

SPECIFICATIONS

1. PICTURE TUBE

Size	: 17 inch (Flat Slot Mask)
Deflection Angle	: 90°
Neck Diameter	: 29.1 mm
Phosphor	: P22
Slot Pitch	: 0.24 mm
Low Radiation	: TCO-99
Face Treatment	: W-ARASC (Anti-Reflective and Anti-Static Coating), Internal Anti-Glare

2. SIGNAL

2-1. Horizontal & Vertical Sync

- 1) Input Voltage Level : Low= ≤0.8V, High= ≥2.1V
- 2) Sync Polarity : Positive or Negative

2-2. Video Input Signal

- 1) Voltage Level : 0~0.7 Vp-p
 - a) Color 0, 0 : 0 Vp-p
 - b) Color 7, 0 : 0.467 Vp-p
 - c) Color 15, 0 : 0.7 Vp-p
- 2) Input Impedance : 75 Ω
- 3) Video Color : R, G, B Analog
- 4) Signal Format : Refer to the Timing Chart

2-3. Signal Connector

15 Pin D-Sub Connector

2-4. Scanning Frequency

- | | |
|------------|-------------|
| Horizontal | : 30~96 kHz |
| Vertical | : 50~160 Hz |

3. POWER SUPPLY

3-1. Power Range

- AC 100~240V (Auto Select), 50/60Hz, 2.0/1.0A Max.
AC 200~240V 50Hz 1.5A (PFC Version)

3-2. Power Consumption

MODE	H/V SYNC	POWER CONSUMPTION	LED COLOR
NORMAL (ON)	ON/ON	less than 110W	GREEN
STAND-BY	OFF/ON	less than 8W	ORANGE
SUSPEND	ON/OFF	less than 8W	
OFF	OFF/OFF	less than 3W	ORANGE

4. DISPLAY AREA

4-1. Active Video Area :

- Max Image Size - 325.4 x 244.1mm (12.91" x 9.61")
- Preset Image Size - 310 x 230 mm (12.20" x 9.06")

4-2. Display Color : Full Colors

4-3. Display Resolution : 1600 Dots x 1200Lines

4-4. Video Bandwidth : 203MHz

5. ENVIRONMENT

5-1. Operating Temperature: 10°C~35°C (50°F~95°F) (Ambient)

5-2. Relative Humidity : 8%~80% (Non-condensing)

5-3. Altitude : 10,000 ft

6. DIMENSIONS (with TILT/SWIVEL)

Width	: 415.0 mm (16.34")
Depth	: 439.0 mm (17.28")
Height	: 435.0 mm (17.13")

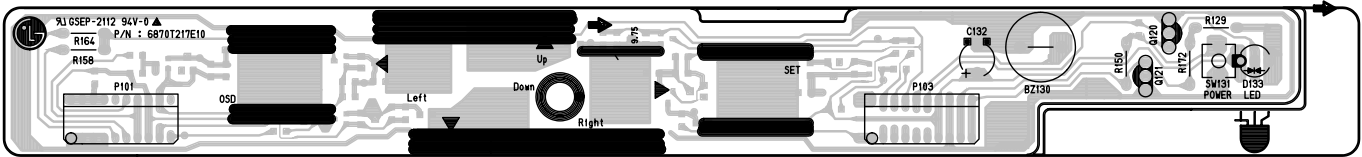
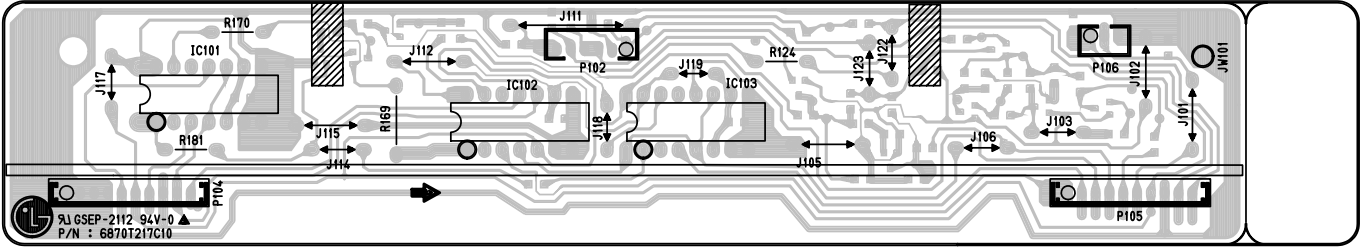
7. WEIGHT (with TILT/SWIVEL)

Net Weight	: 19.2 kg (42.33 lbs)
Gross Weight	: 22.7 kg (50.05 lbs)

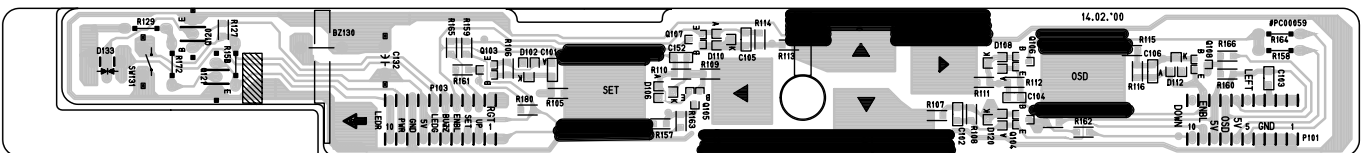
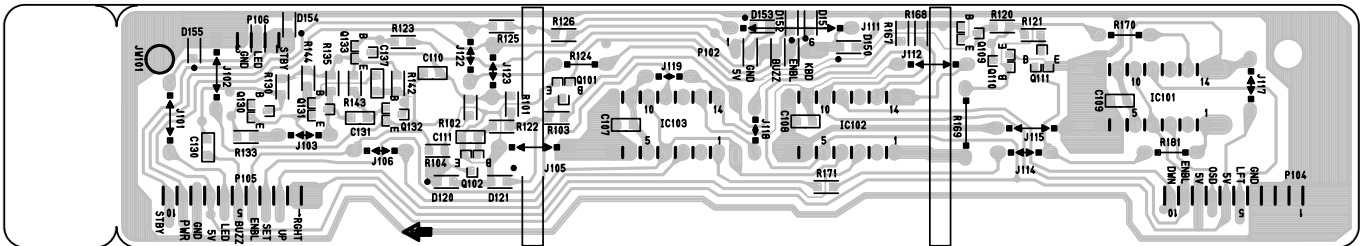
8. USB Specifications (Option)

USB Standard	: Rev. 1.0 complied self-powered hub
Downstream power supply	: 500mA for each (MAX)
Communication speed	: 12 Mbps (Full), 1.5 Mbps (Low)
USB port	: 1 Upstream port 4 Downstream ports

5. CONTROL BOARD (Component Side)



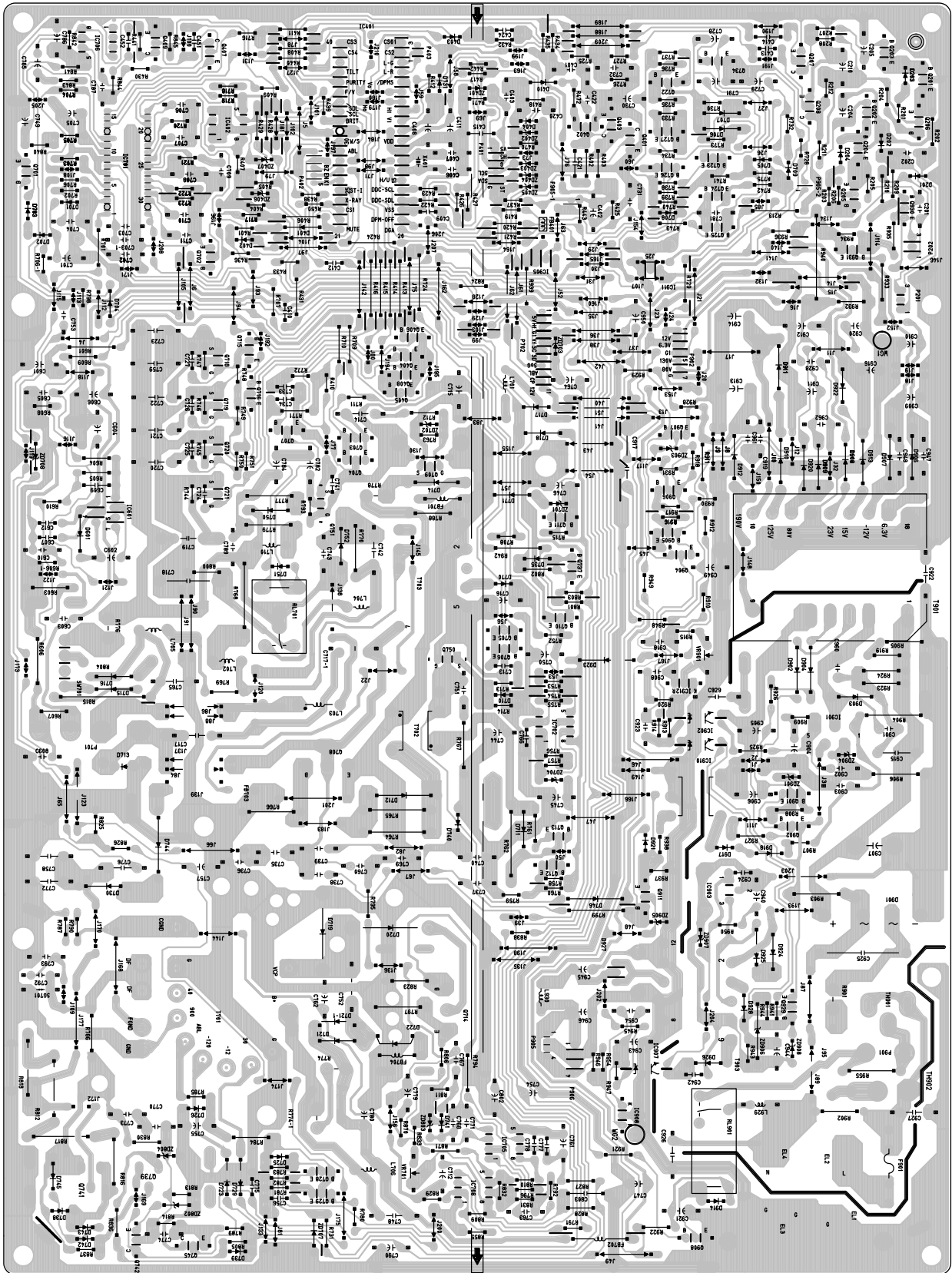
6. CONTROL BOARD (Solder Side)



