PDP-008-1(Module Format)

Issues:27-Sep-02

Version:1.0

42“ PDP DISPLAY
SERVICE MANUAL
MODEL：GTW-P42M102

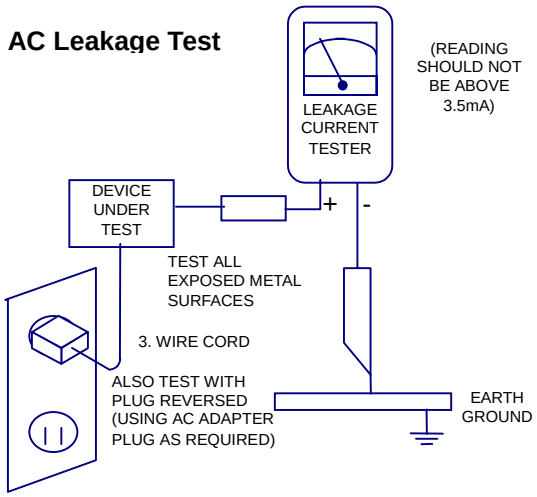
CONTENTS

1. Before returning an instrument to the customer, always make a safety check of the entire instrument, including, but not limited to, the following items.

a. Be sure that no built-in protective devices are defective and/or have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including, but not limited to, nonmetallic control knobs, insulating fish papers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning.**

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage, Such opening include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

c. Leakage Current Hot Check—With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institutes (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 478. With the instrument AC switch first in the ON position and then in the OFF position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle bracket, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 3.5 milliamp. Reverse the instrument power cord plug in the outlet and repeat test. **ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER.**



2. Read and comply with all caution and safety-related notes on or inside the Monitor cabinet, on the Projection Monitor chassis, or on the picture tube.

3. Design Alteration Warning—Do not alter or add to the mechanical or electrical design of this unit. Design alterations and additions, including, but not limited to, circuit modifications and the addition of the items such as auxiliary audio and/or video output connections might alter the safety characteristics of this Projection Monitor and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and will make you, the service, responsible for personal injury or property damage resulting therefrom.

4. Hot Chassis Warning—**a.** Some Monitor chassis are electrically connected directly to one conductor of the AC power cord and may be safely serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in opposite polarity and again measure the voltage potential between the chassis and a known earth ground. **b.** Some Monitor chassis normally have 85V AC (RMS.), between chassis and earth ground regardless of the AC plug polarity. These chassis can be safely serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection. **c.** Some Projection Monitor chassis have a secondary ground systems in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two-ground system is electrically separated by insulating material that must not be defeated or altered.

5. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: **a.** near sharp edges, **b.** near thermally hot parts—be sure that leads and components do not touch thermally hot parts, **c.** the AC supply, **d.** high voltage, **e.** antenna wiring. Always inspect in all areas for pinched, out-of-place, or frayed wiring. Do not change spacing between components, and between components and the printed-circuit board. Check AC power cord for damage.

6. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

7. PRODUCT SAFETY NOTICE—Many Monitor electrical and mechanical parts have special safety-related characteristics some of which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified in this service data by shading with a ⚠ mark on schematics and by shading or a ∗ mark in the parts list. Use of a substitute replacement part that does not have the same safety characteristics as the recommended replacement part in this service data parts list might create shock, fire, and/or other hazards.

SPECIFICATION FOR GTW-P42M102 PLASMA DISPLAY VER1.0

1. SCOPE:

These specifications describe all the characteristics of the 42 inch color monitor.

2. ELECTRICAL REQUIREMENTS:

2.1. Display panel: **Specification**

a. Screen size	Diagonal 42 inch
b. Aspect ratio	16:9 wide
c. Number of pixels	852(Horizontal, RGB Cells) X 480(Vertical) pixels
d. Pixel Pitch	1.08mm X 1.08mm
e. Luminance	570cd/m^2,at APL13%
f. Chromatically	x=0.270±0.03, y=0.300±0.03(color temperature mode 1 :) at center block white pattern 100% (mosaic).

