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# COLOR MONITOR
# SERVICE MANUAL

**CHASSIS NO. : CA-131**

**MODEL: FLATRON ez T710B (T710BJ-AL**E)**

**(  ) **Same model for Service**

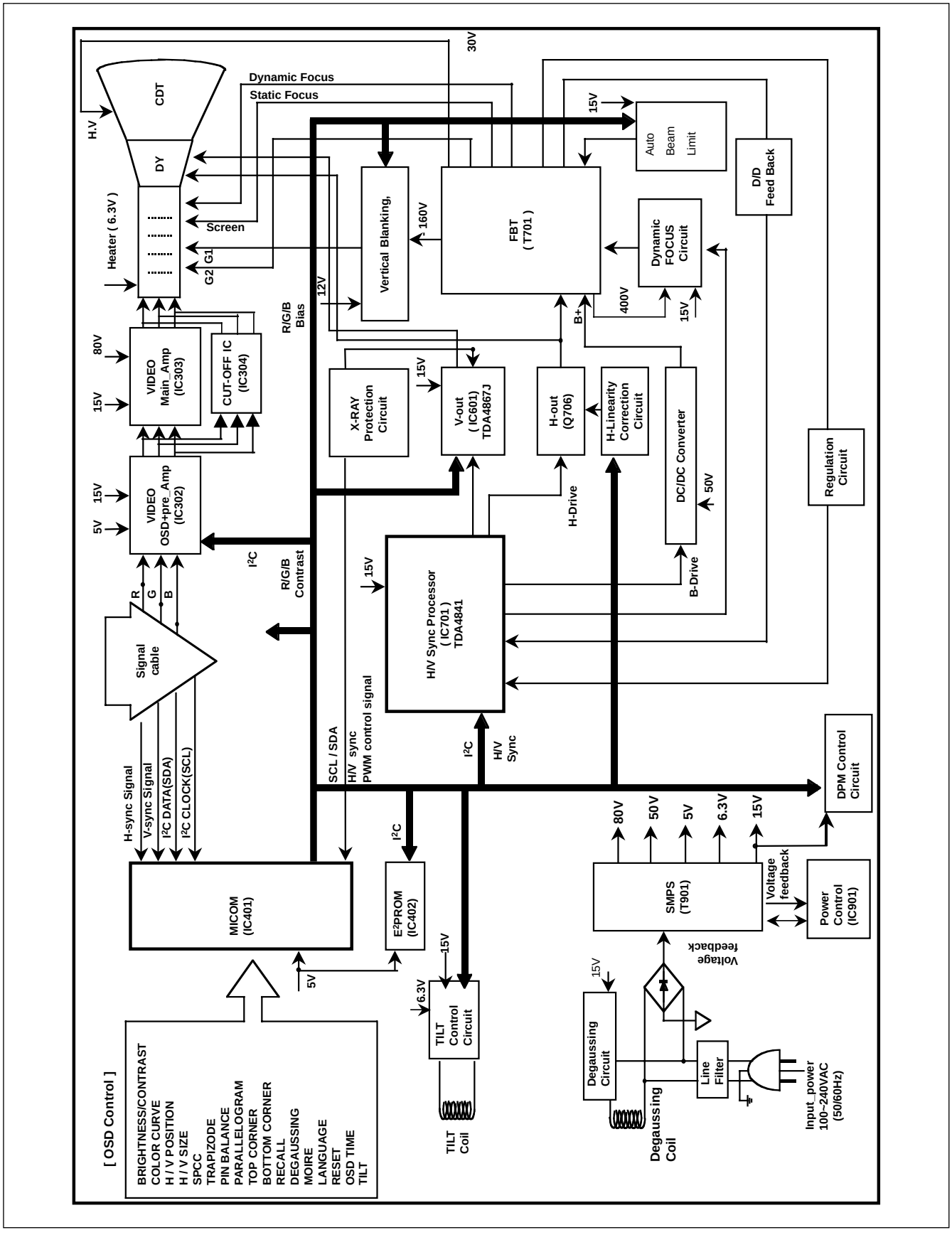
**CAUTION**

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

*Same looking with new chassis.

**Issue Date; 2003. 6.**

# BLOCK DIAGRAM



# 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 1and run the alignment program on the DOS for IBM compatible PC.
- Set external Brightness and Contrast volume to max position.

**1. Checked for $B^+$ Voltage.**

1) Display cross hatch pattern at Mode 4.
2) Check D961 voltage to 50.0V ± 1V with.

**2. 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 25.8kV±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 T710BJ 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 1~4.
19) Display from Mode 2 to 4 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 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 127(7F) position and Sub-Brightness to 205(CD) position. Adjust G2 (screen) command to 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 127(7F) (decimal) position.
16) Set B-DRIVE to 85(55) at DRIVE of the alignment program.
17-1) Adjust R-DRIVE and G-DRIVE command to white balance x=0.283±0.003 and y=0.298±0.003 on the White Balance Meter with PC arrow keys.
17-2) Display color 15,0 window pattern (70x70mm) at mode 4.
18) Adjust SUB-CONTRAST command to 50±2FL .
19) After push the “ENTER” key.
20) Display color 15,0 full white patten at Mode 4..
21) COLOR ADJ. → LUMINANCE → ABL command.
22) Adjust ABL to 32±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.**

