

Service Manual

XGA COLOR MONITOR

**Model : 531X-3/532X-3
531B-3/532B-3**

Daewoo says this is the 541 manual.

Warning

The data contained within this manual may not reflect your configuration. Please verify this information matches your model before making repairs. For Daewoo technical support call 1-800-245-9870.

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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 LUCOMS 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 25KV 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 alchohol (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.

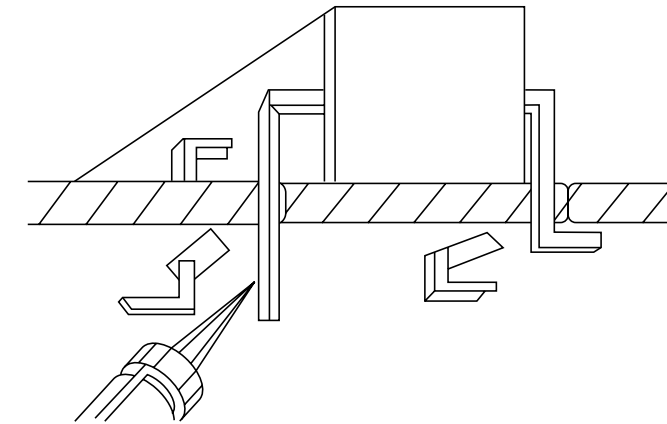


FIGURE 1. USE SOLDERING IRON TO PRY LEADS

◆ 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

		531X	531B
CDT Size		15-inch	
Diagonal visible image area		14-inch	
Dot Pitch		0.28 mm	
Synchronization	Horizontal	30-70KHz	30 - 54 KHz
	Vertical	50 - 160 Hz	
Plug and Play		VESA DDC Compatible	
Power Saving		EPA, VESA DPMS, Nutek Compliant	
Power Source		100-240 Vac, 50/60Hz (Free Voltage)	
Power Consumption		70 W	
Dimension-W x H x D (set with stand)		360 x 377 x 389 mm	
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.

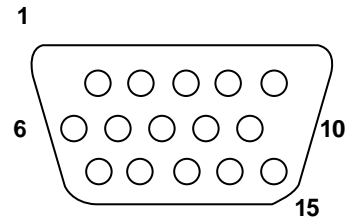
By accepting analog signal inputs which level is zero to 0.7 Volts. This color monitor can display and unlimited palette of colors depending on the graphics adapter and software being used.

◆ 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	+5Vdc (optional)
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

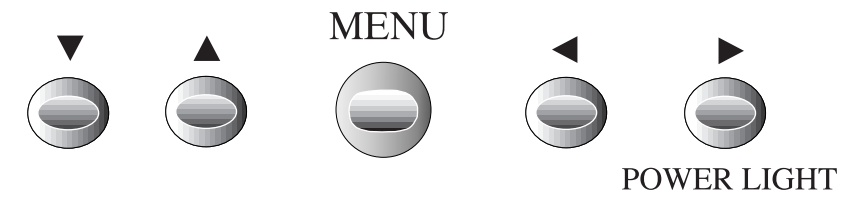
- Degaussing is always required when adjusting purity or convergence.
- The white balance adjustment has been done by a color analyzer in factory. The adjustment procedure, described in the service manual is made by a visual check.
- Allow 20 minutes warm-up time for the display before checking or adjusting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

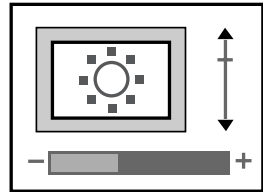
Control Panel



- 
 - Increase the value of any selected function.
 - While the OSD screen is off, you can adjust the screen brightness according to each situation.
- 
 - Decrease the value of any selected function.
- 
 - Turns the OSD window on and off.
- 
 - Move cursor to the previous function on the OSD window.
- 
 - Move cursor to the next function on the OSD window.

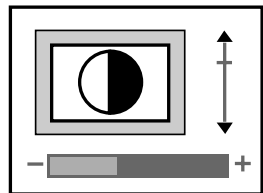
Hot Key

▲ BRIGHTNESS ▼

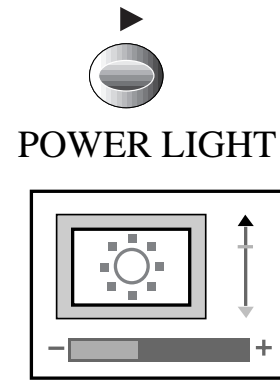


When there is no OSD, if you press this BRIGHTNESS button, you can adjust the brightness directly.

◀ CONTRAST



When there is no OSD, if you press this CONTRAST button, you can adjust the contrast directly.







The screen will be bright progressively by 10% (PC/GAME/MOVIE Mode).

If you carry out general PC works such as document edition on the Movie mode, you may shorten the life span of CRT. Thus, it is recommended to verify the selected mode before use.

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.
	PIN BALANCE	Adjust the side balance when the sides of the screen are bowed towards left or right.
	PARALLELOGRAM	Adjust the parallelogram when the screen is leaning left or right.
	COLOR TEMP	Choose different preset color temperatures or set your own customized color parameters.(5000K is user mode)
	RED GAIN	Adjust the red gain.
	GREEN GAIN	Adjust the green gain.
	BLUE GAIN	Adjust the blue gain.
	DEGAUSS	Degaussing keeps the monitor free from unwanted magnetism that can result in color impurity.
	H. MOIRE	Adjust the horizontal picture moire cancellation.
	V. MOIRE	Adjust the vertical picture moire cancellation.
	RESET	Reset the screen to the Factory Preset Display Settings.

ICON	CONTROL	FUNCTIONS
	H. CENTER	Adjust the position of the display horizontally (left or right) .
	V. CENTER	Adjust the position of the display vertically (up or down).
	H. SIZE	Adjust the width (horizontal size) of the display.
	V. SIZE	Adjust the height (vertical size) of the display.

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(30~70KHz)
 - Vertical Frequency : 50Hz - 160Hz

◆ Pre-Adjustment

1. B+ Adjustment
 - Adjust 25KV dc between anode cap and ground at a cross hatch pattern of 54KHz(68KHz) by using the factory mode.

◆ Method to launch the factory mode

- Step 1. Turns off the monitor.
- Step 2. Push the brightness up button and then push the power button at once.

◆ Main Adjustment

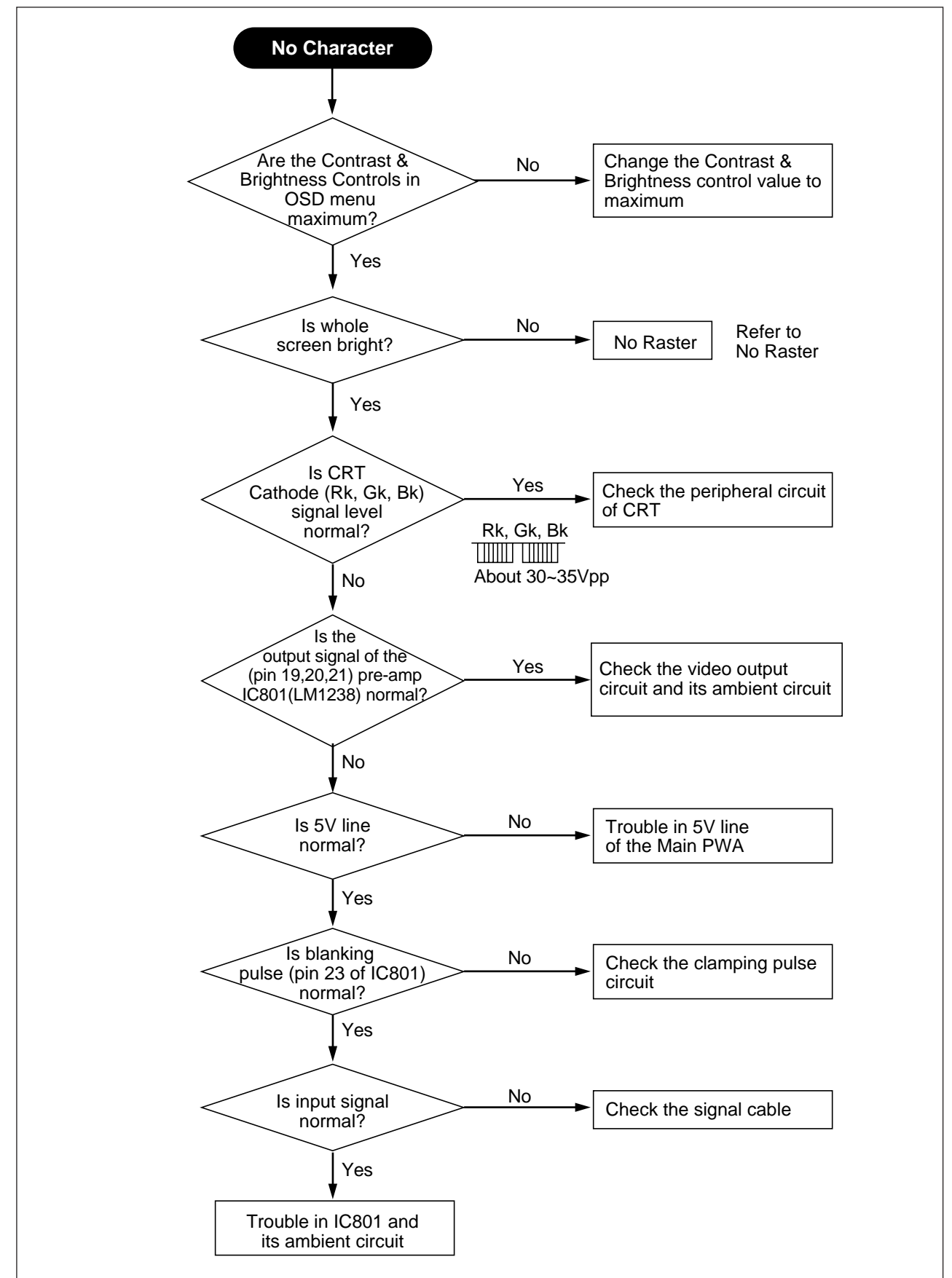
1. Setting the Controls
 - Set the value of items as following.
 - Contrast : Max.(OSD value up to MAX)
 - Brightness : Center(Set the OSD value to center)
2. H.size, V.size, H.center, V.center, Pin Balance, Pincushion, Trapezoid, Parallelogram.
 - Receive the cross hatch pattern of Factory preset mode.
 - 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) or 1024 x 768(68KHz@85Hz)
 - (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, Parallelogram.
5. White Balance Adjustment
 - (a) Select 9300°K on the OSD Menu.
 - (b) Receive a full white pattern of 54KHz or 68KHz 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 6500°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.

TROUBLESHOOTING HINTS

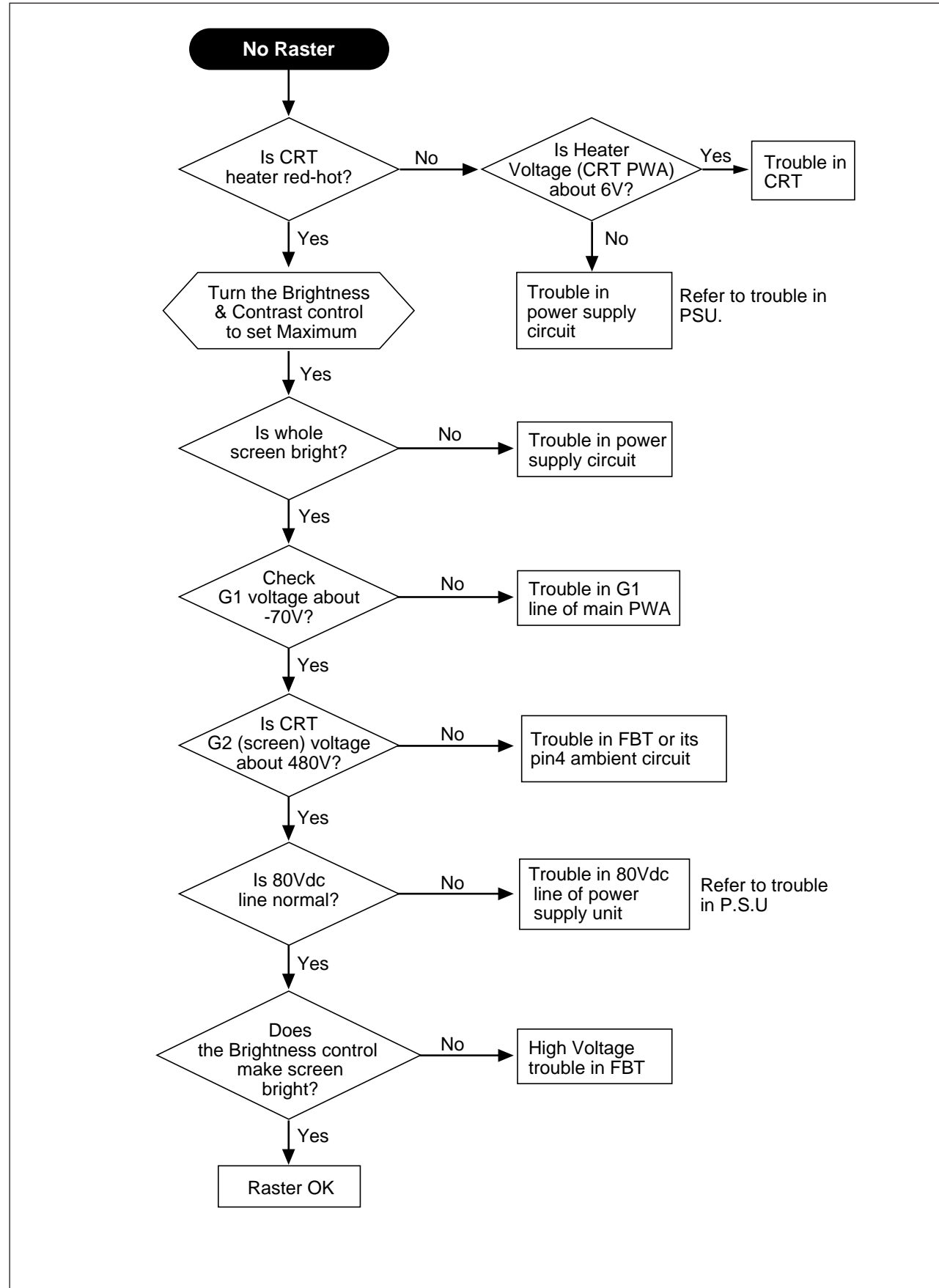
1. No Character

6. Static Convergence Adjustment

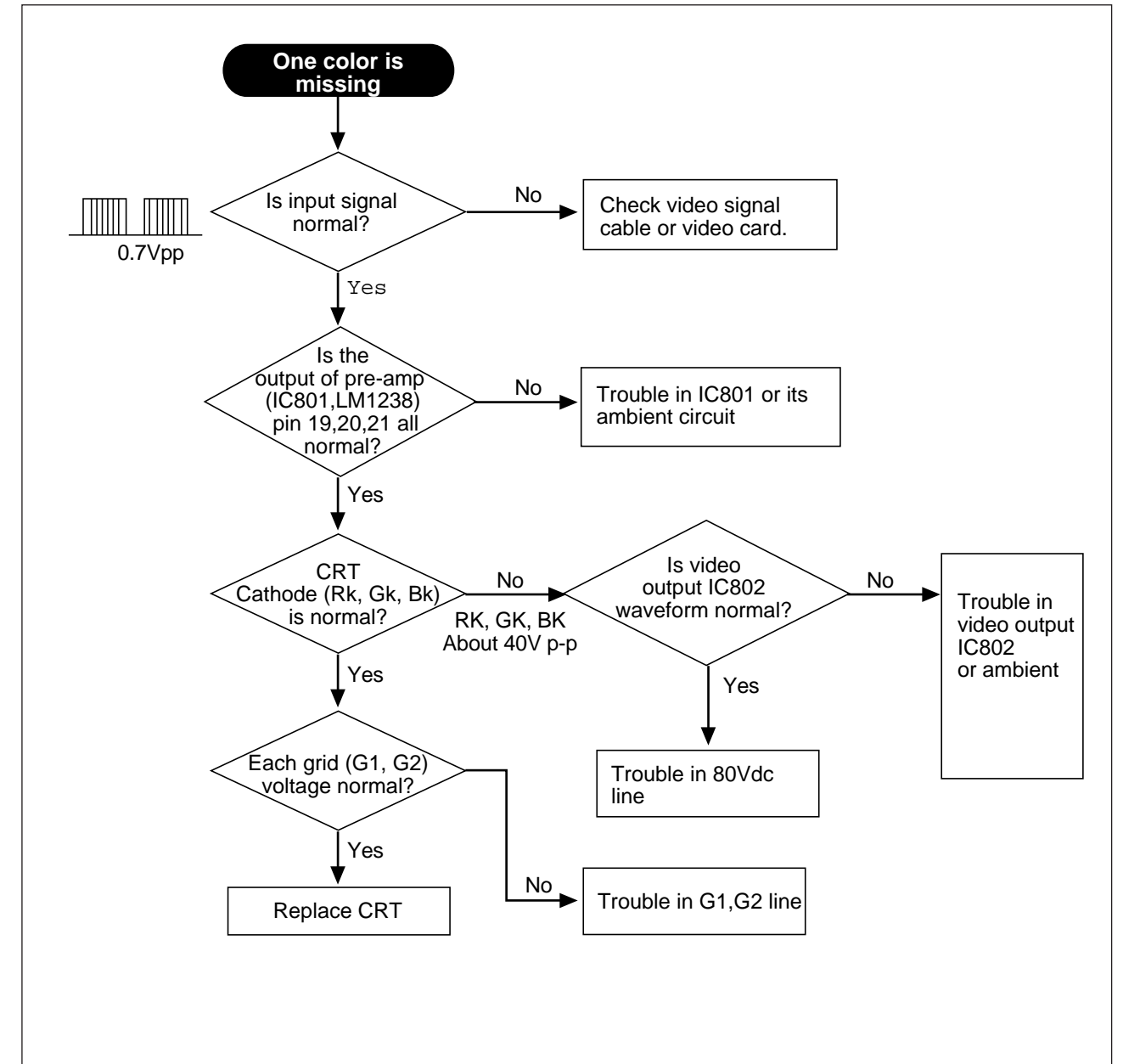
- (a) Apply a magenta cross hatch pattern on display.
- (b) Adjust the focus from the best over all focus on the display.
Also adjust the brightness to the desired condition.
- (c) Vertical red and blue lines are converged by varying the angle between the two tabs of the 4-pole magnets.
- (d) Horizontal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



