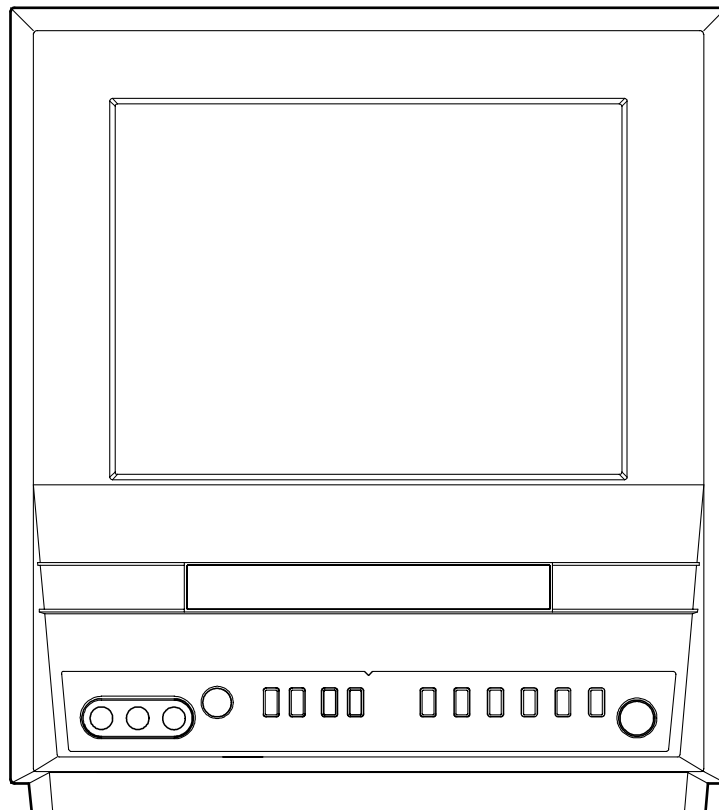




SERVICE MANUAL

9" COLOR TV/DVD EWC09D5 B



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

< TV Section >

✱ Test input terminal

<Except Tuner>-----Video input (1 Vp-p)

Audio input (-10 dB)

<Tuner>-----Ant. input (80 dBμV) Video: 87.5%

Audio: 25 kHz dev. (1 kHz Sin)

<DEFLECTION>

Description	Condition	Unit	Nominal	Limit
1. Over Scan	—	%	90	±5
2. Linearity	Horizontal	%	—	±15
	Vertical	%	—	±10
3. High Voltage	—	kV	18	—

<VIDEO & CHROMA>

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	m/m	—	0.4
	Corner	m/m	—	1.5
	Side	m/m	—	1.2
2. Tint Control Range	—	deg	±30	—
3. Contrast Control Range	—	dB	10	—
4. Brightness (100% White Full Field)	Contrast: Max	ft-L	55	40
5. Color Temperature	—	K	9200	—

<TUNER>

Description	Condition	Unit	Nominal	Limit
1. Video S/N (80dBμV, TV4ch)	—	dB	45	40
2. Audio S/N (W/LPF)	—	dB	45	40

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.

<DVD Section>

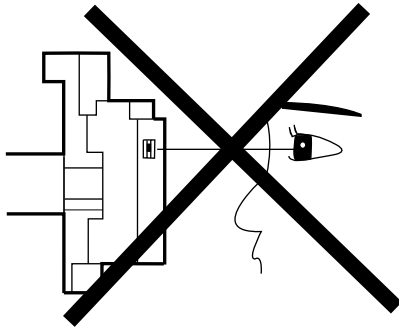
Description		Condition	Unit	Nominal	Limit
1. Horizontal Resolution (TDV-540 TIT.2 CHP.16)		---	Line	350	330
2. Video S/N at TP2201 (TDV-540 TIT.2 CHP.6)		---	dB	60	55
3. S/N Chroma at TP2201 (TDV-540 TIT.2 CHP.17)	AM	---	dB	58	53
	PM	---	dB	58	53
4. Audio Distortion (LPCM 48 kHz, W/LPF) (PTD 1-NOR TIT.1 CHP.1)		L R	%	0.03	0.07
5. Audio freq. response (LPCM 48 kHz) (PTD 1-NOR TIT.1 CHP.5 -- 10)		L, 20 Hz R, 20 Hz L, 20 kHz R, 20 kHz	dB	0	+4/-5
6. Audio S/N (LPCM 48 kHz, W/LPF, A-WTD) (PTD 1-NOR TIT.1 CHP.1 -- 2)		L R	dB	85	75

Note:

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply : AC120 V 60 Hz
3. Load imp. : 100 K ohm
4. Room ambient temperature: +25 °C

LASER BEAM SAFETY PRECAUTIONS

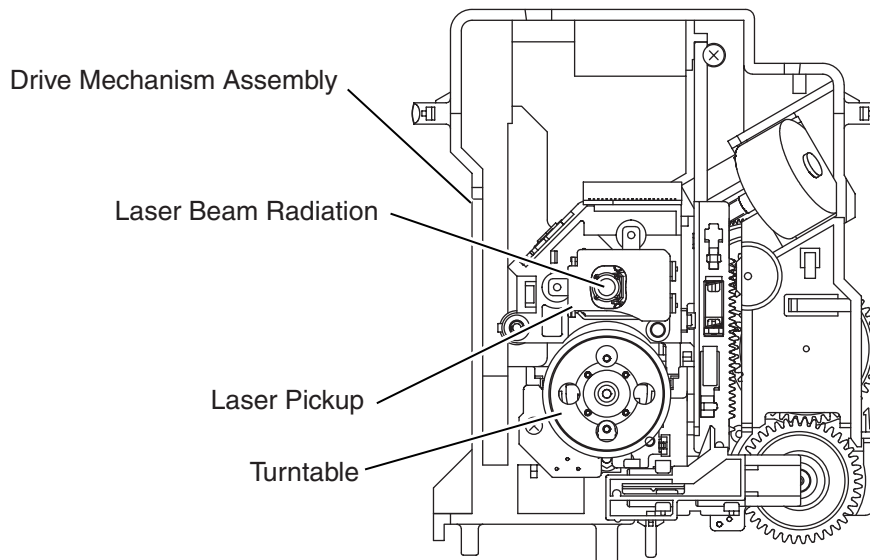
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

Caution: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

Location: Top of DVD mechanism.

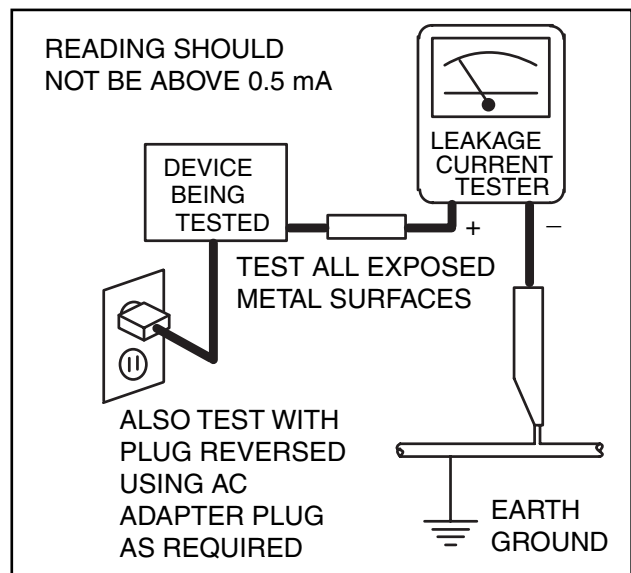
IMPORTANT SAFETY PRECAUTIONS

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.** Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
- K.** Crimp type wire connector
When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.
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 DVD/VCR connectors, first, disconnect the AC plug from the AC supply socket.

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.

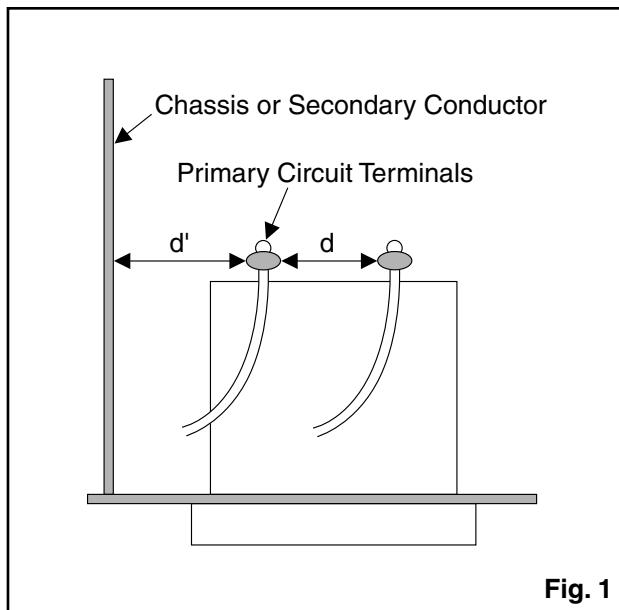


Fig. 1

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.).

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.

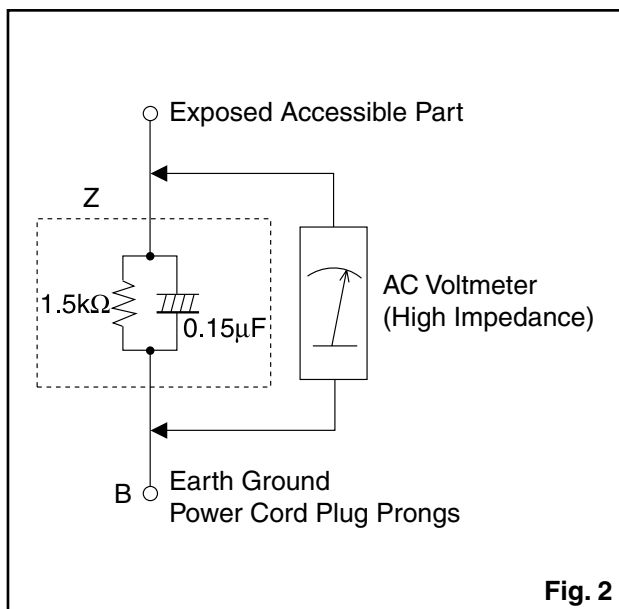


Fig. 2

Table 2: Leakage current ratings for selected areas

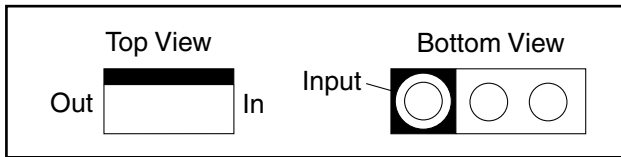
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	U.S.A. or Canada	0.15 μ F CAP. & 1.5 k Ω RES. Connected in parallel	$i \leq 0.5$ mA rms	Exposed accessible parts

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

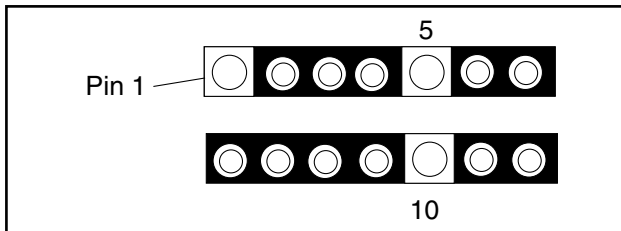
STANDARD NOTES FOR SERVICING

Circuit Board Indications

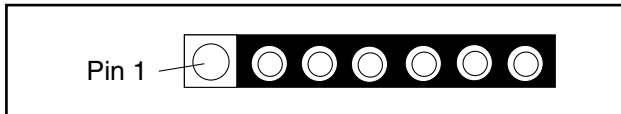
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



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

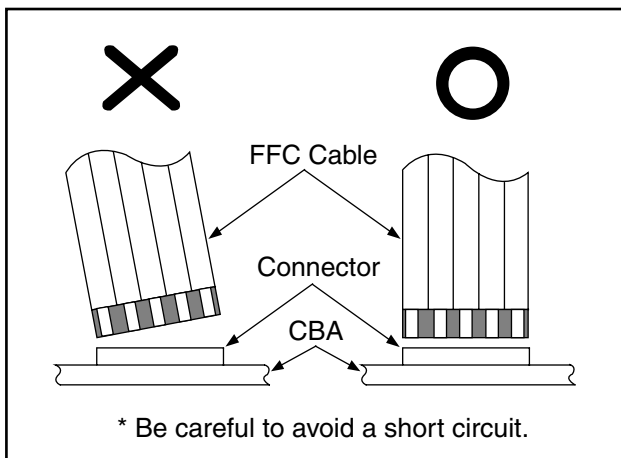


3. The 1st pin of every male connector is indicated as shown.



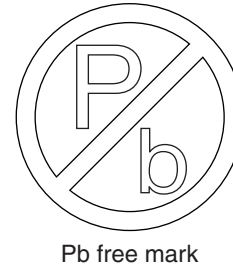
Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



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.

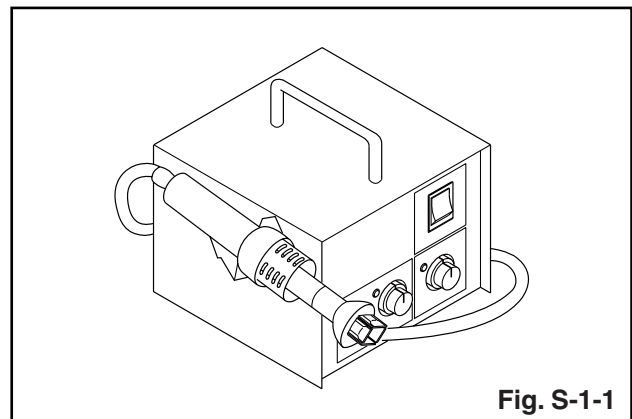


How to Remove / Install Flat Pack-IC

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)



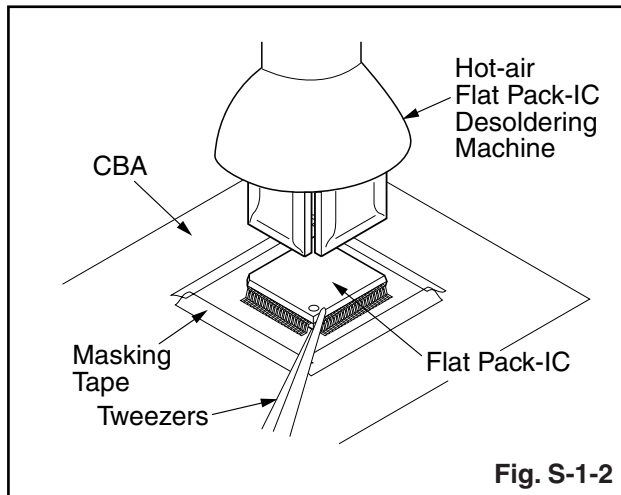
2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat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

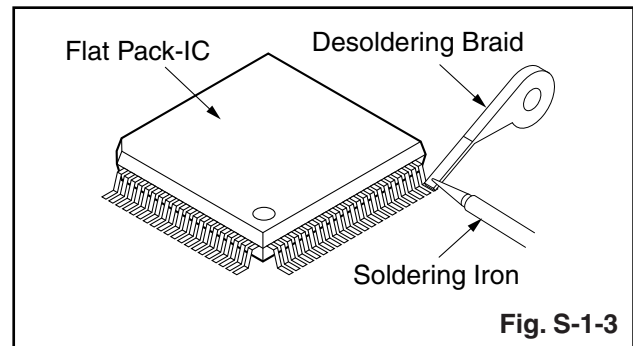
around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

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.

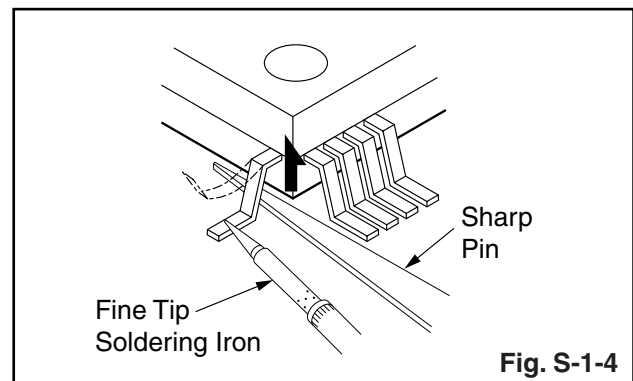


With Soldering Iron:

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)

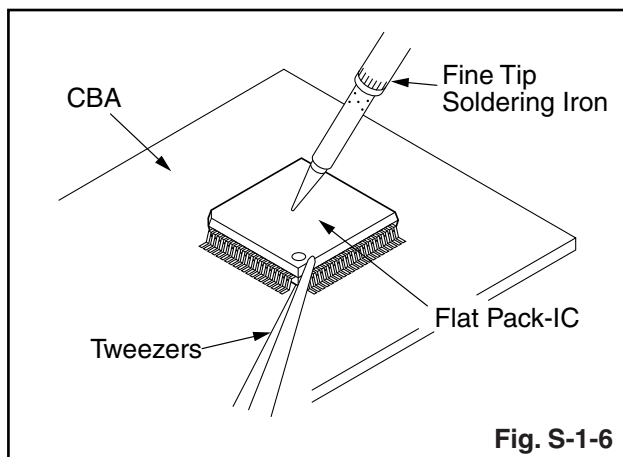
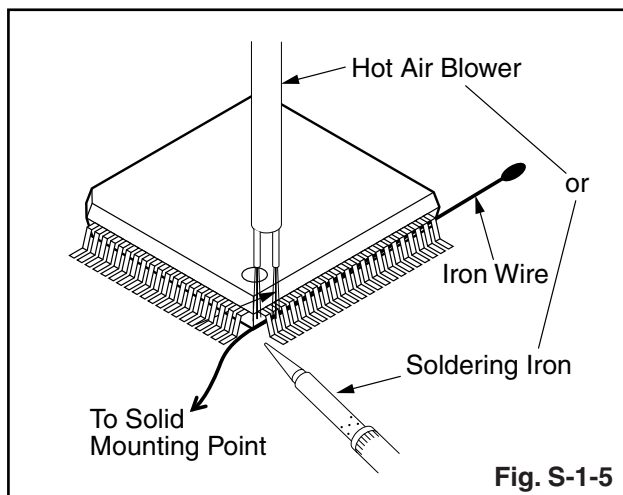


3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

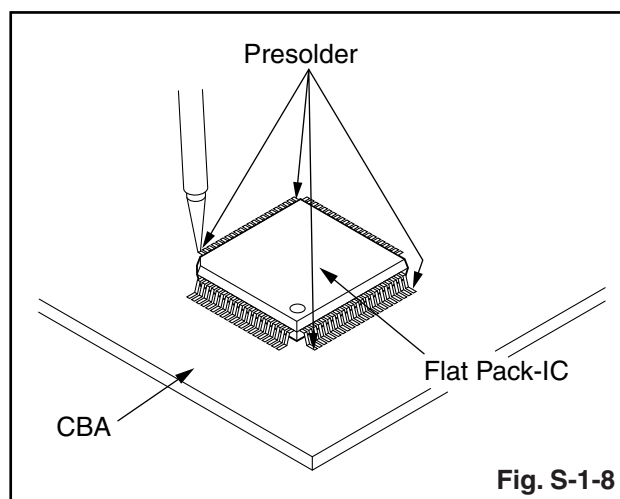
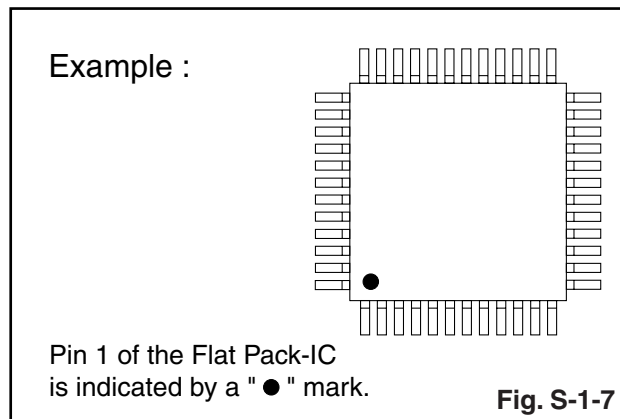
1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins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

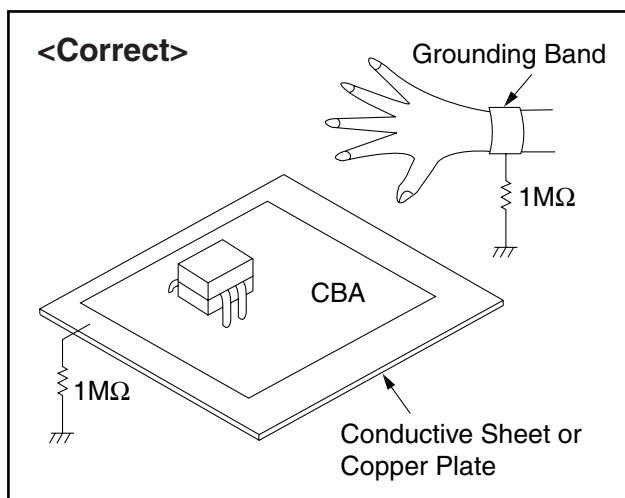
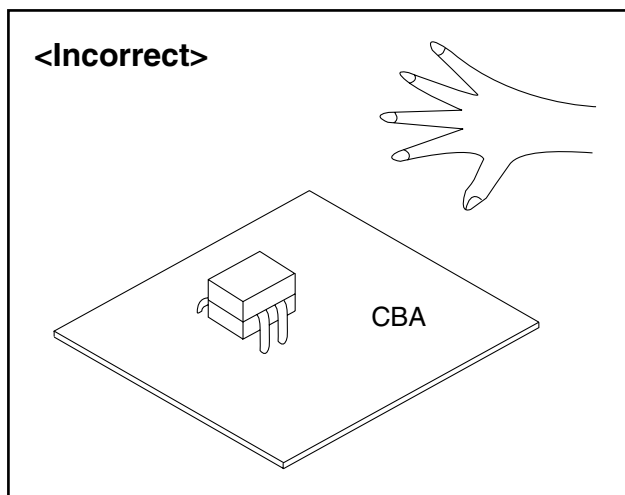
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

1. Ground for Human Body

Be sure to wear a grounding band ($1\text{ M}\Omega$) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

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



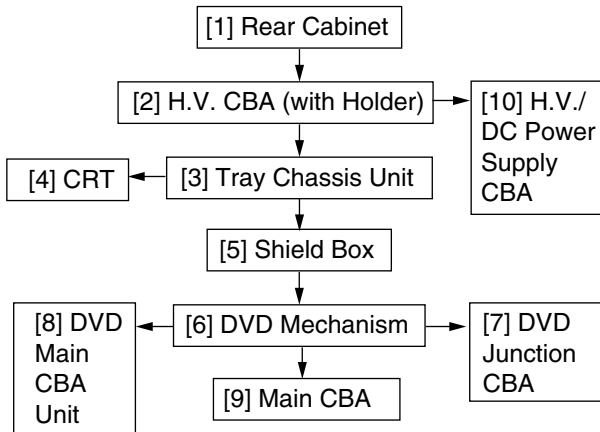
CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

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

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

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/ *UNHOOK/UNLOCK/ RELEASE/UNPLUG/ DESOLDER	Note
[1]	Rear Cabinet	1	4(S-1), 1(S-2), 2(S-3)	-
[2]	H.V. CBA (With Holder)	3, 5	4(S-4), Anode Cap, CN501, CRT CBA, CN571, WH551, WH552, WH554	1
[3]	Tray Chassis Unit	3, 5	CN1802, CN1801	-
[4]	CRT	2	4(S-5)	-
[5]	Shield Box	3	5(S-6)	-
[6]	DVD Mechanism	3, 4, 5	2(S-7A), 3(S-7B), CN401, CN601	-
[7]	DVD Junction CBA	3, 5	(S-7C), CN1603	-
[8]	DVD Main CBA Unit	4, 5	2(S-8), CN201, CN301	2 3
[9]	Main CBA	3, 5	4(S-9)	-
[10]	H.V./DC Power Supply CBA	3, 5	7(S-10), (S-11), Shield Case Top, Shield Case Bottom, FBT Holder	-

(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

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.

1. **CAUTION 1:** Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

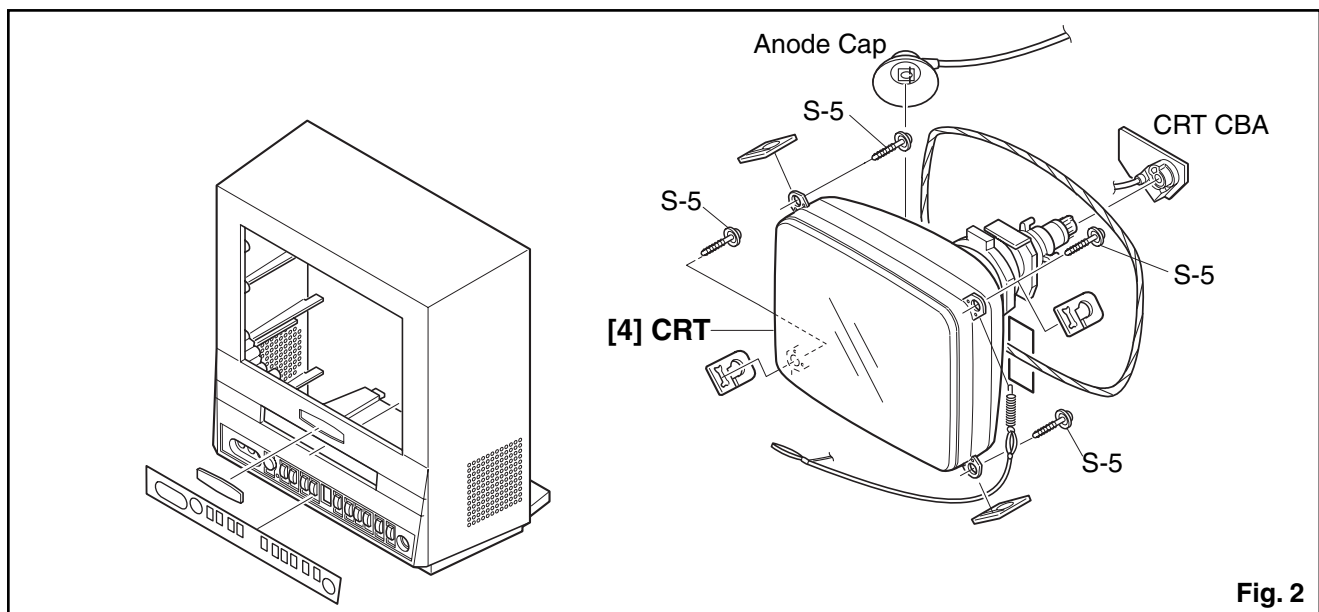
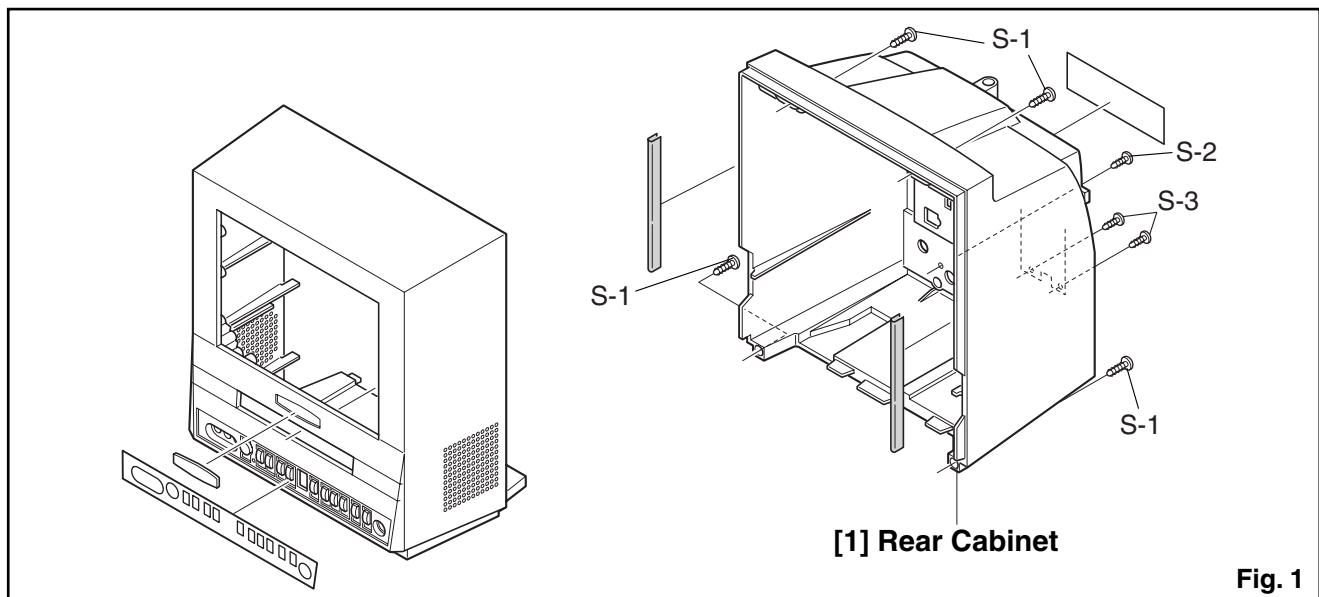
Disconnect the following: Anode Cap, CN501, CRT CBA, CN571, WH551, WH552, WH554. Then remove H.V. CBA (with Holder).

2. **CAUTION 2:** Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during

unpacking or repair work.

To avoid damage of pickup follow next procedures.