2.2. Power Source:

a. Input voltage	100 ~ 240 Vac , 50 / 60 Hz
b. Input current	3.3A
c. Inrush current	60 A p-p/20ms Max.
d. Power consumption	380±10% Watts (at 110Vac/color bar pattern)
e. Stand-by & DPMS	5 Watts Max. (at 110Vac)

2.3. Input Signal:

2.3.1 Connector Type:

RCA Jack for audio, Y/C_B/C_R and Y/P_B/P_R
6 pin Din S-terminal
9 pin D-SUB
15 pin D-SUB
24 pin DVI

2.3.2 Video/S-Video Signal:

a. Type	Analog
b. Polarity	Positive
c. Amplitude	Video 1Vp-p , (priority S-Video) Y=1Vp-p C=0.286Vp-p
d. Frequency	H: 15.734KHz V: 60Hz(NTSC) H: 15.625KHz V: 50Hz(PAL)
e. Input impedance	75 ohms

2.3.3 Y/CB/CR or Y/PB/PR Signal:

a. Type	Analog
b. Polarity	Positive
c. Amplitude	AV: 1Vp-p (with sync) S-Video: Y: 1Vp-p ,C: 0.286Vp-p
d. Frequency	
Y/C_B/C_R	H: 15.734KHz V: 60Hz (NTSC) H: 15.625KHz V: 50Hz (PAL)
Y/P_B/P_R: HDTV	1. 31KHz/60Hz (480P) 2. 45KHz/60Hz (720P) 3. 33KHz/60Hz(1080I)

2.3.4 RGB Signal:

a. Type	TTL
b. Polarity	Positive or Negative
c. Amplitude	RGB: 0.7Vp-p
d. Frequency	H: support to 31K~91KHz V: support to 50~85Hz

2.3.5 DVI Signal:

a. Type	Digital
b. Polarity	Positive or Negative
c. Frequency	H: support to 31K~63KHz V: support to 50~85Hz

2.3.6 Audio Signal: Analog 500mV rms /more than 22Kohm

2.3.7 Pin Assignments For D-SUB Connector (In / Loop Out):

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	RED	6	RED GND	11	GND
2	GREEN	7	GREEN GND	12	SDA
3	BLUE	8	BLUE GND	13	H-SYNC
4	GND	9	NC	14	V-SYNC
5	GND	10	GND	15	SCL

2.3.8 Pin Assignments For 24 Pin DVI Connector (Digital Only):

Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	TMDS Data 2-	9	TMDS Data 1-	17	TMDS Data 0-
2	TMDS Data 2+	10	TMDS Data 1+	18	TMDS Data 0+
3	TMDS Data 2/4 Shield	11	TMDS Data 1/3 Shield	19	TMDS Data 0/5 Shield
4	TMDS Data 4-	12	TMDS Data 3-	20	TMDS Data 5-
5	TMDS Data 4+	13	TMDS Data 3+	21	TMDS Data 5+
6	DDC Clock	14	+5V Power	22	TMDS Clock Shield
7	DDC Data	15	Ground (For +5V)	23	TMDS Clock +
8	No Connect	16	Hot Plug Detect	24	TMDS Clock -

2.3.9 RGB/DVI For VESA Standard:

Mode No	Resolution	Refresh Rate	Horizontal Frequency	Vertical Frequency	Vertical Sync Polarity	Horizontal Sync Polarity	Dot rate
		(Hz)	(K Hz)	(Hz)	(TTL)	(TTL)	(MHz)
1	640(VGA)× 480	60	31.5	59.94	-	-	25.175
2	640(VGA)× 480	72	37.9	72.81	-	-	31.500
3	640(VGA)× 480	75	37.5	75	-	-	31.500
4	640(VGA)× 480	85	43.3	85.01	-	-	36.000
5	800(SVGA)× 600	56	35.1	56.25	+	+	36.000
6	800(SVGA)× 600	60	37.9	60.317	+	+	40.000
7	800(SVGA)× 600	72	48.1	72.19	+	+	50.000
8	800(SVGA)× 600	75	46.9	75	+	+	49.500
9	800(SVGA)× 600	85	53.7	85.06	+	+	56.250
10	1024(XGA)× 768	60	48.4	60.01	-	-	65.000
11	1024(XGA)× 768	70	56.5	70.07	-	-	75.000
12	1024(XGA)× 768	75	60.0	75.03	+	+	78.750
13	1024(XGA)× 768	85	68.7	84.99	+	+	94.500
14	1280(SXGA)× 1024	60	63.98	60.02	+	+	108.00
15◎	1280(SXGA)× 1024	75	79.98	75.03	+	+	135.00
16◎	1280(SXGA)× 1024	85	91.15	85.02	+	+	157.50
18	720(DOS)× 400	70	31.46	70.08	+	-	28.320
19	640(VGA)× 480	50	31.5	50	-	-	25.175
20◎	1280(HDTV)× 720P	60	45.15	60	-	-	74.250
21◎	1920(HDTV)× 1080I	60(I)	33.75	60	-	-	74.250
22	640(VGA)× 350	70	31.50	70	-	-	25.175
23	852(WGA)× 480	60	31.72	60.41	-	-	30.00

