

DAEWOO

Service Manual
XGA COLOR MONITOR
Model : 531X

DAEWOO ELECTRONICS CO., LTD.

<http://svc.dwe.co.kr>

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SAFETY PRECAUTIONS

CAUTION: No modifications of any circuits should be attempted. Service work should be performed only after you are thoroughly familiar with all of the following safety checks 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 the chassis.
- When servicing, pay close attention to the original lead dress especially in the high voltage circuit area; 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.

Only use same type replacement picture tubes.

IMPORTANT SAFETY NOTICE: There are special components used in this 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-Ray, shock, fire or other hazards. Do not modify the original design without getting written permission from DAEWOO ELECTRONICS CO. or this will void the original parts and labor warranty.

◆ X-Ray

WARNING: The only potential source of X-Ray is the picture tube. However when the high voltage circuitry is operating properly, there is no possibility of an X-Ray 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 levels.
- If the upper meter indication exceeds the maximum level, immediate service is required to prevent the possibility of premature component failure.
- To prevent X-Ray possibility, it is essential to use the specified picture tube.
- The normal high voltage is 25.5KV or below and must not exceed 29KV at zero beam current at rated voltage.

GENERAL SAFETY INFORMATION

◆ 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 which is properly included on the equipment itself.

WARNING Statements are clearly concerning indicated personal injury hazards.

◆ Symbols in the manual

The symbols indicate 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

The 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 ray protection. For continued safety, replace critical components that are indicated in the service manual with exact replacement parts given in the parts list.
Operating high voltage with 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, please 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.

- 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 any spray chemicals on or near this instrument, or any of its assemblies.
5. Unless otherwise specified in this service manual, only 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) Aceton and 90% (by volume) isopropyl alcohol (90%-99% strength).

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

6. Do not damage 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 other of its electrical assemblies unless all the 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. Only use 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.

◆ Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components are commonly called Electrostatically Sensitive (ES) Devices. The typical examples of 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, wipe off any electrostatic charge on your body by touching any 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 testing conditions.
2. After removing the electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil to prevent electrostatic charge buildup or exposure to the assembly.
3. Only use a grounded-tip soldering iron to solder or unsolder ES devices.
4. Only use 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 replacement ES devices, 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 movements when handling unpackaged replacement ES devices. (Otherwise harmful motion such as the brushing together clothes fabric or the lifting your foot from a carpeted floor can generate enough static electricity to damage 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 between 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 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.

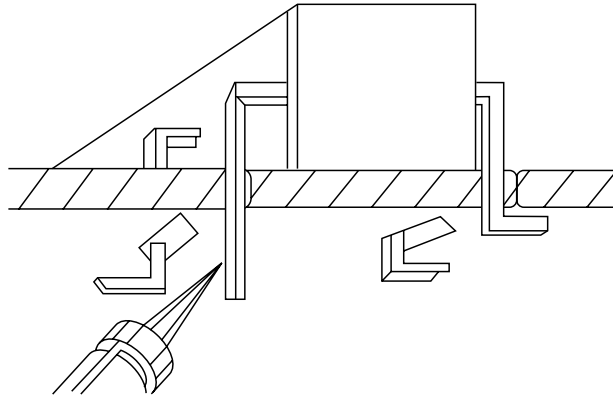


FIGURE 1. USE SOLDERING IRON TO PRY LEADS

◆ 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 ends 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 ensure metal-to-metal contact, then solder each connection.

◆ 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 then 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.

TECHNICAL INFORMATION

| | | |
|---|------------|-------------------------------------|
| CDT Size | | 15-inch |
| Diagonal visible image area | | 14-inch |
| Dot Pitch | | 0.28 mm |
| Synchronization | Horizontal | 30 - 54 KHz |
| | Vertical | 50 - 160 Hz |
| Plug and Play | | DDC1/2B/CI |
| Power Saving | | EPA, VESA DPMS, Nutek Compliant |
| Power Source | | 100-240 Vac, 50/60Hz (Free Voltage) |
| Power Consumption | | 70W |
| Dimension-W x H x D (set with stand) | | 360 x 377 x 389mm |
| Weight-unpacked(lbs/Kg) | | 25.4/11.5 |
| Operating Temperature | | 10 ~ 40°C /50 ~ 104°F |

GENERAL INFORMATION

This color monitor automatically scans all horizontal frequencies from 30KHz to 54KHz, and all vertical frequencies from 50Hz to 160Hz. 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 1024 dots and a maximum vertical resolution of 768 lines for superior clarity of display.

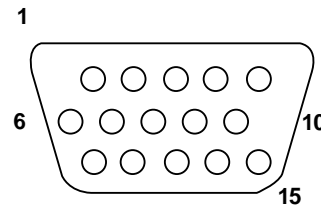
By accepting analog signal inputs which level is zero to 0.7 Volts. This color monitor can display an unlimited palette of colors depending on the graphics adapter and software being used.

◆ 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 | +5Vdc |
| 10 | GND - H.Sync |
| 11 | GND - V.Sync |
| 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

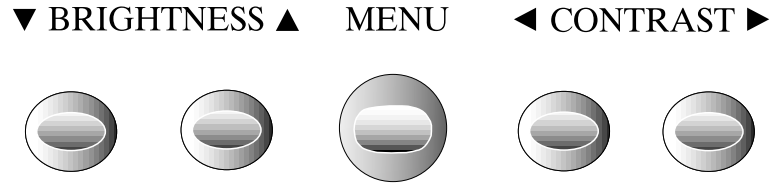
- Degaussing is always required when adjusting purity or convergence.
- The white balance adjustment has been done by a color analyzer in factory. The adjustment procedure, described in the service manual is made by a visual check.
- Allow 20 minutes warm-up time for the display before checking or adjusting 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 AND ADJUSTMENT

Control Panel



- Move cursor to the right window on the OSD window.
- Increase the value of any selected function.



- Move cursor to the left window on the OSD window.
- Decrease the value of any selected function.

MENU



- Launch OSD(On-Screen Display) MENU window.

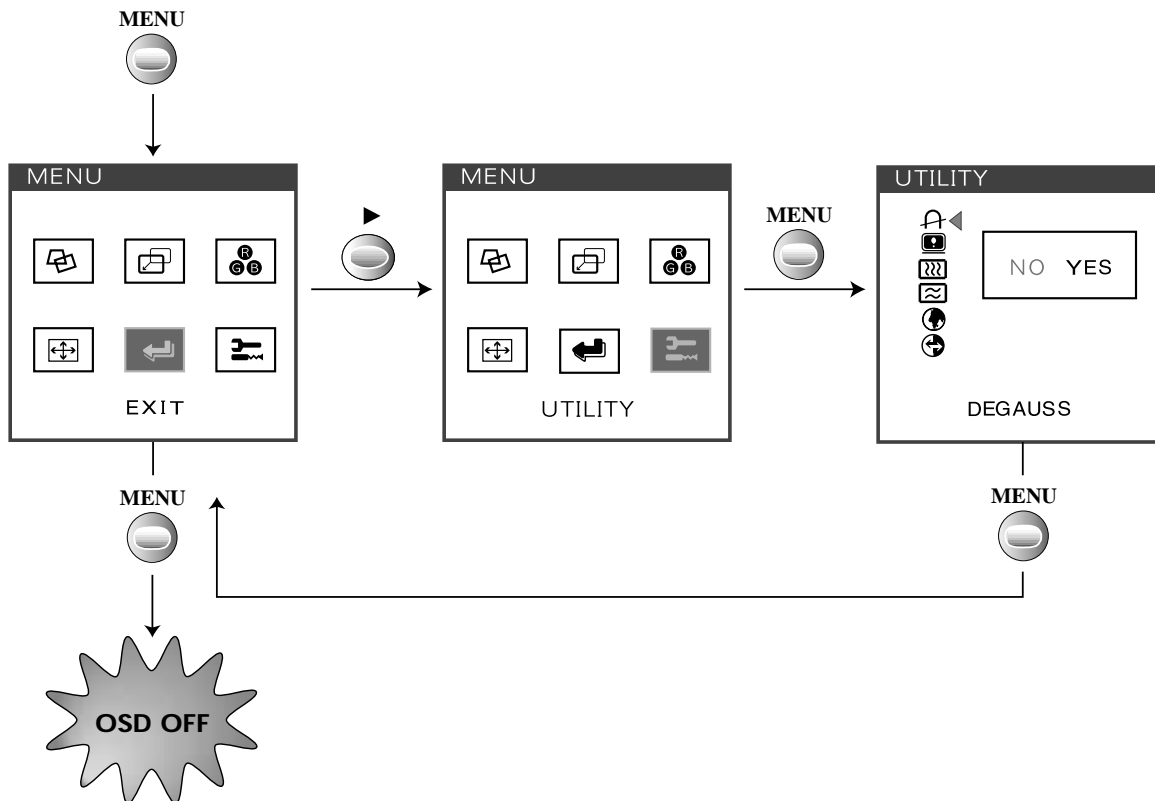


- Move cursor to the high window on the OSD window.
- Increase the value of V.size or V.center.

















- Move cursor to the low window on the OSD window.
- Decrease the value of V.size or V.center.

Key Process







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

OSD Functions

| ICON | CONTROL | FUNCTIONS |
|---|--------------------------------------|--|
|  | PINCUSHION | Adjust the left and right margins for more convex or more concave margins. |
|  | TRAPEZOID | Adjust the trapezoid of the screen by moving the lines inward or outward. |
|  | PARALLELOGRAM | Adjust the parallelogram when the screen is leaning left or right. |
|  | PIN BALANCE | Adjust the side balance when the sides of the screen are bowed towards left or right. |
|  | T. PIN CORNER | Adjust the pin corner top when the top sides of the screen are bowed. |
|  | B. PIN CORNER | Adjust the pin corner bottom when the bottom sides of the screen are bowed. |
|  | H. CENTER & V. CENTER | Adjust the position of the display horizontally (left or right) and vertically (up or down). |
|  | COLOR TEMP | Choose different preset color temperatures or set your own customized color parameters. |
|  | RED GAIN | Adjust the red gain. |
|  | GREEN GAIN | Adjust the green gain. |
|  | BLUE GAIN | Adjust the blue gain. |
|  | H. SIZE & V. SIZE | Adjust the width (horizontal size) and the height (vertical size) of the display. |
|  | DEGAUSS | Degaussing keeps the monitor free from unwanted magnetism that can result in color impurity. |
|  | STATUS | Display horizontal & vertical frequency and polarity. |



| ICON | CONTROL | FUNCTIONS |
|---|-----------------|--|
|  | H. MOIRE | Adjust the horizontal picture moire cancellation. |
|  | V. MOIRE | Adjust the vertical picture moire cancellation. |
|  | LANGUAGE | Select language for OSD (5 languages). |
|  | RECALL | Reset the screen to the Factory Preset Display Settings. |

ALIGNMENT PROCEDURE

◆ Standard Adjustment Conditions

1. Power source voltage : 100-240Vac 50/60Hz
2. Aging : Take at least 20 minutes warm-up time.
3. Signals
 - Video : Analog 0.7Vpp 75Ω terminal positive polarity
 - Synchronizing : TTL level Negative/Positive Separate
 - Deflection frequency
 - Horizontal Frequency : 30KHz - 54KHz
 - Vertical Frequency : 50Hz - 160Hz

◆ Pre-Adjustment

1. B+ Adjustment
 - Adjust 50Vdc \pm 0.1Vdc between D102 cathode and ground at 31.5KHz mode, varying VR001.
 - Adjust 59Vdc \pm 0.1Vdc between D510 cathode and ground at 31.5KHz mode, varying VR501.

◆ Method to launch the factory mode

- Step 1. Push the menu button.
- Step 2. Push the menu button and plus control button (▼) for 5 times in same time.

◆ Main Adjustment

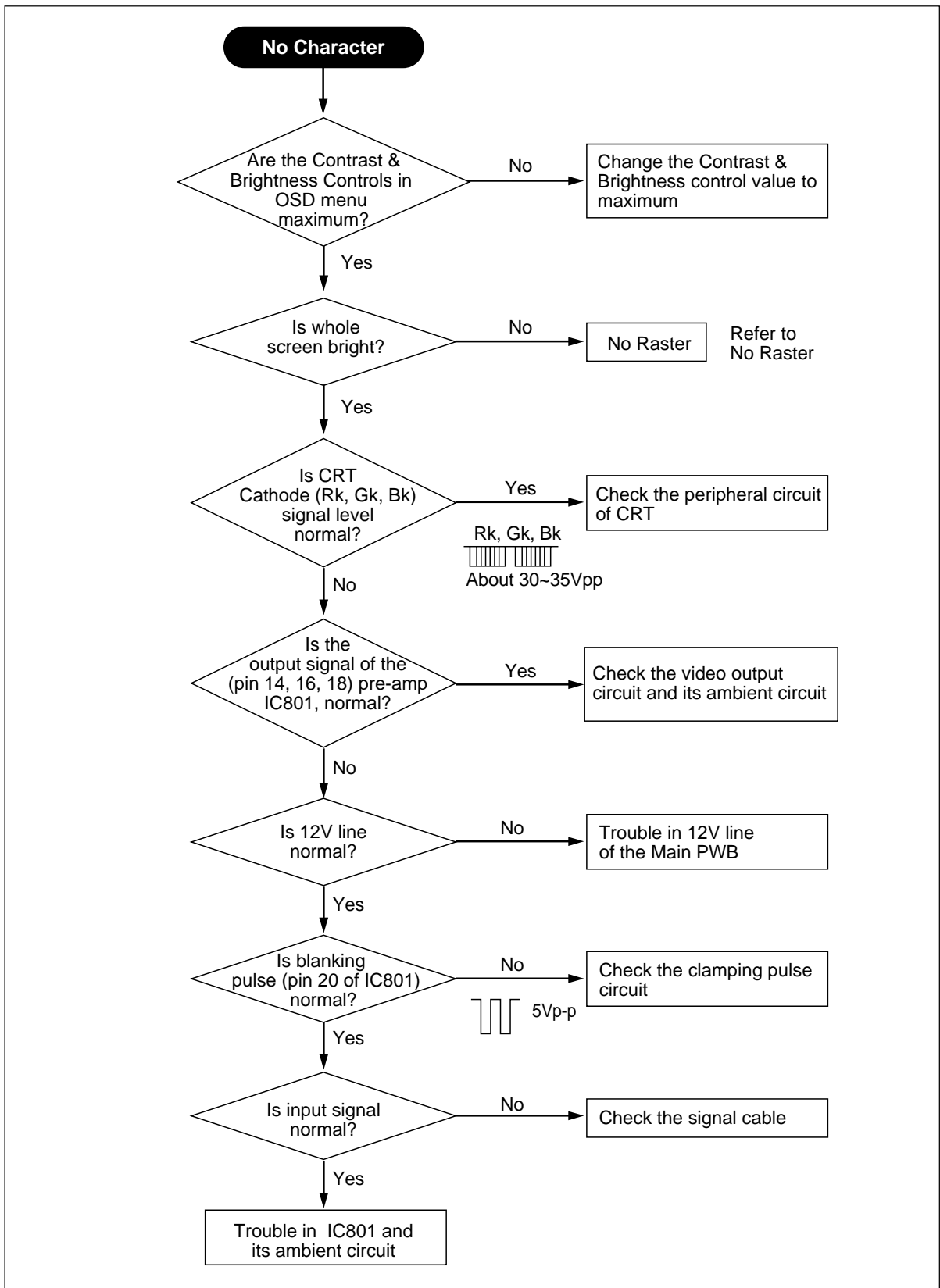
1. Setting the Controls
 - Set the value of items as following.
 - Contrast : Max.(OSD value up to MAX)
 - Brightness : Center(Set the OSD value to center)
2. H.size, V.size, H.center, V.center, Pin Balance, Pincushion, Trapezoid
 - Receive the cross hatch pattern of Factory preset mode.
 - H.size, V.size, H.center, V.center, Pin Balance, 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 1024 X 768 (48KHz, 60Hz)
 - (c) Adjust the Focus control of FBT to obtain best Focus.
4. Geometric Distortion Adjustment.
 - (a) Receive the cross hatch pattern of factory preset mode.
 - (b) Pincushion, Trapezoid, Pin Balance are adjusted the best geometric status.
5. White Balance Adjustment
 - (a) Select 9300°K on the OSD Menu.
 - (b) Receive a full white pattern of 54KHz mode signal by using the signal generator.
 - (c) Set the brightness control to the maximum, the contrast control to the maximum.
 - (d) Cut off the FBT screen VR.
 - (e) Receive all the black patterns. The luminance of the screen should be 0.5~1.0 Ft-L by using Screen VR.
 - (f) Select the R-BIAS, G-BIAS and B-BIAS on the control menu and adjust the +/- key to get the color coordinates in $x=0.281 \pm 0.015$, $y=0.311 \pm 0.015$.
 - (g) Receive a full white pattern. Adjust the brightness value to the center.
 - (h) Select the R-GAIN and B-GAIN and adjust the +/- key to get the color coordinates in $x=0.281 \pm 0.015$, $y=0.311 \pm 0.015$.
 - (i) Adjust the ABL control to get the screen luminance to 30 Ft/L (a full white pattern over 30 Ft/L)
 - (j) Check if the x, y coordinates of color analyzer is in $x=0.281 \pm 0.015$, $y=0.311 \pm 0.015$.
If the color coordinates is out of range, adjust the R. G. B BIAS & GAIN to get the coordinates in $x=0.281$, $y=0.311$. Make sure that the coordinates is in range.
 - (k) Select 6550°K on the OSD Menu and set the color coordinates in $x=0.313$, $y=0.329$ at the maximum contrast control and center brightness control
 - (l) Check if a full white pattern is over 30Ft/L.

