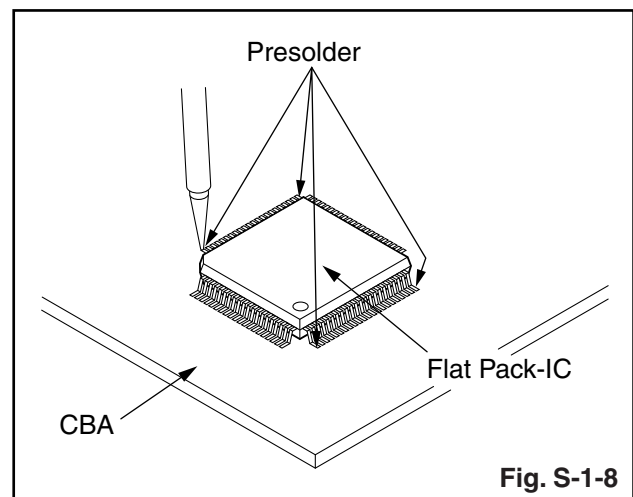
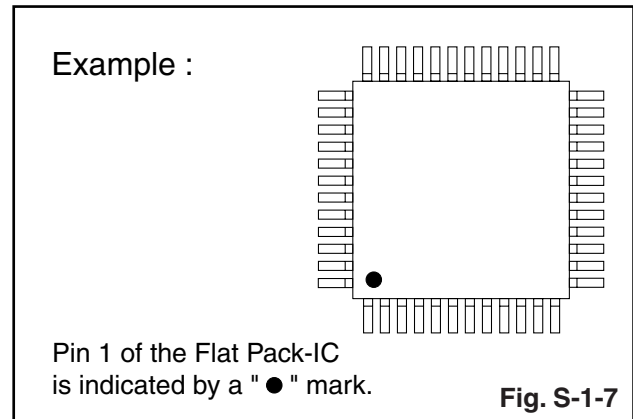
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

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



2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 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

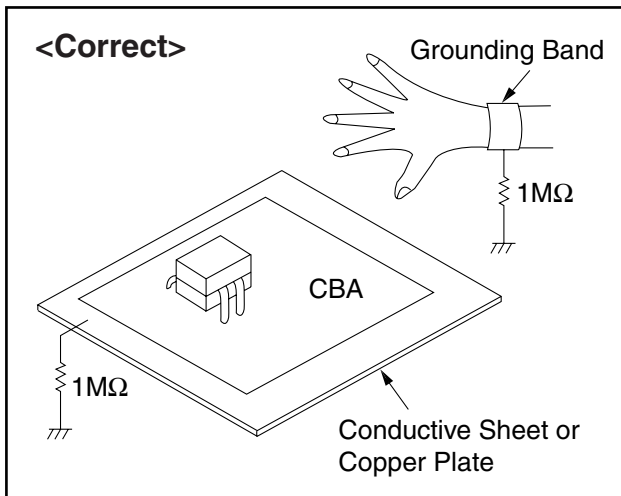
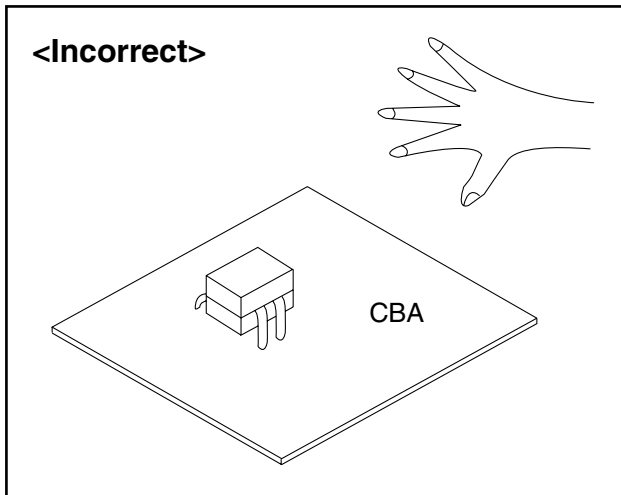
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

Be sure to wear a grounding band (1 M Ω) 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 M Ω) 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.



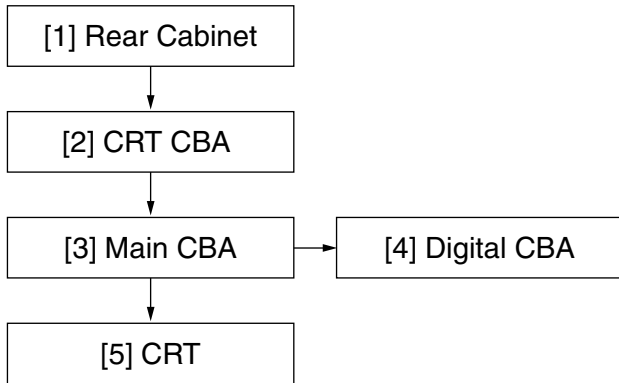
CABINET DISASSEMBLY INSTRUCTIONS

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.

CAUTION!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[1]	Rear Cabinet	D1 D2	8(S-1), 4(S-2), (S-3)	1
[2]	CRT CBA	D4 D5	CN1501	2
[3]	Main CBA	D3 D5	CN801, CN802, CN571, CN691	3
[4]	Digital CBA	D3 D5	CN901, CN902	4
[5]	CRT	D4	4(S-4), Anode Cap	5

↓ ↓ ↓ ↓ ↓
 (1) (2) (3) (4) (5)

Note:

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

Reference Notes in the Table

1. Removal of the Rear Cabinet: Remove screws 8(S-1), 4(S-2) and (S-3) then slide the Rear Cabinet backward.
2. Removal of the CRT CBA: Disconnect CN1501 then pull the CRT CBA backward.
3. Removal of the Main CBA: Disconnect CN801, CN802, CN571 and CN691 on the Main CBA then slide the Main CBA backward.
4. Removal of the Digital CBA: Disconnect CN901 and CN902 on the Digital CBA then remove the Digital CBA.
5. **CAUTION:** Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.
 Removal of the CRT: Remove screws 4(S-4) and Anode Cap. then slide the CRT backward.

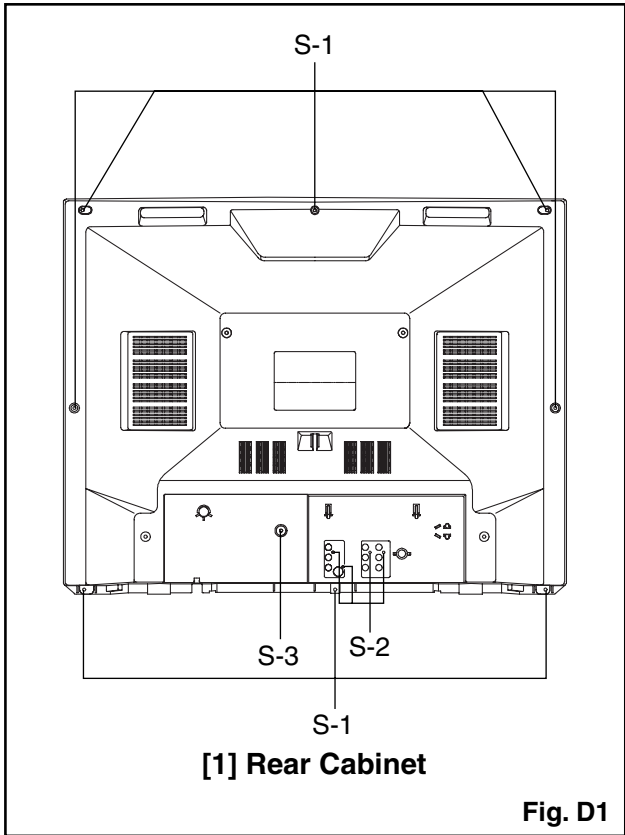


Fig. D1

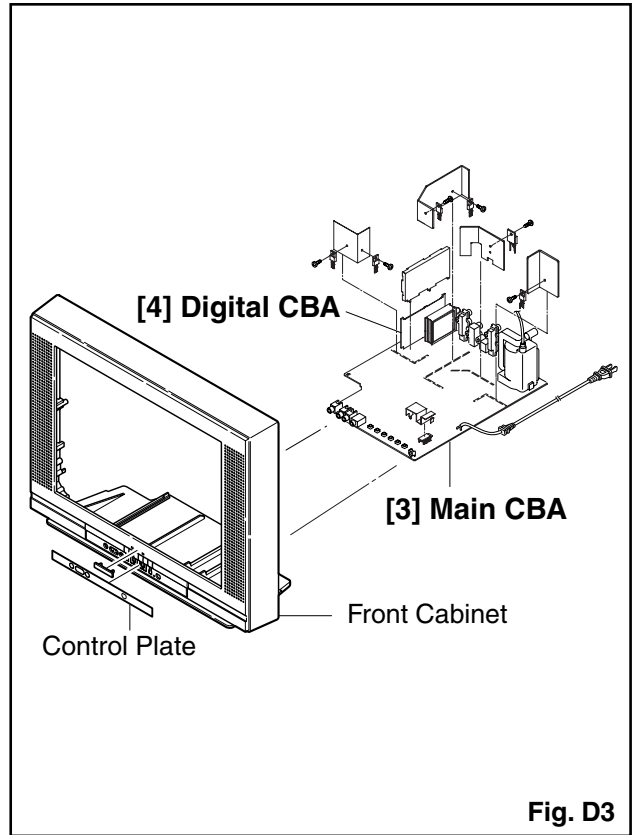


Fig. D3

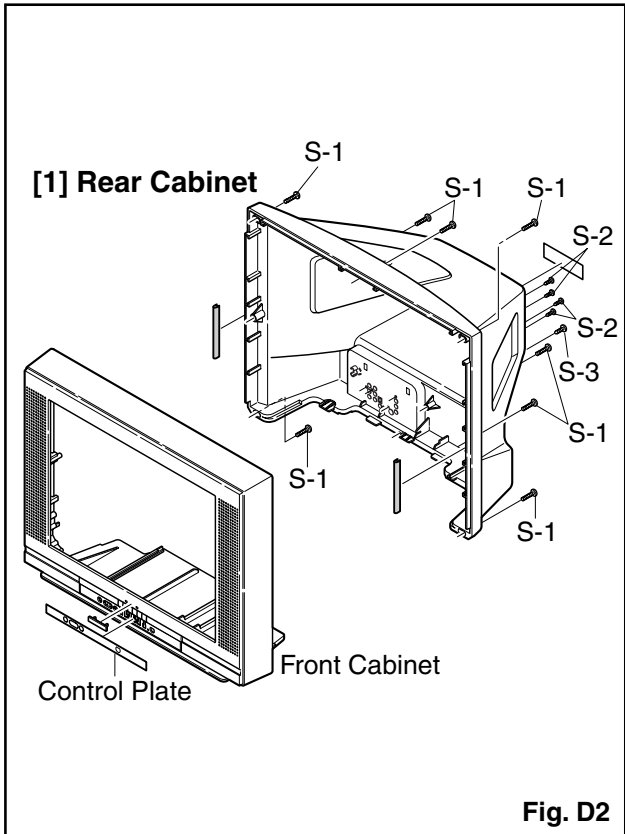


Fig. D2

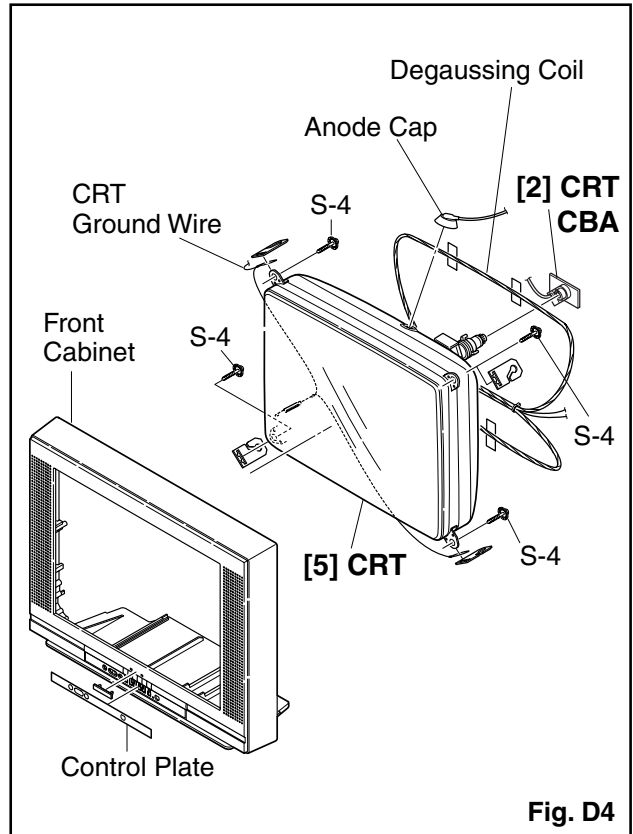


Fig. D4

TV Cable Wiring Diagram

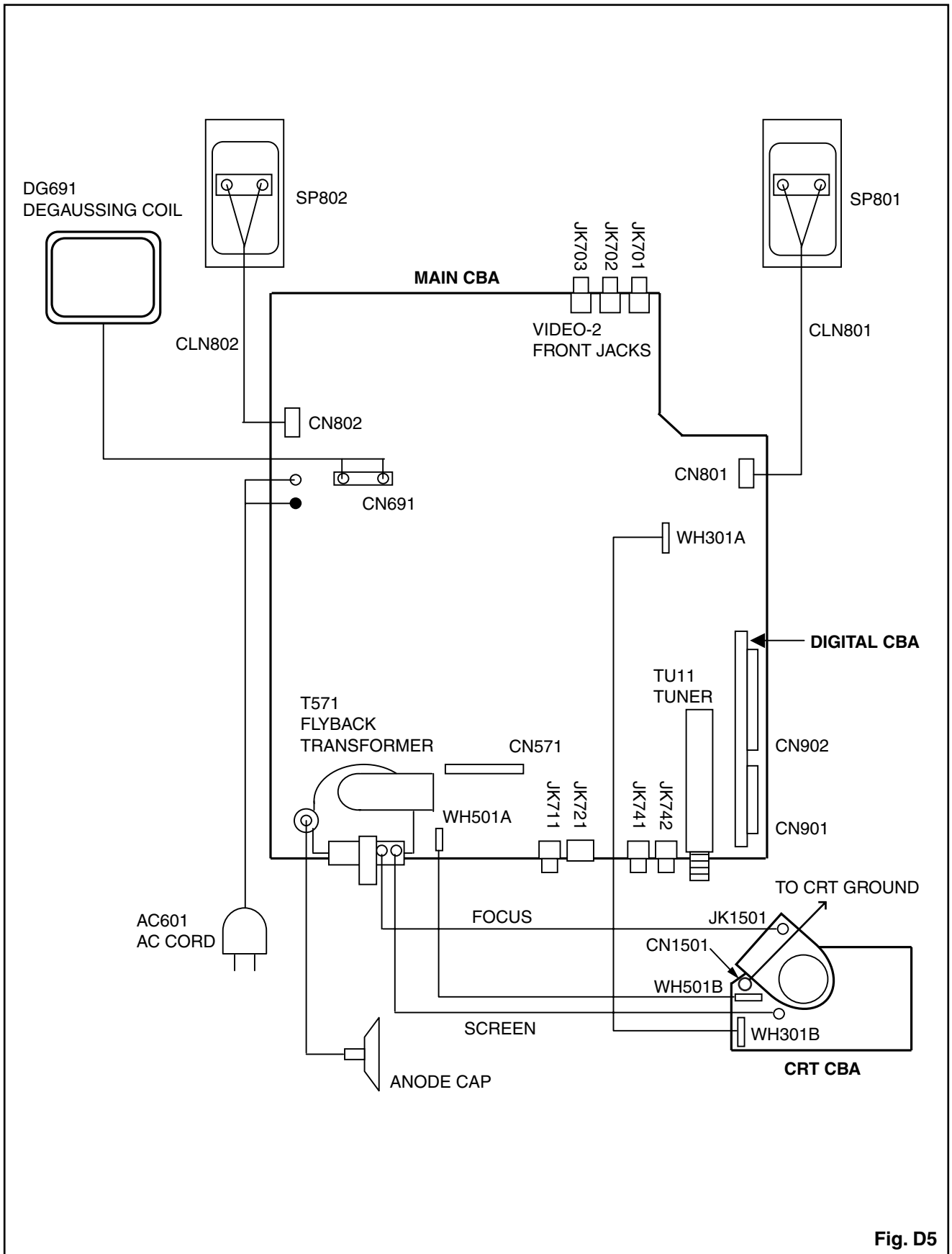


Fig. D5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

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

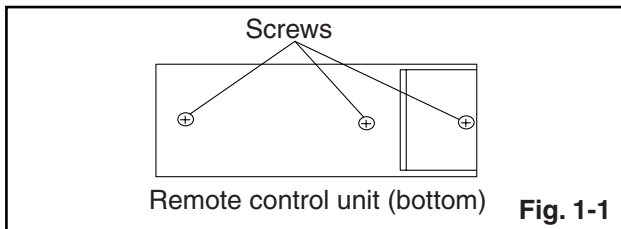
Note: Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

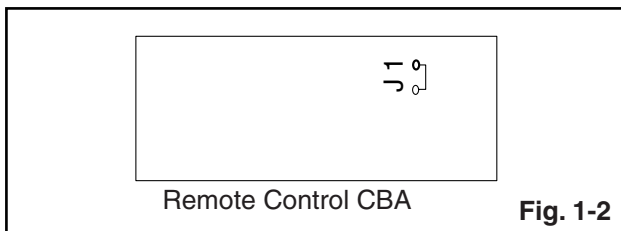
1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. DC Voltmeter
3. Oscilloscope: Dual-trace with 10:1 probe, V-Range: 0.001~50 V/Div, F-Range: DC~AC-60 MHz
4. Plastic Tip Driver
5. Remote control unit: Part No. NE601UD
6. DC power supply 13.2V/5A

How to make Service remote control unit:

1. Prepare normal remote control unit. (Part No. NE601UD)
Remove 3 Screws from the back lid. (Fig. 1-1)



2. Add J1 (Jumper Wire) to the remote control CBA. (Fig. 1-2)



How to set up the service mode:

Service mode:

1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. Press [SLEEP] button on the service remote control unit. Version of micro computer will display on the CRT. (M02-0.43 N2 0A)
4. Check the display on the lower left is “02” and if it is not “02” set it at “02” according to “Initial Setting” on page 5-2.

1. +B Adjustment

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and the unit does not operate correctly.

Test Point	Adj. Point	Mode	Input
TP601(+B) TP300(GND)	VR661	---	---
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+132±0.5 V DC.	

Note: TP601, TP300(GND), VR661 --- Main CBA

1. Connect DC Volt Meter to TP601 and TP300(GND).
2. Adjust VR661 so that the voltage of TP601 becomes +132±0.5 V DC.

2. Initial Setting

General

1. Enter the Service mode. (See page 5-1.)
2. Press [VOL ▼] button on the service remote control unit. Display changes “C/D”, “7F”, “VIDEO”, “AV MEMO”, “STABLE SOUND”, “300”, “YUV MEMORY”, and “NO SIG BRT” cyclically when [VOL ▼] button is pressed.
3. To set the following each data value, press [CH ▲ / ▼] buttons on the service remote control unit.
7F---Set to “FF”.
VIDEO---Set to “V1/V2/YUV”.
AV MEMO---Set to “OFF”.
STABLE SOUND---Set to “OFF”.
7E DATA---Set to “300”.
YUV MEMORY---Set to “OFF”.
NO SIG BRT---Set to “0”.

3. Setting for BRIGHT, CONTRAST, COLOR, S-COLOR, COMPONENT COLOR, TINT, V-TINT, S-TINT, COMPONENT TINT, SHARP, S-SHARP, and COMPONENT SHARP Data Values

General

1. Enter the Service mode. (See page 5-1.)
2. Press [MENU] button on the service remote control unit. Display changes “BRT,” “CNT,” “CLR,” “S-CLR,” “C-CLR,” “TNT,” “V-TNT,” “S-TNT,” “C-TNT,” “SHARP,” “S-SRP,” and “C-SRP” cyclically when [MENU] button is pressed.

CNT

1. Press [MENU] button on the service remote control unit. Then select “CONTRAST” (CNT) display.
2. Press [CH ▲ / ▼] buttons on the service remote control unit so that the value of “CONTRAST” (CNT) becomes 73.

CLR

1. Press [MENU] button on the service remote control unit. Then select “COLOR” (CLR) display.
2. Press [CH ▲ / ▼] buttons on the service remote control unit so that the value of “COLOR” (CLR) becomes 87.

S-CLR

1. Press [MENU] button on the service remote control unit. Then select “S-COLOR” (S-CLR) display.
2. Press [CH ▲ / ▼] buttons on the service remote control unit so that the value of “S-COLOR” (S-CLR) becomes 87.

C-CLR

1. Press [MENU] button on the service remote control unit. Then select “COMPONENT COLOR” (C-CLR) display.
2. Press [CH ▲ / ▼] buttons on the service remote control unit so that the value of “COMPONENT COLOR” (C-CLR) becomes 73.

TNT

1. Press [MENU] button on the service remote control unit. Then select “TINT” (TNT) display.
2. Press [CH ▲ / ▼] buttons on the service remote control unit so that the value of “TINT” (TNT) becomes 57.

V-TNT

1. Press [MENU] button on the service remote control unit. Then select “V-TINT” (V-TNT) display.
2. Press [CH ▲ / ▼] buttons on the service remote control unit so that the value of “V-TINT” (V-TNT) becomes 56.

S-TNT

1. Press [MENU] button on the service remote control unit. Then select “S-TINT” (S-TNT) display.
2. Press [CH ▲ / ▼] buttons on the service remote control unit so that the value of “S-TINT” (S-TNT) becomes 55.

C-TNT

1. Press [MENU] button on the service remote control unit. Then select “COMPONENT TINT” (C-TNT) display.
2. Press [CH ▲ / ▼] buttons on the service remote control unit so that the value of “COMPONENT TINT” (C-TNT) becomes 64.

SHARP

1. Press [MENU] button on the service remote control unit. Then select “SHARP” (SHARP) display.
2. Press [CH ▲ / ▼] buttons on the service remote control unit and select “42.”

S-SRP

1. Press [MENU] button on the service remote control unit. Then select “S-SHARP” (S-SRP) display.
2. Press [CH ▲ / ▼] buttons on the service remote control unit and select “40.”

C-SRP

1. Press [MENU] button on the service remote control unit. Then select “COMPONENT SHARP” (C-SRP) display.
2. Press [CH ▲ / ▼] buttons on the service remote control unit and select “45.”

Note: **BRIGHT** data value does not need to be adjusted at this moment.

4. H f₀ Adjustment

Purpose: To get correct horizontal frequency.

