



Service Manual

XGA COLOR MONITOR

Model : 719B

DAEWOO ELECTRONICS CO., LTD.

[http : //svc.dwe.co.kr](http://svc.dwe.co.kr)

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CONTENTS

SAFETY PRECAUTIONS	1
GENERAL SAFETY INFORMATION	2
SERVICING PRECAUTIONS	3
TECHNICAL INFORMATION	6
GENERAL INFORMATION	7
PIN CONNECTOR	8
CAUTIONS FOR ADJUSTMENT AND REPAIR	8
OPERATION AND ADJUSTMENT	9
ALIGNMENT PROCEDURE	13
TROUBLESHOOTING HINTS	15
BLOCK DIAGRAM	31
PCB LAYOUT	32
SCHEMATIC DIAGRAM	35
EXPLODED VIEW & MECHANICAL PARTS LIST	39
INFORMATION OF PART DESCRIPTION	40
ELECTRICAL PARTS LIST	41

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.
- Set the Contrast & Brightness Control to the minimum on OSD Menu.
- 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 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.

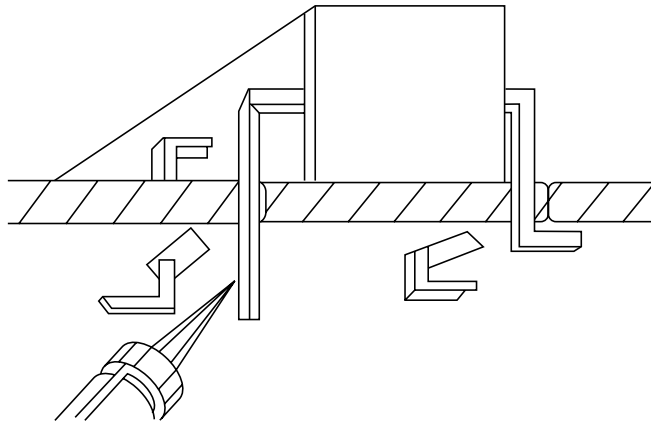


FIGURE 1. USE SOLDERING IRON TO PRY LEADS

◆ 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

Model		719B
CDT Size		17-inch
Diagonal visible image area		16.2-inch
Dot Pitch		0.28 mm
Synchronization	Horizontal	30 - 70 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		85W
Dimension-W x H x D (set with stand)		410 x 402 x 425mm
Weight-unpacked(lbs/Kg)		32.0/14.5
Operating Temperature		10 ~ 40°C /50 ~ 104°F

GENERAL INFORMATION

This color monitor automatically scans all horizontal frequencies from 30KHz to 70KHz, 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 1280 dots and a maximum vertical resolution of 1024 lines for superior clarity of display.

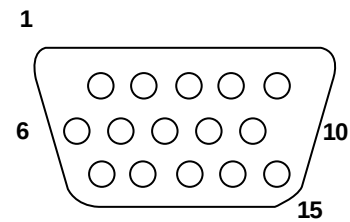
By accepting analog signal inputs which level is zero to 0.7 Volts. This color monitor can display and unlimited palette of colors depending on the graphics adapter and software being used.

◆ Abbreviations

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

PIN CONNECTOR

Pin	Signal
1	Red
2	Green
3	Blue
4	GND
5	GND
6	GND - Red
7	GND - Green
8	GND - Blue
9	+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

▼ BRIGHTNESS ▲ MENU ◀ CONTRAST ▶



- 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.

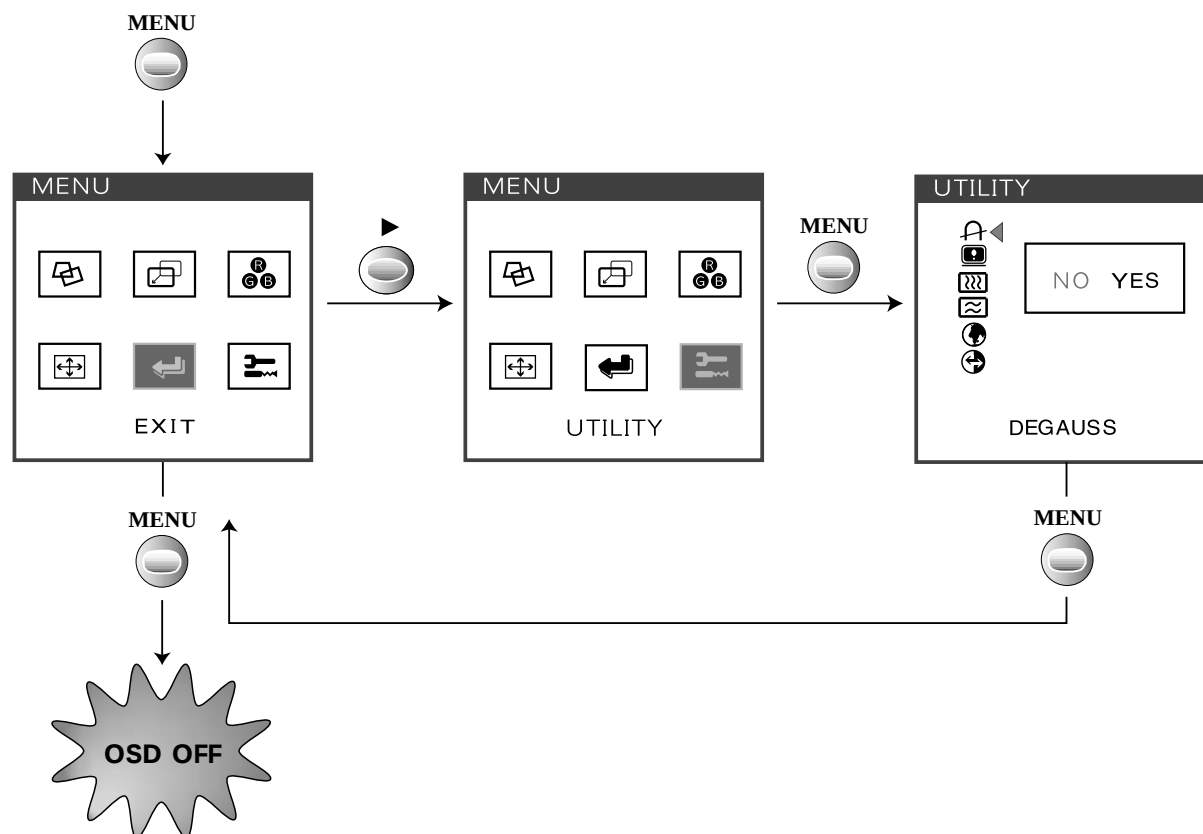


- Move cursor to the high window on the OSD window.
- Increase the value of V.size or V.center.



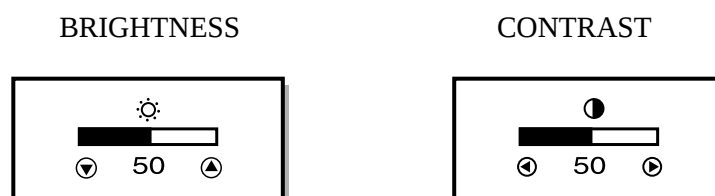
- Move cursor to the low window on the OSD window.
- Decrease the value of V.size or V.center.

Key Process



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

Hot Key



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	Degauss the display and restore image quality.
	STATUS	Display horizontal & vertical frequency and polarity.



<i>ICON</i>	<i>CONTROL</i>	<i>FUNCTIONS</i>
	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 : AC 120V, 60Hz/AC 220V, 50Hz.
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/Composite
 - Deflection frequency
 - Horizontal Frequency : 30KHz - 70KHz
 - Vertical Frequency : 50Hz - 160Hz

◆ Pre-Adjustment

1. High Voltage Adjustment
 - Adjust 26K Vdc between Anode cap and ground at a cross hatch pattern of 60KHz by using VR 502.

◆ Method to launch the factory mode

- Step 1. Push the menu button.
- Step 2. Push the menu button and Brightness minus 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 100)
 - Brightness : Center (Set the OSD value to 50)
2. H.size, V.size, H.phase, V.position, Pincushion, Trapezoid
 - Receive the cross hatch pattern of Factory preset mode.
 - H.size, V.size, H.phase, V.position, Pincushion, Trapezoid are adjusted at each mode.
 - In Factory, Auto Alignment was done at each mode. Therefore, Factory preset mode has it's own value according to each control.
3. Focus
 - (a) Set brightness control to center and contrast control to MAX.
 - (b) Receive all "H" character pattern of 60KHz mode signal.
 - (c) Adjust the Focus control of FBT to obtain best Focus (static focus and Dynamic focus).
4. Geometric Distortion Adjustment
 - (a) Receive the cross hatch pattern of VGA mode signal by using the signal generator.
 - (b) Pin balance, Parallelogram are adjusted the best geometric status.
 - (c) Repeat the adjustment at each mode.
5. White Balance Adjustment
 - (a) Receive a full white pattern of 60KHz mode.
 - (b) Set the bright control and contrast control to the maximum and receive the all black pattern.
 - (c) Select a Temperature function on the R, G, B item of the OSD menu and select 9300.
 - (d) If the screen luminosity is changed, adjust the sub brightness control to get the 0.6 ~ 0.8 Ft/L screen luminosity.
 - (e) Select the R, G, B Bias on the OSD menu and adjust the ◀ / ▶ key to get the color coordinates in X=0.281, Y=0.311.
 - (f) Set the brightness control to the center and contrast control to the maximum.
 - (g) Receive a full white pattern.

(h) Select the R, G, B gain on the OSD menu and adjust the ◀ / ▶ key to get the color coordinates in $X=0.281\pm0.02$, $Y=0.311\pm0.02$.

(i) Adjust the sub contrast control to get the screen luminosity to 32Ft/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 angles 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.

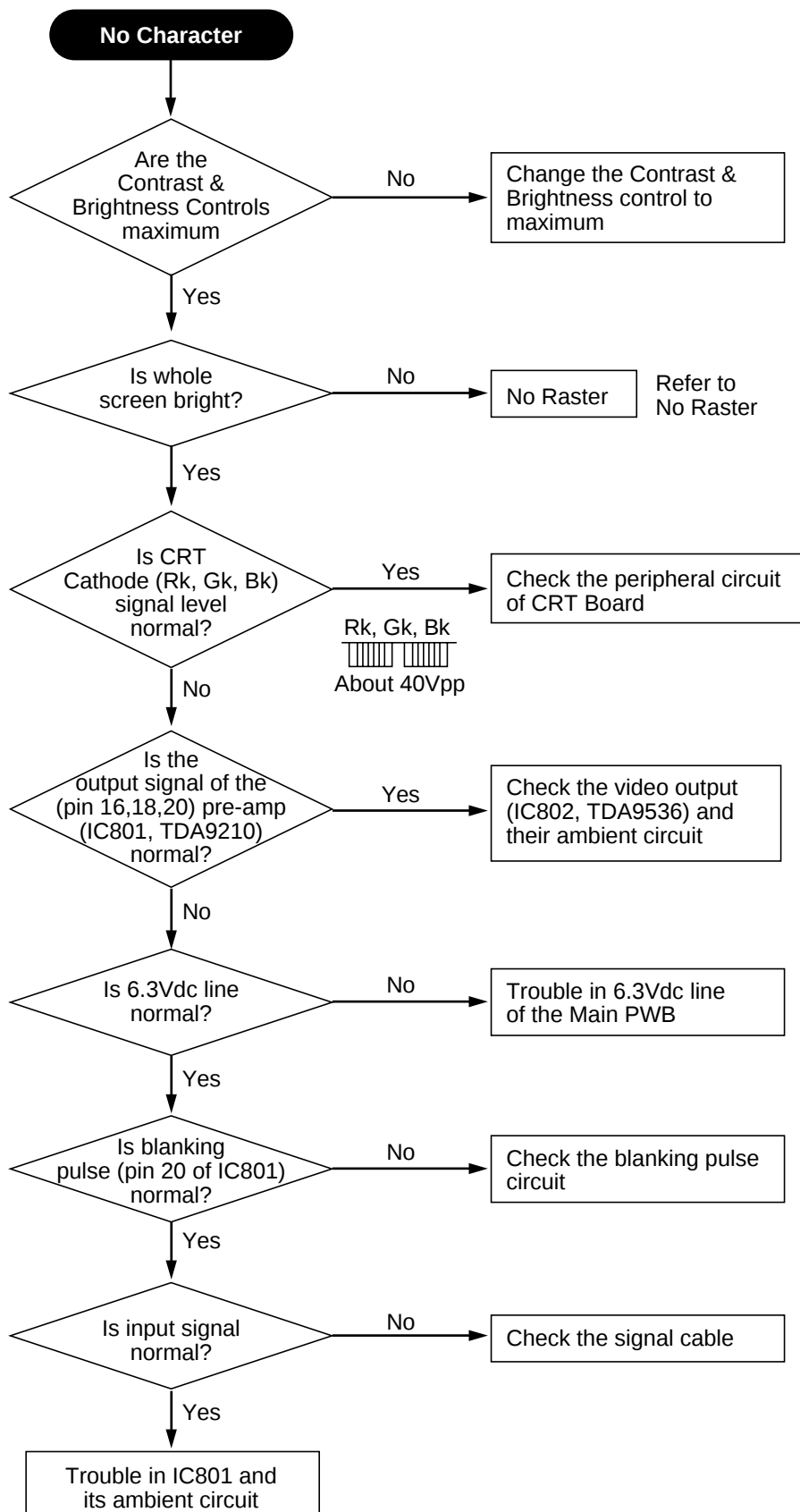
(e) Apply a yellow cross hatch pattern on the display.