6. Static Convergence Adjustment

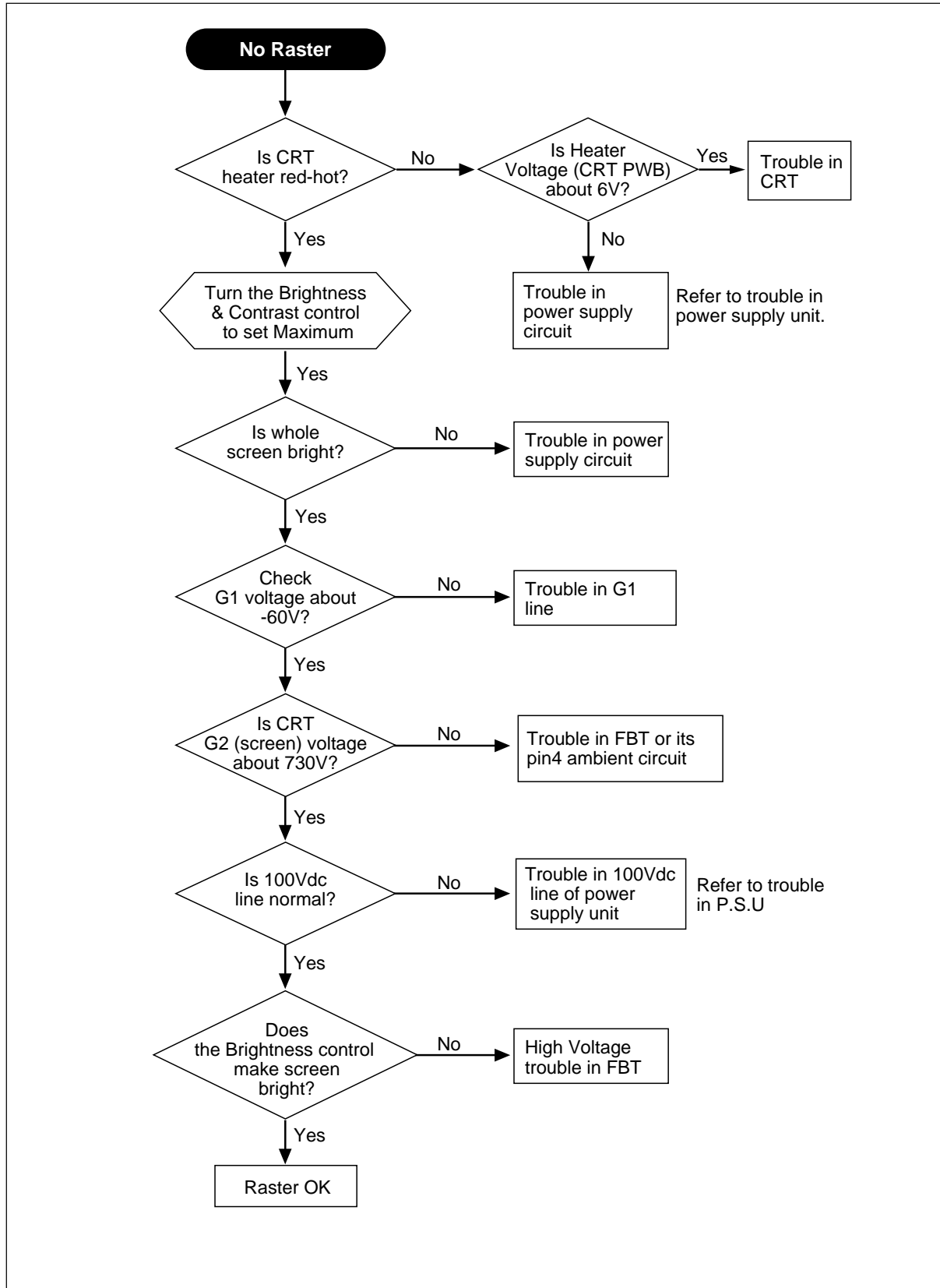
- (a) Apply a magenta cross hatch pattern on display.
- (b) Adjust the focus from the best over all focus on the display.
Also adjust the brightness to the desired condition.
- (c) Vertical red and blue lines are converged by varying the angle between the two tabs of the 4-pole magnets.
- (d) Horizontal red and blue lines are converged by varying the tabs together, keeping the angle between them constant.
- (e) Apply a yellow cross hatch pattern on display.
- (f) Vertical green and red lines are converged by varying the angle between the two tabs of the 6-pole magnets.
- (g) Horizontal green and red lines are converged by varying the tabs together, keeping the angle between them constant.

