

**DAEWOO**

# Service Manual

## XGA COLOR MONITOR

Model : 710B



**DAEWOO ELECTRONICS CO., LTD**  
**OVERSEAS SERVICE DEPT.**

# CONTENTS

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|                                     |    |
|-------------------------------------|----|
| SAFETY PRECAUTIONS                  | 1  |
| GENERAL SAFETY INFORMATION          | 2  |
| SERVICING PRECAUTIONS               | 3  |
| TECHNICAL INFORMATION               | 6  |
| GENERAL INFORMATION                 | 7  |
| PIN CONNECTOR                       | 8  |
| CAUTIONS FOR ADJUSTMENT AND REPAIR  | 8  |
| OPERATION & ADJUSTMENT              | 9  |
| TROUBLESHOOTING HINTS               | 15 |
| ALIGNMENT PROCEDURE                 | 31 |
| BLOCK DIAGRAM                       | 33 |
| PCB LAYOUT                          | 34 |
| SCHEMATIC DIAGRAM                   | 37 |
| EXPLODED VIEW DIAGRAM               | 38 |
| REPLACEMENT PARTS LIST              | 39 |
| CIRCUIT BOARD ELECTRICAL PARTS LIST | 40 |

# SAFETY PRECAUTIONS

**CAUTION:** No modifications of any circuit should be attempted. Service work should only be performed after you are thoroughly familiar with all of the following safety check and servicing guidelines.

## Safety Check

Care should be taken while servicing this analog color display because of the high voltages used in the deflection circuits. These voltages are exposed in such areas as the associated flyback and yoke circuits.

## Fire & Shock Hazard

- Insert an isolation transformer between the analog color display and AC power line before servicing chassis.
- In servicing, pay attention to original lead dress especially in the high voltage circuit. If a short circuit is found, replace all parts which have been overheated as a result of the short circuit.
- All the protective devices must be reinstalled per original design.
- Soldering must be inspected for possible cold solder points, frayed leads, damaged insulation, solder splashes or sharp solder points. Be certain to remove all foreign materials.

## Implosion Protection

Picture tube in this monitor employs integral implosion protection system, but care should be taken to avoid damage and scratching during installation.

Use only same type replacement picture tubes.

**IMPORTANT SAFETY NOTICE:** There are special components used in analog color display, which are important for safety. These parts are shaded on the schematic diagram and on the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-radiation, shock, fire or other hazards. Do not modify the original design without getting a written permission from DAEWOO ELECTRONICS CO. or this will void the original parts and labor warranty.

## X-Radiation

**WARNING:** The only potential source of X-Radiation is the picture tube. However when the high voltage circuitry is operating properly, there is no possibility of an X-Radiation problem. The basic precaution which must be exercised is to keep the high voltage at the following factory recommended level.

**NOTE:** It is important to use an accurate, periodically calibrated high voltage meter.

- To measure the high voltage, use a high-impedance high-voltage meter. Connect (-) to chassis and (+) to the CRT anode button.
- Turn the Contrast & brightness control fully counterclockwise.
- Measure the high voltage. The high voltage meter should indicate the following factory recommended level.
- If the upper meter indication exceeds the maximum level, immediate service is required to prevent the possibility of premature component failure.
- To prevent X-Radiation possibility, it is essential to use the specified picture tube.
- The normal high voltage is 26.5KV or below, and must not exceed 29KV at zero beam current at rated voltage.

# GENERAL SAFETY INFORMATION

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## Terms in the manual

- CAUTION** Statements identify conditions or practices that could result in damage to the equipment or other property.
- WARNING** Statements identify conditions or practices that could result in personal injury or loss of life.

## Terms as marked on equipment

- CAUTION** Statements indicate a personal injury hazard not immediately accessible as one reads the marking, or a hazard to properly including the equipment itself.
- WARNING** Statements indicate a personal injury hazard immediately accessible as one reads the marking

## Symbols in the manual

This symbol indicates where applicable cautionary or other information is to be found.

## Symbols as marked on equipment

Protective GROUND terminal



**High Voltage Warning** And Critical Component Warning Label  
Following warning label is on the CRT PWB shield case inside the unit.

**Warning:** This product includes critical mechanical and electrical parts which are essential for x radiation safety. For continued safety, replace critical components indicated in the service manual only with exact replacement parts given in the parts list. Operating high voltage for this product is 29Kv at minimum brightness. Refer to service manual for measurement procedures and proper service adjustments.

# SERVICING PRECAUTIONS

**CAUTION:** Before servicing instruments covered by this service manual, its supplements and addendum, read and follow the SAFETY PRECAUTIONS of this manual.

**NOTE:** If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 1 of this manual, always follow the safety precautions.  
Remember: Safety First.

## General Servicing Precautions

1. Always unplug the AC power cord from the AC power source before:
  - a. Removing or reinstalling any component, circuit board, module, or any other instrument assembly.
  - b. Disconnecting or reconnecting any electrical plug or other electrical connection.
  - c. Connecting a test substitute in parallel with an electrolytic capacitor in the instrument.

**CAUTION:** A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in a explosion hazard.

- d. Discharging the picture tube anode.
2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM. etc.) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc".
3. Discharge the picture tube anode only by: (a) first connecting one end of an insulated clip lead to the degaussing or line grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touching the other end of the insulated clip lead to the picture tube anode button, using an insulating handle to avoid personal contact with high voltage.
4. Do not spray any chemicals on or near this instrument or any of its assemblies.
5. Unless specified otherwise in this service manual, clean electrical contacts by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable nonabrasive applicator: 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength).

**CAUTION:** This is a flammable mixture. Unless specified otherwise in this service manual, lubrication of contacts is not required.

6. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.
7. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
8. Always connect the test instrument ground lead to the appropriate instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.
9. Use only the test fixtures specified in this service manual with this instrument.

**CAUTION:** Do not connect the test fixture ground strap to any heatsink in this instrument.

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## Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity.

Such components commonly are called Electrostatically Sensitive (ES) Devices.

The examples of typical ES devices are integrated circuits, some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as “anti-static” can generate enough electrical charges to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate enough electrical charges to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**CAUTION:** Be sure that no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmful motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate enough static electricity to damage an ES devices).

## General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron with appropriate tip size and shape that will maintain tip temperature within a 550°F-660°F (288°C-316°C) range.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean.
4. Thoroughly clean the surface to be soldered. Use a small wire-bristle (0.5 inch or 1.25cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
5. Use the following soldering technique:
  - a. Allow the soldering iron tip to reach normal temperature (550°F to 660°F or 288°C to 316°C)
  - b. Hold the soldering iron tip and solder strand against the component lead until the solder melts.
  - c. quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
  - d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

**CAUTION:** Work quickly to avoid overheating the circuit board printed foil.

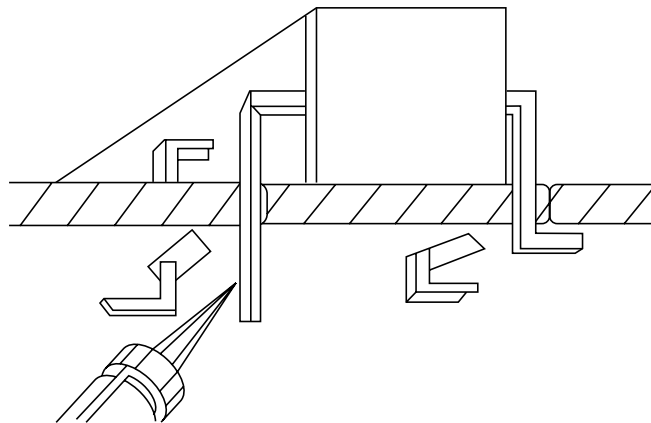


FIGURE 1. USE SOLDERING IRON TO PRY LEADS

## IC Removal/Replacement

Some utilized chassis circuit boards have slotted (oblong) holes through which the IC leads are inserted and then bent flat against the circuit foil. When holes are slotted, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 on the page under the title of general soldering guidelines.

### Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with desoldering braid before removing the IC).

### Replacement

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to the area).

## “Small-Signal” Discrete Transistor Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend the end of each of three leads remaining on the circuit board into a “U” shape.
3. Bend the replacement transistor leads into a “U” shape.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the “U” with long nose pliers to insure metal-to-metal contact, then solder each connection.

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## Power IC, Transistor or Devices Removal/Replacement

1. Heat and remove all solders from the device leads.
2. Remove the heatsink mounting screw (if applicable).
3. Carefully remove the device from the circuit board.
4. Insert new device in circuit board.
5. Solder each device lead, and clip off excess lead.
6. Replace heatsink.

## Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicularly to the circuit board.
3. Observing diode polarity, wrap each lead out of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect the solder joints of the two "original" leads on the circuit board copper side. If they are not shiny, reheat them and apply additional solder if necessary.

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## TECHNICAL INFORMATION

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### Picture Tube

Type : 17-inch, Flat Square Tube type  
(16.2-inch, viewing area)  
Dot Pitch : 0.28mm  
Face Treatment : Non-glare / Anti-static

### Video

Input Signal : R.G.B Analog  
Amp. Bandwidth : 85 MHz  
Input Sync : TTL, separate negative / positive

### Scan Frequency

Horizontal : 30-69 KHz  
Vertical : 50-160 Hz

### Max. Resolution

1280 dots X 1024 lines (at 60Hz)

### Power Source

Free Voltage (100-240 Vac, 50/60Hz)

### Display Area

Standard Display Area : 310mm(H)X232mm(V)  
Full Screen Size : 330mm(H)X250mm(V)

### Power Consumption

Max. 100W

| State               | Recovery Time | Power LED                              |
|---------------------|---------------|--|
| On                  | None          | Green                                  |
| Stand-by<br>Suspend | 3 seconds     | Green : 1 second<br>Amber : 0.5 second |
| Off                 | 7 seconds     | Amber                                  |

### Dimension

424(W)X440(H)X447.2(D)mm  
(set with stand)

### Weight (Net/Gross)

16.8/19.7 kg

### Operating Environment

Temperature : 10-40°C/50-104°F  
Relative Humidity : 8-80%

### Storage Environment

Temperature : -20-45°C/-4-113°F  
Relative Humidity : 5-90%



## GENERAL INFORMATION

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This color monitor automatically scans all horizontal frequencies from 30KHz to 69KHz, and all vertical frequencies from 50Hz to 160Hz. This color monitor adopted the OSD (On Screen Display), it shows the sync polarity and frequency and it provides that easily adjust control. This color monitor supports IBM PC, PC/XT, PC/AT, personal System/2 (PS/2), Apple Macintosh, and compatible users crisp text and vivid color graphics display when using the following graphics adapters : (VGA, 8514/A, Super VGA, VESA and XGA and Apple Macintosh Video Card). And so, this color monitor has a maximum horizontal resolution of 1280 dots and a maximum vertical resolution of 1024 lines for superior clarity of display.

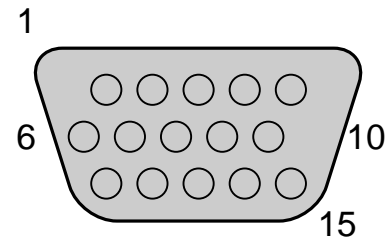
By accepting analog signal inputs which level is zero to 0.7 Volts. This color monitor can display and unlimited palette of colors depending on the graphics adapter and software being used.

### Abbreviations

|        |                                       |
|--------|---------------------------------------|
| ADJ    | Adjustment                            |
| AFC    | Automatic Frequency Control           |
| CRT    | Cathode Ray Tube                      |
| Def    | Deflection                            |
| D.Y    | Deflection Yoke                       |
| FBT    | Flyback Transformer                   |
| H.SYNC | Horizontal Synchronization            |
| OSC    | Oscillator                            |
| P.S.U  | Power Supply Unit                     |
| PWA    | Printed Circuit Board Wiring Assembly |
| R.G.B  | Red, Green, Blue                      |
| V.Sync | Vertical Synchronization              |

# PIN CONNECTOR

| Pin | Signal                    |
|-----|---------------------------|
| 1   | Red                       |
| 2   | Green                     |
| 3   | Blue                      |
| 4   | GND                       |
| 5   | GND                       |
| 6   | GND - Red                 |
| 7   | GND - Green               |
| 8   | GND - Blue                |
| 9   | Reserved                  |
| 10  | GND - H.Sync              |
| 11  | GND                       |
| 12  | Bi-directional Data (SDA) |
| 13  | Horizontal Sync           |
| 14  | Vertical Sync (VCLK)      |
| 15  | Data Clock (SCL)          |



Arrangement of 15-pin D-sub connector

## CAUTIONS FOR ADJUSTMENT AND REPAIR

- Degaussing is always required when adjusting purity or convergence.
- The white balance adjustment has been done by a color analyzer in factory. The adjustment procedure, described in the service manual is made by a visual check.
- Allow 20 minutes warm-up time for the display before checking or adjusting only electrical specification or function.
- Reform the leadwire after any repair work.

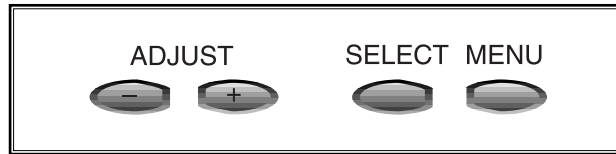
### Caution For Servicing





- In case of servicing or replacing CRT, high voltage sometimes remains in the anode of the CRT. Completely discharge high voltage before servicing or replacing CRT to prevent a shock to the serviceman.

# OPERATION & ADJUSTMENT

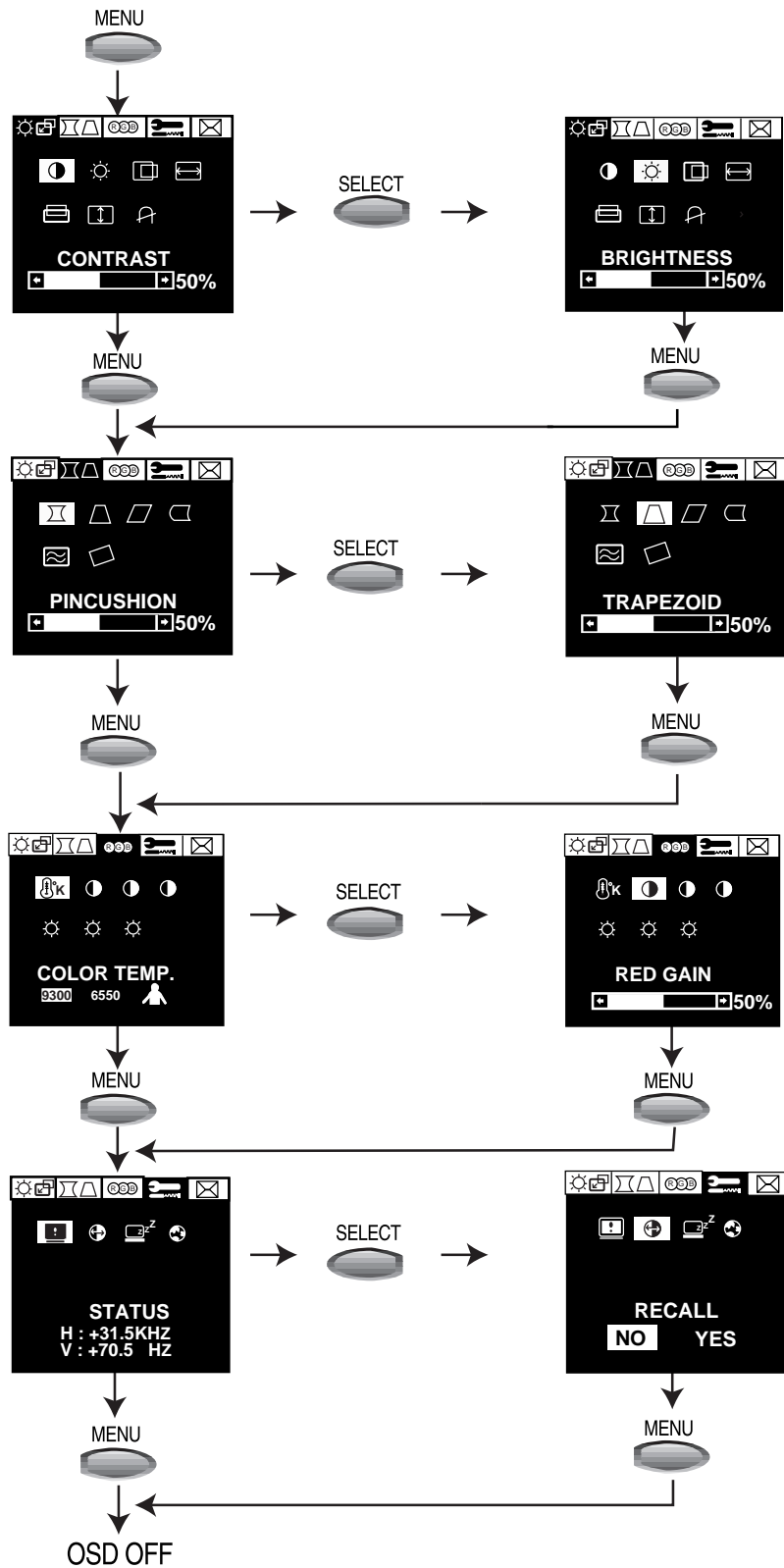
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## ADJUSTMENT KEY








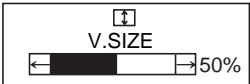

|   |   |
|---|---|
| MENU<br>     | Launch OSD(On-Screen Display) menus         |
| SELECT<br>   | Select the next function                    |
| ADJUST<br>   | Increase the value of any selected function |
| ADJUST<br> | Decrease the value of any selected function |

## ADJUSTMENT PROCESS

































When you choose the icon  on the OSD window, you can exit the OSD screen.