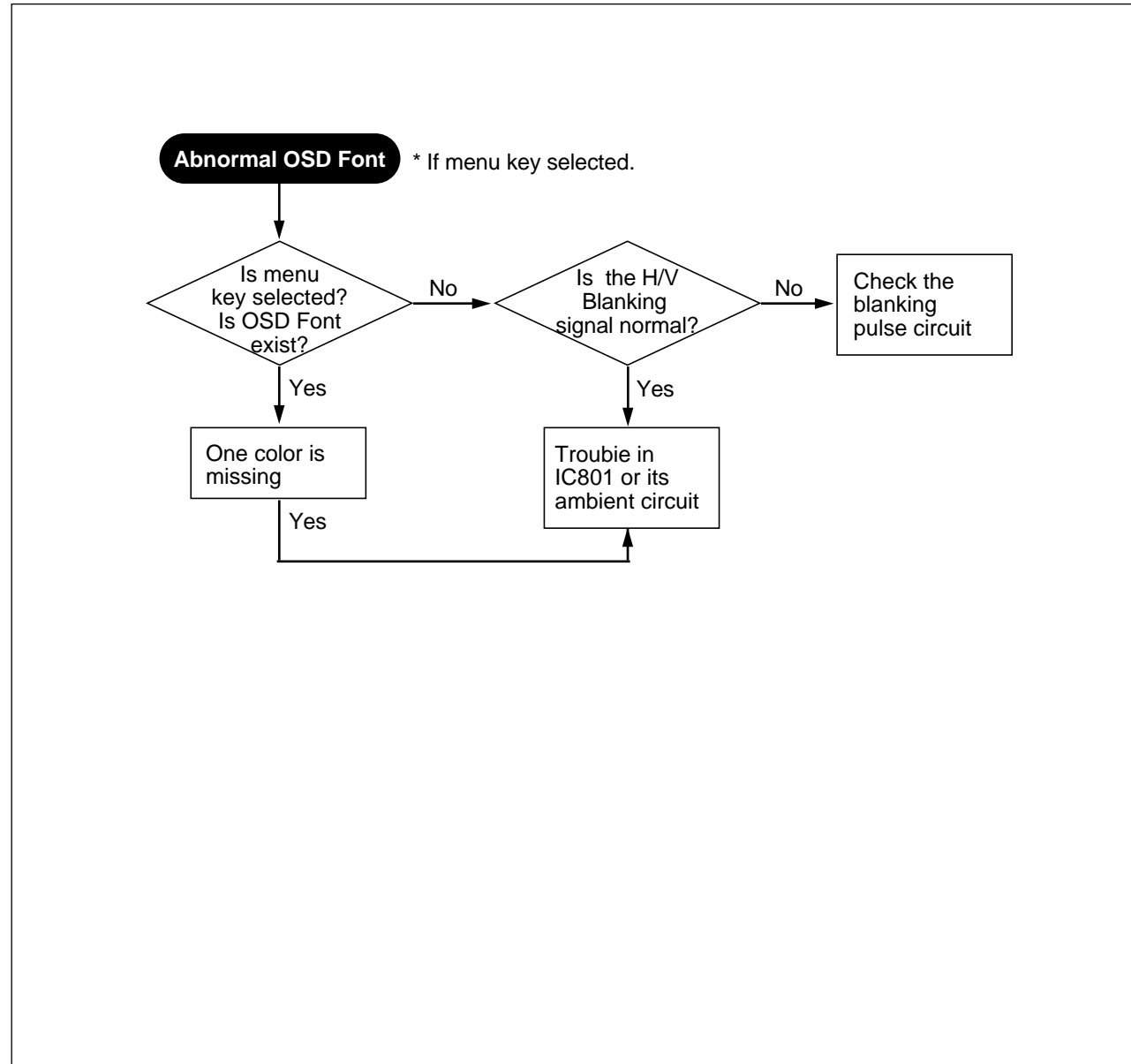
2. No Raster



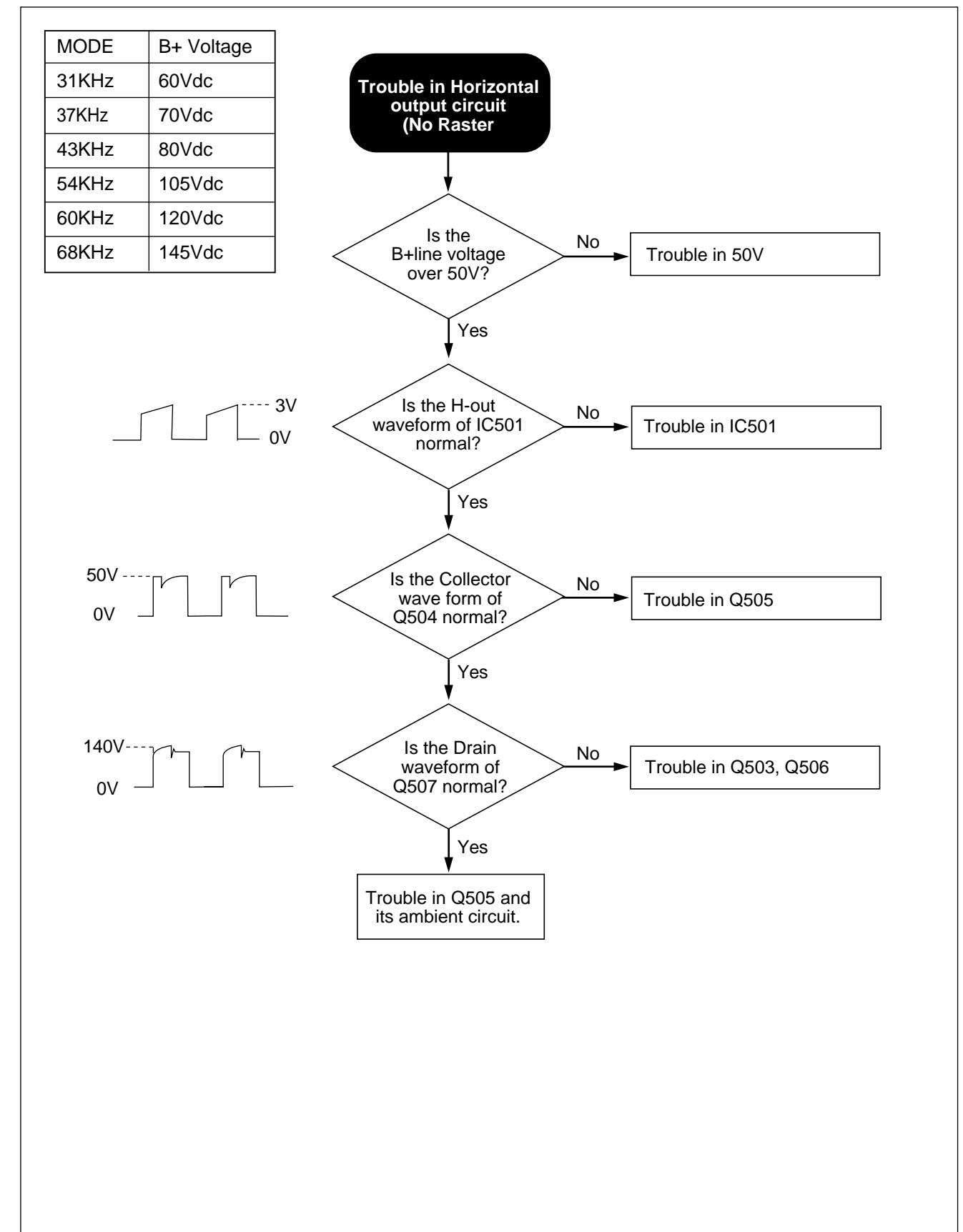
3. A Missing Color



4. Abnormal OSD Font

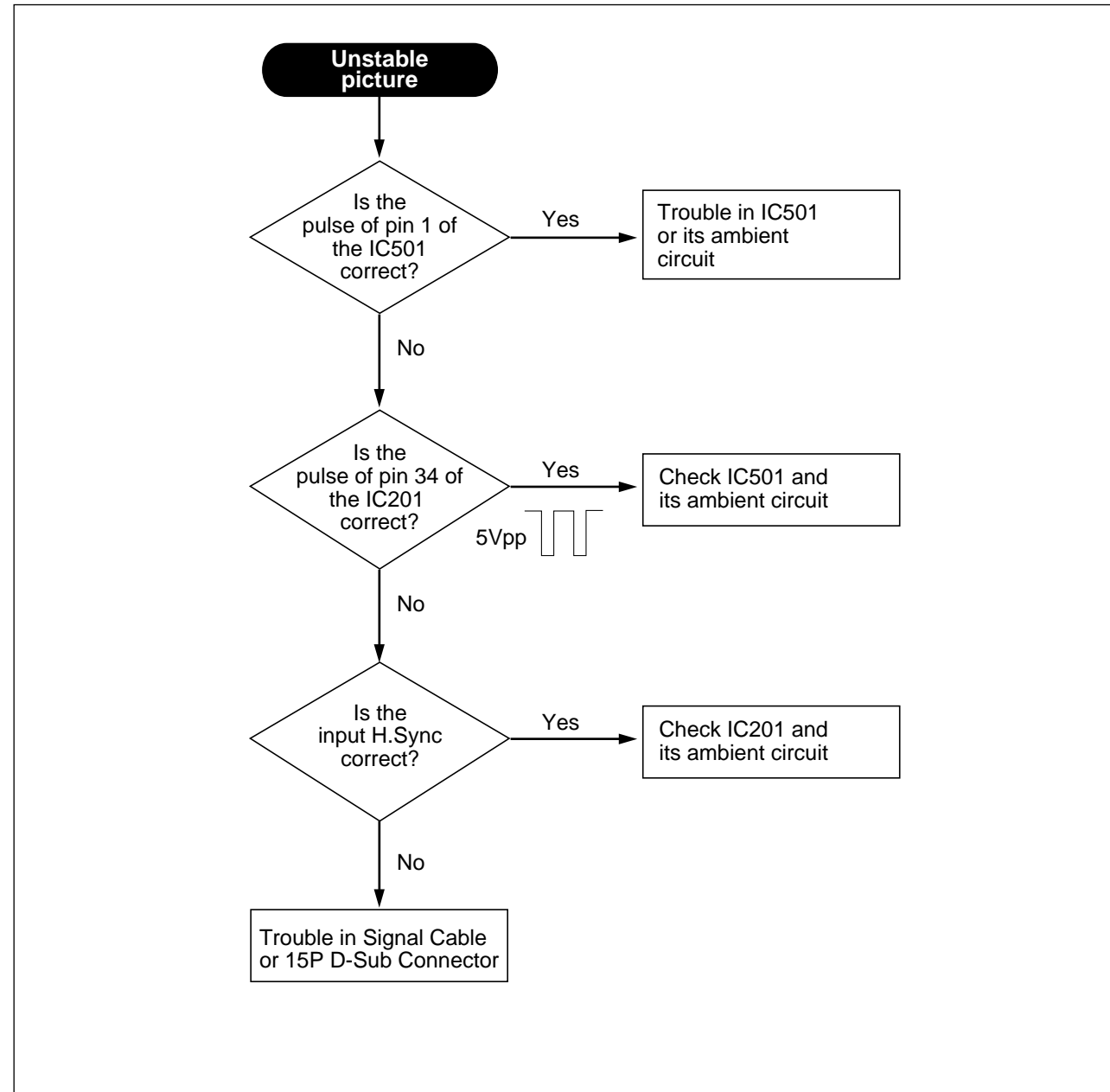


5. Horizontal Output Circuit

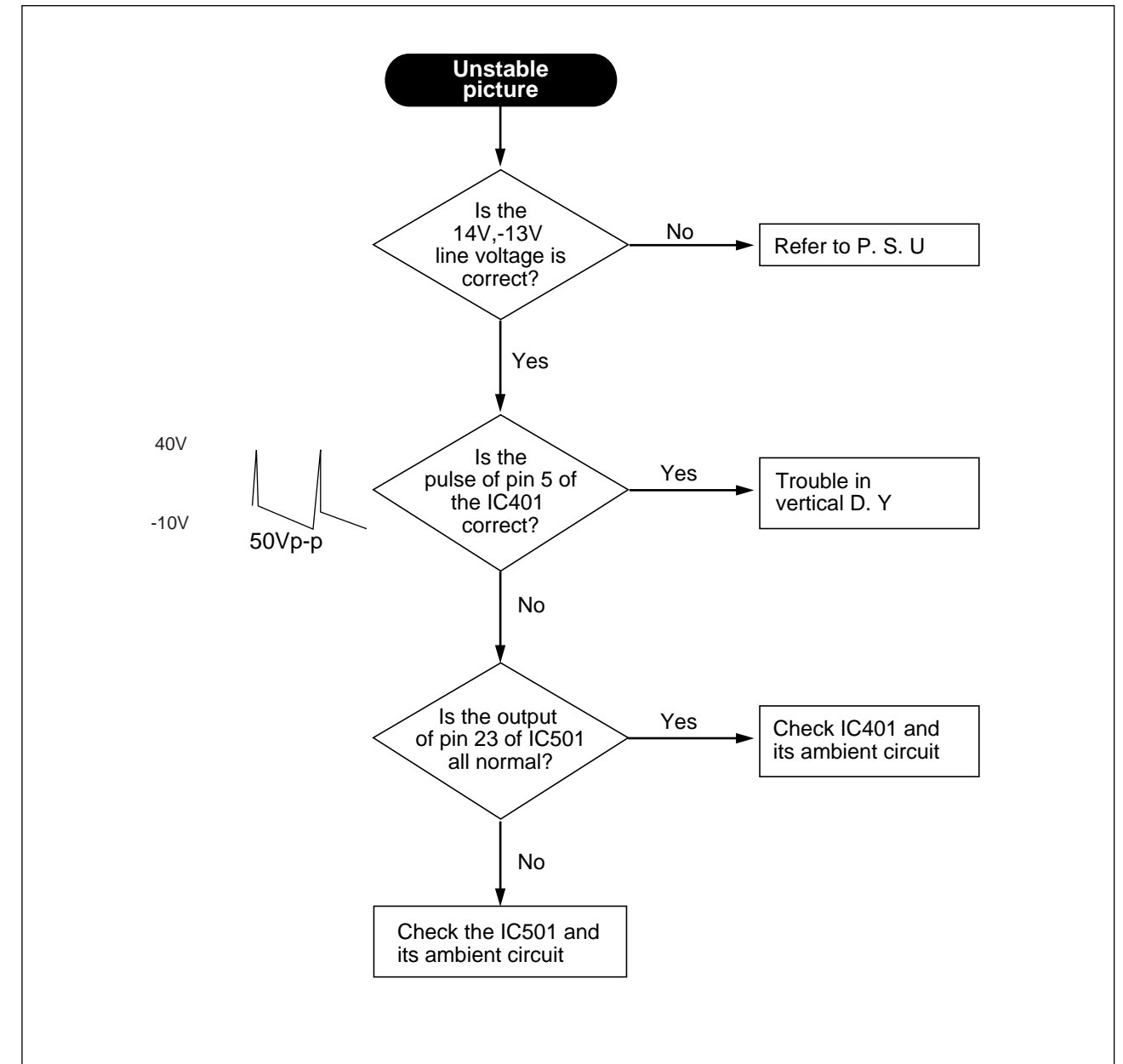


6. Unstable Picture

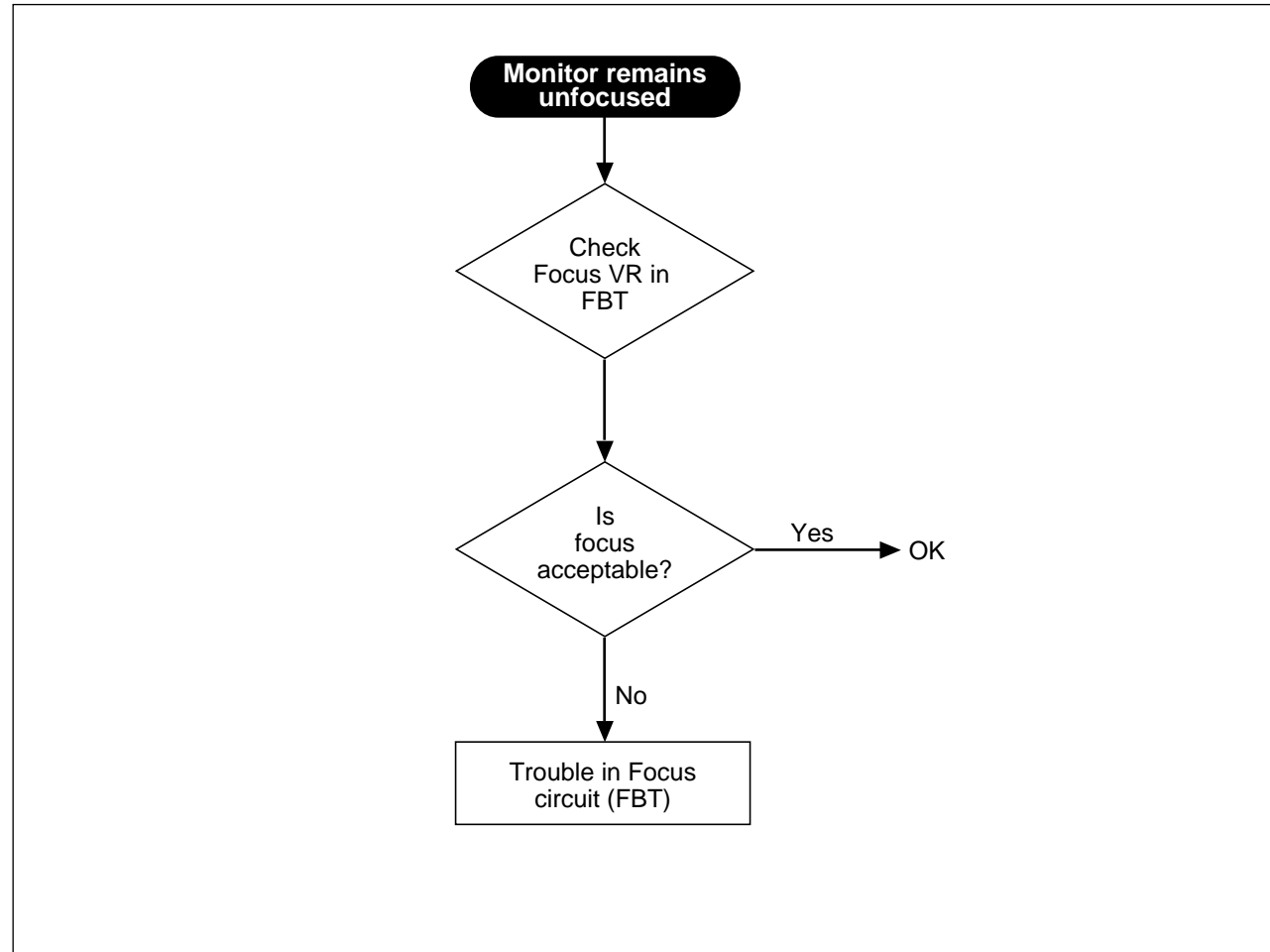