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

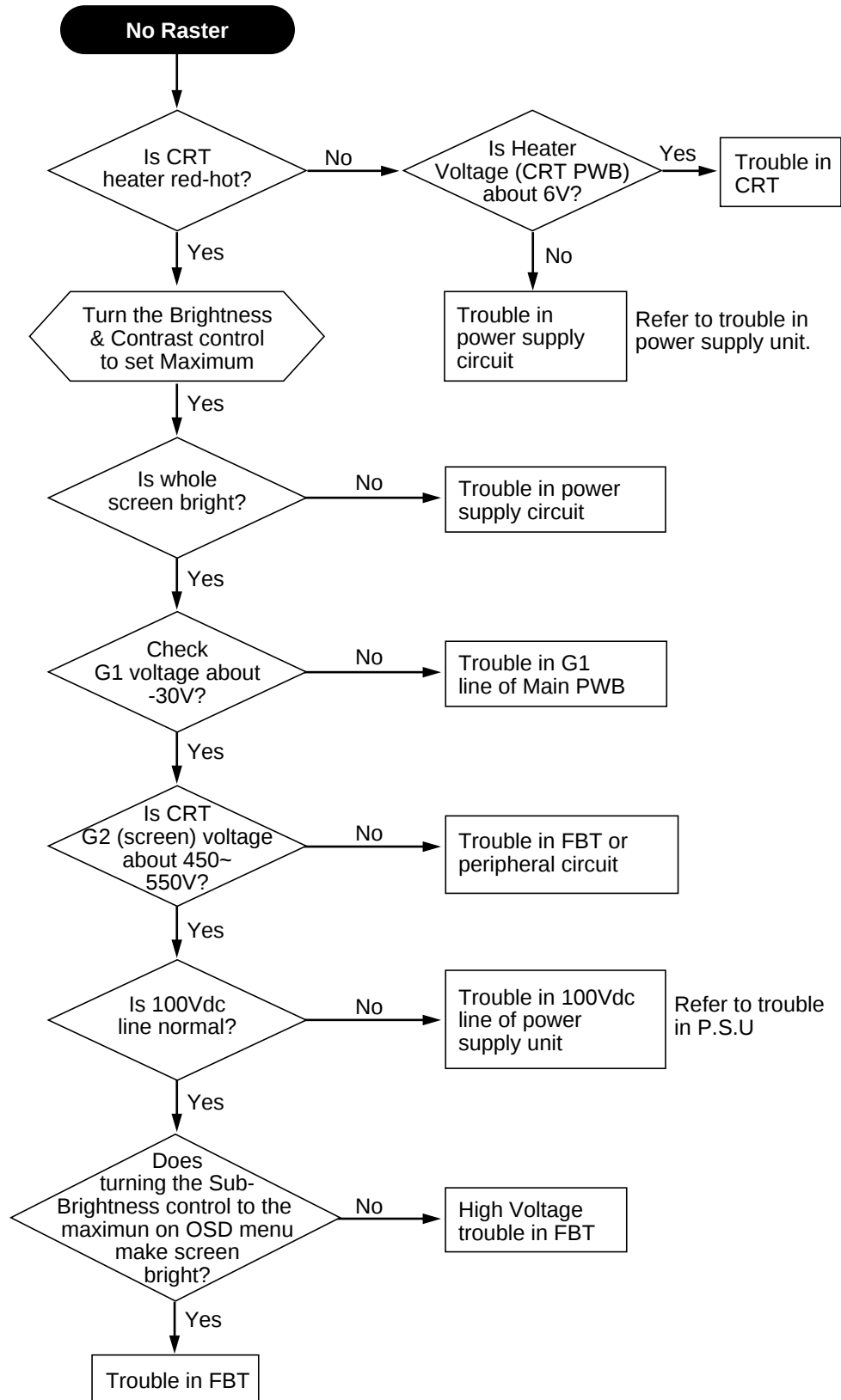
(g) Horizontal green and red lines are converged by varying the tabs together and keeping the angle between them constant.

