

# SERVICE MANUAL

# CPD-2401

CPD-2401

*US Model**Canadian Model*

Chassis No. L29N-A



## D99 CHASSIS

### SPECIFICATIONS

<b>Picture tube</b>	0.24-0.25 mm aperture grill pitch 17 inches measured diagonally 90-degree deflection	<b>Power Consumption</b>	Maximum 120W Minimum 95W
<b>Video image area</b>	(16" maximum viewing image) Approx. 326 X 243 mm (w/h) (12 <sup>7/8</sup> x 9 <sup>5/8</sup> inches)	<b>Deflection frequency</b>	Horizontal: 30 to 85 KHz Vertical: 48 to 120 Hz
<b>Resolution</b>	Horizontal: Max. 1280 dots Vertical: Max. 1024 lines	<b>AC input voltage / current</b>	100 to 120 V, 50/60 Hz, 1.7A 220 to 240V, 50/60Hz, 0.9A
<b>Standard image area</b>	Approx. 312 x 234 mm (w/h) (12 <sup>1/4</sup> x 9 <sup>1/4</sup> inches)	<b>Dimensions</b>	404 x 414 x 420mm (w/h/d) (15 <sup>15/16</sup> x 16 <sup>3/8</sup> x 16 <sup>1/2</sup> inches)
<b>Input signal</b>		<b>Mass</b>	Approx. 18.8 kg (41 lbs. 7 oz.)
<b>Video</b>	Analog RGB (75 ohms typical) 0.7 Vp-p, ±5%, Positive		
<b>Sync</b>	Separate HD/VD, TTL Polarity Free External Composite, TTL Polarity Free (2K ohms impedance)	<i>Design and specifications are subject to change without notice.</i>	

## COLOR MONITOR



## POWER MANAGEMENT

The power saving mode complies with the VESA Display Power Management Signaling standard. Each state of power management shall be activated by the host computer terminating the appropriate sync signals. Blanking the video must precede termination of the sync signals. The elapsed time counter shall also be controlled by the host computer. Reactivation of the monitor shall be accomplished from the host computer by re-establishing the normal sync signal.

Power consumption mode	Screen (video)	Horizontal sync signal	Vertical sync signal	Power consumption	Recovery time	 indicator
1 Normal operation	active	yes	yes	≤ 120 W	--	Green
2 Standby (1st mode)	blank	no	yes	≤ 15 W	Approx. 3 sec.	Green and Orange Alternate
3 Suspend (2nd mode)	blank	yes	no	≤ 15 W	Approx. 3 sec.	Green and Orange Alternate
4 Active-off (3rd mode)	blank	no	no	≤ 3 W	Approx. 10 sec.	Orange
5 Power-off	--	--	--	0 W	--	Off

## SELF DIAGNOSIS FUNCTION

When a failure occurs, the STANDBY/TIMER lamp will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the lamp will identify the first of the problem areas.

	Status	Area of Failure	LED Indication
1	Failure 1	HV or +B	Amber (0.5 second)/Off (0.5 second)
2	Failure 2	H Stop or V Stop	Amber (1.5 second)/Off (0.5 second)
3	Failure 3	ABL	Amber (0.5 second)/Off (1.5 second)
4	Aging/Self Test		Amber (0.5 second)/Off (0.5 second)/ Green (0.5 second)/Off (0.5 second)

## TIMING SPECIFICATION

TIMING SPECIFICATION					
MODE	1	2	3	Primary Mode 4	5
Resolution (H x V) Dot Clock (MHz)	640 x 480 25.175	720 x 400 28.322	800 x 600 56.250	1024 x 768 94.500	1280 x 1024 135.000
HORIZONTAL					
Hor. Freq. (kHz)	31.469	31.469	53.674	68.677	79.976
H-Total	31.778	31.777	18.631	14.561	12.504
H-Blanking	6.356	6.355	4.409	3.725	3.022
H-Front Porch	0.636	0.636	0.569	0.508	0.119
H-Sync.	3.813	3.813	1.138	1.016	1.067
H-Back Porch	1.907	1.907	2.702	2.201	1.837
H-Active (μsec)	25.422	25.422	14.222	10.836	9.481
VERTICAL					
Ver. Freq. (Hz)	59.940	70.087	85.061	84.997	75.025
V-Total	525	449	631	808	1066
V-Blanking	45	49	31	40	42
V-Front Porch	10	12	1	1	1
V-Sync.	2	2	3	3	3
V-Back Porch	33	35	27	36	38
V-Active (lines)	480	400	600	768	1024
SYNC.					
Ext (H/V)/Polarity	No	No	No	No	No
Ext (CS)/Polarity	Yes -/-	Yes -/+	Yes +/+	Yes +/-	Yes +/-
Int/Non Int	No	No	No	No	No
Non Int	Non Int	Non Int	Non Int	Non Int	Non Int

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## SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

### Leakage Test

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampere). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63Trd are examples of passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Figure A)

### WARNING!!

**NEVER TURN ON THE POWER IN A CONDITION IN WHICH THE DEGAUSS COIL HAS BEEN REMOVED.**

### SAFETY-RELATED COMPONENT WARNING!!

**COMPONENTS IDENTIFIED BY SHADING AND MARK  $\Delta$  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.**

### AVERTISSEMENT!!

**NE JAMAIS METTRE SOUS TENSION QUAND LA BOBINE DE DEMAGNETISATION EST ENLEVEE.**

### ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

**LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET PAR UNE MARQUE  $\Delta$  SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMERO DE PIECE EST INDIQUE DANS LE PRESENT MANUEL OU DANS DES SUPPLEMENTS PUBLIES PAR SONY. LES REGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRESENT MANUEL. SUIVRE CES PROCEDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT SUSPECTE.**

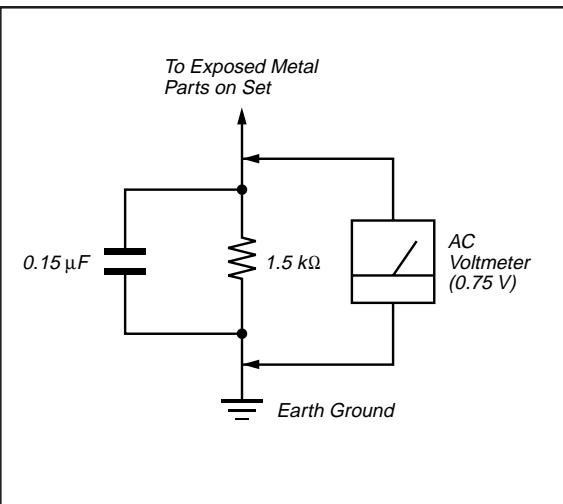


Figure A

# SECTION 1

## GENERAL

The following are partial abstracts from the Operating Instruction Manual. The page numbers shown reflect those of the Operating Instruction Manual.

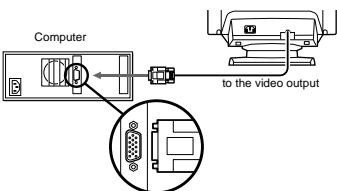
### Getting Started

#### Setup

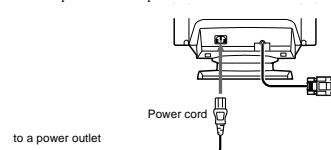
Connect the monitor to your computer system.

This monitor will sync to platforms running at horizontal frequencies between 30 and 85 kHz.

**Step 1** Make sure the computer system is switched off and attach the video signal cable to the video output of the computer.



**Step 2** Make sure the computer is switched off and attach the power cord to the monitor. Then, attach the other end of the power cord to a power outlet.

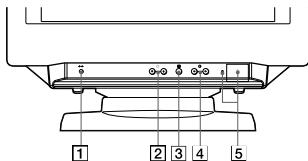


**Step 3** Switch on the monitor and computer.

**Step 4** Adjust the user controls according to your personal preference.  
Installation is complete.

#### Parts and Controls

##### Front



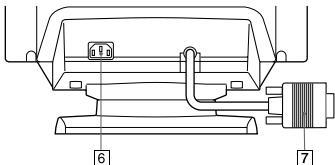
**1** →← (RESET) button (pages 6, 9)  
This button resets the adjustments to the factory settings.

**2** ⓧ (BRIGHTNESS) (↔/↑) buttons (page 5)  
These buttons adjust the picture brightness and function as the (↔/↑) buttons when adjusting other items.

**3** ☰ (MENU) button (page 6)  
This button displays the MENU OSD.

**4** ⓨ (CONTRAST) (↔/↓) buttons (page 5)  
These buttons adjust the contrast and function as the (↔/↓) buttons when adjusting other items.

##### Rear



**5** ⓧ (POWER) switch and indicator  
This button turns the monitor on and off.

The indicator lights up green when the monitor is on, and lights up green and orange when the monitor is in Power Saving mode.

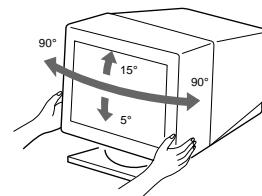
**6** AC IN connector  
This connector provides AC power to the monitor.

**7** Video input connector (HD15) (page 5)  
This connector inputs RGB video signals and SYNC signals.

### Getting Started

#### Use of the Tilt/Swivel

This monitor can be adjusted within the angles shown below. To turn the monitor vertically or horizontally, hold it at the bottom with both hands.

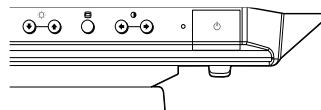


#### Customizing Your Monitor

#### Adjusting the Picture Brightness and Contrast

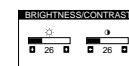
**1** Press the ⓧ (BRIGHTNESS) ↔/↑ or ⓨ (CONTRAST) ↔/↓ buttons.

The BRIGHTNESS/CONTRAST OSD appears.



**2** To adjust the brightness.  
Press the ⓧ (BRIGHTNESS) ↔/↑ buttons.

To adjust the contrast.  
Press the ⓨ (CONTRAST) ↔/↓ buttons.



#### Video Connector



Pin No.	Signal	Pin No.	Signal
1	Red video	8	Blue return
2	Green video	9	Not used (no pin)
3	Blue video	10	Ground
4	Ground	11	Ground
5	CPU host ground	12	SDA (serial data)
6	Red ground	13	Horizontal Sync
7	Green return	14	Vertical Sync
15	SCL (serial clock)		

US

CPD-2401

# The OSD (On-screen Display) System

## Introducing the OSD System

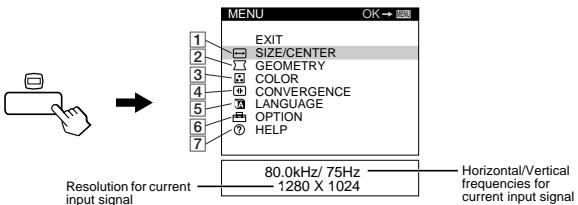
You can adjust most of the monitor's settings using the OSDs (On-screen Display). All of the OSDs in this illustration are described on the following pages in order. You can access any of these OSDs from the MENU OSD. To adjust monitor settings using the OSDs, follow the steps below:

### Basic controls:

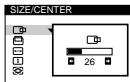
- Use the (MENU) button to display the MENU OSD and to select menu items.
- Use the (BRIGHTNESS) buttons to highlight menu items and to adjust settings.

### To adjust the monitor settings:

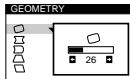
- 1 Press the MENU button to display the MENU OSD.
- 2 Highlight the desired OSD using the BRIGHTNESS buttons and press the MENU button again.



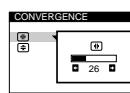
**1** SIZE/CENTER



**2** GEOMETRY



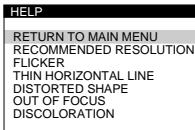
**4** CONVERGENCE



**5** LANGUAGE



**7** HELP



## Adjusting the Settings

### 1 Adjusting the size and centering of the picture (SIZE/CENTER)

This setting is stored in memory for the current input signal.

- 1 Press the MENU button.

The main MENU appears on the screen.

- 2 Press the buttons to highlight SIZE/CENTER and press the MENU button again.

The SIZE/CENTER menu appears on the screen.

- 3 Press the buttons to select the desired adjustment item. Then press the buttons to adjust the setting.

The OSD automatically disappears after about 30 seconds. To close the OSD, press the MENU button again.

Select	To
<input type="checkbox"/> ROTATION	rotate the picture
<input type="checkbox"/> PINCUSHION	expand or contract the picture sides
<input type="checkbox"/> PIN BALANCE	shift the picture sides to the left or right
<input type="checkbox"/> KEYSTONE	adjust the picture width at the top of the screen
<input type="checkbox"/> KEY BALANCE	shift the picture to the left or right at the top of the screen

### 3 Adjusting the color of the picture (COLOR)

The COLOR settings allow you to adjust the picture's color temperature by changing the color level of the white color field. Colors appear reddish if the temperature is low, and bluish if the temperature is high. This adjustment is useful for matching the monitor's colors to a printed picture's colors.

This setting is stored in memory for all input signals.

- 1 Press the MENU button.

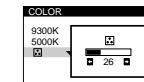
The main MENU appears on the screen.

- 2 Press the buttons to highlight COLOR and press the MENU button again.

The COLOR menu appears on the screen.

- 3 Press the buttons to select a color temperature.

The preset color temperatures are 9300K and 5000K. Since the default setting is 9300K, the whites change from a bluish hue to a reddish hue as the temperature is lowered to 5000K. You can also fine tune the color temperature by selecting in step 2 above, and using the buttons to adjust the color temperature manually.



This OSD allows you to adjust the color temperature between 9300K and 5000K.

Press the buttons to adjust the color temperature. The OSD automatically disappears after about 30 seconds. To close the OSD, press the MENU button again.

### 2 Adjusting the shape of the picture (GEOMETRY)

The GEOMETRY settings allow you to adjust the rotation and shape of the picture.

The rotation setting is stored in memory for all input signals. All other settings are stored in memory for the current input signal.

- 1 Press the MENU button.

The main MENU appears on the screen.

- 2 Press the buttons to highlight GEOMETRY and press the MENU button again.

The GEOMETRY menu appears on the screen.

- 3 First press the buttons to select the desired adjustment item. Then press the buttons to adjust the setting.

The OSD automatically disappears after about 30 seconds. To close the OSD, press the MENU button again.

## 4 Adjusting the quality of the picture (CONVERGENCE)

The CONVERGENCE settings allow you to adjust the quality of the picture by eliminating red or blue shadows around letters, characters and lines. Both settings are stored in memory for all input signals.

- 1 Press the MENU button.  
The main MENU appears on the screen.

- 2 Press the  $\odot \downarrow/\uparrow$  buttons to highlight CONVERGENCE and press the MENU button again. The CONVERGENCE menu appears on the screen.

- 3 Press the  $\odot \leftarrow/\rightarrow$  buttons to adjust the horizontal convergence, or the  $\odot \downarrow/\uparrow$  buttons to adjust the vertical convergence.

The OSD automatically disappears after about 30 seconds. To close the OSD, press the MENU button again.

## 5 Changing the OSD language (LANGUAGE)

This setting is stored in memory for the current input signal.

- 1 Press the MENU button.  
The main MENU appears on the screen.

- 2 Press the  $\odot \downarrow/\uparrow$  buttons to highlight LANGUAGE and press the MENU button again. The LANGUAGE menu appears on the screen.

- 3 Press the  $\odot \downarrow/\uparrow$  buttons to select the language you prefer.

The OSD automatically disappears after about 30 seconds. To close the OSD, press the MENU button again.

## 6 Additional settings (OPTION)

You can manually degauss (demagnetize) the screen, cancel the moire, adjust the OSD horizontal position, adjust the OSD vertical position and lock the controls using the OPTION OSD.

- 1 Press the MENU button.  
The main MENU appears on the screen.

- 2 Press the  $\odot \downarrow/\uparrow$  buttons to highlight OPTION and press the MENU button again. The OPTION menu appears on the screen.

- 3 Press the  $\odot \downarrow/\uparrow$  buttons to highlight the desired adjustment item.  
Adjust the selected item according to the following instructions. The OSD automatically disappears after about 30 seconds. To close the OSD, press the MENU button again.

### Degaussing the monitor

The monitor is automatically degaussed (demagnetized) when the power is turned on.

To manually degauss the monitor, first press the  $\odot \downarrow/\uparrow$  buttons to highlight (MANUAL DEGAUSS). Then press only the right  $\odot \rightarrow$  button.

The monitor is degaussed for about three seconds. If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result.

### Adjusting the amount of the moire cancellation

To adjust the amount of moire cancellation, first press the  $\odot \downarrow/\uparrow$  buttons to highlight ( MOIRE CANCEL). Then press the  $\odot \leftarrow/\rightarrow$  buttons to adjust the amount of moire cancellation until the moire effect is at a minimum.

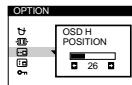
\* Moire is a type of natural interference which produces soft, wavy lines on your screen. It may appear due to interference between the pattern of the picture on the screen and the phosphor pitch pattern of the monitor.

Example of moire



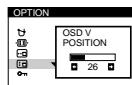
### Adjusting the OSD Horizontal Position

To change the horizontal position of the OSD, first press the  $\odot \downarrow/\uparrow$  buttons to highlight (OSD H POSITION). Then press the  $\odot \leftarrow/\rightarrow$  buttons to adjust the horizontal position of the OSD.



### Adjusting the OSD Vertical Position

To change the vertical position of the OSD, first press the  $\odot \downarrow/\uparrow$  buttons to highlight (OSD V POSITION). Then press the  $\odot \leftarrow/\rightarrow$  buttons to adjust the vertical position of the OSD.



### Locking the controls

To protect adjustment data by locking the controls, first press  $\odot \downarrow/\uparrow$  buttons to highlight (CONTROL LOCK). Then press the  $\odot \leftarrow/\rightarrow$  buttons to toggle the Control Lock on or off.

