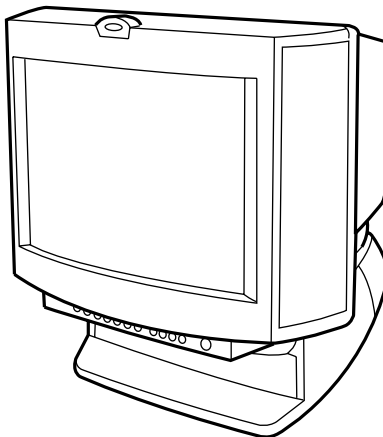


CPD-120AS

SERVICE MANUAL

AEP Model
Chassis No. SCC-L13B-A-A



V-2 CHASSIS

SPECIFICATIONS

Picture tube	CPD-120AS: 0.25 mm aperture grille pitch, 15 inches measured diagonally (13.9" viewable), 90-degree deflection, AR coating	Headphones output	Stereo minijack, 4 mW + 4 mW at 16 Ω
Viewable image size	CPD-120AS: Approx. 284 \times 212 mm (w/h) (11 $\frac{1}{4}$ \times 8 $\frac{3}{8}$ inches) 13.9" viewing image	Microphones input	Minijack, plug-in-power
Max resolution	Horizontal: Max. 1280 dots Vertical: Max. 1024 lines	USB pass-through	Upstream \times 1, downstream \times 1
VESA standards	640 \times 480 at 85 Hz 800 \times 600 at 85 Hz 1024 \times 768 at 85 Hz 1280 \times 1024 at 60 Hz	Controls	Contrast/Audio level/Picture enhancement/Brightness/Bass Boost/(Audio level)/H.Size/V.Size/Pincusion/Color tempeature/Audio muting
Deflection frequency	Horizontal: 30 to 70 kHz Vertical: 50 to 120 Hz	AC input voltage/current	100 to 240 V, 50 – 60 Hz, 1.5 – 0.5 A
Speaker	Left, right: 3.5 W \times 2, Sub-woofer: 10 W 50 to 20 kHz	Dimensions	CPD-120AS: Approx. 424 \times 425 \times 388 mm (w/h/d) (16 $\frac{3}{4}$ \times 16 $\frac{3}{4}$ \times 15 $\frac{3}{8}$ inches) (w/h/d) (19 \times 19 $\frac{1}{8}$ \times 16 $\frac{7}{8}$ inches)
Microphones	Uni-direction, electret condenser microphone	Mass	CPD-120AS: Approx. 16.8 kg (37 lb 1 oz)
Microphones output	Miniplug	Design and specifications are subject to change without notice.	
Audio input	Stereo miniplug, input impedance 47 k Ω , input level 0.7 Vrms typical		

TRINITRON® MULTIMEDIA COMPUTER DISPLAY
SONY®



DIAGNOSIS

Failure	Power LED	Mute LED
Scan/S cap Failure	Blink Amber (On 1.5 sec, Off 0.5 sec)	————
ABL Failure	Blink Amber (On 0.5 sec, Off 1.5 sec)	————
Audio Failure	Blink Amber (1 sec/cycle)	Blink Amber (1 sec/cycle)

Aging Mode : Raster aging

During Power Save, press "POWER switch" button for longer than 4 seconds.

Self Test : OSD color-bar indication

During Power Save, press "POWER switch" button for longer than 8 seconds.

Power Saving Function

This display meets the power saving guidelines set by the International ENERGY STAR Program. It is capable of reduced power consumption when used with a computer equipped with Display Power Management Signaling (DPMS). By sensing the absence of the sync signal coming from the computer, it will reduce the power consumption as follows:

✓ CAUTION

The Power Saving function will automatically put the display into Active-off state if the power switch is turned on without any video signal input. Once the horizontal and vertical syncs are sensed, the display will automatically return to its Normal operation state.

State	Power consumption	Required resumption time	⏻ Power indicator	Speaker
1 Normal operation	CPD-120AS 130 W (max)	—	Green	On
	CPD-220AS 150 W (max)	—	Green	On
2 Suspend (1st step of power saving)	15 W (max)	Approx. 3 sec.	Green ↔ Orange	Off
3 Active-off (2nd step of power saving)	10 W (max)	Approx. 10 sec.	Orange	Off
4 Power-off	Approx. 10 W ¹⁾	—	Off	Off

✓ Note

1) To lower the power consumption to 0 W, disconnect the power cord.

TIMING SPECIFICATION

PRIMARY MODE MODE AT PRODUCTION	MODE 1	MODE 2	MODE 3	PRIMARY MODE 4	MODE 5	MODE 6	MODE 7	MODE 8	MODE 9	MODE 10
RESOLUTION	640 X 480	800 X 600	800 X 600	1024 X 768	1024 X 768	1280 X 1024	640 X 400	640 X 480	1152 X 864	1152 X 432
CLOCK	36.000 MHz	40.000 MHz	49.500 MHz	78.750 MHz	94.500 MHz	108.500 MHz	25.175 MHz	25.175 MHz	80.000 MHz	65.000 MHz
— HORIZONTAL —										
H-FREQ	43.269 kHz	37.879 kHz	46.875 kHz	60.023 kHz	68.677 kHz	63.974 kHz	31.469 kHz	31.469 kHz	54.945 kHz	44.890 kHz
	usec	usec	usec	usec	usec	usec	usec	usec	usec	usec
H. TOTAL	23.111	26.400	21.333	16.660	14.561	15.631	31.778	31.778	18.200	22.277
H. BLK	5.333	6.400	5.172	3.657	3.725	3.834	6.356	6.356	3.800	4.554
H. FP	1.556	1.000	0.323	0.203	0.508	0.590	0.636	0.636	0.800	1.354
H. SYNC	1.556	3.200	1.616	1.219	1.016	1.180	3.813	3.813	1.400	1.969
H. BP	2.222	2.200	3.232	2.235	2.201	2.065	1.907	1.907	1.600	1.231
H. ACTIV	17.778	20.000	16.162	13.003	10.836	11.797	25.422	25.422	14.400	17.723
— VERTICAL —										
V. FREQ(Hz)	85.008 Hz	60.317 Hz	75.000 Hz	75.029 Hz	84.997 Hz	60.013 Hz	70.086 Hz	59.940 Hz	59.984 Hz	94.804 Hz
	lines	lines	lines	lines	lines	lines	lines	lines	lines	lines
V. TOTAL	509	628	625	800	808	1066	449	525	916	473.5
V. BLK	29	28	25	32	40	42	49	45	52	41.5
V. FP	1	1	1	1	1	1	12	10	6	15
V. SYNC	3	4	3	3	3	3	2	2	5	4.5
V. BP	25	23	21	28	36	38	35	33	41	22
V. ACTIV	480	600	600	768	768	1024	400	480	864	432
— SYNC —										
INT(G)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
EXT(H/V)/POLARITY	YES -/-	YES +/+	YES +/+	NO +/+	YES +/+	YES +/+	YES -/+	YES -/-	YES +/+	YES +/+
EXT(CS)/POLARITY	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
INT/NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	INT

97.2.18 VER.

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 ⚠ 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.

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SECTION 1

GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

Warning on Power Connection

- Use the supplied power cord.
For the customers in UK.
If you use the display in UK, please use the supplied UK cable with UK plug.

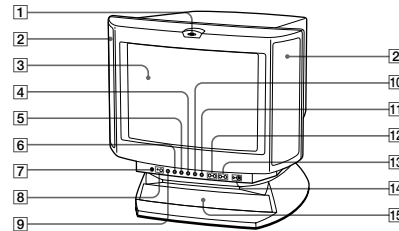


- Before disconnecting the power cord, wait at least 30 seconds after turning off the power switch to discharge static electricity from the CRT display surface.
- After the power has been turned on, the CRT is demagnetized for approximately 5 seconds. This generates a strong magnetic field around the bezel which may affect the data stored on magnetic tape or disks near the bezel. Place such magnetic recording equipment and tapes/disks at a distance from this unit.

The socket-outlet shall be installed near the equipment and shall be easily accessible.

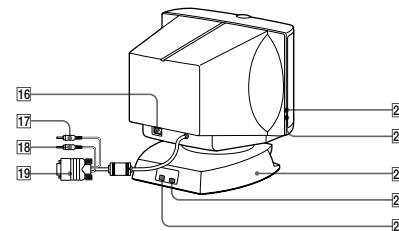
Functions of Controls

Front



Rear

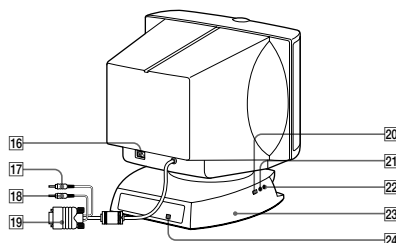
■ CPD-120AS



Continued to the next page ➔

Functions of Controls 7GB

■ CPD-220AS



- | | | |
|----|-----------------------------------|---|
| 1 | Microphone | The internal microphone is turned off when an external microphone is connected. |
| 2 | Main speaker | — |
| 3 | Display | Displays OSD when adjusting. |
| 4 | Size button | Adjusts picture size (page 20). |
| 5 | Geometry button | Adjusts pincushion and rotation (pages 21, 22). |
| 6 | Color temperature button | Adjusts color temperature (page 23). |
| 7 | Reset switch | Resets adjustments to factory setting (page 24). |
| 8 | Mute button and indicator | Mutes sound (page 17). |
| 9 | Volume/Bass boost button | Adjusts speaker volume or selects bass boost mode (page 26). |
| 10 | Centering button | Adjusts picture centering (page 19). |
| 11 | Brightness/GPE button | Adjusts picture brightness or selects GPE mode (page 25). |
| 12 | Volume +/- buttons | Adjusts speaker volume (page 16).
The default setting of the volume level is 30 %. |
| 13 | Contrast button | Adjusts picture contrast (page 17). |
| 14 | Power switch and indicator | Turns on and off the display. |
| 15 | Sub woofer | — |

- | | | |
|----|----------------------------------|--|
| 16 | AC IN connector | Connect the supplied power cord (page 12). |
| 17 | Audio plug (green) | Connect to the computer's speaker output (page 11). |
| 18 | MIC plug (red) | Connect to the computer's microphone input (page 11). |
| 19 | Video signal cable (blue) | Connect to the computer's video output (page 11). |
| 20 | USB downstream connector | Connect to a USB device (page 11). |
| 21 | Microphone jack | Connect a microphone (not supplied). |
| 22 | Headphones jack | Connect headphones (not supplied). The speakers are turned off when headphones are connected. |
| 23 | Tilt-Swivel | Adjusts the angle of the display (page 14). |
| 24 | USB upstream connector | Connect to the computer's USB ports when using a USB (universal serial bus) device connected to the display (page 11). |

8GB Functions of Controls

Functions of Controls 9GB

Getting Started

Before using this display, please make sure that the following items are included in your package:

- Multimedia computer display (1)
- Warranty card (1)
- Operating instruction manual (1)
- Windows 95 Monitor Information Disk and its instruction manual (1)



Tip

This display will sync with any IBM or compatible system equipped with VGA¹⁾ or greater graphics capability. Although this display will sync to other platforms running at horizontal frequencies between 30 and 70 kHz, including Macintosh²⁾ and Power Macintosh systems, a cable adapter is required. Please consult Sony Technical Support for advice on which adapter is suitable for your needs.

- 1) VGA is a trademark of IBM Corporation.
2) Macintosh is a trademark of Apple Computer Inc.

Installation

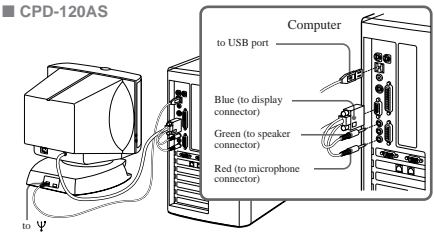
Step 1: Connect the computer

With the computer switched off, connect the video signal cable to the display (VGA) connector on your computer. If your computer supports the DDC plug-and-play standard, this connection will enable the DDC communication between the display and the computer.

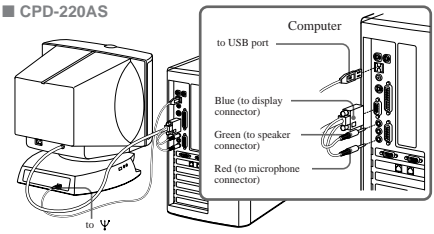
Also the video signal cable is combined with audio and microphone cables. If your computer is equipped with sound capability, connect the audio and microphone plugs to appropriate jacks located on your computer.

If you use a USB (universal serial bus) device, connect the USB device to the USB downstream jack and the PC to the USB upstream jack.

CPD-120AS



CPD-220AS



✓ Note on handling the video signal cable
Do not touch the pins of the video signal cable.

✓ Note on USB ports
USB ports are included to provide state-of-the-art technology. Until USB support is available at the operating system level, you must supply drivers to use USB devices. You can upgrade your operating system to a version that supports USB at the operating system level once a version becomes available. See the manual that came with your USB device for more information on setting it up and using it.

Continued to the next page →

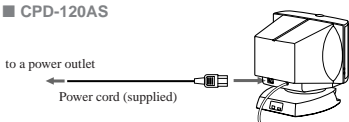
Getting Started 11GB

10GB Getting Started

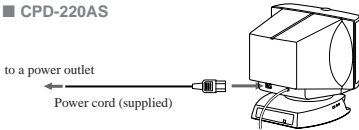
Step 2: Connect the power cord

With the display switched off, connect the power cord to the display and the other end to a power outlet.

CPD-120AS



CPD-220AS



Step 3: Turn on the display and computer.

Step 4: If necessary...

Adjust the user controls according to your personal preference.

The installation of your display is complete. Enjoy your display.

Using Your Display

Preset and user modes

The Multiscan CPD-120AS/220AS display has factory preset modes for the 10 most popular industry standards for true "plug and play" capability. For less common modes, its Digital Multiscan Technology will perform all of the complex adjustments necessary to ensure a high quality picture for any timing between 30 and 70 kHz.

NO.	Resolution (dots × lines)	Horizontal Frequency	Vertical Frequency
1	640 × 400	31.5 kHz	70 Hz
2	640 × 480	31.5 kHz	60 Hz
3	640 × 480	43.3 kHz	85 Hz
4	800 × 600	37.9 kHz	60 Hz
5	800 × 600	46.9 kHz	75 Hz
6	1024 × 768	60.0 kHz	75 Hz
7	1024 × 768	68.7 kHz	85 Hz
8	1152 × 864	44.8 kHz	47 Hz (95 Hz interlace)
9	1152 × 864	54.8 kHz	60 Hz
10	1280 × 1024	64.0 kHz	60 Hz

✓ Note for Windows[®] 95 users
Install the new model information of the Sony computer display from "Windows 95 Monitor Information disk" into your PC. (To install the file, refer to the attached "About the Windows 95 Monitor Information Disk".)

This display complies with "VESA DDC," the standards of Plug & Play. If your PC/graphic board complies with DDC, select "Plug & Play Display (VESA DDC)" or this display's model name (CPD-120AS/220AS) as "Display type" from "Control Panel" on Windows 95. Some PC/graphic boards do not comply with DDC. Even if they comply with DDC, that may have some problems on connecting this display. In this case, select this display's model name (CPD-120AS/220AS) as "Display type" on Windows 95.

Windows[®] is a registered trademark of Microsoft Corporation in the United States and other countries.

✓ Note on recommended horizontal timing conditions
Horizontal sync width should be more than 1.0 μsec.
Horizontal blanking width should be more than 3.6 μsec.

Continued to the next page →

12GB Getting Started

Using Your Display 13GB

■ To enter new timings

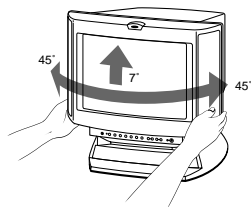
When using a video mode that is not one of the 10 factory preset modes, some fine tuning may be required to optimize the display to your preferences. Simply adjust the display according to the adjustment instructions. The adjustments will be stored automatically and recalled whenever that mode is used.

A total of 10 user-defined modes can be stored in memory. If an 11th mode is entered, it will replace the first.

Using the tilt-swivel

With the tilt-swivel, this unit can be adjusted to be viewed at your desired angle within 90° horizontally and 7° vertically.

To turn the unit vertically and horizontally, hold it at its bottom with both hands. Pay attention not to get your hands caught between the display and the tilt-swivel.

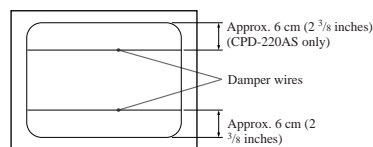


Damper wire

Using a white background, very thin horizontal lines on the screen are visible as shown below. These lines are the damper wires.

The Trinitron tube has a vertically striped Aperture Grille inside. The Aperture Grille allows more light to pass through to the screen giving the Trinitron CRT more color and brightness.

The damper wires are attached to the Aperture Grille to prevent vibration of the Aperture Grille wire so that the screen image is constantly stable.



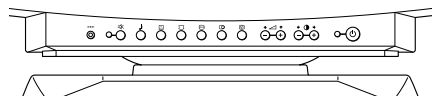
Adjustments

When one of the preset-type signals is input, no picture adjustment is necessary. You can, however, adjust the picture to your preference by following the procedure described below.

To adjust the display, turn on the display and computer. Select the adjustment item. You can adjust all items via the OSD (On Screen Display).

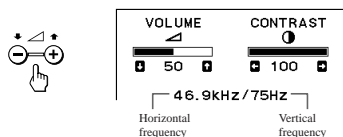
Adjustments are automatically stored in the display's memory.

Control Panel



Adjusting volume

1. Press the + or - button. The VOLUME/CONTRAST OSD appears. The horizontal and vertical frequencies for each input signal received appear.



2. Press the +/- buttons to adjust volume.
 - + to increase volume
 - to decrease volume



The VOLUME/CONTRAST OSD disappears 3 seconds after you release the buttons.

■ Tips

- The default setting of the volume level is 30 %.
- Adjust the volume while listening to the sound.
- Excessively high volume may cause howling.

■ To mute the sound

Press the button. The indicator lights. The light indicates mute function is in active mode.



Press again to cancel muting.

You can cancel muting also by pressing the + button.

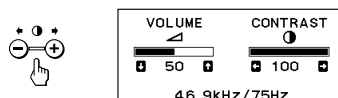
■ Tip

appears instead of on the VOLUME/CONTRAST OSD while the sound is muted.

Adjusting the picture contrast

The adjustment data becomes the common setting for all input signals.

1. Press the + or - button. The VOLUME/CONTRAST OSD appears. The horizontal and vertical frequencies for each input signal received appear.



Continued to the next page →

- Press the **⬅ ➡** buttons to adjust the picture contrast.

+ for more contrast
- for less contrast



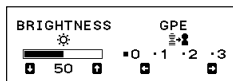
The VOLUME/CONTRAST OSD disappears 3 seconds after you release the buttons.

Adjusting the picture brightness

The adjustment data becomes the common setting for all input signals.

- Press the **☼** button.

The BRIGHTNESS/GPE OSD appears.



- Press the **⬅ ➡** buttons to adjust the picture brightness.

+ for more brightness
- for less brightness



To exit the OSD

Press the **☼** button again.



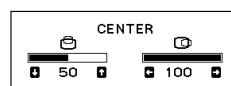
If you don't touch any buttons, the OSD automatically disappears after 10 seconds.
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.

Adjusting the picture centering

The adjustment data becomes the individual setting for each input signal received.

- Press the **⬅ ➡** button.

The CENTER OSD appears.



- For vertical adjustment

Press the **⬅ ➡** buttons.

+ to move up
- to move down



- For horizontal adjustment

Press the **⬅ ➡** buttons.

+ to move right
- to move left



To exit the OSD

Press the **⬅ ➡** button again.



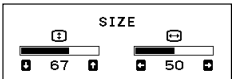
If you don't touch any buttons, the OSD automatically disappears after 10 seconds.
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.

Adjusting the picture size

The adjustment data becomes the individual setting for each input signal received.

- Press the **⬅ ➡** button.

The SIZE OSD appears.



- For vertical adjustment

Press the **⬅ ➡** buttons.

+ to increase
- to decrease



- For horizontal adjustment

Press the **⬅ ➡** buttons.

+ to increase
- to decrease



To exit the OSD

Press the **⬅ ➡** button again.



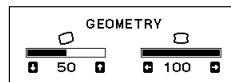
If you don't touch any buttons, the OSD automatically disappears after 10 seconds.
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.

Adjusting the picture rotation

The adjustment data becomes the common setting for all input signals.

- Press the **⬅ ➡** button.

The GEOMETRY OSD appears.



- Press the **⬅ ➡** buttons.

+ to rotate clockwise
- to rotate counterclockwise



To exit the OSD

Press the **⬅ ➡** button again.

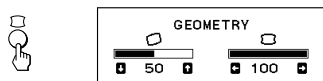




If you don't touch any buttons, the OSD automatically disappears after 10 seconds.
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.

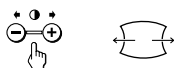
Adjusting the pincushion

The adjustment data becomes the individual setting for each input signal received.

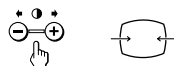
1. Press the  button.
The GEOMETRY OSD appears.




2. Press the   buttons.
+ to expand the picture sides



- to diminish the picture sides



To exit the OSD

Press the  button again.



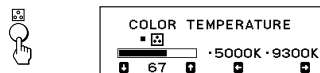
Tip
If you don't touch any buttons, the OSD automatically disappears after 10 seconds.
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.





22^{GB} Adjustments

Setting the color temperature



The selected color temperature becomes the common setting for all input signals.

1. Press the  button.
The COLOR TEMPERATURE OSD appears.



2. Adjust with the   and   buttons.

To select 5000K or 9300K

Press   buttons.



The selected color temperature is indicated.

+ to select 9300K

- to select 5000K



To obtain the desired color temperature between 5000K and 9300K

Press   buttons.


+ for higher temperature

- for lower temperature



Tip
The first press of  or  button recalls the color temperature which was obtained at the last adjustment.

To exit the OSD

Press the  button again.




Tip
If you don't touch any buttons, the OSD automatically disappears after 10 seconds.
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.

Adjustments 23^{GB}


Resetting

■ To recall the factory settings for individual adjustment item


Press the button of the adjustment item you want to recall the factory settings, and then press the  button immediately before the OSD disappears.



■ To recall the factory settings for the current mode

Press the  button immediately when no OSD is shown.

■ To recall the factory settings for all modes

Press and hold the  button for 2 seconds.

All adjustments return to the factory settings.

24^{GB} Adjustments

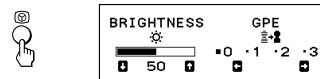
Available Features

Selecting Graphic Picture Enhancement (GPE)

There are 4 GPE modes from "0" through "3," and the picture is more vivid at a higher number. You can enjoy movies and games with striking visuals by enhancing the picture sharpness.

Default setting is "0."

1. Press the  button.
The BRIGHTNESS/GPE OSD appears.



2. Press the   buttons to select the GPE mode.

+ for higher number


- for lower number



You can adjust the brightness on the same OSD by pressing the

  buttons.

To exit the OSD

Press the  button again.



Tip
If you don't touch any buttons, the OSD automatically disappears after 10 seconds.
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.

✓ Notes on GPE mode

For text oriented applications such as word processing and spreadsheets, set the GPE mode to "0" (default setting).