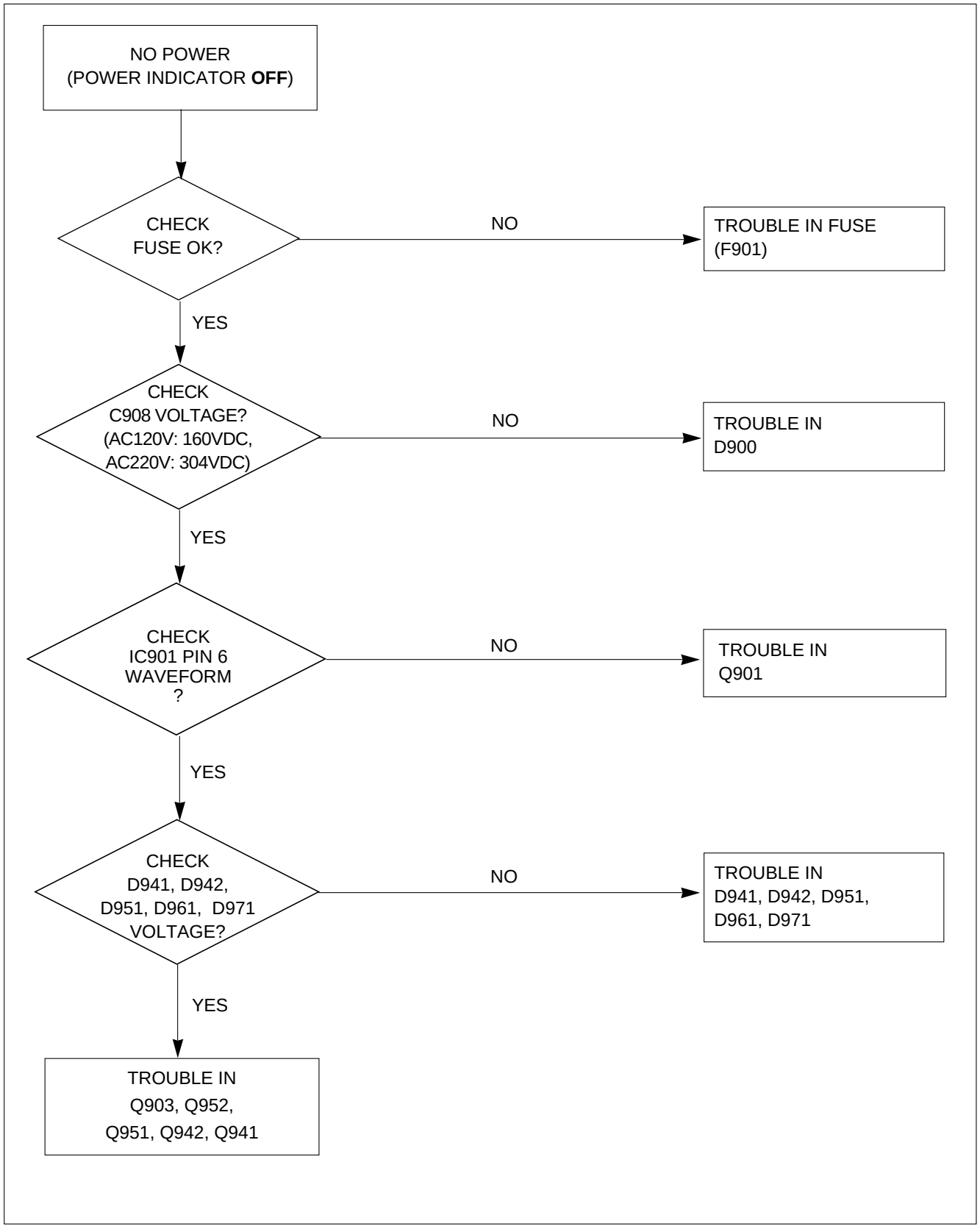
1) Display color 15,0 cross hatch pattern at Mode 4.
2) EEPROM → Write EDID command and confirm “EDID Write OK!!” message of monitor.
3) Exit from the alignment program.
4) Power switch OFF/ON for EDID data save.