TROUBLESHOOTING HINTS

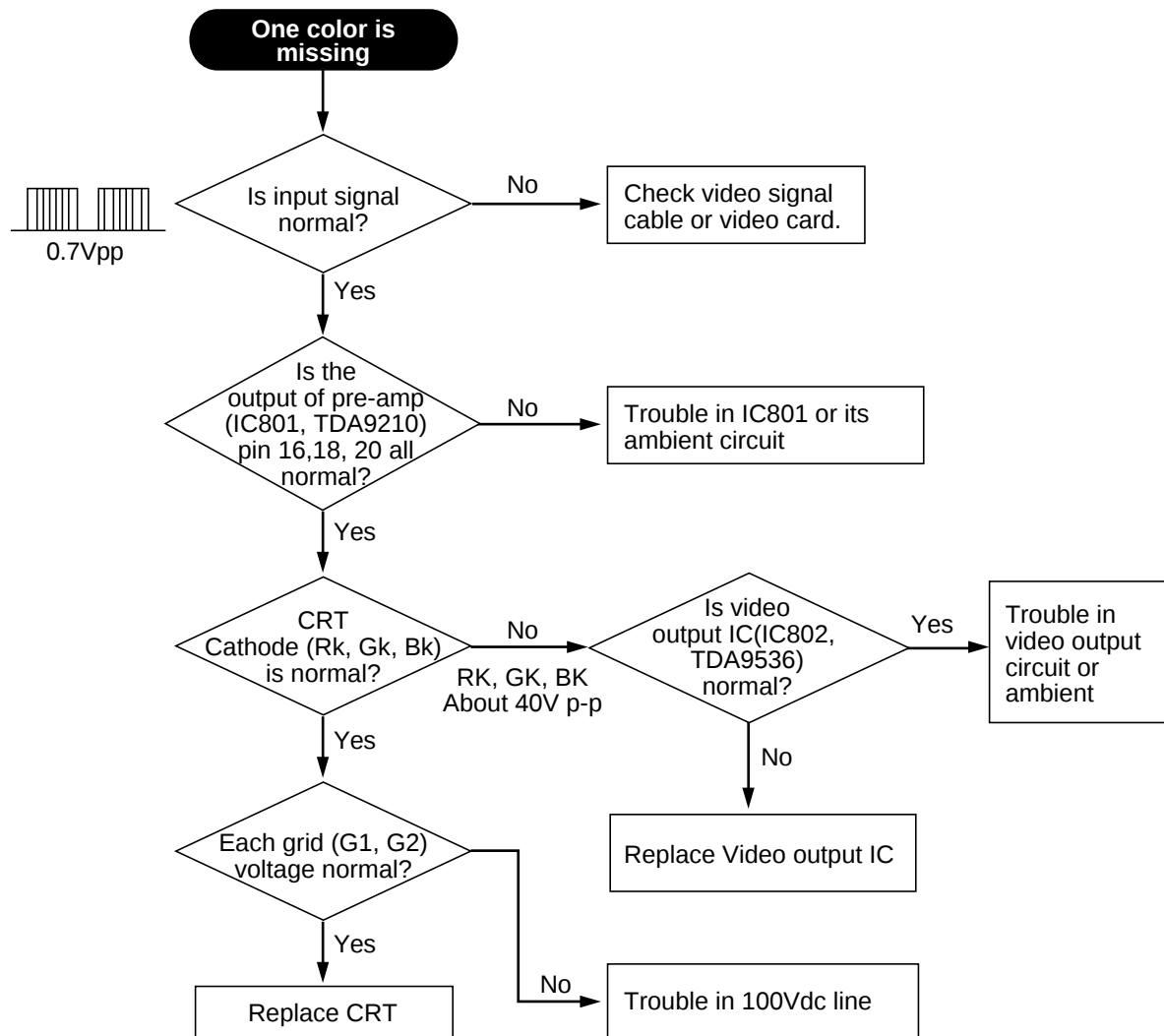
1. No Character



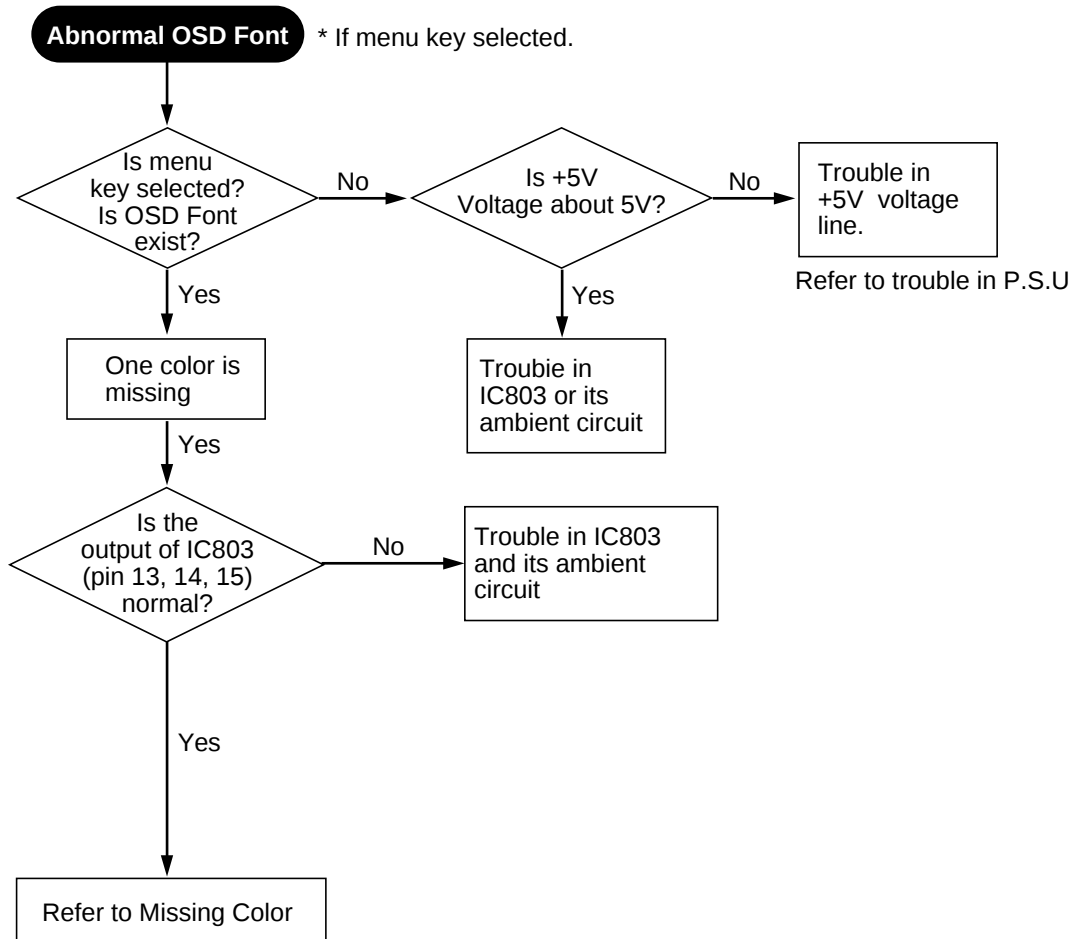
2. No Raster



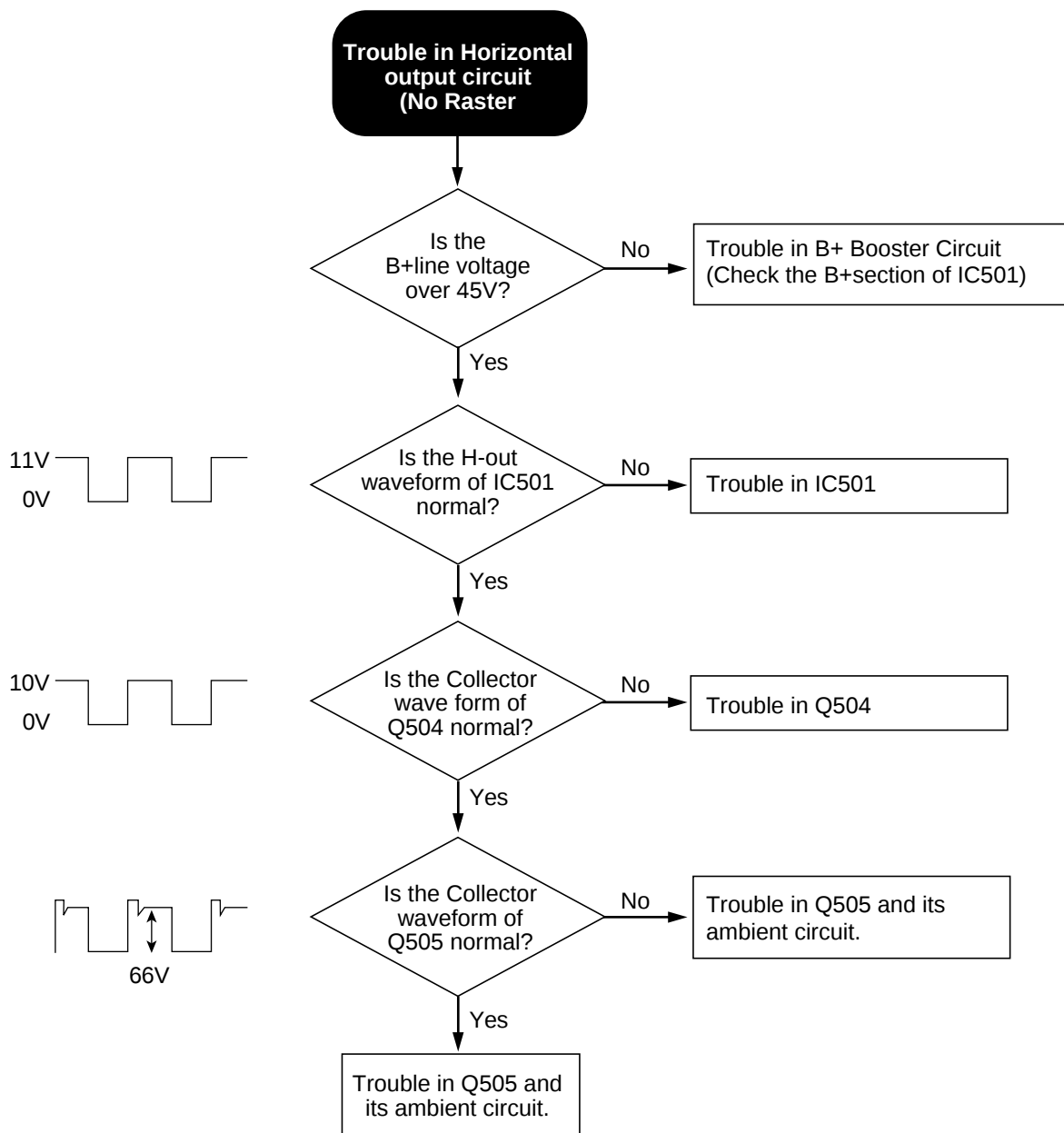
3. A Missing Color



4. Abnormal OSD Font

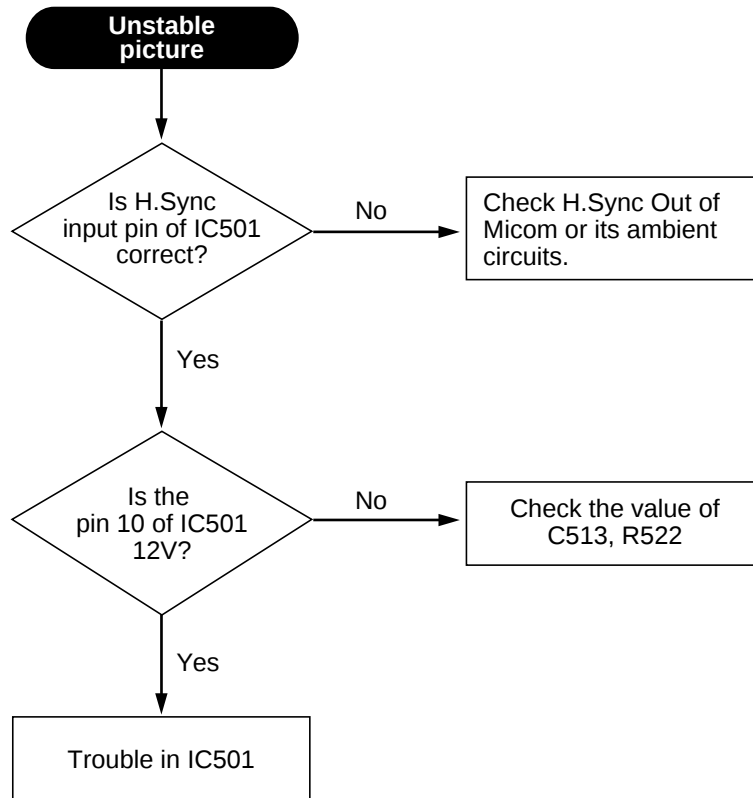


5. Horizontal Output Circuit

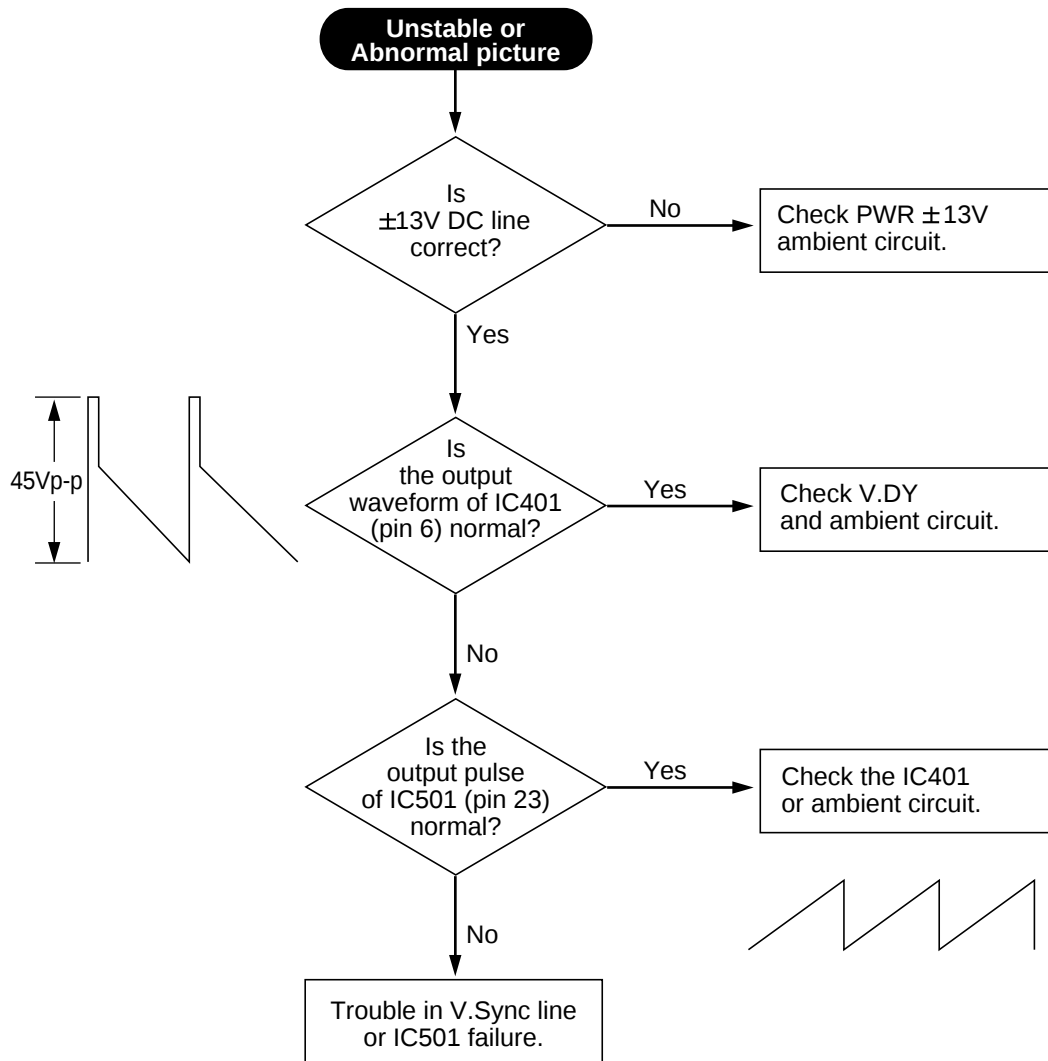


6. Unstable Picture

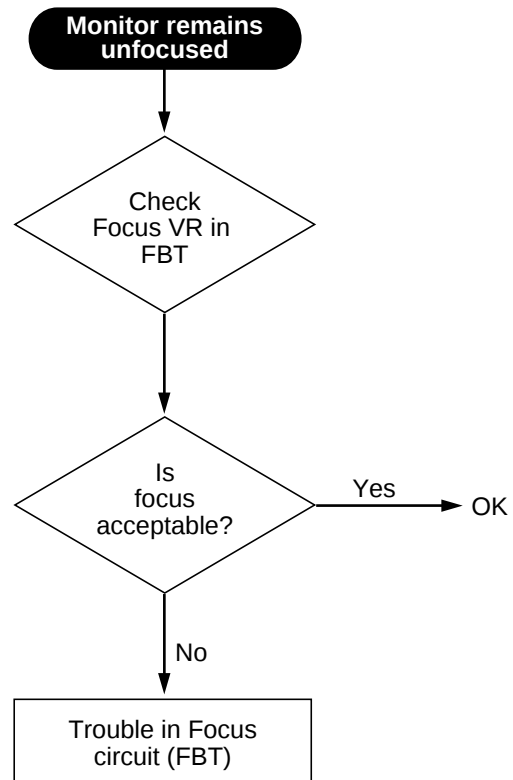
6-1. Horizontal



6-2. Vertical

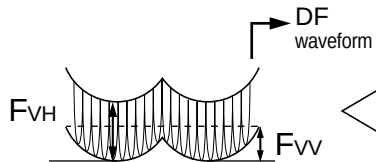


7. Focus



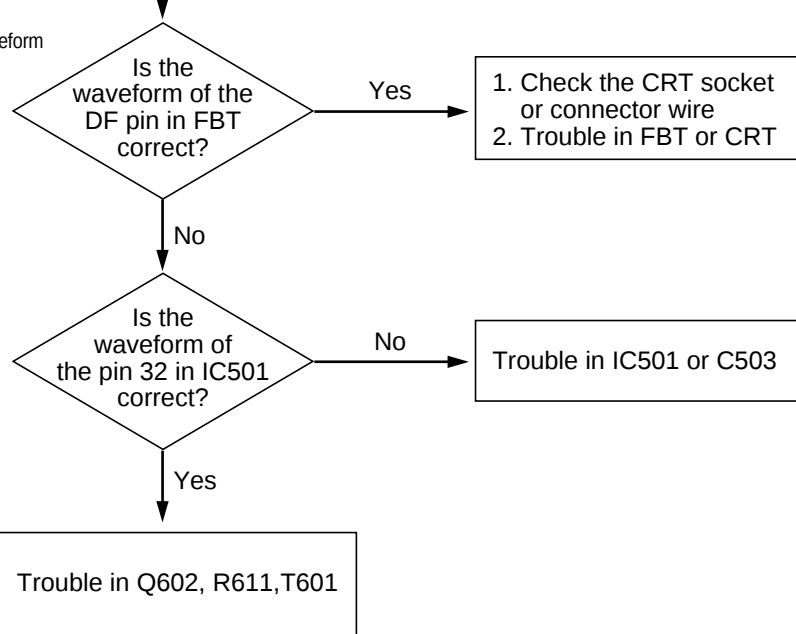
7-1. Dynamic Focus

F_{VH} F_{VW}
 ORION : 300V 120V
 SAMSUNG : 300V 120V

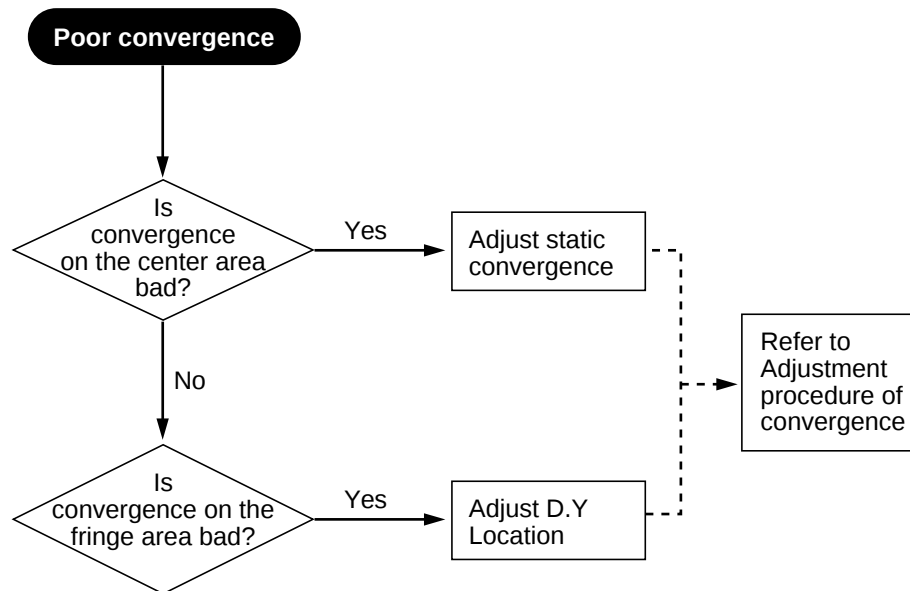


Focus is poor

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

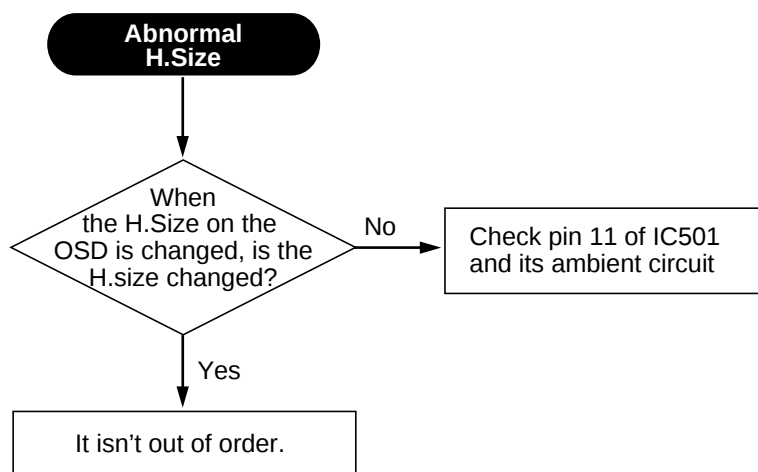


8. Convergence

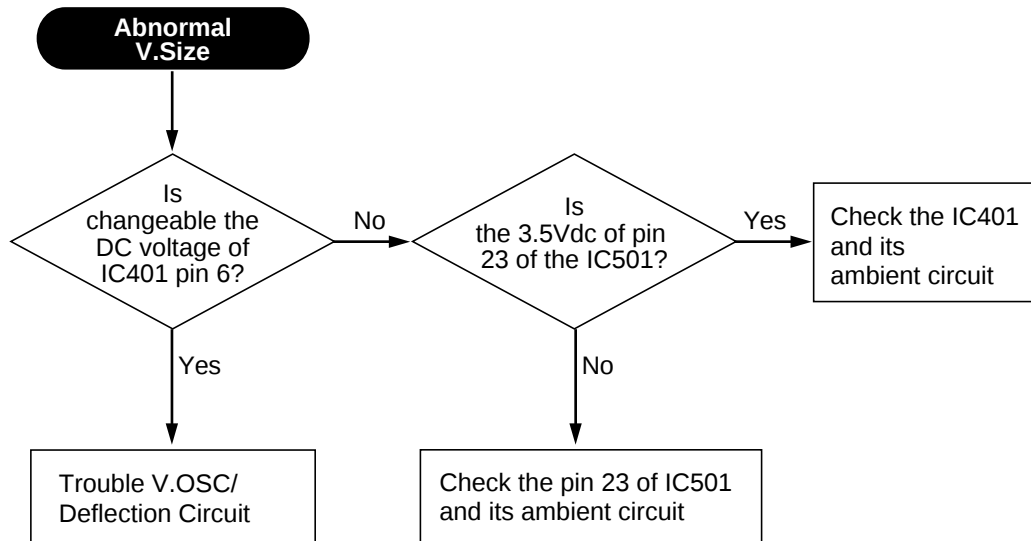


9. Abnormal Picture

9-1. Horizontal Size

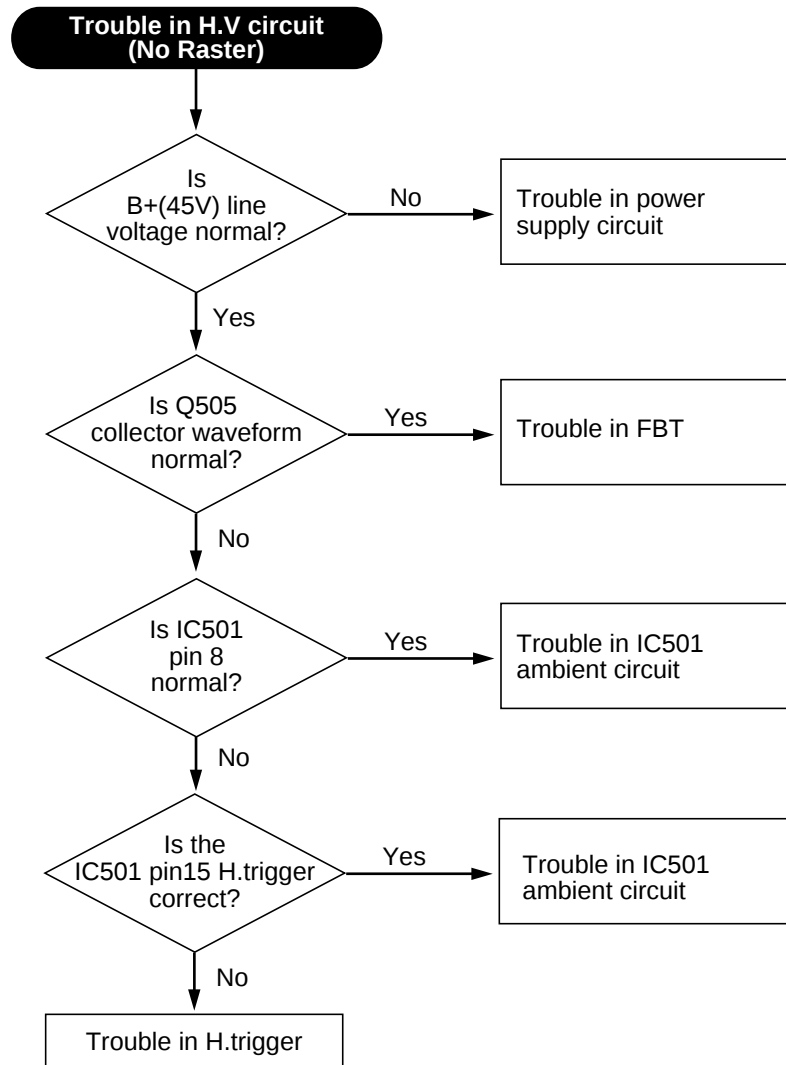


9-2. Vertical Size

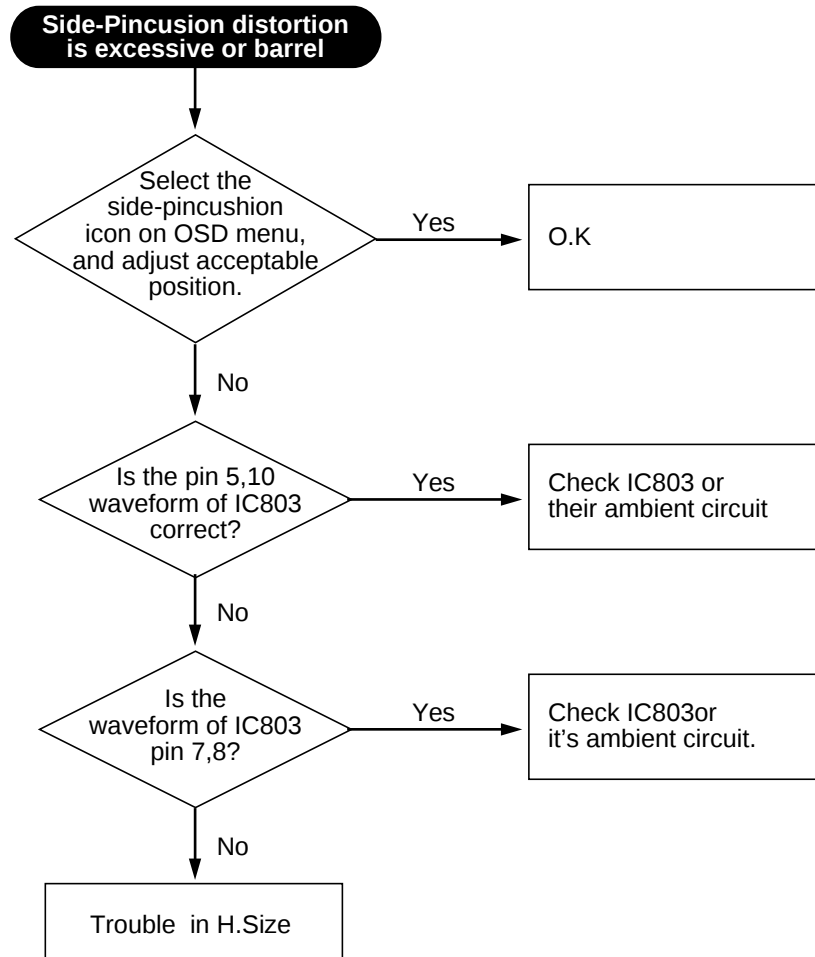