TROUBLESHOOTING HINTS

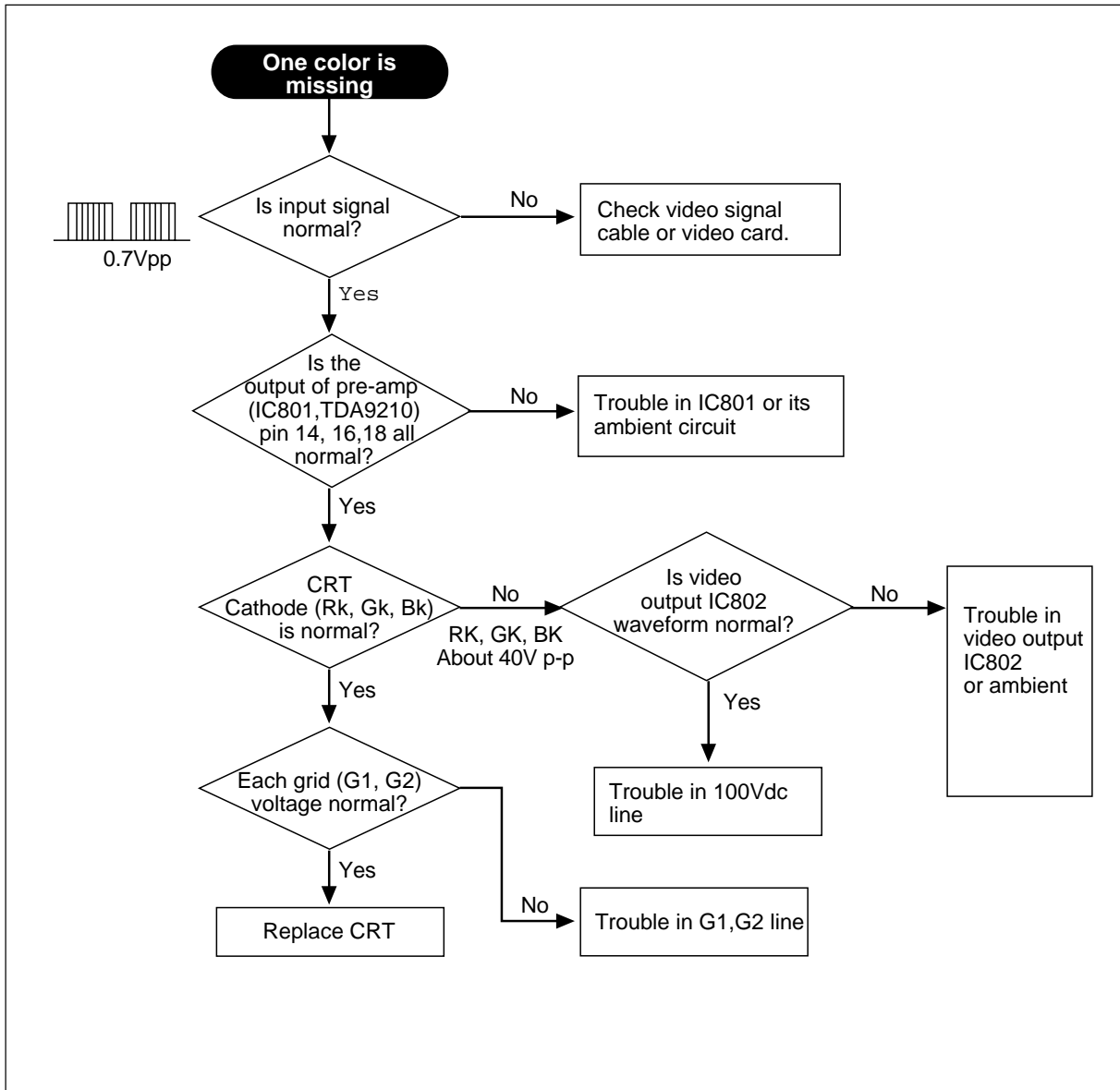
1. No Character



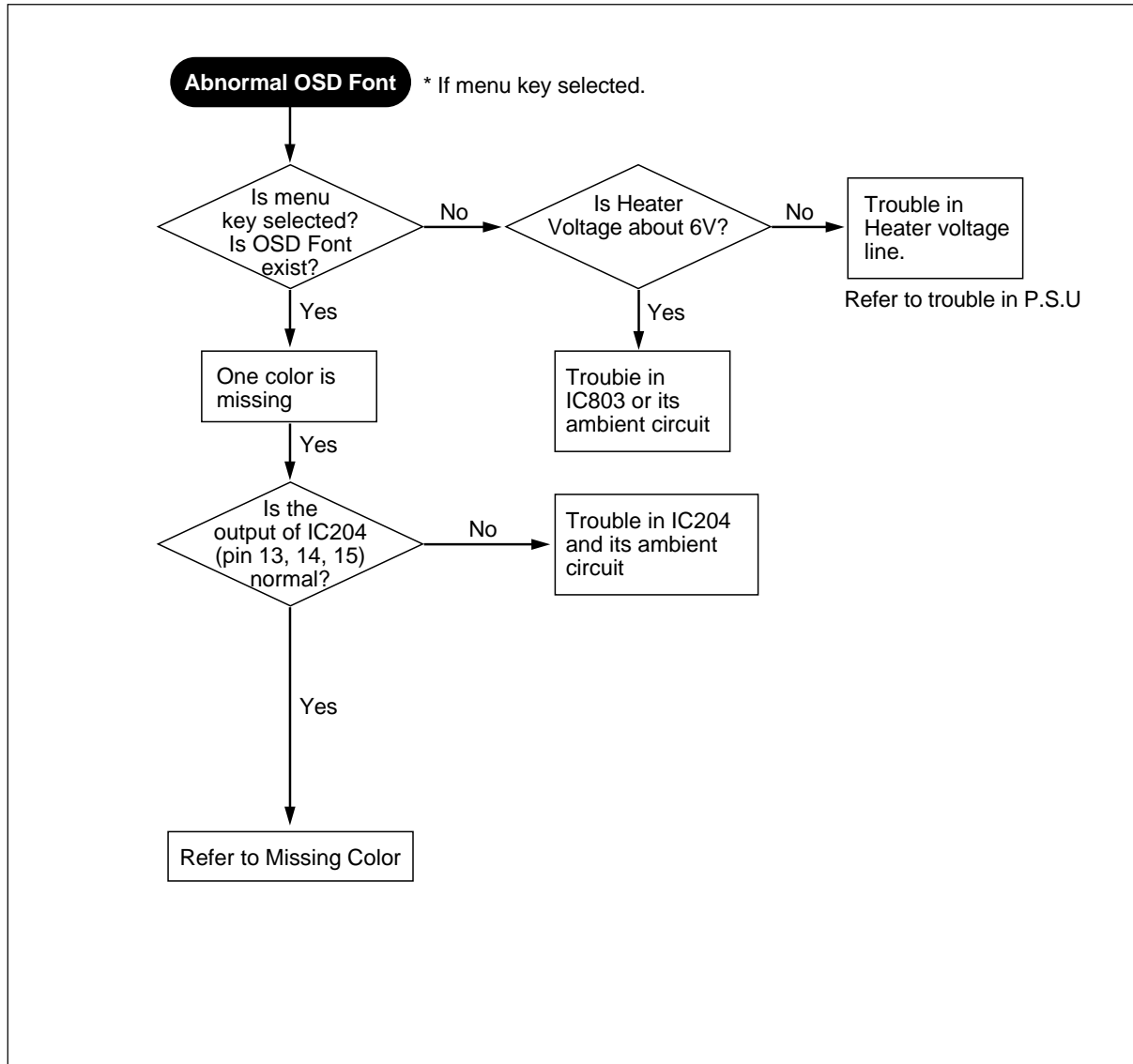
2. No Raster



3. A Missing Color

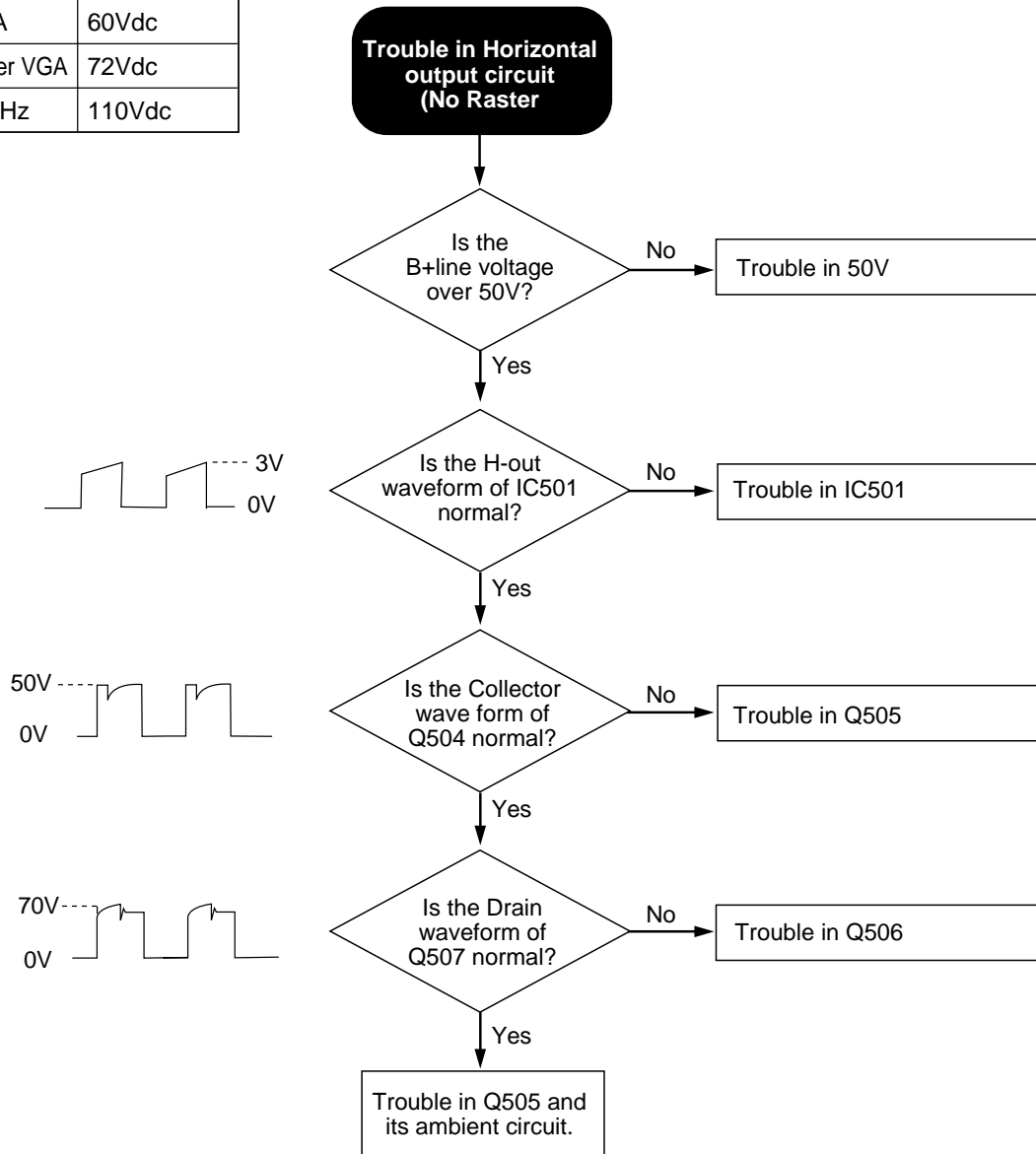


4. Abnormal OSD Font



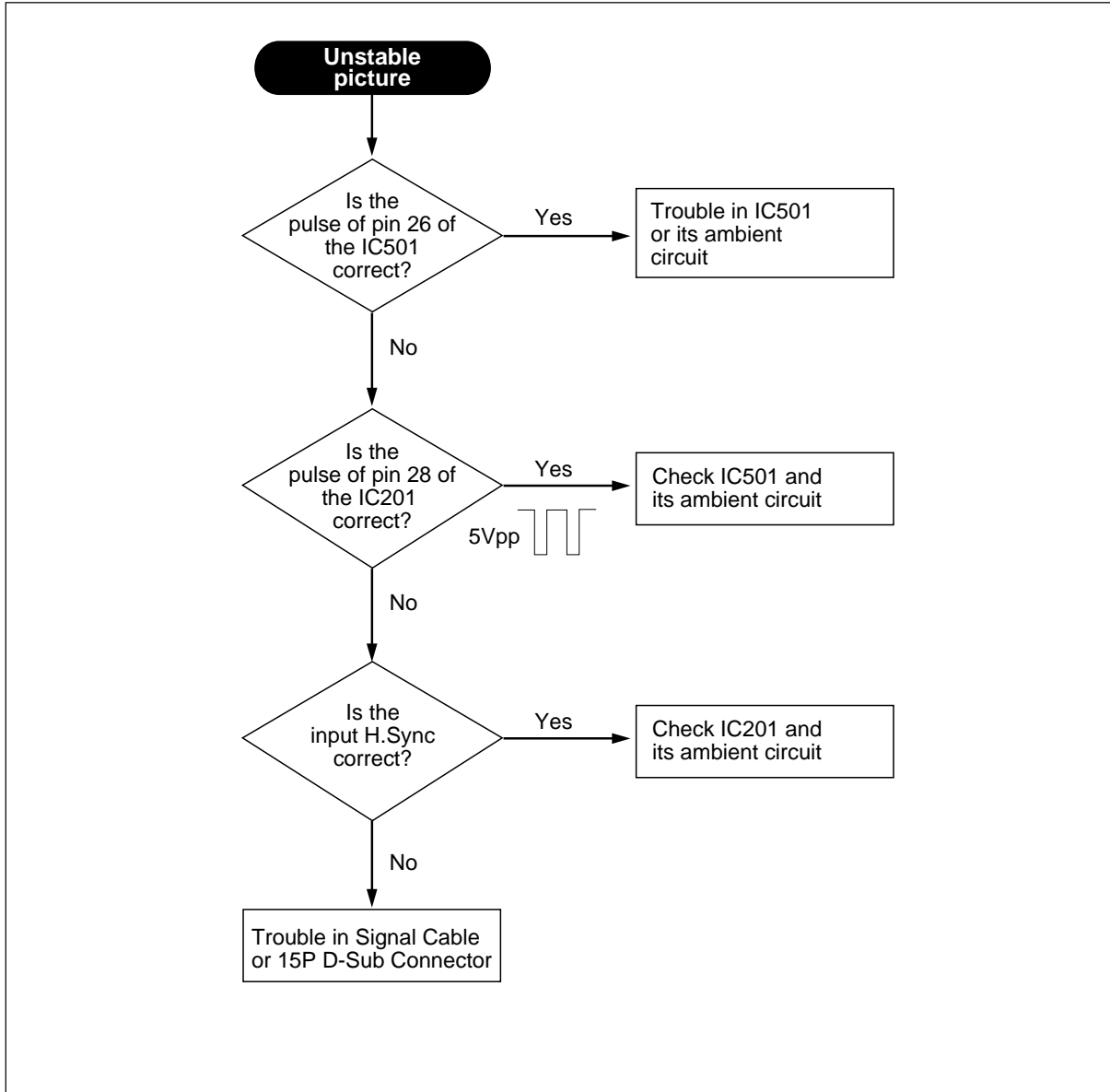
5. Horizontal Output Circuit

| MODE | B+ Voltage |
|-----------|------------|
| VGA | 60Vdc |
| Super VGA | 72Vdc |
| 54KHz | 110Vdc |