GPE (Graphic Picture Enhancement) mode is reset to "0" when:

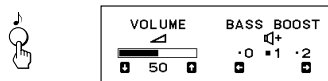
- you turn off the display
- the PC recovered from the power saving mode
- the resolution is changed


Available Features 25^{GB}

Selecting Bass Boost

There are 3 Bass Boost modes from "0" through "2," and bass is boosted more at a higher number. The factory setting is "1" (normal mode). You can enjoy games and music programs with lively sound by selecting "2." When you use the PC phone, select "0." You will be able to hear the caller's voice more easily as the high-pitched tone is reduced.


1. Press the  button.
The VOLUME/BASS BOOST OSD appears.



2. Press the  +/- buttons to select the BASS BOOST mode.
+ for higher number
- for lower number




After selecting the Bass Boost mode, you can adjust the volume on the same OSD.

Press the  +/- buttons.

+ to increase volume
- to decrease volume



To exit the OSD

Press the  button again.





Tip
If you don't touch any buttons, the OSD automatically disappears after 10 seconds.
When you want to adjust another item, press the button of the item. The OSD of the selected item appears.


26^{GB} Available Features


Troubleshooting


This section may help you isolate a problem and as a result, eliminate the need to contact technical support, allowing continued productivity.

No picture

- If the  indicator is not lit
 - Check that the power cord is properly connected.
 - Check that the  switch is in the "ON" position.



If the  indicator is lit in orange, or alternately in orange and green


- Check that your computer power switch is in the "ON" position.
- The display may recover when you press any key on the keyboard of the computer.
- Check that the video cable is properly connected.
- Ensure that no pins are bent or pushed in the HD15 connector of the cable.
- Check that the video card in your computer is seated completely in a proper bus slot.
- Check that the video sync signal is within that specified for the display.
- This display has a self-diagnostics function. To activate the function, turn off the computer and the display. Press and hold the  switch of the display for about 8 seconds. If the display is operating correctly, the screen will become white first and then the color bars will appear.

If the  indicator is flashing in orange

- Check that the video sync signal is specified for the display.
- There is a potential display failure. Contact Sony Technical Support.

No sound from speaker

- If the  indicator is lit
 - Press the  button to cancel muting.


- Check that the audio plug is properly connected.
- Adjust the volume with  +/- buttons.
- Check that the headphones are not connected.
- Check that the sound board of the computer is properly connected.
- Check that the volume control, muting, sound selector, etc. of the sound board. (See the computer's manual.)

Microphone mixing is not possible

- Check that the MIC plug is properly connected.
- Check that the sound board of the computer is properly connected.
- Check that the microphone control, sound selector, etc. of the sound board. (See the computer's manual.)

30^{GB} Troubleshooting


Howling (feed-back) is heard

- Decrease the volume with  +/- buttons, or turn down the microphone input volume of the sound board.

Picture is scrambled

- Check your graphics board manual for the proper display setting on the display.
- Check this manual and confirm that the graphic mode and the frequency at which you are trying to operate is supported. Even within the proper range, some video boards may have a sync pulse that is too narrow for the display to sync correctly.

Color is not uniform

- Trip the  switch once to activate the Auto-degauss cycle*.


Picture is flickering

- If the refresh rate is not appropriate, the picture may flicker. Set the refresh rate of the non-interlace mode as high as possible on the computer. For details on how to set the refresh rate, consult the dealer of your computer or video board.

Screen image is not centered or sized properly

- Adjust picture centering, size, or geometry (rotation/ pincushion) on the OSD (pages 19-22).
- Some video modes do not fill the screen to the edge of the display. There is no single answer to solve the problem. There is a tendency for this problem to occur on higher refresh timings.

Picture is fuzzy

- Adjust the contrast and brightness on the OSD (pages 17, 18). Some brands of SVGA boards have an excessive video output level which creates a fuzzy picture at maximum contrast.
- The GPE setting may not be proper for the picture. Selecting a lower GPE number may improve the picture (page 25).
- Trip the  switch once to activate the Auto-degauss cycle*.

Picture bounces or has wavy oscillations

- Isolate and eliminate any potential sources of electric or magnetic fields. Common causes for this symptom are electric fans, fluorescent lighting, laser printers, etc.
- If you have another display close to this display, increase the distance between them to reduce interference.
- Try plugging the display into a different AC outlet, preferably on a different circuit.

Picture appears to be ghosting

- Eliminate the use of video extension cables and/or video switch boxes if this symptom occurs. Excessive cable length or weak connections can produce this symptom.

Continued to the next page →

Troubleshooting 31^{GB}

Fine horizontal lines (wires) are visible

- These wires stabilize the vertically striped Aperture Grille. The Aperture Grille allows more light to pass through to the screen giving the Trinitron CRT more color and brightness.

Wavy or elliptical (moire) pattern is visible

- Due to the relationship between resolution, display Aperture Grille pitch and the pitch of some image patterns, certain screen backgrounds, especially gray, sometimes show moire which looks like wavy lines. This can only be eliminated by changing your desktop pattern.

Hum is heard right after the power is turned on

- When the power is turned on, the Auto-degauss cycle* is activated. While the Auto-degauss cycle is activated, a hum may be heard for about 3 seconds. This is not a malfunction.

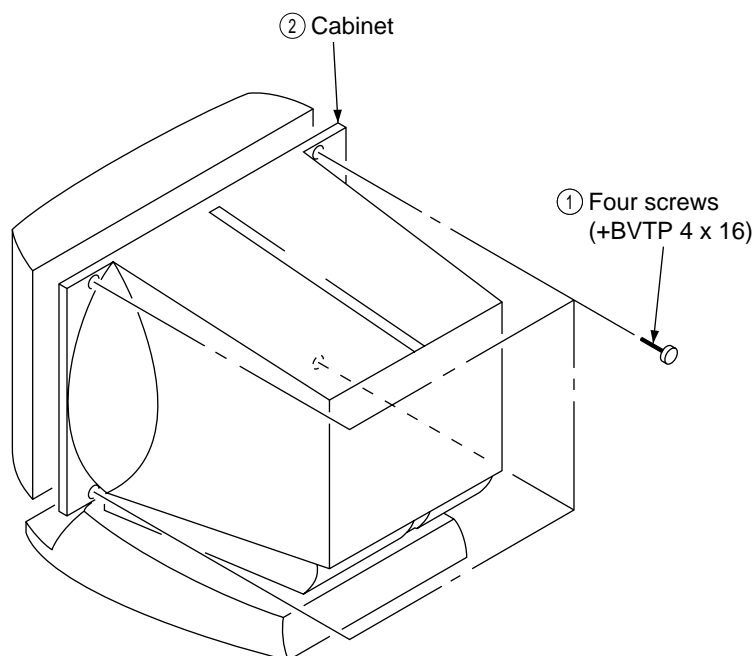
* The Auto-degauss function demagnetizes the metal frame of the CRT to obtain a neutral field for uniform color reproduction. If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result.

- If the problem persists, call your authorized Sony dealer from a location near you, or call Sony Technical Support.
- Note the model name and the serial number of your display. Also note the make and name of your computer and video board.

32^{GB} Troubleshooting

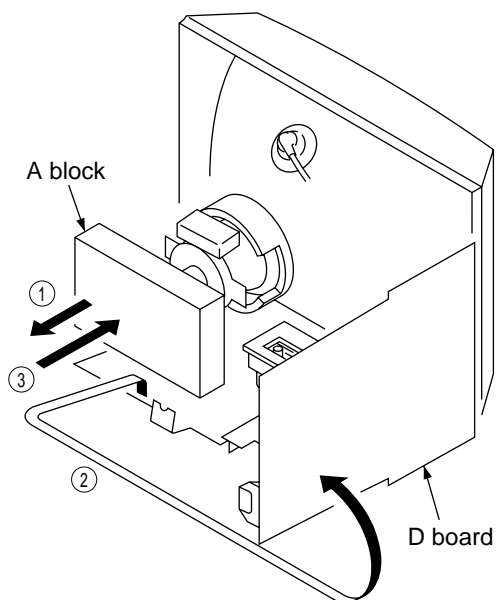
SECTION 2 DISASSEMBLY

2-1. CABINET REMOVAL

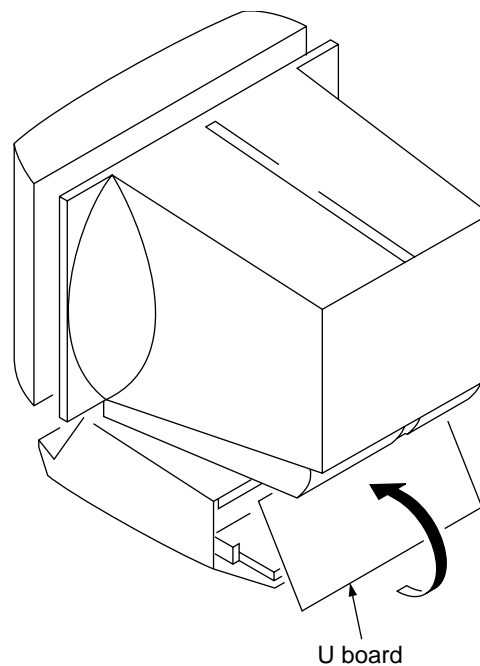


2-2. SERVICE POSITION

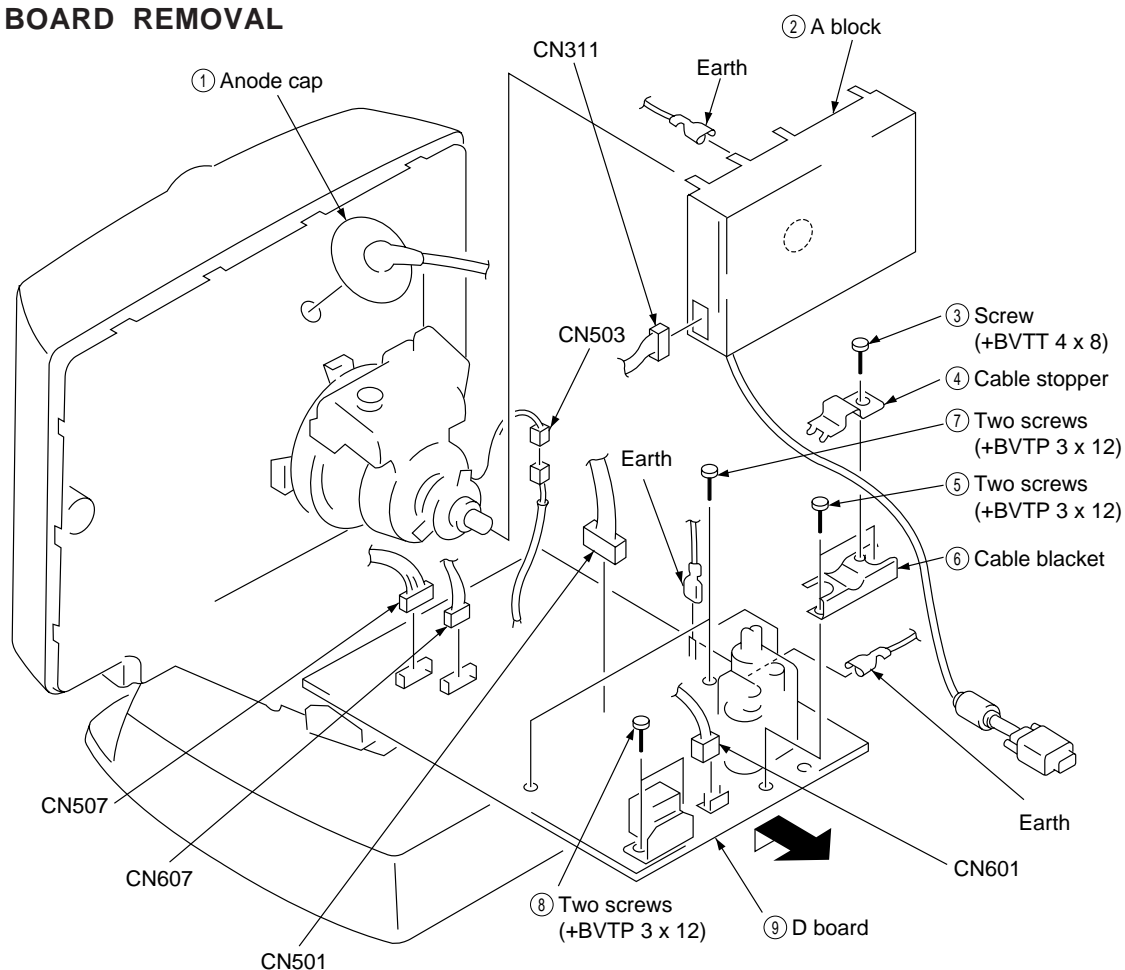
(1) D BOARD



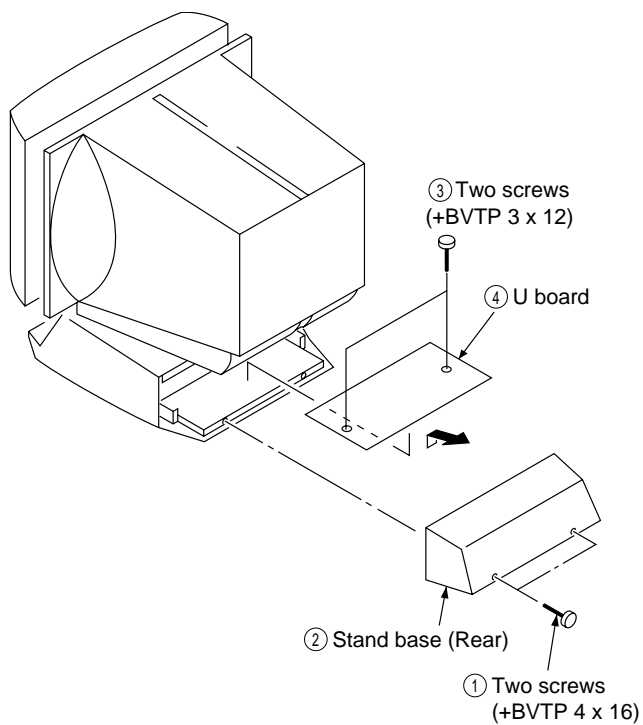
(2) U BOARD



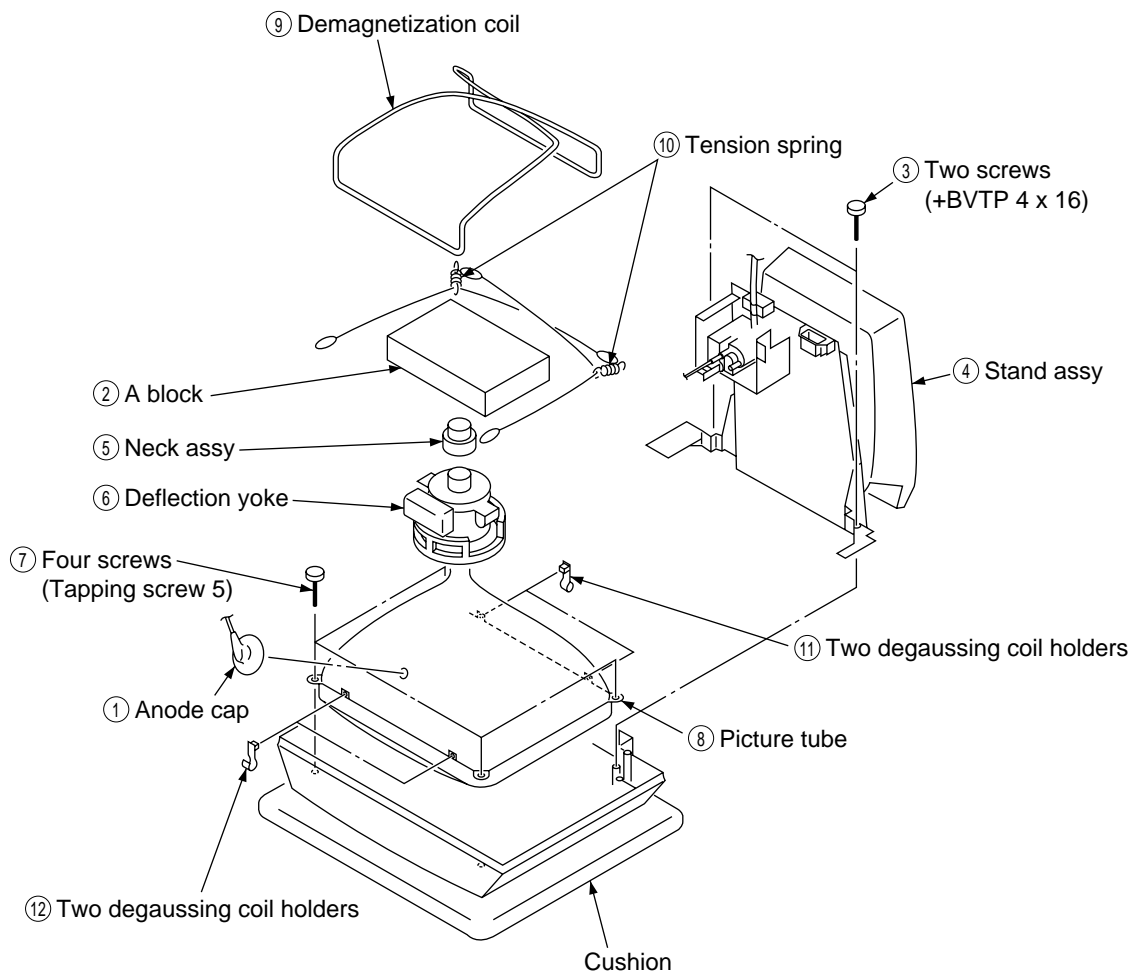
2-3. D BOARD REMOVAL



2-4. U BOARD REMOVAL



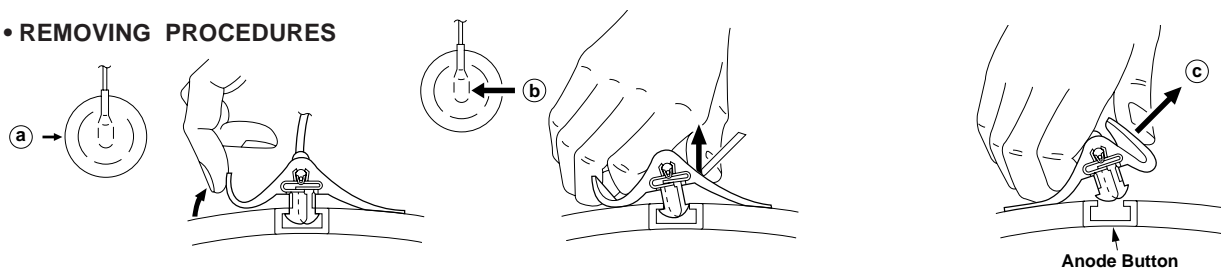
2-5. PICTURE TUBE REMOVAL



• REMOVAL OF ANODE-CAP

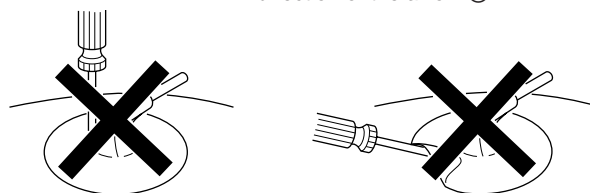
NOTE: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

• REMOVING PROCEDURES



• HOW TO HANDLE AN ANODE-CAP

- Don't hurt the surface of anode-caps with sharp shaped material!
- Don't press the rubber hardy not to hurt inside of anode-caps! A material fitting called as shatter-hook terminal is built in the rubber.
- Don't turn the foot of rubber over hardy! The shatter-hook terminal will stick out or hurt the rubber.



SECTION 3

SAFETY RELATED ADJUSTMENT

When replacing or repairing the shown below table, the following operational checks must be performed as a safety precaution against X-rays emissions from the unit.

	Part Replaced (▣)
HV ADJ	RV501

	Part Replaced (▣)
HV Regulator Circuit	D board IC801, C509, C533, C542, C548, C802, C814, C815, R506, R508, R538, R539, R540, R541, R807, R822, R823, R824, RV501, T501 (FBT)
HV Protector Circuit	D board IC501, IC801, IC904, D511, D515, D516, C515, C516, C517, C525, R532, R533, R534, R535, R557, R558, R996, T501 (FBT) • Mounted D board
Beam Current Protector Circuit	D board IC901, D596, C519, C528, C549, C904, R542, R543, R544, R545, R939 • Mounted D board

* Confirm one minute later turning on the power.

• HV Protector Circuit Check

Confirm that the HV protector circuit works and CRT screen disappearing when apply the voltage as shown below between Cathode of D511 on D board and GND using an external DC Power Supply.

- Standard voltage : 35.20 ± 0.05 V DC

Check Condition

- Input voltage : 120.0 ± 2.0 V AC
- Input signal : Dot at 64.0 kHz
(VESA 1280 × 1024)
- Beam control : CONT : 100 %, BRT : 40 %

• Beam Current Protector Check

Using an external DC Power Supply, applying voltage of 7.00 ± 0.05 V between ⑪ pin of FBT (T501) and GND, and confirm that the voltage of both ends C519 is within the Voltage range shown below.

- Standard voltage : Less than 3.26 V DC

Check Condition

- Input voltage : 120.0 ± 20 V AC
- Input signal : Dot at 64.0 kHz
(VESA 1280 × 1024)
- Beam control : CONT : 100 %, BRT : 40 %

• B+ Voltage Check

Standard voltage : $149.0^{+2.0}_{-3.0}$ V DC

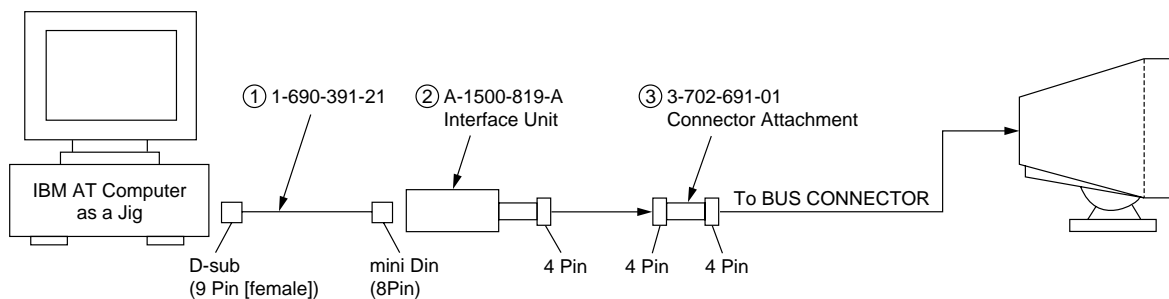
Check Condition

- Input voltage : 120.0 ± 2.0 V AC
Note : Use NF power supply or make sure that distortion factor is 3% or less.
- Input signal : All white at 60.0 kHz
(VESA 1024 × 768)
- Beam control : CONT : 100 %, BRT : 40 %

SECTION 4

ADJUSTMENTS

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



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

• Landing Rough Adjustment

1. Enter the full white signal.
2. Adjust the contrast to the maximum.
3. Make the screen monogreen.
4. Reverse the DY, and adjust coarsely the purity magnet so that a green raster positions in the center of screen.
5. Moving the DY forward, adjust so that an entire screen becomes monogreen.
6. Adjust the tilt of DY, and fix lightly with a clamp.