RGB/DVI For Apple Standard:

Mode No	Resolution	Refresh Rate	Horizontal Frequency	Vertical Frequency	Vertical Sync Polarity	Horizontal Sync Polarity	Dot rate
		(Hz)	(KHz)	(Hz)	(TTL)	(TTL)	(MHz)
24	640 x 480	67	35.00	66.67	-	-	30.240
25	832 x 624	75	49.73	74.55	-	-	57.283
26	1152 x 870	75	68.68	75.06	-	-	100.000

Attention ◎: For DVI is not supported.

2.3.10 Y/PB/PR For Component:

Mode No	Resolution	Refresh Rate
1	640 × 480P	60
2	1920 × 1080I	60
3	1280 × 720P	60

2.4. Display Performance Requirements:
The data of display performance are measured based on the following.
Conditions unless otherwise specified.

a. Ambient temperature	25±5 ℃
b. Warm up period	30 minutes Min.
c. Line input voltage :	100 Vac ~ 240 Vac (50 / 60 Hz)
d. Viewing distance	Distance from screen is 81 cm
e. Display mode	Test with window white pattern mode if not specified.
f. Brightness condition	Press recall bottom to set default brightness

2.4.1 Maximum Resolution: Support to 1280 x 1024

2.4.2 Horizontal Size (Standard) 920±8 mm (for mode 1～26)
Vertical Size (Standard) 518±8 mm (for mode 1～26)

2.4.3 Horizontal Size (Max.) Mode 1~26⇨ full-scan
Vertical Size (Max.) Mode 1~26⇨ full-scan

2.4.4 Maximum Brightness Level: Timing Mode 1

a. 100% center block white pattern (mosaic)	More than 30FL (while pressing recall button to set default brightness)
b. raster background	with contrast / brightness at Max. and black signal) less than 0.4FL

2.5. Operation:

Main unit button	Main power switch (power ON /OFF) Power ON/OFF Input Mode (TV → AV1 → AV2 (S) → Component 1 → Component2 →RGB → DVI → TV run in cycle) Menu key -,+ Adjustment -,+
IR Remote Control	Power on/off Input Mode (same as Main unit button) Volume -,+ Wide , Video/S video input:4:3/16:9/ZOOM1/ZOOM2 Analog RGB input :W4:3/W16:9 Menu -,+ Adjustment -,+ RECALL PIP, POP, SWAP, MUTE

2.5.1 Adjustable Items:

AV/S-Video input Y/CB/CR	Brightness, Contrast, Color, Tint, Sharpness Color Temperature
Analog RGB input	Brightness, Contrast, Vertical position, Vertical width, Horizontal position, Horizontal width, Color Temperature, Clock phase, Power Save
DVI input	Brightness, Contrast, Vertical position, Vertical width, Horizontal position, Horizontal width, Color Temperature, Power Save

SPECIFICATION FOR GTW-P42M102 PLASMA DISPLAY VER1.0

3. DIMENSIONS:	Without Stand	With Stand
Width	1040mm	1040mm
Height	648 mm	690mm
Depth	95mm	287.5 mm

3.1. Package Dimensions:

Width	1230 mm
Height	960 mm
Depth	470 mm

3.2. Weight:

Net weight	68.8lbs/31.2 Kgs (w/o stand) 77.2lbs/ 35Kgs (w/ stand)
Gross weight	101.4lbs/46 Kgs

4. ENVIRONMENT:

4.1. Operating:

Temperature	0~40℃(32~104℉)
Relative humidity	20~80%
Pressure	800~1114hpa

4.2. Non-Operating:

Temperature	-20~60℃
Relative humidity	20~90%
Pressure	600~1114hpa
Vibration	X/Y/Z, 0.5G/10~55Hz(sweep), 10 minutes

4.3. Acoustics:

(IHF A-weighted 1meter)	40dB Max.