**6. Adjustment for Focus.**

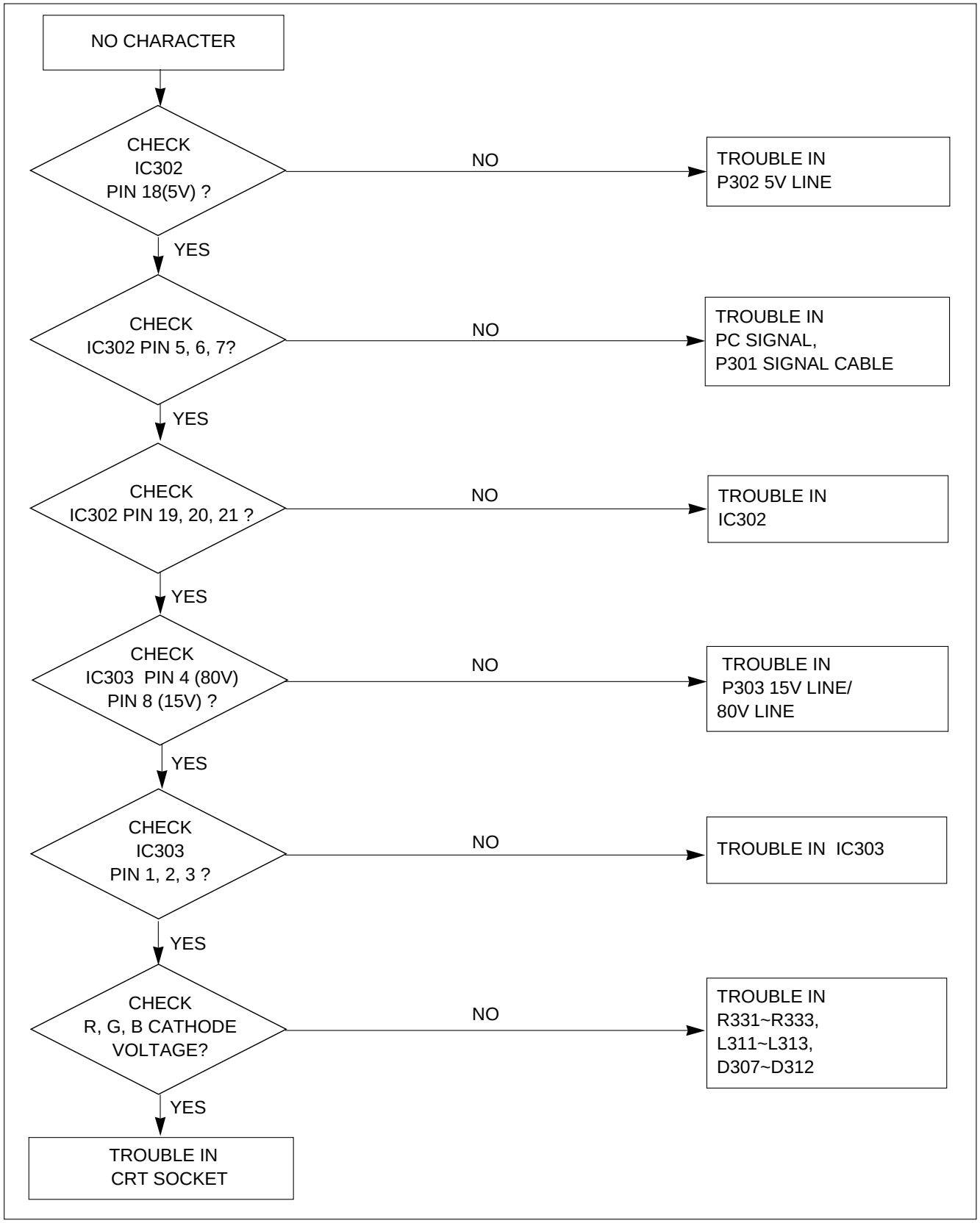
1) Set the Brightness and Contrast to max position.
2) Display H character in full screen at Mode 4.
3) Adjust two Focus control on the FBT that focus should be the best condition.