3. VIDEO BOARD (Component Side)

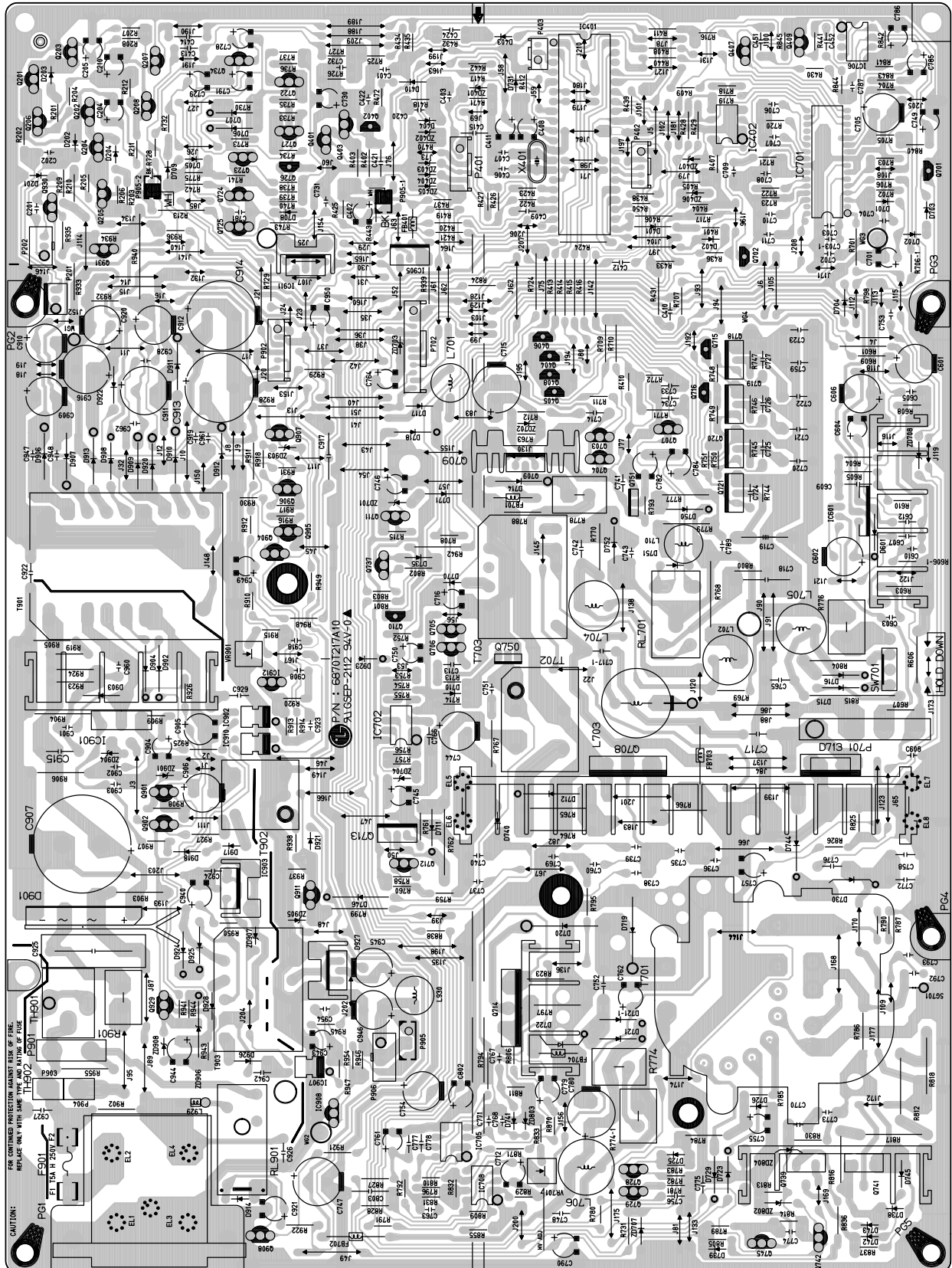


2. MAIN BOARD (Solder Side)

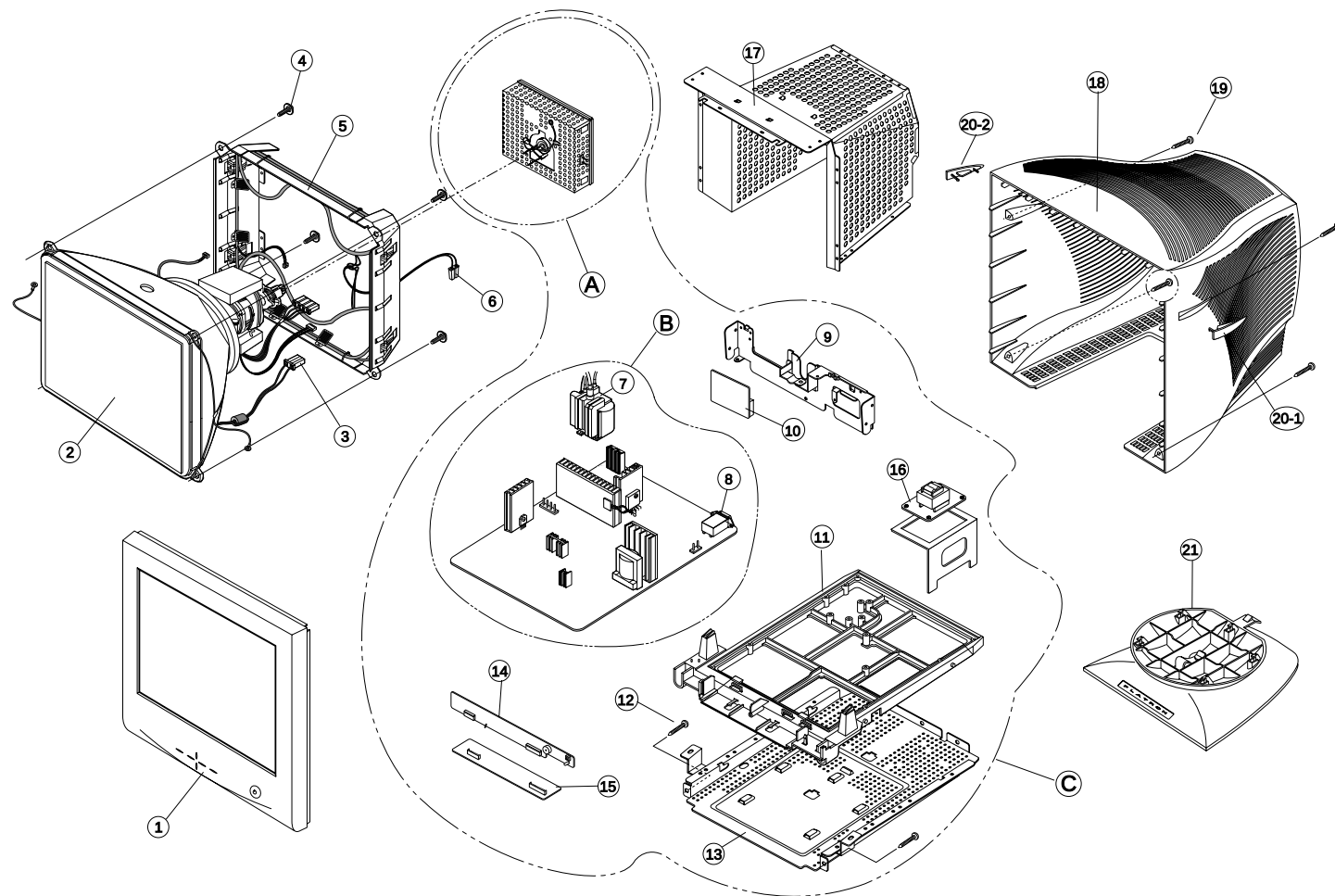


PRINTED CIRCUIT BOARD

1. MAIN BOARD (Component Side)



EXPLODED VIEW



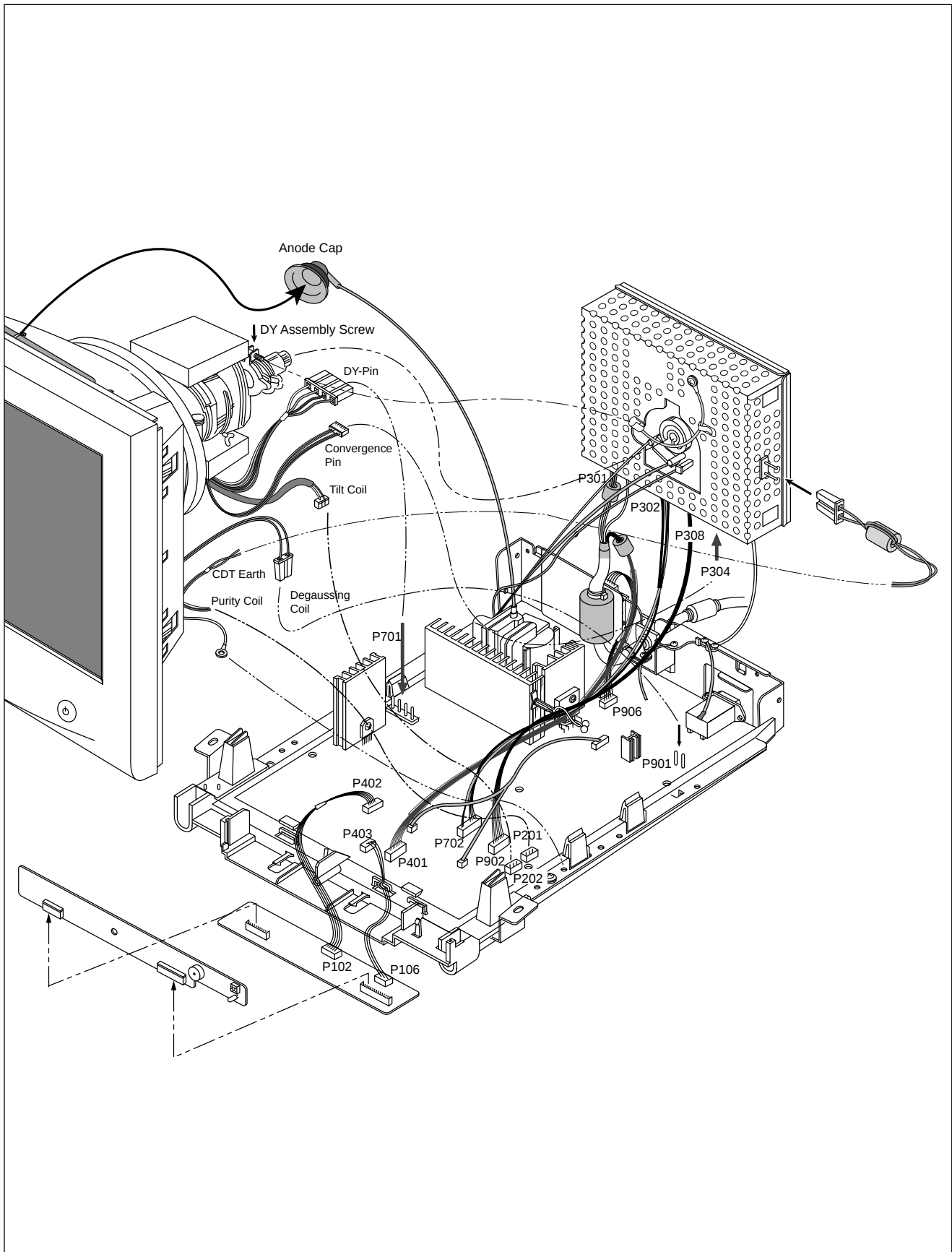
EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Description
1	3091TKC030N	CABINET ASSY FB795C BRAND C027 USB (FB795CU), (FB795CP)
	3091TKC030Q	CABINET ASSY FB795C BRAND 027 NON-USB (FB795CQ), (FB795CE)
2	2423GC3E41A	CDT, M41QB423X 11N6LD
3	6868T17004B	CDT EARTH
4	339-002H	SCREW ASSY, PHP+5x20+GW18
5	4951TKS054A	METAL ASSY, FRAME FG793C
6	6140TC2010A	COIL,DEGAUSSING, 2600MM 13 OHM 0.5MM 90T 17" FS782C
7	6174T11002D	FBT (FLY BACK TRANSFORMER), Y268111(HFL1127RD) HITACHI 17"
8	6200TJB003B	FILTER(CIRC),EMI BNS-02AA2LR-3 BAE EUN CB995C
9	4951TKK028B	METAL ASSY, REAR FB795C
10	6871TUT005B	PWB(PCB) ASSY,USB CB995C USB TOTAL ASSY (FB795CU), (FB795CP)
11	4810TKM034C	BRACKET, FB795C MAIN B-CORE
12	332-102G	SCREW, PTP 4*30 FZMW
13	4951TKK014A	METAL ASSY, BASE FB795B
14	6871TC080A	PWB(PCB) ASSY,COMPOSITE, FB795C ETC BRAND XIGU TOTAL
15	6871TST142A	PWB(PCB) ASSY,SUB, FB795C XIGU BRAND CONTROL TOTAL
16	6871TPT098A	PWB(PCB) ASSY,POWER, FB795C PFC 10T XIGP BRAND CA-75 TOTAL (FB795CP)
17	4815TKT006C	SHIELD ASSY, TOP FB795C
18	3809TKC032A	BACK COVER ASSY, FB795C 031 C-CORE SLIM (FB795CE)
	3809TKC032B	BACK COVER ASSY, FB795C 031 D-CORE SLIM (FB795CU)
	3809TKC032D	BACK COVER ASSY, FB795C 031 PFC D-CORE (FB795CP)
	3809TKC032E	BACK COVER ASSY, FB795C 031 PFC C-CORE (FB795CQ)
19	332-122B	SCREW, TP1+M4*16(FZMY1)
20-1	3550TKK061A	COVER FB795B SCREW RIGHT
20-2	3550TKK061B	COVER FB795B SCREW LEFT
21	3043TKK040J	TILT SWIVEL ASSY, FB775B B029 T032 HIPS 85964
A	6871TVT140A	PCB ASSY, VIDEO TOTAL
	6871TMT143A	PWB(PCB) ASSY,MAIN FB795C XIGU BRAND MAIN TOTAL (FB795CU)
	6871TMT143C	PWB(PCB) ASSY,MAIN FB795CE XLVE BRAND CA-75 TOTAL (FB795CE)
	6871TMT143F	PWB(PCB) ASSY,MAIN FB795C PFC XIGP BRAND CA-75 TOTAL (FB795CP)
B	6871TMT143G	PWB(PCB) ASSY,MAIN FB795C_PFC XPVE BRAND CA-75 TOTAL (FB795CQ)
	3313T17037A	MAIN TOTAL ASSY, FB795C BRAND TOTAL ASSY (FB795CU)
	3313T17037C	MAIN TOTAL ASSY, FB795CE BRAND CA-75 (FB795CE)
	3313T17037G	MAIN TOTAL ASSY, FB795C PFC BRAND CA-75 (FB795CP)
C	3313T17037H	MAIN TOTAL ASSY, FB795C_PFC BRAND CA-75 (FB795CQ)