Only the (power) switch and MENU button will operate.

## 7 Using the HELP OSD

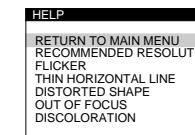
- 1 Press the MENU button.

The main MENU appears on the screen.

- 2 Press the  $\odot \downarrow/\uparrow$  buttons to highlight HELP and press the MENU button again.

The HELP OSD appears on the screen.

- 3 Press the  $\odot \downarrow/\uparrow$  to select an option from the HELP menu, then press the MENU button to view the HELP information.



## Resetting the adjustments

### Resetting a specific adjustment

Navigate through the on-screen menus to select the adjustment item you want to reset, and press the RESET button before the OSD disappears.

### Resetting all of the adjustments for the current input signal

Press the RESET button when no OSD is displayed on the screen. Note that the following items are not reset by this method:

- on-screen menu language (page 8)
- on-screen menu position (page 8)

### Resetting all of the adjustment data to the factory presets

Press and hold the reset button for more than two seconds. This resets everything to the factory presets including the input selection.

#### Note

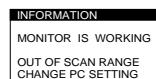
The RESET button does not function when (CONTROL LOCK) is set to ON.

## Warning Messages

If there is something wrong with the input signal, one of the following messages appears.

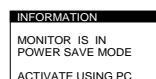
### ① Out of Scan Range

This message indicates that the current input signal is not appropriate for the monitor's specifications.



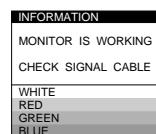
### ② Power Save Mode

This message indicates that the monitor has reduced power consumption.



### ③ Check Signal Cable (self test pattern)

This message indicates that either no input signal is received, or the video cable is not connected.



To solve these problems, see the "Troubleshooting" section below.

## Troubleshooting

If the problem is caused by the connected computer or other equipment, please refer to the connected equipment's instruction manual.

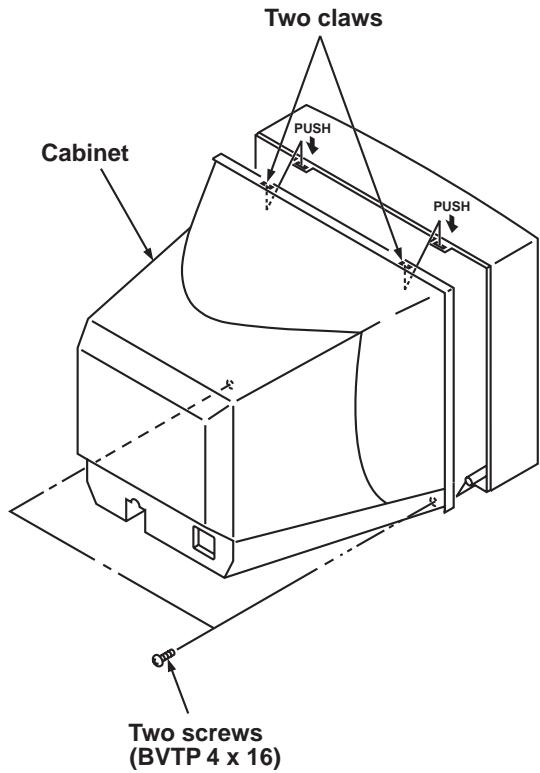
Symptom	Check these items
<b>No picture</b>	<ul style="list-style-type: none"> <li>If the  (power) indicator is not lit           <ul style="list-style-type: none"> <li>Check that the power cord is properly connected.</li> <li>Check that the  (power) switch is in the "on" position.</li> </ul> </li> </ul>
If the CHECK SIGNAL CABLE message appears on the screen, or if the  (power) indicator is either orange or alternating between green and orange	<ul style="list-style-type: none"> <li>Check that the video signal cable is properly connected and all plugs are firmly seated in their sockets.</li> <li>Check that the HD15 video input cable's pins are not bent or pushed in.</li> </ul> <p><b>■ Problems caused by the connected computer or other equipment</b></p> <ul style="list-style-type: none"> <li>The computer is in power saving mode. Try pressing any key on the computer keyboard.</li> <li>Check that the computer's power is "on."</li> <li>Check that the graphic video board is completely seated in the proper bus slot.</li> </ul>
If the OUT OF SCAN RANGE message appears on the screen	<p><b>■ Problems caused by the connected computer or other equipment</b></p> <ul style="list-style-type: none"> <li>Check that the video frequency range is within that specified for the monitor. If you replaced an old monitor with this monitor, reconnect the old monitor and adjust the frequency range to the following:</li> <li>Horizontal: 30 – 85 kHz</li> <li>Vertical: 48 – 120 Hz</li> </ul>
<b>Picture flickers, bounces, oscillates, or is scrambled</b>	<ul style="list-style-type: none"> <li>Isolate and eliminate any potential sources of electric or magnetic fields such as other monitors, laser printers, electric fans, fluorescent lighting and televisions.</li> <li>Move the monitor away from power lines or place a magnetic shield near the monitor.</li> <li>Try plugging the monitor into a different AC outlet, preferably on a different circuit.</li> <li>Try turning the monitor 90° to the left or right.</li> </ul> <p><b>■ Problems caused by the connected computer or other equipment</b></p> <ul style="list-style-type: none"> <li>Check your graphic video board manual for the proper monitor setting.</li> <li>Confirm that the graphics mode (VESA, VGA, etc.) and the frequency of the input signal are supported by this monitor (Appendix). Even if the frequency is within the proper range, some graphic video boards may have a sync pulse that is too narrow for the monitor to sync correctly.</li> <li>Adjust the computer's refresh rate (vertical frequency) to obtain the best possible picture.</li> </ul>

Symptom	Check these items
<b>Picture is fuzzy</b>	<ul style="list-style-type: none"> <li>Adjust the brightness and contrast (page 5).</li> <li>Degauss the monitor* (page 8).</li> <li>If CANCEL MOIRE is ON, the picture may become fuzzy. Decrease the moire cancellation effect (page 8) or set CANCEL MOIRE to OFF.</li> </ul>
<b>Picture is ghosting</b>	<ul style="list-style-type: none"> <li>Eliminate the use of video cable extensions and/or video switch boxes.</li> <li>Check that all plugs are firmly seated in their sockets.</li> </ul>
<b>Picture is not centered or sized properly</b>	<ul style="list-style-type: none"> <li>Adjust the size (page 7) or centering (page 7). Note that some video modes do not fill the screen to the edges.</li> </ul>
<b>Edges of the image are curved</b>	<ul style="list-style-type: none"> <li>Adjust the geometry (page 7).</li> </ul>
<b>Wavy or elliptical pattern (moire) is visible</b>	<ul style="list-style-type: none"> <li>Cancel the moire (page 8).</li> </ul> <p><b>■ Problems caused by the connected computer or other equipment</b></p> <ul style="list-style-type: none"> <li>Change your desktop pattern.</li> </ul>
<b>Color is not uniform</b>	<ul style="list-style-type: none"> <li>Degauss the monitor* (page 8). If you place equipment that generates a magnetic field, such as a speaker, near the monitor, or if you change the direction the monitor faces, color may lose uniformity.</li> </ul>
<b>White does not look white</b>	<ul style="list-style-type: none"> <li>Adjust the color temperature (page 7).</li> </ul>
<b>Letters and lines show red or blue shadows at the edges</b>	<ul style="list-style-type: none"> <li>Adjust the convergence (page 8).</li> </ul>
<b>Monitor buttons do not operate</b>	<ul style="list-style-type: none"> <li>If the control lock is set to ON, set it to OFF (page 8).</li> </ul>
<b>A hum is heard right after the power is turned on</b>	<ul style="list-style-type: none"> <li>This is the normal sound of the auto-degauss cycle. When the power is turned on, the monitor is automatically degaussed for 3 seconds.</li> </ul>

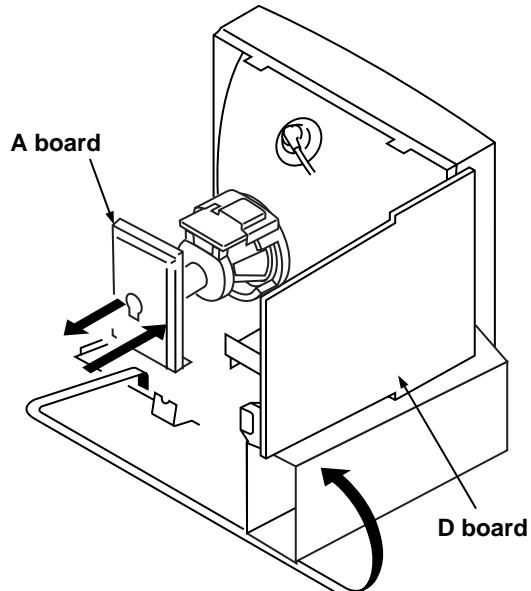
\* If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result. A humming noise may be heard, but this is not a malfunction.

## SECTION 2 DISASSEMBLY

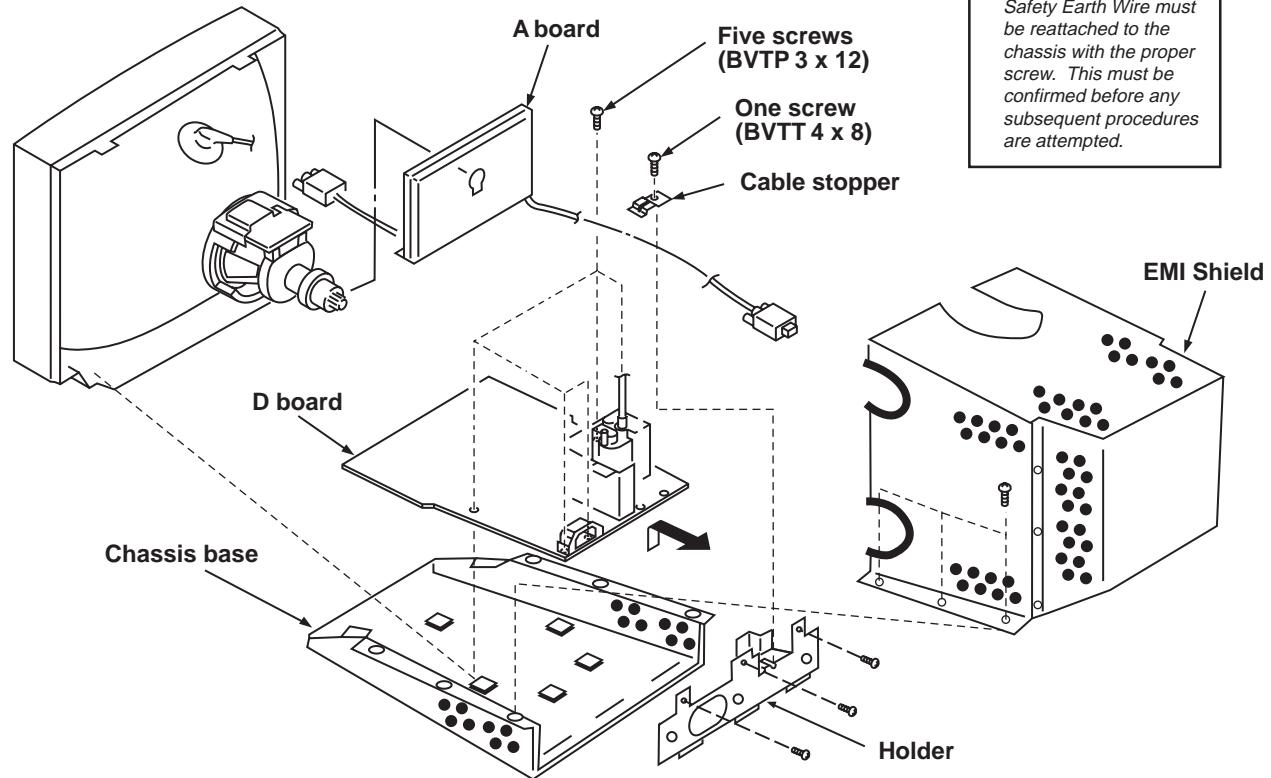
### 2-1. CABINET REMOVAL



### 2-2. SERVICE POSITION



### 2-3. A and D BOARD REMOVAL

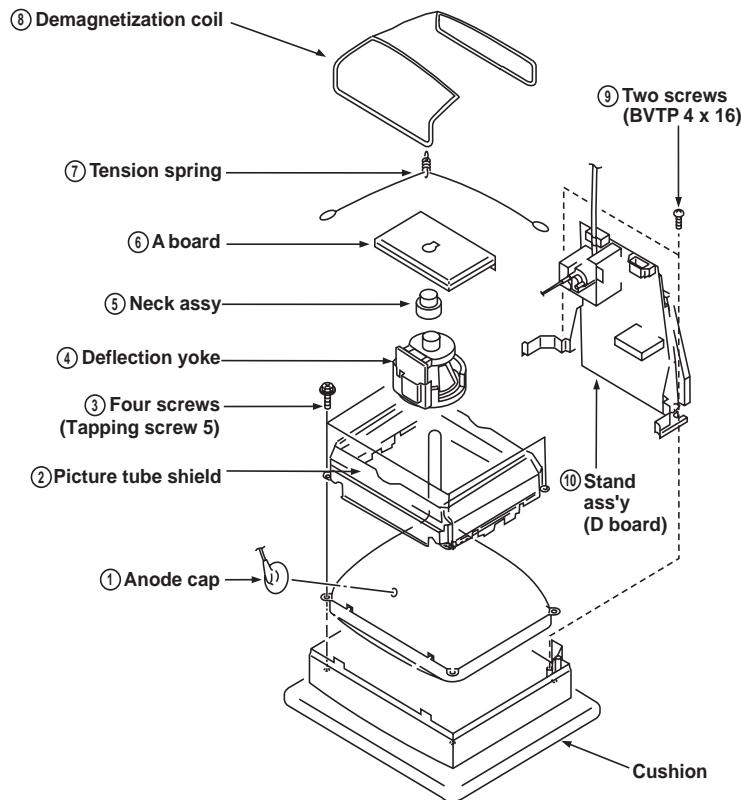
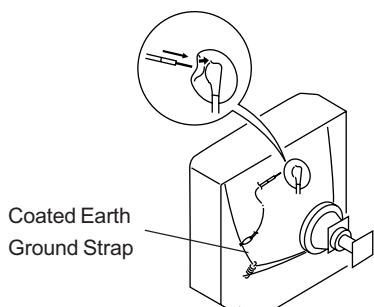


- 1 When the D-board is placed in service position, the Safety Earth Wire (green and yellow wire) is disconnected.
- 2 After service is completed and the D-board reinstalled, the Safety Earth Wire must be reattached to the chassis with the proper screw. This must be confirmed before any subsequent procedures are attempted.

## 2-4. PICTURE TUBE REMOVAL

### WARNING: BEFORE REMOVING THE ANODE CAP

High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT **before** attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.

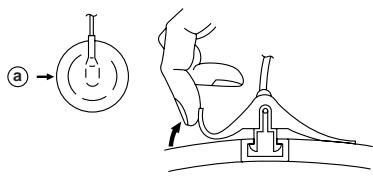


## ANODE CAP REMOVAL

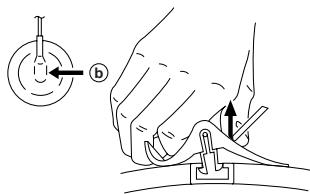
**WARNING:** High voltage remains in the CRT even after the power is disconnected. To avoid electric shock, discharge CRT **before** attempting to remove the anode cap. Short between anode and CRT coated earth ground strap.

**NOTE:** After removing the anode, short circuit the anode of the picture tube and the anode cap to either the metal chassis, CRT shield, or carbon painted on the CRT.

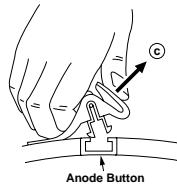
## REMOVAL PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by arrow ②.



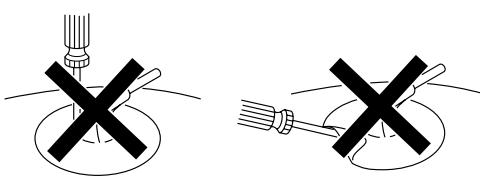
② Use your thumb to pull the rubber cap firmly in the direction indicated by arrow ③.



③ When one side of the rubber cap separates from the anode button, the anode cap can be removed by turning the rubber cap and pulling it in the direction of arrow ④.

## HOW TO HANDLE AN ANODE-CAP

- ① Do not use sharp objects which may cause damage to the surface of the anode cap.
- ② Do not squeeze the rubber covering too hard to avoid damaging the anode cap. A material fitting called a shatter-hook terminal is built into the rubber.
- ③ Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.



## SECTION 3

### SAFETY RELATED ADJUSTMENTS

**When replacing parts shown in the table below, the following operational checks must be performed as a safety precaution against X-ray emissions from the unit.**

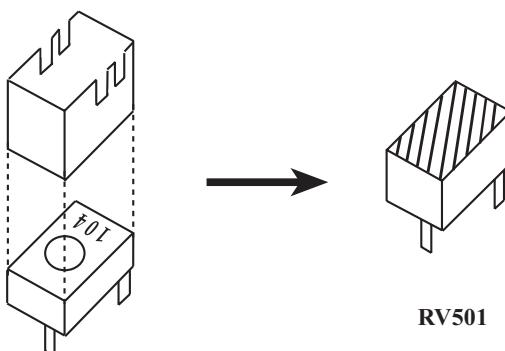
	Part Replaced (☒)
HV ADJ	RV501

	Part Replaced (☒)
HV Regulator Circuit	D board T501, IC501, RV501, R540, R541, R542, R544, R564, R567, R568, C532, C534, C539, C553, C554, C555, C556, C558, C561
HV HOLD DOWN Circuit	D board T501, R510, R543, R547, R549, R552, R595, D515, D517, C540, C542, C544, IC607, IC901
Beam Current Protector Circuit	D board T501, R545, R546, R548, R550, R596, R934, C535, C541, IC605, IC607, IC901

\* Allow the unit to warm up for one minute prior to checking the following conditions:

#### a) HV Regulator Check

- 1) Input white cross hatch signal. ( $fH = 80$  kHz)
- 2) CONT maximum and BRT center
- 3) Cut off Screen VR (G2).
- 4) Input voltage:  $120 \pm 2$  VAC
- 5) Confirm that the voltage is within the voltage range shown below.  
Standard voltage:  $27 KV \pm 0.2 KV$
- 6) When replacing components identified by ☒, make sure to recheck the High Voltage.