## OSD(On-Screen Display) Menu 1

|   |  |
|---|--|
|    | <p>Adjust the contrast of image, the difference between light and dark areas on the screen.<br/>Range : 0-100%</p> |
|    | <p>Adjust the brightness of the entire display.</p>  |
|    | <p>Adjust the position of the display horizontally (left or right).</p>  |
|    | <p>Adjust the display width (horizontal size).</p>   |
|   | <p>Adjust the position of the display vertically (up or down).</p>   |
|  | <p>Adjust the display height (vertical size).</p>  |
|  | <p>Degauss the display and restore image quality.</p>  |

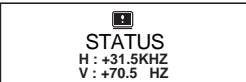

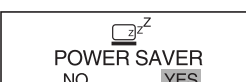

## OSD(On-Screen Display) Menu 2

|  |   |
|--|---|
|  <p>PINCUSHION</p>    | <p>Adjust the left and right margins for more convex or more concave margins.</p> <ul style="list-style-type: none"> <li>• Image turns to  by .</li> <li>• Image turns to  by .</li> </ul>            |
|  <p>TRAPEZOID</p>     | <p>Adjust the trapezoid of the screen by moving the lines inward or outward.</p> <ul style="list-style-type: none"> <li>• Image turns to  by .</li> <li>• Image turns to  by .</li> </ul>             |
|  <p>PARALLELOGRAM</p> | <p>Adjust parallelogram when the screen is leaning left or right.</p> <ul style="list-style-type: none"> <li>• Image turns to  by .</li> <li>• Image turns to  by .</li> </ul>                        |
|  <p>PIN BALANCE</p>   | <p>Adjust the side balance when the sides of the screen are bowed towards left or right.</p> <ul style="list-style-type: none"> <li>• Image turns to  by .</li> <li>• Image turns to  by .</li> </ul> |
|  <p>V. MOIRE</p>     | <p>Adjust the vertical picture moire cancellation.</p> <ul style="list-style-type: none"> <li>• Image turns to  by .</li> <li>• Image turns to  by .</li> </ul>                                 |
|  <p>ROTATION</p>    | <p>Adjust the rotation when the screen is tilted left or right(Optional).</p> <ul style="list-style-type: none"> <li>• Image turns to  by .</li> <li>• Image turns to  by .</li> </ul>        |

### OSD(On-Screen Display) Menu 3

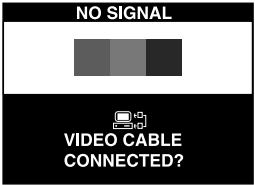
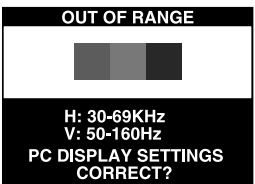
|   |  |
|---|--|
|    | <p>Choose different preset color temperatures or set your own customized color parameters.</p> |
|    | <p>Adjust the red gain.</p>  |
|    | <p>Adjust the green gain.</p>  |
|    | <p>Adjust the blue gain.</p>   |
|   | <p>Adjust the red bias.</p>  |
|  | <p>Adjust the green bias.</p>  |
|  | <p>Adjust the blue bias.</p>   |

### OSD(On-Screen Display) Menu 4

|   |  |
|---|--|
|  | <p>Display horizontal &amp; vertical frequency and polarity.</p> |
|  | <p>Reset the screen to the Factory Preset Display Settings.</p>  |
|  | <p>YES : VESA DPMS operation.<br/>NO : NO DPMS operation.</p>    |
|  | <p>Select language for OSD.</p>                                  |

## Self Diagnosis

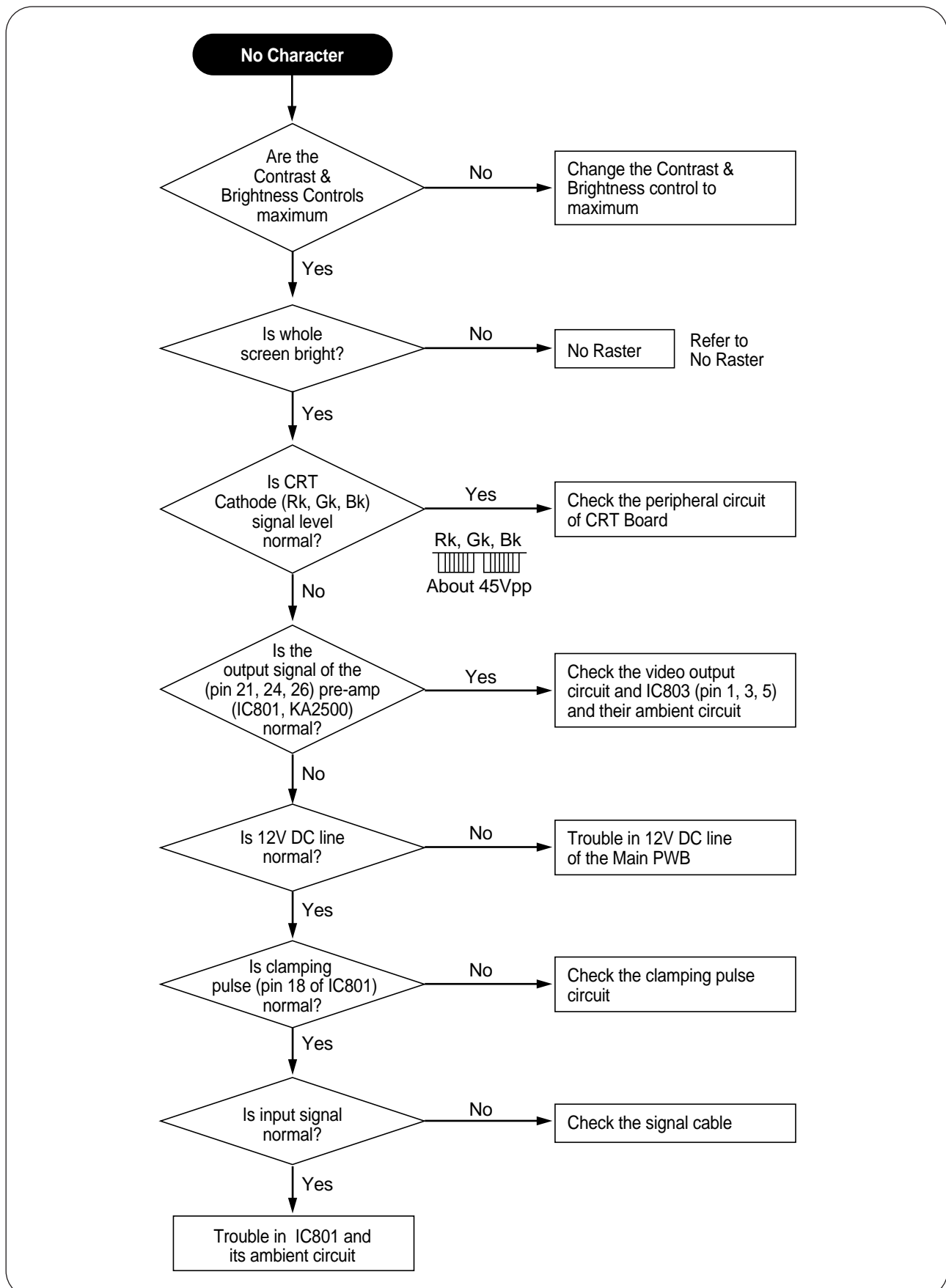
When the monitor doesn't display, if you press any key, Self Diagnosis screen is displayed. Self Diagnosis function checks if the status of the monitor is No Signal or Out of range.

|  |  |
|--|--|
|  <p>The image shows a screen with a black background. At the top, the text "NO SIGNAL" is displayed in white. Below this, there is a horizontal bar with three segments of varying shades of gray. At the bottom, there is a white icon of a monitor and a cable, followed by the text "VIDEO CABLE CONNECTED?" in white.</p>                 | <p>No Signal screen is displayed when the D-Sub signal connector is not connected or the status of the monitor is on DPMS mode.</p>  |
|  <p>The image shows a screen with a black background. At the top, the text "OUT OF RANGE" is displayed in white. Below this, there is a horizontal bar with three segments of varying shades of gray. At the bottom, the text "H: 30-69KHz" and "V: 50-160Hz" is displayed in white, followed by "PC DISPLAY SETTINGS CORRECT?" in white.</p> | <p>Out of Range screen is displayed when the applied frequency is under or over normal range.</p> <ul style="list-style-type: none"><li>■ Normal range<br/>H : 30-69 KHz<br/>V : 50-160 Hz</li></ul> |