# TROUBLESHOOTING GUIDE

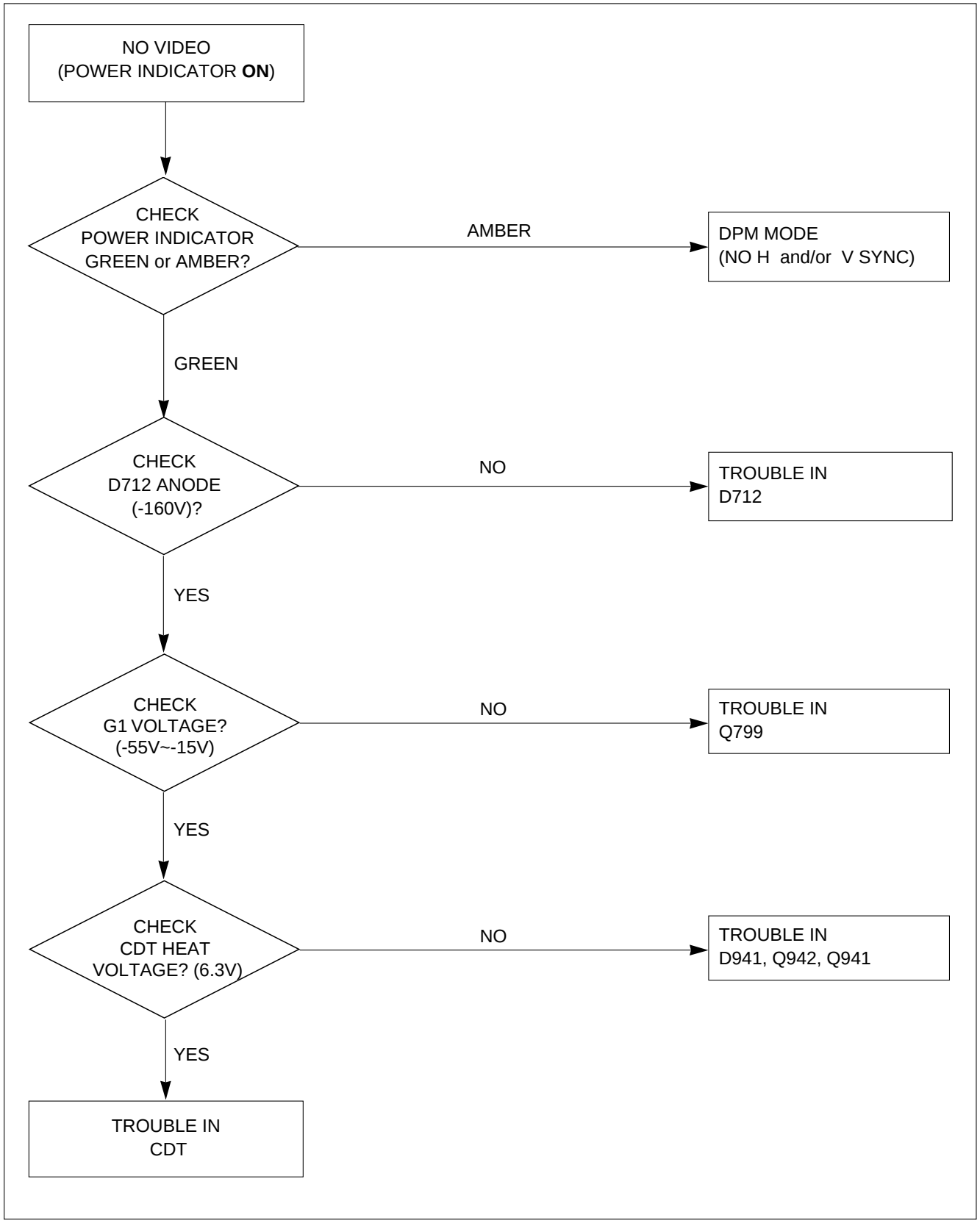
## 1. NO POWER



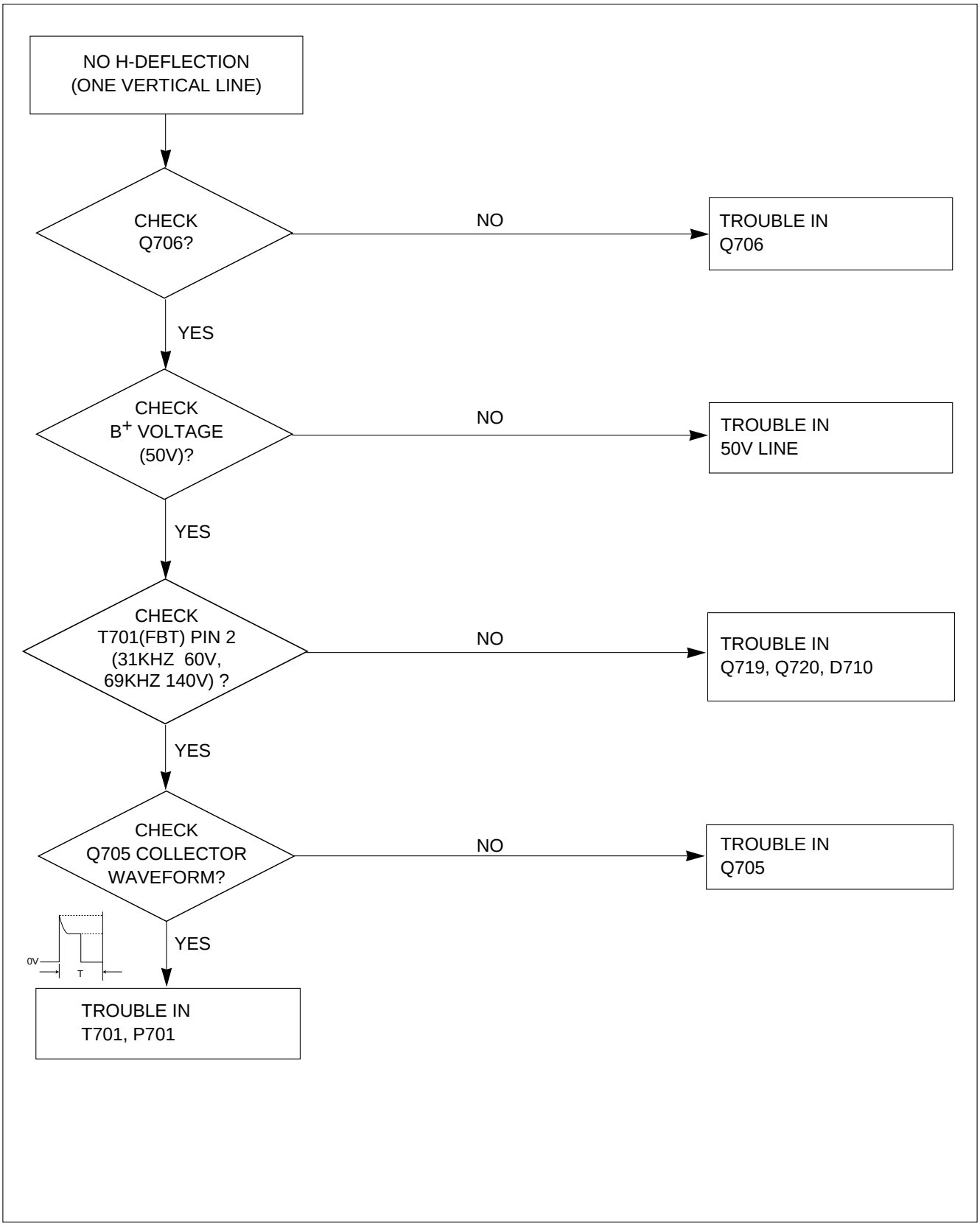
## 2. NO CHARACTER



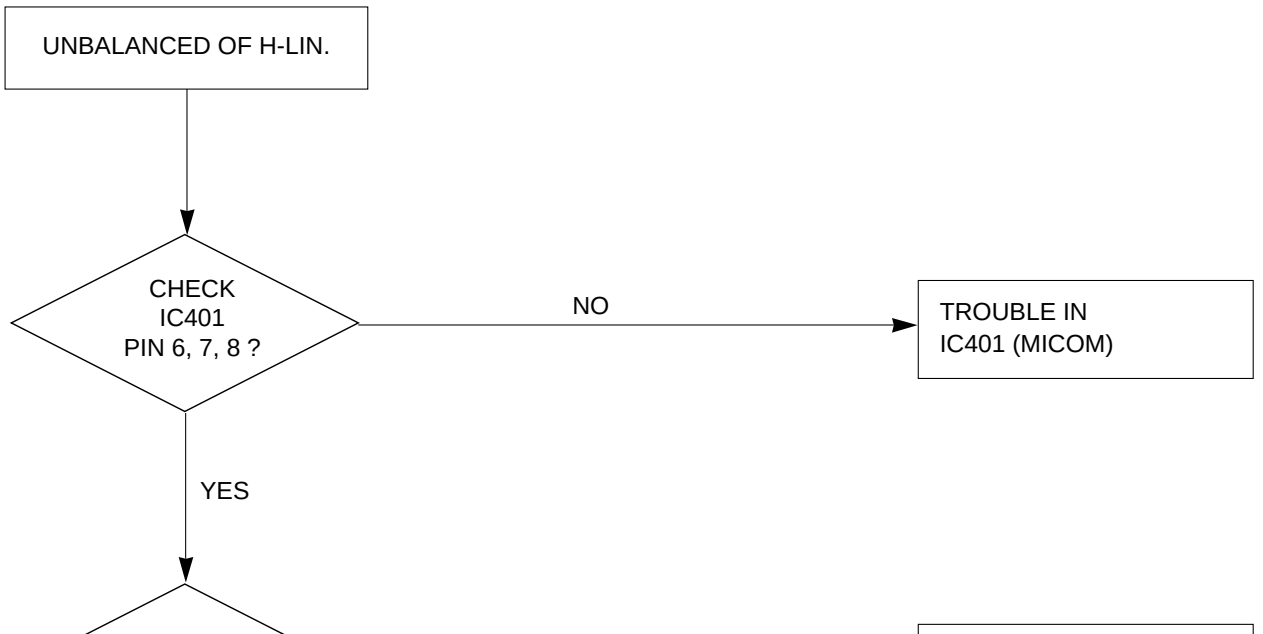
## 3. NO RASTER


NO VIDEO
(POWER INDICATOR **ON**)
CHECK
POWER INDICATOR
GREEN or AMBER?
AMBER
DPM MODE
(NO H and/or V SYNC)
GREEN
CHECK
D712 ANODE
(-160V)?
NO
TROUBLE IN
D712
YES
CHECK
G1 VOLTAGE?
(-55V~-15V)
NO
TROUBLE IN
Q799
YES
CHECK
CDT HEAT
VOLTAGE? (6.3V)
NO
TROUBLE IN
D941, Q942, Q941
YES
TROUBLE IN
CDT