6-1. Horizontal



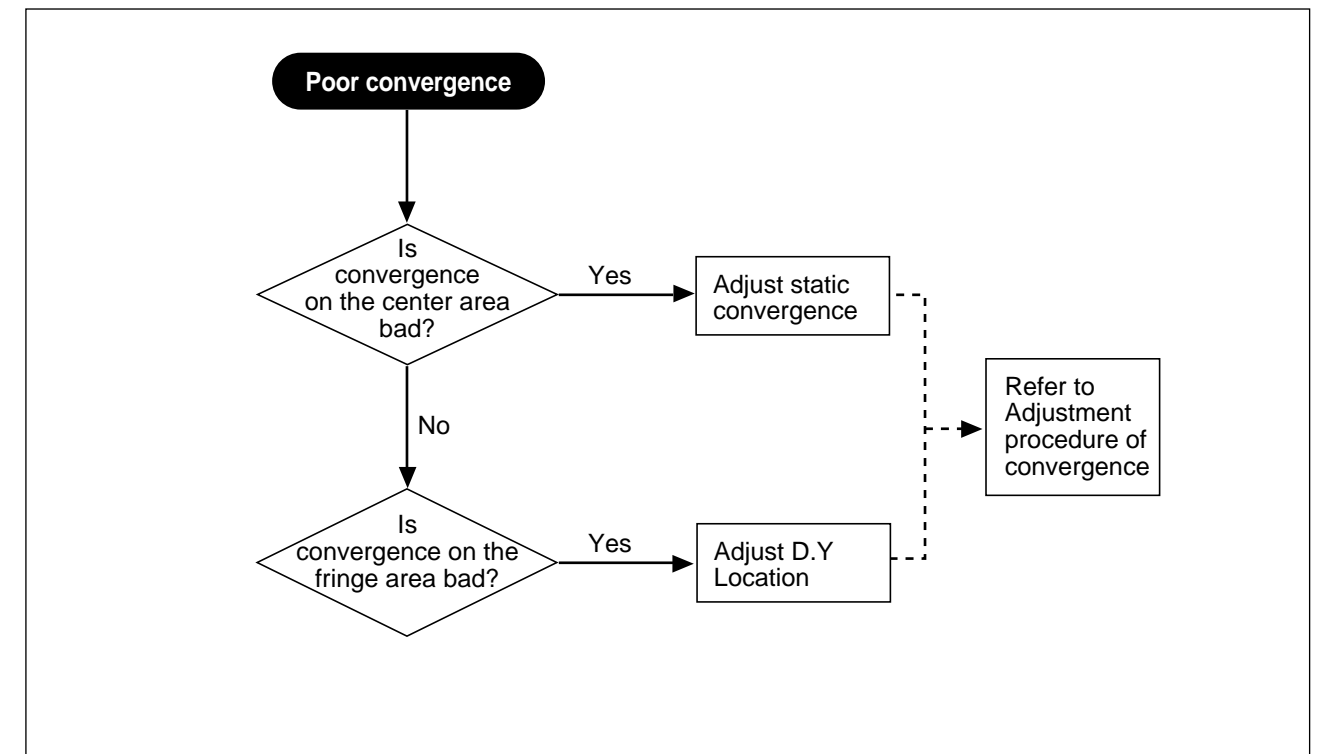
6-2. Vertical



7. Focus



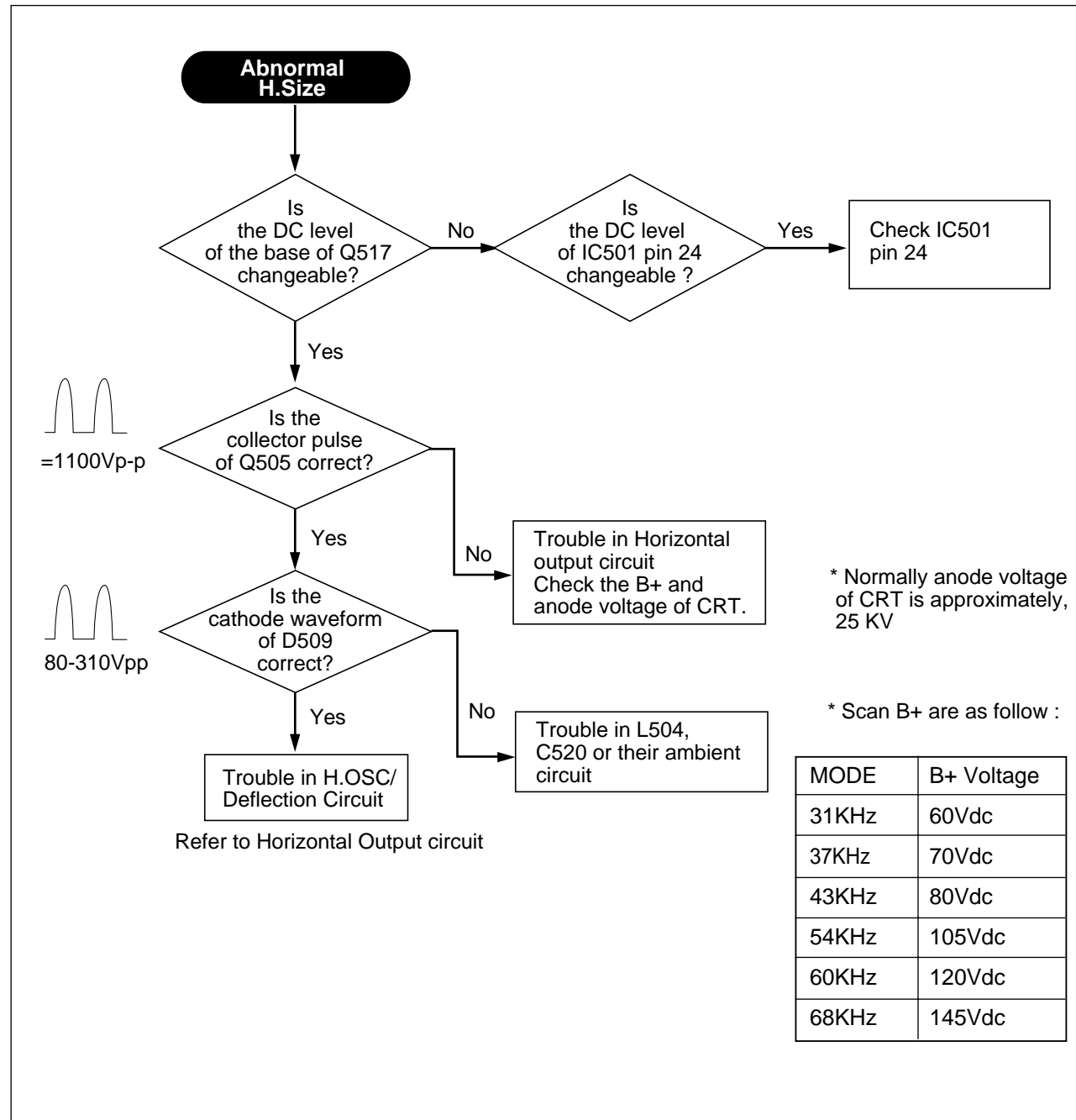
8. Convergence



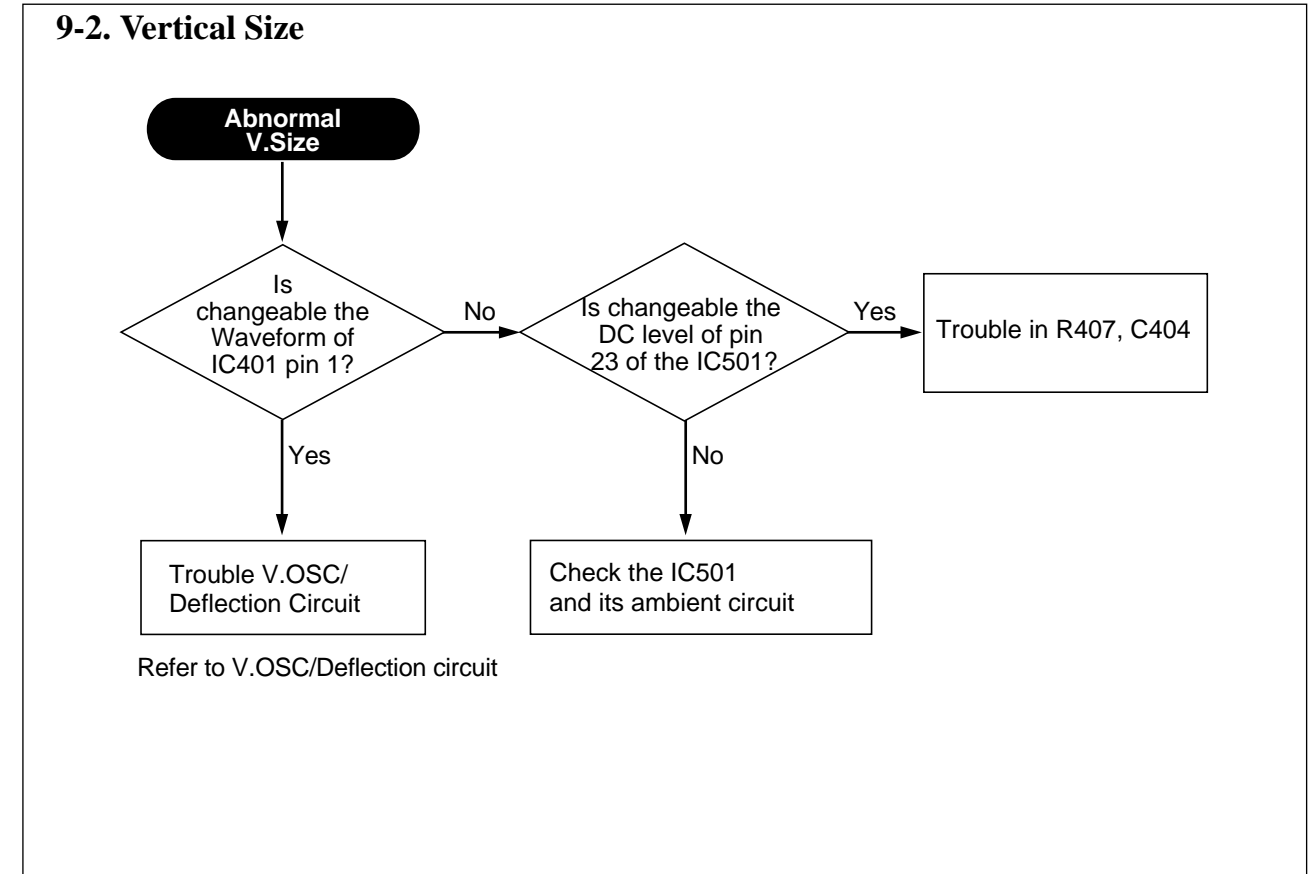
9. Abnormal Picture

9-1. Horizontal Size

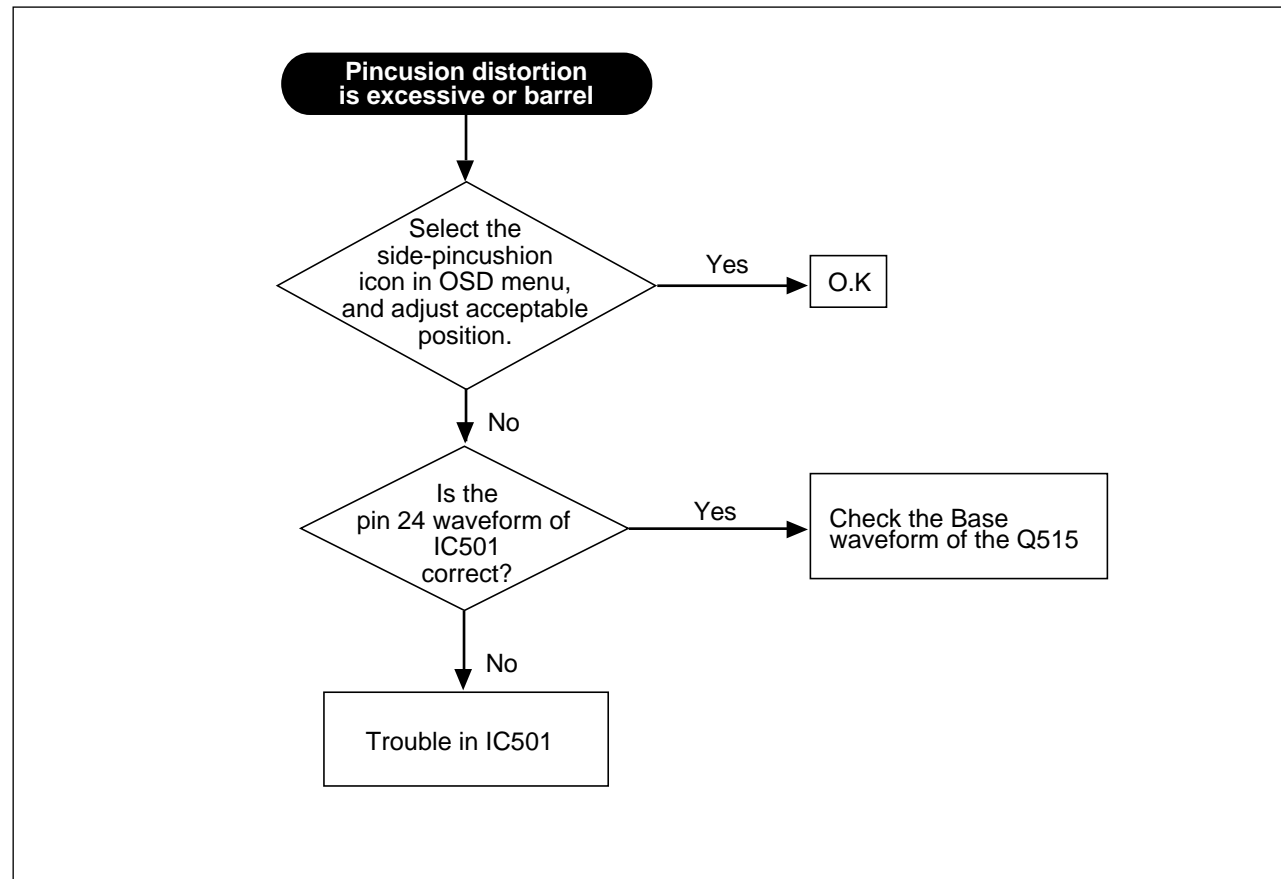
* At first, adjust controls in the OSD Menu