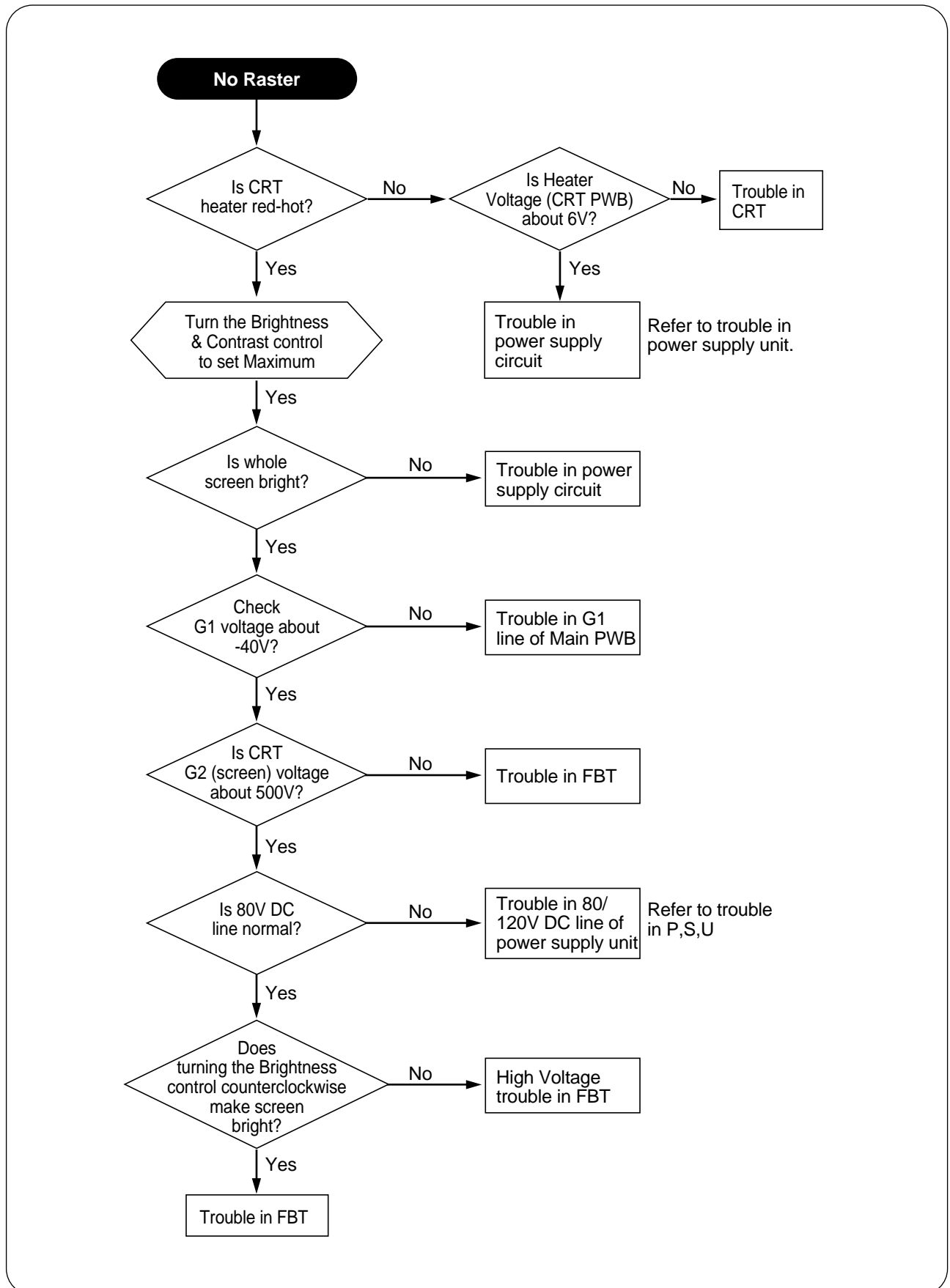


# TROUBLESHOOTING HINTS

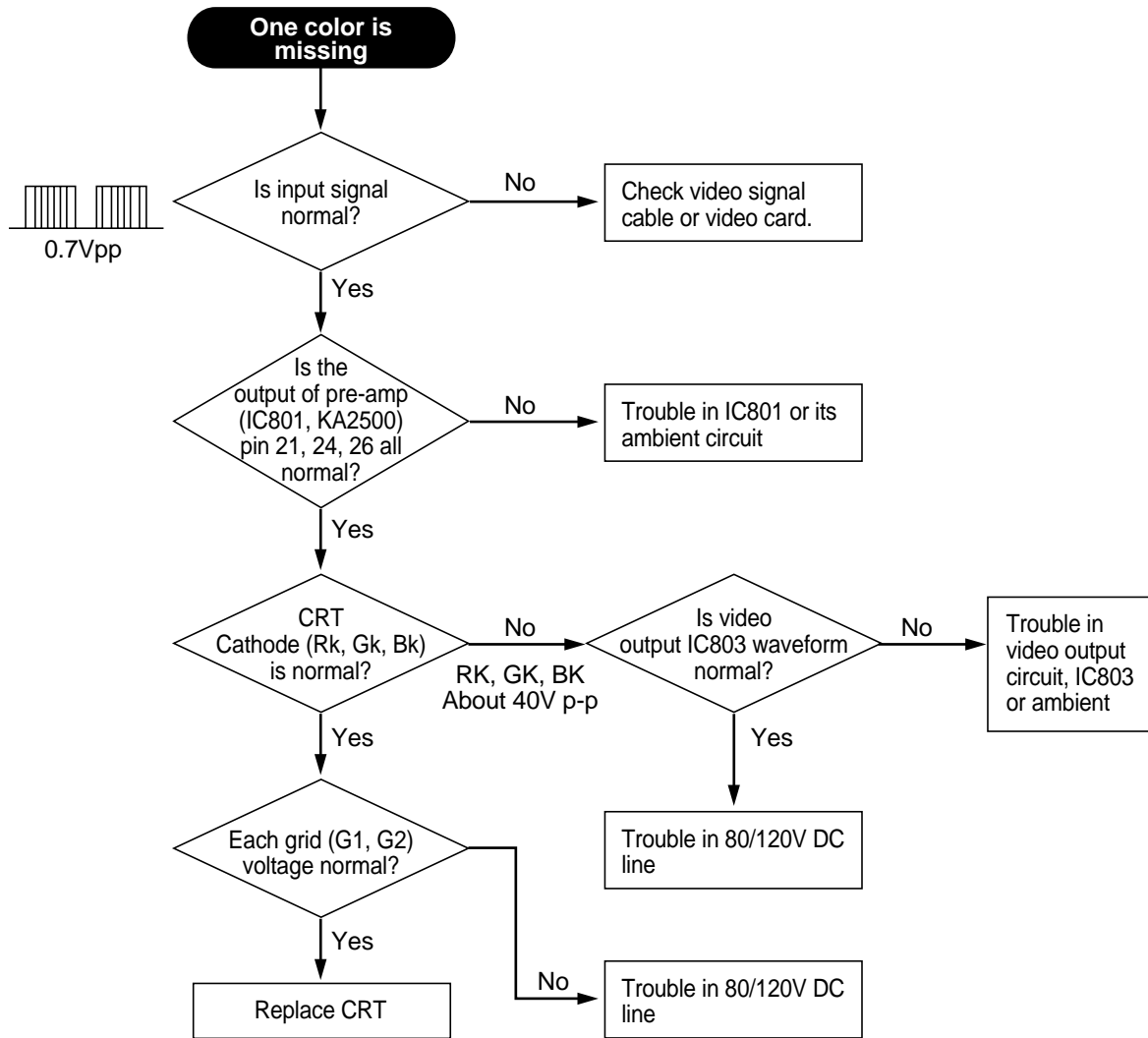
## 1. No Character



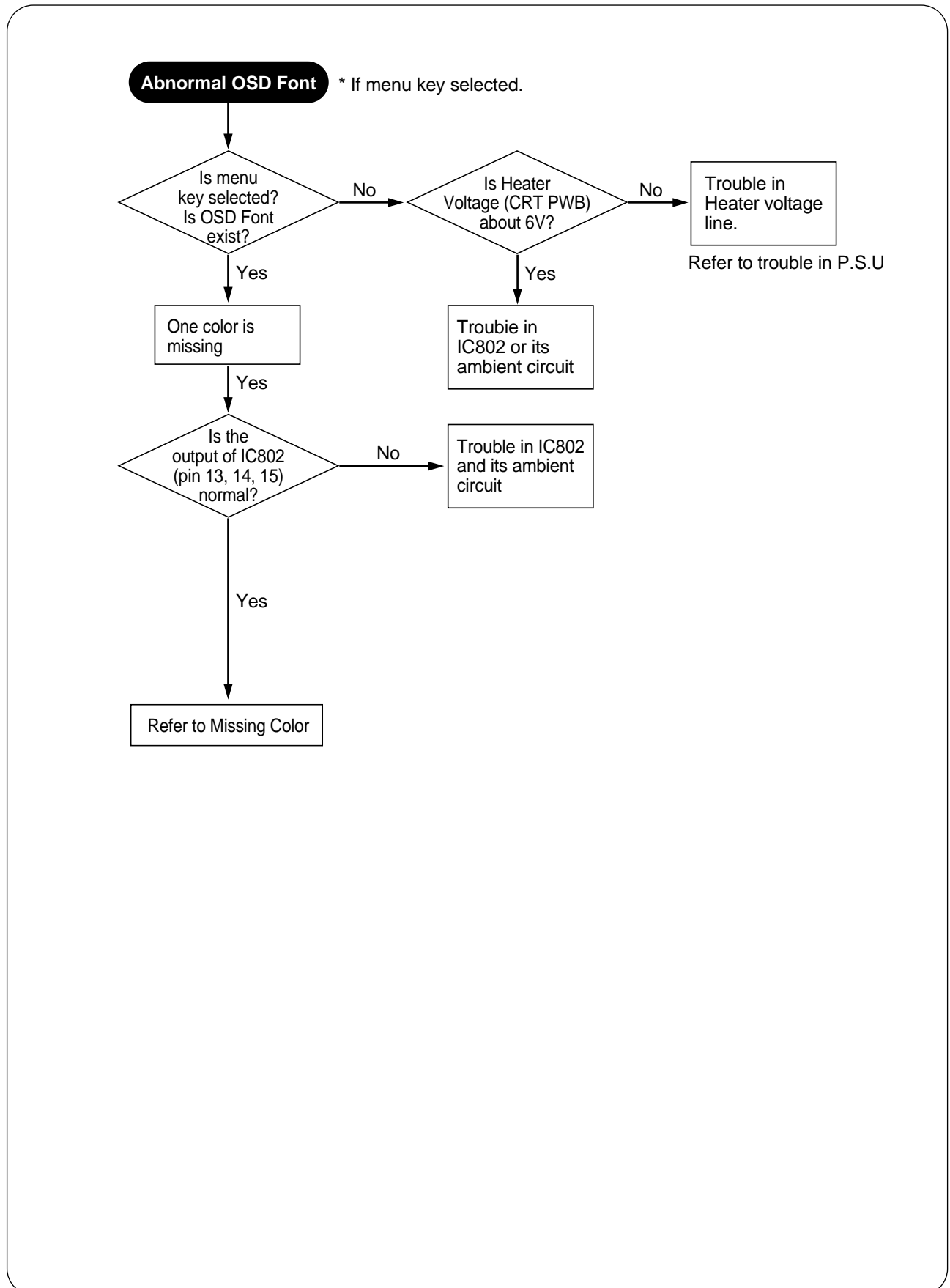
## 2. No Raster



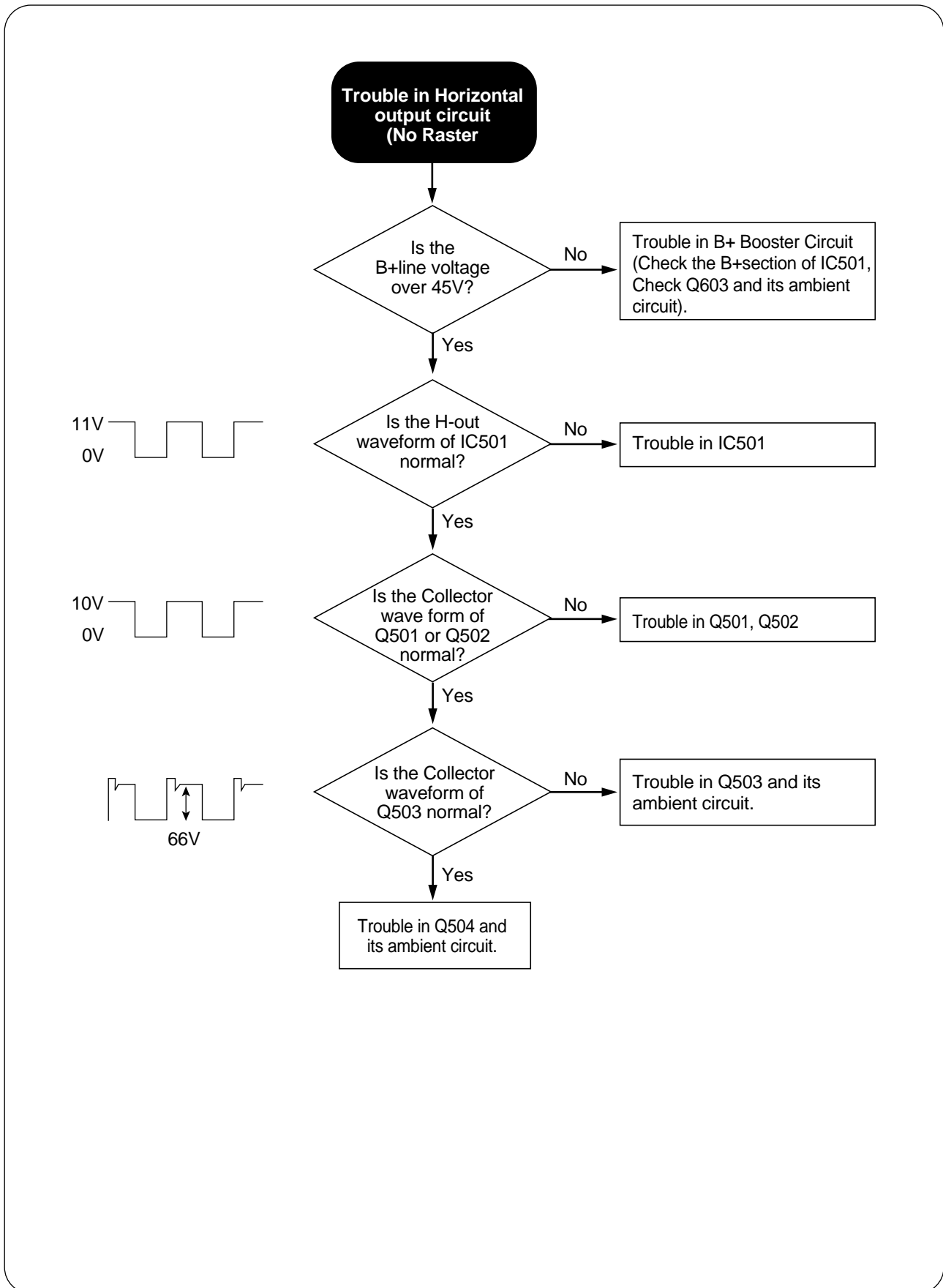
### 3. A missing Color



## 4. Abnormal OSD Font

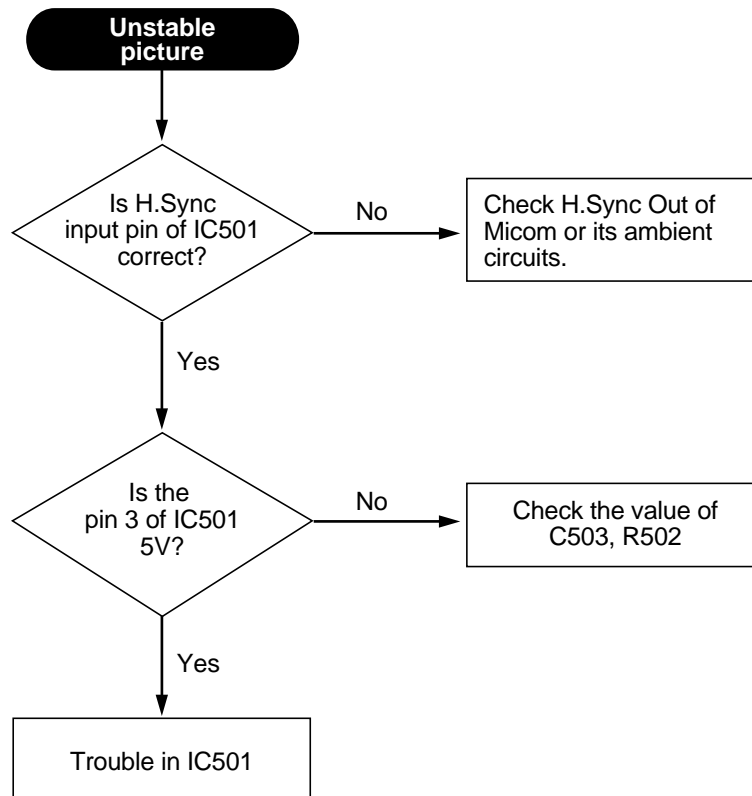


## 5. Horizontal Output Circuit

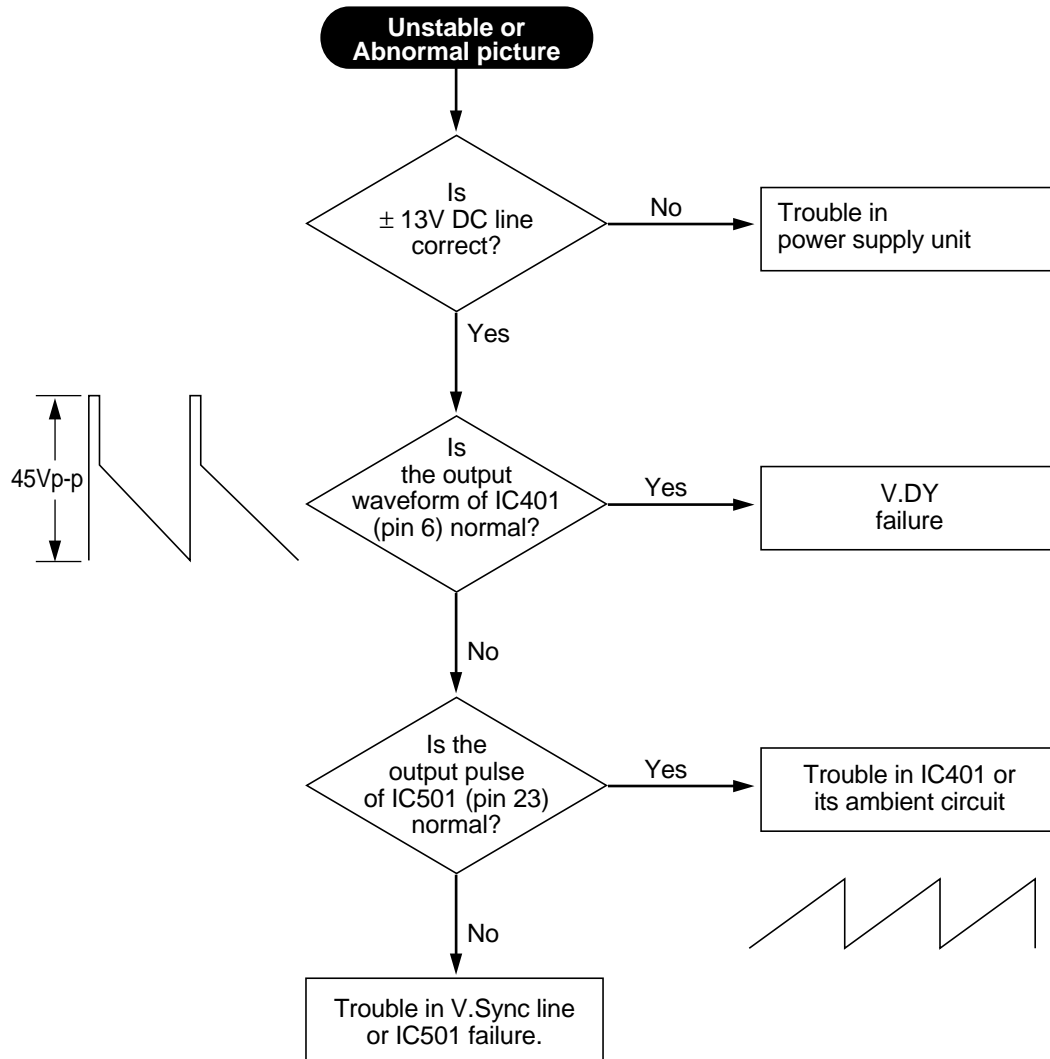


## 6. Unstable Picture

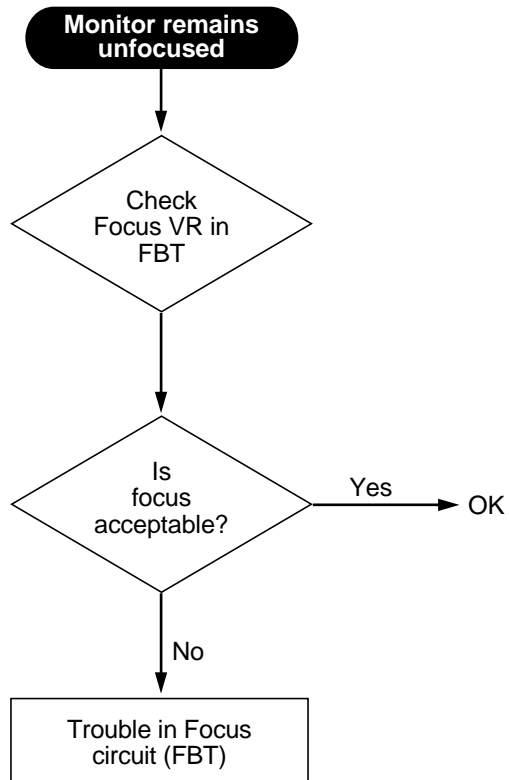
### 6-1. Horizontal



## 6-2. V.OSC/Deflection Circuit



## 7. Focus



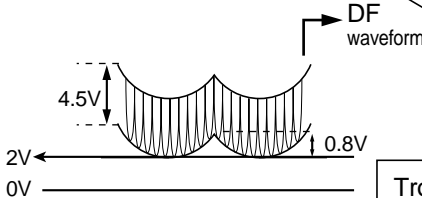
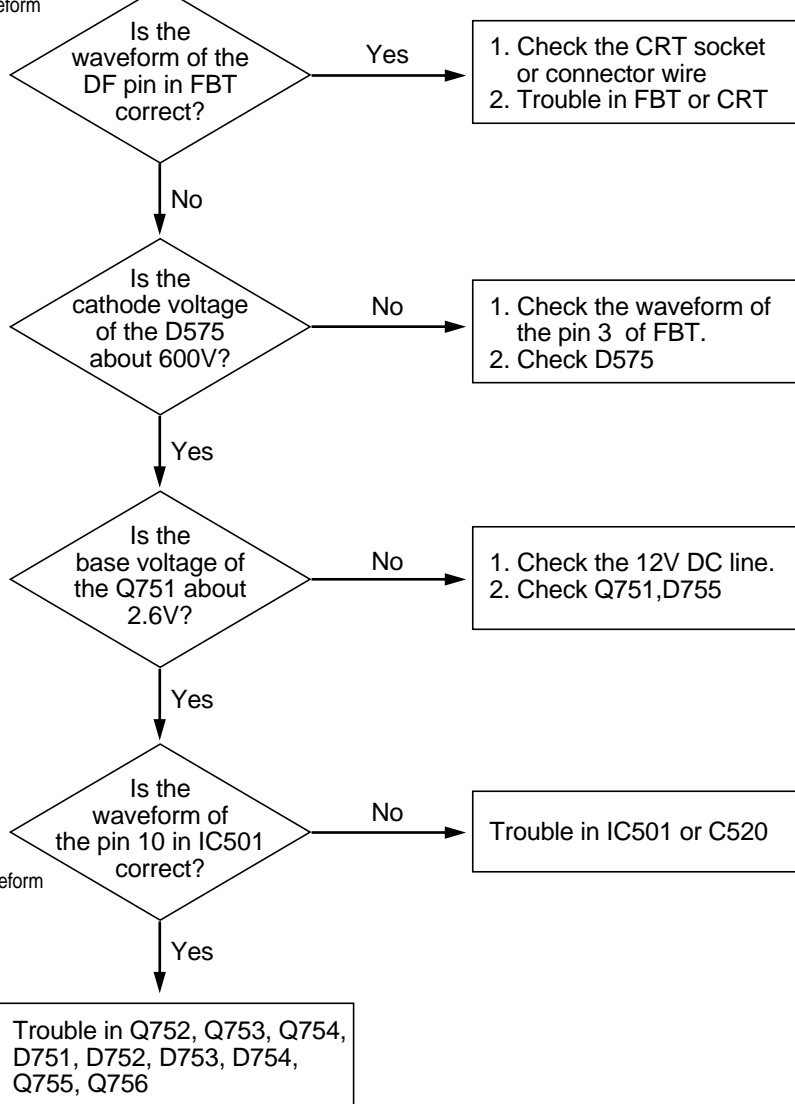
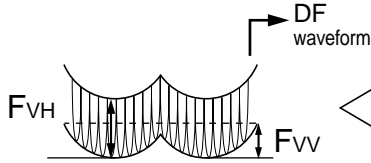


## 7-1. Dynamic Focus

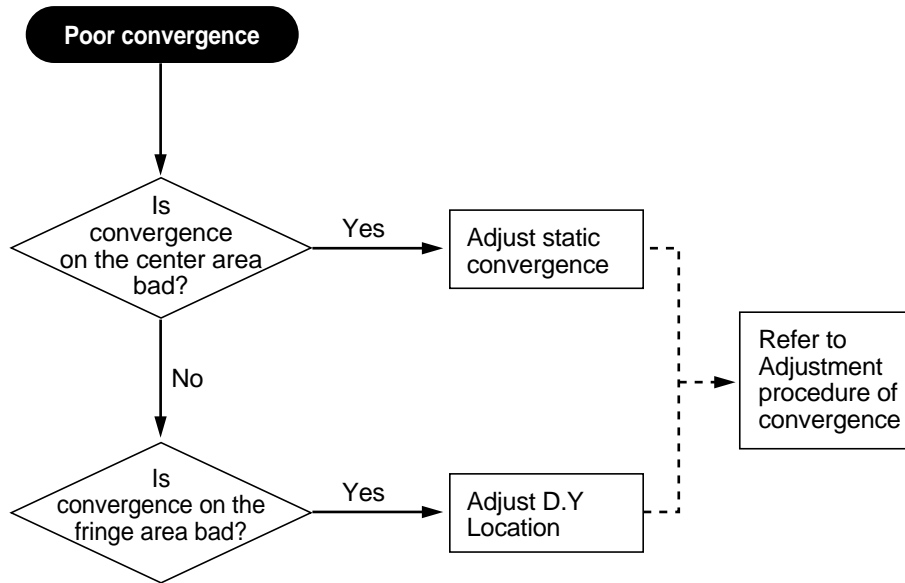
|         | F <sub>VH</sub> | F <sub>VV</sub> |
|---------|-----------------|-----------------|
| PHILIPS | : 440V          | 180V            |
| NEC     | : 300V          | 120V            |
| SAMSUNG | : 300V          | 120V            |