• Landing Fine Adjustment

1. Place the set in the Helmholtz coil.
2. Enter a green signal only.
3. Degauss the entire screen with hand-degausser.
4. Attach a wobbling coil to the specified position of CRT neck.
5. Attach a landing adjuster sensor on the CRT.
6. Using a landing checker, adjust the DY position, purity, tilt of DY.
7. Clamp the DY screw.

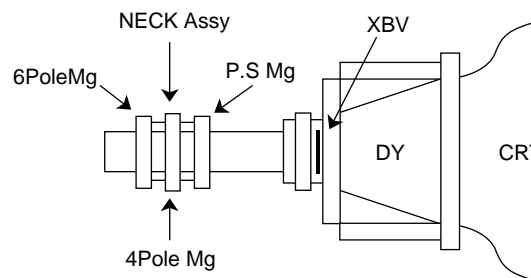
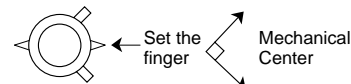
Clamping torque: $19 \pm 1 \text{ kgcm}$ ($1.9 \pm 0.1 \text{ N.m}$)

• Convergence Rough Adjustment

1. Enter the white crosshatch signal.
2. Adjust roughly the horizontal and vertical convergence at four-pole magnet.
3. Adjust roughly HMC and VMC at six-pole magnet.

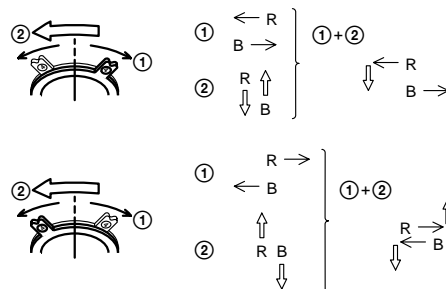
• Convergence Rough Adjustment

- * Set DY four-pole magnet to mechanical center before adjustment.
- * This should be prime mode.



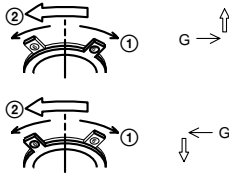
- 1) Receive R.B. cross-hatch.
- 2) Adjust H.STAT and V.STAT at four-pole magnet.

<4 Pole Magnet>



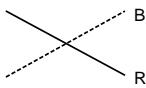
- 3) Receive White cross-hatch.
- 4) Adjust HMC and VMC at six-pole magnet.

<6 Pole Magnet>



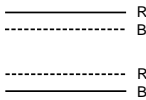
- 5) Receive R.B. cross-hatch.
- 6) Repeat the above procedure so that R.G.B. will on X,Y axis.
- 7) Adjust H.TILT by swinging the DY neck right and left.
- 8) Adjust XCV with XCV core.

1 XCV movement



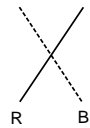
- 9) Adjust V.TILT with TLV VR.

TLV movement



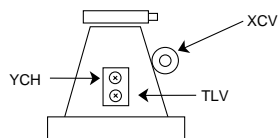
- 10) Adjust Y.CLOTH with YCH VR.

YCH movement

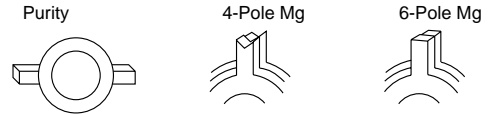


- 11) Paint lock the four-pole and six-pole Mg.

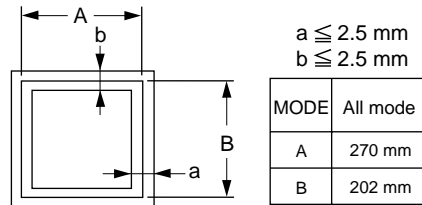
<VR Adjustment on DY>



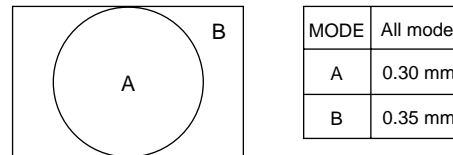
<Zero Position NECK Ass'y>



• Vertical and Horizontal Position and Size Specification



• Convergence Specification

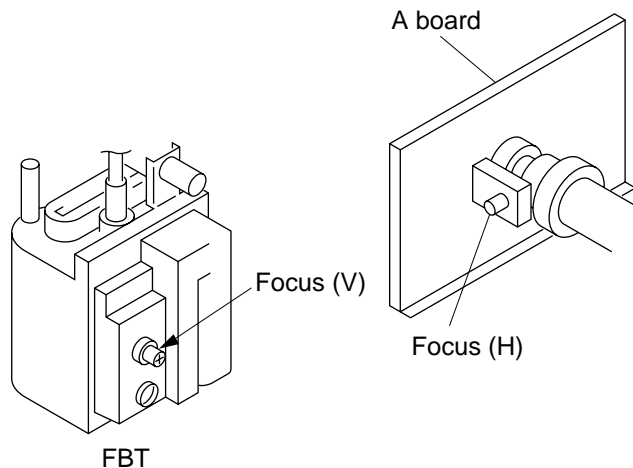


• White Balance Adjustment Specification

- (1) 9300K
 $x = 0.283 \pm 0.005$
 $y = 0.298 \pm 0.005$
- (2) 6500K
 $x = 0.313 \pm 0.005$
 $y = 0.329 \pm 0.005$
- (3) 5000K
 $x = 0.345 \pm 0.005$
 $y = 0.358 \pm 0.005$

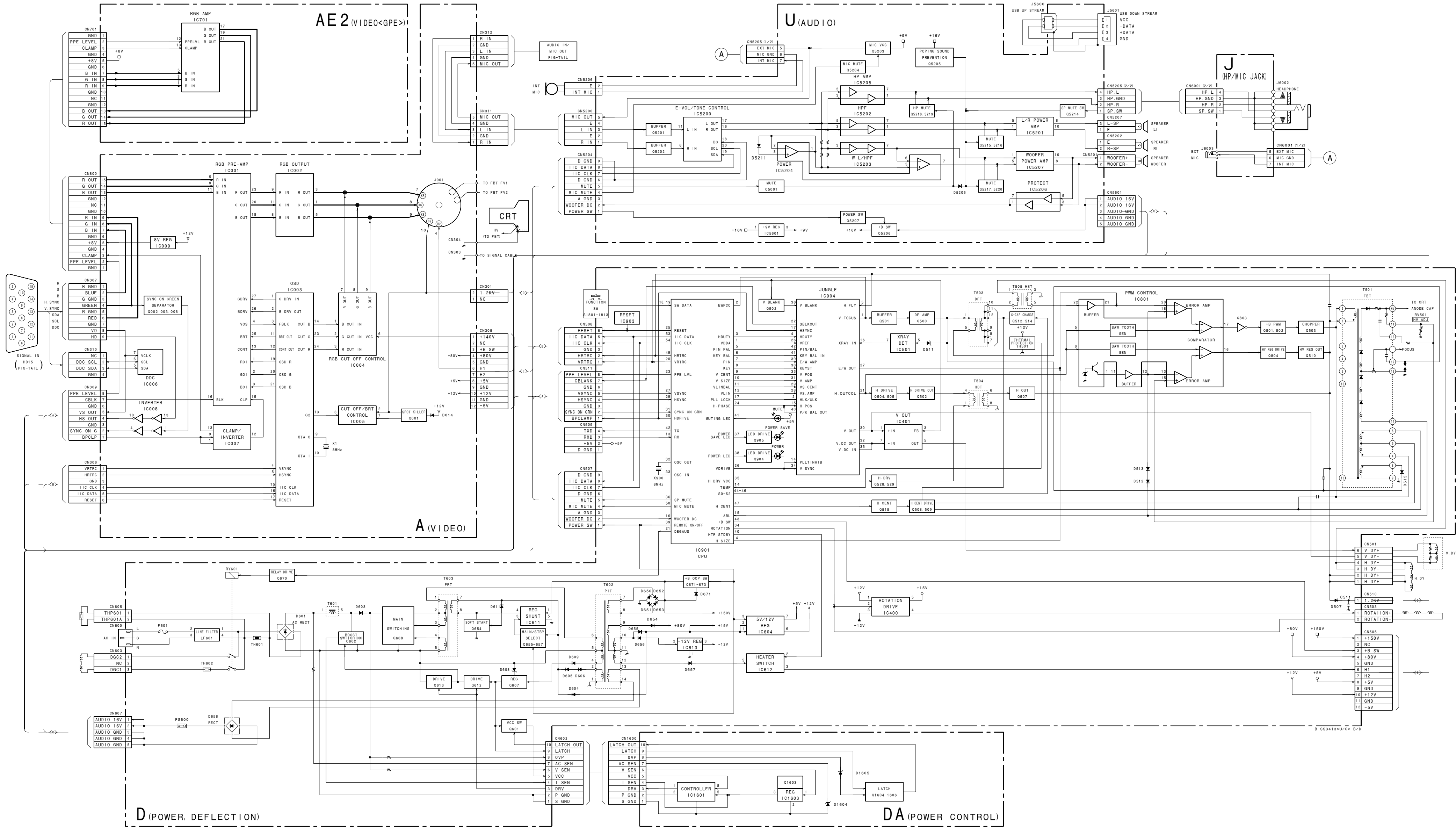
• Focus adjusment

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

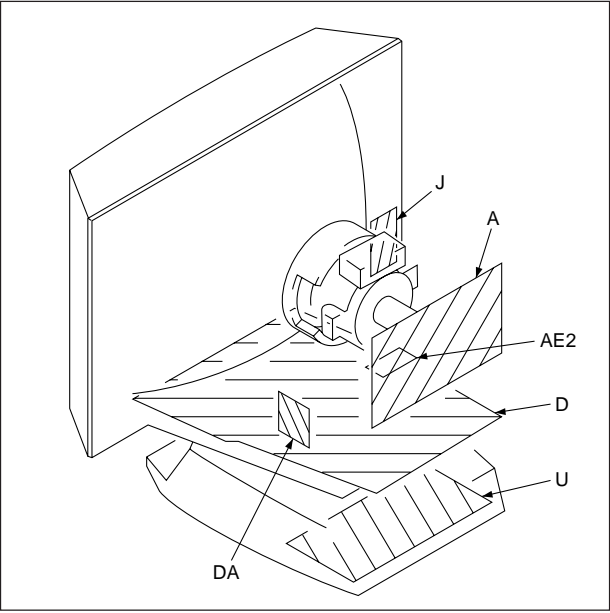


SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAMS (with FRAME SCHEMATIC DIAGRAM)



5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND
PRINTED WIRING BOARDS

- Note:**
- All capacitors are in μF unless otherwise noted. (pF: μF)
 - Capacitors without voltage indication are all 50 V.
 - 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.
 - \square : fusible resistor.
 - Δ : internal component.
 - \square : panel designation, and adjustment for repair.
 - All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
 - \perp : earth-ground.
 - --- : earth-chassis.
 - The components identified by \square 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 \square , make the necessary adjustments indicated. (See page 14)
 - When replacing the part in below table, be sure to perform the related adjustment.

Note: The components identified by \square and Δ are critical for safety. Replace only with part number specified.

	Part replaced (\square)
HV ADJ	RV501
HV Regulator Circuit	D board IC801, C509, C533, C542, C548, C802, C814, C815, R506, R508, R538, R539, R540, R541, R807, R822, R823, R824, RV501, T501 (FBT)
HV Hold-Down Circuit	D board IC501, IC801, IC904, D511, D516, D517, C515, C516, C517, C525, R532, R533, R534, R535, R557, R558, R996, RV501, T501 (FBT)
Beam Current Protector Circuit	D board IC901, D596, C519, C528, C549, C904, R542, R543, R544, R545, R939

- All voltages are in V.
- Readings are taken with a 10 M Ω digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- * : Can not be measured.
- Circled numbers are waveform references.
- --- : B + bus.
- --- : B - bus.

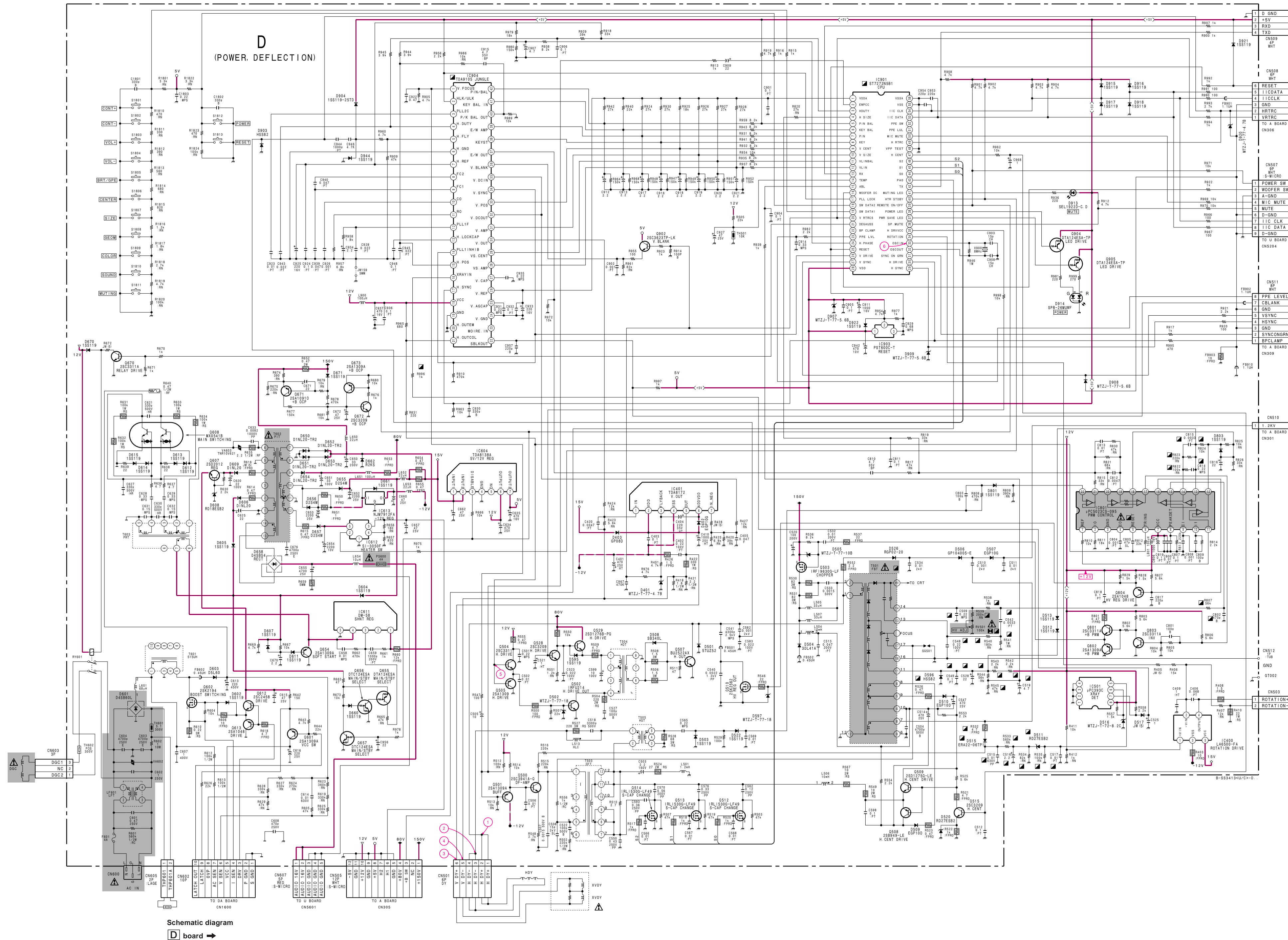
Terminal name of semiconductors in silk screen
printed circuit (※):

Device	Printed symbol	Terminal name	Circuit
① Transistor		Collector Base Emitter	
② Transistor		Collector Base Emitter	
③ Diode		Cathode Anode	
④ Diode		Cathode Anode (NC)	
⑤ Diode		Cathode Anode (NC)	
⑥ Diode		Common Anode Cathode	
⑦ Diode		Common Anode Cathode	
⑧ Diode		Common Anode Anode	
⑨ Diode		Common Anode Anode	
⑩ Diode		Common Cathode Cathode	
⑪ Diode		Common Cathode Cathode	
⑫ Transistor (FET)		Drain Source Gate	
⑬ Transistor (FET)		Drain Source Gate	
⑭ Transistor (FET)		Source Drain Gate	
⑮ Transistor		Emitter Collector Base	
—		Discrete semiconductor	

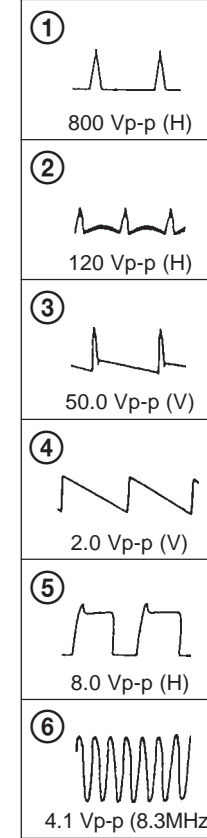
(Chip semiconductors that are not actually used are included.) Ver.1.4

- D BOARD VOLTAGE LIST

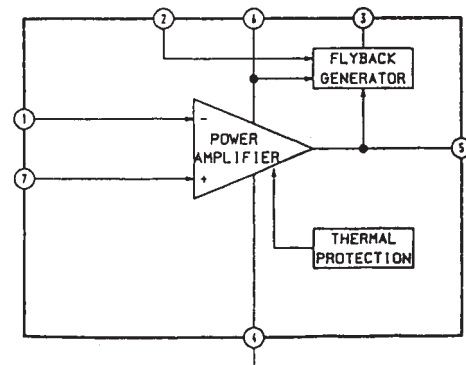
Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	
IC400	1	1.1	Q500	B	1.7	
	2	1.1		C	71.5	
	4	-0.2		E	1.2	
IC401	1	1.1	Q501	B	1.1	
	3	-11.8		E	1.7	
	5	0.3	Q502	B	-0.2	
	6	13.4		C	70.4	
	7	1.1	Q503	D	147.1	
IC604	3	4.1		D	48.9	
IC612	2	5.1	Q504	B	4.8	
	3	6.4		E	4.9	
	5	7.3	Q505	B	4.8	
IC801	6	4.9		E	5.0	
	8	7.0	Q507	B	-0.5	
	9	4.1		C	49.0	
	10	5.1	Q508	B	52.8	
	11	5.9		C	29.3	
	12	6.0		E	51.7	
	13	6.0	Q509	B	52.8	
	14	6.8		C	51.7	
	15	5.3	Q510	G	7.9	
	16	7.9		D	8.3	
	17	2.5	Q512	D	5.1	
	18	4.6		D	0	
	19	5.3	Q513	G	5.1	
	20	4.6		D	0	
	21	5.0	Q514	G	5.1	
22	5.0	D		0		
IC901	1	8.1	Q515	B	1.3	
	2	1.9		E	52.8	
	3	1.9	Q528	B	0.7	
	4	3.1		E	0.8	
	5	3.3	Q529	B	72.1	
	6	2.9		E	70.9	
	7	3.2	Q601	E	14.2	
	8	2.7		E	14.9	
	9	2.5	Q602	G	8.4	
	10	2.7		D	82.9	
	11	2.7	Q607	S	0.1	
	12	2.6		B	18.0	
	13	5.1	Q608	C	29.1	
	14	1.9		E	17.4	
	15	4.2	Q612	1(C1)	186.8	
	16	1.6		2(B1)	-1.3	
	17	5.1		4(C2)	186.8	
	18	5.0		5(B2)	185.5	
	19	5.0		6(E2)	376.0	
	20	-0.4	Q613	B	9.7	
	21	0		C	9.4	
	22	5.1		E	9.4	
	23	0	Q614	B	9.6	
	24	3.4		C	9.5	
	25	5.1		E	9.5	
	26	0.1	Q654	B	11.0	
	27	4.4		E	11.4	
	28	4.5	Q655	B	13.9	
	29	4.5		C	2.5	
	30	0.7		E	13.9	
	31	0.7	Q656	B	0	
	32	1.9		C	13.9	
	33	2.4	Q657	B	4.1	
	34	2.6		C	0	
	35	1.4	Q670	B	0	
	36	0.1		C	12.1	
	37	5.1	Q671	B	148.6	
	38	0		C	149.1	
	39	4.1	Q672	B	0	
	40	5.1		C	4.1	
	41	3.9		E	4.1	
	42	5.1	Q673	B	4.1	
	43	0.7		C	4.1	
	44	5.1		E	4.1	
	45	5.1	Q801	B	8.0	
	46	5.1		E	7.9	
	47	1.3	Q802	B	8.0	
	49	1.0		E	7.9	
	50	0	Q803	B	0.3	
51	0	C		8.1		
52	0	Q804		B	7.9	
53	4.7		E	7.8		
54	4.6	Q901	B	*		
IC903	2		5.1	C	*	
	IC904	1	5.5	Q902	B	-0.4
		2	5.1		C	0.1
		3	3.4	Q904	B	0.1
		4	2.0		C	5.0
		5	0.3		Q905	B
		6	0	C		-0.6
		7	8.0	Q906		B
		8	1.6		C	5.1
		9	6.4		Q907	B
		10	4.0	C		5.1
		11	2.8	Q908		B
		12	2.8		C	5.1
		13	8.0		Q909	B
		14	0.1	C		5.1
15		4.2	Q910	B		5.1
16	5.7	C		5.1		
17	0.6	Q911		B	5.1	
18	4.8		C	5.1		
19	4.6		Q912	B	5.1	
20	4.0	C		5.1		
21	5.1	Q913		B	5.1	
22	8.1		C	5.1		
23	3.5		Q914	B	5.1	
24	3.7	C		5.1		
25	3.8	Q915		B	5.1	
26	3.5		C	5.1		
27	3.0		Q916	B	5.1	
28	3.1	C		5.1		
29	3.2	Q917		B	5.1	
30	4.1		C	5.1		
31	0.1		Q918	B	5.1	
32	3.5	C		5.1		
33	3.5	Q919		B	5.1	
34	0.1		C	5.1		
35	3.5		Q920	B	5.1	
36	0.1	C		5.1		