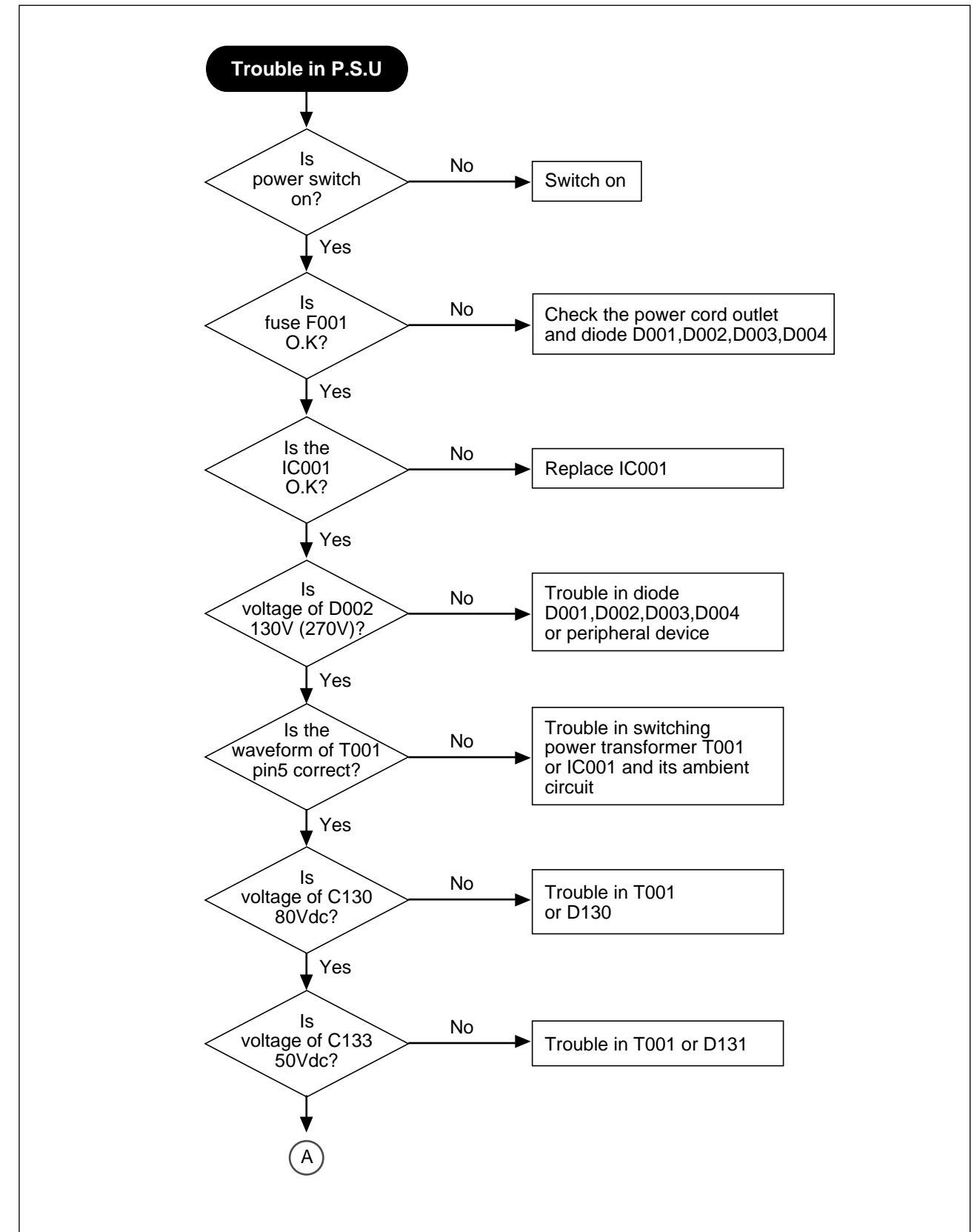
9-2. Vertical Size

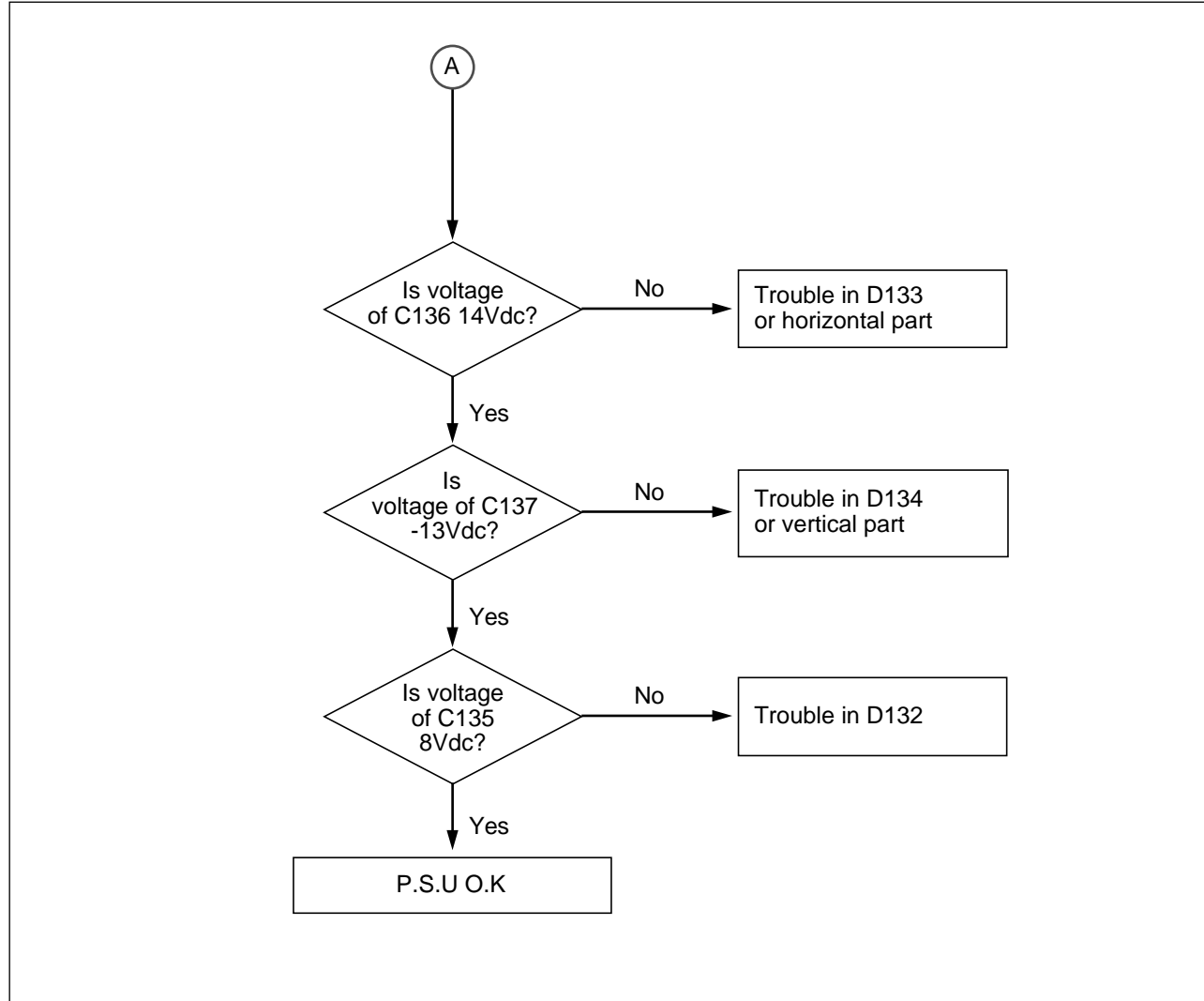


10. Side-Pincushion Circuit

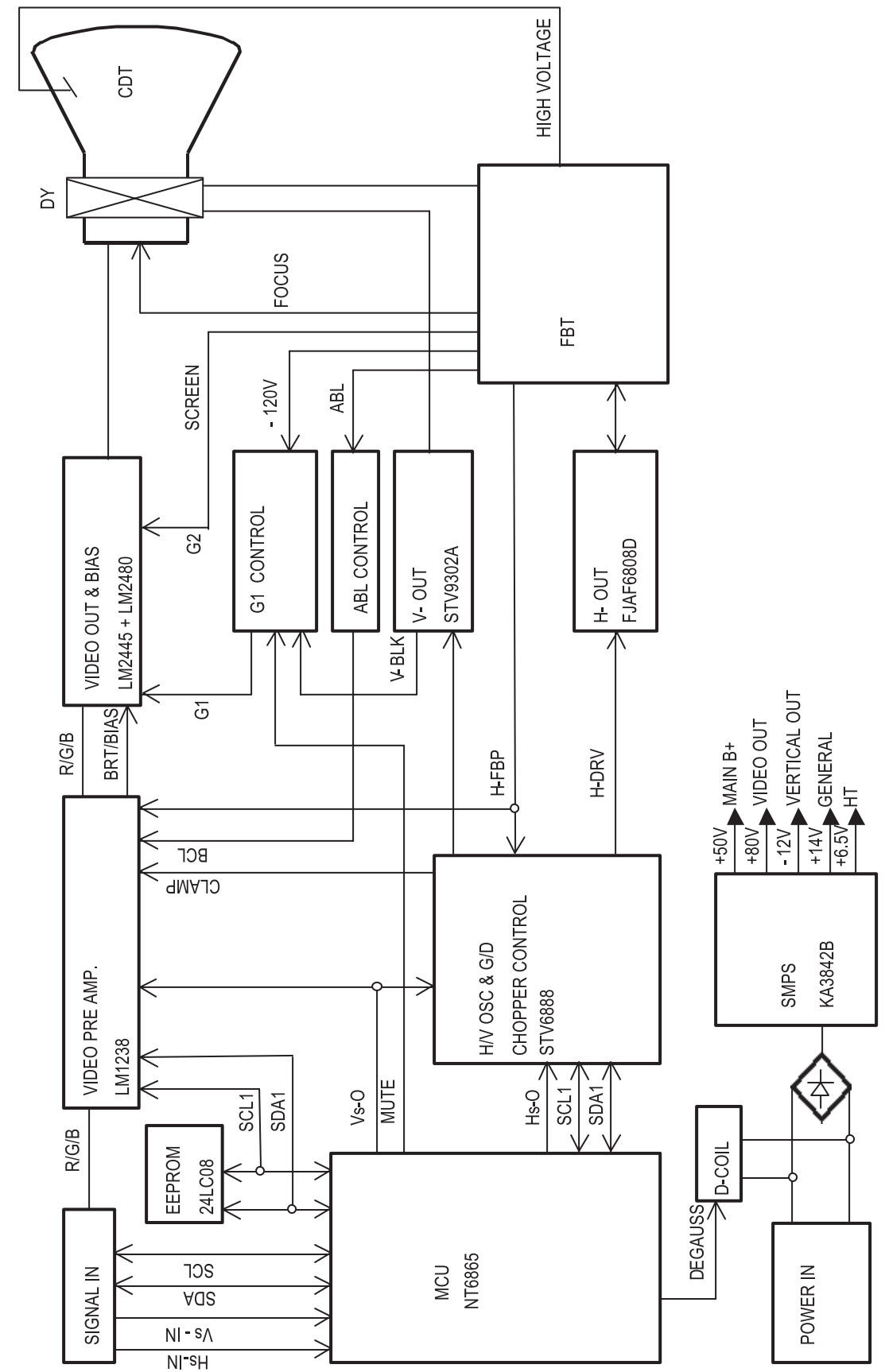


11. Power Supply Unit (P.S.U)



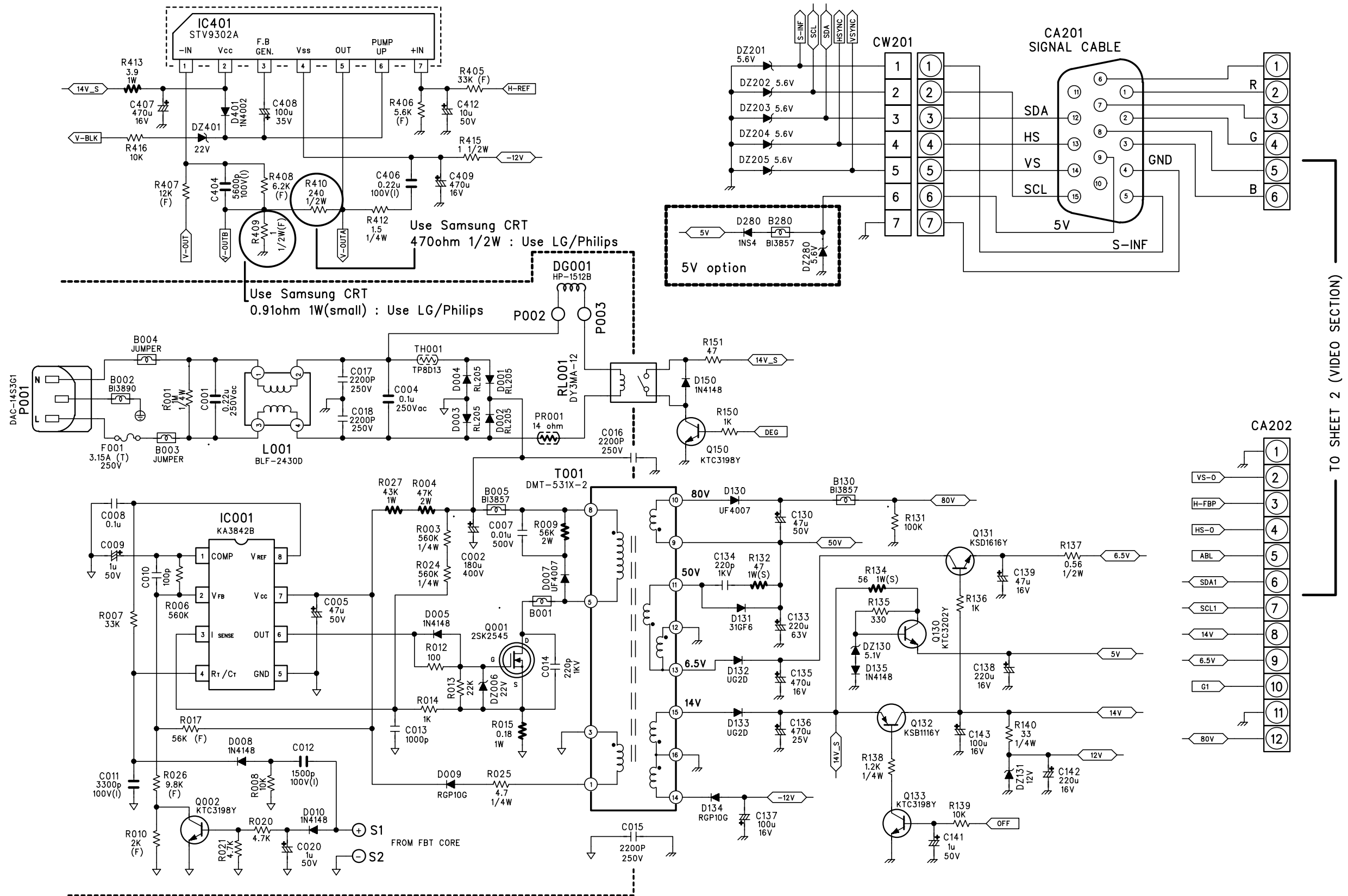