Note: Use service remote control unit.

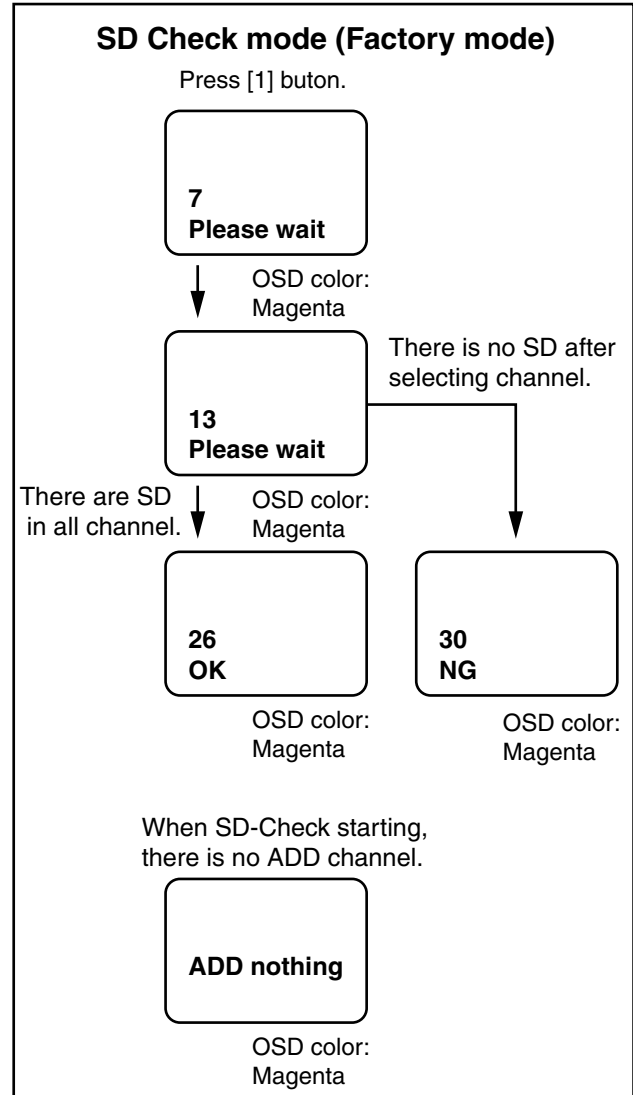
1. To perform the H f₀ adjustment automatically, press [2] button on the service remote control unit.
2. If the adjustment value is not "4", press again [2] button on the service remote control unit. Then press [CH ▲ / ▼] buttons to set "4".
3. Turn the power off and on again. (Main Power button on the TV unit.)

5. Purity Check

1. Enter the Service mode. (See page 5-1.)
2. Press [7] button on the remote control unit. Each time pressing [7] button on the service remote control unit, display changes Red mode, Green mode, Blue mode, and White mode cyclically.
3. Select White mode.
4. Turn the power off and on again. (Main power button on the TV unit.)

6. SD Check Mode

1. Enter the Service mode. (See page 5-1.)
2. Press [1] button on the remote control unit. The unit enter the SD-Check mode.
3. The unit starts selecting the added channel from first channel according to the memorized CH ADD/DELL data and CATV/TV data in RAM.



7. H. Position Adjustment

Purpose: To obtain correct horizontal position of screen image.

Symptom of Misadjustment: If H. Position is incorrect, horizontal position of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH ▲ / ▼] buttons	RF	Monoscope
Tape	M. EQ.	Spec.	
---	Monoscope	90±5%	

Note: Use service remote control unit

1. Operate the unit for at least 20 minutes.
2. Enter the Service mode. (See page 5-1.)
3. Receive the monoscope pattern.
4. Press [8] button on the service remote control unit and select "H-S" mode. (Display change "H-S" and "H-P" cyclically when [8] button is pressed.)
5. Press [CH ▲ / ▼] buttons on the service remote control unit so that the monoscope pattern will be 90±5% of display size and the circle is round.
6. Turn the power off and on again. (Main power button on the TV unit.)

8. H. Size Adjustment

Purpose: To obtain correct horizontal size of screen image.

Symptom of Misadjustment: If H. Size is incorrect, horizontal size of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH ▲ / ▼] buttons	RF	Monoscope
Tape	M. EQ.	Spec.	
---	Monoscope	90±5%	

Note: Use service remote control unit

1. Operate the unit for at least 20 minutes.
2. Enter the Service mode. (See Page 5-1.)
3. Receive the monoscope pattern.
4. Press [8] button on the service remote control unit and select "H-S" mode. (Display change "H-S" and "H-P" cyclically when [8] button is pressed.)
5. Press [CH ▲ / ▼] buttons on the service remote control unit so that the monoscope pattern will be 90±5% of display size and the circle is round.
6. Turn the power off and on again. (Main power button on the TV unit.)

9. V. Position Adjustment

Purpose: To obtain correct vertical width of screen image.

Symptom of misadjustment: If V. Position is incorrect, vertical height of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH ▲ / ▼] buttons	RF	Monoscope
Tape	M. EQ.	Spec.	
---	Monoscope	See below.	

Note: Use service remote control unit

1. Operate the unit for at least 20 minutes.
2. Enter the Service mode. (See page 5-1.)
3. Receive the monoscope pattern.
4. Press [9] button on the service remote control unit and select "V-P" mode. (Display change "V-S" and "V-P" cyclically when [9] button is pressed.)
5. Press [CH ▲ / ▼] buttons on the service remote control unit so that the top and bottom of the monoscope pattern will be equal of each other.
6. Turn the power off and on again. (Main power button on the TV unit.)

10. V. Size Adjustment

Purpose: To obtain correct vertical width of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical size of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH ▲ / ▼] buttons	RF	Monoscope
Tape	M. EQ.	Spec.	
---	Monoscope	90±5%	

Note: Use service remote control unit.

1. Operate the unit for at least 20 minutes.
2. Enter the Service mode. (See page 5-1.)
3. Receive the monoscope pattern.
4. Press [9] button on the service remote control unit and select "V-S" mode. (Display changes "V-S" and "V-P" cyclically when [9] button is pressed.)
5. Press [CH ▲ / ▼] buttons on the service remote control unit so that the monoscope pattern will be 90±5% of display size and the circle is round.
6. Turn the power off and on again. (Main power button on the TV unit.)

11. Cut-off Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

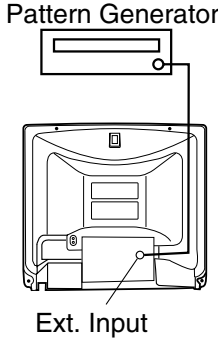
Test Point	Adj. Point	Mode	Input
---	Screen-Control [CH ▲ / ▼] buttons	RF	Black Raster
Tape	M. EQ.	Spec.	
---	Pattern Generator	See Reference Notes below.	
Figure			
 <p style="text-align: center;">Pattern Generator</p> <p style="text-align: center;">Ext. Input</p>			

Fig. 2

Note: Screen Control FBT --- Main CBA
FBT = Fly Back Transformer
Use service remote control unit

1. Degauss the CRT and allow CRT to operate for 20 minutes before starting the alignment.
2. Input the Black Raster Signal from RF Input.
3. Enter the Service mode. (See page 5-1.)
4. Press [VOL ▼] button on the service remote control unit and select "C/D" mode. (Display changes "C/D", "7F", "VIDEO", "AV MEMO", "STABLE SOUND", "300", "YUV MEMORY", and "NO SIG BRT" cyclically when [VOL ▼] button is pressed.) then press "1." The display will momentarily show "CUT OFF R" (R= Red). Now there should be a horizontal line across the center of the picture tube. If needed gradually turn the screen control on the flyback, clockwise until the horizontal line appears. Adjust the Red Cut off by pressing [CH ▲ / ▼] buttons. Proceed to Step 5 when the Red Cut off adjustment is done.
5. Press [2] button. The display will momentarily show "CUT OFF G" (G = Green). Adjust the Green Cut off by pressing [CH ▲ / ▼] buttons. Proceed to step 6 when the Green Cut off adjustment is done.
6. Press [3] button. The display will momentarily show "CUT OFF B" (B = Blue). Adjust the Blue cut off by pressing [CH ▲ / ▼] buttons. When done

with steps 4, 5 and 6 the horizontal line should be pure white if not, then attempt the Cut off adjustment again.

12. White Balance Adjustment

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

Symptom of Misadjustment: White becomes bluish or reddish.

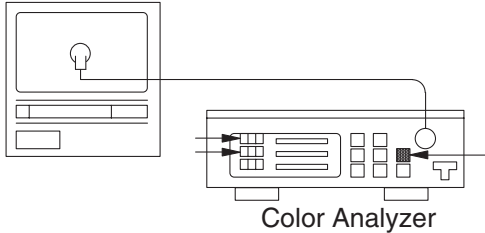
Test Point	Adj. Point	Mode	Input
Screen	[CH ▲ / ▼] buttons	RF	White Raster (APL 100%)
Tape	M. EQ.	Spec.	
---	Pattern Generator, Color analyzer	See below	
Figure			
 <p style="text-align: center;">Color Analyzer</p>			

Fig. 3

Note: Use service remote control unit

1. Operate the unit more than 20 minutes.
2. Face the unit to east. Degauss the CRT using Degaussing Coil.
3. Input the White Raster (APL 100%).
4. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical receptor to the center on the tube surface (CRT).
5. Enter the Service mode. (See page 5-1.) Press [VOL ▼] button on the service remote control unit and select "C/D" mode. (Display changes "C/D", "7F", "VIDEO", "AV MEMO", "STABLE SOUND", "300", "YUV MEMORY", and "NO SIG BRT" cyclically when [VOL ▼] button is pressed.) then Press [8] button on the service remote control Unit.
6. Press [4] button on the service remote control unit for Red adjustment. Press [5] button on the service remote control unit for Blue adjustment.
7. In each color mode, Press [CH ▲ / ▼] buttons to adjust the values of color.
8. Adjusting Red and Blue color so that the temperature becomes 9200K (x: 286 / y: 294)±3%.

9. At this time, Re-check that Horizontal line is white. If not, Re-adjust Cut-off Adjustment until the Horizontal Line becomes pure white.
10. Turn off and on again to return to normal mode. Receive APL 100% white signal and Check Chroma temperatures become 9200K (x: 286 / y: 294)±3%.

Note: Confirm that Cut Off Adj. is correct after this adjustment, and attempt Cut Off Adj. if needed.

13. U-Offset

1. In VIDEO mode (white 50%) of V1 or V2, press [3] button on the service remote control unit and select “U-Offset” mode. (Display change “U-Offset”, “V-Offset”, “U-Offset YUV” and “V-Offset YUV” cyclically when [3] button pressed.)
2. Press [VOL ▲ / ▼] button on the service remote control unit and select “U-Offset (Cyan)” mode.
3. Check the waveform of the base of Q1531 on the CRT CBA with the oscilloscope.
4. Press [VOL ▲ / ▼] button on the service remote control unit and select “U-Offset (Magenta)” mode.
5. Press [CH ▲ / ▼] buttons so that the waveform of the “U-Offset (Magenta)” mode is equal to the waveform of the “U-Offset (Cyan)” mode.

14. V-Offset

1. In VIDEO mode (white 50%) of V1 or V2, press [3] button on the service remote control unit and select “V-Offset” mode. (Display change “U-Offset”, “V-Offset”, “U-Offset YUV” and “V-Offset YUV” cyclically when [3] button pressed.)
2. Press [VOL ▲ / ▼] button on the service remote control unit and select “V-Offset (Cyan)” mode.
3. Check the waveform of the base of Q1511 on the CRT CBA with the oscilloscope.
4. Press [VOL ▲ / ▼] button on the service remote control unit and select “V-Offset (Magenta)” mode.
5. Press [CH ▲ / ▼] buttons so that the waveform of the “V-Offset (Magenta)” mode is equal to the waveform of the “V-Offset (Cyan)” mode.

15. U-Offset YUV

1. In VIDEO mode (white 50%) of YUV, press [3] button on the service remote control unit and select “U-Offset YUV” mode. (Display change “U-Offset”, “V-Offset”, “U-Offset YUV” and “V-Offset YUV” cyclically when [3] button pressed.)
2. Press [VOL ▲ / ▼] button on the service remote control unit and select “U-Offset YUV (Cyan)” mode.
3. Check the waveform of the base of Q1531 on the CRT CBA with the oscilloscope.

4. Press [VOL ▲ / ▼] button on the service remote control unit and select “U-Offset YUV (Magenta)” mode.
5. Press [CH ▲ / ▼] buttons so that the waveform of the “U-Offset YUV (Magenta)” mode is equal to the waveform of the “U-Offset YUV (Cyan)” mode.

16. V-Offset YUV

1. In VIDEO mode (white 50%) of YUV, press [3] button on the service remote control unit and select “V-Offset YUV” mode. (Display change “U-Offset”, “V-Offset”, “U-Offset YUV” and “V-Offset YUV” cyclically when [3] button pressed.)
2. Press [VOL ▲ / ▼] button on the service remote control unit and select “V-Offset YUV (Cyan)” mode.
3. Check the waveform of the base of Q1511 on the CRT CBA with the oscilloscope.
4. Press [VOL ▲ / ▼] button on the service remote control unit and select “V-Offset YUV (Magenta)” mode.
5. Press [CH ▲ / ▼] buttons so that the waveform of the “V-Offset YUV (Magenta)” mode is equal to the waveform of the “V-Offset YUV (Cyan)” mode.

17. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test Point	Adj. Point	Mode	Input
---	[CH ▲ / ▼] buttons	RF	IQW
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Figure

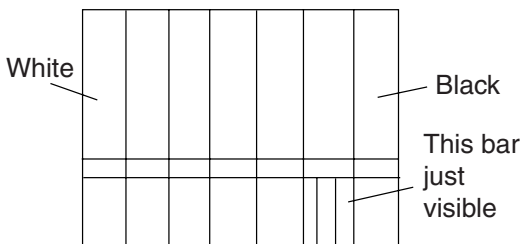


Fig. 4

Note: IQW Setup level --- 7.5 IRE

Use service remote control unit

1. Enter the Service mode. (See page 5-1.) Then input IQW signal from RF Input.
2. Press [MENU] button on the service remote control unit and Select "BRT" mode. (Display changes "BRT," "CNT," "CLR," "S-CLR," "C-CLR," "TNT," "V-TNT," "S-TNT," "C-TNT," "SHARP," "S-SRP," and "C-SRP" cyclically when [MENU] button is pressed.) Press [CH ▲ / ▼] buttons so that the bar is just visible (See above figure).
3. Turn the power off and on again. (Main power button on the TV unit.)

18. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test Point	Adj. Point	Mode	Input
---	Focus Control	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Note: Focus VR (FBT) --- Main CBA,
FBT = Fly Back Transformer

1. Operate the unit more than 30 minutes.
2. Face the unit to the East and Degauss the CRT using Degaussing Coil.
3. Input the Monoscope Pattern.
4. Adjust the Focus Control on the FBT to obtain clear picture.

The following adjustments normally are not attempted in the field. Only when replacing the CRT then adjust as a preparation.

19. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	Deflection Yoke Purity Magnet	---	Red Color
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Figure

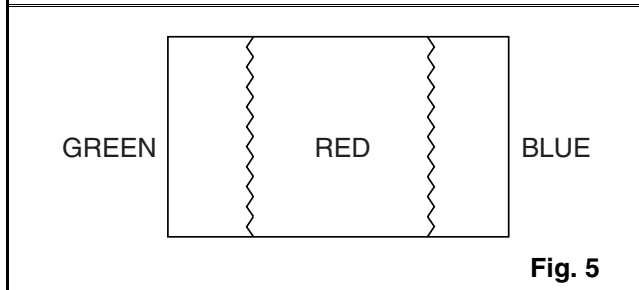
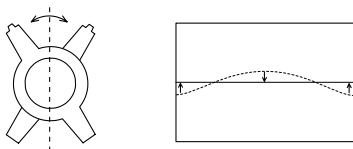


Fig. 5

1. Set the unit facing east.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 6)
5. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 5,6)
6. Slowly push the Deflection Yoke toward bell of CRT and set it where a uniform red field is obtained.
7. Tighten the clamp screw on the Deflection Yoke.

20. VRS Adjustment

1. Connect Oscilloscope and get the cross hatch pattern.
2. Adjust the two magnets for VRS adjustment like the below figure so that the cross hatch pattern becomes flat.



21. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

Test Point	Adj. Point	Mode	Input
---	C.P. Magnet (RB) C.P. Magnet (RB-G) Deflection Yoke	---	Dot Pattern or Crosshatch
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Figure

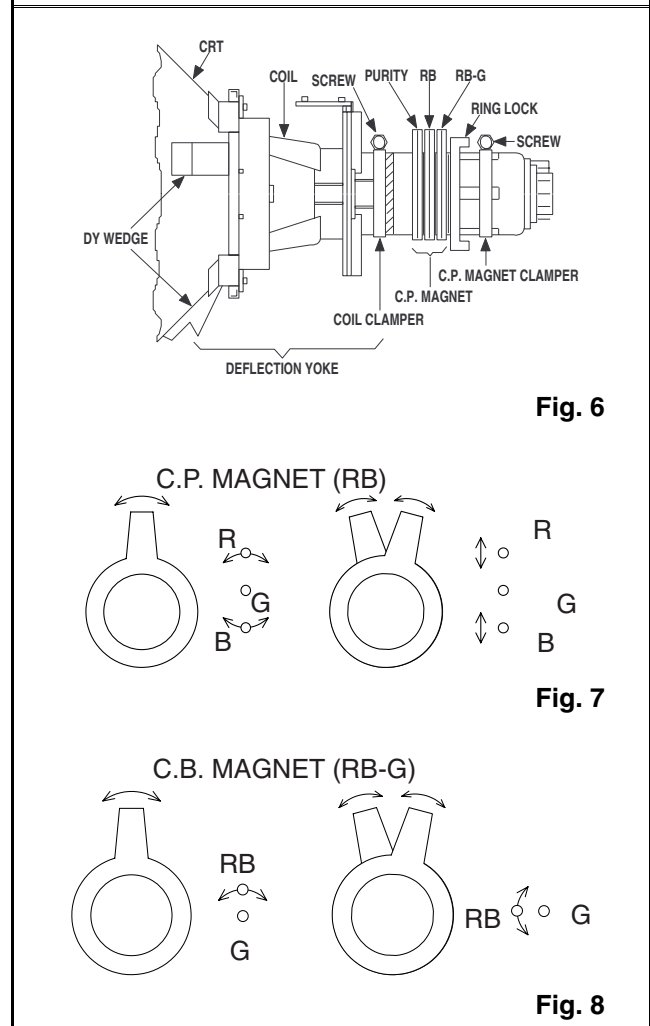


Fig. 6

Fig. 7

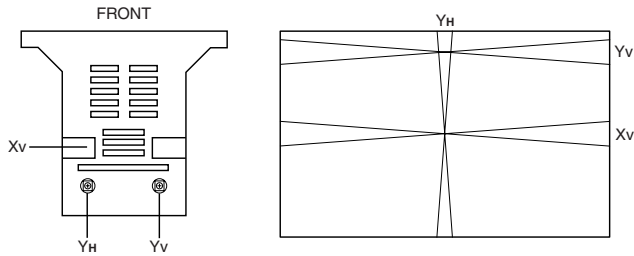
Fig. 8

1. Loosen the Ring Lock and align red with blue dots or Crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 7)
2. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 8)
3. Paintlock the C.P. Magnets after adjustment.

4. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
5. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

22. Yh, Yv, Xv Adjustment

1. Adjust the volume of Deflection Yoke(Yh, Yv, Xv) to get good convergence.



23. Software Reset

To reset software, press [5] button on the remote control unit for at least 5 seconds after pressing [CH RETURN] button on the remote control unit.

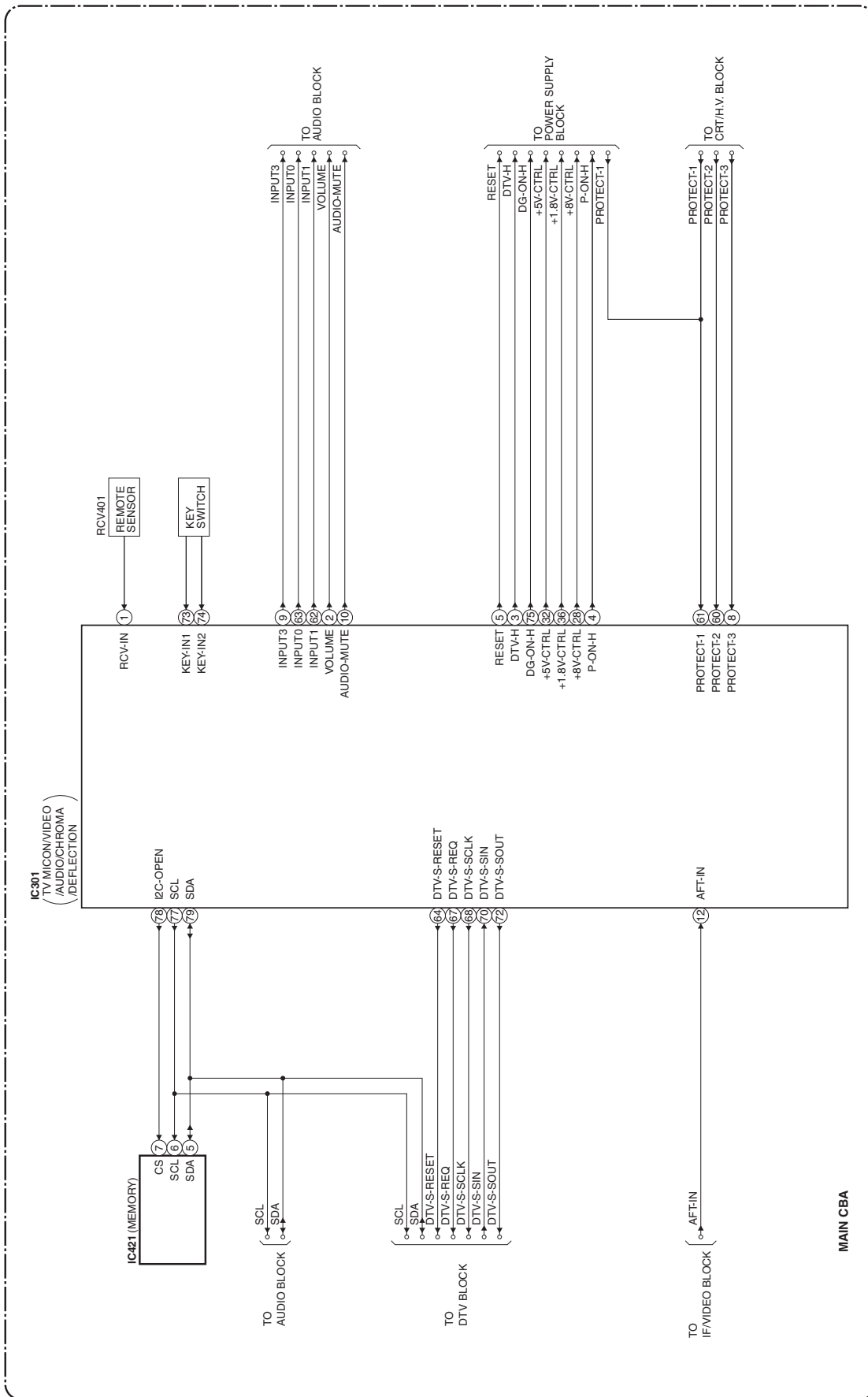
HOW TO INITIALIZE THE ANALOG/DIGITAL COLOR TELEVISION

To put the program back at the factory-default, initialize the Analog/Digital Color Television as the following procedure.