## 4. NO HORIZONTAL DEFLECTION



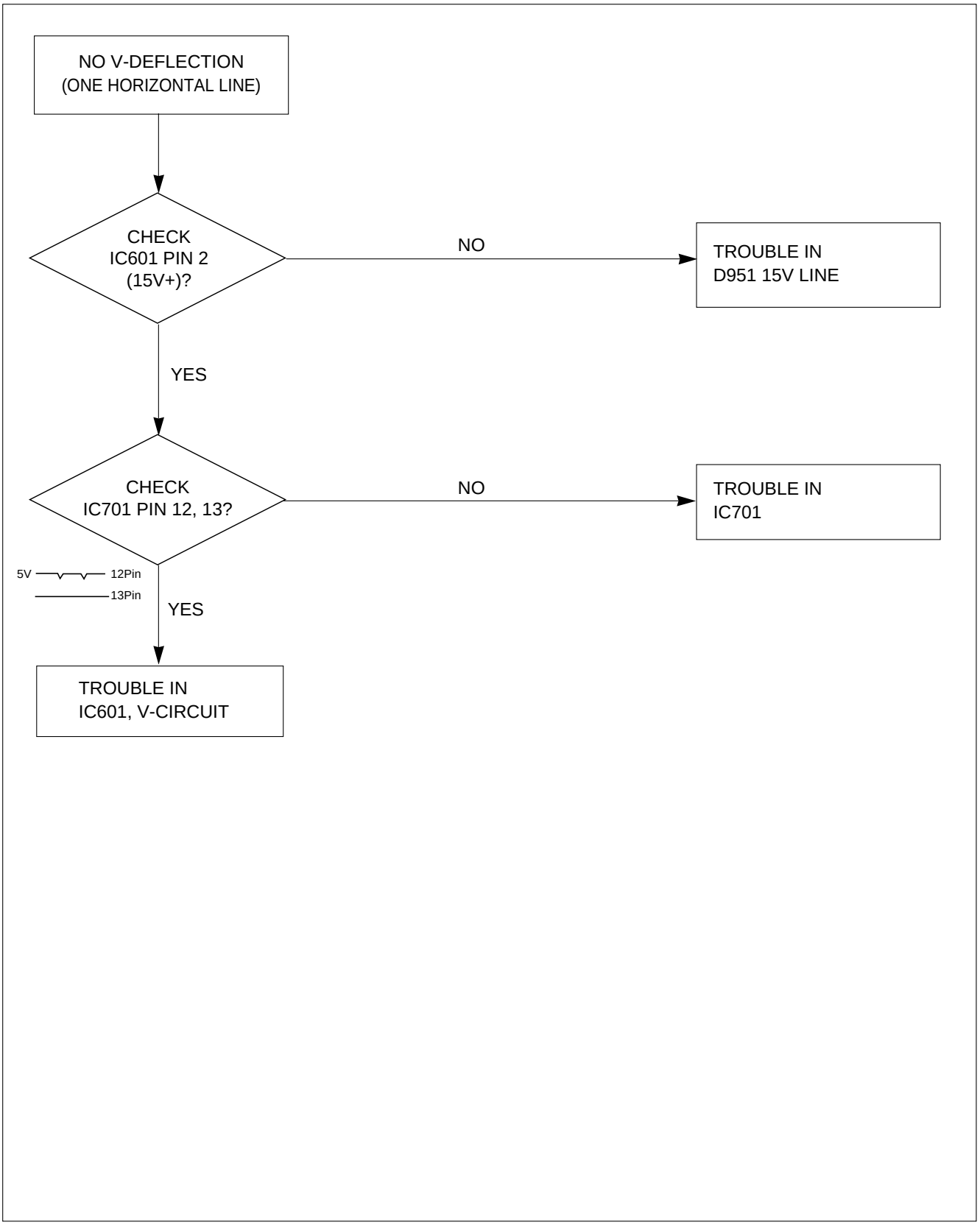
## 5. TROUBLE IN H-LINEARITY



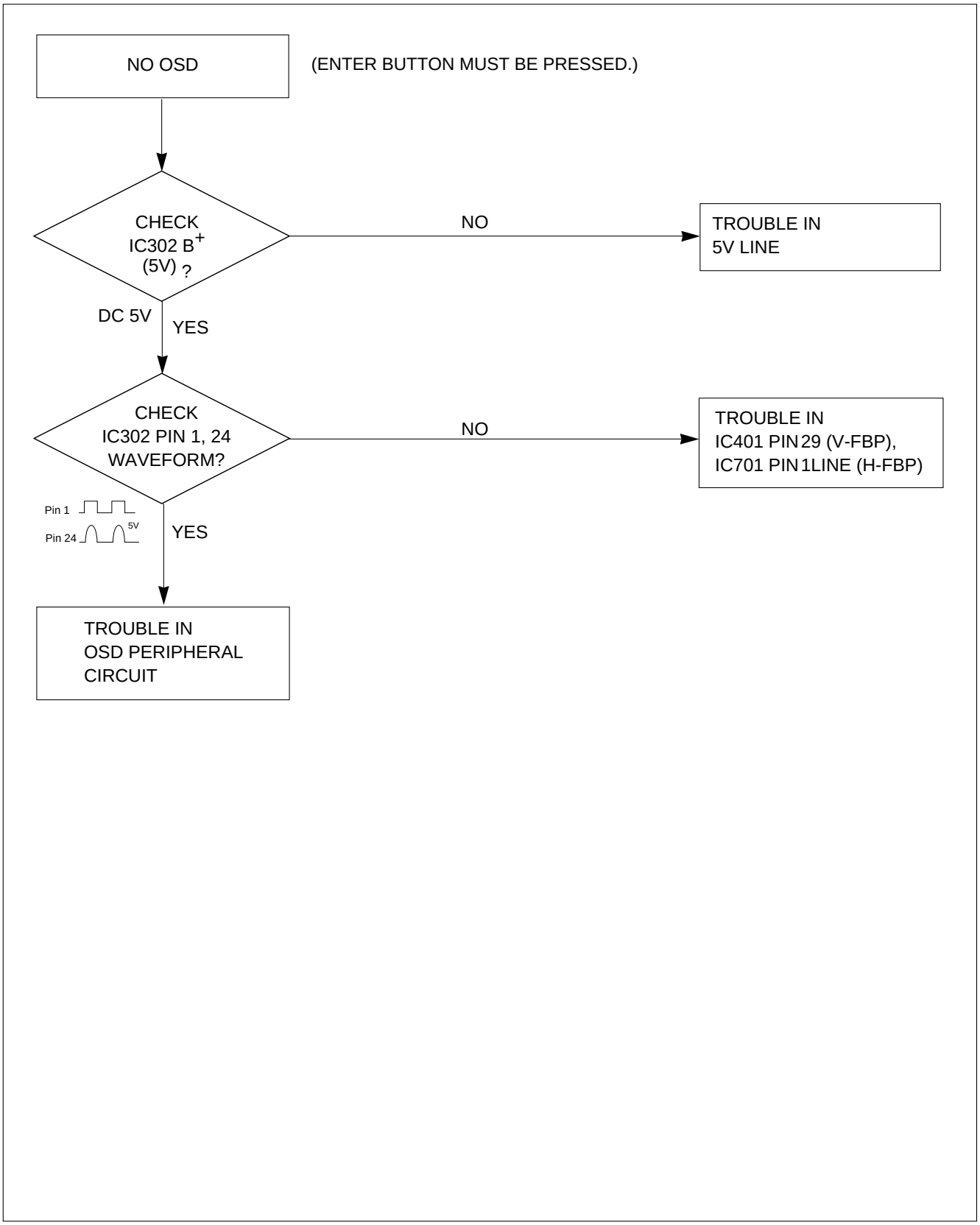

**Cs SIGNAL TABLE**

| 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 | L |
| 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 |