BLOCK DIAGRAM

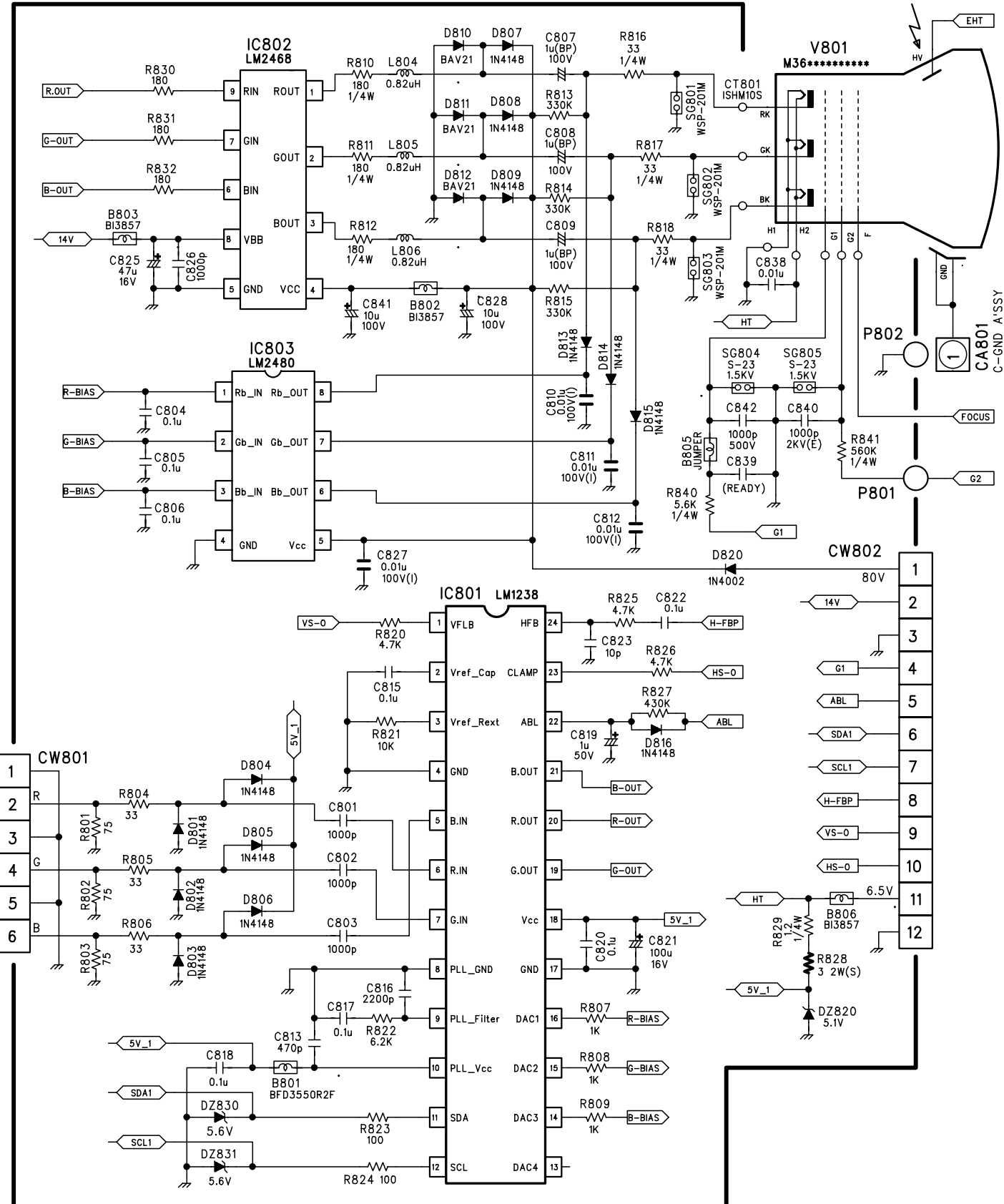
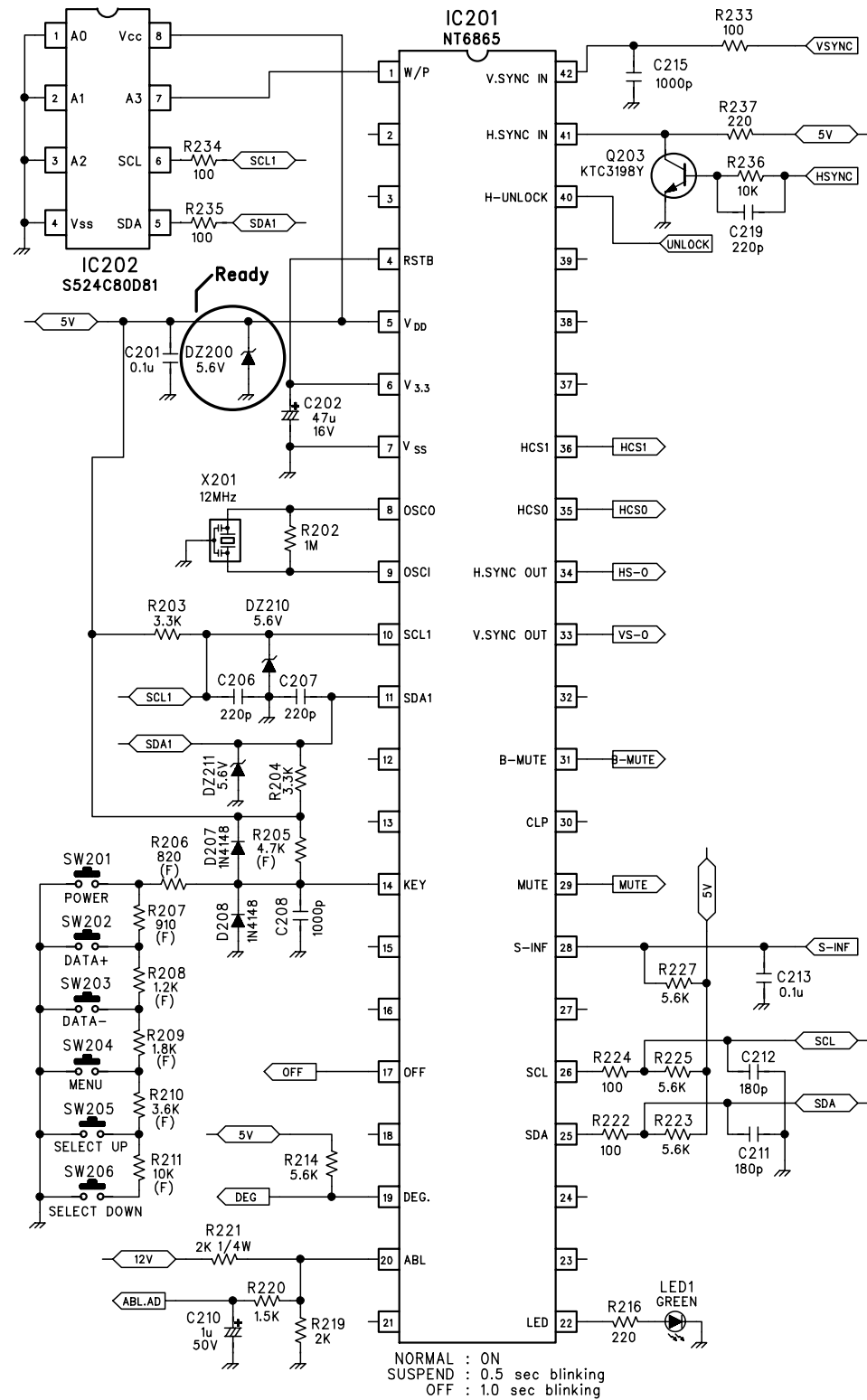


SCHEMATIC DIAGRAM

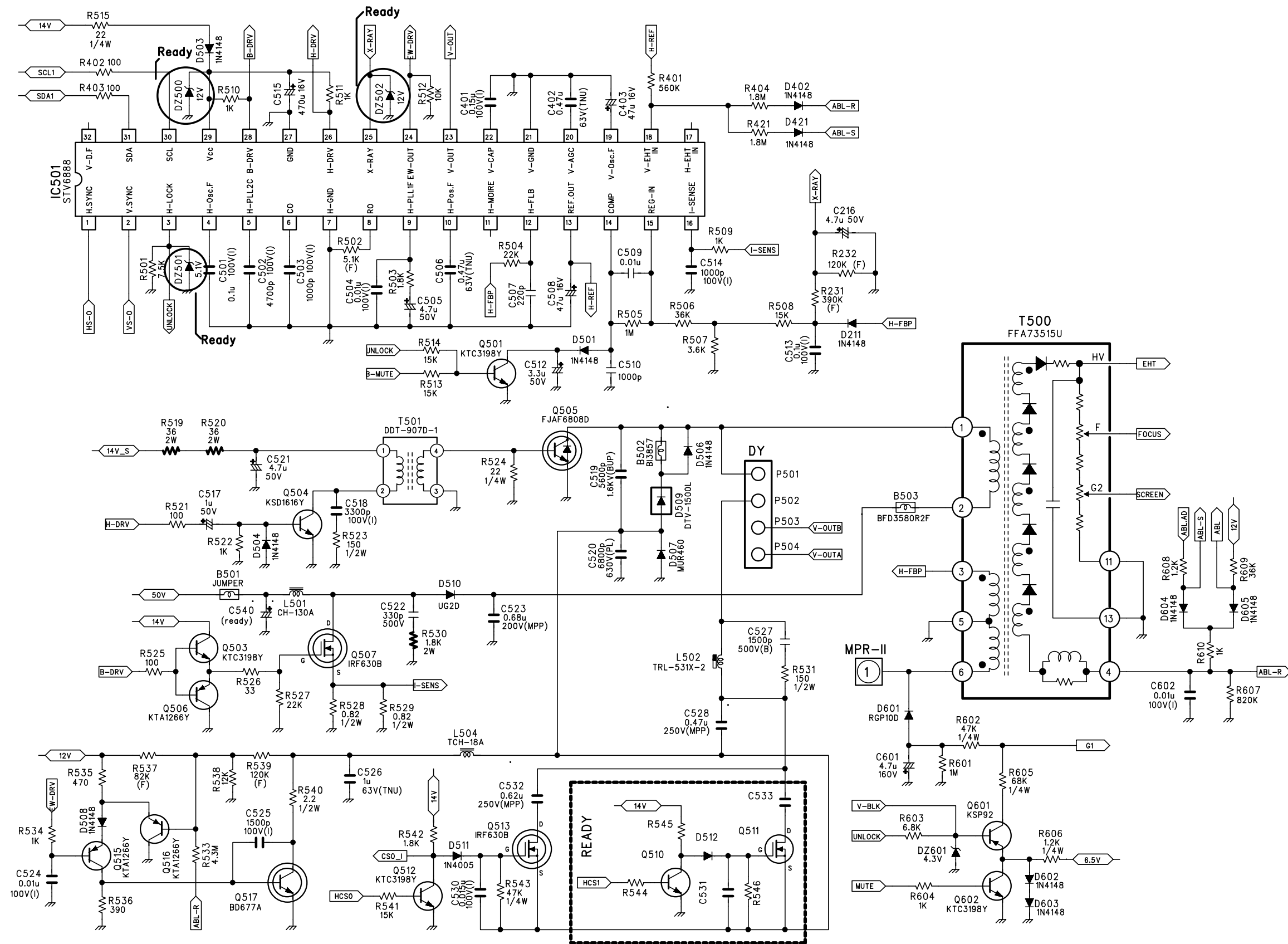
Power & Connection Section(531X-3)



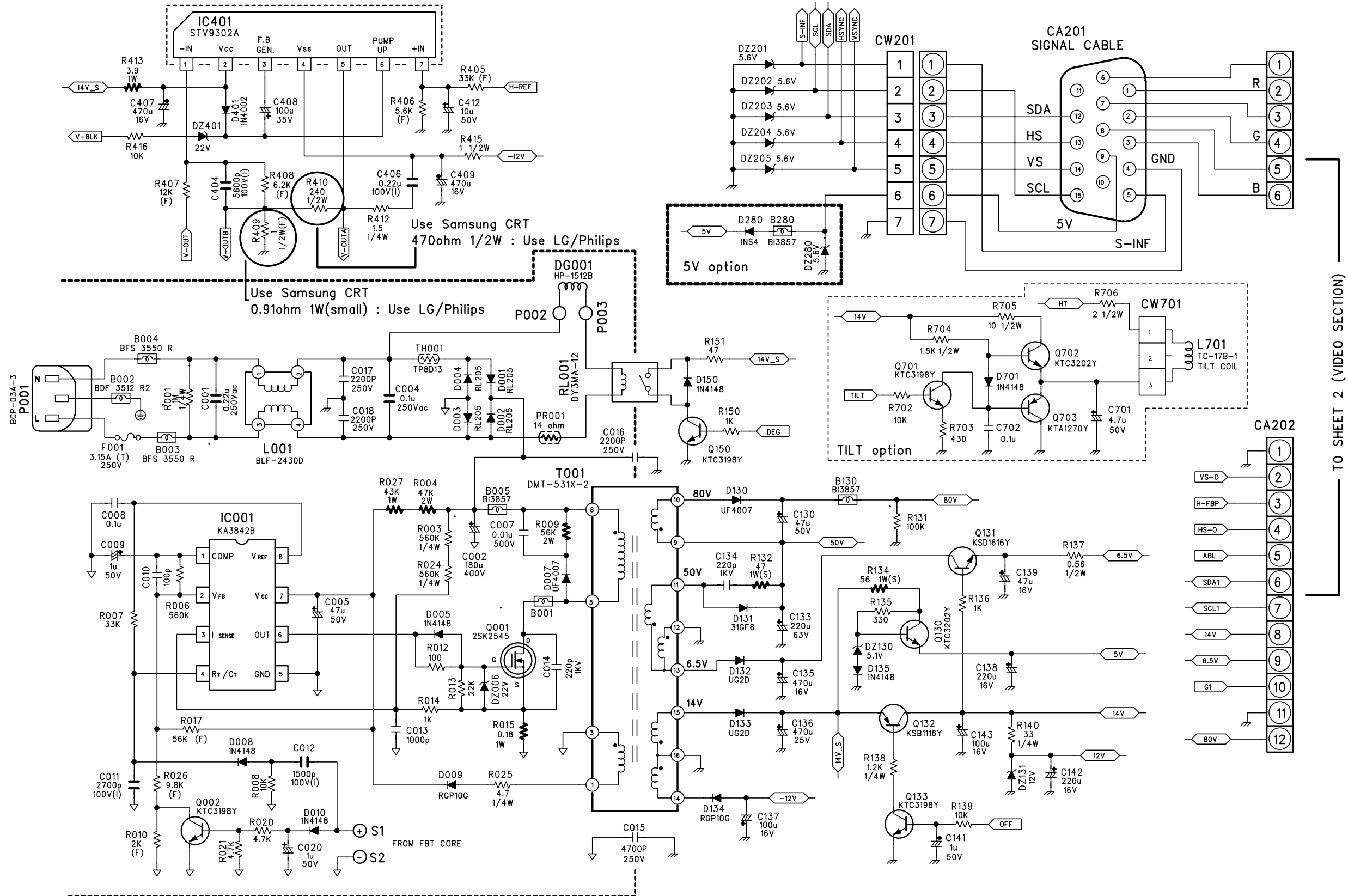
Video Section(531X-3)



