

COLOR MONITOR SERVICE MANUAL

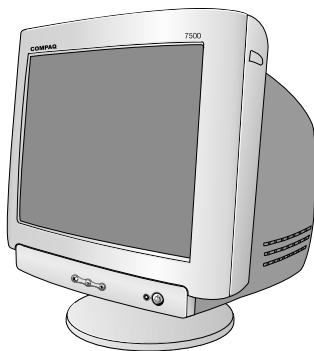
CHASSIS NO. : CA-119

FACTORY MODEL: CQ771H

MODEL: V72

CAUTION

BEFORE SERVICING THE UNIT,
READ THE **SAFETY PRECAUTIONS** IN THIS MANUAL.



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SPECIFICATIONS

1. PICTURE TUBE

Size	: 17 inch
Deflection Angle	: 90°
Neck Diameter	: 29.1 mm
Dot Pitch	: 0.27 mm
Face Treatment	: W-ARASC (Anti-Reflection and Anti-Static Coating)
Low Radiation	: TCO 03

2. SIGNAL

2-1. Horizontal & Vertical Sync

- 1) Input Voltage Level : Low=0~1.2V, High=2.5~5.5V
- 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

3 row 15-pin Connector (Attached)

2-4. Scanning Frequency

Horizontal	: 30 ~ 70 kHz
Vertical	: 50 ~ 140 Hz

3. POWER SUPPLY

3-1. Power Range

AC 100~220V, 60Hz, 2.0A Max.

3-2. Power Consumption

MODE	POWER CONSUMPTION	LED COLOR
MAX	100 W	GREEN
DPM OFF	less than 4 W	AMBER
POWER S/W	less than 4 W	
OFF	less than 1 W	AMBER

4. DISPLAY AREA

4-1. Active Video Area :

- Max Image Size - 326.7 x 245.5 mm (12.86" x 9.67")
- Preset Image Size - 312 x 234 mm (12.28" x 9.21")

4-2. Display Color : Full Colors

4-3. Display Resolution : 1280 x 1024 / 60Hz(Max) (Non-Interlace)

4-4. Video Bandwidth : 110 MHz

5. ENVIRONMENT

5-1. Operating Temperature: 0°C ~ 35°C

(Ambient)

5-2. Relative Humidity : 10%~ 90%

(Non-condensing)

5-3. Altitude : 3,048 m

6. DIMENSIONS (with TILT/SWIVEL)

Width	: 404.0 mm (15.90 inch)
Depth	: 438.5 mm (17.26 inch)
Height	: 426.0 mm (16.77 inch)

7. WEIGHT (with TILT/SWIVEL)

Net Weight	: 14.6 kg (32.19 lbs.)
Gross Weight	: 17.8 kg (39.24 lbs.)

SAFETY PRECAUTIONS

SAFETY-RELATED COMPONENT WARNING!

There are special components used in this color monitor which are important for safety. ***These parts are marked ⚠ on the schematic diagram and the replacement parts list.*** It is essential that these critical parts should be replaced with the manufacturer's specified parts to prevent X-radiation, shock, fire, or other hazards. Do not modify the original design without obtaining written permission from manufacturer or you will void the original parts and labor guarantee.

CAUTION: No modification of any circuit 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 color monitor because of the high voltage used in the deflection circuits. These voltages are exposed in such areas as the associated flyback and yoke circuits.

FIRE & SHOCK HAZARD

An isolation transformer must be inserted between the color monitor and AC power line before servicing the chassis.

- In servicing, attention must be paid to the original lead dress specially in the high voltage circuit. If a short circuit is found, replace all parts which have been overheated as a result of the short circuit.
- All the protective devices must be reinstalled per the original design.
- Soldering must be inspected for the cold solder joints, frayed leads, damaged insulation, solder splashes, or the sharp points. Be sure to remove all foreign materials.

IMPLOSION PROTECTION

All used display tubes are equipped with an integral implosion protection system, but care should be taken to avoid damage and scratching during installation. Use only same type display tubes.

X-RADIATION

The only potential source of X-radiation is the picture tube. However, when the high voltage circuitry is operating properly there is no possibility of an X-radiation problem. The basic precaution which must be exercised is keep the high voltage at the factory recommended level; the normal high voltage is about 25.5kV. The following steps describe how to measure the high voltage and how to prevent X-radiation.

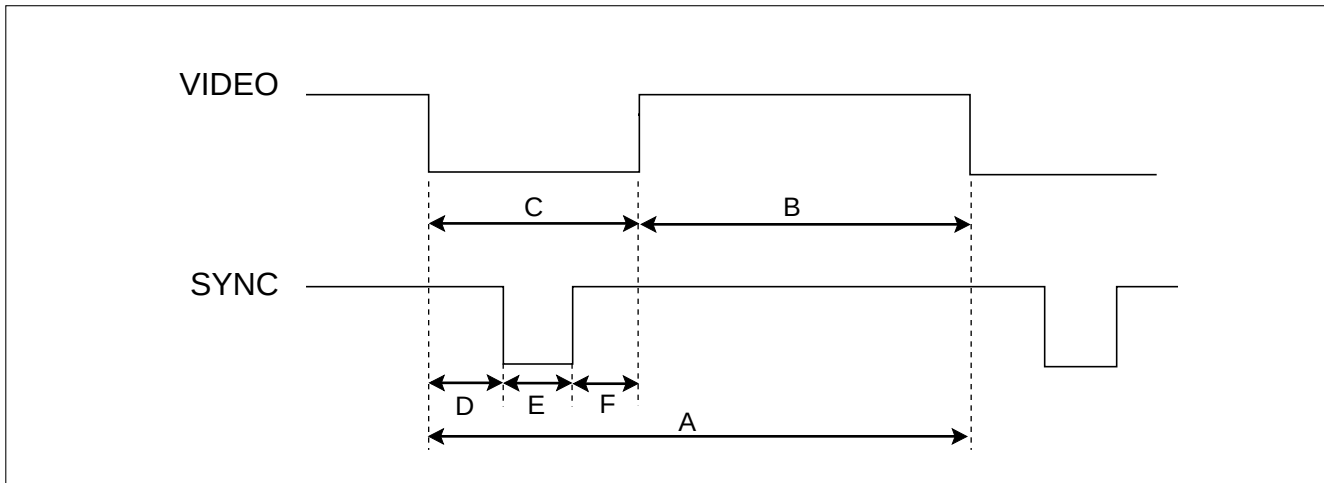
Note : It is important to use an accurate high voltage meter calibrated periodically.

- To measure the high voltage, use a high impedance high voltage meter, connect (–) to chassis and (+) to the CDT anode cap.
- Set the brightness control to maximum point at full white pattern.
- Measure the high voltage. The high voltage meter should be indicated at the factory recommended level.
- If the meter indication exceeds the maximum level, immediate service is required to prevent the possibility of premature component failure.
- To prevent X-radiation possibility, it is essential to use the specified picture tube.

CAUTION:

Please use only a plastic screwdriver to protect yourself from shock hazard during service operation.

TIMING CHART

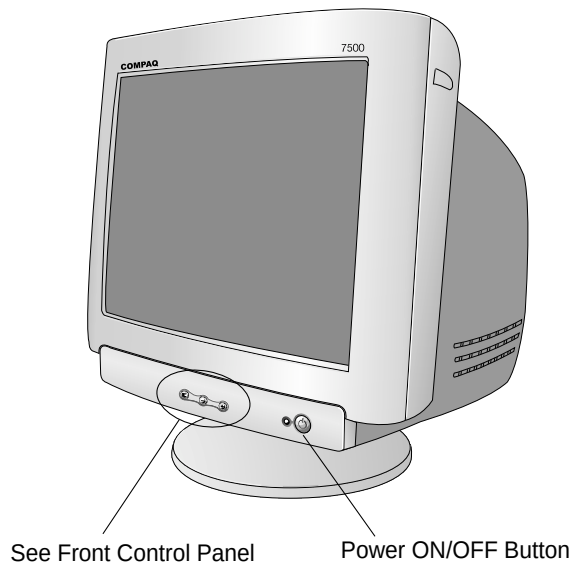


<< Dot Clock (**MHz**), Horizontal Frequency (**kHz**), Vertical Frequency (**Hz**), Horizontal etc... (**μs**), Vertical etc... (**ms**) >>

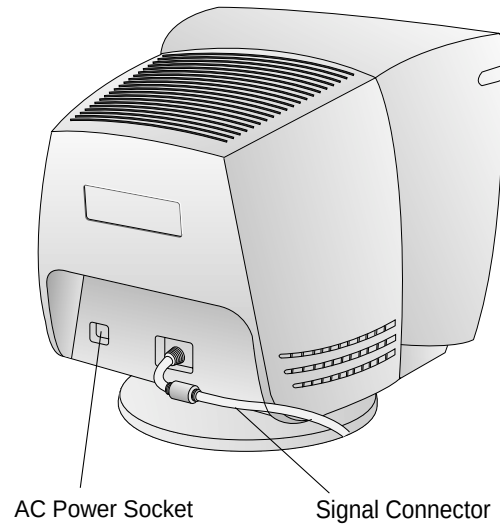
Mode	H/V Sort	Sync Polarity	Frequency	Total Period (A)	Video Active Time (B)	Blanking Time (C)	Sync Duration (E)	Back Porch (F)	Front Porch (D)	Resolution
1	H	–	37.500	26.667	20.317	6.349	2.032	3.810	0.508	640x480
	V	–	75.000	13.333	12.800	0.533	0.080	0.427	0.027	75Hz
2	H	–	31.469	31.778	25.422	6.356	3.813	1.907	0.636	640x480
	V	–	59.940	16.683	15.253	1.430	0.064	1.048	0.318	60Hz
3	H	–	43.269	23.112	17.778	5.334	1.556	2.222	1.556	640x480
	V	–	85.008	11.764	11.093	0.671	0.069	0.579	0.023	85Hz
4	H	+	31.470	31.778	25.422	6.356	3.813	1.907	0.636	720x400
	V	+	70.080	14.269	12.711	1.558	0.064	1.080	0.414	70Hz
5	H	+	46.880	21.330	16.160	5.170	1.620	3.230	0.320	800x600
	V	+	75.010	13.331	12.798	0.533	0.064	0.448	0.021	75Hz
6	H	+	53.674	18.631	14.222	4.409	1.138	2.702	0.569	800x600
	V	+	85.061	11.756	11.178	0.578	0.056	0.503	0.019	85Hz
7	H	+	60.023	16.660	13.003	3.657	1.219	2.235	0.203	1024x768
	V	+	75.029	13.328	12.795	0.533	0.050	0.466	0.017	75Hz
8	H	+	68.677	14.561	10.836	3.725	1.016	2.201	0.508	1024x768
	V	+	84.997	11.765	11.183	0.582	0.044	0.523	0.015	85Hz
9	H	+	63.98	15.63	11.85	3.78	1.04	2.30	0.44	1280x1024
	V	+	60.02	16.661	16.005	0.656	0.047	0.594	0.015	60Hz

OPERATING INSTRUCTIONS

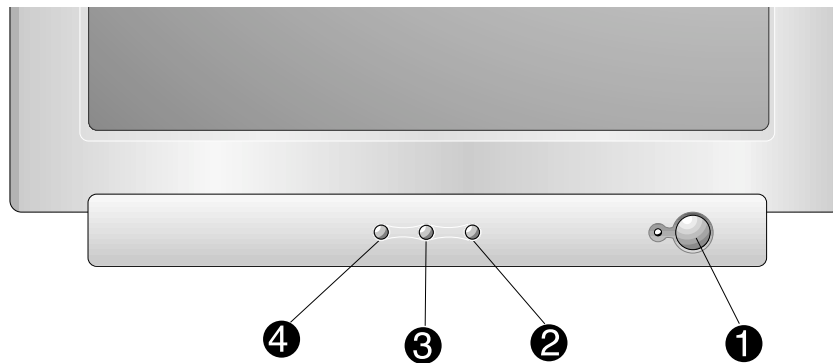
FRONT VIEW



REAR VIEW



Front Control Panel



1. Power/LED

Controls power to the monitor.
The LED on the power button is illuminated when the power is on.

2. Right Adjustment

Moves clockwise through menu options or increases adjustment levels.

3. Left Adjustment

Moves counter-clockwise through menu options or decreases adjustment levels.

4. Select

Launches on-screen displays, selects functions and adjustments, and exits menus and On-Screen Display.

5. Hot Key

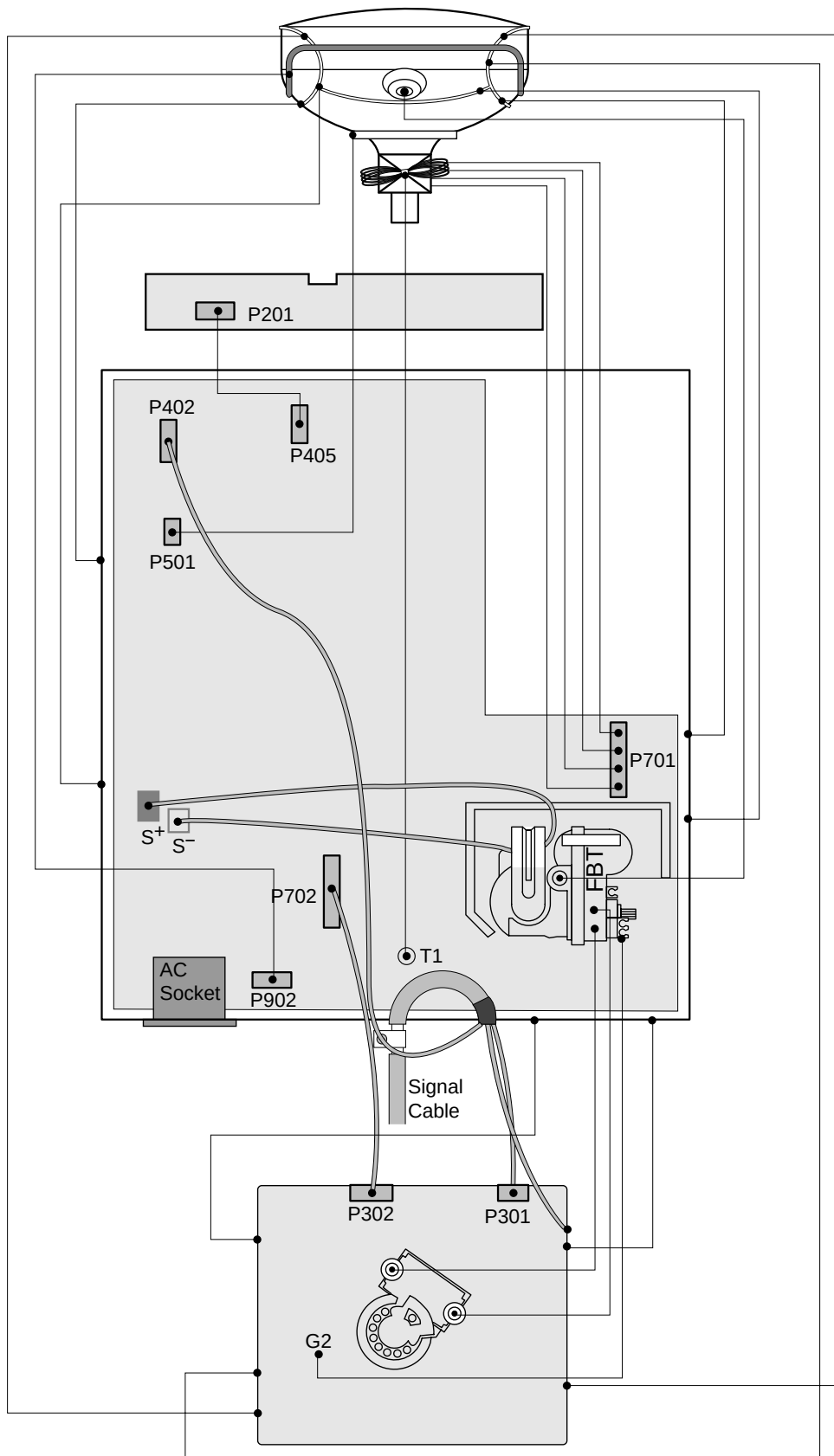
Left Adjustment

Just select  left adjustment key without OSD display.
Contrast menu display.