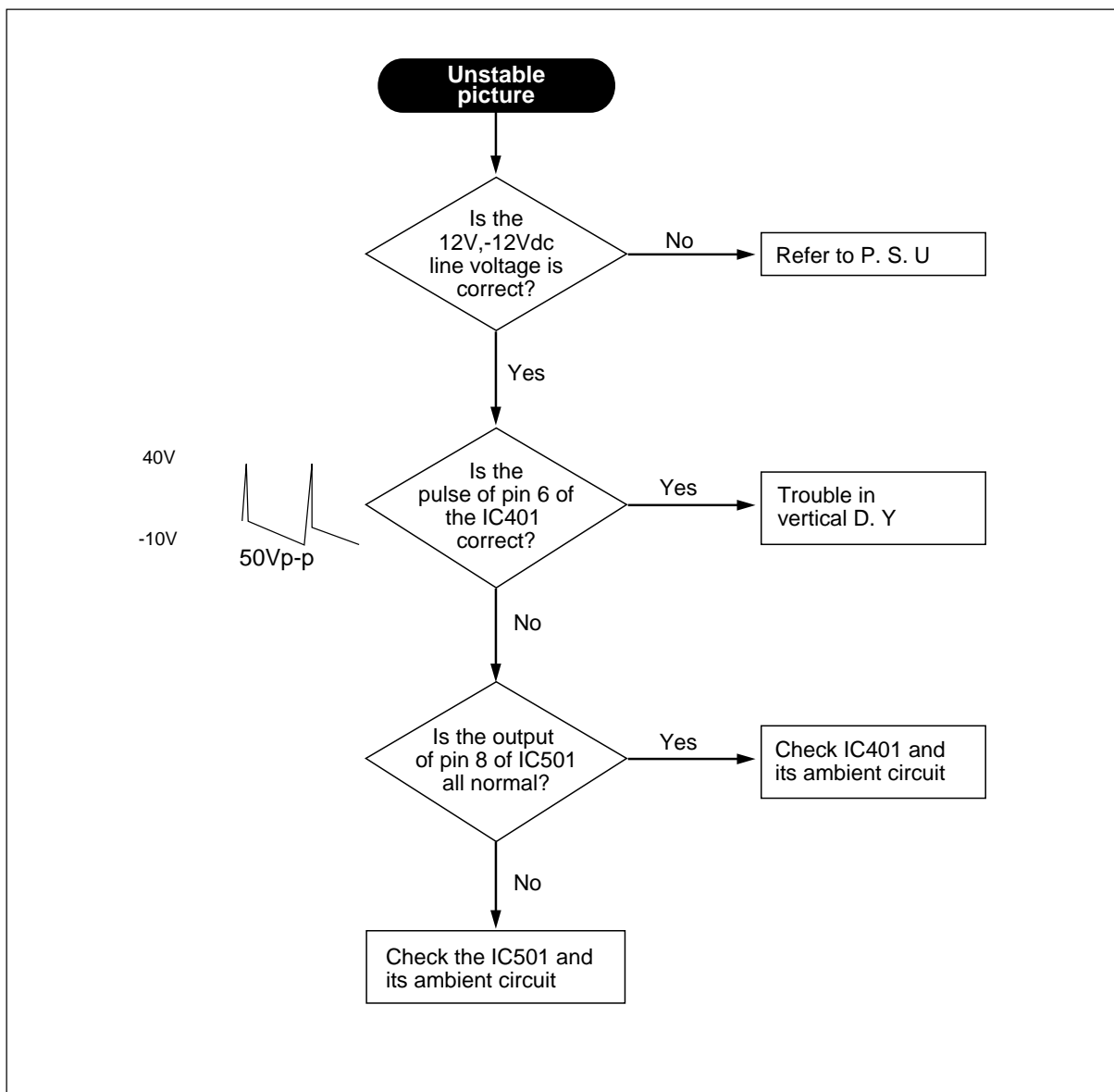


6. Unstable Picture

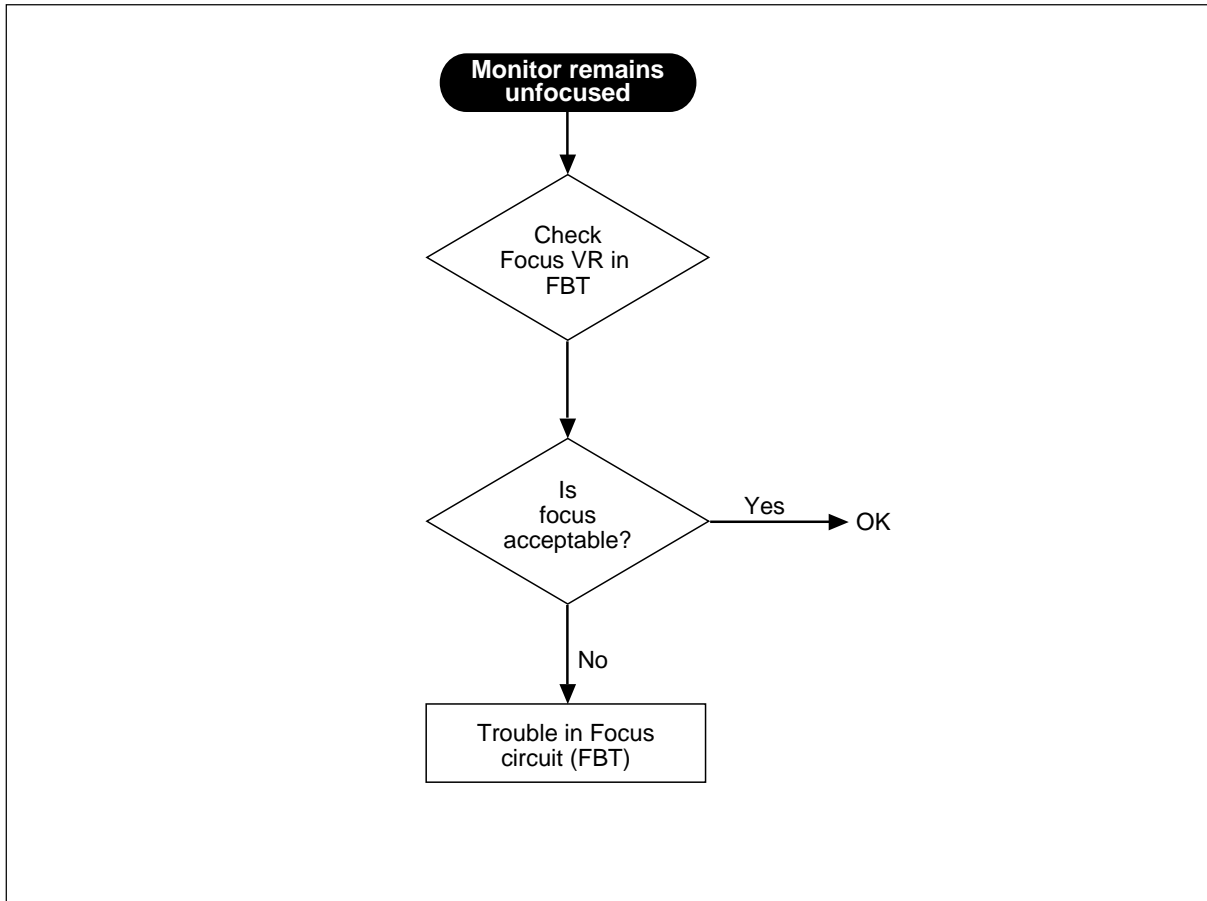
6-1. Horizontal



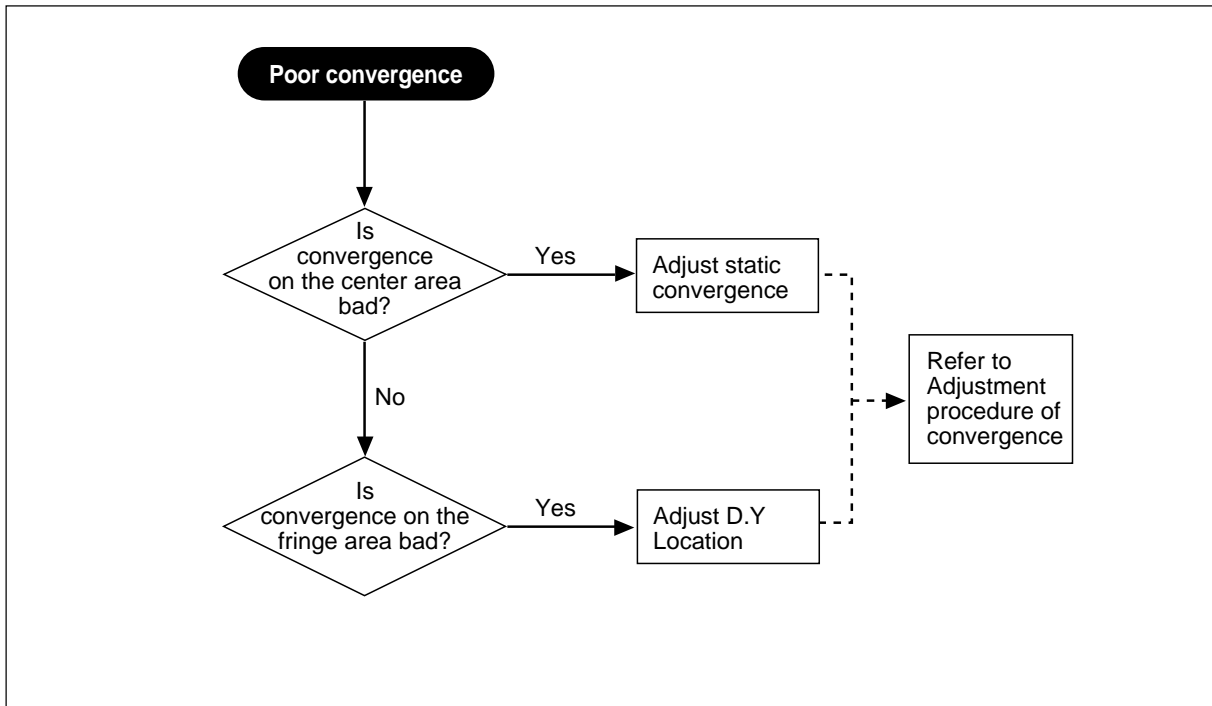
6-2. Vertical



7. Focus



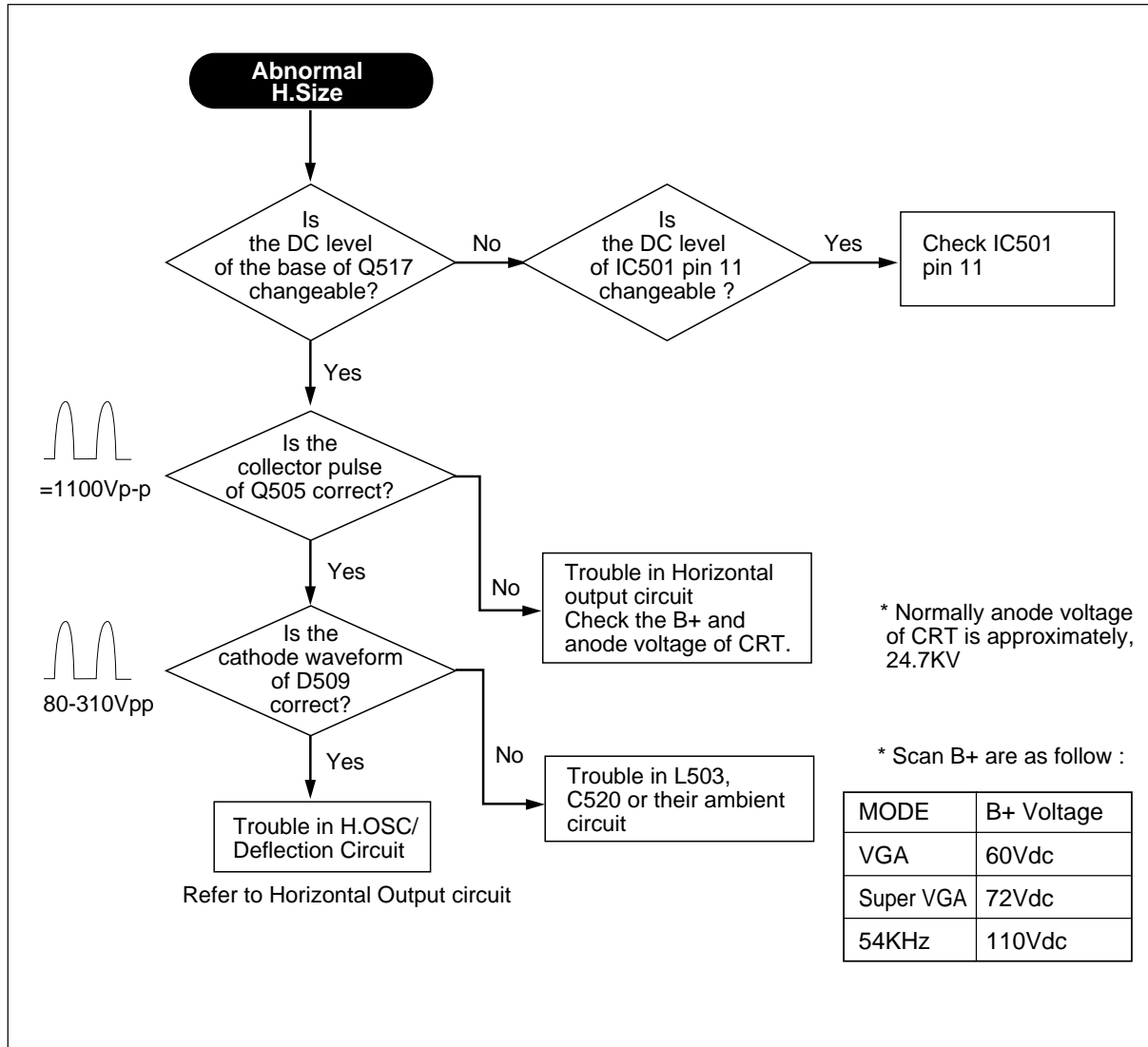
8. Convergence



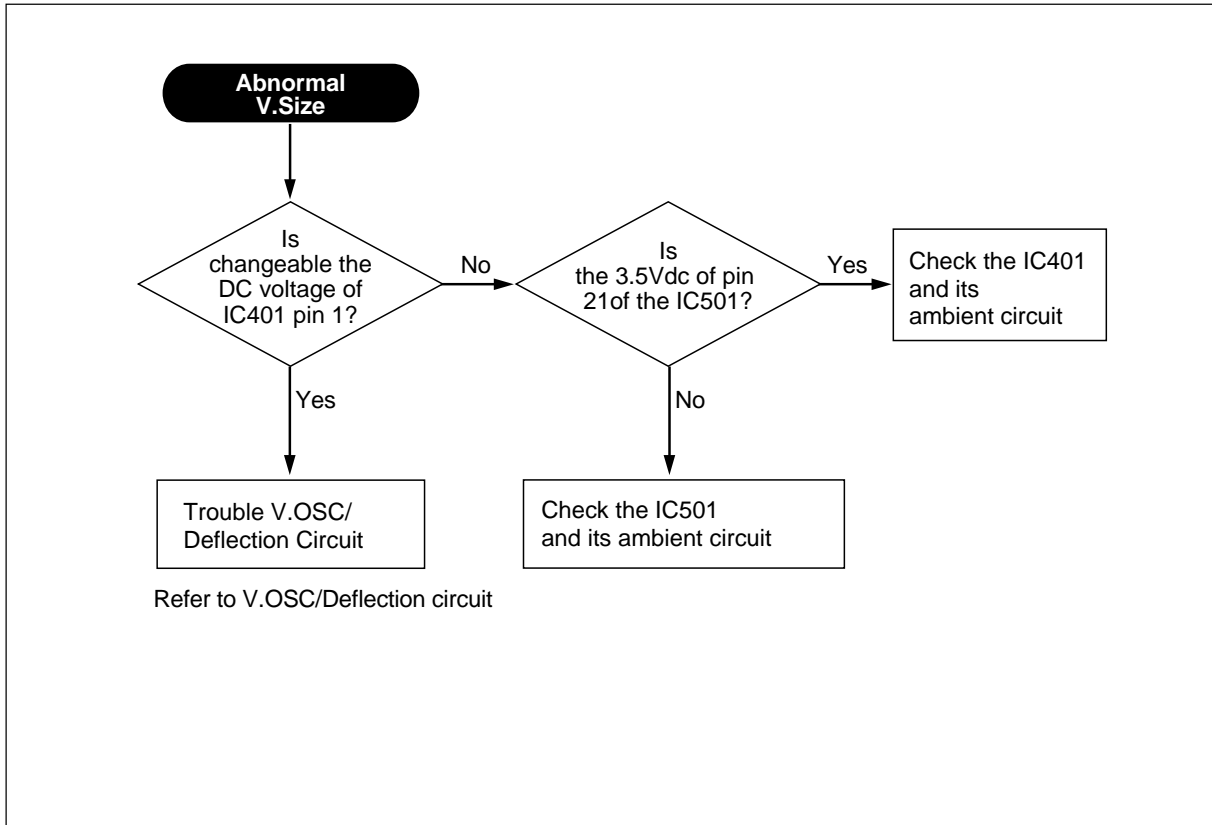
9. Abnormal Picture

* At first, adjust controls in the OSD Menu

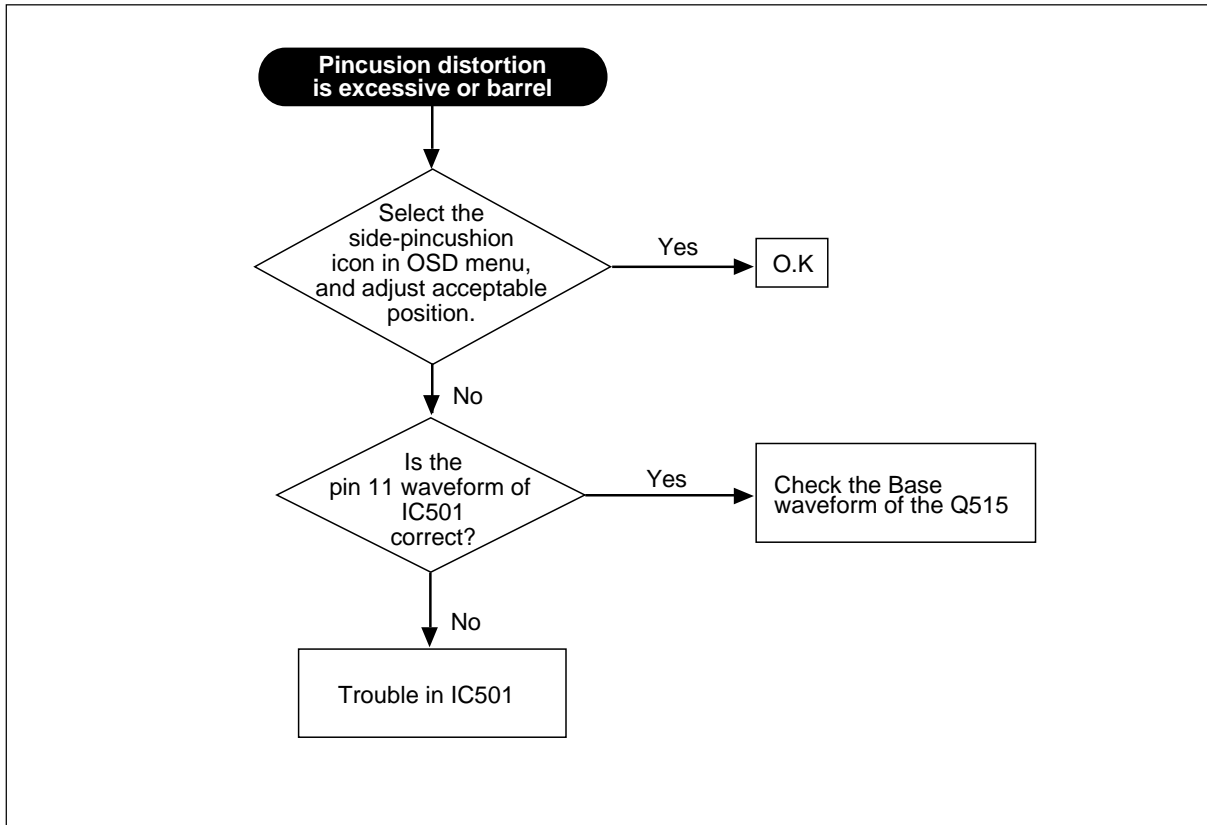
9-1. Horizontal Size



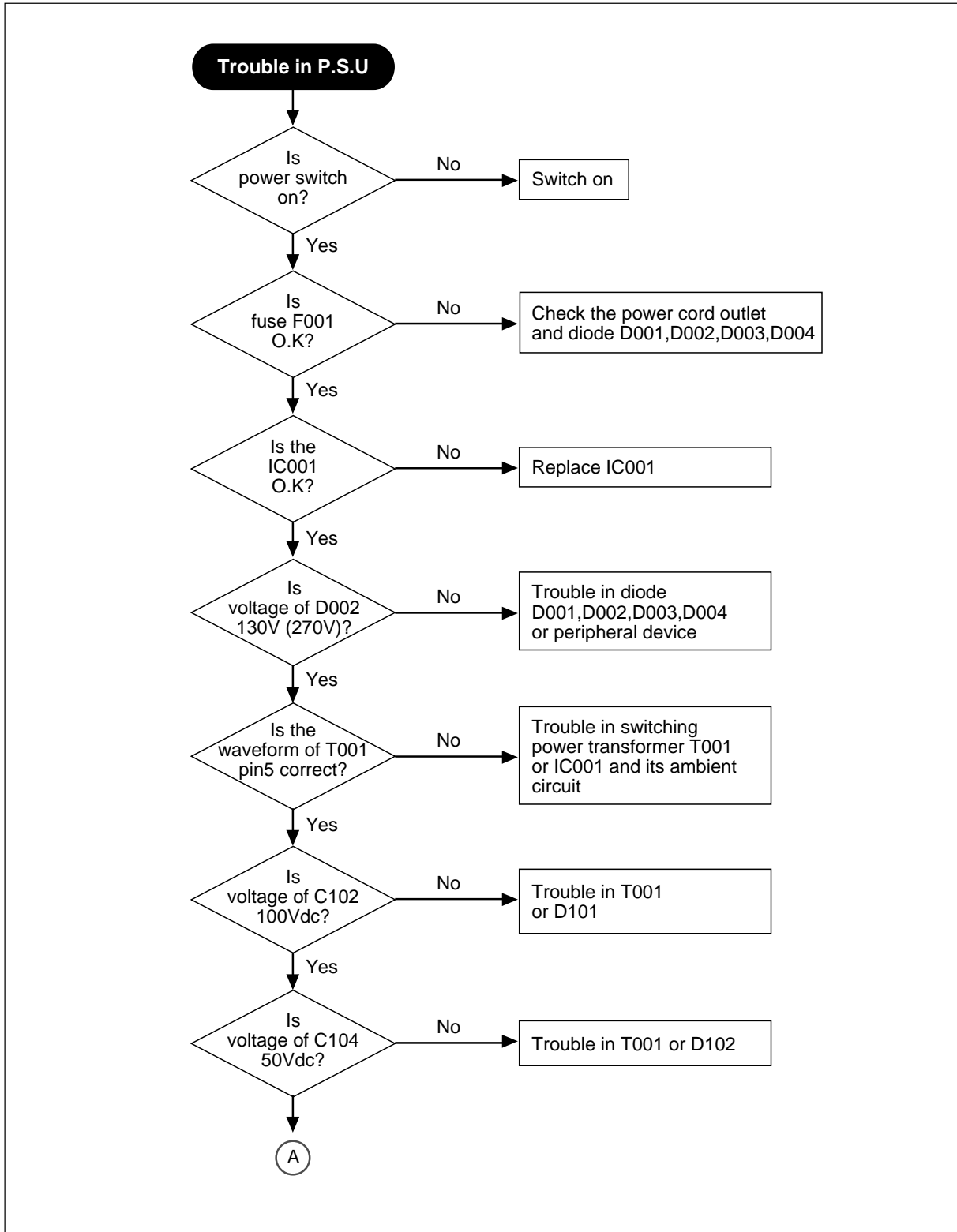
9-2. Vertical Size

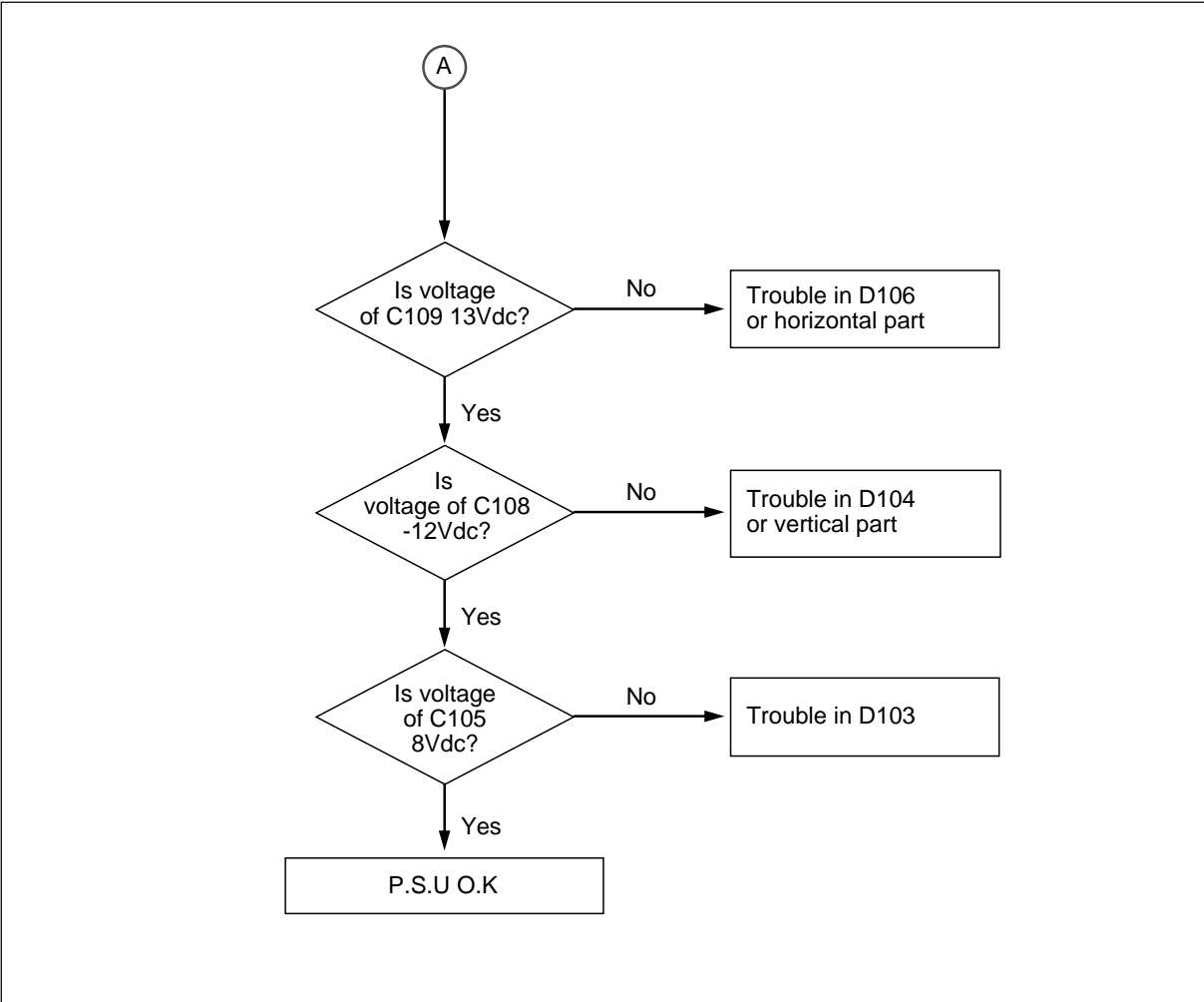


10. Side-Pincushion Circuit

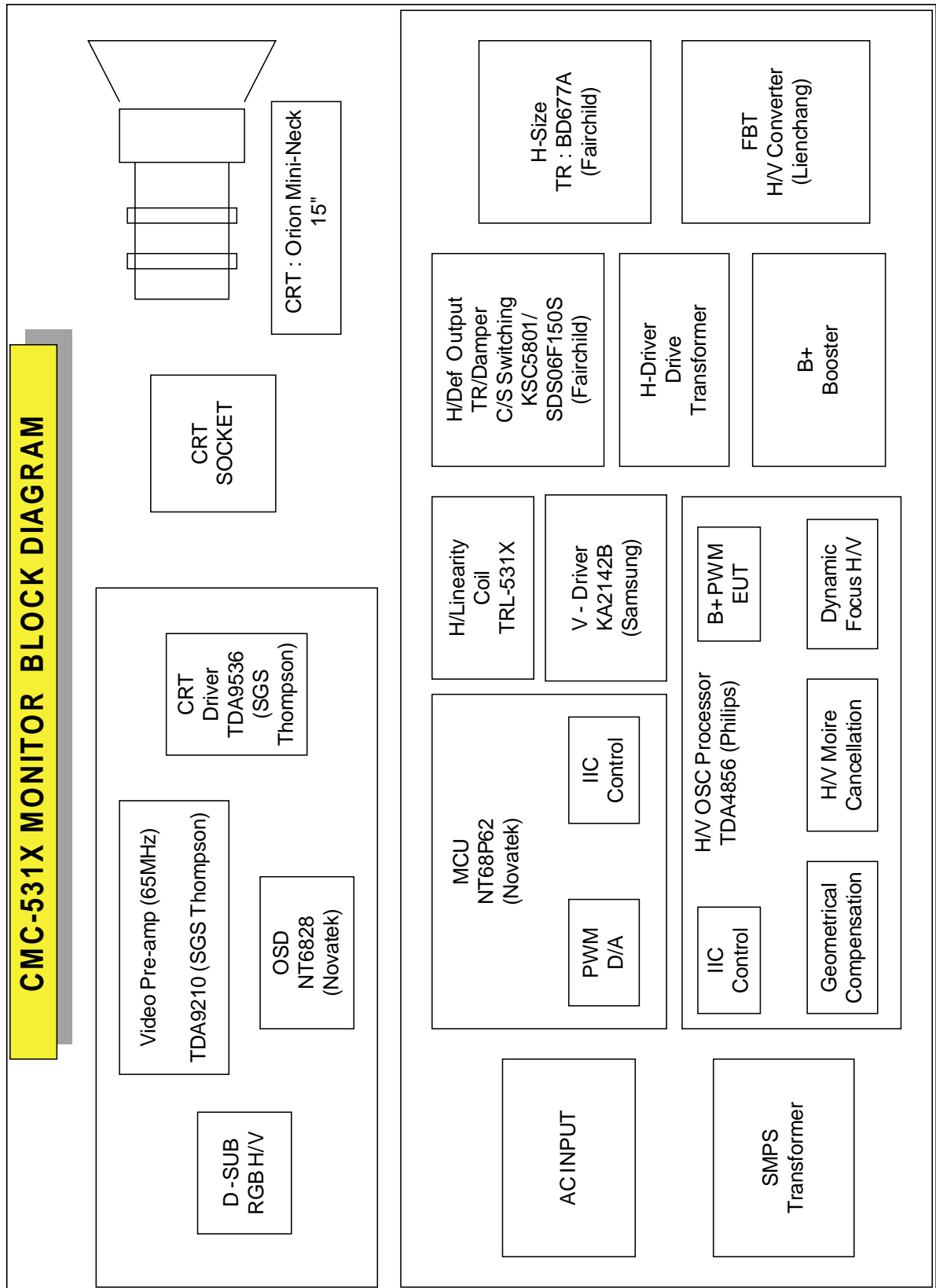


11. Power Supply Unit (P.S.U)



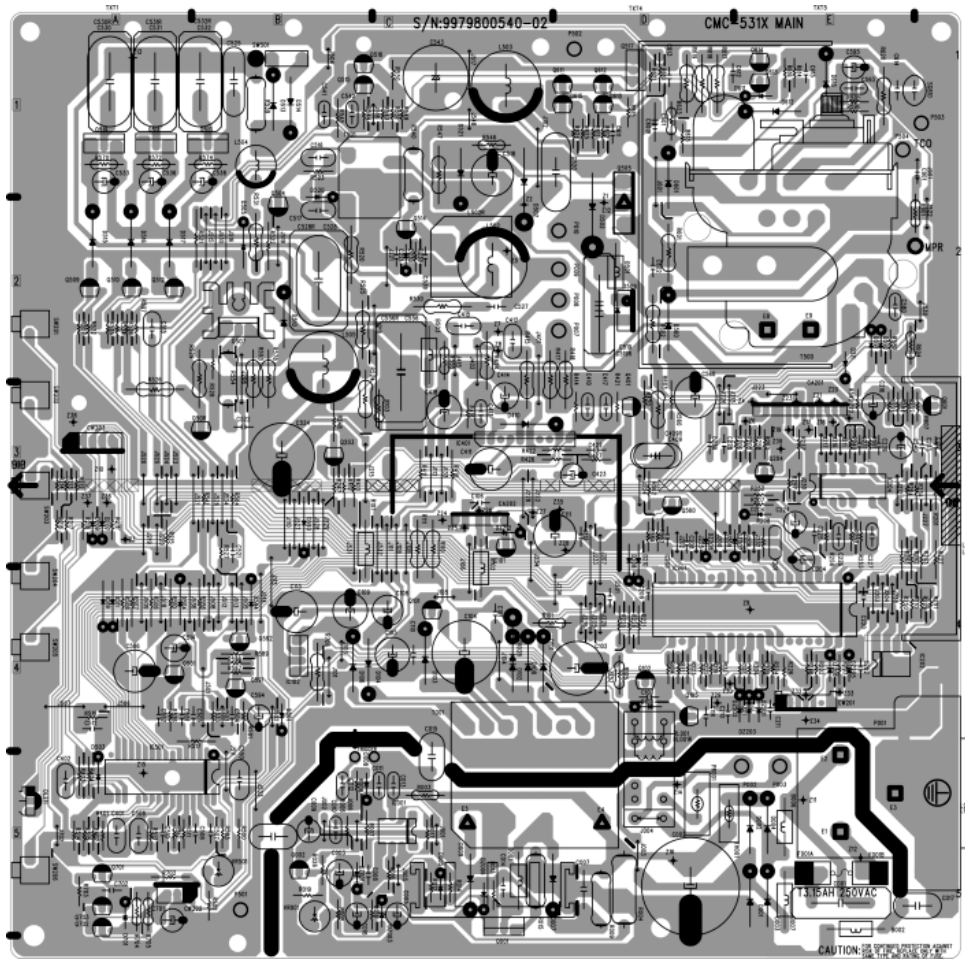


BLOCK DIAGRAM

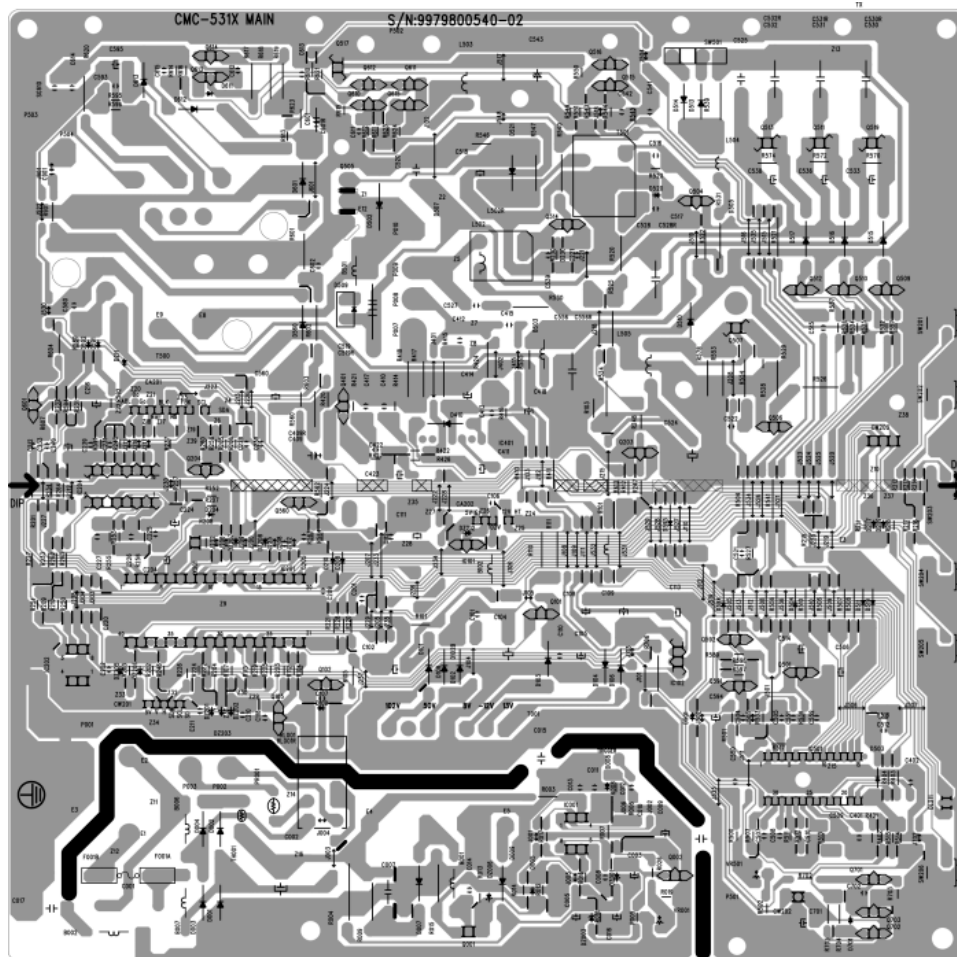


PCB LAYOUT

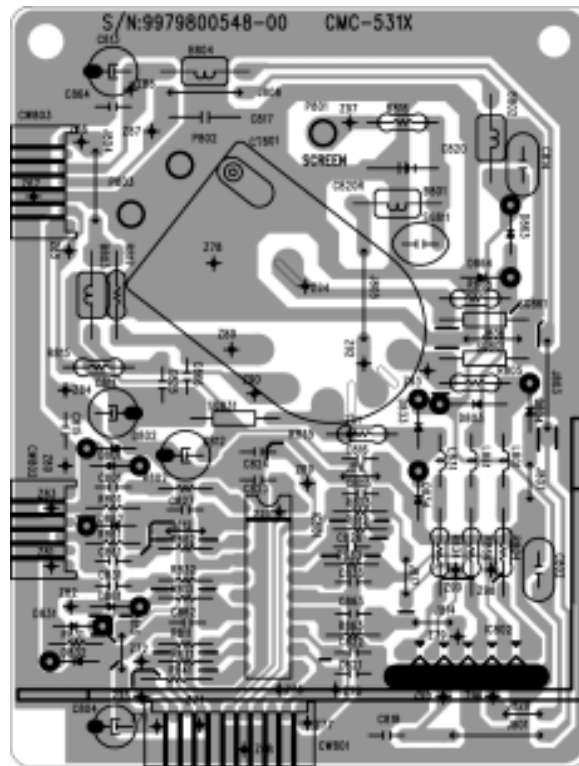
Main PCB Component Side



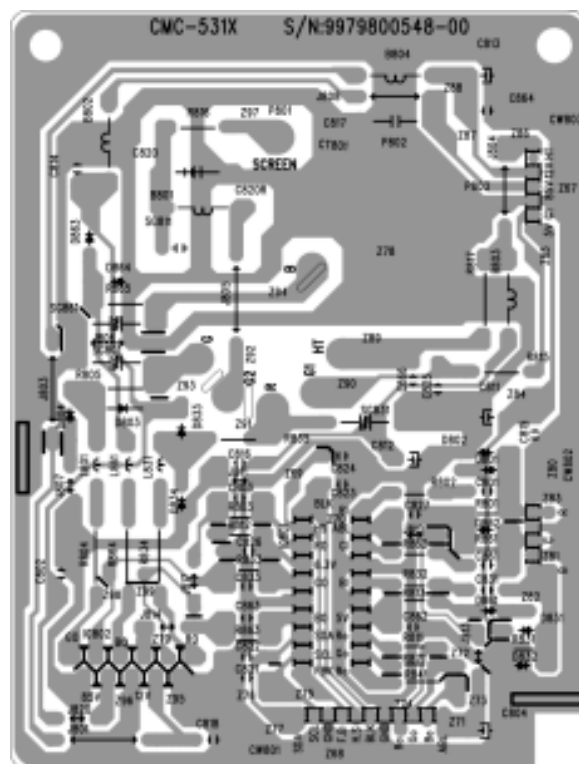
Main PCB Solder Side



CRT PCB Component Side

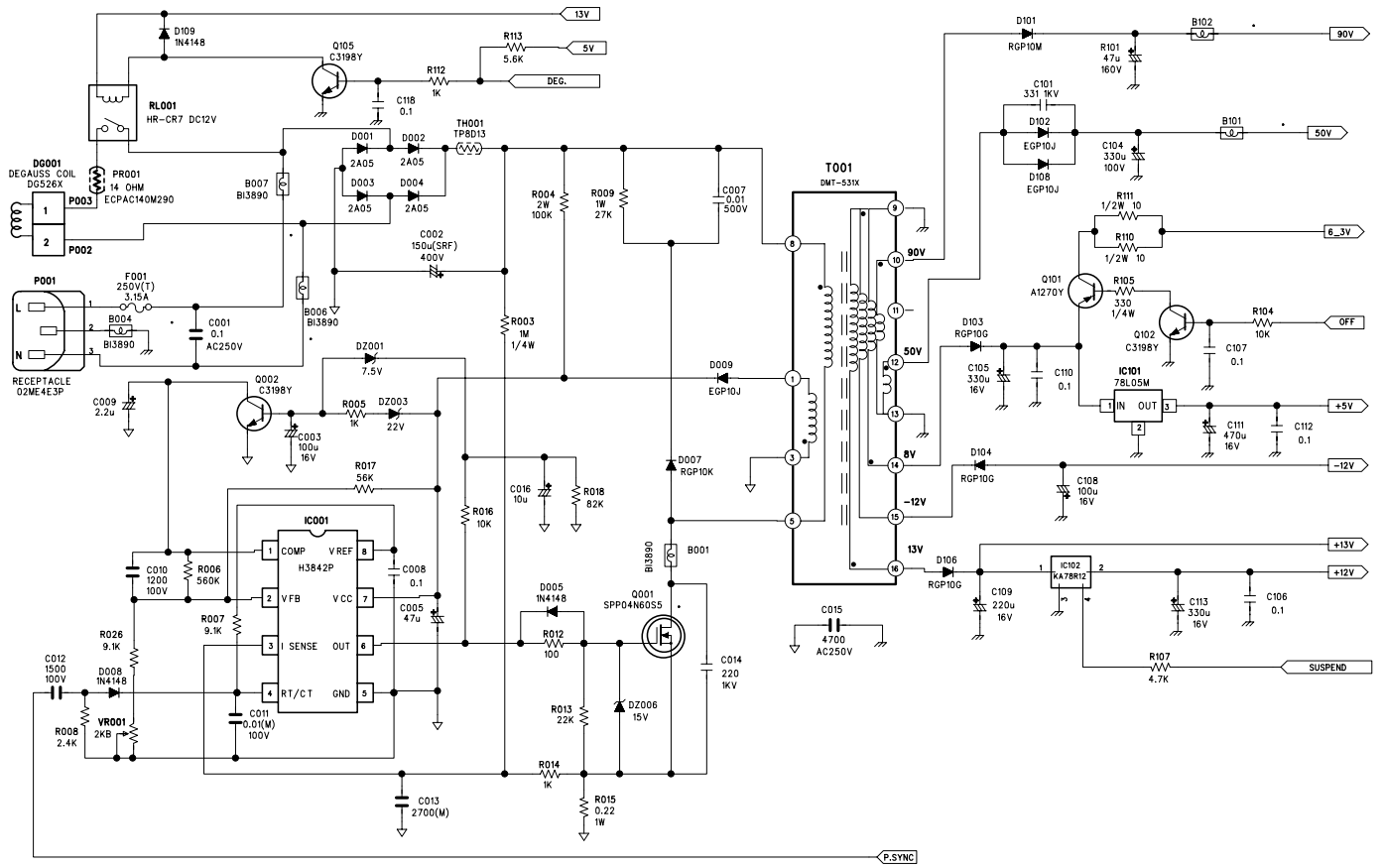


CRT PCB Solder Side

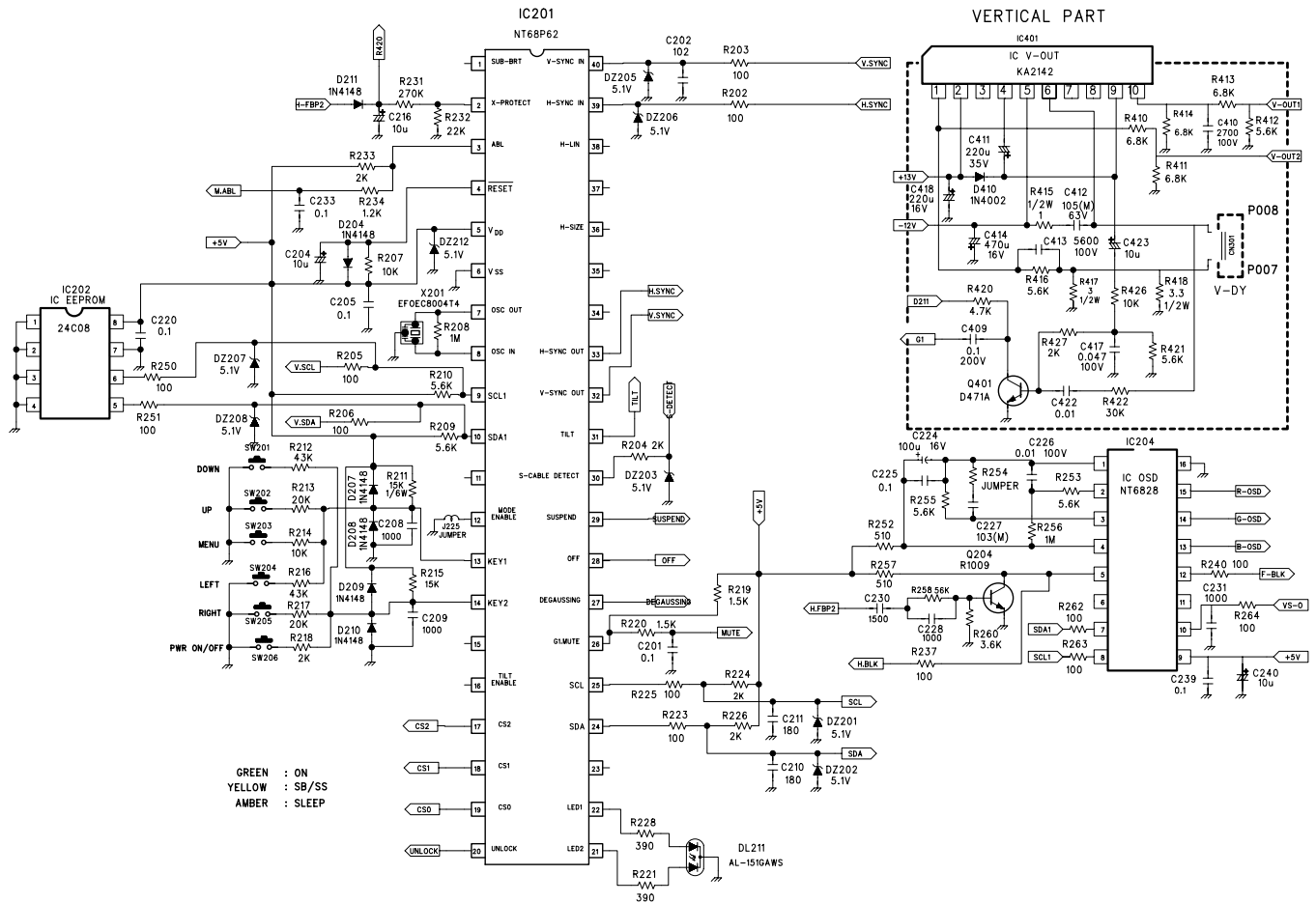


SCHEMATIC DIAGRAM

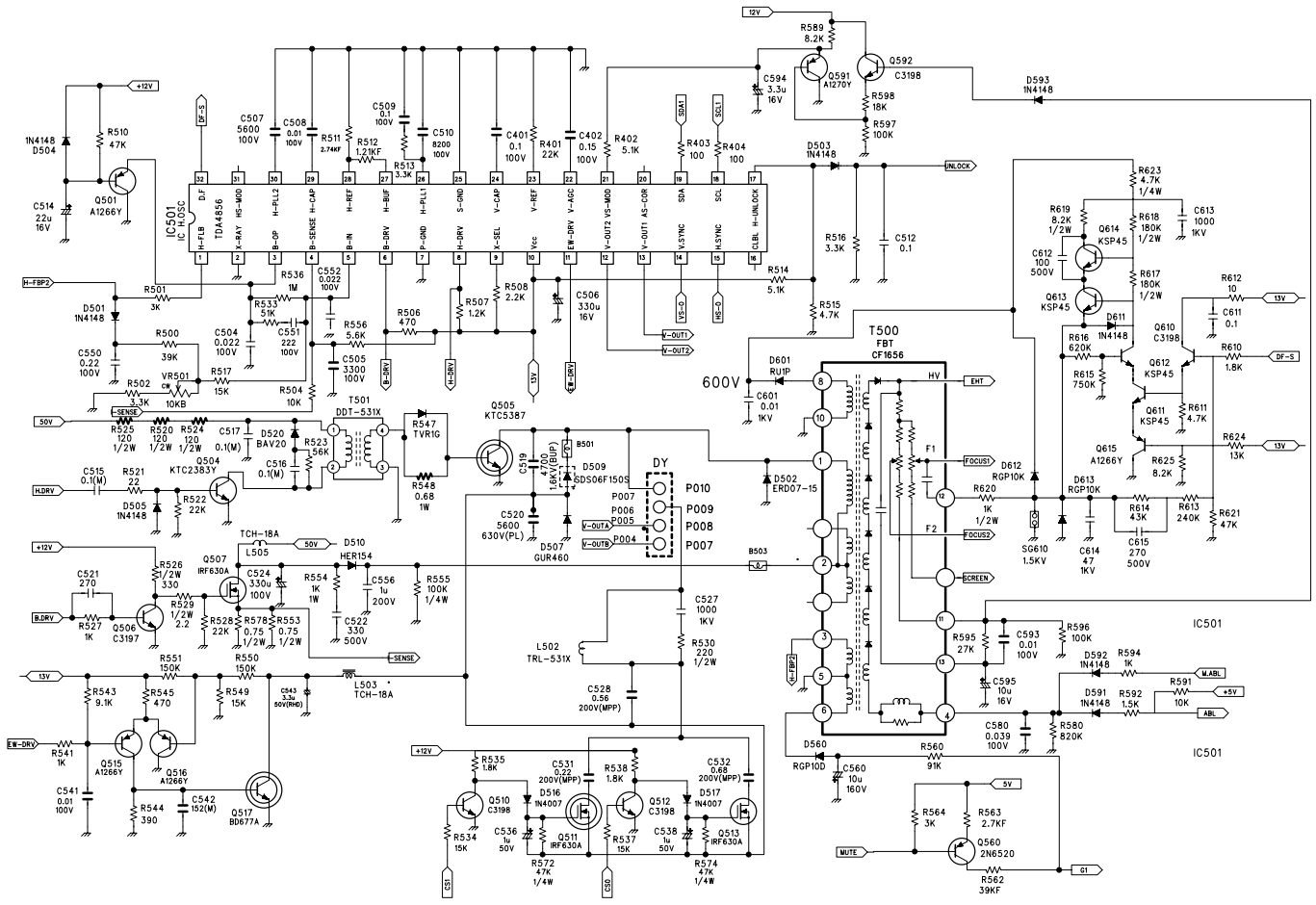
Power & Connection Section



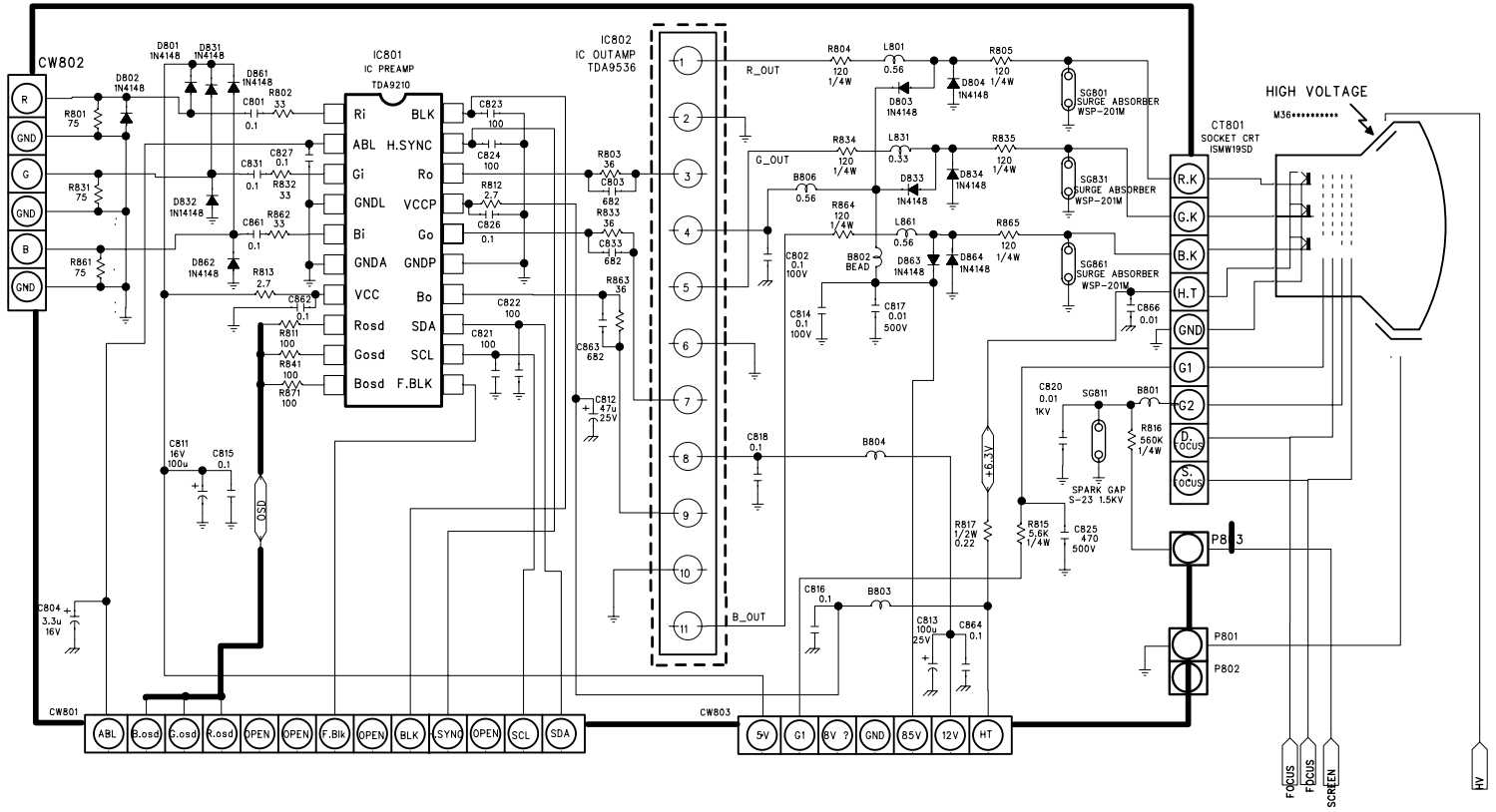
Control & Vert. out Section