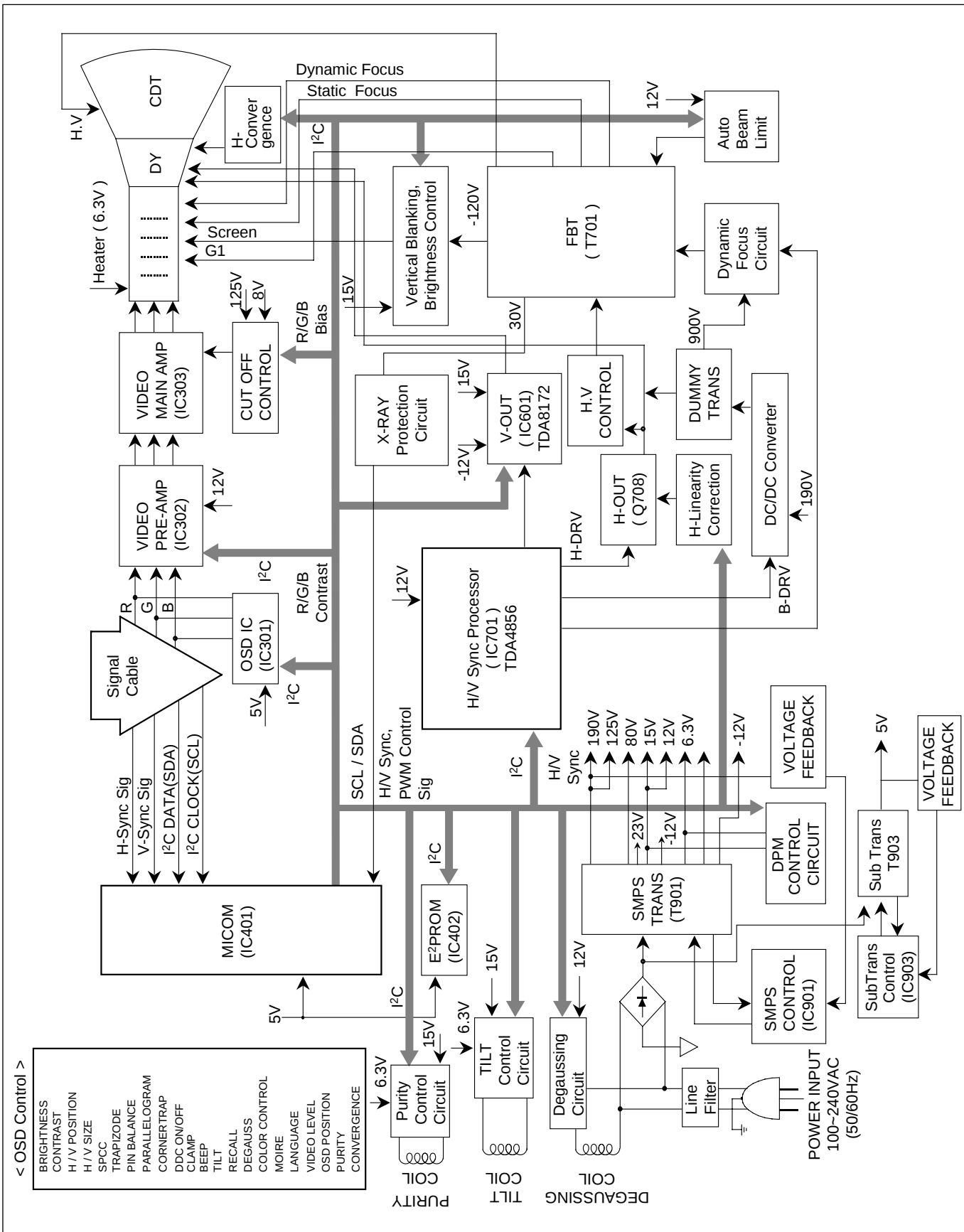
THE  SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION, FIRE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURES SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE  SYMBOL MARK OF THE SCHEMATIC.

NOTICE
Since this is a basic schematic diagram.
The value of components and some partial connection
subject to be changed for improvement without notice

WIRING DIAGRAM



BLOCK DIAGRAM



DESCRIPTION OF BLOCK DIAGRAM

1. Line Filter & Associated Circuit.

This is used for suppressing noise of power input line flowing into the monitor and/or some noise generated in this monitor flowing out through the power input line.

That is to say, this circuit prevents interference between the monitor and other electric appliances.

2. Degauss Circuit & Coil.

The degauss circuit consists of the degaussing coil, the PTC (Positive Temperature Coefficient) thermistor (TH901), and the relay (RL901). This circuit eliminates abnormal color of the screen automatically by degaussing the slot mask in the CDT when turn on the power switch.

When you need to degauss while using the monitor, select DEGAUSS on the OSD menu.

3. SMPS (Switching Mode Power Supply).

This circuit works with power of 110-240Vac (50/60Hz).

The operation procedure is as follows:

- 1) AC input voltage is rectified and smoothed by the bridge diode (D901) and the capacitor (C907).
- 2) The rectified voltage (DC voltage) is applied to the primary coil of the transformer (T901).
- 3) The control IC (IC901) generates switching pulse to turn on and off the primary coil of the transformer (T901) repeatedly.
- 4) Depending on the turn ratio of the transformer, the secondary voltages appear at the secondary coil of the transformer (T901). The switch IC(IC903) controls input-pulse-width and generates secondary voltage by sub-transformer (T903).
- 5) These secondary voltages are rectified by each diode (D906, D907, D908, D909, D910, D911, D912, D913) and operate the other circuits. (Deflection, Video Amplifier, etc.)

4. Display Power Management Circuit.

This circuit control power consumption of the monitor by detecting H and V sync signal. There are stand-by and suspend mode. When no horizontal or vertical sync signal input, the circuit consists of Q930 and Q931 becomes stand-by and suspend mode. It's power consumption is below 8W. When no horizontal and vertical sync signal input, it's power consumption is below 3W.

5. X-ray Protection.

This circuit detects the rectified DC voltage comes from the FBT pin 4. If the high voltage of the FBT reaches up to about 30kV (abnormal state), Micom(IC401) detects. It stops B⁺ voltage supplied to the FBT (T701), and high voltage is not be generated, (In the normal state, the high voltage is about 26kV.)

6. Micom(Microprocessor) Circuit.

The operating procedure of Micom (Microprocessor) and its associated circuit is as follows:

- 1) H and V sync signal is supplied from Signal Cable to the Micom (IC401).
- 2) The Micom (IC401) distinguishes polarity and frequency of H and V sync.
- 3) The Micom controls each OSD function signals. (H-size, H-position, V-size, etc.)
- 4) The controlled data of each mode is stored in IC402. User can adjust screen condition by each OSD function. The data of the adjust screen condition is stored automatically.

7. Horizontal and Vertical Synchronous Processor.

This circuit generates the horizontal drive pulse and the vertical drive pulse by taking sync-signal from Signal Cable. This circuit consists of the TDA4856(IC701) and the associated circuit.

8. D/D (DC to DC) Converter.

This circuit supplies DC voltage to the horizontal deflection output circuit by decreasing DC 190V which is the secondary voltage of the SMPS in accordance with the input horizontal sync signal.

9. D/D Drive & Convert Circuit.

This circuit is used for supplying B⁺ voltage to horizontal deflection output transistor (Q709). This circuit makes to add side-pincushion correcting signal to B⁺ voltage.

10. Horizontal Deflection Output Circuit.

This circuit makes the horizontal deflection by supplying the saw-tooth current to the horizontal deflection yoke.

11. High Voltage Output & FBT (Flyback Transformer).

The high voltage output circuit is used for generating pulse wave to the primary coil of the FBT (Flyback Transformer (T701)). A boosted voltage (about 26kV) appears at the secondary of the FBT and it is supplied to the anode of the CDT.

And there are another output voltages such as the dynamic focus voltage.

12. H-Linearity Correction Circuit.

This circuit corrects the horizontal linearity for each horizontal sync frequency.

13. Vertical Output Circuit.

This circuit takes the vertical wave from the TDA4856 (IC701) and performs the vertical deflection by supplying the saw-tooth wave current from the TDA8172 (IC601) to the vertical deflection yoke.

14. Dynamic Focus Output Circuit.

This circuit takes H and V parabola wave from the TDA4856 (IC701), and amplifies these waves to offer to the FBT (T701).

15. Vertical Blanking and Brightness Control.

This circuit eliminates the retrace line by supplying a negative pulse to the G1 of the CDT. The brightness control circuit is used to control of the screen brightness by changing the DC level of G1.

16. Image Rotation (Tilt) Circuit.

This circuit corrects the tilt of the screen by supplying the image rotation signal to the tilt coil which is attached to the CDT near the deflection.

17. Static Convergence Control Circuit.

This circuit corrects the convergence of the screen by supplying the convergence signal to the 4H (STC) coil which is attached to the CDT near the deflection.

18. Moiré Reduction Circuit

This circuit reduce interference between the periodical display pattern and the CDT's slot (or dot).

The positions of every other one dot video signal beams (red, green, and blue beam) are shifted finely, thus reducing interference.

19. OSD Circuit.

This circuit is used for performing the OSD (On-Screen- Display) function.

When a user selects the OSD Select/Adjustment control, the adjustment status displays on the screen.