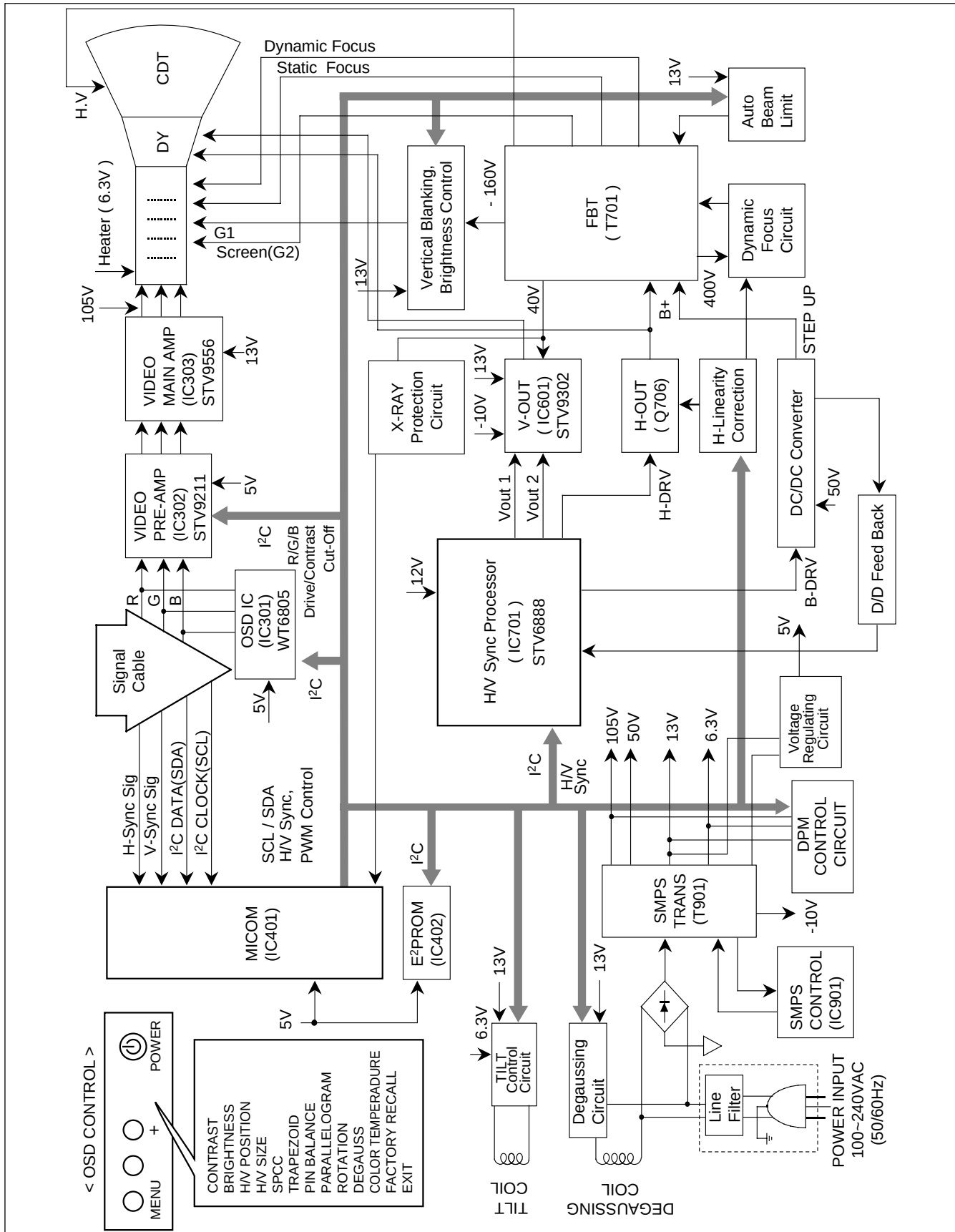
Right adjustment

Just select  right adjustment key with OSD display.
Brightness menu display.

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 shadow mask in the CRT during turning on the power switch. When you need to degauss in using the monitor, select DEGAUSS on the OSD menu.

3. SMPS(Switching Mode Power Supply).

This circuit is working of 90~264V AC(50/60Hz).

The operation procedure is as follows:

- 1) AC input voltage is rectified and smoothed by the bridge diodes (D900) and the capacitor (C908).
- 2) The rectified voltage(DC) 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 turn ratio of the transformer, the secondary voltages appear at the secondary coils of the transformer(T901).
- 5) These secondary voltages are rectified by each diode(D941, D942, D951, D961, D971) and operate other circuit. (horizontal and vertical 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 off mode. When no horizontal or vertical sync signal input, the circuit consists of Q941 and Q951 becomes off mode. It's power consumption is below 4W. When the power switch is off it's power consumption os below 1W.

5. X-ray Protection.

If the high voltage of the FBT reaches up to 29kV (abnormal state), IC401(MICOM) pin 35 Sensing from FBT directly. Then MICOM control IC701 (Deflection controller) to stop Horizontal drive pulse and stop Horizontal Deflection.

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 the signal cable.
- 2) The Micom(IC401) distinguishes polarity and frequency of H and V sync.
- 3) The Micom sets operating mode and offers the controlled data. (H-size, H-position, V-size, ... etc.)
- 4) The controlled data of each mode is stored in itself.
- 5) User can adjust screen condition by each OSD function. The data of the adjusted condition is stored in EEPROM(IC402).

7. Horizontal and Vertical Oscillation.

This circuit generates the horizontal pulse and the vertical pulse by taking the H and V sync signal.

This circuit consists of the STV9302(IC601) and the associated circuit.

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

This circuit supplies DC voltage to the horizontal deflection output circuit by increasing DC 50V which is the secondary voltage of the SMPS in accordance with the input horizontal sync signal.

9. Side-Pincushion & Trapezoid Correction Circuit.

This circuit improves the side-pincushion and the trapezoid distortion of the screen by mixing parabola and saw-tooth wave to output of the horizontal deflection D/D converter which is used for the supply voltage(B +) of the deflection circuit.

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 to the primary coil of the FBT(Flyback Transformer) secondary of the FBT and it is supplied to the anode, focus, and screen voltage of the CRT.

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 ramp wave from the STV6888(IC701) and performs the vertical deflection by supplying the saw-tooth current to the vertical deflection yoke.

14. Dynamic Focus Output Circuit.

This circuit takes the horizontal and the vertical parabola waves from the STV6888(IC701) and amplifies it to maintain constant focus on center and corners in the screen.

15. H & V Blanking and Brightness Control.

Blanking circuit eliminates retrace line by supplying negative pulse to the G1 of the CRT. And Brightness circuit is used for control of the screen brightness by changing DC level of the 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 near the deflection yoke of the CRT.

17. 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.

18. Video Pre-amp Circuit.

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

19. Video Output Amp Circuit.

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

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.)
 - 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 DEGAUSS 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.
- Set external Brightness and Contrast volume to max position.

1. Adjustment for B⁺ Voltage.

- 1) Display cross hatch pattern at Mode 8.
- 2) Check D961 (+) voltage to 50.5 ± 0.1 Vdc.

2. Adjustment for High-Voltage.

- 1) Display cross hatch pattern at Mode 8.
- 2) DIST.ADJ.→CTRL PWM → High Voltage Command.
- 3) Adjust High Voltage to $25.5\text{kV} \pm 0.1$ kVdc.
- 4) Press Enter Key.

3. Adjustment for Factory Mode (Preset Mode).

- 1) Display cross hatch pattern at Mode 1.
- 2) Run alignment program for V72 on the IBM compatible PC.
- 3) EEPROM → ALL CLEAR → Y(Yes) command.
<Caution> Do not run this procedure unless the EEPROM is changed. All data in EEPROM (mode data and color data) will be erased.
- 4) Power button of the monitor turn off → turn on.
- 5) COMMAND→PRESET START→Y(Yes) command.
- 6) DIST. ADJ. → CTRL PWM → TILT command.

- 7) Adjust tilt as arrow keys to be the best condition.
- 8) DIST. ADJ. → BALANCE command.
- 9) Adjust parallelogram as arrow keys to be the best condition.
- 10) Adjust balance of pin-balance as arrow keys to be the best condition.
- 11) DIST. ADJ. → FOS. ADJ command.
- 12) Adjust V-SIZE as arrow keys to 234 ± 2 mm.
- 13) Adjust V-POSITION as arrow keys to center of the screen.
- 14) Adjust H-SIZE as arrow keys to 312 ± 2 mm.
- 15) Adjust H-POSITION as arrow keys to center of the screen.
- 16) Adjust S-PCC (Side-Pincushion) as arrow keys to be the best condition.
- 17) Adjust TRAPEZOID as arrow keys to be the best condition.
- 18) Save of the Mode 1.
- 19) Display from Mode 2 to 9 and repeat above from number 12) to 19)
- 20) PRESET EXIT → Y (Yes) command.

4. Adjustment for White Balance and Luminance.

- 1) Set the White Balance Meter.
- 2) Press the DEGAUSS on the OSD menu for demagnetization of the CDT.
- 3) COLOR ADJ. → LUMINANCE command of the alignment program.
- 4) Set Brightness and Contrast to Max position.
- 5) Display color 0,0 pattern at Mode 8.
- 6) COLOR ADJ.→ BIAS ADJ.→ COLOR No. → 1 command of the alignment program.
- 7) Check whether green color or not at R-BIAS and G-BIAS to min position and B-BIAS to 127 position and Sub-Brightness to 205(CD) position. Adjust G2 (screen) command to 0.4 ± 0.05 FL of the raster luminance.
- 8) Adjust R-BIAS and G-BIAS command to $x=0.283 \pm 0.005$ and $y=0.298 \pm 0.005$ on the White Balance Meter with PC arrow keys.
- 9) Adjust Extind-Brightness command to 0.06 ± 0.1 FL (Cut-off) of the raster luminance.
- 10) After push the "ENTER" key.
- 11) COMMAND → PRESET START → Y(Yes) command.
- 12) Display color 15,0 full white pattern at Mode 8.
- 13) DRIVE ADJ.→ No 1. command.

- 14) Set Brightness to Cut-off position and Contrast to Max position.
- 15) Set SUB-CONTRAST 200(C8) (decimal) position.
- 16) Set B-DRIVE to 150(96) at DRIVE of the alignment program.
- 17-1) Adjust R-DRIVE and G-DRIVE command to white balance $x=0.283\pm0.003$ and $y=0.298\pm0.003$ on the White Balance Meter with PC arrow keys.
- 17-2) Display color 15,0 window pattern (70x70mm) at mode 8.
- 18) Adjust SUB-CONTRAST command to $50\pm2FL$.
- 19) After push the "ENTER" key.
- 20) Display color 15,0 full white pattern at Mode 8.
- 21) COLOR ADJ. → LUMINANCE → ABL command.
- 22) Adjust ABL to $33 \pm 1FL$ of the luminance.
- 23) After push the "ENTER" key, and "COMMAND → PRESET EXIT → Y(Yes)" command.
- 24) Exit from the program.

5. Input EDID Data.

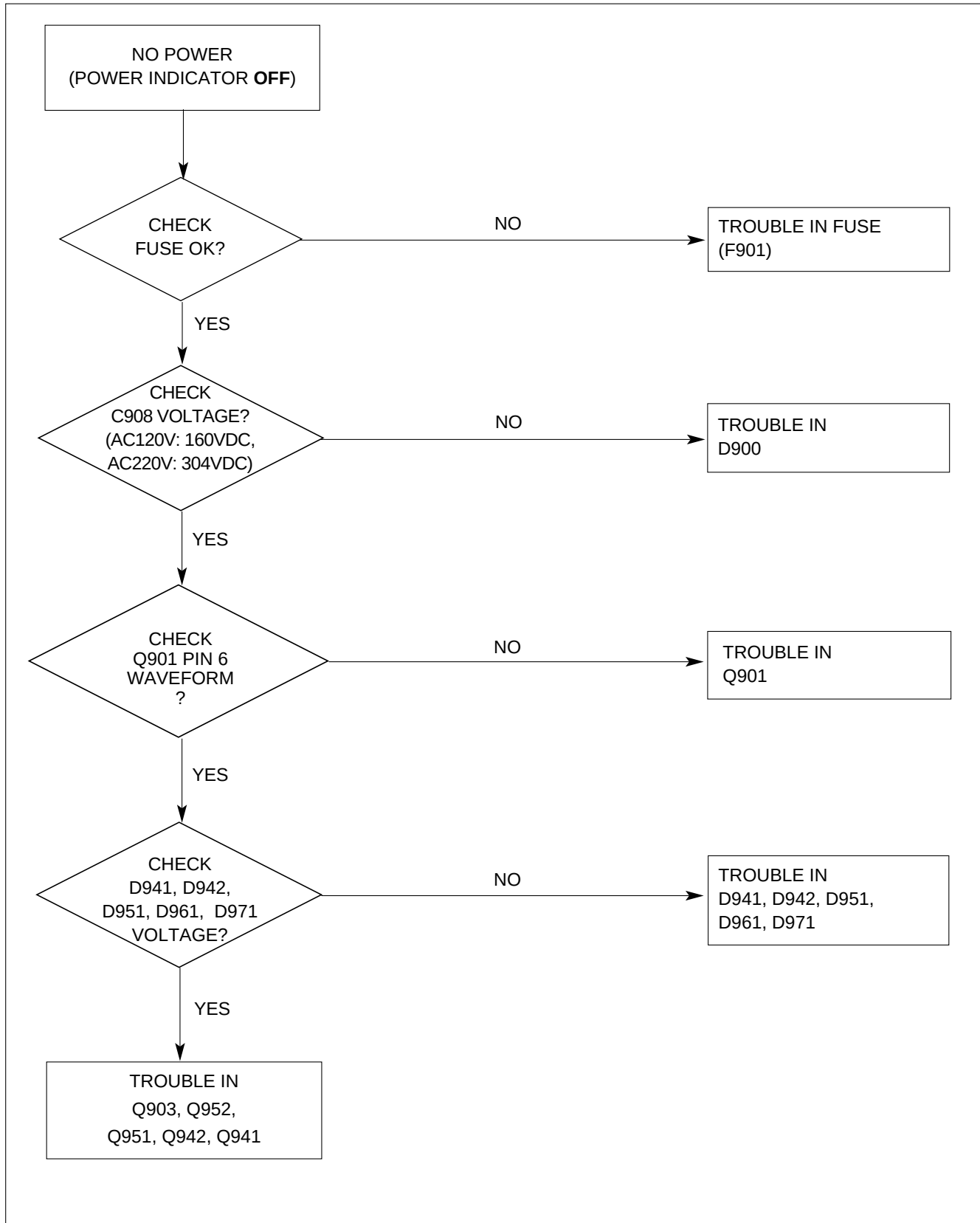
- 1) Display color 15,0 cross hatch pattern at Mode 8.
- 2) EEPROM → Write EDID command and confirm "EDID Write OK!!" message of monitor.
- 3) Exit from the alignment program.
- 4) Power switch OFF/ON for EDID data save.

6. Adjustment for Focus.

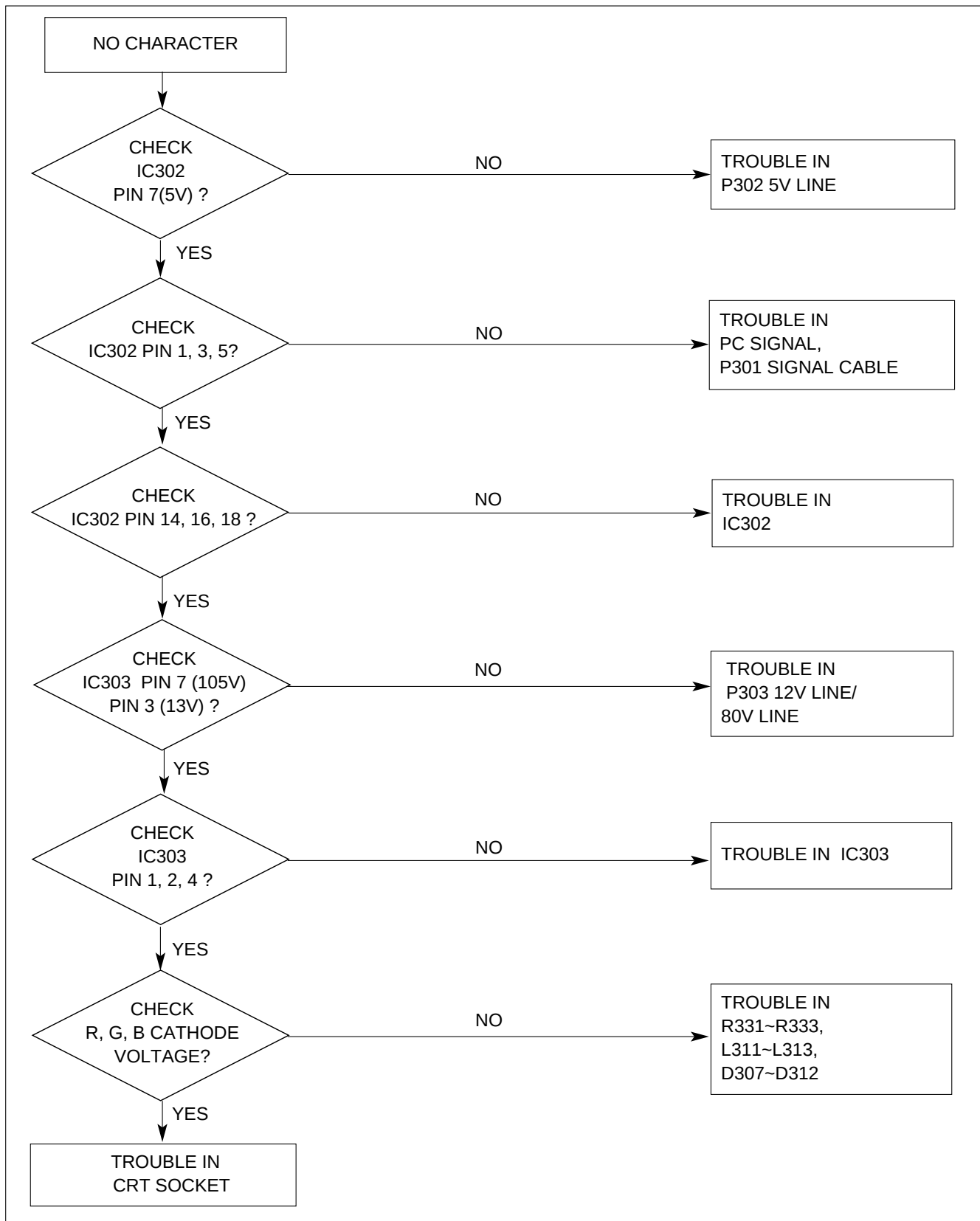
- 1) Set the Brightness and Contrast to max position.
- 2) Display H character in full screen at Mode 8.
- 3) Adjust two Focus control on the FBT that focus should be the best condition.