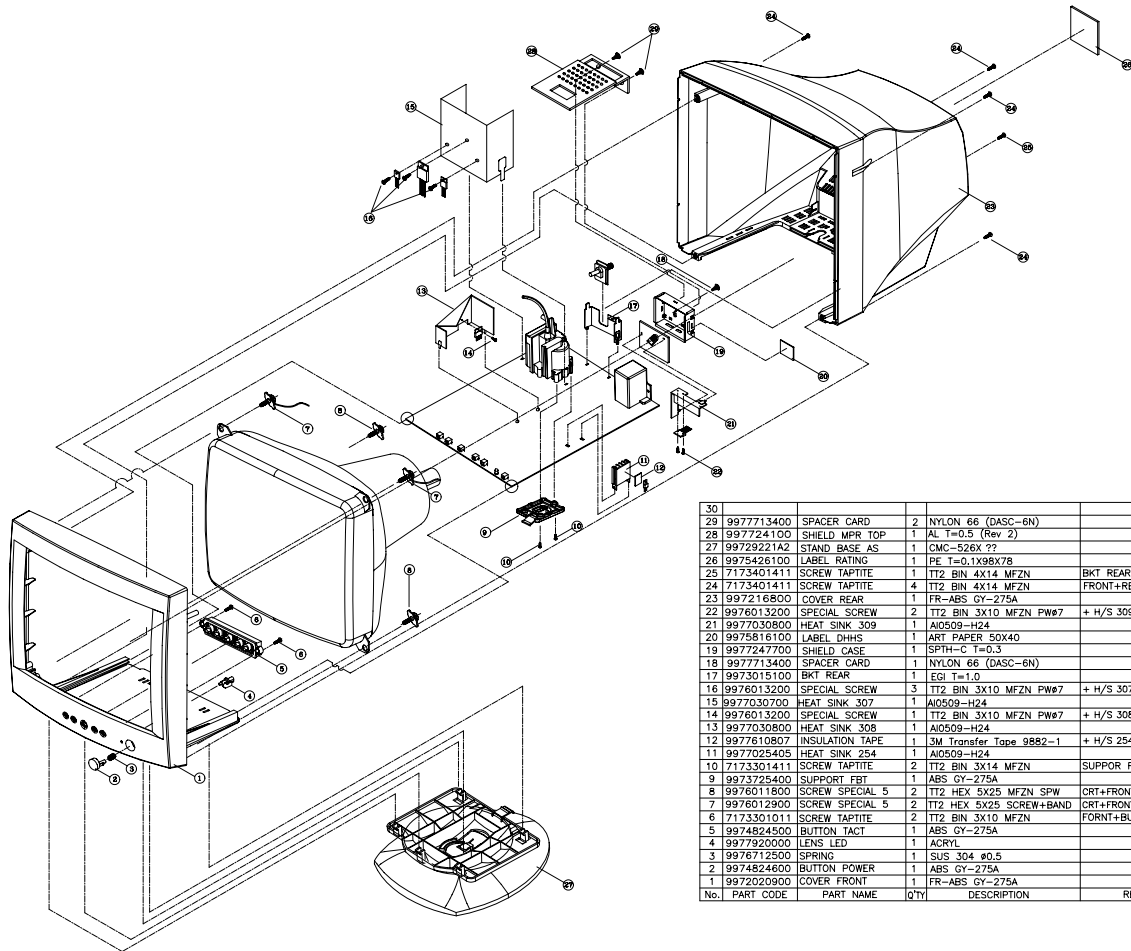
Horizontal Section



Video Section



EXPLODED VIEW DIAGRAM



| | | | | | |
|-----|------------|-----------------|-----|-------------------------|-----------------------|
| 30 | 9977713400 | SPACER CARD | 2 | NYLON 66 (DASC-6N) | |
| 29 | 997724100 | SHIELD MPR TOP | 1 | AL T=0.5 (Rev 2) | |
| 27 | 99729221A2 | STAND BASE AS | 1 | CMC-526X ?? | |
| 26 | 9975426100 | LABEL RATING | 1 | PE T=0.1X98X78 | |
| 25 | 7173401411 | SCREW TAPTITE | 1 | IT2 BIN 4X14 MFZN | BKT REAR+REAR |
| 24 | 7173401411 | SCREW TAPTITE | 4 | IT2 BIN 4X14 MFZN | FRONT+REAR |
| 23 | 997216800 | COVER REAR | 1 | FR-ABS GY-275A | |
| 22 | 9976013200 | SPECIAL SCREW | 2 | IT2 BIN 3X10 MFZN PW#7 | + H/S 309 |
| 21 | 9977030800 | HEAT SINK 309 | 1 | AI0509-H24 | |
| 20 | 9975816100 | LABEL DHHS | 1 | ART PAPER 50X40 | |
| 19 | 9977247700 | SHIELD CASE | 1 | SPIH-C T=0.3 | |
| 18 | 9977713400 | SPACER CARD | 1 | NYLON 66 (DASC-6N) | |
| 17 | 9973015100 | BKT REAR | 1 | EGT T=1.0 | |
| 16 | 9976013200 | SPECIAL SCREW | 3 | IT2 BIN 3X10 MFZN PW#7 | + H/S 307 |
| 15 | 9977030700 | HEAT SINK 307 | 1 | AI0509-H24 | |
| 14 | 9976013200 | SPECIAL SCREW | 1 | IT2 BIN 3X10 MFZN PW#7 | + H/S 308 |