- **D BOARD WAVEFORMS**



- D BOARD
IC401 TDA8172



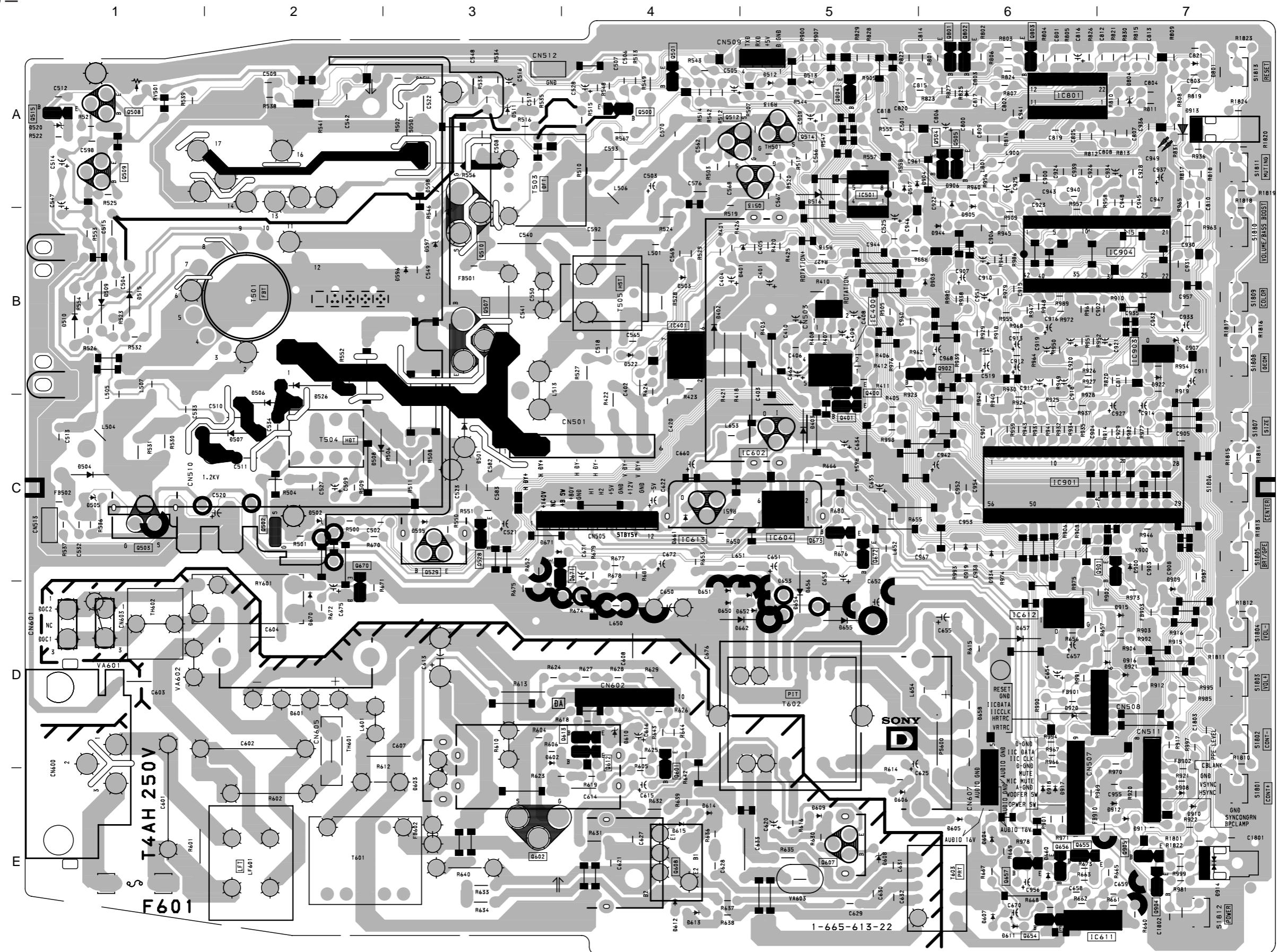
- D BOARD
SEMICONDUCTOR LOCATION

IC		D509	B-7
		D510	B-7
IC400	B-3	D511	A-5
IC401	B-4	D512	A-3
IC501	A-3	D513	A-3
IC615	D-3	D515	B-7
IC611	E-1	D516	A-3
IC612	D-2	D520	A-7
IC613	C-4	D521	B-4
IC614	C-2	D522	B-6
IC801	C-2	D595	C-5
IC803	B-1	D596	B-5
IC904	B-1	D601	D-6
		D602	D-5
TRANSISTOR		D603	E-5
		D604	E-2
		D605	E-2
		D606	E-3
		D607	E-2
		D608	E-3
		D609	E-3
		D611	E-2
		D612	E-4
		D613	E-4
		D614	E-4
		D615	E-4
		D651	D-4
		D652	D-3
		D653	D-3
		D654	D-3
		D655	D-3
		D656	A-3
		D657	D-2
		D658	D-2
		D660	E-2
		D661	C-4
		D662	C-3
		D670	D-6
		D71	C-5
		D801	A-1
		D803	A-2
		D809	B-2
		D904	A-2
		D907	B-1
		D908	E-1
		D909	D-1
		D913	A-1
		D914	E-1
		D915	D-1
		D917	D-1
		D918	E-2
		D920	D-2
		D921	D-1
		D922	B-1
		D944	B-2
		VARIABLE RESISTOR	
D401	B-3		
D402	B-4		
D403	C-3		
D502	C-6		
D503	B-4		
D504	C-7		
D505	C-7		
D506	B-6		
D507	C-6		
D508	C-6		
		X900	C-1

NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

— D BOARD —

D [POWER DEFLECTION]



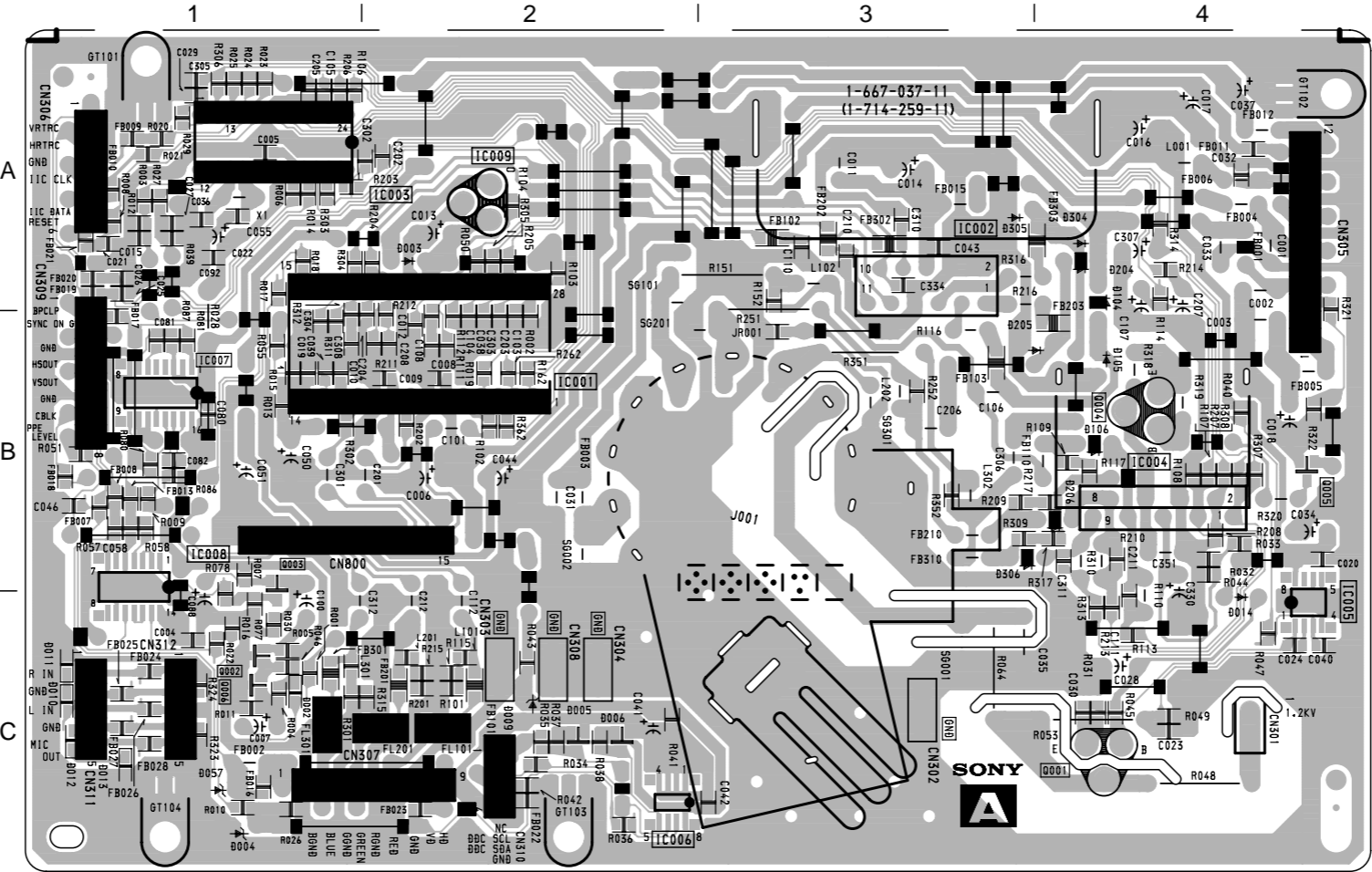
A [VIDEO] **AE₂** [VIDEO (GPE)]

— A BOARD —

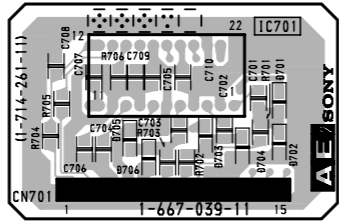
• A BOARD
SEMICONDUCTOR
LOCATION

IC		
IC001	B-3	
IC002	A-2	
IC003	A-4	
IC004	B-1	
IC005	C-1	
IC006	C-3	
IC007	B-4	
IC008	B-4	
IC009	A-3	
TRANSISTOR		
Q001	C-1	*
Q002	C-4	③
Q003	B-4	①
Q006	C-4	①
DIODE		
D002	C-4	*
D003	A-3	—
D004	C-4	—
D009	C-3	—
D010	C-4	③
D011	C-4	③
D012	C-4	③
D013	C-4	③
D014	C-1	—
D057	C-4	—
D104	A-1	—
D105	B-1	—
D106	B-1	—
D204	A-1	—
D205	B-1	—
D206	B-1	—
D304	A-1	—
D305	A-2	—
D306	B-2	—
CRYSTAL		
X1	A-4	

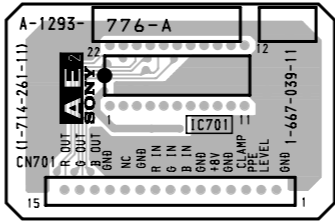
※: Refer to Terminal name of semiconductors
in silk screen printed circuit (see page 20)



— AE2 BOARD (Conductor Side) —



— AE2 BOARD (Component Side) —



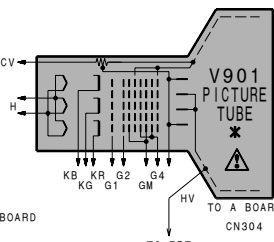
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

AE2 BOARD
Terminal name of semiconductors
in silk screen printed circuit (※)

Ref.	※
D701 – D706	③

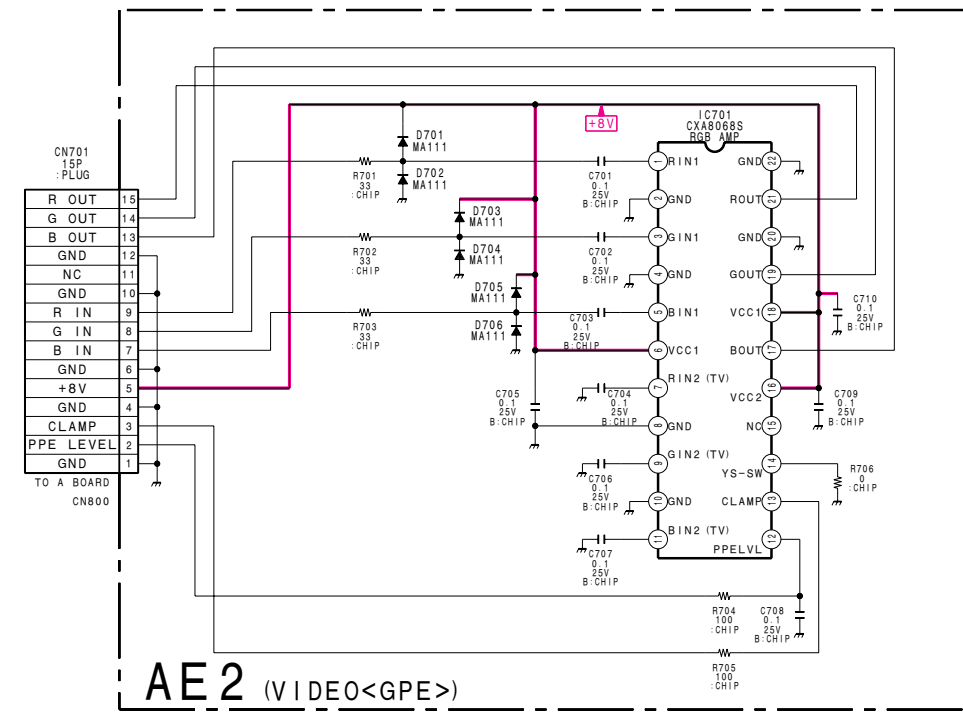
※: Refer to Terminal name of semiconductors
in silk screen printed circuit (see page 20)

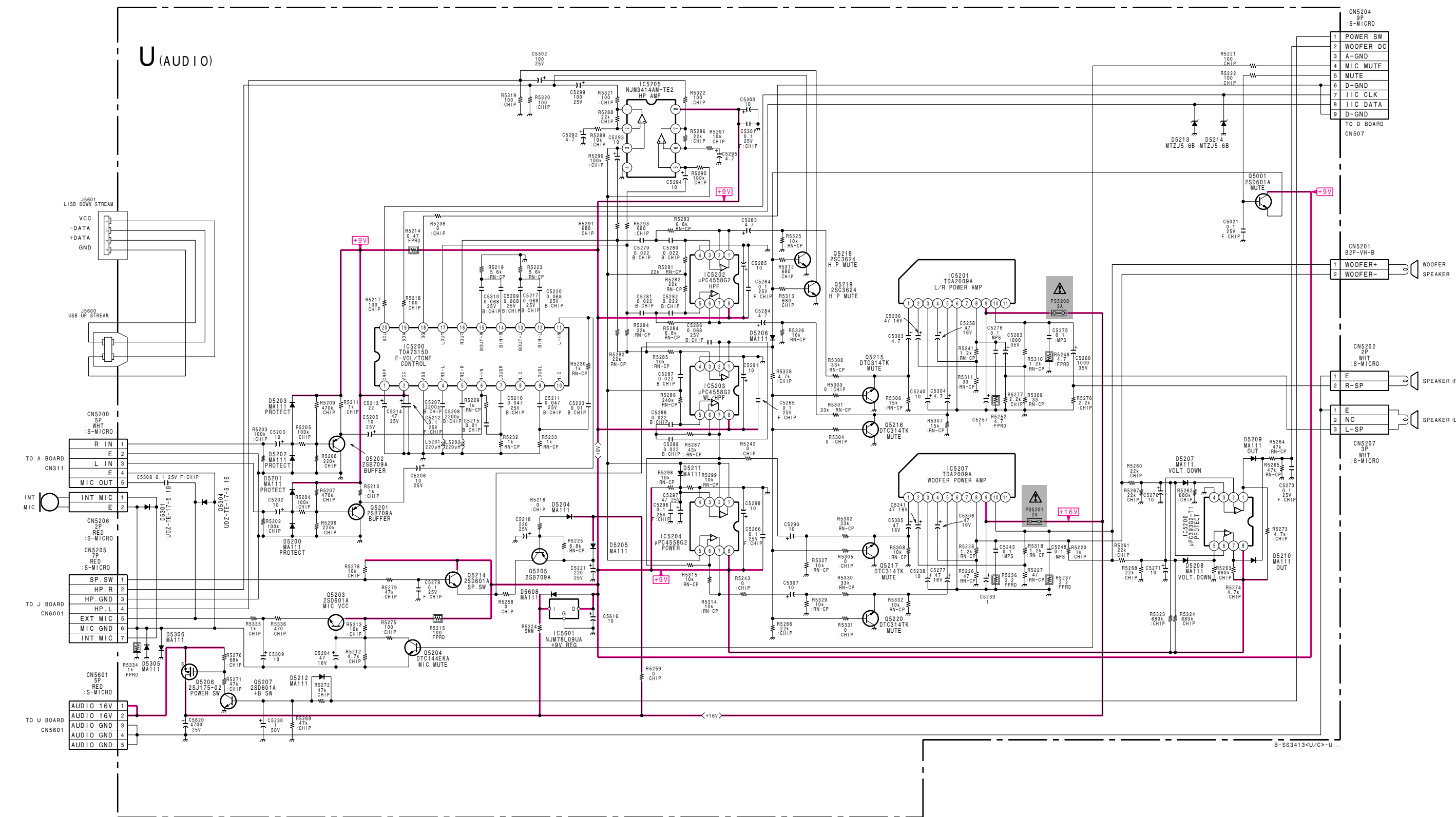
CPD-120AS CPD-120AS



<p>①</p> <p>0.7 Vp-p (H)</p>	<p>⑥</p> <p>3.8 Vp-p (H)</p>
<p>②</p> <p>4.0 Vp-p (H)</p>	<p>⑦</p> <p>5.8 Vp-p (8.3MHz)</p>
<p>③</p> <p>1.2 Vp-p (H)</p>	<p>⑧</p> <p>50.0 Vp-p (H)</p>
<p>④</p> <p>4.0 Vp-p (H)</p>	<p>⑨</p> <p>50.0 Vp-p (H)</p>
<p>⑤</p> <p>0.7 Vp-p (H)</p>	<p>⑩</p> <p>45.0 Vp-p (H)</p>

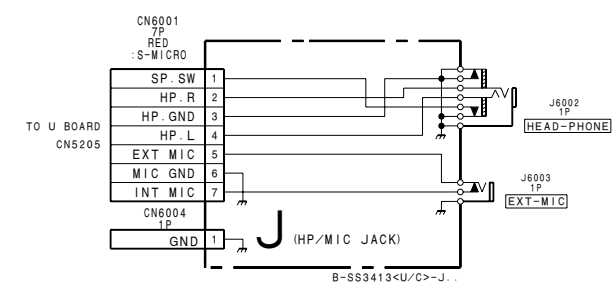
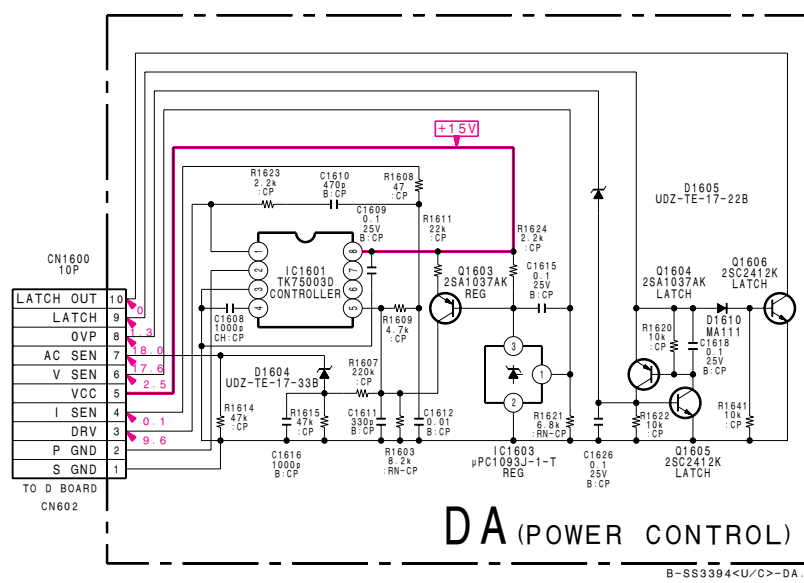
Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]	Ref.	Pin No.	Voltage [V]						
IC001	1	0	IC002	1	58.3	IC003	20	0	IC008	6	0	J001	E	3.9						
	2	0		3	56.4		21	0		9	0.6		Q003	B	4.9					
	3	0		5	57.6		23	3.4		12	5.1			C	0.7					
	4	0		8	1.9		24	2.0		13	0.1		Q006		B	2.7				
	5	2.2		9	2.1		IC004	1		1.2	14			0	E	3.3				
	8	2.2		11	1.9			2		1.2	15			0.5						
	11	2.2		IC003	1			2.3		IC005	1			0.7		KR	67.1			
	12	2.0			2			2.3			2		4.5	KG				58.5		
	13	2.3			3		0	3			4.5		KB		56.1					
	14	1.5			4		-0.4	4			0.7								G2	409.0
	15	5.1			5		1.0	6			5.1									
	16	4.6			9		2.4	8			5.1									
	17	6.5			10		2.1	10			4.5									
	18	2.0			11		1.3	11			0.6									
	19	6.5			12		3.4	12			0.6									
	20	1.9			13		1.9	13			3.7									
23	2.1	14	3.7	Q001	B	11.5														
24	6.4	15	4.6		C	410.0														
25	0.9	16	4.7		E	11.0														
26	2.3	17	5.1																	
27	2.3	19	0	Q002	B	3.3														
28	2.6																			



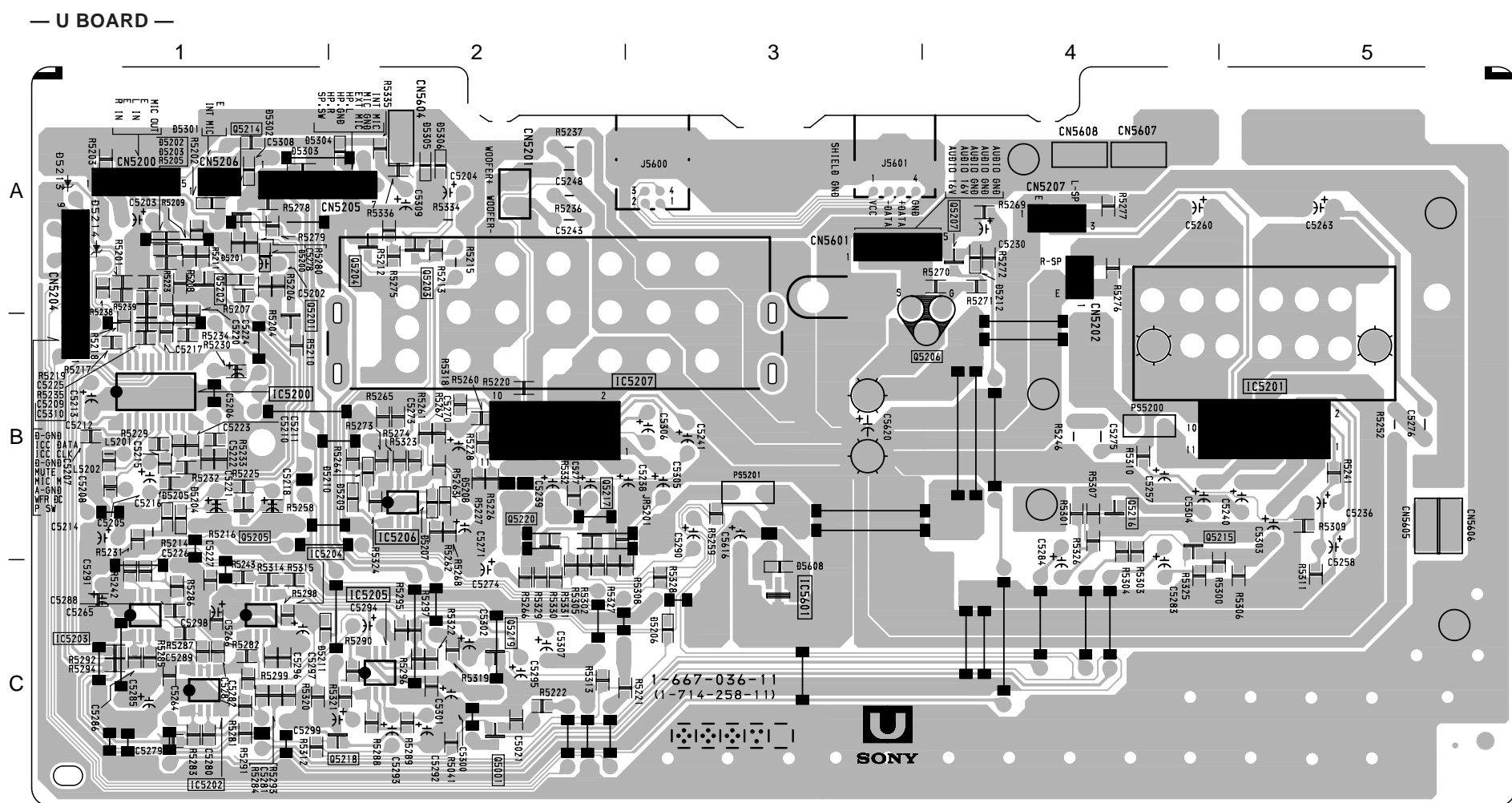


Schematic diagrams
 ← **A** **AE₂** boards

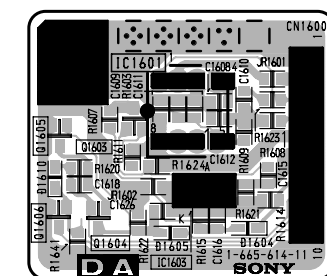
Schematic diagrams
DA J U boards ➡



- 35 -



— DA BOARD —



U BOARD
Terminal name of semiconductors
in silk screen printed circuit (*)