Refer to V.OSC/Deflection circuit

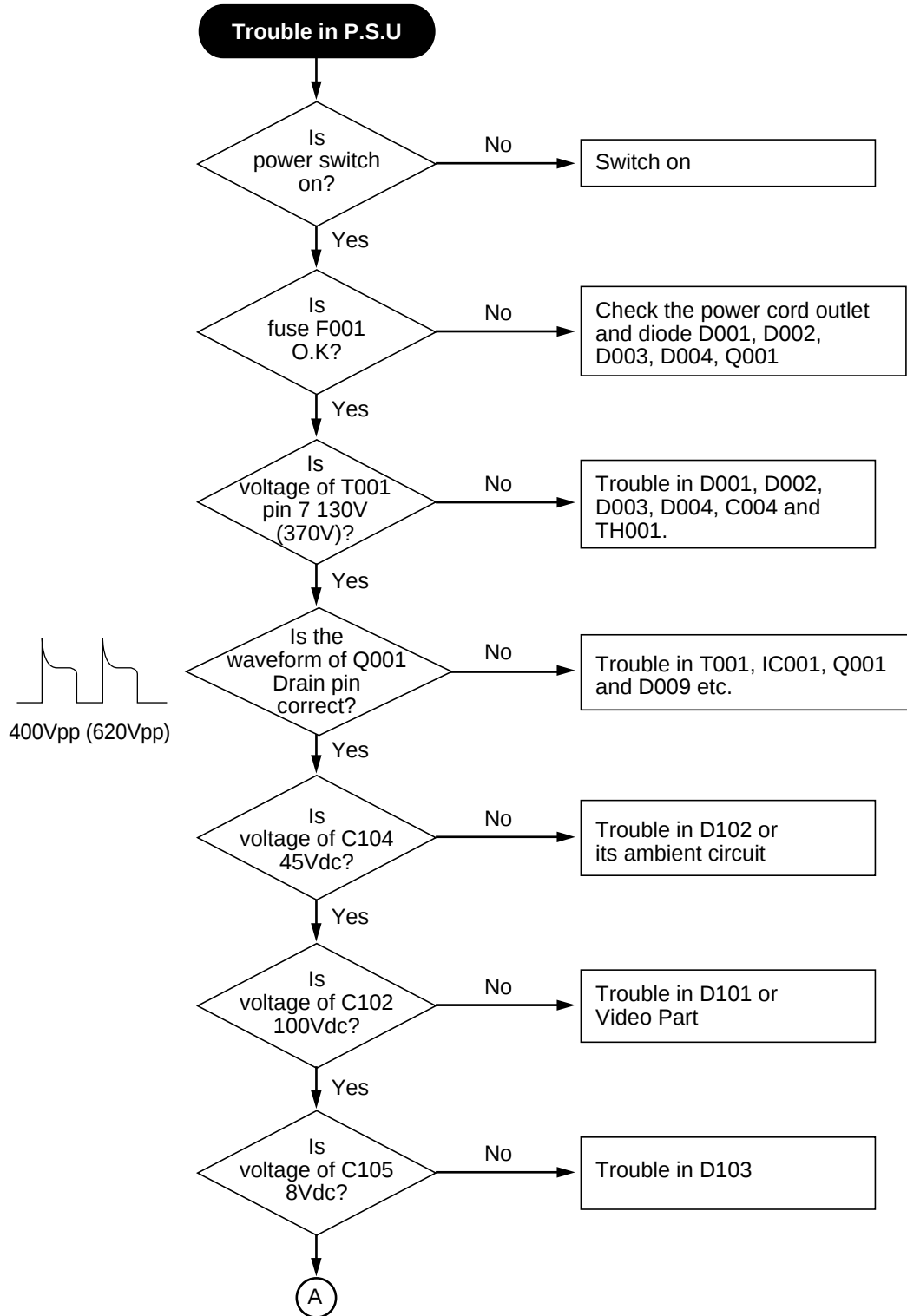
10. High Voltage Output Circuit

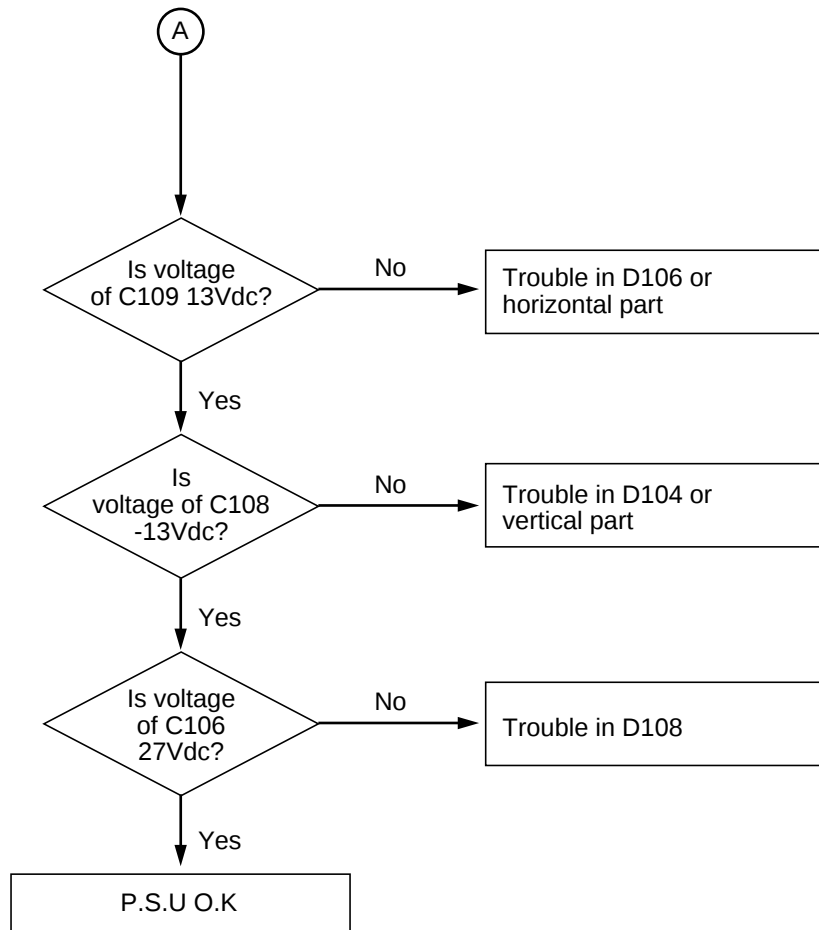


11. Side-Pincushion Circuit

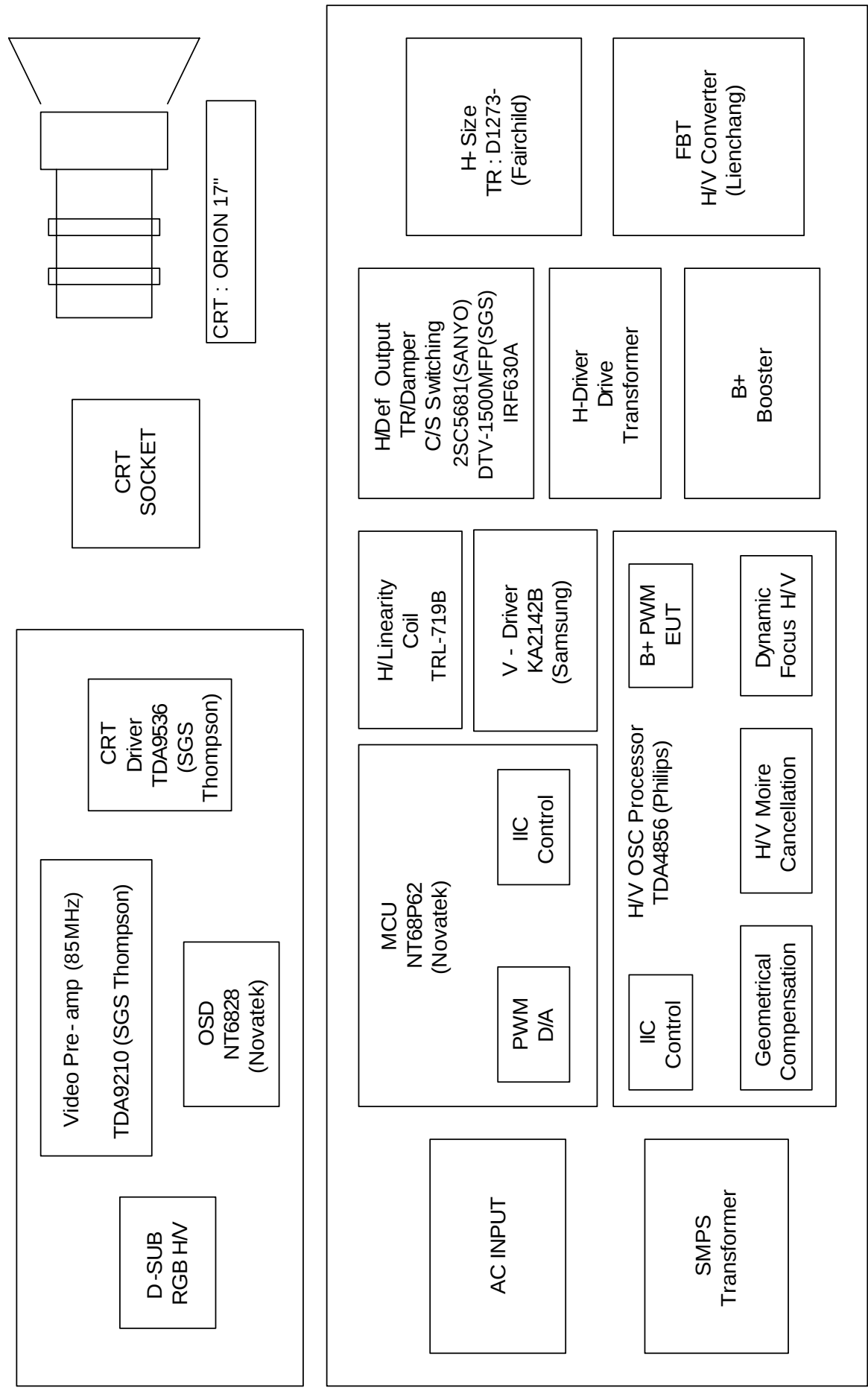


12. Power Supply Unit (P.S.U)



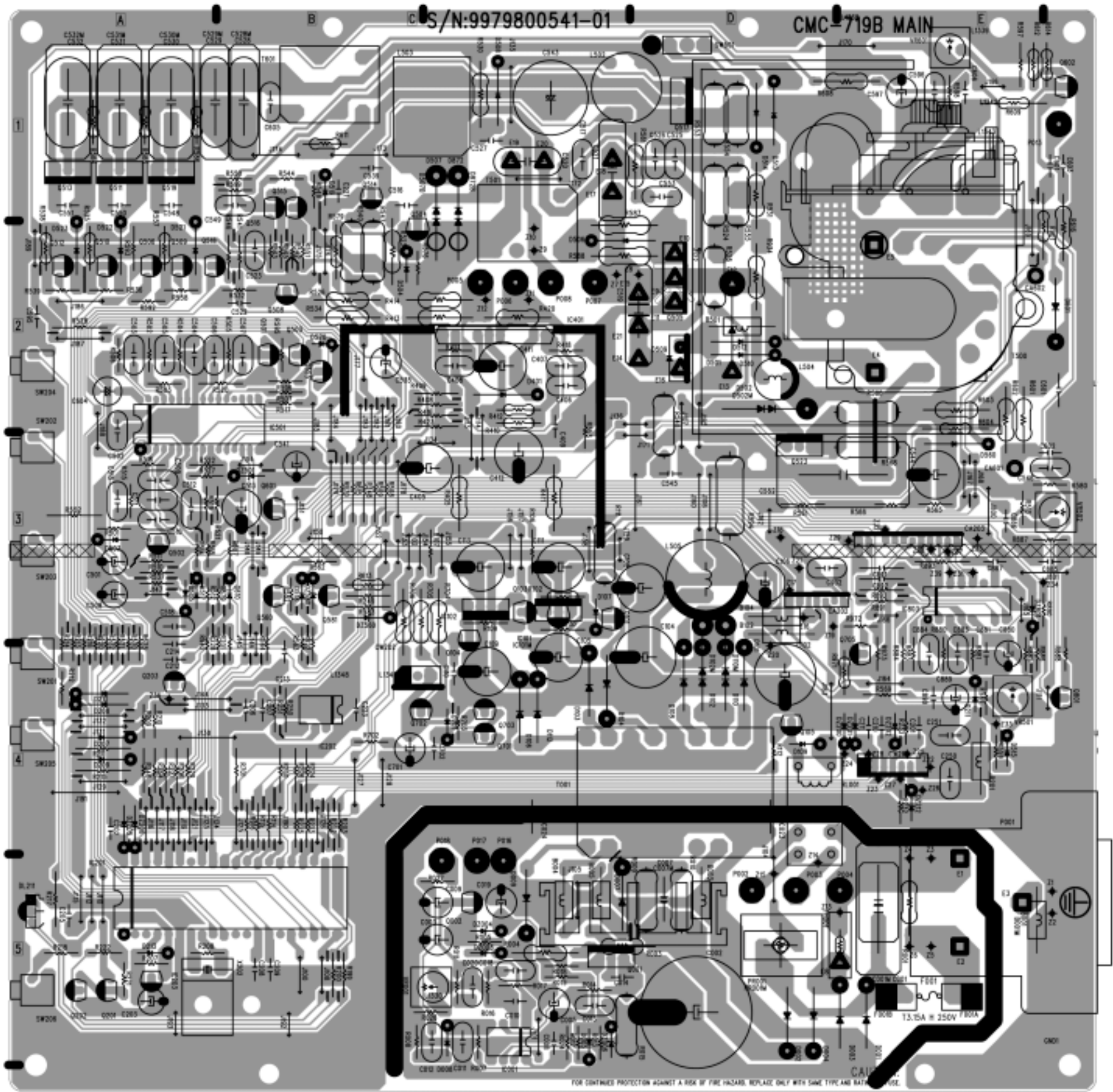


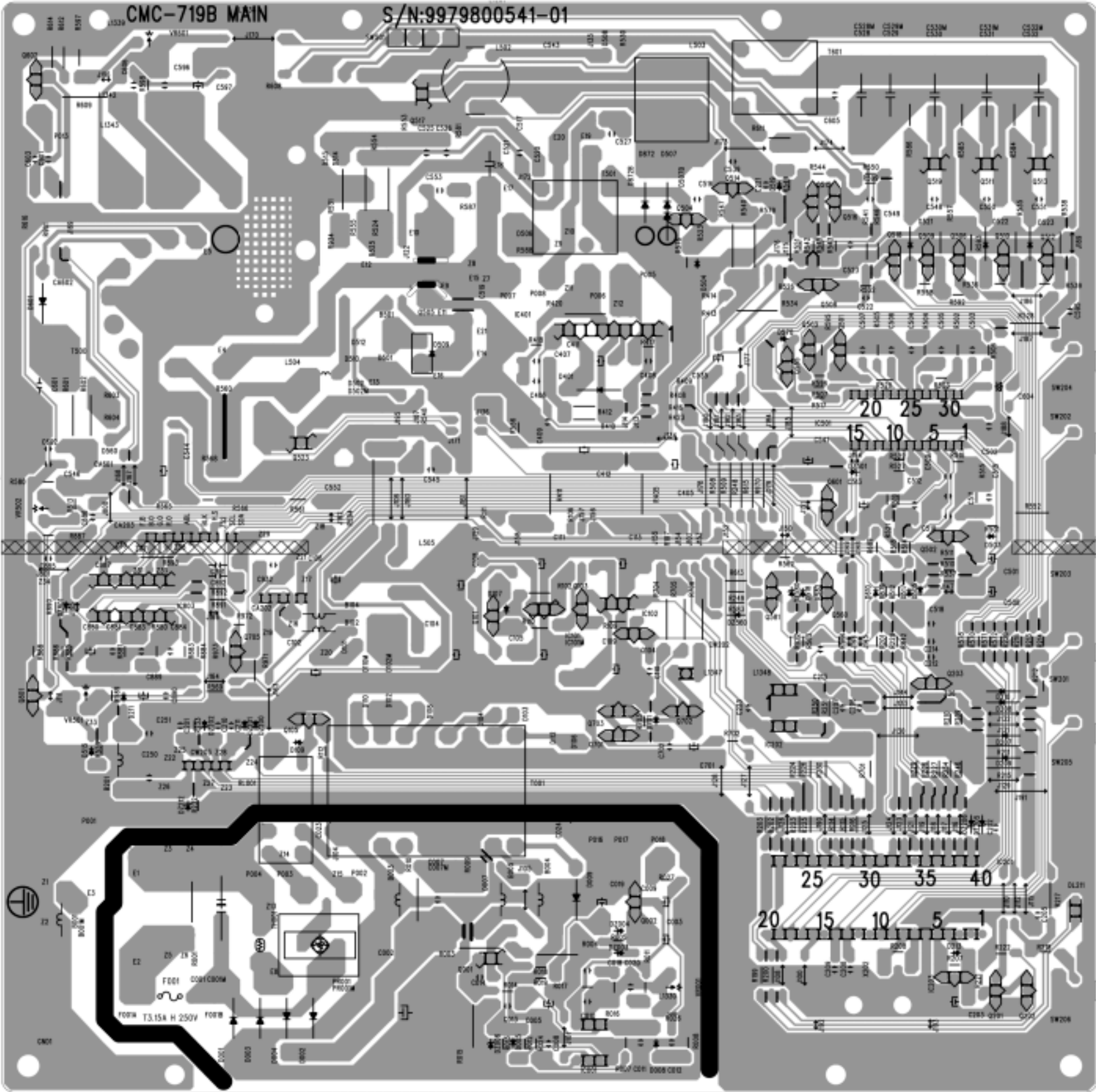
BLOCK DIAGRAM



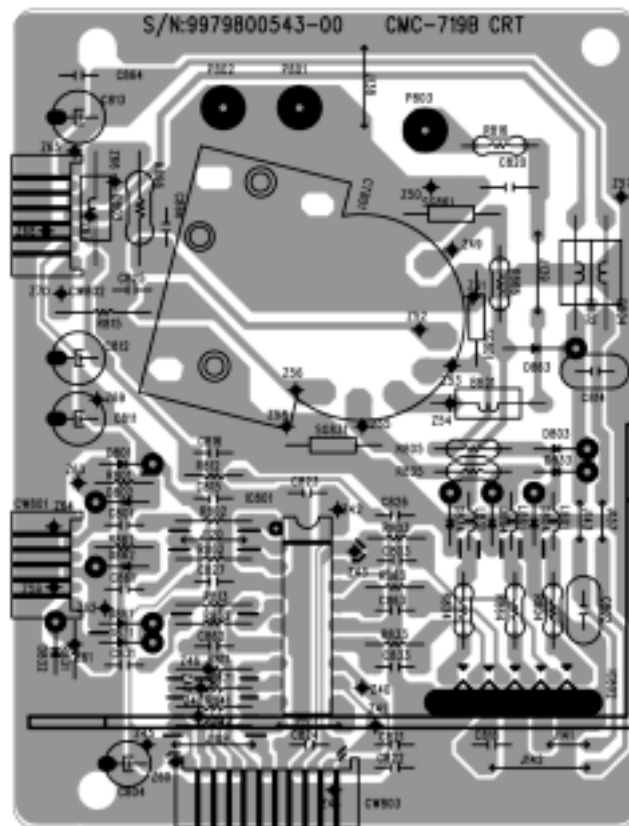
PCB LAYOUT

Main PCB Component Side

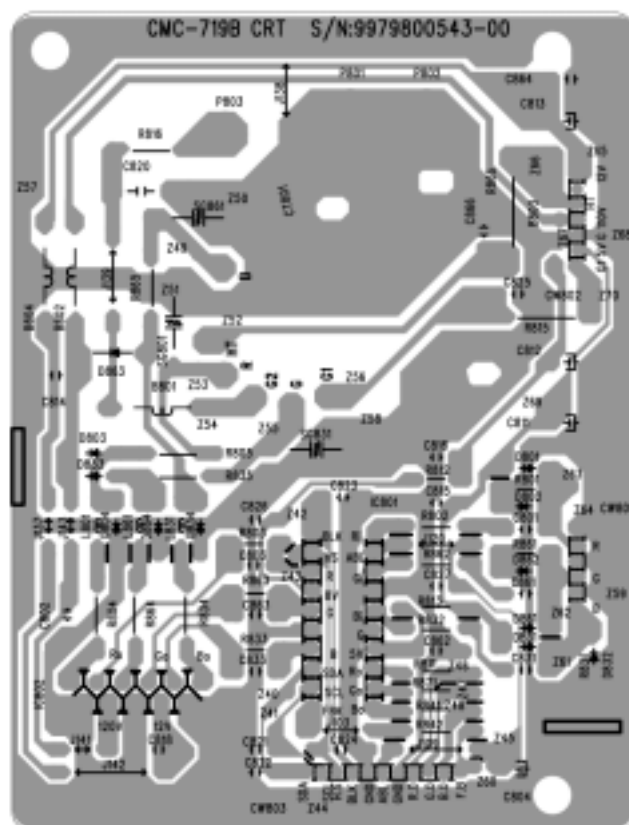




CRT PCB Component Side

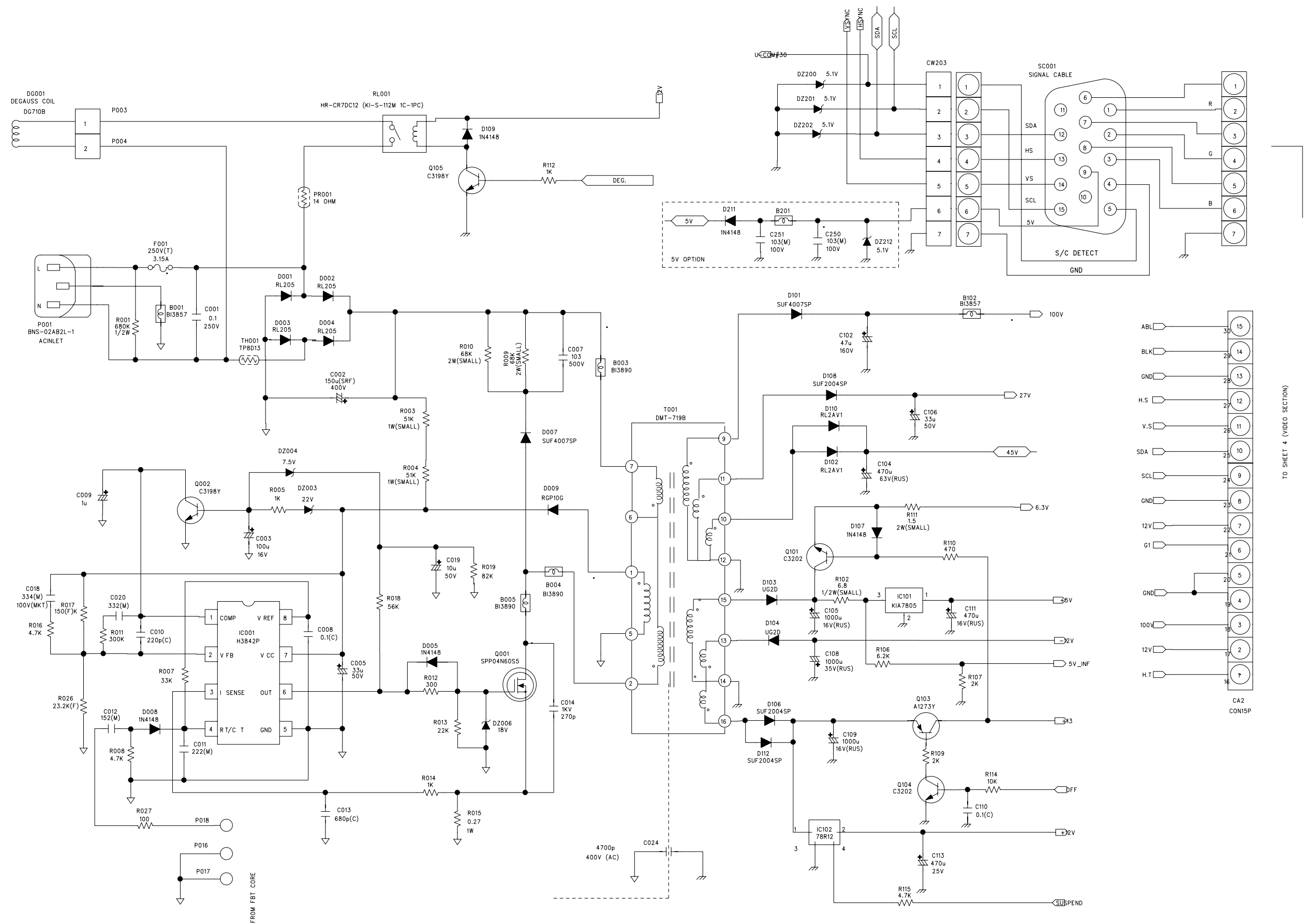


CRT PCB Solder Side

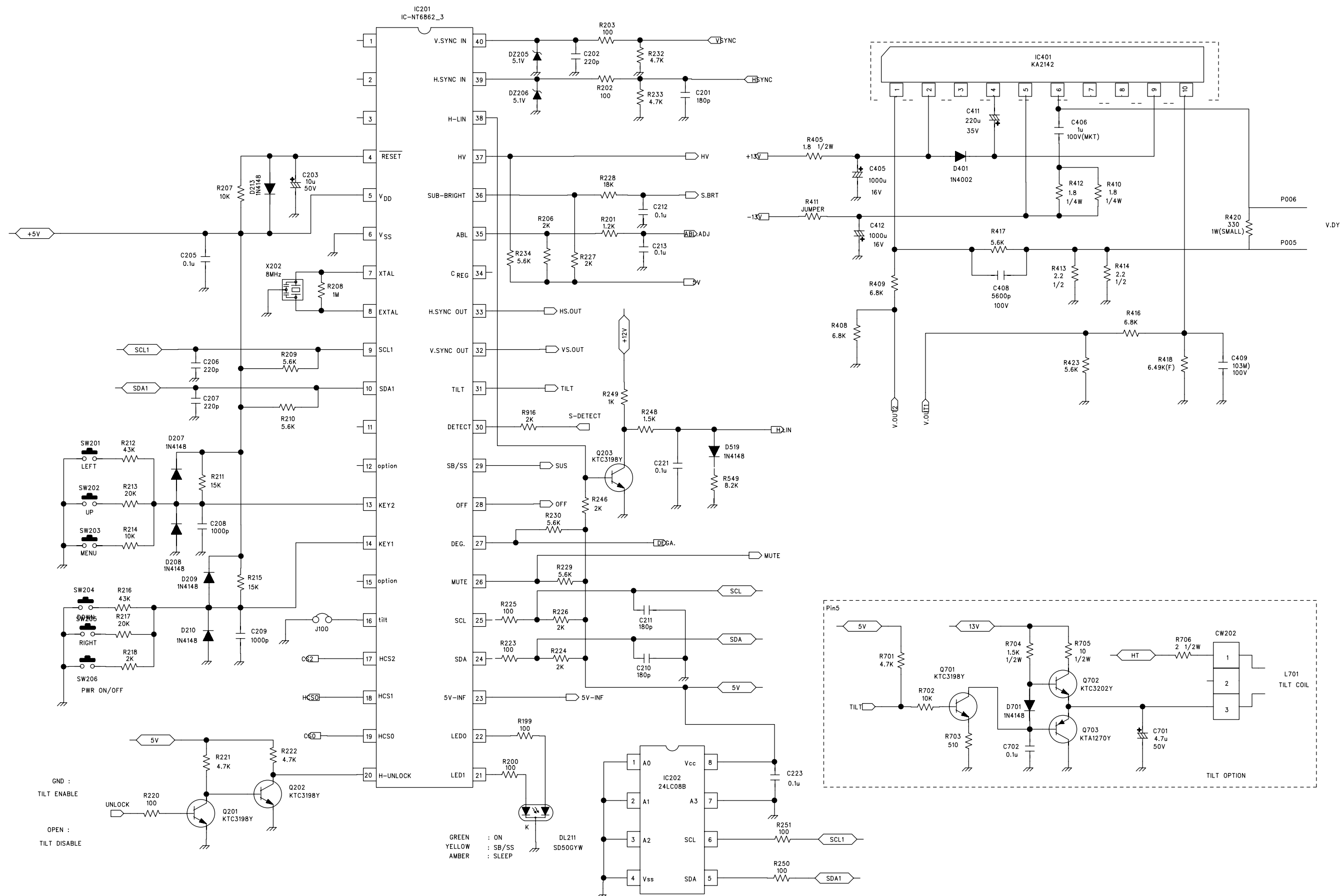


SCHEMATIC DIAGRAM

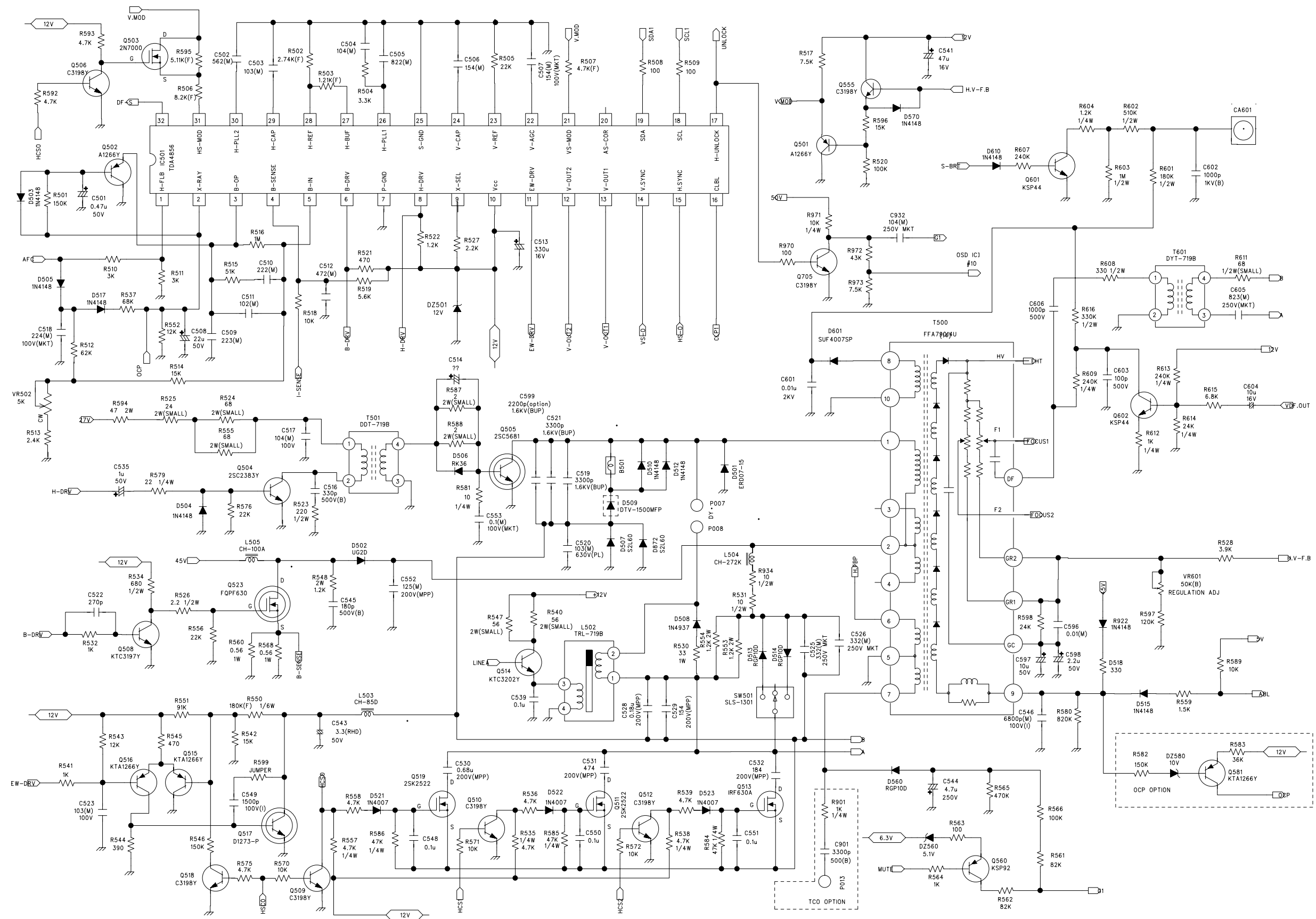
Power & Connection Section



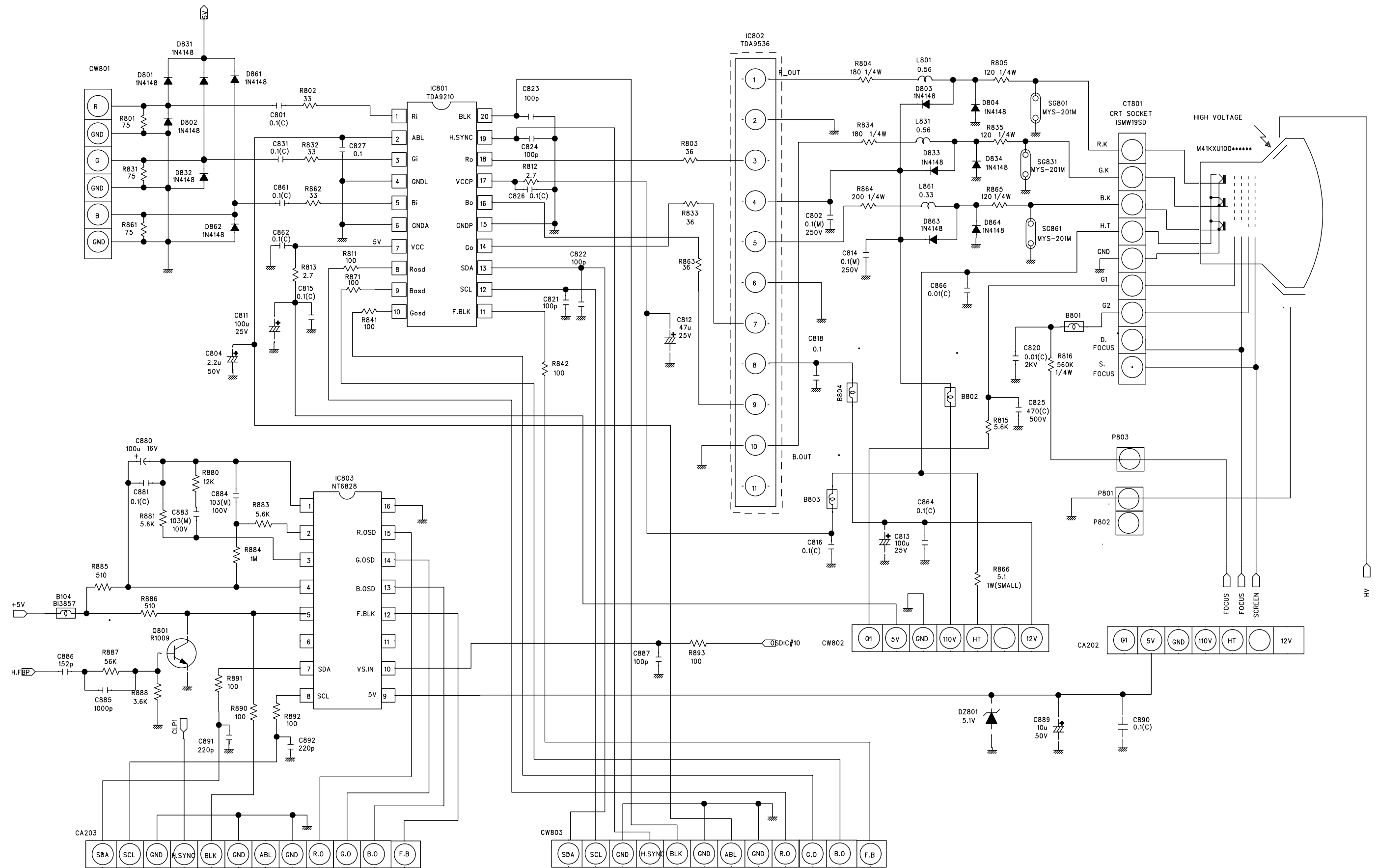
Control & Vert. out Section



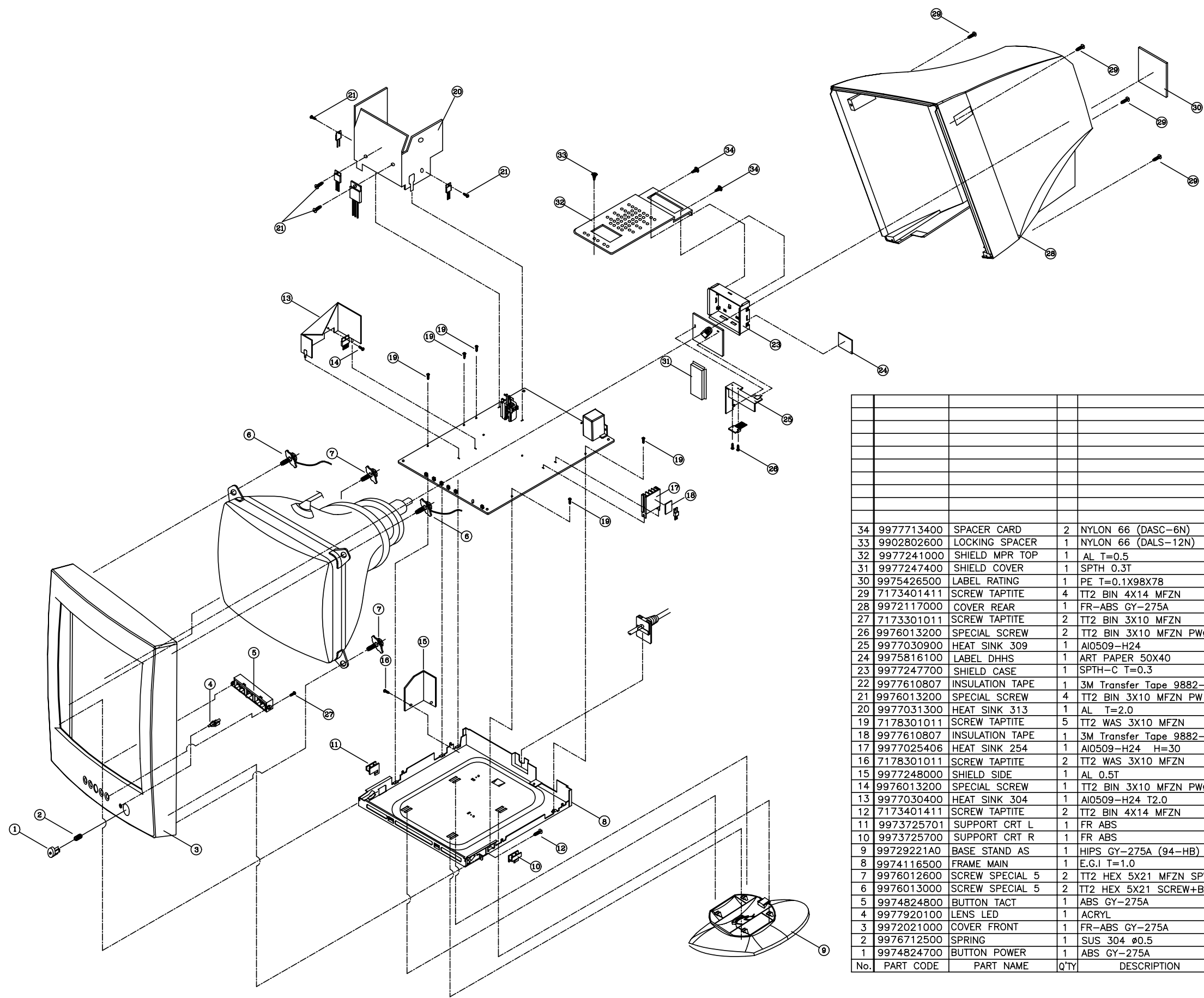
Horizontal Section



Video Section



EXPLODED VIEW & MECHANICAL PARTS LIST



No.	PART CODE	PART NAME	Q'TY	DESCRIPTION	REMARK