5. SOUND:

a.	Residual hum (at volume min)		500 μW Max.
b.	Practical max. Audio output (at 10% THD max.)		
	1.0Vp-p	1kHz input	5W + 5W Max. /12 ohm
c.	Sound distortion (at 250 mw 1kHz)		1% Max.
d.	Sound distortion (at 1.0Vp-p 1kHz input volume max.)		9% Max.
e.	Audio output (input at 1.4V_{P-P})		≧1.0 V_{P-P}
f.	Max. hum (at volume max)		1000 μW Max.
g.	Sensitivity (at volume max. O/P 1W) at 1kHz AV Input		150mV ± 3dB
h.	Audio Fidelity (1KHz 0dB,corrected for emphasis characteristics)		
	BBE ON	60Hz	6dB ± 3dB
		10KHz	8dB ± 3dB
	WOOFER & BBE OFF	100Hz	-6dB ± 3dB
		10KHz	-2dB ± 3dB

6. RF

6.1 RF Sensitivity (Peak)

VHF	CH 2 ~ CH 13	30dB Max.
UHF	CH 14 ~ CH 69	30dB Max.
CATV	CH A-5 ~ CH W+29	30dB Max.

6.2 AFT Pull-In Range

VHF	CH 2 ~ CH 13	± 0.6MHz Min.
UHF	CH 14 ~ CH 69	± 0.6MHz Min.
CATV	CH A-5 ~ CH W+29	± 0.6MHz Min.

6.3 Picture IF Rejection

VHF	CH 2 ~ CH 13	50dB Min.
UHF	CH 14 ~ CH 69	50dB Min.
CATV	CH A-5 ~ CH W+29	50dB Min.

6.4 Picture Image Rejection

VHF	CH 2 ~ CH 13	40dB Min.
UHF	CH 14 ~ CH 69	35dB Min.
CATV	CH A-5 ~ CH W+29	35dB Min.

6.5 AGC Characteristics

AGC Figure Of Merit 50dB Min.

RF signal range in which video at PDP drops 6 dB from output level obtained with 100mV input.

6.6 RF AGC Cut In Level 55dB ± 2dB

6.7 FM/AM Rejection (100mV at SIF input) 14dB min

6.8 Noise Limits Sensitivity VHF 45dB max

UHF 49dB max

7. RELIABILITY REQUIREMENT:

The MTBF is 20000hrs under normal operation (environment temperature=25±5℃, half luminosity, motion picture)

8. REGULATORY REQUIREMENTS:

8.1 Safety Requirement:

a. UL — Safety of information technology equipment including electrical business equipment

b. CSA — Safety of information technology equipment including electrical business equipment

c. TUV

8.2 Emission Requirement:

The unit shall meet the EMI limits in all screen modes. For EMI testing, the unit must be tested with the screen pattern consisting of scrolling capital “H” characters also the brightness contrast will be adjusted to max. Level.

a. FCC class B part 15

8.3 Transit test

a. Drop Test 200mm max.

b. Vibration Test

1.	**Forward and backward**	**30 minutes 1000 c.p.m**
2.	**Right and left**	**30 minutes 1000 c.p.m**
3.	**Up and down**	**30 minutes 1000 c.p.m**

8.4 Power Management:

Mode	H-sync	V-sync	Video	Power dissipation
Normal	Pulse	Pulse	Active	Normal power
Stand-by	No pulse	No pulse	No video	Power off
Power saving	Pulse	No pulse	Blanked	Less than 5 watts
	No pulse	Pulse		

This Plasma display is Energy star compliant when used with a computer equipped with DPMS.

Note: The power indicator LED color is green in normal state, yellow in stand-by and power saving state.