20. Video Pre-Amp Circuit.

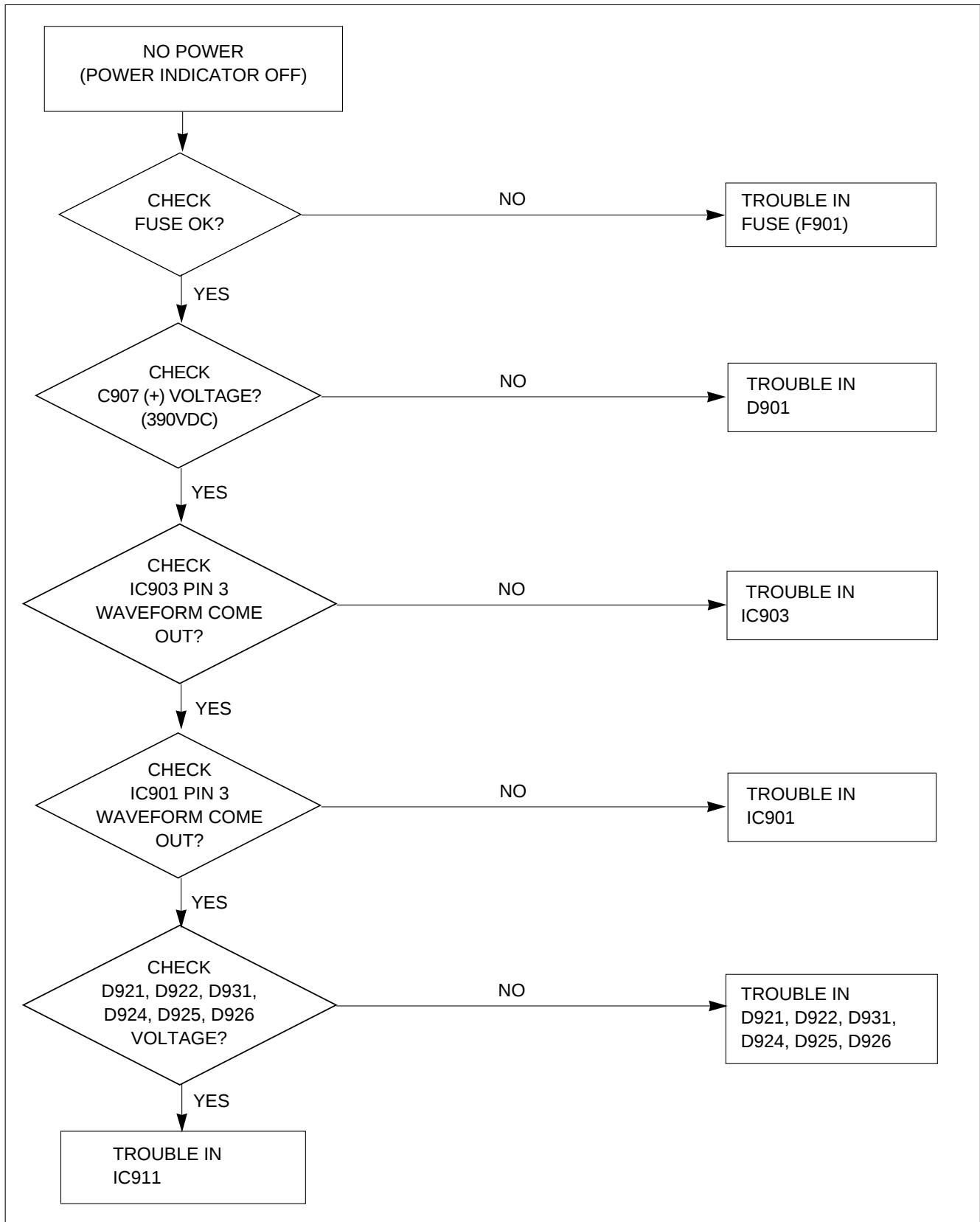
This circuit amplifies the analog video signal from 0-0.7V to 0-4V. This circuit is operated by taking the clamp, R, G, B drives, and contrast signals from the Micom (IC401).

21. Video Output Amp Circuit.

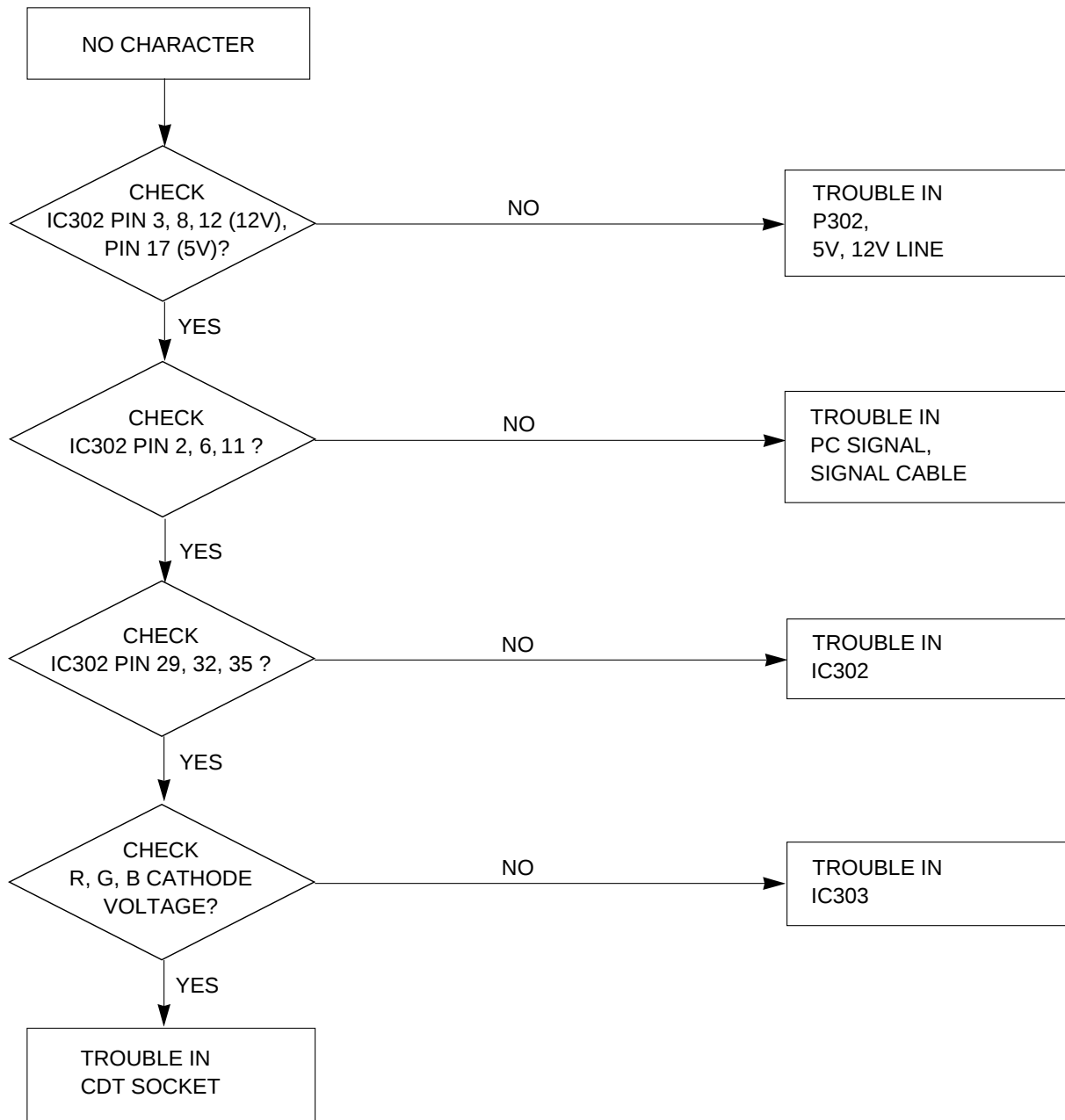
This circuit amplifies the video signal which comes from the video pre-amp circuit and amplified video signal is applied to the CDT cathode.