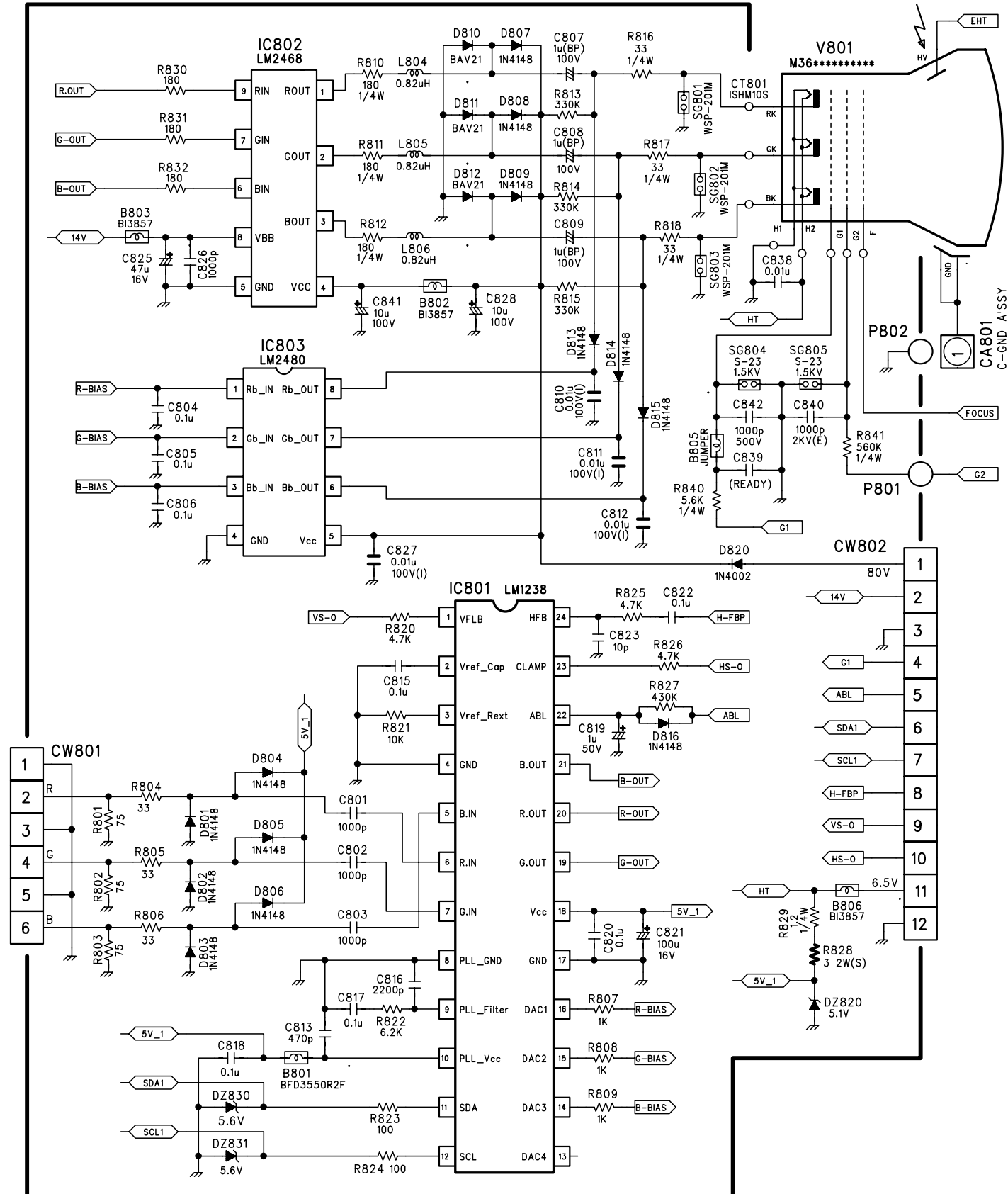
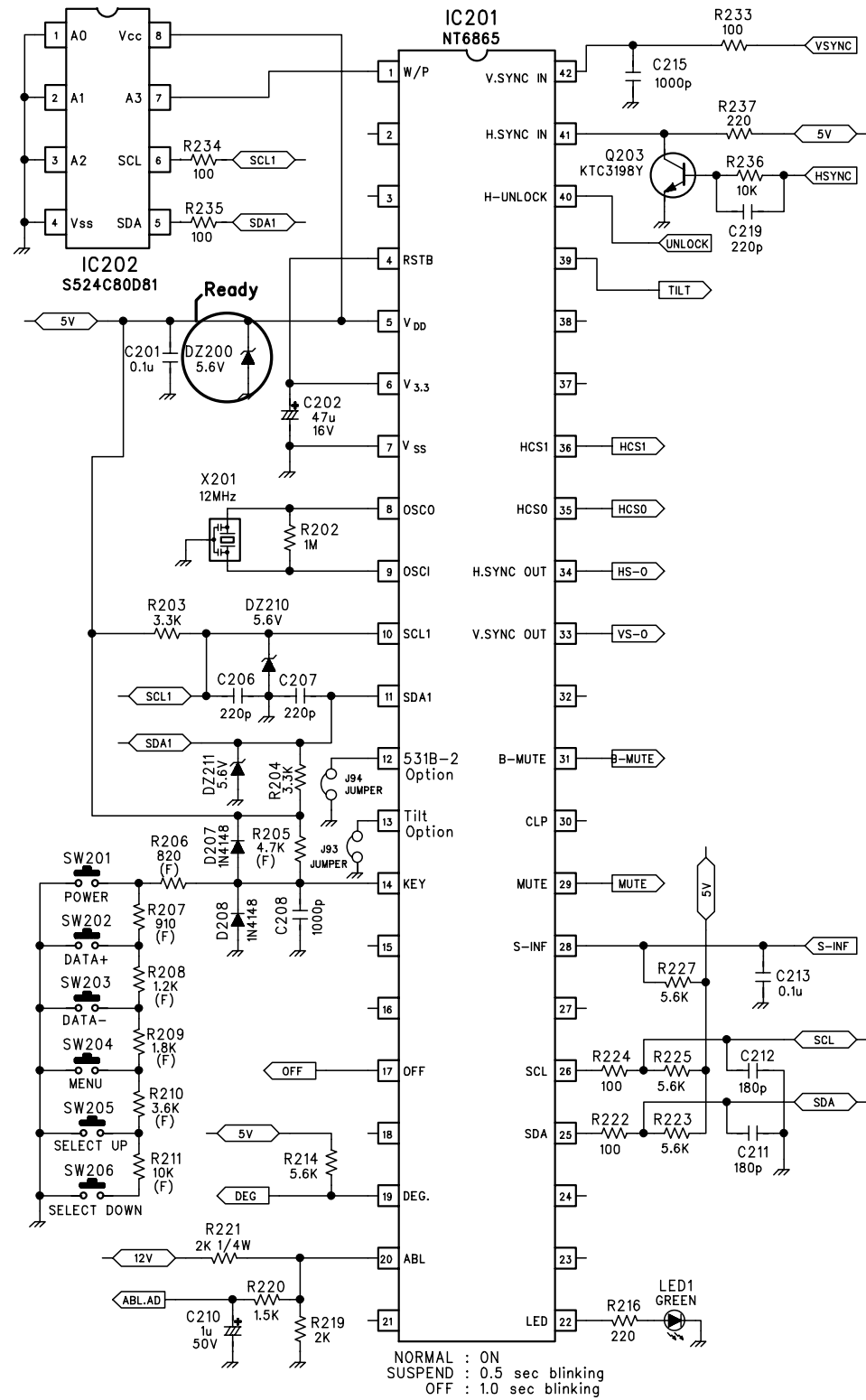
Horizontal Section(531X-3)



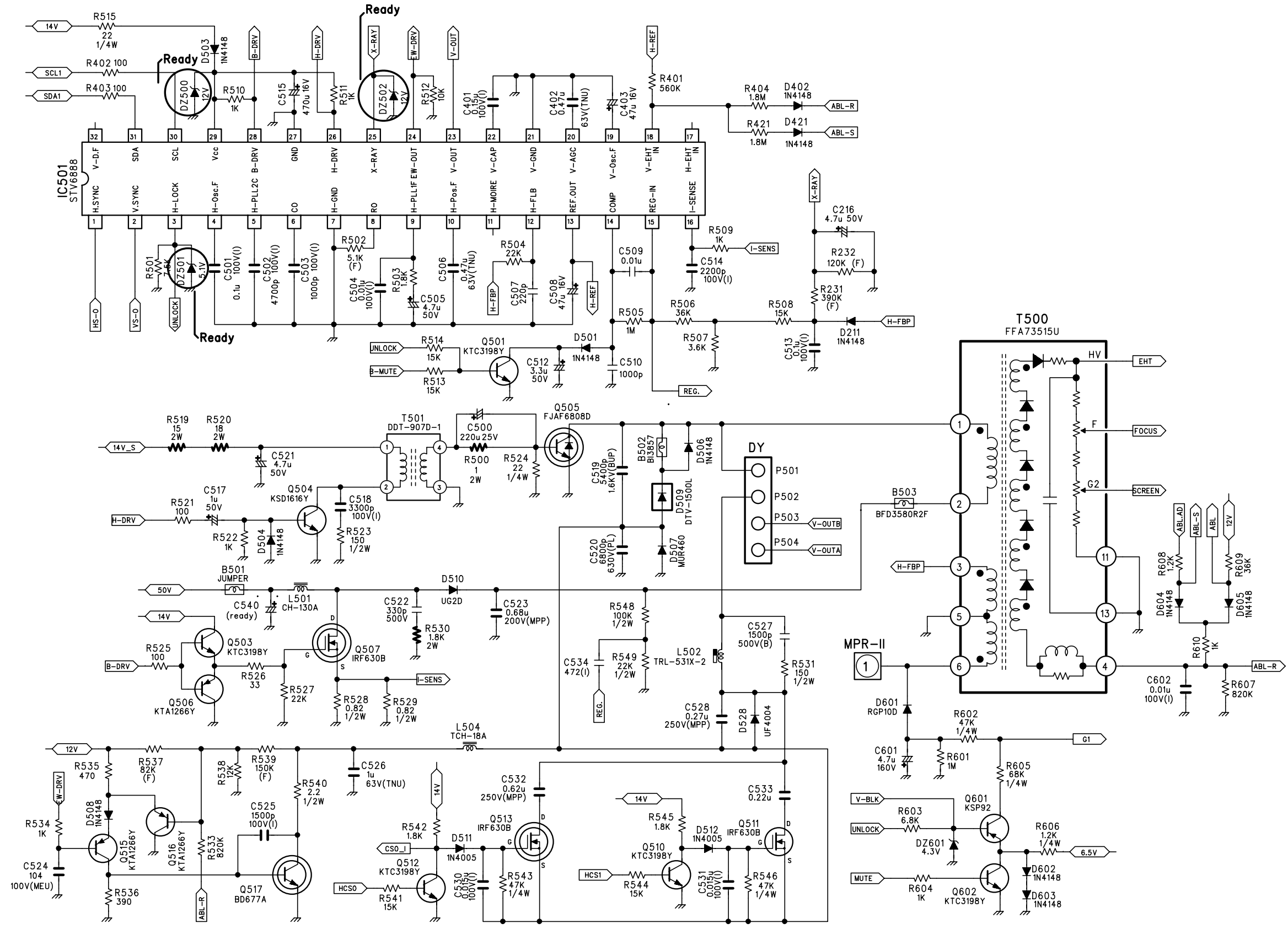
Power & Connection Section(531B-3)



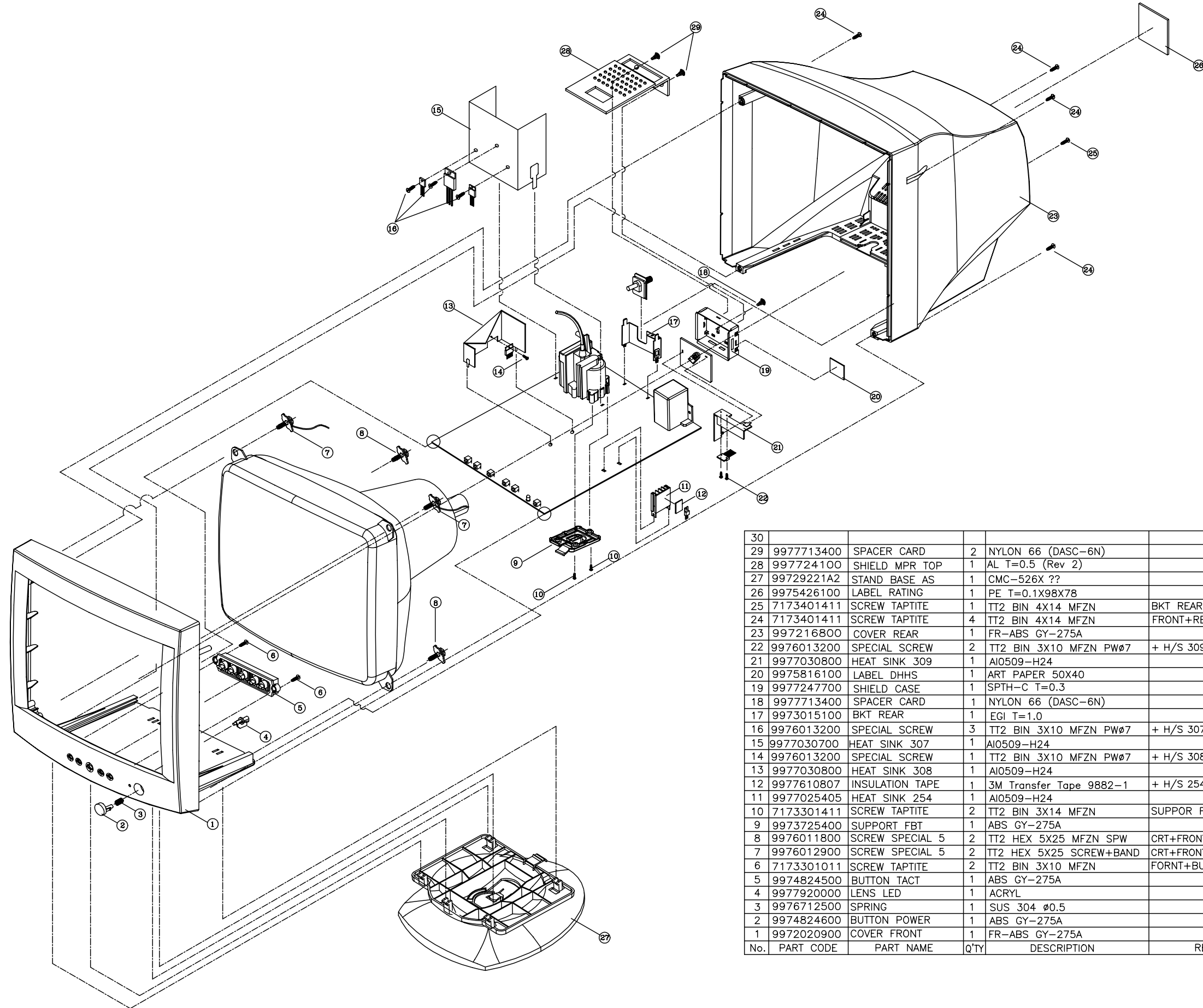
Video Section(531B-3)