- 1) Disconnect Connector (CN301) on the DVD Main CBA Unit.
 - 2) Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. D4)
 - 3) To remove the DVD Main CBA Unit, remove two screws (S-8).
3. **CAUTION 3:** When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. D4)



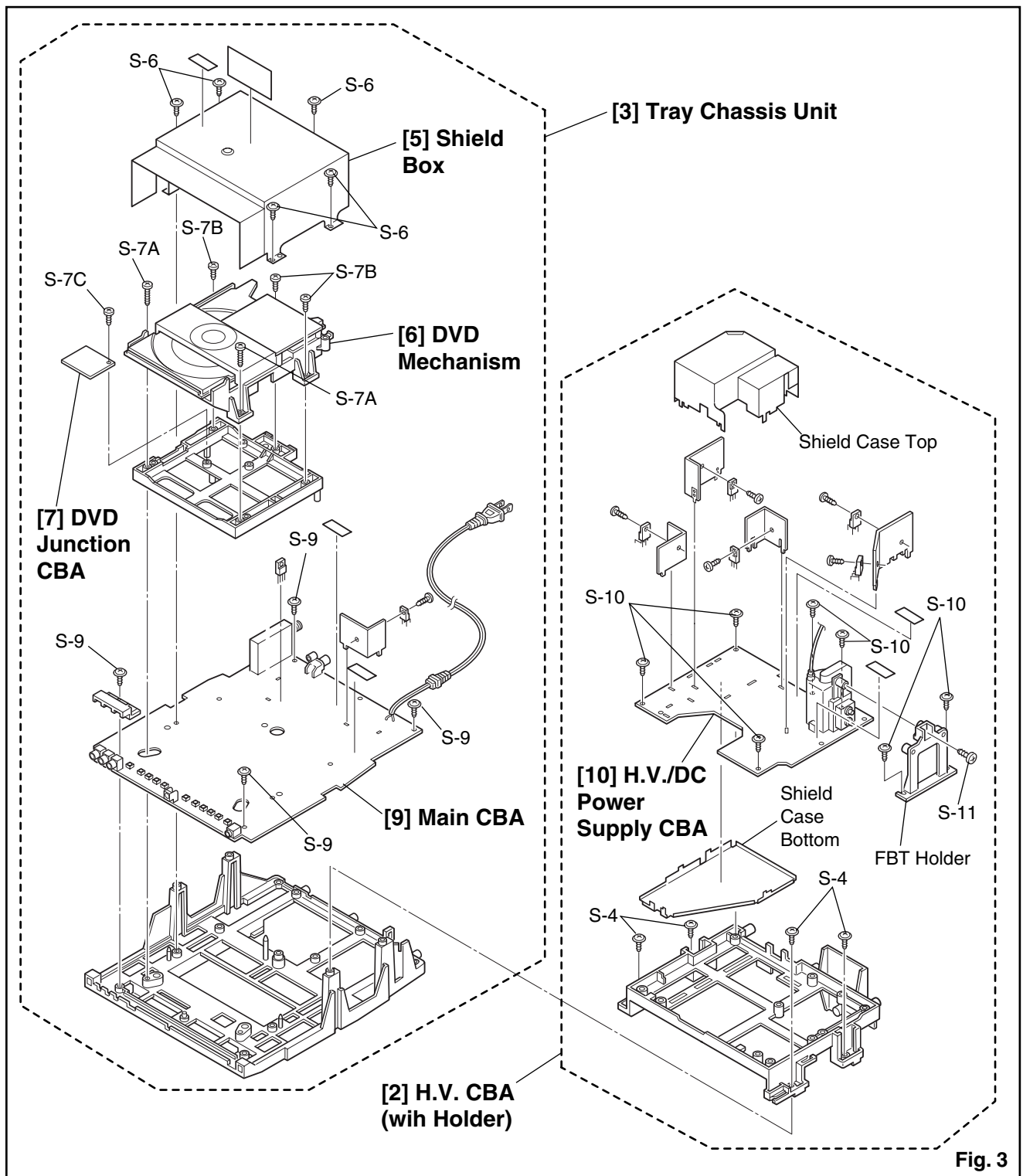
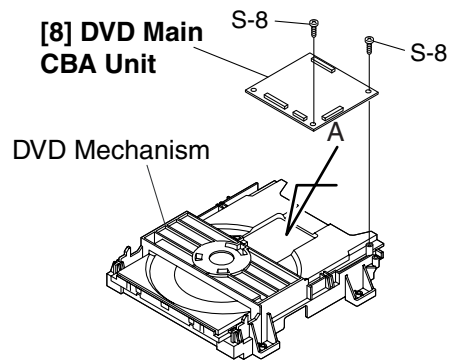
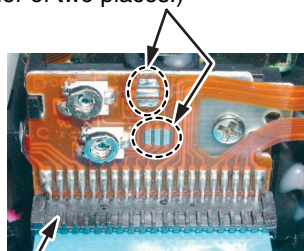


Fig. 3



Short the three short lands by soldering.
(Either of two places.)



Connector View for A

Fig. D4

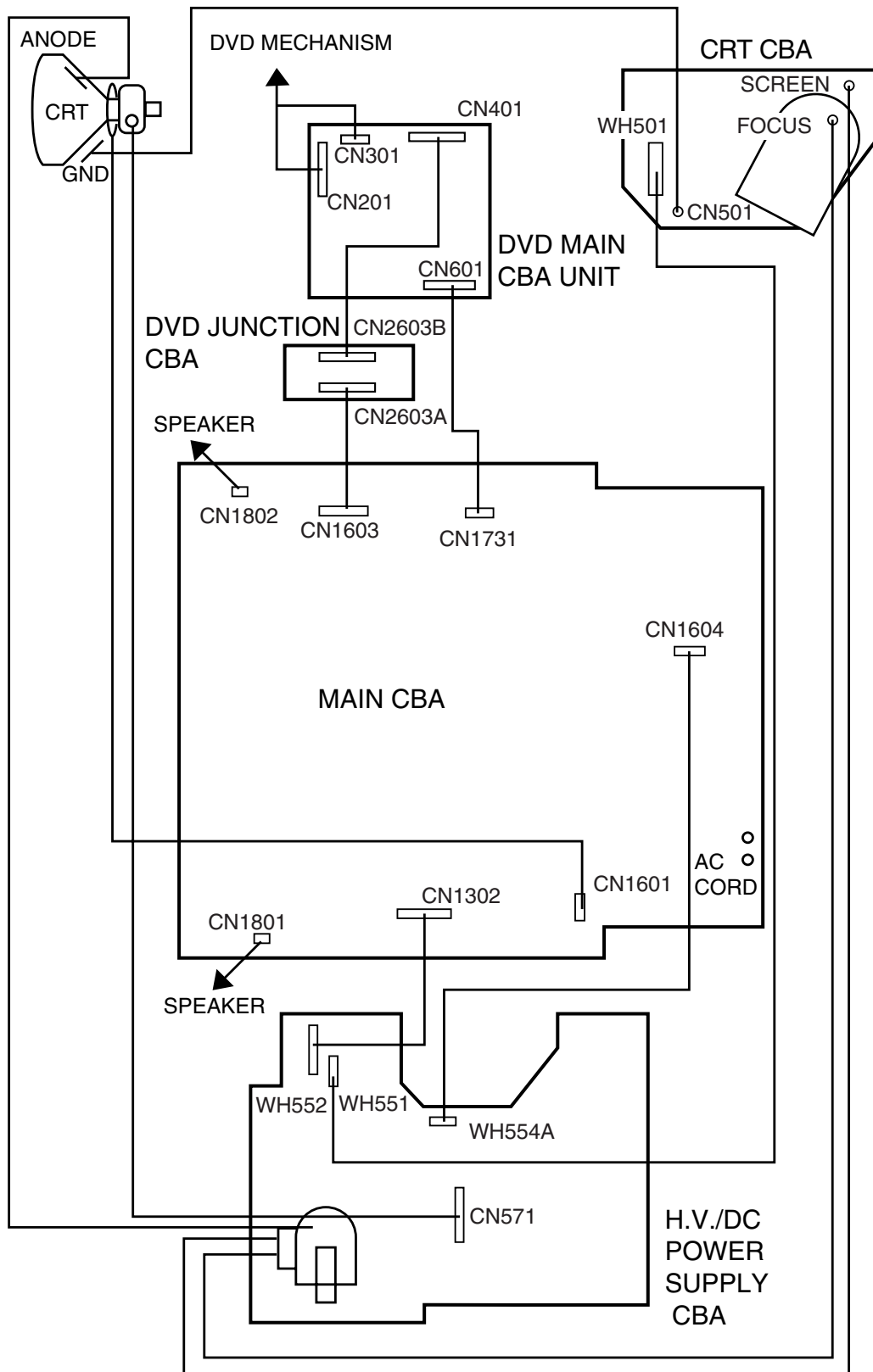


Fig. 5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note:

"CBA" is abbreviation for "Circuit Board Assembly."

NOTE:

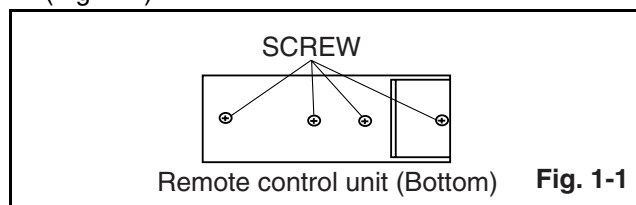
Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. DC Voltmeter
4. Oscilloscope: Dual-trace with 10:1 probe,
V-Range: 0.001~50V/Div,
F-Range: DC~AC-60MHz
5. Frequency Counter
6. Plastic Tip Driver

How to make service remote control unit:

1. Prepare remote control unit. (Part No. NE200UD or NE207UD) Remove 4 screws from the back lid. (Fig. 1-1)



2. Remote control unit: Part No. NE200UD or NE207UD
Cut off pin 10 of the remote control microprocessor and short circuit pins 10 and 17 of the microprocessor with a jumper wire.

How to Set up the Service mode:

Service Mode:

1. Use the service remote control unit.
2. Turn the power on.
3. Press [DISC MENU] button on the service remote control unit.

1a. DC 117V (+B) Adjustment (AC Power)

Purpose: To obtain correct operation.

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

Test point	Adj. Point	Mode	Input
J109 (+B) TP1303 (GND)	VR1601	---	-----
Tape	M. EQ.	Spec.	
---	DC Voltmeter Plastic Tip Driver	+117±0.5V DC	

Note: J109 (+B) --- HV/DC Power Supply CBA
TP1303 (GND), VR1601 --- Main CBA

1. Connect the unit to AC Power Outlet.
2. Connect DC Volt Meter to J109 (+B) and TP1303 (GND).
3. Adjust VR1601 so that the voltage of J109 (+B) becomes +117±0.5V DC.

1b. DC 117V (+B) Adjustment (DC Power)

Purpose: To obtain correct operation.

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

Test point	Adj. Point	Mode	Input
J109 (+B) TP1303 (GND)	VR951	---	-----
Tape	M. EQ.	Spec.	
---	DC Voltmeter Plastic Tip Driver	+117±0.5V DC	

Note: J109(+B), VR951 --- HV/DC Power Supply CBA
TP1303(GND) --- Main CBA

1. Input 13.2V DC to DC Jack.
2. Connect DC Volt Meter to J109(+B) and TP1303(GND).
3. Adjust VR1951 so that the voltage of J109(+B) becomes +117±0.5V DC.

2. Black Stretch Control Adjustment

Purpose: To show the fine black color.

Symptom of Misadjustment: Black color will not appear correctly.

Note: Use service remote control unit.

1. Enter the Service mode. (See page 1-6-1)
2. Press [6] button on the service remote control unit. "B-S" is indicated.
3. Press [CH ▲ / ▼] buttons on the service remote control unit so that display will change "OFF," "0," "1," "2" and "3." Then choose "B-S OFF."
4. Press [6] button on the service remote control unit. "BS-2" is indicated.
5. Press [CH ▲ / ▼] buttons on the service remote control unit so that display will change "0," "1," "2" and "3." Then choose "BS-2 0."
6. Turn the power off and on again, using the main power button on the TV unit.

3-1. Setting for Data Values

General

1. Enter the Service mode. (See page 1-6-1)
2. To select the Data Value, press [VOL ▼] button on the service remote control unit.
3. To set the following each data value, press [CH ▲ / ▼] buttons on the service remote control unit.

7F --- set to FF

3-2. Setting for CONTRAST, COLOR, TINT and V-TINT data Values

General

1. Enter the Service mode. (See page 1-6-1)
2. Press [PICTURE] button on the service remote control unit. Display changes "BRIGHT," "CONTRAST," "COLOR," "TINT," and "V-TINT" cyclically when [PICTURE] button is pressed.

CONTRAST (CNT)

1. Press [PICTURE] 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 76.

COLOR (CLR)

1. Press [PICTURE] 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 55.

TINT (TNT)

1. Press [PICTURE] 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 64.

V-TINT (V-TNT)

1. Press [PICTURE] 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 57.

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

4. V. Size Adjustment

Purpose: To obtain correct vertical height of screen image.

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

Test point	Adj. Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	90±5%	

1. Enter the Service mode. (See page 1-6-1.)
Press [9] button on the remote control unit and select V-S Mode. (Press [9] button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press [CH ▲ / ▼] buttons on the remote control unit so that the monoscope pattern is 90±5% of display size and the circle is round.

5. 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
---	Screen Control, CH ▲ / ▼ buttons	RF	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	90±5%	

Note: Use service remote control unit

1. Operate the unit for at least 20 minutes.
2. Enter the Service Mode. (See page 1-6-1)
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, using the main power button on the TV unit.

6. 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 [H-P] Mode	RF	Mono- scope
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 1-6-1)
3. Receive the Monoscope Pattern.
4. Press [8] button on the remote control unit and select "H-P" mode.
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, using the main power button on the TV unit.

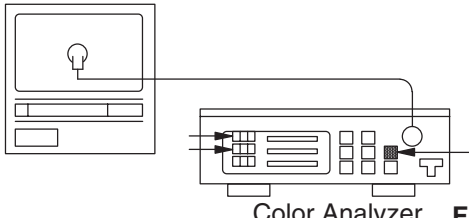
7. White Balance Adjustment

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



The diagram illustrates the connection between a television and a color analyzer. On the left, a television set is shown with a light bulb icon on its screen. A line connects the screen to a probe on the right. The probe is connected to a device labeled 'Color Analyzer' which has various buttons and a probe input. The probe is labeled 'Color Analyzer' and 'Fig. 2'.

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. Press [VOL ▼] button on the service remote control unit and select "C/D" mode. (Display changes "C/D," "7F," and "DVD-KEY" 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 ▲ / ▼] button to adjust the values of color.
8. Adjusting Red and Blue color so that the temperature becomes 9200K (x: 286 / y: 294) $\pm 3\%$.
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) $\pm 3\%$.

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

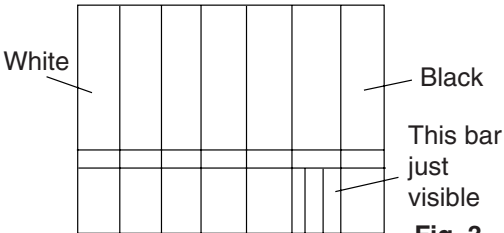
8. Sub-Brightness Adjustment

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



White

Black

This bar just visible

Fig. 3

Note: IQW Setup level --- 7.5 IRE

Use service remote control unit

1. Enter the Service mode. (See page 1-6-1) Then input IQW signal from RF Input.
2. Press [PICTURE] button on the service remote control unit and Select "BRT" mode. (Display changes "BRT," "CNT," "CLR," "TNT," and "V-TINT" cyclically when PICTURE button is pressed.) Press [CH ▲ / ▼] buttons so that the bar is just visible (See above figure).
3. Turn the power off and on again, using the main power button on the TV unit.

9. 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	RF	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	

Note: Focus VR (FBT) --- HV/DC Power Supply CBA
FBT= Fly Back Transformer

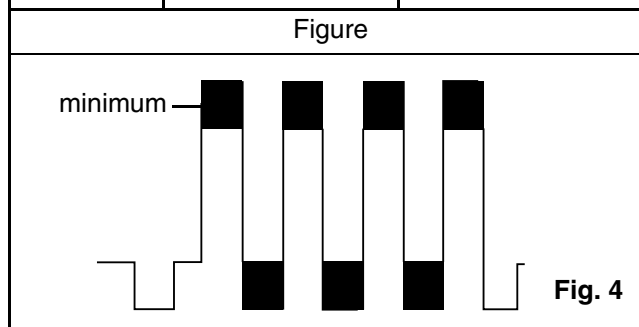
1. Operate the unit more than 30 minutes
2. Face the unit to the East and degauss the CRT using a degaussing coil.
3. Input the Monoscope Pattern.
4. Adjust the Focus Control on the FBT to obtain clear picture.

10. C-Trap Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If C-Trap Adjustment is incorrect, stripes will appear on the screen.

Test point	Adj. Point	Mode	Input
D1311 Cathode (B-OUT)	CH ▲ / ▼ buttons	---	Color Bar
Tape	M. EQ.	Spec.	
---	Oscilloscope Pattern Generator	---	



Note: D1311 Cathode (B-Out)--- Main CBA

1. Connect Oscilloscope to D1311 Cathode.
2. Input a color bar signal from RF input.
Enter the Service mode. (See page 1-6-1.)
3. Press [0] button on the remote control unit and select C-TRAP Mode.
4. Press [CH ▲ / ▼] buttons on the remote control unit so that the carrier leakage B-Out (3.58MHz) value becomes minimum on the oscilloscope.
5. Turn the power off and on again.

11. H f₀ Adjustment

Purpose: To get correct horizontal frequency.

Symptom of Misadjustment: If H f₀ adjustment is in correct, skew distortion will appear on the screen.

Test Point	Adj. Point	Mode	Input
R583	CH ▲ / ▼ button ["H-ADJ"] MODE		---
Tape	M. EQ.	Spec.	
---	Frequency Counter	15.734kHz±300Hz	

Note: R583 --- HV/DC Power Supply CBA
Use Service remote control unit.

1. Connect Frequency Counter to R583 and ground.
2. Set the unit to the VIDEO mode which is located before CH2 and no input is necessary. Enter the Service mode. (See page 1-6-1)
3. Operate the unit for at least 20 minutes.
4. Press [2] button on the Service remote control unit and select H-ADJ Mode. (By pressing [2] button the display will change from TV AGC to H-ADJ.)
5. Press [CH ▲ / ▼] button on the Service remote control unit so that the display will change "0" ~ "7." At this moment, Choose display one of them from "0" ~ "7" when the Frequency Counter shows 15.734 kHz±300Hz or closer.
6. Turn the power off and on again. (Main Power button on the TV unit.)

12. Y DL Time/Y SW LPF Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If Y DL Time Adjustment is incorrect, stripes will appear on the screen.

1. Enter the Service Mode. (See page 1-6-1.)
2. **Y DL Time Adjustment:** Press [0] button on the service remote control unit twice to show "D-T" on the display.
Y SW LPF Adjustment: Press [0] button on the service remote control unit four times to show "Y SW" on the display.
3. **Y DL Time Adjustment:** Select "2" by pressing [CH ▲ / ▼] buttons on the service remote control to enter Y DL Time Adjustment mode.
Y SW LPF Adjustment: Select "1" by pressing [CH ▲ / ▼] buttons on the service remote control to enter Y SW LPF Adjustment mode.
4. If needed, perform the following.

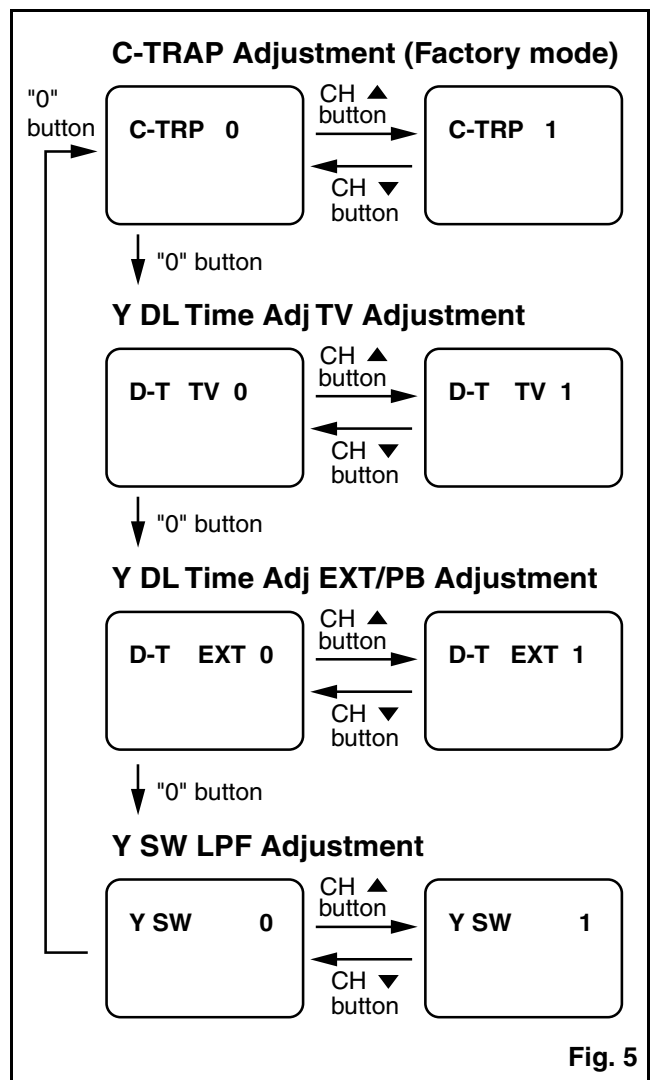


Fig. 5

13. Cut-off Adjustment

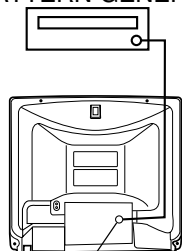
Purpose: To adjust the beam current of R, G, B, and screen voltage.

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

PATTERN GENERATOR



EXT. INPUT

Fig. 6

Note: Screen Control FBT --- HV/DC Power Supply 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 1-6-1)
4. Press [VOL ▼] button on the service remote control unit and select "C/D" mode. (Display changes "C/D," "7F," and "DVD-KEY" 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 the [CH ▲ / ▼] buttons. Proceed to Step 5 when the Red Cut off adjustment is done.
5. Press the [2] button. The display will momentarily show "CUT OFF G" (G=Green.) Adjust the Green Cut off by pressing the [CH ▲ / ▼] buttons. Proceed to step 6 when the Green Cut off adjustment is done.
6. Press the [3] button. The display will momentarily show "CUT OFF B" (B=Blue.) Adjust the Blue cut off by pressing the [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.

The following 2 adjustments normally are not attempted in the field. They should be done only when replacing the CRT then adjust as a preparation.

14. 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

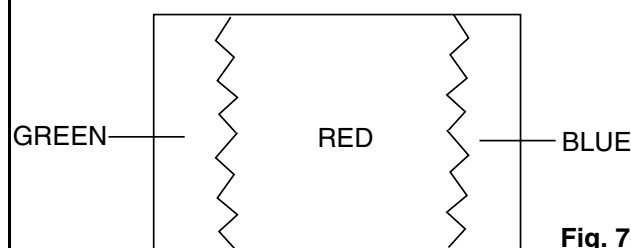


Fig. 7

* This becomes RED COLOR if push 7KEY with a service mode.

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. Set the unit to the AUX Mode which is located before CH2 then input a red raster from video in.
5. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 8.)
6. 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. 7,8.)
7. Slowly push the Deflection Yoke toward the bell of the CRT and set it where a uniform red field is obtained.
8. Tighten the clamp screw on the Deflection Yoke.

15. 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

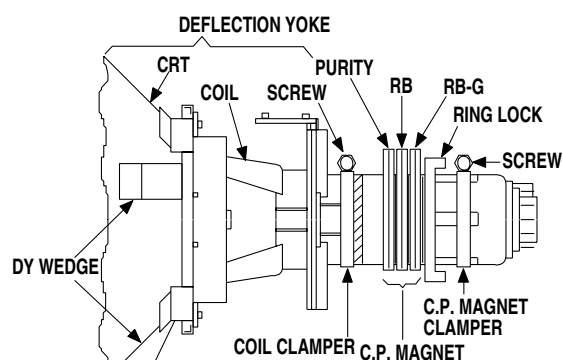


Fig. 8

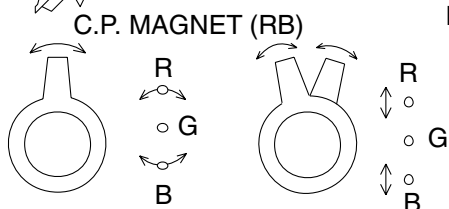


Fig. 9

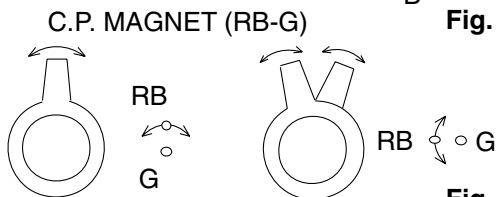


Fig. 10

1. Set the unit to the AUX Mode which is located before CH2 then input a Dot or crosshatch pattern.
2. 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. 9.)
3. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 10.)
4. Fix the C.P. Magnets by tightening the Ring Lock.
5. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
6. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

HOW TO INITIALIZE THE TV/DVD

To put the program back at the factory-default, initialize the TV/DVD as the following procedure.

< DVD Section >

1. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
Fig. g appears on the screen.

"*****" differ depending on the models.

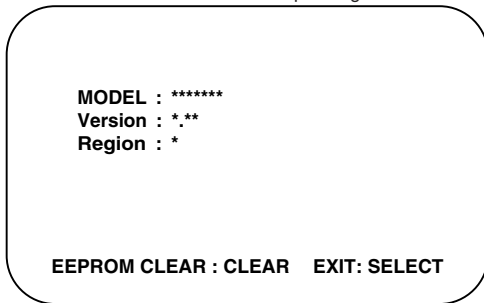


Fig. g

2. Press [CLEAR] button on the remote control unit.
Fig. h appears on the screen.

"*****" differ depending on the models.

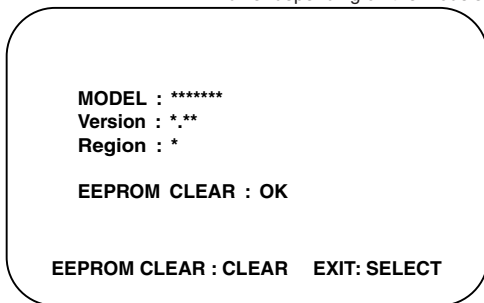


Fig. h

When "OK" appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

3. To exit this mode, press [CH ▲ / ▼] or [SELECT] button to go to TV mode, or press [POWER] button to turn the power off.

< TV Section >

1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. Press [DISC MENU] button on the service remote control unit to enter the Service mode. (Refer to "How to Set up the Service mode" on page 1-6-1.)
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 [DISPLAY] 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.

FIRMWARE RENEWAL MODE

1. Turn the power on and press [SELECT] button on the remote control unit to put the TV/DVD into DVD mode. Then remove the disc on the tray.
(It is possible to move to F/W version up mode only when the TV/DVD is in DVD mode with the tray opened.)
2. To put the TV/DVD into F/W version up mode, press [9], [8], [7], [6], and [SEARCH MODE] buttons on the remote control unit in that order. Fig. a appears on the screen.

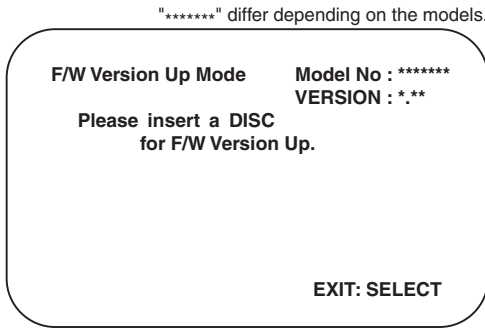


Fig. a Version Up Mode Screen

The TV/DVD can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up.
4. The TV/DVD enters the F/W version up mode automatically. Fig. c appears on the screen. If you enter the F/W for different models, "Disc Error" will appear on the screen, then the tray will open automatically.

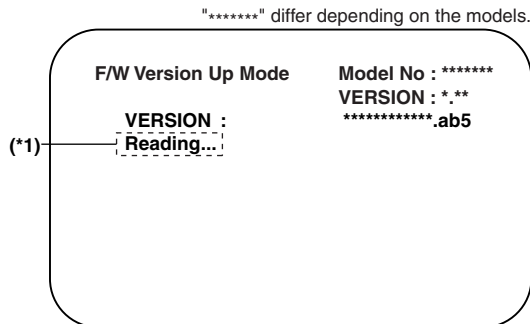


Fig. c Programming Mode Screen

The appearance shown in (*1) of Fig. c is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. e appears on the screen and the checksum will be shown in (*2).

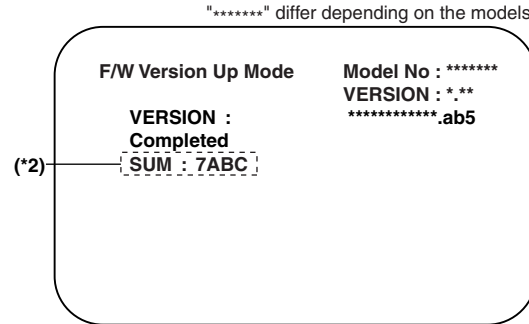


Fig. e Completed Program Mode Screen

At this time, no button is available.

