



**LG**

Website: <http://biz.LGservice.com>  
E-mail: <http://www.LGService.com/techsup.html>

# COLOR MONITOR

# SERVICE MANUAL

CHASSIS NO. : CA-119

FACTORY MODEL: T710BH

**MODEL: FLATRON<sup>ez</sup> T710B (T710BH-EL)**  
**FLATRON<sup>ez</sup> T710BH (T710BH-HL)**  
**FLATRON<sup>ez</sup> T710SH (T710BH-SL)**

\*( ) ID LABEL Model No.

## CAUTION

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



# CONTENTS

SPECIFICATIONS .....	2	ADJUSTMENT .....	11
SAFETY PRECAUTIONS .....	3	TROUBLESHOOTING GUIDE .....	13
TIMING CHART .....	4	EXPLODED VIEW.....	23
OPERATING INSTRUCTIONS .....	5	REPLACEMENT PARTS LIST .....	25
WIRING DIAGRAM .....	6	PIN CONFIGURATION.....	30
DISASSEMBLY .....	7	SCHEMATIC DIAGRAM.....	34
BLOCK DIAGRAM .....	8	PRINTED CIRCUIT BOARD.....	36
DESCRIPTION OF BLOCK DIAGRAM.....	9		

## SPECIFICATIONS

### 1. PICTURE TUBE

Size	: 17 inch
Deflection Angle	: 90°
Neck Diameter	: 29.1 mm
Stripe Pitch	: 0.25 mm
Face Treatment	: W-ARASC (Anti-Reflection and Anti-Static Coating)
Internal	: Anti-Glare

### 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 ~ 71 kHz
  - Vertical : 50 ~ 160 Hz

### 3. POWER SUPPLY

- 3-1. Power Range
  - AC 110~220V (Free Voltage), 60Hz, 2.0A Max.

### 3-2. Power Consumption

MODE	POWER CONSUMPTION	LED COLOR
NORMAL (ON)	73 W	GREEN
STAND-BY	less than 15 W	AMBER
SUSPEND	less than 15 W	AMBER
OFF	less than 5 W	AMBER

### 4. DISPLAY AREA

- 4-1. Active Video Area :
  - Max Image Size - 325.1 x 243.8 mm (12.80" x 9.60")
  - Preset Image Size - 310 x 230 mm (12.20" x 9.06")
- 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 ~ 40°C  
(Ambient)
- 5-2. Relative Humidity : 10%~ 90%  
(Non-condensing)
- 5-3. Altitude : 5,000 m

### 6. DIMENSIONS (with TILT/SWIVEL)


Width	: 400 mm (15.75 inch)
Depth	: 411 mm (16.18 inch)
Height	: 401 mm (15.79 inch)

### 7. WEIGHT (with TILT/SWIVEL)

Net Weight	: 15.4 kg (33.96 lbs.)
Gross Weight	: 18.0 kg (39.67 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.

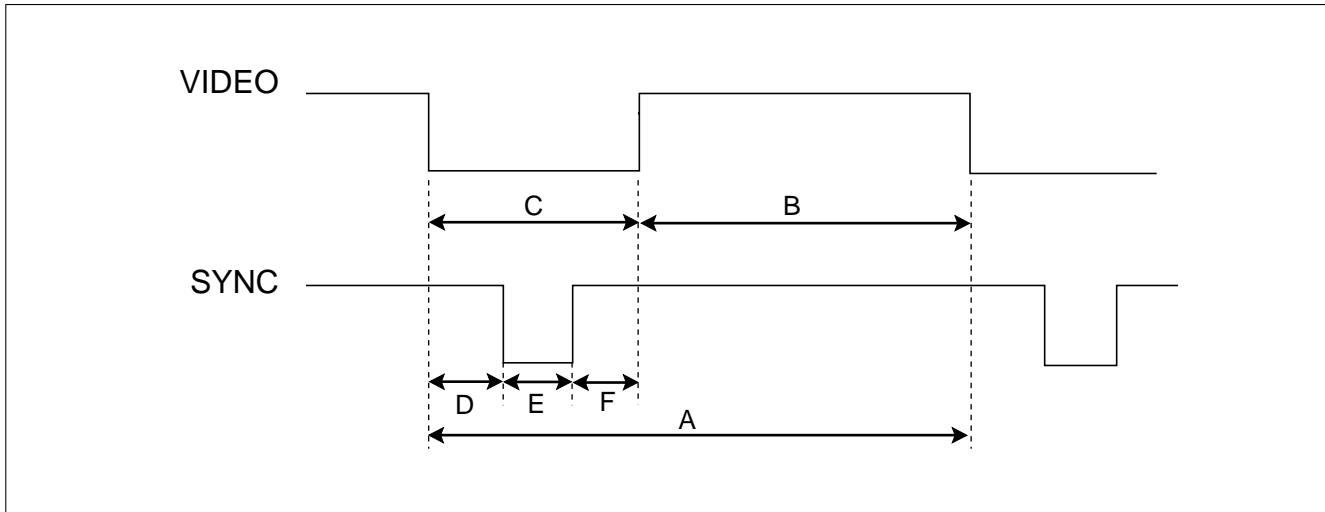
**Note :** It is important to use an accurate high voltage meter calibrated periodically.

- 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

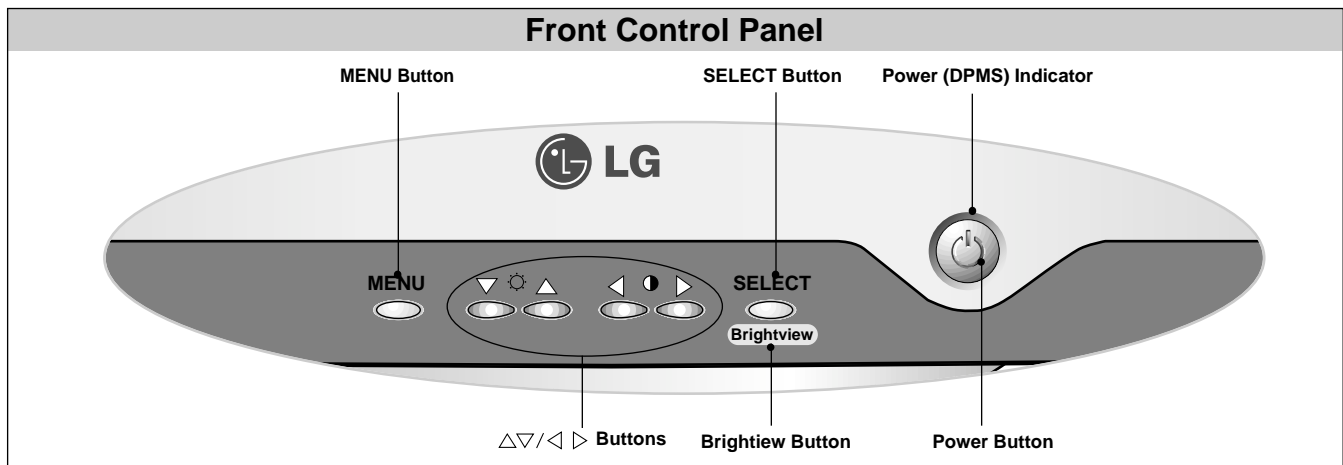
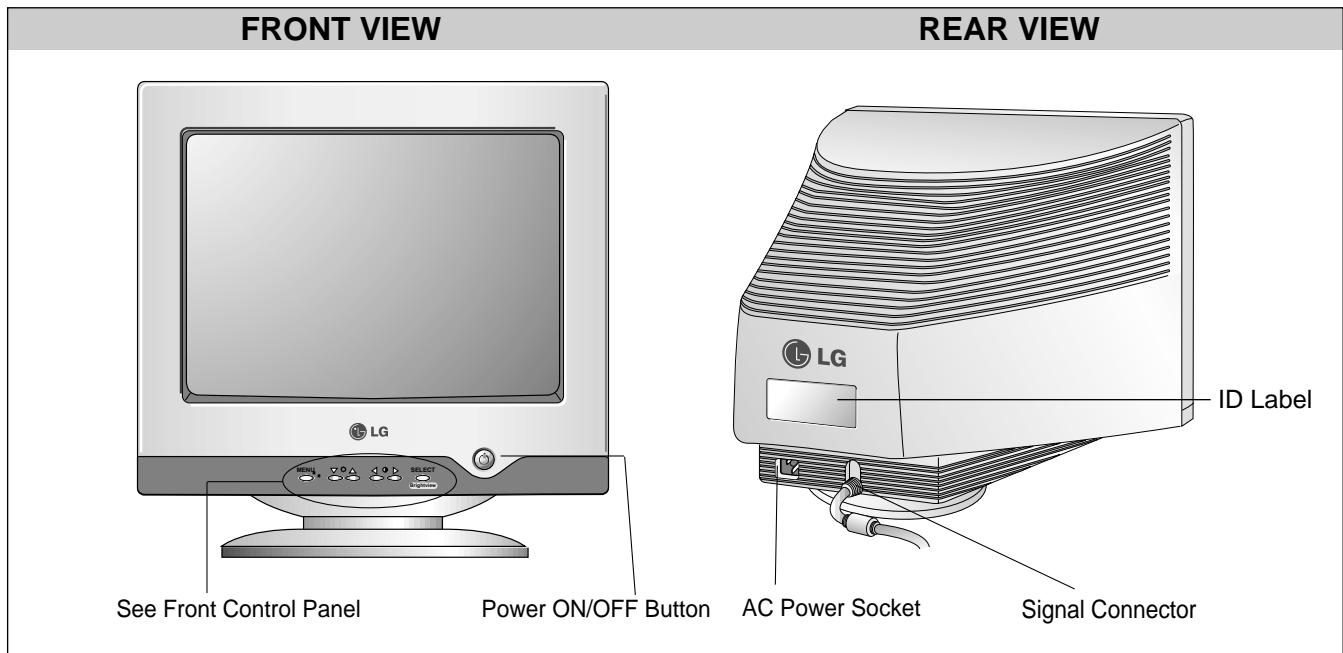


<< Dot Clock (MHz), Horizontal Frequency (kHz), Vertical Frequency (Hz), Horizontal etc... (μs), Vertical etc... (ms) >>

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	-	37.50	26.67	20.32	6.35	2.03	3.81	0.51	640x480
	V	-	74.99	13.335	12.802	0.533	0.080	0.427	0.026	75Hz
2	H	+	46.88	21.33	16.16	5.17	1.62	3.23	0.32	800x600
	V	+	75.01	13.331	12.798	0.533	0.064	0.448	0.021	75Hz
3	H	+	53.68	18.63	14.22	4.41	1.14	2.70	0.57	800x600
	V	+	85.07	11.755	11.178	0.577	0.056	0.503	0.018	85Hz
4	H	+	68.677	14.561	10.836	3.725	1.016	2.201	0.508	1024x768
	V	+	85.00	11.764	11.182	0.582	0.044	0.524	0.014	85Hz

\* Mode 1~Mode 4: Basic Mode

# OPERATING INSTRUCTIONS



## 1. Power ON/OFF Button

Use this button to turn the monitor ON or OFF.

## 2. Power Indicator

This indicator lights up green when the monitor operates normally; in DPMS (Energy Saving) mode, -stand-by, suspend, or power off mode -its color changes to orange, and if abnormal or damaging circuit turns out orange blink.

## 3. Select Button

Use this button to enter a selection in the on screen display.

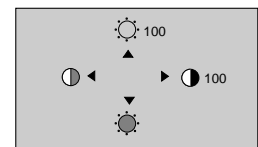
## 4. $\Delta/\nabla/\leftarrow/\rightarrow$ Button

Use these buttons to choose or adjust items in the on screen display.

## <Shortcut Keys>

- Brightness and Contrast can be adjusted directly without entering the On Screen Display (OSD) system.

Press the  $\Delta/\nabla$  buttons to adjust the settings and then the **MENU button** to save all changes. The Brightness and Contrast functions are also available in the On Screen Display (OSD) menu.



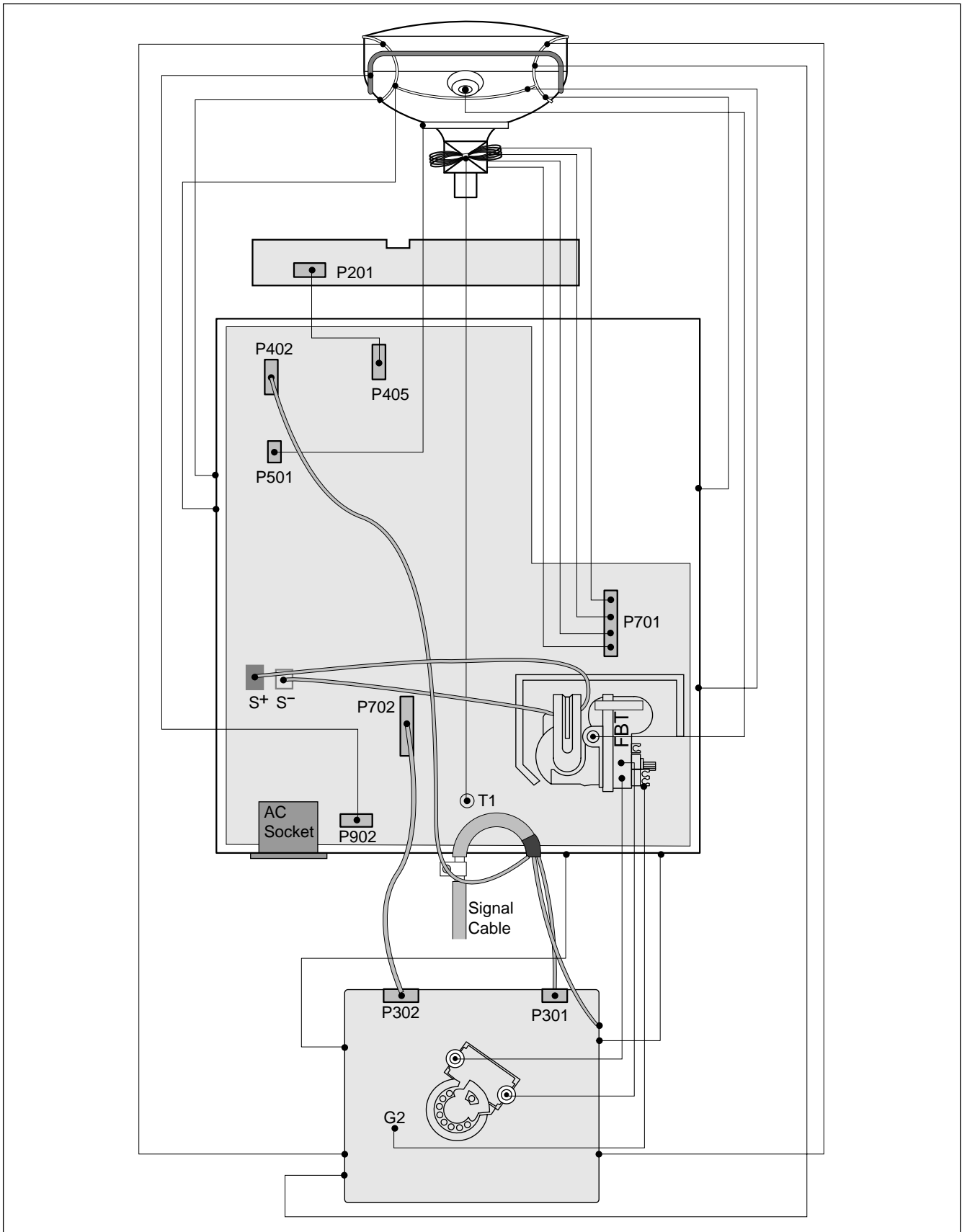
## 5. MENU Button

Use this button to enter or exit the on screen display.