| 13 | 9977030800 | HEAT SINK 308 | 1 | AI0509-H24 | |
| 12 | 9977610807 | INSULATION TAPE | 1 | 3M Transfer Tape 9882-1 | + H/S 254 |
| 11 | 9977025405 | HEAT SINK 254 | 1 | AI0509-H24 | |
| 10 | 7173301411 | SCREW TAPTITE | 2 | IT2 BIN 3X14 MFZN | SUPPOR FB1+FBT |
| 9 | 9973725400 | SUPPORT FB1 | 1 | ABS GY-275A | |
| 8 | 9976011800 | SCREW SPECIAL | 5 | IT2 HEX 5X25 MFZN SPW | CRT+FRONT |
| 7 | 9976012900 | SCREW SPECIAL | 5 | IT2 HEX 5X25 SCREW+BAND | CRT+FRONT D-COIL WIRE |
| 6 | 7173301011 | SCREW TAPTITE | 2 | IT2 BIN 3X10 MFZN | FORNT+BUTTON TACT |
| 5 | 9974824500 | BUTTON TACT | 1 | ABS GY-275A | |
| 4 | 9977920000 | LENS LED | 1 | ACRIL | |
| 3 | 9976712500 | SPRING | 1 | SUS 304 #0.5 | |
| 2 | 9974824600 | BUTTON POWER | 1 | ABS GY-275A | |
| 1 | 9972020900 | COVER FRONT | 1 | FR-ABS GY-275A | |
| No. | PART CODE | PART NAME | QTY | DESCRIPTION | REMARK |

INFORMATION OF PART DESCRIPTION

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 | |
| | RD-4Z820J | Carbon: 82J |
| R102 | RD-4Z201J | Carbon1/4W-200J |

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 0.1µF Z |
| | CCXB1H331K | Ceramic 50V 330PF K |
| C105 | CMXM 2A224J | MYLAR 100V 0.22µFJ |