TROUBLESHOOTING GUIDE

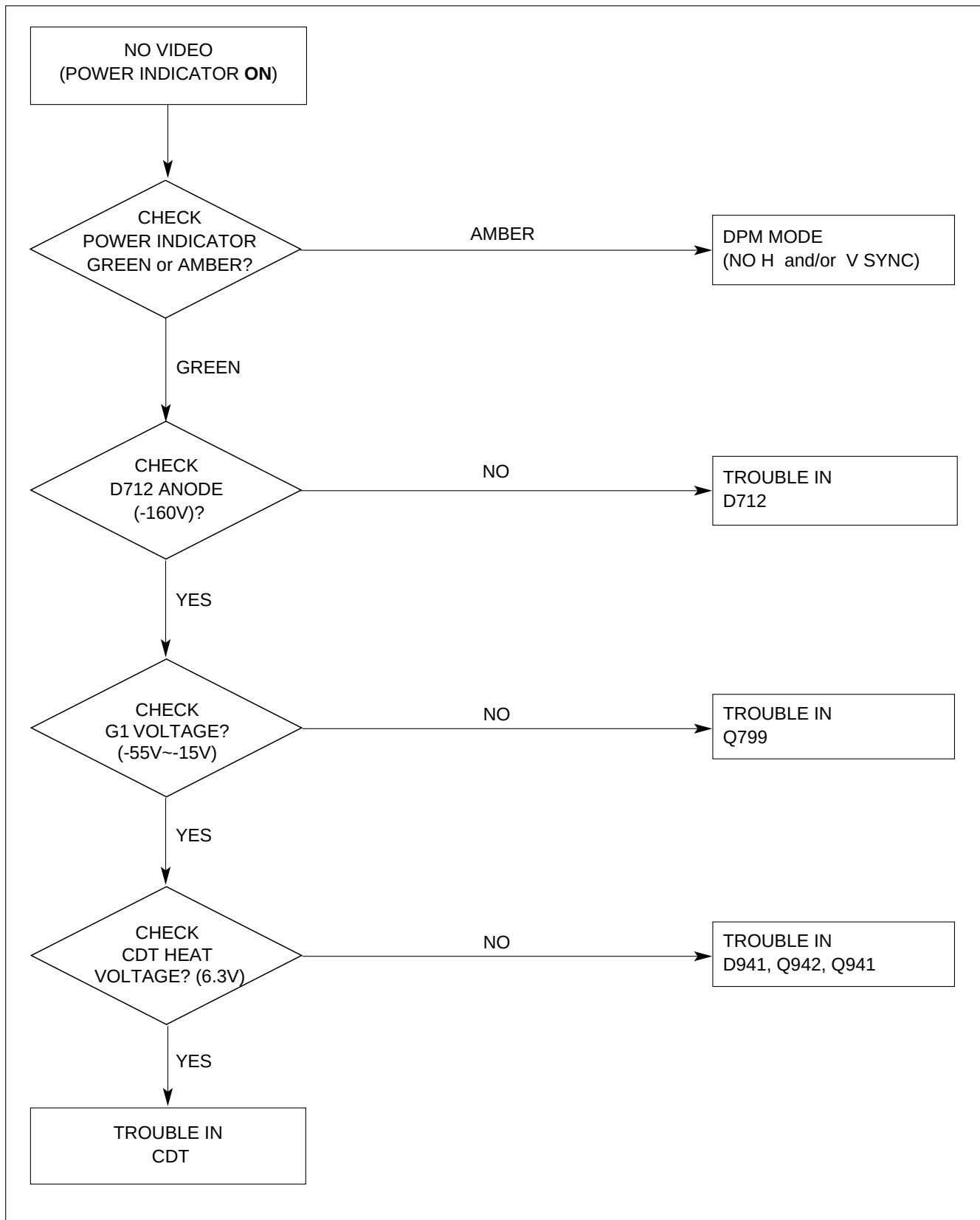
1. NO POWER



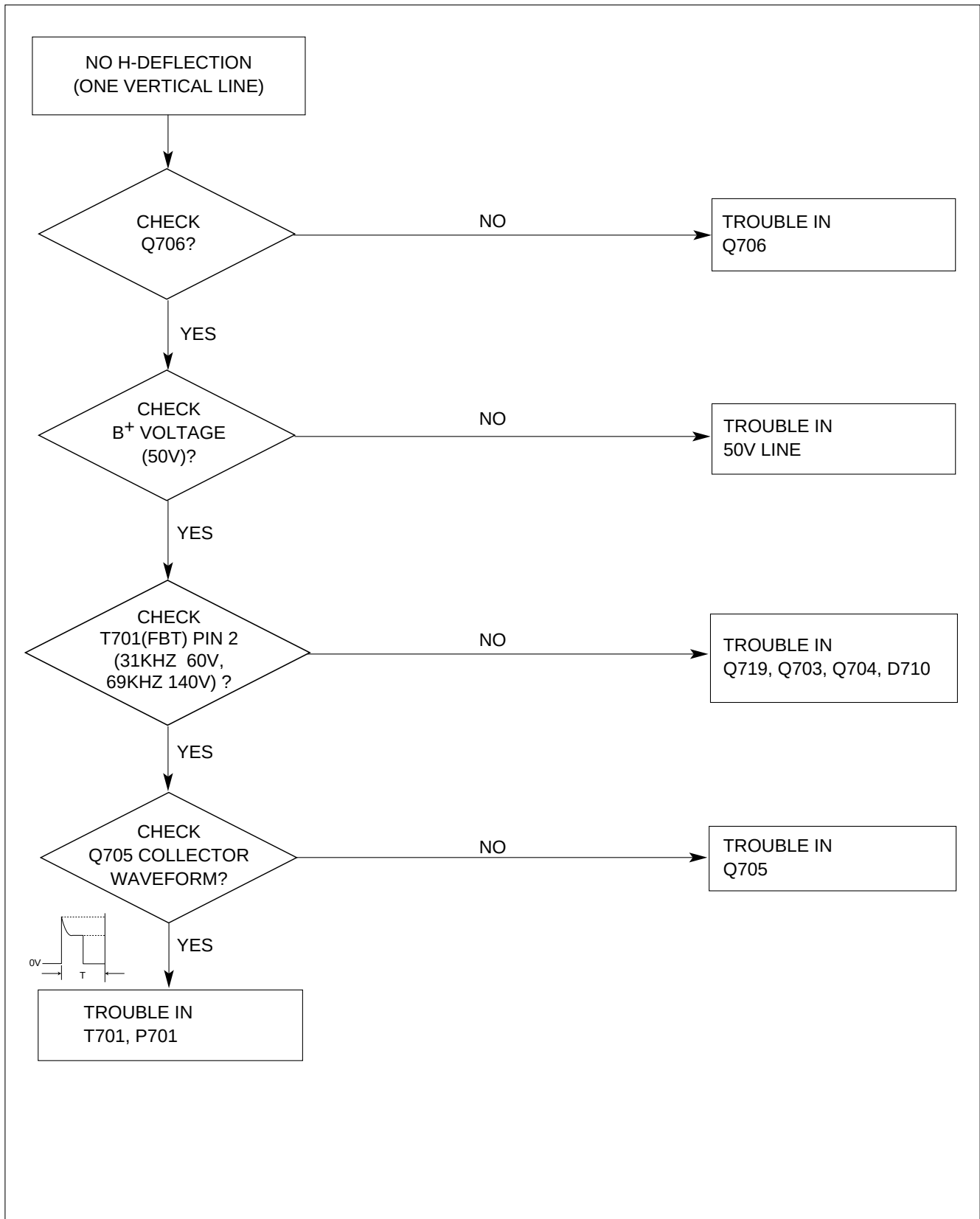
2. NO CHARACTER



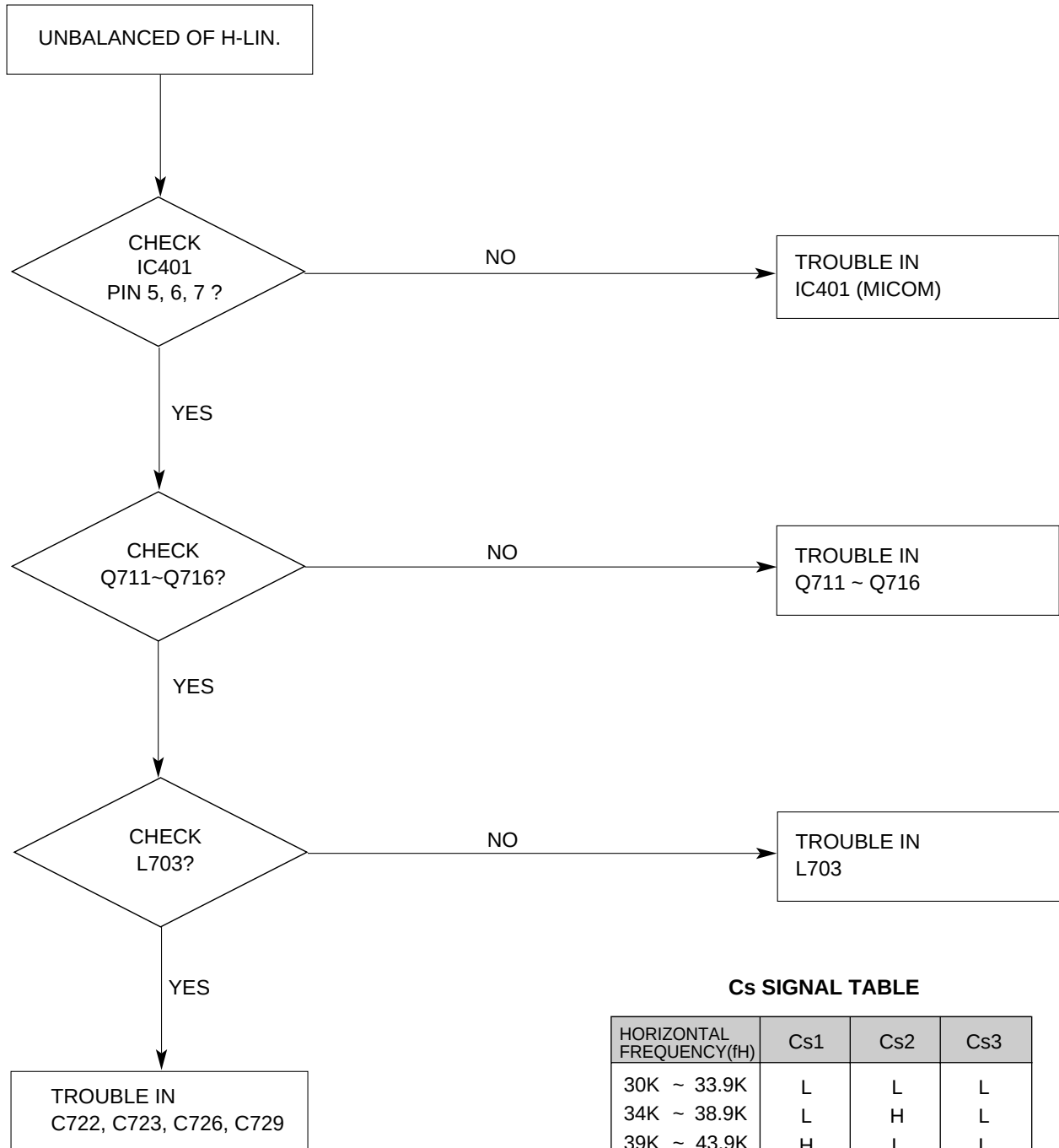
3. NO RASTER



4. NO HORIZONTAL DEFLECTION



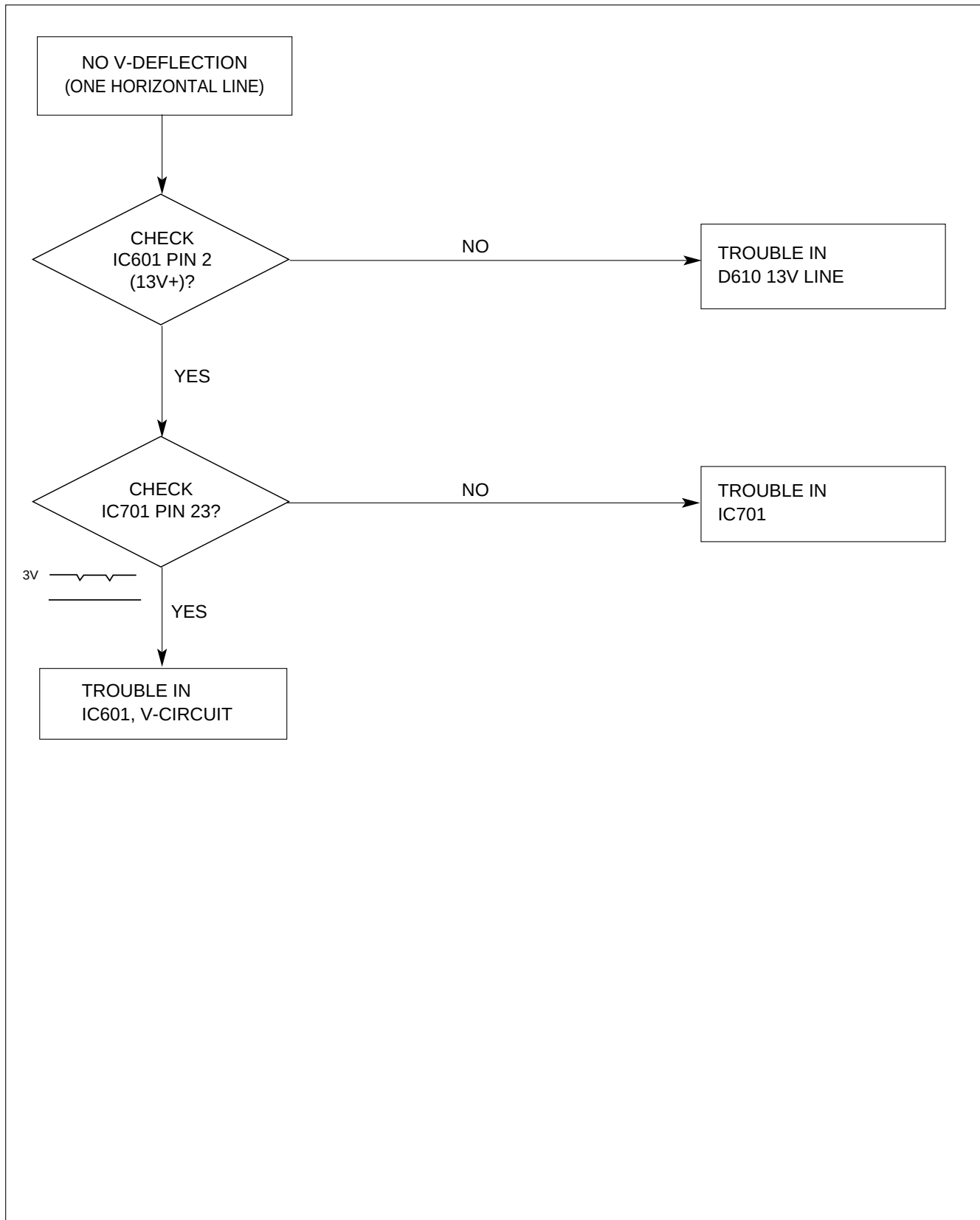
5. TROUBLE IN H-LINEARITY



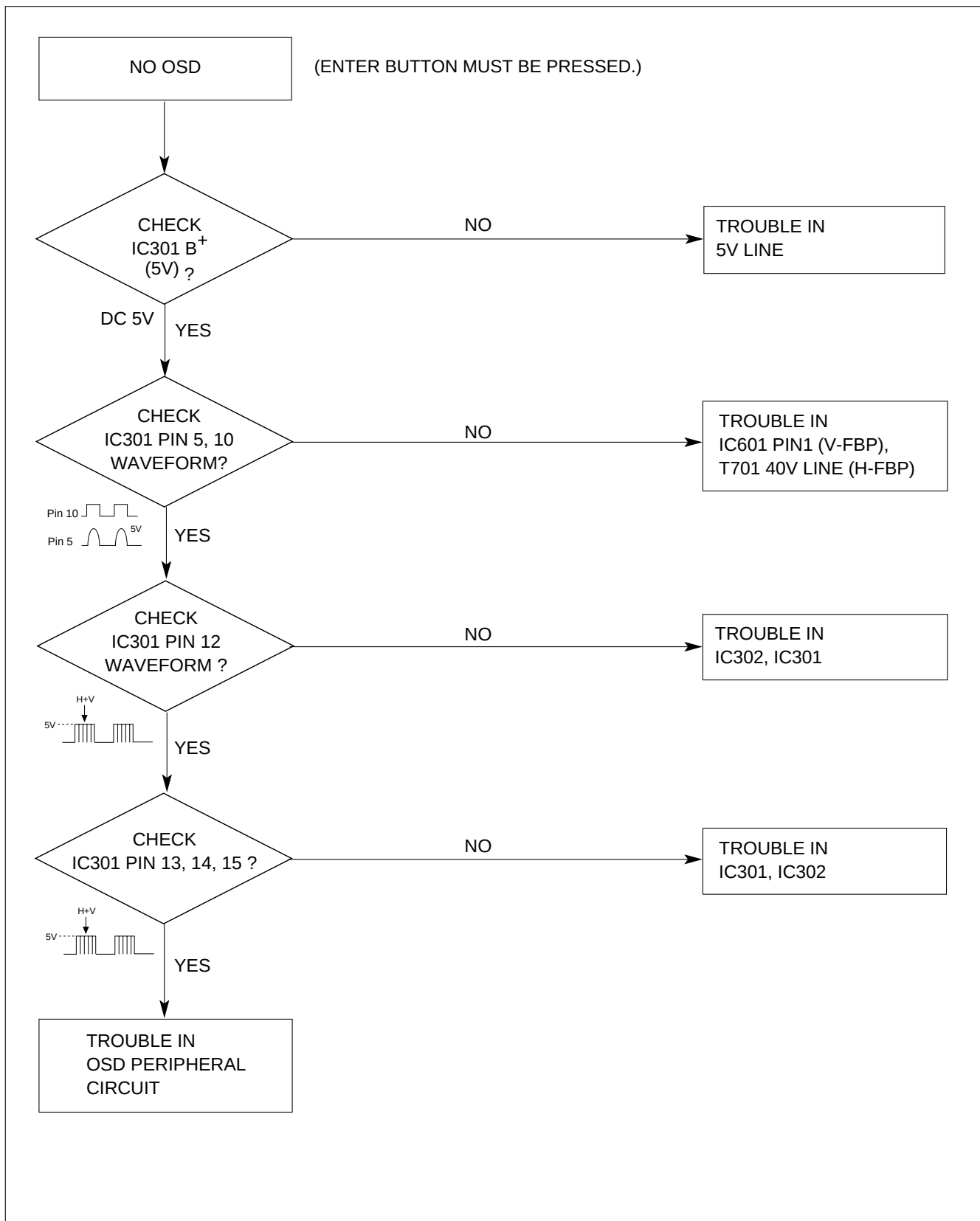
Cs SIGNAL TABLE

HORIZONTAL FREQUENCY(fH)	Cs1	Cs2	Cs3
30K ~ 33.9K	L	L	L
34K ~ 38.9K	L	H	L
39K ~ 43.9K	H	L	L
44K ~ 48.9K	H	L	H
49K ~ 51.9K	H	H	L
52K ~ 57.9K	H	H	L
58K ~ 61.9K	H	H	L
62K ~ 65.9K	H	H	H
66K ~ 71K	H	H	H