9. VIDEO & AUDIO

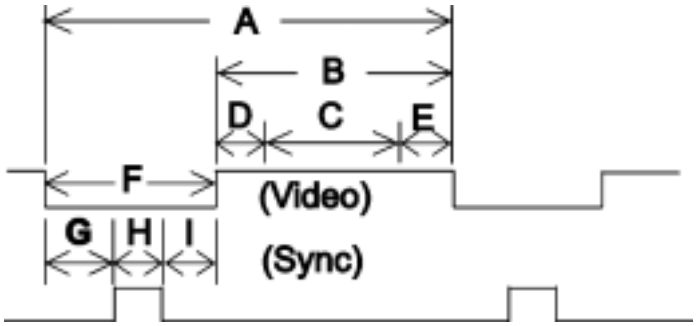
9.1 Video Signal Output (impedance 75 ohm) 1.0Vp-p ± 0.2Vp-p

(input signal at 1.0Vp-p ± 0.2Vp-p)

SPECIFICATION FOR GTW-P42M102 PLASMA DISPLAY VER1.0

APPENDIX A :

Preset Timing Chart



Item	Description:
A	Total time
B	Active display area including borders
C	Active display area excluding borders
D	Left/Top border
E	Right/bottom border
F	Blanking time
G	Front porch
H	Sync-width
I	Back porch

Mode No	1	2	3	4	5	6	7	8	9	
Resolution & Refresh Rate	640 480 60	640 480 72	640 480 75	640 480 85	800 600 56	800 600 60	800 600 72	800 600 75	800 600 85	Hz
Pixel	25.175	31.5	31.5	36	36	40	50	49.5	56.25	MHz
Horizontal visible	640	640	640	640	800	800	800	800	800	Dots
Horizontal total	800	832	840	832	1024	1056	1040	1056	1048	Dots
Horizontal front porch	24	32	16	56	24	40	56	16	32	Dots
Horizontal sync	96	40	64	56	72	128	120	80	64	Dots
Horizontal back porch	48	128	120	80	128	88	64	160	152	Dots
Horiz blanking time	160	192	200	192	224	256	240	256	248	Dots
Vertical visible	480	480	480	480	600	600	600	600	600	Lines
Vertical total	525	520	500	509	625	628	666	625	631	Lines
Vertical front porch	18	17	1	1	1	1	37	1	1	Lines
Vertical sync	2	3	3	3	2	4	6	3	3	Lines
Vertical back porch	33	28	16	25	22	23	23	21	27	Lines
Vertical blanking time	45	40	20	29	25	28	66	25	31	Lines
Horizontal frequency	31.469	37.9	37.5	43.3	35.1	37.9	48.1	46.9	53.7	KHz
Vertical frequency	59.94	72.81	75	85.01	56.25	60.317	72.19	75	85.06	Hz
Vertical sync polarity	-	-	-	-	+	+	+	+	+	TTL
Horiz sync polarity	-	-	-	-	+	+	+	+	+	TTL
Dot rate	25.175	31.5	31.5	36	36	40	50	49.5	56.25	MHz

SPECIFICATION FOR GTW-P42M102 PLASMA DISPLAY VER1.0

Mode No	10	11	12	13	14	15	16	18	19	
Resolution & Refresh Rate	1024 768 60	1024 768 70	1024 768 75	1024 768 85	1280 1024 60	1280 1024 75	1280 1024 85	720 400 70	640 480 50	Hz
Pixel	65	75	78.75	94.5	108	135	157.5	28.320	25.175	MHz
Horizontal visible	1024	1024	1024	1024	1280	1280	1280	720	640	Dots
Horizontal total	1344	1328	1312	1376	1688	1688	1728	900	800	Dots
Horizontal front porch	24	24	16	48	48	16	64	18	16	Dots
Horizontal sync	136	136	96	96	112	144	160	108	96	Dots
Horizontal back porch	160	144	176	208	248	248	224	54	48	Dots
Horiz blanking time	320	304	288	352	408	408	448	180	160	Dots
Vertical visible	768	768	768	768	1024	1024	1024	400	480	Lines
Vertical total	806	806	800	808	1066	1066	1072	449	629	Lines
Vertical front porch	3	3	1	1	1	1	1	12	62	Lines
Vertical sync	6	6	3	3	3	3	3	2	2	Lines
Vertical back porch	29	29	28	36	38	38	44	35	85	Lines
Vertical blanking time	38	38	32	40	42	42	48	49	149	Lines
Horizontal frequency	48.4	56.5	60	68.7	63.98	79.98	91.15	31.46	31.5	KHz
Vertical frequency	60.01	70.07	75.03	84.99	60.02	75.03	85.02	70.08	50	Hz
Vertical sync polarity	-	-	+	+	+	+	+	+	-	TTL
Horiz sync polarity	-	-	+	+	+	+	+	-	-	TTL
Dot rate	65	75	78.75	94.5	108	135	157.5	28.32	25.175	MHz