**Focus is poor**

\* Check after adjusting the static focus finely by VR in FBT

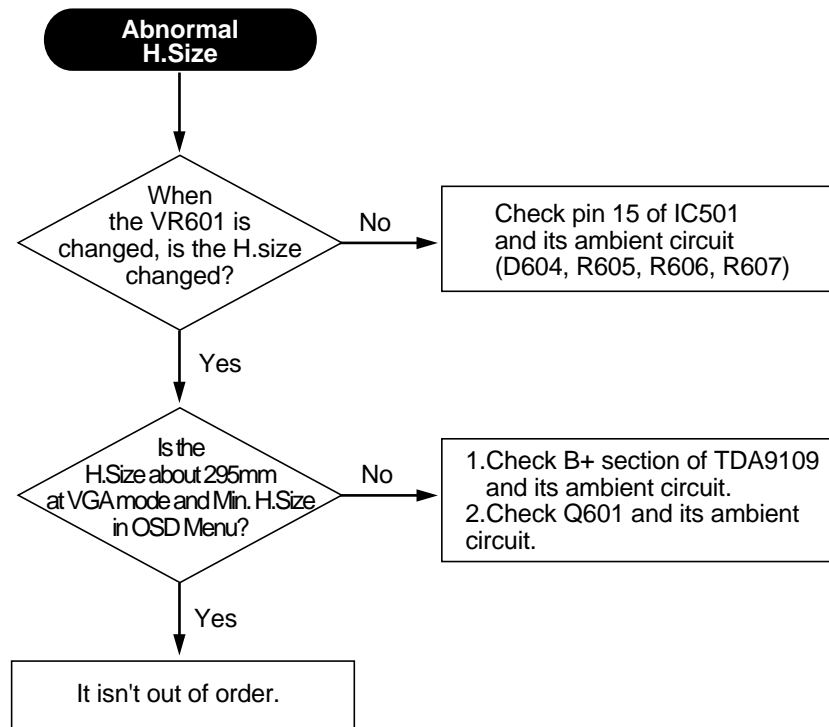


## 8. Convergence

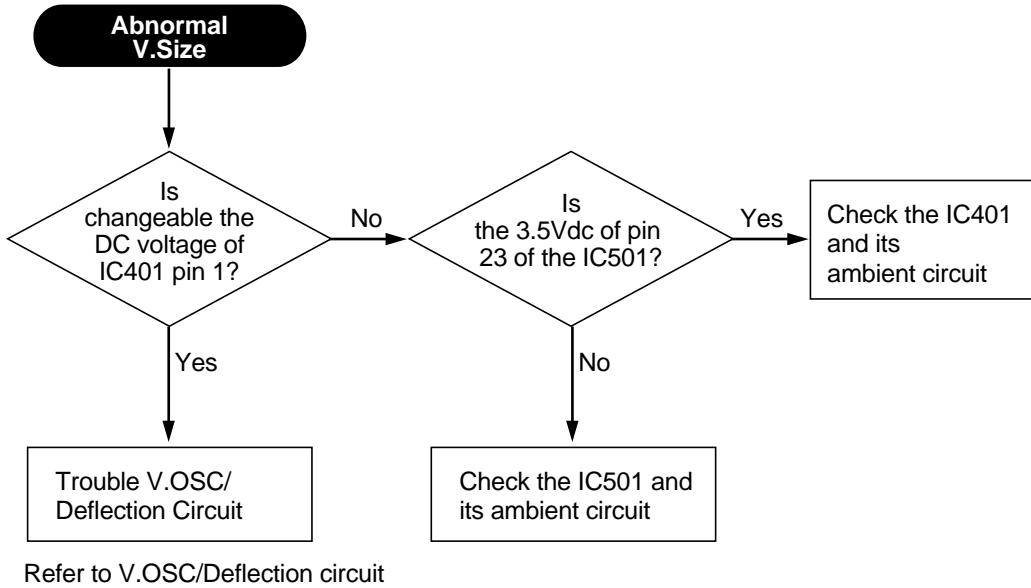


## 9. Abnormal Picture

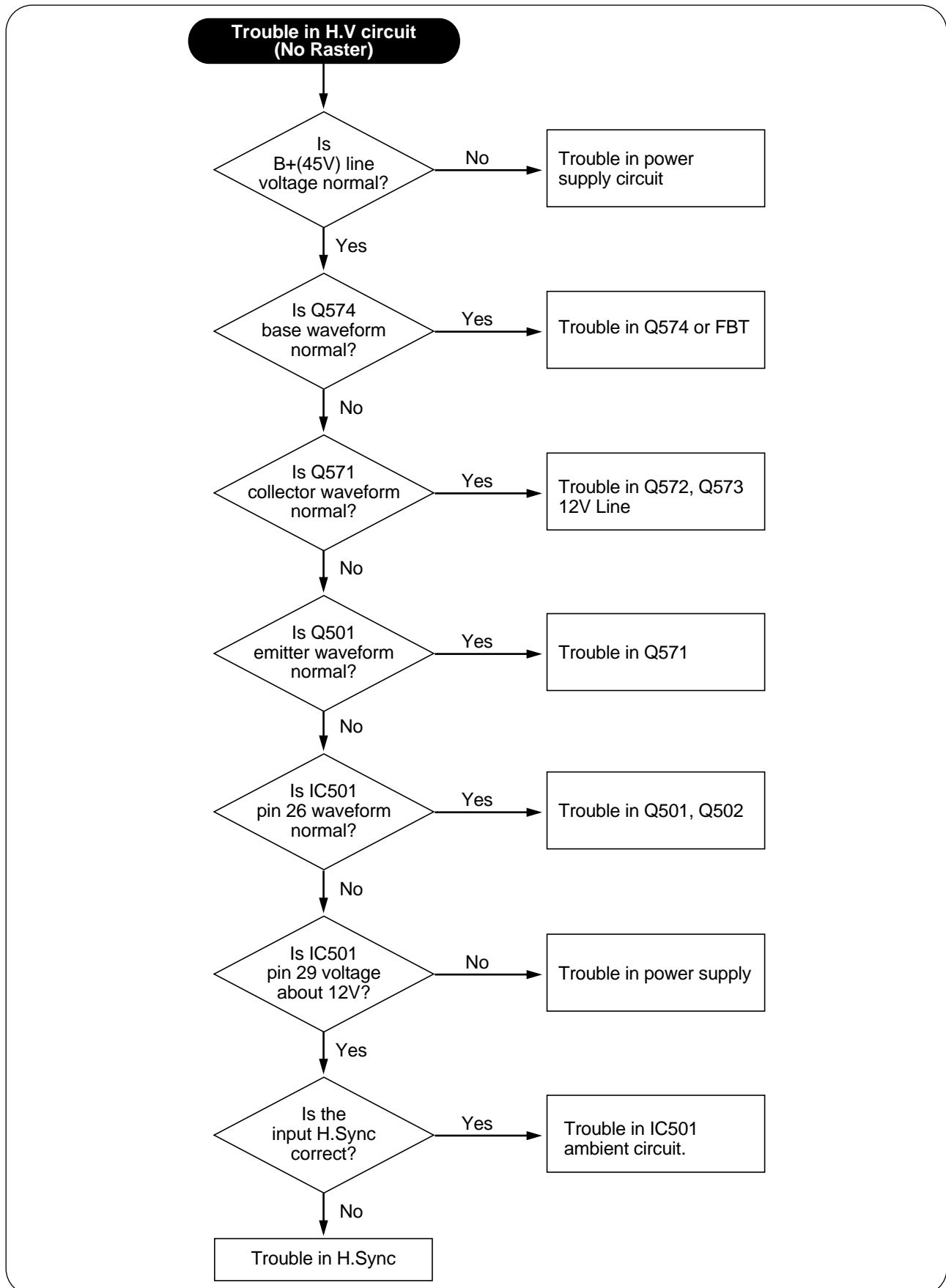
### 9-1. Horizontal Size



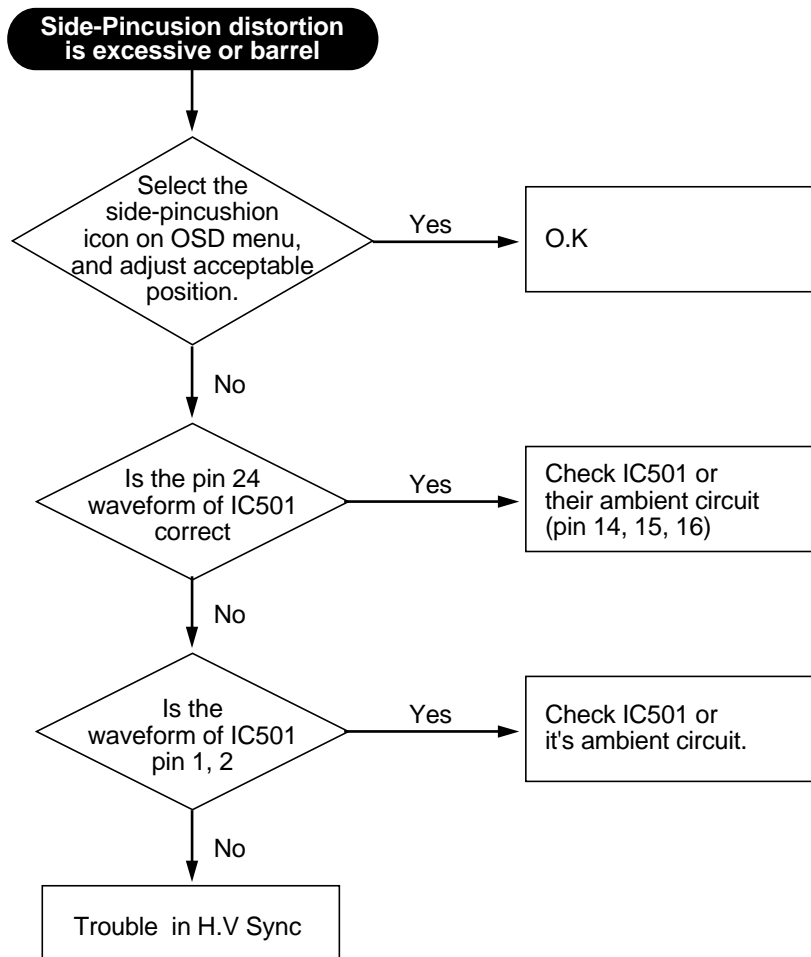
## 9-2. Vertical Size



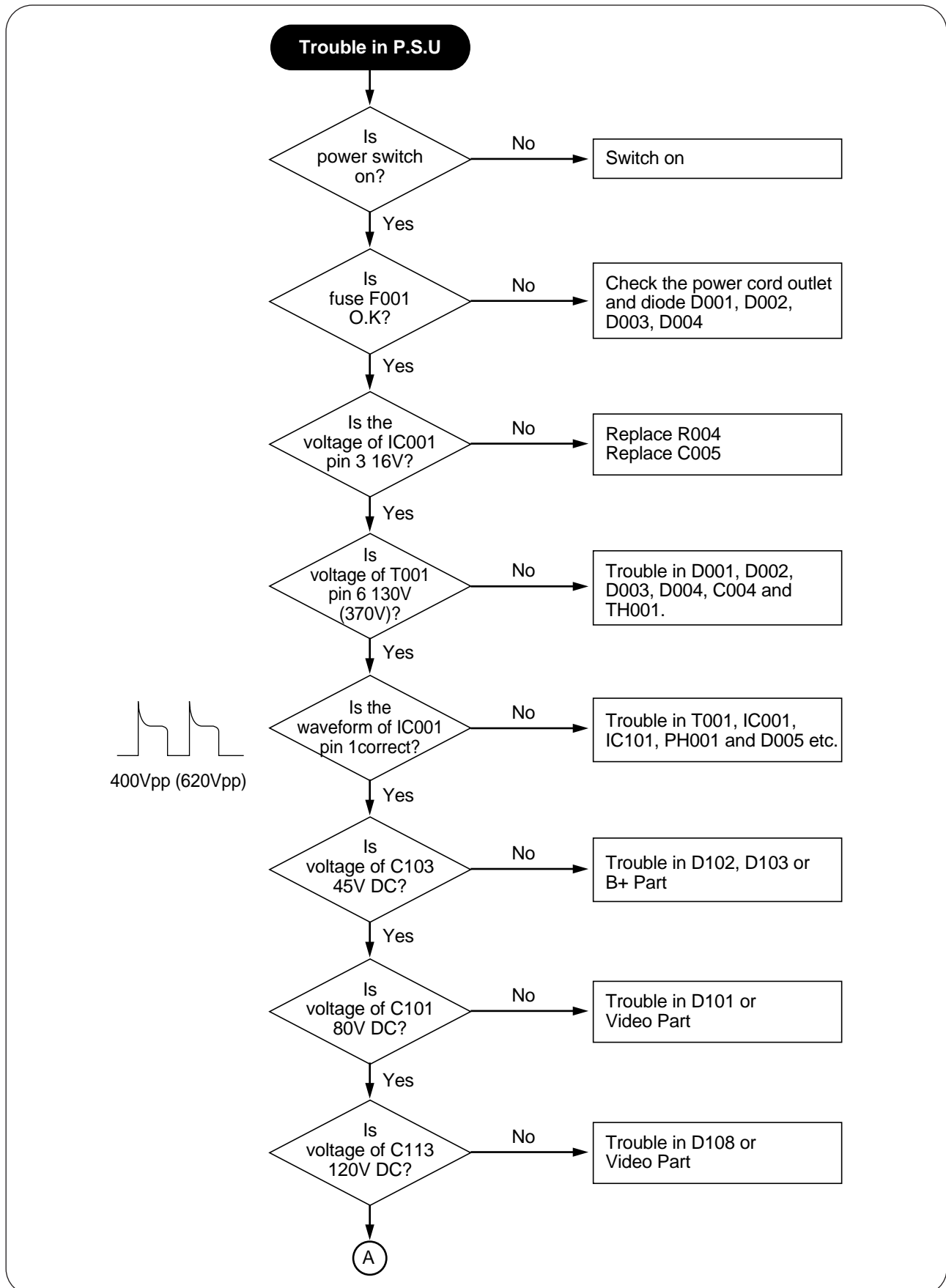
## 10. High Voltage Circuit

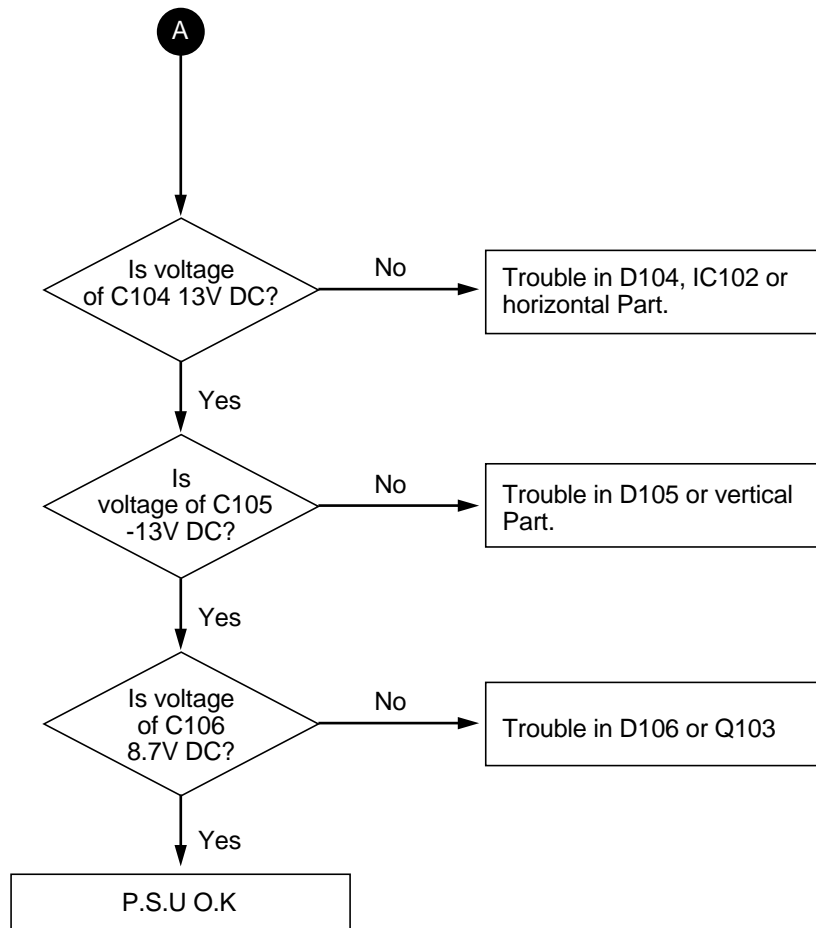


## 11. Side-Pincushion Circuit



## 12. Power Supply Unit (P.S.U)







# ALIGNMENT PROCEDURE

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## Standard Adjustment Conditions

1. Power source voltage : AC 120V, 60Hz./AC 220V, 50Hz
2. Aging : Take at least 20 minutes warm-up time.
3. Signals.
  - Video : Analog 0.7Vpp 75  $\Omega$  terminal positive polarity
  - Synchronizing : TTL level Negative/Positive Separate/Composite
  - Deflection frequency
    - Horizontal Frequency : 30KHz - 69KHz
    - Vertical Frequency : 50Hz - 160Hz

## Pre-Adjustment

1. High voltage Adjustment
  - Adjust 26 kvdc between Anode cap and ground at a cross hatch pattern of 31.5KHz by using VR551.
2. B+ Adjustment (H.min size)
  - (a) Receive a cross hatch pattern of 31.5KHz
  - (b) Set the H-Size control to the minimum.
  - (c) Adjust H-Size to 295mm by using VR601

## Main Adjustment

1. Setting the Controls
  - Set the value of items as following.
  - Contrast : Max. (OSD value up to 100)
  - Brightness : Center (Set the OSD value to 50)
2. H.size, V.size, H.phase, V.position, Pincushion, Trapezoid
  - Perceive the cross hatch pattern of Factory preset mode.
  - H.Size, V.size, H.phase, V.position, Pincushion, Trapezoid are adjusted at each mode.
  - In Factory, Auto Alignment was done at each mode. Therefore, Factory preset mode has it's own value according to each control.
3. Focus
  - (a) Set brightness control to center and contrast control to MAX.
  - (b) Receive all "H" character pattern of 60KHz mode signal.
  - (c) Adjust the Focus control of FBT to obtain best Focus (static focus and Dynamic focus).
4. Geometric Distortion Adjustment.
  - (a) Receive the cross hatch pattern of VGA mode signal by using the signal generator.
  - (b) Pin balance, Parallelogram are adjusted the best geometric status.
  - (c) Repeat the adjustment at each mode.
5. White Balance Adjustment
  - (a) Receive a full white pattern of 60KHz mode.
  - (b) Select 9300°K on the OSD Menu.
  - (c) Set the bright control and contrast control to the maximum and receive the all black pattern.
  - (d) Adjust the FBT screen VR to get the screen luminosity to 1 Ft/L.
  - (e) Select the R, G, B Bias on the OSD menu and adjust the ADJUST +/- key to get the color coordinates in X=0.281, Y=0.311
  - (f) If the screen luminosity is changed adjust the sub brightness control to get the 1 Ft/L screen luminosity.
  - (g) Set the brightness control to the center and contrast control to the maximum.
  - (h) Receive a full white pattern.
  - (i) Select the R, G, B gain on the OSD menu and adjust the ADJUST +/- key to get the color coordinates in X=0.281 $\pm$ 0.03, Y=0.311 $\pm$ 0.03
  - (j) Adjust the sub contrast control to get the screen luminosity to 34 Ft/L/
  - (k) Select 6550°K on the OSD menu and set the bright control and contrast control to the maximum and receive the all black pattern.

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(l) Repeat (e),(f),(g),(h),(i),(j).

Just a difference from 9300°K mode is color coordinates.

Set color coordinates in  $X=0.313$ ,  $Y=0.329$

#### 6. Static Convergence Adjustment

(a) Apply an magenta cross hatch pattern on display.

(b) Adjust the focus from the best over all focus on the display.

Also adjust the brightness to the desired condition.

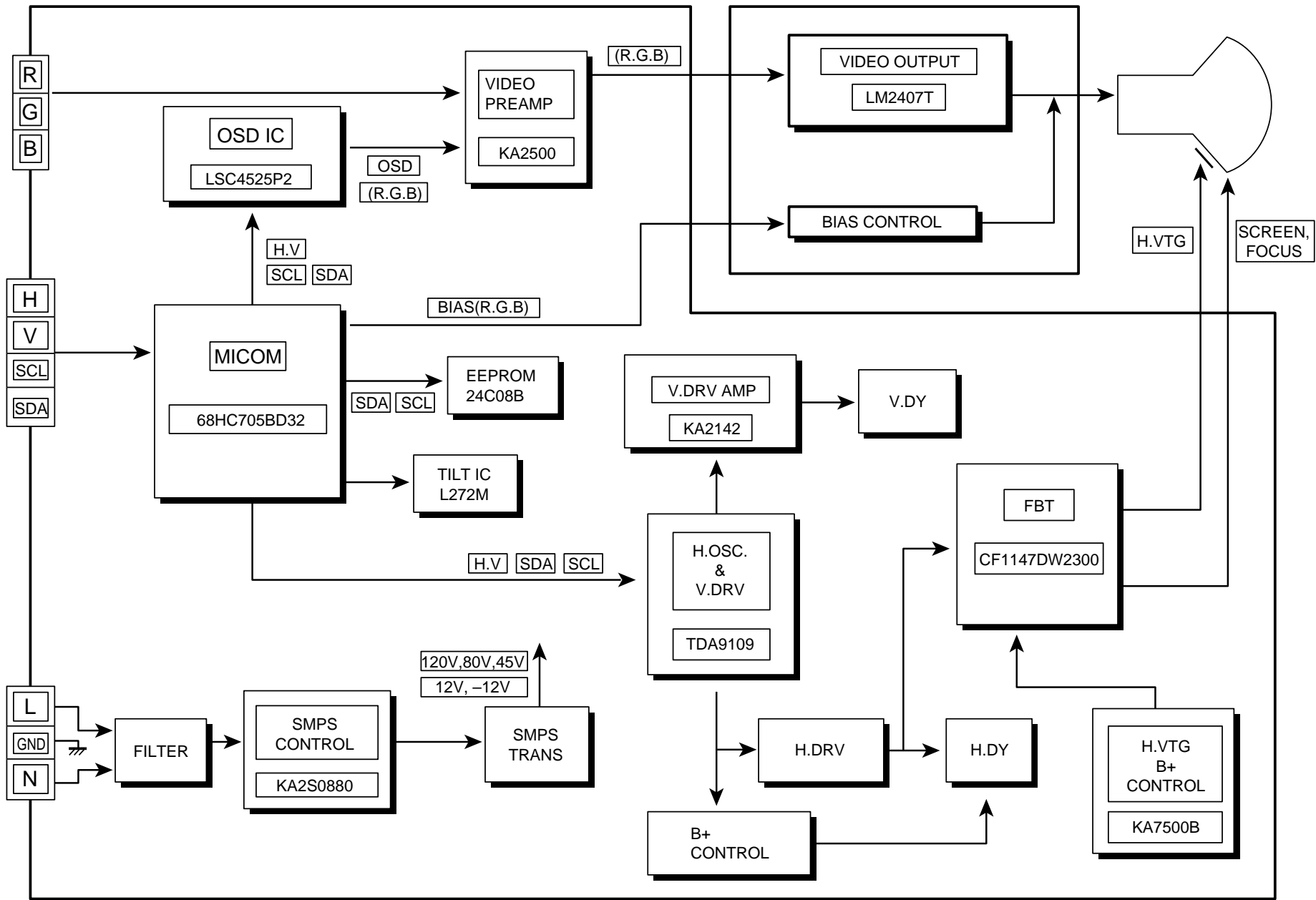
(c) Vertical red and blue lines are converged by varying the angle between the two tabs of the 4-pole magnets.