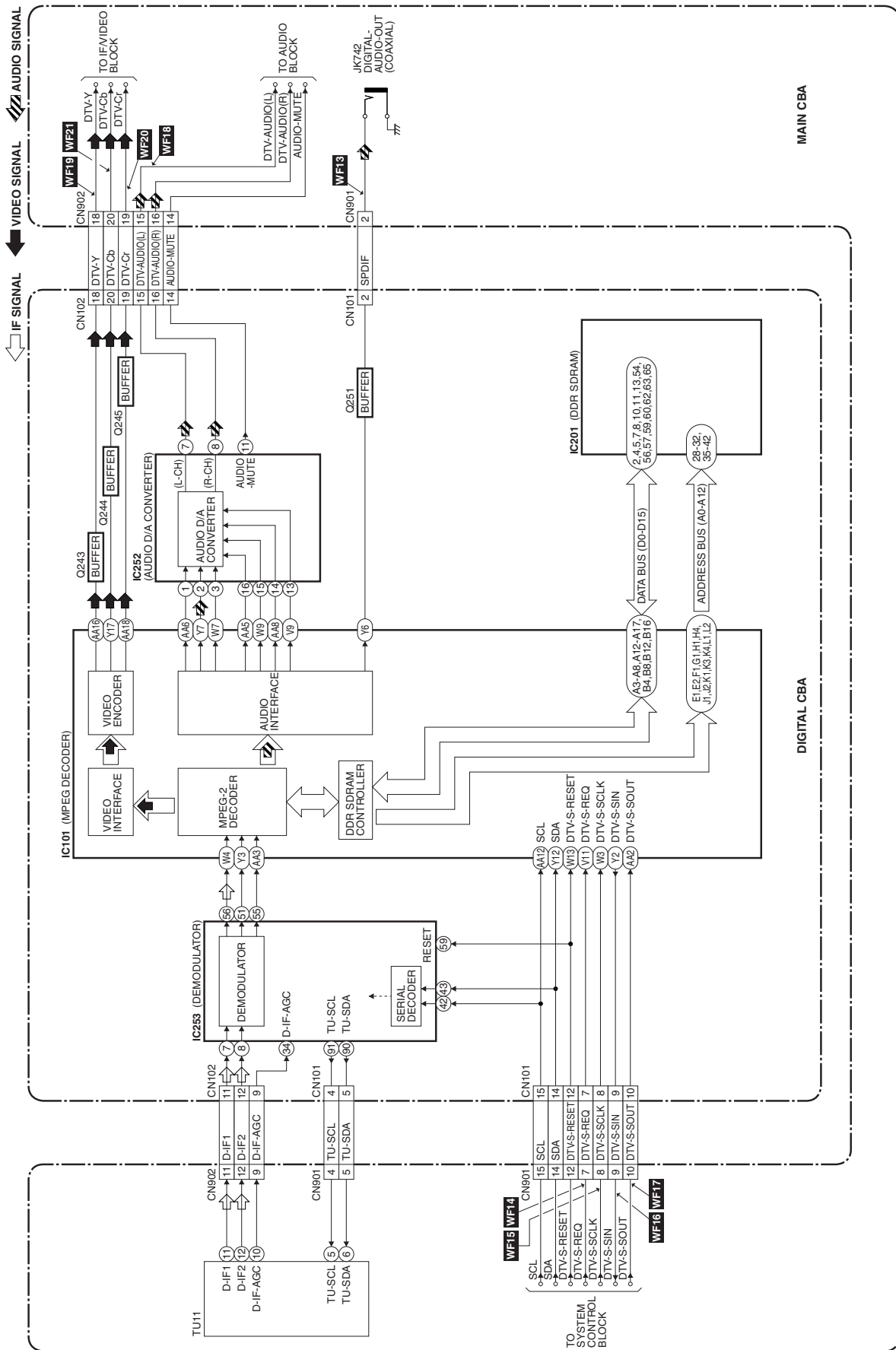
1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. Press [SLEEP] button on the service remote control unit to enter the Service mode. (Refer to "How to Set up the Service mode" on page 5-1.)
4. Press [VOL ▼] button on the service remote control unit twice, and confirm that OSD indication is "7F = FF." If needed, set it to become "7F = FF" by pressing [CH ▲ / ▼] buttons on the service remote control unit.
5. Confirm that OSD indication on the four corners on TV screen changes from on and off light indication to red by pressing a [INFO] button. (It takes one or two seconds.)
6. Turn the power off by pressing main power button on the TV unit, and unplug the AC cord from the AC outlet.

BLOCK DIAGRAMS

System Control Block Diagram



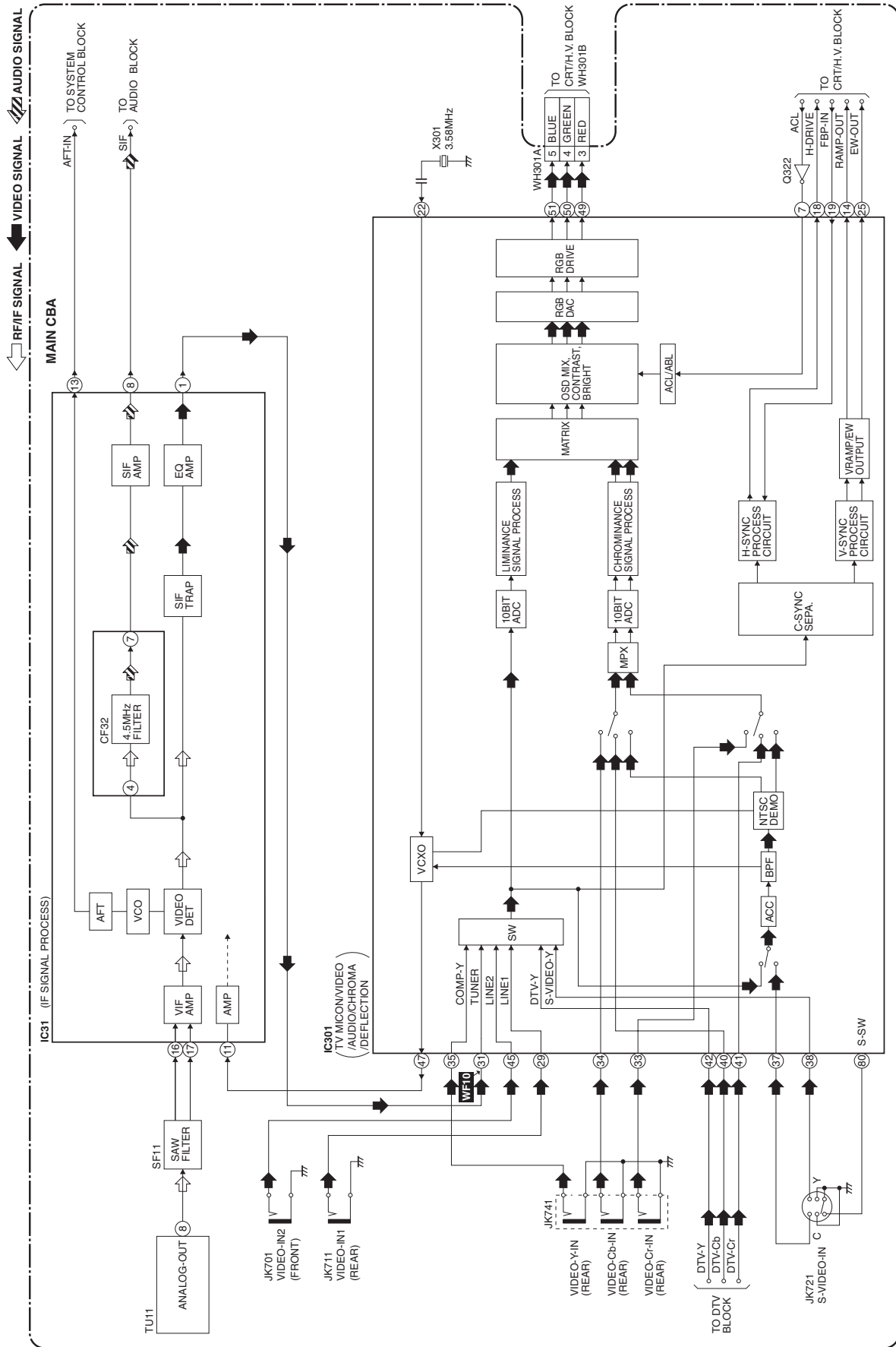
DTV Block Diagram



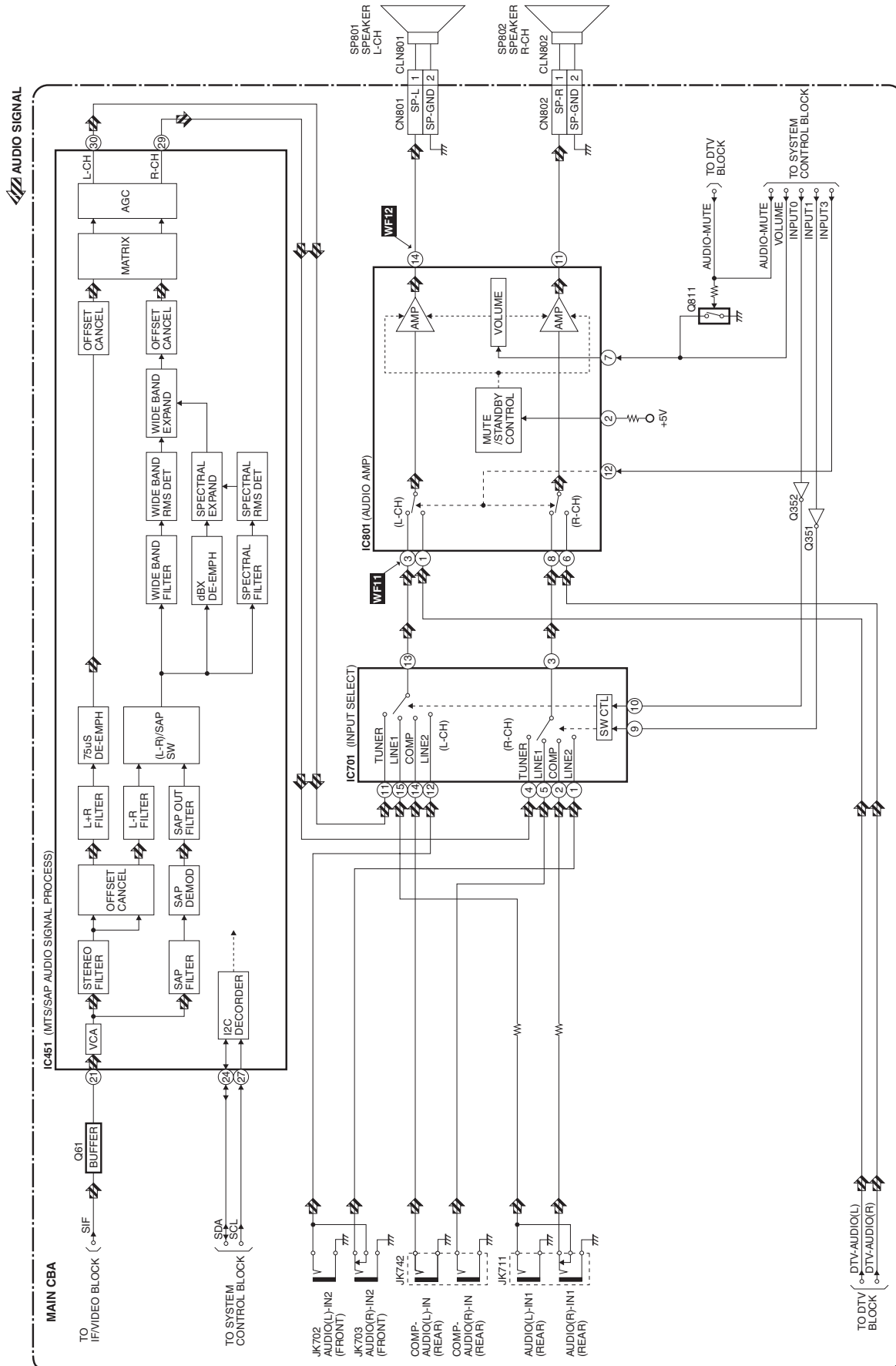
MAIN CBA

DIGITAL CBA

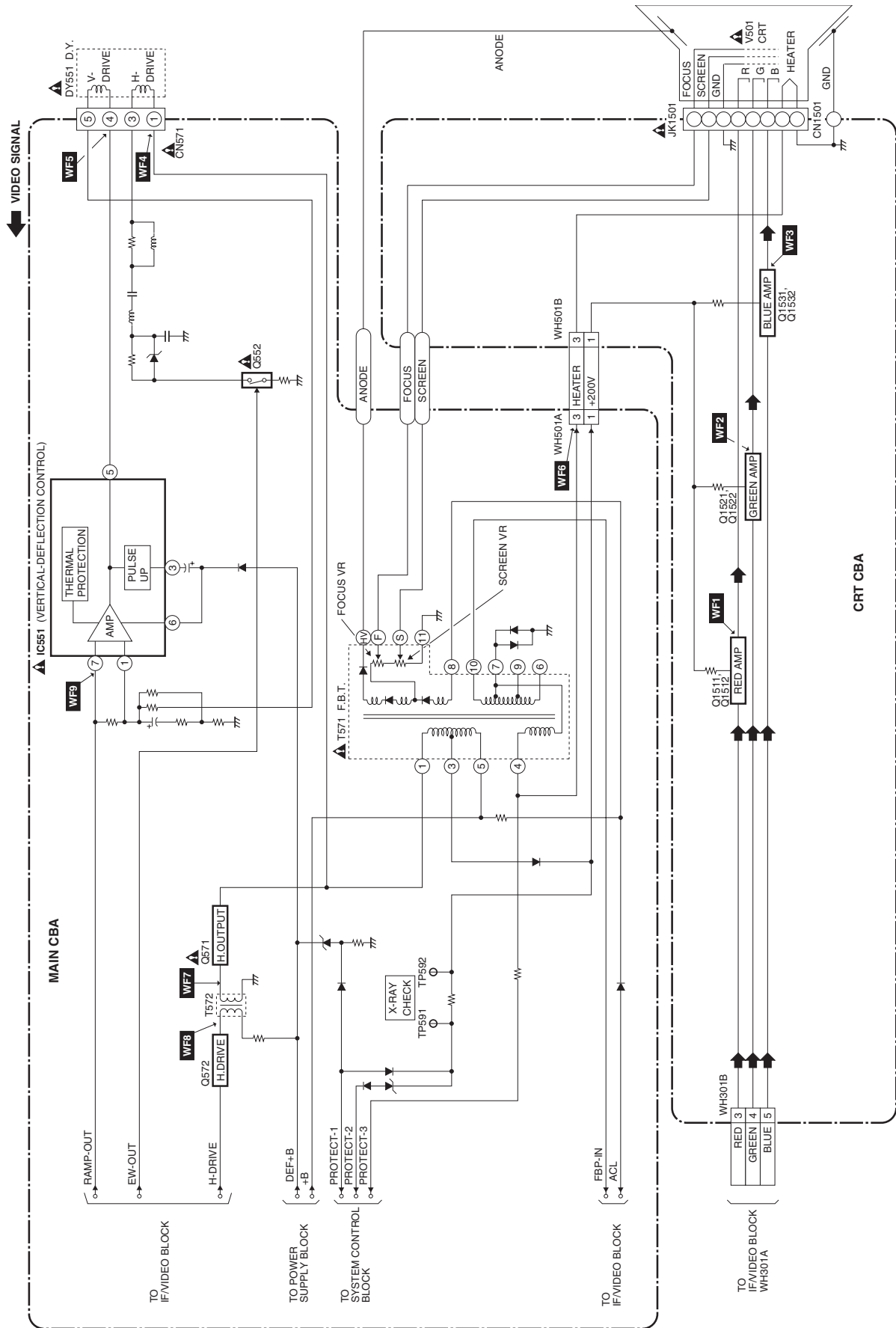
IF/Video Block Diagram



Audio Block Diagram



CRT/H.V. Block Diagram



Power Supply Block Diagram

CAUTION !

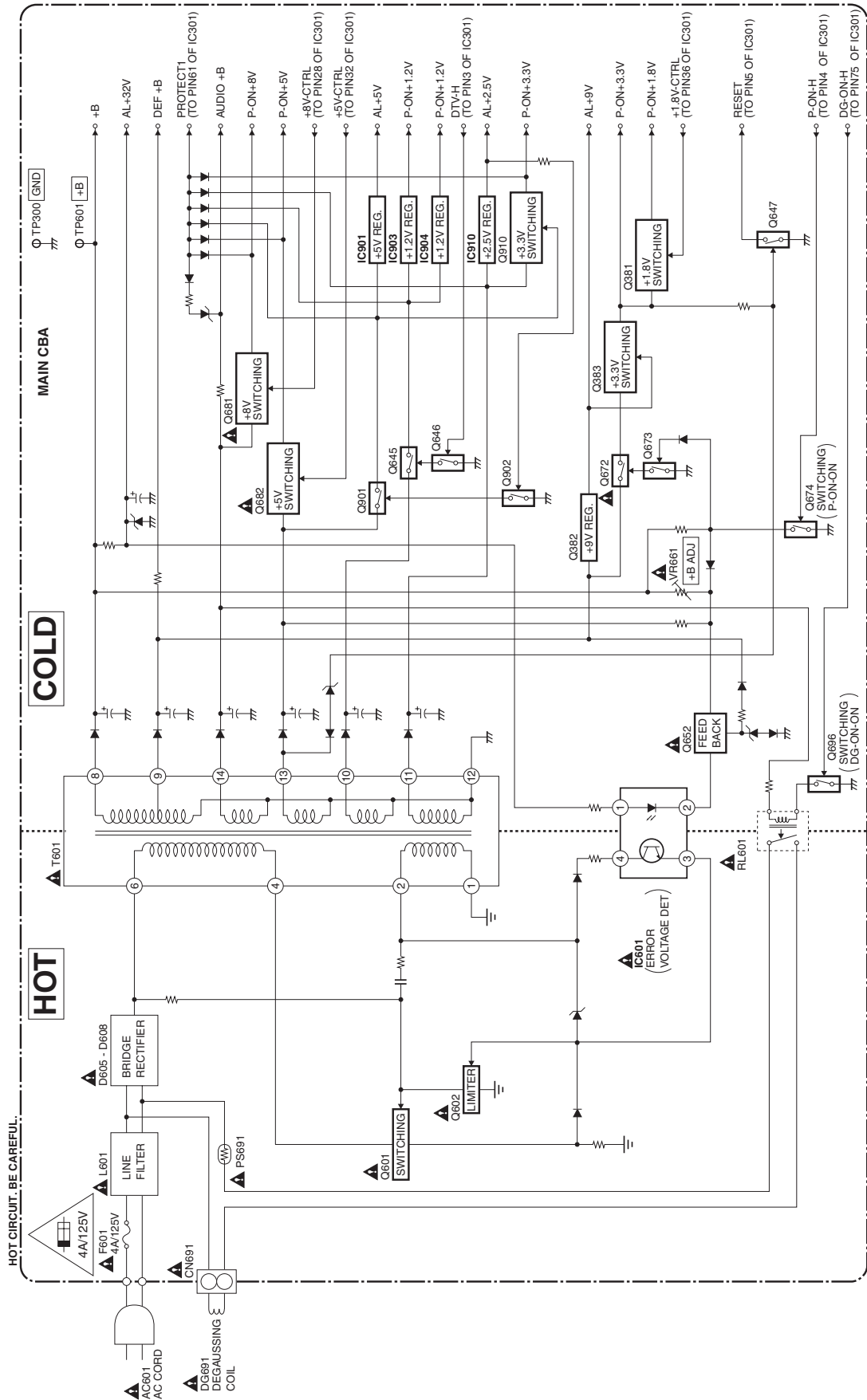
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power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



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

NOTE:

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



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

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

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.

Note of Capacitors:

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

Temperature Characteristics of Capacitors are noted with the following:

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

Tolerance of Capacitors are noted with the following:

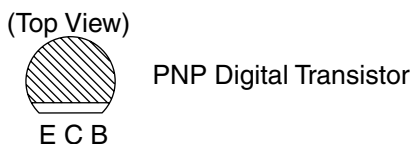
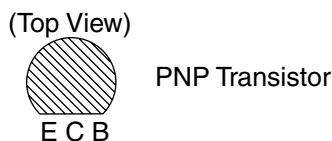
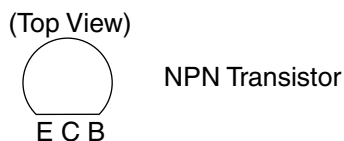
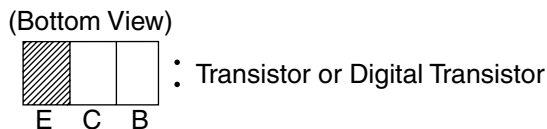
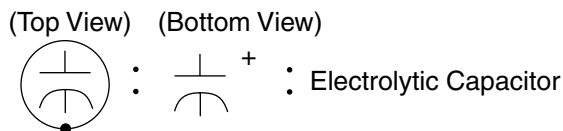
Z --- $+80 \sim 20\%$

Note of Resistors:

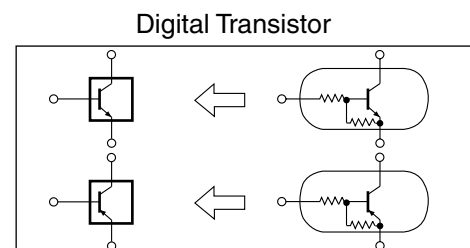
CEM --- Cement Res. MTL --- Metal Res. F --- Fuse Res.

Capacitors and transistors are represented by the following symbols.