6. Remove the disc on the tray.
7. Press [CH ▲ / ▼] button on the unit to go to TV mode, or press [POWER] button on the unit to turn the power off.
8. Press [SELECT] button on the remote control unit to put the TV/DVD into DVD mode again.
9. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order. Fig. g appears on the screen.

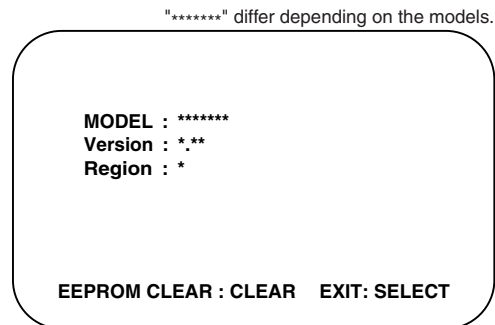


Fig. g

10. Press [CLEAR] button on the remote control unit. Fig. h appears on the screen.

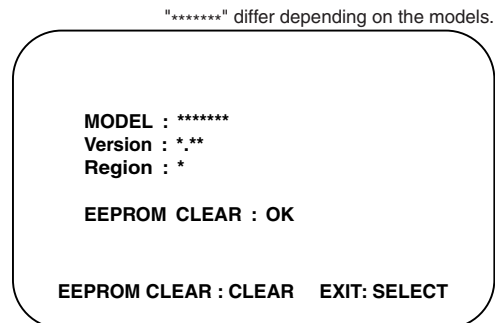
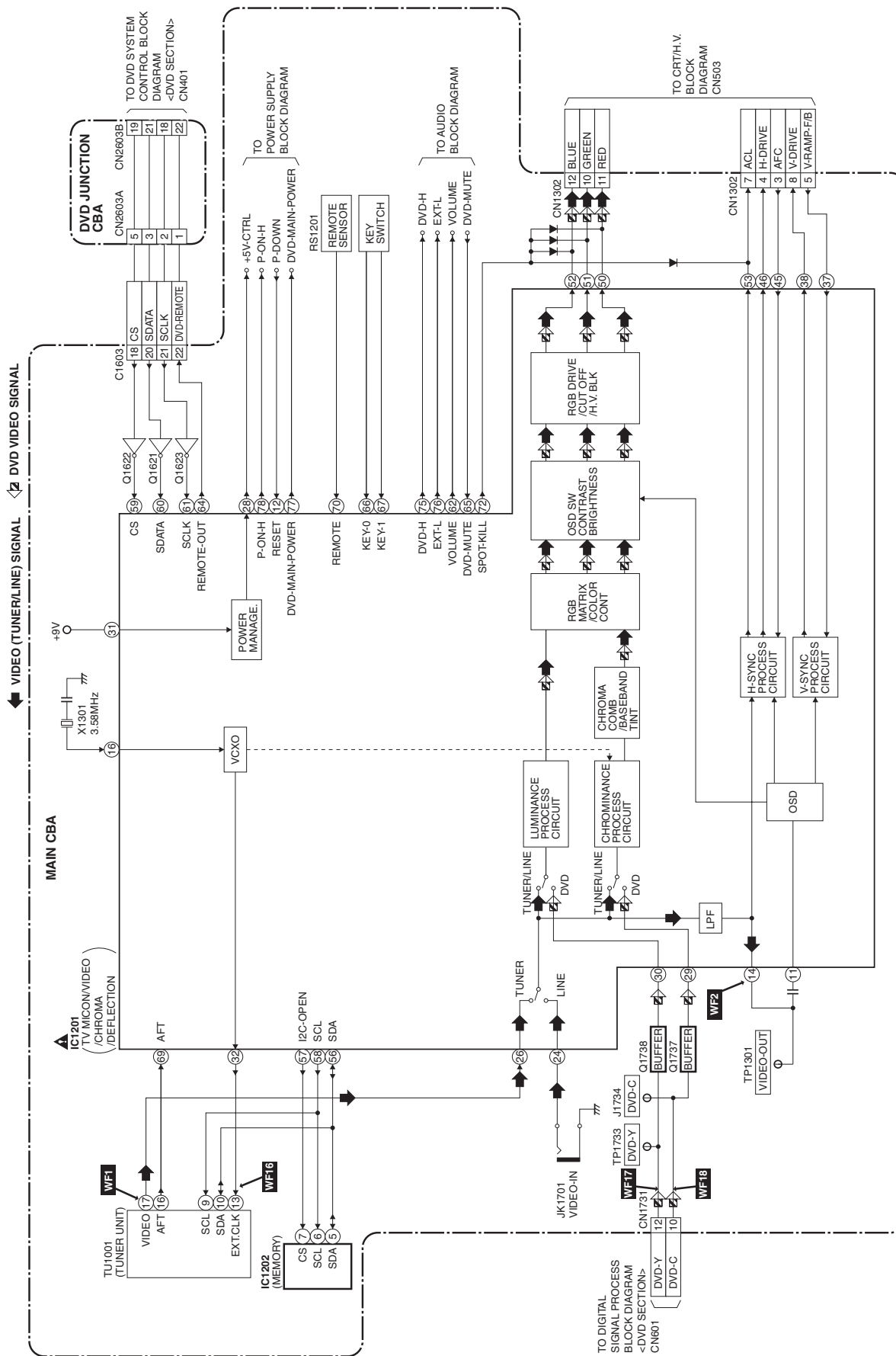


Fig. h

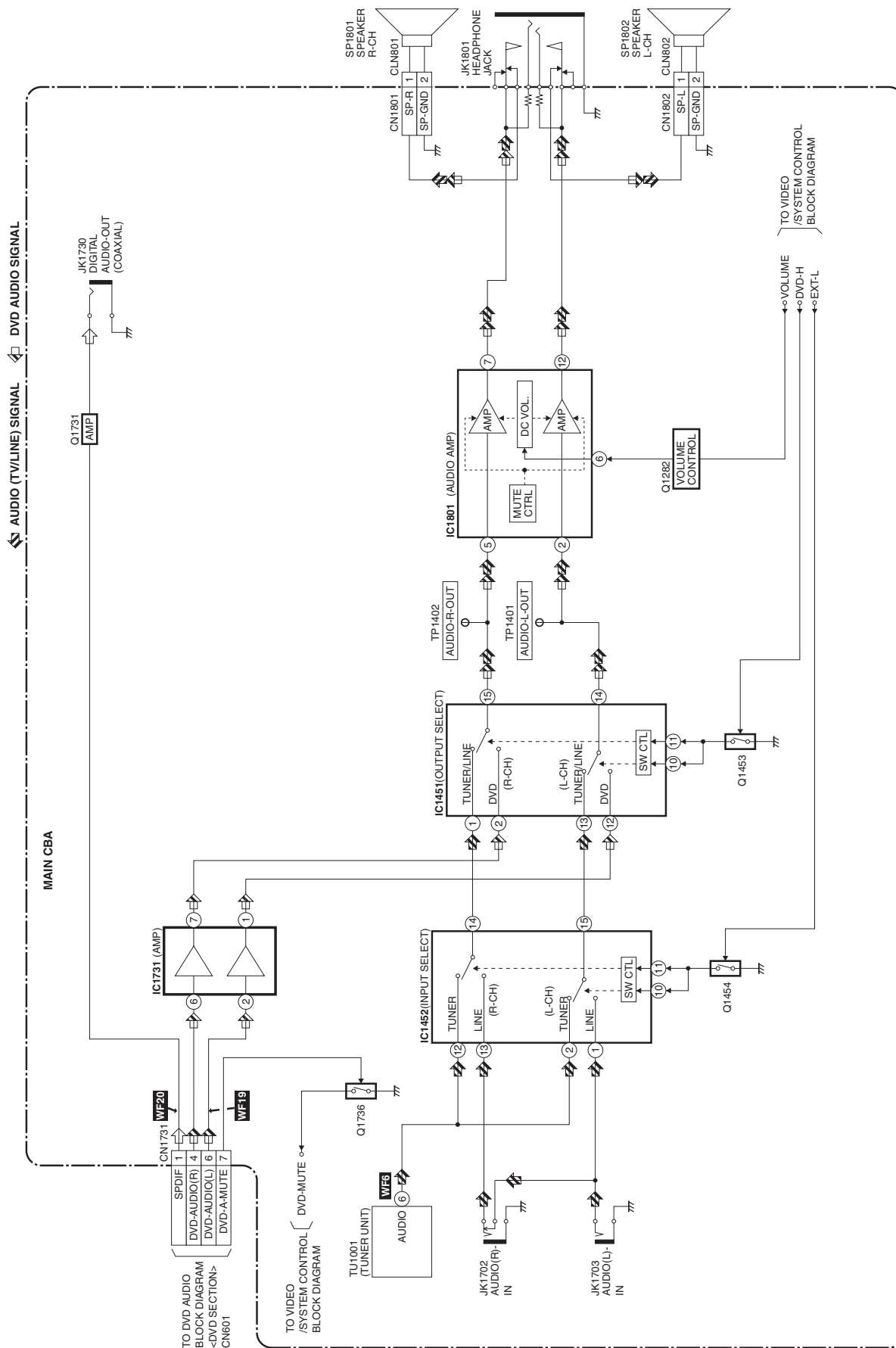
When "OK" appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

11. To exit this mode, press [CH ▲ / ▼] or [SELECT] button to go to TV mode, or press [POWER] button to turn the power off.

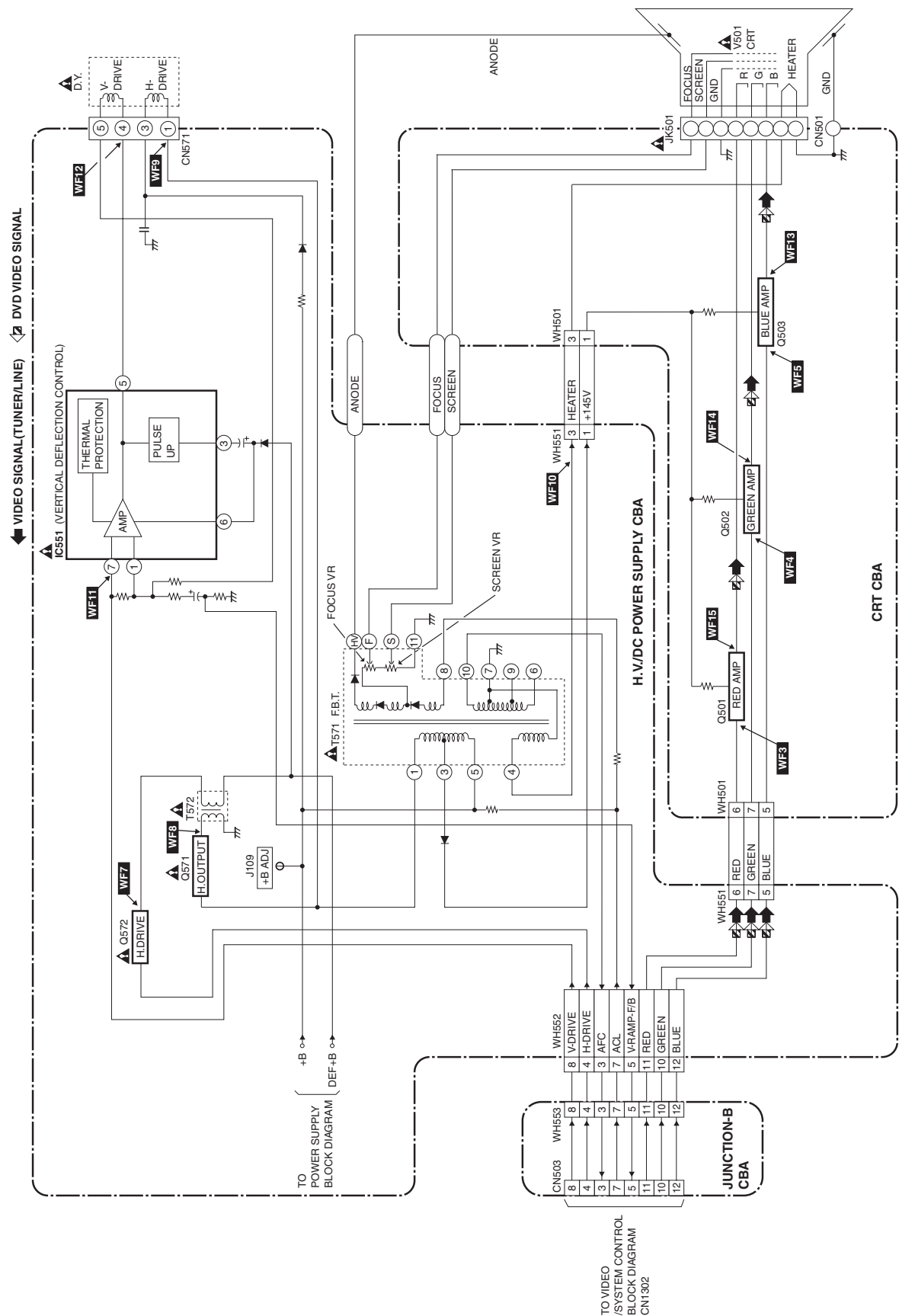
BLOCK DIAGRAMS < TV Section >



Audio Block Diagram



CRT/H.V. Block Diagram



Power Supply Block Diagram

CAUTION!

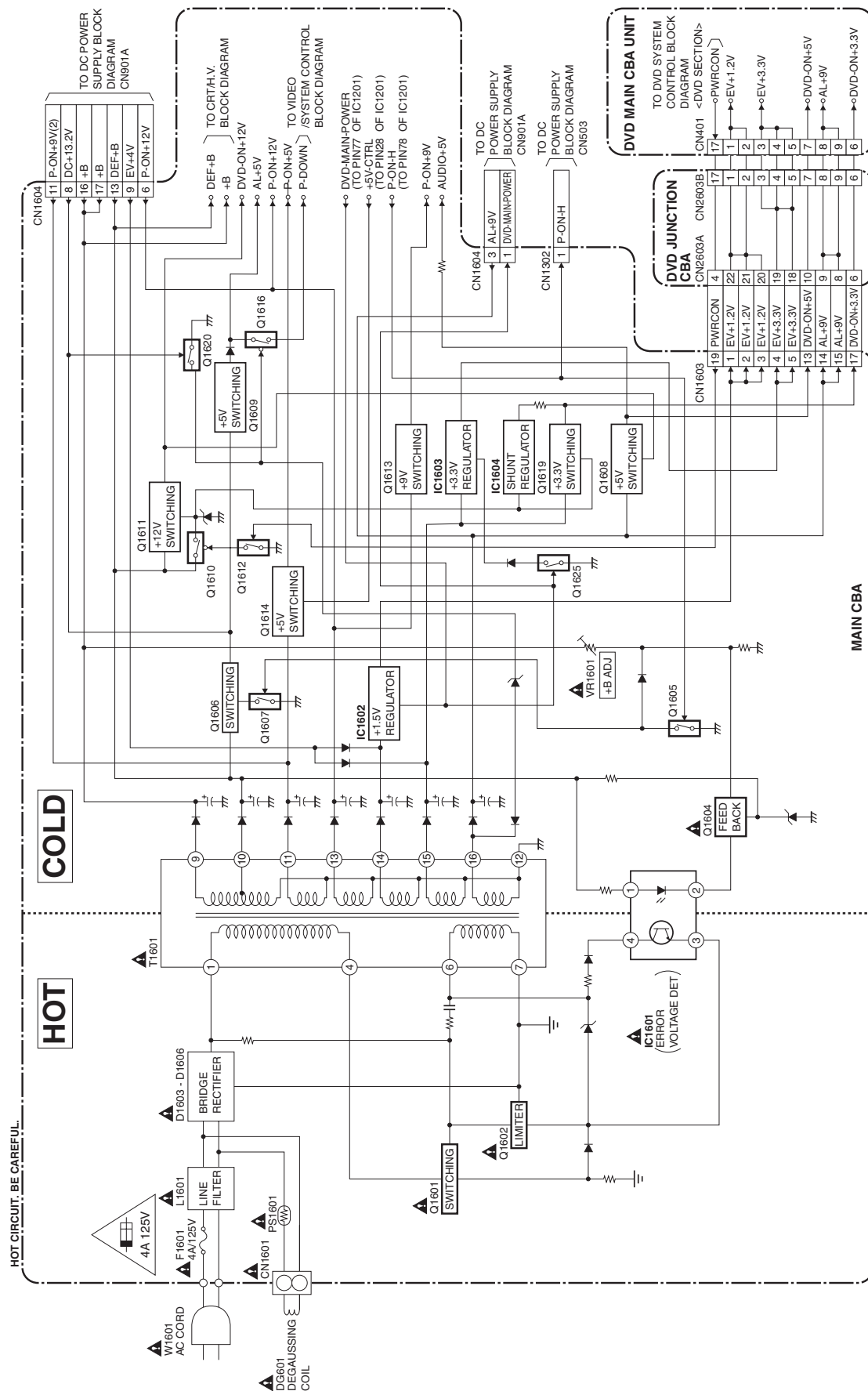
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power 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.

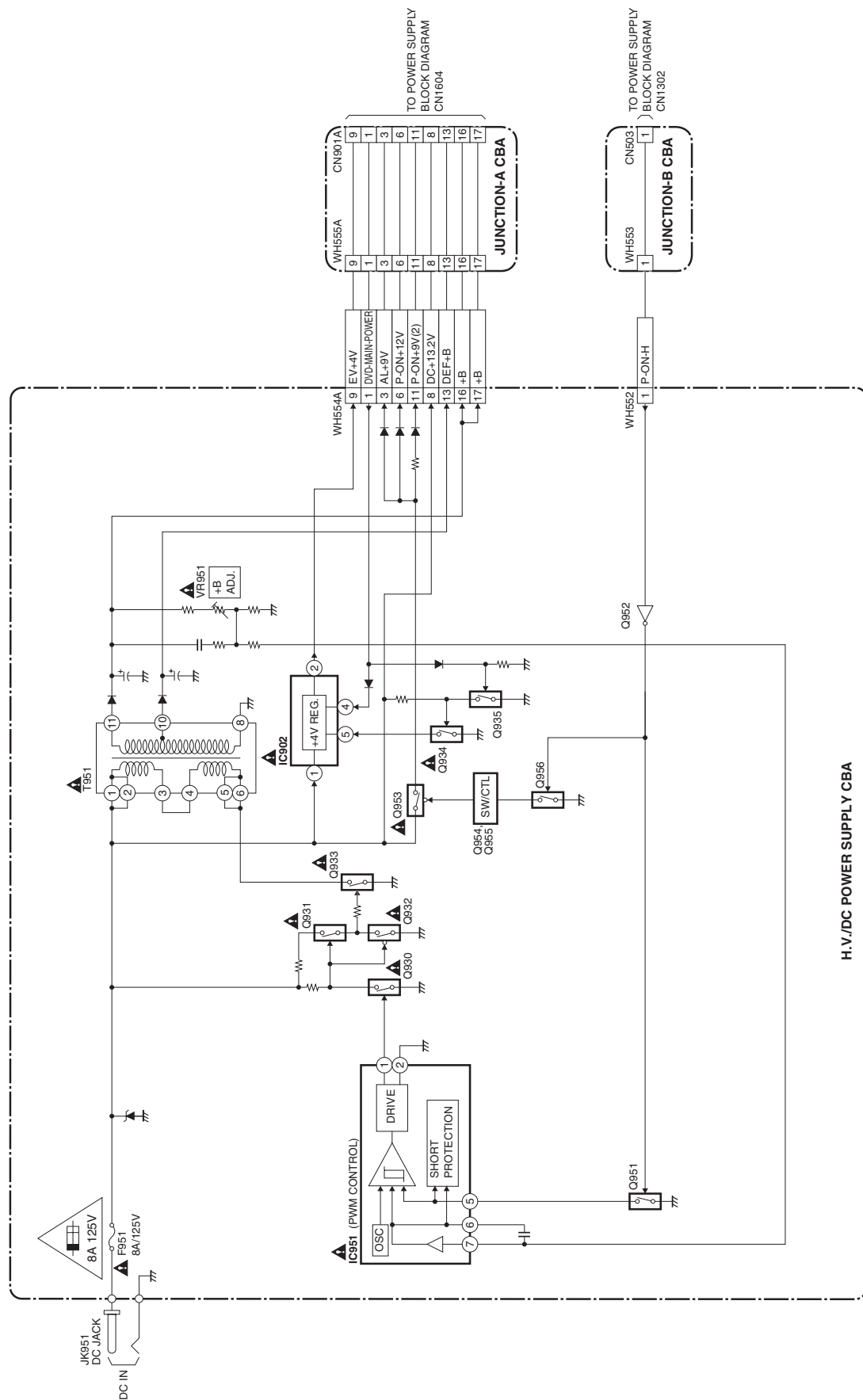


CAUTION !



CAUTION ! : For continued protection against risk of fire, replace only with same type 8 A, 125V fuse.

ATTENTION : Utiliser un fusible de rechange de même type de 8A, 125V.

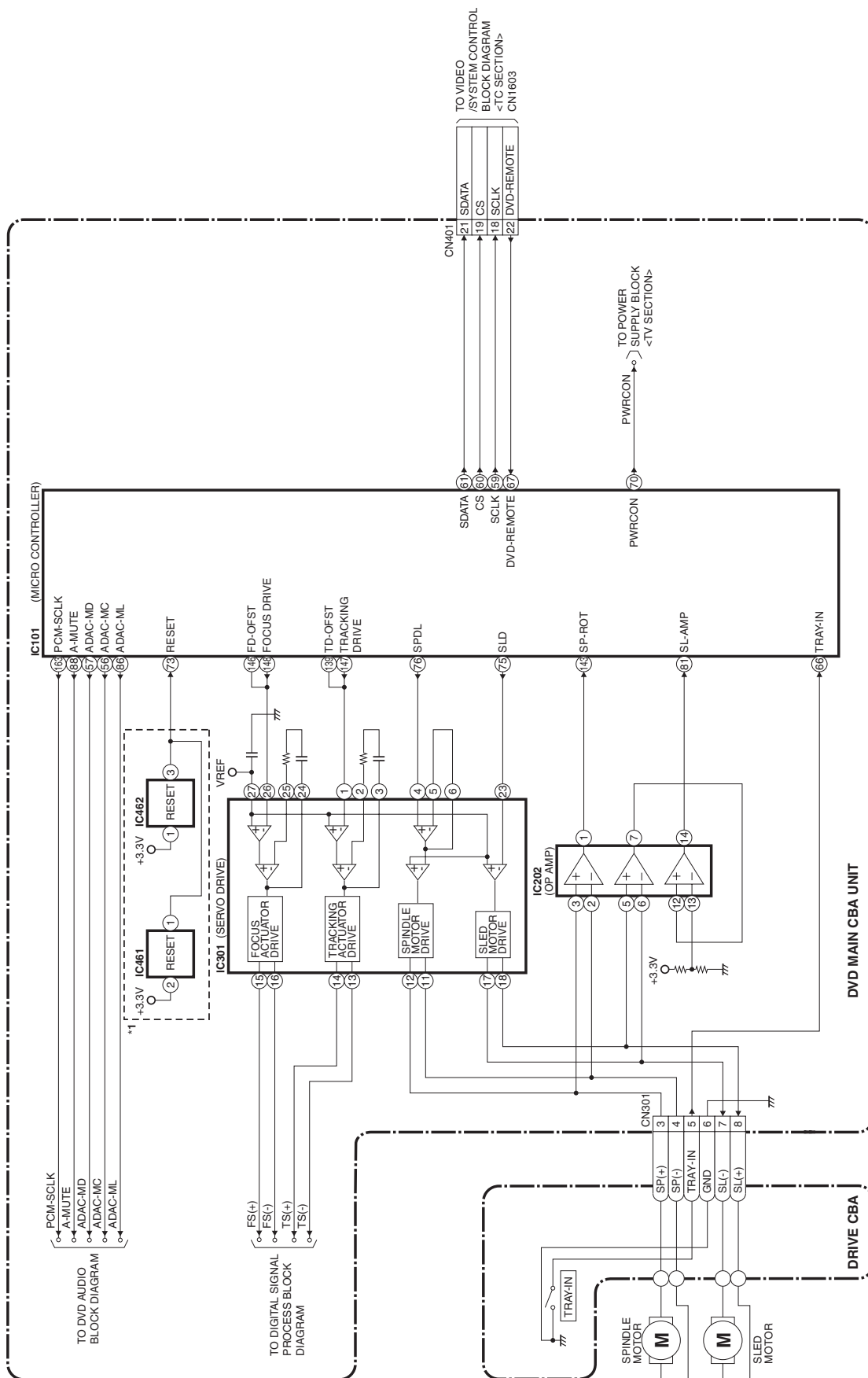


BLOCK DIAGRAMS < DVD Section >

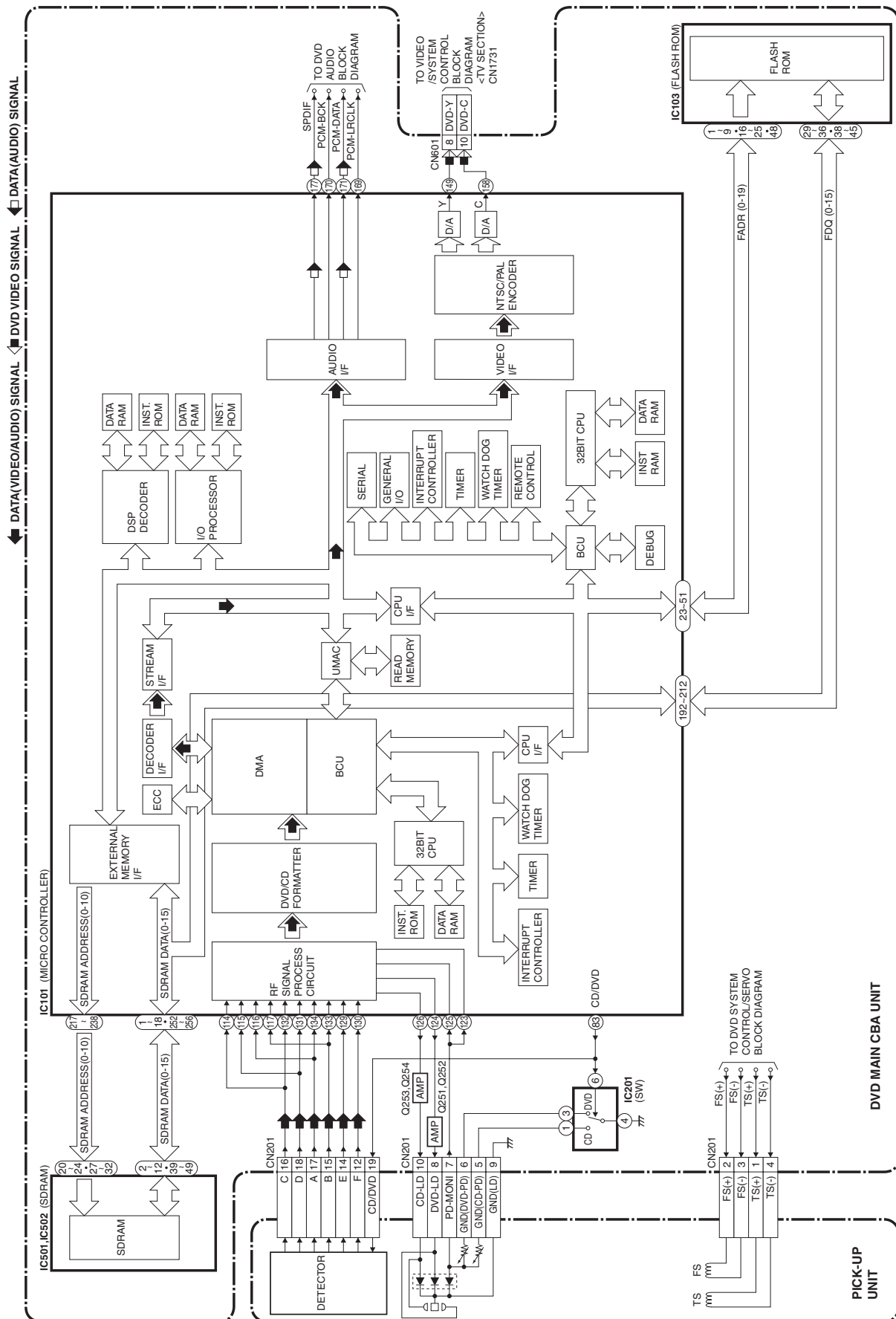
DVD System Control/Servo Block Diagram

*1 NOTE:

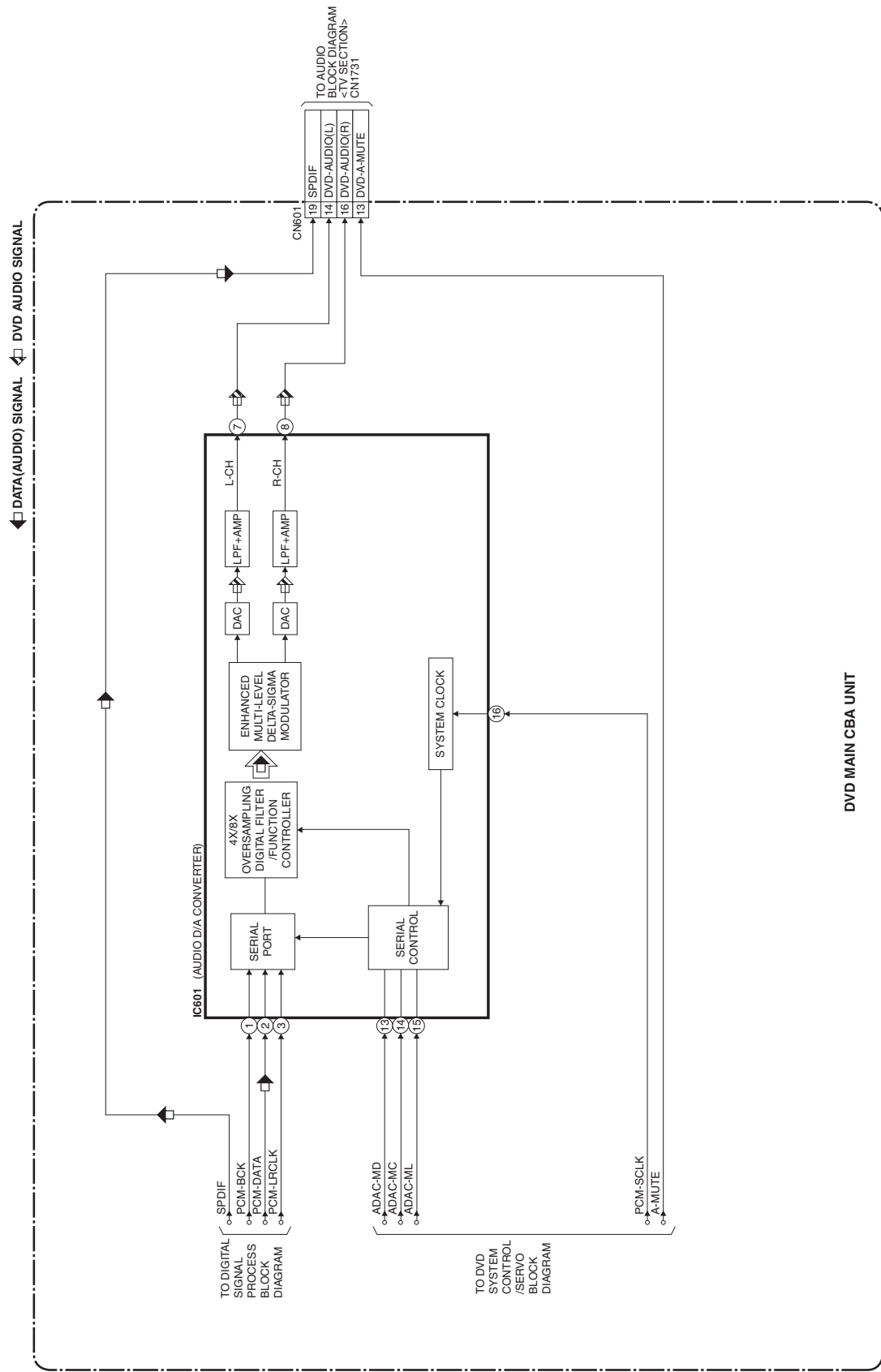
Either IC461 or IC462 is used for DVD MAIN CBA UNIT.