TROUBLESHOOTING GUIDE

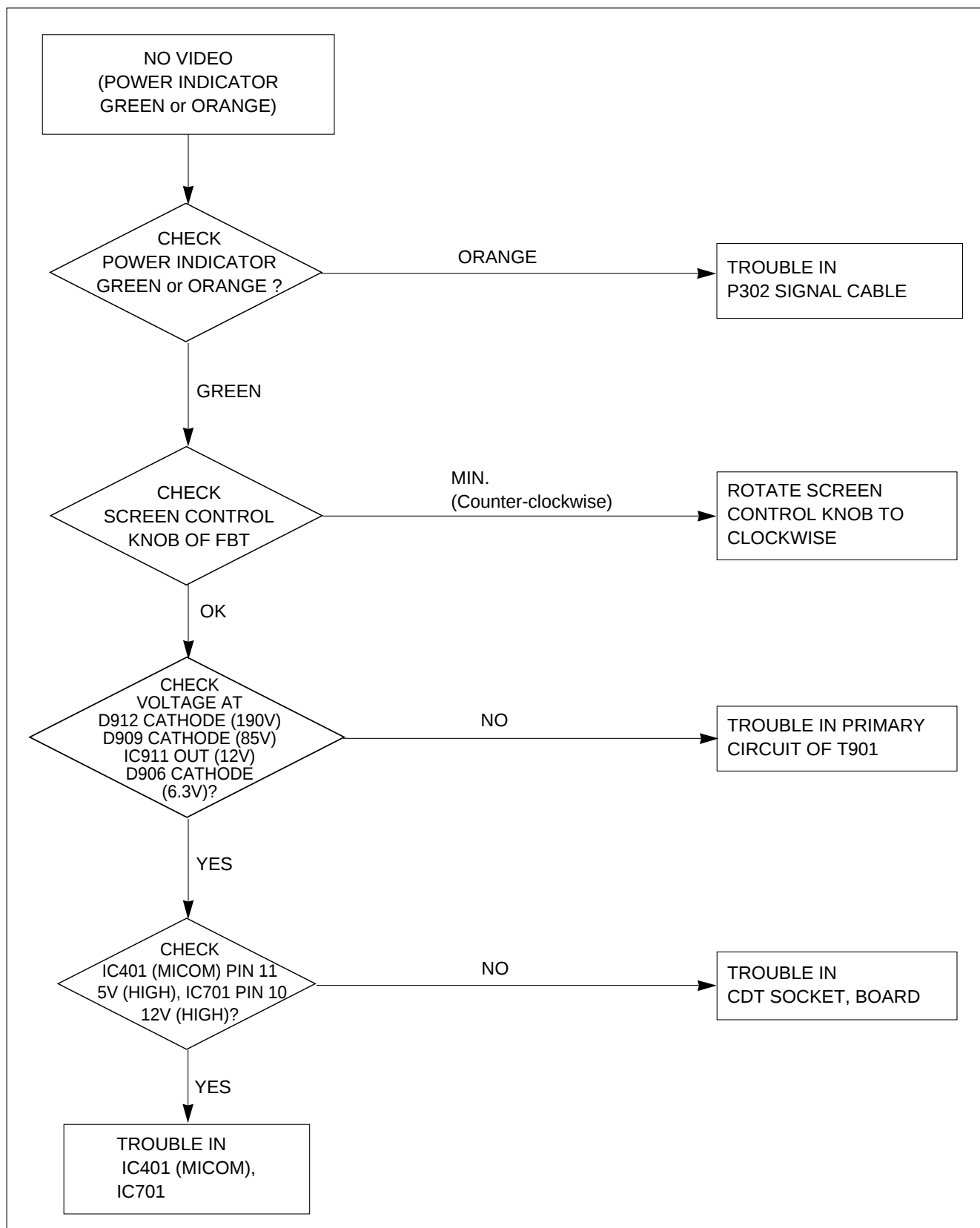
1. NO POWER



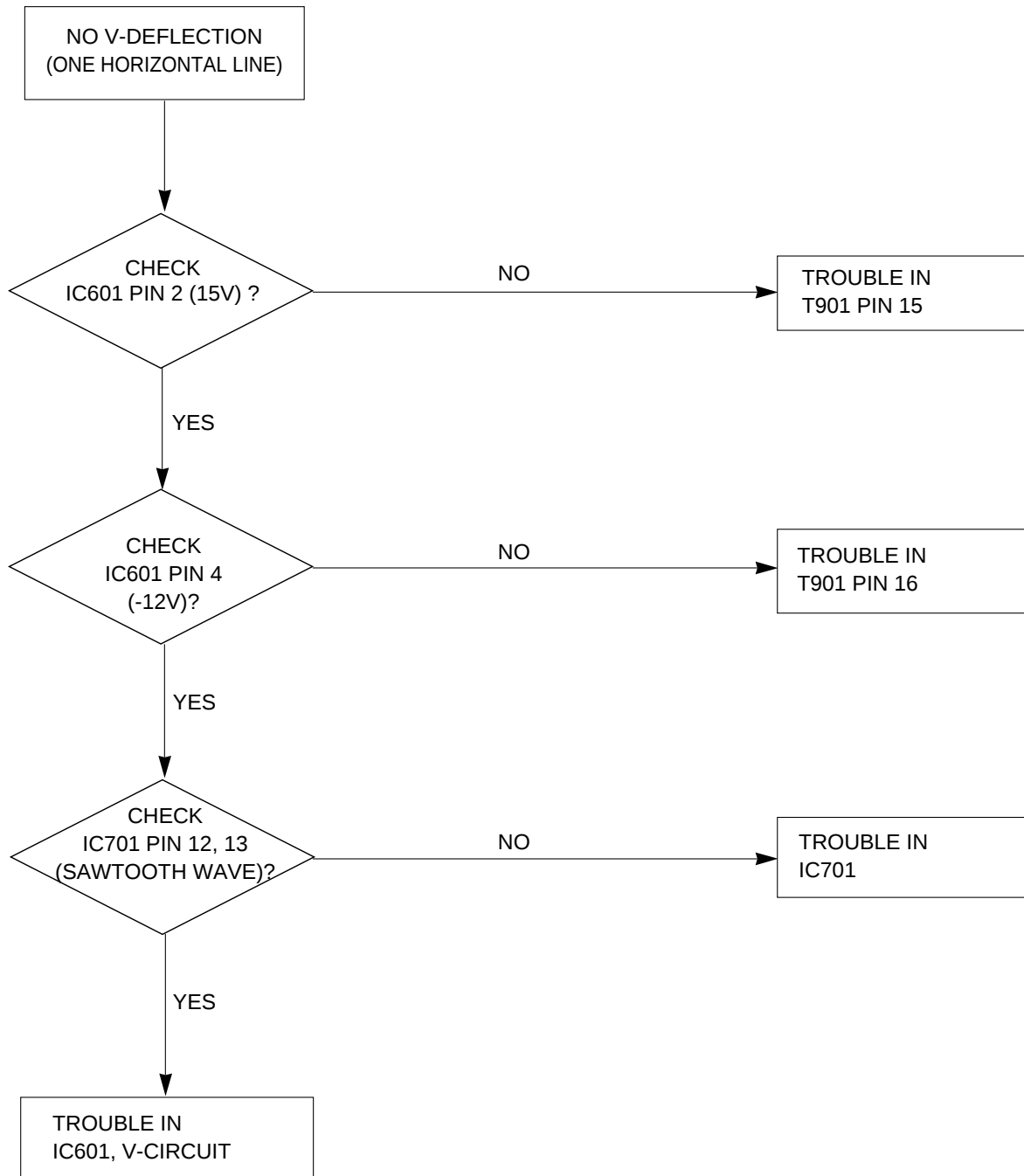
2. NO CHARACTER



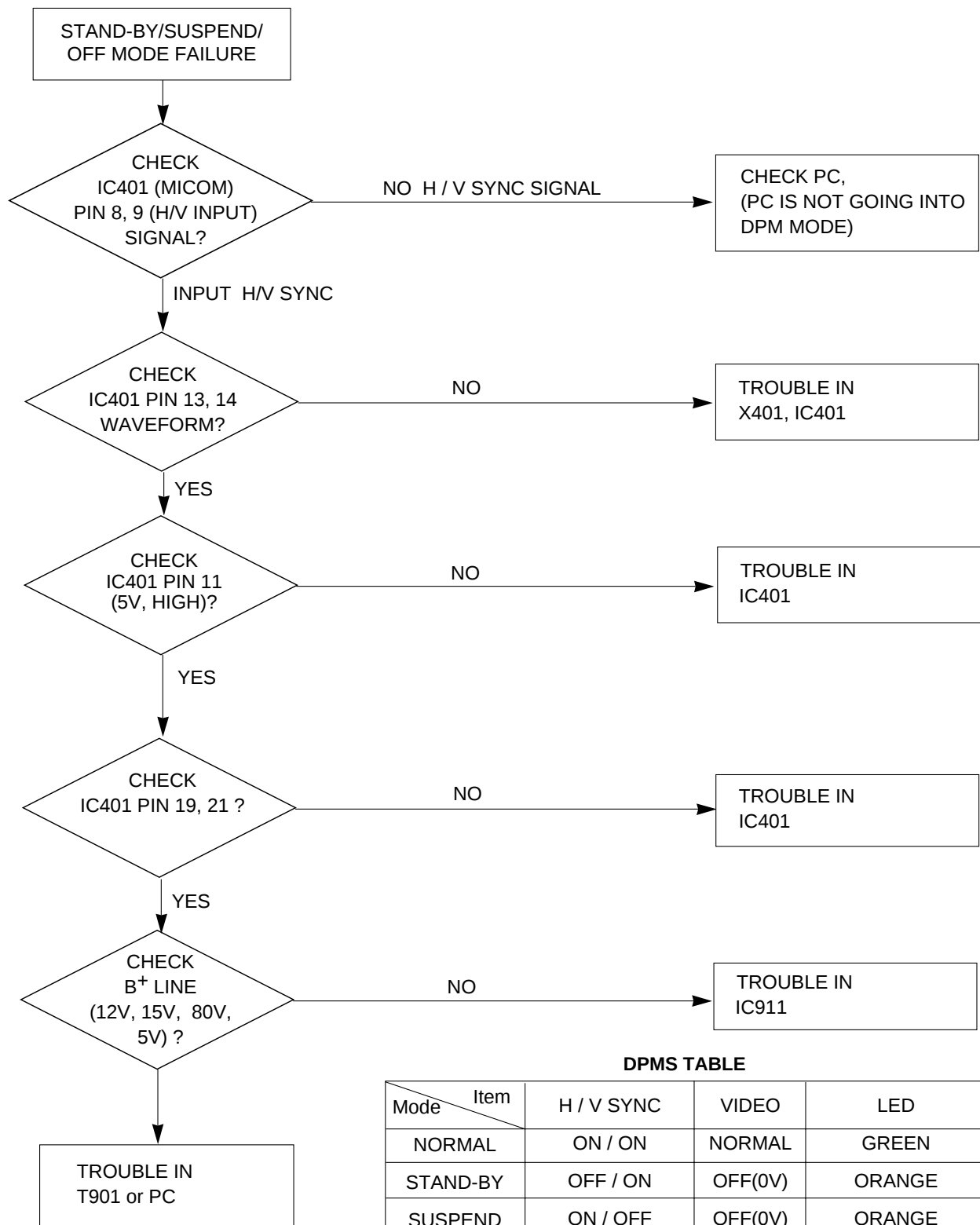
3. NO RASTER



4. NO VERTICAL DEFLECTION



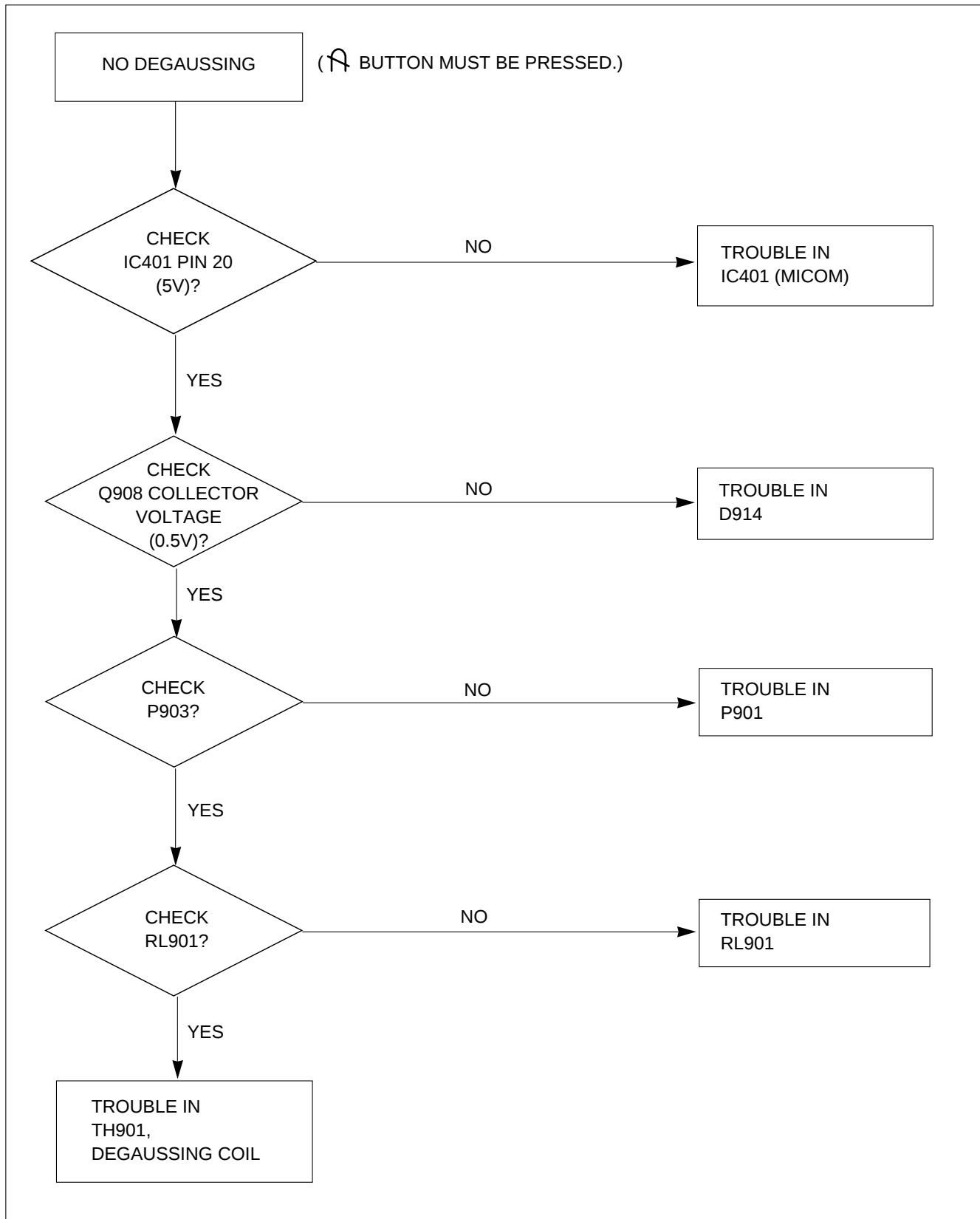
5. TROUBLE IN DPM



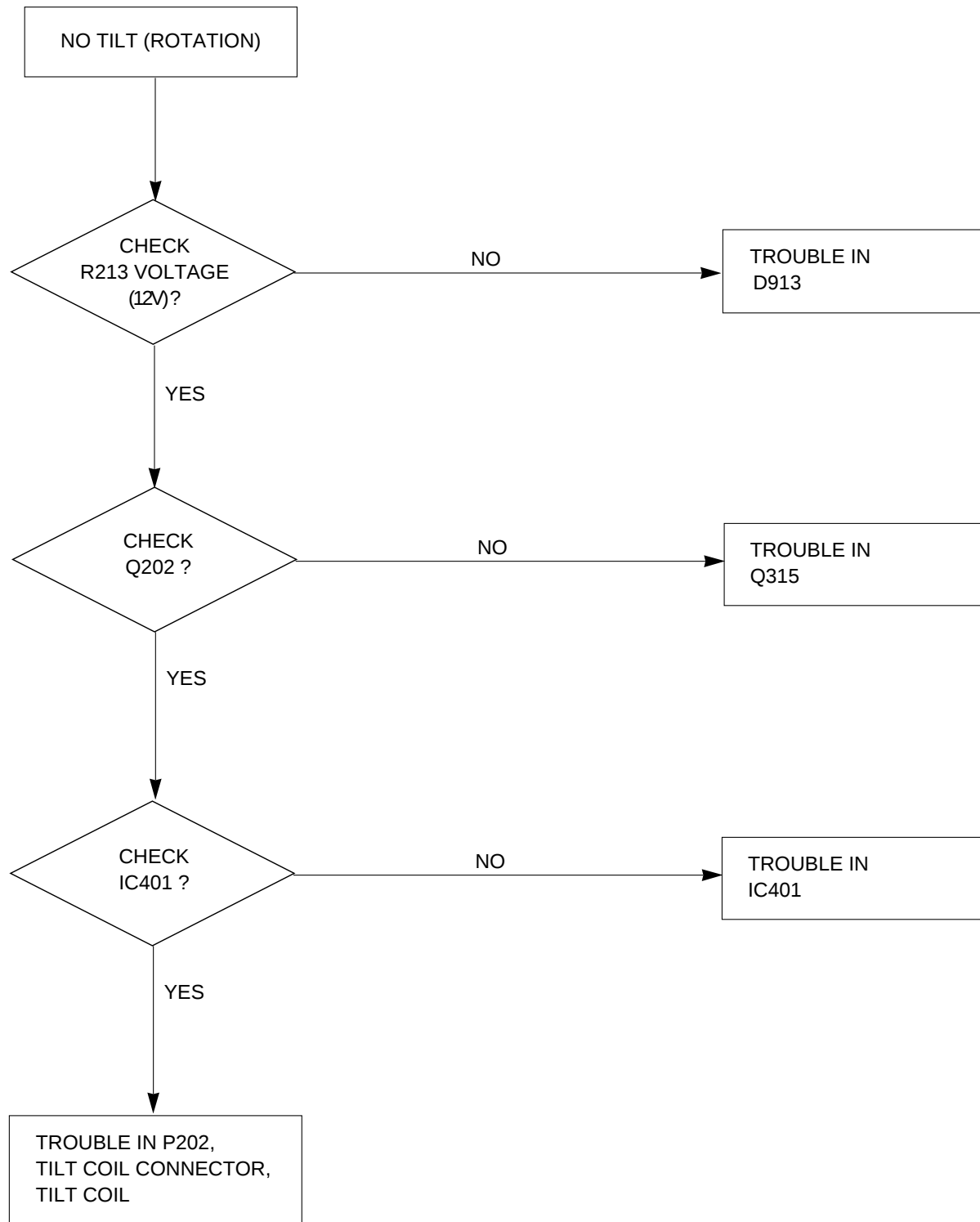
DPMS TABLE

Mode \ Item	H / V SYNC	VIDEO	LED
NORMAL	ON / ON	NORMAL	GREEN
STAND-BY	OFF / ON	OFF(0V)	ORANGE
SUSPEND	ON / OFF	OFF(0V)	ORANGE
OFF	OFF / OFF	OFF(0V)	ORANGE

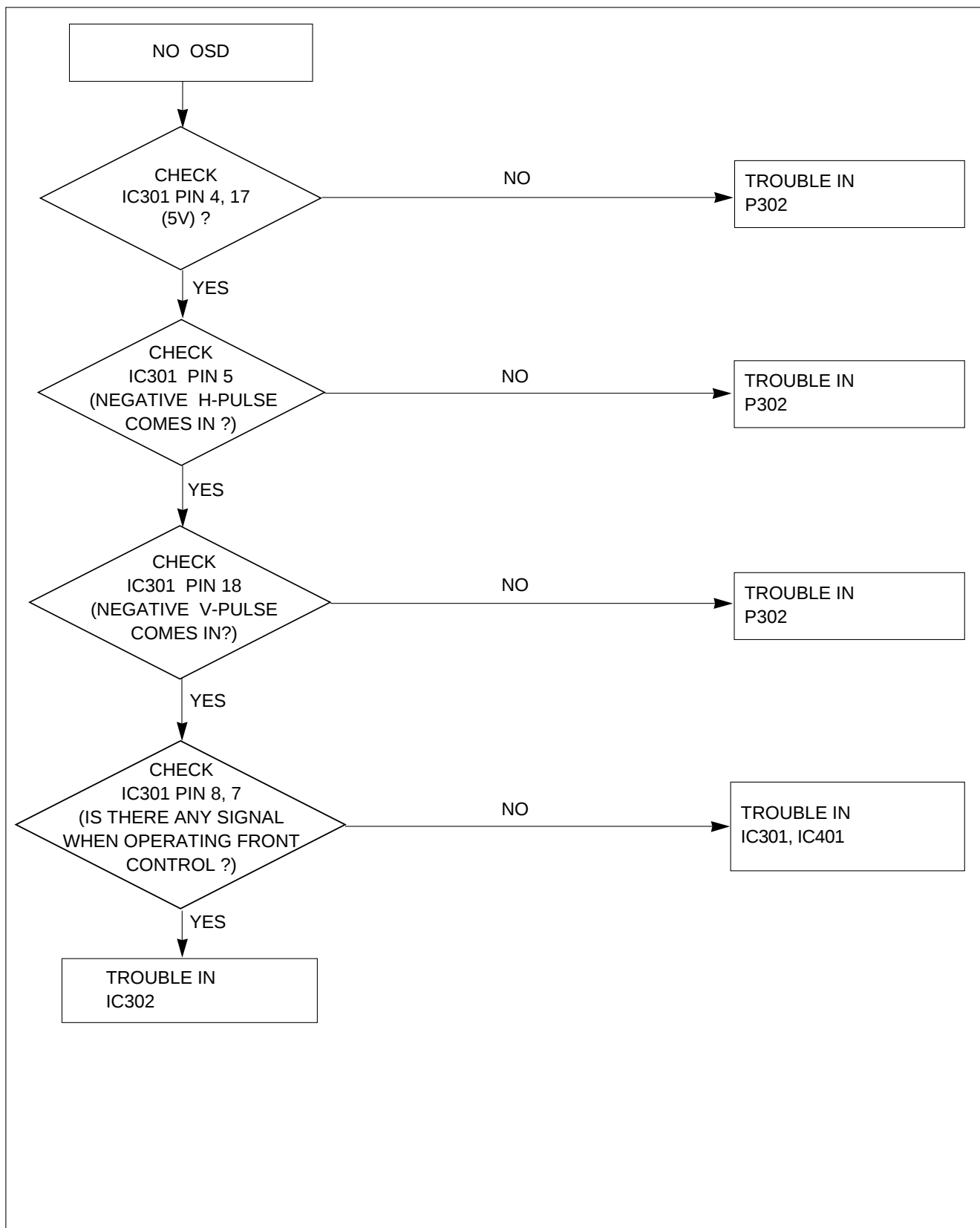
6. NO DEGAUSSING



7. NO TILT (ROTATION)



8. TROUBLE IN OSD



ADJUSTMENT

GENERAL INFORMATION

All adjustment are thoroughly checked and corrected when the monitor leaves the factory, but sometimes several adjustments may be required.

Adjustment should be following procedure and after warming up for a minimum of 30 minutes.

- Alignment appliances and tools.
 - IBM compatible PC.
 - Programmable Signal Generator.
(eg. VG-819 made by Astrodesign Co.or equivalent)
 - EPROM or EEPROM with saved each mode data.
 - Alignment Adaptor and Software.
 - Digital Voltmeter.
 - White Balance Meter.
 - Luminance Meter.
 - High-voltage Meter.

AUTOMATIC AND MANUAL DEGAUSSING

The degaussing coil is mounted around the CDT so that automatic degaussing when turn on the monitor. But a monitor is moved or faced in a different direction, become poor color purity cause of CDT magnetized, then press

⌂ (DEGAUSSING) on the OSD menu.

ADJUSTMENT PROCEDURE & METHOD

- Install the cable for adjustment such as Figure 1 and run the alignment program on the DOS for IBM compatible PC.

1. Adjustment for B⁺ Voltage.

- 1) Display cross hatch pattern at Mode 2.
- 2) Adjust C913 (+) voltage to $190 \pm 0.2V$ with **VR901**.

2. Adjustment for High-Voltage.

- 1) Display cross hatch pattern at Mode 2.
- 2) Adjust CDT Anode voltage to $26 \pm 0.2kV$ with **VR701**.

3. Adjustment for Horizontal Raster Center.

- 1) Display cross hatch pattern at Mode 2.
- 2) Adjust the raster should be center of the screen with **SW701**.

4. Adjustment for Factory Mode (Preset Mode).

- 1) Display cross hatch pattern at Mode 2.
- 2) Run alignment program for Flatron 795FT(*plus*), FB795C on the IBM compatible PC.
- 3) EEPROM → ALL CLEAR → Y(Yes) command.
- 4) DIST. ADJ.
- 5) COMMAND → PRESET START → Y(Yes) command.
- 6) Adjust tilt as arrow keys to be the best condition.