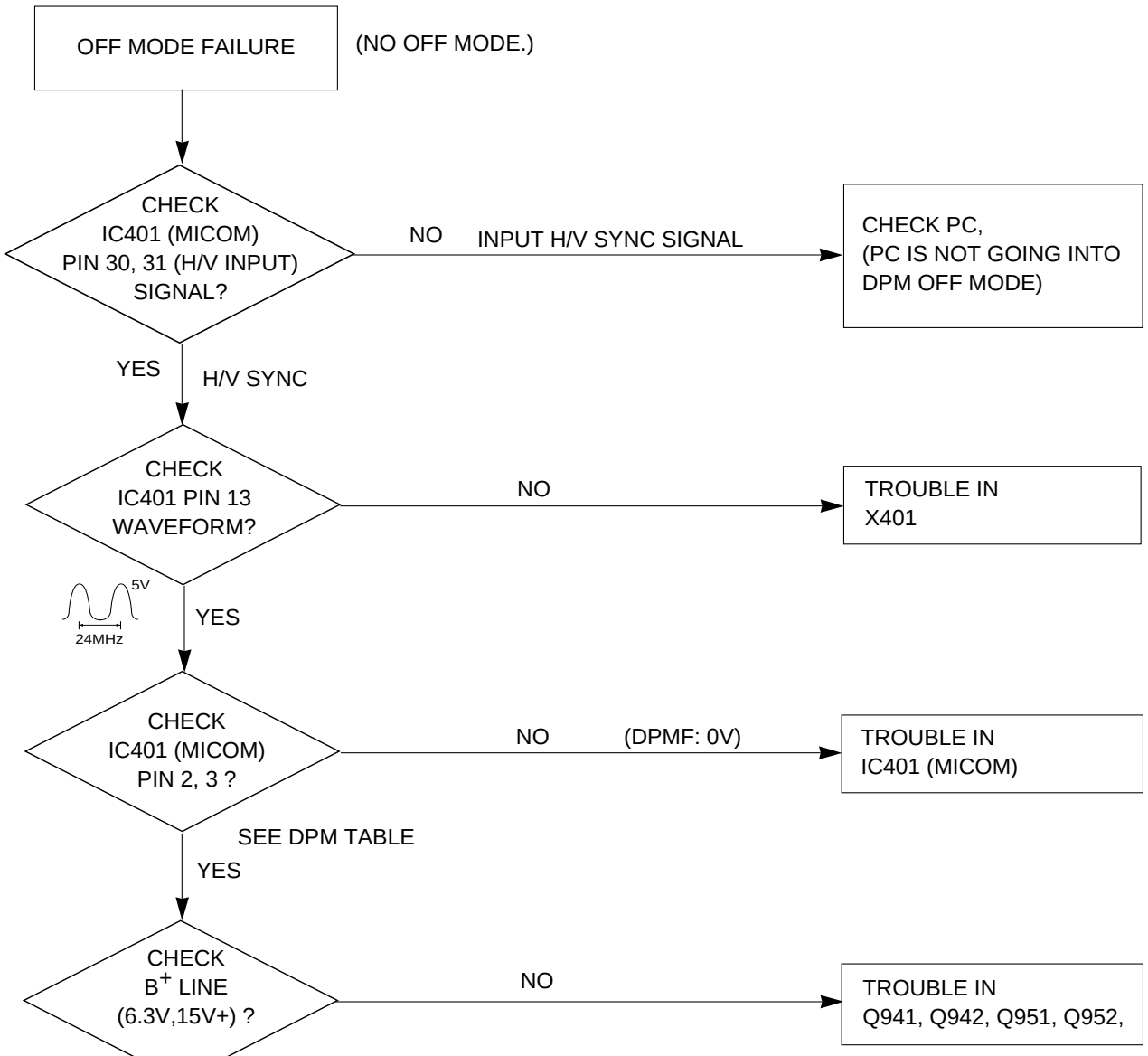
## 6. NO VERTICAL DEFLECTION



## 7. TROUBLE IN OSD



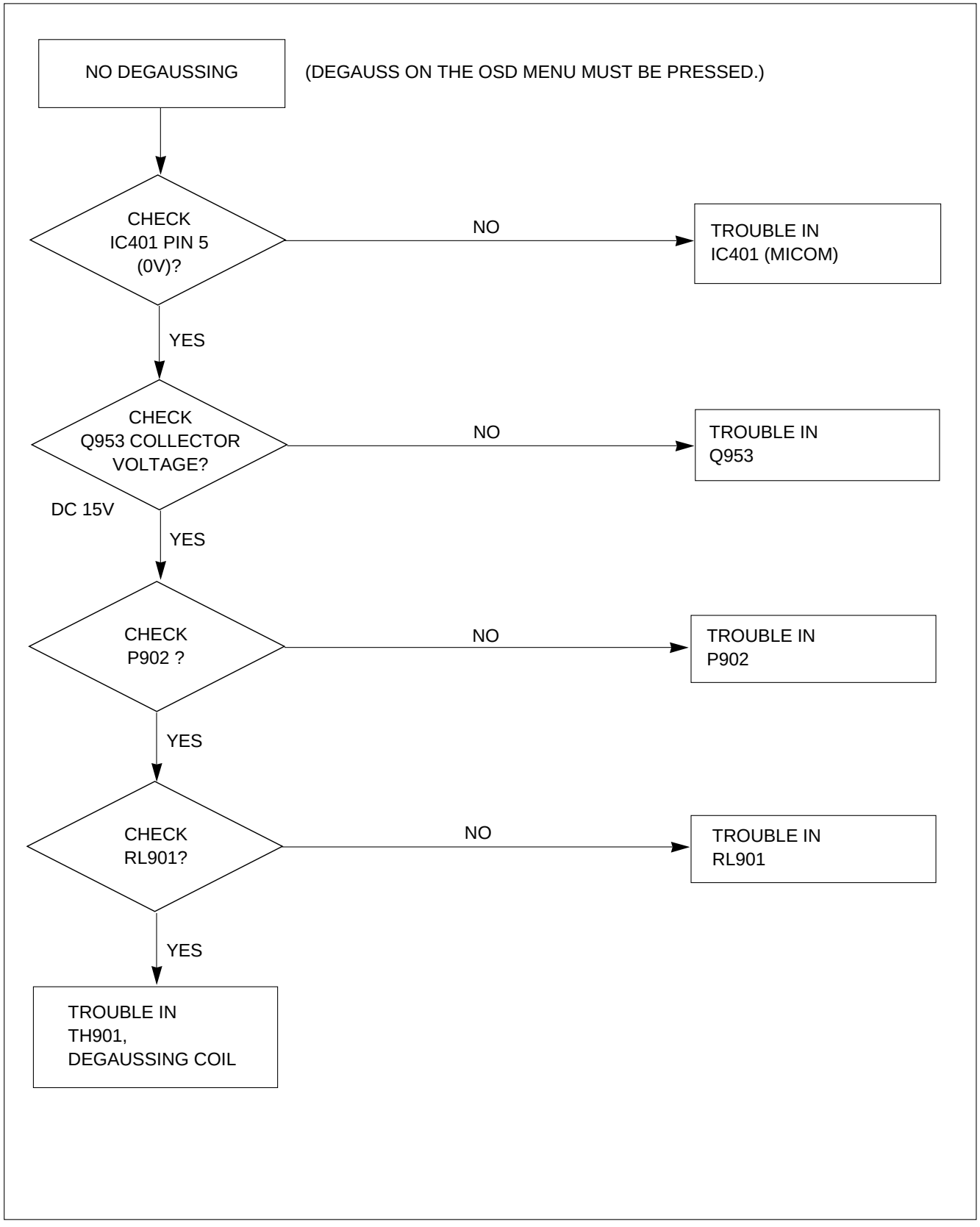