Digital Signal Process Block Diagram



DVD Audio Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

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

Notes:

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

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

1. CAUTION: FOR CONTINUED PROTECTION AGAINST 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.

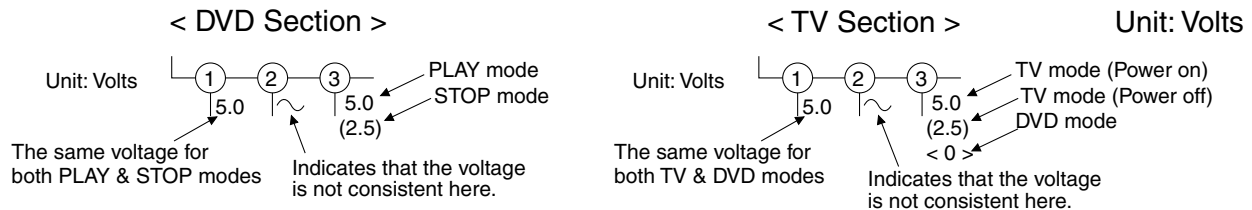
If Main Fuse (F1601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. Note:

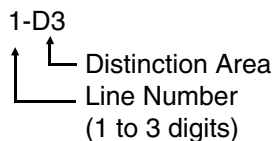
- Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
- To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Mode: SP/REC

5. Voltage indications for PLAY and REC modes on the schematics are as shown below:

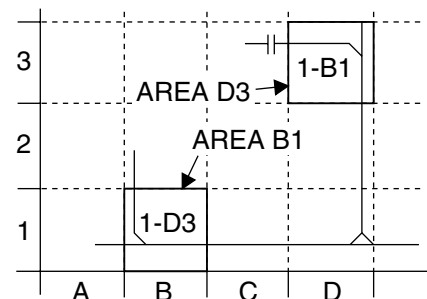


6. How to read converged lines



Examples:

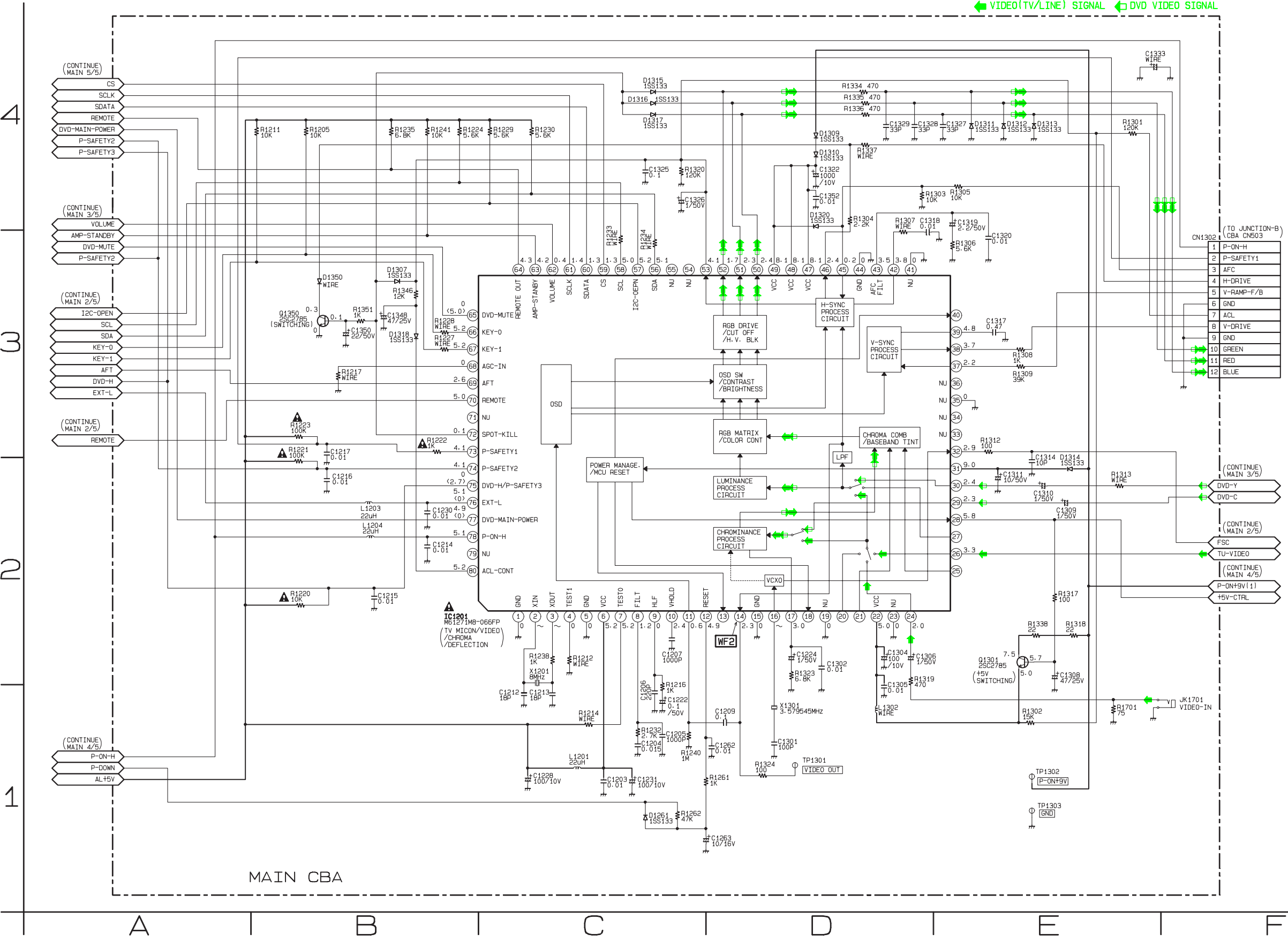
- "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
- "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



7. Test Point Information

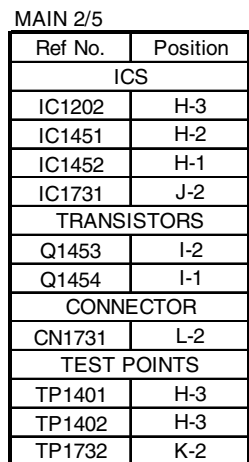
- ⊙ : Indicates a test point with a jumper wire across a hole in the PCB.
- : Used to indicate a test point with a component lead on foil side.
- ⊗ : Used to indicate a test point with no test pin.
- : Used to indicate a test point with a test pin.

Main 1/5 Schematic Diagram < TV Section >

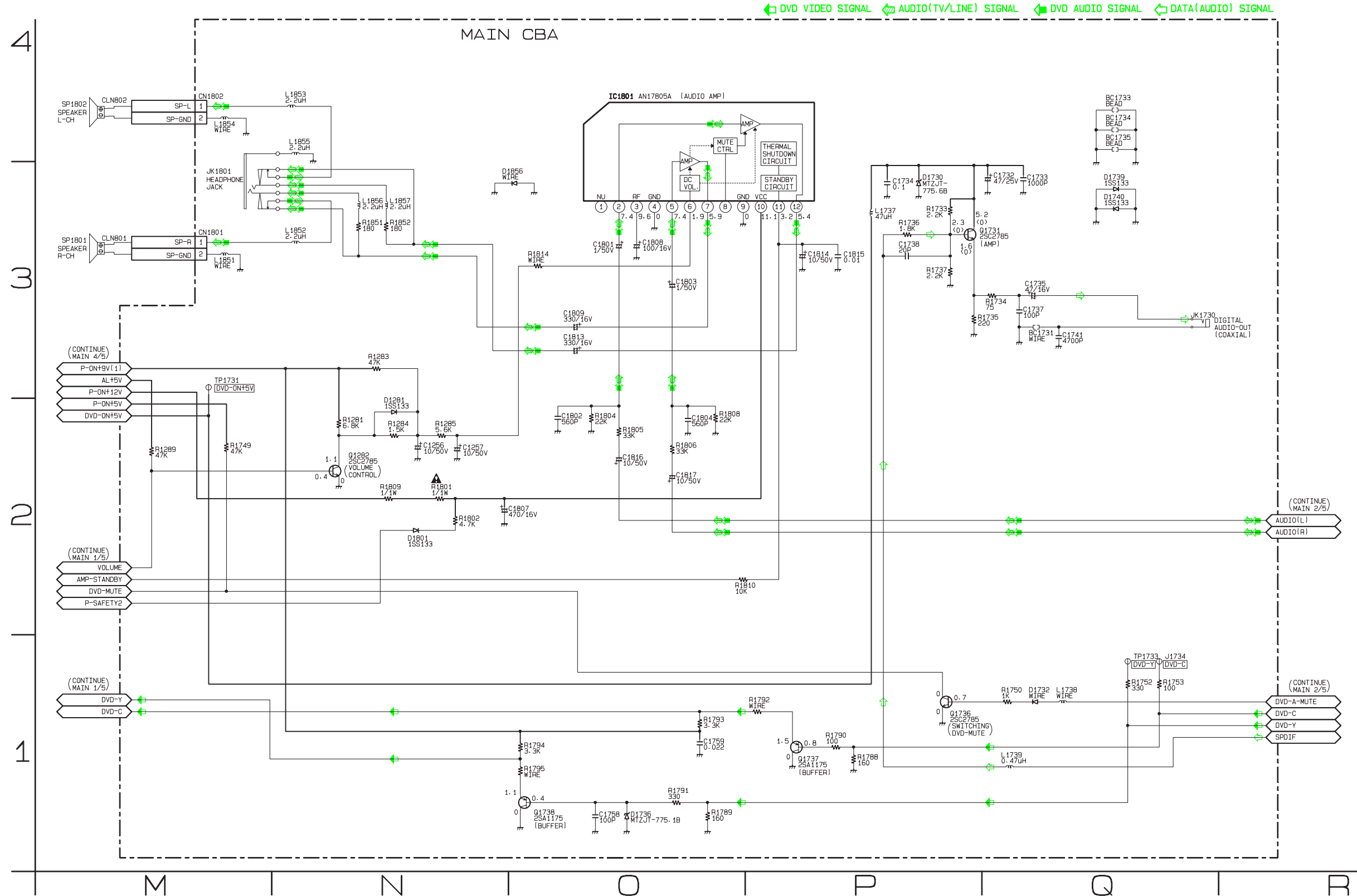


MAIN 1/5	
Ref No.	Position
IC	
IC1201	B-2
TRANSISTORS	
Q1301	E-2
Q1350	B-3
CONNECTOR	
CN1302	F-3
TEST POINTS	
TP1301	D-1
TP1302	E-1
TP1303	E-1

4
—
3
—
2
—
1



Main 3/5 Schematic Diagram < TV Section >

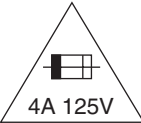


MAIN 3/5	
Ref No.	Position
IC	
IC1801	O-4
TRANSISTORS	
Q1282	N-2
Q1731	P-3
Q1736	P-1
Q1737	P-1
Q1738	O-1
CONNECTORS	
CN1801	M-3
CN1802	M-4
TEST POINTS	
TP1731	M-3
TP1733	Q-1
TP1734	Q-1

Main 4/5 Schematic Diagram < TV Section >

CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) 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.



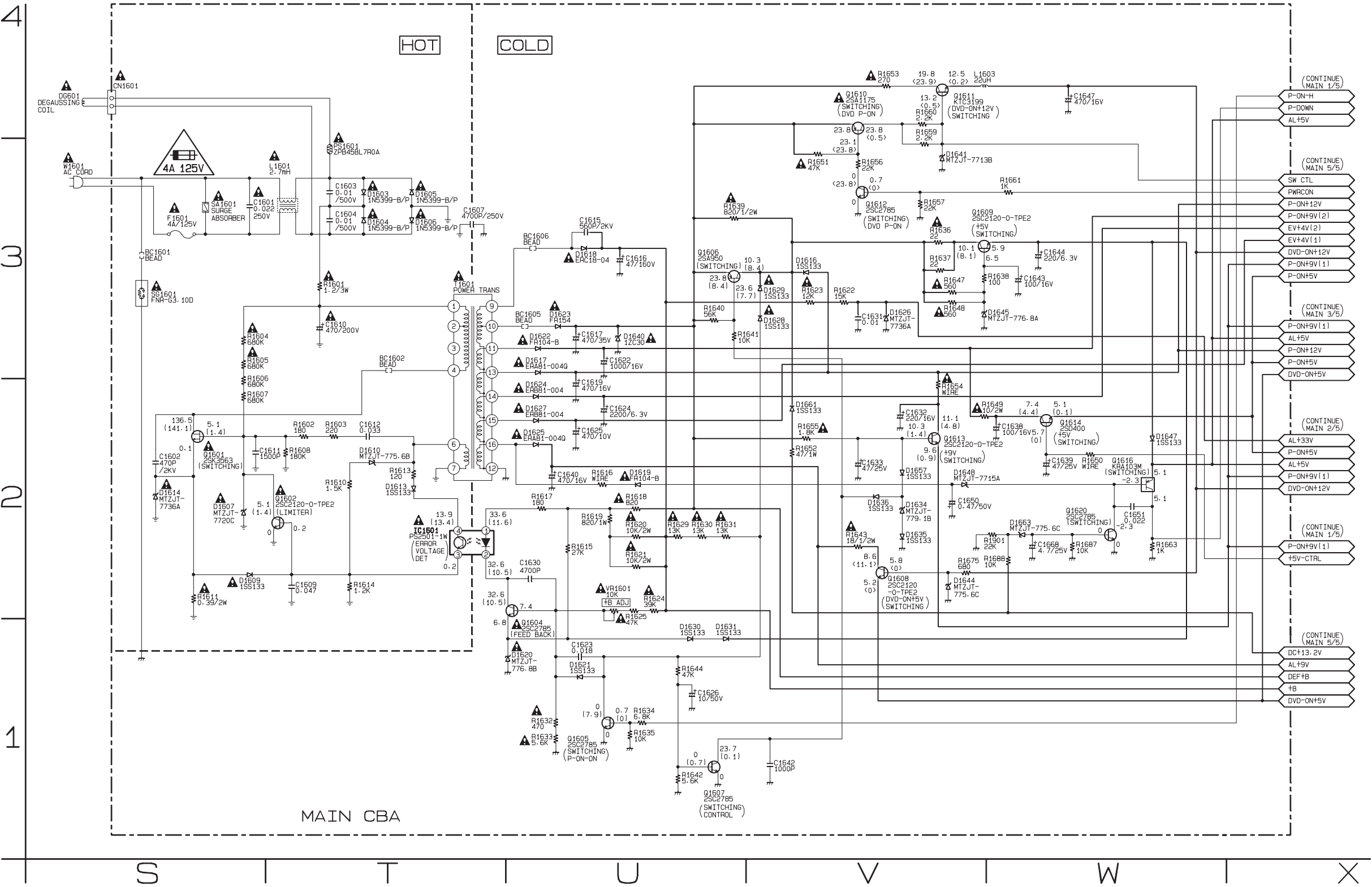
CAUTION ! : For continued protection against risk of fire,
replace only with same type 4 A, 125V fuse.

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

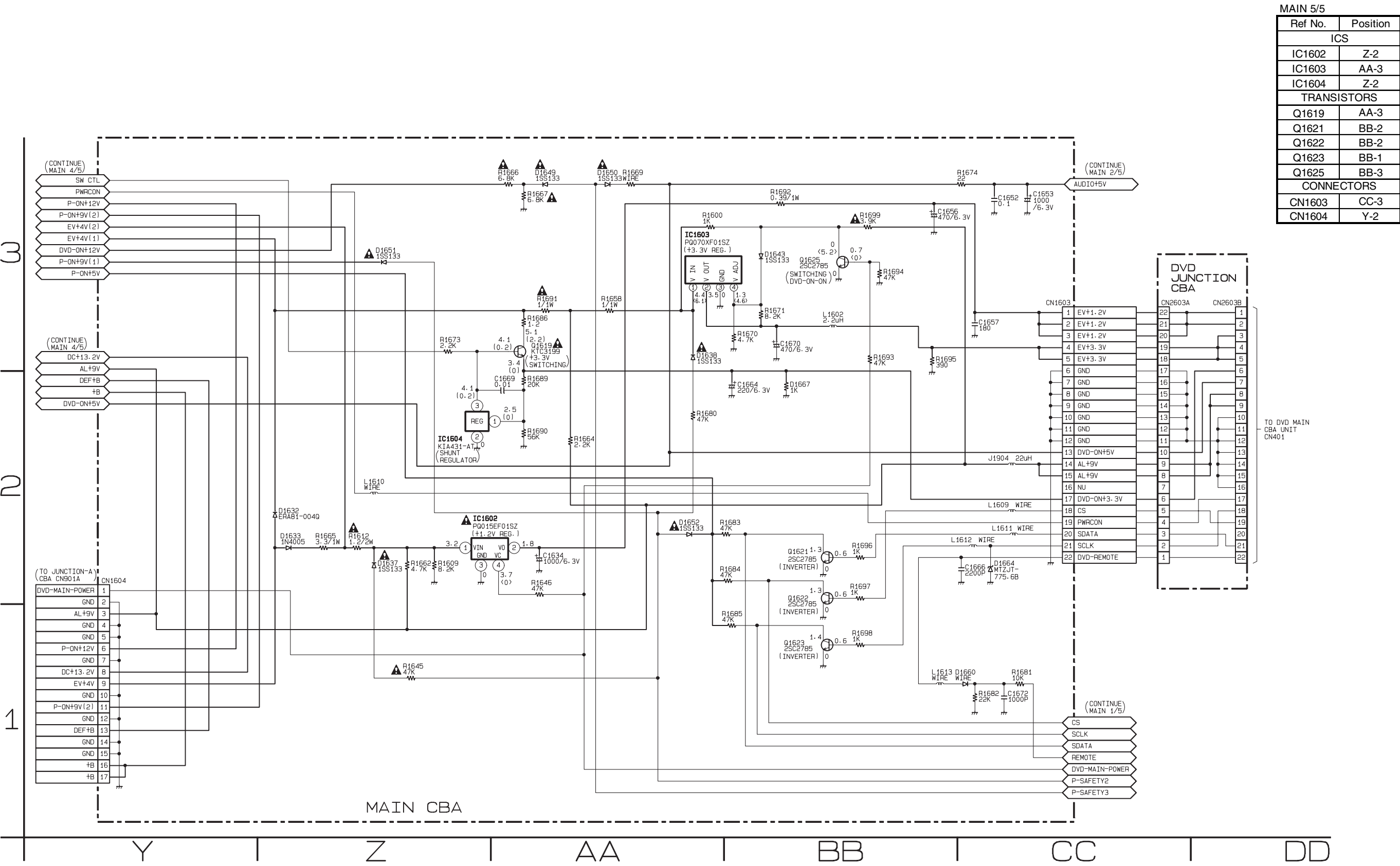
NOTE:

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

MAIN 4/5	
Ref No.	Position
IC	
IC1601	T-2
TRANSISTORS	
Q1601	S-2
Q1602	T-2
Q1604	U-1
Q1605	U-1
Q1606	U-3
Q1607	U-1
Q1608	V-2
Q1609	V-3
Q1610	V-4
Q1611	V-4
Q1612	V-3
Q1613	V-2
Q1614	W-2
Q1616	W-2
Q1620	W-2
CONNECTOR	
CN1601	S-4
VARIABLE RESISTOR	
VR1601	U-2



Main 5/5 Schematic Diagram < TV Section >



MAIN 5/5	
Ref No.	Position
ICS	
IC1602	Z-2
IC1603	AA-3
IC1604	Z-2
TRANSISTORS	
Q1619	AA-3
Q1621	BB-2
Q1622	BB-2
Q1623	BB-1
Q1625	BB-3
CONNECTORS	
CN1603	CC-3
CN1604	Y-2

3
—
2
—
1

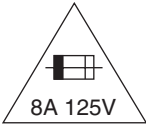
Ref No.	Position
IC	
IC551	A-3
TRANSISTORS	
Q571	C-2
Q572	B-2
Q591	B-2
CONNECTORS	
CN571	B-3
WH551	D-2
WH552	B-1
TEST POINTS	
J109	C-2
J551	C-2
J552	C-2

Ref No.	Position
TRANSISTORS	
Q501	E-2
Q502	E-2
Q503	E-2
CONNECTORS	
CN501	F-2
WH501	D-2



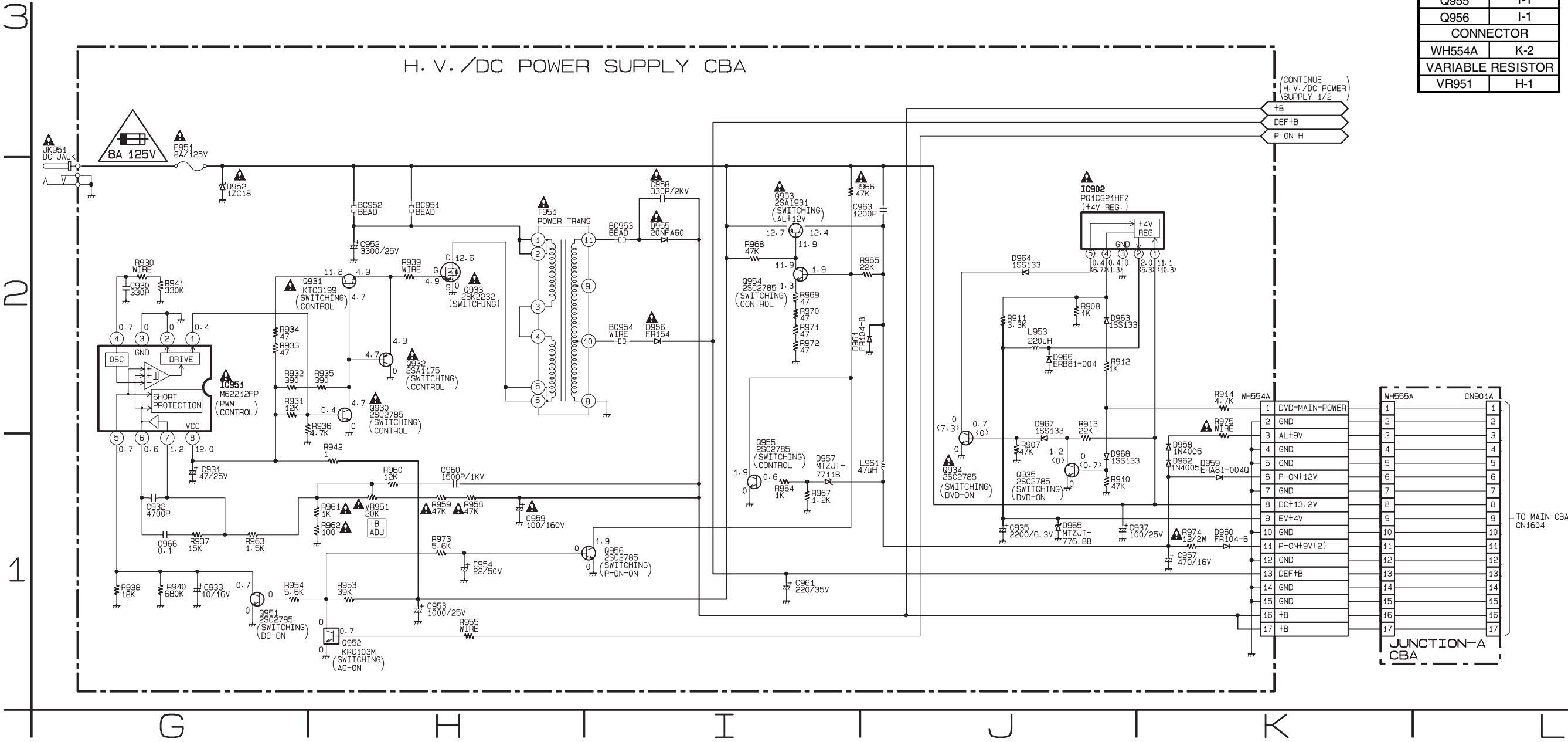
H.V. / DC Power Supply 2/2 Schematic Diagram < TV Section >

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F951) is blown , check to see that all components in the power supply circuit are not defective before you connect the DC plug to the DC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

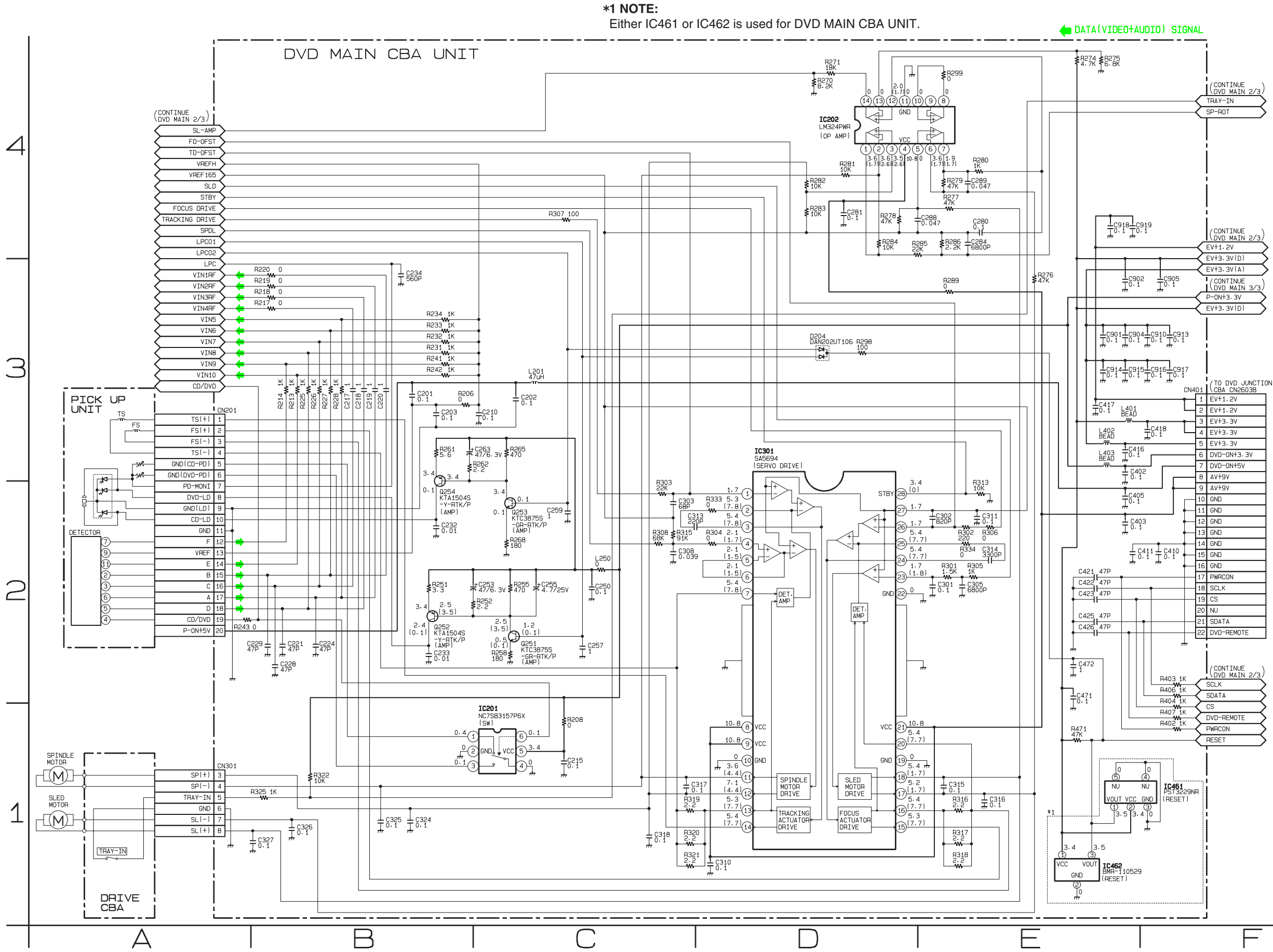


CAUTION ! : For continued protection against risk of fire,
replace only with same type 8 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 8A, 125V.