## 6. Brightview Button (To apply the High brightness)

Use this button to select brightview function. (TEXT/PHOTO/MOVIE/NORMAL)

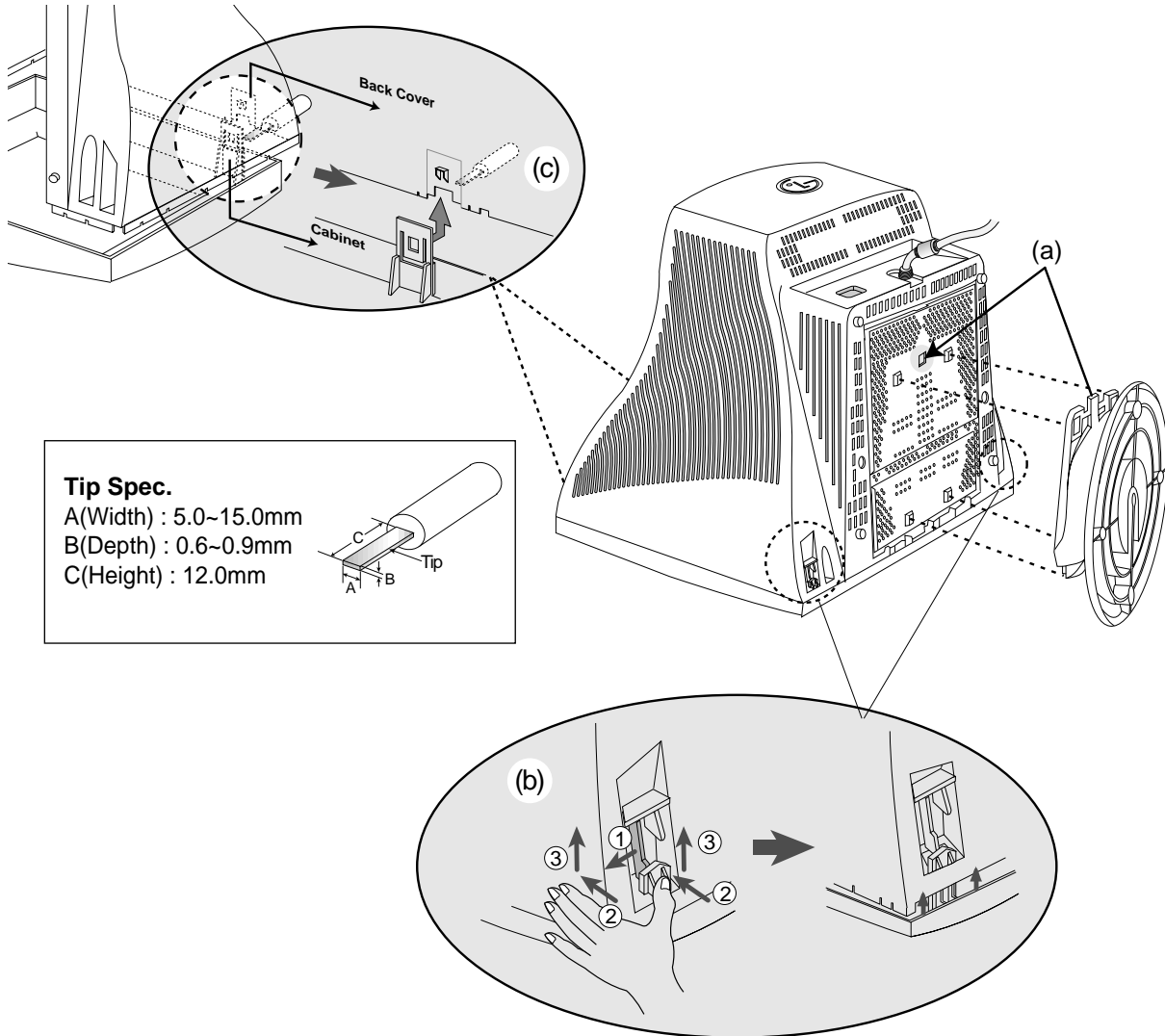
# WIRING DIAGRAM



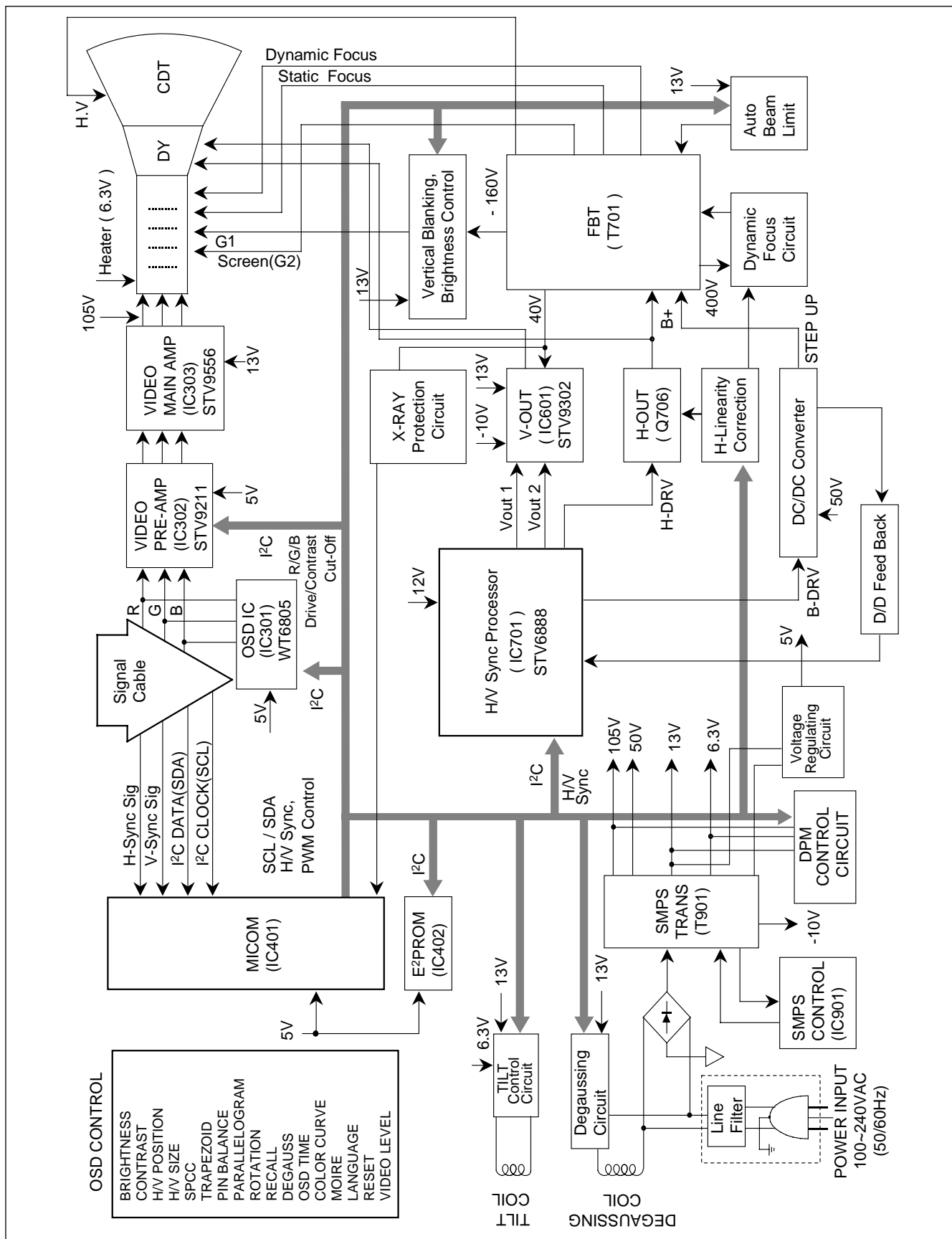
# DISASSEMBLY

## 1. TILT/SWIVEL & BACK COVER REMOVAL

- 1) Set the monitor face downward.
- 2) Carefully remove the Tilt/Swivel by pulling it upward.
- 3) Pressing the latch (b), Back cover by pushing it upward.
- 4) Release the latch (c). (See Tip Spec.)
- 5) Slide the Back Cover away from the Front Cabinet of the monitor.



# 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. 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.

## 5. 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).

## 6. 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.

## 7. 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.

## 8. 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.

## 9. Horizontal Deflection Output Circuit.

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

## 10. 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.

## 11. H-Linearity Correction Circuit.

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

## 12. 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.

## 13. 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.

## 14. 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.

**15. 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.

**16. 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).

**17. 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 High-Voltage.

- 1) Display cross hatch pattern at Mode 4.
- 2) DIST.ADJ→CTRL PWM → High Voltage Command.
- 3) Adjust High Voltage to 25.5kV±0.1 kVdc.
- 4) Press Enter Key.

### 2. Adjustment for Factory Mode (Preset Mode).

- 1) Display cross hatch pattern at Mode 1.
- 2) Run alignment program for T710BH 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 230±2mm.
- 13) Adjust V-POSITION as arrow keys to center of the screen.
- 14) Adjust H-SIZE as arrow keys to 310±2mm.
- 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) PRESET EXIT → Y (Yes) command.

### 3. 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 4.
- 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 71(47)[**Normal CDT:127(7F)**] and Sub-Brightness to 127(2F) position. Adjust G2 (screen) command to 0.2±0.05FL [**Normal CDT:0.4± 0.05FL**]of the raster luminance.
- 8) Adjust R-BIAS and G-BIAS command to x=0.283±0.005 and y=0.298±0.005 on the White Balance Meter with PC arrow keys.
- 9) Adjust SUB-Brightness command to 0.4±0.1FL of the raster luminance.
- 10) Adjust repeat number 8).
- 11) After push the "ENTER" key.
- 11-1) COMMAND → PRESET START → Y(Yes) command.
- 12) Display color 15,0 full white pattern at Mode 4.
- 13) DRIVE ADJ.→ No 1. command.
- 14) Set Brightness 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  $x=0.283\pm 0.003$  and  $y=0.298\pm 0.003$  on the White Balance Meter with PC arrow keys.
- 17-2) Display color 15,0 window patten(70x70mm) at mode 4.
  - 18) Adjust SUB-CONTRAST command to  $50\pm 2FL$  .
  - 19) Display color 15,0 full white patten at Mode 4.
  - 20) Set Brightness and Contrast to Max position.
  - 21) COLOR ADJ. → LUMINANCE → ABL command.
  - 22) Adjust ABL to  $32\pm 1FL$  of the luminance.
  - 23) After push the "ENTER" key, and "COMMAND → PRESET EXIT → Y(Yes)" command.
  - 24) Exit from the program.