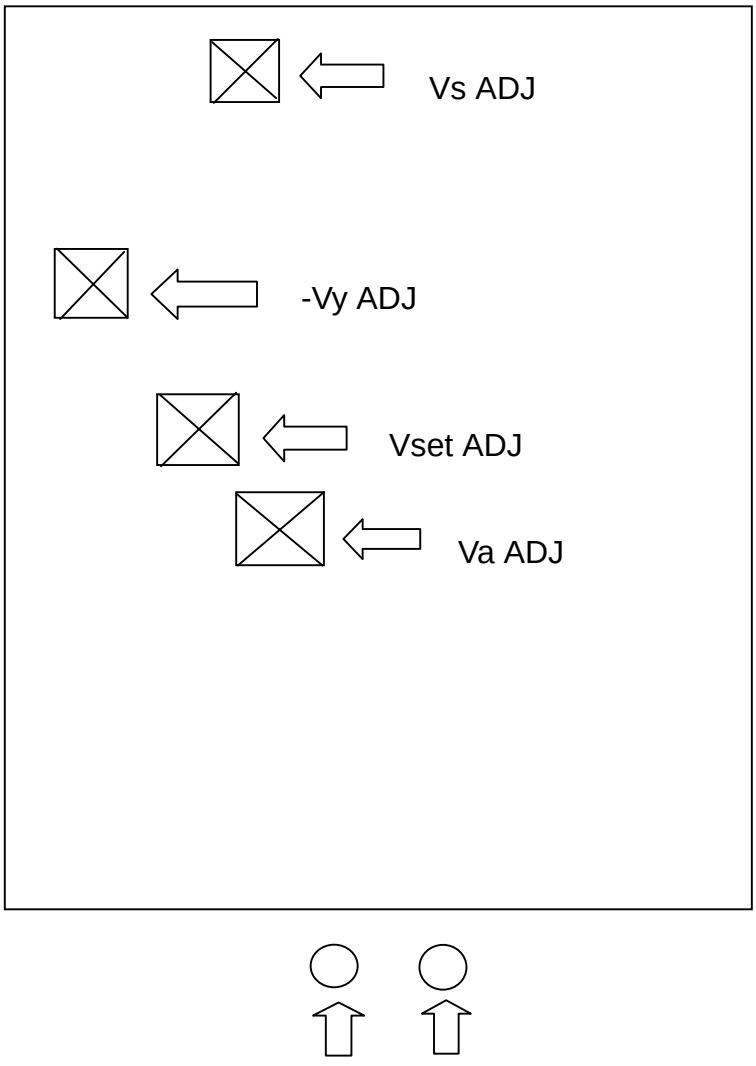
Mode No	20	21	22	23	24	25	26			
Resolution & Refresh Rate	1280 720P 60	1920 1080I 60I	640 350 70	852 480 60	640 480 67	832 624 75	1152 870 75			Hz
Pixel	74.250	74.25	25.175	30	30.240	57.283	100.000			MHz
Horizontal visible	1266	1920	640	852	640	832	1152			Dots
Horizontal total	1650	2200	800	955	864	1152	1456			Dots
Horizontal front porch	42	64	16	19	64	32	32			Dots
Horizontal sync	63	44	96	48	64	64	128			Dots
Horizontal back porch	279	192	48	36	96	224	144			Dots
Horiz blanking time	384	300	160	103	224	320	304			Dots
Vertical visible	687	540	350	480	480	624	870			Lines
Vertical total	750	562.5	449	525	525	667	915			Lines
Vertical front porch	1	24.5	37	10	3	1	3			Lines
Vertical sync	6	2	2	2	3	3	3			Lines
Vertical back porch	56	18	60	33	39	39	39			Lines
Vertical blanking time	63	44.5	99	45	45	43	45			Lines
Horizontal frequency	45.15	33.75	31.50	31.72	35	49.73	68.68			KHz
Vertical frequency	60	60	70	60.41	66.67	74.55	75.06			Hz
Vertical sync polarity	-	-	-	-	-	-	-			TTL
Horiz sync polarity	-	-	-	-	-	-	-			TTL
Dot rate	74.25	74.25	25.175	30	30.240	57.283	100.000			MHz