ELECTRICAL PARTS LIST

The components identified by mark \triangle 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 | LOC | PART-CODE | PART-NAME | PART-DESC |
|------------------|------------|---------------|---------------------------|------|------------|-----------|---------------------------|
| 00001 | 9979800540 | PCB MAIN | T=1.6*246*247 (531X) | C210 | CCXB1H181K | C CERA | 50V B 180PF K (TAPPING) |
| 00002 | 9979800548 | PCB CRT | T=1.6*108*82(531X) | C211 | CCXB1H181K | C CERA | 50V B 180PF K (TAPPING) |
| 00020 | W3475N731- | CORD POWER | 3 H05VV-F 3X0.75 1.8 IV | C216 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP |
| B001 | 5PB13890-- | COIL BEAD | BI3890 | C220 | CCXF1H104Z | C CERA | 50V F 0.1MF Z |
| B006 | 5PB13890-- | COIL BEAD | BI3890 | C224 | CEXF1C101V | C ELECTRO | 16V RSS 100MF (6.3X11) TP |
| B007 | 5PB13890-- | COIL BEAD | BI3890 | C225 | CCXF1H104Z | C CERA | 50V F 0.1MF Z |
| B101 | 5PB13857-- | COIL BEAD | BI3857(AXIAL) | C226 | CMXM2A103J | C MYLAR | 100V 0.01MF J (TP) |
| B102 | 5PB13857-- | COIL BEAD | BI3857(AXIAL) | C227 | CMXM2A103J | C MYLAR | 100V 0.01MF J (TP) |
| B501 | 5PB13857-- | COIL BEAD | BI3857(AXIAL) | C228 | CCXB1H102K | C CERA | 50V B 1000PF K (TAPPING) |
| B503 | 5PB13857-- | COIL BEAD | BI3857(AXIAL) | C230 | CCXB1H152K | C CERA | 50V B 1500PF K (TAPPING) |
| B801 | 5PB13857-- | COIL BEAD | BI3857(AXIAL) | C231 | CCXB1H102K | C CERA | 50V B 1000PF K (TAPPING) |
| B802 | 5PB13857-- | COIL BEAD | BI3857(AXIAL) | C233 | CCXF1H104Z | C CERA | 50V F 0.1MF Z |
| B803 | 5PB13857-- | COIL BEAD | BI3857(AXIAL) | C239 | CCXF1H104Z | C CERA | 50V F 0.1MF Z |
| B804 | 5PB13857-- | COIL BEAD | BI3857(AXIAL) | C240 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP |
| \triangle C001 | CL1UC3104M | C LINE ACROSS | WORLD AC250V 0.1UF M R.47 | C401 | CMXM2A104J | C MYLAR | 100V 0.1MF J (TP) |
| \triangle C002 | CEYP2G151Z | C ELECTRO | 400V SMH 150MF (25.4*40) | C402 | CMXM2A154J | C MYLAR | 100V 0.15MF J (TP) |
| C003 | CEXF1C101V | C ELECTRO | 16V RSS 100MF (6.3X11) TP | C409 | CMXM2E104J | C MYLAR | 250V 0.1MF J |
| C005 | CEXF1H470V | C ELECTRO | 50V RSS 47MF (6.3X11) TP | C410 | CMXM2A272J | C MYLAR | 100V 2700PF J (TP) |
| C007 | CCXB2H103K | C CERA | HIKB 500V 0.01MF K | C411 | CEXF1V221V | C ELECTRO | 35V RSS 220MF (10X12.5)TP |
| C008 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | C412 | CMXL1J105J | C MYLAR | MEU 63V 1MF J |
| C009 | CEXF1H229V | C ELECTRO | 50V RSS 2.2MF (5X11) TP | C413 | CMXM2A562J | C MYLAR | 100V 5600PF J (TP) |
| C010 | CMXM2A102J | C MYLAR | 100V 1000PF J (TP) | C414 | CEXF1C471V | C ELECTRO | 16V RSS 470MF (10X12.5)TP |
| C011 | CMXM2A103J | C MYLAR | 100V 0.01MF J (TP) | C417 | CMXM2A473J | C MYLAR | 100V 0.047MF J (TP) |
| C012 | CMXM2A152J | C MYLAR | 100V 1500PF J (TP) | C418 | CEXF1C221V | C ELECTRO | 16V RSS 220MF (8X11.5) TP |
| C013 | CMXM2A272J | C MYLAR | 100V 2700PF J (TP) | C422 | CCXB1H103K | C CERA | 50V B 0.01MF K |
| C014 | CCXB3A221K | C CERA | 1KV B 220PF K (TAPPING) | C423 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP |
| \triangle C015 | CH1FDF472M | C CERA AC | 2.5KV 4700PF M AC250V | C504 | CMXM2A223J | C MYLAR | 100V 0.022MF J TP |
| C016 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP | C505 | CMXM2A332J | C MYLAR | 100V 3300PF J (TP) |
| C101 | CCXB3A331K | C CERA | 1KV B 330PF K (TAPPING) | C506 | CEXF1C331V | C ELECTRO | 16V RSS 330MF (8X11.5) TP |
| C102 | CEXF2C470V | C ELECTRO | 160V RSS 47MF (13X25) TP | C507 | CMXM2A562J | C MYLAR | 100V 5600PF J (TP) |
| C104 | CEXF2A331V | C ELECTRO | 100V RSS 330MF (16X25) TP | C508 | CMXM2A103J | C MYLAR | 100V 0.01MF J (TP) |
| C105 | CEXF1C331V | C ELECTRO | 16V RSS 330MF (8X11.5) TP | C509 | CMXM2A104J | C MYLAR | 100V 0.1MF J (TP) |
| C106 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | C510 | CMXM2A822J | C MYLAR | 100V 8200PF J (TP) |
| C107 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | C512 | CCXF1H104Z | C CERA | 50V F 0.1MF Z |
| C108 | CEXF1C101V | C ELECTRO | 16V RSS 100MF (6.3X11) TP | C514 | CEXF1C220V | C ELECTRO | RSS 16V 22MF 5*11 |
| C109 | CEXF1C221V | C ELECTRO | 16V RSS 220MF (8X11.5) TP | C515 | CMXM2A104J | C MYLAR | 100V 0.1MF J (TP) |
| C110 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | C516 | CMXM2A104J | C MYLAR | 100V 0.1MF J (TP) |
| C111 | CEXF1C471V | C ELECTRO | 16V RSS 470MF (10X12.5)TP | C517 | CMXM2A104J | C MYLAR | 100V 0.1MF J (TP) |
| C112 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | C519 | CMYH3C472J | C MYLAR | 1.6KV BUP 4700PF J |
| C113 | CEXF1C331V | C ELECTRO | 16V RSS 330MF (8X11.5) TP | C520 | CMXE2J562J | C MYLAR | 630V PU 5600PF J (TP) |
| C118 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | C521 | CCXB1H271K | C CERA | 50V B 270PF K (TAPPING) |
| C201 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | C522 | CCXB2H331K | C CERA | 500V B 330PF K (TAPPING) |
| C202 | CCXB1H102K | C CERA | 50V B 1000PF K (TAPPING) | C524 | CEXF2A331V | C ELECTRO | 100V RSS 330MF (16X25) TP |
| C204 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP | C527 | CCXB3A102K | C CERA | 1KV B 1000PF K (TAPPING) |
| C205 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | C528 | CMYF2D564J | C MYLAR | 200V MPP 0.56MF J |
| C208 | CCXB1H102K | C CERA | 50V B 1000PF K (TAPPING) | C531 | CMXF2D224J | C MYLAR | MPP 200V 0.22MF J |
| C209 | CCXB1H102K | C CERA | 50V B 1000PF K (TAPPING) | C532 | CMYF2D684J | C MYLAR | 200V MPP 0.68MF J |

| LOC | PART-CODE | PART-NAME | PART-DESC | LOC | PART-CODE | PART-NAME | PART-DESC |
|-------|------------|-----------------|---------------------------|---------|------------|-------------|--------------------------|
| C536 | CEXF1H109V | C ELECTRO | 50V RSS 1MF (5X11) TP | CA202 | 9970770028 | CONN AS | SMH200-07+YBNH200-07=270 |
| C538 | CEXF1H109V | C ELECTRO | 50V RSS 1MF (5X11) TP | CG001 | 9970710245 | CRT GND AS | 0.12*6*16+BL101NG=580 |
| C541 | CMXM2A103J | C MYLAR | 100V 0.01MF J (TP) | △ CT001 | 9979615027 | CDT | M36QCZ100XX61 |
| C542 | CMXM2A152J | C MYLAR | 100V 1500PF J (TP) | CT801 | 9979300012 | SOCKET CRT | ISMW19SD |
| C543 | CEXD1H339W | C ELECTRO | 50V RHD 3.3MF(16*25) | CW201 | 9979220102 | CONN WAFER | SMW200-07 (ST) |
| C550 | CMXM2A224J | C MYLAR | 100V 0.22MF J | CW801 | 9979220092 | CONN WAFER | SMAW200-11 (ANGLE) |
| C551 | CMXM2A222J | C MYLAR | 100V 2200PF J (TP) | CW802 | 9979220087 | CONN WAFER | SMAW200-06 (ANGLE) |
| C552 | CMXM2A223J | C MYLAR | 100V 0.022MF J TP | CW803 | 9979220088 | CONN WAFER | SMAW200-07 (ANGLE) |
| C556 | CMYF2D105J | C MYLAR | MPP 200V 1MF J | △ D001 | D2A05---- | DIODE | 2A05 |
| C560 | CEXF2C100V | C ELECTRO | 160V RSS 10MF (10X16) TP | △ D002 | D2A05---- | DIODE | 2A05 |
| C580 | CMXM2A393J | C MYLAR | 100V 0.039MF J (TP) | △ D003 | D2A05---- | DIODE | 2A05 |
| C593 | CMXM2A103J | C MYLAR | 100V 0.01MF J (TP) | △ D004 | D2A05---- | DIODE | 2A05 |
| C594 | CEXF1H339V | C ELECTRO | 50V RSS 3.3MF (5X11) TP | D005 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C595 | CEXF1H100V | C ELECTRO | 50V RSS 10MF (5X11) TP | D007 | DRGP10K--- | DIODE | RGP10K |
| C601 | CXB3A103K | C CERA | HIKB 1KV 0.01MF K | D008 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C611 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | D009 | DEGP10J--- | DIODE | EGP10J |
| C612 | CCXB2H101K | C CERA | 500V B 100PF K (TAPPING) | D101 | DRGP10M--- | DIODE | RGP10M |
| C613 | CCXB3A102K | C CERA | 1KV B 1000PF K (TAPPING) | D102 | DEGP10J--- | DIODE | EGP10J |
| C614 | CXSL3A470K | C CERA | 1KV SL 47PF K (TP) | D103 | DRGP10G--- | DIODE | RGP10G |
| C615 | CCXB2H271K | C CERA | 500V B 270PF K (TAPPING) | D104 | DRGP10G--- | DIODE | RGP10G |
| C801 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | D106 | DRGP10G--- | DIODE | RGP10G |
| C802 | CMXL2E104J | C MYLAR | MEU 250V 0.1MF J | D108 | DEGP10J--- | DIODE | EGP10J |
| C803 | CXB1H682K | C CERA | 50V B 6800PF K (TAPPING) | D109 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C804 | CEXF1H339V | C ELECTRO | 50V RSS 3.3MF (5X11) TP | D204 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C811 | CEXF1C101V | C ELECTRO | 16V RSS 100MF (6.3X11) TP | D207 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C812 | CEXF1E470V | C ELECTRO | 25V RSS 47MF (5X11) TP | D208 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C813 | CEXF1E101V | C ELECTRO | 25V RSS 100MF (6.3X11) TP | D209 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C814 | CMXL2E104J | C MYLAR | MEU 250V 0.1MF J | D210 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C815 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | D211 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C816 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | D410 | D1N4002A-- | DIODE | 1N4002 |
| C817 | CCXB2H103K | C CERA | HIKB 500V 0.01MF K | D501 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C818 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | D502 | DERD07-15- | DIODE | ERD07-15 |
| C820 | CCYB3A103K | C CERA | 1KV B 0.01MF K | D503 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C821 | CCXB1H101K | C CERA | 50V B 100PF K (TAPPING) | D504 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C822 | CCXB1H101K | C CERA | 50V B 100PF K (TAPPING) | D505 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C823 | CCXB1H101K | C CERA | 50V B 100PF K (TAPPING) | D507 | DGUR460--- | DIODE | GUR460 |
| C824 | CCXB1H101K | C CERA | 50V B 100PF K (TAPPING) | D509 | SDS06F150 | DIODE | SDS06F150STU |
| C825 | CCXB2H471K | C CERA | 500V B 470PF K (TAPPING) | D510 | DSUF1504SP | DIODE | SUF1504SP |
| C826 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | D511 | 85801052GY | WIRE COPPER | 1/0.52 TIN COATING |
| C827 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | D516 | D1N4007--- | DIODE | IN4007 |
| C831 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | D517 | D1N4007--- | DIODE | IN4007 |
| C833 | CCXB1H682K | C CERA | 50V B 6800PF K (TAPPING) | D520 | DBAV20---- | DIODE | BAV20 |
| C861 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | D560 | DRGP10D--- | DIODE | RGF 10-D (TAPPING) |
| C862 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | D591 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C863 | CCXB1H682K | C CERA | 50V B 6800PF K (TAPPING) | D592 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C864 | CCXF1H104Z | C CERA | 50V F 0.1MF Z | D593 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| C866 | CCXF1H103Z | C CERA | 50V F 0.01MF Z (TAPPING) | D594 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |
| CA200 | 9970800045 | CABLE SIGNAL AS | 15P+3C/DDC=1.5M(GY275A) | D601 | DRU1P----- | DIODE | RU 1P (TAPPING) |
| CA201 | 99707C0011 | CONN AS | SMH200-11+YBNH200-12=250 | D611 | DZN4148--- | DIODE | 1N4148 AUTO 52MM |

| LOC | PART-CODE | PART-NAME | PART-DESC | LOC | PART-CODE | PART-NAME | PART-DESC |
|---------|------------|------------------|---------------------------|--------|------------|----------------|-------------------------|
| D612 | DRGP10K--- | DIODE | RGP10K | △ Q001 | TSPPO4N60S | FET | SPP04N60S5 |
| D613 | DRGP10K--- | DIODE | RGP10K | Q002 | TZTC3198Y- | TR | KTC3198Y-(1815Y) (AUTO) |
| D801 | DZN4148--- | DIODE | 1N4148 AUTO 52MM | Q101 | TZTA1270Y- | TR | KTA1270Y(AUTO)(562Y) |
| D802 | DZN4148--- | DIODE | 1N4148 AUTO 52MM | Q102 | TZTC3198Y- | TR | KTC3198Y-(1815Y) (AUTO) |
| D803 | DBAV20---- | DIODE | BAV20 | Q105 | TZTC3198Y- | TR | KTC3198Y-(1815Y) (AUTO) |
| D804 | DBAV20---- | DIODE | BAV20 | Q204 | TZSR1009-- | TR | KSR1009 |
| D831 | DZN4148--- | DIODE | 1N4148 AUTO 52MM | Q401 | TKSD471ACY | TR | KSD471ACY |
| D832 | DZN4148--- | DIODE | 1N4148 AUTO 52MM | Q501 | TZTA1266Y- | TR | KTA1266Y- (AUTO)(1015Y) |
| D833 | DBAV20---- | DIODE | BAV20 | Q504 | TKSC2383Y- | TR | KSC 2383-Y |
| D834 | DBAV20---- | DIODE | BAV20 | Q505 | T2SC5387-- | TR H.OUT | 2SC5387 |
| D861 | DZN4148--- | DIODE | 1N4148 AUTO 52MM | Q506 | TZTC3197-- | TR | KTC3197 (AUTO)(388A) |
| D862 | DZN4148--- | DIODE | 1N4148 AUTO 52MM | Q507 | T1RF630A-- | FET | IRF630A |
| D863 | DBAV20---- | DIODE | BAV20 | Q510 | TZTC3198Y- | TR | KTC3198Y-(1815Y) (AUTO) |
| D864 | DBAV20---- | DIODE | BAV20 | Q511 | T1RF630A-- | FET | IRF630A |
| △ DG001 | 5MG0000066 | COIL DEGAUSSING | DG-526X | Q512 | TZTC3198Y- | TR | KTC3198Y-(1815Y) (AUTO) |
| DL211 | DSD50GYW-- | LED | SD50GYW(GREEN/AMBER) | Q513 | T1RF630A-- | FET | IRF630A |
| DZ001 | DDZ7R5BM-- | DIODE ZENER | DZ7.5BM | Q515 | TZTA1266Y- | TR | KTA1266Y- (AUTO)(1015Y) |
| DZ003 | DDZ22BM--- | DIODE ZENER | DZ22BM | Q516 | TZTA1266Y- | TR | KTA1266Y- (AUTO)(1015Y) |
| DZ006 | DDZ15BM--- | DIODE ZENER | DZ15BM | Q517 | TBD677A--- | TR | BD677A |
| DZ201 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B | Q560 | T2N6520--- | TR | 2N6520 |
| DZ202 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B | Q591 | TZTA1270Y- | TR | KTA1270Y(AUTO)(562Y) |
| DZ203 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B | Q592 | TZTC3198Y- | TR | KTC3198Y-(1815Y) (AUTO) |
| DZ205 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B | Q610 | TZTC3198Y- | TR | KTC3198Y-(1815Y) (AUTO) |
| DZ206 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B | Q611 | TKSP45---- | TR | KSP45 |
| DZ207 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B | Q612 | TKSP45---- | TR | KSP45 |
| DZ208 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B | Q613 | TKSP45---- | TR | KSP45 |
| DZ212 | DDZ5R1B--- | DIODE ZENER | DZ-5.1B | Q614 | TKSP45---- | TR | KSP45 |
| △ F001 | 5F3CB3122L | FUSE CERA | SEMKO TL 3.15AH 250V MF51 | Q615 | TZTA1266Y- | TR | KTA1266Y- (AUTO)(1015Y) |
| GND1 | 9970710233 | CONN AS | HOLDER+1015#18+SOLDER=100 | R003 | RD-4Z105J- | R CARBON FILM | 1/4 1M OHM J |
| GND2 | 9970710247 | CONN AS | 35068+35072+1015#22=160 | R004 | RS02Z104J- | R M-OXIDE FILM | 2W 100K OHM J TAPPING |
| GND3 | 9970710247 | CONN AS | 35068+35072+1015#22=160 | R005 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J |
| △ IC001 | 1H3842P--- | IC POWER | H3842P | R006 | RD-AZ564J- | R CARBON FILM | 1/6 560K OHM J |
| IC101 | 1UTC78L05M | IC REGULATOR | 78L05M | R007 | RD-AZ912J- | R CARBON FILM | 1/6 9.1K OHM J |
| IC102 | 1KA78R12-- | IC REGULATOR | KA78R12 | R008 | RD-AZ242J- | R CARBON FILM | 1/6 2.4K OHM J |
| IC201 | 1DWM240T-- | IC MICOM | NT68P62 | R009 | RS01Z273J- | R M-OXIDE FILM | 1W 27K OHM J (TAPPING) |
| IC202 | 124C08---- | IC EEPROM | 24C08 | R012 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J |
| IC204 | 1DW0SD11-- | IC OSD | NT6828-00005 | R013 | RD-AZ223J- | R CARBON FILM | 1/6 22K OHM J |
| IC401 | 1KA2142--- | IC V-OUT | KA2142 | R014 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J |
| IC501 | 1TDA4856-- | IC H.OSC | TDA4856 | R015 | RS01Z228J- | R M-OXIDE FILM | 1W 0.22 OHM J |
| IC801 | 1TDA9210-- | IC VIDEO PREAMP | TDA9210 | R016 | RD-AZ103J- | R CARBON FILM | 1/6 10K OHM J |
| IC802 | 1TDA9536-- | IC VIDEO OUTPUT | TDA9536 | R017 | RD-AZ563J- | R CARBON FILM | 1/6 56K OHM J |
| L502 | 5MH0000079 | COIL H-LINEARITY | TRL-531X | R018 | RD-AZ823J- | R CARBON FILM | 1/6 82K OHM J |
| L503 | 5MC0000060 | COIL CHOKE | TCH-18A | R026 | RD-AZ912J- | R CARBON FILM | 1/6 9.1K OHM J |
| L505 | 5MC0000060 | COIL CHOKE | TCH-18A | R104 | RD-AZ103J- | R CARBON FILM | 1/6 10K OHM J |
| L801 | 5CPZ568K02 | COIL PEAKING | 0.56UH K (AXIAL 3.5MM) | R105 | RD-4Z331J- | R CARBON FILM | 1/4 330 OHM J |
| L831 | 5CPZ338K02 | COIL PEAKING | 0.33UH K (AXIAL 3.5MM) | R107 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J |
| L861 | 5CPZ568K02 | COIL PEAKING | 0.56UH K (AXIAL 3.5MM) | R110 | RD-2Z100J- | R CARBON FILM | 1/2 10 OHM J |
| △ P001 | 9979500024 | RECEPTACLE | 02ME4E3P/FILTER EMI | R111 | RD-2Z100J- | R CARBON FILM | 1/2 10 OHM J |
| △ PR001 | DECPAC140M | POSISTOR | ECPAC140M290 | R112 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J |