Horizontal Section(531B-3)



EXPLODED VIEW DIAGRAM



30					
29	9977713400	SPACER CARD	2	NYLON 66 (DASC-6N)	
28	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	TT2 BIN 4X14 MFZN	BKT REAR+REAR
24	7173401411	SCREW TAPTITE	4	TT2 BIN 4X14 MFZN	FRONT+REAR
23	997216800	COVER REAR	1	FR-ABS GY-275A	
22	9976013200	SPECIAL SCREW	2	TT2 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	SPTH-C T=0.3	
18	9977713400	SPACER CARD	1	NYLON 66 (DASC-6N)	
17	9973015100	BKT REAR	1	EGI T=1.0	
16	9976013200	SPECIAL SCREW	3	TT2 BIN 3X10 MFZN PW#7	+ H/S 307
15	9977030700	HEAT SINK 307	1	AI0509-H24	
14	9976013200	SPECIAL SCREW	1	TT2 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	TT2 BIN 3X14 MFZN	SUPPOR FBT+FBT
9	9973725400	SUPPORT FBT	1	ABS GY-275A	
8	9976011800	SCREW SPECIAL 5	2	TT2 HEX 5X25 MFZN SPW	CRT+FRONT
7	9976012900	SCREW SPECIAL 5	2	TT2 HEX 5X25 SCREW+BAND	CRT+FRONT D-COIL WIRE
6	7173301011	SCREW TAPTITE	2	TT2 BIN 3X10 MFZN	FORNT+BUTTON TACT
5	9974824500	BUTTON TACT	1	ABS GY-275A	
4	9977920000	LENS LED	1	ACRYL	
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	Q'TY	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
PCB1	9979800610	PCB MAIN	T=1.6*246*247	C206	CCXB1H221K	C CERA	50V B 220PF K (TAPPING)
PCB2	9979800611	PCB CRT	T=1.6*108*82	C207	CCXB1H221K	C CERA	50V B 220PF K (TAPPING)
YP100	W1173D831-	CORD POWER	SP30+S14(I)	C208	CCXB1H102K	C CERA	50V B 1000PF K (TAPPING)
B001	5PB13857—	COIL BEAD	BI3857(AXIAL)	C210	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP
B002	5PB13890—	COIL BEAD	BI3890	C211	CCXB1H181K	C CERA	50V B 180PF K (TAPPING)
B003	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	C212	CCXB1H181K	C CERA	50V B 180PF K (TAPPING)
B004	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	C213	CCXF1H104Z	C CERA	50V F 0.1MF Z
B005	5PB13857—	COIL BEAD	BI3857(AXIAL)	C215	CCXB1H102K	C CERA	50V B 1000PF K (TAPPING)
B130	5PB13857—	COIL BEAD	BI3857(AXIAL)	C216	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP
B501	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	C219	CCXB1H221K	C CERA	50V B 220PF K (TAPPING)
B502	5PB13857—	COIL BEAD	BI3857(AXIAL)	C401	CMXM2A154J	C MYLAR	100V 0.15MF J (TP)
B503	5MBFD3512R	COIL BEAD	BFD 3512 R2	C402	CMXL1J474J	C MYLAR	63V MEU 0.47MF J
B801	5MBFD3510R	COIL BEAD	BFD 3510 R2	C403	CEXF1C470V	C ELECTRO	16V RSS 47MF (5X11) TP
B802	5PB13857—	COIL BEAD	BI3857(AXIAL)	C404	CMXM2A562J	C MYLAR	100V 5600PF J (TP)
B803	5PB13857—	COIL BEAD	BI3857(AXIAL)	C406	CMXM2A224J	C MYLAR	100V 0.22MF J
B805	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	C407	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP
B806	5PB13857—	COIL BEAD	BI3857(AXIAL)	C408	CEXF1V101V	C ELECTRO	35V RSS 100MF (8X11.5) TP
\triangle C001	CL1UC3224M	C LINE ACROSS	0.22MF 1J(UCVSNDF/SV)+Q/O	C409	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP
\triangle C002	CEYP2G181Z	C ELECTRO	400V SMH 180MF (25*35)	C412	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP
C004	CL1UC3104M	C LINE ACROSS	WORLD AC250V 0.1UF M R.47	C501	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)
C005	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	C502	CMXM2A472J	C MYLAR	100V 4700PF J (TP)
C007	CCXB2H103K	C CERA	HIKB 500V 0.01MF K	C503	CMXM2A102J	C MYLAR	100V 1000PF J (TP)
C008	CCXF1H104Z	C CERA	50V F 0.1MF Z	C504	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)
C009	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	C505	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP
C010	CCXB1H101K	C CERA	50V B 100PF K (TAPPING)	C506	CMXL1J474J	C MYLAR	63V MEU 0.47MF J
C011	CMXM2A332J	C MYLAR	100V 3300PF J (TP)	C507	CCXB1H221K	C CERA	50V B 220PF K (TAPPING)
C012	CMXM2A152J	C MYLAR	100V 1500PF J (TP)	C508	CEXF1C470V	C ELECTRO	16V RSS 47MF (5X11) TP
C013	CCXB1H102K	C CERA	50V B 1000PF K (TAPPING)	C509	CCXB1H103K	C CERA	50V B 0.01MF K
C014	CCXB3A221K	C CERA	1KV B 220PF K (TAPPING)	C510	CCXB1H102K	C CERA	50V B 1000PF K (TAPPING)
\triangle C015	CH1FDF222M	C CERA AC	2.5KV 2200PF M AC250V	C512	CEXF1H339V	C ELECTRO	50V RSS 3.3MF (5X11) TP
C016	CH1FDF222M	C CERA AC	2.5KV 2200PF M AC250V	C513	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)
C017	CH1FDF222M	C CERA AC	2.5KV 2200PF M AC250V	C514	CMXM2A102J	C MYLAR	100V 1000PF J (TP)
C018	CH1FDF222M	C CERA AC	2.5KV 2200PF M AC250V	C515	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP
C020	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	C517	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP
C130	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	C518	CMXM2A332J	C MYLAR	100V 3300PF J (TP)
C133	CEXF1J221V	C ELECTRO	63V RSS 220MF (10X20) TP	C519	CMXH3C562J	C MYLAR	BUP 1.6KV 5600PF J
C134	CCXB3A221K	C CERA	1KV B 220PF K (TAPPING)	C520	CMXE2J682J	C MYLAR	PL 630V 6800PF J (TP)
C135	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	C521	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP
C136	CEXF1E471V	C ELECTRO	25V RSS 470MF (10X16) TP	C522	CCXB2H331K	C CERA	500V B 330PF K (TAPPING)
C137	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	C523	CMXF2D684J	C MYLAR	200V MPP 0.68MF J
C138	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP	C524	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)
C139	CEXF1C470V	C ELECTRO	16V RSS 47MF (5X11) TP	C525	CMXM2A152J	C MYLAR	100V 1500PF J (TP)
C141	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	C526	CMXL1J105J	C MYLAR	63V MEU 1MF J
C142	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP	C527	CCXB2H152K	C CERA	500V B 1500PF K (TAPPING)
C143	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	C528	CMXF2D474J	C MYLAR	MPP 200V 0.47MF J
C201	CCXF1H104Z	C CERA	50V F 0.1MF Z	C530	CMXM2A153J	C MYLAR	100V 0.015MF J (TP)
C202	CEXF1C470V	C ELECTRO	16V RSS 47MF (5X11) TP	C532	CMXF2D624J	C MYLAR	MPP 200V 0.62MF J

LOC	PART-CODE	PART-NAME	PART-DESC
C601	CEXF2C479V	C ELECTRO	160V RSS 4.7MF (8X16) TP
C602	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)
C801	CCXB1H102K	C CERA	50V B 1000PF K (TAPPING)
C802	CCXB1H102K	C CERA	50V B 1000PF K (TAPPING)
C803	CCXB1H102K	C CERA	50V B 1000PF K (TAPPING)
C804	CCXF1H104Z	C CERA	50V F 0.1MF Z
C805	CCXF1H104Z	C CERA	50V F 0.1MF Z
C806	CCXF1H104Z	C CERA	50V F 0.1MF Z
C807	CEXD2A109F	C ELECTRO	100V RND 1MF(5*11) TP
C808	CEXD2A109F	C ELECTRO	100V RND 1MF(5*11) TP
C809	CEXD2A109F	C ELECTRO	100V RND 1MF(5*11) TP
C810	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)
C811	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)
C812	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)
C813	CCXB1H471K	C CERA	50V B 470PF K (TAPPING)
C815	CCXF1H104Z	C CERA	50V F 0.1MF Z
C816	CCXB1H222K	C CERA	50V B 2200PF K (TAPPING)
C817	CCXF1H104Z	C CERA	50V F 0.1MF Z
C818	CCXF1H104Z	C CERA	50V F 0.1MF Z
C819	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP
C820	CCXF1H104Z	C CERA	50V F 0.1MF Z
C821	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP
C822	CCXF1H104Z	C CERA	50V F 0.1MF Z
C823	CXCH1H100V	C CERA	50V CH 10PF D (TAPPING)
C825	CEXF1C470D	C ELECTRO	1N4148 AUTO 52MM
C826	CCXB1H102K	C CERA	50V B 1000PF K (TAPPING)
C827	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)
C828	CEXF2A100V	C ELECTRO	100V RSS 10MF (6.3X11) TP
C838	CCXB1H103K	C CERA	50V B 0.01MF K
C840	CCXB3D102K	C CERA	2KV B 1000PF K (TAPPING)
C841	CEXF2A100V	C ELECTRO	100V RSS 10MF (6.3X11) TP
C842	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)
CA201	9970800056	CABLE SIGNAL AS	15P+1C/DDC-1.5M(GY275A)
CA202	99707C0023	CONN AS	SMH200-12+YBNH200-13+1007#26=200
CG001	9970710295	CRT GND AS	0.16X3X16-BL101NG=580
△ CT001	9979615018	CDT	M36QAW351X106(A)MULTI CO.
CT801	9979300016	SOCKET CRT	ISHM10S(W)
CW201	9979220102	CONN WAFER	SMW200-07/68162-0710
CW801	9979220087	CONN WAFER	SMAW200-06/68163-0610
CW802	9979220093	CONN WAFER	SMAW200-12/68163-1210
△ D001	DRL205	DIODE	RL205
△ D002	DRL205	DIODE	RL205
△ D003	DRL205	DIODE	RL205
△ D004	DRL205	DIODE	RL205
D005	DZN4148	DIODE	1N4148 AUTO 52MM
D007	DUF4007	DIODE	UF4007
D008	DZN4148	DIODE	1N4148 AUTO 52MM
D009	DRGP10G	DIODE	RGP10G
D010	DZN4148	DIODE	1N4148 AUTO 52MM

LOC	PART-CODE	PART-NAME	PART-DESC
D130	DUF4007	DIODE	UF4007
D131	D31GF6	DIODE	31GF6
D132	DUG2D	DIODE	UG2D 200V 2A
D133	DUG2D	DIODE	UG2D 200V 2A
D134	DRGP10G	DIODE	RGP10G
D135	DZN4148	DIODE	1N4148 AUTO 52MM
D150	DZN4148	DIODE	1N4148 AUTO 52MM
D207	DZN4148	DIODE	1N4148 AUTO 52MM
D208	DZN4148	DIODE	1N4148 AUTO 52MM
D211	DZN4148	DIODE	1N4148 AUTO 52MM
D401	D1N4002A	DIODE	1N4002
D402	DZN4148	DIODE	1N4148 AUTO 52MM
D421	DZN4148	DIODE	1N4148 AUTO 52MM
D501	DZN4148	DIODE	1N4148 AUTO 52MM
D503	DZN4148	DIODE	1N4148 AUTO 52MM
D504	DZN4148	DIODE	1N4148 AUTO 52MM
D506	DZN4148	DIODE	1N4148 AUTO 52MM
D507	DMUR460	DIODE	MUR460
D508	DZN4148	DIODE	1N4148 AUTO 52MM
D509	DDTV1500L	DIODE	DTV-1500L
D510	DUG2D	DIODE	UG2D 200V 2A
D511	D1N4005	DIODE	1N4005
D528	DUF4004	DIODE	UF4004
D601	DRGP10D	DIODE	RGP10D (TAPPING)
D602	DZN4148	DIODE	1N4148 AUTO 52MM
D603	DZN4148	DIODE	1N4148 AUTO 52MM
D604	DZN4148	DIODE	1N4148 AUTO 52MM
D605	DZN4148	DIODE	1N4148 AUTO 52MM
D801	DZN4148	DIODE	1N4148 AUTO 52MM
D802	DZN4148	DIODE	1N4148 AUTO 52MM
D803	DZN4148	DIODE	1N4148 AUTO 52MM
D804	DZN4148	DIODE	1N4148 AUTO 52MM
D805	DZN4148	DIODE	1N4148 AUTO 52MM
D806	DZN4148	DIODE	1N4148 AUTO 52MM
D807	DZN4148	DIODE	1N4148 AUTO 52MM
D808	DZN4148	DIODE	1N4148 AUTO 52MM
D809	DZN4148	DIODE	1N4148 AUTO 52MM
D810	DBAV20	DIODE	BAV20
D811	DBAV20	DIODE	BAV20
D812	DBAV20	DIODE	BAV20
D813	DZN4148	DIODE	1N4148 AUTO 52MM
D814	DZN4148	DIODE	1N4148 AUTO 52MM
D815	DZN4148	DIODE	1N4148 AUTO 52MM
D816	DZN4148	DIODE	1N4148 AUTO 52MM
D820	D1N4002A	DIODE	1N4002
△ DG001	5MG0000066	COIL DEGAUSSING	DG-526X
DZ006	DDZ22BM	DIODE ZENER	DZ22BM
DZ130	DDZ5R1B	DIODE ZENER	DZ-5.1B
DZ131	DDZ12BM	DIODE ZENER	DZ12BM

LOC	PART-CODE	PART-NAME	PART-DESC
DZ201	DDZ5R6BM	DIODE ZENER	DZ5.6BM
DZ202	DDZ5R6BM	DIODE ZENER	DZ5.6BM
DZ203	DDZ5R6BM	DIODE ZENER	DZ5.6BM
DZ204	DDZ5R6BM	DIODE ZENER	DZ5.6BM
DZ205	DDZ5R6BM	DIODE ZENER	DZ5.6BM
DZ210	DDZ5R6BM	DIODE ZENER	DZ5.6BM
DZ211	DDZ5R6BM	DIODE ZENER	DZ5.6BM
DZ401	DDZ22BM	DIODE ZENER	DZ22BM
DZ601	DDZ4R3BM	DIODE ZENER	DZ4.3BM
DZ820	DDZ5R1B	DIODE ZENER	DZ-5.1B
DZ830	DDZ5R6BM	DIODE ZENER	DZ5.6BM
DZ831	DDZ5R6BM	DIODE ZENER	DZ5.6BM
△ F001	5FSPS3152L	FUSE	SR-5 3.15A 250V (RADIAL)
△ IC001	1KA3842B	IC POWER	KA3842B
IC201	1NT68F65	IC MICOM	NT68F65
IC202	1M24C08	IC EEPROM	M24C08
IC401	1STV9302A	IC V-OUT	STV9302A
IC501	1STV6888	IC H-OSC	STV6888
IC801	1LM1238	IC VIDEO PREAMP	LM1238ADD/NA
IC802	1LM2445	IC VIDEO OUTPUT	LM2445
IC803	1LM2480	IC VIDEO CLAMP	LM2480
L001	5PBLF24300	FILTER LINE	BLF-24300
L501	5MC0000105	COIL CHOKE	CH-130A
L502	5MH0000095	COIL H-LINEARITY	TRL-531X-2
L504	5MC0000060	COIL CHOKE	TCH-18A
L804	5CPZ828K02	COIL PEAKING	0.82UH K(AXIAL 3.5MM)
L805	5CPZ828K02	COIL PEAKING	0.82UH K(AXIAL 3.5MM)
L806	5CPZ828K02	COIL PEAKING	0.82UH K(AXIAL 3.5MM)
LED1	DSV50G	LED	V50-R32BA570GG(GREEN)
△ P001	9979200311	SOCKET INLET	BCP-03A-3
P602A	9970710286	CONN AS	101R+1015#18=400
PR001	DECPAC140M	POSISTOR	ECPAC140M290
△ Q001	T2SK2545	FET	2SK2545
Q002	TZTC3198Y-	TRANSISTOR	KTC3198Y-(1815Y) (AUTO)
Q130	TZTC3202Y	TR	KTC3202Y (AUTO)(1959Y)
Q131	TKSD1616Y-	TR	KSD1616Y
Q132	TKSB1116Y-	TR	KSB1116Y
Q133	TZTC3198Y-	TRANSISTOR	KTC3198Y-(1815Y) (AUTO)
Q150	TZTC3198Y-	TRANSISTOR	KTC3198Y-(1815Y) (AUTO)
Q203	TZTC3198Y-	TRANSISTOR	KTC3198Y-(1815Y) (AUTO)
Q501	TZTC3198Y-	TRANSISTOR	KTC3198Y-(1815Y) (AUTO)
Q503	TZTC3198Y-	TRANSISTOR	KTC3198Y-(1815Y) (AUTO)
Q504	TKSD1616Y-	TR	KSD1616Y
Q505	TFJAF6808D	TR H.OUT	FJAF6808D
Q506	TZTA1266Y-	TR	KTA1266Y- (AUTO)(1015Y)
Q507	T1RF630B	FET	IRF630B
Q512	TZTC3198Y-	TRANSISTOR	KTC3198Y-(1815Y) (AUTO)
Q513	T1RF630B	FET	IRF630B
Q515	TZTA1266Y-	TR	KTA1266Y- (AUTO)(1015Y)