H.V./DC POWER SUPPLY 2/2	
Ref No.	Position
ICS	
IC902	J-2
IC951	G-2
TRANSISTORS	
Q930	H-2
Q931	H-2
Q932	H-2
Q933	H-2
Q934	J-1
Q935	J-1
Q951	G-1
Q952	H-1
Q953	I-2
Q954	I-2
Q955	I-1
Q956	I-1
CONNECTOR	
WH554A	K-2
VARIABLE RESISTOR	
VR951	H-1



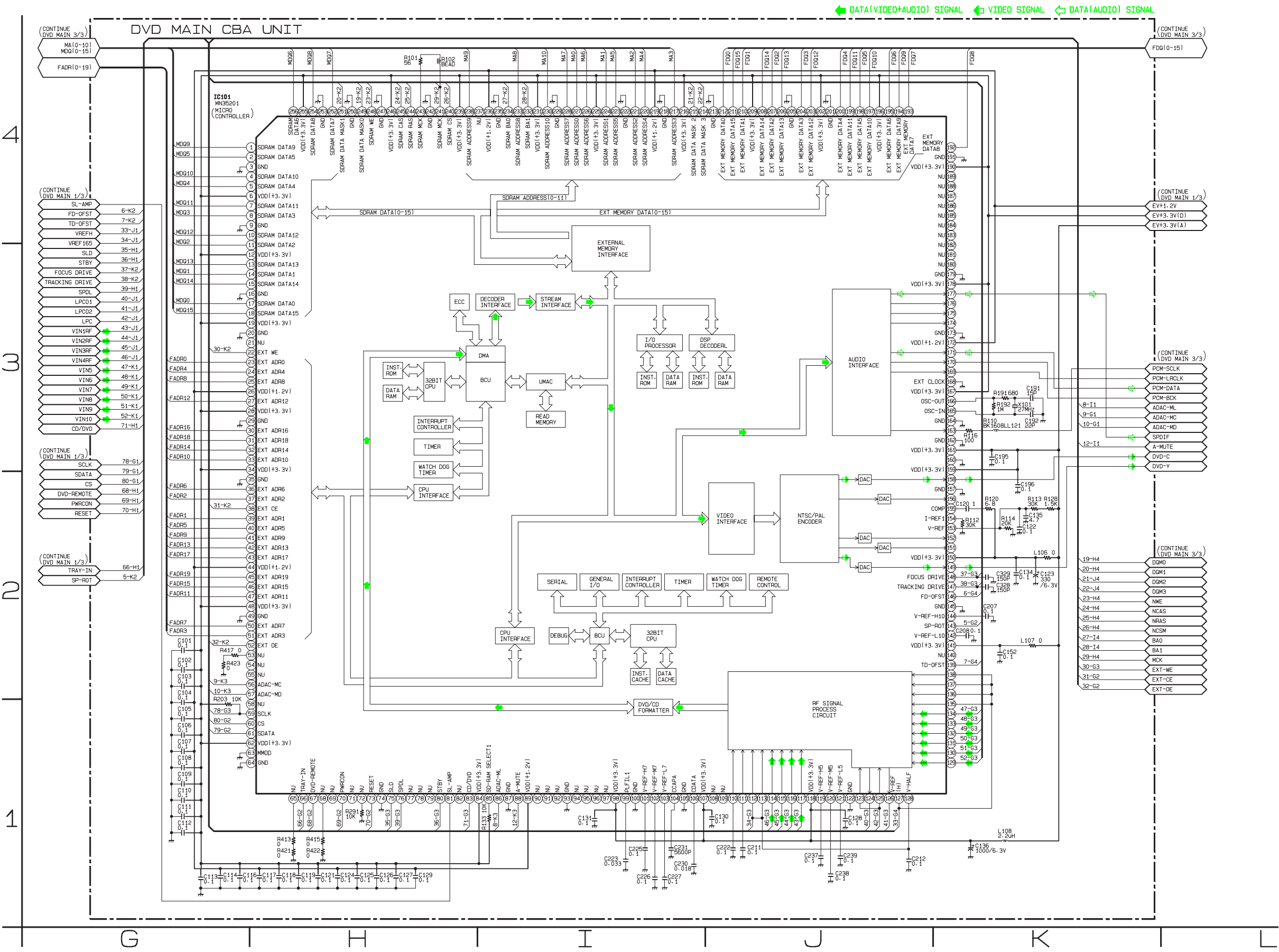
DVD Main 1/3 Schematic Diagram < DVD Section >



*1 NOTE:
Either IC461 or IC462 is used for DVD MAIN CBA UNIT.

DVD MAIN 1/3	
Ref No.	Position
ICS	
IC201	C-1
IC202	D-4
IC301	D-3
IC461	F-1
IC462	E-1
TRANSISTORS	
Q251	C-2
Q252	B-2
Q253	C-2
Q254	B-2
CONNECTORS	
CN201	A-3
CN301	A-1
CN401	F-3

DVD Main 2/3 Schematic Diagram < DVD Section >

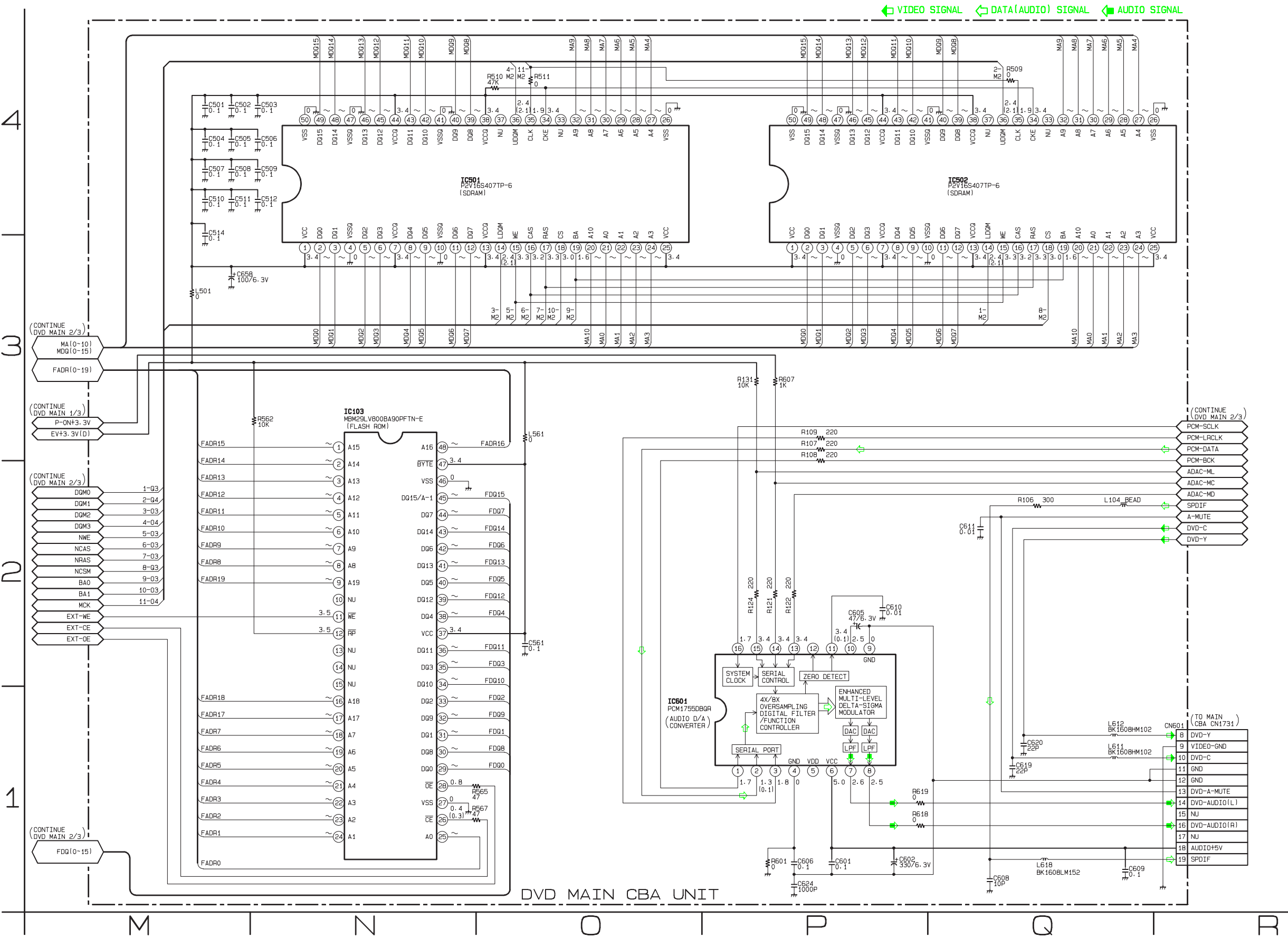


DVD MAIN 2/3	
Ref No.	Position
IC	
IC101	G-4

IC101 Voltage Chart

PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP	PIN.NO	PLAY	STOP
1	~	~	33	~	~	65	0	0	97	----	----	129	2.3	2.3	161	3.4	3.4	193	~	~	225	3.4	3.4
2	~	~	34	3.4	3.4	66	3.4	3.5	98	3.4	3.4	130	2.3	2.3	162	0	0	194	~	~	226	~	~
3	0	0	35	0	0	67	3.2	3.2	99	0.9	0.8	131	2.3	2.3	163	1.8	1.8	195	~	~	227	~	~
4	~	~	36	~	~	68	0	0	100	0	0	132	2.4	2.3	164	0	0	196	3.4	3.4	228	~	~
5	~	~	37	~	~	69	----	----	101	2.4	2.4	133	2.4	2.4	165	1.7	1.8	197	~	~	229	0	0
6	3.4	3.4	38	0.4	0.3	70	3.4	3.4	102	2.2	2.2	134	2.4	2.4	166	1.7	1.7	198	~	~	230	~	~
7	~	~	39	~	~	71	----	----	103	1.9	1.9	135	2.3	2.3	167	3.4	3.4	199	~	~	231	3.4	3.4
8	~	~	40	~	~	72	1.4	2.7	104	0.4	0.3	136	2.3	2.3	168	0	0	200	~	~	232	1.3	1.6
9	0	0	41	~	~	73	3.4	3.4	105	0	0	137	2.3	2.3	169	1.8	1.8	201	0	0	233	~	~
10	~	~	42	~	~	74	0	0	106	1.7	1.7	138	2.3	2.3	170	1.7	1.7	202	3.4	3.4	234	1.9	2.3
11	~	~	43	~	~	75	1.7	1.8	107	3.4	3.4	139	1.7	1.7	171	1.3	0.1	203	~	~	235	0	0
12	3.4	3.4	44	1.3	1.3	76	2.3	1.8	108	----	----	140	----	----	172	1.3	1.3	204	~	~	236	1.3	1.3
13	~	~	45	~	~	77	----	----	109	----	----	141	3.4	3.4	173	0	0	205	0	0	237	----	----
14	~	~	46	~	~	78	----	----	110	1.9	1.9	142	1.3	1.3	174	----	----	206	~	~	238	~	~
15	~	~	47	~	~	79	----	----	111	1.9	1.9	143	2.1	1.7	175	----	----	207	~	~	239	3.4	3.4
16	0	0	48	3.4	3.4	80	3.4	0.1	112	1.7	1.7	144	2.2	2.2	176	----	----	208	~	~	240	3.4	3.3
17	~	~	49	0	0	81	0.1	0.1	113	1.7	1.7	145	0	0	177	1.8	1.7	209	3.4	3.4	241	1.9	1.9
18	~	~	50	~	~	82	----	----	114	1.7	1.7	146	1.7	1.7	178	3.4	3.5	210	~	~	242	0	0
19	3.4	3.4	51	~	~	83	0.1	0.1	115	1.7	1.7	147	1.8	1.7	179	0	0	211	~	~	243	1.9	1.9
20	0	0	52	0.8	0.8	84	3.4	3.4	116	1.7	1.7	148	1.7	1.7	180	----	----	212	~	~	244	3.4	3.3
21	----	----	53	0	0	85	0.1	0.1	117	1.7	1.7	149	0.6	0.5	181	----	----	213	0	0	245	3.4	3.4
22	3.5	3.5	54	----	----	86	3.6	3.4	118	3.4	3.4	150	3.4	3.4	182	----	----	214	2.5	3.0	246	3.4	3.4
23	~	~	55	----	----	87	0	0	119	2.0	2.0	151	----	----	183	----	----	215	2.5	3.0	247	0	0
24	~	~	56	3.4	3.4	88	3.5	0.1	120	1.7	1.7	152	----	----	184	----	----	216	3.4	3.4	248	3.3	3.4
25	~	~	57	3.5	3.5	89	1.3	1.3	121	1.5	1.5	153	1.4	1.3	185	----	----	217	~	~	249	3.2	3
26	1.3	1.3	58	----	----	90	----	----	122	0	0	154	1.4	1.3	186	----	----	218	0	0	250	0	0
27	~	~	59	3.4	3.4	91	----	----	123	0.3	0.1	155	2.4	2.4	187	----	----	219	1.3	1.3	251	3.2	3.0
28	3.4	3.4	60	3.4	3.4	92	----	----	124	1.2	0.1	156	----	----	188	----	----	220	~	~	252	~	~
29	0	0	61	3.5	3.5	93	0	0	125	0.3	0.1	157	0	0	189	----	----	221	~	~	253	0	0
30	~	~	62	3.4	3.4	94	----	----	126	0.1	0.1	158	0.9	0.9	190	3.4	3.5	222	0	0	254	~	~
31	~	~	63	0	0	95	----	----	127	2.3	2.3	159	3.4	3.4	191	0	0	223	~	~	255	3.4	3.4
32	~	~	64	0	0	96	----	----	128	1.7	1.7	160	0	0	192	~	~	224	~	~	256	~	~

DVD Main 3/3 Schematic Diagram < DVD Section >

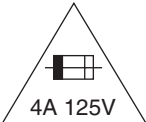


DVD MAIN 3/3	
Ref No.	Position
ICS	
IC103	N-3
IC501	N-4
IC502	Q-4
IC601	O-1
CONNECTOR	
CN601	R-1

Main CBA Top View < TV Section >

CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) 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.

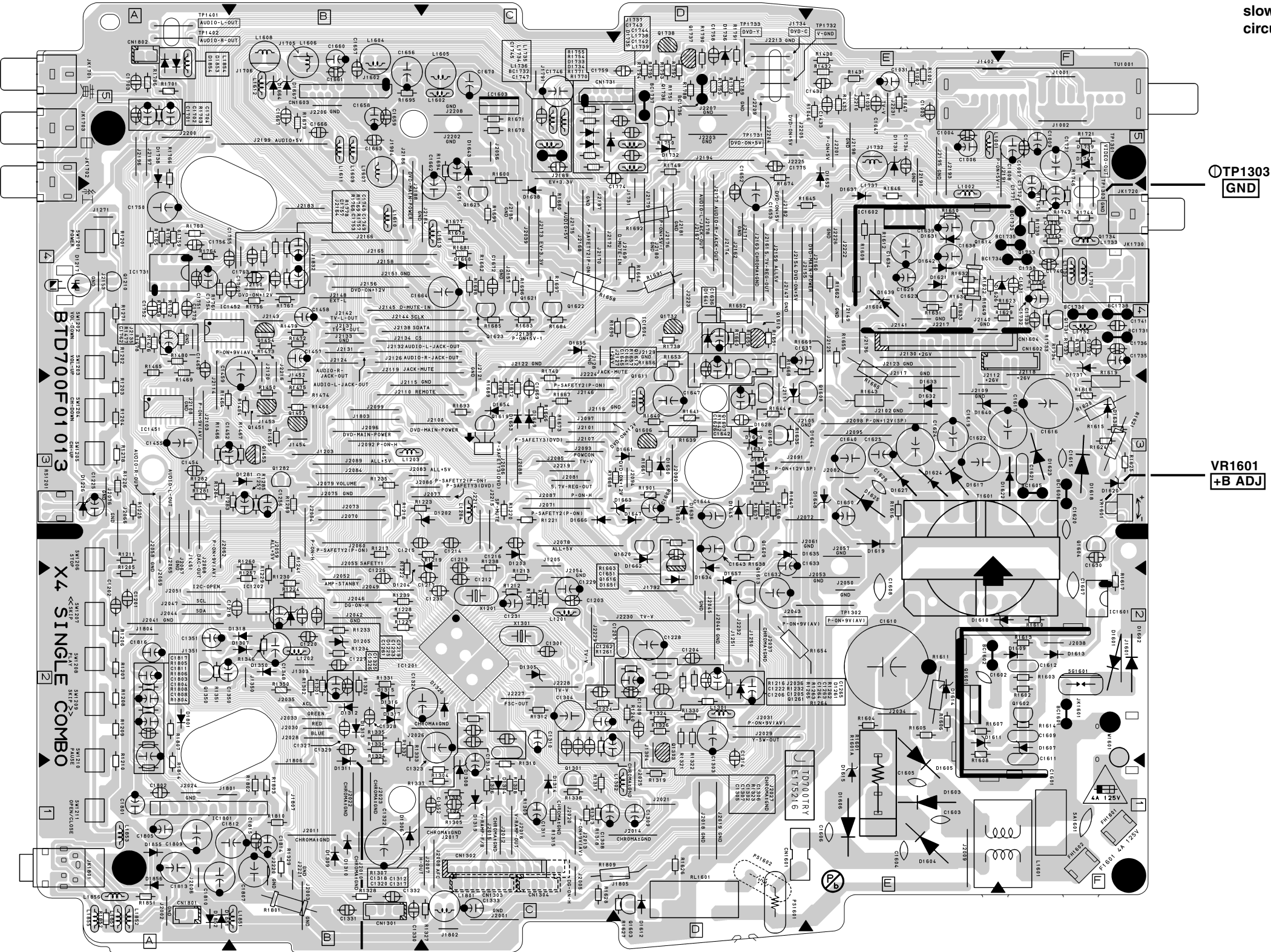


CAUTION ! : For continued protection against risk of fire,
replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

NOTE:

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

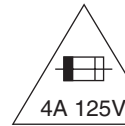
Because a hot chassis ground is present in the power
supply circuit, an isolation transformer must be used.
Also, in order to have the ability to increase the input
slowly,when troubleshooting this type power supply
circuit, a variable isolation transformer is required.



MAIN CBA			
Ref No.	Position	Ref No.	Position
ICS		TRANSISTORS	
IC1201	B-2	Q1620	D-3
IC1202	B-2	Q1621	C-4
IC1451	A-3	Q1622	C-4
IC1452	A-4	Q1623	C-4
IC1601	F-2	Q1625	C-4
IC1602	E-4	Q1731	F-4
IC1603	C-5	Q1736	D-5
IC1604	D-4	Q1737	D-5
IC1731	A-4	Q1738	D-5
IC1801	A-1	CONNECTORS	
TRANSISTORS		CN1302	C-1
Q1282	B-3	CN1601	D-1
Q1301	C-1	CN1603	B-5
Q1350	A-2	CN1604	F-4
Q1453	B-3	CN1731	C-5
Q1454	B-4	CN1801	A-1
Q1601	E-2	CN1802	A-5
Q1602	F-2	TEST POINTS	
Q1604	F-3	TP1301	F-5
Q1605	D-3	TP1302	E-2
Q1606	D-3	TP1303	F-4
Q1607	D-3	TP1401	A-5
Q1608	E-3	TP1402	A-5
Q1609	D-3	TP1731	D-5
Q1610	D-4	TP1732	E-5
Q1611	D-3	TP1733	D-5
Q1612	D-4	TP1734	D-5
Q1613	D-2	VARIABLE RESISTOR	
Q1614	E-4	VR1601	F-3
Q1616	C-2		
Q1619	C-3		

D1311 Cathode
(C-Trap Adjustment)

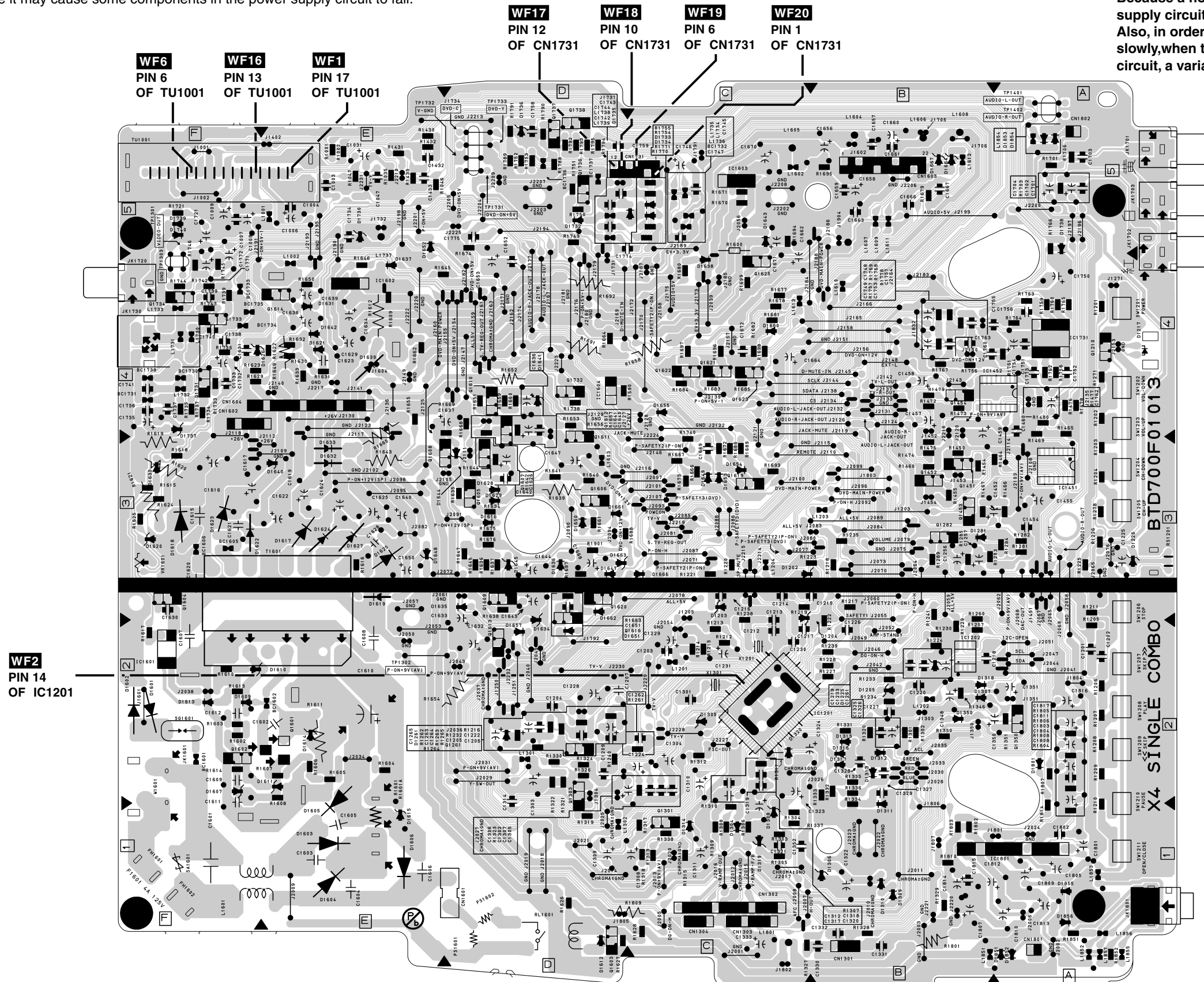
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1601) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.



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

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

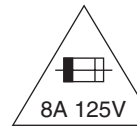
Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.



H.V. /DC POWER SUPPLY CBA Top View <TV Section >

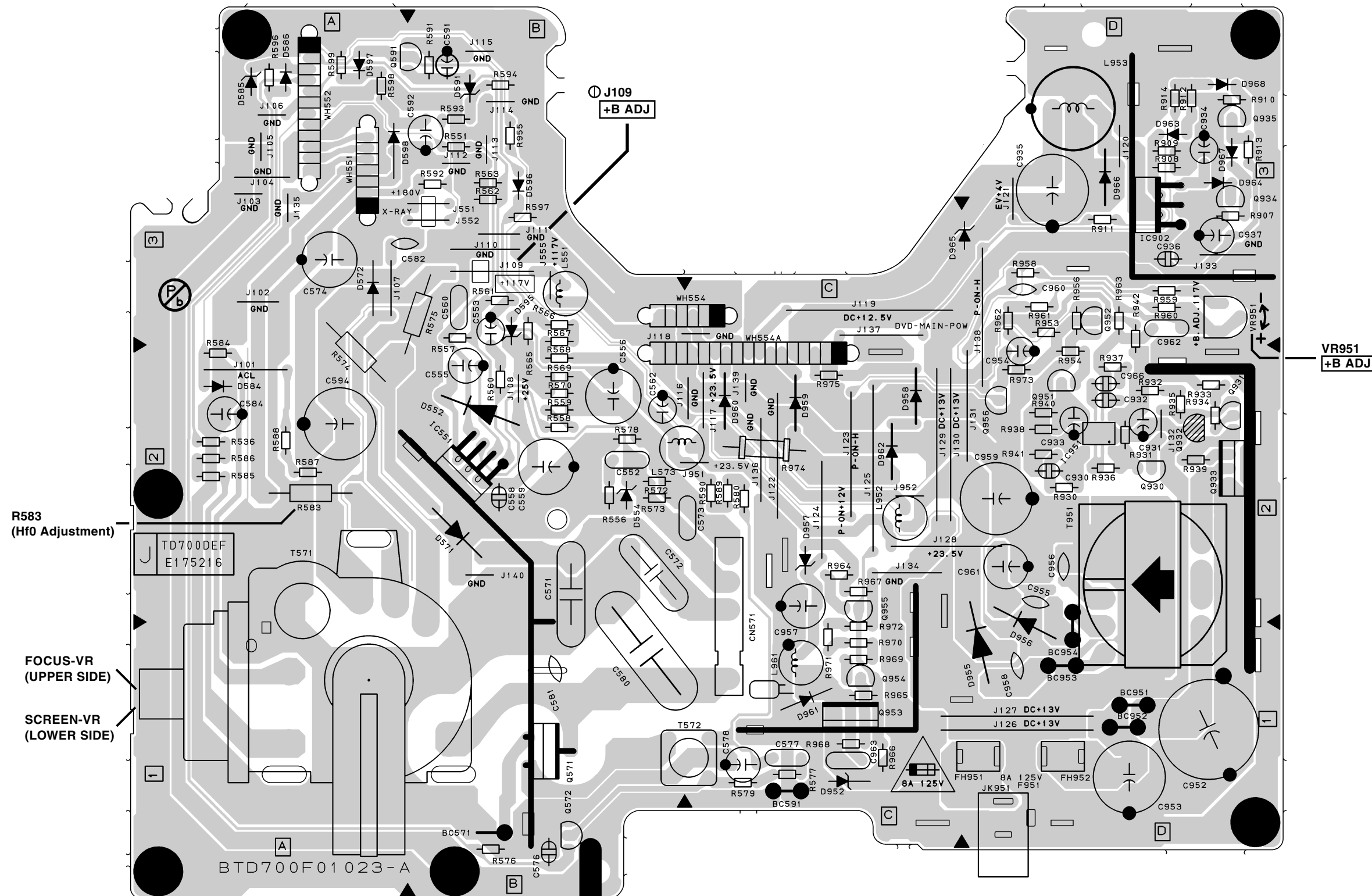
CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F951) is blown, check to see that all components in the power supply circuit are not defective before you connect the DC plug to the DC 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 8 A, 125V fuse.

ATTENTION : Utiliser un fusible de rechange de même type de 8A, 125V.