| LOC | PART-CODE | PART-NAME | PART-DESC | LOC | PART-CODE | PART-NAME | PART-DESC |
|------|------------|---------------|--------------------|------|------------|---------------|-----------------|
| R113 | RD-AZ562J | R CARBON FILM | 1/6 5.6K OHM J | R410 | RD-AZ682J | R CARBON FILM | 1/6 6.8K OHM J |
| R202 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R411 | RD-AZ682J | R CARBON FILM | 1/6 6.8K OHM J |
| R203 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R412 | RD-AZ562J | R CARBON FILM | 1/6 5.6K OHM J |
| R204 | RD-AZ202J | R CARBON FILM | 1/6 2K OHM J | R413 | RD-AZ682J | R CARBON FILM | 1/6 6.8K OHM J |
| R205 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R414 | RD-AZ682J | R CARBON FILM | 1/6 6.8K OHM J |
| R206 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R415 | RD-2Z109J | R CARBON FILM | 1/2 1 OHM J |
| R207 | RD-AZ103J | R CARBON FILM | 1/6 10K OHM J | R416 | RD-AZ562J | R CARBON FILM | 1/6 5.6K OHM J |
| R208 | RD-AZ105J | R CARBON FILM | 1/6 1M OHM J | R417 | RD-2Z309J | R CARBON FILM | 1/2 3 OHM J |
| R209 | RD-AZ562J | R CARBON FILM | 1/6 5.6K OHM J | R418 | RD-2Z339J | R CARBON FILM | 1/2 3.3 OHM J |
| R210 | RD-AZ562J | R CARBON FILM | 1/6 5.6K OHM J | R420 | RD-AZ472J | R CARBON FILM | 1/6 4.7K OHM J |
| R211 | RD-AZ153J | R CARBON FILM | 1/6 15K OHM J | R421 | RD-AZ562J | R CARBON FILM | 1/6 5.6K OHM J |
| R212 | RD-AZ433J | R CARBON FILM | 1/6 43K OHM J | R422 | RD-AZ303J | R CARBON FILM | 1/6 30K OHM J |
| R213 | RD-AZ203J | R CARBON FILM | 1/6 20K OHM J | R426 | RD-AZ103J | R CARBON FILM | 1/6 10K OHM J |
| R214 | RD-AZ103J | R CARBON FILM | 1/6 10K OHM J | R427 | RD-AZ202J | R CARBON FILM | 1/6 2K OHM J |
| R215 | RD-AZ153J | R CARBON FILM | 1/6 15K OHM J | R500 | RD-AZ393J | R CARBON FILM | 1/6 39K OHM J |
| R216 | RD-AZ433J | R CARBON FILM | 1/6 43K OHM J | R501 | RD-AZ302J | R CARBON FILM | 1/6 3K OHM J |
| R217 | RD-AZ203J | R CARBON FILM | 1/6 20K OHM J | R502 | RD-AZ332J | R CARBON FILM | 1/6 3.3K OHM J |
| R218 | RD-AZ202J | R CARBON FILM | 1/6 2K OHM J | R504 | RD-AZ103J | R CARBON FILM | 1/6 10K OHM J |
| R219 | RD-AZ152J | R CARBON FILM | 1/6 1.5K OHM J | R506 | RD-AZ471J | R CARBON FILM | 1/6 470 OHM J |
| R220 | RD-AZ152J | R CARBON FILM | 1/6 1.5K OHM J | R507 | RD-AZ122J | R CARBON FILM | 1/6 1.2K OHM J |
| R221 | RD-AZ391J | R CARBON FILM | 1/6 390 OHM J | R508 | RD-AZ222J | R CARBON FILM | 1/6 2.2K OHM J |
| R223 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R510 | RD-AZ473J | R CARBON FILM | 1/6 47K OHM J |
| R224 | RD-AZ202J | R CARBON FILM | 1/6 2K OHM J | R511 | RN-AZ2741F | R METAL FILM | 1/6 2.74K OHM F |
| R225 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R512 | RN-AZ1211F | R METAL FILM | 1/6 1.21K OHM F |
| R226 | RD-AZ202J | R CARBON FILM | 1/6 2K OHM J | R513 | RD-AZ332J | R CARBON FILM | 1/6 3.3K OHM J |
| R228 | RD-AZ391J | R CARBON FILM | 1/6 390 OHM J | R514 | RD-AZ512J | R CARBON FILM | 1/6 5.1K OHM J |
| R231 | RD-AZ274J | R CARBON FILM | 1/6 270K OHM J | R515 | RD-AZ472J | R CARBON FILM | 1/6 4.7K OHM J |
| R232 | RD-AZ223J | R CARBON FILM | 1/6 22K OHM J | R516 | RD-AZ332J | R CARBON FILM | 1/6 3.3K OHM J |
| R233 | RD-AZ202J | R CARBON FILM | 1/6 2K OHM J | R517 | RD-AZ153J | R CARBON FILM | 1/6 15K OHM J |
| R234 | RD-AZ122J | R CARBON FILM | 1/6 1.2K OHM J | R520 | RD-2Z121J | R CARBON FILM | 1/2 120 OHM J |
| R237 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R521 | RD-AZ220J | R CARBON FILM | 1/6 22 OHM J |
| R240 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R522 | RD-AZ223J | R CARBON FILM | 1/6 22K OHM J |
| R250 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R523 | RD-AZ563J | R CARBON FILM | 1/6 56K OHM J |
| R251 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R524 | RD-2Z121J | R CARBON FILM | 1/2 120 OHM J |
| R252 | RD-AZ511J | R CARBON FILM | 1/6 510 OHM J | R525 | RD-2Z121J | R CARBON FILM | 1/2 120 OHM J |
| R253 | RD-AZ562J | R CARBON FILM | 1/6 5.6K OHM J | R526 | RD-2Z221J | R CARBON FILM | 1/2 220 OHM J |
| R254 | 85801052GY | WIRE COPPER | 1/0.52 TIN COATING | R527 | RD-AZ102J | R CARBON FILM | 1/6 1K OHM J |
| R255 | RD-AZ562J | R CARBON FILM | 1/6 5.6K OHM J | R528 | RD-AZ223J | R CARBON FILM | 1/6 22K OHM J |
| R256 | RD-AZ105J | R CARBON FILM | 1/6 1M OHM J | R529 | RD-2Z229J | R CARBON FILM | 1/2 2.2 OHM J |
| R257 | RD-AZ511J | R CARBON FILM | 1/6 510 OHM J | R530 | RD-2Z221J | R CARBON FILM | 1/2 220 OHM J |
| R258 | RD-AZ563J | R CARBON FILM | 1/6 56K OHM J | R533 | RD-AZ513J | R CARBON FILM | 1/6 51K OHM J |
| R260 | RD-AZ362J | R CARBON FILM | 1/6 3.6K OHM J | R534 | RD-AZ153J | R CARBON FILM | 1/6 15K OHM J |
| R262 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R535 | RD-AZ182J | R CARBON FILM | 1/6 1.8K OHM J |
| R263 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R536 | RD-AZ105J | R CARBON FILM | 1/6 1M OHM J |
| R264 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R537 | RD-AZ153J | R CARBON FILM | 1/6 15K OHM J |
| R401 | RD-AZ223J | R CARBON FILM | 1/6 22K OHM J | R538 | RD-AZ182J | R CARBON FILM | 1/6 1.8K OHM J |
| R402 | RD-AZ512J | R CARBON FILM | 1/6 5.1K OHM J | R541 | RD-AZ102J | R CARBON FILM | 1/6 1K OHM J |
| R403 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R543 | RD-AZ912J | R CARBON FILM | 1/6 9.1K OHM J |
| R404 | RD-AZ101J | R CARBON FILM | 1/6 100 OHM J | R544 | RD-AZ391J | R CARBON FILM | 1/6 390 OHM J |

| LOC | PART-CODE | PART-NAME | PART-DESC | LOC | PART-CODE | PART-NAME | PART-DESC |
|------|------------|----------------|-----------------------|---------|------------|----------------|------------------------|
| R545 | RD-AZ471J- | R CARBON FILM | 1/6 470 OHM J | R802 | RD-AZ330J- | R CARBON FILM | 1/6 33 OHM J |
| R547 | RS01Z688J- | R M-OXIDE FILM | 1W 0.68 OHM J | R803 | RD-AZ360J- | R CARBON FILM | 1/6 36 OHM J |
| R548 | DTVR1G---- | DIODE | TVR1G TPA1 | R804 | RD-4Z121J- | R CARBON FILM | 1/4 120 OHM J |
| R549 | RD-AZ153J- | R CARBON FILM | 1/6 15K OHM J | R805 | RD-4Z121J- | R CARBON FILM | 1/4 120 OHM J |
| R550 | RD-AZ154J- | R CARBON FILM | 1/6 150K OHM J | R811 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J |
| R551 | RD-AZ154J- | R CARBON FILM | 1/6 150K OHM J | R812 | RD-AZ279J- | R CARBON FILM | 1/6 2.7 OHM J |
| R553 | RD-2Z758J- | R CARBON FILM | 1/2 0.75 OHM J | R813 | RD-AZ279J- | R CARBON FILM | 1/6 2.7 OHM J |
| R554 | RS01Z102J- | R M-OXIDE FILM | 1W 1K OHM J (TAPPING) | R815 | RD-4Z562J- | R CARBON FILM | 1/4 5.6K OHM J |
| R555 | RD-4Z104J- | R CARBON FILM | 1/4 100K OHM J | R816 | RD-4Z564J- | R CARBON FILM | 1/4 560K OHM J |
| R556 | RD-AZ562J- | R CARBON FILM | 1/6 5.6K OHM J | R817 | RD-2Z228J- | R CARBON FILM | 1/2 0.22 OHM J |
| R560 | RD-AZ913J- | R CARBON FILM | 1/6 91K OHM J | R831 | RD-AZ750J- | R CARBON FILM | 1/6 75 OHM J |
| R562 | RD-AZ393J- | R CARBON FILM | 1/6 39K OHM J | R832 | RD-AZ330J- | R CARBON FILM | 1/6 33 OHM J |
| R563 | RN-AZ2701F | R METAL FILM | 1/6 2.7K OHM F | R833 | RD-AZ360J- | R CARBON FILM | 1/6 36 OHM J |
| R564 | RD-AZ302J- | R CARBON FILM | 1/6 3K OHM J | R834 | RD-4Z121J- | R CARBON FILM | 1/4 120 OHM J |
| R572 | RD-4Z473J- | R CARBON FILM | 1/4 47K OHM J | R835 | RD-4Z121J- | R CARBON FILM | 1/4 120 OHM J |
| R574 | RD-4Z473J- | R CARBON FILM | 1/4 47K OHM J | R841 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J |
| R578 | RD-2Z758J- | R CARBON FILM | 1/2 0.75 OHM J | R861 | RD-AZ750J- | R CARBON FILM | 1/6 75 OHM J |
| R580 | RD-AZ824J- | R CARBON FILM | 1/6 820K OHM J | R862 | RD-AZ330J- | R CARBON FILM | 1/6 33 OHM J |
| R589 | RD-AZ822J- | R CARBON FILM | 1/6 8.2K OHM J | R863 | RD-AZ360J- | R CARBON FILM | 1/6 36 OHM J |
| R591 | RD-AZ103J- | R CARBON FILM | 1/6 10K OHM J | R864 | RD-4Z121J- | R CARBON FILM | 1/4 120 OHM J |
| R592 | RD-AZ152J- | R CARBON FILM | 1/6 1.5K OHM J | R865 | RD-4Z121J- | R CARBON FILM | 1/4 120 OHM J |
| R594 | RD-AZ102J- | R CARBON FILM | 1/6 1K OHM J | R871 | RD-AZ101J- | R CARBON FILM | 1/6 100 OHM J |
| R595 | RD-AZ273J- | R CARBON FILM | 1/6 27K OHM J | △ RL001 | 5SC0101325 | SW RELAY | HR-CR7 DC12V |
| R596 | RD-AZ104J- | R CARBON FILM | 1/6 100K OHM J | SG610 | 4SG0D00104 | SPARK GAP | S-23 1.5KV |
| R597 | RD-AZ104J- | R CARBON FILM | 1/6 100K OHM J | SG801 | DWSP201M-- | SURGE ABSORBER | WSP-201M |
| R598 | RD-AZ183J- | R CARBON FILM | 1/6 18K OHM J | SG811 | 4SG0D00104 | SPARK GAP | S-23 1.5KV |
| R610 | RD-AZ182J- | R CARBON FILM | 1/6 1.8K OHM J | SG831 | DWSP201M-- | SURGE ABSORBER | WSP-201M |
| R611 | RD-AZ472J- | R CARBON FILM | 1/6 4.7K OHM J | SG861 | DWSP201M-- | SURGE ABSORBER | WSP-201M |
| R612 | RD-AZ100J- | R CARBON FILM | 1/6 10 OHM J | SW201 | 5S50101Z01 | SW TACT | KPT-1115VM 1C-1P |
| R613 | RD-AZ244J- | R CARBON FILM | 1/6 240K OHM J | SW202 | 5S50101Z01 | SW TACT | KPT-1115VM 1C-1P |
| R614 | RD-AZ433J- | R CARBON FILM | 1/6 43K OHM J | SW203 | 5S50101Z01 | SW TACT | KPT-1115VM 1C-1P |
| R615 | RD-AZ754J- | R CARBON FILM | 1/6 750K OHM J | SW204 | 5S50101Z01 | SW TACT | KPT-1115VM 1C-1P |
| R616 | RD-AZ624J- | R CARBON FILM | 1/6 620K OHM J | SW205 | 5S50101Z01 | SW TACT | KPT-1115VM 1C-1P |
| R617 | RD-2Z184J- | R CARBON FILM | 1/2 180K OHM J | SW206 | 5S50101Z01 | SW TACT | KPT-1115VM 1C-1P |
| R618 | RD-2Z184J- | R CARBON FILM | 1/2 180K OHM J | △ T001 | 5RM0000103 | TRANS SMPS | DMT-531X |
| R619 | RD-2Z822J- | R CARBON FILM | 1/2 8.2K OHM J | △ T500 | 5RH0000129 | FBT | CF1656 |
| R620 | RD-2Z102J- | R CARBON FILM | 1/2 1K OHM J | T501 | 5RD0000052 | TRANS DRIVE | DDT-531X |
| R621 | RD-AZ473J- | R CARBON FILM | 1/6 47K OHM J | TH001 | DTP8D13--- | THERMISTOR | TP8D13 |
| R623 | RD-4Z472J- | R CARBON FILM | 1/4 4.7K OHM J | VR001 | RV6121202P | R SEMI FIXED | CCT 063BT 2K OHM B TAP |
| R624 | RD-AZ133J- | R CARBON FILM | 1/6 13K OHM J | VR501 | RV6121102P | R SEMI FIXED | CCT 063BT 1K OHM B TAP |
| R625 | RD-AZ822J- | R CARBON FILM | 1/6 8.2K OHM J | X201 | 5PEF0EC8T4 | RESONATOR | EFOEC8004T4 |
| R801 | RD-AZ750J- | R CARBON FILM | 1/6 75 OHM J | | | | |

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