## 8. TROUBLE IN DPM



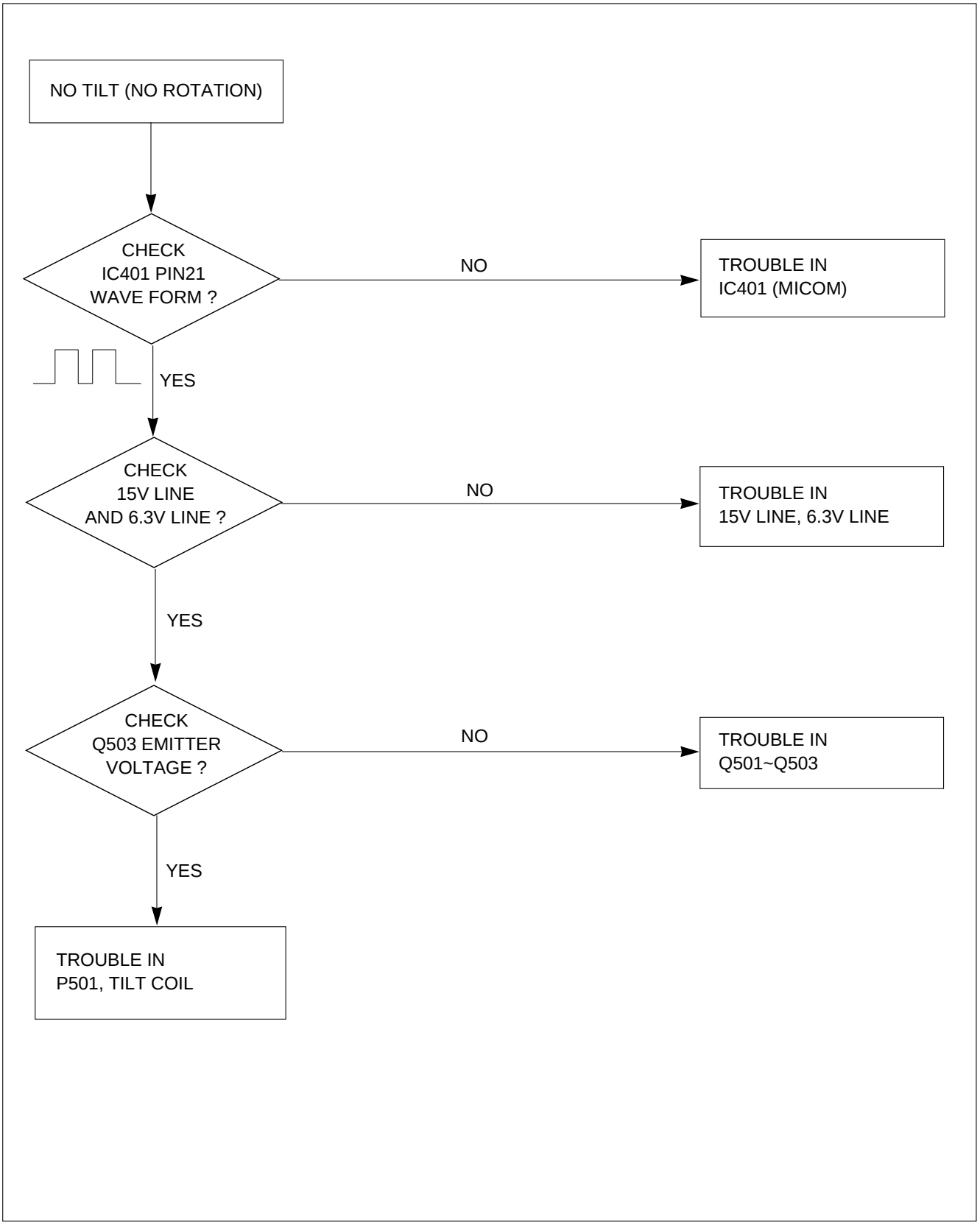

**DPM TABLE**

| 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)



# SCHEMATIC DIAGRAM