LOC	PART-CODE	PART-NAME	PART-DESC
Q516	TZTA1266Y-	TR	KTA1266Y- (AUTO)(1015Y)
Q517	TBD677A	TR	BD677A
Q601	TKSP92	TR	KSP92
Q602	TZTC3198Y-	TRANSISTOR	KTC3198Y-(1815Y) (AUTO)
R001	RD-4Z105J-	R CARBON FILM	1/4 1M OHM J
R003	RD-4Z564J-	R CARBON FILM	1/4 560K OHM J
R004	RS02Z473J-	R M-OXIDE FILM	2W 47K OHM J (TAPPING)
R006	RD-AZ564J-	R CARBON FILM	1/6 560K OHM J
R007	RD-AZ333J-	R CARBON FILM	1/6 33K OHM J
R008	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R009	RS02Z563J-	R M-OXIDE FILM	2W 56K OHM J (TAPPING)
R010	RN-AZ2001F	R METAL FILM	1/6 2.0K OHM F
R012	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R013	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J
R014	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R015	RS01Z188J-	R M-OXIDE FILM	1W 0.18 OHM J
R017	RN-AZ5602F	R METAL FILM	1/6 56K OHM F
R020	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R021	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R024	RD-4Z564J-	R CARBON FILM	1/4 560K OHM J
R025	RD-4Z479J-	R CARBON FILM	1/4 4.7 OHM J
R026	RN-AZ9801F	R METAL FILM	1/6 9.8K OHM F
R027	RS01Z433J-	R M-OXIDE FILM	1W 43K OHM J (TAPPING)
R131	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J
R132	RS01Z470JS	R M-OXIDE FILM	1W 47 OHM J SMALL
R134	RS01Z560JS	R M-OXIDE FILM	1W 56 OHM J SMALL(TP)
R135	RD-AZ331J-	R CARBON FILM	1/6 330 OHM J
R136	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R137	RD-2Z568J-	R CARBON FILM	1/2 0.56 OHM J
R138	RD-AZ122J-	R CARBON FILM	1/4 1.2K OHM J
R139	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R140	RD-4Z330J-	R CARBON FILM	1/4 33 OHM J
R150	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R151	RD-AZ470J-	R CARBON FILM	1/6 47 OHM J
R202	RD-AZ105J-	R CARBON FILM	1/6 1M OHM J
R203	RD-AZ332J-	R CARBON FILM	1/6 3.3K OHM J
R204	RD-AZ332J-	R CARBON FILM	1/6 3.3K OHM J
R205	RN-AZ4701F	R METAL FILM	1/6 4.7K OHM F
R206	RN-AZ8200F	R METAL FILM	1/6 820 OHM F
R207	RN-AZ9100F	R METAL FILM	1/6 910 OHM F
R208	RN-AZ1201F	R METAL FILM	1/6 1.20K OHM F
R209	RN-AZ1801F	R METAL FILM	1/6 1.8K OHM F
R210	RN-AZ3601F	R METAL FILM	1/6 3.60K OHM F
R211	RN-AZ1002F	R METAL FILM	1/6 10K OHM F
R214	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R216	RD-AZ221J-	R CARBON FILM	1/6 220 OHM J
R219	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J
R220	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J
R221	RD-4Z202J-	R CARBON FILM	1/4 2K OHM J

LOC	PART-CODE	PART-NAME	PART-DESC
R222	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R223	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R224	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R225	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R227	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R231	RN-AZ3903F	R METAL FILM	1/6 390K OHM F
R232	RN-AZ1203F	R METAL FILM	1/6 120.0K OHM F
R233	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R234	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R235	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R236	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R237	RD-AZ221J-	R CARBON FILM	1/6 220 OHM J
R401	RD-AZ564J-	R CARBON FILM	1/6 560K OHM J
R402	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R403	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R404	RD-AZ185J-	R CARBON FILM	1/6 1.8M OHM J
R405	RN-AZ3302F	R METAL FILM	1/6 33K OHM F
R406	RN-AZ5601F	R METAL FILM	1/6 5.6K OHM F
R407	RN-AZ1202F	R METAL FILM	1/6 12K OHM F
R408	RN-AZ6201F	R METAL FILM	1/6 6.20K OHM F
R409	RN-2Z1008F	R METAL FILM	1/2 1.0 OHM F
R410	RD-2Z241J-	R CARBON FILM	1/2 240 OHM J
R412	RD-4Z159J-	R CARBON FILM	1/4 1.5 OHM J
R413	RS01Y399J-	R M-OXIDE FILM	1W 3.9 OHM J
R415	RD-2Z109J-	R CARBON FILM	1/2 1 OHM J
R416	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R421	RD-AZ185J-	R CARBON FILM	1/6 1.8M OHM J
R500	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING
R501	RD-AZ752J-	R CARBON FILM	1/6 7.5K OHM J
R502	RN-AZ5101F	R METAL FILM	1/6 5.1K OHM F
R503	RD-AZ182J-	R CARBON FILM	1/6 1.8K OHM J
R504	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J
R505	RD-AZ105J-	R CARBON FILM	1/6 1M OHM J
R506	RD-AZ363J-	R CARBON FILM	1/6 36K OHM J
R507	RD-AZ362J-	R CARBON FILM	1/6 3.6K OHM J
R508	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J
R509	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R510	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R511	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R512	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R513	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J
R514	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J
R515	RD-4Z220J-	R CARBON FILM	1/4 22 OHM J
R519	RS02Z360J-	R M-OXIDE FILM	2W 36 OHM J (TAPPING)
R520	RS02Z360J-	R M-OXIDE FILM	2W 36 OHM J (TAPPING)
R521	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R522	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R523	RD-2Z151J-	R CARBON FILM	1/2 150 OHM J
R524	RD-4Z220J-	R CARBON FILM	1/4 22 OHM J

LOC	PART-CODE	PART-NAME	PART-DESC
R525	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R526	RD-AZ330J-	R CARBON FILM	1/6 33 OHM J
R527	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J
R528	RD-2Z282J-	R CARBON FILM	1/2 0.82 OHM J
R529	RD-2Z282J-	R CARBON FILM	1/2 0.82 OHM J
R530	RS02Z182J-	R M-OXIDE FILM	2W 1.8K OHM J (TAPPING)
R531	RD-2Z151J-	R CARBON FILM	1/2 150 OHM J
R533	RD-AZ435J-	R CARBON FILM	1/6 4.3M OHM J
R534	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R535	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J
R536	RD-AZ391J-	R CARBON FILM	1/6 390 OHM J
R537	RN-AZ8202F	R METAL FILM	1/6 82K OHM F
R538	RD-AZ123J-	R CARBON FILM	1/6 12K OHM J
R539	RN-AZ1203F	R METAL FILM	1/6 120.0K OHM F
R540	RD-2Z229J-	R CARBON FILM	1/2 2.2 OHM J
R541	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J
R542	RD-AZ182J-	R CARBON FILM	1/6 1.8K OHM J
R543	RD-4Z473J-	R CARBON FILM	1/4 47K OHM J
R601	RD-AZ105J-	R CARBON FILM	1/6 1M OHM J
R602	RD-4Z473J-	R CARBON FILM	1/4 47K OHM J
R603	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J
R604	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R605	RD-4Z683J-	R CARBON FILM	1/4 68K OHM J
R606	RD-4Z122J-	R CARBON FILM	1/4 1.2K OHM J
R607	RD-AZ824J-	R CARBON FILM	1/6 820K OHM J
R608	RD-AZ122J-	R CARBON FILM	1/6 1.2K OHM J
R609	RD-AZ363J-	R CARBON FILM	1/6 36K OHM J
R610	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R801	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J
R802	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J
R803	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J
R804	RD-AZ330J-	R CARBON FILM	1/6 33 OHM J
R805	RD-AZ330J-	R CARBON FILM	1/6 33 OHM J
R806	RD-AZ330J-	R CARBON FILM	1/6 33 OHM J
R807	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R808	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R809	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R810	RD-4Z181J-	R CARBON FILM	1/4 180 OHM J
R811	RD-4Z181J-	R CARBON FILM	1/4 180 OHM J
R812	RD-4Z181J-	R CARBON FILM	1/4 180 OHM J
R813	RD-AZ334J-	R CARBON FILM	1/6 330K OHM J
R814	RD-AZ334J-	R CARBON FILM	1/6 330K OHM J
R815	RD-AZ334J-	R CARBON FILM	1/6 330K OHM J
R816	RD-4Z330J-	R CARBON FILM	1/4 33 OHM J
R817	RD-4Z330J-	R CARBON FILM	1/4 33 OHM J
R818	RD-4Z330J-	R CARBON FILM	1/4 33 OHM J
R820	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R821	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R822	RD-AZ622J-	R CARBON FILM	1/6 6.2K OHM J

LOC	PART-CODE	PART-NAME	PART-DESC
R823	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R824	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R825	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R826	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R827	RD-AZ434J-	R CARBON FILM	1/6 430K OHM J
R828	RS02Z309JS	R M-OXIDE FILM	2W 3 OHM J SMALL
R829	RD-4Z129J-	R CARBON FILM	1/4 1.2 OHM J
R830	RD-AZ181J-	R CARBON FILM	1/6 180 OHM J
R831	RD-AZ181J-	R CARBON FILM	1/6 180 OHM J
R832	RD-AZ181J-	R CARBON FILM	1/6 180 OHM J
R840	RD-4Z562J-	R CARBON FILM	1/4 5.6K OHM J
R841	RD-4Z564J-	R CARBON FILM	1/4 560K OHM J
RL001	5SC0101035	SW RELAY	DY3MA-DC12V 1C-1P
SG801	DWSP201M—	SURGE ABSORBER	WSP-201M
SG802	DWSP201M—	SURGE ABSORBER	WSP-201M

LOC	PART-CODE	PART-NAME	PART-DESC
SG803	DWSP201M—	SURGE ABSORBER	WSP-201M
SG804	4SG0D00104	SPARK GAP	S-23 1.5KV
SG805	4SG0D00104	SPARK GAP	S-23 1.5KV
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
SW205	5S50101Z01	SW TACT	KPT-1115VM 1C-1P
SW206	5S50101Z01	SW TACT	KPT-1115VM 1C-1P
△T001	5RM0000122	TRANS SMPS	DMT-531X-2
△T500	5RH0000138	FBT	FFA73515U
T500A	9970K00012	CORE FERRITE	RING-23
T501	5RD0000058	TRANS DRIVE	DDT-907D-1
TH001	DTP8D13—	THERMISTOR	TP8D13
X201	5PZTT120MT	RESONATOR CERA	ZTT12.0MT

DIFFERENT ELECTRICAL PARTS LIST

LOC	PART-CODE	PART-NAME	PART-DESC	LOC	PART-CODE	PART-NAME	PART-DESC
B002	5PB13890—	COIL BEAD	BI3890	B002	5MBFD3512R	COIL BEAD	BFD 3512 R2
B003	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	B003	5MBFS3550R	COIL BEAD	BFS 3550 R2
B004	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	B004	5MBFS3550R	COIL BEAD	BFS 3550 R2
△ C015	CH1FDF222M	C CERA AC	2.5KV 2200PF M AC250V	C015	CH1FDF472M	C CERA AC	2.5KV 4700PF M AC250V
C514	CMXM2A102J	C MYLAR	100V 1000PF J (TP)	C500	CEXF1E221V	C ELECTRO	25V RSS 220MF (8X11.5) TP
C519	CMXH3C562J	C MYLAR	BUP 1.6KV 5600PF J	C514	CMXM2A222J	C MYLAR	100V 2200PF J (TP)
C524	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)	C519	CMXH3C542J	C MYLAR	BUP 1.6KV 5400PF J
C528	CMXF2D474J	C MYLAR	MPP 200V 0.47MF J	C524	CMXL2A104J	C MYLAR	MEU 100V 0.1MF J
				C528	CMXF2E274J	C MYLAR	MPP 250V 0.27MF J (TP)
				C531	CMXM2A153J	C MYLAR	100V 0.015MF J (TP)
				C533	CMXF2E224J	C MYLAR	MPP 250V 0.22MF J
				C534	CMXM2A472J	C MYLAR	100V 4700PF J (TP)
				C701	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP
				C702	CCXF1H104Z	C CERA	50V F 0.1MF Z
CA201	9970800056	CABLE SIGNAL AS	15P+1C/DDC=1.5M(GY275A)	CA201	9970800068	CABLE SIGNAL AS	15P+2C/DDC+421C=1.5M
				CW701	485923242S	CONN WAFER	5267-03A STICK TYPE
				L701	5M20000003	COIL TILT	TC-17B-1
Q505	TFJAF6808D	TR H.OUT	FJAF6808D	Q505	TFJAF6810D	TR H.OUT	FJAF6810D
				Q510	TZTC3198Y-	TRANSISTOR	KTC3198Y-(1815Y) (AUTO)
				Q511	T1RF630B—	FET	IRF630B
				Q701	TZTC3198Y-	TRANSISTOR	KTC3198Y-(1815Y) (AUTO)
				Q702	TZTC3202Y-	TR	KTC3202Y (AUTO)(1959Y)
				Q703	TZTA1270Y-	TR	KTA1270Y(AUTO)(562Y)
R500	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	R500	RS01Z109J-	R M-OXIDE FILM	1W 1 OHM J (TAPPING)
R519	RS02Z360J-	R M-OXIDE FILM	2W 36 OHM J (TAPPING)	R519	RS02Z150J-	R M-OXIDE FILM	2W 15 OHM J (TAPPING)
R520	RS02Z360J-	R M-OXIDE FILM	2W 36 OHM J (TAPPING)	R520	RS02Z180J-	R M-OXIDE FILM	2W 18 OHM J (TAPPING)
R533	RD-AZ435J-	R CARBON FILM	1/6 4.3M OHM J	R533	RD-AZ824J-	R CARBON FILM	1/6 820K OHM J
R539	RN-AZ1203F	R METAL FILM	1/6 120.0K OHM F	R539	RN-AZ1503F	R METAL FILM	1/6 150K OHM F
				R544	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J
				R545	RD-AZ182J-	R CARBON FILM	1/6 1.8K OHM J
				R546	RD-4Z473J-	R CARBON FILM	1/4 47K OHM J
				R548	RD-2Z104J-	R CARBON FILM	1/2 100K OHM J
				R549	RD-2Z223J-	R CARBON FILM	1/2 22K OHM J
				R702	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
				R703	RD-AZ431J-	R CARBON FILM	1/6 430 OHM J
				R704	RD-2Z152J-	R CARBON FILM	1/2 1.5K OHM J
				R705	RD-2Z100J-	R CARBON FILM	1/2 10 OHM J
				R706	RD-2Z209J-	R CARBON FILM	1/2 2 OHM J
T500A	9970K00012	CORE FERRITE	RING-23	T500A	9970K00017	CORE FERRITE	OP-18(A)
				YF050	9977248700	SHIELD DY	AL T=0.3