(d) Horizontal red and blue lines are converged by varying the tabs together, keeping the angle between them constant.

(e) Apply a white cross hatch pattern on display.

(f) Vertical green and magenta lines are converged by varying the the angle between the two tabs of the 6-pole magnets.

(g) Horizontal green and magenta lines are converged by varying the tabs together, keeping the angle between them constant.



## PCB LAYOUT

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Main PCB Component Side

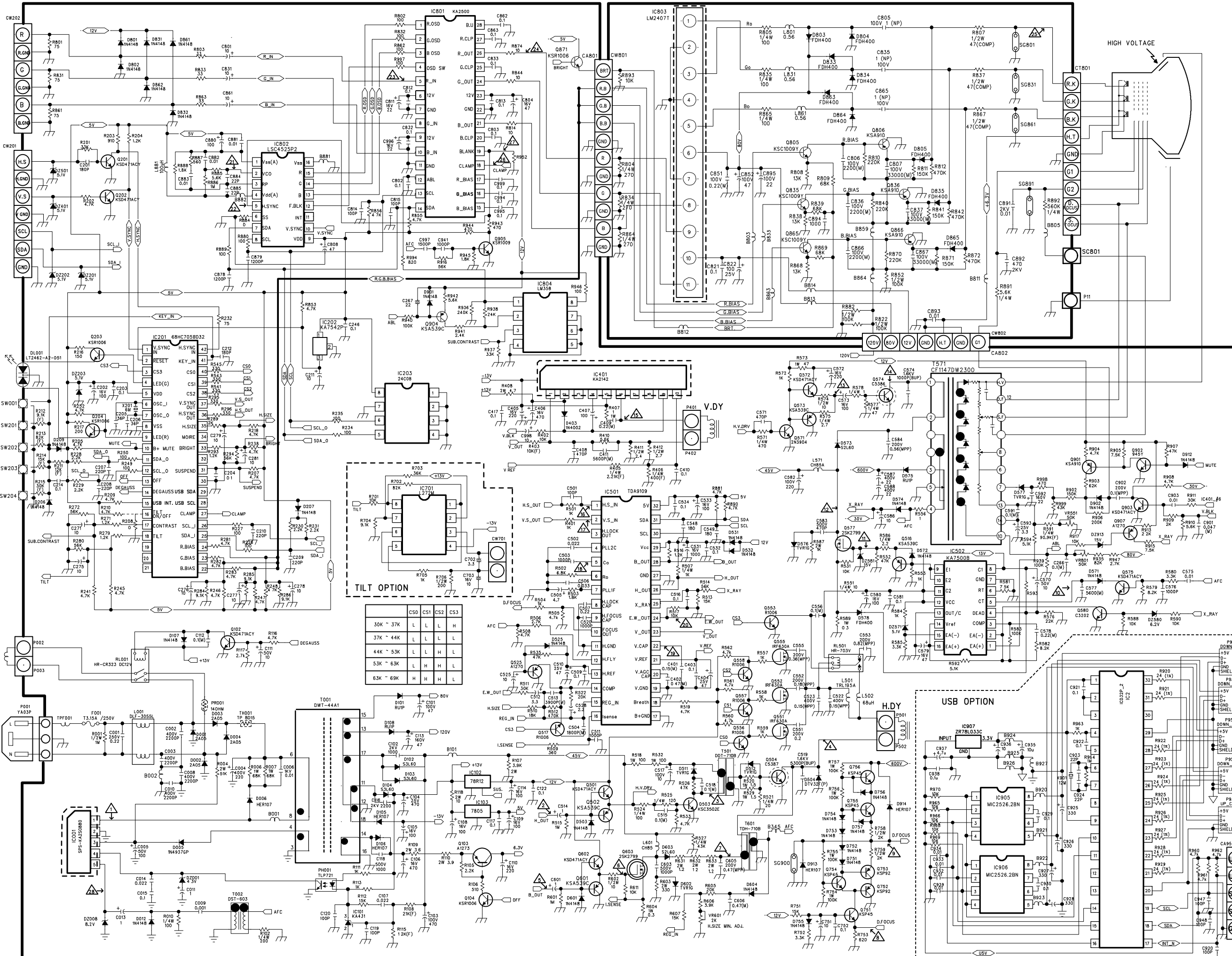
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Main PCB Solder Side

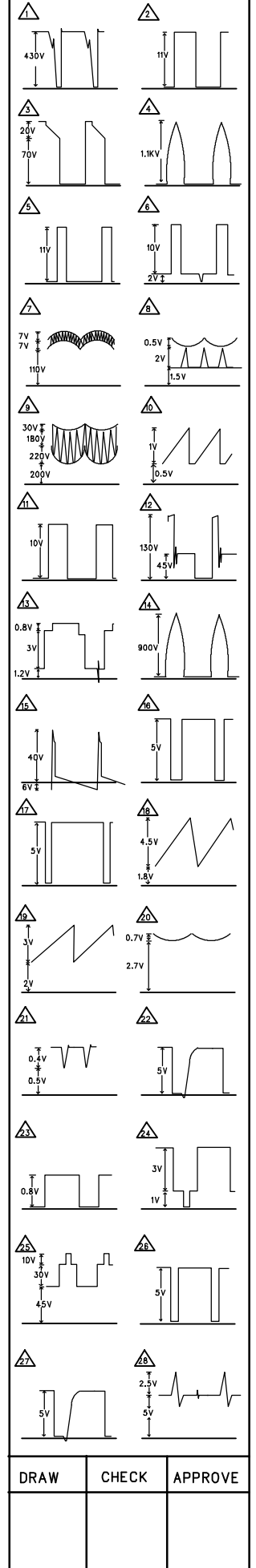
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**Video PCB Component Side**

**Video PCB Solder Side**



• TEST CONDITION  
 1. V<sub>in</sub> : 220Vac  
 2. MODE : 69KHz  
 3. PTN : F/WHITE



NOTE 1. RESISTANCE IS SHOWN IN OHM, K=1,000, M=1,000,000. (DEFAULT RATING IS 1/6W)  
 2. UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITOR VALUES LESS THAN 1 ARE EXPRESSED IN pF AND THE VALUES MORE THAN 1 IN pF (DEFAULT VOLTAGE RATING IS 50V)

3. UNLESS OTHERWISE NOTED IN SCHEMATIC ALL INDUCTOR VALUES MORE THAN 1 ARE EXPRESSED IN uH AND THE VALUES LESS THAN 1 IN H  
 4. VOLTAGES READ WITH "VTVM" FROM POINT INDICATED TO CHASSIS GROUND. USING A COLOR BAR SIGNAL  
 WITH ALL CONTROLS AT NORMAL LINE VOLTAGE 120V AC. "WARNING" 5. VOLTAGE READINGS SHOWN ARE NORMAL VALUES AND MAY VARY EXCEPT H.V.  
 6. THIS CIRCUIT DIAGRAM IS A STANDARD ONE CIRCUITS PRINTED MAY BE SUBJECT TO CHANGE FOR PRODUCT IMPROVEMENT WITHOUT PRIOR NOTICE.

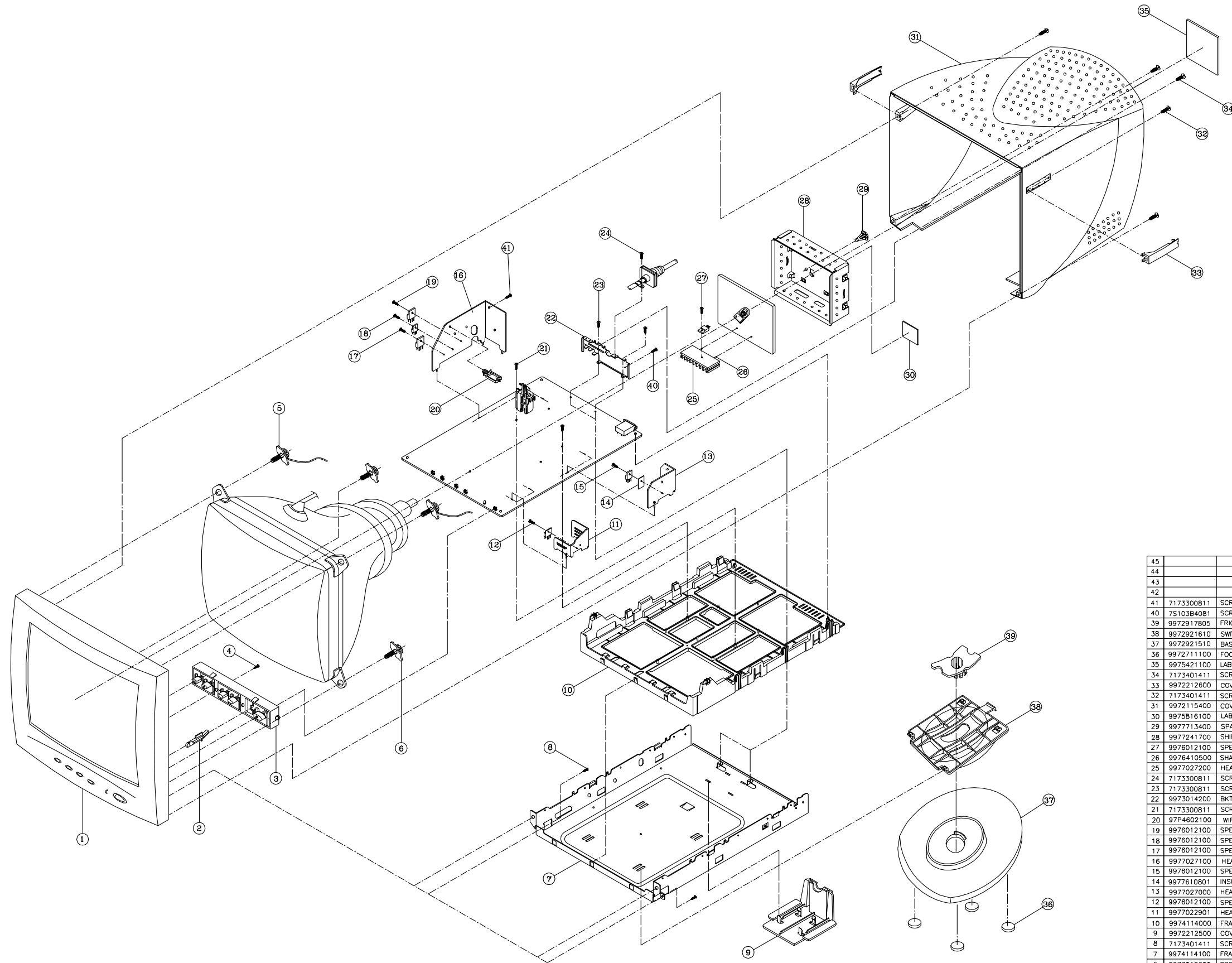
BEFORE SERVICING THIS CHASSIS READ THE "X-RAY RADIATION PRECAUTION," "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" IN THE SERVICE MANUAL. CAUTION TO THE SERVICE TECHNICIANS: BEFORE RETURNING THE RECEIVER TO THE CUSTOMER

"CAUTION" THE SHADED AREAS IN THE SCHEMATIC DIAGRAM DESIGNATE COMPONENTS WHICH HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY AND SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT OR SPECIFIED IN THE PARTS LIST. DO NOT DEGRADE THE SAFETY OF THE RECEIVER THROUGH IMPROPER SERVICING.

DRAW CHECK APPROVE

CMC-710B

# EXPLODED VIEW DIAGRAM



| NO | PART CODE  | PART NAME       | QTY | DESCRIPTION                  | REMARK              |
|----|------------|-----------------|-----|------------------------------|---------------------|
| 45 |            |                 |     |                              |                     |
| 44 |            |                 |     |                              |                     |
| 43 |            |                 |     |                              |                     |
| 42 |            |                 |     |                              |                     |
| 41 | 7173300811 | SCREW TAPTITE   | 1   | TT2 BIN 3x8 MFZN             | H/S 271 + GND       |
| 40 | 75103B4081 | SCREW SPECIAL   | 1   | M/C BIN 4x8 MFZN             | +BKT REAR(1st GND)  |
| 39 | 9972917805 | FRICION PAD     | 1   | ABS+PC ALLOY GY-275A (94HB)  |                     |
| 38 | 9972921610 | SWIVEL TABLE    | 1   | HIPS GY-275A (94-HB)         |                     |
| 37 | 9972921510 | BASE STAND      | 1   | HIPS GY-275A (94-HB)         |                     |
| 36 | 9972711100 | FOOT            | 4   | RUBBER WHITE 14              |                     |
| 35 | 9975421100 | LABEL RATING    | 1   | P.E T=0.1x98x78mm            | +REAR               |
| 34 | 7173401411 | SCREW TAPTITE   | 1   | TT2 BIN 4x14 MFZN            | BKT REAR+REAR       |
| 33 | 9972212600 | COVER SCREW     | 2   | FR-ABS GY-275A (94V-0)       | +REAR (L/R)         |
| 32 | 7173401411 | SCREW TAPTITE   | 4   | TT2 BIN 4x14 MFZN            | FRONT+REAR          |
| 31 | 9972115400 | COVER REAR      | 1   | FR-ABS GY-275A (94V-0)       |                     |
| 30 | 9975816100 | LABEL DHHS      | 1   | ART PAPER 50x40              | +SHLD CASE          |
| 29 | 9977713400 | SPACER CARD     | 1   | NYLON 66 (DASC-6N)           | +SHLD CASE          |
| 28 | 9977241700 | SHIELD CASE     | 1   | SPTH-C T=0.3                 |                     |
| 27 | 9976012100 | SPECIAL SCREW   | 1   | TT2 BIN 3x10 MFZN            | H/S 272+IC803       |
| 26 | 9976410500 | SHAFT           | 2   | SWRM SN PLATED               | +H/S 272            |
| 25 | 9977027200 | HEAT SINK 272   | 1   | A1050P-H24 H=30              | IC803               |
| 24 | 7173300811 | SCREW TAPTITE   | 1   | TT2 BIN 3x8 MFZN             | SIGNAL GND+BKT REAR |
| 23 | 7173300811 | SCREW TAPTITE   | 2   | TT2 BIN 3x8 MFZN             | BKT REAR+FRM BTM    |
| 22 | 9973014200 | BKT REAR        | 1   | EGI T=1.0                    |                     |
| 21 | 7173300811 | SCREW TAPTITE   | 2   | TT2 BIN 3x8 MFZN             | PCB+FRM PCB         |
| 20 | 97P4602100 | WIRE SADDLE     | 1   | NYLON 66(DASW-3N)            | +H/S 271            |
| 19 | 9976012100 | SPECIAL SCREW   | 1   | TT2 BIN 3x10 MFZN            | H/S 271+0574        |
| 18 | 9976012100 | SPECIAL SCREW   | 1   | TT2 BIN 3x10 MFZN            | H/S 271+0504        |
| 17 | 9976012100 | SPECIAL SCREW   | 1   | TT2 BIN 3x10 MFZN            | H/S 271+0504        |
| 16 | 9977027100 | HEAT SINK 271   | 1   | A1050P-H24 T=2.0             | 0504.D504.D574      |
| 15 | 9976012100 | SPECIAL SCREW   | 1   | TT2 BIN 3x10 MFZN            | H/S 270+IC001       |
| 14 | 9977610801 | INSULATOR       | 1   | SILICON RUBBER T=0.3x28.5x25 | +H/S 270            |
| 13 | 9977027000 | HEAT SINK 270   | 1   | A1050P-H24 T=2.0             | IC001               |
| 12 | 9976012100 | SPECIAL SCREW   | 1   | TT2 BIN 3x10 MFZN            | H/S 229+IC401       |
| 11 | 9977022901 | HEAT SINK 229   | 1   | A1050P-H24 T=2.0             | IC401               |
| 10 | 9974114000 | FRAME PCB       | 1   | FR-ABS GY-275A (94V-0)       |                     |
| 9  | 9972212500 | COVER SIGNAL    | 1   | FR-ABS GY-275A (94V-0)       |                     |
| 8  | 7173401411 | SCREW TAPTITE   | 2   | TT2 BIN 4x14 MFZN            | FRONT+FRM BTM       |
| 7  | 9974114100 | FRAME BOTTOM    | 1   | EGI T=1.0                    |                     |
| 6  | 9976012600 | SPECIAL SCREW 5 | 2   | TT2 HEX 5x21 MFZN SP         | FRONT+CRT           |
| 5  | 9976013000 | SPECIAL SCREW   | 2   | TT2 HEX 5x21 SCREW+B         | FRONT+CRT           |
| 4  | 7173301011 | SCREW TAPTITE   | 1   | TT2 BIN 3x10 MFZN            | FRONT+BUTTON TACT   |
| 3  | 9974820400 | BUTTON TACT     | 1   | FR-ABS GY-275A (94V-0)       |                     |
| 2  | 9977916200 | LENS LED        | 1   | ACRYL (CLEAR)                |                     |
| 1  | 9972018600 | COVER FRONT     | 1   | FR-ABS GY-275A (94V-0)       |                     |
| NO | PART CODE  | PART NAME       | QTY | DESCRIPTION                  | REMARK              |



# REPLACEMENT PARTS LIST

## Important Safety Notice

Components identified with the International Symbol have special characteristics important for safety. When replacing any components, use only manufacturer's specified parts.