Ref.	*
Q5001, Q5201-Q5205, Q5207, Q5214-Q5220	①
D5200 – D5212, D5301, D5304, D5305, D5306, D5308	③

*: Refer to Terminal name of semiconductors
in silk screen printed circuit (see page 20)

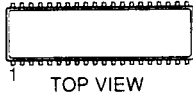
DA BOARD
Terminal name of semiconductors
in silk screen printed circuit (*)

Ref.	*
Q1603 – Q1606	①
D1604, D1605, D1610	③

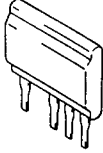
*: Refer to Terminal name of semiconductors
in silk screen printed circuit (see page 20)

5-4. SEMICONDUCTORS

CXA8068S



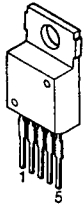
DM-58



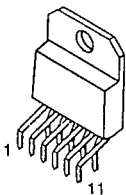
HD74HC123AFP
MM1382
μPC5023CS-095



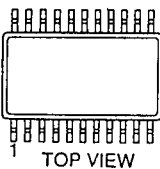
LA6500-FA



LM2406T



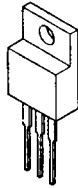
NJM3414AM-TE2
NJM4558M
SN74HCT04ANS
SN74HCT04ANS-E20
TDA7315D013TR
μPC393G2
μPC393G2-T1
μPC4558G2
μPC4558G2-T2
24LC21A/SN
24LC21T/SN



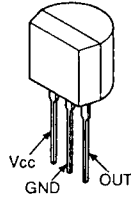
NJM78L09UA
TA78L09F-TE12L



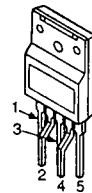
NJM7805FA
NJM7912FA



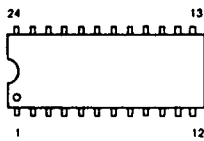
PST600C-T



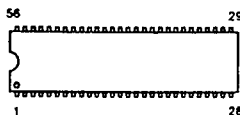
SI-3050F



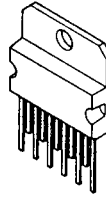
SNY425/2



ST7272N5B1/CSL

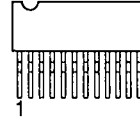


TDA2009A

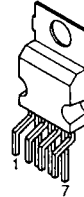


TDA6103Q/N3, 112

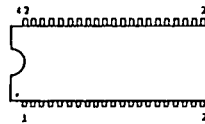
MARKING SIDE VIEW



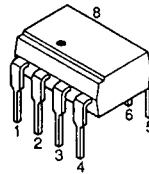
TDA8138A
TDA8172



TDA9105



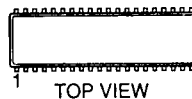
TK75003D



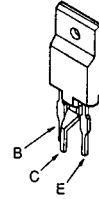
μPC1093J-1-T



μPC393C

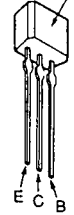


BU2522AX

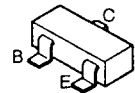


DTA124ESA
DTC124ESA
2SA1048-YGR
2SA1175-HFE
2SA1309A-QRSTA
2SC2785-HFE
2SC3623A-LK
2SC3623-LK
2SC3311A-QRSTA

LETTER SIDE



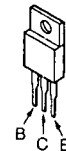
DTC144EKA-T146
DTC314TKH04
DTC314TK-T-146
2SA1037AK-T146-QR
2SA1037AK-T146-R
2SA1037K-T-146-QR
2SA1162G
2SB709A-QRS-TX
2SC1623-L5L6
2SC2412K-T-146-QR
2SC3624-L18
2SC3624-T1L18
2SD601A-Q
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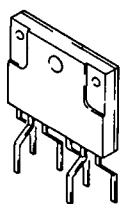
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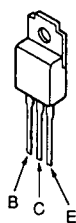
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2SD2012



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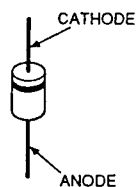


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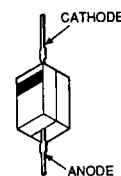


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MTZJ-T-72-8.2C
MTZJ-T-77-10B
MTZJ-T-77-18
MTZJ-T-77-4.7B
MTZJ-T-77-5.6B
RD10ES-B2
RD18ES-B2
RD18ES-T1B2
RD27ES-B2
RD27ES-T1B2
RD5.1ES-B2
RD5.1ES-T1B2
RD5.6ES-B1
RD5.6ES-B2
RD5.6ES-T1B2
RD8.2ES-B3
UZ-4.7BSC
1SS119-25-TD
1SS119-25

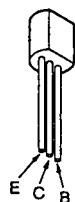
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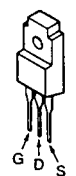
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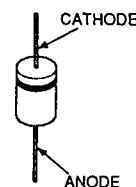
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2SC3941A-Q



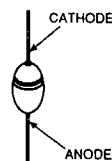
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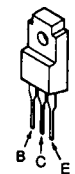
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RGP02-20EG23
3DL41A



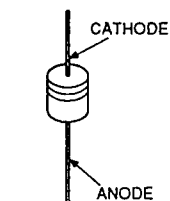
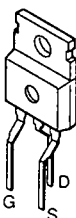
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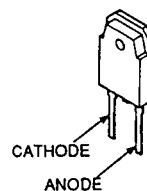


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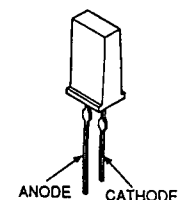


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D4SBS4-F
D4SB60L

FMQ-G5FMS
5TUZ52



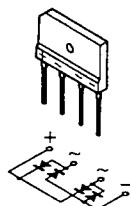
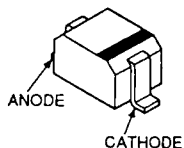
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SEL1922D-C,D



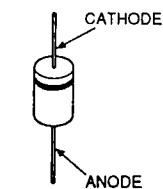
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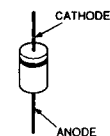
DTZ-TT11-4.7B
DTZ33B
DTZ4.7C
DTZ5.1B
UDZ-TE-17-22B
UDZ-TE-17-33B
UDZ-TE-17-5.1B
MA111-TX
MA111



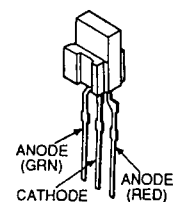
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D2S4MTA1



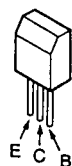
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SPB-26MVWF



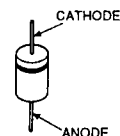
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D5L60



SB340



SECTION 6

EXPLODED VIEWS

NOTE:

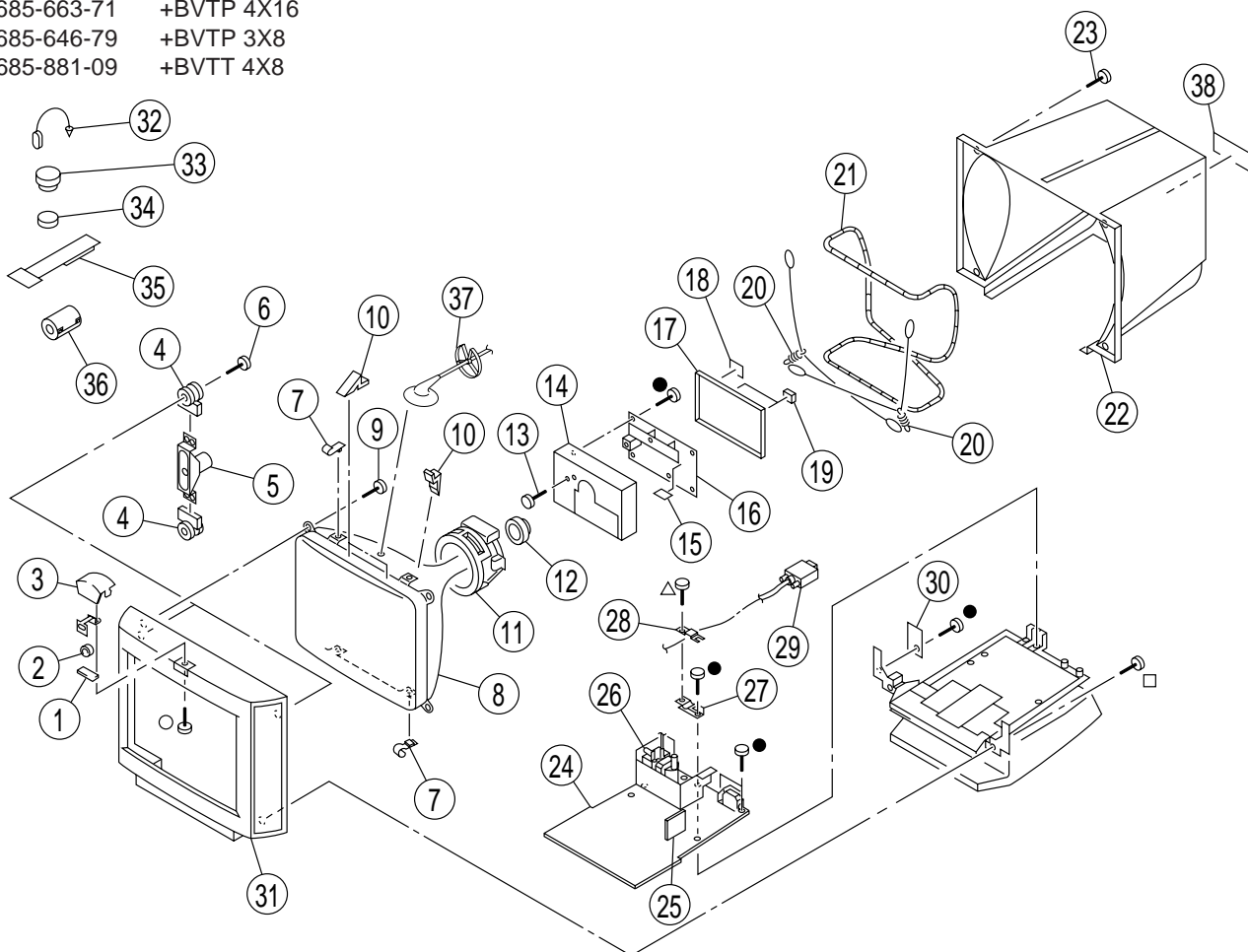
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

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

6-1. CHASSIS

- 7-685-648-79 +BVTP 3X12
- 7-685-663-71 +BVTP 4X16
- 7-685-646-79 +BVTP 3X8
- Δ 7-685-881-09 +BVTT 4X8



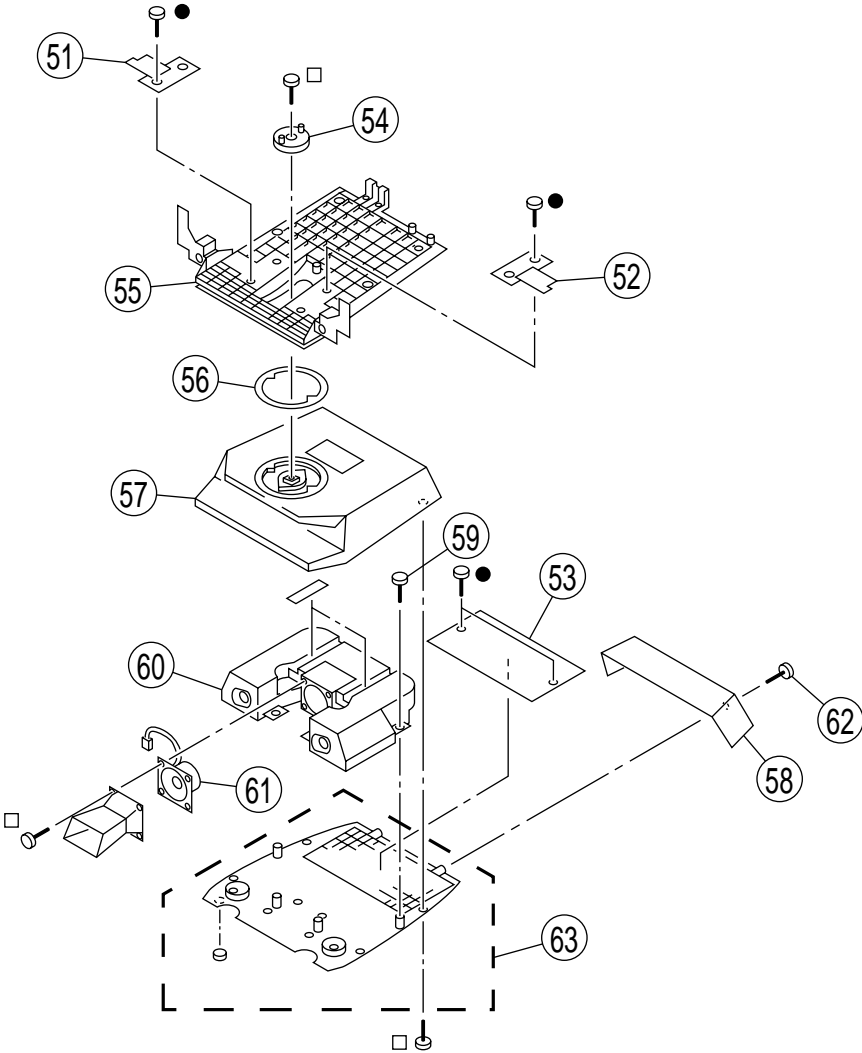
REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*4-058-939-11	CUSHION, MICROPHONE		21	Δ 1-409-799-21	COIL, DEMAGNETIZATION	
2	1-542-323-11	MICROPHONE ASSY		22	4-059-937-11	CABINET	
3	4-059-487-11	CABINET, MICROPHONE		23	4-052-070-11	SCREW +BVTP 4X16	
4	*4-054-668-01	HOLDER, SPEAKER		24	*A-1346-651-A	D BOARD, COMPLETE	25
5	1-505-439-11	SPEAKER (3X10CM)		25	*A-1343-365-A	DA BOARD, COMPLETE	
6	4-384-096-01	SCREW (4X16), TAPPING, +P		26	Δ X-4033-083-1	TRANSFORMER ASSY, FLYBACK (NX-4130//J1E)	
7	4-045-123-01	HOLDER, DEGAUSSING COIL		27	*4-045-130-01	BRACKET, CABLE	
8	Δ 8-734-837-05	PICTURE TUBE (15FRS)		28	*4-054-667-01	STOPPER, CABLE	
9	4-365-808-01	SCREW (5), TAPPING		29	1-782-857-21	CABLE ASSY (15P DSUB CONNECTOR)	
10	4-050-492-01	SPACER, DY		30	*A-1388-199-A	J BOARD, COMPLETE	
11	Δ 8-451-469-41	DEFLECTION YOKE (Y15FRF2M2)		31	X-4035-179-1	BEZEL ASSY	
12	Δ 1-452-756-11	NECK ASSY, PICTURE TUBE (NA293)		32	4-308-870-00	CLIP, LEAD WIRE	
13	4-382-854-01	SCREW (M3X8), P, SW (+)		33	1-452-094-00	MAGNET, ROTATABLE DISK ; 15mm ϕ	
14	*4-060-044-01	CASE (15V2), VIDEO		34	1-452-032-00	MAGNET, DISC ; 10 mm ϕ	
15	*A-1293-776-A	AE2 BOARD, COMPLETE		35	4-059-492-01	PERMALLOY (75), CONV. CORRECT	
16	*A-1293-775-A	A BOARD, COMPLETE		36	1-543-653-11	CORE ASSY, BEAD (DIVISION TYPE)	
17	*4-058-711-01	SHIELD, VIDEO		37	3-704-372-31	HOLDER, HV CABLE	
18	*4-056-153-41	LABEL, X-RAY CRT H.V		38	*4-062-393-01	LABEL, INFORMATION	
19	*4-050-329-11	CUSHION (A)					
20	4-369-318-00	SPRING, TENSION					

6-2. STAND BLOCK

- 7-685-648-79

+BVTP 3X12
- 7-685-663-71

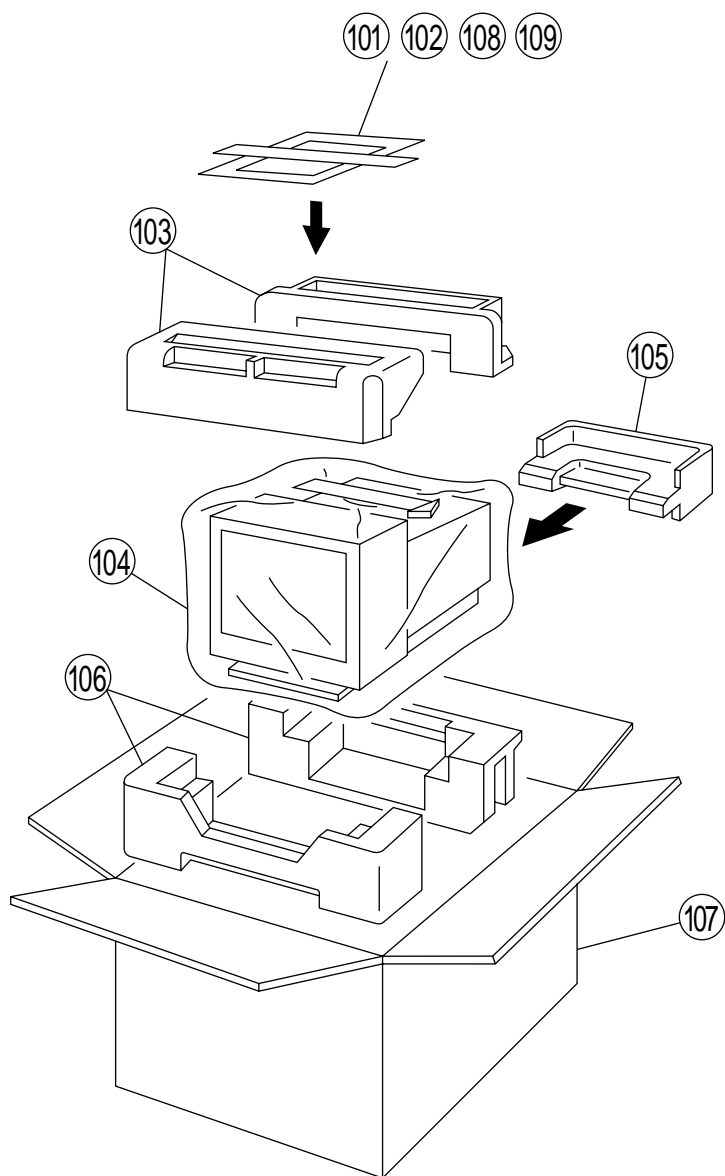
+BVTP 4X16



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
51	* 4-060-053-01	COVER (L), CABLE		58	4-059-941-11	BASE (REAR), STAND	
52	* 4-060-052-01	COVER (R), CABLE		59	4-384-096-01	SCREW (4X16), TAPPING, +P	
53	* A-1394-867-A	U BOARD, COMPLETE		60	X-4034-628-1	BOX ASSY, SPEAKER	
54	4-045-121-01	STOPPER (A), STAND		61	1-505-440-11	SPEAKER (7CM)	
55	4-059-938-11	COVER, BOTTOM		62	4-052-070-11	SCREW +BVTP 4X16	
56	* 4-045-122-01	RING, TILT SWIVEL		63	X-4034-766-1	BASE (LOWER) ASSY, STAND	
57	X-4035-180-1	BASE (UPPER) ASSY, STAND					

6-3. PACKING MATERIALS

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



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
101	3-861-348-11	MANUAL, INSTRUCTION		106	*4-060-046-01	CUSHION (LOWER) (ASSY)	
102	\triangle 1-765-717-11	CORD SET, POWER (10A/125V)		107	*4-061-307-01	INDIVIDUAL CARTON	
103	*4-060-045-01	CUSHION (UPPER) (ASSY)		108	1-777-626-21	CABLE, USB	
104	4-041-927-11	BAG, POLYETHYLENE		109	4-056-722-11	MONITOR INFORMATION DISK (WINDOWS 95, 3.5")	
105	*4-060-051-01	PAD, TILT FIXED					



SECTION 7

ELECTRICAL PARTS LIST

NOTE:

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

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

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.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