#### **4. Input EDID Data.**

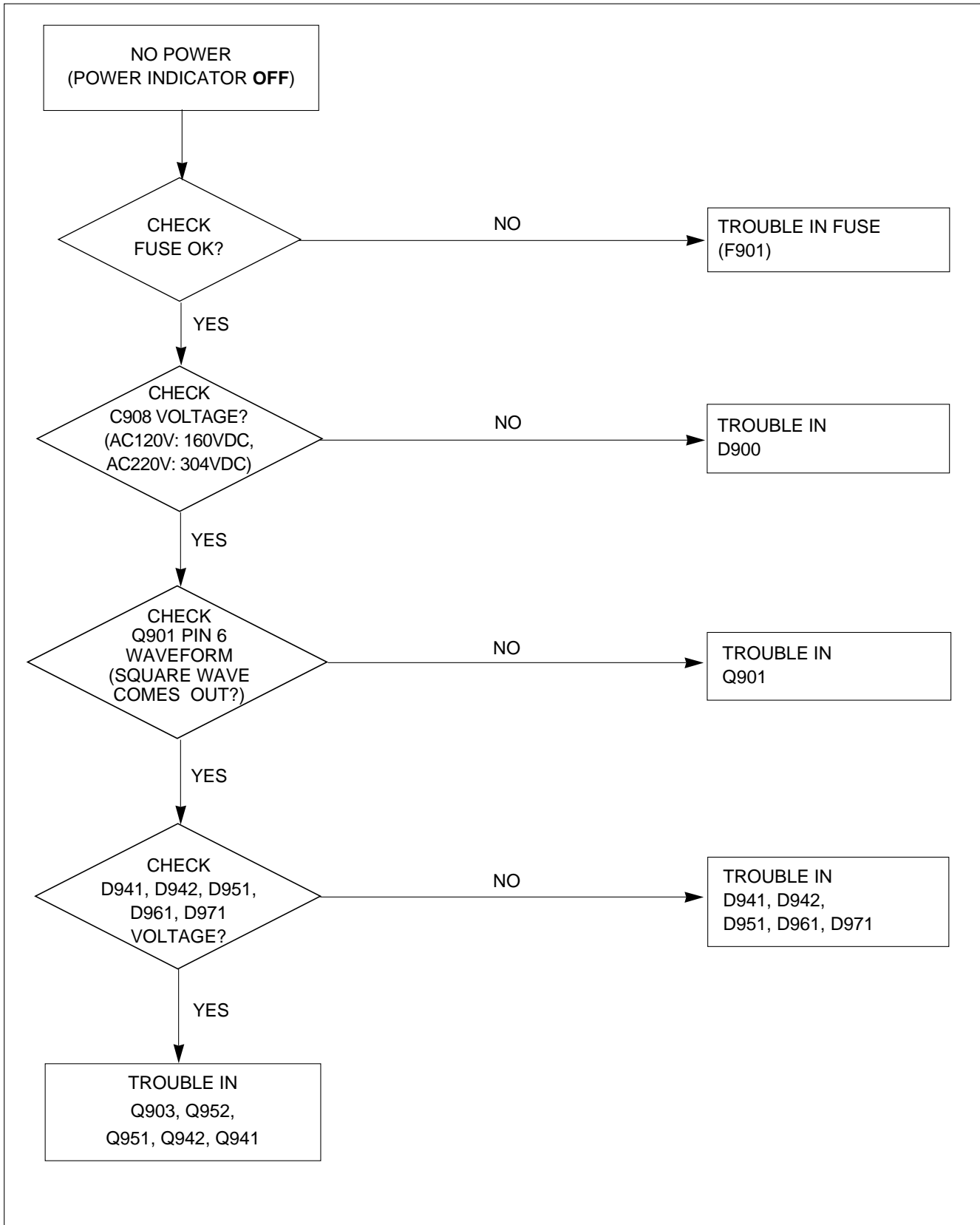
- 1) Display color 15,0 cross hatch pattern at Mode 4.
- 2) EEPROM → Write EDID command and confirm "EDID Write OK!!" message of monitor.
- 3) Exit from the alignment program.
- 4) Power switch OFF/ON for EDID data save.

#### **5. Adjustment for Focus.**

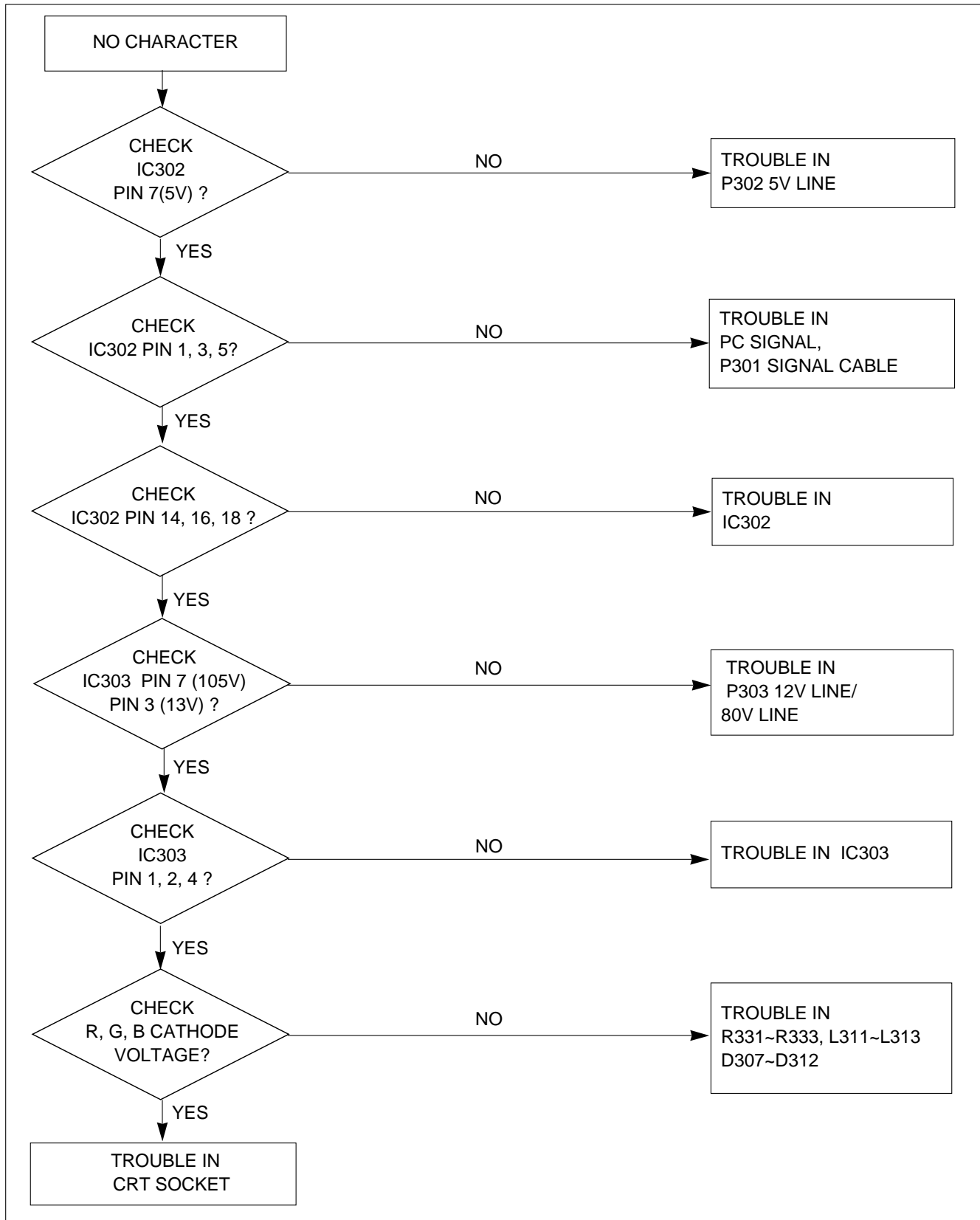
- 1) Set the Brightness and Contrast to max position.
- 2) Display H character in full screen at Mode 4.
- 3) Adjust two Focus control on the FBT that focus should be the best condition.