- 7) Verify the High Voltage as shown above ( $27 KV \pm 0.2 KV$ ) is within specification. If not, set H. SIZE data at minimum (-127) and then adjust RV501 on "D" Board.
- 8) After adjusting the High Voltage within specification, put the RV cover on RV501 as shown below and apply sufficient amount of RTV around RV501.

#### b) HV Protector Circuit Check

- 1) Confirm that the voltage between cathode of D517 and GND is more than 27.5 VDC.
- 2) Using an external DC Power supply, apply the voltage shown below between cathode of D517 on "D" and GND, and confirm that the HV Hold-Down circuit works. (Raster disappears) Apply DC Voltage: Less than 35.5 VDC

#### Check Condition

- Input voltage :  $120 \pm 2$  VAC
- Input signal : ( $fH = 80$  kHz), White Cross Hatch
- Controls : CONT (max) & BRT (center)
- B+ Voltage :  $180 \pm 3.0$  VDC

#### c) Beam Protector Check (Software logic)

- 1) Using an external current source, apply  $< 1.55$  mA between pin ⑪ of FBT (T501) and GND, and confirm that the raster fades out.

#### Check Condition

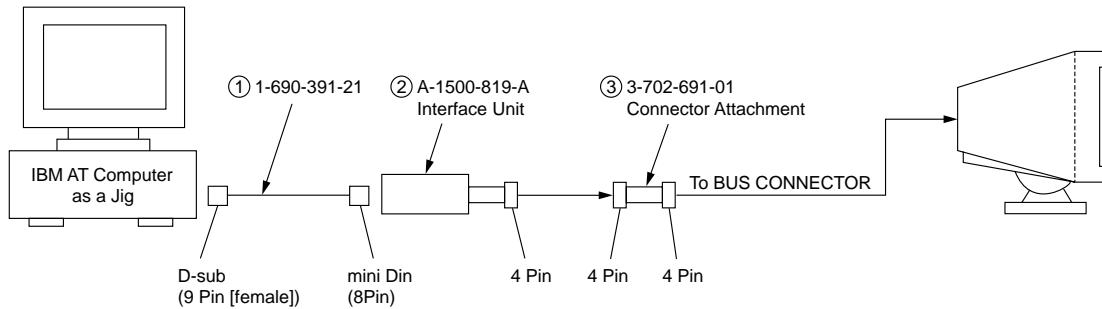
- Input voltage :  $120 \pm 2$  VAC
- Input signal : ( $fH = 80$  kHz), White Cross Hatch
- Controls : CONT (max) & BRT (min)

#### d) B+ Voltage Check

- 1) Input white cross hatch ( $fH = 80$  kHz) signal.
- 2) CONT (max) & BRT (center)
- 3) Input voltage:  $120 \pm 2$  VAC  
**Note:** Use NF power supply or make sure that distortion factor is 3% or less.
- 4) Confirm that the voltage is within the voltage range shown below.  
Standard voltage:  $180 \pm 3.0$  VDC

## SECTION 4 ADJUSTMENTS

Connect the communication cable of the connector located on the D board on the monitor. Run the service software and then follow the instructions.



\* The parts above (①~③) are necessary for DAS adjustment.

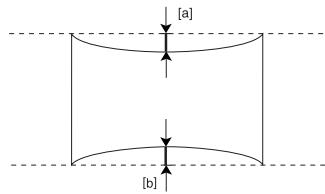
\* Allow a 30 minute warm-up period prior to making the following adjustments:

### 4-1. Landing Rough Adjustment

1. Display the all white pattern.
2. Adjust the contrast to maximum value.
3. Display the plain green pattern.
4. Slide the DY back and roughly adjust the plain green pattern with the purity magnet so that it is centered on the screen.
5. Moving the DY forward, adjust so that an entire screen becomes pure green.
6. Adjust the tilt of DY and tighten lightly with a clamp.

### 4-2. Landing Fine Adjustment

1. Place the monitor in the Helmholtz coil.
2. Set TLH plate to zero position.
3. Display plain green pattern.
4. Degauss CRT face and iron parts with degauss equipment or hand-degausser.
5. Perform auto degauss.
6. Attach a wobbling coil to the specified position of CRT neck.
7. Put the sensor of landing checker to CRT face.
8. Adjust purity, DY position and DY tilt.
9. Tighten DY screw.
10. Perform auto degauss.
11. Adjust top and bottom pin by pitching DY up and down with two wedges so that [a] is equal to [b].

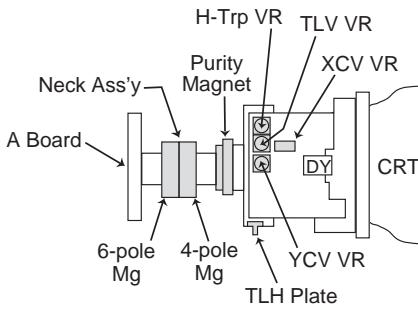


12. If the corner landing is out of specification, use a disk magnet for the landing correction.
13. If disk magnets were used, perform an auto degauss.
14. Remove the wobbling coil and sensor.
15. Fix the purity magnet on DY with white paint.

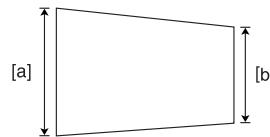
### 4-3. Convergence Rough Adjustment

1. Enter the white crosshatch signal.
2. Roughly adjust the horizontal (H.STAT) and vertical (V.STAT) convergence at four-pole magnet.
3. Roughly adjust HMC and VMC at six-pole magnet.

### 4-4. Convergence and V. Key (H. Trp) Fine Adjustment



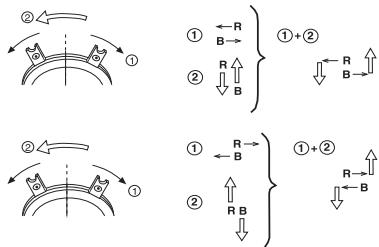
1. Display crosshatch pattern with green lines and black field.
2. Adjust V. Key (=H. Trapezoid) with H-Trp VR so that [a] is equal to [b].



3. Change "CONV\_OFF\_NDX" to "7".

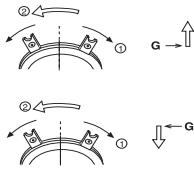
4. Display crosshatch pattern with red and blue lines and black field.
5. Adjust H.STAT and V.STAT with 4 pole magnet. Use 4 pole magnet, not "HSTAT" and "VSTAT".

#### 4 Pole Magnet



6. Display crosshatch pattern with white lines and black field.
7. Adjust HMC and VMC with 6 pole magnet.

#### 6 Pole Magnet



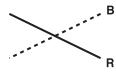
8. Display crosshatch pattern with red and blue lines and black field.
9. If necessary, repeat steps 5-8.
10. Change "CONV\_OFF\_NDX" to "3".
11. Adjust H.TILT with TLH plate.

#### TLH movement



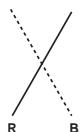
12. Adjust XCV with XCV VR.

#### XCV movement



13. Adjust YCH with YCH VR.

#### YCH movement



14. Adjust V.TILT with TLV VR.

#### TLV movement

R \_\_\_\_\_  
B - - - - -

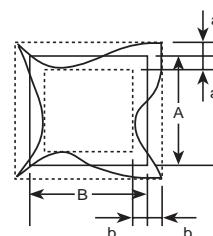
B - - - - -  
R \_\_\_\_\_

15. If necessary, repeat steps 3-14 to make the optimum condition for the entire screen.
16. Fix 4-pole magnet, 6-pole magnet and XCV VR with white paint

#### Zero Position NECK Ass'y

Purity 4-Pole Mg 6-Pole Mg

#### 4-5. Vertical and Horizontal Position and Size Specification

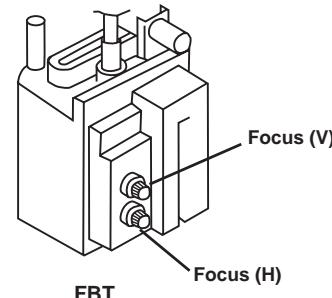


fH < 60kHz  
a < 2.4 mm  
b < 2.4 mm

A	B
234	312

#### 4-6. Focus adjustment

Adjust focus (V) and focus (H) for optimum focus.

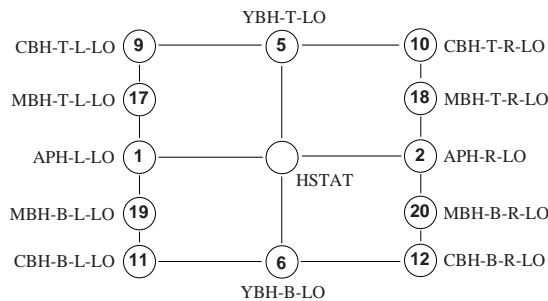


## 4-7. Digital Convergence Adjustment

### Convergence (Low) Mode

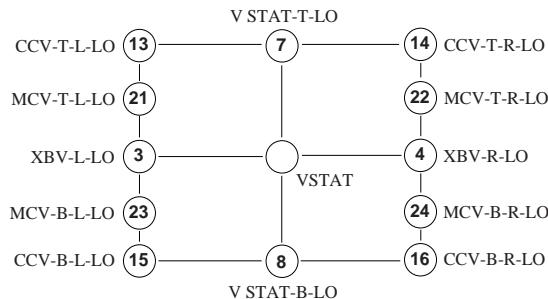
1. Adjust the H.STAT and V.STAT with "HSTAT" and "VSTAT".

#### A. Horizontal Convergence



Adjust each misconvergence point in sequence.

#### B. Vertical Convergence



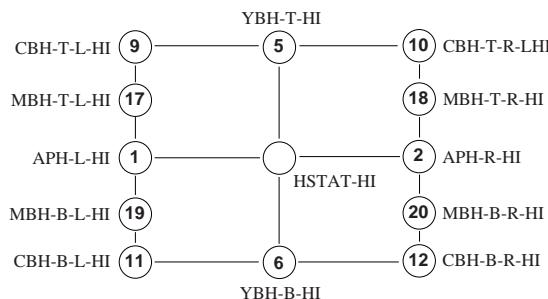
Adjust each misconvergence point in sequence.

2. Repeat the procedure of A and B so that the convergence of the entire screen is within the specification.

### Convergence (High) Mode

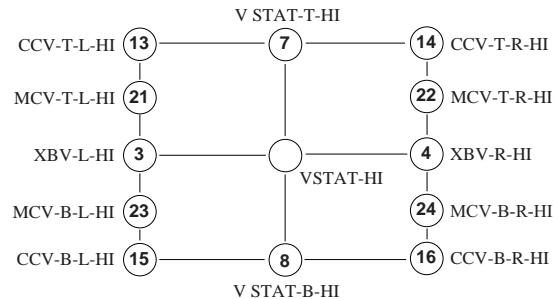
1. Adjust the H.STAT and V.STAT with "HSTAT-HI" and "VSTAT-HI".

#### Horizontal Convergence



Adjust each misconvergence point in sequence.

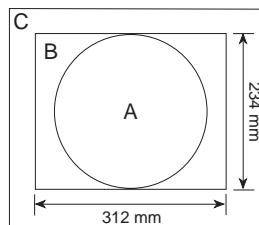
## Vertical Convergence



Adjust each misconvergence point in sequence.

2. Repeat the procedure of A and B so that the convergence of the entire screen is within the specification.

## 4-8. Convergence Specification



### A Zone:

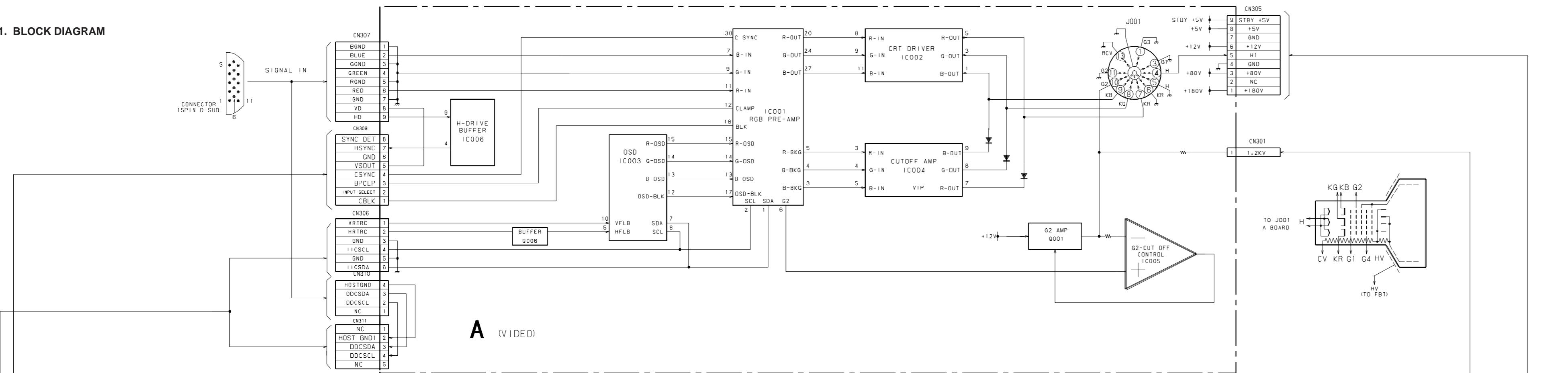
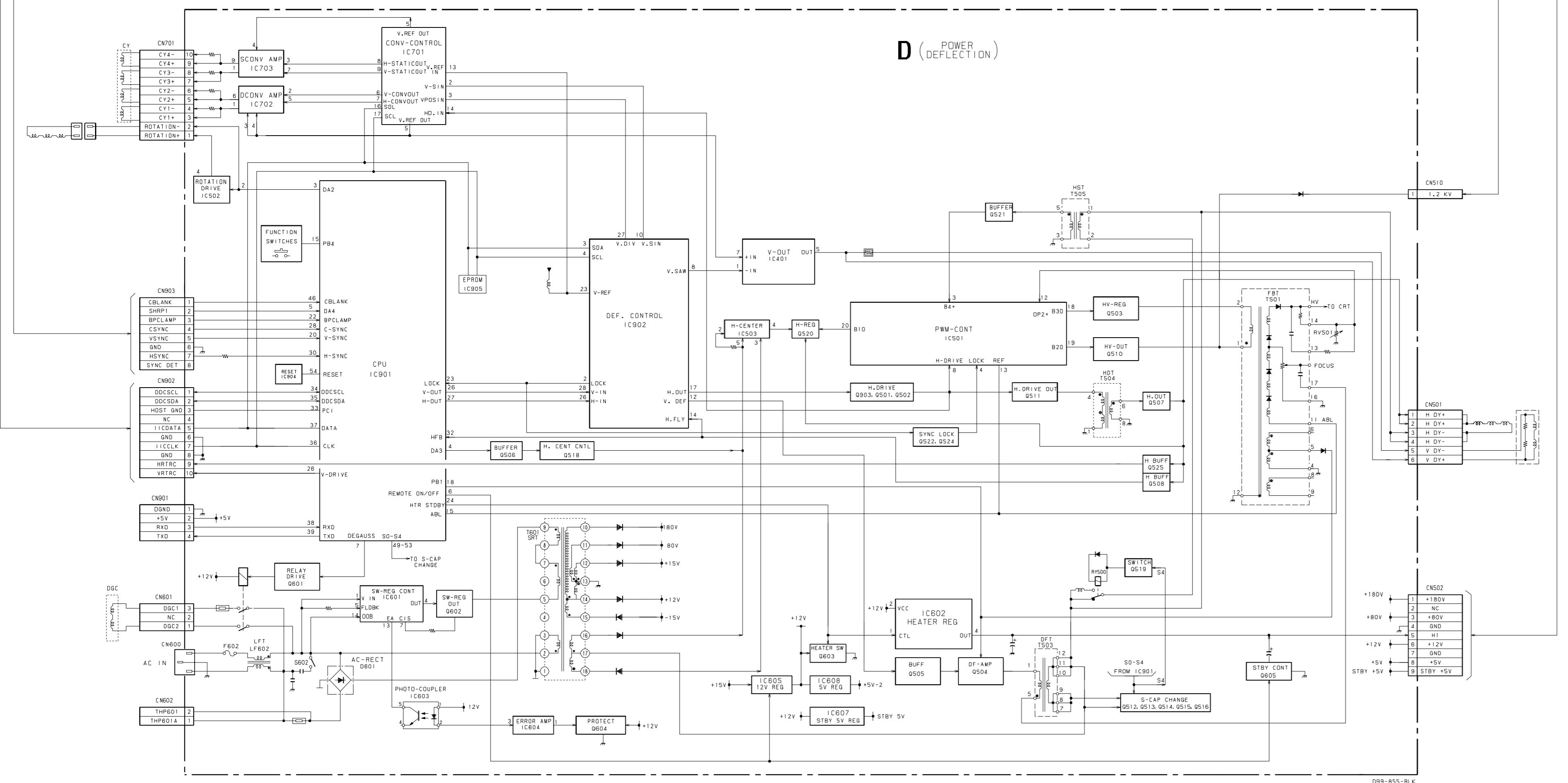
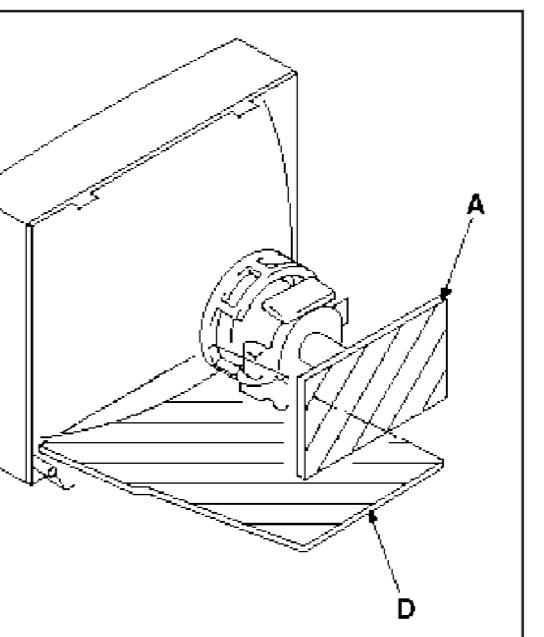
<u>Primary Mode</u>	<u>Others</u>
H: ≤ 0.25mm	H: ≤ 0.3mm
V: ≤ 0.2mm	V: ≤ 0.3mm