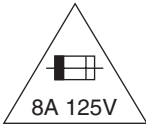
H.V. /DC
POWER SUPPLY CBA

Ref No.	Position
ICS	
IC551	B-2
IC902	D-3
IC951	D-2
TRANSISTORS	
Q571	B-1
Q572	B-1
Q591	A-3
Q930	D-2
Q931	D-2
Q932	D-2
Q933	D-2
Q934	D-3
Q935	D-3
Q951	D-2
Q952	D-3
Q953	C-1
Q954	C-1
Q955	C-2
Q956	D-2
CONNECTORS	
CN571	C-1
WH551	A-3
WH552	A-3
WH554A	C-3
TEST POINTS	
J109	B-3
J551	B-3
J552	B-3
VARIABLE RESISTOR	
VR951	D-3

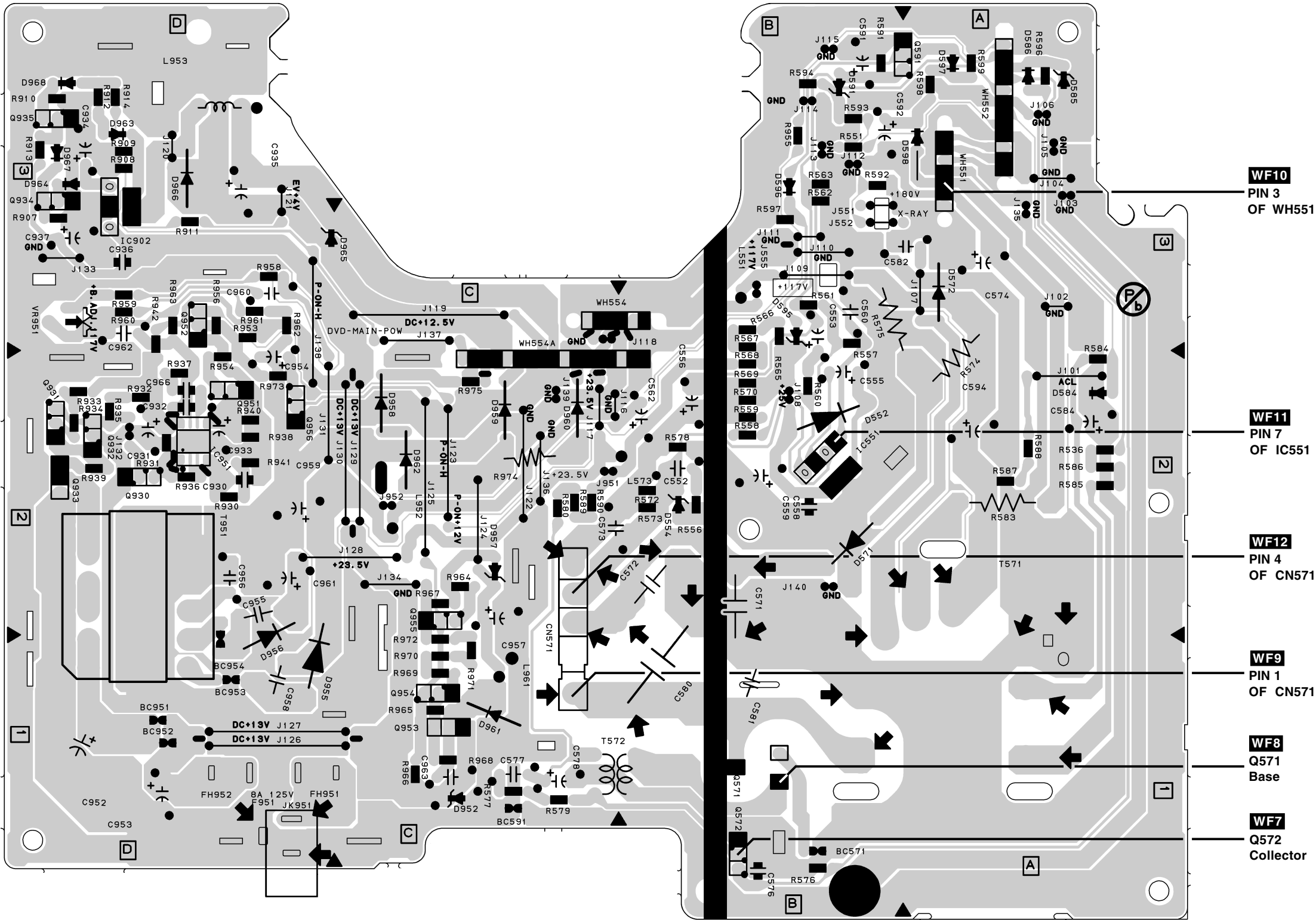
H.V. /DC POWER SUPPLY CBA Bottom View < TV Section >

CAUTION !

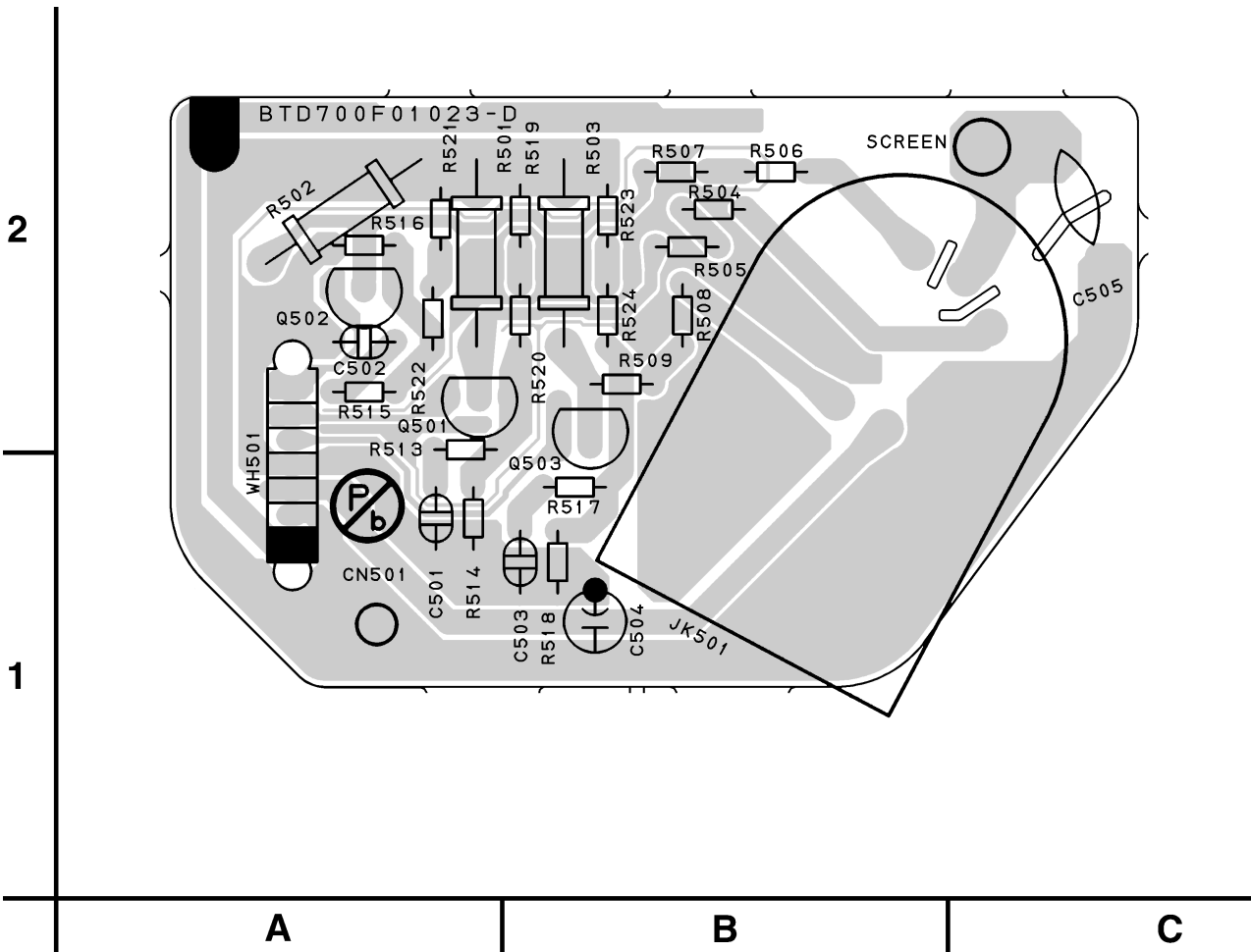
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F951) is blown , check to see that all components in the power supply circuit are not defective before you connect the DC plug to the DC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



CAUTION ! : For continued protection against risk of fire,
replace only with same type 8 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 8A, 125V.

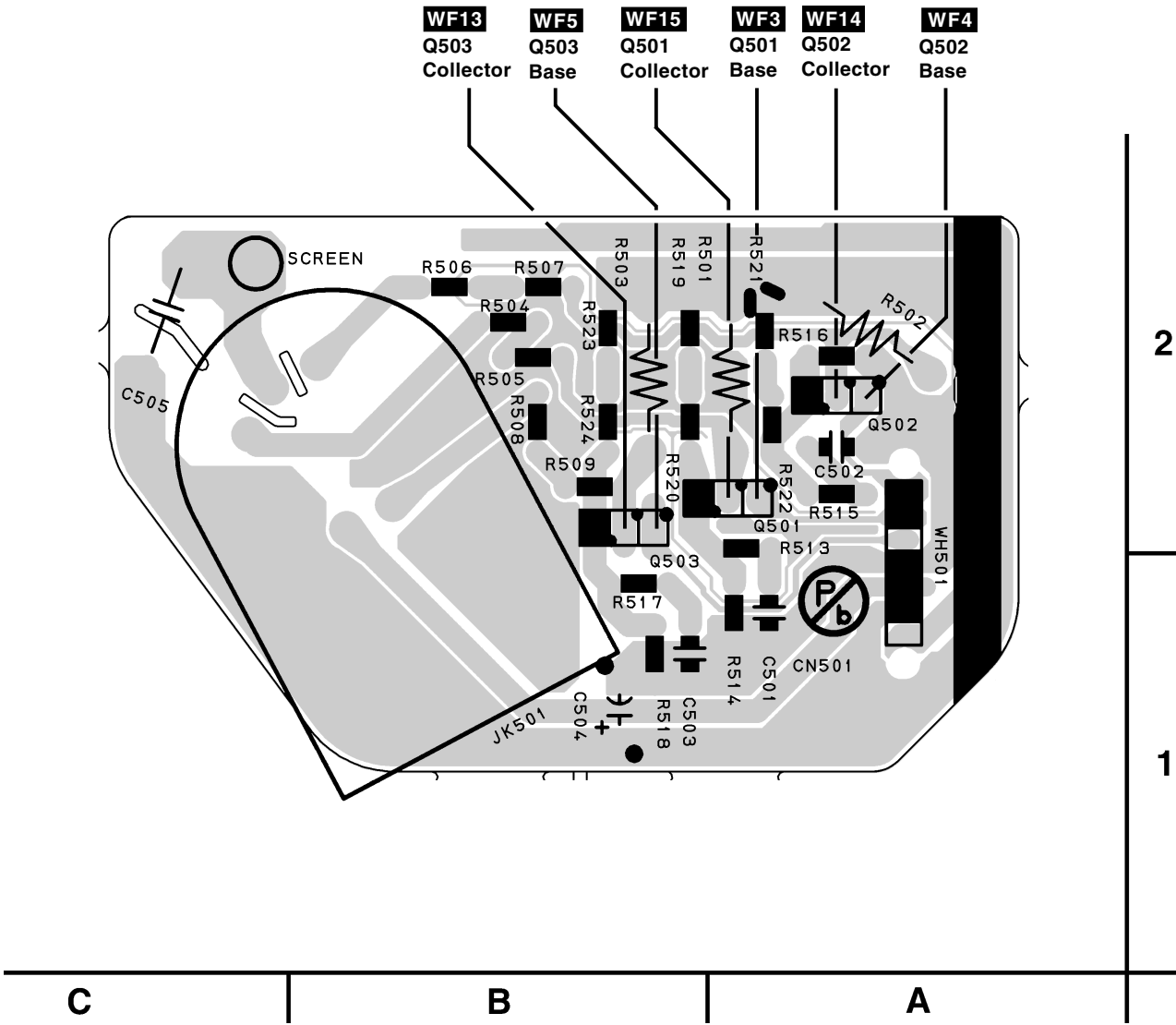


CRT CBA Top View < TV Section >

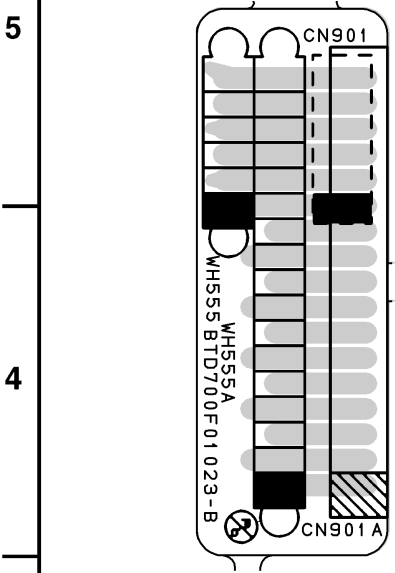


CRT CBA	
Ref No.	Position
TRANSISTORS	
Q501	A-2
Q502	A-2
Q503	B-1
CONNECTORS	
CN501	A-1
WH501	A-1

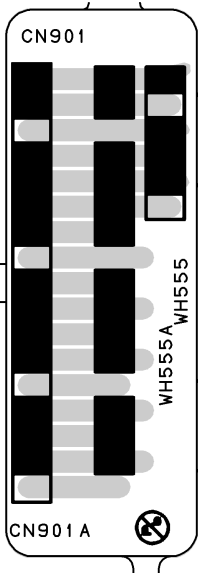
CRT CBA Bottom View < TV Section >



Junction-A CBA
Top View < TV Section >

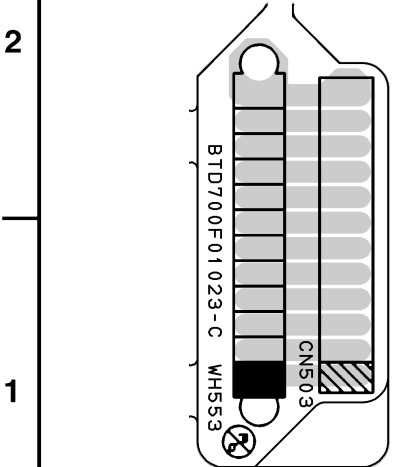


Junction-A CBA
Bottom View < TV Section >

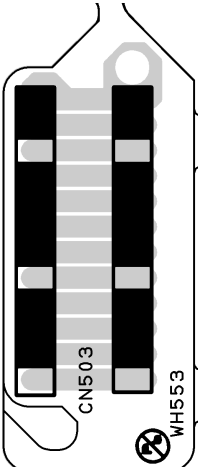


BTD700F01023-B

Junction-B CBA
Top View < TV Section >

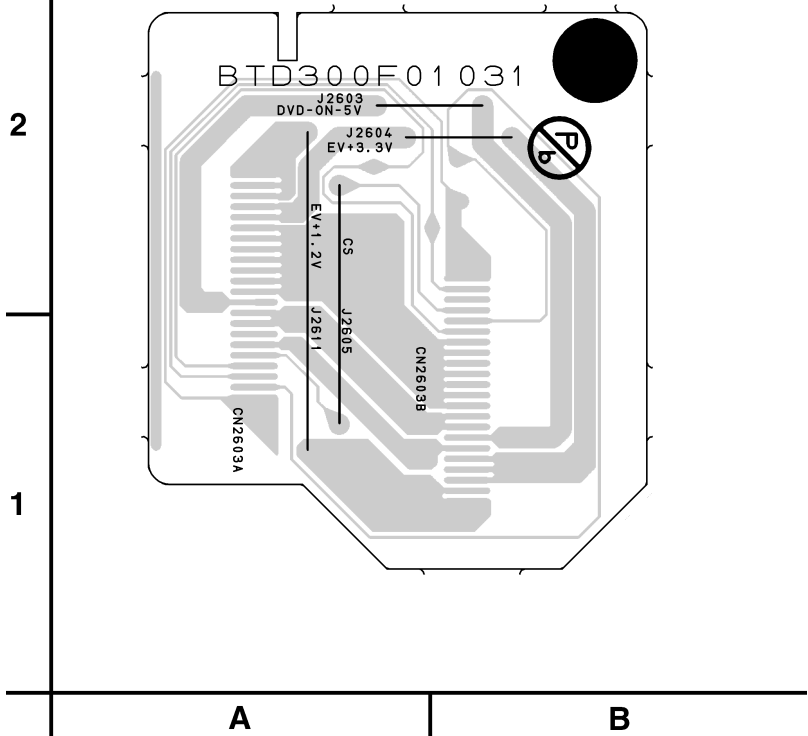


Junction-B CBA
Bottom View < TV Section >

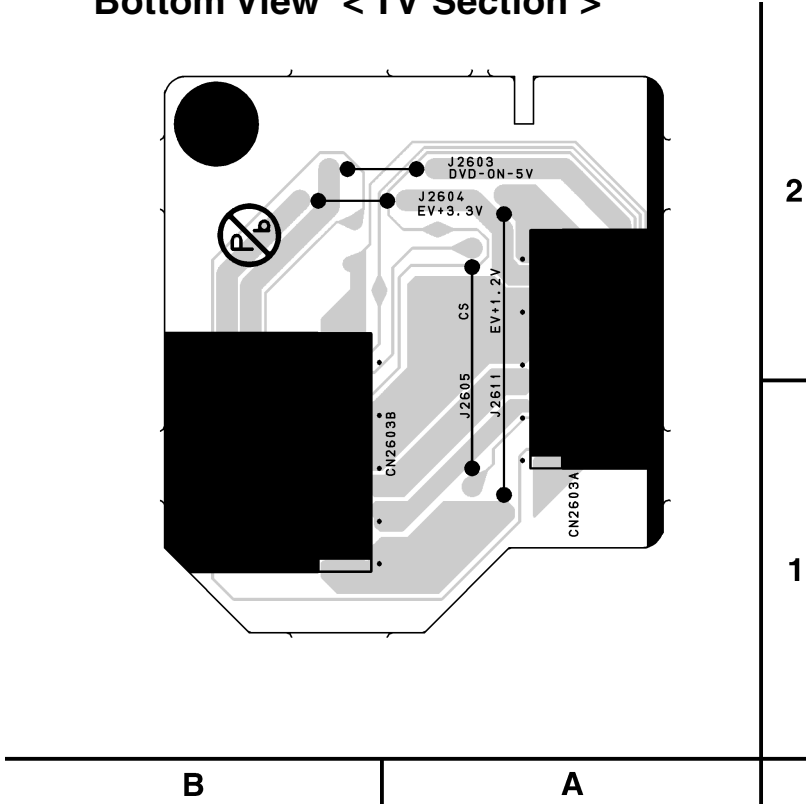


BTD700F01023-C

DVD Junction CBA
Top View < TV Section >



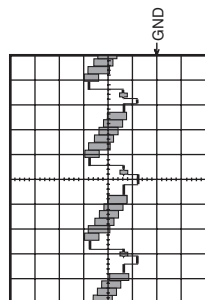
DVD Junction CBA
Bottom View < TV Section >



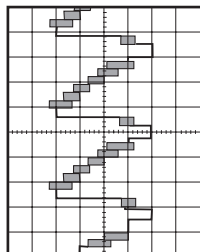
BTD300F01031

WAVEFORMS

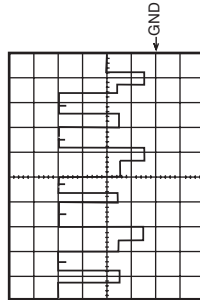
Input: NTSC Color Bar Signal (with 1kHz Audio Signal) --- WF1-WF16
 DVD Video (Power on (Stop) MODE) --- WF17, WF18
 CD (1kHz Play) --- WF19, WF20
INITIAL POSITION: Unplug unit from AC outlet for at least five minutes, reconnect to AC outlet and then turn power on.
(Brightness---Center Color---Center Tint --- Center Contrast---Approx 70%)



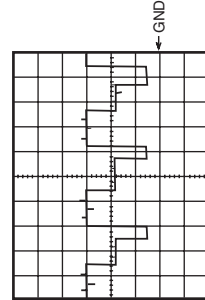
WF1 1DIV: 0.5V 20μsec
TU1001 Pin 17



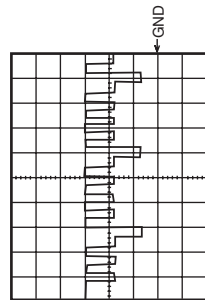
WF2 1DIV: 0.5V 20μsec
IC 1201 Pin 14



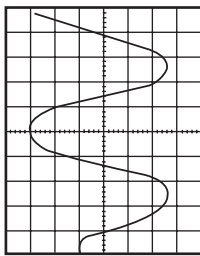
WF3 1DIV: 2V 20μsec
Q501 Base



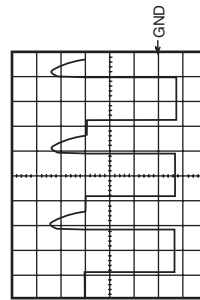
WF4 1DIV: 2V 20μsec
Q 502 Base



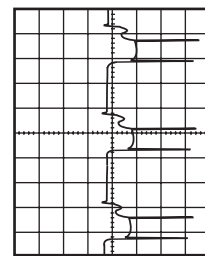
WF5 1DIV: 2V 20μsec
Q 503 Base



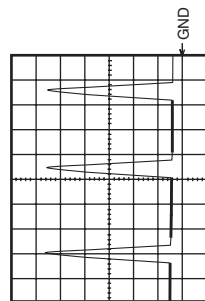
WF6 1DIV: 0.2V 20msec
TU1001 Pin 6



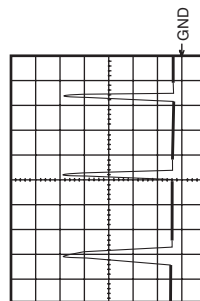
WF7 1DIV: 10V 20μsec
Q 572 Collector



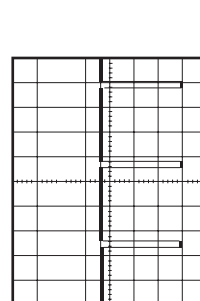
WF8 1DIV: 5V 20μsec
Q 571 Base



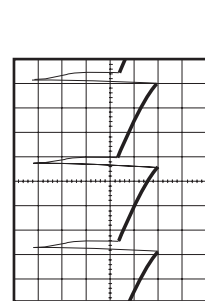
WF9 1DIV: 200V 20μsec
CN 571 Pin 1



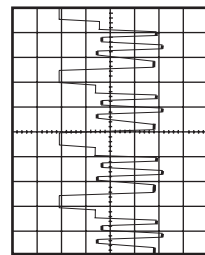
WF10 1DIV: 5V 20μsec
WH551 Pin 3



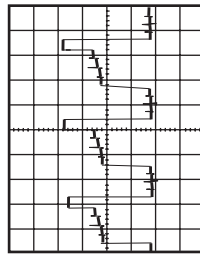
WF11 1DIV: 2V 5msec
IC 551 Pin 7



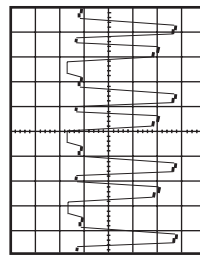
WF12 1DIV: 10V 5msec
CN 571 Pin 4



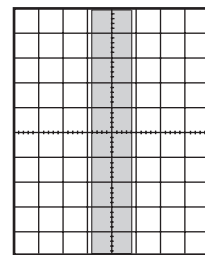
WF13 1DIV: 20V 20μsec
Q503 Collector



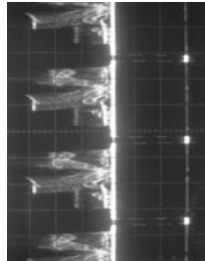
WF14 1DIV: 20V 20μsec
Q 502 Collector



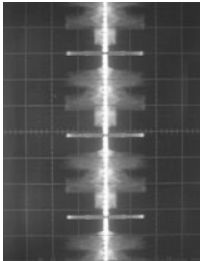
WF15 1DIV: 20V 20μsec
Q 501 Collector



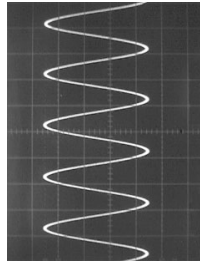
WF16 1DIV: 0.2V 20μsec
TU 1001 Pin 13



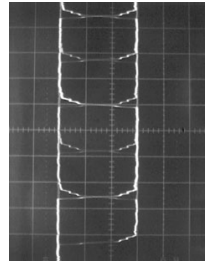
WF17 1DIV: 0.2V 20μsec
CN1731 Pin 12



WF18 1DIV: 0.2V 20μsec
CN1731 Pin 10

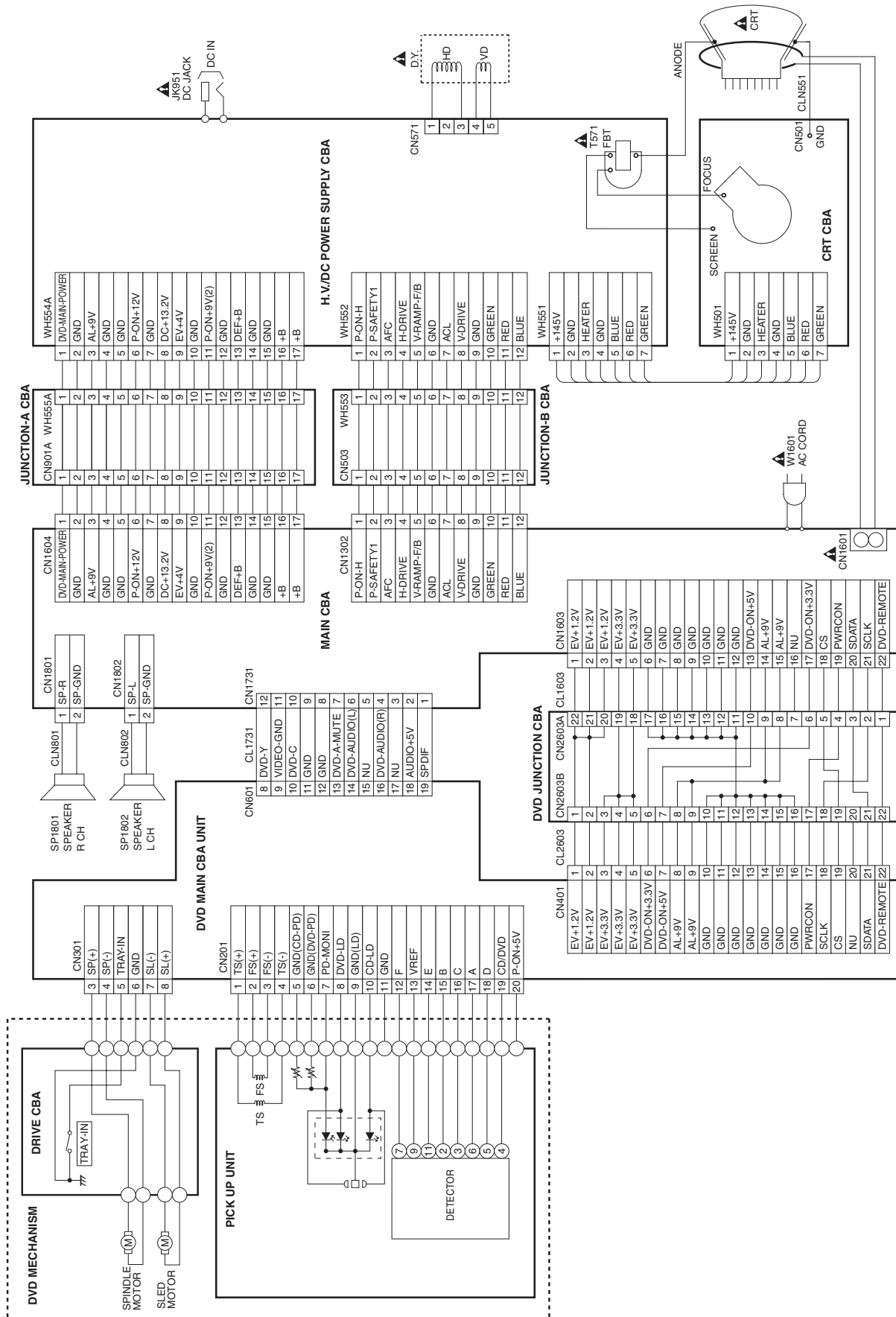


WF19 1DIV: 1V 0.5msec
CN1731 Pin 6



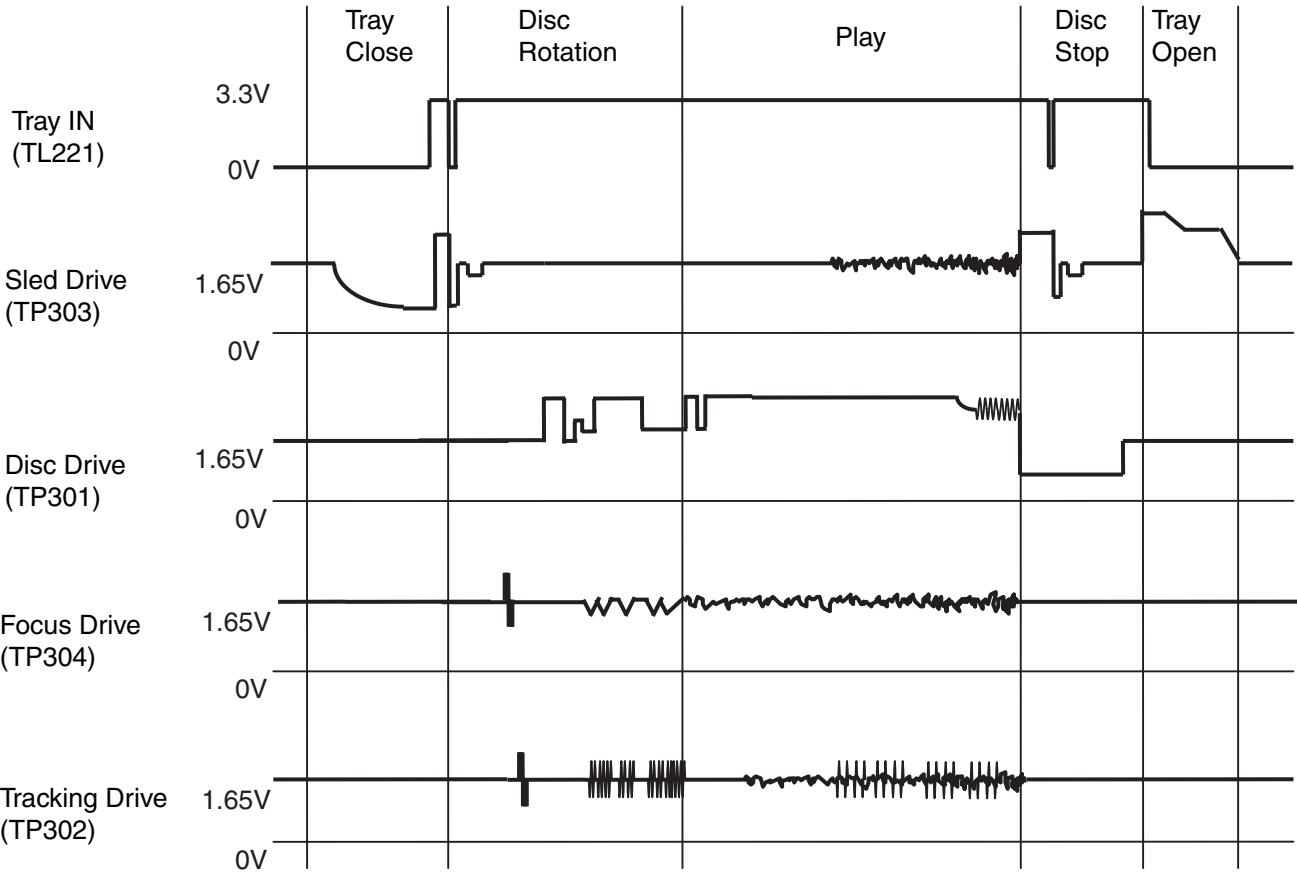
WF20 1DIV: 1V 0.1μsec
CN1731 Pin 1

WIRING DIAGRAM



SYSTEM CONTROL TIMING CHARTS

Tray Close ~ Play / Play ~ Tray Open



IC PIN FUNCTION DESCRIPTIONS

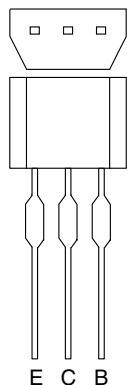
IC1201 (TV Micro Computer)