# TROUBLESHOOTING GUIDE

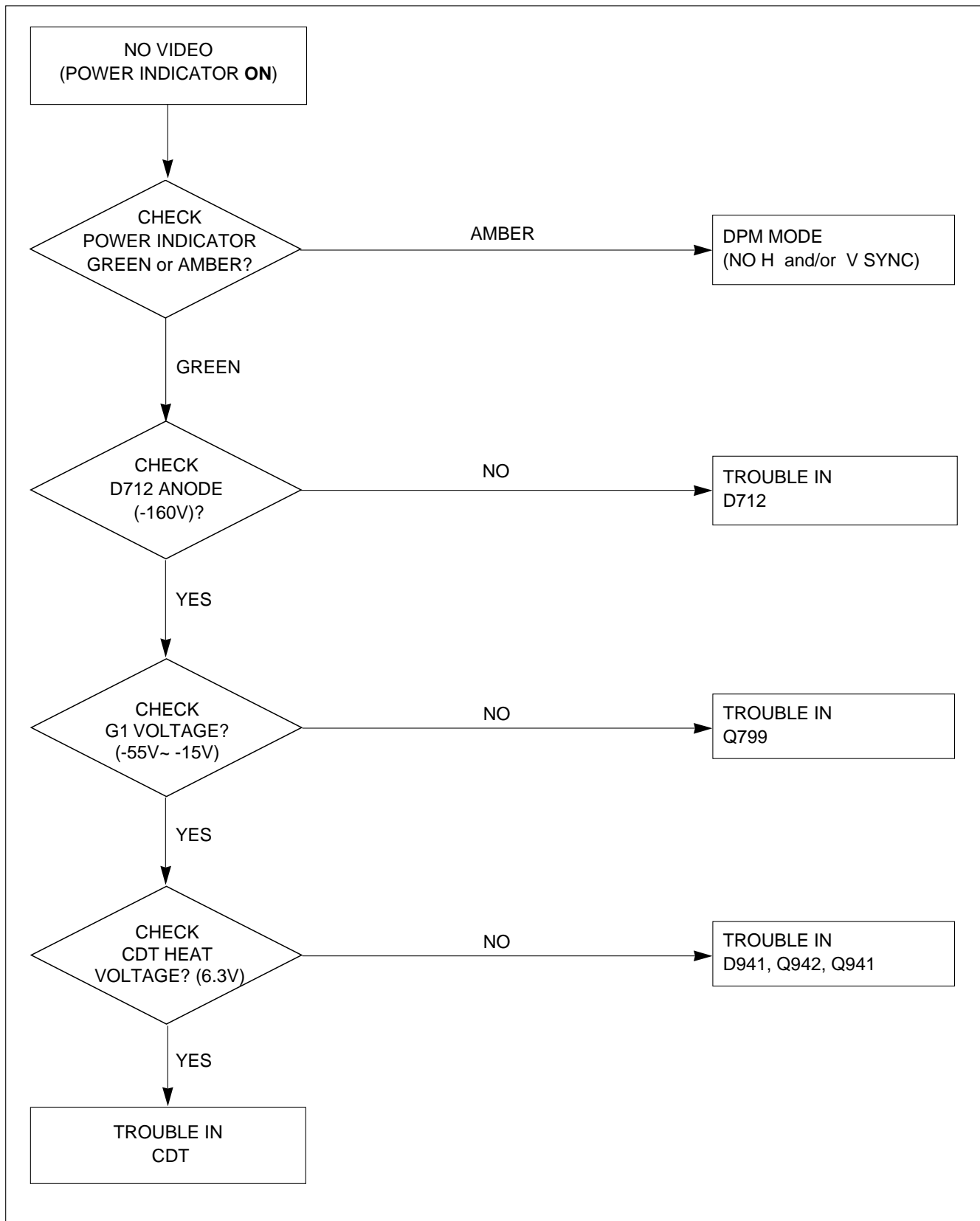
## 1. NO POWER



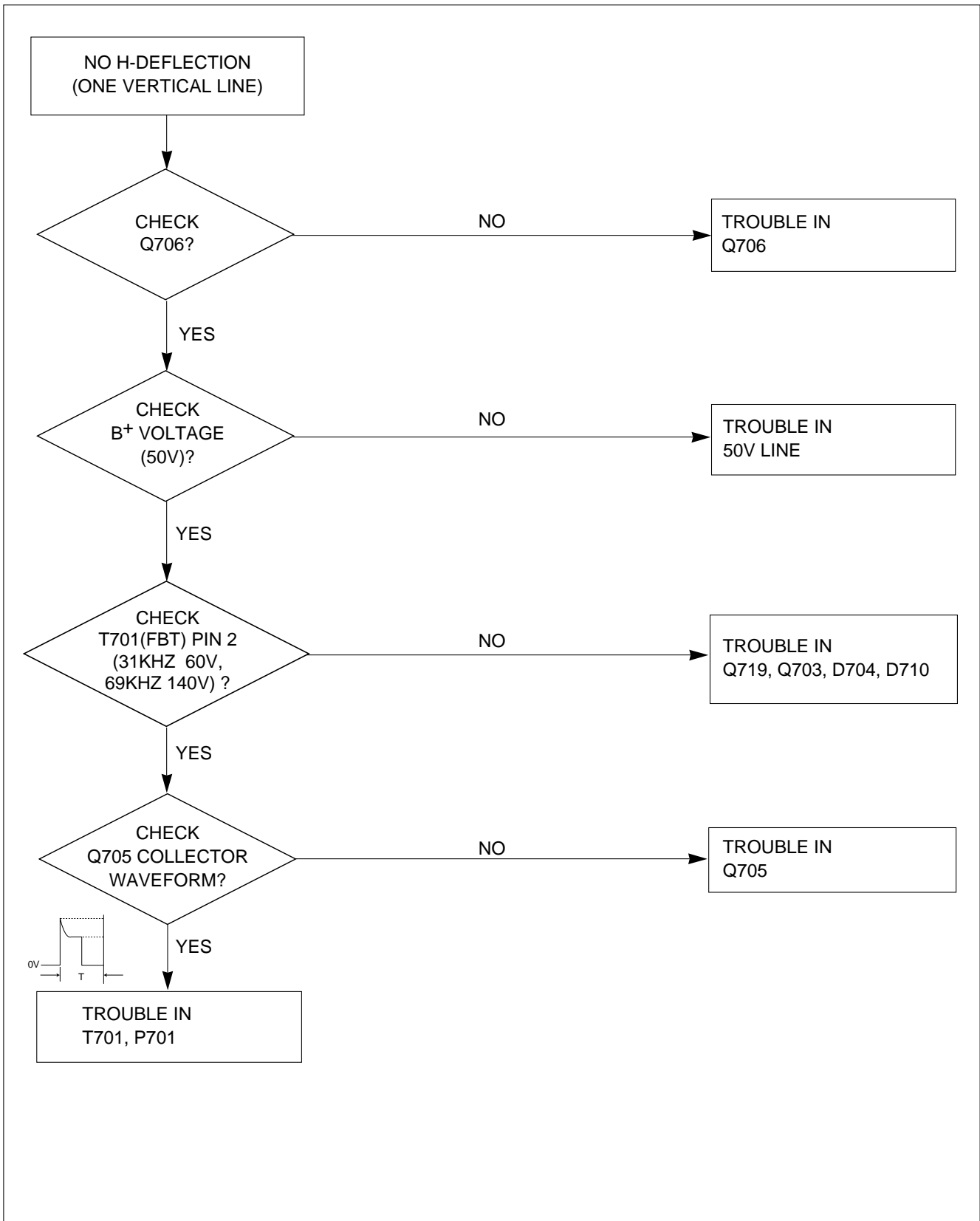
## 2. NO CHARACTER



### 3. NO RASTER

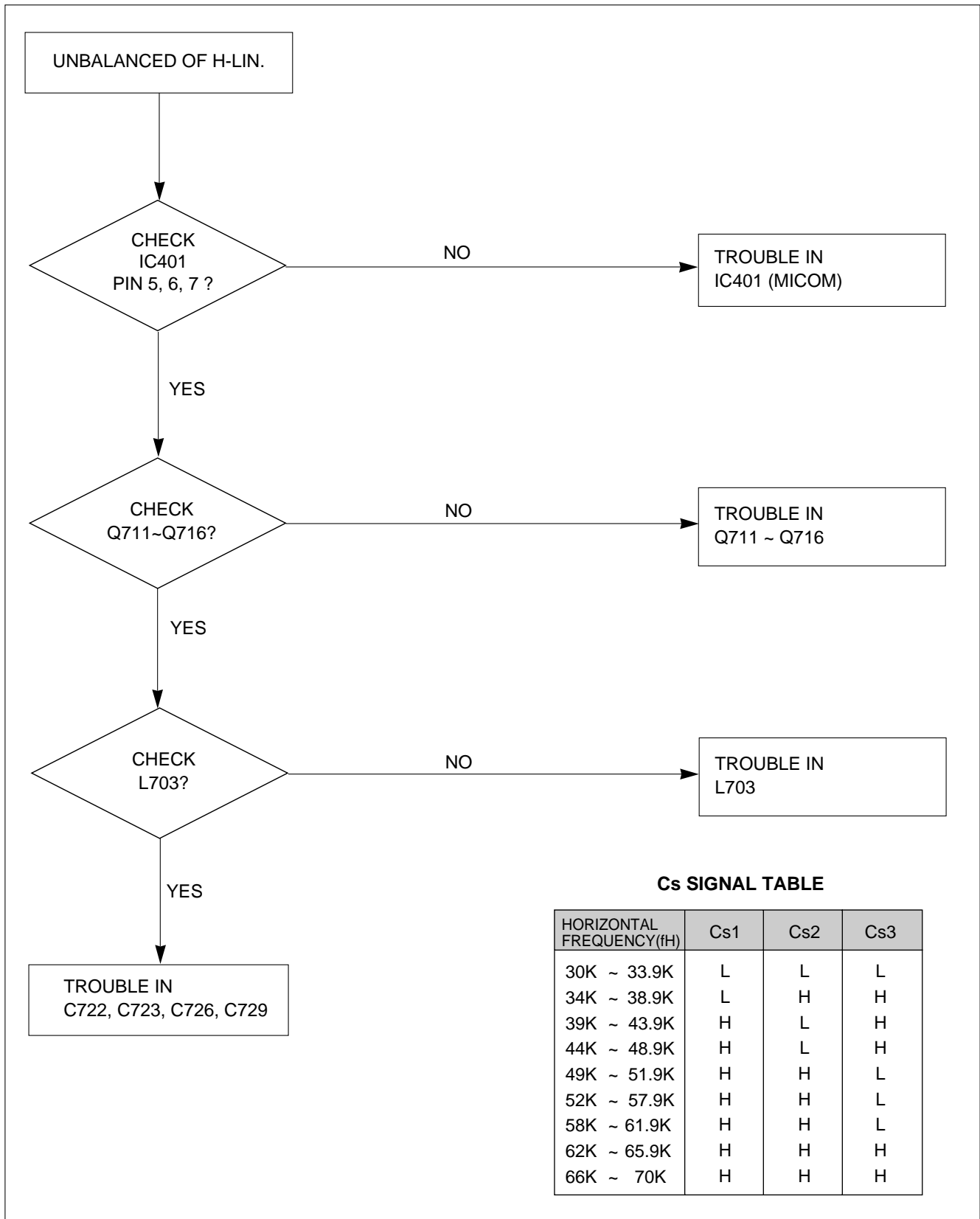


## 4. NO HORIZONTAL DEFLECTION

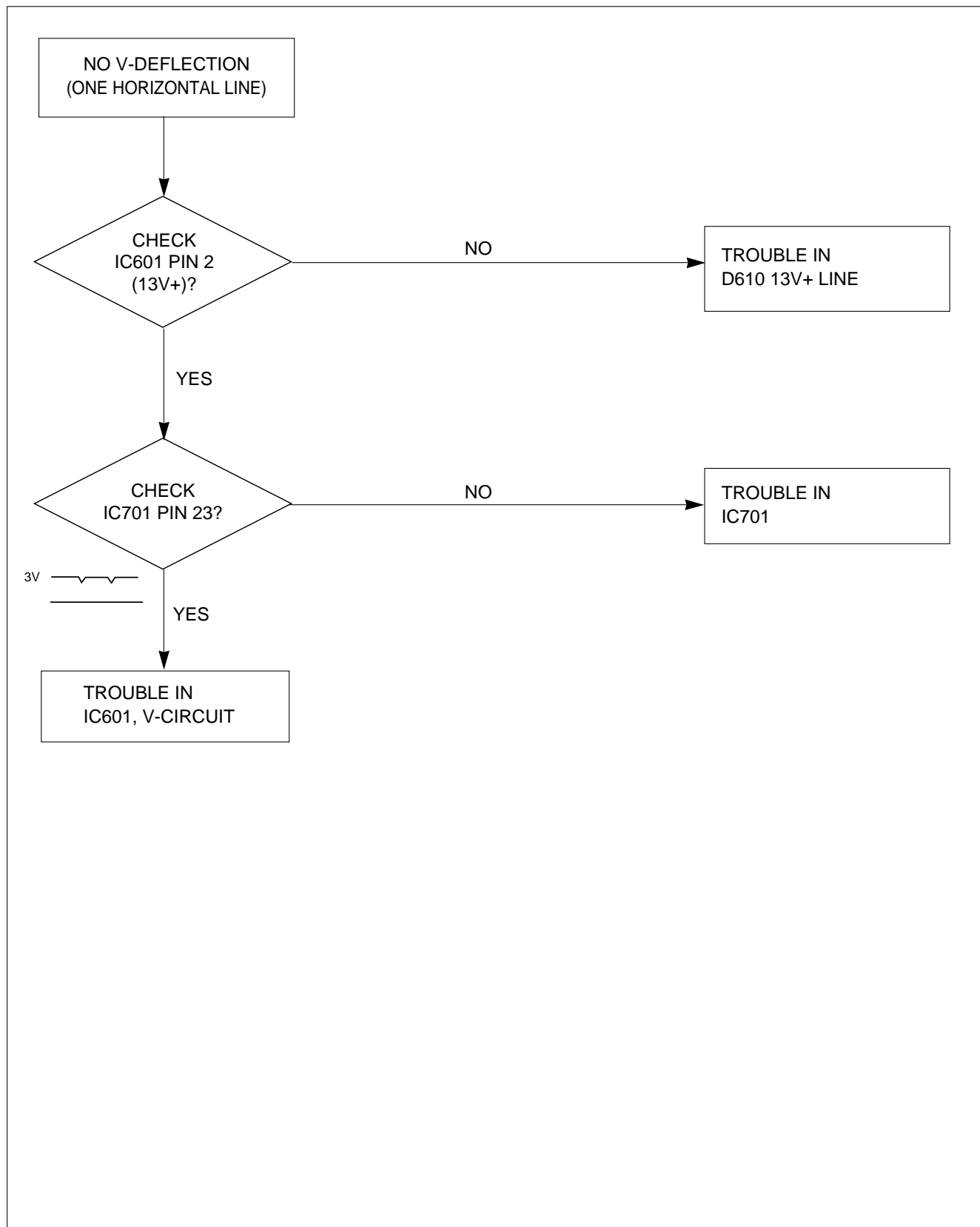




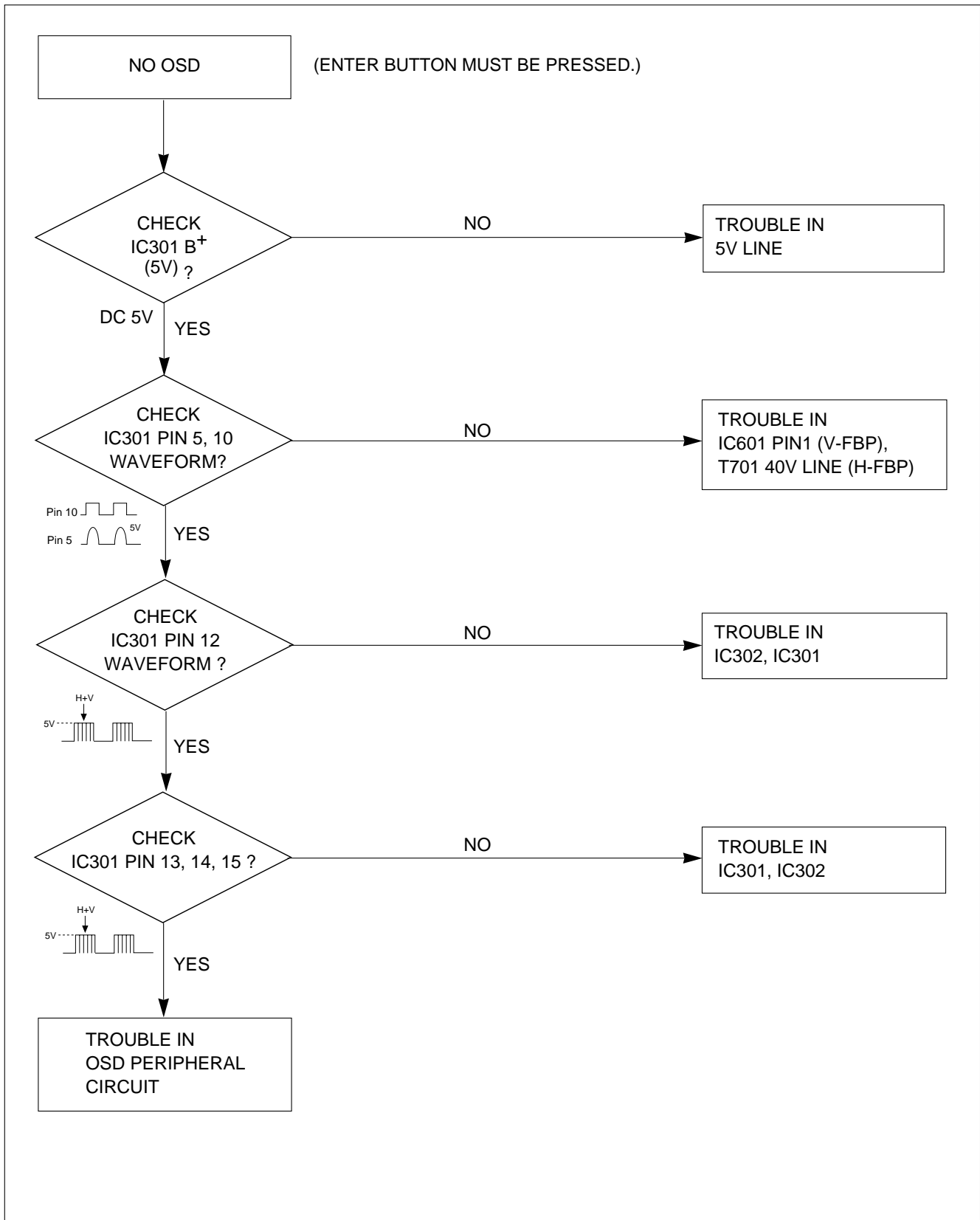
## 5. TROUBLE IN H-LINEARITY



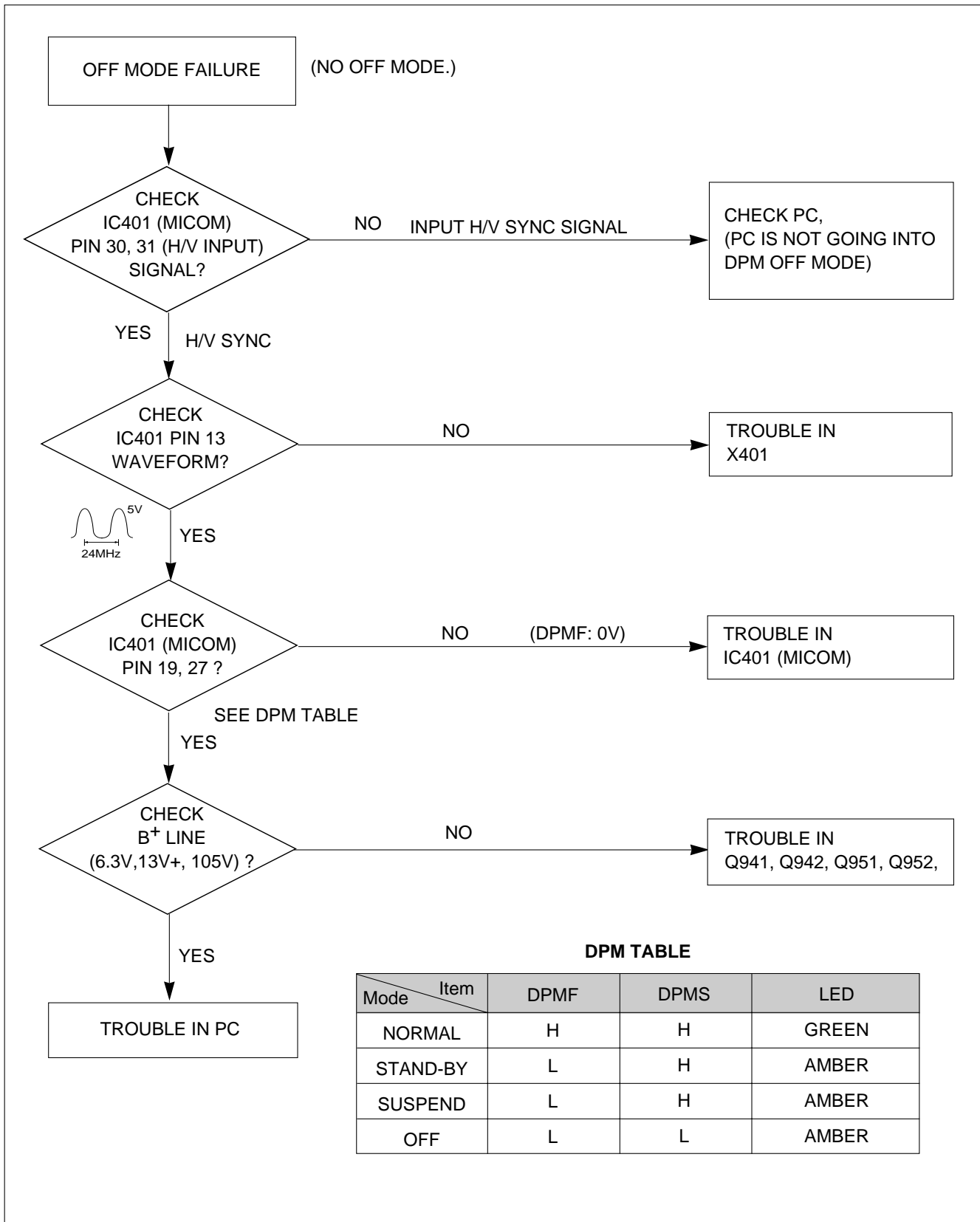
## 6. NO VERTICAL DEFLECTION



## 7. TROUBLE IN OSD



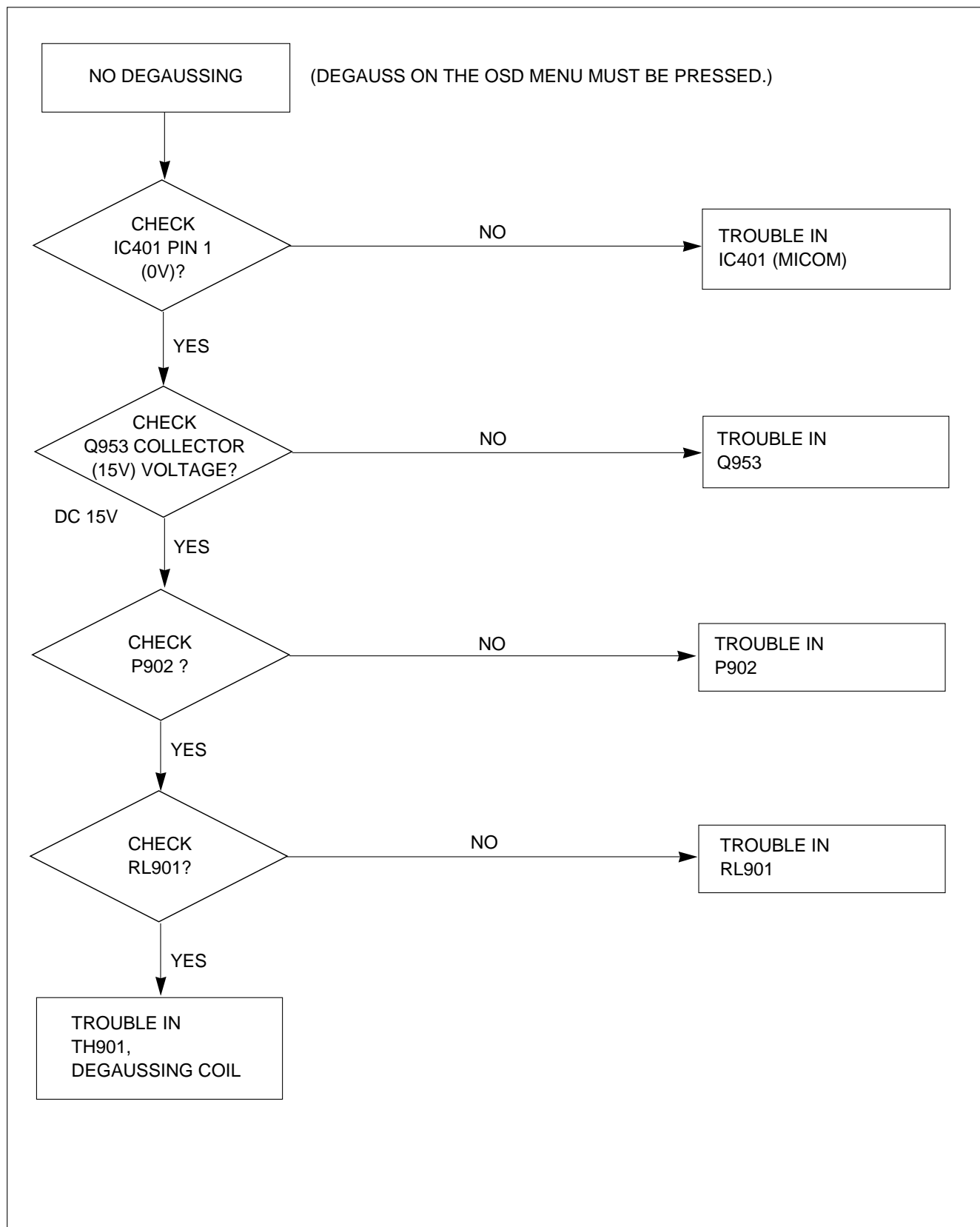
## 8. TROUBLE IN DPM



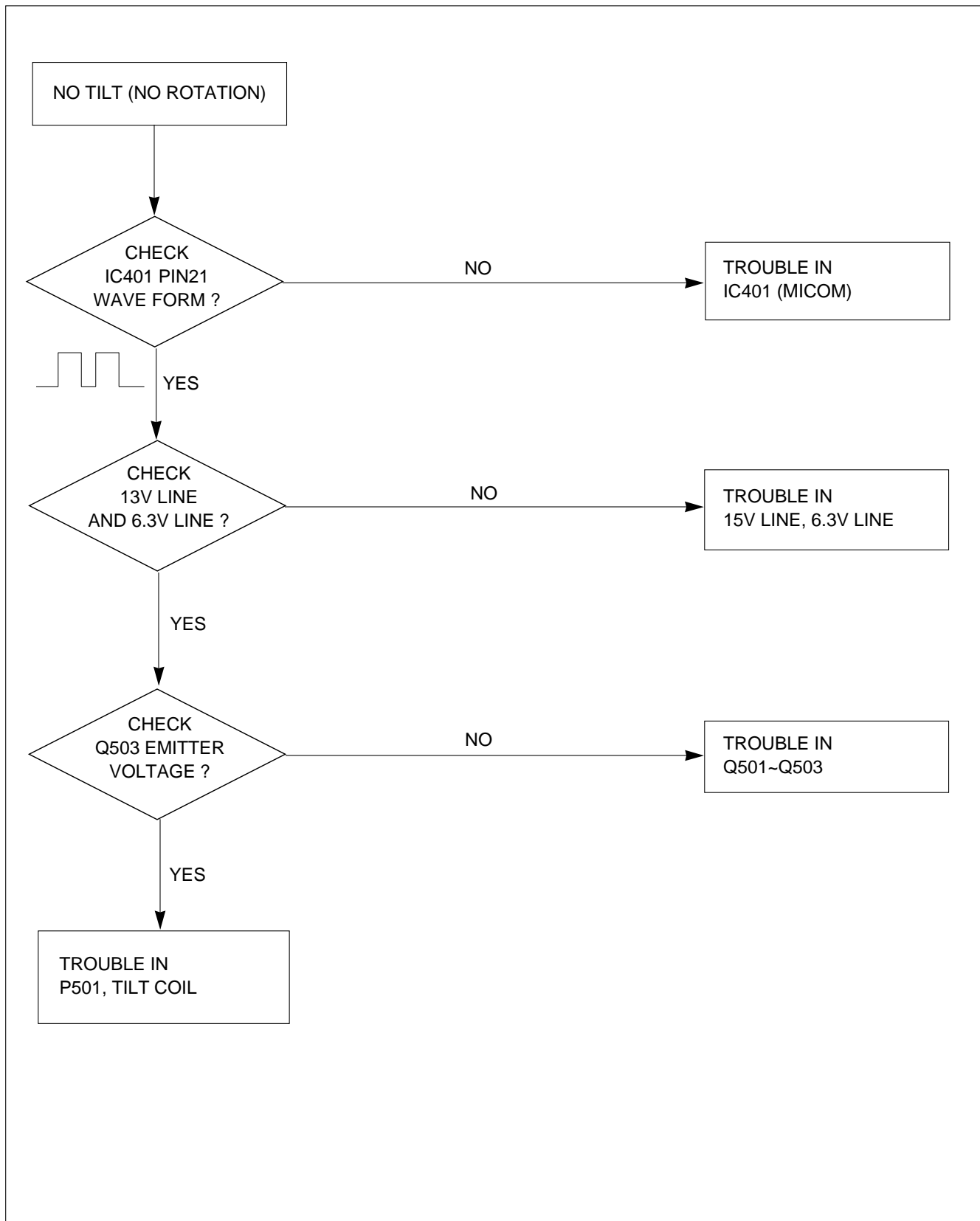
**DPM TABLE**

Mode \ Item	DPMF	DPMS	LED
NORMAL	H	H	GREEN
STAND-BY	L	H	AMBER
SUSPEND	L	H	AMBER
OFF	L	L	AMBER

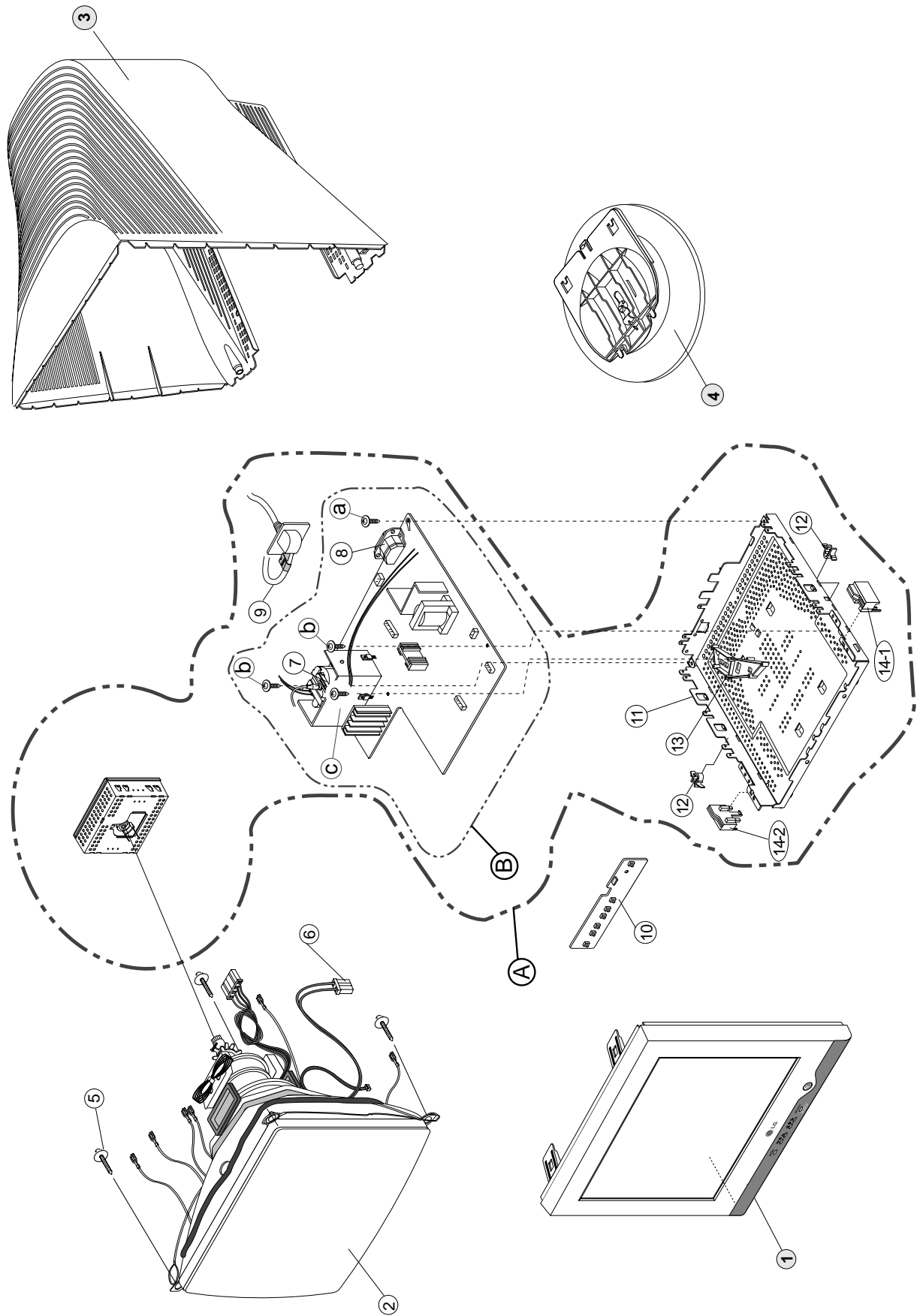
## 9. NO DEGAUSSING



## 10. NO TILT (NO ROTATION)



EXPLODED VIEW




## EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Description
1	3091TKC089E	CABINET ASSEMBLY, T710B BRAND C079 NORMAL CDT,ER04,LG,TCO <b>-(T710BH-EL)</b>
	3091TKC089A	CABINET ASSEMBLY, E710BH BRAND 079 NO SPRAY <b>-(T710BH-HL)</b>
	3091TKC089H	CABINET ASSEMBLY, T710SH BRAND C079 320T,B/VIEW,ER04(89483)NT LOCAL <b>-(T710BH-SL)</b>
2	6318L17012A	CDT(CIRC), M41QEE903X 01N6UD LG-PHILIPS 70KHZ 29.1MM FLAT TCO <b>-For Northern hemishere:(T710BH-EL)</b>
	6318L17014A	CDT(CIRC), M41QEE903X 01NHUJ LG-PHILIPS 85KHZ 29.1MM FLAT TCO <b>-For Northern hemishere(T710BH-HL), (T710BH-SL)</b>
3	3809TKC050A	BACK COVER ASSEMBLY, E710BH 046 EQ54(8C358) <b>-(T710BH-EL), (T710BH-HL)</b>
	3809TKC050C	BACK COVER ASSEMBLY "T710 C046 320T,EQ54(8C358) <b>-(T710BH-SL)</b>
4	3043TKK108A	TILT SWIVEL ASSEMBLY, E710BH T066 B60 HIPS
5	339-002K	SCREW ASSEMBLY, TAPTITE P TYPE D5.0 L25.0 MSWR/FZMY .
6	6140TC3004B	COIL, DEGAUSSING, 75D-437 GET 0.4MM,120T,19 OHM,EB770F,WITH EARTH
7	6174T11004A	FBT (FLY BACK TRANSFORMER), 1055A, CB777H LG-PHILIPS 17"/70KHZ FST
8	6620TKB002A	SOCKET(CIRC), POWER, BAE EUN AC UNIVERSAL 3PIN BLACK <b>-(T710BH-EL), (T710BH-HL)</b>
	or 6620TKB002B	SOCKET(CIRC), POWER, SA-4S HUA JIE AC UNIVERSAL 3PIN BLACK <b>-(T710BH-EL), (T710BH-HL)</b>
	6620TKB002D	SOCKET(CIRC), POWER, CDJ-3C DUOLING AC UNIVERSAL 3PIN BLACK <b>-(T710BH-SL)</b>
9	6850TA9009A	CABLE, D-SUB, UL20276-9C(5.8MM) AT 1560MM GRAY(85964) EB770H DM
	or 6850TA9009B	CABLE, D-SUB, UL20276-9C(5.8MM) AT 1560MM GRAY(85964) EB770H GM
10	6871TST364A	PWB(PCB) ASSEMBLY, SUB, E710BH CONTROL TOTAL BRAND CA-119 <b>-(T710BH-EL), (T710BH-HL)</b>
	6871TST370A	PWB(PCB) ASSEMBLY, SUB, T710BH CONTROL TOTAL BRAND CA-119 <b>-(T710BH-SL)</b>
11	4950TKS212C	METAL, SHIELD BOTTOM E710BH <b>-(T710BH-EL), (T710BH-HL)</b>
	4950TKS207A	METAL, SHIELD BOTTOM,CB553H <b>-(T710BH-SL)</b>
12	4930TKK031C	HOLDER, PCB FIX , PC+ABS
13	4810TKK204A	BRACKET, CB777H HOLDER FBT
14-1	4810TKK150A	BRACKET, CN771C SUPPORTER BOT.(RIGHT)
14-2	4810TKK151A	BRACKET, CN771C SUPPORTER BOT.(LEFT)
A	3313T17294A	MAIN TOTAL ASSEMBLY, T710BH BRAND CA-119 NORMAL CDT <b>-For Europe:(T710BH-EL)</b>
	3313T17289A	MAIN TOTAL ASSEMBLY, E710BH BRAND CA-119 <b>-For Europe, U.K:(T710BH-HL)</b>
	3313T17293B	MAIN TOTAL ASSEMBLY, T710BH BRAND CA-119 <b>-For Japan:(T710BH-SL)</b>
B	6871TMT403A	PWB(PCB) ASSEMBLY, MAIN, T710BH ALEUE BRAND CA-119 NORMAL CDT TOTAL <b>-For Europe:(T710BH-EL)</b>
	6871TMT387A	PWB(PCB) ASSEMBLY, MAIN, E710BH ALRDE BRAND CA-119 TOTAL <b>-For Europe, U.K:(T710BH-HL)</b>
	6871TMT398B	PWB(PCB) ASSEMBLY, MAIN, T710BH KLJPST BRAND CA-119 TOTAL <b>-For Japan:(T710BH-SL)</b>
a	332-112F	SCREW, DRAWING, PZP+3*10(MSWR/FZMY)
b	4001TKK004E	SCREWASSEMBLY, TAPTITE TYPE D3.0 L10.0 MSWR/FZMY SW3+RW10
c	332-095B	SCREW, DRAWING, PZP+3*10(MSWR/FZMY)




# 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

DATE: 2003. 01. 24.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
<b>CAPACITORS</b>				