### B Zone:

<u>Primary Mode</u>	<u>Others</u>
H: ≤ 0.3mm	H: ≤ 0.4mm
V: ≤ 0.3mm	V: ≤ 0.4mm

### C Zone:

<u>Primary Mode</u>	<u>Others</u>
H: ≤ 0.35mm	H: ≤ 0.4mm
V: ≤ 0.35mm	V: ≤ 0.4mm

**SECTION 5  
DIAGRAMS**
**5-1. BLOCK DIAGRAM**
**A (VIDEO)****D (POWER DEFLECTION)**
**5-2. CIRCUIT BOARDS LOCATION**

**5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS**
**Note:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF;  $\mu\text{H}$ :  $\mu\text{W}$  or less are not indicated except for electrolytic.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm  
Rating electrical power 1/4 W (CHIP: 1/10 W)

- All resistors are in ohms.
- $\square$ : nonflammable resistor.
- $\triangle$ : fusible resistor.
- $\Delta$ : internal component.
- $\boxed{\quad}$ : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- $\perp$ : earth-ground.
- $\not\perp$ : earth-chassis.
- The components identified by  $\blacksquare$  in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by  $\blacksquare$ , make the necessary adjustments by using RV501 ( $\blacksquare$ ) as indicated. (See page 11)

Note: The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

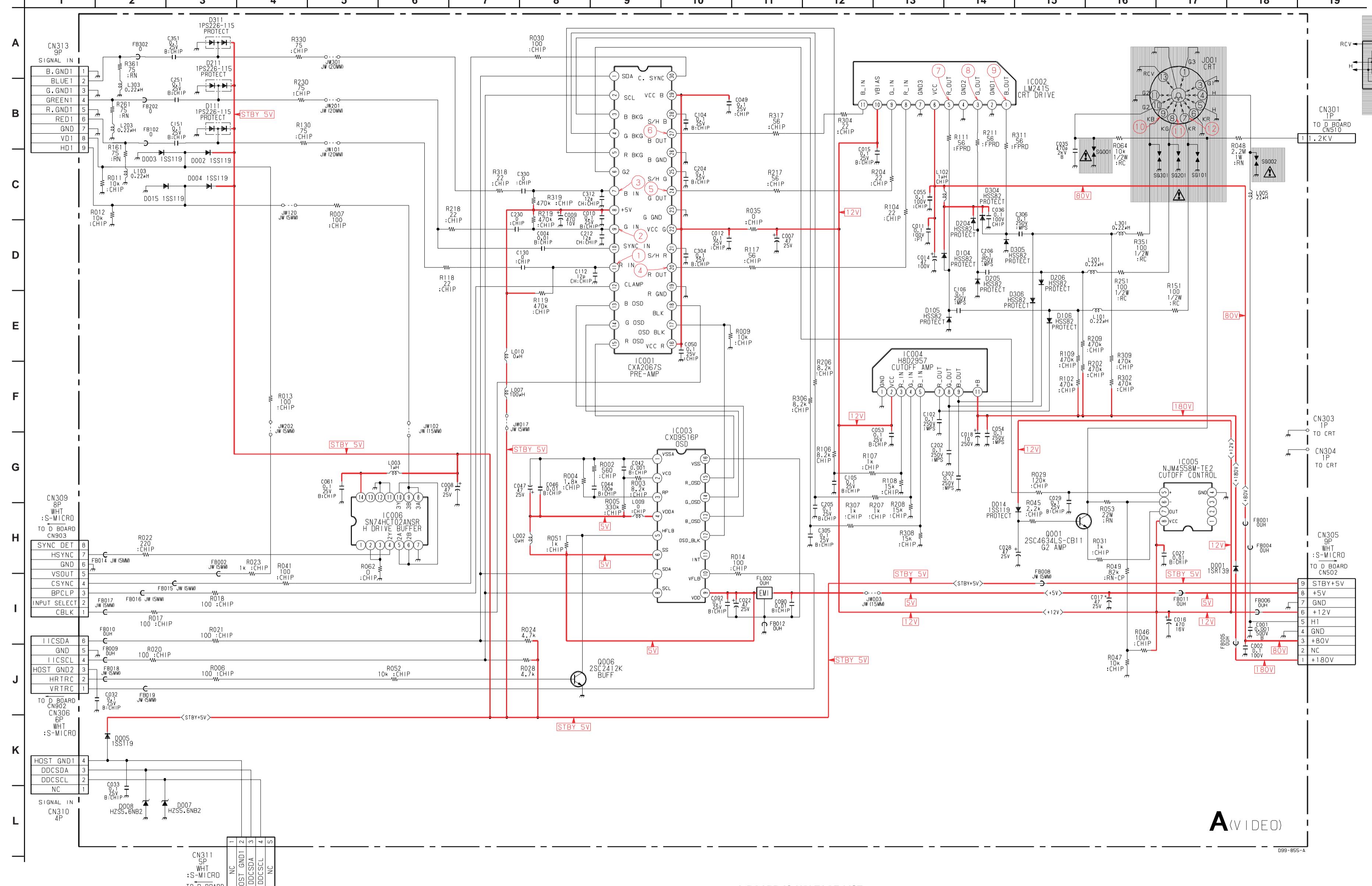
Note: Les composants identifiés par un trame et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

	Part Replaced ( $\blacksquare$ )
HV ADJ	RV501
	Part Replaced ( $\blacksquare$ )
HV Regulator Circuit	T501, IC501, RV501, R541, R542, R544, R564, R567, R568, C532, C534, C539, C553, C554, C555, C556, C558, C561
HV HOLD DOWN Circuit	D board T501, R510, R543, R547, R549, R552, R595, D515, D517, C540, C542, C544, IC607, IC901
Beam Current Protector Circuit	D board T501, R545, R546, R548, R550, R596, R934, C535, C541, IC605, IC607, IC901

All voltages are in volts.  
Readings are taken with a 10 M $\Omega$  digital multimeter.  
Readings are taken with a color-bar signal input.  
Voltage variations may be noted due to normal production tolerances.

\* : Cannot be measured.  
Circled numbers are waveform references.  
— : B +bus.  
- - - : B -bus.

## A BOARD SCHEMATIC DIAGRAM



A(VIDEO)

A BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q001	11.4	505	109
Q006	0.3	3.6	GND

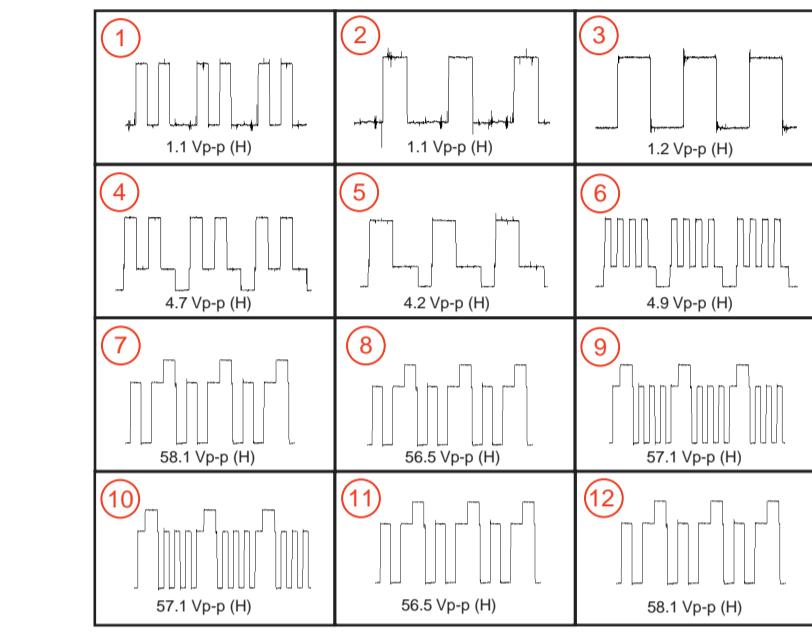
All voltages are in V

A BOARD IC VOLTAGE LIST

	10	3.0	21	3.3	1	2.0	23	119	1	5.0	9	2.1	6	5.0	10	1. NC	7	10.4	6	4.6
IC001	1	4.0	12	0.2	23	GND	1	50.5	1	4.1	1	118	7	4.6	1	GND	8	116	7	GND
	2	4.6	13	0	24	2.1	2	50.5	2	4.6	2	2.2	8	5.0	2	119	9	116	8	0.3
	3	3.0	14	0	25	3.3	3	49.8	3	5.0	3	0.5	1	5.0	3	NC	4	4.8	1	0.3
	4	2.6	15	0	26	GND	4	49.7	4	4.8	4	0.5	2	11	12	0	2	NC	2	4.6
	5	2.6	16	119	27	2.3	5	49.7	5	4.8	5	0	3	11	13	0	6	NC	3	0
	6	3.2	17	0	28	3.3	6	78.7	6	4.8	6	0	4	5.0	14	0	6	NC	4	4.6
	7	2.0	18	0.9	29	119	7	7	7	4.8	7	0	5	5.0	15	0	8	94.0	6	3.2
	8	4.8	19	GND	30	2.6	8	21	8	4.6	8	0	16	5.0	16	0	9	101.8	5	4.6
	9	2.0	20	2.2					9	3.0	9	0	17	5.0	17	0	10	12	13	5.0

All voltages in V

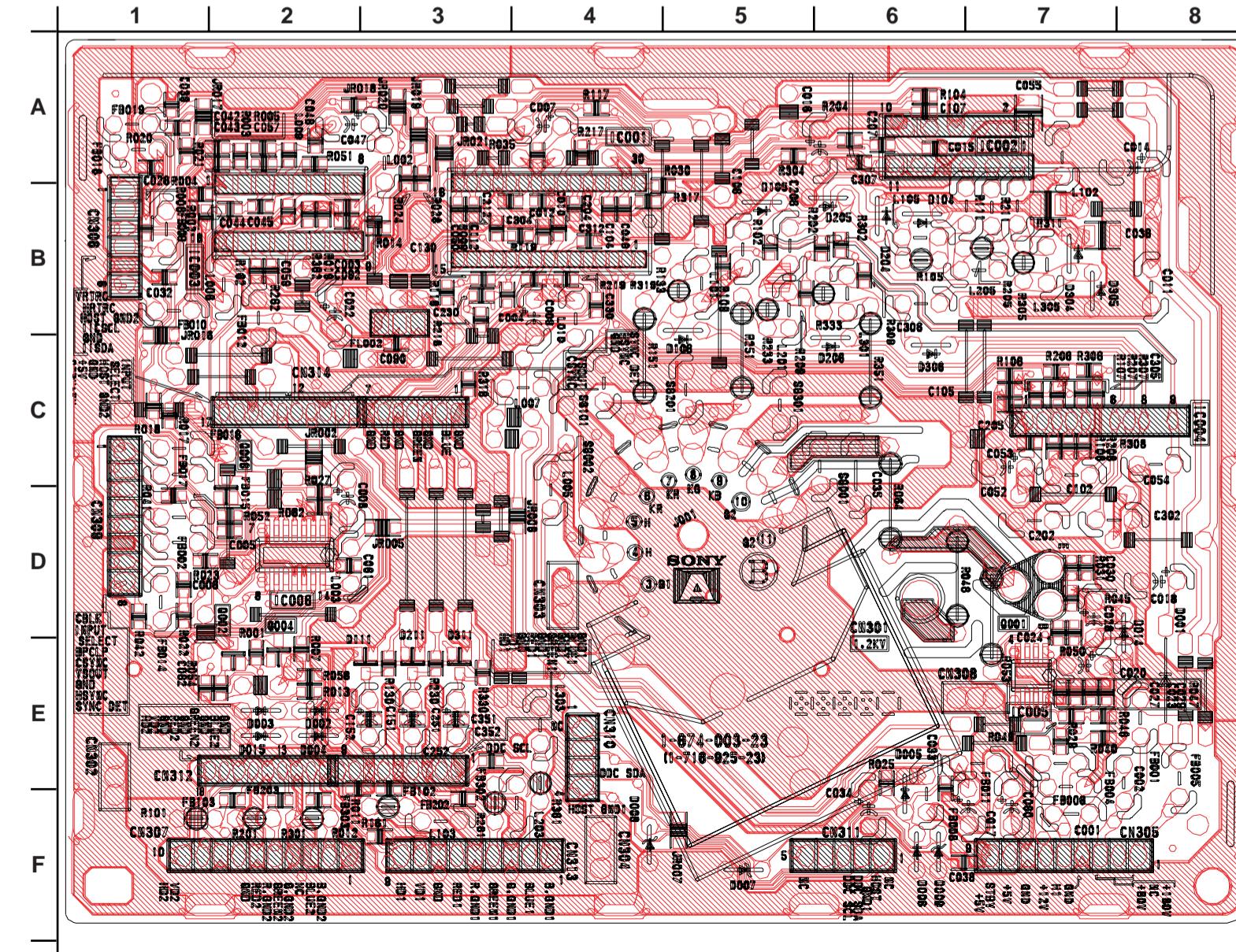
## A BOARD WAVEFORMS

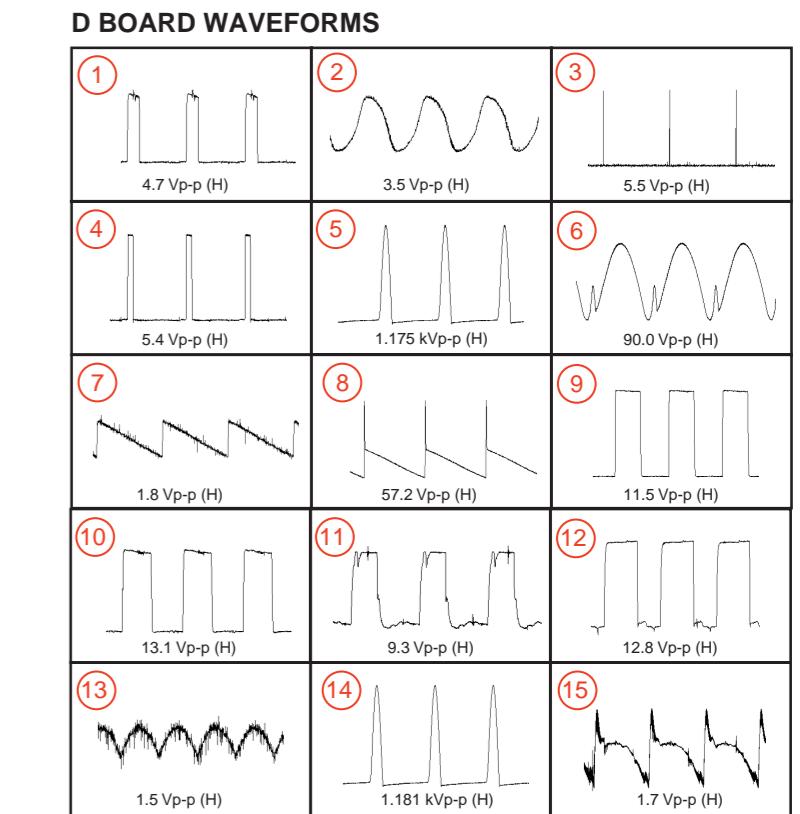
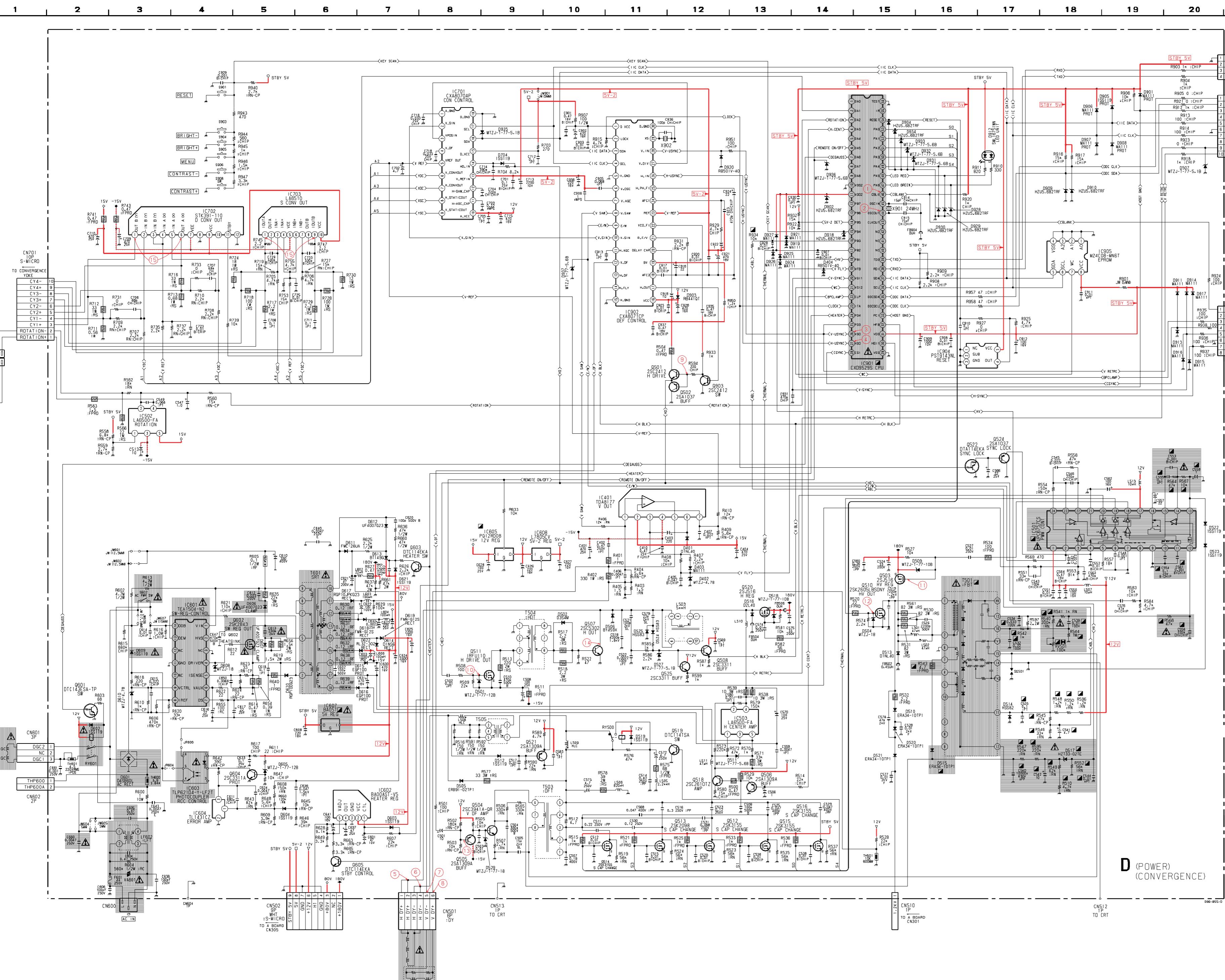