- All resistors are in ohms
- F : nonflammable
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
		* A-1293-775-AA BOARD, COMPLETE *****		C041	1-126-967-11	ELECT 47MF	20% 16V
		4-382-854-01 SCREW (M3X8), P, SW (+)		C042	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
		<CAPACITOR>		C046	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C001	1-162-318-11	CERAMIC 0.001MF	10% 500V	C050	1-104-664-11	ELECT 47MF	20% 25V
C002	1-162-318-11	CERAMIC 0.001MF	10% 500V	C051	1-126-967-11	ELECT 47MF	20% 16V
C003	1-162-318-11	CERAMIC 0.001MF	10% 500V	C055	1-163-231-11	CERAMIC CHIP 15PF	5% 50V
C004	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C058	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C005	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	C080	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C006	1-126-933-11	ELECT 100MF	20% 16V	C081	1-163-243-11	CERAMIC CHIP 47PF	5% 50V
C007	1-104-664-11	ELECT 47MF	20% 25V	C082	1-163-243-11	CERAMIC CHIP 47PF	5% 50V
C008	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C088	1-126-933-11	ELECT 100MF	20% 16V
C009	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C092	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C010	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C100	1-104-664-11	ELECT 47MF	20% 25V
C012	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C101	1-109-953-11	ELECT 2.2MF	20% 50V
C013	1-128-526-11	ELECT 100MF	20% 16V	C103	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C014	1-107-932-11	ELECT 47MF	20% 100V	C104	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
C015	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C105	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C016	1-126-933-11	ELECT 100MF	20% 16V	C106	1-137-528-11	FILM 0.1MF	10% 250V
C017	1-104-664-11	ELECT 47MF	20% 25V	C107	1-126-961-11	ELECT 2.2MF	20% 50V
C018	1-107-652-11	ELECT 10MF	20% 200V	C108	1-163-237-11	CERAMIC CHIP 27PF	5% 50V
C019	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C112	1-126-235-11	ELECT 100MF	20% 10V
C020	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C201	1-109-953-11	ELECT 2.2MF	20% 50V
C022	1-126-933-11	ELECT 100MF	20% 16V	C202	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C023	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C203	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C024	1-163-263-11	CERAMIC CHIP 330PF	5% 50V	C204	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
C026	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	C205	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C027	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C206	1-137-528-11	FILM 0.1MF	10% 250V
C028	1-104-664-11	ELECT 47MF	20% 25V	C207	1-126-961-11	ELECT 2.2MF	20% 50V
C029	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	C208	1-163-237-11	CERAMIC CHIP 27PF	5% 50V
C030	1-164-489-11	CERAMIC CHIP 0.22MF	10% 16V	C212	1-126-235-11	ELECT 100MF	20% 10V
C031	1-162-318-11	CERAMIC 0.001MF	10% 500V	C301	1-109-953-11	ELECT 2.2MF	20% 50V
C032	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C302	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C033	1-162-318-11	CERAMIC 0.001MF	10% 500V	C303	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C034	1-104-664-11	ELECT 47MF	20% 25V	C304	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
C035	1-115-349-51	CERAMIC 0.01MF	2KV	C305	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C036	1-163-231-11	CERAMIC CHIP 15PF	5% 50V	C306	1-137-528-11	FILM 0.1MF	10% 250V
C038	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C307	1-126-961-11	ELECT 2.2MF	20% 50V
C039	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C308	1-163-237-11	CERAMIC CHIP 27PF	5% 50V
C040	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C312	1-126-235-11	ELECT 100MF	20% 10V
				C330	1-126-963-11	ELECT 4.7MF	20% 50V
				C334	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
				C351	1-137-528-11	FILM 0.1MF	10% 250V

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



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<CONNECTOR>				FB023	1-414-231-21	INDUCTOR	0UH
CN301*	1-766-179-11	PIN, CONNECTOR (PC BOARD)	2P	FB024	1-216-295-91	SHORT	0
CN303	1-695-915-11	TAB (CONTACT)		FB025	1-216-295-91	SHORT	0
CN304	1-695-915-11	TAB (CONTACT)		FB026	1-216-295-91	SHORT	0
CN305*	1-564-527-11	PLUG, CONNECTOR	12P	FB027	1-216-295-91	SHORT	0
CN306*	1-564-521-11	PLUG, CONNECTOR	6P	FB028	1-216-295-91	SHORT	0
CN307*	1-564-512-11	PLUG, CONNECTOR	9P	FB101	1-216-296-91	SHORT	0
CN309	1-564-523-11	PLUG, CONNECTOR	8P	FB102	1-500-104-21	INDUCTOR	0UH
CN310*	1-564-507-11	PLUG, CONNECTOR	4P	FB103	1-216-296-91	SHORT	0
CN311*	1-564-520-11	PLUG, CONNECTOR	5P	FB110	1-412-911-11	INDUCTOR	0UH
CN312*	1-564-508-11	PLUG, CONNECTOR	5P	FB201	1-216-296-91	SHORT	0
CN800*	1-573-847-11	CONNECTOR, BOARD TO BOARD	15P	FB202	1-500-104-21	INDUCTOR	0UH
<DIODE>				FB203	1-216-296-91	SHORT	0
D002	8-719-404-49	DIODE MA111		FB210	1-412-911-11	INDUCTOR	0UH
D003	8-719-911-19	DIODE 1SS119-25		FB301	1-216-296-91	SHORT	0
D004	8-719-109-88	ZENER DIODE RD5.6ESB1		FB302	1-500-104-21	INDUCTOR	0UH
D009	8-719-109-85	ZENER DIODE RD5.1ESB2		FB303	1-216-296-91	SHORT	0
D010	8-719-976-96	ZENER DIODE DTZ4.7C		FB310	1-412-911-11	INDUCTOR	0UH
D011	8-719-976-96	ZENER DIODE DTZ4.7C		<FILTER>			
D012	8-719-976-96	ZENER DIODE DTZ4.7C		FL101	1-233-253-21	FILTER, EMI	
D013	8-719-976-96	ZENER DIODE DTZ4.7C		FL201	1-233-253-21	FILTER, EMI	
D014	8-719-911-19	DIODE 1SS119-25		FL301	1-233-253-21	FILTER, EMI	
D057	8-719-109-88	ZENER DIODE RD5.6ESB1		<TERMINAL>			
D104	8-719-970-83	DIODE HSS82		GT101*	1-537-738-21	TERMINAL, EARTH	
D105	8-719-970-83	DIODE HSS82		GT102*	1-537-738-21	TERMINAL, EARTH	
D106	8-719-970-83	DIODE HSS82		GT103*	1-537-738-21	TERMINAL, EARTH	
D204	8-719-970-83	DIODE HSS82		GT104*	1-537-738-21	TERMINAL, EARTH	
D205	8-719-970-83	DIODE HSS82		<IC>			
D206	8-719-970-83	DIODE HSS82		IC001	8-759-474-78	IC MM1382	
D304	8-719-970-83	DIODE HSS82		IC002	8-759-399-84	IC LM2406T	
D305	8-719-970-83	DIODE HSS82		IC003	8-759-464-57	IC SNY425/2	
D306	8-719-970-83	DIODE HSS82		IC004	8-759-434-40	IC TDA6103Q/N3,112	
<FERRITE BEAD>				IC005	8-759-100-96	IC UPC4558G2	
FB001	1-412-911-11	INDUCTOR	0UH	IC006	8-759-442-20	IC 24LC21A/SN	
FB002	1-412-911-11	INDUCTOR	0UH	IC007	8-759-098-07	IC HD74HC123AFP-T1	
FB003	1-412-911-11	INDUCTOR	0UH	IC008	8-759-269-09	IC SN74HCT04ANS	
FB004	1-412-911-11	INDUCTOR	0UH	IC009	8-759-701-75	IC NJM7805FA	
FB005	1-412-911-11	INDUCTOR	0UH	<JACK>			
FB006	1-412-911-11	INDUCTOR	0UH	J001	\triangle 1-251-335-11	SOCKET, PICTURE TUBE	
FB007	1-414-231-21	INDUCTOR	0UH	<COIL>			
FB008	1-414-231-21	INDUCTOR	0UH	L001	1-412-537-31	INDUCTOR	100UH
FB009	1-414-231-21	INDUCTOR	0UH	L101	1-216-295-91	SHORT	0
FB010	1-414-231-21	INDUCTOR	0UH	L102	1-414-146-31	INDUCTOR	2.2UH
FB011	1-414-231-21	INDUCTOR	0UH	L201	1-216-295-91	SHORT	0
FB013	1-414-231-21	INDUCTOR	0UH	L202	1-414-146-31	INDUCTOR	2.2UH
FB015	1-412-911-11	INDUCTOR	0UH	L301	1-216-295-91	SHORT	0
FB016	1-414-231-21	INDUCTOR	0UH				
FB017	1-414-231-21	INDUCTOR	0UH				
FB018	1-414-231-21	INDUCTOR	0UH				
FB019	1-414-231-21	INDUCTOR	0UH				
FB020	1-414-231-21	INDUCTOR	0UH				
FB021	1-414-231-21	INDUCTOR	0UH				



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
L302	1-414-146-31	INDUCTOR 2.2UH		R050	1-216-049-91	METAL GLAZE 1K	5% 1/10W
	<TRANSISTOR>			R051	1-216-025-91	METAL GLAZE 100	5% 1/10W
Q001	8-729-032-61	TRANSISTOR 2SC5022-02		R053	1-219-621-91	METAL 22M	10% 1/4W
Q002	8-729-216-22	TRANSISTOR 2SA1162-G		R055	1-216-049-91	METAL GLAZE 1K	5% 1/10W
Q003	8-729-216-22	TRANSISTOR 2SA1162-G		R057	1-216-025-91	METAL GLAZE 100	5% 1/10W
Q006	8-729-216-22	TRANSISTOR 2SA1162-G					
	<RESISTOR>			R058	1-216-025-91	METAL GLAZE 100	5% 1/10W
R001	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R064	1-202-830-00	SOLID 10K	20% 1/2W
R002	1-216-661-11	METAL CHIP 2.7K	0.50%1/10W	R077	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R003	1-216-101-00	METAL GLAZE 150K	5% 1/10W	R078	1-216-025-91	METAL GLAZE 100	5% 1/10W
R004	1-216-085-00	METAL GLAZE 33K	5% 1/10W	R080	1-216-025-91	METAL GLAZE 100	5% 1/10W
R005	1-216-049-91	METAL GLAZE 1K	5% 1/10W				
R006	1-216-025-91	METAL GLAZE 100	5% 1/10W	R081	1-216-025-91	METAL GLAZE 100	5% 1/10W
R007	1-216-295-91	SHORT 0		R086	1-216-663-11	METAL CHIP 3.3K	0.50%1/10W
R008	1-216-025-91	METAL GLAZE 100	5% 1/10W	R087	1-216-659-11	METAL CHIP 2.2K	0.50%1/10W
R009	1-216-025-91	METAL GLAZE 100	5% 1/10W	R101	1-216-631-11	METAL CHIP 150	0.50%1/10W
R010	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R102	1-216-013-00	METAL GLAZE 33	5% 1/10W
R011	1-216-085-00	METAL GLAZE 33K	5% 1/10W	R103	1-216-675-11	METAL CHIP 10K	0.50%1/10W
R012	1-216-109-00	METAL GLAZE 330K	5% 1/10W	R104	1-216-009-00	METAL GLAZE 22	5% 1/10W
R013	1-216-675-11	METAL CHIP 10K	0.50%1/10W	R106	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R014	1-216-025-91	METAL GLAZE 100	5% 1/10W	R107	1-216-675-11	METAL CHIP 10K	0.50%1/10W
R015	1-216-053-00	METAL GLAZE 1.5K	5% 1/10W	R108	1-216-667-11	METAL CHIP 4.7K	0.50%1/10W
R016	1-216-073-00	METAL GLAZE 10K	5% 1/10W	R109	1-216-121-91	METAL GLAZE 1M	5% 1/10W
R017	1-216-025-91	METAL GLAZE 100	5% 1/10W	R110	1-215-477-00	METAL 220K	1% 1/4W
R018	1-216-025-91	METAL GLAZE 100	5% 1/10W	R111	1-216-039-00	METAL GLAZE 390	5% 1/10W
R019	1-216-025-91	METAL GLAZE 100	5% 1/10W	R112	1-216-663-11	METAL CHIP 3.3K	0.50%1/10W
R020	1-216-025-91	METAL GLAZE 100	5% 1/10W	R113	1-216-295-91	SHORT 0	
R021	1-216-025-91	METAL GLAZE 100	5% 1/10W	R114	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R022	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R115	1-216-631-11	METAL CHIP 150	0.50%1/10W
R024	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	R116	1-249-405-11	CARBON 100	5% 1/4W F
R025	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	R117	1-216-295-91	SHORT 0	
R026	1-216-073-00	METAL GLAZE 10K	5% 1/10W	R151	1-202-549-00	SOLID 100	20% 1/2W
R027	1-216-085-00	METAL GLAZE 33K	5% 1/10W	R152	1-216-655-11	METAL CHIP 1.5K	0.50%1/10W
R028	1-216-372-11	METAL OXIDE 1.8	5% 2W F	R162	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R029	1-216-109-00	METAL GLAZE 330K	5% 1/10W	R201	1-216-631-11	METAL CHIP 150	0.50%1/10W
R030	1-216-097-91	METAL GLAZE 100K	5% 1/10W	R202	1-216-013-00	METAL GLAZE 33	5% 1/10W
R031	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R203	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R032	1-216-665-11	METAL CHIP 3.9K	0.50%1/10W	R204	1-216-025-91	METAL GLAZE 100	5% 1/10W
R033	1-216-679-11	METAL CHIP 15K	0.50%1/10W	R205	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R034	1-216-017-91	METAL GLAZE 47	5% 1/10W	R206	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R035	1-216-017-91	METAL GLAZE 47	5% 1/10W	R207	1-216-675-11	METAL CHIP 10K	0.50%1/10W
R036	1-216-017-91	METAL GLAZE 47	5% 1/10W	R208	1-216-667-11	METAL CHIP 4.7K	0.50%1/10W
R037	1-216-089-91	METAL GLAZE 47K	5% 1/10W	R209	1-216-121-91	METAL GLAZE 1M	5% 1/10W
R039	1-216-097-91	METAL GLAZE 100K	5% 1/10W	R210	1-215-477-00	METAL 220K	1% 1/4W
R040	1-216-121-91	METAL GLAZE 1M	5% 1/10W	R211	1-216-039-00	METAL GLAZE 390	5% 1/10W
R041	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R212	1-216-663-11	METAL CHIP 3.3K	0.50%1/10W
R043	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W	R213	1-216-295-91	SHORT 0	
R045	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W	R214	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R046	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R215	1-216-631-11	METAL CHIP 150	0.50%1/10W
R047	1-216-025-91	METAL GLAZE 100	5% 1/10W	R216	1-249-405-11	CARBON 100	5% 1/4W F
R048	1-211-885-21	METAL 2.2M	5% 1W	R217	1-216-295-91	SHORT 0	
R049	1-216-101-00	METAL GLAZE 150K	5% 1/10W	R251	1-202-549-00	SOLID 100	20% 1/2W
				R252	1-216-644-11	METAL CHIP 510	0.50%1/10W
				R262	1-216-049-91	METAL GLAZE 1K	5% 1/10W
				R301	1-216-631-11	METAL CHIP 150	0.50%1/10W
				R302	1-216-013-00	METAL GLAZE 33	5% 1/10W
				R303	1-216-097-91	METAL GLAZE 100K	5% 1/10W
				R304	1-216-025-91	METAL GLAZE 100	5% 1/10W




REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R305	1-216-049-91	METAL GLAZE 1K	5% 1/10W	<DIODE>			
R306	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	D701	8-719-404-49	DIODE MA111	
R307	1-216-675-11	METAL CHIP 10K	0.50% 1/10W	D702	8-719-404-49	DIODE MA111	
R308	1-216-667-11	METAL CHIP 4.7K	0.50% 1/10W	D703	8-719-404-49	DIODE MA111	
R309	1-216-121-91	METAL GLAZE 1M	5% 1/10W	D704	8-719-404-49	DIODE MA111	
R310	1-215-477-00	METAL 220K	1% 1/4W	D705	8-719-404-49	DIODE MA111	
R311	1-216-039-00	METAL GLAZE 390	5% 1/10W	D706	8-719-404-49	DIODE MA111	
R312	1-216-663-11	METAL CHIP 3.3K	0.50% 1/10W	<IC>			
R313	1-216-295-91	SHORT 0		IC701	8-759-467-69	IC CXA8068S	
R314	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	<RESISTOR>			
R315	1-216-631-11	METAL CHIP 150	0.50% 1/10W	R701	1-216-013-00	METAL GLAZE 33	5% 1/10W
R316	1-249-405-11	CARBON 100	5% 1/4W F	R702	1-216-013-00	METAL GLAZE 33	5% 1/10W
R317	1-216-295-91	SHORT 0		R703	1-216-013-00	METAL GLAZE 33	5% 1/10W
R323	1-216-025-91	METAL GLAZE 100	5% 1/10W	R704	1-216-025-91	METAL GLAZE 100	5% 1/10W
R324	1-216-025-91	METAL GLAZE 100	5% 1/10W	R705	1-216-025-91	METAL GLAZE 100	5% 1/10W
R351	1-202-549-00	SOLID 100	20% 1/2W	R706	1-216-295-91	SHORT 0	
R352	1-216-646-11	METAL CHIP 620	0.50% 1/10W	*****			
R362	1-216-049-91	METAL GLAZE 1K	5% 1/10W	* A-1346-651-AD BOARD, COMPLETE			
<SPARK GAP>				*****			
SG001	1-519-422-11	GAP, SPARK		4-034-094-01 SHEET, INSULATOR (Q602)			
SG002	1-517-499-21	GAP, SPARK		4-045-133-01 HOLDER (B), LED (D913)			
SG101	1-517-499-21	GAP, SPARK		* 4-049-002-01 HOLDER, LED (D914)			
SG201	1-517-499-21	GAP, SPARK		* 4-374-846-01 COVER, CAPACITOR, CAP TYPE (C676)			
SG301	1-517-499-21	GAP, SPARK		4-382-854-01 SCREW (M3X8), P, SW (+)			
<CRYSTAL>				(IC604, IC613, Q529)			
X1	1-567-890-11	VIBRATOR, CRYSTAL		4-382-854-11 SCREW (M3X10), P, SW (+)			
*****				(IC401, Q503, Q507, Q510, Q602, Q607,			
* A-1293-776-AAE2 BOARD, COMPLETE				Q608, D501, D601, D603, D658)			
*****				4-389-025-01 SCREW (M4) (EXT TOOTH WASHER)			
<CAPACITOR>				<CAPACITOR>			
C701	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C401	1-126-941-11	ELECT 470MF	20% 25V
C702	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C402	1-106-228-00	MYLAR 0.22MF	10% 100V
C703	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C403	1-137-399-11	FILM 0.1MF	5% 50V
C704	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C404	1-107-894-11	ELECT 220MF	20% 35V
C705	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C405	1-101-006-00	CERAMIC 0.047MF	50V
C706	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C406	1-137-375-11	FILM 0.068MF	5% 50V
C707	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C409	1-126-960-11	ELECT 1MF	20% 50V
C708	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C410	1-126-942-61	ELECT 1000MF	20% 25V
C709	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C420	1-137-368-11	FILM 0.0047MF	5% 50V
C710	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C501	1-136-169-00	FILM 0.22MF	5% 50V
<CONNECTOR>				C502	1-137-370-11	FILM 0.01MF	5% 50V
CN701*	1-573-829-11	CONNECTOR, BOARD TO BOARD	15P	C503	1-107-667-11	ELECT 2.2MF	20% 160V
				C504	1-161-830-00	CERAMIC 0.0047MF	500V
				C505	1-126-964-11	ELECT 10MF	20% 50V
				C506	1-137-370-11	FILM 0.01MF	5% 50V
				C507	1-109-921-11	CERAMIC 0.0015MF	10% 500V



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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C508	1-109-878-11	CERAMIC	15PF 5% 2KV	C628	1-136-171-00	FILM	0.33MF 5% 50V
C509	1-136-169-00	FILM	0.22MF 5% 50V	C629	1-136-171-00	FILM	0.33MF 5% 50V
C510	1-161-754-00	CERAMIC	0.001MF 10% 2KV	C630	1-164-644-11	CERAMIC	330PF 10% 500V
C511	1-115-349-51	CERAMIC	0.01MF 2KV	C631	1-136-167-00	FILM	0.15MF 5% 50V
C512	1-137-399-11	FILM	0.1MF 5% 50V	C632	1-136-167-00	FILM	0.15MF 5% 50V
C513	1-106-383-00	MYLAR	0.047MF 10% 200V	C633	1-110-488-11	FILM	0.0082MF 2.50% 1KV
C514	1-128-528-11	ELECT	470MF 20% 25V	C634	1-126-941-11	ELECT	470MF 20% 25V
C515	1-136-203-11	FILM	10000PF 5% 630V	C635	1-126-935-11	ELECT	470MF 20% 16V
C516	1-126-961-11	ELECT	2.2MF 20% 50V	C650	1-110-641-51	ELECT	33MF 20% 200V
C517	1-137-370-11	FILM	0.01MF 5% 50V	C651	1-128-561-91	ELECT	33MF 20% 100V
C518	1-165-136-11	CERAMIC	3300PF 10% 500V	C652	1-107-890-11	ELECT	2200MF 20% 25V
C519	1-126-963-11	ELECT	4.7MF 20% 50V	C653	1-107-890-11	ELECT	2200MF 20% 25V
C520	1-107-955-11	ELECT	100MF 20% 200V	C654	1-126-927-11	ELECT	2200MF 20% 10V
C521	1-126-960-11	ELECT	1MF 20% 50V	C655	1-128-601-11	ELECT	4700MF 20% 25V
C522	1-162-117-00	CERAMIC	100PF 10% 500V	C657	1-104-664-11	ELECT	47MF 20% 25V
C523	1-106-375-12	MYLAR	0.022MF 10% 100V	C658	1-136-153-00	FILM	0.01MF 5% 50V
C525	1-126-960-11	ELECT	1MF 20% 50V	C659	1-104-987-11	FILM	0.001MF 10% 200V
C527	1-162-117-00	CERAMIC	100PF 10% 500V	C660	1-107-888-11	ELECT	47MF 20% 25V
C528	1-126-965-11	ELECT	22MF 20% 50V	C662	1-104-664-11	ELECT	47MF 20% 25V
C532	1-106-367-00	MYLAR	0.01MF 10% 200V	C670	1-126-961-11	ELECT	2.2MF 20% 50V
C533	1-164-735-11	CAPACITOR	0.0015MF 10% 500V	C671	1-126-965-11	ELECT	22MF 20% 50V
C534	1-115-349-51	CERAMIC	0.01MF 2KV	C672	1-104-664-11	ELECT	47MF 20% 25V
C540	1-136-064-00	FILM	2200PF 3% 2KV	C676	1-113-912-11	CERAMIC	0.0047MF 20% 250V
C541	1-113-576-11	FILM	0.0043MF 3% 2.5KV	C800	1-137-370-11	FILM	0.01MF 5% 50V
C542	1-137-367-11	FILM	0.0033MF 5% 50V	C801	1-102-106-00	CERAMIC	100PF 10% 50V
C547	1-126-941-11	ELECT	470MF 20% 25V	C802	1-102-114-00	CERAMIC	470PF 10% 50V
C548	1-106-228-00	MYLAR	0.22MF 10% 100V	C803	1-102-106-00	CERAMIC	100PF 10% 50V
C549	1-137-399-11	FILM	0.1MF 5% 50V	C804	1-137-364-11	FILM	0.001MF 5% 50V
C550	1-117-451-11	FILM	0.43MF 5% 250V	C805	1-101-880-00	CERAMIC	47PF 5% 50V
C562	1-115-511-11	FILM	0.12MF 5% 250V	C806	1-126-767-11	ELECT	1000MF 20% 16V
C565	1-136-169-00	FILM	0.22MF 5% 50V	C807	1-137-399-11	FILM	0.1MF 5% 50V
C566	1-137-370-11	FILM	0.01MF 5% 50V	C808	1-137-364-11	FILM	0.001MF 5% 50V
C567	1-137-370-11	FILM	0.01MF 5% 50V	C809	1-102-106-00	CERAMIC	100PF 10% 50V
C568	1-137-370-11	FILM	0.01MF 5% 50V	C810	1-124-768-11	ELECT	4.7MF 20% 35V
C569	1-137-370-11	FILM	0.01MF 5% 50V	C811	1-137-399-11	FILM	0.1MF 5% 50V
C570	1-115-519-11	FILM	0.56MF 5% 200V	C812	1-137-368-11	FILM	0.0047MF 5% 50V
C576	1-115-516-11	FILM	0.33MF 5% 250V	C813	1-137-370-11	FILM	0.01MF 5% 50V
C582	1-161-754-00	CERAMIC	0.001MF 10% 2KV	C814	1-136-169-00	FILM	0.22MF 5% 50V
C583	1-106-375-12	MYLAR	0.022MF 10% 100V	C815	1-137-367-11	FILM	0.0033MF 5% 50V
C593	1-117-206-21	FILM	0.36MF 5% 250V	C816	1-126-965-11	ELECT	22MF 20% 50V
C598	1-137-399-11	FILM	0.1MF 5% 50V	C817	1-102-110-00	CERAMIC	220PF 10% 50V
C599	1-107-929-11	ELECT	10MF 20% 100V	C818	1-137-399-11	FILM	0.1MF 5% 50V
C601 Δ	1-104-708-51	FILM	0.47MF 20% 250V	C819	1-137-399-11	FILM	0.1MF 5% 50V
C602 Δ	1-107-533-51	FILM	1MF 20% 250V	C901	1-137-399-11	FILM	0.1MF 5% 50V
C603 Δ	1-113-912-51	CERAMIC	0.0047MF 20% 250V	C902	1-137-364-11	FILM	0.001MF 5% 50V
C604 Δ	1-113-912-51	CERAMIC	0.0047MF 20% 250V	C903	1-102-951-00	CERAMIC	15PF 5% 50V
C607	1-137-479-11	FILM	1MF 10% 400V	C904	1-137-399-11	FILM	0.1MF 5% 50V
C608	1-113-900-11	CERAMIC	470PF 10% 250V	C905	1-137-399-11	FILM	0.1MF 5% 50V
C613	1-113-707-11	ELECT	220MF 20% 450V	C906	1-137-399-11	FILM	0.1MF 5% 50V
C614	1-136-203-11	FILM	0.01MF 10% 630V	C907	1-126-963-11	ELECT	4.7MF 20% 50V
C615	1-104-664-11	ELECT	47MF 20% 25V	C908	1-102-951-00	CERAMIC	15PF 5% 50V
C616	1-104-666-11	ELECT	220MF 20% 25V	C909	1-126-965-11	ELECT	22MF 20% 50V
C620	1-128-560-11	ELECT	22MF 20% 100V	C911	1-126-767-11	ELECT	1000MF 20% 16V
C621	1-164-644-11	CERAMIC	330PF 10% 500V	C912	1-126-961-11	ELECT	2.2MF 20% 50V
C625	1-126-965-11	ELECT	22MF 20% 50V	C913	1-126-961-11	ELECT	2.2MF 20% 50V
C627	1-164-644-11	CERAMIC	330PF 10% 500V	C914	1-136-171-00	FILM	0.33MF 5% 50V