		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)
		C325	0CK1040K945	0.1UF 50V Z F TR
		C326	0CK1010W515	100P 500V K B TS
		C327	0CK10302940	0.01M 2KV Z F S
		C328	0CK10302945	0.01UF 2KV Z F TR
		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	0CE475CF638	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	0CE475CF638	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	0CE475CK638	4.7UF SHL,SD 50V 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

DATE: 2003. 01. 24.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		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
		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	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	0CK33101515	330P 1KV K B TS
		C722	181-303F	274J 30.0*21.0*13.5*20.0 250
		C723	181-303B	124J 20.5*19.0*11.0*10.0 250
		C724	0CK1040K945	0.1UF 50V Z F TR
		C726	181-482G	334J 18.0*18.0*11.0*7.5 250V
		C727	0CN1040K949	0.1M 50V Z F TA52
		C728	0CQ5621N419	5600P 100V J POLY NI TP
		C729	181-305W	604J 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	181-477P	123J 19.5*12.0*7.0*7.5 250V
		C739	0CE106EK638	10UF KMG 50V M FM5 TP 5
		C740	0CE227CL618	220U SHL 63V M FL TP5
		C741	0CZZTFT002B	ECQV1H154JZ3 154J 50V TP5.0
		C742	181-288K	MKT 100V 683JTR PHS26683
		C743	0CE334CK638	0.33UF SHL,SD 50V 20% TP 5 F
		C744	0CZZTAB005A	SMSHR SYE / SWE 160V 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
		C759	0CQ1821N419	1800P 100V J POLY NI TP
		C767	0CK10301945	10000PF D 1KV Z F(Y5V) TR

DATE: 2003. 01. 24.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		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
		C901	0CBZTBU002A	BULK PCX2 335 224K
		C902	0CBZTBU002A	BULK PCX2 335 224K
		C903	0CKZTTA003D	SC SAMWHA 250V 1000F M TAPIN
		C904	0CKZTTA003A	SC E 222M 10.0FF7 250V TP7.5
		C905	0CKZTTA003A	SC E 222M 10.0FF7 250V TP7.5
		C906	0CKZTTA003D	SC SAMWHA 250V 1000F M TAPIN
		C907	0CKZTBU003C	SC E 472M 14.0BW7 250V BK7.5
		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	0CE108CD618	1000UF SHL 10V M FL TP5
		C942	0CE107CF638	100UF SHL,SD 16V M FM5 TP 5
		C943	0CK56101515	560P 1KV K B TS
		C944	0CKZTBU003C	SC E 472M 14.0BW7 250V BK7.5
		C946	0CK1010W515	100P 500V K B TS
		C951	0CE108CF630	1000UF SHL 16V M FM5 BULK
		C952	0CE227CF638	220UF SHL,SD 16V M FM5 TP 5
		C953	0CE107CF638	100UF SHL,SD 16V M FM5 TP 5
		C954	0CE108CF630	1000UF SHL 16V M FM5 BULK
		C971	0CE476CN618	47UF SHL 100V M FL TP5
		C999	0CE227CL618	220U SHL 63V M FL TP5
<b>DIODEs</b>				
		D201	0DL305029BA	LTL-305DJ-0C2 TP LITEON GREE
		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	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D308	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D309	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		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
		D404	971-0054	TIN 50MM TAPING
		D512	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D602	0DRGF00069A	SB140 GULF TP DO41 40V 1A 40
		D610	0DR100009CD	RGP10G-1021 TIWAN SEMI TP DO
		D701	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D702	0DS124409AA	1SS244 TP ROHM KOREA

DATE: 2003. 01. 24.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		D703	0DRTW00050A	MUR460L-1121 TIWAN SEMI BK D
		D704	0DR150001AA	DTV1500MFP ST SGS-THOMSON TO
		D705	0DRGF00069A	SB140 GULF TP DO41 40V 1A 40
		D706	0DRGS00380A	GRD07-15L-5705 GENERAL SEMIC
		D709	971-0054	TIN 50MM TAPING
		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
		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	0RD1800A609	180 OHM 1/2 W (7.0) 5% TA52
		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
		D900	0DRTW00071A	TS4B05G-1021 TIWAN SEMI ST N
		D902	0DR153979AA	1N5397GP TP G.I DO201AD 600V
		D904	0DR100009CD	RGP10G-1021 TIWAN SEMI TP DO