- 7) DIST. ADJ. → BALANCE command.
- 8) Adjust balance of pin balance, key balance, V S Linearity, V C Linearity, Top corner correction and Bottom corner correction as arrow keys to be the best condition.
- 9) DIST. ADJ. → FOS. ADJ command.
- 10) Adjust H-SIZE as arrow keys to $310 \pm 2mm$.
- 11) Adjust H-POSITION as arrow keys to center of the screen.
- 12) Adjust V-SIZE as arrow keys to $230 \pm 1mm$.
- 13) Adjust V-POSITION as arrow keys to center of the screen.
- 14) Adjust S-PCC (Side-Pincushion) as arrow keys to be the best condition.
- 15) Adjust TRAPEZOID as arrow keys to be the best condition.
- 16) Adjust TILT as arrow keys to be the best condition
- 17) Display from Mode 1) to Mode 12).
- 18) PRESET EXIT → Y (Yes) command.

5. Adjustment for White Balance and Luminance.

- 1) Set the White Balance Meter.
- 2) Press the ⌂ (DEGAUSSING) on the OSD menu for demagnetization of the CDT.
- 3) Display color 0,0 pattern at Mode 8.
- 4) Set Brightness and Contrast to max position.
- 5) COLOR ADJ. → BIAS ADJ. command of the alignment program.
- 6) Check whether blue color or not at R-BIAS and G-BIAS to min position and B-BIAS to 130 (decimal) position at Sub-Bright Max. If it's not blue color, the monitor must repair.

- 7) Adjust Screen control on the FBT to $0.15 \pm 0.02\text{FL}$ of the raster luminance.
- 8) Adjust R-BIAS and G-BIAS command to $x=0.283 \pm 0.006$ and $y=0.298 \pm 0.006$ on the White Balance Meter with PC arrow keys.
- 9) Adjust SUB-Brightness command to $0.25 \sim 0.35\text{FL}$ of the raster luminance.
- 10) Display color 15.0 box pattern (70x70mm) at Mode 2.
- 11) Set SUB-CONTRAST to 190 (decimal).
- 12) DRIVE ADJ command.
- 13) Set B-DRIVE to 150 (decimal) at DRIVE of the alignment program.
- 14) Adjust R-DRIVE and G-DRIVE command to white balance $x=0.283 \pm 0.003$ and $y=0.298 \pm 0.003$ on the White Balance Meter with PC arrow keys.

- 15) Adjust SUB-CONTRAST command to $50 \pm 1\text{FL}$ of the box pattern (70x70 mm).
- 16) Display color 15,0 full white pattern at Mode 10.
- 17) COLOR ADJ. → LUMINANCE → ABL command.
- 18) Set the Brightness and Contrast to max position.
- 19) Adjust ABL to $31 \pm 1\text{FL}$ of the luminance.
- 20) Exit from the program.

6. Adjustment for Focus.

- 1) Display H character in full screen at Mode 10.
- 2) Adjust two Focus control on the FBT so that focus should be the best condition.