Pin No.	Signal Name	Function
1	GND	GND
2	XIN	Input for Oscillator
3	XOUT	Output for Oscillator
4	TEST 1	TEST 1
5	GND	GND
6	VCC	AL+5V
7	TEST 0	TEST 0
8	FILT	FILT
9	HLF	Filter for CCD
10	VHOLD	VHOLD
11	CVIN	Input for Video Signal
12	RESET	RESET
13	N.U.	Not Used
14	Y-SW OUT	Composite Signal Output
15	GND	GND
16	3.58 X'TAL	3.58MHz Crystal
17	C-APC	CHROMINANCE APC
18	N.U.	Not Used
19	N.U.	Not Used
20	N.U.	Not Used
21	N.U.	Not Used
22	VCC	VCC
23	N.U.	(GND)
24	CVBS IN2	Composite Signal Input 2 (LINE)
25	N.U.	Not Used
26	CVBS IN1	Composite Signal Input 1 (TUNER)
27	N.U.	Not Used
28	5.7V REG OUT	5.7V Output
29	C IN	DVD Chrominance Signal
30	Y IN	DVD Luminance Signal
31	V REG VCC	DC 8.7V Input
32	FSC OUT	Clock Output 3.58MHz
33	N.U.	Not Used
34	N.U.	Not Used
35	N.U.	Not Used

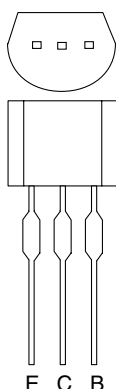
Pin No.	Signal Name	Function
36	N.U.	Not Used
37	V RAMP F/B	V Ramp Feed Back
38	V RAMP OUT	Vertical Output
39	V RAMP CAP	V Ramp OSC Capacitor
40	N.U.	Not Used
41	N.U.	Not Used
42	H VCO F/B	H Vco Feed Back
43	AFC FILT	Horizontal AFC Filter
44	GND	GND
45	FBP IN	Flyback Pulse Input
46	H-OUT	H Pulse Output
47	VCC	Vcc
48	VCC	Vcc
49	VCC	Vcc
50	R OUT	Red Output
51	G OUT	Green Output
52	B OUT	Blue Output
53	ACL	IB-Input
54	N.U.	Not Used
55	N.U.	Not Used
56	SDA	I2C-BUS Controller Interface (Data)
57	I2C-OPEN	White Balance Adjustment Judgement
58	SCL	I2C-BUS Controller Interface (Clock)
59	CS	DVD Interface Chip Select
60	SDATA	DVD Interface Data
61	SCLK	DVD Interface Clock
62	VOLUME	Volume Control
63	AMP-STANDBY	Speaker Amp. ON/OFF Output Signal
64	REMOTE OUT	DVD Control Key Code Output
65	DVD -MUTE	DVD Mute Signal Input
66	KEY-0	Key Input 0
67	KEY-1	Key Input 1
68	AGC-IN	AGC Voltage Input
69	AFT	AFT Voltage Input

Pin No.	Signal Name	Function
70	REMOTE	Input for Remote Control
71	N.U.	Not Used
72	SPOT-KILL	Spot Countermeasure
73	P-SAFETY 1	Power Supply Protection
74	P-SAFETY 2	Power Supply Protection
75	DVD-H/ P-SAFETY 3	DVD at High/Power Supply Protection
76	EXT-L	Switching External Input
77	DVD-MAIN- POWER	Power On Signal to High for DVD
78	P-ON-H	Output for P-ON-H
79	N.U.	Not Used
80	ACL-CONT	ACL Control Signal

LEAD IDENTIFICATIONS

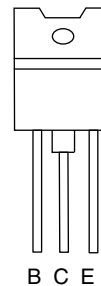


KTC3199(GR)
2SC2785(J,H,F)
KRC103M
KRA103M



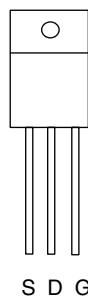
2SA950(Y,O)
2SA1175(F)
2SC2482 TPE6
2SC2120-(O,Y)(TPE2)
2SC1627Y-TPE2

TT2138LS-YB11



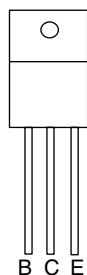
E: Emitter
C: Collector
B: Base

2SK2232

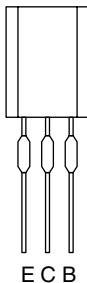


S: Source
D: Drain
G: Gate

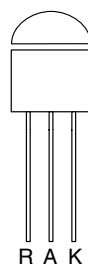
2SA1931



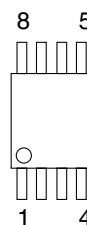
2SD400(F)



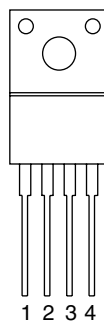
KIA431-AT



NJM4558D
M62212FP

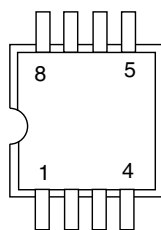


PQ070XF01SZ
PQ015EF01SZ

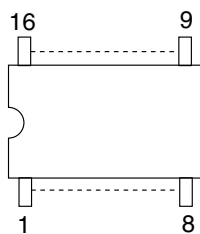


1: Vin
2: Vo
3: GND
4: Vc

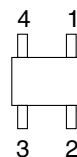
BR24C02F-W



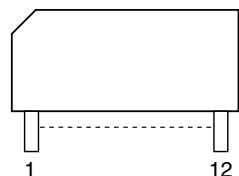
TC4053BF(N)



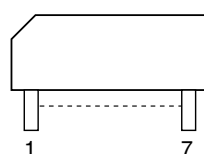
PS2501-1W



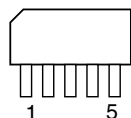
AN17805A



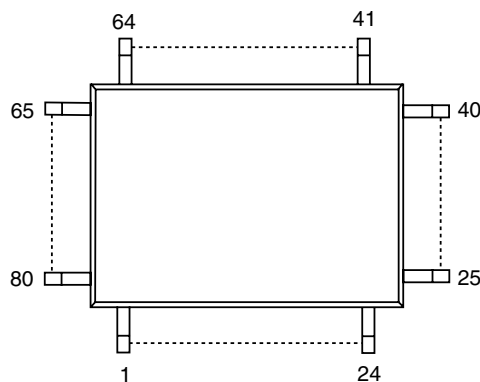
LA78040A



PQ1CG21HFZ



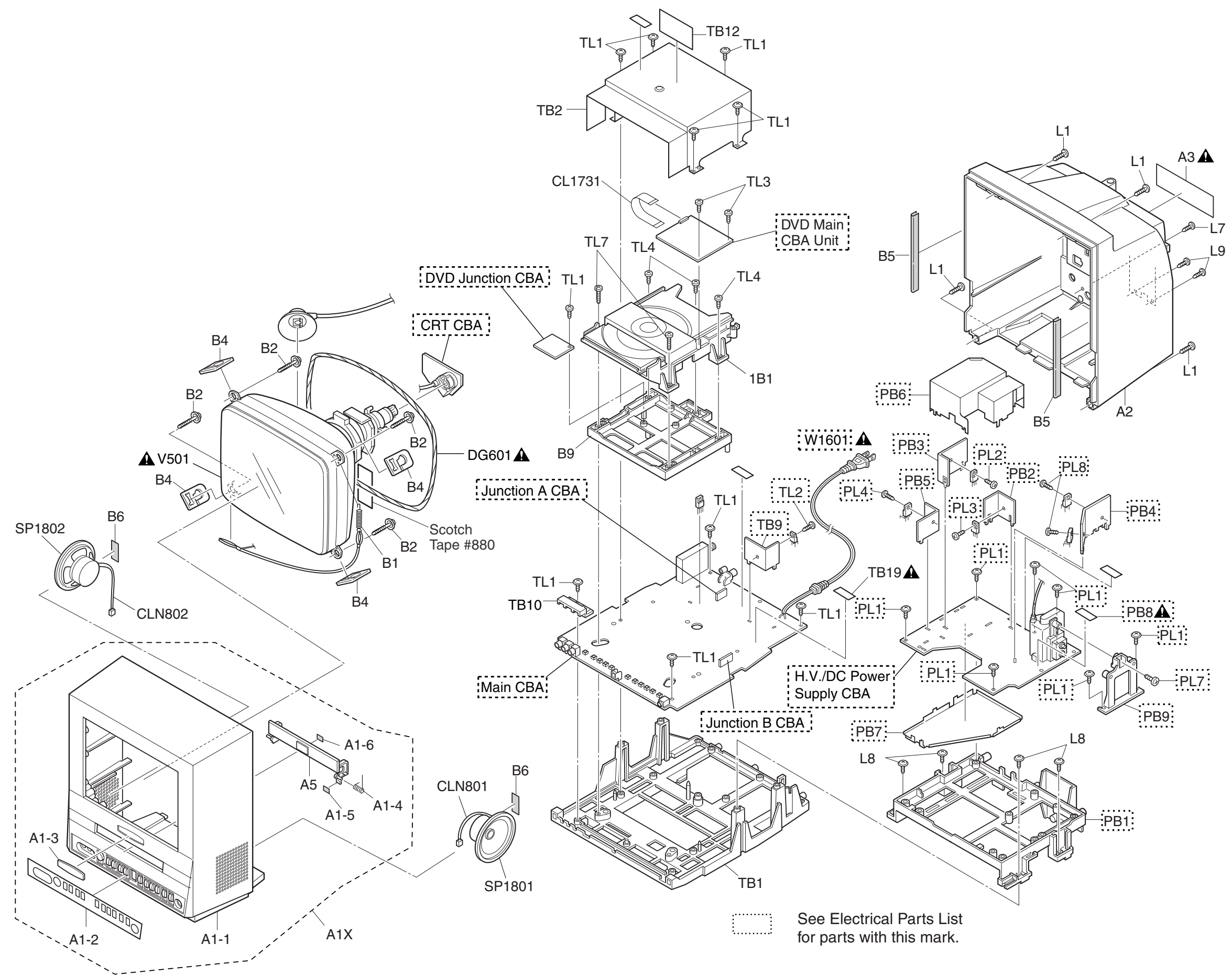
M61271M8-066FP



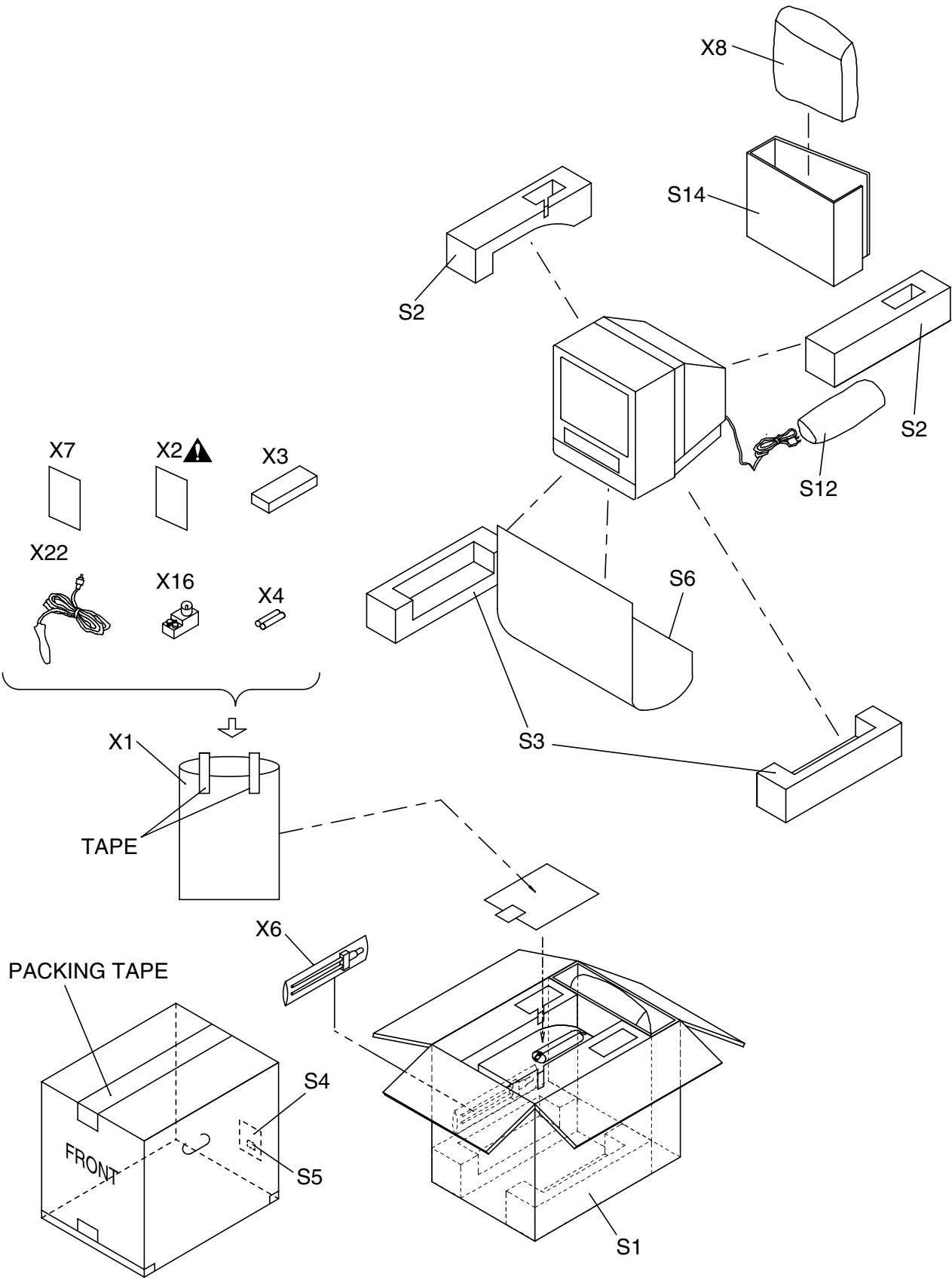
Note:

A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

EXPLODED VIEWS



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.
X2 	OWNER'S MANUAL TD300UA	1EMN20217
X3	REMOTE CONTROL 144/ECNX501/NE221UD	NE221UD
X4	DRY BATTERY R6P UM3	XB0M451GH001
X6	DIPole ANTENNA B5307UH	0EMN00723
X7	SHEET RETURN STOP T4259UK	0EM406203A
X8	CARRYING BAG TD300UA	1EMN20243
X16	MATCHING ADAPTOR ICM-02N	UCPGANTPK004
X22	CAR PLUG CORD WPC0202GA001	WPC0202GA001

Ref. No.	Description	Part No.
A1X	FRONT CABINET ASSEMBLY TD300UA	1EM220091
A1-1	FRONT CABINET TD300UA	1EM220092
A1-2	CONTROL PLATE TD300UA	1EM320166
A1-3	BRAND PLATE T8012UN-EMERSON~	1EM420685
A1-4	TRAY SPRING TD707UH	0EM408552
A1-5	CLOTH(B) L5201U0 15X10X1.0T	0EM400076
A1-6	CLOTH(4X7X0.3T) TD250UA	0EM407578
A2	REAR CABINET TD300UA	1EM220066
A3 	RATING LABEL TD300UA	-----
A5	TRAY PANEL TD300UA	1EM420682
1B1	DVD MECHA(TRP-COMBO) 0838 VCZL0500	N79T0HVM
B1	SPRING TENSION B0080B0 EM40808	26WH006
B2	M5 CRT SCREW(B) L0990UA	0EM405411
B4	9V DEGAUSS HOLDER T4012UN	0EM405132
B5	CLOTH 190X15XT0.5	TS7623
B6	CLOTH(10X30XT0.5) B5900UA	0EM404486
B9	LOADER ADAPTER TD300UA	1EM220065
CL1731	FFC WIRE FFC 12P 250MM	WX1TD300-002
CLN801	SPEAKER WIRE ASSEMBLY 2P/135MM	WX1TD001-003
CLN802	SPEAKER WIRE ASSEMBLY 2P/135MM	WX1TD001-003
DG601 	DEGAUSSING COIL F-052	LLBH00ZTM052
L1	SCREW, P-TIGHT 4X18 BIND HEAD +	GBMP4180
L7	SCREW, P-TIGHT 3X10 BIND HEAD+	GBKP3100
L8	SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120
L9	SCREW, P-TIGHT M4X12 BIND HEAD+	GBKP4120
SP1801	SPEAKER S08F02B	DSD0808XQ010
SP1802	SPEAKER S08F02B	DSD0808XQ010
TB1	TRAY CHASSIS TD001UB	0EM000727
TB2	SHIELD BOX(X4) TD801UB	0EM101275
TB10	RCA HOLDER TD001UB	0EM407842
TB12	LABEL, LASER CAUTION (C) TD100UA	-----
TB19 	9V CHASSIS NO.LABEL TJ TD001UB	-----
TL1	SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120
TL3	SCREW P-TIGHT M3X8 WASHER+	GCMP3080
TL4	SCREW, P-TIGHT 3X16 BIND HEAD +	GBMP3160
TL7	SCREW, P-TIGHT 3X30 BIND HEAD +	GBMP3300
V501 	CRT A23QFA221X001	TCRT190SM031
PACKING		
S1	CARTON TD300UA	1EM420528
S2	STYROFOAM TOP TD001UB	0EM000745
S3	STYROFOAM BOTTOM TD001UB	0EM000746
S4	SERIAL NO. LABEL TD300UA	-----
S5	LABEL, EAS(H3761UD) MAKER NO.ZLLFNSLE1	-----
S6	SET SHEET:1000X600XT0.3 L7300UA	0EM401153
S12	AC CORD SHEET T4400UA	0EM407920
S14	HOLD PAD TD300UA	1EM420773
ACCESSORIES		
X1	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%

DVD MAIN CBA UNIT

Ref. No.	Description	Part No.
	DVD MAIN CBA UNIT	N79T6HUP

MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA Consists of the following:	1ESA10409
CAPACITORS		
C1003	CERAMIC CAP.(AX) B K 0.01µF/50V	CA1J103TU011
C1004	CERAMIC CAP.(AX) B K 0.01µF/50V	CA1J103TU011
C1006	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1007	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1008	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C1009	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C1031	ELECTROLYTIC CAP. 2.2µF/50V M	CE1JMASDL2R2
C1203	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1204	CERAMIC CAP.(AX) B K 0.015µF/50V	CA1J153TU011
C1205	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1206	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C1207	FILM CAP.(P) 0.001µF/50V J	CMA1JJS00102
C1209	CERAMIC CAP.(AX) F Z 0.1µF/50V	CCA1JZTFZ104
C1212	CERAMIC CAP.(AX) CH J 18pF/50V	CCA1JJTCH180
C1213	CERAMIC CAP.(AX) CH J 18pF/50V	CCA1JJTCH180
C1214	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1215	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1216	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1217	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1218	CERAMIC CAP.(AX) F Z 0.1µF/50V	CCA1JZTFZ104
C1219	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C1220	CERAMIC CAP.(AX) B K 220pF/50V	CCA1JKT0B221
C1222	ELECTROLYTIC CAP. 0.1µF/50V M	CE1JMASDLR10
C1224	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1225	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C1228	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C1230	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1231	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C1233	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1256	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1257	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100

Ref. No.	Description	Part No.
C1261	ELECTROLYTIC CAP. 22µF/16V M	CE1CMASDL220
C1262	CERAMIC CAP.(AX) B K 0.01µF/50V	CA1J103TU011
C1263	ELECTROLYTIC CAP. 10µF/16V M	CE1CMASDL100
C1301	CERAMIC CAP.(AX) CH J 100pF/50V	CA1J101TU008
C1302	CERAMIC CAP.(AX) B K 0.01µF/50V	CA1J103TU011
C1304	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C1305	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1306	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1308	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C1309	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1310	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1311	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1314	CERAMIC CAP.(AX) CH J 10pF/50V	CCA1JJTCH100
C1317	TF CAP. 0.47µF/50V J	CT1J474MS045
C1318	CERAMIC CAP.(AX) B K 0.01µF/50V	CA1J103TU011
C1319	ELECTROLYTIC CAP. 2.2µF/50V M H7	CE1JMASSL2R2
C1320	CERAMIC CAP.(AX) B K 0.01µF/50V	CA1J103TU011
C1322	ELECTROLYTIC CAP. 1000µF/10V M	CE1AMASDL102
C1325	CERAMIC CAP.(AX) F Z 0.1µF/50V	CCA1JZTFZ104
C1326	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1327	CERAMIC CAP.(AX) SL J 33pF/50V	CCA1JJTSL330
C1328	CERAMIC CAP.(AX) SL J 33pF/50V	CCA1JJTSL330
C1329	CERAMIC CAP.(AX) SL J 33pF/50V	CCA1JJTSL330
C1333	PCB JUMPER D0.6-P5.0	JW5.0T
C1348	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C1350	ELECTROLYTIC CAP. 22µF/50V M	CE1JMASDL220
C1352	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1452	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1454	CERAMIC CAP.(AX) F Z 0.022µF/25V	CCA1EZTFZ223
C1455	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASDL471
C1458	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1460	CERAMIC CAP.(AX) F Z 0.022µF/25V	CCA1EZTFZ223
C1601▲	METALLIZED FILM CAP. 0.22µF/250V	CT2E224MS037
C1602	CERAMIC CAP. BN 470pF/2KV	CCD3DKA0B471
C1603	CERAMIC CAP. F Z 0.01µF/500V	CCD2JZP0F103
C1604	CERAMIC CAP. F Z 0.01µF/500V	CCD2JZP0F103
C1607▲	SAFETY CAP. 4700pF/250V KX	CA2E472MR050
C1609	FILM CAP.(P) 0.047µF/50V J	CMA1JJS00473
C1610▲	ELECTROLYTIC CAP. 220µF/200V SL X	CA2D221S6003
C1611	FILM CAP.(P) 0.0015µF/50V J	CMA1JJS00152
C1612	FILM CAP.(P) 0.033µF/50V J	CMA1JJS00333
C1615	CERAMIC CAP. BN 560pF/2KV	CCD3DKA0B561
C1616	ELECTROLYTIC CAP. 47µF/160V M W/F	CE2CMZNDL470
C1617	ELECTROLYTIC CAP. 470µF/35V M	CE1GMASDL471
C1619	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASDL471
C1622	ELECTROLYTIC CAP. 1000µF/16V M	CE1CMZPDL102
C1623	FILM CAP.(P) 0.018µF/50V J	CMA1JJS00183
C1624	ELECTROLYTIC CAP. 2200µF/6.3V M	CE0KMZPDL222
C1625	ELECTROLYTIC CAP. 470µF/10V M	CE1AMASDL471
C1626	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1630	CERAMIC CAP.(AX) B K 0.0047µF/50V	CA1J472TU011
C1631	CERAMIC CAP.(AX) B K 0.01µF/50V	CA1J103TU011
C1632	ELECTROLYTIC CAP. 220µF/16V M	CE1CMASDL221
C1633	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C1634	ELECTROLYTIC CAP. 1000µF/6.3V M	CE0KMASDL102
C1638	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C1639	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C1640	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASDL471
C1642	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1643	ELECTROLYTIC CAP. 100µF/16V M H7	CE1CMASDL101

Ref. No.	Description	Part No.
C1644	ELECTROLYTIC CAP. 220µF/6.3V M H7	CE0KMASSL221
C1647	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASDL471
C1650	ELECTROLYTIC CAP. 0.47µF/50V M	CE1JMASDLR47
C1651	CERAMIC CAP(AX) F Z 0.022µF/25V	CCA1EZTFZ223
C1652	CERAMIC CAP(AX) F Z 0.1µF/50V	CCA1JZTFZ104
C1653	ELECTROLYTIC CAP. 1000µF/6.3V M	CE0KMASDL102
C1656	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1657	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
C1664	ELECTROLYTIC CAP. 220µF/6.3V M	CE0KMASDL221
C1666	CERAMIC CAP(AX) X M 2200pF/16V	CCA1CMT0X222
C1668	ELECTROLYTIC CAP. 4.7µF/25V M	CE1EMASDL4R7
C1669	CERAMIC CAP(AX) B K 0.01µF/50V	CA1J103TU011
C1670	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
C1672	CERAMIC CAP(AX) B K 1000pF/50V	CCA1JKT0B102
C1702	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1704	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1732	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C1733	CERAMIC CAP(AX) B K 1000pF/50V	CCA1JKT0B102
C1734	CERAMIC CAP(AX) F Z 0.1µF/50V	CCA1JZTFZ104
C1735	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASDL470
C1737	CERAMIC CAP(AX) B K 100pF/50V	CCA1JKT0B101
C1738	CERAMIC CAP(AX) CH J 20pF/50V	CCA1JUTCH200
C1741	CERAMIC CAP(AX) X K 4700pF/16V	CCA1CKT0X472
C1746	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASDL471
C1748	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1749	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1750	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C1751	CERAMIC CAP(AX) F Z 0.022µF/25V	CCA1EZTFZ223
C1752	CERAMIC CAP(AX) SL J 47pF/50V	CCA1JUTSL470
C1754	ELECTROLYTIC CAP. 47µF/16V M	CE1CMASDL470
C1756	CERAMIC CAP(AX) SL J 47pF/50V	CCA1JUTSL470
C1757	CERAMIC CAP(AX) B K 220pF/50V	CCA1JKT0B221
C1758	CERAMIC CAP(AX) B K 100pF/50V	CCA1JKT0B101
C1759	CERAMIC CAP(AX) F Z 0.022µF/25V	CCA1EZTFZ223
C1762	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1773	CERAMIC CAP(AX) B K 220pF/50V	CCA1JKT0B221
C1801	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1802	CERAMIC CAP(AX) B K 560pF/50V	CCA1JKT0B561
C1803	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C1804	CERAMIC CAP(AX) B K 560pF/50V	CCA1JKT0B561
C1807	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASDL471
C1808	ELECTROLYTIC CAP. 100µF/16V M	CE1CMASDL101
C1809	ELECTROLYTIC CAP. 330µF/16V M	CE1CMASDL331
C1813	ELECTROLYTIC CAP. 330µF/16V M	CE1CMASDL331
C1814	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1815	CERAMIC CAP(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1816	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
C1817	ELECTROLYTIC CAP. 10µF/50V M	CE1JMASDL100
CONNECTORS		
CN1302	242 SERIES CONNECTOR 224202112W1	J322C12TG001
CN1601▲	CONNECTOR BASE, 2P TV-50P-02-V3	J3TVC02TG002
CN1603	FMN CONNECTOR, TOP 22P 22FMN-BTRK	JCFNG22JG002
CN1604	242 SERIES CONNECTOR 224202117W1	J322C17TG001
CN1731	FMN CONNECTOR, TOP 12P 12FMN-BTRK	JCFNG12JG002
CN1801	STRAIGHT CONNECTOR BASE 00 8283 0212 00 000	J383C02UG002
CN1802	STRAIGHT CONNECTOR BASE 00 8283 0212 00 000	J383C02UG002
DIODES		
D1225	ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D1226	ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D1261	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1281	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133