		D905	0DD400709CB	UF4007 TP G.I DO204AL 1000V
		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
		D971	0DR100009DA	RGP10J TP GULF SEMICONDUCTOR
		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	971-0054	TIN 50MM TAPING
		ZD902	0DZ510009BE	GDZ5.1B TP GRANDE DO34 500MW
<b>ICs</b>				
		IC301	0IPRPWL001A	6805-N160WT-87A WELTREND 16,
		IC302	0IPRPSG014A	STV9211 SGS-THOMSON 20P,DIP
		IC303	0IPRPSG004B	STV9556 SGS-THOMSON 11P,CLIP
		IC401	0IZZTSZ253A	SS 42PIN ST 6KEY CA-119
		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)

DATE: 2003. 01. 24.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
<b>COILs &amp; COREs</b>				
		FB201	6210TCE003J	BAS2550T BO SUNG 2550MM AXIA
		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	971-0054	TIN 50MM TAPING
		FB402	6210TCE003L	BAS3580T BO SUNG 3580MM AXIA
		FB403	6210TCE003J	BAS2550T BO SUNG 2550MM AXIA
		FB501	6210TCE003P	BRS2550B BO SUNG 2550MM RADI
		FB502	6210TCE003J	BAS2550T BO SUNG 2550MM AXIA
		FB701	6210TCE003L	BAS3580T BO SUNG 3580MM AXIA
		FB703	6210TCE003B	BRS3580B BO SUNG 3580MM RADI
		FB705	971-0054	TIN 50MM TAPING
		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	971-0054	TIN 50MM TAPING
		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	6140TYZ010G	LX31 GET DR14*15-C5.2,16.5T,
		L705	6140TBZ026C	DR15*18-C9.8 100UH 0.1*30MM
		L901	6200TZZ004A	SQE2626 NAMYANG BK L/FILTER
		L903	125-159A	FERRITE KQ-1 (RADIAL TAPPING
<b>TRANSISTORS</b>				
		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

DATE: 2003. 01. 24.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
			Q719	0TF630000DA
			Q799	0TR920009AB
			Q901	0TF760000AD
			Q903	0TR100809AA
			Q941	0TR319809AA
			Q942	0TR928009AB
			Q951	0TR319809AA
			Q952	0TR928009AB
			Q953	0TR319809AA
<b>RESISTORS</b>				
			R201	0RD1001Q609
			R202	0RD0912Q609
			R203	0RD2200Q609
			R204	0RD4300Q609
			R205	0RD1001Q609
			R206	0RD0912Q609
			R207	0RD4300Q609
			R208	0RD2200Q609
			R209	0RD9100Q609
			R210	0RD2200Q609
			R211	0RD2200Q609
			R301	0RD0752Q609
			R302	0RD0752Q609
			R303	0RD0752Q609
			R304	0RD3001Q609
			R305	0RD1001Q609
			R307	0RD1001Q609
			R309	0RN6201F409
			R311	0RD0271Q609
			R312	0RD2001Q609
			R313	0RD1000Q609
			R314	0RD6800Q609
			R317	0RD2001Q609
			R319	0RD1000Q609
			R320	0RD1000Q609
			R321	0RD0152Q609
			R322	0RD0152Q609
			R323	0RD0152Q609
			R324	0RD3300Q609
			R325	0RD3300Q609
			R326	0RD3300Q609
			R327	0RD3300Q609
			R331	0RD0512Q609
			R332	0RD0512Q609
			R333	0RD0512Q609
			R335	0RD0271Q609
			R336	0RD1000Q609
			R337	0RD1000Q609
			R341	0RD1800Q609
			R342	0RD1300Q609
			R343	0RD1300Q609
			R344	971-0054
			R351	0RD2200A609
			R352	0RD2200A609
			R353	0RD2200A609

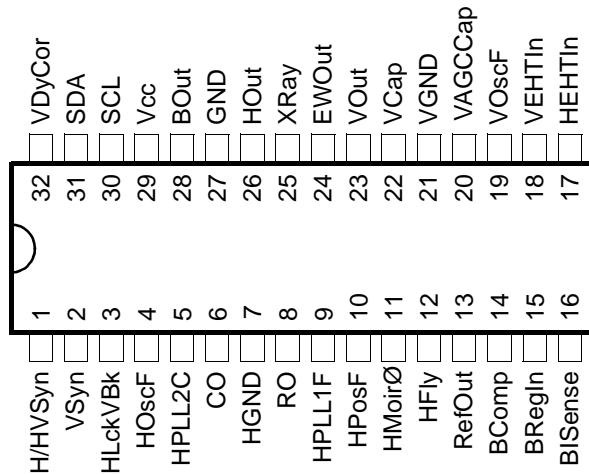
DATE: 2003. 01. 24.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R354	ORD0392A609	39 OHM 1/2 W (7.0) 5% TA52
		R382	ORD1000Q609	100 1/4W(3 5% TA52
		R383	ORD1000Q609	100 1/4W(3 5% TA52
		R401	ORD1000Q609	100 1/4W(3 5% TA52
		R402	ORD5600Q609	560 1/4W(3 5% TA52
		R404	ORD3002Q609	30K 1/4W(3 5% TA52
		R405	ORD2001Q609	2K 1/4W(3 5% TA52
		R406	ORD2001Q609	2K 1/4W(3 5% TA52
		R407	ORD1300Q609	130 1/4W(3 5% TA52
		R408	ORD1300Q609	130 1/4W(3 5% TA52
		R409	ORD1000Q609	100 1/4W(3 5% TA52
		R410	ORD1000Q609	100 1/4W(3 5% TA52
		R412	ORD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		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
		R444	ORD1002Q609	10K 1/4W(3 5% TA52
		R445	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	971-0054	TIN 50MM TAPING
		R604	ORN2201F409	2.20K 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	971-0054	TIN 50MM TAPING
		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
		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