## A BOARD LOCATOR LIST

DIODE	D101	D106	A-5	IC001	B-4
D002	E-8	E-2	IC002	A-6	
D003	E-2	E-2	IC003	B-2	
D004	E-2	E-2	IC004	C-7	
D005	F-6	D-2	IC005	E-7	
D007	E-3	D-2	IC006	D-2	
D008	F-5	D-2	TRANSISTOR		
D014	D-7	D-2	Q001	B-7	
D105	E-2	B-6	Q006	C-2	
D106	B-6		D104	E-3	
D107			D311	E-3	

A [VIDEO]





**D BOARD IC VOLTAGE LIST**

IC401	IC502	IC603	IC901
pin	volts	pin	volts
1	1.6	1	5.0
2	14.8	2	1.4
3	-15.0	3	9.2
4	-15.1	4	0.1
5	14.8	5	3.5
6	14.8	6	12.3
7	1.6	14	3.3
		15	4.8
		16	0
		17	2.5
		18	GND
		19	4.0
		20	2.4
		21	2.2
		22	9.7
		23	5.0
		24	2.3
		25	0.4
		26	11.5
		27	10.4
		28	0
		29	0.9
		30	5.6
		31	18
		32	19
		33	20
		34	21
		35	22
		36	4.6
		37	4.0
		38	5.0
		39	5.0
		40	NC
		41	NC
		42	11.5
		43	10.4
		44	2.5
		45	4.0
		46	12
		47	0.6
		48	3.5
		49	0.4
		50	0.4
		51	4.2
		52	4.9
		53	5.0
		54	4.9
		55	0.4
		56	NC
		57	0.4
		58	0.9
		59	4.0
		60	4.6
		61	5.0
		62	6.2
		63	4.0
		64	4.9
		65	0.4
		66	5.0
		67	0.4
		68	14.8
		69	5.8
		70	2.5
		71	12.3
		72	0.2
		73	4.8
		74	2.5
		75	-0.1
		76	18
		77	-15.0
		78	0
		79	1.0
		80	1.2
		81	0.1
		82	20
		83	0.1
		84	2.8
		85	7
		86	5.6
		87	4.0
		88	4.9
		89	5.0
		90	0.4
		91	3.0
		92	2.5
		93	3.8
		94	4.9
		95	3.8
		96	6.1
		97	4.0
		98	3.8
		99	0.5
		100	14.8

**D BOARD TRANSISTOR VOLTAGE LIST**

B	C	E
Q503	90.5	176.0
Q510	84.5	7.9
Q504	11	GND
Q511	-11	-1.8
Q505	0.6	-15.1
Q506	-0.6	49.1
Q512	59.0	0.4
Q513	32.1	GND
Q514	32.8	0.4
Q515	59.1	0.4
Q516	57.7	GND
Q521	4.8	5.4
Q522	4.7	GND
Q524	5.0	5.5
Q525	0.5	119
Q601	0	119
Q603	0	0
Q604	0	8.1
Q605	4.8	0
Q903	0.4	5.5

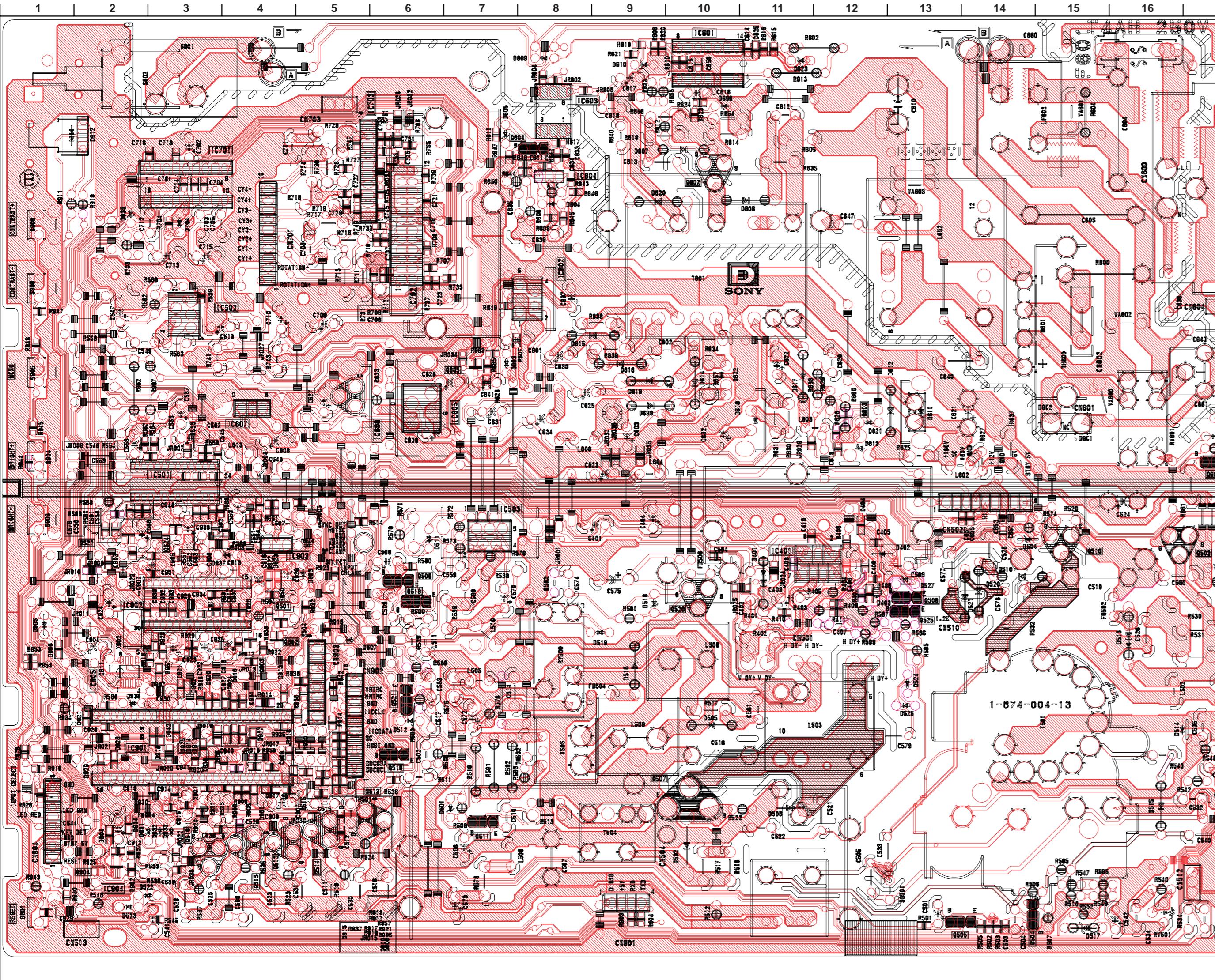
All voltages are in V

All voltages are in V

**D (POWER) (CONVERGENCE)**

**D**

[ POWER, CONVERGENCE ]

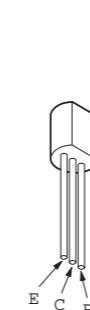


## D BOARD SEMICONDUCTOR LOCATION LIST

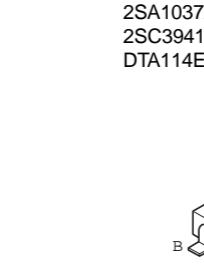
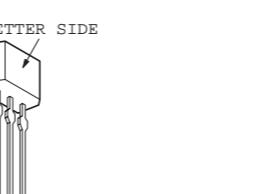
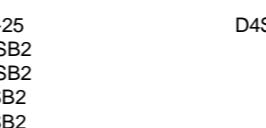
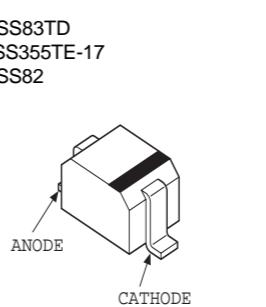
DIODE	D616	K-9	D607	C-9	D902	J-3	D919	J-2	IC	I904	L-2	Q616	L-3
D401	H-10	D517	M-15	D608	A-8	D903	H-3	D920	K-5	I905	I-2	Q518	H-11
D402	G-12	D518	K-10	D609	A-8	D904	L-2	D921	J-3	I905	G-3	Q519	K-5
D403	I-12	D519	J-9	D610	A-8	D905	J-1	D924	J-3	I905	E-3	Q520	I-9
D404	H-12	D520	H-14	D611	F-14	D906	J-1	D925	J-2	I903	G-7	Q521	J-6
D501	K-6	D521	I-13	D612	F-11	D907	J-2	D926	J-3	I901	A-10	Q522	H-2
D502	L-9	D522	L-2	D613	F-9	D908	J-2	D927	J-3	I903	E-7	Q524	H-3
D504	H-14	D523	L-2	D614	F-9	D909	J-3	D928	K-1	I902	B-8	Q525	H-12
D505	J-10	D524	J-12	D615	F-8	D910	J-2	D929	J-3	I904	C-8	Q526	H-6
D506	K-6	D525	J-12	D616	F-8	D911	J-2	D930	J-2	I905	F-6	Q601	K-10
D507	J-5	D527	H-12	D617	F-11	D912	B-10	D931	L-3	I906	F-4	Q508	H-12
D509	H-17	D529	M-14	D618	F-10	D913	J-4	D932	L-3	I907	F-4	Q510	H-14
D610	E-14	D601	E-14	D619	F-8	D914	J-2	D933	L-3	I901	C-3	Q604	C-7
D611	H-6	D602	B-9	D615	L-5	D915	L-5	D934	L-2	I905	C-6	Q605	E-7
D612	K-6	D603	F-7	D621	F-12	D916	J-3	D935	C-3	I903	C-5	Q903	I-4
D613	I-15	D604	C-8	D622	F-9	D917	K-4	D936	J-2	I901	J-3	Q914	K-5
D614	F-10	D605	C-7	D606	B-10	D901	K-4	D937	H-3	I902	I-3	Q915	L-3
D615	L-16					D901	K-4					X901	K-2

## 5-4. SEMICONDUCTORS

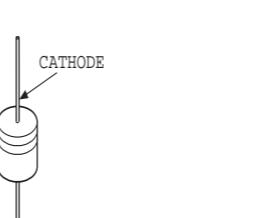
2SC2610



DTC143ESA

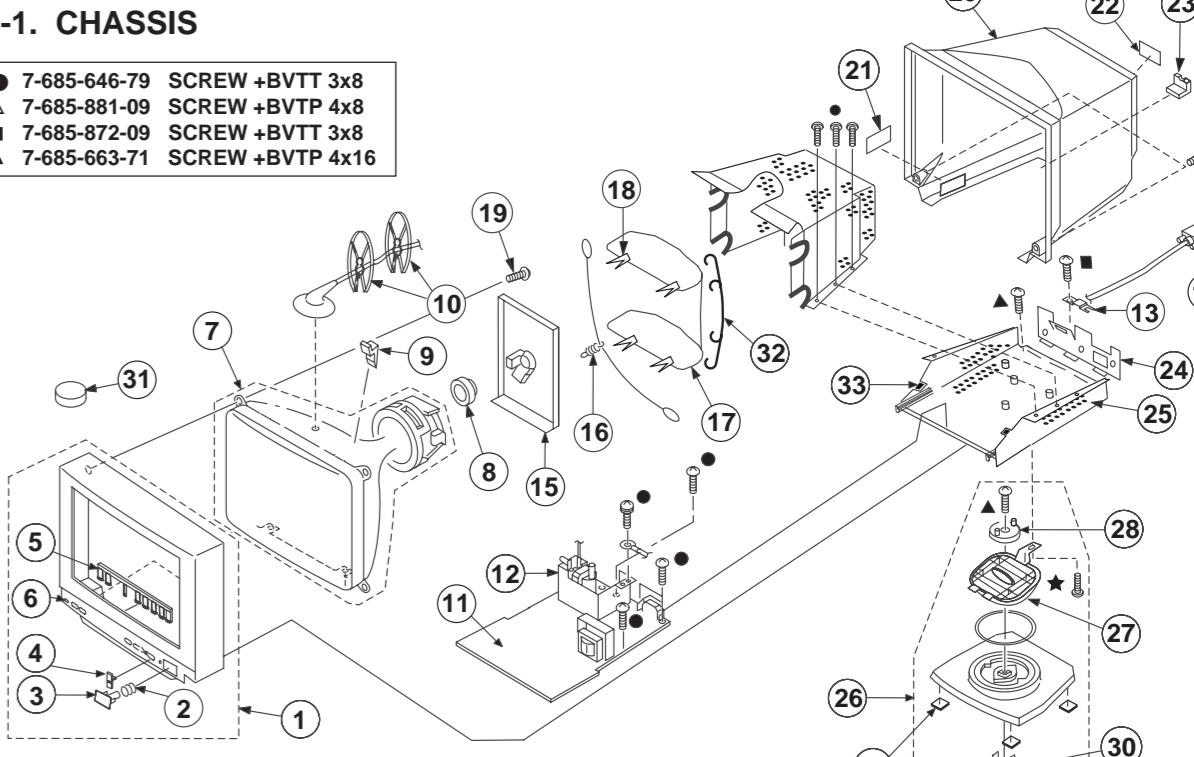
2SC1623-L5L6  
2SA1037AK-T146-R  
2SC3941A-Q(TA)  
DTA114EKA-T1462SA1175-HFE  
2SC2785-HFE  
DTC114TSA  
2SC3311A-QRSTA2SK2605LBSONY  
2SK3155-01  
2SK2098-01MR-F119  
2SK2843LBS2SONY  
IRFU110A1SS119-25  
RD5.1ESB2  
RD5.6ESB2  
RD18ESB2  
RD10ESB2  
MTZJ-4.7C  
MTZJ-T.77-18  
RB441Q-40T-77HSS83TD  
1SS355TE-17  
HSS82

D4SB60L

Schematic diagrams  
← A board  
D board →SECTION 6  
EXPLODED VIEWS

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked \*\* are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Note:  
The components identified by shading and mark △ are critical for safety. Replace only with part number specified.