## Abbreviation of Description

### RESISTOR Description

| Allowance |       |
|-----------|-------|
| F         | ± 1%  |
| J         | ± 5%  |
| K         | ± 10% |
| M         | ± 20% |
| G         | ± 2%  |

### Example:

| Fig & Index | Part No   | Description |
|-------------|-----------|-------------|
| R101        | Resistors |             |
|             | RE-42820J | Cabron: 82J |

### CAPACITOR Description

| Allowance |             |
|-----------|-------------|
| C         | ± 0.25pF    |
| D         | ± 0.5%      |
| F         | ± 1pF       |
| J         | ± 5%        |
| K         | ± 10%       |
| P         | ± 100% ~ 0% |
| Z         | ± 80% ~ -   |

### Example:

| Fig & Index | Part No    | Description   |
|-------------|------------|---------------|
| C102        | Capacitors |               |
|             | CCXF1H104Z | Ceramic 50V Z |
|             | CBSLH200J  | Ceramic 50V J |
| C402        | CCXB1H331K | Ceramic 50V K |

## CIRCUIT BOARD ELECTRICAL PARTS LIST

The components identified by mark  have special characteristics important for safety and x-ray radiation. These should be replaced only with the types specified in the parts list.

|   | LOC   | PART-CODE  | PART-NAME          | PART-DESC                 |
|---|-------|------------|--------------------|---------------------------|
|   | 10010 | PCFMCAJ046 | COVER FRONT AS     | CMC-710B                  |
|    | CT801 | 9979617018 | CDT                | M41QAR361X124(E)          |
|   | CT802 | 9970710176 | CRT GND AS         | 0.12*5*24+BL102NG=730     |
|    | DG001 | 5MG0000062 | COIL DEGAUSSING    | DG-710B                   |
|   | 20010 | PCMPM1J046 | PCB MAIN MANUAL AS | CMC-710B                  |
|   | CA801 | 99707A0016 | CONN AS            | SMH250-10+1007#24#28=160  |
|   | CA802 | 9970770019 | CONN AS            | SMH250-07+1007#24=220     |
|   | CN001 | 9970700123 | CONN AS            | 4.3+35404-9002+1015#18=50 |
|    | C001  | CL1UC3224M | C LINE ACROSS      | 0.22MF 1J(UCVSNDF/SV)+Q/O |
|    | C004  | CEYP2G221Z | C ELECTRO          | 400V SMH 220MF (25.4*40)  |
|   | C006  | CCYB3A103K | C CERA             | 1KV B 0.01MF K            |
|   | C103  | CEXF2A471V | C ELECTRO          | 100V RSS 470MF 16*31.5    |
|   | C402  | CMXL2A474J | C MYLAR            | MEU 100V 0.47MF J         |
|   | C406  | CEXF1C471V | C ELECTRO          | 16V RSS 470MF (10X12.5)TP |
|   | C409  | CMXM2A224J | C MYLAR            | 100V 0.22MF J             |
|   | C519  | CMYH3D532J | C MYLAR            | 2KV BUP 5300PF J BULK     |
|   | C553  | CMXF2D824J | C MYLAR            | MPP 200V 0.82MF J         |
|   | C578  | CMXM2A224J | C MYLAR            | 100V 0.22MF J             |
|   | DL001 | DLT2462A2D | LED                | LT2462-A2-D51             |
|   | D102  | DS3L60---- | DIODE              | S3L60                     |
|   | D103  | DS3L60---- | DIODE              | S3L60                     |
|   | D104  | DS3L60---- | DIODE              | S3L60                     |
|  | F001  | 5F3CB3122L | FUSE CERA          | SEMKO TL 3.15A 250V MF51  |
|  | IC001 | 1KA2S0880- | IC POWER           | KA2S0880                  |
|   | IC102 | 1KA78R12-- | IC REGULATOR       | KA78R12                   |
|   | IC103 | 1K1A7805P1 | IC REGULATOR       | KIA7805PI                 |
|   | IC201 | 1DWM209T-- | IC MICOM           | 68HC705BD32               |
|   | IC401 | 1KA2142--- | IC V-OUT           | KA2142                    |
|   | IC501 | 1TDA9109-- | IC H.OSC           | TDA9109                   |
|   | IC801 | 1KA2500--- | IC                 | KA2500                    |
|  | L001  | 5PDLF3055- | FILTER LINE        | DLF-3055L                 |
|   | L501  | 5MH0000051 | COIL H-LINEARITY   | TRL-195A                  |
|   | L502  | 5MC0000069 | COIL CHOKE         | 33UH K BULK(14*16)        |
|   | L571  | 5MC0000068 | COIL CHOKE         | CH-85A                    |
|   | L601  | 5MC0000065 | COIL CHOKE         | CH-85                     |
|   | PH001 | 1TLP721GR- | IC PHOTO COUPLER   | TLP721D4GR                |
|  | P001  | 9979500014 | RECEPTACLE         | YA03P/FILTER EMI          |
|   | Q503  | TKSC3502E- | TR                 | KSC3502E                  |

| LOC  | PART-CODE  | PART-NAME  | PART-DESC       |
|------|------------|------------|-----------------|
| D504 | DDTV32F--- | DIODE      | DTV32F          |
| Q504 | T2SC5387-- | TR H.OUT   | 2SC5387         |
| Q574 | TKSC5386-- | TR         | KSC5386         |
| Q551 | T1RF630ATS | FET        | IRF630A-TSTU    |
| Q552 | T1RF630ATS | FET        | IRF630A-TSTU    |
| Q555 | T1RF630ATS | FET        | IRF630A-TSTU    |
| Q577 | T2SK2799-- | FET        | 2SK2799         |
| Q603 | T2SK2799-- | FET        | 2SK2799         |
| ⚠    | RL001      | 5SC0201103 | SW RELAY        |
|      | RL501      | 5SC0101031 | SW RELAY        |
|      | R754       | RS01Z104J- | R M-OXIDE FILM  |
|      | SG900      | 4SG0D00104 | SPARK GAP       |
|      | SW001      | 5S50101Z01 | SW TACT         |
|      | S001       | 9970800015 | CABLE SIGNAL AS |
| ⚠    | TH001      | DTP8D15--- | THERMISTOR      |
| ⚠    | T001       | 5RM0000090 | TRANS SMPS      |
|      | T002       | 5RY0000002 | TRANS SYNC      |
|      | T501       | 5RD0000037 | TRANS DRIVE     |
|      | T571       | 5RH0000105 | FBT             |
|      | T601       | 5RF0000003 | TRANS DUMMY     |
|      | 30010      | PCMPJ1J046 | PCB SMD AS      |
|      | C015       | HCFK104ZCA | C CHIP CERA     |
|      | C117       | HCFK104ZCA | C CHIP CERA     |
|      | C119       | HCQK101JCA | C CHIP CERA     |
|      | C120       | HCQK101JCA | C CHIP CERA     |
|      | C122       | HCFK104ZCA | C CHIP CERA     |
|      | C203       | HCFK104ZCA | C CHIP CERA     |
|      | C204       | HCFK104ZCA | C CHIP CERA     |
|      | C205       | HCQK360JCA | C CHIP CERA     |
|      | C206       | HCQK360JCA | C CHIP CERA     |
|      | C212       | HCQK181JCA | C CHIP CERA     |
|      | C403       | HCFK104ZCA | C CHIP CERA     |
|      | C502       | HCBK223KCA | C CHIP CERA     |
|      | C503       | HCQK102JCA | C CHIP CERA     |
|      | C506       | HCFK333ZCA | C CHIP CERA     |
|      | C507       | HCFK224ZCA | C CHIP CERA     |
|      | C520       | HCQK102JCA | C CHIP CERA     |
|      | C532       | HCFK104ZCA | C CHIP CERA     |
|      | C549       | HCQK181JCA | C CHIP CERA     |
|      | C581       | HCFK104ZCA | C CHIP CERA     |

| LOC  | PART-CODE  | PART-NAME   | PART-DESC             |
|------|------------|-------------|-----------------------|
| C802 | HCFK104ZCA | C CHIP CERA | 50V Y5V 0.1MF Z 2012  |
| C803 | HCFK104ZCA | C CHIP CERA | 50V Y5V 0.1MF Z 2012  |
| C812 | HCFK104ZCA | C CHIP CERA | 50V Y5V 0.1MF Z 2012  |
| C813 | HCFK104ZCA | C CHIP CERA | 50V Y5V 0.1MF Z 2012  |
| C814 | HCQK101JCA | C CHIP CERA | 50V CH 100PF J 2012   |
| C815 | HCQK101JCA | C CHIP CERA | 50V CH 100PF J 2012   |
| C832 | HCFK104ZCA | C CHIP CERA | 50V Y5V 0.1MF Z 2012  |
| C833 | HCFK104ZCA | C CHIP CERA | 50V Y5V 0.1MF Z 2012  |
| C862 | HCFK104ZCA | C CHIP CERA | 50V Y5V 0.1MF Z 2012  |
| C863 | HCFK104ZCA | C CHIP CERA | 50V Y5V 0.1MF Z 2012  |
| C878 | HCQK122JCA | C CHIP CERA | 50V CH 1200PF J 2012  |
| C879 | HCQK122JCA | C CHIP CERA | 50V CH 1200PF J 2012  |
| C881 | HCFK103ZCA | C CHIP CERA | 50V Y5V 0.01MF Z 2012 |
| C882 | HCFK103ZCA | C CHIP CERA | 50V Y5V 0.01MF Z 2012 |
| C883 | HCFK103ZCA | C CHIP CERA | 50V Y5V 0.01MF Z 2012 |
| C884 | HCQK220JCA | C CHIP CERA | 50V CH 22PF J 2012    |
| C885 | HCQK220JCA | C CHIP CERA | 50V CH 22PF J 2012    |
| R117 | HRFT272JCA | R CHIP      | 1/10 2.7K OHM J 2012  |
| R205 | HRFT472JCA | R CHIP      | 1/10 4.7K OHM J 2012  |
| R208 | HRFT000JCA | R CHIP      | 1/10 0 OHM J 2012     |
| R209 | HRFT472JCA | R CHIP      | 1/10 4.7K OHM J 2012  |
| R210 | HRFT472JCA | R CHIP      | 1/10 4.7K OHM J 2012  |
| R216 | HRFT151JCA | R CHIP      | 1/10 150 OHM J 2012   |
| R217 | HRFT201JCA | R CHIP      | 1/10 200 OHM J 2012   |
| R218 | HRFT472JCA | R CHIP      | 1/10 4.7K OHM J 2012  |
| R228 | HRFT222JCA | R CHIP      | 1/10 2.2K OHM J 2012  |
| R234 | HRFT101JCA | R CHIP      | 1/10 100 OHM J 2012   |
| R235 | HRFT101JCA | R CHIP      | 1/10 100 OHM J 2012   |
| R238 | HRFT472JCA | R CHIP      | 1/10 4.7K OHM J 2012  |
| R246 | HRFT472JCA | R CHIP      | 1/10 4.7K OHM J 2012  |
| R247 | HRFT472JCA | R CHIP      | 1/10 4.7K OHM J 2012  |
| R248 | HRFT472JCA | R CHIP      | 1/10 4.7K OHM J 2012  |
| R252 | HRFT472JCA | R CHIP      | 1/10 4.7K OHM J 2012  |
| R272 | HRFT563JCA | R CHIP      | 1/10 56K OHM J 2012   |
| R284 | HRFT912JCA | R CHIP      | 1/10 9.1K OHM J 2012  |
| R285 | HRFT912JCA | R CHIP      | 1/10 9.1K OHM J 2012  |
| R286 | HRFT912JCA | R CHIP      | 1/10 9.1K OHM J 2012  |
| R289 | HRFT202JCA | R CHIP      | 1/10 2K OHM J 2012    |
| R502 | HRFT682JCA | R CHIP      | 1/10 6.8K OHM J 2012  |
| R505 | HRFT472JCA | R CHIP      | 1/10 4.7K OHM J 2012  |

| LOC  | PART-CODE  | PART-NAME             | PART-DESC                 |
|--|------------|-----------------------|---------------------------|
| R506   | HRFT272JCA | R CHIP                | 1/10 2.7K OHM J 2012      |
| R508   | HRFT472JCA | R CHIP                | 1/10 4.7K OHM J 2012      |
| R513   | HRFT153JCA | R CHIP                | 1/10 15K OHM J 2012       |
| R515   | HRFT105JCA | R CHIP                | 1/10 1M OHM J 2012        |
| R516   | HRFT122JCA | R CHIP                | 1/10 1.2K OHM J 2012      |
| R517   | HRFT103JCA | R CHIP                | 1/10 10K OHM J 2012       |
| R531   | HRFT103JCA | R CHIP                | 1/10 10K OHM J 2012       |
| R576   | HRFT223JCA | R CHIP                | 1/10 22K OHM J 2012       |
| R581   | HRFT752JCA | R CHIP                | 1/10 7.5K OHM J 2012      |
| R753   | HRFT621JCA | R CHIP                | 1/10 620 OHM J 2012       |
| R801   | HRFT750JCA | R CHIP                | 1/10 75 OHM J 2012        |
| R831   | HRFT750JCA | R CHIP                | 1/10 75 OHM J 2012        |
| R853   | HRFT472JCA | R CHIP                | 1/10 4.7K OHM J 2012      |
| R856   | HRFT472JCA | R CHIP                | 1/10 4.7K OHM J 2012      |
| R861   | HRFT750JCA | R CHIP                | 1/10 75 OHM J 2012        |
| R880   | HRFT101JCA | R CHIP                | 1/10 100 OHM J 2012       |
| R885   | HRFT562JCA | R CHIP                | 1/10 5.6K OHM J 2012      |
| R886   | HRFT105JCA | R CHIP                | 1/10 1M OHM J 2012        |
| R887   | HRFT561JCA | R CHIP                | 1/10 560 OHM J 2012       |
| R888   | HRFT182JCA | R CHIP                | 1/10 1.8K OHM J 2012      |
| R889   | HRFT101JCA | R CHIP                | 1/10 100 OHM J 2012       |
| R890   | HRFT472JCA | R CHIP                | 1/10 4.7K OHM J 2012      |
| R936   | HRFT244JCA | R CHIP                | 1/10 240K OHM J 2012      |
| R938   | HRFT243JCA | R CHIP                | 1/10 24K OHM J 2012       |
| R942   | HRFT562JCA | R CHIP                | 1/10 5.6K OHM J 2012      |
| 40010  | PCMPJ0J046 | PCB MAIN ODD SHAPE AS | CMC-710B                  |
| CW201  | 485923282S | CONN WAFER            | 5267-07A STICK TYPE       |
| CW202  | 485923272S | CONN WAFER            | 5267-06A STICK TYPE       |
|  C002 | CH1FDF222M | C CERA AC             | HIKB AC400V 222M          |
|  C003 | CH1FDF222M | C CERA AC             | HIKB AC400V 222M          |
|  C008 | CH1FDF222M | C CERA AC             | HIKB AC400V 222M          |
|  C010 | CH1FDF222M | C CERA AC             | HIKB AC400V 222M          |
| C101   | CEXF2A470V | C ELECTRO             | 100V RSS 47MF (10X16) TP  |
| C102   | CCXB3D102K | C CERA                | 2KV B 1000PF K (TAPPING)  |
| C104   | CEXF1E471V | C ELECTRO             | 25V RSS 470MF (10X16) TP  |
| C106   | CEXF1C471V | C ELECTRO             | 16V RSS 470MF (10X12.5)TP |
| C113   | CEXF2C470V | C ELECTRO             | 160V RSS 47MF (13X25) TP  |
| C116   | CCXB3D222K | C CERA                | HIKB 2KV 2200PF K         |
| C522   | CMXF2G184J | C MYLAR               | MPP 400V 0.18MF J         |
| C523   | CMXF2G154J | C MYLAR               | MPP 400V 0.15MF J         |

| LOC  | PART-CODE  | PART-NAME   | PART-DESC                       |
|------|------------|-------------|---------------------------------|
| C531 | CEXF1C102V | C ELECTRO   | 16V RSS 1000MF (10X20) TP       |
| C551 | CMXF2D204J | C MYLAR     | MPP 200V 0.2MF J (TP)           |
| C552 | CMXF2D184J | C MYLAR     | MPP 200V 0.18MF J (TP)          |
| C555 | CMXF2D334J | C MYLAR     | 200V MPP 0.33MF J (TP)          |
| C574 | CMXH3C102J | C MYLAR     | 1.6KV BUP 1000PF J              |
| C582 | CEXF2A221V | C ELECTRO   | 100V RSS 220MF (16X25) TP       |
| C584 | CMXF2D564J | C MYLAR     | MPP 200V 0.56MF J               |
| C587 | CEXF2G220D | C ELECTRO   | 400V KMG 22MF(12.5*25) TP       |
| C588 | CEXF2G220D | C ELECTRO   | 400V KMG 22MF(12.5*25) TP       |
| C592 | CEXF2C220V | C ELECTRO   | 160V RSS 22MF (10X20) TP        |
| C605 | CMXF2D474J | C MYLAR     | MPP 200V 0.47MF J               |
| C902 | CMXF2D104J | C MYLAR     | MPP 200V 0.1MF J                |
| ⚠    | D001       | D2A05-----  | DIODE<br>2A05                   |
| ⚠    | D002       | D2A05-----  | DIODE<br>2A05                   |
| ⚠    | D003       | D2A05-----  | DIODE<br>2A05                   |
| ⚠    | D004       | D2A05-----  | DIODE<br>2A05                   |
|      | D005       | D1N4937GP-  | DIODE<br>1N4937GP (TAPPING)     |
|      | D006       | DDHER107--- | DIODE<br>HER107                 |
|      | D101       | DRU1P-----  | DIODE<br>RU 1P (TAPPING)        |
|      | D105       | DDHER107--- | DIODE<br>HER107                 |
|      | D106       | DDHER107--- | DIODE<br>HER107                 |
|      | D108       | DRU1P-----  | DIODE<br>RU 1P (TAPPING)        |
|      | D403       | D1N4002A--  | DIODE<br>1N4002                 |
|      | D511       | DTVR1G----  | DIODE<br>TVR1G TPA1             |
|      | D512       | DTVR1G----  | DIODE<br>TVR1G TPA1             |
|      | D573       | DS2L60---R  | DIODE<br>S2L60                  |
|      | D575       | DRU1P-----  | DIODE<br>RU 1P (TAPPING)        |
|      | D576       | DTVR1G----  | DIODE<br>TVR1G TPA1             |
|      | D577       | DTVR1G----  | DIODE<br>TVR1G TPA1             |
|      | D602       | DTVR1G----  | DIODE<br>TVR1G TPA1             |
|      | D603       | DS2L60---R  | DIODE<br>S2L60                  |
|      | D913       | DDHER107--- | DIODE<br>HER107                 |
|      | D914       | DDHER107--- | DIODE<br>HER107                 |
|      | IC203      | 1M24C08BN6  | IC EEPROM<br>M24C08BN6          |
|      | IC502      | 1KA7500B--  | IC<br>KA7500B                   |
|      | IC802      | 1LSC4525P2  | IC OSD<br>LSC4525P2             |
|      | IC804      | 1LM358N---  | IC OP AMP<br>LM358N             |
|      | PR001      | DECPAC140M  | POSISTOR<br>ECPAC140M290        |
|      | P002       | 9977410800  | TERMINAL PIN<br>BSP1(SN) L=15MM |
|      | P003       | 9977410800  | TERMINAL PIN<br>BSP1(SN) L=15MM |