CBA Symbols



Schematic Diagram Symbols



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

1. CAUTION:

CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE_A,_V FUSE.

ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE_A,_V.

2. CAUTION:

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

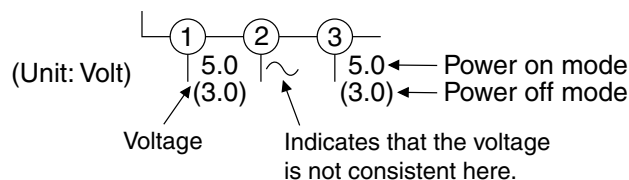
If Main Fuse (F601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. Note:

- 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.
- 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.:

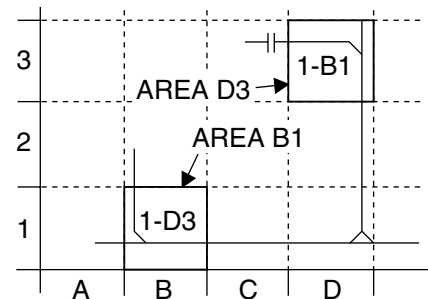


5. How to read converged lines

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

Examples:

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



6. Test Point Information

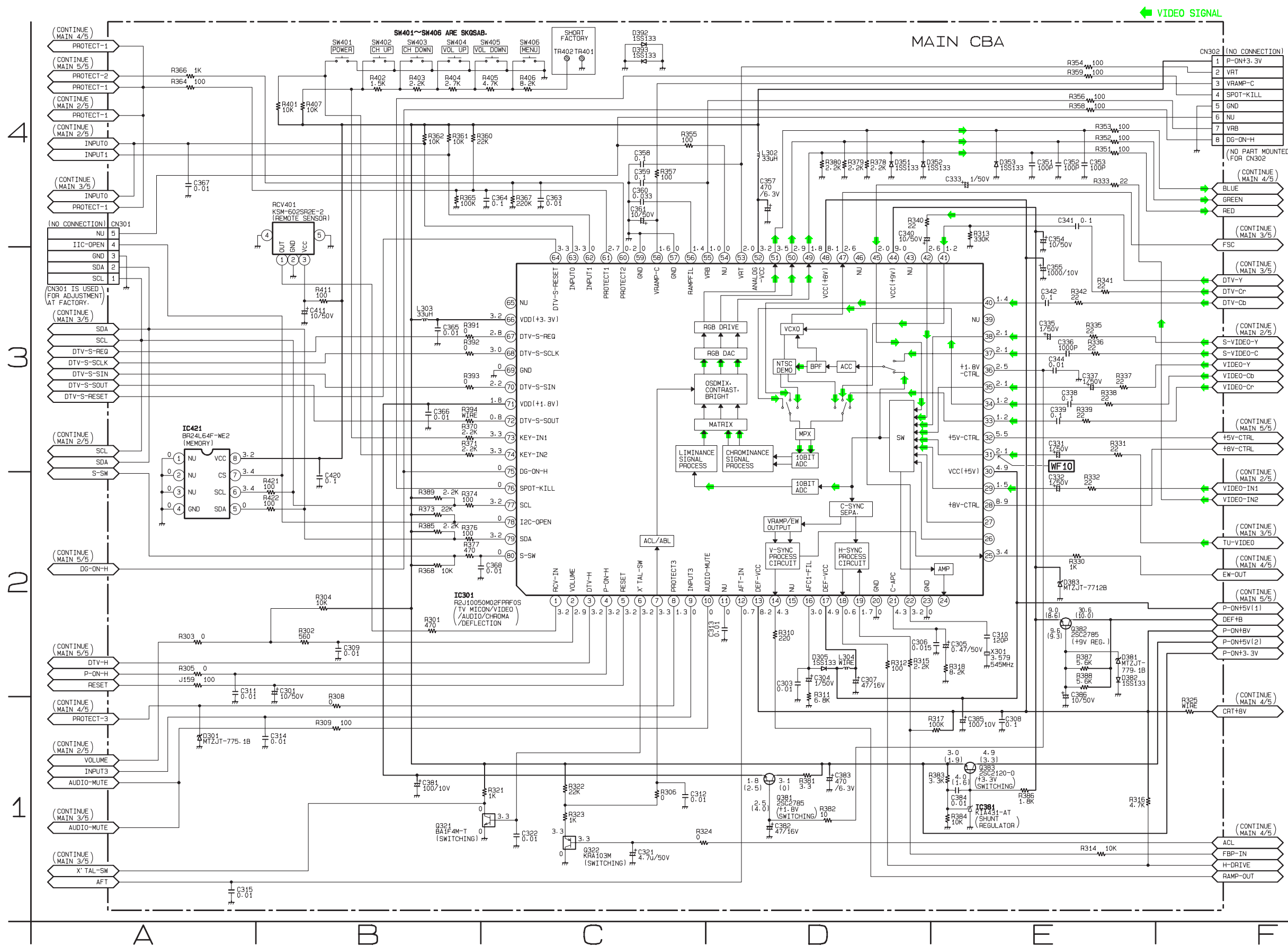
: Indicates a test point with a jumper wire across a hole in the PCB.

: 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.

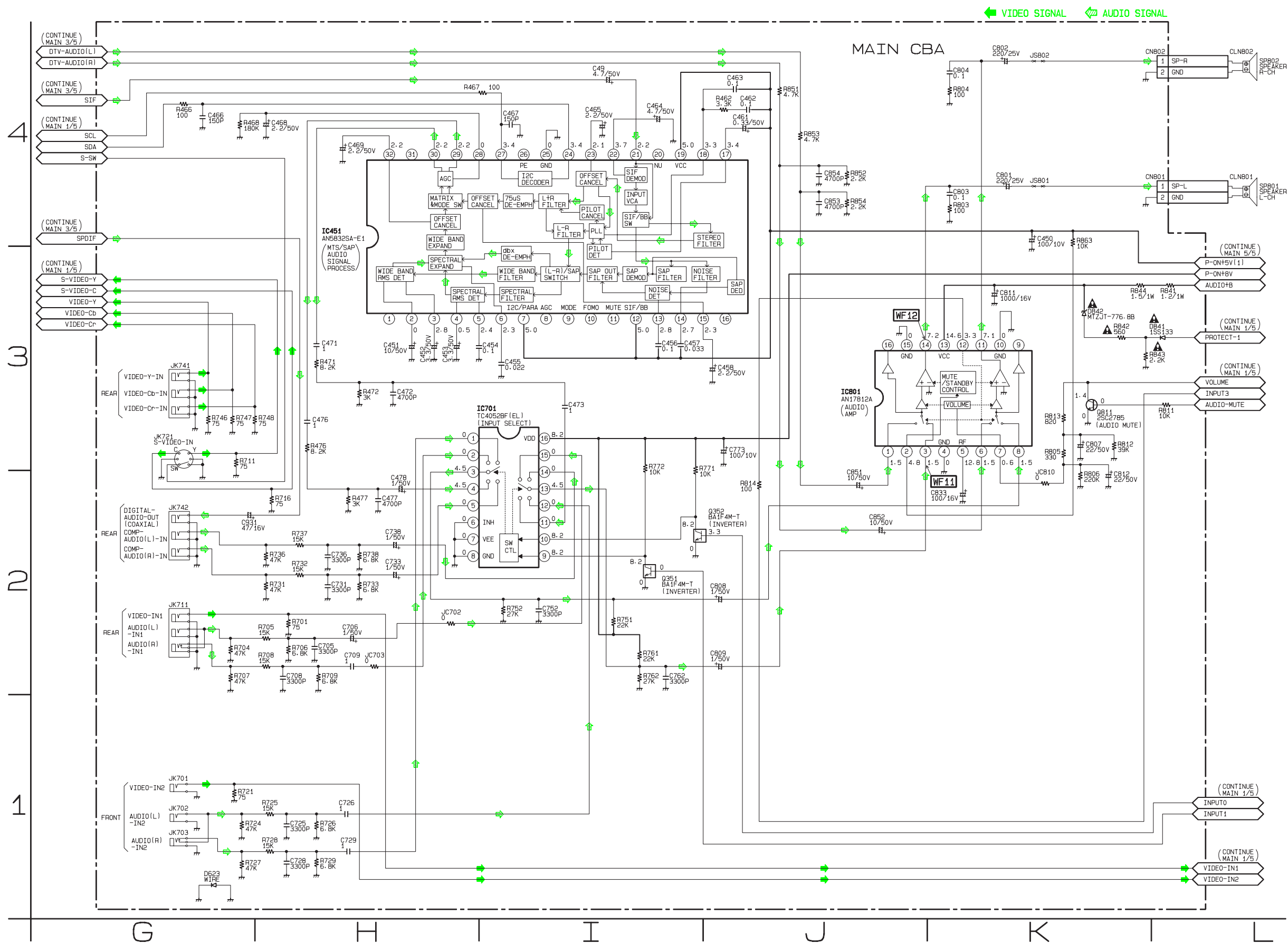
Main 1/5 Schematic Diagram



MAIN 1/5

Ref No.	Position
ICS	
IC301	B-2
IC381	E-1
IC421	A-3
TRANSISTORS	
Q321	B-1
Q322	C-1
Q381	D-1
Q382	E-2
Q383	E-1
CONNECTORS	
CN301	A-4
CN302	F-4

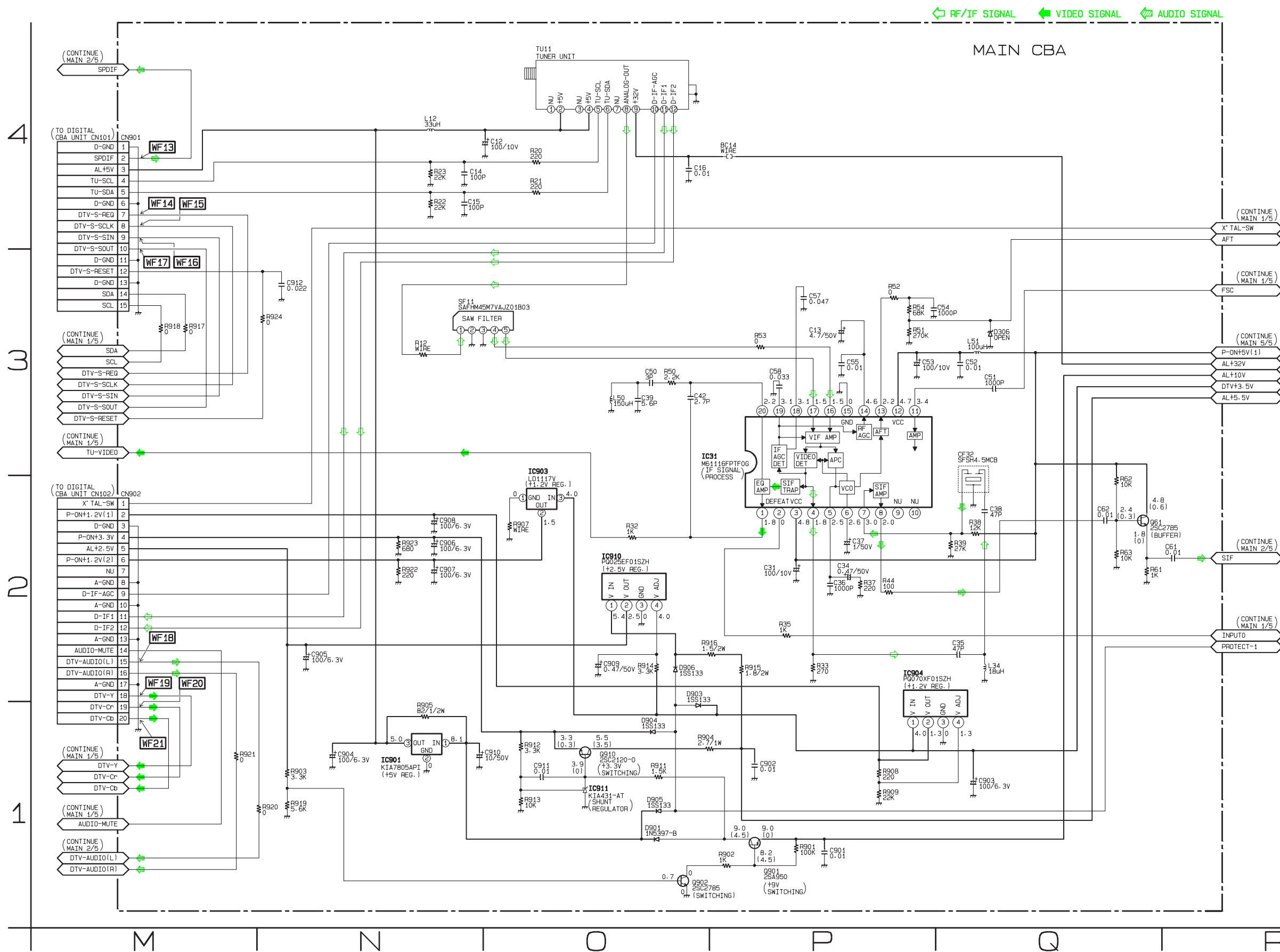
Main 2/5 Schematic Diagram



MAIN 2/5

Ref No.	Position
ICS	
IC451	H-4
IC701	I-3
IC801	J-3
TRANSISTORS	
Q351	I-2
Q352	J-2
Q811	K-3
CONNECTORS	
CN801	L-4
CN802	L-4

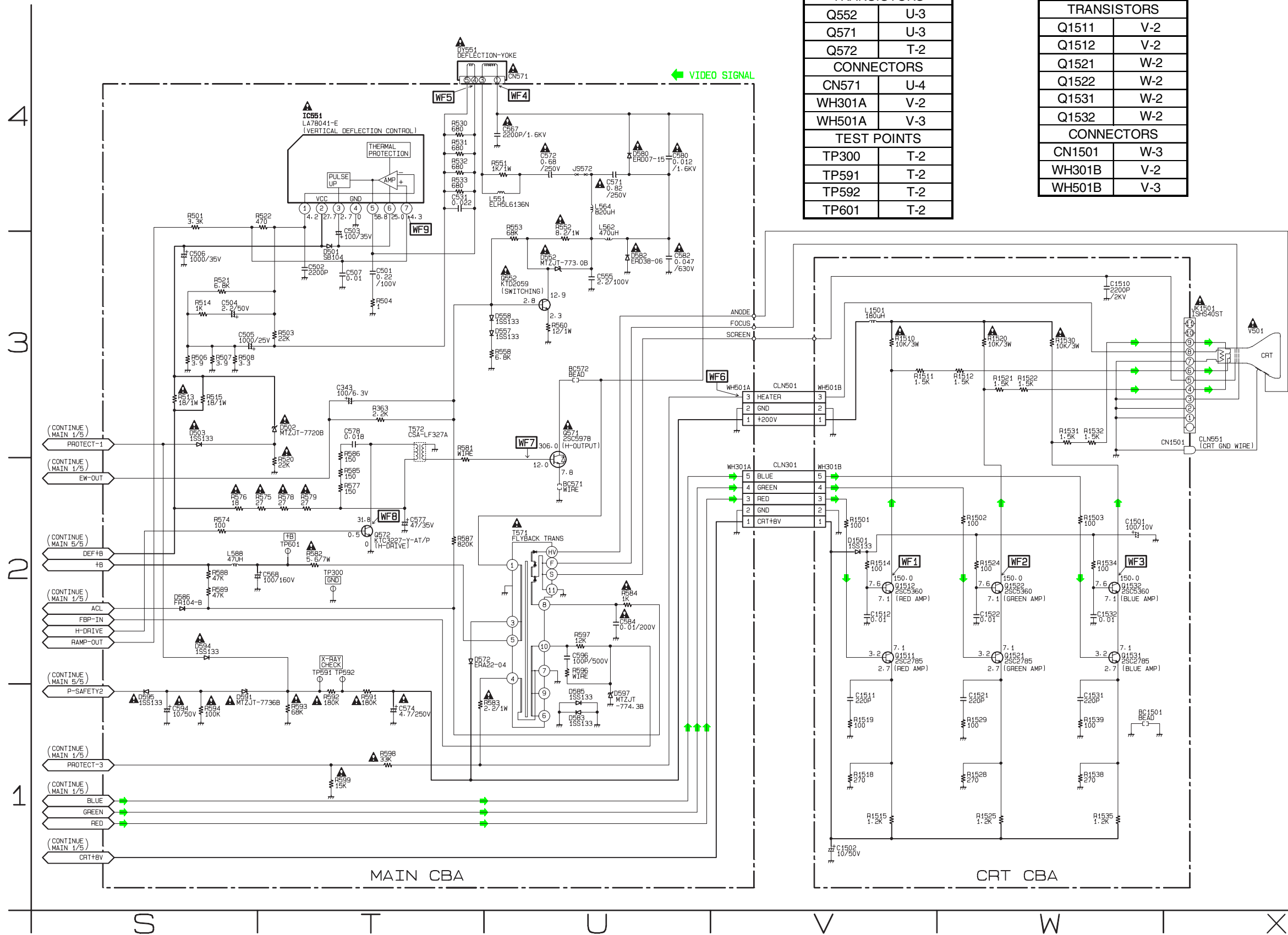
Main 3/5 Schematic Diagram



MAIN 3/5

Ref No.	Position
ICS	
IC31	O-3
IC901	N-1
IC903	O-2
IC904	P-2
IC910	O-2
IC911	O-2
TRANSISTORS	
Q61	Q-2
Q901	P-1
Q902	O-1
Q910	O-1
CONNECTORS	
CN901	M-4
CN902	M-2

Main 4/5 & CRT Schematic Diagram



MAIN 4/5

Ref No.	Position
IC	
IC551	T-4
TRANSISTORS	
Q552	U-3
Q571	U-3
Q572	T-2
CONNECTORS	
CN571	U-4
WH301A	V-2
WH501A	V-3
TEST POINTS	
TP300	T-2
TP591	T-2
TP592	T-2
TP601	T-2

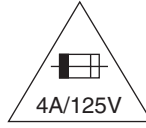
CRT

Ref No.	Position
TRANSISTORS	
Q1511	V-2
Q1512	V-2
Q1521	W-2
Q1522	W-2
Q1531	W-2
Q1532	W-2
CONNECTORS	
CN1501	W-3
WH301B	V-2
WH501B	V-3

Main 5/5 Schematic Diagram

CAUTION !

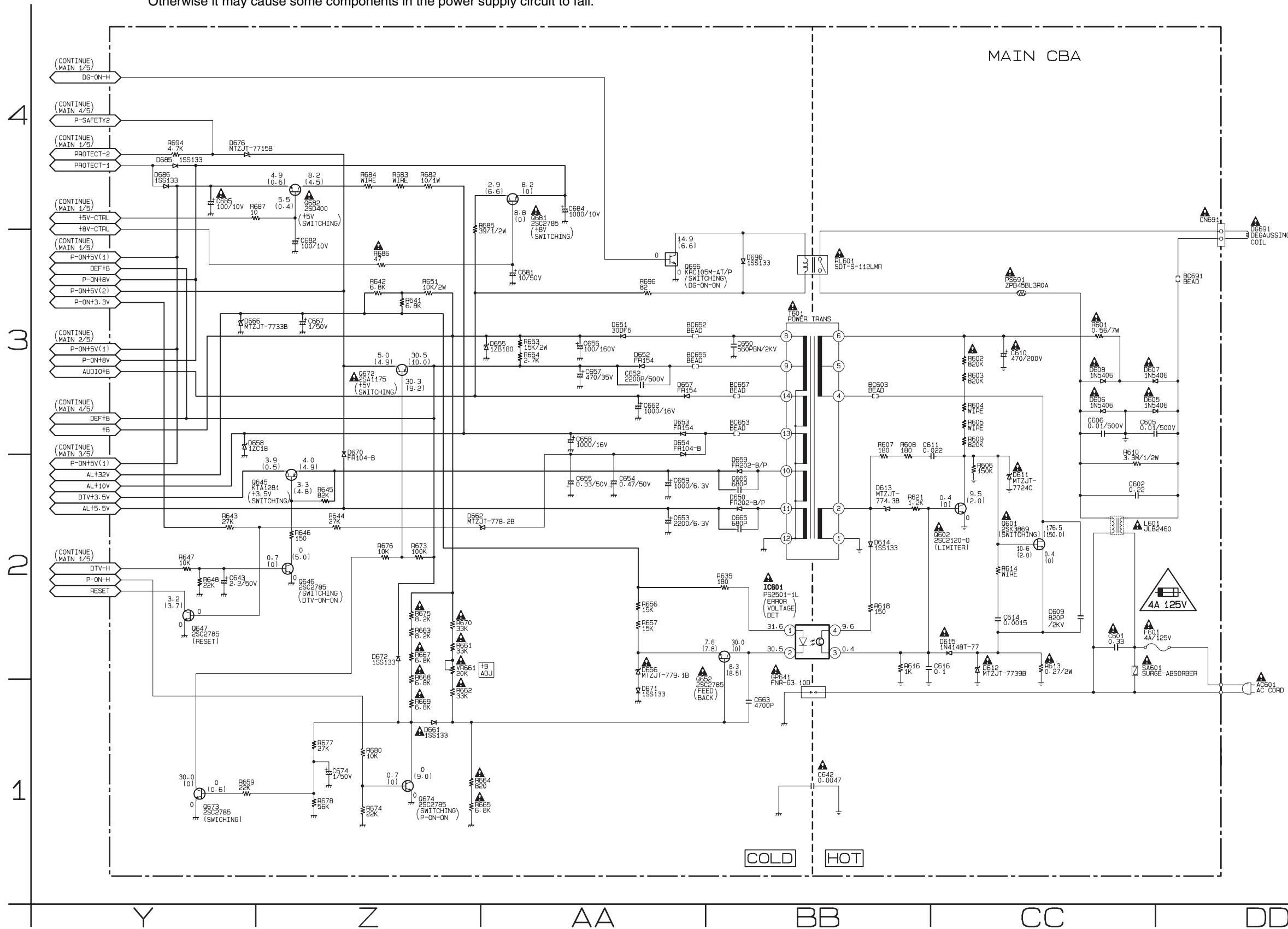
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power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



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

NOTE:

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



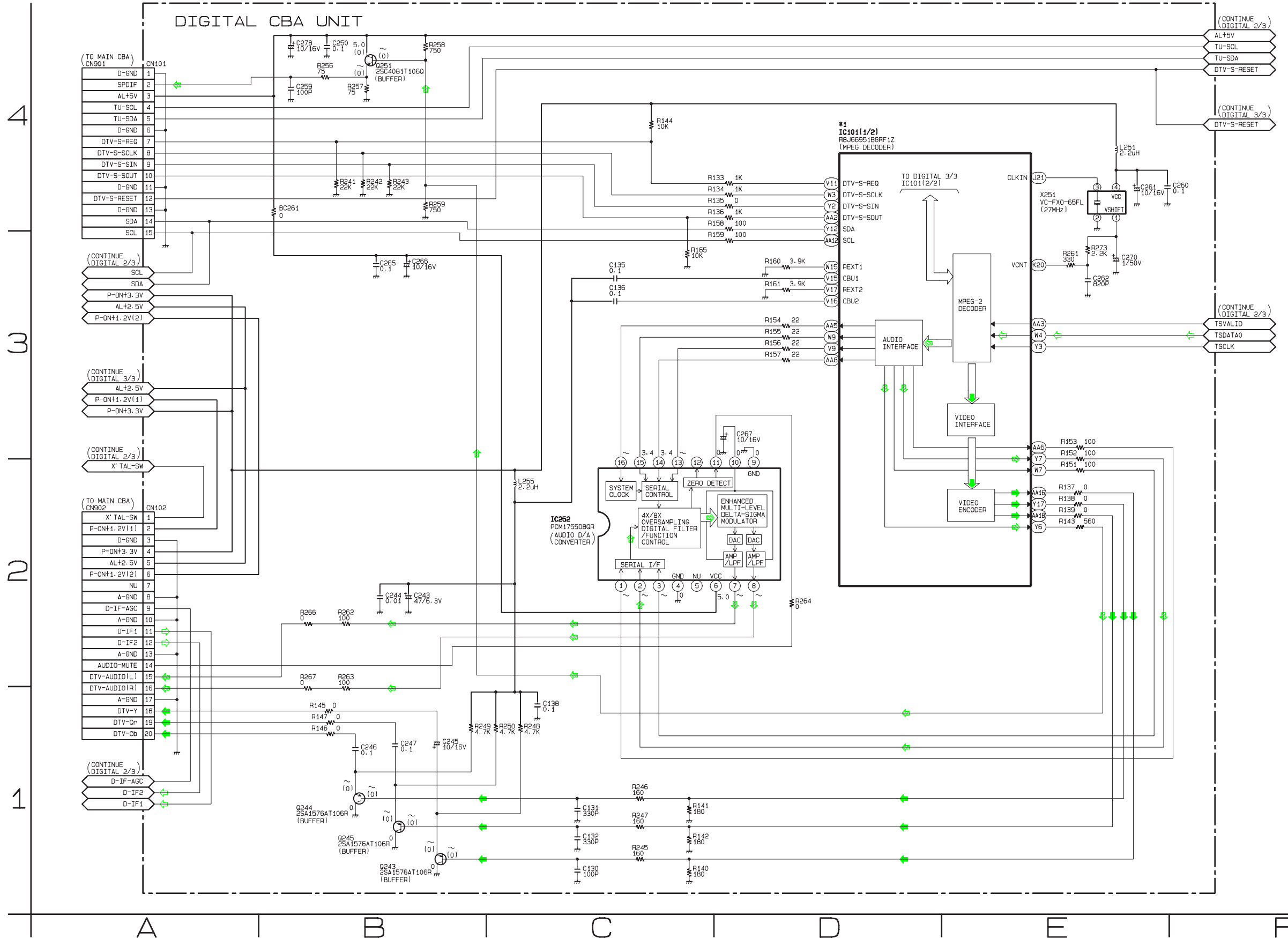
MAIN 5/5	
Ref No.	Position
IC	
IC601	BB-2
TRANSISTORS	
Q601	CC-2
Q602	CC-2
Q645	Z-2
Q646	Z-2
Q647	Y-2
Q652	AA-1
Q672	Z-3
Q673	Y-1
Q674	Z-1
Q681	AA-4
Q682	Z-4
Q696	AA-3
CONNECTOR	
CN691	DD-4
VARIABLE RESISTOR	
VR661	Z-2

Digital 1/3 Schematic Diagram

***1 NOTE:**

1. The order of pins shown in this diagram is different from that of actual IC101.
2. IC101 is divided into two and shown as IC101 (1/2) ~ IC101 (2/2) in this Digital Schematic Diagram Section.

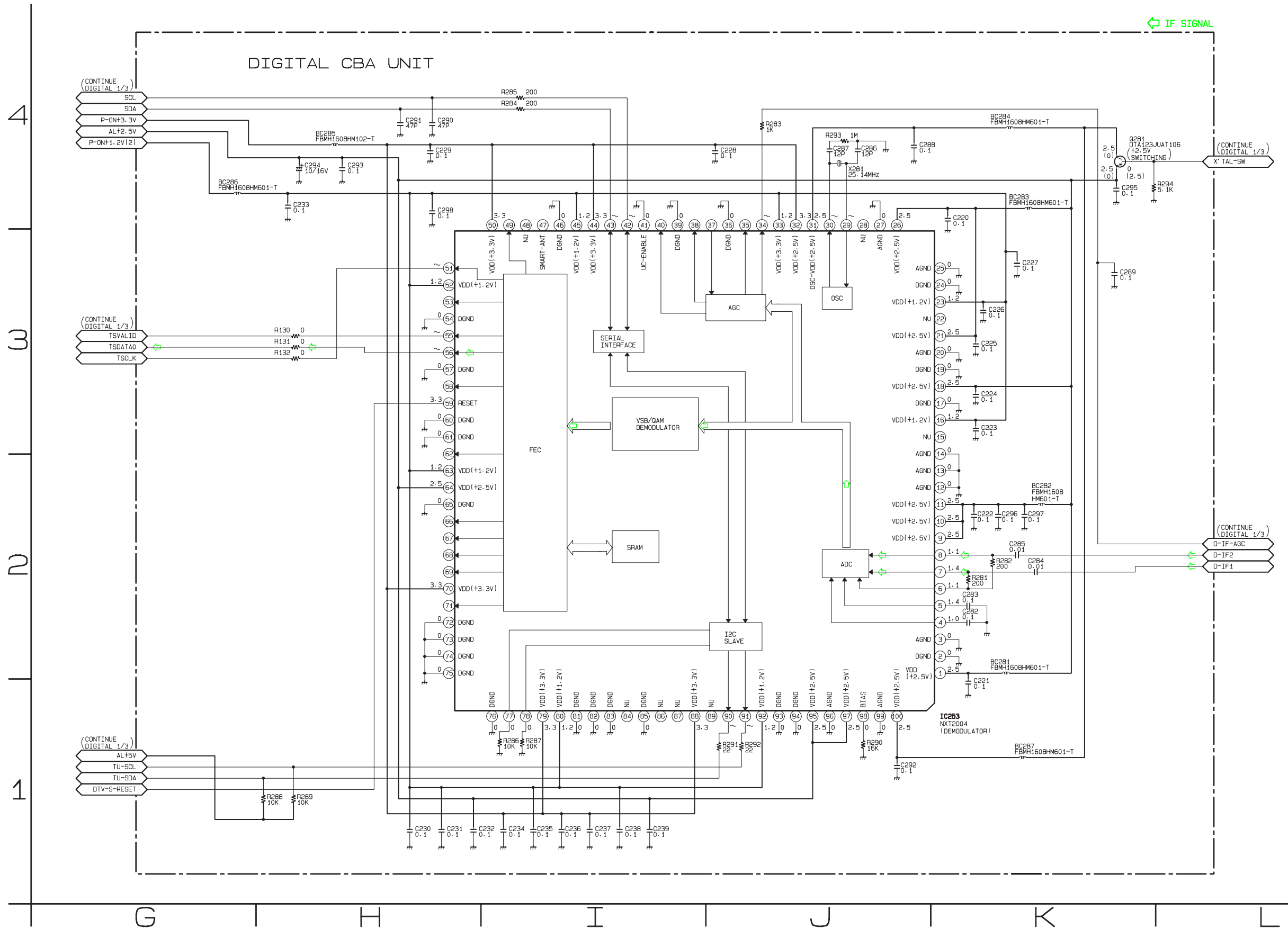
IF SIGNAL VIDEO SIGNAL AUDIO SIGNAL



DIGITAL 1/3

Ref No.	Position
ICS	
IC101(1/2)	D-4
IC252	C-2
TRANSISTORS	
Q243	B-1
Q244	B-1
Q245	B-1
Q251	A-4
CONNECTORS	
CN101	A-4
CN102	A-2

Digital 2/3 Schematic Diagram

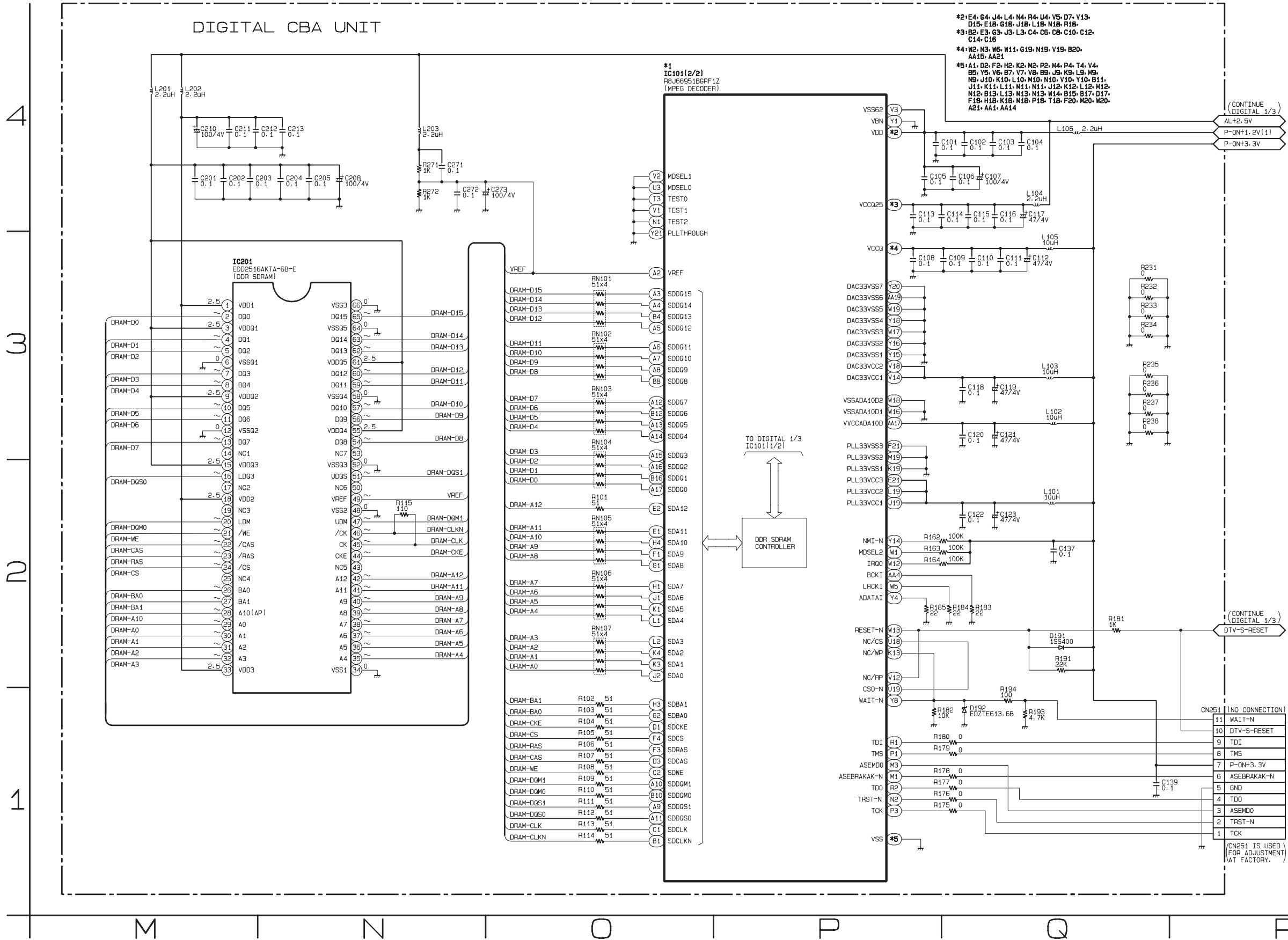


DIGITAL 2/3	
Ref No.	Position
	IC
IC253	K-1
TRANSISTOR	
Q281	Q-4

Digital 3/3 Schematic Diagram

***1 NOTE:**

1. The order of pins shown in this diagram is different from that of actual IC101.
2. IC101 is divided into two and shown as IC101 (1/2) ~ IC101 (2/2) in this Digital Schematic Diagram Section.

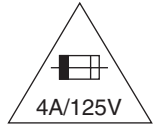


DIGITAL 3/3	
Ref No.	Position
ICS	
IC101(2/2)	O-4
IC201	M-3
CONNECTOR	
CN251	R-1

Main CBA Top View

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.

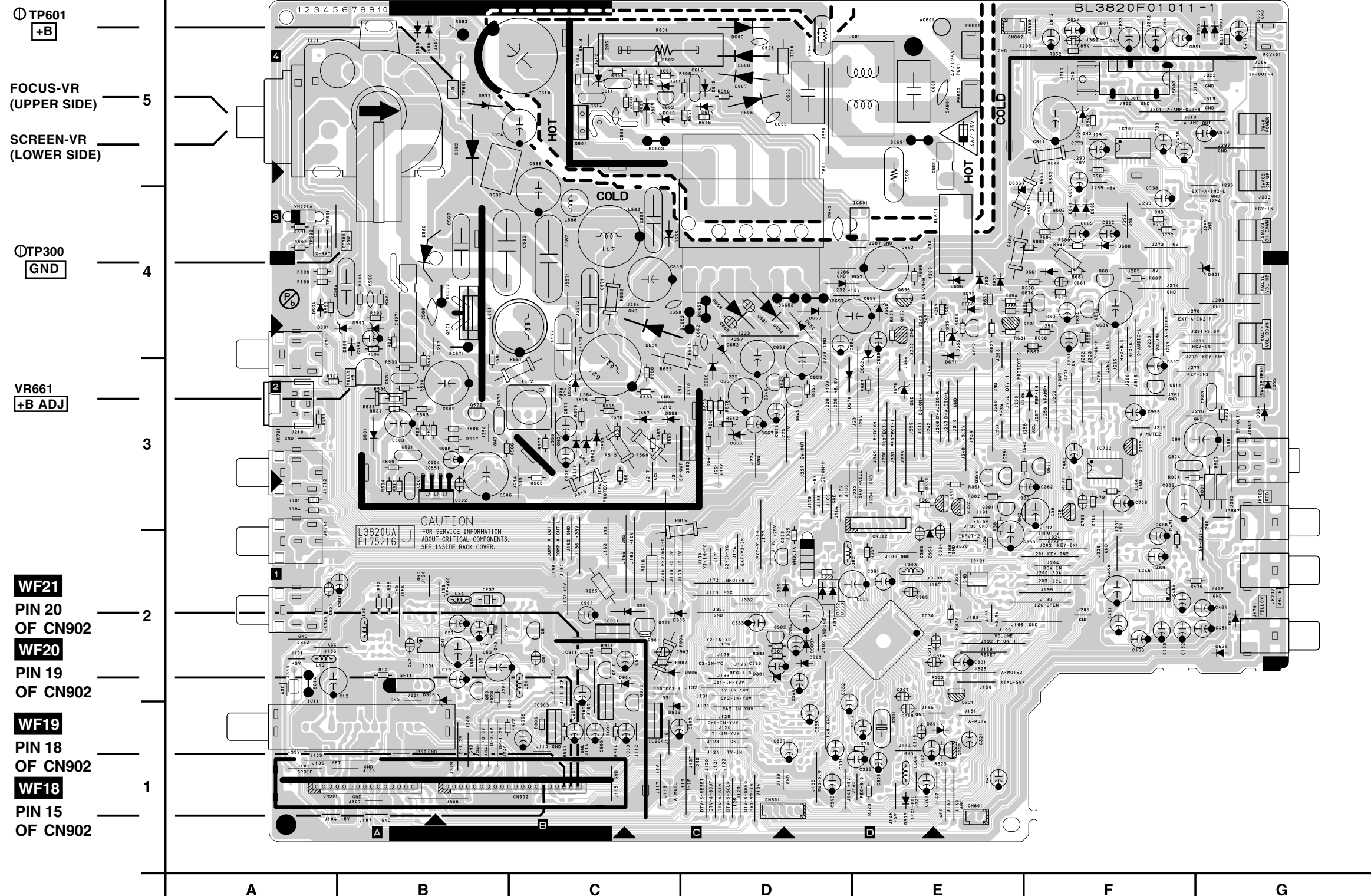


CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

NOTE:

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

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.



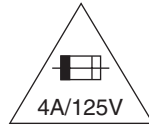
MAIN CBA

Ref No.	Position
ICS	
IC31	B-2
IC301	E-2
IC381	E-3
IC421	E-2
IC451	F-2
IC551	B-3
IC601	E-4
IC701	F-5
IC801	F-5
IC901	C-2
IC903	C-1
IC904	C-1
IC911	C-2
TRANSISTORS	
Q61	C-2
Q321	E-2
Q322	E-1
Q351	E-3
Q352	E-3
Q381	E-3
Q382	D-2
Q383	E-3
Q552	D-3
Q571	B-4
Q572	B-3
Q601	C-5
Q602	C-5
Q645	D-3
Q646	D-3
Q647	F-3
Q652	E-4
Q672	E-4
Q673	F-4
Q674	F-4
Q681	F-4
Q682	F-4
Q696	E-4
Q811	F-3
Q901	C-2
Q902	C-2
Q910	C-2
CONNECTORS	
CN301	D-1
CN302	E-2
CN571	B-4
CN691	E-5
CN801	E-1
CN802	E-5
CN901	A-1
CN902	C-1
WH301A	D-2
WH501A	A-4
TEST POINTS	
TP300	B-4
TP591	A-4
TP592	A-4
TP601	B-5
VARIABLE RESISTOR	
VR661	B-3

Main CBA Bottom View

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 risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

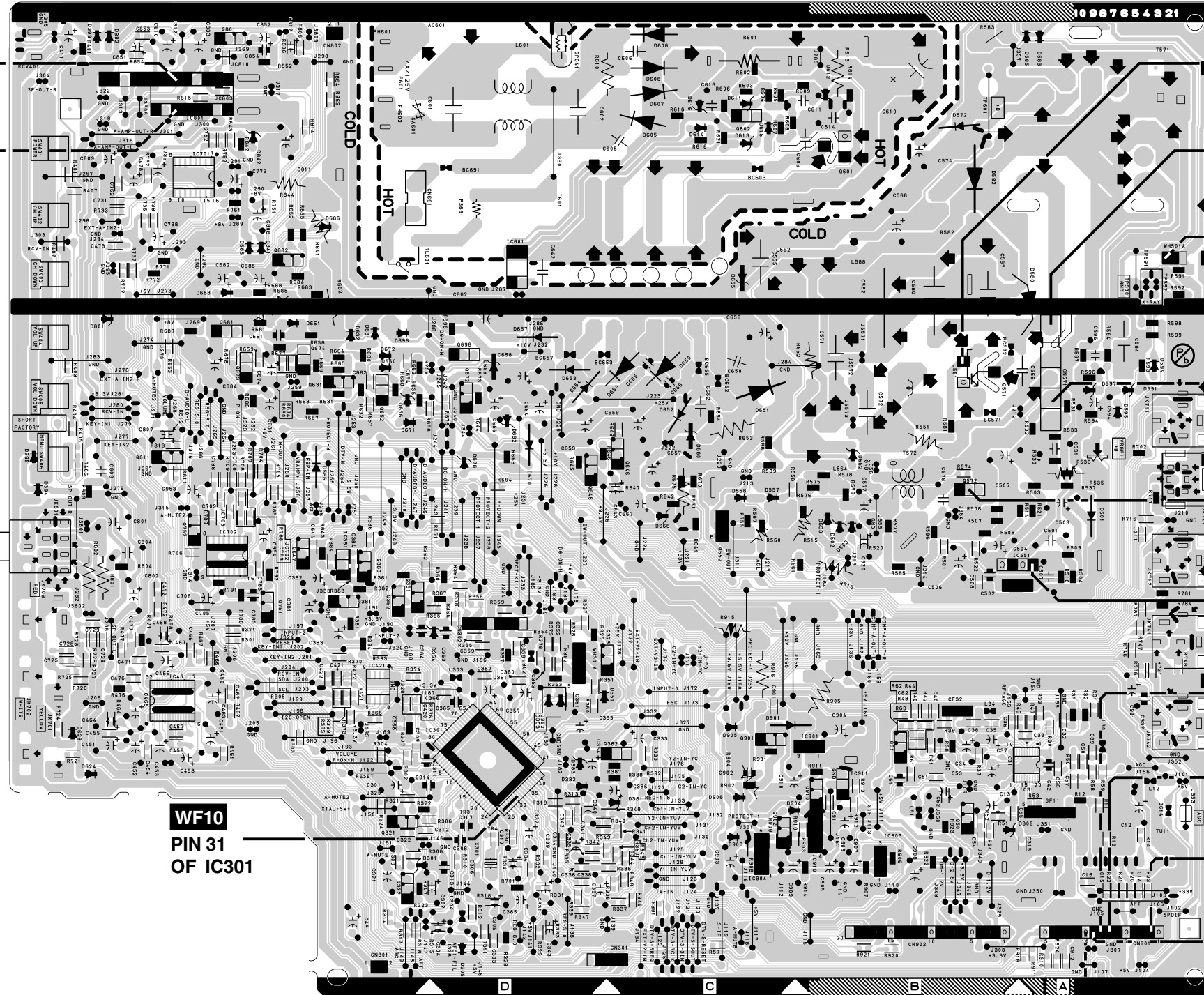
NOTE:

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

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.