1. PANEL voltage adjustment

POWER VOLTAGE ADJUST FOR LG TTL PANEL

The power voltage should be adjusted and checked when changing the panel or power board

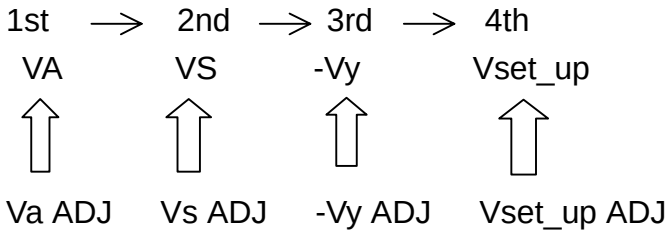
MAIN POWER BOARD



*NOTE: ⊠ ADJUSTMENT KNOB

1. SETTING INPUT SOURCE TO RGB MODE.
2. RGB MODE PATTERN IS ALL WHITE PATTERN.

3. FOLLOW THE PANEL LABEL VOLTAGE TO ADJUST VR (Va=75V, Vs=175V, -Vy=-80, Vset_up=220V)
4. CHECK VOLTAGE BETWEEN "CHECK POINT" AND GROUND.
5. ADJUST SEQUENCE



2. Color Temperature Adjustment

2.1.1 Color Temperature setting in DVI Mode:

(1) Turn on PDP set and warm up for over 30 minutes.

(2) Turn on Color Analyzer CA-100 and reset CA-100.

(3) Switch PDP input to DVI mode, press the “Recall” key on remote control to have PDP set in factory default status.

(4) Set up Video Pattern Generator (Chroma, Model= C2226). Timing set = 640 x 480 @ 60Hz; Video = Panel Link, this is the DVI output mode. Connecting PDP DVI input to Chroma to receive DVI signal.

(5) Dark level and bright level center block definition:

A. Dark level center block definition:
Pattern set = Pattern name = 1-mosaic,
Color form = norm,
Background color = 0
Foreground color = 17
According to C-2226 user manual, appendix analog-color: Normal Pen from Pen 17 = R: 102, G: 102, B: 102
102 (output amplifier)/1024 (total amplifier)=10%, therefore the 10% is the 10 IRE white output pattern.

B. Bright level center block definition:
Pattern set = Pattern name = 1-mosaic,
Color form = norm,
Background color = 0
Foreground color = 25
According to C-2226 user manual, appendix analog-color: Normal Pen from Pen 25 = R: 614, G: 614, B: 614
614 (output amplifier)/1024 (total amplifier)=60%, therefore the 60% is the 60 IRE white output pattern.

(6) There are 3 different modes (DVI, RGB and AV) need color temperature setting; there are 4 different color temperatures (5400K, 6500D, 9300K and 13800K) in each mode. Each color temperature needs adjust dark level, bright level, and R, G, B. The OSD is as below:

DVI (RGB, AV)	5400K (6500D, 9300K, 13800K)
X=335	Y=343
GAIN	BIAS
R G B	R G B
X X X	X X X

*Note: When adjusting the color temperature, please note what is the input source and what input the PDP is, the input source and the PDP input mode should be the same.

(7) Put the color analyzer CA-100 in the center of the screen.

2.1.2 Adjusting procedure:

(1) Receive Chroma C-2226 DVI dark level center block signal (10 IRE), press the factory key in PDP remote control to go into factory mode, you will see the 5400K color temperature setting menu.

(2) 5400K dark level center block adjustment procedure:

A. Press MENU key in remote control to select G-BIAS, and adjust Y=0.35 FL

B. Press MENU key in remote control to select R-BIAS, and adjust x=335±10FL

C. Press MENU key in remote control to select B-BIAS, and adjust y=343±10FL

D. Adjust R/G/B-BIAS, make sure the final value x=335±10FL, y=343±10FL, Y=0.35FL

(3) 5400K bright level center block adjustment procedure: (Please set Chroma C-2226 DVI bright level center block signal to 60 IRE)

A. Press MENU key in remote control to select G-GAIN, and adjust Y=25±1FL

B. Press MENU key in remote control to select R-GAIN, and adjust x=335±10FL

C. Press MENU key in remote control to select B-GAIN, and adjust y=343±10F

D. Adjust R/G/B-GAIN, make sure the final value x=335±10FL, y=343±10FL, Y=25±1FL.

(4) When you want to go ahead for next color temperature setting, press the factory key in remote control. For each color temperature setting, please repeat the procedure 1-3. Only x and y value will change in different color temperature mode (in 6500D, x=313, y=329; in 9300K, x=280, y=300; in 13800K, x=270, y=270), Y value are all the same in each color temperature mode (dark level Y=0.35, bright level Y=25).