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	X-4037-009-1	BEZEL ASSY	2-5	19	4-365-808-01	SCREW (5), TAPPING	
2	3-653-339-21	SPRING, COMPRESSION		20	* 4-071-055-01	CABINET	
3	4-071-059-01	BUTTON, POWER		21	* 4-067-757-11	COVER, CONNECTOR	
4	4-071-060-01	GUIDE, LIGHT		22	* 4-071-926-01	LABEL, INFORMATION	
5	4-071-061-01	BUTTON, MULTI		23	* 4-071-056-01	COVER, CABLE	
6	* 4-071-062-01	BUTTON, RESET		24	* 4-071-057-01	HOLDER, CABLE	
7	△ 8-738-550-61	ITC ASSY, 17TKB-R1		25	* 4-071-077-02	BASE, CHASSIS	
8	△ 1-452-923-41	NECK ASSY (NA-2915)		26	X-4036-840-1	BASE ASSY, STAND	27-30
9	4-040-897-01	SPACER, DY		27	4-071-065-01	SLIDER	
10	3-704-372-31	HOLDER, HV CABLE		28	4-045-121-01	STOPPER, A (STAND)	
11	* A-1346-846-A	D BOARD, COMPLETE		29	4-060-533-01	CUSHION	
12	△ 1-453-311-11	TRANSFORMER ASSY, FLYBACK (NX-4404/X4L4)		30	4-071-064-01	STOPPER, B	
13	* 4-045-131-01	STOPPER, CABLE		31	1-452-032-00	MAGNET, DISC	
14	* 1-790-038-22	CABLE ASSY (15P D-SUB)		32	4-371-521-01	BAND (L), DEGAUSSING COIL	
15	* A-1298-935-A	A BOARD, COMPLETE		33	* 4-071-078-01	BASE CUSHION, CONDUCTIVE	
16	* 4-061-573-01	SPRING, TENSION					
17	△ 1-419-092-11	COIL, DEGAUSSING					
18	* 4-045-123-01	HOLDER, DEGAUSSING COIL					

## SECTION 7

### ELECTRICAL PARTS LIST

**Note:**

**The components identified by shading and mark  $\triangle$  are critical for safety. Replace only with part number specified.**

**Note:**

**Les composants identifiés par un trame et une marque  $\triangle$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.**

The components identified by **■** in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

**RESISTORS**

- All resistors are in ohms
- F : nonflammable

**CAPACITORS**

- MF =  $\mu\text{F}$

**INDUCTORS**

- UH =  $\mu\text{H}$ , MMH = mH

When indicating parts by reference number, please include the board name.

REF.NO.	PART NO.	DESCRIPTION		REMARK		REF.NO.	PART NO.	DESCRIPTION		REMARK									
<b>A</b>																			
<b>* A-1298-935-A    A BOARD, COMPLETE</b>																			
4-382-854-01 SCREW (M3X8), P, SW (+)																			
<b>CAPACITOR</b>																			
C001	1-162-318-11	CERAMIC	0.001MF	10%	500V	C055	1-104-503-12	CERAMIC CHIP	0.1MF	10%	100V								
C002	1-106-220-00	MYLAR	0.1MF	10%	100V	C061	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V								
C004	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	C090	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V								
C007	1-104-664-11	ELECT	47MF	20%	25V	C092	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V								
C008	1-104-664-11	ELECT	47MF	20%	25V	C102	1-137-528-11	FILM	0.1MF	10%	250V								
C009	1-126-925-11	ELECT	470MF	20%	10V	C104	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V								
C010	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	C105	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V								
C011	1-106-220-00	MYLAR	0.1MF	10%	100V	C106	1-137-528-11	FILM	0.1MF	10%	250V								
C012	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	C112	1-163-229-11	CERAMIC CHIP	12PF	5%	50V								
C014	1-107-932-11	ELECT	47MF	20%	100V	C130	1-216-295-91	SHORT											
C015	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	C151	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V								
C016	1-128-528-11	ELECT	470MF	20%	16V	C202	1-137-528-11	FILM	0.1MF	10%	250V								
C017	1-104-664-11	ELECT	47MF	20%	25V	C204	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V								
C018	1-107-961-91	ELECT	10MF	20%	250V	C205	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V								
C022	1-104-664-11	ELECT	47MF	20%	25V	C206	1-137-528-11	FILM	0.1MF	10%	250V								
C027	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	C212	1-163-229-11	CERAMIC CHIP	12PF	5%	50V								
C028	1-104-664-11	ELECT	47MF	20%	25V	C230	1-216-295-91	SHORT											
C029	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	C251	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V								
C032	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	C302	1-137-528-11	FILM	0.1MF	10%	250V								
C033	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	C304	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V								
<b>CONNECTOR</b>																			
C035	1-162-134-11	CERAMIC	470PF	10%	2KV	CN301	* 1-506-108-41	PIN, CONNECTOR (TERMINAL PIN)											
C036	1-104-503-12	CERAMIC CHIP	0.1MF	10%	100V	CN303	1-695-915-11	TAB (CONTACT)											
C042	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	CN304	1-695-915-11	TAB (CONTACT)											
C044	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	CN305	* 1-564-512-11	PLUG, CONNECTOR 9P											
C046	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	CN306	* 1-564-509-11	PLUG, CONNECTOR 6P											
C047	1-104-664-11	ELECT	47MF	20%	25V	CN309	* 1-564-511-11	PLUG, CONNECTOR 8P											
C049	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	CN310	* 1-779-944-21	PIN, CONNECTOR (PC BOARD) 4P											
C050	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	CN311	* 1-564-508-11	PLUG, CONNECTOR 5P											
C053	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V														
C054	1-137-528-11	FILM	0.1MF	10%	250V														



**Note:** The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

**Note:** Les composants identifiés par un trame et une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

<u>REF. NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REMARK</u>	<u>REF. NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REMARK</u>
<b>DIODE</b>							
D001	8-719-970-02	DIODE 1SR139-400T31		J001 $\Delta$	1-251-598-11	SOCKET, CRT	
D002	8-719-911-19	DIODE 1SS119-25					
D003	8-719-911-19	DIODE 1SS119-25					
D004	8-719-911-19	DIODE 1SS119-25					
D005	8-719-911-19	DIODE 1SS119-25					
D007	8-719-109-89	DIODE RD5.6ESB2		JR002	1-216-296-91	SHORT	
D008	8-719-109-89	DIODE RD5.6ESB2		JR005	1-216-296-91	SHORT	
D014	8-719-911-19	DIODE 1SS119-25		JR006	1-216-296-91	SHORT	
D015	8-719-911-19	DIODE 1SS119-25		JR007	1-216-296-91	SHORT	
D104	8-719-970-83	DIODE HSS82		JR016	1-216-296-91	SHORT	
D105	8-719-970-83	DIODE HSS82		JR017	1-216-296-91	SHORT	
D106	8-719-970-83	DIODE HSS82		JR018	1-216-295-91	SHORT	
D111	8-719-062-51	DIODE 1PS226-115		JR019	1-216-296-91	SHORT	
D204	8-719-970-83	DIODE HSS82		JR020	1-216-296-91	SHORT	
D205	8-719-970-83	DIODE HSS82		JR021	1-216-296-91	SHORT	
D206	8-719-970-83	DIODE HSS82		<b>COIL</b>			
D211	8-719-062-51	DIODE 1PS226-115		L002	1-412-911-11	FERRITE	0UH
D304	8-719-970-83	DIODE HSS82		L003	1-408-397-00	INDUCTOR	1UH
D305	8-719-970-83	DIODE HSS82		L005	1-412-529-11	INDUCTOR	22UH
D306	8-719-970-83	DIODE HSS82		L007	1-410-482-31	INDUCTOR	100UH
D311	8-719-062-51	DIODE 1PS226-115		L009	1-216-295-91	SHORT	
<b>FERRITE BEAD</b>				L010	1-412-911-11	FERRITE	0UH
FB001	1-412-911-11	FERRITE	0UH	L101	1-414-137-31	INDUCTOR	0.22UH
FB004	1-412-911-11	FERRITE	0UH	L102	1-412-052-21	INDUCTOR CHIP	1UH
FB005	1-412-911-11	FERRITE	0UH	L103	1-414-137-31	INDUCTOR	0.22UH
FB006	1-412-911-11	FERRITE	0UH	L201	1-414-137-31	INDUCTOR	0.22UH
FB009	1-412-911-11	FERRITE	0UH	L203	1-414-137-31	INDUCTOR	0.22UH
FB010	1-412-911-11	FERRITE	0UH	L301	1-414-137-31	INDUCTOR	0.22UH
FB011	1-412-911-11	FERRITE	0UH	L303	1-414-137-31	INDUCTOR	0.22UH
FB012	1-412-911-11	FERRITE	0UH	<b>TRANSISTOR</b>			
FB102	1-216-295-91	SHORT		Q001	8-729-046-80	TRANSISTOR	2SC4634LS-CB11
FB202	1-216-295-91	SHORT		Q006	8-729-120-28	TRANSISTOR	2SC1623-L5L6
<b>FILTER</b>				<b>RESISTOR</b>			
FL002	1-412-911-11	FERRITE	0UH	R002	1-216-043-91	RES, CHIP	560      5%      1/10W
<b>IC</b>				R003	1-216-071-00	RES, CHIP	8.2K      5%      1/10W
IC001	8-752-090-63	IC CXA2067S		R004	1-216-055-00	RES, CHIP	1.8K      5%      1/10W
IC002	8-759-593-11	IC LM2415		R005	1-216-109-00	RES, CHIP	330K      5%      1/10W
IC003	8-759-589-35	IC CXD9516P		R006	1-216-025-91	RES, CHIP	100      5%      1/10W
IC004	8-749-016-27	IC H8D2957		R007	1-216-025-91	RES, CHIP	100      5%      1/10W
IC005	8-759-100-96	IC UPC4558G2		R009	1-216-073-00	RES, CHIP	10K      5%      1/10W
IC006	8-759-269-07	IC SN74HCT02ANSR		R011	1-216-073-00	RES, CHIP	10K      5%      1/10W
				R012	1-216-073-00	RES, CHIP	10K      5%      1/10W

**Note:** The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

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**A      D**

<u>REF.NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REMARK</u>		<u>REF.NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REMARK</u>			
R013	1-216-025-91	RES, CHIP	100	5%	1/10W	R251	1-202-549-00	SOLID	100	20%	1/2W
R014	1-216-025-91	RES, CHIP	100	5%	1/10W	R261	1-215-394-00	METAL	75	1%	1/4W
R017	1-216-025-91	RES, CHIP	100	5%	1/10W	R302	1-216-113-00	RES, CHIP	470K	5%	1/10W
R018	1-216-025-91	RES, CHIP	100	5%	1/10W	R304	1-216-009-91	RES, CHIP	22	5%	1/10W
R020	1-216-025-91	RES, CHIP	100	5%	1/10W	R306	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R021	1-216-025-91	RES, CHIP	100	5%	1/10W	R307	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R022	1-216-033-00	RES, CHIP	220	5%	1/10W	R308	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R023	1-216-049-91	RES, CHIP	1K	5%	1/10W	R309	1-216-113-00	RES, CHIP	470K	5%	1/10W
R024	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	R311	1-249-402-11	CARBON	56	5%	1/4W F
R028	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	R317	1-216-019-00	RES, CHIP	56	5%	1/10W
R029	1-216-099-00	RES, CHIP	120K	5%	1/10W	R318	1-216-009-91	RES, CHIP	22	5%	1/10W
R030	1-216-025-91	RES, CHIP	100	5%	1/10W	R319	1-216-113-00	RES, CHIP	470K	5%	1/10W
R031	1-216-049-91	RES, CHIP	1K	5%	1/10W	R330	1-216-022-00	RES, CHIP	75	5%	1/10W
R035	1-216-295-91	SHORT				R351	1-202-549-00	SOLID	100	20%	1/2W
R041	1-216-025-91	RES, CHIP	100	5%	1/10W	R361	1-215-394-00	METAL	75	1%	1/4W
R045	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	<b>SPARK GAP</b>					
R046	1-216-097-91	RES, CHIP	100K	5%	1/10W	SG001	$\Delta$ 1-519-422-11	GAP, SPARK			
R047	1-216-073-00	RES, CHIP	10K	5%	1/10W	SG002	$\Delta$ 1-517-499-21	GAP, SPARK			
R048	1-219-398-51	METAL	2.2M	5%	1W	SG101	$\Delta$ 1-517-499-21	GAP, SPARK			
R049	1-216-697-91	METAL CHIP	82K	0.50%	1/10W	SG201	$\Delta$ 1-517-499-21	GAP, SPARK			
R051	1-216-049-91	RES, CHIP	1K	5%	1/10W	SG301	$\Delta$ 1-517-499-21	GAP, SPARK			
R052	1-216-073-00	RES, CHIP	10K	5%	1/10W	<b>D</b>					
R053	1-219-621-91	METAL	22M	10%	1/4W	<b>BOARD, COMPLETE</b>					
R062	1-216-295-91	SHORT				1-533-223-11	CLIP, FUSE				
R064	1-202-830-00	SOLID	10K	20%	1/2W	3-703-319-01	PURSE LOCK (DIA.15)				
R102	1-216-113-00	RES, CHIP	470K	5%	1/10W	3-710-578-01	COVER, VOLUME, 6 MOLD				
R104	1-216-009-91	RES, CHIP	22	5%	1/10W	4-071-071-01	HOLDER, LED				
R106	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	4-382-854-01	SCREW (M3X8), P, SW (+)				
R107	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	4-382-854-21	SCREW (M3X14), P, SW (+)				
R108	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	<b>CAPACITOR</b>					
R109	1-216-113-00	RES, CHIP	470K	5%	1/10W	C401	1-128-528-11	ELECT	470MF	20%	25V
R111	1-249-402-11	CARBON	56	5%	1/4W F	C402	1-117-667-31	FILM	0.47MF	5%	250V
R117	1-216-019-00	RES, CHIP	56	5%	1/10W	C403	1-107-911-11	ELECT	220MF	20%	50V
R118	1-216-009-91	RES, CHIP	22	5%	1/10W	C404	1-128-528-11	ELECT	470MF	20%	25V
R119	1-216-113-00	RES, CHIP	470K	5%	1/10W	C405	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
R130	1-216-022-00	RES, CHIP	75	5%	1/10W	C406	1-137-368-11	FILM	0.0047MF	5%	50V
R151	1-202-549-00	SOLID	100	20%	1/2W	C407	1-137-372-11	FILM	0.022MF	5%	50V
R161	1-215-394-00	METAL	75	1%	1/4W	C410	1-164-005-11	CERAMIC CHIP	0.47MF		25V
R202	1-216-113-00	RES, CHIP	470K	5%	1/10W	C501	1-126-964-11	ELECT	10MF	20%	50V
R204	1-216-009-91	RES, CHIP	22	5%	1/10W	C502	1-137-370-11	FILM	0.01MF	5%	50V
R206	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	C503	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
R207	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	C504	1-102-030-00	CERAMIC	330PF	10%	500V
R208	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	C505	1-109-878-11	CERAMIC	15PF	5%	2KV
R209	1-216-113-00	RES, CHIP	470K	5%	1/10W	C506	1-126-960-11	ELECT	1MF	20%	50V
R211	1-249-402-11	CARBON	56	5%	1/4W F	C507	1-131-653-11	FILM	0.19MF	5%	400V
R217	1-216-019-00	RES, CHIP	56	5%	1/10W						
R218	1-216-009-91	RES, CHIP	22	5%	1/10W						
R219	1-216-113-00	RES, CHIP	470K	5%	1/10W						
R230	1-216-022-00	RES, CHIP	75	5%	1/10W						



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REF. NO.	PART NO.	DESCRIPTION	REMARK			REF. NO.	PART NO.	DESCRIPTION	REMARK		
C508	1-128-526-11	ELECT	100MF	20%	25V	C559	1-137-368-11	FILM	0.0047MF	5%	50V
C509	1-162-117-00	CERAMIC	100PF	10%	500V	C560	1-119-859-71	FILM	0.36MF	5%	250V
C510	1-102-228-00	CERAMIC	470PF	10%	500V	C561 $\Delta$	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C511	1-117-663-11	FILM	0.22MF	5%	250V	C562	1-128-526-11	ELECT	100MF	20%	16V
C512	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	C563	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C513	1-107-906-11	ELECT	10MF	20%	50V	C564	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C514	1-115-521-11	FILM	0.82MF	5%	250V	C566	1-128-551-11	ELECT	22MF	20%	25V
C515	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	C568	1-136-060-00	FILM	0.047MF	5%	400V
C516	1-119-862-11	FILM	0.3MF	5%	250V	C569	1-130-495-00	FILM	0.1MF	5%	50V
C517	1-137-370-11	FILM	0.01MF	5%	50V	C570	1-128-526-11	ELECT	100MF	20%	25V
C518	1-117-954-11	FILM	4300PF	3%	1.8KV	C572	1-107-651-11	ELECT	4.7MF	20%	250V
C519	1-117-621-11	FILM	1200PF	3%	1.2KV	C573	1-107-651-11	ELECT	4.7MF	20%	250V
C520	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	C574	1-117-879-91	CAPACITOR	0.01MF	10%	250V
C521	1-107-444-11	CERAMIC	100PF	5%	2KV	C575	1-110-641-51	ELECT	33MF	20%	200V
C522	1-136-684-51	MYLAR	0.0022MF	10%	100V	C576	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C523	1-117-660-21	FILM	0.12MF	5%	250V	C577	1-115-349-51	CERAMIC	0.01MF		2KV
C524	1-110-641-51	ELECT	33MF	20%	200V	C578	1-107-974-11	CERAMIC	47PF	5%	2KV
C525	1-136-060-00	FILM	0.047MF	5%	400V	C579	1-109-879-11	CERAMIC	22PF	5%	2KV
C526	1-164-646-11	CERAMIC	2200PF	10%	500V	C580	1-137-370-11	FILM	0.01MF	5%	50V
C527	1-117-879-91	CAPACITOR	0.01MF	10%	250V	C582	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C528	1-115-349-51	CERAMIC	0.01MF		2KV	C583	1-130-495-00	FILM	0.1MF	5%	50V
C529	1-136-060-00	FILM	0.047MF	5%	400V	C601	1-104-664-11	ELECT	47MF	20%	10V
C530	1-117-660-21	FILM	0.12MF	5%	250V	C602	1-126-117-00	CERAMIC	100PF	10%	500V
C531	1-119-858-11	FILM	0.068MF	5%	250V	C603	1-126-942-61	ELECT	1000MF	20%	25V
C532 $\Delta$	1-137-401-11	FILM	0.22MF	10%	100V	C604 $\Delta$	1-104-708-11	FILM	0.47MF	20%	250V
C534 $\Delta$	1-137-419-11	FILM	0.033MF	10%	100V	C605 $\Delta$	1-104-708-11	FILM	0.47MF	20%	250V
C535	1-130-495-00	FILM	0.1MF	5%	50V	C606	1-113-894-11	CERAMIC	100PF	10%	250V
C536	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	C608	1-104-653-11	ELECT	220MF	20%	16V
C538	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	C610	1-107-852-11	ELECT(BLOCK)	330MF	20%	400V
C539 $\Delta$	1-137-150-11	FILM	0.01MF	10%	100V	C611	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C540 $\Delta$	1-136-203-11	FILM	10000PF	5%	630V	C612 $\Delta$	1-106-379-12	MYLAR	0.033MF	10%	200V
C541	1-126-963-11	ELECT	4.7MF	20%	50V	C613 $\Delta$	1-162-115-00	CERAMIC	330PF	10%	2KV
C542 $\Delta$	1-126-964-11	ELECT	10MF	20%	50V	C614	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C543	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C615	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C544 $\Delta$	1-137-370-11	FILM	0.01MF	5%	50V	C616	1-107-907-11	ELECT	22MF	20%	25V
C545	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V	C617	1-107-907-11	ELECT	22MF	20%	25V
C546	1-163-259-91	CERAMIC CHIP	220PF	5%	50V	C618	1-130-495-00	FILM	0.1MF	5%	50V
C547	1-107-902-11	ELECT	1MF	20%	50V	C619	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C548	1-130-471-00	FILM	0.001MF	5%	50V	C620	1-126-117-00	CERAMIC	100PF	10%	500V
C549	1-137-375-11	FILM	0.068MF	5%	50V	C621	1-104-712-11	ELECT	47MF	0	200V
C550	1-126-933-11	ELECT	100MF	20%	16V	C622	1-107-933-11	ELECT	100MF	20%	100V
C551	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	C623	1-104-666-11	ELECT	220MF	20%	25V
C552	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	C624	1-107-885-11	ELECT	3300MF	20%	16V
C553 $\Delta$	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	C625	1-126-768-11	ELECT	2200MF	20%	16V
C554 $\Delta$	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	C626	1-104-653-11	ELECT	220MF	20%	16V
C555 $\Delta$	1-130-495-00	FILM	0.1MF	5%	50V	C627	1-126-934-11	ELECT	220MF	20%	10V
C556 $\Delta$	1-163-259-91	CERAMIC CHIP	220PF	5%	50V	C628	1-128-526-11	ELECT	100MF	20%	25V
C557	1-107-907-11	ELECT	22MF	20%	50V	C630	1-126-935-11	ELECT	470MF	20%	16V
C558 $\Delta$	1-126-960-11	ELECT	1MF	20%	50V	C631	1-126-935-11	ELECT	470MF	20%	16V