Ref. No.	Description	Part No.
D1307	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1309	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1310	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1311	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1312	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1313	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1314	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1315	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1316	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1317	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1318	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1320	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1350	PCB JUMPER D0.6-P5.0	JW5.0T
D1603▲	DIODE 1N5399-B/P	NDLZ001N5399
D1604▲	DIODE 1N5399-B/P	NDLZ001N5399
D1605▲	DIODE 1N5399-B/P	NDLZ001N5399
D1606▲	DIODE 1N5399-B/P	NDLZ001N5399
D1607▲	ZENER DIODE MTZJT-7720C	QDTC00MTZJ20
D1609▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1610	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D1613	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1614▲	ZENER DIODE MTZJT-7736A	QDTA00MTZJ36
D1616	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1617▲	SCHOTTKY BARRIER DIODE ERA81-004Q	QDLZRA81004Q
D1618▲	RECOVERY DIODE ERC18-04	QDZZ0ERC1804
D1619▲	DIODE FR104-B	NDLZ000FR104
D1620▲	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D1621	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1622▲	DIODE FR104-B	NDLZ000FR104
D1623▲	DIODE FR154	NDLZ000FR154
D1624▲	SCHOTTKY BARRIER DIODE ERB81-004	AERB81004***
D1625▲	SCHOTTKY BARRIER DIODE ERA81-004Q	QDLZRA81004Q
D1626	ZENER DIODE MTZJT-7736A	QDTA00MTZJ36
D1627▲	SCHOTTKY BARRIER DIODE ERB81-004	AERB81004***
D1628▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1629▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1630	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1631	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1632	SCHOTTKY BARRIER DIODE ERA81-004Q	QDLZRA81004Q
D1633	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1634	ZENER DIODE MTZJT-779.1B	QDTB0MTZJ9R1
D1635	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1636	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1637▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1638▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1640▲	DIODE 1ZC30	QDQZ0001ZC30
D1641	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D1643	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1644	ZENER DIODE MTZJT-775.6C	QDTC00MTZJ5R6
D1645	ZENER DIODE MTZJT-776.8A	QDTA00MTZJ6R8
D1647	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1648	ZENER DIODE MTZJT-7715A	QDTA00MTZJ15
D1649▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1650▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1651▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1652▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1657	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1660	PCB JUMPER D0.6-P5.0	JW5.0T
D1661	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1663	ZENER DIODE MTZJT-775.6C	QDTC00MTZJ5R6
D1664	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D1667	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
D1730	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6

Ref. No.	Description	Part No.
D1732	PCB JUMPER D0.6-P5.0	JW5.0T
D1735	PCB JUMPER D0.6-P5.0	JW5.0T
D1736	ZENER DIODE MTZJT-775.1B	QDTB0MTZJ5R1
D1739	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1740	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1801	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1856	PCB JUMPER D0.6-P5.0	JW5.0T
ICS		
IC1201▲	MICRO COMPUTER M61271M8-066FP	QSZAA0RHT057
IC1202	IC:MEMORY BR24C02F-W	QSMBA0SRM003
IC1451	IC:SWITCH TC4053BF(N)	QSMBA0STS002
IC1452	IC:SWITCH TC4053BF(N)	QSMBA0STS002
IC1601▲	PHOTOCOUPLER PS2501-1W	QPEW0PS25011
IC1602▲	1.5V REGULATOR PQ015EF01SZ	QSZBA0SSH011
IC1603	VOLTAGE REGULATOR PQ070XF01SZ	QSZBA0SSH026
IC1604	IC:SHUNT REGULATOR KIA431-AT	NSZLA0TJY001
IC1731	IC:OP AMP NJM4558D	QSZBA0SJR006
IC1801	AUDIO POWER IC AN17805A	QSZBA0SMS007
COILS		
L1001	PCB JUMPER D0.6-P5.0	JW5.0T
L1002	PCB JUMPER D0.6-P5.0	JW5.0T
L1201	INDUCTOR 22μH-K-5FT	LLARKBSTU220
L1203	INDUCTOR 22μH-J-26T	LLAXJATTU220
L1204	INDUCTOR 22μH-J-26T	LLAXJATTU220
L1302	PCB JUMPER D0.6-P5.0	JW5.0T
L1601▲	LINE FILTER 2.7MH ELF15N013A	LLBG00ZMS037
L1602	INDUCTOR 2.2μH-K-5FT	LLARKBSTU2R2
L1603	INDUCTOR 22μH-K-5FT	LLARKBSTU220
L1609	PCB JUMPER D0.6-P5.0	JW5.0T
L1610	PCB JUMPER D0.6-P5.0	JW5.0T
L1611	PCB JUMPER D0.6-P5.0	JW5.0T
L1612	PCB JUMPER D0.6-P5.0	JW5.0T
L1613	PCB JUMPER D0.6-P5.0	JW5.0T
L1734	PCB JUMPER D0.6-P5.0	JW5.0T
L1735	PCB JUMPER D0.6-P5.0	JW5.0T
L1737	CHOKE COIL 47μH-K	LLBD00PKV007
L1738	PCB JUMPER D0.6-P5.0	JW5.0T
L1739	INDUCTOR 0.47μH-J-26T	LLAXJATTUR47
L1851	PCB JUMPER D0.6-P5.0	JW5.0T
L1852	INDUCTOR 2.2μH-K-5FT	LLARKBSTU2R2
L1853	INDUCTOR 2.2μH-K-5FT	LLARKBSTU2R2
L1854	PCB JUMPER D0.6-P5.0	JW5.0T
L1855	INDUCTOR 2.2μH-K-5FT	LLARKBSTU2R2
L1856	INDUCTOR 2.2μH-J-26T	LLAXJATTU2R2
L1857	INDUCTOR 2.2μH-J-26T	LLAXJATTU2R2
TRANSISTORS		
Q1282	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1301	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1350	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1453	RES. BUILT-IN TRANSISTOR KRC103M	NQSZ0KRC103M
Q1454	RES. BUILT-IN TRANSISTOR KRC103M	NQSZ0KRC103M
Q1601▲	MOS FET 2SK3563	QFWZ02SK3563
Q1602▲	TRANSISTOR 2SC2120-O-TPE2	QQS002SC2120
Q1604▲	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1605	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1606	TRANSISTOR 2SA950(O)	Q2SA9500TPE2
Q1607	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1608	TRANSISTOR 2SC2120-O-TPE2	QQS002SC2120
Q1609	TRANSISTOR 2SC2120-O-TPE2	QQS002SC2120
Q1610▲	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q1611	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1612	TRANSISTOR 2SC2785(F)	QQSF02SC2785

Ref. No.	Description	Part No.
Q1613	TRANSISTOR 2SC2120-O-TPE2	QQS002SC2120
Q1614	TRANSISTOR 2SD400(F)	QQUF002SD400
Q1616	RES. BUILT-IN TRANSISTOR KRA103M	NQSZ0KRA103M
Q1619▲	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q1620	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1621	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1622	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1623	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1625	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1731	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1736	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1737	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q1738	TRANSISTOR 2SA1175(F)	QQSF02SA1175
RESISTORS		
R1001	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1002	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1035	CARBON RES. 1/4W J 470k Ω	RCX4JATZ0474
R1201	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1202	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1203	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1204	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R1205	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1206	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1207	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1208	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1209	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R1210	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R1211	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1212	PCB JUMPER D0.6-P5.0	JW5.0T
R1214	PCB JUMPER D0.6-P5.0	JW5.0T
R1216	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1217	PCB JUMPER D0.6-P5.0	JW5.0T
R1220▲	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1221▲	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1222▲	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1223▲	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1224	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1225	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1226	PCB JUMPER D0.6-P5.0	JW5.0T
R1227	PCB JUMPER D0.6-P5.0	JW5.0T
R1228	PCB JUMPER D0.6-P5.0	JW5.0T
R1229	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1230	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1232	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R1233	PCB JUMPER D0.6-P5.0	JW5.0T
R1234	PCB JUMPER D0.6-P5.0	JW5.0T
R1235	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1238	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1240	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1241	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1257	PCB JUMPER D0.6-P5.0	JW5.0T
R1260	PCB JUMPER D0.6-P5.0	JW5.0T
R1261	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1262	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1281	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1283	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1284	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1285	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1289	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1301	CARBON RES. 1/4W J 120k Ω	RCX4JATZ0124
R1302	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R1303	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103

Ref. No.	Description	Part No.
R1304	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1305	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1306	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1307	PCB JUMPER D0.6-P5.0	JW5.0T
R1308	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1309	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R1312	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1313	PCB JUMPER D0.6-P5.0	JW5.0T
R1317	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1318	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R1319	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1320	CARBON RES. 1/4W J 120k Ω	RCX4JATZ0124
R1323	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1324	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1334	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1335	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1336	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1337	PCB JUMPER D0.6-P5.0	JW5.0T
R1338	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R1346	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R1351	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1430	PCB JUMPER D0.6-P5.0	JW5.0T
R1464	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1465	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1466	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1467	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1469	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1472	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1473	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1474	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1475	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1476	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1477	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1478	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1479	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1480	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1600	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1601▲	CEMENT RES. 3W K 1.2 Ω	RW031R2PG007
R1602	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1603	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1604▲	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1605▲	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1606	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1607	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1608	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0184
R1609	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R1610	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R1611▲	METAL OXIDE FILM RES. 2W J 0.39 Ω	RN02R39ZU001
R1612▲	METAL OXIDE FILM RES. 1W J 1.2 Ω	RN011R2ZU001
R1613	CARBON RES. 1/4W J 120 Ω	RCX4JATZ0121
R1614	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1615	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R1616	PCB JUMPER D0.6-P5.0	JW5.0T
R1617	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1618▲	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R1619	METAL OXIDE FILM RES. 1W J 820 Ω	RN01821ZU001
R1620▲	METAL OXIDE FILM RES. 2W J 10k Ω	RN02103ZU001
R1621▲	METAL OXIDE FILM RES. 2W J 10k Ω	RN02103ZU001
R1622	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R1623▲	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R1624▲	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R1625▲	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1629▲	CARBON RES. 1/4W J 13k Ω	RCX4JATZ0133

Ref. No.	Description	Part No.
R1630▲	CARBON RES. 1/4W J 13k Ω	RCX4JATZ0133
R1631▲	CARBON RES. 1/4W J 13k Ω	RCX4JATZ0133
R1632▲	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1633▲	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1634	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1635	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1636▲	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R1637	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R1638	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1639▲	CARBON RES. 1/2W J 820 Ω	RCX2JZQZ0821
R1640	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R1641	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1642	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R1643▲	CARBON RES. 1/2W J 18 Ω	RCX2JZQZ0180
R1644	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1645▲	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1646	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1647▲	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R1648▲	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R1649▲	METAL OXIDE FILM RES. 2W J 10 Ω	RN02100ZU001
R1650	PCB JUMPER D0.6-P5.0	JW5.0T
R1651▲	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1652	METAL OXIDE FILM RES. 1W J 47 Ω	RN01470ZU001
R1653▲	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R1654▲	PCB JUMPER P12.5MM	JW12.5
R1655▲	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R1656	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1657	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1658	METAL OXIDE FILM RES. 1W J 1 Ω	RN011R0ZU001
R1659	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1660	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1661	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1662	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R1663	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1664	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1665	METAL OXIDE FILM RES. 1W J 3.3 Ω	RN013R3ZU001
R1666▲	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1667▲	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R1669	PCB JUMPER D0.6-P5.0	JW5.0T
R1670	CARBON RES. 1/4W G 4.7k Ω	RCX4GATZ0472
R1671	CARBON RES. 1/4W G 8.2k Ω	RCX4GATZ0822
R1673	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1674	CARBON RES. 1/4W J 22 Ω	RCX4JATZ0220
R1675	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R1680	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1681	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1682	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1683	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1684	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1685	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1686	CARBON RES. 1/4W J 1.2 Ω	RCX4JATZ01R2
R1687	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1688	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1689	CARBON RES. 1/4W G 20k Ω	RCX4GATZ0203
R1690	CARBON RES. 1/4W G 56k Ω	RCX4GATZ0563
R1691▲	METAL OXIDE FILM RES. 1W J 1 Ω	RN011R0ZU001
R1692	METAL OXIDE FILM RES. 1W J 0.39 Ω	RN01R39ZU001
R1693	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1694	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1695	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R1696	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1697	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1698	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102

Ref. No.	Description	Part No.
R1699▲	CARBON RES. 1/4W J 3.9k Ω	RCX4JATZ0392
R1701	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R1703	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1706	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1733	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1734	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R1735	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1736	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R1737	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R1749	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R1750	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1752	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R1753	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1756	CARBON RES. 1/4W J 20k Ω	RCX4JATZ0203
R1758	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R1759	PCB JUMPER D0.6-P5.0	JW5.0T
R1760	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R1761	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R1762	CARBON RES. 1/4W J 30k Ω	RCX4JATZ0303
R1763	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R1764	CARBON RES. 1/4W J 30k Ω	RCX4JATZ0303
R1765	PCB JUMPER D0.6-P5.0	JW5.0T
R1767	PCB JUMPER D0.6-P5.0	JW5.0T
R1768	PCB JUMPER D0.6-P5.0	JW5.0T
R1778	CARBON RES. 1/4W J 20k Ω	RCX4JATZ0203
R1788	CARBON RES. 1/4W J 160 Ω	RCX4JATZ0161
R1789	CARBON RES. 1/4W J 160 Ω	RCX4JATZ0161
R1790	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1791	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R1792	PCB JUMPER D0.6-P5.0	JW5.0T
R1793	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R1794	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R1795	PCB JUMPER D0.6-P5.0	JW5.0T
R1801▲	METAL OXIDE FILM RES. 1W J 1 Ω	RN011R0ZU001
R1802	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R1804	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1805	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R1806	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R1808	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1809	METAL OXIDE FILM RES. 1W J 1 Ω	RN011R0ZU001
R1810	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1814	PCB JUMPER D0.6-P5.0	JW5.0T
R1851	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1852	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1901	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
SWITCHES		
SW1201	TACT SWITCH SKQSAB	SST0101AL038
SW1202	TACT SWITCH SKQSAB	SST0101AL038
SW1203	TACT SWITCH SKQSAB	SST0101AL038
SW1204	TACT SWITCH SKQSAB	SST0101AL038
SW1205	TACT SWITCH SKQSAB	SST0101AL038
SW1206	TACT SWITCH SKQSAB	SST0101AL038
SW1207	TACT SWITCH SKQSAB	SST0101AL038
SW1208	TACT SWITCH SKQSAB	SST0101AL038
SW1209	TACT SWITCH SKQSAB	SST0101AL038
SW1210	TACT SWITCH SKQSAB	SST0101AL038
SW1211	TACT SWITCH SKQSAB	SST0101AL038
MISCELLANEOUS		
BC1601	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1602	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1605	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1606	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021

Ref. No.	Description	Part No.
BC1731	PCB JUMPER D0.6-P5.0	JW5.0T
BC1732	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1733	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1734	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1735	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1736	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
F1601▲	FUSE 4.00A/125V	PAGU20CAG402
FH1601	FUSE HOLDER MSF-015	XH01Z00LY001
FH1602	FUSE HOLDER MSF-015	XH01Z00LY001
J1904	INDUCTOR 22μH-K-5FT	LLARKBSTU220
J2050	PCB JUMPER D0.6-P5.0	JW5.0T
JK1701	RCA JACK(YELLOW) MTJ-032-05B-20	JXRL010LY038
JK1702	RCA JACK(RED) MTJ-032-05A-21	JYRL010LY010
JK1703	RCA JACK(WHITE) MTJ-032-05B-22	JXRL010LY039
JK1730	RCA JACK MSP-241V-05	JXRL010LY036
JK1801	MINI JACK HSJ2000-01-010	JYSL010HD002
PS1601▲	THERMISTOR ZPB45BL7R0A	QNZZ45BL7R0A
RS1201	REMOCON RECEIVE UNIT PIC-37042SR	USESJRSKK034
SA1601▲	SURGE ABSORBER 470V+-10PER	NVQZ10D471KB
SG1601▲	GAP. FNR-G3.10D	FAZ000LD6005
T1601▲	SWITCHING TRANS 2714	LTT00CPKT105
TB9	13V HEAT SINK PHQ TD701UB	OEM407765A
TL2	SCREW, B-TIGHT D3X8 BIND HEAD+	GBMB3080
TP1301	PCB JUMPER D0.6-P7.5	JW7.5T
TP1302	PCB JUMPER D0.6-P15.0	JW15.0T
TP1303	PCB JUMPER D0.6-P7.5	JW7.5T
TP1401	PCB JUMPER D0.6-P10.0	JW10.0T
TP1402	PCB JUMPER D0.6-P10.0	JW10.0T
TP1731	PCB JUMPER D0.6-P7.5	JW7.5T
TP1732	PCB JUMPER D0.6-P7.5	JW7.5T
TP1733	PCB JUMPER D0.6-P10.0	JW10.0T
TU1001	TUNER TMQH2-001A	UTUNNTUAL036
VR1601▲	CARBON P.O.T. 10k Ω B	VRCB103KA012
W1601▲	AC CORD PB8K9F9110A-057	WAC0172LW008
X1201	X'TAL 8.00MHz	FXD805LLN001
X1301	X'TAL 3.579545 MHz	FXD355LLN003

H.V. CBA ASSEMBLY

Ref. No.	Description	Part No.
	H.V. CBA ASSEMBLY Consists of the following:	X5S09HV1
	H.V./DC POWER SUPPLY CBA CRT CBA JUNCTION A CBA JUNCTION B CBA	----- ----- ----- -----

H.V./DC POWER SUPPLY CBA

Ref. No.	Description	Part No.
	H.V./DC POWER SUPPLY CBA Consists of the following:	-----
CAPACITORS		
C552	MYLAR CAP. 0.22μF/50V J	CMA1JJS00224
C553	ELECTROLYTIC CAP. 2.2μF/50V M LL	CE1JMASLL2R2
C555	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASDL470
C556▲	ELECTROLYTIC CAP. 1000μF/25V M	CE1EMZPDL102
C558	CERAMIC CAP.(AX) B K 0.01μF/50V	CA1J103TU011
C559	ELECTROLYTIC CAP. 330μF/35V M	CE1GMASDL331
C560	FILM CAP.(P) 0.01μF/50V J	CMA1JJS00103
C571▲	P.P. CAP 0.15μF/200V J	CA2D154VC012
C574▲	ELECTROLYTIC CAP. 4.7μF/250V M	CE2EMASDL4R7
C577	FILM CAP.(P) 0.022μF/50V J	CMA1JJS00223
C578	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASDL470

Ref. No.	Description	Part No.
C580▲	P.PCAP 0.0068μF/1.6KV J	CA3C682VC011
C581▲	CERAMIC CAP. BN 820pF/2KV	CCD3DKA0B821
C584▲	ELECTROLYTIC CAP. 1μF/160V M	CE2CMASDL1R0
C591▲	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C592▲	ELECTROLYTIC CAP. 4.7μF/35V M	CE1GMASDL4R7
C594	ELECTROLYTIC CAP. 100μF/160V M	CE2CMZPDL101
C930	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C931	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASDL470
C932	CERAMIC CAP.(AX) B K 0.0047μF/50V	CA1J472TU011
C933	ELECTROLYTIC CAP. 10μF/16V M	CE1CMASDL100
C935	ELECTROLYTIC CAP. 2200μF/6.3V M	CE0KMZPDL222
C937	ELECTROLYTIC CAP. 100μF/25V M	CE1EMASDL101
C952	ELECTROLYTIC CAP. 3300μF/25V(PJ)	CA1E332NC052
C953	ELECTROLYTIC CAP. 1000μF/25V M	CE1EMZPDL102
C954	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C957	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C958▲	CERAMIC CAP. BN 330pF/2KV	CCD3DKA0B331
C959	ELECTROLYTIC CAP. 100μF/160V M	CE2CMZPDL101
C960	CERAMIC CAP. B K 1500pF/1KV	CCD3AKD0B152
C961	ELECTROLYTIC CAP. 220μF/35V M	CE1GMASDL221
C963	FILM CAP.(P) 0.0012μF/50V J	CMA1JJS00122
C966	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZTFZ104
CONNECTOR		
CN571	CONNECTOR BASE, 5P TV-50P-05-V3	J3TVC05TG002
DIODES		
D552	DIODE 1N5397-B	NDLZ001N5397
D571▲	DIODE FR154	NDLZ000FR154
D572▲	DIODE FR104-B	NDLZ000FR104
D584▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D585▲	ZENER DIODE MTZJT-775.1B	QDTB00MTZJ5R1
D591▲	ZENER DIODE MTZJT-7736B	QDTB00MTZJ36
D595▲	ZENER DIODE MTZJT-7718B	QDTB00MTZJ18
D596▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D597▲	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D598▲	DIODE FR104-B	NDLZ000FR104
D952▲	DIODE 1ZC18	QDQZ0001ZC18
D955▲	FAST RECOVERY DIODE 20NFA60	QDAZ020NFA60
D956▲	DIODE FR154	NDLZ000FR154
D957	ZENER DIODE MTZJT-7711B	QDTB00MTZJ11
D958	RECTIFIER DIODE 1N4005	NDQZ001N4005
D959▲	SCHOTTKY BARRIER DIODE ERA81-004Q	QDLZRA81004Q
D960	DIODE FR104-B	NDLZ000FR104
D961	DIODE FR104-B	NDLZ000FR104
D962	RECTIFIER DIODE 1N4005	NDQZ001N4005
D963	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D964	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D965	ZENER DIODE MTZJT-776.8B	QDTB00MTZJ6R8
D966	SCHOTTKY BARRIER DIODE ERB81-004	AERB81004***
D967	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D968	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
ICS		
IC551▲	VERTICAL OUTPUT IC LA78040A	QSBBA0SSY003
IC902▲	IC(REGULATOR) PQ1CG21HFZ	QSZBA0SSH004
IC951	IC:SWITCHING REGULATOR M62212FP	QSZBA0TMB004
COILS		
L551	CHOKE COIL 47μH-K	LLBD00PKV007
L953	CHOKE COIL 220μH-K	LLBD00PKV014
L961	CHOKE COIL 47μH-K-1	LLBD00PKV017
TRANSISTORS		
Q571▲	TRANSISTOR TT2138LS-YB11	QQZZ00TT2138
Q572▲	TRANSISTOR 2SC1627Y-TPE2	QQSY02SC1627
Q591▲	TRANSISTOR 2SC2785(F)	QQSF02SC2785

Ref. No.	Description	Part No.
Q930▲	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q931▲	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q932▲	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q933▲	MOS FET 2SK2232	QF5202SK2232
Q934▲	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q935	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q951	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q952	RES. BUILT-IN TRANSISTOR KRC103M	NQSZ0KRC103M
Q953▲	TRANSISTOR 2SA1931	QQZZ02SA1931
Q954	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q955	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q956	TRANSISTOR 2SC2785(F)	QQSF02SC2785
RESISTORS		
R536	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R551	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R556	CARBON RES. 1/4W J 4.7 Ω	RCX4JATZ04R7
R557	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R558	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R559	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R560	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R561	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R562	CARBON RES. 1/4W J 4.7 Ω	RCX4JATZ04R7
R563	CARBON RES. 1/4W J 4.7 Ω	RCX4JATZ04R7
R565▲	CARBON RES. 1/4W J 4.7 Ω	RCX4JATZ04R7
R566▲	CARBON RES. 1/4W J 4.7 Ω	RCX4JATZ04R7
R567▲	PCB JUMPER D0.6-P5.0	JW5.0T
R568▲	PCB JUMPER D0.6-P5.0	JW5.0T
R569	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R570▲	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R573	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R574	METAL RESISTOR 2W J 820 Ω	RN02821ZU001
R575▲	METAL RESISTOR 2W J 820 Ω	RN02821ZU001
R576▲	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R577	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R579	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R580	CARBON RES. 1/4W J 82 Ω	RCX4JATZ0820
R583▲	METAL OXIDE FILM RES. 2W J 3.9 Ω	RN023R9ZU001
R584▲	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R585	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R586	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R587▲	CARBON RES. 1/4W J 220k Ω	RCX4JATZ0224
R588▲	CARBON RES. 1/4W J 270k Ω	RCX4JATZ0274
R589▲	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R590▲	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R591▲	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R592▲	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0184
R593▲	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R594▲	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R596	PCB JUMPER D0.6-P5.0	JW5.0T
R597▲	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R598▲	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R599▲	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R907	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R908	CARBON RES. 1/4W G 1k Ω	RCX4GATZ0102
R910	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R911	CARBON RES. 1/4W G 3.3k Ω	RCX4GATZ0332
R912	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R913	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R914	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R930	PCB JUMPER D0.6-P5.0	JW5.0T
R931	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R932	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391

Ref. No.	Description	Part No.
R933	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R934	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R935	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R936	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R937	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R938	CARBON RES. 1/4W J 18k Ω	RCX4JATZ0183
R939	PCB JUMPER D0.6-P5.0	JW5.0T
R940	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R941	CARBON RES. 1/4W J 330k Ω	RCX4JATZ0334
R942	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R953	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R954	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R955	PCB JUMPER D0.6-P5.0	JW5.0T
R958▲	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R959▲	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R960	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R961▲	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R962▲	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R963	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R964	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R965	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R966▲	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R967	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R968	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R969	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R970	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R971	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R972	CARBON RES. 1/4W J 47 Ω	RCX4JATZ0470
R973	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R974▲	METAL OXIDE FILM RES. 2W J 12 Ω	RN02120ZU001
R975▲	PCB JUMPER D0.6-P5.0	JW5.0T
MISCELLANEOUS		
BC571	BEAD INDUCTORS FBA04HA600VB-00	LLBF00STU026
BC591	PCB JUMPER D0.6-P5.0	JW5.0T
BC951	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC952	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC953	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC954	PCB JUMPER D0.6-P5.0	JW5.0T
F951▲	FUSE 8.00A/125V	PAGU20CAG802
FH951	FUSE HOLDER MSF-015	XH01Z00LY001
FH952	FUSE HOLDER MSF-015	XH01Z00LY001
JK951▲	DC JACK	1630382
PB1	9V POWER PCB HOLDER TD001UB	0EM000728
PB2	9V POW HEAT SINK(PHR) TD001UB	0EM407763A
PB3	9V DC HEAT SINK PHU ASSEMBLY TD001UB	0EM407878A
PB4	X4 H/V HEAT SINK(PHJ) TD801UB	0EM301754B
PB5	X3 FILTER HEAT SINK PGL TD500UA	0EM407094A
PB6	SHIELD CASE (TOP) TD001UB	0EM301839
PB7	SHIELD CASE (BOTTOM) TD001UB	0EM301840
PB8▲	9V CHASSIS NO.LABEL DJ TD001UB	-----
PB9	FBT HOLDER TD001UB	0EM407841
PL1	SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120
PL2	SCREW, B-TIGHT D3X8 BIND HEAD+	GBMB3080
PL3	SCREW, B-TIGHT D3X8 BIND HEAD+	GBMB3080
PL4	SCREW, B-TIGHT D3X8 BIND HEAD+	GBMB3080
PL7	SCREW TAPPING M4X14	DBU14140
PL8	SCREW, B-TIGHT D3X8 BIND HEAD+	GBMB3080
T571▲	FLYBACK TRANS BSC23-2610S	LTF00CPS2056
T572▲	HORIZONTAL DRIVE TRANS LP2-005	LTH00CPA5005
T951▲	SWITCHING TRANS DC K1J2KDC	LTT00ZPKT091
VR951▲	CARBON P.O.T. 20k Ω B	VRCB203KA011
WH501	LEAD WIRE 7P/	WX1TD001-002

Ref. No.	Description	Part No.
WH553	LEAD WIRE 12P/	WX1TD800-001
WH554A	LEAD WIRE 17P/(6P+6P+5P)	WX1TD001-001

CRT CBA

Ref. No.	Description	Part No.
	CRT CBA Consists of the following:	-----
CAPACITORS		
C501	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C502	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C503	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C505	CERAMIC CAP. B K 1000pF/2KV	CCD3DKP0B102
CONNECTOR		
CN501	CONNECTOR PIN, 1P RT-01N-2.3A	1730688
TRANSISTORS		
Q501	TRANSISTOR 2SC2482 TPE6	QQSZ02SC2482
Q502	TRANSISTOR 2SC2482 TPE6	QQSZ02SC2482
Q503	TRANSISTOR 2SC2482 TPE6	QQSZ02SC2482
RESISTORS		
R501▲	METAL OXIDE FILM RES. 1W J 15k Ω	RN01153ZU001
R502▲	METAL OXIDE FILM RES. 1W J 15k Ω	RN01153ZU001
R503▲	METAL OXIDE FILM RES. 1W J 15k Ω	RN01153ZU001
R504	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R505	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R506	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R507	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R508	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R509	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R513	CARBON RES. 1/4W J 15 Ω	RCX4JATZ0150
R514	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R515	CARBON RES. 1/4W J 15 Ω	RCX4JATZ0150
R516	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R517	CARBON RES. 1/4W J 15 Ω	RCX4JATZ0150
R518	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R519	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R520	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R521	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R522	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R523	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R524	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
MISCELLANEOUS		
JK501▲	CRT SOCKET ISMS02S	JSCC220PK003

JUNCTION A CBA

Ref. No.	Description	Part No.
	JUNCTION A CBA Consists of the following:	-----
CONNECTOR		
CN901A	242 SERIES CONNECTOR TUC-P17X-B1 WHT ST	JCTUB17TG002

JUNCTION B CBA

Ref. No.	Description	Part No.
	JUNCTION B CBA Consists of the following:	-----
CONNECTOR		
CN503	242 SERIES CONNECTOR TUC-P12X-B1 WHT ST	JCTUB12TG002

DVD JUNCTION CBA

Ref. No.	Description	Part No.
	DVD JUNCTION CBA Consists of the following:	1ESA10528
MISCELLANEOUS		
CL1603	FFC WIRE FFC 22P 80MM	WX1TD300-001
CL2603	FFC WIRE FFC 22P 220MM	WX1TD300-003