DATE: 2003. 01. 24.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		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	971-0054	TIN 50MM TAPING
		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	0RX0332K607	33 OHM 2 W 5% TA62
		R728	ORD1001Q609	1K 1/4W(3 5% TA52
		R729	ORD1002Q609	10K 1/4W(3 5% TA52
		R731	ORD1002Q609	10K 1/4W(3 5% TA52
		R732	ORD6802Q509	68K OHM 1/4 W (3.4) 2% TA52
		R733	971-0054	TIN 50MM TAPING
		R735	ORD1002Q609	10K 1/4W(3 5% TA52
		R736	0RX2201J609	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
		R743	ORD4701Q609	4.70K 1/4W(3 5% TA52
		R744	ORD1001A609	1K 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	ORD3301Q609	3.30K 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	ORD1202Q509	12K 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	971-0054	TIN 50MM TAPING
		R765	ORD3000A609	300 OHM 1/2 W (7.0) 5% TA52
		R766	ORD6200A609	620 OHM 1/2 W(7.0) 5.00% TA5
		R767	971-0054	TIN 50MM TAPING
		R768	ORD5103A609	510K OHM 1/2 W (7.0) 5% TA52
		R769	971-0054	TIN 50MM TAPING
		R771	ORN2001F409	2K OHM 1/6 W 1.00% TA52

DATE: 2003. 01. 24.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R772	ORN2401F409	2.40K 1/6W 1% TA52
		R773	ORD6202A609	62K 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	971-0054	TIN 50MM TAPING
		R784	971-0054	TIN 50MM TAPING
		R786	ORD4302Q609	43K 1/4W(3 5% TA52
		R789	OCK3310W515	330P 500V K B TS
		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
		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	971-0054	TIN 50MM TAPING
		R808	971-0054	TIN 50MM TAPING
		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
		R824	ORD2400A609	240 OHM 1/2 W (7.0) 5% TA52
		R901	ORD4703A609	470K OHM 1/2 W (7.0) 5% TA52
		R902	ORD0511Q609	5.1 OHM 1/4 W (3.4) 5% TA52
		R904	ORX3902K665	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	ORX4702J609	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	ORB0180K607	0.18OHM 2 W 5% TA62
		R926	ORD4301Q609	4.30K 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
OTHERS				
		F1	430-858C	AFC-520 BAE EUN TA

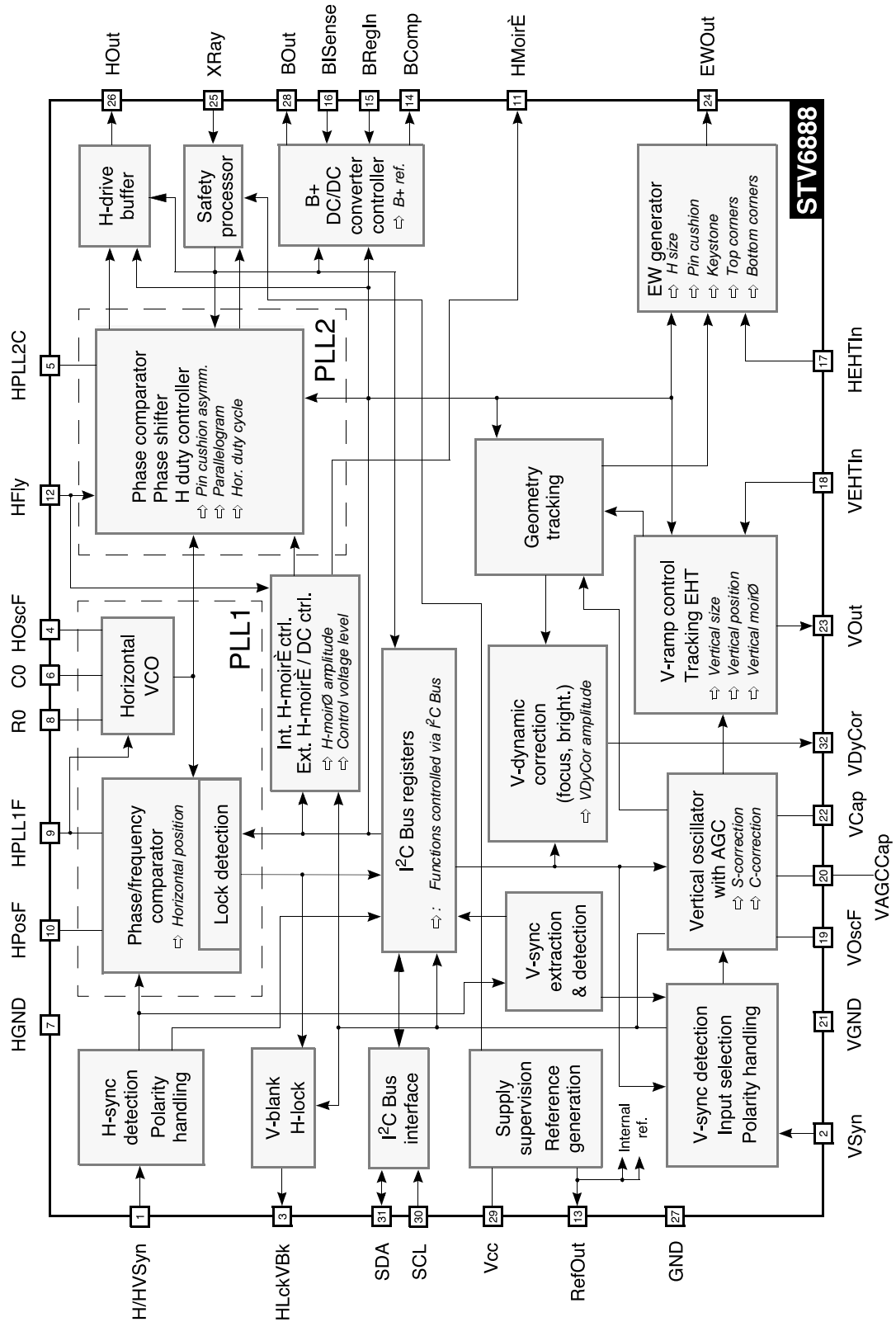
DATE: 2003. 01. 24.				
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		F2	430-858C	AFC-520 BAE EUN TA
		F901	0FZZTTH001B	TIME LAG HBC 5A/250V,215 005
		J302	ORD0471Q609	4.70 1/4W(3 5% TA52
		J47	ORD1001Q609	1K 1/4W(3 5% TA52
		J86	ORD2400Q609	240 OHM 1/4 W (3.4) 5% TA52
		RL901	6920TBB005A	ALA2PF12 MATSUSHITA 250V 5A
		SC301	6620TBD003A	PCS701E PARK ELEC. 10PIN 14/
		SC901	6620TKB002A	BAE EUN AC UNIVERSAL 3PIN BL
		SG301	6918TAT005E	MTAS-201M GIGA AXIAL TAPING
		SG302	6918TAT005E	MTAS-201M GIGA AXIAL TAPING
		SG303	6918TAT005E	MTAS-201M GIGA AXIAL TAPING
		SG305	6918TRT005A	SSG-102-A0,1KV SMART RADIAL
		SG701	6918TRT005A	SSG-102-A0,1KV SMART RADIAL
		SW201	140-058D	SKHV10911A LGEC NON 12 20 HO
		SW202	140-058D	SKHV10911A LGEC NON 12 20 HO
		SW203	140-058D	SKHV10911A LGEC NON 12 20 HO
		SW204	140-058D	SKHV10911A LGEC NON 12 20 HO
		SW205	140-058D	SKHV10911A LGEC NON 12 20 HO
		SW206	140-058D	SKHV10911A LGEC NON 12 20 HO
		SW207	140-058D	SKHV10911A LGEC NON 12 20 HO
△		T701	6174T11004A	"1055A, CB777H LG-PHILIPS 17""
		T702	6170TCZ006A	EE2218 2.3 MH D/FOCUS(CB775C
		T703	6170TCZ001D	EI2218 4.0MH H-DRIVE,EB770G
		T901	6170TMZ138A	EER3940 230UH V-16PIN FB770H
		TH901	163-053D	J502P62C090Q290 JAHWA +/-20
		TH902	6322TA080BA	SCK-084 THINKING 8 OHM 15% 2
		VR901	180-035G	EVN-DJAA03B13 (MEC),1KB
		X401	6212AA2004A	HC-49U TXC 12.0MHZ +/- 30 PP

# PIN CONFIGURATION



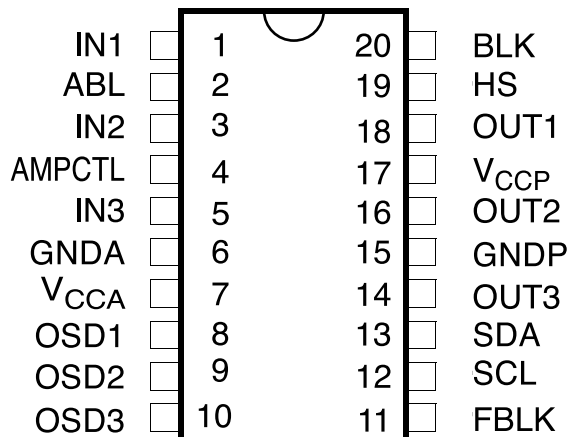
Pin	Name	Function
1	H/HVSyn	TTL compatible <b>H</b> orizontal / <b>H</b> orizontal and <b>V</b> ertical <b>S</b> ync. input
2	VSyn	TTL compatible <b>V</b> ertical <b>S</b> ync. input
3	HLckVBk	<b>H</b> orizontal PLL1 <b>L</b> ock detection and <b>V</b> ertical early <b>B</b> lanking composite output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

Block Diagram



## STV9211

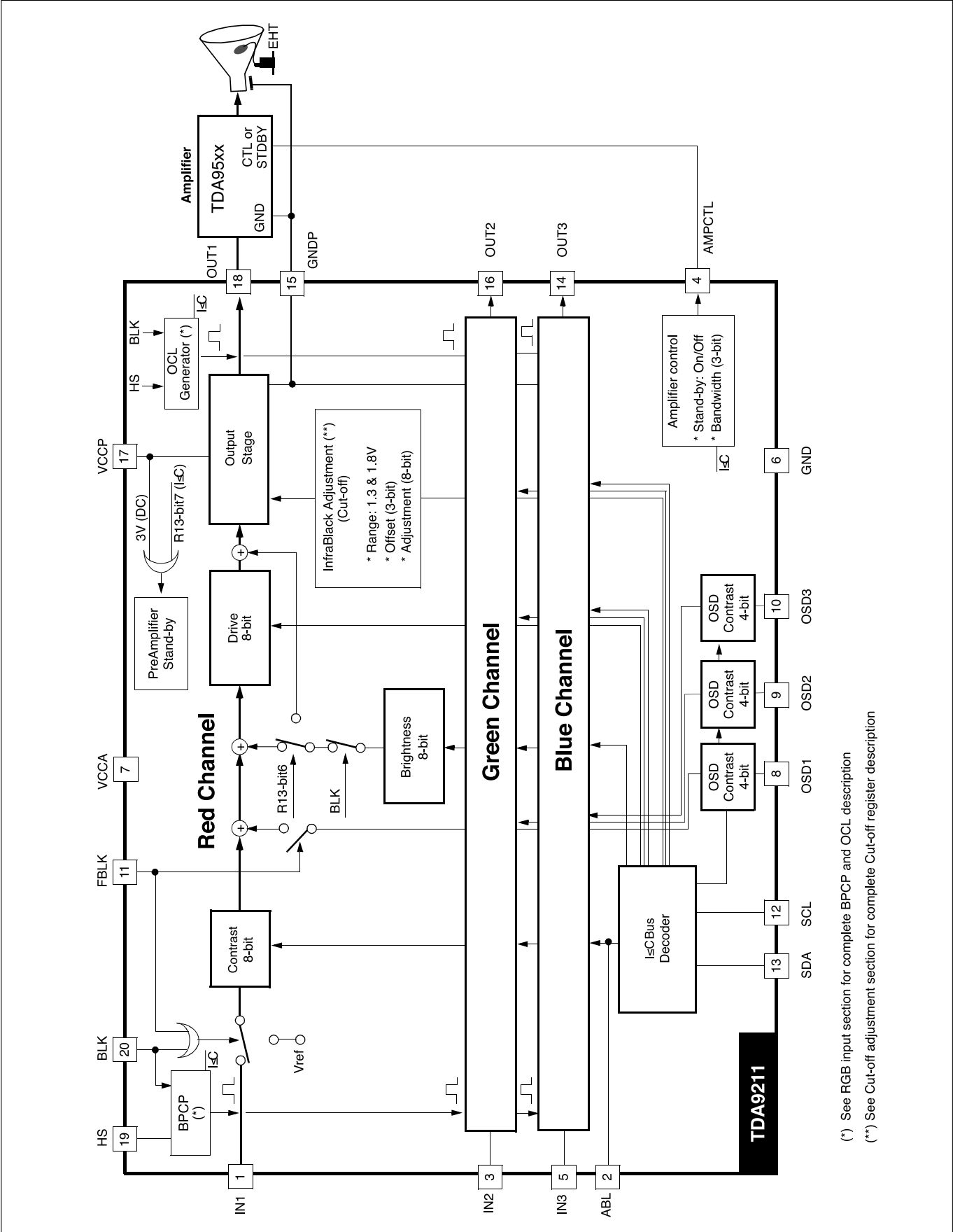
### Pin Configuration



### 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 <sub>CCA</sub>	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	GNDA	Power ground
16	OUT2	Video output (channel 2, green)
17	V <sub>CCP</sub>	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