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK				
C632	1-111-070-51	ELECT	0.0022MF	20%	25V	C918	1-126-964-11	ELECT	10MF	20%	50V
C633	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	C920	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C634	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	C921	1-126-935-11	ELECT	470MF	20%	16V
C636	1-131-601-21	FILM	0.047MF	5%	250V	C922	1-109-889-11	ELECT	1MF	20%	50V
C637	1-107-888-11	ELECT	47MF	20%	25V	C923	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C638	1-113-894-11	CERAMIC	100PF	10%	250V	C924	1-126-965-11	ELECT	22MF	20%	50V
C640	1-113-912-11	CERAMIC	0.0047MF	20%	250V	C925	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C641	1-126-933-11	ELECT	100MF	20%	16V	C926	1-126-935-11	ELECT	470MF	20%	16V
C643	1-113-912-11	CERAMIC	0.0047MF	20%	250V	C927	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C647	1-102-228-00	CERAMIC	470PF	10%	500V	C928	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C650	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V	C929	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C660 $\Delta$	1-113-912-11	CERAMIC	0.0047MF	20%	250V	C930	1-137-370-11	FILM	0.01MF	5%	50V
C661	1-117-699-11	CERAMIC	0.001MF	20%	250V	C931	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C701	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	C935	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C702	1-126-963-11	ELECT	4.7MF	20%	50V	C936	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C703	1-136-169-00	FILM	0.22MF	5%	50V	C937	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C704	1-163-259-91	CERAMIC CHIP	220PF	5%	50V	C938	1-126-934-11	ELECT	220MF	20%	16V
C705	1-130-495-00	FILM	0.1MF	5%	50V	<b>CONNECTOR</b>					
C706	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	C708	1-130-495-00	FILM	0.1MF	5%	50V
C707	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	CN501 * 1-580-798-11	CONNECTOR PIN (DY) 6P				
						CN502 * 1-564-512-11	PLUG, CONNECTOR 9P				
						CN510 1-900-211-86	CONNECTOR ASSY				
						CN512 1-695-915-11	TAB (CONTACT)				
						CN513 1-695-915-11	TAB (CONTACT)				
						C713	1-126-927-11	ELECT	2200MF	20%	10V
						CN600 $\Delta$ 1-251-644-11	INLET, AC 3P (WITH NOISE FILTER)				
						CN601 1-691-960-11	PIN, CONNECTOR (PWB) 3P				
						CN602 * 1-506-371-00	PIN, CONNECTOR 2P				
						CN604 1-695-915-11	TAB (CONTACT)				
						CN701 * 1-564-513-11	PLUG, CONNECTOR 10P				
C723	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	<b>DIODE</b>					
C725	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	C902	1-126-935-11	ELECT	470MF	20%	16V
C729	1-163-003-11	CERAMIC CHIP	330PF	10%	50V	C903	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C733	1-163-003-11	CERAMIC CHIP	330PF	10%	50V	C904	1-137-375-11	FILM	0.068MF	5%	50V
C901	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	D401	8-719-052-90	DIODE D1NL40-TA2			
						D402	8-719-921-40	DIODE MTZJ-4.7C			
						D403	8-719-988-61	DIODE 1SS355TE-17			
						D404	8-719-058-24	DIODE RB501V-40TE-17			
						D501	8-719-110-31	DIODE RD12ESB2			
C909	1-126-926-11	ELECT	1000MF	20%	10V	<b>DIODE</b>					
C910	1-130-495-00	FILM	0.1MF	5%	50V	C910	1-137-370-11	FILM	0.01MF	5%	50V
C911	1-137-370-11	FILM	0.01MF	5%	50V	D502	8-719-981-00	DIODE ERC81-004			
C912	1-126-933-11	ELECT	100MF	20%	16V	D504	8-719-110-49	DIODE RD18ESB2			
C913	1-130-495-00	FILM	0.1MF	5%	50V	D505	8-719-941-74	DIODE ERB91-02			
						D506	8-719-075-18	DIODE FMQ-G2FS			
						D507	8-719-109-85	DIODE RD5.1ESB2			
C914	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	<b>DIODE</b>					
C915	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	C915	1-126-965-11	ELECT	22MF	20%	50V
C916	1-126-965-11	ELECT	22MF	20%	50V	D509	8-719-110-17	DIODE RD10ESB2			
C917	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V	D510	8-719-018-82	DIODE RGP02-20EL-6394			
						D511	8-719-109-89	DIODE RD5.6ESB2			



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<u>REF. NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REMARK</u>
D512	8-719-911-19	DIODE 1SS119-25	
D513	8-719-052-90	DIODE D1NL40-TA2	
D514	8-719-970-83	DIODE HSS82	
D515 $\Delta$	8-719-018-82	DIODE RGP02-20EL-6394	
D516	8-719-052-86	DIODE D2L40-TA	
D517 $\Delta$	8-759-157-40	IC UPC574J	
D518	8-719-110-17	DIODE RD10ESB2	
D519	8-719-911-19	DIODE 1SS119-25	
D520	8-719-018-82	DIODE RGP02-20EL-6394	
D521	8-719-018-82	DIODE RGP02-20EL-6394	
D522	8-719-911-19	DIODE 1SS119-25	
D523	8-719-911-19	DIODE 1SS119-25	
D524	8-719-051-85	DIODE HSS83TD	
D525	8-719-051-85	DIODE HSS83TD	
D527	8-719-109-85	DIODE RD5.1ESB2	
D529	8-719-110-49	DIODE RD18ESB2	
D601 $\Delta$	8-719-510-53	DIODE D4SB60L	
D602 $\Delta$	8-719-911-19	DIODE 1SS119-25	
D603	8-719-911-19	DIODE 1SS119-25	
D604	8-719-911-19	DIODE 1SS119-25	
D605	8-719-110-31	DIODE RD12ESB2	
D606 $\Delta$	8-719-053-19	DIODE UF4007G23	
D607	8-719-053-19	DIODE UF4007G23	
D608	8-719-110-49	DIODE RD18ESB2	
D609 $\Delta$	8-719-911-19	DIODE 1SS119-25	
D610	8-719-921-40	DIODE MTZJ-4.7C	
D611	8-719-067-68	DIODE FMC-26UA	
D612	8-719-053-19	DIODE UF4007G23	
D613	8-719-076-20	DIODE BT149G-412-OT359	
D614	8-719-032-12	DIODE D1NS6	
D615	8-719-979-58	DIODE EGP10D	
D616	8-719-979-58	DIODE EGP10D	
D617	8-719-947-06	DIODE RGP10JPKG23	
D618	8-719-058-38	DIODE FMN-G12S	
D619	8-719-058-38	DIODE FMN-G12S	
D620	8-719-300-76	DIODE RH-1A	
D621	8-719-911-19	DIODE 1SS119-25	
D622	8-719-058-38	DIODE FMN-G12S	
D704	8-719-911-19	DIODE 1SS119-25	
D901	8-719-988-61	DIODE 1SS355TE-17	
D902	8-719-069-55	DIODE UDZS-TE17-5.6B	
D903	8-719-050-84	DIODE RB441Q-40T-77	
D904	8-719-069-55	DIODE UDZS-TE17-5.6B	
D905	8-719-911-19	DIODE 1SS119-25	
D906	8-719-988-61	DIODE 1SS355TE-17	
D907	8-719-988-61	DIODE 1SS355TE-17	
D908	8-719-988-61	DIODE 1SS355TE-17	
D909	8-719-069-55	DIODE UDZS-TE17-5.6B	
D910	8-719-069-55	DIODE UDZS-TE17-5.6B	

<u>REF. NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REMARK</u>
D911	8-719-988-61	DIODE 1SS355TE-17	
D912	8-719-075-53	DIODE SML16751WN	
D913	8-719-988-61	DIODE 1SS355TE-17	
D914	8-719-988-61	DIODE 1SS355TE-17	
D915	8-719-988-61	DIODE 1SS355TE-17	
D916	8-719-988-61	DIODE 1SS355TE-17	
D917	8-719-988-61	DIODE 1SS355TE-17	
D918	8-719-069-55	DIODE UDZS-TE17-5.6B	
D919	8-719-988-61	DIODE 1SS355TE-17	
D920	8-719-058-24	DIODE RB501V-40TE-17	
D921	8-719-988-61	DIODE 1SS355TE-17	
D924	8-719-988-61	DIODE 1SS355TE-17	
D925	8-719-988-61	DIODE 1SS355TE-17	
D926	8-719-988-61	DIODE 1SS355TE-17	
D927	8-719-988-61	DIODE 1SS355TE-17	
D928	8-719-069-55	DIODE UDZS-TE17-5.6B	
D929	8-719-069-55	DIODE UDZS-TE17-5.6B	
D930	8-719-069-55	DIODE UDZS-TE17-5.6B	
D931	8-719-109-89	DIODE RD5.6ESB2	
D932	8-719-109-89	DIODE RD5.6ESB2	
D933	8-719-109-89	DIODE RD5.6ESB2	
D934	8-719-069-55	DIODE UDZS-TE17-5.6B	
D935	8-719-109-85	DIODE RD5.1ESB2	
D936	8-719-109-89	DIODE RD5.6ESB2	
D937	8-719-109-89	DIODE RD5.6ESB2	
<b>FUSE</b>			
F601 $\Delta$ 1-576-231-11    FUSE (H.B.C.) 4A/250V			
<b>FERRITE BEAD</b>			
FB502	1-410-396-41	FERRITE	0.45UH
FB504	1-412-911-11	FERRITE	0UH
FB506	1-412-911-11	FERRITE	0UH
FB904	1-543-961-22	FERRITE	0UH
<b>IC</b>			
IC401	8-759-339-59	IC TDA8177	
IC501 $\Delta$	8-759-570-29	IC UPC6757CS	
IC502	8-759-803-42	IC LA6500-FA	
IC503	8-759-803-42	IC LA6500-FA	
IC601 $\Delta$	8-759-594-75	IC TEA1504/N2	
IC602	8-759-592-79	IC BA00AST-V5	
IC603 $\Delta$	8-749-016-35	IC TLP621D4-Y-LF2T	
IC604	8-759-586-17	IC TL1431CZ-AP	
IC605	8-759-637-83	IC PQ12RD08S	
IC607 $\Delta$	8-759-450-47	IC BA05T	



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<u>REF.NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REMARK</u>	<u>REF.NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REMARK</u>
IC608	8-759-231-53	IC TA7805S		L503	1-411-594-41	INDUCTOR	5MMH
IC701	8-759-595-52	IC CXA8070AP		L505	1-412-552-11	INDUCTOR	2.2MMH
IC702	8-749-015-00	IC STK391-110		L506	1-412-548-31	INDUCTOR	820UH
IC703	8-759-822-38	IC LA6510		L507	1-414-856-11	INDUCTOR	10UH
IC901 $\Delta$	8-759-640-86	IC CXD9529S-LHX		L508	1-419-198-21	COIL, HORIZONTAL LINEARITY	
IC902	8-759-594-40	IC CXA8071CP		L509	1-419-198-21	COIL, HORIZONTAL LINEARITY	
IC904	8-759-352-91	IC PST9143NL		L510	1-416-367-11	COIL, HORIZONTAL CENTER	
IC905	8-759-527-76	IC M24C08-MN6T		L511	1-414-187-11	INDUCTOR	47UH
<b><u>CHIP CONDUCTOR</u></b>				L513	1-414-856-11	INDUCTOR	10UH
JR001	1-216-296-91	SHORT		L602	1-412-529-11	INDUCTOR	22UH
JR003	1-216-295-91	SHORT		L603	1-412-537-31	INDUCTOR	100UH
JR004	1-216-295-91	SHORT		L604	1-406-665-11	INDUCTOR	100UH
JR006	1-216-295-91	SHORT		L606	1-406-665-11	INDUCTOR	100UH
JR007	1-216-295-91	SHORT		<b><u>FILTER</u></b>			
JR008	1-216-296-91	SHORT		LF602 $\Delta$	1-429-180-11	TRANSFORMER, LINE FILTER	
JR009	1-216-295-91	SHORT		<b><u>TRANSISTOR</u></b>			
JR010	1-216-296-91	SHORT		Q501	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
JR011	1-216-296-91	SHORT		Q502	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
JR012	1-216-295-91	SHORT		Q503	8-729-035-54	TRANSISTOR 2SJ449	
JR013	1-216-295-91	SHORT		Q504	8-729-031-89	TRANSISTOR 2SC3941A-Q(TA)	
JR014	1-216-296-91	SHORT		Q505	8-729-119-76	TRANSISTOR 2SA1175-HFE	
JR015	1-216-295-91	SHORT		Q506	8-729-119-76	TRANSISTOR 2SA1175-HFE	
JR016	1-216-295-91	SHORT		Q507	8-729-049-17	TRANSISTOR 2SC5302-SONY-CC	
JR017	1-216-295-91	SHORT		Q508	8-729-119-78	TRANSISTOR 2SC2785-HFE	
JR018	1-216-295-91	SHORT		Q510	8-729-046-60	TRANSISTOR 2SK2605LBSONY	
JR019	1-216-296-91	SHORT		Q511	8-729-042-34	TRANSISTOR IRFU110A	
JR020	1-216-296-91	SHORT		Q512	8-729-047-72	TRANSISTOR 2SK3155-01	
JR021	1-216-296-91	SHORT		Q513	8-729-043-41	TRANSISTOR 2SK2098-01MR-F119	
JR022	1-216-295-91	SHORT		Q514	8-729-047-72	TRANSISTOR 2SK3155-01	
JR023	1-216-295-91	SHORT		Q515	8-729-047-72	TRANSISTOR 2SK3155-01	
JR024	1-216-296-91	SHORT		Q516	8-729-047-72	TRANSISTOR 2SK3155-01	
JR025	1-216-296-91	SHORT		Q518	8-729-140-50	TRANSISTOR 2SC3209LK	
JR027	1-216-296-91	SHORT		Q519	8-729-029-68	TRANSISTOR DTC114TSA	
JR028	1-216-296-91	SHORT		Q520	8-729-035-54	TRANSISTOR 2SJ449	
JR029	1-216-295-91	SHORT		Q521	8-729-119-76	TRANSISTOR 2SA1175-HFE	
JR030	1-216-295-91	SHORT		Q522	8-729-027-23	TRANSISTOR DTA114EKA-T146	
JR032	1-216-296-91	SHORT		Q524	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
JR033	1-216-296-91	SHORT		Q525	8-729-119-78	TRANSISTOR 2SC2785-HFE	
JR034	1-216-295-91	SHORT		Q601	8-729-029-92	TRANSISTOR DTC143ESA	
JR038	1-216-296-91	SHORT		Q602 $\Delta$	8-729-048-61	TRANSISTOR 2SK2843LBS2SONY	
JR604	1-216-295-91	SHORT		Q603	8-729-900-53	TRANSISTOR DTC114EK	
<b><u>COIL</u></b>				Q604	8-729-119-78	TRANSISTOR 2SC2785-HFE	
L501	1-406-663-21	INDUCTOR	47UH	Q605	8-729-900-53	TRANSISTOR DTC114EK	
L502	1-406-663-21	INDUCTOR	47UH	Q903	8-729-120-28	TRANSISTOR 2SC1623-L5L6	