WF11
PIN 3
OF IC801

WF12
PIN 14
OF IC801



WF7
Q571
Base

WF4
PIN 1
OF CN571

WF6
PIN 3
OF WH501

WF5
PIN 4
OF CN571

WF8
Q572
Collector

WF9
PIN 7
OF IC551

WF15
PIN 8
OF CN901

WF14
PIN 7
OF CN901

WF13
PIN 2
OF CN901

WF16
PIN 9
OF CN901

WF17
PIN 10
OF CN901

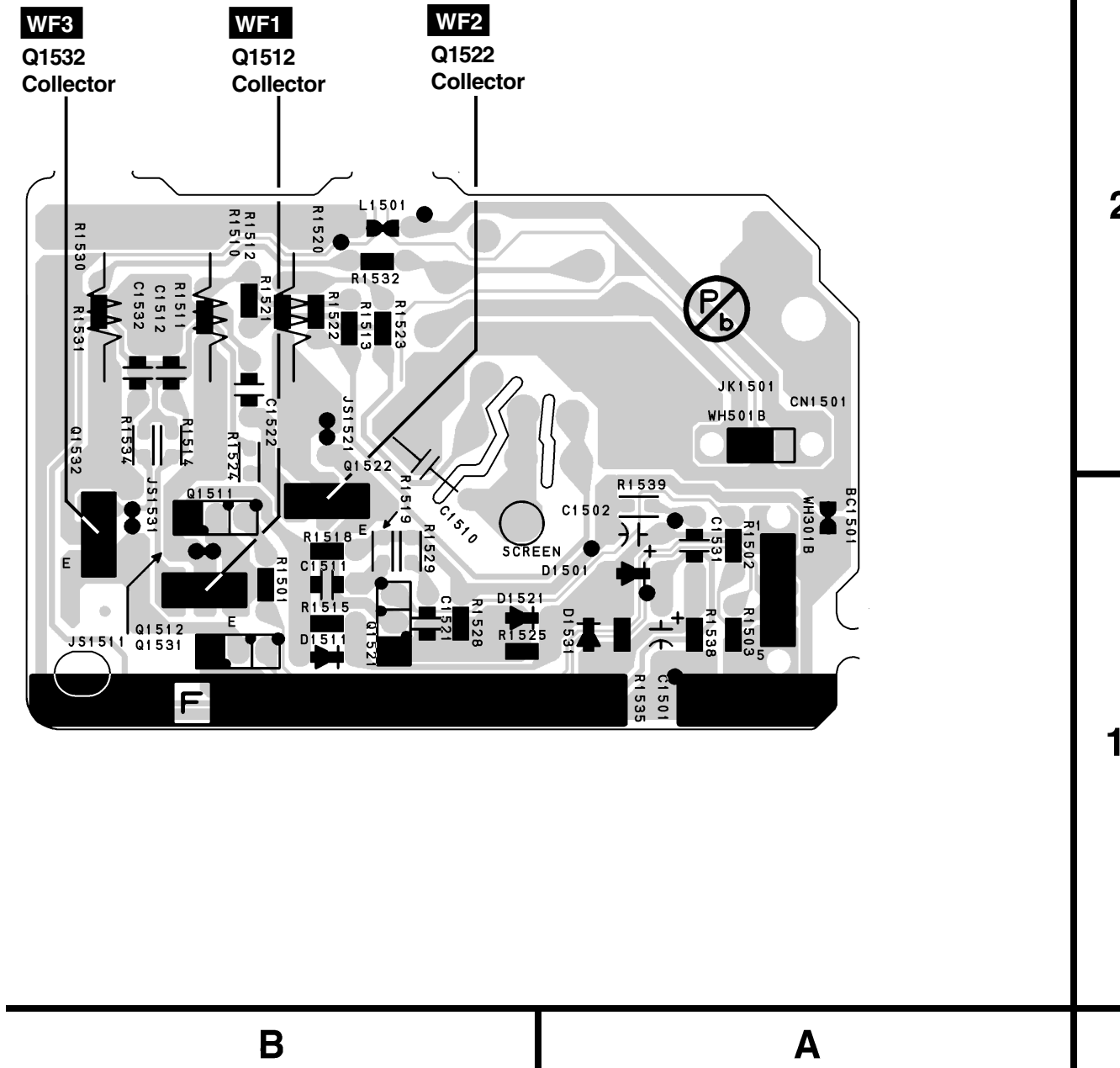
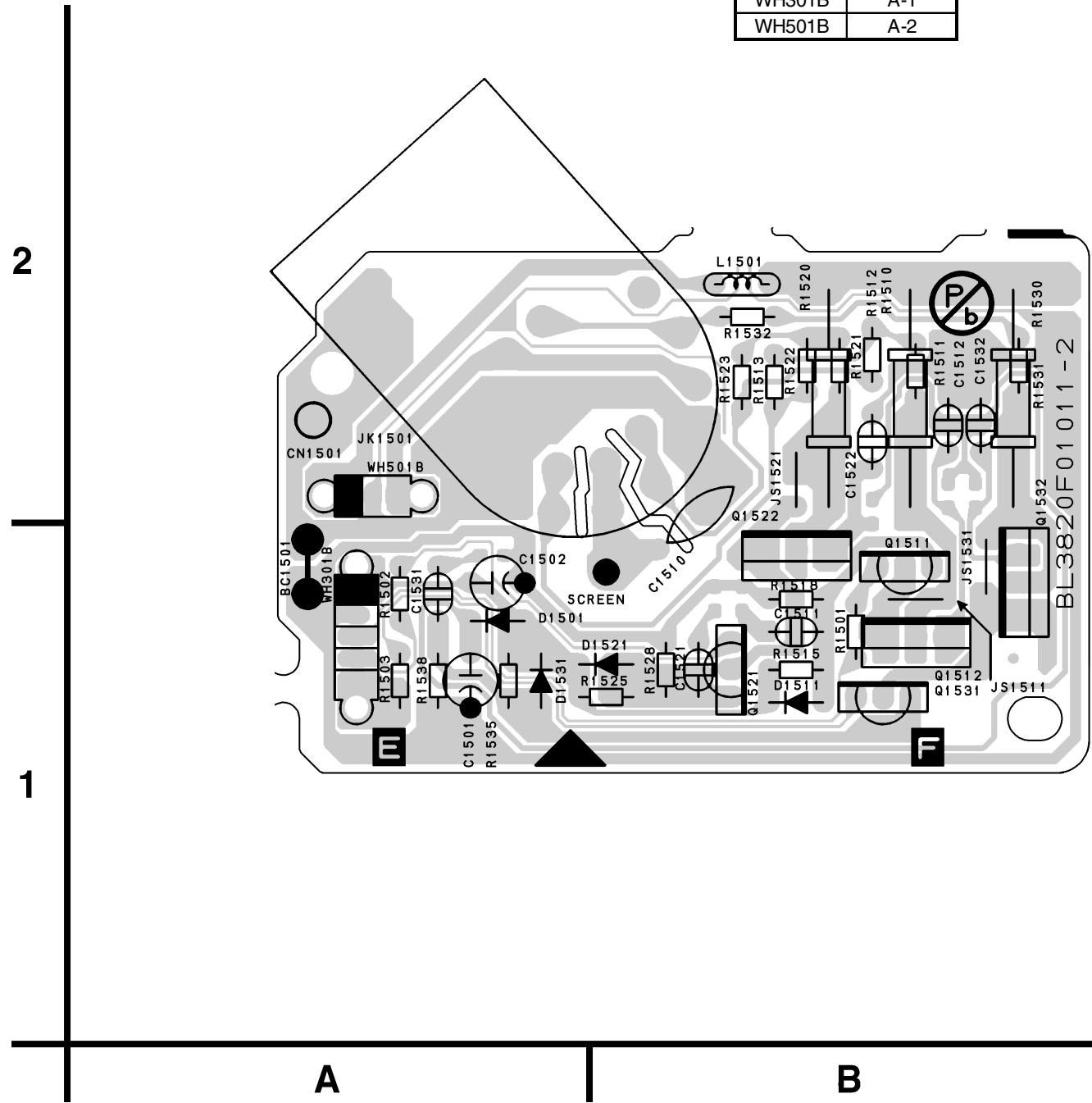
G F E D C B A

CRT CBA Top View

CRT CBA Bottom View

CRT CBA

Ref No.	Position
TRANSISTORS	
Q1511	B-1
Q1512	B-1
Q1521	B-1
Q1522	B-2
Q1531	B-1
Q1532	B-2
CONNECTORS	
CN1501	A-2
WH301B	A-1
WH501B	A-2

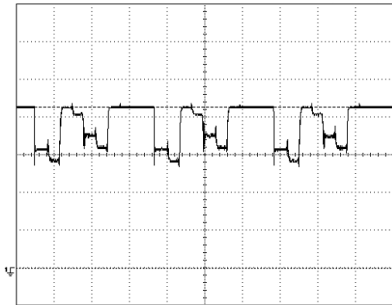


WAVEFORMS

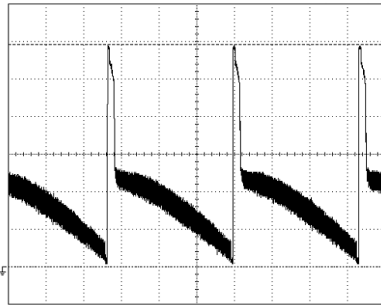
WF1 ~ WF21 = Waveforms to be observed at
Waveform check points.
(Shown in Schematic Diagram.)

Input: Color Bar Signal (with 1kHz Audio Signal)
INITIAL POSITION: Unplug unit from AC outlet for at least 5 minutes.
reconnect to AC outlet and then turn power on.

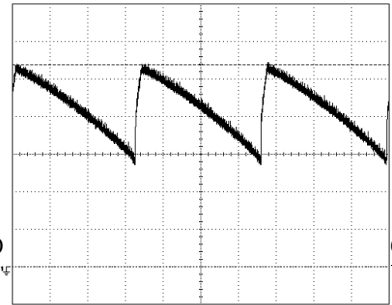
(Brightness---Center Color---Center Tint --- Center Contrast---Approx 70%)



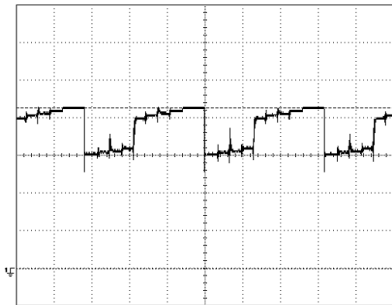
WF1 1DIV: 50V 20µs
Q1512 Collector



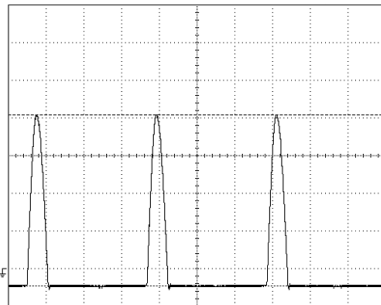
WF5 1DIV: 10V 5ms
Pin 4 of CN571



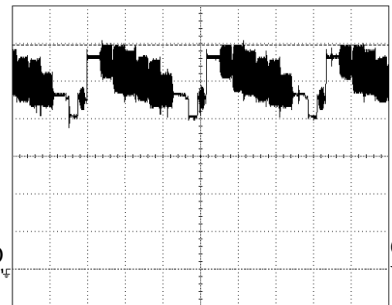
WF9 1DIV: 1V 5ms
Pin 7 of IC551



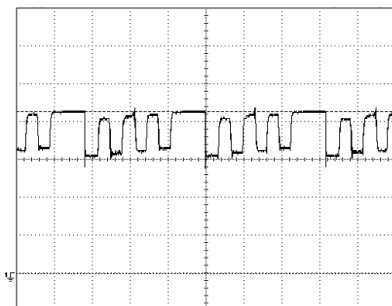
WF2 1DIV: 50V 20µs
Q1522 Collector



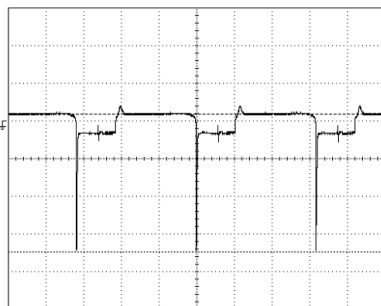
WF6 1DIV: 5V 20µs
Pin 3 of WH501A



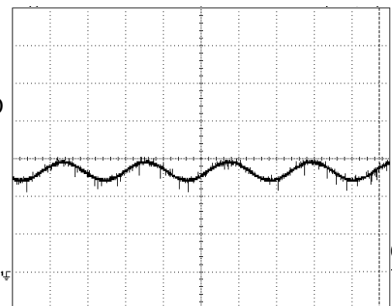
WF10 1DIV: 500mV 20µs
Pin 31 of IC301



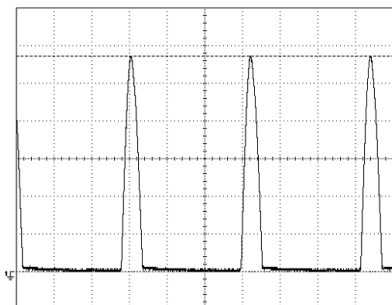
WF3 1DIV: 50V 20µs
Q1532 Collector



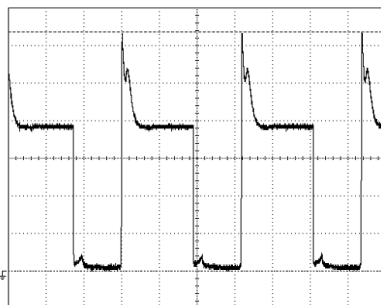
WF7 1DIV: 5V 20µs
Q571 Base



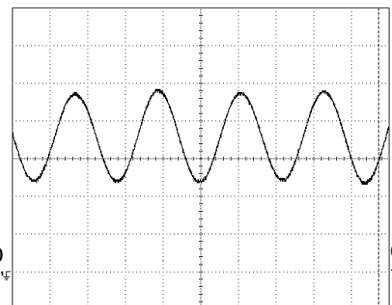
WF11 1DIV: 500mV 500µs
Pin 3 of IC801



WF4 1DIV: 200V 20µs
Pin 1 of CN571



WF8 1DIV: 10V 20µs
Q572 Collector



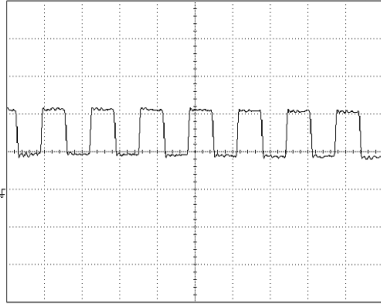
WF12 1DIV: 2V 500µs
Pin 14 of IC801

WF1 ~ WF21 = Waveforms to be observed at
Waveform check points.
(Shown in Schematic Diagram.)

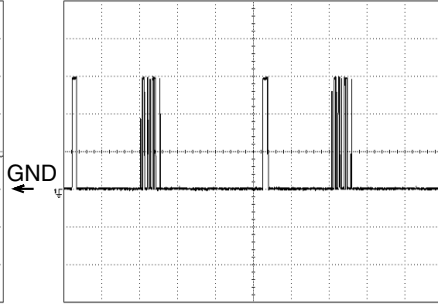
Input: Color Bar Signal (with 1kHz Audio Signal)

INITIAL POSITION: Unplug unit from AC outlet for at least 5 minutes.
reconnect to AC outlet and then turn power on.

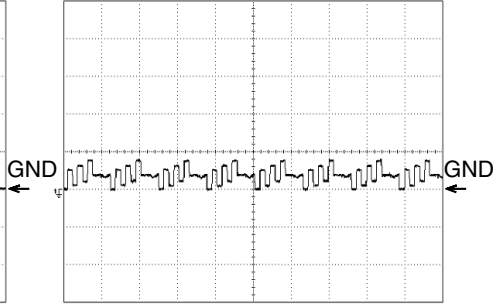
(Brightness---Center Color---Center Tint --- Center Contrast---Approx 70%)



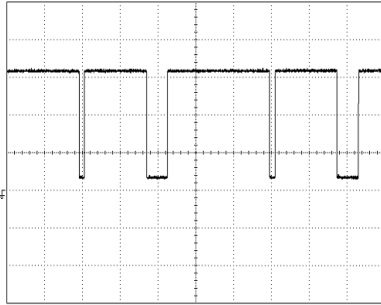
WF13 1DIV: 1V 500ns
Pin 2 of CN901



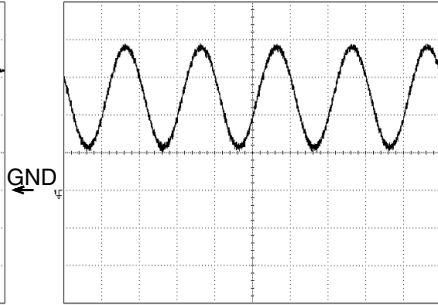
WF17 1DIV: 1V 20ms
Pin 10 of CN901



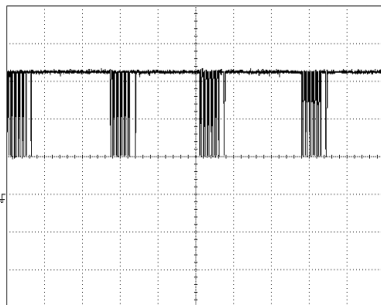
WF21 1DIV: 1V 50µs
Pin 20 of CN902



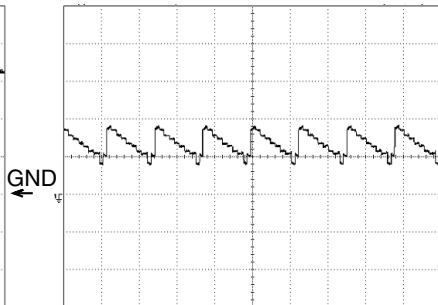
WF14 1DIV: 1V 20ms
Pin 7 of CN901



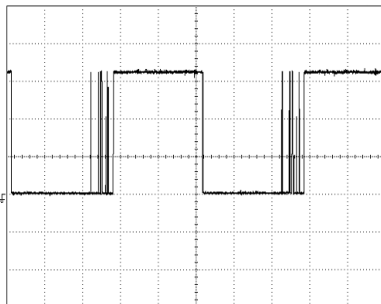
WF18 1DIV: 1V 500µs
Pin 15 of CN902



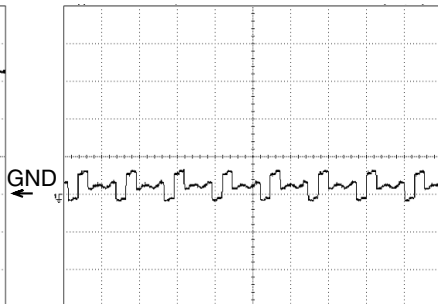
WF15 1DIV: 1V 20ms
Pin 8 of CN901



WF19 1DIV: 1V 50µs
Pin 18 of CN902

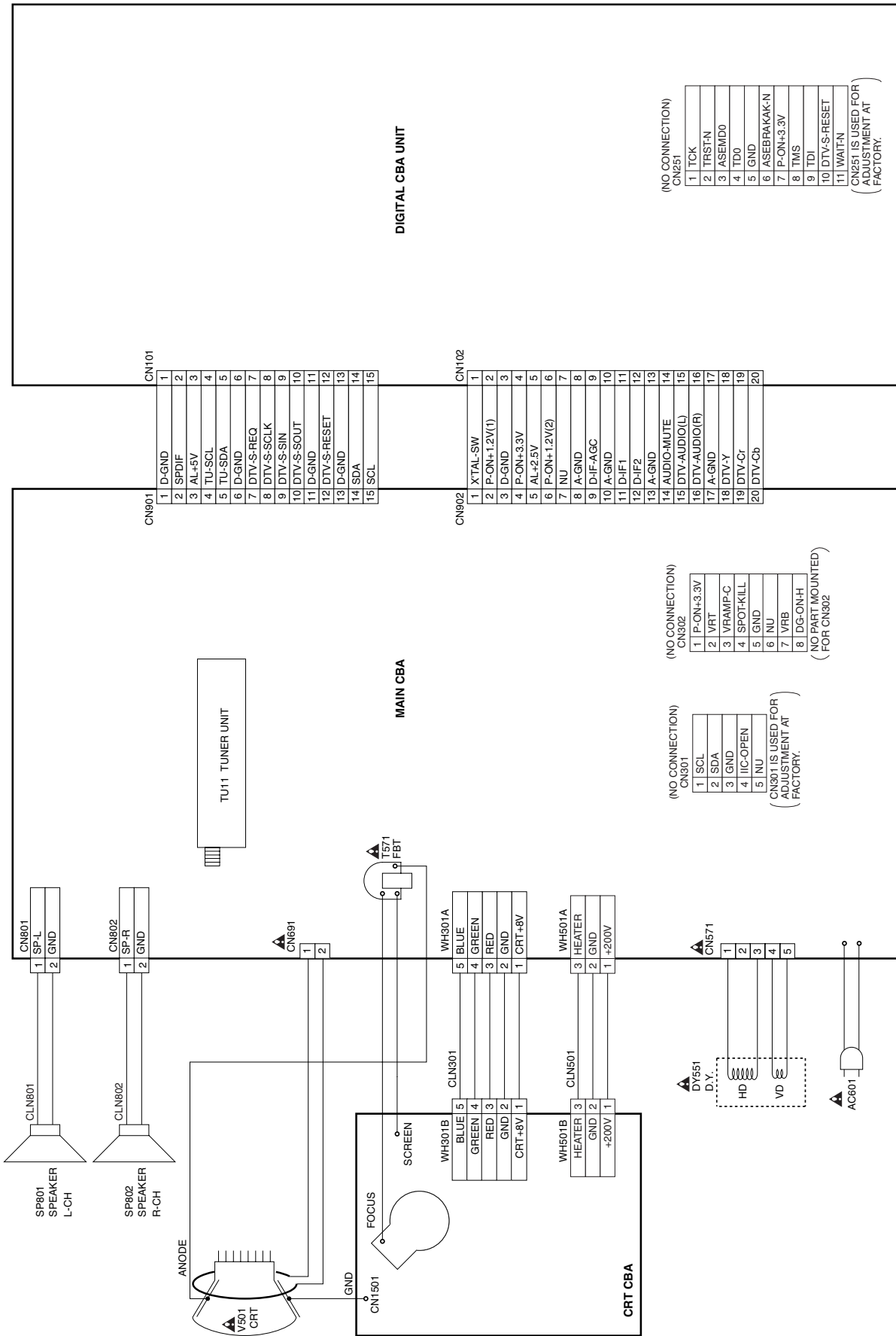


WF16 1DIV: 1V 20ms
Pin 9 of CN901



WF20 1DIV: 1V 50µs
Pin 19 of CN902

WIRING DIAGRAM



IC PIN FUNCTION DESCRIPTIONS

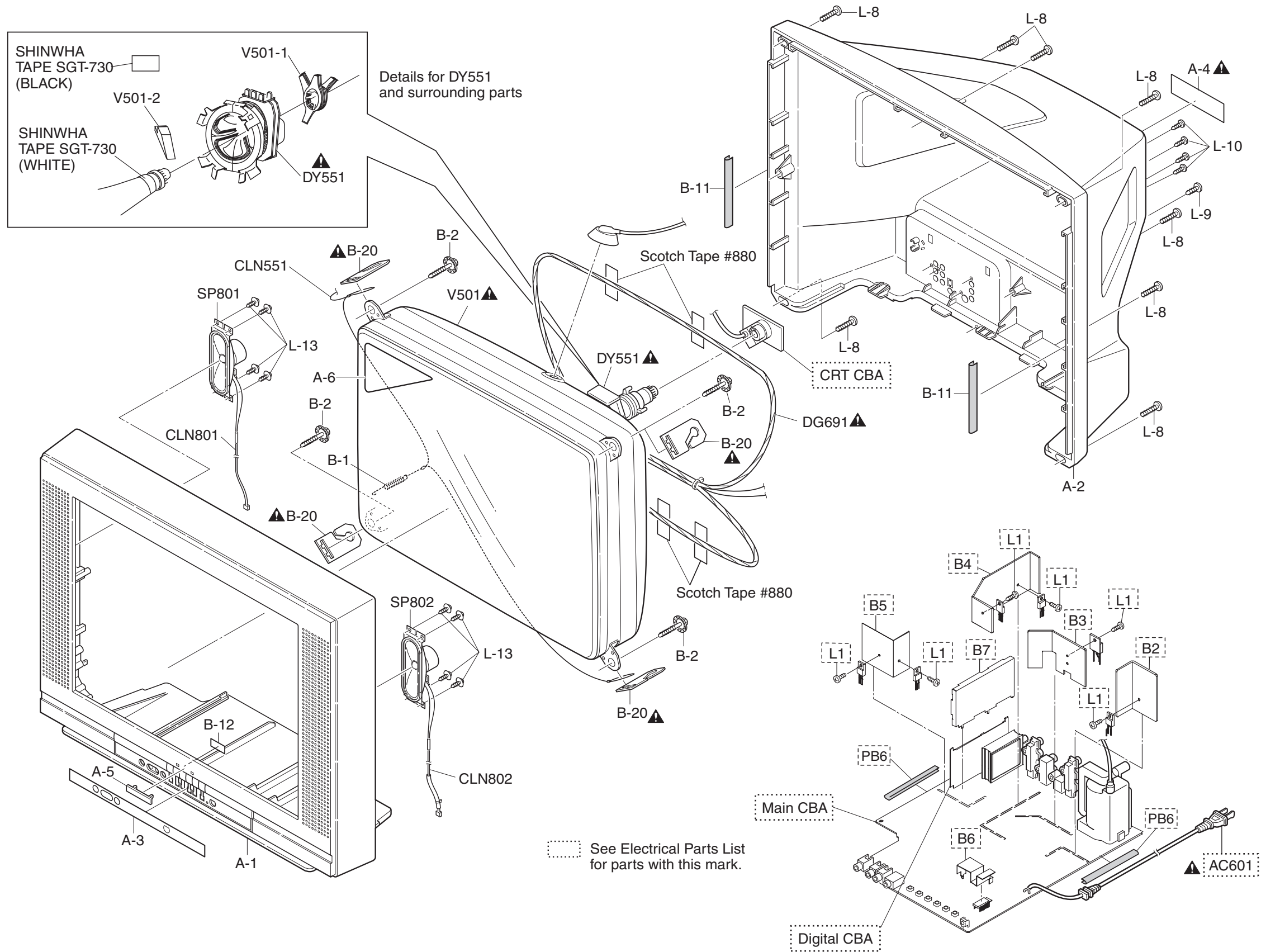
IC301 (TV Micro Controller)