34	9977713400	SPACER CARD	2	NYLON 66 (DASC-6N)	
33	9902802600	LOCKING SPACER	1	NYLON 66 (DALS-12N)	
32	9977241000	SHIELD MPR TOP	1	AL T=0.5	
31	9977247400	SHIELD COVER	1	SPTH 0.3T	
30	9975426500	LABEL RATING	1	PE T=0.1X98X78	
29	7173401411	SCREW TAPTITE	4	TT2 BIN 4X14 MFZN	FRONT+REAR
28	9972117000	COVER REAR	1	FR-ABS GY-275A	
27	7173301011	SCREW TAPTITE	2	TT2 BIN 3X10 MFZN	FRONT+BUTTON TACT
26	9976013200	SPECIAL SCREW	2	TT2 BIN 3X10 MFZN PW#7	+ H/S 309
25	9977030900	HEAT SINK 309	1	AI0509-H24	
24	9975816100	LABEL DHHS	1	ART PAPER 50X40	
23	9977247700	SHIELD CASE	1	SPTH-C T=0.3	
22	9977610807	INSULATION TAPE	1	3M Transfer Tape 9882-1	+ H/S 254
21	9976013200	SPECIAL SCREW	4	TT2 BIN 3X10 MFZN PW	+ H/S 306
20	9977031300	HEAT SINK 313	1	AL T=2.0	
19	7178301011	SCREW TAPTITE	5	TT2 WAS 3X10 MFZN	MAIN PCB+FRAME MAIN
18	9977610807	INSULATION TAPE	1	3M Transfer Tape 9882-1	+ H/S 254
17	9977025406	HEAT SINK 254	1	AI0509-H24 H=30	