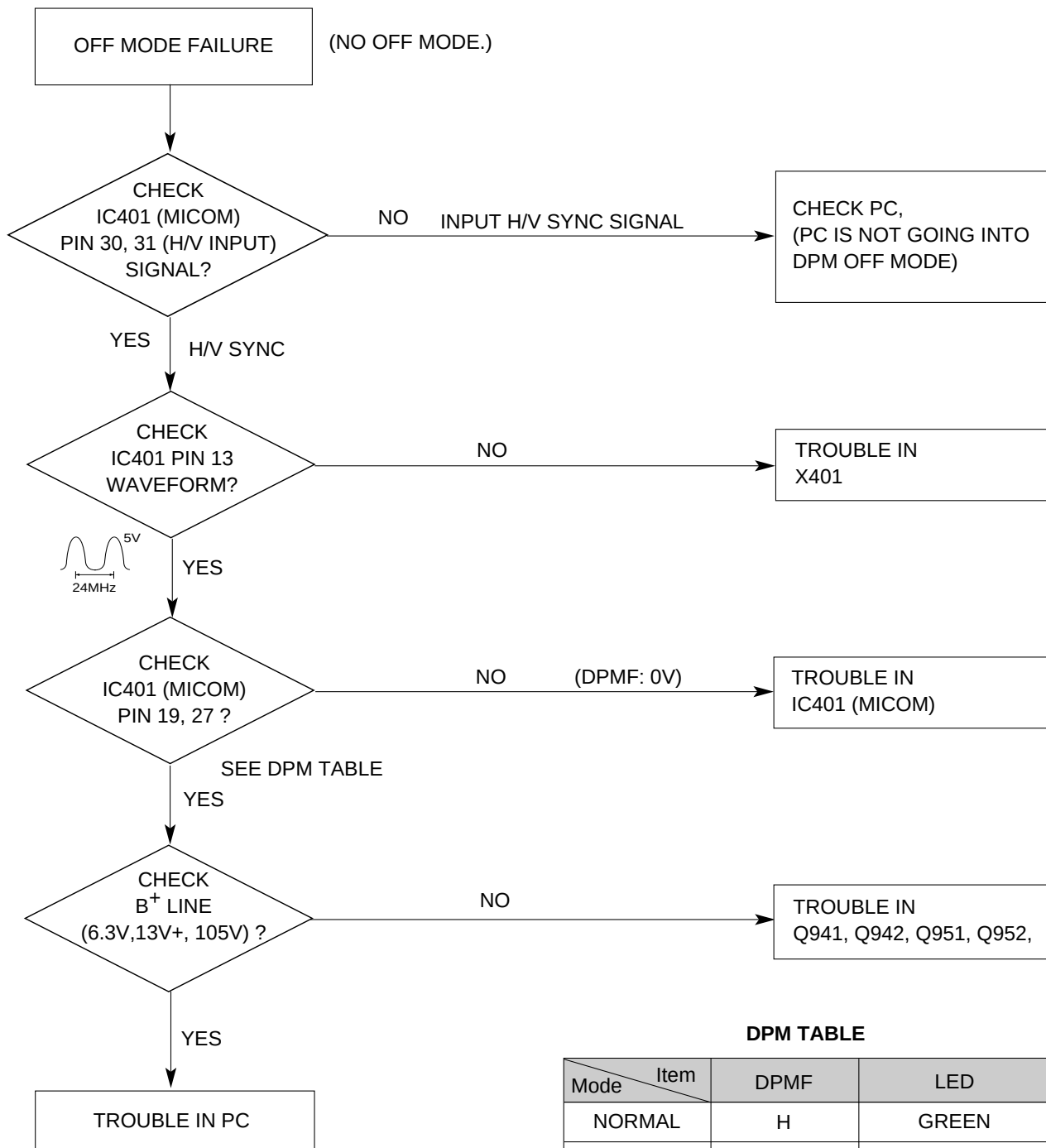
6. NO VERTICAL DEFLECTION



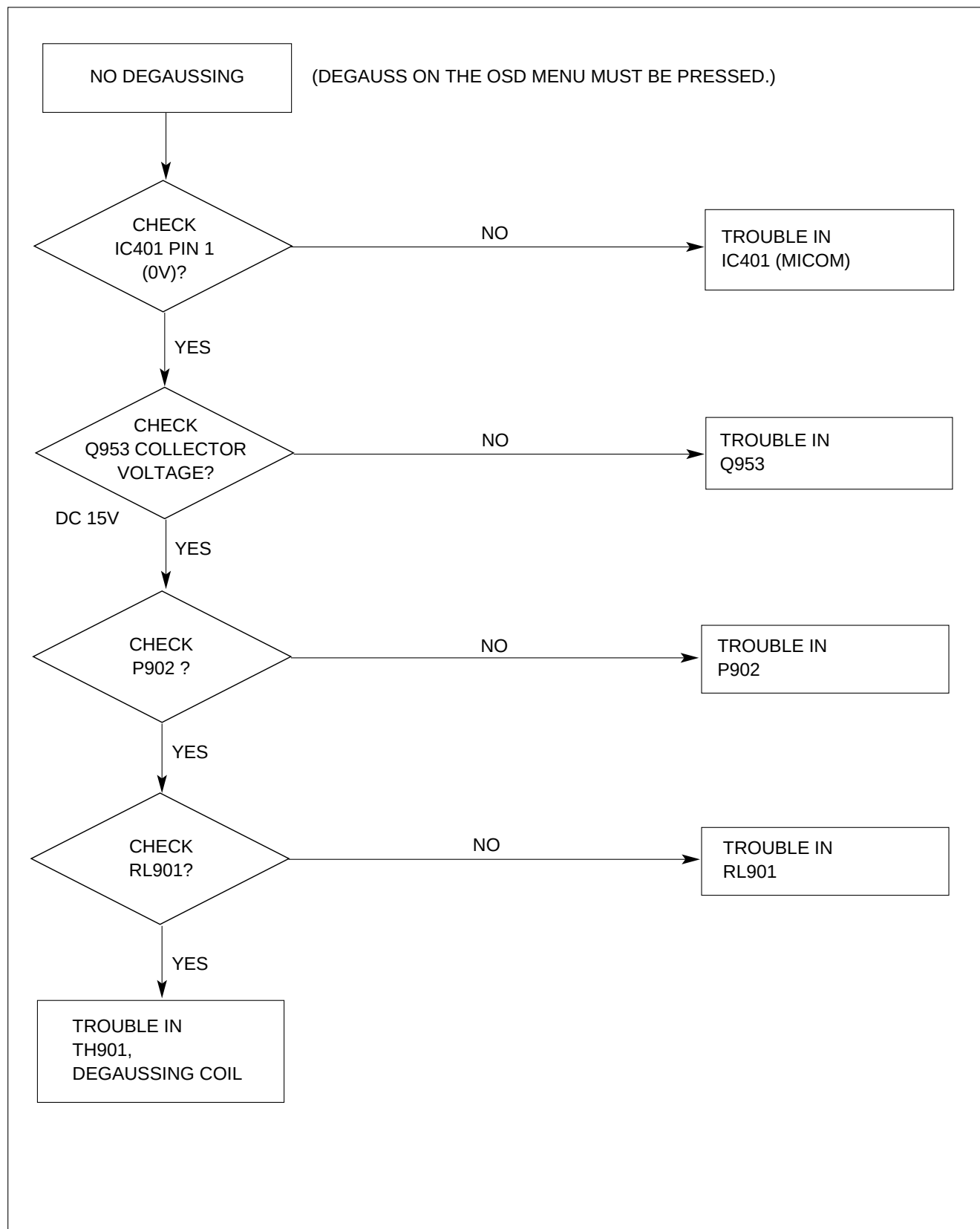
7. TROUBLE IN OSD



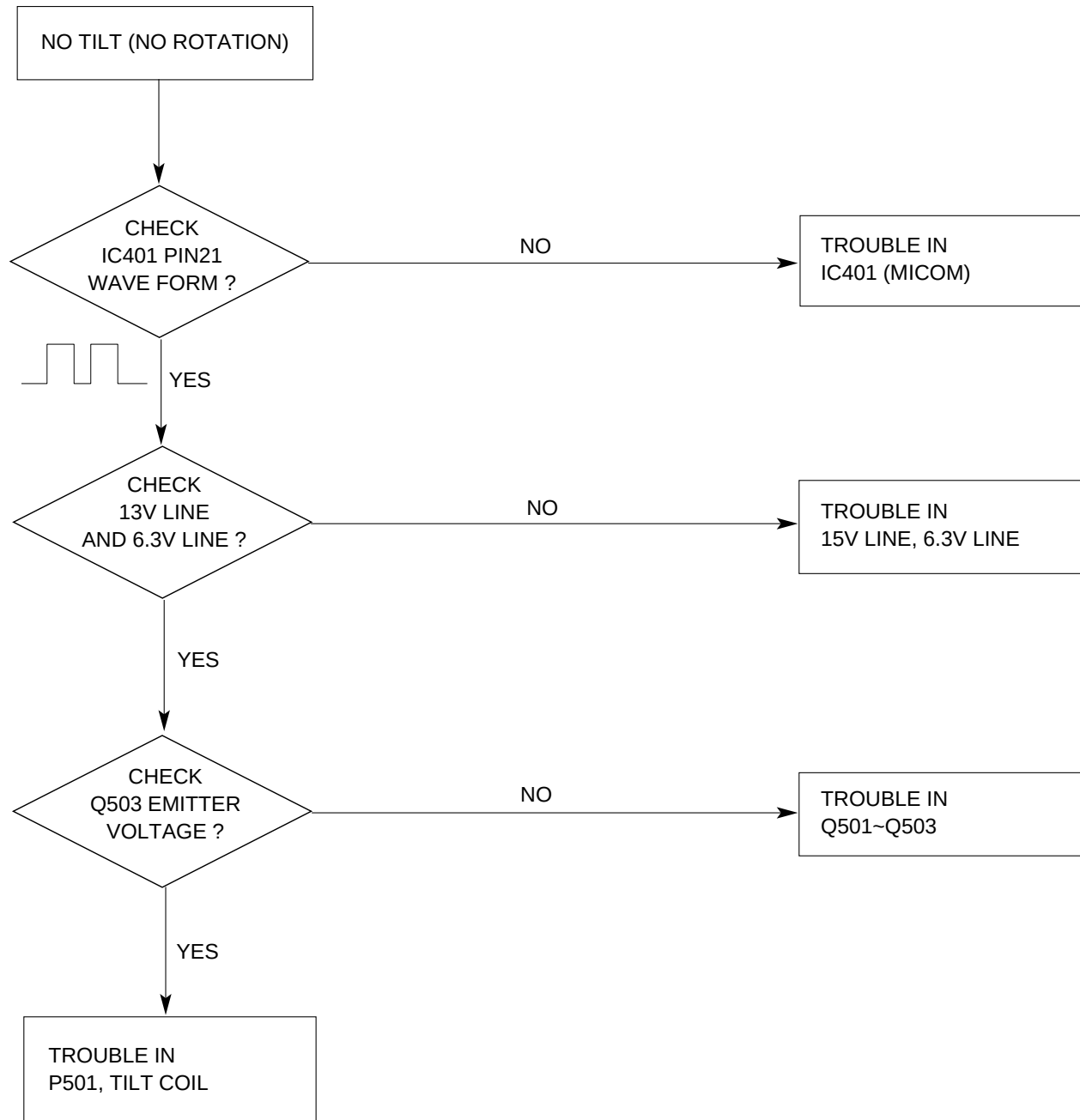
8. TROUBLE IN DPM



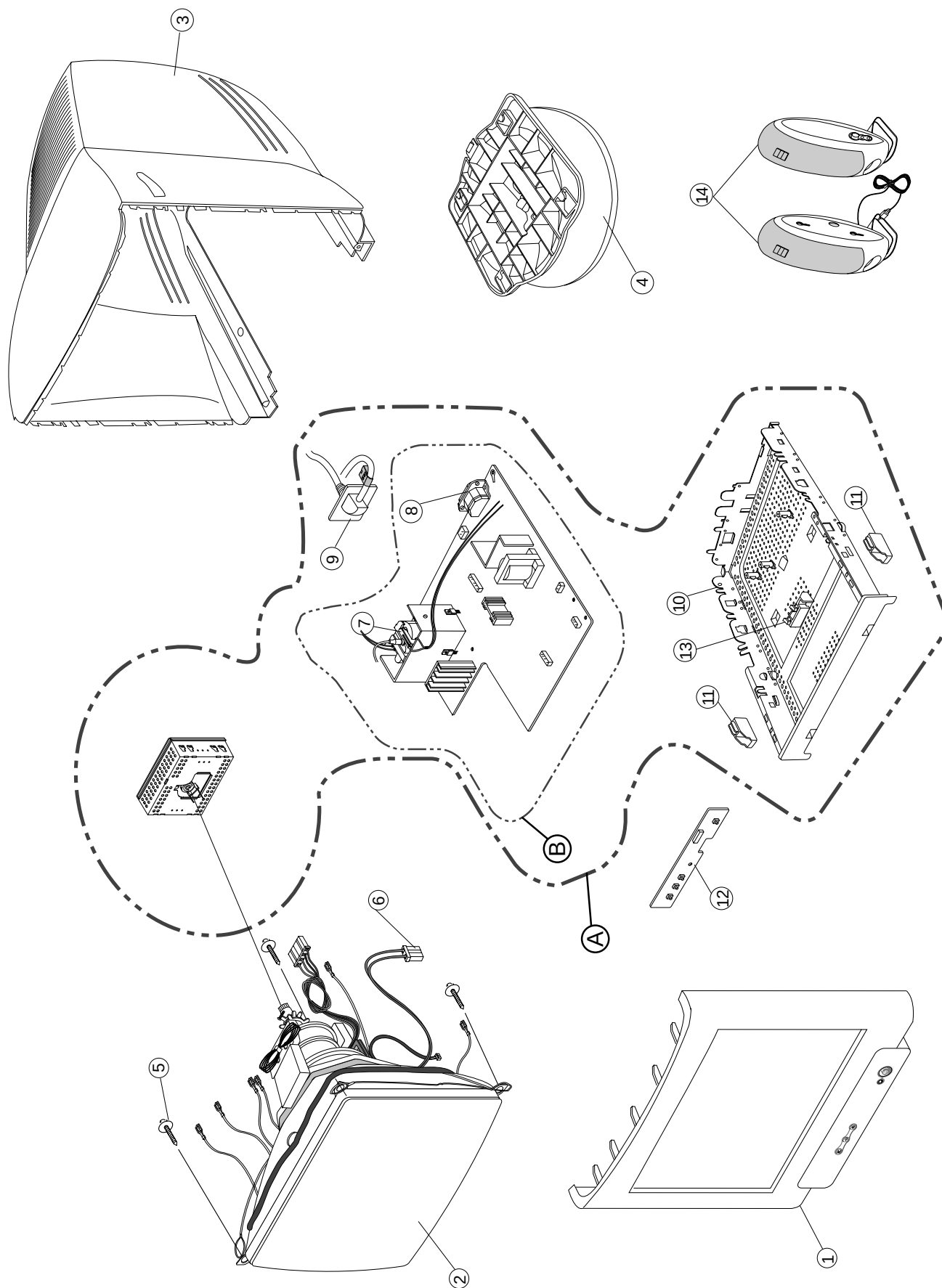
9. NO DEGAUSSING



10. NO TILT (NO ROTATION)



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Description
1	3091TKC078N	CABINET ASSEMBLY, V72C H/PACKARD C072 320T, PLATINUM BLUE, PAVLION -For U.S.A
	3091TKC078P	CABINET ASSEMBLY, V72C H/PACKARD C072 PC+ABS, PLATINUM BLUE -For Europe(TCO03)
2	6318L17007A	CDT(CIRC), M41LFQ503X 55NLLD LG-PHILIPS 70KHZ 29.1MM FST GLARE -For U.S.A
	6318L17006A	CDT(CIRC), M41LFQ803X 55NLLD LG-PHILIPS 70KHZ 29.1MM FST GREEN -For Europe(TCO03)
3	3809TKC044E	BACK COVER ASSEMBLY, V72 C043 320T, 8D467, DUSK LAKE, NT -For U.S.A
	3809TKC044F	BACK COVER ASSEMBLY CQ771 C043 PC+ABS DUSK LAKE -For Europe(TCO03)
4	3043TKK093G	TILT SWIVEL ASSEMBLY, CQ771H B058 T060 BULK -For U.S.A
	3043TKK093F	TILT SWIVEL ASSEMBLY, CQ771 B054, T062 V72 -For Europe(TCO03)
5	339-002K	SCREW ASSEMBLY, TAPTITE P TYPE D5.0 L25.0 MSWR/FZMY .
6	6140TC3004A	COIL, DEGAUSSING, 1090MM 16.5OHM 0.4MM 110T 17" WITH EARTH
7	6174T11005A	FBT (FLY BACK TRANSFORMER), CF2077LG273A LIEN CHANGE 17"
8	6620TKB002D	SOCKET(CIRC), POWER, CDJ-3C DUOLING AC UNIVERSAL 3PIN BLACK
	or 6620TKB002B	SOCKET(CIRC), POWER, SA-4S HUA JIE AC UNIVERSAL 3PIN BLACK
	or 6620TKB002A	SOCKET(CIRC), POWER, BAE EUN AC UNIVERSAL 3PIN BLACK
9	6850TA9009E	CABLE, D-SUB, UL20276-9C(5.8MM) AT 1560MM COMPAQ BK CQ771H DM
10	4950TKS196B	METAL, FRAME BOTTOM, CQ771H, LGENT
11	4810TKK195A	BRACKET, CQ77XG SUPPORTER CDT
12	6871TST367A	PWB(PCB) ASSEMBLY, SUB, CQ771H CONTROL TOTAL H/PACKARD HARD POWER
13	4930TKK036A	HOLDER, PCB FIX FB770G 2ND FLATRON
14	6401TZZ039A	SPEAKER ASSEMBLY, CQ771H HP P/N 5187-2105, SATELLITE PAIR -Only Europe(TCO03)
A	3313T17290C	MAIN TOTAL ASSEMBLY, CQ771H H/PACKARD CA-119 -For U.S.A
	3313T17290A	MAIN TOTAL ASSEMBLY, CQ771H H/PACKARD CA-119 -For Europe(TCO03)
B	6871TMT388C	PWB(PCB) ASSEMBLY, MAIN, CQ771H KLUSAT H/PACKARD CA-119 TOTAL -For U.S.A
	6871TMT388A	PWB(PCB) ASSEMBLY, MAIN, CQ771H KLRDMT H/PACKARD CA-119 TOTAL -For Europe(TCO03)

REPLACEMENT PARTS LIST

CAUTION: BEFORE REPLACING ANY OF THESE COMPONENTS,
READ CAREFULLY THE **SAFETY PRECAUTIONS** IN THIS MANUAL.

* NOTE : **S** SAFETY Mark 
AL ALTERNATIVE PARTS

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
CAPACITORS				
		C201	0CN1040K949	0.1M 50V Z F TA52
		C301	0CK1040K945	0.1UF 50V Z F TR
		C302	0CK1040K945	0.1UF 50V Z F TR
		C303	0CK1040K945	0.1UF 50V Z F TR
		C305	181-288C	MKT 100V 224JTR PHS 26224
		C306	0CE107CF638	"100UF SHL,SD 16V M FM5 TP 5"
		C307	0CK1040K945	0.1UF 50V Z F TR
		C308	0CK1040K945	0.1UF 50V Z F TR
		C309	0CK1040K945	0.1UF 50V Z F TR
		C310	0CE106CF638	"10UF SHL,SD 16V M FM5 TP 5"
		C311	0CK1040K945	0.1UF 50V Z F TR
		C312	0CK1040K945	0.1UF 50V Z F TR
		C313	0CE476CH638	"47UF SHL,SD 25V M FM5 TP 5"
		C314	0CK1010K515	100PF 50V K B TR
		C315	0CK10202515	1000PF D 2KV 10% TR B(Y5P)
		C320	0CN1210K519	120P 50V K B TA52
		C325	0CK1040K945	0.1UF 50V Z F TR
		C326	0CK4710W515	470P 500V K B TS
		C327	0CK10302940	0.01M 2KV Z F S
		C328	0CK10302940	0.01M 2KV Z F S
		C330	181-288E	MKT 100V 474JTR PHS 26474
		C331	0CC2200W415	22PF 500V J NP0 TR
		C332	0CK10301945	10000PF D 1KV Z F(Y5V) TR
		C346	0CE475CP638	"4.7UF SHL,SD 160V M FM5 TP 5"
		C380	0CE107CF638	"100UF SHL,SD 16V M FM5 TP 5"
		C384	0CC1500K415	15P 50V J NP0 TP
		C388	0CC1500K415	15P 50V J NP0 TP
		C389	0CE475CP638	"4.7UF SHL,SD 160V M FM5 TP 5"
		C390	0CK10301945	10000PF D 1KV Z F(Y5V) TR
		C397	0CE107CF638	"100UF SHL,SD 16V M FM5 TP 5"
		C401	0CK1040K945	0.1UF 50V Z F TR
		C402	0CE476CF638	"47UF SHL,SD 16V M FM5 TP 5"
		C403	0CK1040K945	0.1UF 50V Z F TR
		C406	0CK1010K515	100PF 50V K B TR
		C407	0CK1010K515	100PF 50V K B TR
		C408	0CK1040K945	0.1UF 50V Z F TR
		C409	0CK1010K515	100PF 50V K B TR
		C410	0CK1010K515	100PF 50V K B TR
		C416	0CE476CF638	"47UF SHL,SD 16V M FM5 TP 5"
		C501	0CE106CF638	"10UF SHL,SD 16V M FM5 TP 5"
		C599	0CE225CK638	"2.2UF SHL,SD 50V M FM5 TP 5"
		C601	0CE477CF618	470UF SHL 16V M FL TP5
		C603	0CE227CK618	220U SHL 50V M FL TP5
		C606	0CQ4721N419	0.0047U 100V J POLY NI TP5
		C611	0CE477CF618	470UF SHL 16V M FL TP5
		C613	181-288Q	MKT 100V 154JTR PHS26154
		C614	0CE475CK638	"4.7UF SHL,SD 50V M FM5 TP 5"
		C615	0CQ4721N419	0.0047U 100V J POLY NI TP5
		C618	0CK1040K945	0.1UF 50V Z F TR
		C701	181-288B	MKT 100V 104JTR PHS26104
		C702	0CE476CK638	"47UF SHL,SD 50V M FM5 TP 5"
		C703	0CK8210K515	820P 50V K B TS
		C704	0CQ1031N419	0.01U 100V J POLY NI TP

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C705	0CE475CK638	"4.7UF SHL,SD 50V M FM5 TP 5"
		C706	0CE105CK638	"1UF SHL,SD 50V 20% FM5 TP 5"
		C708	0CE227CH638	"220UF SHL,SD 25V M FM5 TP 5"
		C709-1	0CE225CK638	"2.2UF SHL,SD 50V M FM5 TP 5"
		C710	181-288Q	MKT 100V 154JTR PHS26154