Pin No.	Signal Name	Function
1	RCV-IN	Input For Remote Control
2	VOLUME	Volume PWM
3	DTV-H	DTV-on-H
4	P-ON-H	Output for P-ON-H
5	RESET	RESET
6	X' TAL-SW	X-TAL-SW
7	ACL	IB-Input
8	PROTECT3	Power Supply Protection
9	INPUT3	INPUT3
10	AUDIO-MUTE	Audio Mute
11	NU	Not used
12	AFT-IN	AFT Voltage Input
13	DEF-VCC	DEF-VCC(8.0V)
14	VRAMP+	Vertical RAMP+
15	NU	Not used
16	AFC1-FIL	Horizontal AFC1 Filter
17	DEF-VCC	DEF-VCC(5.0V)
18	HOUT	H Pulse Output
19	FBP-IN	Flyback Pulse Input
20	GND	GND
21	C-APC	CHROMINANCE APC
22	XTAL	XTAL
23	GND	CHROMA-GND
24	V-LINE-OUT	Video-line-out
25	EW-OUT	EW-OUT
26	C1-IN[YC]	C1-IN[YC]
27	Y1-IN[YC]	Y1-IN[YC]
28	+8V-CTAL	8.7V Output
29	CVBS2-IN	Composite Signal 2 Input
30	VCC(+5V)	CHROMA-VCC(5.0V)
31	CVBS1-IN	Composite Signal 1 Input
32	+5V-CTAL	5.7V Output
33	Cr1-IN[YUV]	Cr1-IN[YUV]
34	Cb1-IN[YUV]	Cb1-IN[YUV]
35	Y1-IN[YUV]	Y1-IN[YUV]
36	+1.8V-CTAL	2.5V-DIG-VDDOUT
37	C2-IN[YC]	C2-IN[YC]
38	Y2-IN[YC]	Y2-IN[YC]
39	NU	Not used
40	Cb2-IN[YUV]	Cb2-IN[YUV]

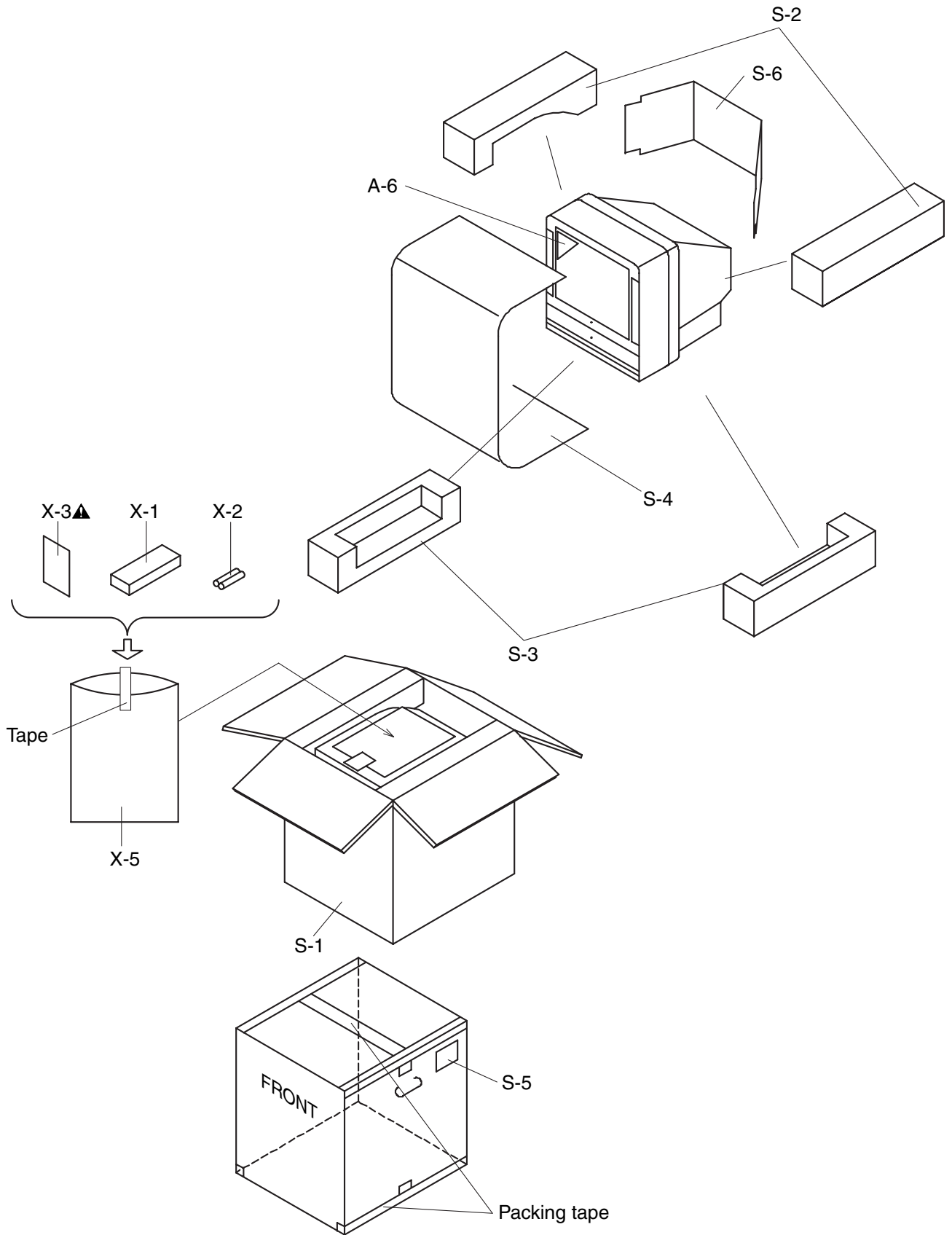
Pin No.	Signal Name	Function
41	Cr2-IN[YUV]	Cr2-IN[YUV]
42	Y2-IN[YUV]	Y2-IN[YUV]
43	NU	Not used
44	VCC(+9V)	VREGVCC
45	CVBS3-IN	Composite Signal 3 Input
46	NU	Not used
47	fsc-OUT	Clock Output
48	VCC(+8V)	HI-VCC(8.0V)
49	R-OUT	Red Output
50	G-OUT	Green Output
51	B-OUT	Blue Output
52	ANALOG-VCC	ANALOG-VCC(3.3V)
53	VRT	VRT
54	NU	Not used
55	VRB	YRB
56	RAMPFIL	RAMPFIL
57	GND	ANALOG-GND
58	VRAMP-C	VRAMP-C
59	GND	SUB GND
60	PROTECT2	Power Supply Protection
61	PROTECT1	Power Supply Protection
62	INPUT1	INPUT1
63	INPUT0	INPUT0
64	DTV-S-RESET	DTV-S-RESET output
65	NU	Not used
66	VDD(+3.3V)	3.3V-DIGI-VDD
67	DTV-S-REQ	DTV-S-AREQ
68	DTV-S-SCLK	DTV-S-SCLK
69	GND	GND
70	DTV-S-SIN	DTV-S-SIN
71	VDD(+1.8V)	1.8V-DIGI-VDD
72	DTV-S-SOUT	DTV-S-SOUT
73	KEY-IN1	Key Input 1
74	KEY-IN2	Key Input 2
75	DG-ON-H	DG-ON
76	SPOT-KILL	SPOT-KILL
77	SCL	12C-BUS Controller Interface
78	I2C-OPEN	IIC-OPEN
79	SDA	SDA
80	S-SW	Detecting S-VIDEO Jack Connection

EXPLODED VIEWS


Cabinet




Packing




MECHANICAL PARTS LIST

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

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

Ref. No.	Description	Part No.
A-1	FRONT CABINET L3820UA	1EM120367
A-2	REAR CABINET L3820UA	1EM120255
A-3	CONTROL PLATE L3820UA	1EM320460
A-4 	RATING LABEL L3820UA	-----
A-5	BRAND BADGE L L1520UA~SYLVANIA~	0EM406577
A-6	POP LABEL L3820UA	-----
B-1	SPRING TENSION B0080B0 EM40808	26WH006
B-2	SCREW L1500UA	0EM406142
B-11	CLOTH 190X15XT0.5	TS7623
B-12	CLOTH L1440JL 15X55XT1.0	0EM406793
B-20 	DEGAUSS HOLDER L1520UA	0EM406700
CLN551	CRT GND WIRE	WX1L6615-001
CLN801	WIRE ASSEMBLY WX1L6615-002	WX1L6615-002
CLN802	WIRE ASSEMBLY WX1L2805-003	WX1L2805-003
DG691 	DEGAUSSING COIL ZTM-58	LLBH00ZTM058
DY551 	DEFLECTION YOKE SCD-29319	LLBY00ZQS018
L-8	SCREW P-TIGHT 4X18 BIND HEAD +	GBMP4180
L-9	SCREW TAPPING M4X14	DBU14140
L-10	SCREW P-TIGHT 3X10 BIND HEAD+	GBKP3100
L-13	SCREW ASSEMBLED 12 M3X12	0EM406746
SP801	SPEAKER S0516F01	DSD0813XQ001
SP802	SPEAKER S0516F01	DSD0813XQ001
V501 	CRT A68QCP693X	TCRT190SM032
V501-1	PCM JH88DTA	XM04000BV010
V501-2	WEDGE FT-00110W	XV10000T4001
PACKING		
S-1	CARTON L3820UA	1EM421261
S-2	STYROFOAM TOP L6615UF	0EM000792
S-3	STYROFOAM BOTTOM L6615UF	0EM000793
S-4	SHEET SET PCEC 003502019816	0EM403887
S-5	SERIAL NO. LABEL L3820UA	-----
S-6	HOLD PAD L6615UF	0EM408475
ACCESSORIES		
X-1	REMOTE CONTROL NE601UD	NE601UD
X-2	DRY BATTERY R6P/2S	XB0M451T0001
X-3 	OWNERS MANUAL ENGLISH/SPANISH	1EMN20489
X-5	BAG POLYETHYLENE 235X365XT0.03	0EM408420

ELECTRICAL PARTS LIST

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

NOTES:

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

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

DIGITAL CBA

Ref. No.	Description	Part No.
	DIGITAL CBA	1ESA10823

MMA CBA

Ref. No.	Description	Part No.
	MMA CBA Consists of the following:	1ESA10792
	MAIN CBA CRT CBA	----- -----

MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA Consists of the following:	-----
CAPACITORS		
C12	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C13	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASDL4R7
C14	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C15	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C16	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C31	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C34	ELECTROLYTIC CAP. 0.47µF/50V M	CE1JMASDLR47
C35	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C36	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C37	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C38	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C39	CHIP CERAMIC CAP. CH D 5pF/50V	CHD1JD3CH5R0
C42	CERAMIC CAP.(AX) CH K 2.7pF/50V	CCA1JKTCH2R7
C49	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASDL4R7
C50	CHIP CERAMIC CAP. CH C 3pF/50V	CHD1JC3CH3R0
C51	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C52	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C53	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C54	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C55	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C57	CHIP CERAMIC CAP.(1608) B K 0.047µF/50V	CHD1JK30B473
C58	CHIP CERAMIC CAP.(1608) B K 0.033µF/50V	CHD1JK30B333
C61	CERAMIC CAP.(AX) F Z 0.01µF/25V	CCA1EZTFZ103

Ref. No.	Description	Part No.
C62	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C301	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C303	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C304	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C305	ELECTROLYTIC CAP. 0.47µF/50V M	CE1JMASDLR47
C306	CHIP CERAMIC CAP.(1608) B K 0.015µF/50V	CHD1JK30B153
C307	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASDL470
C308	CERAMIC CAP.(AX) F 0.1µF/50V	CCK1JZT0F104
C309	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C310	CHIP CERAMIC CAP. CH J 120pF/50V	CHD1JJ3CH121
C311	CERAMIC CAP.(AX) F Z 0.01µF/25V	CCA1EZTFZ103
C312	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C313	CERAMIC CAP.(AX) F Z 0.01µF/25V	CCA1EZTFZ103
C314	CERAMIC CAP.(AX) F Z 0.01µF/25V	CCA1EZTFZ103
C315	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C321	ELECTROLYTIC CAP. 4.7µF/50V M NP	CP1JMASNC4R7
C322	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C331	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C332	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C333	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C335	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C336	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C337	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C338	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C339	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C340	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C341	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C342	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C343	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C344	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C351	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C352	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C353	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C354	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C355	ELECTROLYTIC CAP. 1000µF/10V M	CE1AMASDL102
C357	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C358	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C359	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C360	CHIP CERAMIC CAP.(1608) B K 0.033µF/50V	CHD1JK30B333
C361	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C363	CERAMIC CAP.(AX) F Z 0.01µF/25V	CCA1EZTFZ103
C364	CERAMIC CAP.(AX) F 0.1µF/50V	CCK1JZT0F104
C365	CERAMIC CAP.(AX) Y K 0.01µF/16V	CCA1CKTOY103
C366	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C367	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C368	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C381	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C382	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASDL470
C383	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C384	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C385	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C386	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C411	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C420	CHIP CERAMIC CAP.(1608) F Z 0.1µF/50V	CHD1JZ30F104
C450	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C451	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C452	ELECTROLYTIC CAP. 3.3µF/50V M	CE1JMASDL3R3
C453	ELECTROLYTIC CAP. 3.3µF/50V M	CE1JMASDL3R3
C454	CHIP CERAMIC CAP.(1608) B K 0.1µF/50V	CHD1JK30B104
C455	CHIP CERAMIC CAP.(1608) B K 0.022µF/50V	CHD1JK30B223

Ref. No.	Description	Part No.
C456	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C457	CHIP CERAMIC CAP.(1608) B K 0.033μF/50V	CHD1JK30B333
C458	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C461	ELECTROLYTIC CAP. 0.33μF/50V M	CE1JMASDLR33
C462	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C463	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C464	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASDL4R7
C465	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C466	CHIP CERAMIC CAP. CH J 150pF/50V	CHD1JJ3CH151
C467	CHIP CERAMIC CAP. CH J 150pF/50V	CHD1JJ3CH151
C468	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C469	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C471	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C472	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C473	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C476	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C477	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C478	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C501	FILM CAP.(P) 0.22μF/100V J	CMA2AJS00224
C502	CERAMIC CAP.(AX) B 2200pF/50V	CCK1JKT0B222
C503	ELECTROLYTIC CAP. 100μF/35V M	CE1GMASDL101
C504	ELECTROLYTIC CAP. 2.2μF/50V LL	CE1JMASLH2R2
C505	ELECTROLYTIC CAP. 1000μF/25V M	CE1EMZNTL102
C506	ELECTROLYTIC CAP. 1000μF/35V M	CE1GMZNTL102
C507	FILM CAP.(P) 0.01μF/50V J	CMA1JJS00103
C531	FILM CAP.(P) 0.022μF/50V J	CMA1JJS00223
C555	METALLIZED PLYESTER CAP. 2.2μF/100V J	CTA2A225MS065
C567▲	PP CAP. 0.0022μF/1.6KV J	CA3C222VCO10
C568	ELECTROLYTIC CAP. 100μF/160V M	CE2CMZPTL101
C571▲	PP CAP 0.82μF/250V J	CT2E824MS041
C572▲	PP CAP. 0.68μF/250V J	CT2E684MS041
C574▲	ELECTROLYTIC CAP. 4.7μF/250V M	CE2EMASDL4R7
C577	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASDL470
C578	FILM CAP.(P) 0.018μF/50V J	CMA1JJS00183
C580▲	PP CAP. 0.012μF/1.6KV J	CA3C123VCO10
C582▲	P.P. CAPACITOR 0.047μF/630V J	CT2K473KF011
C584▲	METALLIZED FILM CAP. 0.01μF/250V M	CT2E103MS037
C594▲	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C596	CERAMIC CAP. B K 100pF/500V	CCD2JKS0B101
C601▲	METALLIZED FILM CAP. 0.33μF/250V	CT2E334MS037
C602	METALLIZED FILM CAP. 0.22μF/250V	CT2E224MS037
C605	CERAMIC CAP. F Z 0.01μF/500V	CCD2JZP0F103
C606	CERAMIC CAP. F Z 0.01μF/500V	CCD2JZP0F103
C609	CERAMIC CAP. BN 820pF/2KV	CCD3DKA0B821
C610▲	ELECTROLYTIC CAP. 470μF/200V	CA2D471NC013
C611	FILM CAP.(P) 0.022μF/50V J	CMA1JJS00223
C614	FILM CAP.(P) 0.0015μF/50V J	CMA1JJS00152
C616	FILM CAP.(P) 0.1μF/50V J	CMA1JJS00104
C642▲	CERAMIC CAP. 0.0047μF μF F CS	COG2HMN0F472
C643	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C650	CERAMIC CAP. BN 560pF/2KV	CCD3DKA0B561
C652	CERAMIC CAP. B K 2200pF/500V	CCD2JKS0B222
C653	ELECTROLYTIC CAP. 2200μF/6.3V	CE0KMASDL222
C654	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C655	ELECTROLYTIC CAP. 0.33μF/50V M	CE1JMASDLR33
C656	ELECTROLYTIC CAP. 100μF/160V M	CE2CMZPTL101
C657	ELECTROLYTIC CAP. 470μF/35V M(VR)	CE1GMZNTL471
C658	ELECTROLYTIC CAP. 1000μF/16V M(VR/HC)	CE1CMZNTL102
C659	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C662	ELECTROLYTIC CAP. 1000μF/16V M(VR/HC)	CE1CMZNTL102
C663	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C665	CERAMIC CAP. B K 680pF/50V	CCD1JKS0B681
C666	CERAMIC CAP. B K 680pF/50V	CCD1JKS0B681

Ref. No.	Description	Part No.
C667	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C674	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C681	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C682	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C684	ELECTROLYTIC CAP. 1000μF/10V M	CE1AMASDL102
C685▲	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C705	CHIP CERAMIC CAP.(1608) B K 3300pF/50V	CHD1JK30B332
C706	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C708	CHIP CERAMIC CAP.(1608) B K 3300pF/50V	CHD1JK30B332
C709	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C725	CHIP CERAMIC CAP.(1608) B K 3300pF/50V	CHD1JK30B332
C726	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C728	CHIP CERAMIC CAP.(1608) B K 3300pF/50V	CHD1JK30B332
C729	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C731	CHIP CERAMIC CAP.(1608) B K 3300pF/50V	CHD1JK30B332
C733	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C736	CHIP CERAMIC CAP.(1608) B K 3300pF/50V	CHD1JK30B332
C738	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C752	CHIP CERAMIC CAP.(1608) B K 3300pF/50V	CHD1JK30B332
C762	CHIP CERAMIC CAP.(1608) B K 3300pF/50V	CHD1JK30B332
C773	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C801	ELECTROLYTIC CAP. 220μF/25V M	CE1EMASDL221
C802	ELECTROLYTIC CAP. 220μF/25V M	CE1EMASDL221
C807	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C808	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C809	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C811	ELECTROLYTIC CAP. 1000μF/16V M(VR/HC)	CE1CMZNTL102
C812	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C833	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C851	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C852	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C853	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C854	CERAMIC CAP.(AX) B 0.0047μF/50V	CCK1JKT0B472
C901	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C902	CERAMIC CAP.(AX) F Z 0.01μF/25V	CCA1EZTFZ103
C903	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C904	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C905	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C906	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C907	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C908	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C909	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C910	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C911	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C912	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C931	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
CONNECTORS		
CN301	242 SERIES CONNECTOR 224202105W1	J322C05TG001
CN571▲	CONNECTOR BASE 5P TV-50P-05-V3	J3TVCO5TG002
CN691▲	CONNECTOR BASE 2P TV-50P-02-V3	J3TVCO2TG002
CN801	STRAIGHT CONNECTOR BASE 00 8283 0212 00 000	J383C02UG002
CN802	STRAIGHT CONNECTOR BASE 00 8283 0212 00 000	J383C02UG002
DIODES		
D301	ZENER DIODE MTZJT-775.1B	QDTB0MTZJ5R1
D305	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D351	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D352	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D353	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D381	ZENER DIODE MTZJT-779.1B	QDTB0MTZJ9R1
D382	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D383	ZENER DIODE MTZJT-7712B	QDTB00MTZJ12