16	7178301011	SCREW TAPTITE	2	TT2 WAS 3X10 MFZN	SHIELD SIDE+FRAME MAIN
15	9977248000	SHIELD SIDE	1	AL 0.5T	
14	9976013200	SPECIAL SCREW	1	TT2 BIN 3X10 MFZN PW#7	+ H/S 304
13	9977030400	HEAT SINK 304	1	AI0509-H24 T2.0	
12	7173401411	SCREW TAPTITE	2	TT2 BIN 4X14 MFZN	FRONT+FRAME
11	9973725701	SUPPORT CRT L	1	FR ABS	
10	9973725700	SUPPORT CRT R	1	FR ABS	
9	99729221A0	BASE STAND AS	1	HIPS GY-275A (94-HB)	
8	9974116500	FRAME MAIN	1	E.G.I T=1.0	
7	9976012600	SCREW SPECIAL 5	2	TT2 HEX 5X21 MFZN SPW	CRT+FRONT
6	9976013000	SCREW SPECIAL 5	2	TT2 HEX 5X21 SCREW+BAND	CRT+FRONT D-COIL WIRE
5	9974824800	BUTTON TACT	1	ABS GY-275A	
4	9977920100	LENS LED	1	ACRYL	
3	9972021000	COVER FRONT	1	FR-ABS GY-275A	
2	9976712500	SPRING	1	SUS 304 #0.5	
1	9974824700	BUTTON POWER	1	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	$\pm 1\%$
J	$\pm 5\%$
K	$\pm 10\%$
M	$\pm 20\%$
G	$\pm 2\%$

Example:

Fig & Index	Part No	Description
R101	Resistors	
	RD-4Z820J	Carbon: 82J
R102	RD-4Z201J	Carbon 1/4W-200J