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REF.NO. PART NO. DESCRIPTION REMARK					REF.NO. PART NO. DESCRIPTION REMARK				
C915	1-124-768-11	ELECT	4.7MF	20%	35V	<DIODE>			
C916	1-126-961-11	ELECT	2.2MF	20%	50V	D401	8-719-010-34	ZENER DIODE UZ-4.7BSC	
C917	1-126-961-11	ELECT	2.2MF	20%	50V	D402	8-719-979-58	DIODE EGP10D	
C918	1-126-961-11	ELECT	2.2MF	20%	50V	D403	8-719-908-03	DIODE GP08D	
C919	1-126-961-11	ELECT	2.2MF	20%	50V	D501	8-719-061-21	DIODE FMQ-G5FMS	
C920	1-126-961-11	ELECT	2.2MF	20%	50V	D502	8-719-110-49	ZENER DIODE RD18ESB2	
C921	1-126-961-11	ELECT	2.2MF	20%	50V	D503	8-719-911-19	DIODE 1SS119-25	
C922	1-136-173-00	FILM	0.47MF	5%	50V	D504	8-719-051-97	DIODE 3DL41A(LC6-15)	
C923	1-137-370-11	FILM	0.01MF	5%	50V	D505	8-719-110-17	ZENER DIODE RD10ESB2	
C924	1-137-399-11	FILM	0.1MF	5%	50V	D506	8-719-911-55	DIODE U05G	
C925	1-126-934-11	ELECT	220MF	20%	16V	D507	8-719-979-58	DIODE EGP10D	
C926	1-137-364-11	FILM	0.001MF	5%	50V	D508	8-719-975-77	DIODE SB340	
C927	1-104-664-11	ELECT	47MF	20%	25V	D509	8-719-979-58	DIODE EGP10D	
C928	1-137-372-11	FILM	0.022MF	5%	50V	D510	8-719-979-58	DIODE EGP10D	
C929	1-136-175-00	FILM	0.68MF	5%	50V	D511	8-719-110-67	ZENER DIODE RD27ESB2	
C930	1-102-112-00	CERAMIC	330PF	10%	50V	D512	8-719-911-19	DIODE 1SS119-25	
C931	1-136-169-00	FILM	0.22MF	5%	50V	D513	8-719-911-19	DIODE 1SS119-25	
C932	1-137-399-11	FILM	0.1MF	5%	50V	D515	8-719-948-45	DIODE ERA22-08	
C933	1-126-934-11	ELECT	220MF	20%	16V	D516	8-719-110-09	ZENER DIODE RD8.2ESB3	
C934	1-126-961-11	ELECT	2.2MF	20%	50V	D520	8-719-110-67	ZENER DIODE RD27ESB2	
C935	1-136-169-00	FILM	0.22MF	5%	50V	D522	8-719-911-19	DIODE 1SS119-25	
C936	1-137-399-11	FILM	0.1MF	5%	50V	D526	8-719-031-34	DIODE RGP02-20EG23	
C937	1-126-935-11	ELECT	470MF	20%	16V	D595	8-719-911-19	DIODE 1SS119-25	
C939	1-137-374-11	FILM	0.047MF	5%	50V	D596	8-719-970-83	DIODE HSS82	
C940	1-137-374-11	FILM	0.047MF	5%	50V	D597	8-719-110-49	DIODE RD18ESB2	
C942	1-126-925-11	ELECT	470MF	20%	10V	D601	8-719-510-53	DIODE D4SB60L	
C943	1-137-372-11	FILM	0.022MF	5%	50V	D602	8-719-911-19	DIODE 1SS119-25	
C944	1-137-364-11	FILM	0.001MF	5%	50V	D603	8-719-029-04	DIODE D5L60	
C945	1-137-372-11	FILM	0.022MF	5%	50V	D604	8-719-911-19	DIODE 1SS119-25	
C946	1-249-425-11	CARBON	4.7K	5%	1/4W	D605	8-719-911-19	DIODE 1SS119-25	
C948	1-137-399-11	FILM	0.1MF	5%	50V	D606	8-719-510-46	DIODE D1NL20	
C953	1-102-110-00	CERAMIC	220PF	10%	50V	D607	8-719-911-19	DIODE 1SS119-25	
C954	1-102-110-00	CERAMIC	220PF	10%	50V	D608	8-719-110-49	ZENER DIODE RD18ESB2	
C956	1-126-965-11	ELECT	22MF	20%	50V	D609	8-719-510-46	DIODE D1NL20	
C957	1-102-110-00	CERAMIC	220PF	10%	50V	D611	8-719-911-19	DIODE 1SS119-25	
C967	1-247-895-91	CARBON	470K	5%	1/4W	D612	8-719-911-19	DIODE 1SS119-25	
C968	1-126-960-11	ELECT	1MF	20%	50V	D613	8-719-911-19	DIODE 1SS119-25	
C1801	1-102-112-00	CERAMIC	330PF	10%	50V	D614	8-719-911-19	DIODE 1SS119-25	
C1802	1-102-112-00	CERAMIC	330PF	10%	50V	D615	8-719-911-19	DIODE 1SS119-25	
C1803	1-136-169-00	FILM	0.22MF	5%	50V	D650	8-719-510-46	DIODE D1NL20	
						D651	8-719-510-46	DIODE D1NL20	
<CONNECTOR>						D652	8-719-510-46	DIODE D1NL20	
CN501*1-580-798-11	CONNECTOR PIN (DY)			6P		D653	8-719-510-46	DIODE D1NL20	
CN505*1-564-515-11	PLUG, CONNECTOR			12P		D654	8-719-510-46	DIODE D1NL20	
CN507*1-564-512-11	PLUG, CONNECTOR			9P		D655	8-719-022-97	DIODE D2S4MF	
CN508*1-564-509-11	PLUG, CONNECTOR			6P		D656	8-719-022-97	DIODE D2S4MF	
CN509*1-508-879-11	BASE POST					D657	8-719-022-97	DIODE D2S4MF	
CN511*1-564-511-11	PLUG, CONNECTOR			8P		D658	8-719-052-91	DIODE D4SBS4-F	
CN512	1-695-915-11 TAB (CONTACT)					D660	8-719-911-19	DIODE 1SS119-25	
CN600	1-251-644-11 INLET, AC 3P (WITH NOISE FILTE					D661	8-719-911-19	DIODE 1SS119-25	
CN602*1-774-511-11	CONNECTOR, BOARD TO BOARD			10P		D662	8-719-064-37	DIODE R2KS	
CN603	1-691-960-11 PIN, CONNECTOR (PC BOARD)			3P		D670	8-719-911-19	DIODE 1SS119-25	
CN605*1-506-371-00	PIN, CONNECTOR			2P		D671	8-719-911-19	DIODE 1SS119-25	
CN607*1-564-508-11	PLUG, CONNECTOR			5P		D801	8-719-911-19	DIODE 1SS119-25	
						D803	8-719-911-19	DIODE 1SS119-25	
						D903	8-719-970-83	DIODE HSS82	



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
D904	8-719-911-19	DIODE 1SS119-25		L601	1-411-674-11	COIL, CHOKE	68UH
D907	8-719-109-89	ZENER DIODE RD5.6ESB2		L650	1-412-529-11	INDUCTOR	22UH
D908	8-719-109-89	ZENER DIODE RD5.6ESB2		L651	1-410-645-31	INDUCTOR	100UH
D909	8-719-109-89	ZENER DIODE RD5.6ESB2		L652	1-412-529-11	INDUCTOR	22UH
D913	8-719-311-90	DIODE SEL1922D-C					
				L653	1-412-529-11	INDUCTOR	22UH
D914	8-719-045-19	DIODE SPB-26MVWF		L654	1-406-659-11	COIL, CHOKE	10UH
D915	8-719-911-19	DIODE 1SS119-25		L801	1-410-645-31	INDUCTOR	100UH
D916	8-719-911-19	DIODE 1SS119-25		L900	1-410-645-31	INDUCTOR	100UH
D917	8-719-911-19	DIODE 1SS119-25					
D918	8-719-911-19	DIODE 1SS119-25					
D920	8-719-010-34	ZENER DIODE UZ-4.7BSC					
D921	8-719-911-19	DIODE 1SS119-25					
D922	8-719-911-19	DIODE 1SS119-25					
D944	8-719-911-19	DIODE 1SS119-25					

The components identified by shading
and mark \triangle are critical for safety.
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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
		<RESISTOR>					
R401	1-249-425-11	CARBON 4.7K	5% 1/4W	R538	1-215-421-00	METAL 1K	1% 1/4W
R403	1-249-393-11	CARBON 10	5% 1/4W F	R539 \triangle	1-215-476-91	METAL 200K	1% 1/4W
R406	1-215-449-00	METAL 15K	1% 1/4W	R540	1-215-475-00	METAL 180K	1% 1/4W
R407	1-215-447-00	METAL 12K	1% 1/4W	R541	1-215-493-00	METAL 1M	1% 1/4W
R408	1-249-383-11	CARBON 1.5	5% 1/4W F	R542	1-215-429-00	METAL 2.2K	1% 1/4W
R410	1-215-859-00	METAL OXIDE 22	5% 1W F	R543	1-215-429-00	METAL 2.2K	1% 1/4W
R411	1-215-445-00	METAL 10K	1% 1/4W	R544	1-215-463-00	METAL 56K	1% 1/4W
R412	1-215-421-00	METAL 1K	1% 1/4W	R545	1-215-461-00	METAL 47K	1% 1/4W
R418	1-214-798-21	METAL 1.8	1% 1/2W	R546	1-249-397-11	CARBON 22	5% 1/4W F
R420	1-215-459-00	METAL 39K	1% 1/4W	R547	1-247-807-31	CARBON 100	5% 1/4W
R421	1-214-800-11	METAL 2.2	1% 1/2W	R548	1-215-431-00	METAL 2.7K	1% 1/4W
R422	1-215-866-11	METAL OXIDE 330	5% 1W F	R549	1-215-880-00	METAL OXIDE 10	5% 2W F
R423	1-215-439-00	METAL 5.6K	1% 1/4W	R550	1-249-429-11	CARBON 10K	5% 1/4W
R424	1-215-447-00	METAL 12K	1% 1/4W	R551	1-215-423-00	METAL 1.2K	1% 1/4W
R425	1-215-441-00	METAL 6.8K	1% 1/4W	R552	1-249-385-11	CARBON 2.2	5% 1/4W F
R426	1-249-383-11	CARBON 1.5	5% 1/4W F	R553	1-249-421-11	CARBON 2.2K	5% 1/4W
R427	1-215-447-00	METAL 12K	1% 1/4W	R554	1-249-421-11	CARBON 2.2K	5% 1/4W
R500	1-249-405-11	CARBON 100	5% 1/4W F	R555	1-249-377-11	CARBON 0.47	5% 1/4W F
R501	1-247-863-91	CARBON 22K	5% 1/4W	R556	1-202-818-00	SOLID 1K	20% 1/2W
R502	1-219-683-11	METAL 220K	5% 1/2W	R557	1-249-419-11	CARBON 1.5K	5% 1/4W
R503	1-249-437-11	CARBON 47K	5% 1/4W	R558	1-249-421-11	CARBON 2.2K	5% 1/4W
R504	1-215-888-00	METAL OXIDE 220	5% 2W F	R567	1-215-880-00	METAL OXIDE 10	5% 2W F
R505	1-247-863-91	CARBON 22K	5% 1/4W	R601 \triangle	1-202-882-91	SOLID 560K	20% 1/2W
R506	1-216-391-11	METAL OXIDE 1.5	5% 3W F	R602 \triangle	1-205-998-11	WIREWOUND 1	5% 10W
R507	1-249-437-11	CARBON 47K	5% 1/4W	R604	1-249-429-11	CARBON 10K	5% 1/4W
R508	1-216-391-11	METAL OXIDE 1.5	5% 3W F	R605	1-249-437-11	CARBON 47K	5% 1/4W
R509	1-249-389-11	CARBON 4.7	5% 1/4W F	R606	1-249-393-11	CARBON 10	5% 1/4W F
R510	1-249-386-11	CARBON 2.7	5% 1/4W	R610	1-216-381-11	METAL OXIDE 0.22	5% 3W F
R511	1-249-401-11	CARBON 47	5% 1/4W	R612	1-260-123-11	CARBON 100K	5% 1/2W
R512	1-215-469-00	METAL 100K	1% 1/4W	R613	1-260-123-11	CARBON 100K	5% 1/2W
R513	1-215-445-00	METAL 10K	1% 1/4W	R614	1-249-377-11	CARBON 0.47	5% 1/4W F
R514	1-249-429-11	CARBON 10K	5% 1/4W	R615	1-249-377-11	CARBON 0.47	5% 1/4W F
R515	1-215-477-00	METAL 220K	1% 1/4W	R618	1-249-389-11	CARBON 4.7	5% 1/4W F
R516	1-215-477-00	METAL 220K	1% 1/4W	R619	1-215-481-00	METAL 330K	1% 1/4W
R517	1-249-417-11	CARBON 1K	5% 1/4W F	R623	1-215-482-00	METAL 360K	1% 1/4W
R518	1-249-417-11	CARBON 1K	5% 1/4W F	R624	1-215-479-00	METAL 270K	1% 1/4W
R519	1-249-437-11	CARBON 47K	5% 1/4W	R625	1-215-481-00	METAL 330K	1% 1/4W
R520	1-249-417-11	CARBON 1K	5% 1/4W F	R626	1-247-863-91	CARBON 22K	5% 1/4W
R521	1-249-389-11	CARBON 4.7	5% 1/4W F	R627	1-215-481-00	METAL 330K	1% 1/4W
R522	1-249-417-11	CARBON 1K	5% 1/4W F	R628	1-215-481-00	METAL 330K	1% 1/4W
R523	1-249-377-11	CARBON 0.47	5% 1/4W F	R629	1-215-461-00	METAL 47K	1% 1/4W
R524	1-216-447-00	METAL OXIDE 27	5% 2W F	R630	1-249-421-11	CARBON 2.2K	5% 1/4W
R525	1-249-426-11	CARBON 5.6K	5% 1/4W	R631	1-218-642-11	METAL OXIDE 100K	5% 1W F
R526	1-249-377-11	CARBON 0.47	5% 1/4W F	R632	1-218-642-11	METAL OXIDE 100K	5% 1W F
R527	1-215-913-11	METAL OXIDE 220	5% 3W F	R633	1-218-642-11	METAL OXIDE 100K	5% 1W F
R528	1-215-910-00	METAL OXIDE 68	5% 3W F	R634	1-218-642-11	METAL OXIDE 100K	5% 1W F
R529	1-215-469-00	METAL 100K	1% 1/4W	R635	1-212-942-00	FUSIBLE 2.2	5% 1/2W F
R530	1-216-474-11	METAL OXIDE 82	5% 3W F	R636	1-249-389-11	CARBON 4.7	5% 1/4W
R531	1-216-474-11	METAL OXIDE 82	5% 3W F	R637	1-249-389-11	CARBON 4.7	5% 1/4W
R532	1-249-389-11	CARBON 4.7	5% 1/4W F	R638	1-247-791-91	CARBON 22	5% 1/4W
R533	1-215-487-00	METAL 560K	1% 1/4W	R639	1-247-791-91	CARBON 22	5% 1/4W
R534	1-215-467-00	METAL 82K	1% 1/4W	R640	1-220-926-11	FUSIBLE 0.47	10% 1/2W F
R535	1-215-469-00	METAL 100K	1% 1/4W	R642	1-249-407-11	CARBON 150	5% 1/4W
R536	1-249-428-11	CARBON 8.2K	5% 1/4W	R643	1-249-425-11	CARBON 4.7K	5% 1/4W
R537	1-249-397-11	CARBON 22	5% 1/4W F	R644	1-247-863-91	CARBON 22K	5% 1/4W
				R650	1-249-381-11	CARBON 1	5% 1/4W F



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R651	1-249-381-11	CARBON	1	5%	1/4W	F	
R652	1-216-365-00	METAL OXIDE	0.47	5%	2W	F	
R653	1-249-381-11	CARBON	1	5%	1/4W	F	
R654	1-249-377-11	CARBON	0.47	5%	1/4W	F	
R655	1-249-377-11	CARBON	0.47	5%	1/4W	F	
R656	1-215-403-00	METAL	180	1%	1/4W		
R657	1-215-419-00	METAL	820	1%	1/4W		
R660	1-249-430-11	CARBON	12K	5%	1/4W	F	
R661	1-249-417-11	CARBON	1K	5%	1/4W		
R662	1-247-895-91	CARBON	470K	5%	1/4W		
R663	1-249-401-11	CARBON	47	5%	1/4W		
R665	1-215-461-00	METAL	47K	1%	1/4W		
R666	1-249-429-11	CARBON	10K	5%	1/4W		
R667	1-249-429-11	CARBON	10K	5%	1/4W		
R669	1-249-425-11	CARBON	4.7K	5%	1/4W		
R670	1-249-417-11	CARBON	1K	5%	1/4W		
R671	1-249-417-11	CARBON	1K	5%	1/4W		
R673	1-249-429-11	CARBON	10K	5%	1/4W		
R674	1-215-411-00	METAL	390	1%	1/4W		
R675	1-215-477-00	METAL	220K	1%	1/4W		
R676	1-249-417-11	CARBON	1K	5%	1/4W		
R677	1-247-883-00	CARBON	150K	5%	1/4W		
R678	1-247-895-91	CARBON	470K	5%	1/4W		
R679	1-249-429-11	CARBON	10K	5%	1/4W		
R680	1-249-429-11	CARBON	10K	5%	1/4W		
R681	1-249-429-11	CARBON	10K	5%	1/4W		
R801	1-249-377-11	CARBON	0.47	5%	1/4W	F	
R802	1-249-426-11	CARBON	5.6K	5%	1/4W		
R803	1-249-426-11	CARBON	5.6K	5%	1/4W		
R804	1-249-429-11	CARBON	10K	5%	1/4W		
R805	1-249-429-11	CARBON	10K	5%	1/4W		
R806	1-249-426-11	CARBON	5.6K	5%	1/4W		
R807	1-215-463-00	METAL	56K	1%	1/4W		
R808	1-215-485-00	METAL	470K	1%	1/4W		
R809	1-215-483-00	METAL	390K	1%	1/4W		
R810	1-249-429-11	CARBON	10K	5%	1/4W		
R811	1-249-432-11	CARBON	18K	5%	1/4W		
R812	1-249-435-11	CARBON	33K	5%	1/4W		
R813	1-247-887-00	CARBON	220K	5%	1/4W		
R814	1-249-421-11	CARBON	2.2K	5%	1/4W		
R815	1-215-457-00	METAL	33K	1%	1/4W		
R817	1-215-461-00	METAL	47K	1%	1/4W		
R819	1-215-457-00	METAL	33K	1%	1/4W		
R820	1-215-455-00	METAL	27K	1%	1/4W		
R821	1-215-465-00	METAL	68K	1%	1/4W		
R822	1-215-469-00	METAL	100K	1%	1/4W		
R823	1-215-477-00	METAL	220K	1%	1/4W		
R824	1-249-429-11	CARBON	10K	5%	1/4W		
R825	1-215-445-00	METAL	10K	1%	1/4W		
R826	1-215-457-00	METAL	33K	1%	1/4W		
R827	1-249-426-11	CARBON	5.6K	5%	1/4W		
R828	1-249-419-11	CARBON	1.5K	5%	1/4W		
R829	1-249-419-11	CARBON	1.5K	5%	1/4W		
R830	1-215-461-00	METAL	47K	1%	1/4W		
R831	1-215-405-00	METAL	220	1%	1/4W		
R900	1-249-417-11	CARBON	1K	5%	1/4W		
R901	1-249-425-11	CARBON	4.7K	5%	1/4W		
R902	1-249-425-11	CARBON	4.7K	5%	1/4W		
R903	1-249-425-11	CARBON	4.7K	5%	1/4W		
R904	1-249-425-11	CARBON	4.7K	5%	1/4W		
R905	1-249-425-11	CARBON	4.7K	5%	1/4W		
R907	1-249-417-11	CARBON	1K	5%	1/4W		
R908	1-249-425-11	CARBON	4.7K	5%	1/4W		
R909	1-249-437-11	CARBON	47K	5%	1/4W		
R910	1-247-895-91	CARBON	470K	5%	1/4W		
R912	1-249-425-11	CARBON	4.7K	5%	1/4W		
R913	1-249-417-11	CARBON	1K	5%	1/4W		
R914	1-102-106-00	CERAMIC	100PF	10%	50V		
R915	1-249-417-11	CARBON	1K	5%	1/4W		
R916	1-249-417-11	CARBON	1K	5%	1/4W		
R917	1-249-417-11	CARBON	1K	5%	1/4W		
R918	1-249-435-11	CARBON	33K	5%	1/4W		
R919	1-249-425-11	CARBON	4.7K	5%	1/4W		
R920	1-247-807-31	CARBON	100	5%	1/4W		
R921	1-249-421-11	CARBON	2.2K	5%	1/4W		
R922	1-249-417-11	CARBON	1K	5%	1/4W		
R923	1-249-417-11	CARBON	1K	5%	1/4W		
R924	1-249-434-11	CARBON	27K	5%	1/4W		
R925	1-249-432-11	CARBON	18K	5%	1/4W		
R926	1-249-434-11	CARBON	27K	5%	1/4W		
R927	1-249-434-11	CARBON	27K	5%	1/4W		
R928	1-249-434-11	CARBON	27K	5%	1/4W		
R929	1-215-459-00	METAL	39K	1%	1/4W		
R930	1-249-434-11	CARBON	27K	5%	1/4W		
R931	1-249-428-11	CARBON	8.2K	5%	1/4W		
R932	1-249-428-11	CARBON	8.2K	5%	1/4W		
R934	1-249-429-11	CARBON	10K	5%	1/4W		
R935	1-249-428-11	CARBON	8.2K	5%	1/4W		
R936	1-247-815-91	CARBON	220	5%	1/4W		
R937	1-249-428-11	CARBON	8.2K	5%	1/4W		
R938	1-249-428-11	CARBON	8.2K	5%	1/4W		
R939	1-249-417-11	CARBON	1K	5%	1/4W		
R940	1-247-863-91	CARBON	22K	5%	1/4W		
R941	1-249-428-11	CARBON	8.2K	5%	1/4W		
R942	1-249-434-11	CARBON	27K	5%	1/4W		
R943	1-249-428-11	CARBON	8.2K	5%	1/4W		
R944	1-249-424-11	CARBON	3.9K	5%	1/4W		
R945	1-249-424-11	CARBON	3.9K	5%	1/4W		
R946	1-215-493-00	METAL	1M	1%	1/4W		
R947	1-247-883-00	CARBON	150K	5%	1/4W		
R948	1-247-883-00	CARBON	150K	5%	1/4W		
R949	1-247-883-00	CARBON	150K	5%	1/4W		
R950	1-247-883-00	CARBON	150K	5%	1/4W		
R951	1-247-883-00	CARBON	150K	5%	1/4W		
R952	1-247-883-00	CARBON	150K	5%	1/4W		
R954	1-249-425-11	CARBON	4.7K	5%	1/4W		
R955	1-247-807-31	CARBON	100	5%	1/4W		
R956	1-249-421-11	CARBON	2.2K	5%	1/4W		
R957	1-215-441-00	METAL	6.8K	1%	1/4W		
R958	1-215-427-00	METAL	1.8K	1%	1/4W		
R959	1-249-428-11	CARBON	8.2K	5%	1/4W		
R960	1-249-425-11	CARBON	4.7K	5%	1/4W		