		C711	181-288E	MKT 100V 474JTR PHS 26474
		C712	181-288B	MKT 100V 104JTR PHS26104
		C713	0CK2210K515	220P 50V K B TS
		C714	0CE107CF638	"100UF SHL,SD 16V M FM5 TP 5"
		C715	181-288N	MKT 100V 103JTR PHS86103
		C717	0CE476CF638	"47UF SHL,SD 16V M FM5 TP 5"
		C719	0CZZTAB001F	SHL-BP SYE / SWE 50V 3.3UF 2
		C720	0CK27101515	270P 1KV K B TS
		C722	181-303G	334J 31.0*22.0*15.0*20.0 250
		C723	181-305C	154J 19.0*14.0*8.0*10.0 250V
		C724	0CK1040K945	0.1UF 50V Z F TR
		C725	0CK8210W515	820P 500V K B TS
		C726	181-305U	364J 19.0*19.0*12.0*10.0 250
		C727	0CN1040K949	0.1M 50V Z F TA52
		C728	0CQ5621N419	5600PF D 100V 5% PE NI TP5
		C729	181-305L	684J 26.0*19.0*12.5*15.0 250
		C730	0CN1040K949	0.1M 50V Z F TA52
		C731	0CBZTBU004H	5600PF D 2.5KV H M/PP NI FM2
		C732	181-288N	MKT 100V 103JTR PHS86103
		C733	0CBZTBU003H	362J 20.0*12.0*7.0*10.0 800V
		C734	0CE2266F618	22M SMS 16V M FM5 TP(5)
		C736	0CQ2721N419	2700PF 100V J PE NI TP
		C737	0CK10102515	100PF D 2KV 10% B(Y5P) TR
		C738	181-302M	822J 19.5*12.0*7.0*10.0 250V
		C739	0CE106EK638	10UF KMG 50V M FM5 TP 5
		C740	0CE227CL630	220U SHL 63V M FM5
		C741	0CZZTFT002B	ECQV1H154JZ3 154J 50V TP5.0
		C742	0CE106CN638	"10UF SHL,SD 100V M FM5 TP 5"
		C743	0CE334CK638	"0.33UF SHL,SD 50V 20% TP 5 F"
		C744	0CZZTAB005B	SMSHR SYE / SWE 200V 47UF 20
		C745	0CK5610W515	560P 500V K B TS
		C746	0CK3310W515	330P 500V K B TS
		C747	181-288D	MKT 100V 473JTR PHS26473
		C748	0CK1510W515	150PF 500V K B TR
		C749	0CE2256R638	2.2000UF SMS 250V M FM5 TP5
		C750	0CK1040K945	0.1UF 50V Z F TR
		C751	181-288J	MKT 100V 563JTR PHS26563
		C752	0CQ4721N419	0.0047U 100V J POLY NI TP5
		C753	0CQ1021N419	1000P 100V J POLY NI TP
		C754	0CC4700W405	47PF 500V J SL TP -Only Europe(TCO03)
		C756	0CK2710W515	270P 500V K B TS
		C757	0CK10102515	100PF D 2KV 10% B(Y5P) TR
		C759	0CQ1821N419	1800P 100V J POLY NI TP
		C767	0CK10301945	10000PF D 1KV Z F(Y5V) TR
		C771	0CK10301945	10000PF D 1KV Z F(Y5V) TR
		C781	0CK1030K945	0.01UF 50V Z F TR
		C801	0CK1040K945	0.1UF 50V Z F TR
		C802	0CE106CK638	"10UF SHL,SD 50V M FM5 TP 5"
		C805	0CE106CK638	"10UF SHL,SD 50V M FM5 TP 5"

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C821	0CK1040K945	0.1UF 50V Z F TR
		C822	0CN1040K949	0.1M 50V Z F TA52
		C901	0CZZTFB001A	BULK MPX 224K2YL (X2) BULK
		C902	0CZZTFB001A	BULK MPX 224K2YL (X2) BULK
		C903	0CZZTCB003D	BULK 7.5 CS E 102M 8.0 250V
		C904	0CZZTCB003A	BULK 7.5 CS E 222M 10.5 250V
		C905	0CZZTCB003A	BULK 7.5 CS E 222M 10.5 250V
		C906	0CZZTCB003D	BULK 7.5 CS E 102M 8.0 250V
		C907	0CKZTBU004C	SD E 472M 15.0BW1 250V BK10.
		C908	0CEZTBU002D	180UF 25.4*35 SMH/HC 400V M
		C909	0CK10301510	0.01M 1KV K B S
		C910	0CK27101515	270P 1KV K B TS
		C911	0CE475CK638	"4.7UF SHL,SD 50V M FM5 TP 5"
		C913	0CE476CK638	"47UF SHL,SD 50V M FM5 TP 5"
		C914	0CZZTFT001P	ECQB1H153JM3 153J 50V TP5.0
		C915	0CK6810K515	680P 50V K B TS
		C917	0CK1020K515	1000PF 50V K B TR
		C918	0CN1040K949	0.1M 50V Z F TA52
		C941	0CE228ED630	"2200UF KMG,RD 10V 20% BULK F"
		C942	0CE107CF638	"100UF SHL,SD 16V M FM5 TP 5"
		C943	0CK56101515	560P 1KV K B TS
		C944	0CZZTCB003C	BULK 7.5 CS E 472M 14.5 250V
		C946	0CK1010W515	100P 500V K B TS
		C951	0CE108CH630	1000UF SHL 25V M FM5 BULK
		C952	0CE227CF638	"220UF SHL,SD 16V M FM5 TP 5"
		C953	0CE107CF638	"100UF SHL,SD 16V M FM5 TP 5"
		C954	0CE108CH630	1000UF SHL 25V M FM5 BULK
		C971	0CE476CN618	47UF SHL 100V M FL TP5
		C999	0CE227CL630	220U SHL 63V M FM5
DIODEs				
		D201	0DLTX0039AA	TIANXING TL-50194-5W-C-TA(TI
		D301	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D302	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D303	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D304	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D305	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D306	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D307	0DS124409AA	1SS244 TP ROHM KOREA
		D308	0DS124409AA	1SS244 TP ROHM KOREA
		D309	0DS124409AA	1SS244 TP ROHM KOREA
		D310	0DS124409AA	1SS244 TP ROHM KOREA
		D311	0DS124409AA	1SS244 TP ROHM KOREA
		D312	0DS124409AA	1SS244 TP ROHM KOREA
		D313	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D399	0DR140059DA	1N4005TB52 TP LITEON DO41 60
		D402	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D403	0DRGS00149A	1N5817 GENERAL SEMICONDUCTOR
		D404	0DD140009AA	EK14 V(1) TP SANKEN E/EO-TMD
		D512	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D610	0DR100009CD	RGP10G-1021 TIWAN SEMI TP DO
		D701	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D702	0DS124409AA	1SS244 TP ROHM KOREA
		D704	0DR150051AA	DMV1500M/F5 ST SGS-THOMSON T
		D705	0DR140059DA	1N4005TB52 TP LITEON DO41 60
		D706-1	0DR150001AA	DTV1500MFP ST SGS-THOMSON TO
		D709	971-0016	TIN HDC 0.60H
		D710	0DR400409AC	UF4004 GULF TP DO41 400V 1A
		D711	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D712	0DR100009CD	RGP10G-1021 TIWAN SEMI TP DO
		D713	0DS141489AB	1N4148 TP GRANDE DO-34 500MW