CAPACITOR Description

Allowance	
C	$\pm 0.25\mu\text{F}$
D	$\pm 0.5\%$
F	$\pm 1\mu\text{F}$
J	$\pm 5\%$
K	$\pm 10\%$
P	$\pm 100\% \sim 0\%$
Z	$\pm 80\% \sim -$

Example:

Fig & Index	Part No	Description
C102	Capacitors	
	CCXF1H104Z	Ceramic 50V 0.1 μF Z
	CCXB1H331K	Ceramic 50V 330PF K
C105	CMXM 2A224J	MYLAR 100V 0.22 μF J

ELECTRICAL PARTS LIST

The components identified by mark Δ 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
	00020	W3475N731-	CORD POWER		C212	CCXF1H104Z	C CERA
	B001	5PB13857--	COIL BEAD		C213	CCXF1H104Z	C CERA
Δ	B003	5PB13890--	COIL BEAD		C221	CCXF1H104Z	C CERA
Δ	B004	5PB13890--	COIL BEAD		C223	CCXF1H104Z	C CERA
Δ	B005	5PB13890--	COIL BEAD		C405	CEXF1C102V	C ELECTRO
	B102	5PB13857--	COIL BEAD	Δ	C406	CMXL1J105J	C MYLAR
	B104	5PB13857--	COIL BEAD		C408	CMXM2A562J	C MYLAR
	B501	5PB13857--	COIL BEAD		C409	CMXM2A103J	C MYLAR
	B801	5PB13857--	COIL BEAD		C411	CEXF1V221V	C ELECTRO
	B802	5PB13857--	COIL BEAD		C412	CEXF1C102V	C ELECTRO
	B803	5PB13857--	COIL BEAD		C501	CEXF1H478V	C ELECTRO
	B804	5PB13857--	COIL BEAD		C502	CMXM2A562J	C MYLAR
Δ	C001	CL1UC3104M	C LINE ACROSS		C503	CMXM2A103J	C MYLAR
	C002	CEYP2G151Z	C ELECTRO	Δ	C504	CMXL2A104J	C MYLAR
	C003	CEXF1C101V	C ELECTRO		C505	CMXM2A822J	C MYLAR
	C005	CEXF1H330V	C ELECTRO	Δ	C506	CMXL2A154J	C MYLAR
Δ	C007	CCXB2H103K	C CERA	Δ	C507	CMXL2A154J	C MYLAR
	C008	CCXF1H104Z	C CERA		C508	CEXF1H220V	C ELECTRO
	C009	CEXF1H109V	C ELECTRO		C509	CMXM2A562J	C MYLAR
	C010	CCXB1H221K	C CERA		C510	CMXM2A222J	C MYLAR
	C011	CMXM2A222J	C MYLAR		C511	CMXM2A102J	C MYLAR
	C012	CMXM2A152J	C MYLAR		C512	CMXM2A472J	C MYLAR
	C013	CCXB1H681K	C CERA		C513	CEXF1C331V	C ELECTRO
Δ	C014	CCXB3A271K	C CERA		C516	CCXB2H331K	C CERA
Δ	C018	CMXL2A334J	C MYLAR	Δ	C517	CMXL2A104J	C MYLAR
	C019	CEXF1H100V	C ELECTRO	Δ	C518	CMXL2A224J	C MYLAR
	C020	CMXM2A332J	C MYLAR		C519	CMYH3C222J	C MYLAR
Δ	C024	CH1FDF472M	C CERA AC		C520	CMXE2J103J	C MYLAR
	C102	CEXF2C470V	C ELECTRO		C521	CMYH3C222J	C MYLAR
Δ	C104	CEXF1J471C	C ELECTRO		C522	CCXB1H271K	C CERA
Δ	C105	CEXF1C102C	C ELECTRO		C523	CMXM2A103J	C MYLAR
	C106	CEXF1H330V	C ELECTRO		C526	CMXE2J103J	C MYLAR
Δ	C108	CEXF1V102C	C ELECTRO		C528	CMXF2D184J	C MYLAR
Δ	C109	CEXF1C102C	C ELECTRO		C529	CMXF2D154J	C MYLAR
	C110	CCXF1H104Z	C CERA		C530	CMYF2D684J	C MYLAR
Δ	C111	CEXF1C471C	C ELECTRO		C531	CMXF2D474J	C MYLAR
	C113	CEXF1E471V	C ELECTRO		C532	CMXF2D184J	C MYLAR
	C201	CCXB1H181K	C CERA		C535	CEXF1H109V	C ELECTRO
	C202	CCXB1H221K	C CERA		C539	CCXF1H104Z	C CERA
	C203	CEXF1H100V	C ELECTRO		C541	CEXF1C470V	C ELECTRO
	C205	CCXF1H104Z	C CERA	Δ	C543	CEXD1H339W	C ELECTRO
	C206	CCXB1H221K	C CERA		C544	CEXF2E479V	C ELECTRO
	C207	CCXB1H221K	C CERA		C545	CCXB2H181K	C CERA
	C208	CCXB1H102K	C CERA		C546	CMXM2A682J	C MYLAR
	C209	CCXB1H102K	C CERA		C548	CCXF1H104Z	C CERA
	C210	CCXB1H181K	C CERA		C549	CMXM2A152J	C MYLAR
	C211	CCXB1H181K	C CERA		C550	CCXF1H104Z	C CERA

LOC	PART-CODE	PART-NAME	PART-DESC
C551	CCXF1H104Z	C CERA	50V F 0.1MF Z
C552	CMYF2D125J	C MYLAR	MPP 200V 1.2MF J BULK
△ C553	CMXL2E104J	C MYLAR	MEU 250V 0.1MF J
C596	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)
C597	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP
C598	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP
C599	CMYH3C222J	C MYLAR	1.6KV BUP 2200PF J
C601	CCXE3D103P	C CERA	HIKE 2KV 0.01MF P
C602	CCXB3A102K	C CERA	1KV B 1000PF K (TAPPING)
C603	CCXB2H101K	C CERA	500V B 100PF K (TAPPING)
△ C604	CEXD1C100F	C ELECTRO	16V RND 10MF(5X11)
△ C605	CMXL2E823J	C MYLAR	MEU 250V 0.082MF J(TP)
C606	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)
C801	CCXF1H104Z	C CERA	50V F 0.1MF Z
△ C802	CMXL2E104J	C MYLAR	MEU 250V 0.1MF J
C804	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP
C811	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP
C812	CEXF1E470V	C ELECTRO	25V RSS 47MF (5X11) TP
C813	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP
△ C814	CMXL2E104J	C MYLAR	MEU 250V 0.1MF J
C815	CCXF1H104Z	C CERA	50V F 0.1MF Z
C816	CCXF1H104Z	C CERA	50V F 0.1MF Z
C818	CCXF1H104Z	C CERA	50V F 0.1MF Z
C820	CCXE3D103P	C CERA	HIKE 2KV 0.01MF P
C821	CCXB1H101K	C CERA	50V B 100PF K (TAPPING)
C822	CCXB1H101K	C CERA	50V B 100PF K (TAPPING)
C823	CCXB1H101K	C CERA	50V B 100PF K (TAPPING)
C824	CCXB1H101K	C CERA	50V B 100PF K (TAPPING)
C825	CCXB2H471K	C CERA	500V B 470PF K (TAPPING)
C826	CCXF1H104Z	C CERA	50V F 0.1MF Z
C827	CCXF1H104Z	C CERA	50V F 0.1MF Z
C831	CCXF1H104Z	C CERA	50V F 0.1MF Z
C861	CCXF1H104Z	C CERA	50V F 0.1MF Z
C862	CCXF1H104Z	C CERA	50V F 0.1MF Z
C864	CCXF1H104Z	C CERA	50V F 0.1MF Z
C866	CCXB1H103K	C CERA	50V B 0.01MF K
C880	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP
C881	CCXF1H104Z	C CERA	50V F 0.1MF Z
C883	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)
C884	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)
C885	CCZB1H102K	C CERA	50V B 1000PF K
C886	CCXB1H152K	C CERA	50V B 1500PF K (TAPPING)
C887	CCXB1H101K	C CERA	50V B 100PF K (TAPPING)
C889	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP
C890	CCXF1H104Z	C CERA	50V F 0.1MF Z
C891	CCZB1H221K	C CERA	50V B 220PF K
C892	CCZB1H221K	C CERA	50V B 220PF K
△ C932	CMXL2E104J	C MYLAR	MEU 250V 0.1MF J
CA202	9970770028	CONN AS	SMH200-07+YBNH200-07=270

LOC	PART-CODE	PART-NAME	PART-DESC
CA203	99707C0012	CONN AS	SMH200-11+YBNH200-12=300
CA601	9970710232	CONN AS	1032#22+35404-9002=320
CDT	9979617037	CDT	M41KXU100XX021 (5X10(5))
CGND	9970710248	CRT GND AS	0.16X3X16+BL101NG=660
CT801	9979300008	SOCKET CRT	033 0 7700 44(ISDW-16S)
CW203	9979220102	CONN WAFER	SMW200-07 (ST)
CW801	9979220087	CONN WAFER	SMAW200-06 (ANGLE)
CW802	9979220088	CONN WAFER	SMAW200-07 (ANGLE)
CW803	9979220092	CONN WAFER	SMAW200-11 (ANGLE)
D001	DRL205----	DIODE	RL205
D002	DRL205----	DIODE	RL205
D003	DRL205----	DIODE	RL205
D004	DRL205----	DIODE	RL205
D005	DZN4148---	DIODE	1N4148 AUTO 52MM
D007	DSUF4007SP	DIODE	SUF4007SP
D008	DZN4148---	DIODE	1N4148 AUTO 52MM
D009	DRGP10G---	DIODE	RGP10G
D101	DSUF4007SP	DIODE	SUF4007SP
D102	DRL2AV1---	DIODE	RL2AV1
D103	DUG2D-----	DIODE	UG2D 200V 2A
D104	DUG2D-----	DIODE	UG2D 200V 2A
D106	DSUF2004SP	DIODE	SUF2004SP
D107	DZN4148---	DIODE	1N4148 AUTO 52MM
D108	DSUF2004SP	DIODE	SUF2004SP
D109	DZN4148---	DIODE	1N4148 AUTO 52MM
D110	DRL2AV1---	DIODE	RL2AV1
D112	DSUF2004SP	DIODE	SUF2004SP
D207	DZN4148---	DIODE	1N4148 AUTO 52MM
D208	DZN4148---	DIODE	1N4148 AUTO 52MM
D209	DZN4148---	DIODE	1N4148 AUTO 52MM
D210	DZN4148---	DIODE	1N4148 AUTO 52MM
D213	DZN4148---	DIODE	1N4148 AUTO 52MM
D401	D1N4002A--	DIODE	1N4002
D501	DERD07-15-	DIODE	ERD07-15
D502	DUG2D-----	DIODE	UG2D 200V 2A
D503	DZN4148---	DIODE	1N4148 AUTO 52MM
D504	DZN4148---	DIODE	1N4148 AUTO 52MM
D505	DZN4148---	DIODE	1N4148 AUTO 52MM
D506	DRK36-----	DIODE	RK36
D507	DS2L60---R	DIODE	S2L60
D508	D1N4937GP-	DIODE	1N4937GP (TAPPING)
D509	DDTV1500MF	DIODE	DTV-1500MFP
D510	DZN4148---	DIODE	1N4148 AUTO 52MM
D512	DZN4148---	DIODE	1N4148 AUTO 52MM
D513	DRGP10D---	DIODE	RGP 10-D (TAPPING)
D514	DRGP10D---	DIODE	RGP 10-D (TAPPING)
D515	DZN4148---	DIODE	1N4148 AUTO 52MM
D517	DZN4148---	DIODE	1N4148 AUTO 52MM
D518	RD-AZ331J-	R CARBON FILM	1/6 330 OHM J

LOC	PART-CODE	PART-NAME	PART-DESC
D519	DZN4148---	DIODE	1N4148 AUTO 52MM
D521	D1N4007---	DIODE	1N4007
D522	D1N4007---	DIODE	1N4007
D523	D1N4007---	DIODE	1N4007
D560	DRGP10D---	DIODE	RGP 10-D (TAPPING)
D570	DZN4148---	DIODE	1N4148 AUTO 52MM
D601	DSUF4007SP	DIODE	SUF4007SP
D610	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
D831	DZN4148---	DIODE	1N4148 AUTO 52MM
D832	DZN4148---	DIODE	1N4148 AUTO 52MM
D833	DZN4148---	DIODE	1N4148 AUTO 52MM
D834	DZN4148---	DIODE	1N4148 AUTO 52MM
D861	DZN4148---	DIODE	1N4148 AUTO 52MM
D862	DZN4148---	DIODE	1N4148 AUTO 52MM
D863	DZN4148---	DIODE	1N4148 AUTO 52MM
D864	DZN4148---	DIODE	1N4148 AUTO 52MM
D872	DS2L60---R	DIODE	S2L60
△ DG001	5MG0000062	COIL DEGAUSSING	DG-710B
DL211	DSD50GYW--	LED	SD50GYW(GREEN/AMBER)
DZ003	DDZ22BM---	DIODE ZENER	DZ22BM
DZ004	DDZ7R5BM--	DIODE ZENER	DZ7.5BM
DZ006	DGDZJ18C--	DIODE ZENER	GDZJ 18C
DZ200	DDZ5R1B---	DIODE ZENER	DZ-5.1B
DZ201	DDZ5R1B---	DIODE ZENER	DZ-5.1B
DZ202	DDZ5R1B---	DIODE ZENER	DZ-5.1B
DZ205	DDZ5R1B---	DIODE ZENER	DZ-5.1B
DZ206	DDZ5R1B---	DIODE ZENER	DZ-5.1B
DZ501	DDZ12BM---	DIODE ZENER	DZ12BM
DZ560	DDZ5R1B---	DIODE ZENER	DZ-5.1B
DZ801	DDZ5R1B---	DIODE ZENER	DZ-5.1B
EMI	9970K00012	CORE FERRITE	RING-23
EMI1	9970K00010	CORE FERRITE	RING-18
F001	5F3CB3122L	FUSE CERA	SEMKO TL 3.15AH 250V MF51
GND1	9970710249	CONN AS	35750+1015#22+SOLDER=260
GND2	9970710250	CONN AS	35072+1015#22+SOLDER=180
GND3	9970710233	CONN AS	HOLDER+1015#18+SOLDER=100
IC001	1H3842P---	IC POWER	H3842P
IC101	1K1A7805P1	IC REGULATOR	KIA7805API
IC102	1KA78R12--	IC REGULATOR	KA78R12
IC201	1DWM240T--	IC MICOM	NT68P62
IC202	124LC08B--	IC MEMORY	24LC08B
IC401	1KA2142---	IC V-OUT	KA2142
IC501	1TDA4856--	IC H.OSC	TDA4856
IC801	1TDA9210--	IC VIDEO PREAMP	TDA9210
IC802	1TDA9536--	IC VIDEO OUTPUT	TDA9536