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C1610	1-163-005-11	CERAMIC CHIP 470PF	10% 50V	* A-1388-199-AJ BOARD, COMPLETE			
C1611	1-163-003-11	CERAMIC CHIP 330PF	10% 50V	*****			
C1612	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	<CONNECTOR>			
C1615	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN6001*1-564-510-11 PLUG, CONNECTOR 7P			
C1616	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	CN6004 1-695-915-11 TAB (CONTACT)			
C1618	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	<JACK>			
C1626	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	J6002 1-568-267-11 JACK			
<CONNECTOR>				J6003 1-563-330-11 JACK			
CN1600*1-774-512-11 CONNECTOR, BPARD TO BOARD 10P				*****			
<DIODE>				* A-1394-867-AU BOARD, COMPLETE			
D1604	8-719-977-81	DIODE DTZ33B		*****			
D1605	8-719-056-95	ZENER DIODE UDZ-TE-17-22B		4-382-854-11 SCREW (M3X10), P, SW (+)			
D1610	8-719-404-49	DIODE MA111		(IC5201, IC5207)			
<IC>				<CAPACITOR>			
IC1601	8-759-462-65	IC TK75003D		C5021	1-163-038-91	CERAMIC CHIP 0.1MF	25V
IC1603	8-759-198-31	IC UPC1093J-1-T		C5202	1-126-964-11	ELECT 10MF	20% 50V
<CHIP CONDUCTOR>				C5203	1-126-964-11	ELECT 10MF	20% 50V
JR1601	1-216-295-91	SHORT 0		C5204	1-126-967-11	ELECT 47MF	20% 16V
JR1602	1-216-295-91	SHORT 0		C5205	1-107-698-11	ELECT 10MF	20% 25V
<TRANSISTOR>				C5206	1-107-698-11	ELECT 10MF	20% 25V
Q1603	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		C5207	1-164-695-11	CERAMIC CHIP 0.0022MF	5% 50V
Q1604	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R		C5208	1-164-695-11	CERAMIC CHIP 0.0022MF	5% 50V
Q1605	8-729-120-28	TRANSISTOR 2SC1623-L5L6		C5209	1-164-344-11	CERAMIC CHIP 0.068MF	10% 25V
Q1606	8-729-120-28	TRANSISTOR 2SC1623-L5L6		C5210	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
<RESISTOR>				C5211	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
R1603	1-216-673-11	METAL CHIP 8.2K	0.50% 1/10W	C5212	1-163-038-91	CERAMIC CHIP 0.1MF	25V
R1607	1-216-105-91	METAL GLAZE 220K	5% 1/10W	C5213	1-126-965-11	ELECT 22MF	20% 50V
R1608	1-216-017-91	METAL GLAZE 47	5% 1/10W	C5214	1-104-664-11	ELECT 47MF	20% 25V
R1609	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	C5215	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R1611	1-216-081-00	METAL GLAZE 22K	5% 1/10W	C5217	1-164-344-11	CERAMIC CHIP 0.068MF	10% 25V
R1614	1-216-089-91	METAL GLAZE 47K	5% 1/10W	C5218	1-104-666-11	ELECT 220MF	20% 25V
R1615	1-216-089-91	METAL GLAZE 47K	5% 1/10W	C5220	1-164-344-11	CERAMIC CHIP 0.068MF	10% 25V
R1620	1-216-073-00	METAL GLAZE 10K	5% 1/10W	C5221	1-104-666-11	ELECT 220MF	20% 25V
R1621	1-216-671-11	METAL CHIP 6.8K	0.50% 1/10W	C5223	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R1622	1-216-073-00	METAL GLAZE 10K	5% 1/10W	C5230	1-126-960-11	ELECT 1MF	20% 50V
R1623	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W	C5236	1-126-967-11	ELECT 47MF	20% 16V
R1624	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W	C5238	1-126-964-11	ELECT 10MF	20% 50V
R1641	1-216-073-00	METAL GLAZE 10K	5% 1/10W	C5239	1-126-960-11	ELECT 1MF	20% 50V
*****				C5240	1-126-964-11	ELECT 10MF	20% 50V
				C5241	1-126-967-11	ELECT 47MF	20% 16V
				C5243	1-136-165-00	FILM 0.1MF	5% 50V
				C5248	1-136-165-00	FILM 0.1MF	5% 50V
				C5257	1-126-960-11	ELECT 1MF	20% 50V
				C5258	1-126-967-11	ELECT 47MF	20% 16V
				C5260	1-126-040-11	ELECT 1000MF	20% 35V
				C5263	1-126-040-11	ELECT 1000MF	20% 35V

The components identified by shading
and mark \triangle are critical for safety.
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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C5264	1-163-038-91	CERAMIC CHIP 0.1MF	25V	<DIODE>			
C5265	1-163-038-91	CERAMIC CHIP 0.1MF	25V	D5200	8-719-404-49	DIODE MA111	
C5266	1-163-038-91	CERAMIC CHIP 0.1MF	25V	D5201	8-719-404-49	DIODE MA111	
C5270	1-126-964-11	ELECT 10MF 20%	50V	D5202	8-719-404-49	DIODE MA111	
C5271	1-126-964-11	ELECT 10MF 20%	50V	D5203	8-719-404-49	DIODE MA111	
C5273	1-163-038-91	CERAMIC CHIP 0.1MF	25V	D5204	8-719-404-49	DIODE MA111	
C5275	1-136-165-00	FILM 0.1MF 5%	50V	D5205	8-719-404-49	DIODE MA111	
C5276	1-136-165-00	FILM 0.1MF 5%	50V	D5206	8-719-404-49	DIODE MA111	
C5277	1-126-967-11	ELECT 47MF 20%	16V	D5207	8-719-404-49	DIODE MA111	
C5278	1-163-038-91	CERAMIC CHIP 0.1MF	25V	D5208	8-719-404-49	DIODE MA111	
C5279	1-163-037-11	CERAMIC CHIP 0.022MF 10%	50V	D5209	8-719-404-49	DIODE MA111	
C5280	1-163-037-11	CERAMIC CHIP 0.022MF 10%	50V	D5210	8-719-404-49	DIODE MA111	
C5281	1-163-037-11	CERAMIC CHIP 0.022MF 10%	50V	D5211	8-719-404-49	DIODE MA111	
C5282	1-163-037-11	CERAMIC CHIP 0.022MF 10%	50V	D5212	8-719-404-49	DIODE MA111	
C5283	1-126-794-11	ELECT 4.7MF 20%	50V	D5213	8-719-109-89	ZNER DIODE RD5.6ESB2	
C5284	1-126-794-11	ELECT 4.7MF 20%	50V	D5214	8-719-109-89	ZNER DIODE RD5.6ESB2	
C5285	1-126-795-11	ELECT 10MF 20%	50V	D5301	8-719-976-99	ZENER DIODE DTZ5.1B	
C5286	1-164-344-11	CERAMIC CHIP 0.068MF 10%	25V	D5304	8-719-976-99	ZENER DIODE DTZ5.1B	
C5287	1-163-037-11	CERAMIC CHIP 0.022MF 10%	50V	D5305	8-719-404-49	DIODE MA111	
C5288	1-163-037-11	CERAMIC CHIP 0.022MF 10%	50V	D5306	8-719-404-49	DIODE MA111	
C5289	1-163-037-11	CERAMIC CHIP 0.022MF 10%	50V	D5608	8-719-404-49	DIODE MA111	
C5290	1-126-795-11	ELECT 10MF 20%	50V	<IC>			
C5291	1-126-795-11	ELECT 10MF 20%	50V	IC5200	8-759-273-12	IC TDA7315D013TR	
C5292	1-126-794-11	ELECT 4.7MF 20%	50V	IC5201	8-759-980-43	IC TDA2009A	
C5293	1-126-795-11	ELECT 10MF 20%	50V	IC5202	8-759-100-96	IC UPC4558G2	
C5294	1-126-795-11	ELECT 10MF 20%	50V	IC5203	8-759-100-96	IC UPC4558G2	
C5295	1-126-794-11	ELECT 4.7MF 20%	50V	IC5204	8-759-100-96	IC UPC4558G2	
C5296	1-163-038-91	CERAMIC CHIP 0.1MF	25V	IC5205	8-759-349-19	IC NJM3414AM-TE2	
C5297	1-126-022-11	ELECT 47MF 20%	25V	IC5206	8-759-100-93	IC UPC393G2	
C5298	1-126-795-11	ELECT 10MF 20%	50V	IC5207	8-759-980-43	IC TDA2009A	
C5299	1-128-126-11	ELECT 100MF 20%	25V	IC5601	8-759-168-19	IC TA78L09F-TE12L	
C5300	1-126-795-11	ELECT 10MF 20%	50V	<JACK>			
C5301	1-163-038-91	CERAMIC CHIP 0.1MF	25V	J5600	1-779-677-11	CONNECTOR, USB (B) (USB UP STREAM)	
C5302	1-128-126-11	ELECT 100MF 20%	25V	J5601	1-779-676-11	CONNECTOR, USB (A) (USB DOWN STREAM)	
C5303	1-126-963-11	ELECT 4.7MF 20%	50V	<COIL>			
C5304	1-126-963-11	ELECT 4.7MF 20%	50V	L5201	1-408-425-00	INDUCTOR 220UH	
C5305	1-126-967-11	ELECT 47MF 20%	16V	L5202	1-408-425-00	INDUCTOR 220UH	
C5306	1-126-967-11	ELECT 47MF 20%	16V	<IC LINK>			
C5307	1-126-795-11	ELECT 10MF 20%	50V	PS5200	△1-532-984-91	LINK, IC (2A/90V)	
C5308	1-163-038-91	CERAMIC CHIP 0.1MF	25V	PS5201	△1-532-984-91	LINK, IC (2A/90V)	
C5309	1-126-964-11	ELECT 10MF 20%	50V	<TRANSISTOR>			
C5310	1-164-344-11	CERAMIC CHIP 0.068MF 10%	25V	Q5001	8-729-422-27	TRANSISTOR 2SD601A-Q	
C5616	1-126-964-11	ELECT 10MF 20%	50V	Q5201	8-729-216-22	TRANSISTOR 2SA1162-G	
C5620	1-115-877-11	ELECT 4700MF 20%	25V	Q5202	8-729-216-22	TRANSISTOR 2SA1162-G	
<CONNECTOR>				Q5203	8-729-422-27	TRANSISTOR 2SD601A-Q	
CN5200	*1-564-508-11	PLUG, CONNECTOR	5P	Q5204	1-801-806-11	TRANSISTOR DTC144EKA-T146	
CN5201	1-764-101-11	PIN, CONNECTOR (PC BOARD)	2P				
CN5202	1-564-505-11	PLUG, CONNECTOR	2P				
CN5204	*1-564-512-11	PLUG, CONNECTOR	9P				
CN5205	*1-564-510-11	PLUG, CONNECTOR	7P				
CN5206	1-564-505-11	PLUG, CONNECTOR	2P				
CN5207	*1-564-506-11	PLUG, CONNECTOR	3P				
CN5601	*1-564-508-11	PLUG, CONNECTOR	5P				



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q5205	8-729-216-22	TRANSISTOR 2SA1162-G		R5264	1-216-691-11	METAL CHIP 47K	0.50% 1/10W
Q5206	8-729-322-37	TRANSISTOR 2SJ175		R5265	1-216-691-11	METAL CHIP 47K	0.50% 1/10W
Q5207	8-729-422-27	TRANSISTOR 2SD601A-Q		R5266	1-216-081-00	METAL GLAZE 22K	5% 1/10W
Q5214	8-729-422-27	TRANSISTOR 2SD601A-Q		R5267	1-216-081-00	METAL GLAZE 22K	5% 1/10W
Q5215	8-729-920-21	TRANSISTOR DTC314TK-T-146		R5268	1-216-081-00	METAL GLAZE 22K	5% 1/10W
				R5269	1-216-089-91	METAL GLAZE 47K	5% 1/10W
Q5216	8-729-920-21	TRANSISTOR DTC314TK-T-146		R5270	1-216-093-00	METAL GLAZE 68K	5% 1/10W
Q5217	8-729-920-21	TRANSISTOR DTC314TK-T-146		R5271	1-216-089-91	METAL GLAZE 47K	5% 1/10W
Q5218	8-729-107-43	TRANSISTOR 2SC3624-L18		R5272	1-216-691-11	METAL CHIP 47K	0.50% 1/10W
Q5219	8-729-107-43	TRANSISTOR 2SC3624-L18		R5273	1-216-667-11	METAL CHIP 4.7K	0.50% 1/10W
Q5220	8-729-920-21	TRANSISTOR DTC314TK-T-146		R5274	1-216-667-11	METAL CHIP 4.7K	0.50% 1/10W
<RESISTOR>				R5275	1-216-025-91	METAL GLAZE 100	5% 1/10W
R5202	1-216-097-91	METAL GLAZE 100K	5% 1/10W	R5276	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
R5203	1-216-097-91	METAL GLAZE 100K	5% 1/10W	R5277	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W
R5204	1-216-097-91	METAL GLAZE 100K	5% 1/10W	R5278	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R5205	1-216-097-91	METAL GLAZE 100K	5% 1/10W	R5279	1-216-089-91	METAL GLAZE 47K	5% 1/10W
R5206	1-216-105-91	METAL GLAZE 220K	5% 1/10W				
R5207	1-216-113-00	METAL GLAZE 470K	5% 1/10W	R5281	1-216-683-11	METAL CHIP 22K	0.50% 1/10W
R5208	1-216-105-91	METAL GLAZE 220K	5% 1/10W	R5282	1-216-683-11	METAL CHIP 22K	0.50% 1/10W
R5209	1-216-113-00	METAL GLAZE 470K	5% 1/10W	R5283	1-216-671-11	METAL CHIP 6.8K	0.50% 1/10W
R5210	1-216-651-11	METAL CHIP 1K	0.50% 1/10W	R5284	1-216-671-11	METAL CHIP 6.8K	0.50% 1/10W
R5211	1-216-651-11	METAL CHIP 1K	0.50% 1/10W	R5285	1-216-675-11	METAL CHIP 10K	0.50% 1/10W
R5212	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	R5286	1-218-761-11	METAL CHIP 240K	0.50% 1/10W
R5213	1-216-073-00	METAL GLAZE 10K	5% 1/10W	R5287	1-216-690-11	METAL CHIP 43K	0.50% 1/10W
R5214	1-249-377-11	CARBON 0.47	5% 1/4W F	R5288	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R5215	1-249-405-11	CARBON 100	5% 1/4W F	R5289	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R5216	1-216-295-91	SHORT 0		R5290	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R5217	1-216-025-91	METAL GLAZE 100	5% 1/10W	R5291	1-216-045-00	METAL GLAZE 680	5% 1/10W
R5218	1-216-025-91	METAL GLAZE 100	5% 1/10W	R5292	1-216-683-11	METAL CHIP 22K	0.50% 1/10W
R5219	1-216-669-11	METAL CHIP 5.6K	0.50% 1/10W	R5293	1-216-045-00	METAL GLAZE 680	5% 1/10W
R5220	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R5294	1-216-683-11	METAL CHIP 22K	0.50% 1/10W
R5221	1-216-025-91	METAL GLAZE 100	5% 1/10W	R5295	1-216-097-91	METAL GLAZE 100K	5% 1/10W
R5222	1-216-025-91	METAL GLAZE 100	5% 1/10W	R5296	1-216-081-00	METAL GLAZE 22K	5% 1/10W
R5223	1-216-669-11	METAL CHIP 5.6K	0.50% 1/10W	R5297	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R5225	1-216-671-11	METAL CHIP 6.8K	0.50% 1/10W	R5298	1-216-675-11	METAL CHIP 10K	0.50% 1/10W
R5226	1-216-619-11	METAL CHIP 47	0.50% 1/10W	R5299	1-216-675-11	METAL CHIP 10K	0.50% 1/10W
R5227	1-216-619-11	METAL CHIP 47	0.50% 1/10W	R5300	1-216-687-11	METAL CHIP 33K	0.50% 1/10W
R5228	1-216-653-11	METAL CHIP 1.2K	0.50% 1/10W	R5301	1-216-687-11	METAL CHIP 33K	0.50% 1/10W
R5229	1-216-651-11	METAL CHIP 1K	0.50% 1/10W	R5302	1-216-687-11	METAL CHIP 33K	0.50% 1/10W
R5230	1-216-651-11	METAL CHIP 1K	0.50% 1/10W	R5303	1-216-295-91	SHORT 0	
R5232	1-216-651-11	METAL CHIP 1K	0.50% 1/10W	R5304	1-216-295-91	SHORT 0	
R5233	1-216-651-11	METAL CHIP 1K	0.50% 1/10W	R5305	1-216-295-91	SHORT 0	
R5236	1-249-385-11	CARBON 2.2	5% 1/4W F	R5306	1-216-679-11	METAL CHIP 15K	0.50% 1/10W
R5237	1-249-385-11	CARBON 2.2	5% 1/4W F	R5307	1-216-679-11	METAL CHIP 15K	0.50% 1/10W
R5238	1-216-295-91	SHORT 0		R5308	1-216-675-11	METAL CHIP 10K	0.50% 1/10W
R5241	1-216-653-11	METAL CHIP 1.2K	0.50% 1/10W	R5309	1-216-615-11	METAL CHIP 33	0.50% 1/10W
R5242	1-216-295-91	SHORT 0		R5310	1-216-653-11	METAL CHIP 1.2K	0.50% 1/10W
R5243	1-216-295-91	SHORT 0		R5311	1-216-615-11	METAL CHIP 33	0.50% 1/10W
R5246	1-249-389-11	CARBON 4.7	5% 1/4W F	R5312	1-216-045-00	METAL GLAZE 680	5% 1/10W
R5252	1-249-389-11	CARBON 4.7	5% 1/4W F	R5313	1-216-045-00	METAL GLAZE 680	5% 1/10W
R5258	1-216-295-91	SHORT 0		R5314	1-216-675-11	METAL CHIP 10K	0.50% 1/10W
R5259	1-216-295-91	SHORT 0		R5315	1-216-675-11	METAL CHIP 10K	0.50% 1/10W
R5260	1-216-081-00	METAL GLAZE 22K	5% 1/10W	R5318	1-216-653-11	METAL CHIP 1.2K	0.50% 1/10W
R5261	1-216-081-00	METAL GLAZE 22K	5% 1/10W	R5319	1-216-025-91	METAL GLAZE 100	5% 1/10W
R5262	1-216-117-00	METAL GLAZE 680K	5% 1/10W	R5320	1-216-025-91	METAL GLAZE 100	5% 1/10W
R5263	1-216-117-00	METAL GLAZE 680K	5% 1/10W	R5321	1-216-025-91	METAL GLAZE 100	5% 1/10W
				R5322	1-216-025-91	METAL GLAZE 100	5% 1/10W

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and mark \triangle are critical for safety.
Replace only with part number specified.



REF.NO.	PART NO.	DESCRIPTION	REMARK
R5323	1-216-117-00	METAL GLAZE 680K	5% 1/10W
R5324	1-216-117-00	METAL GLAZE 680K	5% 1/10W
R5325	1-216-675-11	METAL CHIP 10K	0.50% 1/10W
R5326	1-216-675-11	METAL CHIP 10K	0.50% 1/10W
R5327	1-216-675-11	METAL CHIP 10K	0.50% 1/10W
R5328	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W
R5329	1-216-675-11	METAL CHIP 10K	0.50% 1/10W
R5330	1-216-687-11	METAL CHIP 33K	0.50% 1/10W
R5331	1-216-295-91	SHORT 0	
R5332	1-216-675-11	METAL CHIP 10K	0.50% 1/10W
R5334	1-249-417-11	CARBON 1K	5% 1/4W F
R5335	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R5336	1-216-041-00	METAL GLAZE 470	5% 1/10W

MISCELLANEOUS

\triangle 1-409-799-21 COIL, DEMAGNETIZATION
 \triangle 1-452-756-11 NECK ASSY, PICTURE TUBE (NA293)
 1-505-439-11 SPEAKER (3X10CM)
 1-505-440-11 SPEAKER (7CM)
 1-542-323-11 MICROPHONE ASSY

1-543-653-11 CORE ASSY, BEAD(DIVISION TYPE)
 \triangle 1-765-719-11 CORD SET, POWER (10A/250V)
 1-777-626-21 CABLE, USB
 1-782-857-21 CABLE ASSY(15P DSUB CONNECTOR)
 \triangle 8-451-469-41 DEFLECTION YOKE (Y15FRF2M2)

V901 \triangle 8-734-837-05 PICTURE TUBE (15FRS)