| LOC   | PART-CODE  | PART-NAME          | PART-DESC                 |
|-------|------------|--------------------|---------------------------|
| P401  | 9977410800 | TERMINAL PIN       | BSP1(SN) L=15MM           |
| P402  | 9977410800 | TERMINAL PIN       | BSP1(SN) L=15MM           |
| P403  | 9977410800 | TERMINAL PIN       | BSP1(SN) L=15MM           |
| P501  | 9977410800 | TERMINAL PIN       | BSP1(SN) L=15MM           |
| P502  | 9977410800 | TERMINAL PIN       | BSP1(SN) L=15MM           |
| P503  | 9977410800 | TERMINAL PIN       | BSP1(SN) L=15MM           |
| P504  | 9977410800 | TERMINAL PIN       | BSP1(SN) L=15MM           |
| R004  | RS02Z513J- | R M-OXIDE FILM     | 2W 51K OHM J              |
| R006  | RS01Z683J- | R M-OXIDE FILM     | 1W 68K OHM J (TAPPING)    |
| R007  | RS01Z683J- | R M-OXIDE FILM     | 1W 68K OHM J (TAPPING)    |
| R107  | RS02Z392J- | R M-OXIDE FILM     | 2W 3.9K OHM J (TAPPING)   |
| R109  | RS02Z369J- | R M-OXIDE FILM     | 2W 3.6 OHM J (TAPPING)    |
| R110  | RS02Z399J- | R M-OXIDE FILM     | 2W 3.9 OHM J              |
| R118  | RS02Z100J- | R M-OXIDE FILM     | 2W 10 OHM J (TAPPING)     |
| R407  | RS01Z109J- | R M-OXIDE FILM     | 1W 1 OHM J (TAPPING)      |
| R408  | RS02Z479J- | R M-OXIDE FILM     | 2W 4.7 OHM J (TAPPING)    |
| R518  | RS01Z101J- | R M-OXIDE FILM     | 1W 100 OHM J (TAPPING)    |
| R520  | RS01Z159J- | R M-OXIDE FILM     | 1W 1.5 OHM J (TAPPING)    |
| R529  | RS01Z159J- | R M-OXIDE FILM     | 1W 1.5 OHM J (TAPPING)    |
| R532  | RS01Z101J- | R M-OXIDE FILM     | 1W 100 OHM J (TAPPING)    |
| R554  | RS01Z471J- | R M-OXIDE FILM     | 1W 470 OHM J (TAPPING)    |
| R573  | RS01Z470J- | R M-OXIDE FILM     | 1W 47 OHM J (TAPPING)     |
| R587  | RS02Z102J- | R M-OXIDE FILM     | 2W 1K OHM J (TAPPING)     |
| R589  | RW01Z308JN | R WIRE WOUND       | 1W 0.30 OHM J NON-INDUCT  |
| R603  | RS02Z331J- | R M-OXIDE FILM     | 2W 330 OHM J TAPPING      |
| R604  | RW01Z308JN | R WIRE WOUND       | 1W 0.30 OHM J NON-INDUCT  |
| R631  | RS02Z129J- | R M-OXIDE FILM     | 2W 1.2 OHM J (TAPPING)    |
| R632  | RS02Z129J- | R M-OXIDE FILM     | 2W 1.2 OHM J (TAPPING)    |
| R633  | RS02Z129J- | R M-OXIDE FILM     | 2W 1.2 OHM J (TAPPING)    |
| R755  | RS01Z104J- | R M-OXIDE FILM     | 1W 100K OHM J (TAPPING)   |
| R756  | RS01Z104J- | R M-OXIDE FILM     | 1W 100K OHM J (TAPPING)   |
| R757  | RS01Z104J- | R M-OXIDE FILM     | 1W 100K OHM J (TAPPING)   |
| SW201 | 5S50101Z01 | SW TACT            | KPT-1115VM 1C-1P          |
| SW202 | 5S50101Z01 | SW TACT            | KPT-1115VM 1C-1P          |
| SW203 | 5S50101Z01 | SW TACT            | KPT-1115VM 1C-1P          |
| SW204 | 5S50101Z01 | SW TACT            | KPT-1115VM 1C-1P          |
| VR551 | RV6421503P | R SEMI FIXED       | CCT 065AT 50K OHM B TAP   |
| VR601 | RV6121202P | R SEMI FIXED       | CCT 063BT 2K OHM B TAP    |
| 50010 | PCMPJRJ046 | PCB MAIN RADIAL AS | CMC-710B                  |
| C005  | CEXF1H101V | C ELECTRO          | 50V RSS 100MF (8X11.5) TP |

| LOC  | PART-CODE  | PART-NAME | PART-DESC                 |
|------|------------|-----------|---------------------------|
| C011 | CEXF1H109V | C ELECTRO | 50V RSS 1MF (5X11) TP     |
| C013 | CEXF1H109V | C ELECTRO | 50V RSS 1MF (5X11) TP     |
| C014 | CCXF1H223Z | C CERA    | 50V F 0.022MF Z (TAPPING) |
| C105 | CEXF1C101V | C ELECTRO | 16V RSS 100MF (6.3X11) TP |
| C107 | CCXF1H223Z | C CERA    | 50V F 0.022MF Z (TAPPING) |
| C108 | CEXF1C101V | C ELECTRO | 16V RSS 100MF (6.3X11) TP |
| C109 | CEXF1C101V | C ELECTRO | 16V RSS 100MF (6.3X11) TP |
| C110 | CEXF1C221V | C ELECTRO | 16V RSS 220MF (8X11.5) TP |
| C111 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP    |
| C112 | CMXM2A104J | C MYLAR   | 100V 0.1MF J (TP)         |
| C114 | CEXF1C101V | C ELECTRO | 16V RSS 100MF (6.3X11) TP |
| C118 | CCXB2H102K | C CERA    | 500V B 1000PF K (TAPPING) |
| C202 | CEXF1C101V | C ELECTRO | 16V RSS 100MF (6.3X11) TP |
| C209 | CCXB1H221K | C CERA    | 50V B 220PF K (TAPPING)   |
| C210 | CCXB1H221K | C CERA    | 50V B 220PF K (TAPPING)   |
| C211 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP    |
| C266 | CMXM2A104J | C MYLAR   | 100V 0.1MF J (TP)         |
| C267 | CEXD1H220F | C ELECTRO | 50V RND 22MF (10*11.5)    |
| C271 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP    |
| C276 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP    |
| C277 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP    |
| C278 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP    |
| C279 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP    |
| C281 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP    |
| C401 | CMX12A154J | C MYLAR   | MEU 100V 0.15MF J(TP)     |
| C404 | CEXF1E470V | C ELECTRO | 25V RSS 47MF (5X11) TP    |
| C405 | CEXF1C221V | C ELECTRO | 16V RSS 220MF (8X11.5) TP |
| C407 | CEXF1H101V | C ELECTRO | 50V RSS 100MF (8X11.5) TP |
| C408 | CCXB1H471K | C CERA    | 50V B 470PF K (TAPPING)   |
| C410 | CCXF1H104Z | C CERA    | 50V F 0.1MF Z             |
| C411 | CMXM2A562J | C MYLAR   | 100V 5600PF J (TP)        |
| C417 | CCXF1H104Z | C CERA    | 50V F 0.1MF Z             |
| C504 | CMXM2A182J | C MYLAR   | 100V 1800PF J (TP)        |
| C505 | CEXF1H479V | C ELECTRO | 50V RSS 4.7MF (5X11) TP   |
| C509 | CCXF1H104Z | C CERA    | 50V F 0.1MF Z             |
| C510 | CEXF1E470V | C ELECTRO | 25V RSS 47MF (5X11) TP    |
| C511 | CCXB1H102K | C CERA    | 50V B 1000PF K (TAPPING)  |
| C512 | CEXF1H339V | C ELECTRO | 50V RSS 3.3MF (5X11) TP   |
| C513 | CMXM2A392J | C MYLAR   | 100V 3900PF J (TP)        |
| C514 | CEXF1H109V | C ELECTRO | 50V RSS 1MF (5X11) TP     |



| LOC   | PART-CODE  | PART-NAME          | PART-DESC                 |
|-------|------------|--------------------|---------------------------|
| C515  | CMXM2A104J | C MYLAR            | 100V 0.1MF J (TP)         |
| C516  | CCXF1H104Z | C CERA             | 50V F 0.1MF Z             |
| C517  | CEXF2A100V | C ELECTRO          | 100V RSS 10MF (6.3X11) TP |
| C518  | CMXM2A104J | C MYLAR            | 100V 0.1MF J (TP)         |
| C525  | CEXF1H100V | C ELECTRO          | 50V RSS 10MF (5X11) TP    |
| C528  | CEXF1H229V | C ELECTRO          | 50V RSS 2.2MF (5X11) TP   |
| C533  | CEXF1C101V | C ELECTRO          | 16V RSS 100MF (6.3X11) TP |
| C554  | CCXB2H102K | C CERA             | 500V B 1000PF K (TAPPING) |
| C556  | CMXM2A104J | C MYLAR            | 100V 0.1MF J (TP)         |
| C570  | CEXF1H100V | C ELECTRO          | 50V RSS 10MF (5X11) TP    |
| C572  | CEXF1C221V | C ELECTRO          | 16V RSS 220MF (8X11.5) TP |
| C573  | CEXF1C101V | C ELECTRO          | 16V RSS 100MF (6.3X11) TP |
| C577  | CMXM2A562J | C MYLAR            | 100V 5600PF J (TP)        |
| C579  | CEXF1C470V | C ELECTRO          | 16V RSS 47MF (5X11) TP    |
| C580  | CEXF1C101V | C ELECTRO          | 16V RSS 100MF (6.3X11) TP |
| C583  | CCXB2H471K | C CERA             | 500V B 470PF K (TAPPING)  |
| C586  | CEXF1H100V | C ELECTRO          | 50V RSS 10MF (5X11) TP    |
| C591  | CMXM2A104J | C MYLAR            | 100V 0.1MF J (TP)         |
| C593  | CEXF1H339V | C ELECTRO          | 50V RSS 3.3MF (5X11) TP   |
| C601  | CEXF1H109V | C ELECTRO          | 50V RSS 1MF (5X11) TP     |
| C603  | CCXB2H102K | C CERA             | 500V B 1000PF K (TAPPING) |
| C606  | CMXM2A473J | C MYLAR            | 100V 0.047MF J (TP)       |
| C751  | CEXF1H100V | C ELECTRO          | 50V RSS 10MF (5X11) TP    |
| C801  | CEXF1H100V | C ELECTRO          | 50V RSS 10MF (5X11) TP    |
| C804  | CEXF1C470V | C ELECTRO          | 16V RSS 47MF (5X11) TP    |
| C808  | CEXF1C470V | C ELECTRO          | 16V RSS 47MF (5X11) TP    |
| C811  | CEXF1C220V | C ELECTRO          | RSS 16V 22MF 5*11         |
| C831  | CEXF1H100V | C ELECTRO          | 50V RSS 10MF (5X11) TP    |
| C861  | CEXF1H100V | C ELECTRO          | 50V RSS 10MF (5X11) TP    |
| C880  | CEXF1H101V | C ELECTRO          | 50V RSS 100MF (8X11.5) TP |
| C901  | CMXM2A473J | C MYLAR            | 100V 0.047MF J (TP)       |
| C996  | CEXF1C220V | C ELECTRO          | RSS 16V 22MF 5*11         |
| C998  | CEXF1H100V | C ELECTRO          | 50V RSS 10MF (5X11) TP    |
| F001A | 9977410900 | FUSE CLIP          | BSP3-H T0.4 SN 5.2        |
| F001B | 9977410900 | FUSE CLIP          | BSP3-H T0.4 SN 5.2        |
| IC101 | 1KA431ZTA- | IC SHUNT           | KA431ZTA                  |
| IC202 | 1KA7542--- | IC VOTAGE DETECTOR | KA7542                    |
| Q102  | TKSD471ACY | TR                 | KSD471ACY                 |
| Q103  | TKTA1273Y- | TR                 | KTA1273-Y                 |
| Q104  | TZSR1006-- | TR                 | KSR1006 (AUTO)            |

| LOC   | PART-CODE  | PART-NAME         | PART-DESC               |
|-------|------------|-------------------|-------------------------|
| Q201  | TKSD471ACY | TR                | KSD471ACY               |
| Q202  | TKSD471ACY | TR                | KSD471ACY               |
| Q203  | TZSR1006-- | TR                | KSR1006 (AUTO)          |
| Q204  | TZSR1006-- | TR                | KSR1006 (AUTO)          |
| Q501  | TKSD471ACY | TR                | KSD471ACY               |
| Q502  | TKSA539CY- | TR                | KSA539CY                |
| Q516  | TKSA539CY- | TR                | KSA539CY                |
| Q517  | TZSR1006-- | TR                | KSR1006 (AUTO)          |
| Q525  | TZTA1270Y- | TR                | KTA1270Y(AUTO)(562Y)    |
| Q553  | TZSR1006-- | TR                | KSR1006 (AUTO)          |
| Q556  | TZSR1006-- | TR                | KSR1006 (AUTO)          |
| Q557  | TZSR1006-- | TR                | KSR1006 (AUTO)          |
| Q558  | TZSR1006-- | TR                | KSR1006 (AUTO)          |
| Q571  | T2N3904--- | TR                | 2N3904                  |
| Q572  | TKSD471ACY | TR                | KSD471ACY               |
| Q573  | TKSA539CY- | TR                | KSA539CY                |
| Q575  | TKSD471ACY | TR                | KSD471ACY               |
| Q601  | TKSA539CY- | TR                | KSA539CY                |
| Q602  | TKSD471ACY | TR                | KSD471ACY               |
| Q751  | TKSP45---- | TR                | KSP45                   |
| Q752  | TKSP92---- | TR                | KSP92                   |
| Q753  | TKSP92---- | TR                | KSP92                   |
| Q754  | TKSP45---- | TR                | KSP45                   |
| Q755  | TKSP45---- | TR                | KSP45                   |
| Q756  | TKSP45---- | TR                | KSP45                   |
| Q871  | TZSR1006-- | TR                | KSR1006 (AUTO)          |
| Q901  | TKSA910Y-- | TR                | KSA910Y                 |
| Q902  | TZSC945CY- | TR                | KSC945C-Y (AUTO)        |
| Q903  | TKSD471ACY | TR                | KSD471ACY               |
| Q904  | TKSA539CY- | TR                | KSA539CY                |
| Q905  | TZSR1009-- | TR                | KSR1009                 |
| X201  | 5XJ6R0000E | CRYSTAL QUARTZ    | HC-49/S 6MHZ 22PF 30PPM |
| 60010 | PCMPJAJ046 | PCB MAIN AXIAL AS | CMC-710B                |
| A0001 | 9979800462 | PCB MAIN          | T1.6*330*246            |
| B001  | 5PB13857-- | COIL BEAD         | BI3857(AXIAL)           |
| B002  | 5PB13857-- | COIL BEAD         | BI3857(AXIAL)           |
| B101  | 5PB13857-- | COIL BEAD         | BI3857(AXIAL)           |
| B175  | 5PB13857-- | COIL BEAD         | BI3857(AXIAL)           |
| B345  | 5PB13857-- | COIL BEAD         | BI3857(AXIAL)           |
| B381  | 5PB13857-- | COIL BEAD         | BI3857(AXIAL)           |

| LOC   | PART-CODE  | PART-NAME   | PART-DESC               |
|-------|------------|-------------|-------------------------|
| B881  | 5PB13857-- | COIL BEAD   | BI3857(AXIAL)           |
| C009  | CCZB1H102K | C CERA      | 50V B 1000PF K          |
| C201  | CCZB1H181K | C CERA      | 50V B 180PF K           |
| C207  | CCZB1H221K | C CERA      | 50V B 220PF K           |
| C208  | CCZB1H221K | C CERA      | 50V B 220PF K           |
| C214  | CCZF1H104Z | C CERA      | 50V HIKF 0.1MF Z        |
| C246  | CCZF1H104Z | C CERA      | 50V HIKF 0.1MF Z        |
| C501  | CCZB1H101K | C CERA      | 50V B 100PF K           |
| C524  | CCZB1H471K | C CERA      | 50V B 470PF K           |
| C534  | CCZF1H104Z | C CERA      | 50V HIKF 0.1MF Z        |
| C548  | CCZB1H181K | C CERA      | 50V B 180PF K           |
| C571  | CCZB1H471K | C CERA      | 50V B 470PF K           |
| C575  | CCZB1H103K | C CERA      | HIKB 50V 0.01MF K AXIAL |
| C576  | CCZB1H102K | C CERA      | 50V B 1000PF K          |
| C752  | CCZF1H104Z | C CERA      | 50V HIKF 0.1MF Z        |
| C903  | CCZB1H103K | C CERA      | HIKB 50V 0.01MF K AXIAL |
| C941  | CCZB1H102K | C CERA      | 50V B 1000PF K          |
| C994  | CCZF1H104Z | C CERA      | 50V HIKF 0.1MF Z        |
| C995  | CCZF1H104Z | C CERA      | 50V HIKF 0.1MF Z        |
| C997  | CCZB1H152K | C CERA      | 50V B 1500PF K (AXIAL)  |
| C999  | CCZF1H104Z | C CERA      | 50V HIKF 0.1MF Z        |
| DZ001 | DDZ4R3BM-- | DIODE ZENER | DZ4.3BM                 |
| DZ008 | DDZ8R2BM-- | DIODE ZENER | DZ8.2BM                 |
| DZ201 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B                 |
| DZ202 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B                 |
| DZ203 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B                 |
| DZ401 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B                 |
| DZ501 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B                 |
| DZ571 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B                 |
| DZ581 | DDZ15BM--- | DIODE ZENER | DZ15BM                  |
| D012  | DZN4148--- | DIODE       | 1N4148 AUTO 52MM        |
| D107  | DZN4148--- | DIODE       | 1N4148 AUTO 52MM        |
| D206  | DZN4148--- | DIODE       | 1N4148 AUTO 52MM        |
| D207  | DZN4148--- | DIODE       | 1N4148 AUTO 52MM        |
| D209  | DZN4148--- | DIODE       | 1N4148 AUTO 52MM        |
| D503  | DZN4148--- | DIODE       | 1N4148 AUTO 52MM        |
| D525  | DZN4148--- | DIODE       | 1N4148 AUTO 52MM        |
| D531  | DZN4148--- | DIODE       | 1N4148 AUTO 52MM        |
| D532  | DZN4148--- | DIODE       | 1N4148 AUTO 52MM        |
| D571  | DZN4148--- | DIODE       | 1N4148 AUTO 52MM        |