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		D714	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D715	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D716	0DR140059DA	1N4005TB52 TP LITEON DO41 60
		D717	0DR140059DA	1N4005TB52 TP LITEON DO41 60
		D718	0DR140059DA	1N4005TB52 TP LITEON DO41 60
		D719	0DR100009DA	RGP10J TP GULF SEMICONDUCTOR
		D720	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D721	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D723	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D724	0DR140059DA	1N4005TB52 TP LITEON DO41 60
		D730	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D767	0DR100009DA	RGP10J TP GULF SEMICONDUCTOR
		D801	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D802	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D803	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D821	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D900	0DRTW00071A	TS4B05G-1021 TIWAN SEMI ST N
		D902	971-0016	TIN HDC 0.60H -For U.S.A
		D902	0DR153979AA	1N5397GP TP G.I DO201AD 600V -For Europe(TC003)
		D904	0DR100009CD	RGP10G-1021 TIWAN SEMI TP DO
		D905	0DD110009DB	RM11CV(1) TP SANKEN R-TMD 1
		D906	0DR100009CD	RGP10G-1021 TIWAN SEMI TP DO
		D908	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D910	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D911	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D941	0DR100009LA	UG1D TP G.I DO204AL 200V 1A
		D942	0DR400409AC	UF4004 GULF TP DO41 400V 1A
		D951	0DRTW00044B	UG2DL-1021 TIWAN SEMI BK DO1
		D952	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D961	0DRTW00060A	SF38GL-1121 TIWAN SEMI BK DO
		D962	0DRTW00060A	SF38GL-1121 TIWAN SEMI BK DO
		D971	0DR100009DA	RGP10J TP GULF SEMICONDUCTOR
		ZD201	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD202	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD203	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD401	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD402	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD403	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD404	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD405	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD407	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD410	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD701	0DZ120009BF	GDZJ12B TP GRANDE DO34 0.5W
		ZD702	971-0016	TIN HDC 0.60H
		ZD902	0DZ510009BE	GDZ5.1B TP GRANDE DO34 500MW
		ZD951	0DZ180009BD	GDZJ18B TP GRANDE DO34 0.5W
ICs				
		IC301	0IPRPWL002A	6805-N160WT-09A WELTREND 16P
		IC302	0IPRPSG014A	"STV9211 SGS-THOMSON 20P,DIP"
		IC303	0IPRPSG004B	"STV9556 SGS-THOMSON 11P,CLIP"
		IC401	0IMCRSS029A	LGM31A-120/AMH SAMSUNG -For U.S.A
		IC401	0IMCRSS029B	LGM31A-120/BMH SAMSUNG -For Europe(TC003)
		IC402	0ISG240860A	M24C08-BN6 8DIP BK 8K SERIAL
		IC601	0IPRPSG016A	"STV9302A SGS-THOMSON TO220,7"
		IC701	0IPRPSG017A	"STV6888 SGS-THOMSON 32P,SDIP"
		IC901	0ISS384200A	KA3842B (PWM)
COILS & COREs				
		FB201	6210TCE003J	BAS2550T BO SUNG 2550MM AXIA

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		FB303	6210TCE003A	BRD3510B BO SUNG 3510MM RADI
		FB304	6210TCE003J	BAS2550T BO SUNG 2550MM AXIA
		FB305	6210TCE003A	BRD3510B BO SUNG 3510MM RADI
		FB306	6210TCE003A	BRD3510B BO SUNG 3510MM RADI
		FB314	6210TCZ001J	BAS3550T0(125-022J) BO SUNG
		FB315	6210TCZ001J	BAS3550T0(125-022J) BO SUNG
		FB316	6210TCZ001J	BAS3550T0(125-022J) BO SUNG
		FB401	971-0016	TIN HDC 0.60H
		FB402	6210TCE003L	BAS3580T BO SUNG 3580MM AXIA
		FB403	6210TCE003J	BAS2550T BO SUNG 2550MM AXIA
		FB501	6210TCE003P	BRS2550B BO SUNG 2550MM RADI
		FB502	6210TCE003P	BRS2550B BO SUNG 2550MM RADI
		FB701	6210TCE003H	BAS3510T BO SUNG 3510MM AXIA
		FB703	6210TCE003B	BRS3580B BO SUNG 3580MM -Only Europe(TCO03)
		FB705	971-0016	TIN HDC 0.60H
		FB706	6210TCE003J	BAS2550T BO SUNG 2550MM AXIA
		FB903	6210TCE003P	BRS2550B BO SUNG 2550MM RADI
		FB904	6210TCE003K	BAS3550T BO SUNG 3550MM AXIA
		FB905	6210TCE003P	BRS2550B BO SUNG 2550MM RADI
		FB921	6210TCE003A	BRD3510B BO SUNG 3510MM RADI
		FB922	6210TCE003L	BAS3580T BO SUNG 3580MM AXIA
		FB951	971-0016	TIN HDC 0.60H
		FB952	6210TCE003G	BRS3550B BO SUNG 3550MM RADI
		L301	0LA0560K119	0.56UH K 2.3*3.4 TP
		L302	0LA0560K119	0.56UH K 2.3*3.4 TP
		L303	0LA0560K119	0.56UH K 2.3*3.4 TP
		L304	0LA1000K119	100UH K 2.3*3.4 TP
		L702	6140TBZ025C	DR14*20 150UH 0.12*25MM 51T
		L703	6140TYZ011G	"- GET DR14*25,4.0UH,EB770H"
		L705	6140TBZ026C	DR15*18-C9.8 100UH 0.1*30MM
		L901	6200TZZ004A	SQE2626 NAMYANG BK L/FILTER
		L903	6200J00003A	RH3.5*5.0 BOSUNG TP
TRANSISTOR				
		Q301	0TR100809AA	KSC1008C-Y TP SAMSUNG TO92
		Q501	0TR320209AA	KTC3202-Y(KTC1959) TP KEC TO
		Q502	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC T
		Q503	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q701	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q703	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC T
		Q704	0TR320209AA	KTC3202-Y(KTC1959) TP KEC TO
		Q705	0TR100809AA	KSC1008C-Y TP SAMSUNG TO92
		Q706	0TRFC10008A	FJAF5804(TU) FAIRCHILD ST TO
		Q707	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC T
		Q708	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC T
		Q709	0TR141300AB	KTD1413 BK KEC TO220I S NPN
		Q710	0TR440009CA	KSP44 TP SAMSUNG
		Q711	0TF630000DA	IRF630A BK SAMSUNG 200V 9A T
		Q712	0TF630000DA	IRF630A BK SAMSUNG 200V 9A T
		Q713	0TF630000DA	IRF630A BK SAMSUNG 200V 9A T
		Q714	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q715	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q716	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q717	0TR100809AA	KSC1008C-Y TP SAMSUNG TO92
		Q719	0TF630000DA	IRF630A BK SAMSUNG 200V 9A T
		Q799	0TR920009AB	KSP92 TP SAMSUNG TO92 HIGH V
		Q821	0TRFC10003A	FAIRCHILD KSD882Y-S ST TO126
		Q901	0TF760000AD	SSS7N60B FAIRCHILD ST TO220F
		Q903	0TR100809AA	KSC1008C-Y TP SAMSUNG TO92
		Q941	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q942	0TR928009AB	KSA928A-Y TP SAMSUNG TO92L P

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		Q951	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q952	0TR928009AB	KSA928A-Y TP SAMSUNG TO92L P
		Q953	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q961	0TR200109AA	KSC2001-Y TP SAMSUNG TO92 NP
RESISTORS				
		R201	0RD1001Q609	1K 1/4W(3 5% TA52
		R202	0RD3901Q609	3.90K 1/4W(3 5% TA52
		R203	0RD1001Q609	1K 1/4W(3 5% TA52
		R204	0RD1100Q609	110 1/4W(3 5% TA52
		R205	0RD9100Q609	910 1/4W(3 5% TA52
		R206	0RD6800Q609	680 1/4W(3 5% TA52
		R210	0RD2200Q609	220 1/4W(3 5% TA52
		R211	0RD2200Q609	220 1/4W(3 5% TA52
		R301	0RD0752Q609	75 1/4W(3 5% TA52
		R302	0RD0752Q609	75 1/4W(3 5% TA52
		R303	0RD0752Q609	75 1/4W(3 5% TA52
		R304	0RD3001Q609	3K 1/4W(3 5% TA52
		R305	0RD1001Q609	1K 1/4W(3 5% TA52
		R307	0RD1001Q609	1K 1/4W(3 5% TA52
		R309	0RN6201F409	6.20K 1/6W 1% TA52
		R311	0RD0271Q609	2.70 1/4W(3 5% TA52
		R312	0RD2001Q609	2K 1/4W(3 5% TA52
		R313	0RD1000Q609	100 1/4W(3 5% TA52
		R314	0RD6800Q609	680 1/4W(3 5% TA52
		R317	0RD2001Q609	2K 1/4W(3 5% TA52
		R319	0RD1000Q609	100 1/4W(3 5% TA52
		R320	0RD1000Q609	100 1/4W(3 5% TA52
		R321	0RD0152Q609	15 1/4W(3 5% TA52
		R322	0RD0152Q609	15 1/4W(3 5% TA52
		R323	0RD0152Q609	15 1/4W(3 5% TA52
		R324	0RD3300Q609	330 1/4W(3 5% TA52
		R325	0RD3300Q609	330 1/4W(3 5% TA52
		R326	0RD3300Q609	330 1/4W(3 5% TA52
		R327	0RD3300Q609	330 1/4W(3 5% TA52
		R331	0RD0512Q609	51 1/4W(3 5% TA52
		R332	0RD0512Q609	51 1/4W(3 5% TA52
		R333	0RD0512Q609	51 1/4W(3 5% TA52
		R335	0RD0271Q609	2.70 1/4W(3 5% TA52
		R336	0RD1000Q609	100 1/4W(3 5% TA52
		R337	0RD1000Q609	100 1/4W(3 5% TA52
		R341	0RD1800Q609	180 1/4W(3 5% TA52
		R342	0RD1300Q609	130 1/4W(3 5% TA52
		R343	0RD1300Q609	130 1/4W(3 5% TA52
		R344	0RD1000Q609	100 1/4W(3 5% TA52
		R351	0RD2200A609	220 OHM 1/2 W (7.0) 5% TA52
		R352	0RD2200A609	220 OHM 1/2 W (7.0) 5% TA52
		R353	0RD2200A609	220 OHM 1/2 W (7.0) 5% TA52
		R354	0RD0392A609	39 OHM 1/2 W (7.0) 5% TA52
		R382	0RD1000Q609	100 1/4W(3 5% TA52
		R383	0RD1000Q609	100 1/4W(3 5% TA52
		R401	0RD1000Q609	100 1/4W(3 5% TA52
		R402	0RD5600Q609	560 1/4W(3 5% TA52
		R403	0RD1002Q609	10K 1/4W(3 5% TA52
		R404	0RD3002Q609	30K 1/4W(3 5% TA52
		R405	0RD2001Q609	2K 1/4W(3 5% TA52
		R406	0RD2001Q609	2K 1/4W(3 5% TA52
		R407	0RD1300Q609	130 1/4W(3 5% TA52
		R408	0RD1300Q609	130 1/4W(3 5% TA52
		R409	0RD1000Q609	100 1/4W(3 5% TA52
		R410	0RD1000Q609	100 1/4W(3 5% TA52
		R412	0RD1004Q609	1M OHM 1/4 W (3.4) 5% TA52

DATE: 2003. 12. 11.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R414	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R417	ORD1000Q609	100 1/4W(3 5% TA52
		R418	ORD1002Q609	10K 1/4W(3 5% TA52
		R419	ORD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R424	ORD2200Q609	220 1/4W(3 5% TA52
		R425	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R426	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R429	ORD1000Q609	100 1/4W(3 5% TA52
		R430	ORD1000Q609	100 1/4W(3 5% TA52
		R431	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R432	ORD1000Q609	100 1/4W(3 5% TA52
		R433	ORD1000Q609	100 1/4W(3 5% TA52
		R434	ORD1000Q609	100 1/4W(3 5% TA52
		R438	ORD1001Q609	1K 1/4W(3 5% TA52
		R439	ORD1001Q609	1K 1/4W(3 5% TA52
		R446	ORD1002Q609	10K 1/4W(3 5% TA52
		R447	ORD1001Q609	1K 1/4W(3 5% TA52
		R448	ORD1801Q609	1.80K 1/4W(3 5% TA52
		R501	ORD0102A609	10 OHM 1/2 W (7.0) 5% TA52
		R508	ORD4702Q609	47K 1/4W(3 5% TA52
		R515	ORD1502Q609	15K 1/4W(3 5% TA52
		R597	ORD3902Q609	39K 1/4W(3 5% TA52
		R598	ORD5601Q609	5.60K 1/4W(3 5% TA52
		R599	ORD0202A609	20 OHM 1/2 W (7.0) 5% TA52
		R602	ORN3300F409	330 1/6W 1% TA52
		R604	ORN1801F409	1.80K 1/6W 1% TA52
		R607	ORN5101F409	5.10K 1/6W 1% TA52
		R608	ORN2002F409	20K 1/6W 1% TA52
		R609	ORN1102F409	11K 1/6W 1% TA52
		R611	ORD0151A609	1.5 OHM 1/2 W (7.0) 5% TA52
		R612	ORD2700A609	270 OHM 1/2 W (7.0) 5% TA52
		R614	ORD0111A609	1.1 OHM 1/2 W (7.0) 5% TA52
		R615	ORN1202F409	12K 1/6W 1% TA52
		R619	ORN2001F409	2K OHM 1/6 W 1.00% TA52
		R700	971-0016	TIN HDC 0.60H
		R701	ORN6201F409	6.20K 1/6W 1% TA52
		R702	ORD2001Q609	2K 1/4W(3 5% TA52
		R703	ORD1001Q609	1K 1/4W(3 5% TA52
		R704	ORD6202Q609	62K OHM 1/4 W (3.4) 5% TA52
		R705	ORD3003Q609	300K 1/4W(3 5% TA52
		R706	ORD1002Q609	10K 1/4W(3 5% TA52
		R707	ORD1001Q609	1K 1/4W(3 5% TA52
		R708	ORD1102Q609	11K 1/4W(3 5% TA52
△		R709	ORN1002F409	10K 1/6W 1 TA52
		R710	ORD1000Q609	100 1/4W(3 5% TA52
		R711	ORD1000Q609	100 1/4W(3 5% TA52
		R712	ORD1501Q609	1.50K 1/4W(3 5% TA52
△		R713	ORN8202F409	82K 1/6W 1% TA52
△		R714	ORN1102F409	11K 1/6W 1% TA52
		R716	ORD1002Q609	10K 1/4W(3 5% TA52
		R717	ORD2701Q609	2.70K 1/4W(3 5% TA52
		R718	ORD0242Q609	24 1/4W(3 5% TA52
△		R719	ORD1001Q609	1K 1/4W(3 5% TA52
		R720	ORD1803Q609	180K 1/4W(3 5% TA52
		R721	971-0016	TIN HDC 0.60H
		R722	ORD1001Q609	1K 1/4W(3 5% TA52
		R723	ORD1001Q609	1K 1/4W(3 5% TA52
		R724	ORD1001Q609	1K 1/4W(3 5% TA52
		R726	ORD7502A609	75K OHM 1/2 W (7.0) 5% TA52
		R727-1	ORX0332K665	33 OHM 2 W 5% SF
		R728	ORD1001Q609	1K 1/4W(3 5% TA52
		R729	ORD1002Q609	10K 1/4W(3 5% TA52