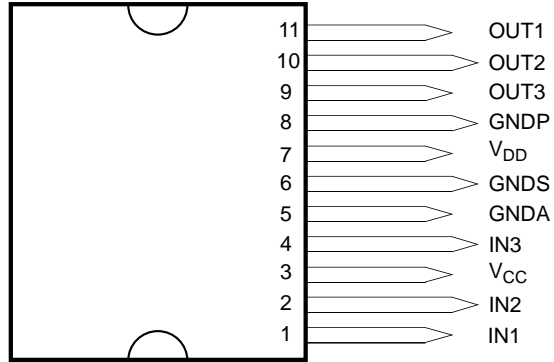


(\*) See RGB input section for complete BPCP and OCL description

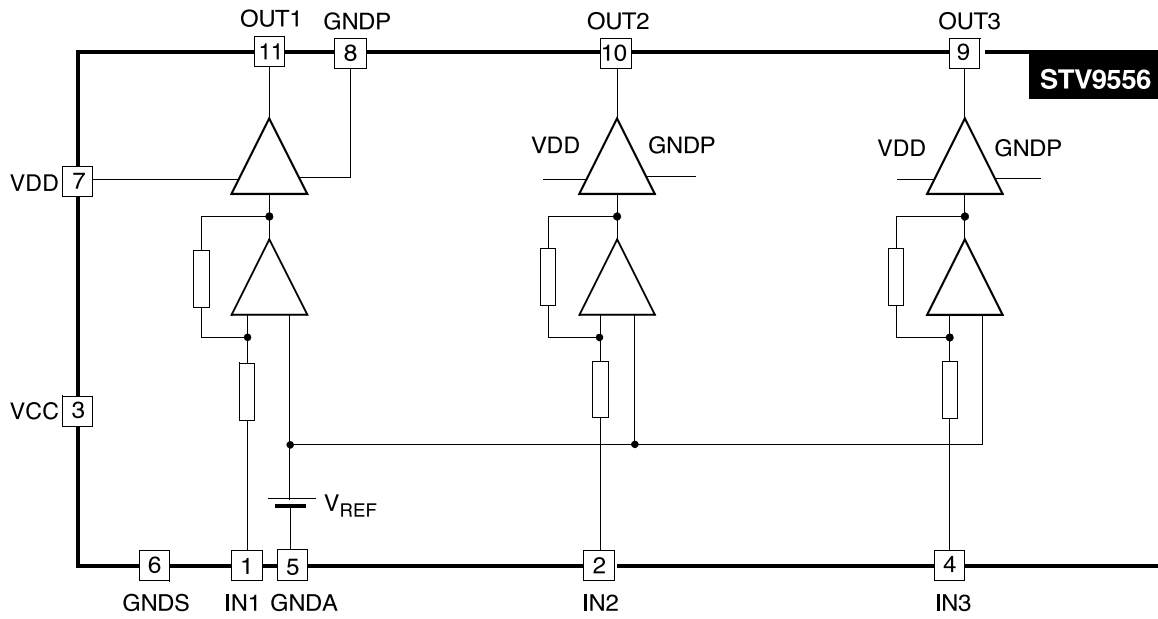
(\*\*) See Cut-off adjustment section for complete Cut-off register description

# STV9556

## Pin Configuration

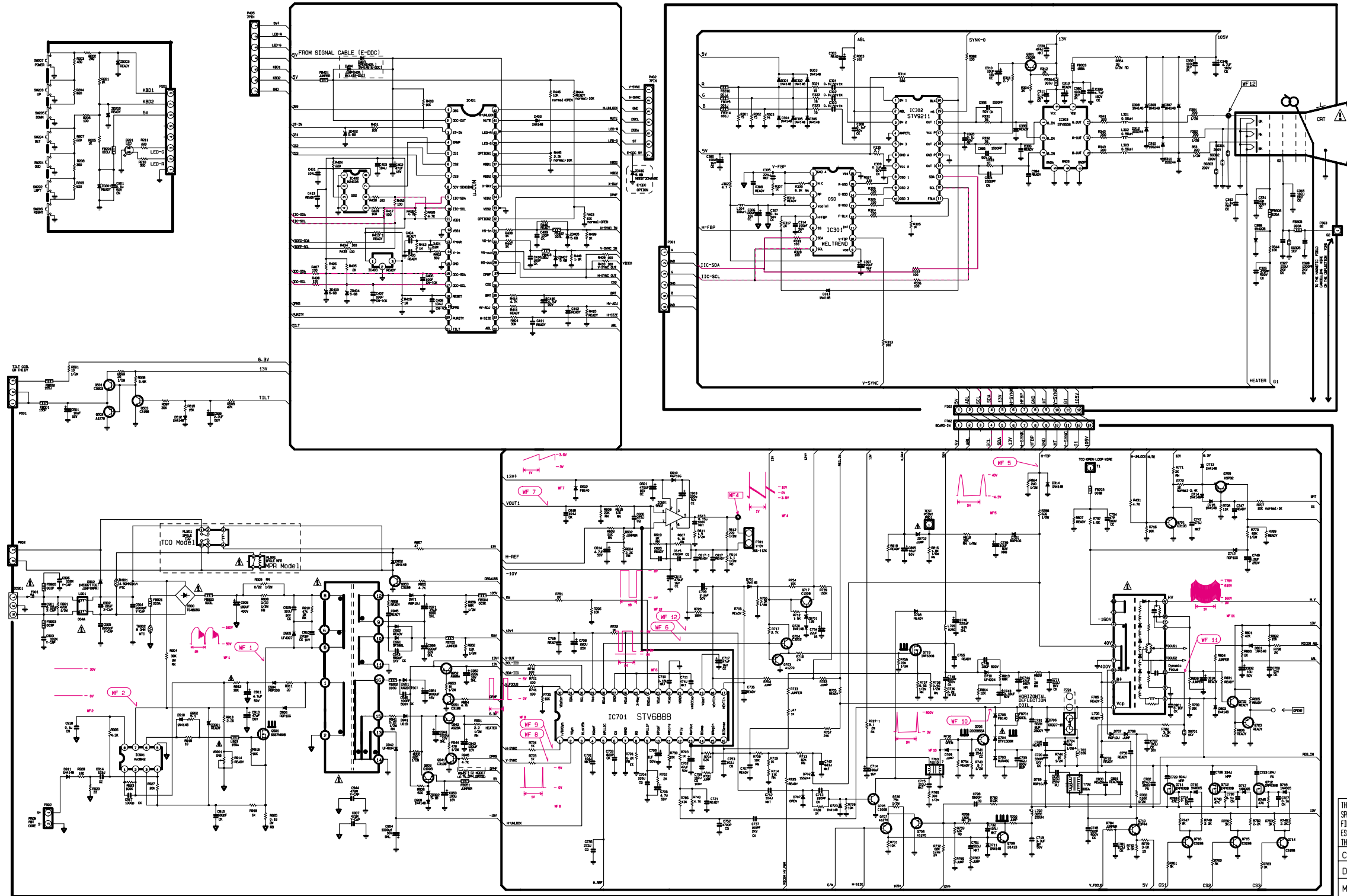


## BLOCK DIAGRAM



SCHEMATIC DIAGRAM

----- DDC-SDA      IIC-SDA  
 ----- DDC-SCL      IIC-SCL



WAVE FORM      CONDITION 1: 110V  
 2: 60kHz / 75Hz

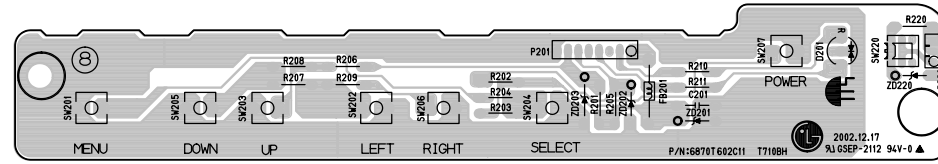
THE SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION, FILM AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SYMBOL MARK OF THE SCHEMATIC.

COMPANY CONFIDENTIAL. DO NOT COPY!

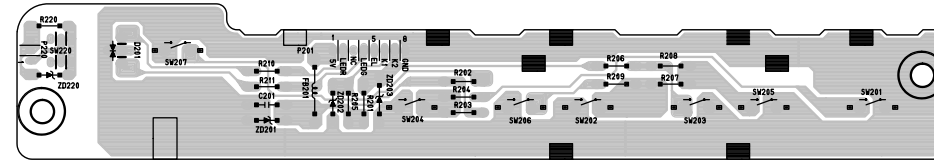
DATE	2003-01-21	REV	01
MODEL	T710BH H.B	Sheet	1 / 1 Page

## PRINTED CIRCUIT BOARD

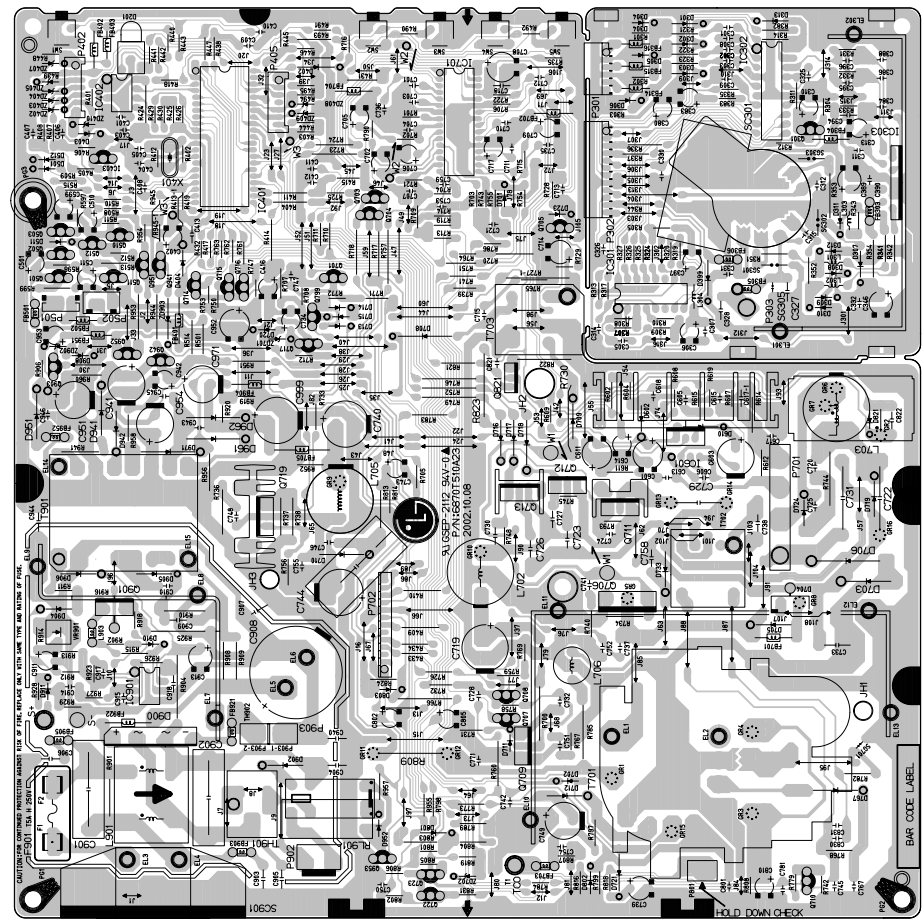
1. CONTROL BOARD (Component Side)



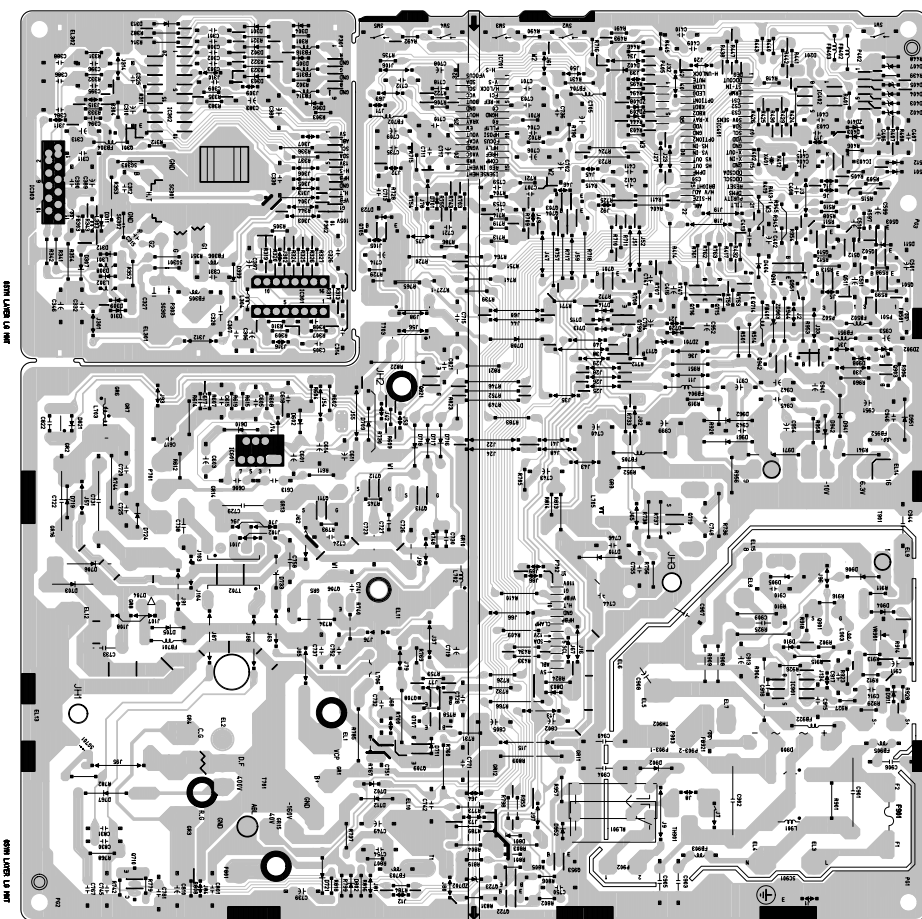
2. CONTROL BOARD (Solder Side)



3. MAIN BOARD (Component Side)



4. MAIN BOARD (Solder Side)





P/NO : 3828TSL091L

Feb. 2003  
Printed in Korea