| LOC  | PART-CODE  | PART-NAME     | PART-DESC             |
|------|------------|---------------|-----------------------|
| D572 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D574 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D578 | DFDH400--- | DIODE         | FDH400                |
| D601 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D604 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D751 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D752 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D753 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D754 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D755 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D756 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D757 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D801 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D802 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D831 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D832 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D861 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D862 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D901 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D902 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| D912 | DZN4148--- | DIODE         | 1N4148 AUTO 52MM      |
| J411 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J         |
| L881 | 5CPZ101K02 | COIL PEAKING  | 100UH K (AXIAL 3.5MM) |
| R001 | RD-2Z105J- | R CARBON FILM | 1/2 1M OHM J          |
| R010 | RD-4Z101J- | R CARBON FILM | 1/4 100 OHM J         |
| R102 | RD-4Z201J- | R CARBON FILM | 1/4 200 OHM J         |
| R105 | RD-AZ222J- | R CARBON FILM | 1/6 2.2K OHM J        |
| R106 | RD-AZ511J- | R CARBON FILM | 1/6 510 OHM J         |
| R108 | RN-AZ2102F | R METAL FILM  | 1/6 21K OHM F         |
| R111 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J          |
| R112 | RD-AZ153J- | R CARBON FILM | 1/6 15K OHM J         |
| R113 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J          |
| R115 | RN-AZ1211F | R METAL FILM  | 1/6 1.21K OHM F       |
| R116 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J        |
| R201 | RD-AZ333J- | R CARBON FILM | 1/6 33K OHM J         |
| R202 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J        |
| R203 | RD-AZ911J- | R CARBON FILM | 1/6 910 OHM J         |
| R204 | RD-AZ122J- | R CARBON FILM | 1/6 1.2K OHM J        |
| R207 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J        |
| R211 | RN-AZ1212F | R METAL FILM  | 1/6 12.1K OHM F       |

| LOC  | PART-CODE  | PART-NAME     | PART-DESC       |
|------|------------|---------------|-----------------|
| R212 | RN-AZ9091F | R METAL FILM  | 1/6 9.09K OHM F |
| R213 | RN-AZ8252F | R METAL FILM  | 1/6 82.5K OHM F |
| R214 | RN-AZ1502F | R METAL FILM  | 1/6 15K OHM F   |
| R215 | RN-AZ3012F | R METAL FILM  | 1/6 30.1K OHM F |
| R226 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J   |
| R227 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J   |
| R229 | RD-AZ222J- | R CARBON FILM | 1/6 2.2K OHM J  |
| R230 | RD-AZ222J- | R CARBON FILM | 1/6 2.2K OHM J  |
| R231 | RD-AZ222J- | R CARBON FILM | 1/6 2.2K OHM J  |
| R232 | RD-AZ750J- | R CARBON FILM | 1/6 75 OHM J    |
| R241 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J  |
| R249 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J   |
| R250 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J   |
| R281 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J  |
| R282 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J  |
| R283 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J  |
| R293 | RD-AZ122J- | R CARBON FILM | 1/6 1.2K OHM J  |
| R294 | RD-AZ563J- | R CARBON FILM | 1/6 56K OHM J   |
| R295 | RD-AZ331J- | R CARBON FILM | 1/6 330 OHM J   |
| R296 | RD-AZ331J- | R CARBON FILM | 1/6 330 OHM J   |
| R401 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J    |
| R402 | RD-AZ103J- | R CARBON FILM | 1/6 10K OHM J   |
| R403 | RN-AZ1002F | R METAL FILM  | 1/6 10K OHM F   |
| R405 | RN-AZ2211F | R METAL FILM  | 1/6 2.21K OHM F |
| R406 | RN-4Z4000F | R METAL FILM  | 1/4W 400 OHM F  |
| R410 | RN-AZ5601F | R METAL FILM  | 1/6 5.6K OHM F  |
| R411 | RD-2Z229J- | R CARBON FILM | 1/2 2.2 OHM J   |
| R412 | RD-2Z209J- | R CARBON FILM | 1/2 2 OHM J     |
| R501 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J    |
| R503 | RD-AZ182J- | R CARBON FILM | 1/6 1.8K OHM J  |
| R504 | RD-AZ122J- | R CARBON FILM | 1/6 1.2K OHM J  |
| R507 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J    |
| R509 | RD-AZ361J- | R CARBON FILM | 1/6 360 OHM J   |
| R510 | RD-AZ183J- | R CARBON FILM | 1/6 18K OHM J   |
| R511 | RD-AZ333J- | R CARBON FILM | 1/6 33K OHM J   |
| R512 | RD-AZ474J- | R CARBON FILM | 1/6 470K OHM J  |
| R514 | RD-AZ563J- | R CARBON FILM | 1/6 56K OHM J   |
| R519 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J  |
| R521 | RD-4Z200J- | R CARBON FILM | 1/4 20 OHM J    |

| LOC  | PART-CODE  | PART-NAME     | PART-DESC       |
|------|------------|---------------|-----------------|
| R522 | RD-AZ203J- | R CARBON FILM | 1/6 20K OHM J   |
| R524 | RD-4Z101J- | R CARBON FILM | 1/4 100 OHM J   |
| R525 | RD-4Z121J- | R CARBON FILM | 1/4 120 OHM J   |
| R526 | RD-AZ473J- | R CARBON FILM | 1/6 47K OHM J   |
| R527 | RD-4Z433J- | R CARBON FILM | 1/4 43K OHM J   |
| R533 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J  |
| R535 | RD-AZ473J- | R CARBON FILM | 1/6 47K OHM J   |
| R541 | RD-AZ331J- | R CARBON FILM | 1/6 330 OHM J   |
| R543 | RD-AZ331J- | R CARBON FILM | 1/6 330 OHM J   |
| R545 | RD-AZ331J- | R CARBON FILM | 1/6 330 OHM J   |
| R551 | RD-4Z100J- | R CARBON FILM | 1/4 10 OHM J    |
| R552 | RD-AZ473J- | R CARBON FILM | 1/6 47K OHM J   |
| R553 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J    |
| R556 | RD-AZ109J- | R CARBON FILM | 1/6 1 OHM J     |
| R557 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J    |
| R558 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J    |
| R559 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J    |
| R560 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J  |
| R561 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J  |
| R562 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J  |
| R571 | RD-4Z471J- | R CARBON FILM | 1/4 470 OHM J   |
| R572 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J    |
| R574 | RD-2Z100J- | R CARBON FILM | 1/2 10 OHM J    |
| R575 | RD-4Z279J- | R CARBON FILM | 1/4 2.7 OHM J   |
| R577 | RD-4Z470J- | R CARBON FILM | 1/4 47 OHM J    |
| R578 | RD-4Z109J- | R CARBON FILM | 1/4 1 OHM J     |
| R579 | RD-AZ822J- | R CARBON FILM | 1/6 8.2K OHM J  |
| R580 | RD-AZ332J- | R CARBON FILM | 1/6 3.3K OHM J  |
| R582 | RD-AZ822J- | R CARBON FILM | 1/6 8.2K OHM J  |
| R583 | RD-AZ104J- | R CARBON FILM | 1/6 100K OHM J  |
| R584 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J    |
| R585 | RD-AZ332J- | R CARBON FILM | 1/6 3.3K OHM J  |
| R586 | RD-4Z229J- | R CARBON FILM | 1/4 2.2 OHM J   |
| R591 | RN-AZ9092F | R METAL FILM  | 1/6 90.9K OHM F |
| R592 | RD-AZ512J- | R CARBON FILM | 1/6 5.1K OHM J  |
| R594 | RD-AZ512J- | R CARBON FILM | 1/6 5.1K OHM J  |
| R601 | RD-AZ105J- | R CARBON FILM | 1/6 1M OHM J    |
| R602 | RD-2Z100J- | R CARBON FILM | 1/2 10 OHM J    |
| R605 | RD-AZ203J- | R CARBON FILM | 1/6 20K OHM J   |
| R606 | RD-AZ392J- | R CARBON FILM | 1/6 3.9K OHM J  |

| LOC  | PART-CODE  | PART-NAME     | PART-DESC      |
|------|------------|---------------|----------------|
| R607 | RD-AZ153J- | R CARBON FILM | 1/6 15K OHM J  |
| R611 | RD-AZ103J- | R CARBON FILM | 1/6 10K OHM J  |
| R751 | RD-AZ153J- | R CARBON FILM | 1/6 15K OHM J  |
| R752 | RD-AZ332J- | R CARBON FILM | 1/6 3.3K OHM J |
| R758 | RD-2Z202J- | R CARBON FILM | 1/2 2K OHM J   |
| R759 | RD-2Z202J- | R CARBON FILM | 1/2 2K OHM J   |
| R802 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J  |
| R803 | RD-AZ330J- | R CARBON FILM | 1/6 33 OHM J   |
| R814 | RD-AZ100J- | R CARBON FILM | 1/6 10 OHM J   |
| R832 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J  |
| R833 | RD-AZ330J- | R CARBON FILM | 1/6 33 OHM J   |
| R844 | RD-AZ100J- | R CARBON FILM | 1/6 10 OHM J   |
| R855 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J |
| R862 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J  |
| R863 | RD-AZ330J- | R CARBON FILM | 1/6 33 OHM J   |
| R874 | RD-AZ100J- | R CARBON FILM | 1/6 10 OHM J   |
| R881 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J |
| R902 | RD-AZ154J- | R CARBON FILM | 1/6 150K OHM J |
| R903 | RD-AZ623J- | R CARBON FILM | 1/6 62K OHM J  |
| R904 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J |
| R905 | RD-AZ752J- | R CARBON FILM | 1/6 7.5K OHM J |
| R906 | RD-AZ204J- | R CARBON FILM | 1/6 200K OHM J |
| R907 | RD-AZ473J- | R CARBON FILM | 1/6 47K OHM J  |
| R908 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J |
| R909 | RD-AZ202J- | R CARBON FILM | 1/6 2K OHM J   |
| R910 | RD-AZ562J- | R CARBON FILM | 1/6 5.6K OHM J |
| R911 | RD-AZ303J- | R CARBON FILM | 1/6 30K OHM J  |
| R916 | RD-AZ563J- | R CARBON FILM | 1/6 56K OHM J  |
| R935 | RD-AZ823J- | R CARBON FILM | 1/6 82K OHM J  |
| R937 | RD-AZ333J- | R CARBON FILM | 1/6 33K OHM J  |
| R939 | RD-AZ104J- | R CARBON FILM | 1/6 100K OHM J |
| R940 | RD-AZ104J- | R CARBON FILM | 1/6 100K OHM J |
| R941 | RD-AZ242J- | R CARBON FILM | 1/6 2.4K OHM J |
| R943 | RD-AZ471J- | R CARBON FILM | 1/6 470 OHM J  |
| R944 | RD-AZ471J- | R CARBON FILM | 1/6 470 OHM J  |
| R945 | RD-AZ182J- | R CARBON FILM | 1/6 1.8K OHM J |
| R946 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J  |
| R947 | RD-AZ272J- | R CARBON FILM | 1/6 2.7K OHM J |
| R994 | RD-AZ821J- | R CARBON FILM | 1/6 820 OHM J  |
| R997 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J  |

| LOC   | PART-CODE  | PART-NAME         | PART-DESC                 |
|-------|------------|-------------------|---------------------------|
| R998  | RD-AZ471J- | R CARBON FILM     | 1/6 470 OHM J             |
| R999  | RD-AZ433J- | R CARBON FILM     | 1/6 43K OHM J             |
| TP1   | 85801052GY | WIRE COPPER       | 1/0.52 TIN COATING        |
| 30020 | PCCTSWJ046 | PCB CRT AS        | CMC-710B                  |
| CA804 | 9970710181 | CONN AS           | 1015#18+35068-9812=110    |
| CA805 | 9970710181 | CONN AS           | 1015#18+35068-9812=110    |
| CT801 | 9979300008 | SOCKET CRT        | 033 0 7700 44             |
| CW801 | 9979220025 | CONN WAFER        | SMAW250-10 (ANGLE)        |
| CW802 | 9979220022 | CONN WAFER        | SMAW250-07 (ANGLE)        |
| C851  | CMXM2A224J | C MYLAR           | 100V 0.22MF J             |
| C891  | CCXE3D103P | C CERA            | HIKE 2KV 0.01MF P         |
| C892  | CCXB3D471K | C CERA            | 2KV B 470PF K (TAPPING)   |
| CA803 | 9970710179 | CONN AS           | 1015#18+4.3PIEX2=160      |
| IC803 | 1LM2407T-- | IC VIDEO OUTPUT   | LM2407T                   |
| P11   | 4859242220 | CONN WAFER        | YFW800-02                 |
| SC801 | 9977410800 | TERMINAL PIN      | BSP1(SN) L=15MM           |
| SG891 | 4SG0D00104 | SPARK GAP         | S-23 1.5KV                |
| 40010 | PCCTJRJ046 | PCB CRT RADIAL AS | CMC-710B                  |
| C805  | CEXD1H109F | C ELECTRO         | 50V RND 1MF (5X11) TP     |
| C806  | CMXM2A222J | C MYLAR           | 100V 2200PF J (TP)        |
| C807  | CMXM2A333J | C MYLAR           | 100V 0.033MF J (TP)       |
| C821  | CCXF1H104Z | C CERA            | 50V F 0.1MF Z             |
| C822  | CEXF1E101V | C ELECTRO         | 25V RSS 100MF (6.3X11) TP |
| C835  | CEXD1H109F | C ELECTRO         | 50V RND 1MF (5X11) TP     |
| C836  | CMXM2A222J | C MYLAR           | 100V 2200PF J (TP)        |
| C837  | CMXM2A333J | C MYLAR           | 100V 0.033MF J (TP)       |
| C852  | CEXF2A470V | C ELECTRO         | 100V RSS 47MF (10X16) TP  |
| C865  | CEXD1H109F | C ELECTRO         | 50V RND 1MF (5X11) TP     |
| C866  | CMXM2A222J | C MYLAR           | 100V 2200PF J (TP)        |
| C867  | CMXM2A333J | C MYLAR           | 100V 0.033MF J (TP)       |
| C893  | CCXB1H103K | C CERA            | 50V B 0.01MF K            |
| C894  | CCXB1H102K | C CERA            | 50V B 1000PF K (TAPPING)  |
| C895  | CEXF2A220V | C ELECTRO         | 100V RSS 22MF (8*11.5)    |
| Q805  | TKSC1009Y- | TR                | KSC-1009-Y                |
| Q806  | TKSA910Y-- | TR                | KSA910Y                   |
| Q835  | TKSC1009Y- | TR                | KSC-1009-Y                |
| Q836  | TKSA910Y-- | TR                | KSA910Y                   |
| Q865  | TKSC1009Y- | TR                | KSC-1009-Y                |
| Q866  | TKSA910Y-- | TR                | KSA910Y                   |
| 50010 | PCCTJAJ046 | PCB CRT AXIAL AS  | CMC-710B                  |



| LOC   | PART-CODE  | PART-NAME     | PART-DESC              |
|-------|------------|---------------|------------------------|
| B0001 | 9979800463 | PCB VIDEO     | T1.6*244*246           |
| B803  | 5PB13857-- | COIL BEAD     | BI3857(AXIAL)          |
| B805  | 5PB13857-- | COIL BEAD     | BI3857(AXIAL)          |
| B811  | 5PB13857-- | COIL BEAD     | BI3857(AXIAL)          |
| B812  | 5PB13857-- | COIL BEAD     | BI3857(AXIAL)          |
| B813  | 5PB13857-- | COIL BEAD     | BI3857(AXIAL)          |
| B814  | 5PB13857-- | COIL BEAD     | BI3857(AXIAL)          |
| B859  | 5PB13857-- | COIL BEAD     | BI3857(AXIAL)          |
| B863  | 5PB13857-- | COIL BEAD     | BI3857(AXIAL)          |
| B864  | 5PB13857-- | COIL BEAD     | BI3857(AXIAL)          |
| D803  | DFDH400--- | DIODE         | FDH400                 |
| D804  | DFDH400--- | DIODE         | FDH400                 |
| D805  | DFDH400--- | DIODE         | FDH400                 |
| D833  | DFDH400--- | DIODE         | FDH400                 |
| D834  | DFDH400--- | DIODE         | FDH400                 |
| D835  | DFDH400--- | DIODE         | FDH400                 |
| D863  | DFDH400--- | DIODE         | FDH400                 |
| D864  | DFDH400--- | DIODE         | FDH400                 |
| D865  | DFDH400--- | DIODE         | FDH400                 |
| L801  | 5CPZ568K02 | COIL PEAKING  | 0.56UH K (AXIAL 3.5MM) |
| L831  | 5CPZ568K02 | COIL PEAKING  | 0.56UH K (AXIAL 3.5MM) |
| L861  | 5CPZ568K02 | COIL PEAKING  | 0.56UH K (AXIAL 3.5MM) |
| R804  | RD-4Z271J- | R CARBON FILM | 1/4 270 OHM J          |
| R805  | RD-4Z101J- | R CARBON FILM | 1/4 100 OHM J          |
| R807  | RC-2Z470J- | R CARBON COMP | 1/2 47 OHM J           |
| R808  | RD-AZ133J- | R CARBON FILM | 1/6 13K OHM J          |
| R809  | RD-AZ683J- | R CARBON FILM | 1/6 68K OHM J          |
| R810  | RD-AZ224J- | R CARBON FILM | 1/6 220K OHM J         |
| R811  | RD-AZ154J- | R CARBON FILM | 1/6 150K OHM J         |
| R812  | RD-AZ474J- | R CARBON FILM | 1/6 470K OHM J         |
| R822  | RD-2Z104J- | R CARBON FILM | 1/2 100K OHM J         |
| R834  | RD-4Z271J- | R CARBON FILM | 1/4 270 OHM J          |
| R835  | RD-4Z101J- | R CARBON FILM | 1/4 100 OHM J          |
| R837  | RC-2Z470J- | R CARBON COMP | 1/2 47 OHM J           |
| R838  | RD-AZ133J- | R CARBON FILM | 1/6 13K OHM J          |
| R839  | RD-AZ683J- | R CARBON FILM | 1/6 68K OHM J          |
| R840  | RD-AZ224J- | R CARBON FILM | 1/6 220K OHM J         |
| R841  | RD-AZ154J- | R CARBON FILM | 1/6 150K OHM J         |
| R842  | RD-AZ474J- | R CARBON FILM | 1/6 470K OHM J         |
| R852  | RD-2Z104J- | R CARBON FILM | 1/2 100K OHM J         |

| LOC   | PART-CODE  | PART-NAME      | PART-DESC      |
|-------|------------|----------------|----------------|
| R864  | RD-4Z271J- | R CARBON FILM  | 1/4 270 OHM J  |
| R865  | RD-4Z101J- | R CARBON FILM  | 1/4 100 OHM J  |
| R867  | RC-2Z470J- | R CARBON COMP  | 1/2 47 OHM J   |
| R868  | RD-AZ133J- | R CARBON FILM  | 1/6 13K OHM J  |
| R869  | RD-AZ683J- | R CARBON FILM  | 1/6 68K OHM J  |
| R870  | RD-AZ224J- | R CARBON FILM  | 1/6 220K OHM J |
| R871  | RD-AZ154J- | R CARBON FILM  | 1/6 150K OHM J |
| R872  | RD-AZ474J- | R CARBON FILM  | 1/6 470K OHM J |
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