LOC	PART-CODE	PART-NAME	PART-DESC
IC803	1DW0SD11--	IC OSD	NT6828-00005
L503	5MC0000081	COIL CHOKE	CH-85D
L504	5MC0000082	COIL CHOKE	CH-272K
L505	5MC0000085	COIL CHOKE	CH-100A
L801	5CPZ568K02	COIL PEAKING	0.56UH K (AXIAL 3.5MM)
L831	5CPZ568K02	COIL PEAKING	0.56UH K (AXIAL 3.5MM)
L861	5CPZ338K02	COIL PEAKING	0.33UH K (AXIAL 3.5MM)
P001	9979500022	RECEPTACLE	BNS-02AB2L-1
PCB1	9979800541	PCB MAIN	T=1.6*246*247 (719B)
PCB2	9979800543	PCB VIDEO	T=1.6*123*95(719B)
PR001	DECPAC140M	POSISTOR	ECPAC140M290
△ Q001	TSPPO4N60S	FET	SPP04N60S5
Q002	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q101	TZTC3202Y-	TR	KTC3202Y (AUTO)(1959Y)
Q103	TKTA1273Y-	TR	KTA1273-Y
Q104	TZTC3202Y-	TR	KTC3202Y (AUTO)(1959Y)
Q105	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q201	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q202	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q203	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q501	TZTA1266Y-	TR	KTA1266Y- (AUTO)(1015Y)
Q502	TZTA1266Y-	TR	KTA1266Y- (AUTO)(1015Y)
Q503	T2N7000---	FET	2N7000
Q504	TKSC2383Y-	TR	KSC 2383-Y
Q505	T2SC5681--	TR H.OUT	2SC5681
Q506	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q508	TZTC3197--	TR	KTC3197 (AUTO)(388A)
Q509	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q510	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q511	T2SK2522--	FET	2SK2522-01MR
Q512	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q513	T1RF630A--	FET	IRF630A
Q514	TZTC3202Y-	TR	KTC3202Y (AUTO)(1959Y)
Q515	TZTA1266Y-	TR	KTA1266Y- (AUTO)(1015Y)
Q516	TZTA1266Y-	TR	KTA1266Y- (AUTO)(1015Y)
Q517	TKSD1273P-	TR	KSD1273-P
Q518	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q519	T2SK2522--	FET	2SK2522-01MR
Q523	T1RF630A--	FET	IRF630A
Q555	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q560	TKSP92----	TR	KSP92
Q601	TKSP44----	TR	KSP44
Q602	TKSP44----	TR	KSP44
Q705	TZTC3198Y-	TR	KTC3198Y-(1815Y) (AUTO)
Q801	TZSR1009--	TR	KSR1009
R001	RC-2Z684J-	R CARBON COMP	1/2 680K OHM J
R003	RS01Z513JS	R M-OXIDE FILM	1W 51K OHM J SMALL
R004	RS01Z513JS	R M-OXIDE FILM	1W 51K OHM J SMALL
R005	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J

LOC	PART-CODE	PART-NAME	PART-DESC
R007	RD-AZ333J-	R CARBON FILM	1/6 33K OHM J
R008	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R009	RS02Z683JS	R M-OXIDE FILM	2W 68K OHM J SMALL
R010	RS02Z683JS	R M-OXIDE FILM	2W 68K OHM J SMALL
R011	RD-AZ304J-	R CARBON FILM	1/6 300K OHM J
R012	RD-AZ301J-	R CARBON FILM	1/6 300 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	RW01Z278JN	R WIRE WOUND	1W 0.27 OHM J NON-INDUCT
R016	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R017	RN-AZ1503F	R METAL FILM	1/6 150K OHM F
R018	RD-AZ563J-	R CARBON FILM	1/6 56K OHM J
R019	RD-AZ823J-	R CARBON FILM	1/6 82K OHM J
R026	RN-AZ2322F	R METAL FILM	1/6 23.2K OHM F
R027	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R102	RD-2Z689JS	R CARBON FILM	1/2W 6.8 OHM J SMALL
R106	RD-AZ622J-	R CARBON FILM	1/6 6.2K OHM J
R107	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R109	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J
R110	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J
R111	RS02Z159JS	R M-OXIDE FILM	2W 1.5 OHM J SMALL
R112	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R114	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R115	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R199	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R200	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R201	RD-AZ122J-	R CARBON FILM	1/6 1.2K OHM J
R202	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R203	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R206	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J
R207	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R208	RD-AZ105J-	R CARBON FILM	1/6 1M OHM J
R209	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R210	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R211	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J
R212	RD-AZ433J-	R CARBON FILM	1/6 43K OHM J
R213	RD-AZ203J-	R CARBON FILM	1/6 20K OHM J
R214	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R215	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J
R216	RD-AZ433J-	R CARBON FILM	1/6 43K OHM J
R217	RD-AZ203J-	R CARBON FILM	1/6 20K OHM J
R218	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J
R220	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R221	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R222	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R223	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R224	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J
R225	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R226	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J

LOC	PART-CODE	PART-NAME	PART-DESC
R227	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J
R228	RD-AZ183J-	R CARBON FILM	1/6 18K OHM J
R229	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R230	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R232	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R233	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R234	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R246	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J
R248	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J
R249	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R250	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R251	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R405	RD-2Z189J-	R CARBON FILM	1/2 1.8 OHM J
R408	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J
R409	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J
R410	RD-4Z189J-	R CARBON FILM	1/4 1.8 OHM J
R411	85801052GY	WIRE COPPER	1/0.52 TIN COATING
R412	RD-4Z189J-	R CARBON FILM	1/4 1.8 OHM J
R413	RD-2Z229J-	R CARBON FILM	1/2 2.2 OHM J
R414	RD-2Z229J-	R CARBON FILM	1/2 2.2 OHM J
R416	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J
R417	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R418	RN-AZ6491F	R METAL FILM	1/6W 6.49K OHM F (TP)
R420	RS01Z331JS	R M-OXIDE FILM	1W 330 OHM J SMALL(TP)
R423	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R501	RD-AZ154J-	R CARBON FILM	1/6 150K OHM J
R502	RN-AZ2741F	R METAL FILM	1/6 2.74K OHM F
R503	RN-AZ1211F	R METAL FILM	1/6 1.21K OHM F
R504	RD-AZ332J-	R CARBON FILM	1/6 3.3K OHM J
R505	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J
R506	RN-AZ8201F	R METAL FILM	1/6 8.2K OHM F
R507	RN-AZ4301F	R METAL FILM	1/6 4.30K OHM F
R508	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R509	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R510	RD-AZ302J-	R CARBON FILM	1/6 3K OHM J
R511	RD-AZ302J-	R CARBON FILM	1/6 3K OHM J
R512	RD-AZ623J-	R CARBON FILM	1/6 62K OHM J
R513	RD-AZ242J-	R CARBON FILM	1/6 2.4K OHM J
R514	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J
R515	RD-AZ513J-	R CARBON FILM	1/6 51K OHM J
R516	RD-AZ105J-	R CARBON FILM	1/6 1M OHM J
R517	RN-AZ7501F	R METAL FILM	1/6 7.50K OHM F
R518	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R519	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R520	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J
R521	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J
R522	RD-AZ122J-	R CARBON FILM	1/6 1.2K OHM J
R523	RD-2Z221J-	R CARBON FILM	1/2 220 OHM J
R524	RS02Z680JS	R M-OXIDE FILM	2W 68 OHM J SMALL

LOC	PART-CODE	PART-NAME	PART-DESC
R525	RS02Z240JS	R M-OXIDE FILM	2W 24 OHM J SMALL
R526	RD-2Z229J-	R CARBON FILM	1/2 2.2 OHM J
R527	RD-AZ222J-	R CARBON FILM	1/6 2.2K OHM J
R528	RD-AZ392J-	R CARBON FILM	1/6 3.9K OHM J
R530	RS01Z330JS	R M-OXIDE FILM	1W 33 OHM J SMALL(TP)
R531	RD-2Z100J-	R CARBON FILM	1/2 10 OHM J
R532	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R534	RD-2Z681J-	R CARBON FILM	1/2 680 OHM J
R535	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J
R536	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R537	RD-AZ683J-	R CARBON FILM	1/6 68K OHM J
R538	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J
R539	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R540	RS02Z560JS	R M-OXIDE FILM	2W 56 OHM J SMALL
R541	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R542	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J
R543	RD-AZ123J-	R CARBON FILM	1/6 12K OHM J
R544	RD-AZ391J-	R CARBON FILM	1/6 390 OHM J
R545	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J
R546	RD-AZ154J-	R CARBON FILM	1/6 150K OHM J
R547	RS02Z560JS	R M-OXIDE FILM	2W 56 OHM J SMALL
R548	RS02Z122JS	R M-OXIDE FILM	2W 1.2K OHM J SMALL
R549	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J
R550	RN-AZ1803F	R METAL FILM	1/6 180K OHM F
R551	RD-AZ913J-	R CARBON FILM	1/6 91K OHM J
R552	RD-AZ123J-	R CARBON FILM	1/6 12K OHM J
R553	RS02Z122JS	R M-OXIDE FILM	2W 1.2K OHM J SMALL
R554	RS02Z122JS	R M-OXIDE FILM	2W 1.2K OHM J SMALL
R555	RS02Z680JS	R M-OXIDE FILM	2W 68 OHM J SMALL
R556	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J
R557	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J
R558	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R559	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J
R560	RW01Z568JN	R WIRE WOUND	1W 0.56 OHM J NON-INDUCT
R561	RD-AZ823J-	R CARBON FILM	1/6 82K OHM J
R562	RD-AZ823J-	R CARBON FILM	1/6 82K OHM J
R563	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R564	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J
R565	RD-AZ474J-	R CARBON FILM	1/6 470K OHM J
R566	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J
R568	RW01Z568JN	R WIRE WOUND	1W 0.56 OHM J NON-INDUCT
R570	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R571	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R572	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R575	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R576	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J
R579	RD-4Z220J-	R CARBON FILM	1/4 22 OHM J
R580	RD-AZ824J-	R CARBON FILM	1/6 820K OHM J
R581	RD-4Z100J-	R CARBON FILM	1/4 10 OHM J

LOC	PART-CODE	PART-NAME	PART-DESC
R584	RD-4Z473J-	R CARBON FILM	1/4 47K OHM J
R585	RD-4Z473J-	R CARBON FILM	1/4 47K OHM J
R586	RD-4Z473J-	R CARBON FILM	1/4 47K OHM J
R587	RS02Z209JS	R M-OXIDE FILM	2W 2 OHM J SMALL
R588	RS02Z209JS	R M-OXIDE FILM	2W 2 OHM J SMALL
R589	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J
R592	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R593	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J
R594	RS02Z470J-	R M-OXIDE FILM	2W 47 OHM J (TAPPING)
R595	RN-AZ5111F	R METAL FILM	1/6 5.11K OHM F
R596	RN-AZ1502F	R METAL FILM	1/6 15K OHM F
R597	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J
R598	RD-AZ243J-	R CARBON FILM	1/6 24K OHM J
R599	85801052GY	WIRE COPPER	1/0.52 TIN COATING
R601	RD-2Z184J-	R CARBON FILM	1/2 180K OHM J
R602	RD-2Z334J-	R CARBON FILM	1/2 330K OHM J
R603	RD-2Z105J-	R CARBON FILM	1/2 1M OHM J
R604	RD-4Z122J-	R CARBON FILM	1/4 1.2K OHM J
R607	RD-AZ244J-	R CARBON FILM	1/6 240K OHM J
R608	RD-2Z331J-	R CARBON FILM	1/2 330 OHM J
R609	RD-4Z244J-	R CARBON FILM	1/4 240K OHM J
R611	RD-2Z680JS	R CARBON FILM	1/2 68 OHM J SMALL
R612	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J
R613	RD-4Z244J-	R CARBON FILM	1/4 240K OHM J
R614	RD-4Z243J-	R CARBON FILM	1/4 24K OHM J
R615	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J
R616	RD-2Z334J-	R CARBON FILM	1/2 330K OHM J
R801	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J
R802	RD-AZ330J-	R CARBON FILM	1/6 33 OHM J
R803	RD-AZ360J-	R CARBON FILM	1/6 36 OHM J
R804	RD-4Z181J-	R CARBON FILM	1/4 180 OHM J
R805	RD-4Z121J-	R CARBON FILM	1/4 120 OHM J
R811	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R812	RD-AZ279J-	R CARBON FILM	1/6 2.7 OHM J
R813	RD-AZ279J-	R CARBON FILM	1/6 2.7 OHM J
R815	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R816	RD-4Z564J-	R CARBON FILM	1/4 560K OHM J
R831	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J
R832	RD-AZ330J-	R CARBON FILM	1/6 33 OHM J
R833	RD-AZ360J-	R CARBON FILM	1/6 36 OHM J
R834	RD-4Z181J-	R CARBON FILM	1/4 180 OHM J
R835	RD-4Z121J-	R CARBON FILM	1/4 120 OHM J
R841	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R842	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R861	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J
R862	RD-AZ330J-	R CARBON FILM	1/6 33 OHM J
R863	RD-AZ360J-	R CARBON FILM	1/6 36 OHM J
R864	RD-4Z201J-	R CARBON FILM	1/4 200 OHM J
R865	RD-4Z121J-	R CARBON FILM	1/4 120 OHM J

LOC	PART-CODE	PART-NAME	PART-DESC
R866	RS01Z519JS	R M-OXIDE FILM	1W 5.1 OHM J SMALL
R871	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R880	RD-AZ123J-	R CARBON FILM	1/6 12K OHM J
R881	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R883	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J
R884	RD-AZ105J-	R CARBON FILM	1/6 1M OHM J
R885	RD-AZ511J-	R CARBON FILM	1/6 510 OHM J
R886	RD-AZ511J-	R CARBON FILM	1/6 510 OHM J
R887	RD-AZ563J-	R CARBON FILM	1/6 56K OHM J
R888	RD-AZ362J-	R CARBON FILM	1/6 3.6K OHM J
R890	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R891	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R892	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R893	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R916	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J
R922	DZN4148---	DIODE	1N4148 AUTO 52MM
R934	RD-2Z100J-	R CARBON FILM	1/2 10 OHM J
R970	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J
R971	RD-4Z103J-	R CARBON FILM	1/4 10K OHM J
R972	RD-AZ433J-	R CARBON FILM	1/6 43K OHM J
R973	RD-AZ752J-	R CARBON FILM	1/6 7.5K OHM J

LOC	PART-CODE	PART-NAME	PART-DESC
RL001	5SC0101325	SW RELAY	HR-CR7 DC12V
SC001	9970800045	CABLE SIGNAL AS	15P+3C/DDC=1.5M(GY275A)
SG801	DWSP201M--	SURGE ABSORBER	WSP-201M
SG831	DWSP201M--	SURGE ABSORBER	WSP-201M
SG861	DWSP201M--	SURGE ABSORBER	WSP-201M
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
SW501	5S80303001	SW LEVER	P12T21
T001	5RM0000106	TRANS SMPS	DMT-719B
T500	5RH0000120	FBT	FFA79014U
T501	5RD0000055	TRANS DRIVE	DDT-719B
T601	5R50000039	TRANS DYNAMIC	DYT-719B
TH001	DTP8D13---	THERMISTOR	TP8D13
VR502	RV6421502P	R SEMI FIXED	CCT 065AT 5K OHM B TAP
VR601	RV6421503P	R SEMI FIXED	CCT 065AT 50K OHM B TAP
X202	5PEF0EC8T4	RESONATOR	EFOEC8004T4

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