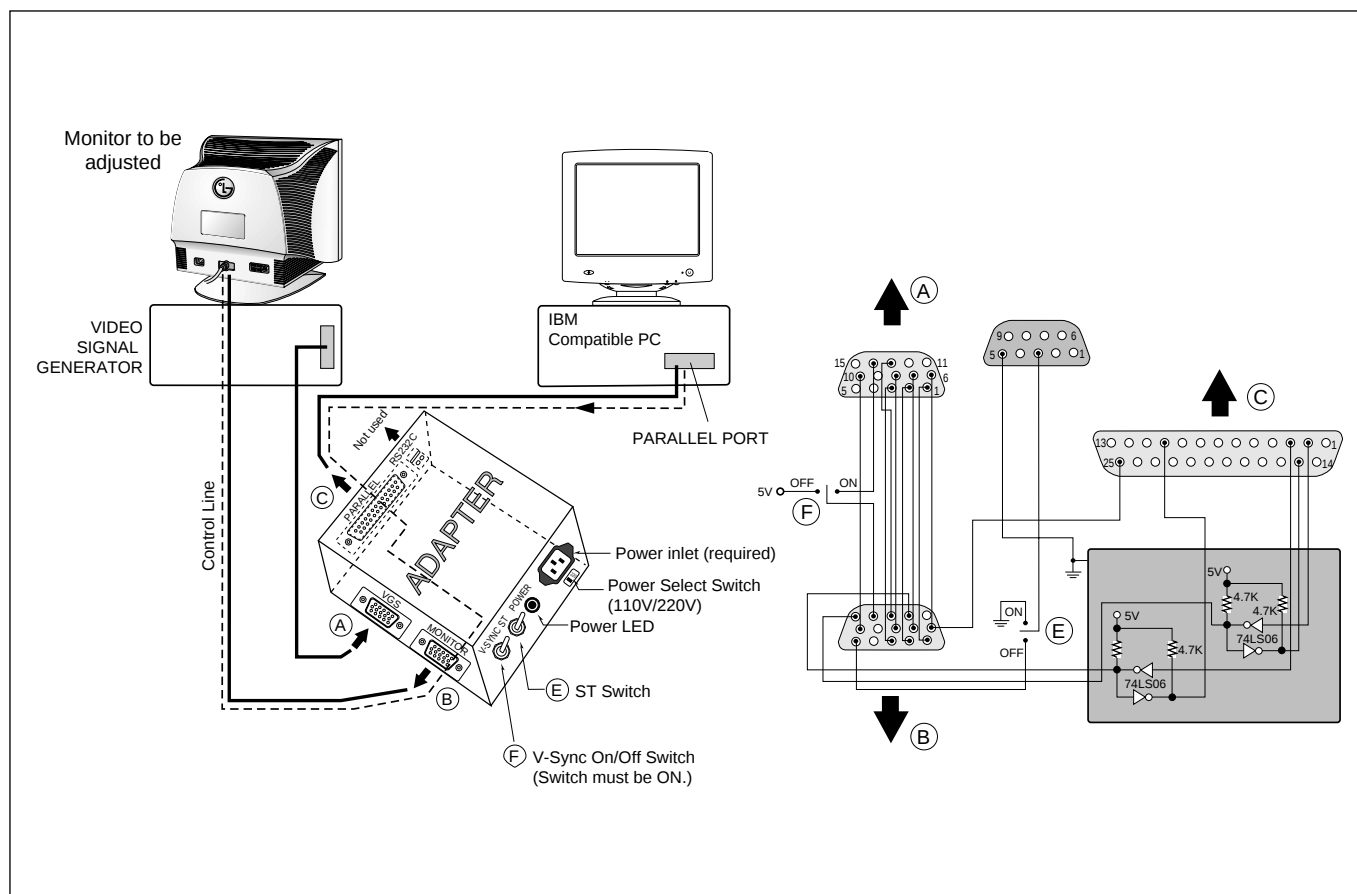
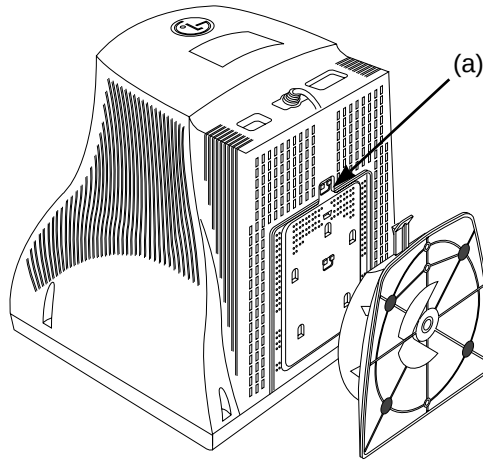


Figure 1. Cable Connection

DISASSEMBLY

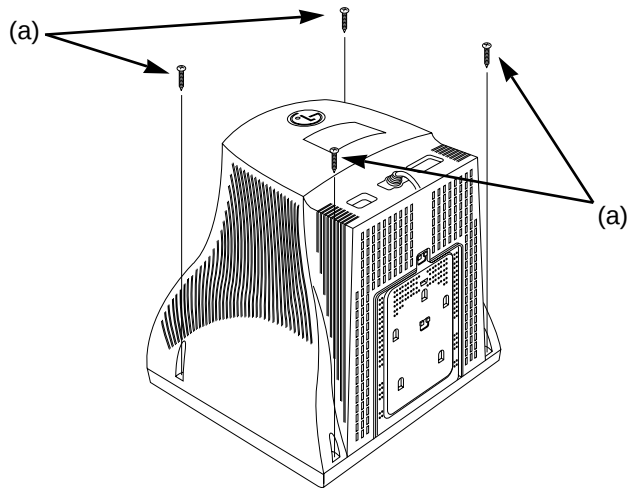
1. TILT/SWIVEL REMOVAL

- 1) Set the monitor face downward.
- 2) Pressing the latch (a), carefully remove the Tilt/Swivel by pulling it upward.



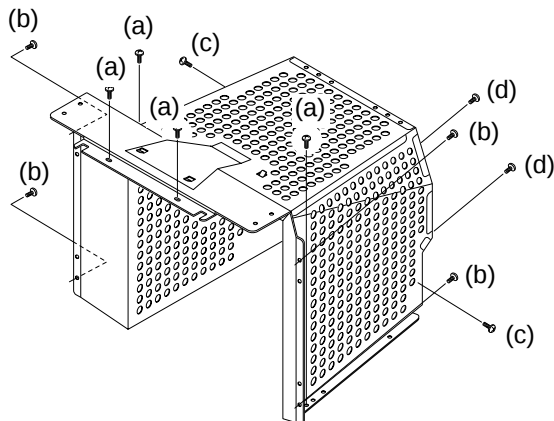
2. BACK COVER REMOVAL

- 1) Remove four screws (a) from the Back Cover.
- 2) Slide the Back Cover away from the Front Cabinet of the monitor.



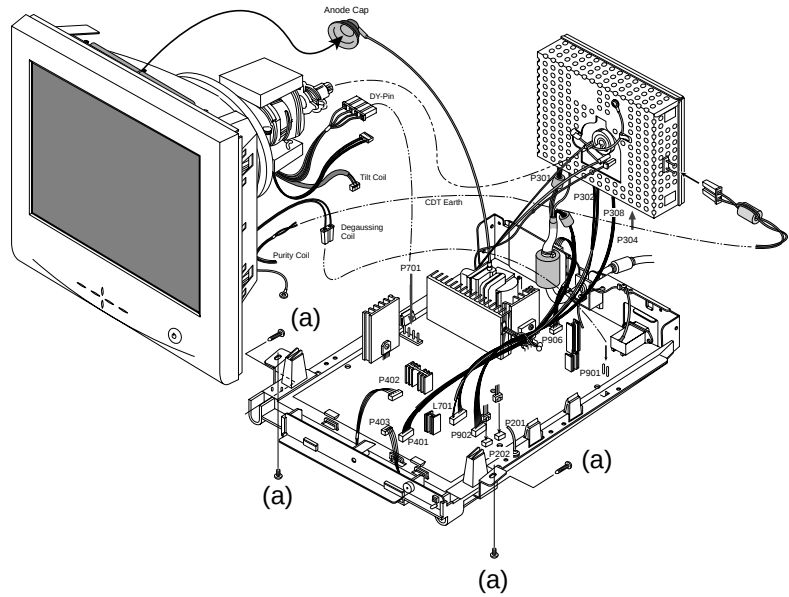
3. TOP SHIELD REMOVAL

- 1) Remove four screws (a).
- 2) Remove four screws (b).
- 3) Remove two screws (c).
- 4) Remove three screws (d).



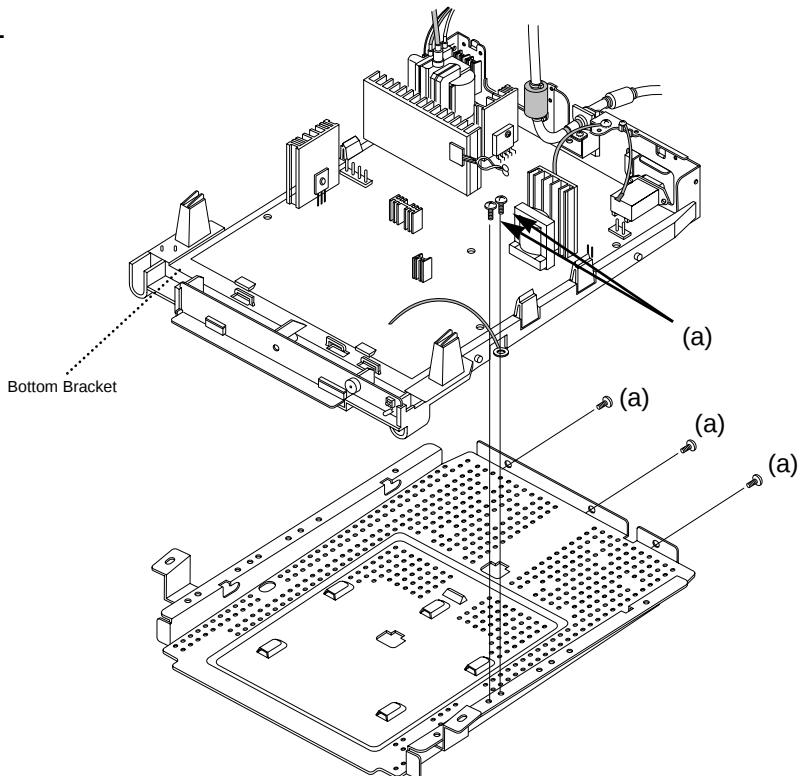
4. TOTAL CHASSIS ASSEMBLY REMOVAL

- 1) Disconnect P901 (Degaussing pin), P701 (DY pin), P202 (Tilt pin), and P201 (Purity pin) from the Main PCB.
- 2) Disconnect P306 (GND Wire), P304 from the Video PCB.
- 3) Carefully separate the CDT Board Assembly from the CDT neck.
- 4) Discharge the remaining static electricity by shorting between the Anode Cap and the CDT ground.
- 5) Disconnect the Anode Cap from the CDT.
- 6) Remove four screws (a).
- 7) Remove the Total Chassis Assembly from the Main Frame.



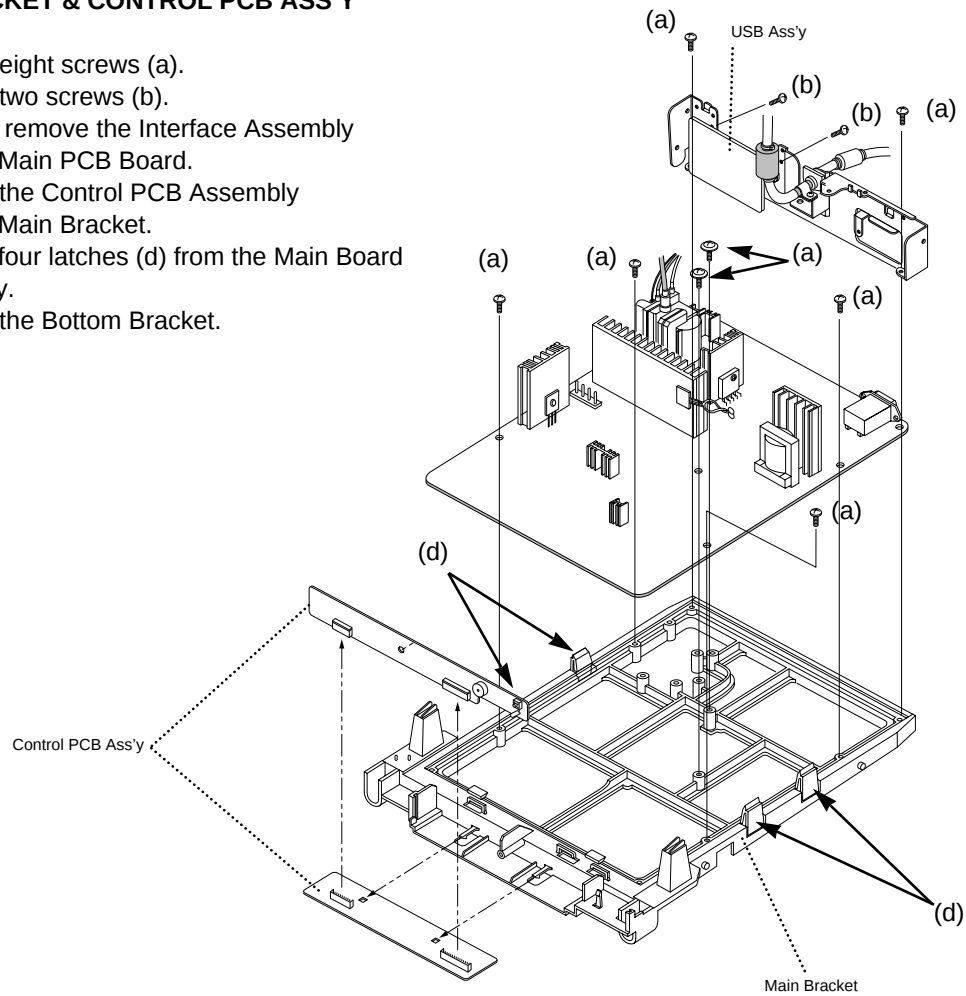
6. BOTTOM BRACKET REMOVAL

- 1) Remove five screws (a).
- 2) Remove the Bottom Bracket.