Ref. No.	Description	Part No.
D392	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D393	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D501	SCHOTTKY BARRIER DIODE SB140	NDQZ000SB140
D502▲	ZENER DIODE MTZJT-7720B	QDTB00MTZJ20
D503▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D552▲	ZENER DIODE MTZJT-773.0B	QDTB00MTZJ3R0
D557	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D558	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D572	FAST RECOVERY DIODE ERA22-04	QDPZ0ERA2204
D580▲	DIODE ERD07-15	QDLZ0ERD0715
D582▲	FAST RECOVERY DIODE ERD38-06	QDQZ0ERD3806
D583	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D585	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D586	DIODE FR104-B	NDLZ000FR104
D591▲	ZENER DIODE MTZJT-7736B	QDTB00MTZJ36
D594▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D595▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D597	ZENER DIODE MTZJT-774.3B	QDTB00MTZJ4R3
D605▲	DIODE 1N5406	NDLZ001N5406
D606▲	DIODE 1N5406	NDLZ001N5406
D607▲	DIODE 1N5406	NDLZ001N5406
D608▲	DIODE 1N5406	NDLZ001N5406
D611▲	ZENER DIODE MTZJT-7724C	QDTC00MTZJ24
D612▲	ZENER DIODE MTZJT-7739B	QDTB00MTZJ39
D613	ZENER DIODE MTZJT-774.3B	QDTB00MTZJ4R3
D614	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D615▲	SWITCHING DIODE 1N4148 T-77	QDTZ001N4148
D623	PCB JUMPER D0.6-P5.0	JW5.0T
D650	RECTIFIER DIODE FR202-B/P	NDQZ000FR202
D651	FAST RECOVERY DIODE 30DF6	QDWZ00030DF6
D652	DIODE FR154	NDLZ000FR154
D653	DIODE FR154	NDLZ000FR154
D654	DIODE FR104-B	NDLZ000FR104
D655	ZENER DIODE 1ZB180	QDQZ001ZB180
D656▲	ZENER DIODE MTZJT-777.5B	QDTB00MTZJ7R5
D657	DIODE FR154	NDLZ000FR154
D658	DIODE 1ZC18	QDQZ0001ZC18
D659	RECTIFIER DIODE FR202-B/P	NDQZ000FR202
D661▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D662	ZENER DIODE MTZJT-777.5B	QDTB00MTZJ7R5
D666	ZENER DIODE MTZJT-7733B	QDTB00MTZJ33
D670	DIODE FR104-B	NDLZ000FR104
D671	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D672	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D676	ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
D685	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D686	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D696	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D841▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D842▲	ZENER DIODE MTZJT-776.8B	QDTB00MTZJ6R8
D901	DIODE 1N5397-B	NDLZ001N5397
D903	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D904	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D905	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D906	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
ICS		
IC31	IC VIF/SIF M61116FP TFOG	QSZBA0SHT034
IC301	MICRO COMPUTER R2J10050M02FP RF0S	QSZAA0RHT078
IC381	IC SHUNT REGULATOR KIA431-AT	NSZLA0TJY001
IC421	IC BR24L64F-WE2	QSZBA0TRM071
IC451	IC MTS DECORDER AN5832SA-E1	QSZBA0TMS003
IC551▲	IC VERTICAL OUTPUT LA78041-E	QSZBA0SSY006

Ref. No.	Description	Part No.
IC601▲	PHOTO COUPLER PS2501-1L	QPPEL0PS25011
IC701	IC SWITCHING TC4052BF(EL)	QSZBA0TTS096
IC801	IC AN17812A	QSZBA0SMS017
IC901	VOLTAGE REGULATOR KIA7805API	NSBBA0SJY011
IC903	IC LD1117V	NSZBA0SSS046
IC904	VOLTAGE REGULATOR PQ070XF01SZH	QSZBA0SSH054
IC910	VOLTAGE REGULATOR PQ025EF01SZH	QSZBA0SSH070
IC911	IC SHUNT REGULATOR KIA431-AT	NSZLA0TJY001
COILS		
L12	INDUCTOR 33μH-H-K-5FT	LLARKBSTU330
L34	INDUCTOR 18μH-H-J-26T	LLAXJATTU180
L50	INDUCTOR 150μH-H-J-26T	LLAXJATTU151
L51	INDUCTOR 100μH-H-J-5FT	LLARJCASTU101
L302	INDUCTOR 33μH-H-K-5FT	LLARKBSTU330
L303	INDUCTOR 33μH-H-K-5FT	LLARKBSTU330
L304	PCB JUMPER D0.6-P5.0	JW5.0T
L551	LINEARITY COIL ELH5L6136N	LLBD00PMS008
L562	CHOKE COIL ELC18B471LM	LLC471KMS001
L564	CHOKE COIL ELC18B821LK	LLC821KMS001
L588	CHOKE COIL 47μH-H-K	LLBD00PKV007
L601▲	LINE FILTER JLB2460	LLBG00ZXB012
TRANSISTORS		
Q61	TRANSISTOR 2SC2785(F)	QSF02SC2785
Q321	RES. BUILT-IN TRANSISTOR BA1F4M-T	QSZ00BA1F4M
Q322	RES. BUILT-IN TRANSISTOR KRA103M	NQSZOKRA103M
Q351	RES. BUILT-IN TRANSISTOR BA1F4M-T	QSZ00BA1F4M
Q352	RES. BUILT-IN TRANSISTOR BA1F4M-T	QSZ00BA1F4M
Q381	TRANSISTOR 2SC2785(F)	QSF02SC2785
Q382	TRANSISTOR 2SC2785(F)	QSF02SC2785
Q383	TRANSISTOR 2SC2120-O(Te2 F T)	QSQ02SC2120F
Q552▲	TRANSISTOR KTD2059(O)	NQ400KTD2059
Q571▲	TRANSISTOR 2SC5978	QZZ02SC5978
Q572	TRANSISTOR KTC3227-Y-AT/P	NQSYKTC3227P
Q601▲	FET 2SK3869(Q)	QFVWZ2SK3869Q
Q602▲	TRANSISTOR 2SC2120-O(Te2 F T)	QSQ02SC2120F
Q645	TRANSISTOR KTA1281(Y)	NQSYKTA1281
Q646	TRANSISTOR 2SC2785(F)	QSF02SC2785
Q647	TRANSISTOR 2SC2785(F)	QSF02SC2785
Q652▲	TRANSISTOR 2SC2785(F)	QSF02SC2785
Q672▲	TRANSISTOR 2SA1175(F)	QSF02SA1175
Q673	TRANSISTOR 2SC2785(F)	QSF02SC2785
Q674	TRANSISTOR 2SC2785(F)	QSF02SC2785
Q681▲	TRANSISTOR 2SC2785(F)	QSF02SC2785
Q682▲	TRANSISTOR 2SD400(E)	QQUE002SD400
Q696	TRANSISTOR KRC105M-AT/P	NQSZKRC105MP
Q811	TRANSISTOR 2SC2785(F)	QSF02SC2785
Q901	TRANSISTOR 2SA950(O)	Q2SA9500TPE2
Q902	TRANSISTOR 2SC2785(F)	QSF02SC2785
Q910	TRANSISTOR 2SC2120-O(Te2 F T)	QSQ02SC2120F
RESISTORS		
R12	PCB JUMPER D0.6-P5.0	JW5.0T
R20	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R21	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R22	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R23	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R32	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R33	CHIP RES.(1608) 1/10W J 270 Ω	RRXAJR5Z0271
R35	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R37	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R38	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R39	CHIP RES.(1608) 1/10W J 27k Ω	RRXAJR5Z0273
R44	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101

Ref. No.	Description	Part No.
R50	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R51	CHIP RES.(1608) 1/10W J 270k Ω	RRXAJR5Z0274
R52	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R53	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R54	CHIP RES.(1608) 1/10W J 68k Ω	RRXAJR5Z0683
R61	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R62	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R63	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R301	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R302	CHIP RES.(1608) 1/10W J 560 Ω	RRXAJR5Z0561
R303	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R304	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R305	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R306	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R308	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R309	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R310	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R311	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R312	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R313	CHIP RES.(1608) 1/10W J 330k Ω	RRXAJR5Z0334
R314	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R315	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R316	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R317	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R318	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R321	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R322	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R323	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R324	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R325	PCB JUMPER D0.6-P5.0	JW5.0T
R330	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R331	CHIP RES.(1608) 1/10W J 22 Ω	RRXAJR5Z0220
R332	CHIP RES.(1608) 1/10W J 22 Ω	RRXAJR5Z0220
R333	CHIP RES.(1608) 1/10W J 22 Ω	RRXAJR5Z0220
R335	CHIP RES.(1608) 1/10W J 22 Ω	RRXAJR5Z0220
R336	CHIP RES.(1608) 1/10W J 22 Ω	RRXAJR5Z0220
R337	CHIP RES.(1608) 1/10W J 22 Ω	RRXAJR5Z0220
R338	CHIP RES.(1608) 1/10W J 22 Ω	RRXAJR5Z0220
R339	CHIP RES.(1608) 1/10W J 22 Ω	RRXAJR5Z0220
R340	CHIP RES.(1608) 1/10W J 22 Ω	RRXAJR5Z0220
R341	CHIP RES.(1608) 1/10W J 22 Ω	RRXAJR5Z0220
R342	CHIP RES.(1608) 1/10W J 22 Ω	RRXAJR5Z0220
R351	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R352	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R353	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R354	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R355	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R356	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R357	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R358	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R359	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R360	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R361	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R362	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R363	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R364	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R365	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R366	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R367	CARBON RES. 1/4W J 220k Ω	RCX4JATZ0224
R368	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R370	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R371	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R373	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223

Ref. No.	Description	Part No.
R374	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R376	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R377	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R378	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R379	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R380	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R381	CARBON RES. 1/4W J 3.3 Ω	RCX4JATZ03R3
R382	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100
R383	CHIP RES.(1608) 1/10W F 3.3k Ω	RRXAFR5H3301
R384	CHIP RES.(1608) 1/10W F 10k Ω	RRXAFR5H0103
R385	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R386	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R387	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R388	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R389	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R391	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R392	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R393	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R394	PCB JUMPER D0.6-P5.0	JW5.0T
R401	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R402	CHIP RES.(1608) 1/10W J 1.5k Ω	RRXAJR5Z0152
R403	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R404	CHIP RES.(1608) 1/10W J 2.7k Ω	RRXAJR5Z0272
R405	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R406	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R407	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R411	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R421	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R422	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R462	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJR5Z0332
R466	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R467	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R468	CHIP RES.(1608) 1/10W J 180k Ω	RRXAJR5Z0184
R471	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R472	CHIP RES.(1608) 1/10W J 3k Ω	RRXAJR5Z0302
R476	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R477	CHIP RES.(1608) 1/10W J 3k Ω	RRXAJR5Z0302
R501	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJR5Z0332
R503	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R504	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R506	CARBON RES. 1/4W J 3.9 Ω	RCX4JATZ03R9
R507	CARBON RES. 1/4W J 3.9 Ω	RCX4JATZ03R9
R508	CARBON RES. 1/4W J 3.3 Ω	RCX4JATZ03R3
R513▲	METAL OXIDE FILM RES. 1W J 18 Ω	RN01180ZU001
R514	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R515	METAL OXIDE FILM RES. 1W J 18 Ω	RN01180ZU001
R520▲	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R521	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R530	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R531	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R532	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R533	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R551	METAL OXIDE FILM RES. 1W J 1k Ω	RN01102ZU001
R552▲	METAL OXIDE FILM RES. 1W J 8.2 Ω	RN018R2ZU001
R553	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R558	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R560	METAL OXIDE FILM RES. 1W J 12 Ω	RN01120ZU001
R574	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R575▲	CARBON RES. 1/4W J 27 Ω	RCX4JATZ0270
R576▲	CARBON RES. 1/4W J 18 Ω	RCX4JATZ0180
R577	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R578▲	CARBON RES. 1/4W J 27 Ω	RCX4JATZ0270
R579▲	CARBON RES. 1/4W J 27 Ω	RCX4JATZ0270

Ref. No.	Description	Part No.
R581	PCB JUMPER D0.6-P5.0	JW5.0T
R582▲	CEMENT RESISTOR(PB FREE) 7W K 5.6 Ω	RW075R6KA049
R583▲	METAL OXIDE FILM RES.(STRAIGHT 1W J 2.2 Ω	RN01JZLZ02R2
R584▲	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R585	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R586	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R587	CARBON RES. 1/4W J 820k Ω	RCX4JATZ0824
R588	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R589	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R591▲	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0184
R592▲	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0184
R593▲	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R594▲	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R596	PCB JUMPER D0.6-P5.0	JW5.0T
R597	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R598▲	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R599▲	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R601▲	CEMENT RES. 7W K 0.56 Ω	RW07R56DP007
R602▲	CARBON RES. 1/4W J 820k Ω	RCX4JATZ0824
R603	CARBON RES. 1/4W J 820k Ω	RCX4JATZ0824
R604	PCB JUMPER D0.6-P5.0	JW5.0T
R605	PCB JUMPER D0.6-P5.0	JW5.0T
R606	CARBON RES. 1/4W J 150k Ω	RCX4JATZ0154
R607	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R608	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R609	CARBON RES. 1/4W J 820k Ω	RCX4JATZ0824
R610	CARBON RES. 1/2W J 3.3M Ω	RCX2335DP001
R613▲	METAL OXIDE FILM RES. 2W J 0.27 Ω	RN02R27ZU001
R614	PCB JUMPER D0.6-P5.0	JW5.0T
R616	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R618	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R621	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R635	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R641	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R642	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R643	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R644	CHIP RES.(1608) 1/10W J 27k Ω	RRXAJR5Z0273
R645	CARBON RES. 1/4W J 82k Ω	RCX4JATZ0823
R646	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R647	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R648	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R651	METAL OXIDE FILM RES. 2W J 10k Ω	RN02103ZU001
R653	METAL OXIDE FILM RES. 2W J 15k Ω	RN02153ZU001
R654	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R656	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R657	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R659	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R661▲	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R662▲	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R663	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R664▲	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R665▲	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R667	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R668	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R669▲	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R670▲	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R673	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R674	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R675▲	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R676	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R677▲	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R678▲	CHIP RES.(1608) 1/10W J 56k Ω	RRXAJR5Z0563

Ref. No.	Description	Part No.
R680	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R682	METAL OXIDE FILM RES. 1W J 10 Ω	RN01100ZU001
R683	PCB JUMPER D0.6-P5.0	JW5.0T
R684	PCB JUMPER D0.6-P5.0	JW5.0T
R685	CARBON RES. 1/2W J 39 Ω	RCX2JZQZ0390
R686▲	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R687	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100
R694	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R696	CARBON RES. 1/4W J 82 Ω	RCX4JATZ0820
R701	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R704	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R705	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R706	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R707	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R708	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R709	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R711	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R716	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R721	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R724	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R725	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R726	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R727	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R728	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R729	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R731	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R732	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R733	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R736	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R737	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R738	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R746	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R747	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R748	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R751	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R752	CHIP RES.(1608) 1/10W J 27k Ω	RRXAJR5Z0273
R761	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R762	CHIP RES.(1608) 1/10W J 27k Ω	RRXAJR5Z0273
R771	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R772	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R805	CHIP RES.(1608) 1/10W J 330 Ω	RRXAJR5Z0331
R806	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224
R811	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R812	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJR5Z0393
R813	CHIP RES.(1608) 1/10W J 820 Ω	RRXAJR5Z0821
R814	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R841	METAL OXIDE FILM RES. 1W J 1.2 Ω	RN011R2ZU001
R842▲	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R843▲	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R844	METAL OXIDE FILM RES. 1W J 1.5 Ω	RN011R5ZU001
R851	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R852	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R853	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R854	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R863	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R901	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R902	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R903	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJR5Z0332
R904	METAL OXIDE FILM RES. 1W J 2.7 Ω	RN012R7ZU001
R905	CARBON RES. 1/2W J 82 Ω	RCX2JZQZ0820
R907	PCB JUMPER D0.6-P5.0	JW5.0T
R908	CHIP RES.(1608) 1/10W F 220 Ω	RRXAFR5H2200
R909	CHIP RES.(1608) 1/10W F 22k Ω	RRXAFR5H2202

Ref. No.	Description	Part No.
R911	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R912	CHIP RES.(1608) 1/10W F 3.3k Ω	RRXAFR5H3301
R913	CHIP RES.(1608) 1/10W F 10k Ω	RRXAFR5H0103
R914	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R915	METAL OXIDE FILM RES. 2W J 1.8 Ω	RN021R8ZU001
R916	METAL OXIDE FILM RES. 2W J 1.5 Ω	RN021R5ZU001
R917	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R918	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R919	CHIP RES.(1608) 1/10W J 5.6k Ω	RRXAJR5Z0562
R920	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R921	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R922	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R923	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R924	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
SWITCHES		
SW401	TACT SWITCH SKQSAB	SST0101AL038
SW402	TACT SWITCH SKQSAB	SST0101AL038
SW403	TACT SWITCH SKQSAB	SST0101AL038
SW404	TACT SWITCH SKQSAB	SST0101AL038
SW405	TACT SWITCH SKQSAB	SST0101AL038
SW406	TACT SWITCH SKQSAB	SST0101AL038
MISCELLANEOUS		
AC601▲	AC CORD PB8K9F4110AB057	WAC0172LW020
B2	HEAT SINK(PKT)ASSEMBLY L3820UA	1EM421046
B3	HEAT SINK(PKS)ASSEMBLY L3820UA	1EM421044
B4	HEAT SINK(PKR) ASSEMBLY L3820UA	1EM421042
B5	HEAT SINK(PKU) L3820UA	1EM421047
B6	HEAT SINK(PIK) L2800UA	0EM408530
B7	SHIELD PLATE L3820UA	1EM421048
BC14	PCB JUMPER D0.6-P5.0	JW5.0T
BC571	PCB JUMPER D0.6-P5.0	JW5.0T
BC572	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC603	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC652	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC653	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC655	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC657	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC691	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
CF32	CERAMIC FILTER SFSRA4M50CF00-B0	FBB455PMR004
CLN301	WIRE ASSEMBLY WX1L1200-102	WX1L1200-102
CLN501	WIRE ASSEMBLY WX1L1520-101	WX1L1520-101
F601▲	FUSE 4A/125V 237 TYPE	PAGJ20CAG402
FH601	FUSE HOLDER MSF-015	XH01Z00LY001
FH602	FUSE HOLDER MSF-015	XH01Z00LY001
GP641▲	GAP. FNR-G3.10D	FAZ000LD6005
JC702	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
JC703	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
JC810	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
JK701	RCA JACK(YELLOW) MTJ-032-06B-20	JXR0101LY050
JK702	RCA JACK(WHITE) MTJ-032-06B-22	JXR0101LY052
JK703	RCA JACK 1P(RED)WITH SW ITCH AV1-09S-2	JYRL010RP008
JK711	RCA JACK 3P (SW) MSP-213-V2-432	JYRL030LY008
JK721	Y/C JACK 1P(SW) MDC-070V1-A	JYEL040LY002
JK741	RCA JACK 3P(GBR) MSP-213VS5	JXR030LY028
JK742	RCA JACK(SW) MSP-213V2-132 NI FE	JYRL030LY028
JS572	PCB JUMPER D0.6-P5.0	JW5.0T
JS801	PCB JUMPER D0.6-P5.0	JW5.0T
JS802	PCB JUMPER D0.6-P5.0	JW5.0T
L1	SCREW B-TIGHT D3X8 BIND HEAD+	GBMB3080
LD003	LEAD WIRE 1P 50MM 1P 50MM	WX3801A44405
PB6	CLOTH(65) L7735TR 65X10X0.5T	0EM402149
PS691▲	THERMISTOR ZPB45BL3R0A	QNBZ45BL3R0A

Ref. No.	Description	Part No.
RCV401	REMOCON RECEIVE UNIT KSM-602SR2E-2	USESJRSKK045
RL601▲	POWER RELAY SDT-S-112LMR	MRNDC12QN014
SA601▲	SURGE ABSORBER PVR-07D471KB	NVQZ07D471KB
SF11	SAW FILTER SAFHM45M7VAJZ01B03	FBB456PMR012
T571▲	FLYBACK TRANS BW03072	LTF00CP1H003
T572	HORIZONTAL DRAIVE TRANS CSA-LF327A	LTH00CPSA006
T601▲	SWITCHING TRANSFOMER 5724	LTT00CPKT187
TP300	PCB JUMPER D0.6-P12.5	JW12.5T
TP591	PCB JUMPER D0.6-P5.0	JW5.0T
TP592	PCB JUMPER D0.6-P5.0	JW5.0T
TP601	PCB JUMPER D0.6-P18.5	JW18.5T
TU11	TUNER UNIT TDEU2-528A	UTUNNTUAL046
VR661▲	CARBON P.O.T. 20k Ω B	VRCB203KA011
X301	XTAL 3.579545 MHZ	FXD355LLN003

CRT CBA

Ref. No.	Description	Part No.
	CRT CBA Consists of the following:	-----
CAPACITORS		
C1501	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C1502	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1510	CERAMIC CAP. B K 2200pF/2KV	CCD3DKD0B222
C1511	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C1512	CERAMIC CAP.(AX) B 0.01μF/50V	CCK1JKT0B103
C1521	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C1522	CERAMIC CAP.(AX) B 0.01μF/50V	CCK1JKT0B103
C1531	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C1532	CERAMIC CAP.(AX) B 0.01μF/50V	CCK1JKT0B103
CONNECTOR		
CN1501	PIN CONNECTOR 005P-5100	JTEA001TG001
DIODE		
D1501	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
COILE		
L1501	INDUCTOR 180μH-J-5FT	LLARJCASTU181
TRANSISTORS		
Q1511	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1512	TRANSISTOR 2SC5360	QQ9Z02SC5360
Q1521	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1522	TRANSISTOR 2SC5360	QQ9Z02SC5360
Q1531	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1532	TRANSISTOR 2SC5360	QQ9Z02SC5360
RESISTORS		
R1501	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1502	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1503	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1510▲	METAL RESISTOR 3W J 10k Ω	RN03103ZU001
R1511	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1512	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1514	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R1515	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1518	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R1519	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R1520▲	METAL RESISTOR 3W J 10k Ω	RN03103ZU001
R1521	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1522	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1524	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R1525	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1528	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R1529	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R1530▲	METAL RESISTOR 3W J 10k Ω	RN03103ZU001
R1531	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152

Ref. No.	Description	Part No.
R1532	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1534	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R1535	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1538	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R1539	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
MISCELLANEOUS		
BC1501	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
JK1501▲	CRT SOCKET ISHS40ST	JSCC290PK006