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REF. NO.	PART NO.	DESCRIPTION	REMARK			REF. NO.	PART NO.	DESCRIPTION	REMARK				
<b>RESISTOR</b>													
R401	1-249-381-11	CARBON	1	5%	1/4W	F	R538	1-215-905-11	METAL OXIDE	10	5%	3W	F
R402	1-215-866-11	METAL OXIDE	330	5%	1W	F	R539	1-215-905-11	METAL OXIDE	10	5%	3W	F
R403	1-214-661-21	METAL	1.5	1%	1/4W		R540 $\Delta$	1-215-476-00	METAL	200K	1%	1/4W	
R404	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W		R541 $\Delta$	1-215-421-00	METAL	1K	1%	1/4W	
R405	1-214-661-21	METAL	1.5	1%	1/4W		R542 $\Delta$	1-215-421-00	METAL	1K	1%	1/4W	
R406	1-216-677-11	METAL CHIP	12K	0.50%	1/10W		R543 $\Delta$	1-249-389-11	CARBON	4.7	5%	1/4W	F
R407	1-216-057-00	RES, CHIP	2.2K	5%	1/10W		R544 $\Delta$	1-247-903-00	CARBON	1M	5%	1/4W	
R408	1-216-073-00	RES, CHIP	10K	5%	1/10W		R545	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R409	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W		R546	1-215-457-00	METAL	33K	1%	1/4W	
R410	1-216-677-11	METAL CHIP	12K	0.50%	1/10W		R547 $\Delta$	1-215-477-00	METAL	220K	1%	1/4W	
R500	1-249-377-11	CARBON	0.47	5%	1/4W	F	R548	1-215-423-00	METAL	1.2K	1%	1/4W	
R501	1-216-025-91	RES, CHIP	100	5%	1/10W		R549 $\Delta$	1-215-464-00	METAL	62K	1%	1/4W	
R502	1-218-758-11	METAL CHIP	180K	0.50%	1/10W		R550	1-215-423-00	METAL	1.2K	1%	1/4W	
R503	1-216-675-91	METAL CHIP	10K	0.50%	1/10W		R551	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R504	1-249-377-11	CARBON	0.47	5%	1/4W	F	R552 $\Delta$	1-215-463-00	METAL	56K	1%	1/4W	
R505	1-216-073-00	RES, CHIP	10K	5%	1/10W		R553	1-216-698-11	METAL CHIP	91K	0.50%	1/10W	
R506	1-215-481-00	METAL	330K	1%	1/4W		R554	1-218-756-11	METAL CHIP	150K	0.50%	1/10W	
R507	1-215-431-00	METAL	2.7K	1%	1/4W		R556	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R508	1-247-807-31	CARBON	100	5%	1/4W		R557	1-216-079-00	RES, CHIP	18K	5%	1/10W	
R509	1-247-863-91	CARBON	22K	5%	1/4W		R558	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R510 $\Delta$	1-215-437-00	METAL	4.7K	1%	1/4W		R559	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R511	1-249-381-11	CARBON	1	5%	1/4W	F	R560	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R512	1-249-389-11	CARBON	4.7	5%	1/4W		R561	1-216-474-11	METAL OXIDE	82	5%	3W	F
R513	1-215-888-00	METAL OXIDE	220	5%	2W	F	R562	1-215-451-00	METAL	18K	1%	1/4W	
R514	1-216-081-00	RES, CHIP	22K	5%	1/10W		R563	1-249-383-11	CARBON	1.5	5%	1/4W	F
R515	1-249-417-11	CARBON	1K	5%	1/4W	F	R564 $\Delta$	1-216-089-91	RES, CHIP	47K	5%	1/10W	
R516	1-214-844-81	METAL	150	1%	1/2W		R565	1-215-481-00	METAL	330K	1%	1/4W	
R517	1-216-393-00	METAL OXIDE	2.2	5%	3W	F	R566	1-215-859-00	METAL OXIDE	22	5%	1W	F
R518	1-216-393-00	METAL OXIDE	2.2	5%	3W	F	R567 $\Delta$	1-216-073-00	RES, CHIP	10K	5%	1/10W	
R519	1-215-463-00	METAL	56K	1%	1/4W		R568 $\Delta$	1-249-437-11	CARBON	47K	5%	1/4W	
R520	1-249-397-11	CARBON	22	5%	1/4W	F	R569	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R521	1-249-417-11	CARBON	1K	5%	1/4W	F	R570	1-249-417-11	CARBON	1K	5%	1/4W	
R522	1-249-401-11	CARBON	47	5%	1/4W		R571	1-215-926-00	METAL OXIDE	33K	5%	3W	F
R523	1-215-463-00	METAL	56K	1%	1/4W		R572	1-249-437-11	CARBON	47K	5%	1/4W	
R524	1-215-463-00	METAL	56K	1%	1/4W		R573	1-247-887-00	CARBON	220K	5%	1/4W	
R525	1-249-417-11	CARBON	1K	5%	1/4W	F	R574	1-249-421-11	CARBON	2.2K	5%	1/4W	
R527	1-249-429-11	CARBON	10K	5%	1/4W		R575	1-260-314-11	CARBON	68	5%	1/2W	
R528	1-216-081-00	RES, CHIP	22K	5%	1/10W		R576	1-249-437-11	CARBON	47K	5%	1/4W	
R529	1-249-429-11	CARBON	10K	5%	1/4W	F	R577	1-215-908-00	METAL OXIDE	33	5%	3W	F
R530	1-216-474-11	METAL OXIDE	82	5%	3W	F	R578	1-216-448-11	METAL OXIDE	39	5%	2W	F
R531	1-216-474-11	METAL OXIDE	82	5%	3W	F	R579	1-247-883-00	CARBON	150K	5%	1/4W	
R532	1-249-385-11	CARBON	2.2	5%	1/4W	F	R580	1-216-077-91	RES, CHIP	15K	5%	1/10W	
R533	1-249-417-11	CARBON	1K	5%	1/4W	F	R581	1-249-429-11	CARBON	10K	5%	1/4W	
R534	1-249-405-11	CARBON	100	5%	1/4W	F	R582	1-249-402-11	CARBON	56	5%	1/4W	F
R535	1-215-463-00	METAL	56K	1%	1/4W		R583	1-216-073-00	RES, CHIP	10K	5%	1/10W	
R536	1-249-417-11	CARBON	1K	5%	1/4W	F	R584	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	
R537	1-215-463-00	METAL	56K	1%	1/4W		R585	1-249-417-11	CARBON	1K	5%	1/4W	
							R586	1-249-421-11	CARBON	2.2K	5%	1/4W	
							R587	1-249-417-11	CARBON	1K	5%	1/4W	



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REF.NO.	PART NO.	DESCRIPTION	REMARK		REF.NO.	PART NO.	DESCRIPTION	REMARK			
R589	1-249-425-11	CARBON	4.7K	5%	1/4W	R642	1-216-641-11	METAL CHIP	390	0.50%	1/10W
R590	1-215-453-00	METAL	22K	1%	1/4W	R643	1-215-467-00	METAL	82K	1%	1/4W
R591	1-214-844-81	METAL	150	1%	1/2W	R645	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R592	1-214-844-81	METAL	150	1%	1/2W	R646	1-216-689-11	RES, CHIP	39K	5%	1/10W
R594	1-216-033-00	RES, CHIP	220	5%	1/10W	R647	1-216-073-00	RES, CHIP	10K	5%	1/10W
R595 $\triangle$	1-215-477-00	METAL	220K	1%	1/4W	R648	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W
R596	1-215-423-00	METAL	1.2K	1%	1/4W	R649	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R597	1-259-880-11	CARBON	2.2M	5%	1/4W	R650	1-215-471-00	METAL	120K	1%	1/4W
R599	1-249-417-11	CARBON	1K	5%	1/4W	R654	1-216-344-00	METAL OXIDE	0.39	5%	1W F
R600	1-205-998-11	CEMENTED	1	5%	10W	R655	1-247-807-31	CARBON	100	5%	1/4W
R602	1-219-513-11	CARBON	4.7M	5%	1/2W	R656	1-215-893-11	METAL OXIDE	1.5K	5%	2W F
R603	1-249-403-11	CARBON	68	5%	1/4W	R660	1-260-119-11	CARBON	47K	5%	1/2W
R604 $\triangle$	1-220-827-91	RESISTER	560K	5%	1/2W	R661	1-215-902-11	METAL OXIDE	47K	5%	2W F
R605	1-211-761-71	FUSIBLE MELF	0.1	10%	1/2W	R663	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R606	1-218-768-11	METAL CHIP	470K	0.50%	1/10W	R665	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R607	1-216-081-00	RES, CHIP	22K	5%	1/10W	R703	1-249-410-11	CARBON	270	5%	1/4W
R608	1-215-473-00	METAL	150K	1%	1/4W	R704	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R609	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W	R705	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R610	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	R706	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R611	1-216-009-91	RES, CHIP	22	5%	1/10W	R707	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R612	1-247-791-91	CARBON	22	5%	1/4W	R708	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R613 $\triangle$	1-219-513-11	CARBON	4.7M	5%	1/2W	R709	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R614	1-216-345-11	METAL OXIDE	0.47	5%	1W F	R710	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R615	1-216-117-00	RES, CHIP	680K	5%	1/10W	R711	1-216-346-00	METAL OXIDE	0.56	5%	1W F
R616	1-216-121-91	RES, CHIP	1M	5%	1/10W	R712	1-215-860-11	METAL OXIDE	33	5%	1W F
R617	1-216-025-91	RES, CHIP	100	5%	1/10W	R713	1-216-347-11	METAL OXIDE	0.68	5%	1W F
R618	1-216-635-11	METAL CHIP	220	0.50%	1/10W	R716	1-215-860-11	METAL OXIDE	33	5%	1W F
R619	1-215-893-11	METAL OXIDE	1.5K	5%	2W F	R717	1-216-353-00	METAL OXIDE	2.2	5%	1W F
R620	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	R718	1-215-863-11	METAL OXIDE	100	5%	1W F
R621	1-216-098-00	RES, CHIP	110K	5%	1/10W	R719	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R622	1-247-791-91	CARBON	22	5%	1/4W	R724	1-216-422-11	METAL OXIDE	18	5%	1W F
R623	1-216-615-91	METAL CHIP	33	0.50%	1/10W	R727	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R624	1-216-611-11	METAL CHIP	22	0.50%	1/10W	R728	1-215-863-11	METAL OXIDE	100	5%	1W F
R625	1-260-332-51	CARBON	2.2K	5%	1/2W	R729	1-216-353-00	METAL OXIDE	2.2	5%	1W F
R626	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	R730	1-216-421-11	METAL OXIDE	12	5%	1W F
R627	1-249-377-11	CARBON	0.47	5%	1/4W F	R731	1-216-295-91	SHORT			
R628	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W	R733	1-216-295-91	SHORT			
R629	1-249-441-11	CARBON	100K	5%	1/4W	R735	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R630 $\triangle$	1-211-874-71	FUSIBLE MELF	0.12	10%	1/2W	R737	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R631 $\triangle$	1-211-874-71	FUSIBLE MELF	0.12	10%	1/2W	R739	1-216-073-00	RES, CHIP	10K	5%	1/10W
R632 $\triangle$	1-211-874-71	FUSIBLE MELF	0.12	10%	1/2W	R741	1-249-377-11	CARBON	0.47	5%	1/4W F
R633	1-249-429-11	CARBON	10K	5%	1/4W	R743	1-249-377-11	CARBON	0.47	5%	1/4W F
R634 $\triangle$	1-211-874-71	FUSIBLE MELF	0.12	10%	1/2W	R745	1-216-298-00	RES, CHIP	2.2	5%	1/10W
R635	1-215-925-11	METAL OXIDE	22K	5%	3W F	R747	1-216-298-00	RES, CHIP	2.2	5%	1/10W
R636	1-260-119-11	CARBON	47K	5%	1/2W	R753	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R637	1-215-902-11	METAL OXIDE	47K	5%	2W F	R755	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R638 $\triangle$	1-211-874-71	FUSIBLE MELF	0.12	10%	1/2W	R903	1-216-049-91	RES, CHIP	1K	5%	1/10W
R639 $\triangle$	1-211-874-71	FUSIBLE MELF	0.12	10%	1/2W	R904	1-216-049-91	RES, CHIP	1K	5%	1/10W
R640	1-249-381-11	CARBON	1	5%	1/4W F	R905	1-216-295-91	SHORT			



**Note:** The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

**Note:** The components identified by  $\blacksquare$  in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

<u>REF. NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REMARK</u>		<u>REF. NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REMARK</u>	
R906	1-216-073-00	RES, CHIP	10K	5%	1/10W			<u><b>SWITCH</b></u>	
R907	1-260-087-81	CARBON	100	5%	1/2W	S602 $\Delta$	1-771-757-11	SWITCH, PUSH (1 KEY)	
R908	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	S901	1-692-431-21	SWITCH, TACTILE	
R909	1-216-057-00	RES, CHIP	2.2K	5%	1/10W	S903	1-692-431-21	SWITCH, TACTILE	
R910	1-249-411-11	CARBON	330	5%	1/4W	S904	1-692-431-21	SWITCH, TACTILE	
R911	1-249-416-11	CARBON	820	5%	1/4W	S905	1-692-431-21	SWITCH, TACTILE	
R912	1-216-049-91	RES, CHIP	1K	5%	1/10W	S906	1-692-431-21	SWITCH, TACTILE	
R913	1-216-025-91	RES, CHIP	100	5%	1/10W	S908	1-692-431-21	SWITCH, TACTILE	
R914	1-216-025-91	RES, CHIP	100	5%	1/10W			<u><b>SPARK GAP</b></u>	
R915	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	SG501	1-519-422-11	GAP, SPARK	
R916	1-216-077-91	RES, CHIP	15K	5%	1/10W			<u><b>TRANSFORMER</b></u>	
R917	1-216-077-91	RES, CHIP	15K	5%	1/10W	T501 $\Delta$	1-453-311-11	FLYBACK TRANSFORMER ASSY, NX-4404//X4L4	
R918	1-216-049-91	RES, CHIP	1K	5%	1/10W	T503	1-433-979-11	TRANSFORMER, FERRITE (DFT)	
R919	1-216-049-91	RES, CHIP	1K	5%	1/10W	T504	1-433-978-11	TRANSFORMER, FERRITE (HDT)	
R920	1-216-295-91	SHORT				T505	1-431-413-11	TRANSFORMER, FERRITE (HST)	
R921	1-216-295-91	SHORT				T601 $\Delta$	1-433-847-14	TRANSFORMER, CONVERTER (SRT)	
R922	1-216-073-00	RES, CHIP	10K	5%	1/10W			<u><b>THERMISTOR</b></u>	
R923	1-216-295-91	SHORT				TH501	1-807-796-11	THERMISTOR	
R924	1-216-025-91	RES, CHIP	100	5%	1/10W	TH600 $\Delta$	1-809-827-11	THERMISTOR, NTC	
R925	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	TH601	1-803-540-11	THERMISTOR	
R927	1-216-295-91	SHORT						<u><b>VARISTOR</b></u>	
R929	1-216-065-91	RES, CHIP	4.7K	5%	1/10W	VA601 $\Delta$	1-801-073-31	VARISTOR TNR14V471K660	
R931	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W			<u><b>CRYSTAL</b></u>	
R932	1-216-077-91	RES, CHIP	15K	5%	1/10W	X901	1-767-641-11	VIBRATOR, CRYSTAL	
R933	1-249-417-11	CARBON	1K	5%	1/4W	X902	1-767-933-11	OSCILLATOR, CERAMIC	
R934	1-249-429-11	CARBON	10K	5%	1/4W			<u><b>MISCELLANEOUS</b></u>	
R935	1-216-025-91	RES, CHIP	100	5%	1/10W	$\Delta$	1-419-092-11	COIL, DEGAUSSING	
R936	1-216-025-91	RES, CHIP	100	5%	1/10W	$\Delta$	1-452-923-41	NECK ASSEMBLY (NA2915)	
R937	1-216-025-91	RES, CHIP	100	5%	1/10W	$\Delta$	1-453-311-11	FLYBACK TRANSFORMER ASSY, NX-4404//X4L4	
R938	1-216-025-91	RES, CHIP	100	5%	1/10W	$\Delta$	1-790-881-11	CORD SET, POWER	
R940	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	*	1-790-038-22	CABLE ASSY (15P DSUB CONNECTOR)	
R943	1-249-413-11	CARBON	470	5%	1/4W			3-704-372-31	HOLDER, HV CABLE
R944	1-216-043-91	RES, CHIP	560	5%	1/10W	*	3-867-249-11	MANUAL, INSTRUCTION	
R945	1-216-049-91	RES, CHIP	1K	5%	1/10W	4-045-123-01	HOLDER, DEGAUSSING COIL		
R946	1-216-053-00	RES, CHIP	1.5K	5%	1/10W	$\Delta$	8-738-550-61	ITC ASSY, 17TKB-R1	
R947	1-216-061-00	RES, CHIP	3.3K	5%	1/10W				
R950	1-216-051-00	RES, CHIP	1.2K	5%	1/10W				
R951	1-216-025-91	RES, CHIP	100	5%	1/10W				
R952	1-216-017-91	RES, CHIP	47	5%	1/10W				
R953	1-216-017-91	RES, CHIP	47	5%	1/10W				
<u><b>VARIABLE RESISTOR</b></u>									
$\blacksquare$ RV501 $\Delta$ 1-241-767-21 RES, ADJ, CERMET 100									
<u><b>RELAY</b></u>									
RY500	1-755-137-11	RELAY							
RY601 $\Delta$	1-755-067-21	RELAY							