DATE: 2003. 12. 11.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R731	ORD1002Q609	10K 1/4W(3 5% TA52
		R732	ORD6802Q509	68K OHM 1/4 W (3.4) 2% TA52
		R733	971-0016	TIN HDC 0.60H
		R735	ORD1002Q609	10K 1/4W(3 5% TA52
		R736	ORX2201J609	2.2KOHM 1 W 5% TA52
		R737	ORN0560H609	0.56 1/2W 5 TA52
		R738	ORN0560H609	0.56 1/2W 5 TA52
		R739	ORD1503Q609	150K 1/4W(3 5% TA52
		R740	ORD0271A609	2.7 OHM 1/2 W (7.0) 5% TA52
		R741	ORD1000Q609	100 1/4W(3 5% TA52
		R742	ORD3601Q609	3.60K 1/4W(3 5% TA52
		R744	ORD3900A609	390 OHM 1/2 W (7.0) 5% TA52
		R745	ORD4702Q609	47K 1/4W(3 5% TA52
		R746	ORD2201Q609	2.20K 1/4W(3 5% TA52
		R747	ORD3001Q609	3K 1/4W(3 5% TA52
		R748	ORD4702Q609	47K 1/4W(3 5% TA52
		R749	ORD2201Q609	2.20K 1/4W(3 5% TA52
		R750	ORD3001Q609	3K 1/4W(3 5% TA52
		R751	ORD2001Q609	2K 1/4W(3 5% TA52
		R752	ORD2201Q609	2.20K 1/4W(3 5% TA52
		R753	ORD3001Q609	3K 1/4W(3 5% TA52
		R754	ORD1002Q609	10K 1/4W(3 5% TA52
		R755	ORD2401Q609	2.40K 1/4W(3 5% TA52
		R756	ORD2202A609	22K OHM 1/2 W (7.0) 5% TA52
		R757	ORD2402Q609	24K 1/4W(3 5% TA52
		R758	ORN1303F409	130K 1/6W 1% TA52
		R759	ORD1302Q509	13K OHM 1/4 W (3.4) 2% TA52
		R760	ORD5103Q609	510K 1/4W(3 5% TA52
		R761	ORD3001Q609	3K 1/4W(3 5% TA52
		R762	ORD3001Q609	3K 1/4W(3 5% TA52
		R763	ORD3001Q609	3K 1/4W(3 5% TA52
		R764	971-0016	TIN HDC 0.60H
		R765	ORD3000A609	300 OHM 1/2 W (7.0) 5% TA52
		R766	ORD3000A609	300 OHM 1/2 W (7.0) 5% TA52
		R767	971-0016	TIN HDC 0.60H
		R768	ORD5103A609	510K OHM 1/2 W (7.0) 5% TA52
		R769	971-0016	TIN HDC 0.60H
		R770	ORD3300A609	330 OHM 1/2 W (7.0) 5% TA52
		R771	ORN2001F409	2K OHM 1/6 W 1.00% TA52
		R772	ORN2401F409	2.40K 1/6W 1% TA52
		R773	ORD6202A609	62K OHM 1/2 W (7.0) 5% TA52
		R774	ORD1500A609	150 OHM 1/2 W (7.0) 5% TA52
		R779	ORD3601Q509	3.6K OHM 1/4 W(3.4) 2% TA52
		R782	ORD3301A609	3.3K OHM 1/2 W(7.0) 5.00% TA
		R783	971-0016	TIN HDC 0.60H
		R784	971-0016	TIN HDC 0.60H
		R786	ORD4302Q609	43K 1/4W(3 5% TA52
		R790	ORD1002Q609	10K 1/4W(3 5% TA52
		R793	ORD4702Q609	47K 1/4W(3 5% TA52
		R797	ORD1501Q609	1.50K 1/4W(3 5% TA52 -Only Europe(TCO03)
		R798	ORD2001Q609	2K 1/4W(3 5% TA52
		R799	ORD1502Q609	15K 1/4W(3 5% TA52
		R801	ORD4702Q609	47K 1/4W(3 5% TA52
		R802	ORD1502Q609	15K 1/4W(3 5% TA52
		R803	ORD2001Q609	2K 1/4W(3 5% TA52
		R804	971-0016	TIN HDC 0.60H
		R808	971-0016	TIN HDC 0.60H
		R809	ORX0101K665	1 OHM 2 W 5% SF
		R813	ORD6802Q609	68K 1/4W(3 5% TA52
		R814	ORD1202Q609	12K 1/4W(3 5% TA52
△		R816	ORN1801F409	1.80K 1/6W 1% TA52
△		R818	ORN3602F409	36K 1/6W 1 TA52

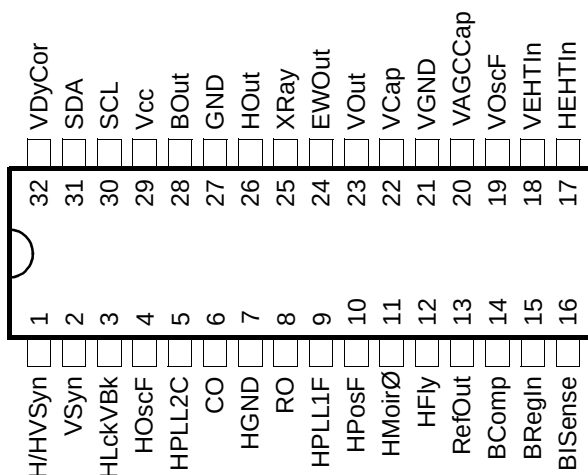
DATE: 2003. 12. 11.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R821	ORD3001Q609	3K 1/4W(3 5% TA52
		R822	0RX0122K607	12 OHM 2 W 5% TA62
		R823	0RX0242K665	24 OHM 2 W 5% SF
		R824	ORD2400A609	240 OHM 1/2 W (7.0) 5% TA52
		R901	ORD6803A609	680K OHM 1/2 W (7.0) 5% TA52
		R902	ORD0511Q609	5.1 OHM 1/4 W (3.4) 5% TA52
		R904	0RX3902K665	39K OHM 2 W 5% SF
		R906	ORD6200Q609	620 1/4W(3 5% TA52
		R908	ORN0220H609	0.22 1/2W 5% TA52
		R909	ORN0220H609	0.22 1/2W 5% TA52
		R910	0RX4702J609	47K OHM 1 W 5% TA52
		R911	ORD0202Q609	20 1/4W(3 5% TA52
		R912	ORD1802Q609	18K 1/4W(3 5% TA52
		R913	ORD2201Q609	2.20K 1/4W(3 5% TA52
		R915	ORD0102Q609	10 1/4W(3 5% TA52
		R916	ORD1002Q609	10K 1/4W(3 5% TA52
		R918	ORD1001Q609	1K 1/4W(3 5% TA52
		R923	ORD1003Q609	100K 1/4W(3 5% TA52
		R925	0RB0180K607	0.18OHM 2 W 5% TA62
		R926	ORD5101Q609	5.10K 1/4W(3 5% TA52
		R927	ORD2002Q609	20K 1/4W(3 5% TA52
		R928	ORD1800Q609	180 1/4W(3 5% TA52
		R929	ORD0332Q609	33 1/4W(3 5% TA52
		R941	ORN0220H609	0.22 1/2W 5% TA52
		R944	ORD4700A609	470 OHM 1/2 W (7.0) 5% TA52
		R945	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R951	ORN0221H609	2.2 1/2W 5 TA52
		R952	ORD1202A609	12K OHM 1/2 W(7.0) 5.00% TA5
		R953	ORD1001A609	1K OHM 1/2 W (7.0) 5% TA52
		R954	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R955	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R956	ORD6802A609	68K OHM 1/2 W (7.0) 5% TA52
		R957	ORD0472Q609	47 1/4W(3 5% TA52
		R960	ORD6200A609	620 OHM 1/2 W(7.0) 5.00% TA5
		R961	ORD1002Q609	10K 1/4W(3 5% TA52
		R962	ORD1101Q609	1.1K OHM 1/4 W (3.4) 5% TA52
OTHERS				
		F1	430-858C	AFC-520 BAE EUN TA
		F2	430-858C	AFC-520 BAE EUN TA
		F901	0FZZTTH003B	TIME LAG HBC 5A/250V 1811500
		J17	6210TCZ001J	BAS3550T0(125-022J) BO SUNG
		J22	ORD0101A609	1 OHM 1/2 W (7.0) 5% TA52
		J302	ORD0471Q609	4.70 1/4W(3 5% TA52
		J47	ORD1001Q609	1K 1/4W(3 5% TA52
		J96	6210TCE003J	BAS2550T BO SUNG 2550MM AXIA
		RL901	6920TBA001A	DY3MA-DC12 DONGYANG 250VAC -For U.S.A
		RL901	6920TBB006A	DY3M-DC12V DONGYANG 250VAC -For Europe(TC003)
		SC301	6620TBD004A	GZS10-2-101 DUOLING(SANLING)
		SC901	6620TKB002D	CDJ-3C DUOLING AC UNIVERSAL
		SG301	6918TAT007A	KSA-201-MA Y&Y UNICTRON AXIA
		SG302	6918TAT007A	KSA-201-MA Y&Y UNICTRON AXIA
		SG303	6918TAT007A	KSA-201-MA Y&Y UNICTRON AXIA
		SG305	6918TRT005A	"SSG-102-A0,1KV SMART RADIAL"
		SG701	6918TRT005A	"SSG-102-A0,1KV SMART RADIAL"
		SW202	6600TR1001A	TSTC-2 HUA JIE NON 12V 0.05A
		SW203	6600TR1001A	TSTC-2 HUA JIE NON 12V 0.05A
		SW204	6600TR1001A	TSTC-2 HUA JIE NON 12V 0.05A
		T701	6174T11005A	"CF2077LG273A LIEN CHANGE 17""
		T702	6170TCZ006A	EE2218 2.3 MH D/FOCUS(CB775C
		T703	6170TCZ001D	"EI2218 4.0MH H-DRIVE,EB770G"

DATE: 2003. 12. 11.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		T901	6170TMZ138A	EER3940 230UH V-16PIN FB770H
		TH901	163-053D	J502P62C090Q290 JAHWA +/-20
		TH902	6322A00003A	8 D2 14 SEMITEC 8 OHM 15% 26
		VR901	180-035G	"EVN-DJAA03B13 (MEC),1KB"
		X401	6212AA2003A	HC-49U SOUTH STAR 12MHZ +/-

PIN CONFIGURATION

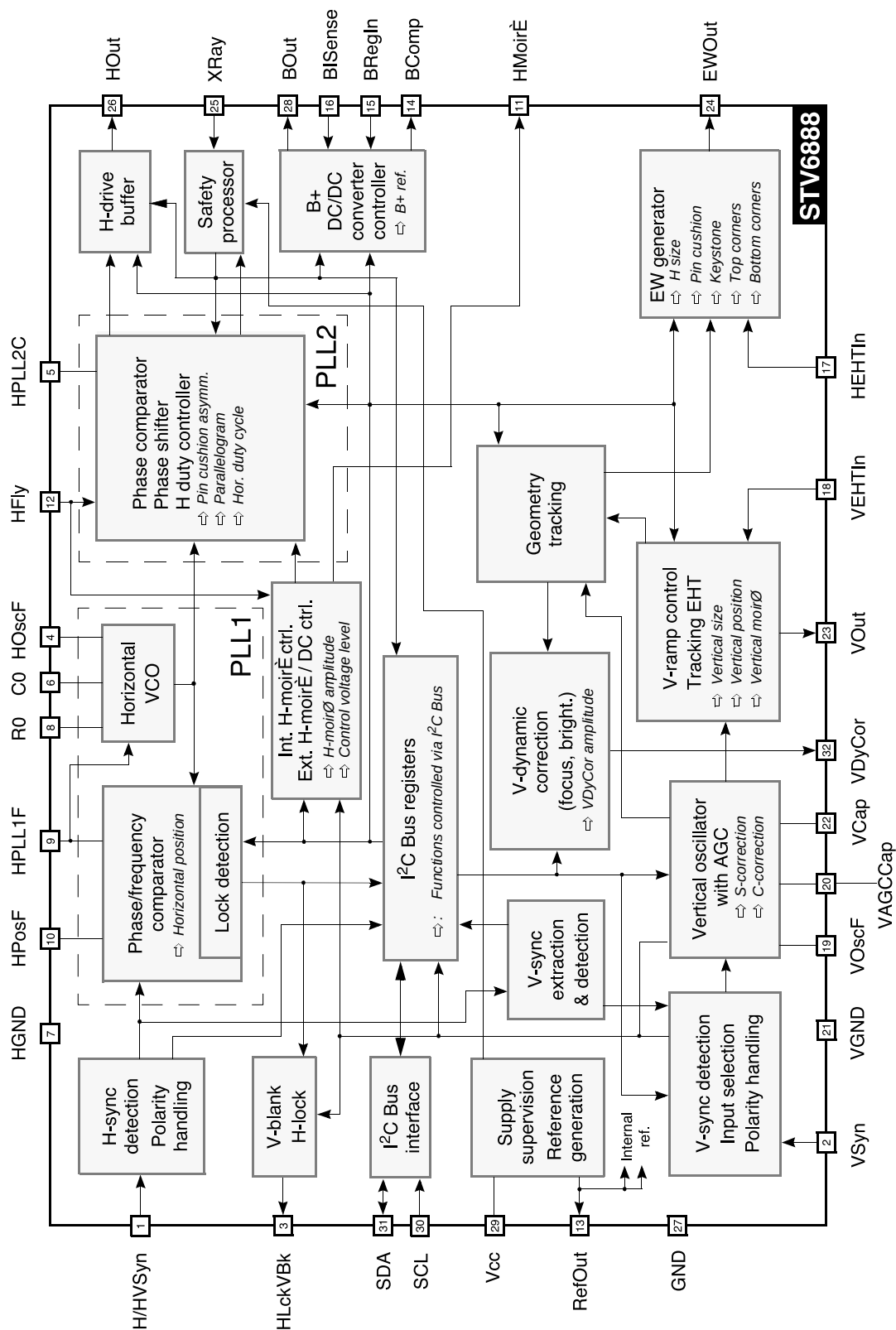
LOW-COST I²C CONTROLLED DEFLECTION PROCESSOR FOR MULTISYNC MONITORS

STV6888



Pin	Name	Function
1	H/HVSyn	TTL compatible H orizontal / H orizontal and V ertical S ync. input
2	VSyn	TTL compatible V ertical S ync. input
3	HLckVBk	H orizontal PLL1 L ock detection and V ertical early B lanking composite output
4	HOscF	High H orizontal O scillator sawtooth threshold level F ilter input
5	HPLL2C	H orizontal P LL2 loop C apacitive filter input
6	CO	Horizontal O scillator C apacitor input
7	HGND	H orizontal section G rou N D
8	RO	Horizontal O scillator R esistor input
9	HPLL1F	H orizontal P LL1 loop F ilter input
10	HPosF	H orizontal P osition F ilter and soft-start time constant capacitor input
11	HMoirE	H orizontal M oirE output
12	HFly	H orizontal F lyback input
13	RefOut	R eference voltage O utput
14	BComp	B + DC/DC error amplifier (C omparator) output
15	BRegIn	R egulation feedback I nput of the B + DC/DC converter controller
16	BiSense	B + DC/DC converter current (I) S ense input
17	HEHTIn	I nput for compensation of H orizontal amplitude versus E HT variation
18	VEHTIn	I nput for compensation of V ertical amplitude versus E HT variation
19	VOscF	V ertical O scillator sawtooth low threshold F ilter (capacitor to be connected to VGND)
20	VAGCCap	Input for storage C apacitor for A utomatic G ain C ontrol loop in V ertical oscillator
21	VGND	V ertical section G rou N D
22	VCap	V ertical sawtooth generator C apacitor
23	VOut	V ertical deflection drive O utput for a DC-coupled output stage
24	EWOut	E /W O utput
25	XRay	X - R ay protection input
26	HOut	H orizontal drive O utput
27	GND	Main G rou N D
28	BOut	B + DC/DC converter controller O utput
29	Vcc	Supply voltage
30	SCL	I ² C bus S erial C Lock Input
31	SDA	I ² C bus S erial D Ata input/output
32	VDyCor	V ertical D ynamic C orrection output