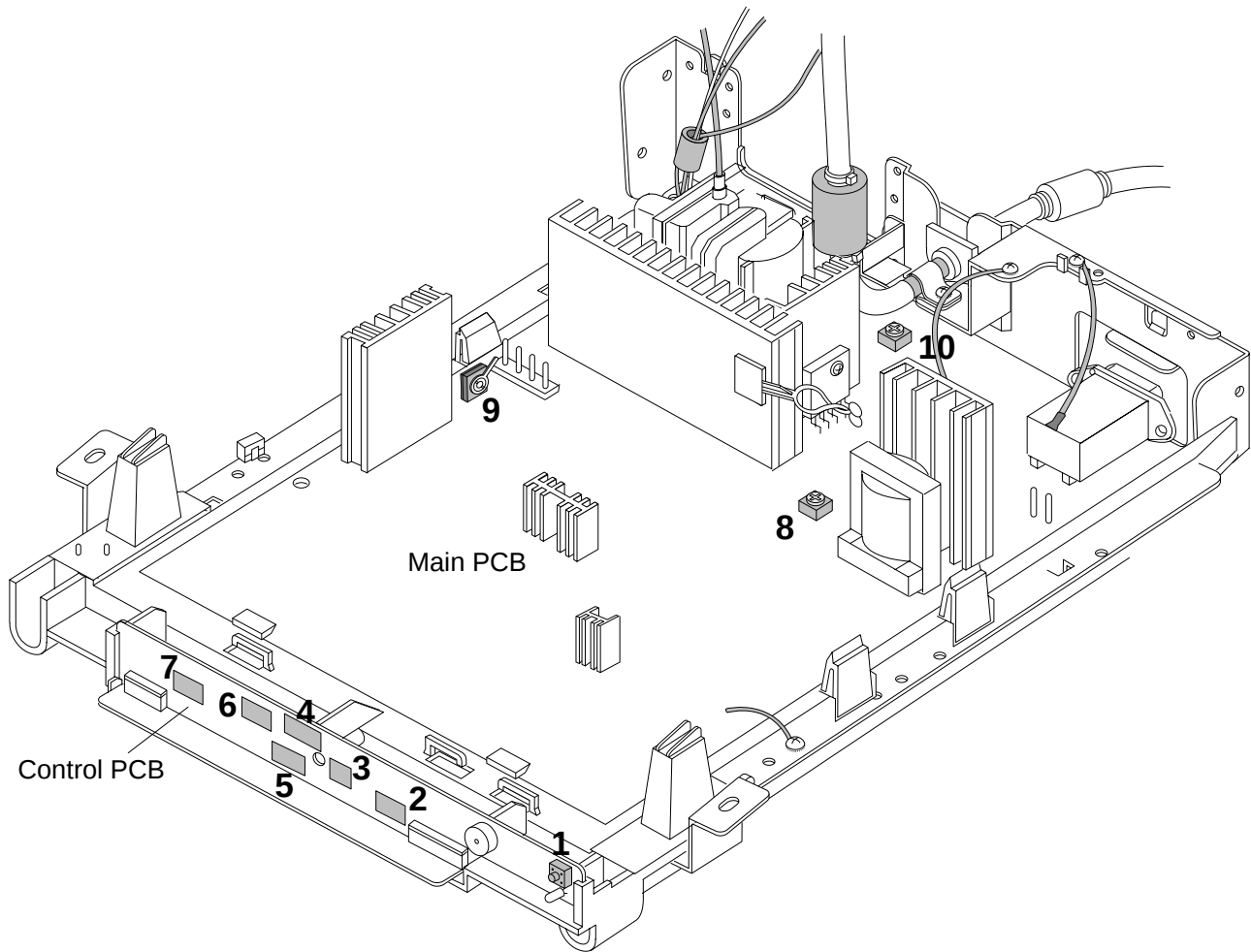


7. MAIN BRACKET & CONTROL PCB ASS'Y REMOVAL

- 1) Remove eight screws (a).
- 2) Remove two screws (b).
- 3) Carefully remove the Interface Assembly from the Main PCB Board.
- 4) Remove the Control PCB Assembly from the Main Bracket.
- 5) Release four latches (d) from the Main Board Assembly.
- 6) Remove the Bottom Bracket.

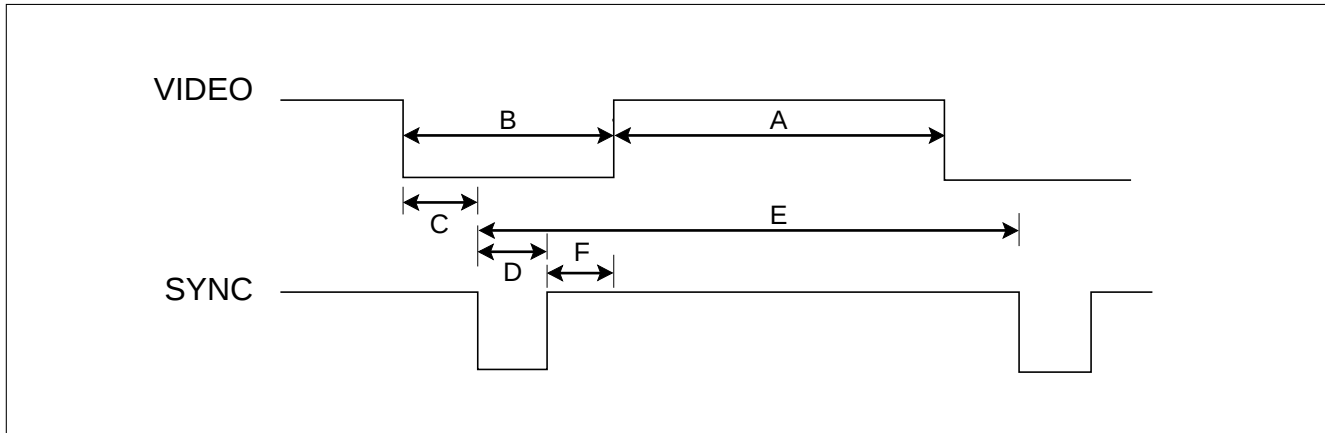


CONTROL LOCATIONS



No.	Ref. No.	Control Function	No.	Ref. No.	Control Function
1	SW131	POWER SWITCH	6		OSD SELECT/ADJUSTMENT (LEFT)
2		SET BUTTON	7		OSD BUTTON
3		OSD SELECT/ADJUSTMENT (RIGHT)	8	VR901	B ⁺ ADJUSTMENT
4		OSD SELECT/ADJUSTMENT (UP)	9	SW701	RASTER CENTER SELECT
5		OSD SELECT/ADJUSTMENT (DOWN)	10	VR701	HIGH-VOLTAGE ADJUSTMENT

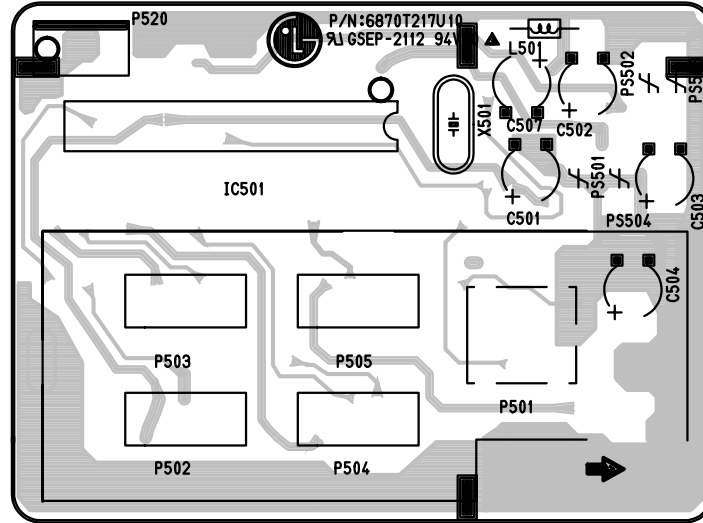
TIMING CHART



<< Horizontal Frequency (**kHz**), Vertical Frequency (**Hz**), Horizontal etc... (**μs**), Vertical etc... (**ms**) >>

Mode	H/V Sort	Sync Polarity	Frequency	Total Period (E)	Video Active Time (A)	Blanking Time (B)	Sync Duration (D)	Back Porch (F)	Front Porch (C)	Resolution
1	H	–	49.725	20.111	14.525	5.586	1.117	3.910	0.559	832x624 75Hz
	V	–	74.550	13.414	12.549	0.865	0.061	0.784	0.020	
2	H	+	79.976	12.504	9.481	3.023	1.067	1.837	0.119	1280x1024 75Hz
	V	+	75.025	13.329	12.804	0.525	0.038	0.474	0.013	
3	H	–	31.469	31.778	25.422	6.356	3.810	1.906	0.640	720x400 70Hz
	V	+	70.082	14.270	12.713	1.557	0.064	1.080	0.413	
4	H	–	31.469	31.778	25.422	6.356	3.813	1.907	0.636	640x480 60Hz
	V	–	59.940	16.683	15.253	1.430	0.064	1.049	0.318	
5	H	–	43.269	23.112	17.778	5.334	1.556	2.222	1.556	640x480 85Hz
	V	–	85.008	11.763	11.093	0.670	0.069	0.578	0.023	
6	H	–	68.681	14.560	11.520	3.040	1.280	1.440	0.320	1152x870 75Hz
	V	–	75.062	13.322	12.667	0.655	0.044	0.567	0.044	
7	H	+	91.146	10.971	8.127	2.844	1.016	1.422	0.406	1280x1024 85Hz
	V	+	85.024	11.762	11.235	0.527	0.033	0.483	0.011	
8	H	+	77.487	12.905	9.481	3.424	1.053	1.844	0.527	1152x864 85Hz
	V	+	85.057	11.757	11.150	0.607	0.039	0.555	0.013	
9	H	+	93.750	10.666	7.901	2.765	0.948	1.501	0.316	1600x1200 75Hz
	V	+	75.000	13.333	12.800	0.533	0.032	0.490	0.011	
10	H	+	53.674	18.631	14.222	4.409	1.138	2.702	0.569	800x600 85Hz
	V	+	85.061	11.756	11.178	0.578	0.056	0.503	0.019	
11	H	+	60.023	16.660	13.003	3.657	1.219	2.235	0.203	1024x768 75Hz
	V	+	75.029	13.328	12.795	0.533	0.050	0.466	0.017	
12	H	+	68.677	14.561	10.836	3.725	1.016	2.201	0.508	1024x768 85Hz
	V	+	84.997	11.765	11.183	0.582	0.044	0.523	0.015	

7. USB BOARD (Component Side)



8. USB BOARD (Solder Side)