Block Diagram



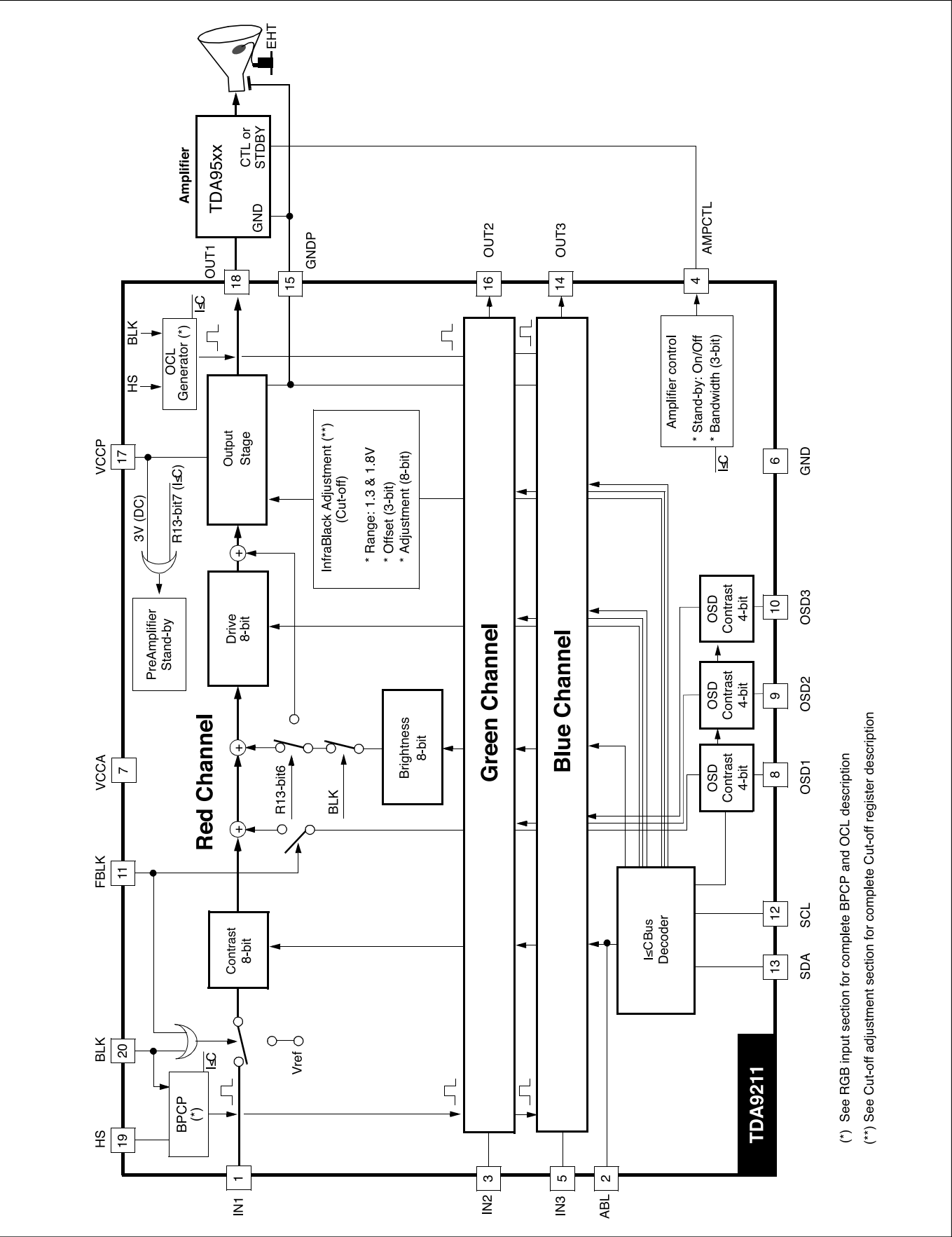
STV9211

Pin Configuration

IN1	☐	1	☐	20	☐	BLK
ABL	☐	2	☐	19	☐	HS
IN2	☐	3	☐	18	☐	OUT1
AMPCTL	☐	4	☐	17	☐	V _{CCP}
IN3	☐	5	☐	16	☐	OUT2
GNDA	☐	6	☐	15	☐	GNDP
V _{CCA}	☐	7	☐	14	☐	OUT3
OSD1	☐	8	☐	13	☐	SDA
OSD2	☐	9	☐	12	☐	SCL
OSD3	☐	10	☐	11	☐	FBLK

Pin Description

Pin number	symbol	description
1	IN1	Video input (channel 1, red)
2	ABL	ABL input
3	IN2	Video input (channel 2, green)
4	AMPCTL	Amplifier control (bandwidth and stand-by). Only applicable with amplifiers with the CTL or STDBY pins. To be connected to ground if not used.
5	IN3	Video input (channel 3, blue)
6	GNDA	Analog ground
7	V _{CCA}	Analog supply (5V)
8	OSD1	OSD input (channel 1, red)
9	OSD2	OSD input (channel 2, green)
10	OSD3	OSD input (channel 3, blue)
11	FBLK	Fast blanking
12	SCL	SCL
13	SDA	SDA
14	OUT3	Video output (channel 3, blue)
15	GNDP	Power ground
16	OUT2	Video output (channel 2, green)
17	V _{CCP}	Output stage supply (5 V to 8 V)
18	OUT1	Video output (channel 1, red)
19	HS	Horizontal synchro or BPCP pulse
20	BLK	Blanking input

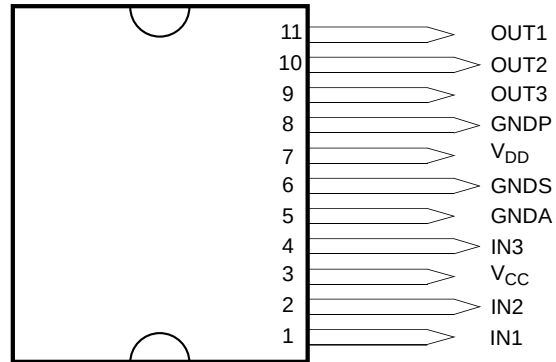


(*) See RGB input section for complete BPCP and OCL description

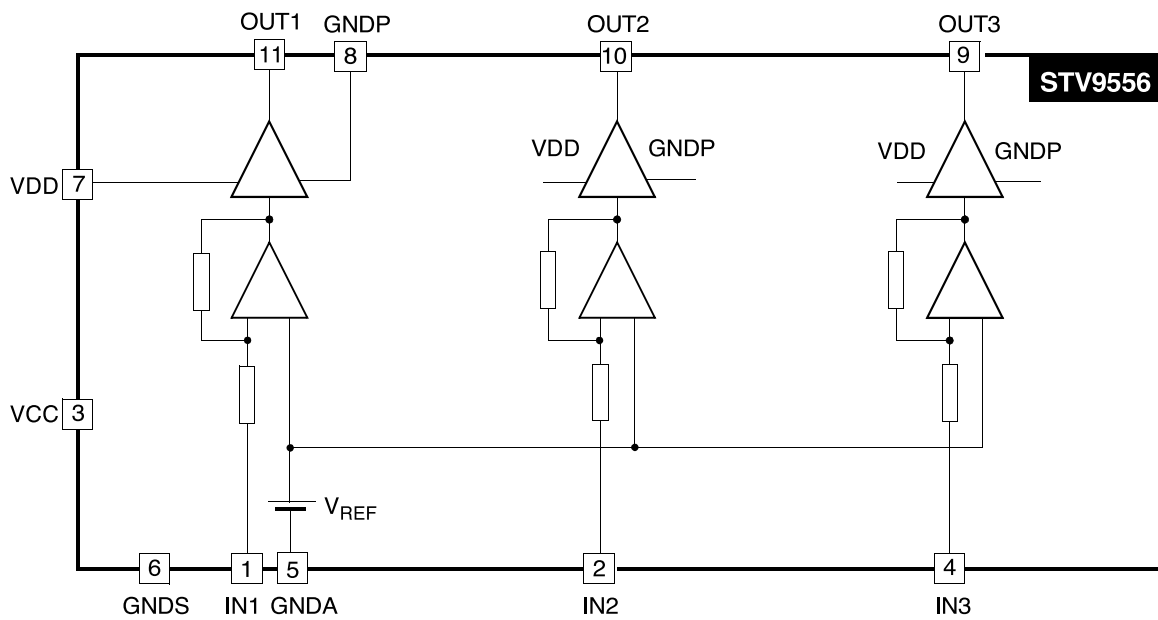
(**) See Cut-off adjustment section for complete Cut-off register description

STV9556

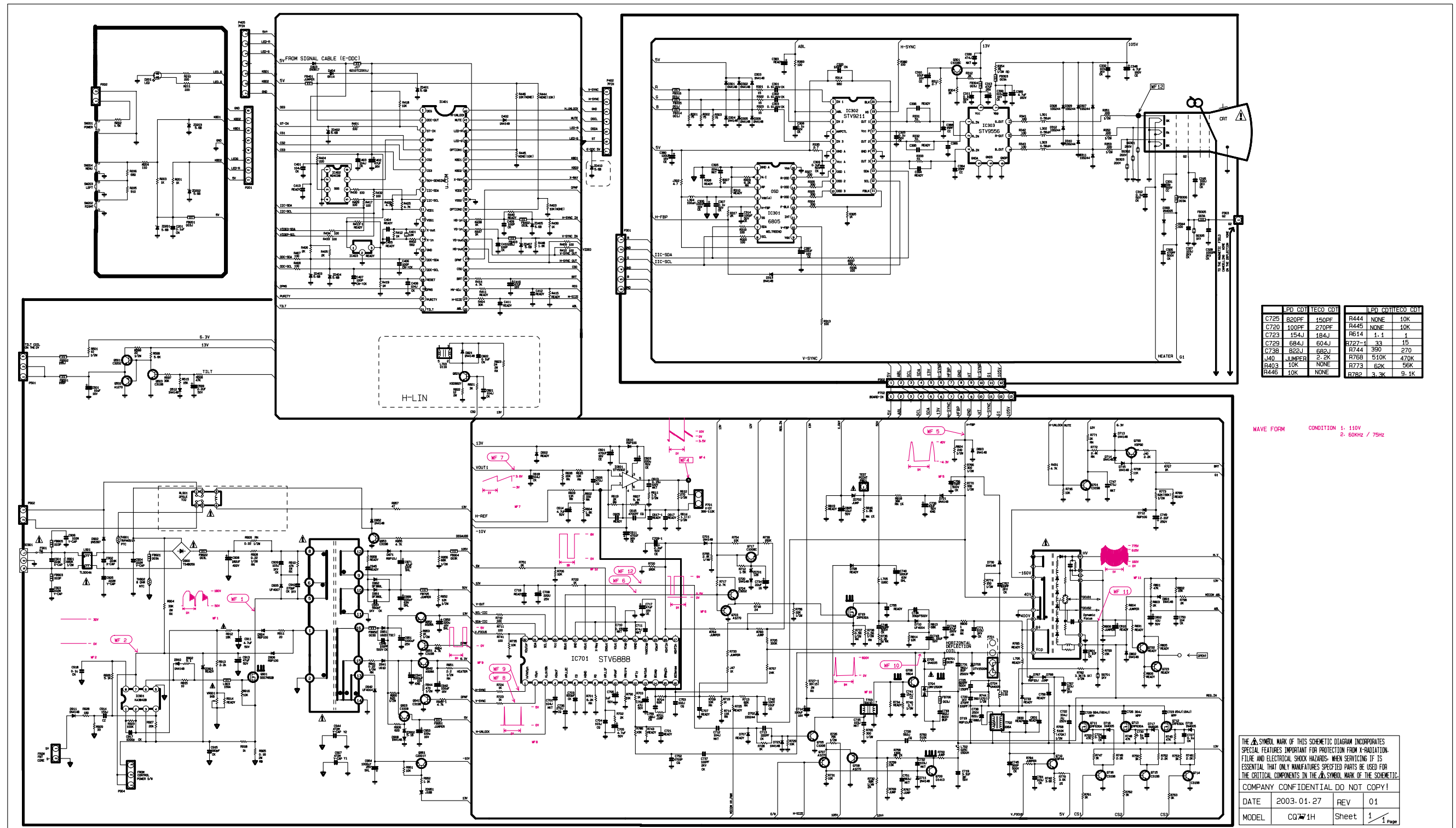
Pin Configuration



BLOCK DIAGRAM

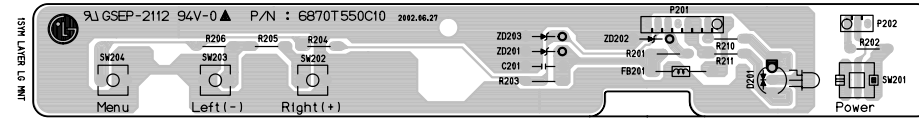


SCHEMATIC DIAGRAM

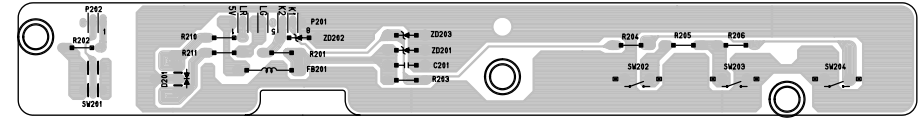


PRINTED CIRCUIT BOARD

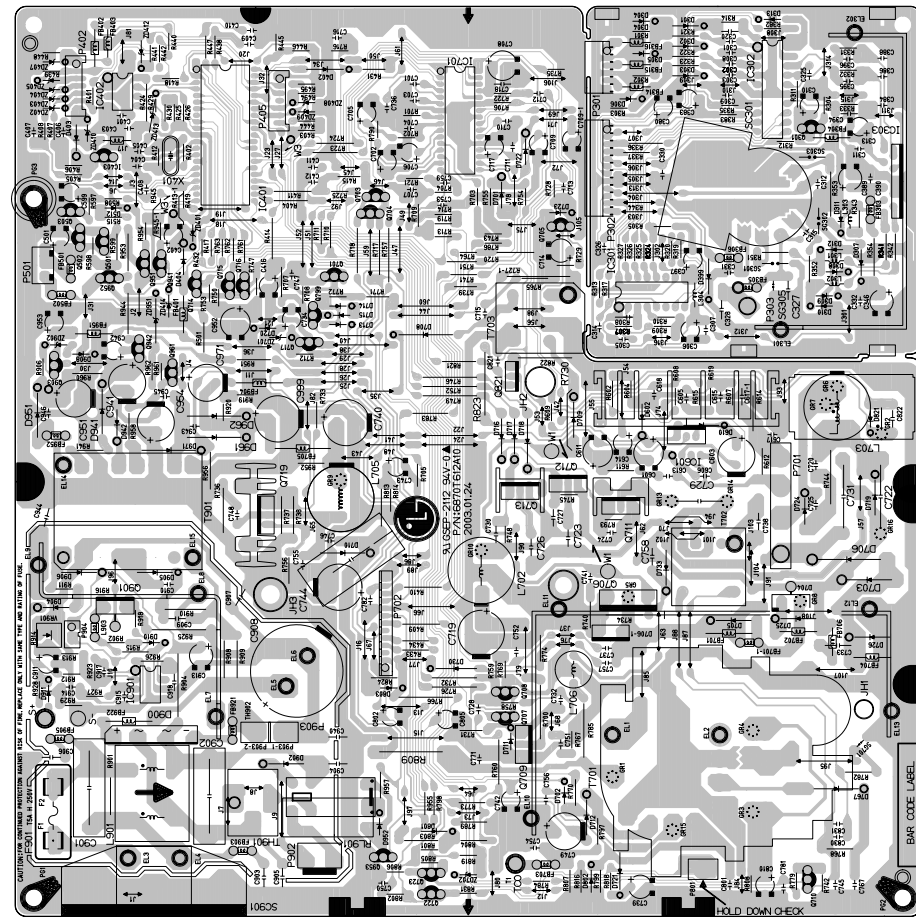
1. CONTROL BOARD (Component Side)



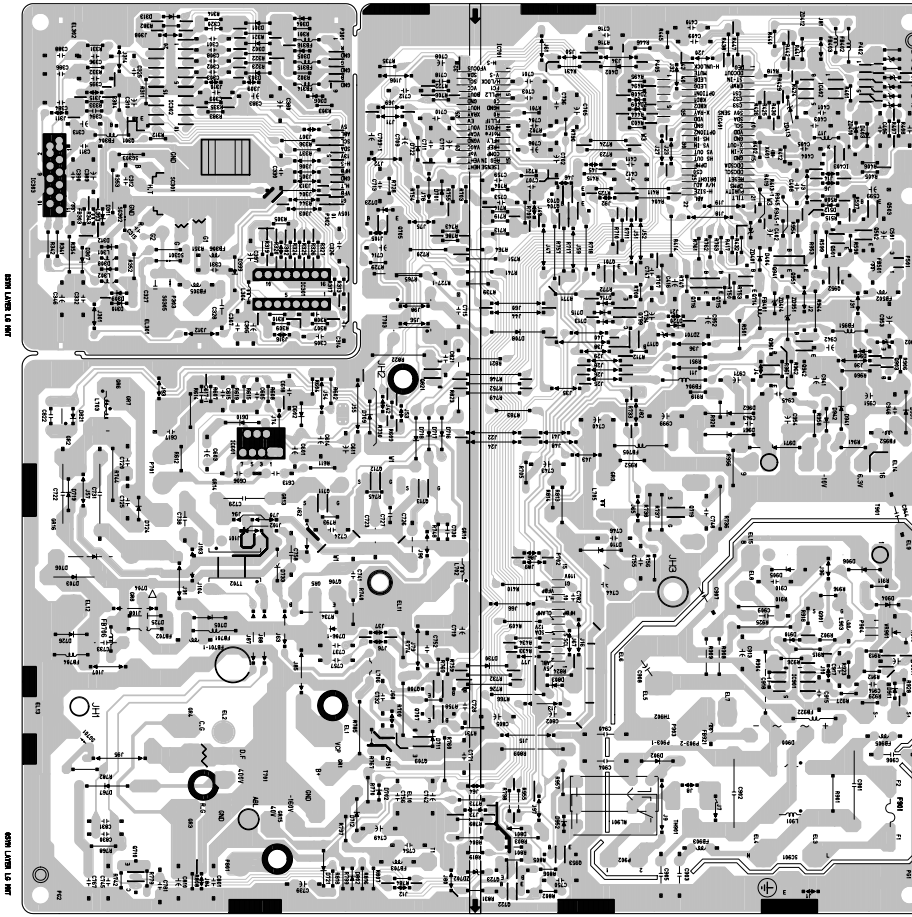
2. CONTROL BOARD (Solder Side)



3. MAIN BOARD (Component Side)



4. MAIN BOARD (Solder Side)



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