2.2.1 Color Temperature setting in RGB Mode:

(1) Turn on Color Analyzer CA-100 and reset CA-100.

(2) Switch PDP input to RGB mode, press the “Recall” key on remote control to have PDP set in factory default status.

(3) Set up Video Pattern Generator (Chroma, Model= C2226). Timing set = 640 x 480 @ 60Hz; Video = Analog, this is the RGB output mode. Connecting PDP RGB input to Chroma to receive RGB signal.

(4) Dark level and bright level center block definition:

A. Dark level center block definition:

Pattern set = Pattern name = 1-mosaic,
Color form = norm,

B. Background color = 0
Foreground color = 17
According to C-2226 user manual, appendix analog-color: Normal Pen from Pen 17 = R: 102, G: 102, B: 102
102 (output amplifier)/1024 (total amplifier)=10%, therefore the 10% is the 10 IRE white output pattern.

C. Bright level center block definition:
Pattern set = Pattern name = 1-mosaic,
Color form = norm,
Background color = 0
Foreground color = 25
According to C-2226 user manual, appendix analog-color: Normal Pen from Pen 25 = R: 614, G: 614, B: 614
614 (output amplifier)/1024 (total amplifier)=60%, therefore the 60% is the 60 IRE white output pattern.

(5) There are 3 different modes (DVI, RGB and AV) need color temperature setting; there are 4 different color temperatures (5400K, 6500D, 9300K and 13800K) in each mode. Each color temperature needs adjust dark level, bright level, and R, G, B. The OSD is as below:

DVI (RGB, AV)	5400K (6500D, 9300K, 13800K)
X=335	Y=343
GAIN	BIAS
R G B	R G B
X X X	X X X

*Note: When adjusting the color temperature, please note what is the input source and what input the PDP is, the input source and the PDP input mode should be the same.

(6) Put the color analyzer CA-100 in the center of the screen.

2.2.2 Adjusting procedure:

(1) Receive Chroma C-2226 RGB dark level center block signal (10 IRE), press the factory key in PDP remote control to go into factory mode, you will see the 5400K color temperature setting menu.

(2) 5400K dark level center block adjustment procedure:

A. Press MENU key in remote control to select G-BIAS, and adjust Y=0.35 FL

B. Press MENU key in remote control to select R-BIAS, and adjust x=335±10FL

C. Press MENU key in remote control to select B-BIAS, and adjust y=343±10FL
D. Adjust R/G/B-BIAS, make sure the final value x=335±10FL, y=343±10FL, Y=0.35FL

(3) 5400K bright level center block adjustment procedure: (Please set Chroma C-2226 RGB bright level center block signal to 60 IRE)
A. Press MENU key in remote control to select G-GAIN, and adjust Y=25±1FL
B. Press MENU key in remote control to select R-GAIN, and adjust x=335±10FL
C. Press MENU key in remote control to select B-GAIN, and adjust y=343±10F
D. Adjust R/G/B-GAIN, make sure the final value x=335±10FL, y=343±10FL, Y=25±1FL.

(4) When you want to go ahead for next color temperature setting, press the factory key in remote control. For each color temperature setting, please repeat the procedure 1-3. Only x and y value will change in different color temperature mode (in 6500D, x=313, y=329; in 9300K, x=280, y=300; in 13800K, x=270, y=270), Y value are all the same in each color temperature mode (dark level Y=0.35, bright level Y=25).

2.3.1 Color Temperature setting in AV mode:

(1) Turn on Color Analyzer CA-100 and reset CA-100.
(2) Switch PDP input to AV1 mode, press the “Recall” key on remote control to have PDP set in factory default status.
(3) Turn on SENCORE VP-300 Multimedia Video Generator, set the dark level and bright level center block. Then connect VP-300 AV output to PDP AV1 input.
(4) Dark level center block definition: NTSC system, pattern=WINDOW 1=14 IRE. Bright level center block definition: NTSC system, pattern=WINDOW 2=60 IRE

2.3.2 Adjusting procedure:

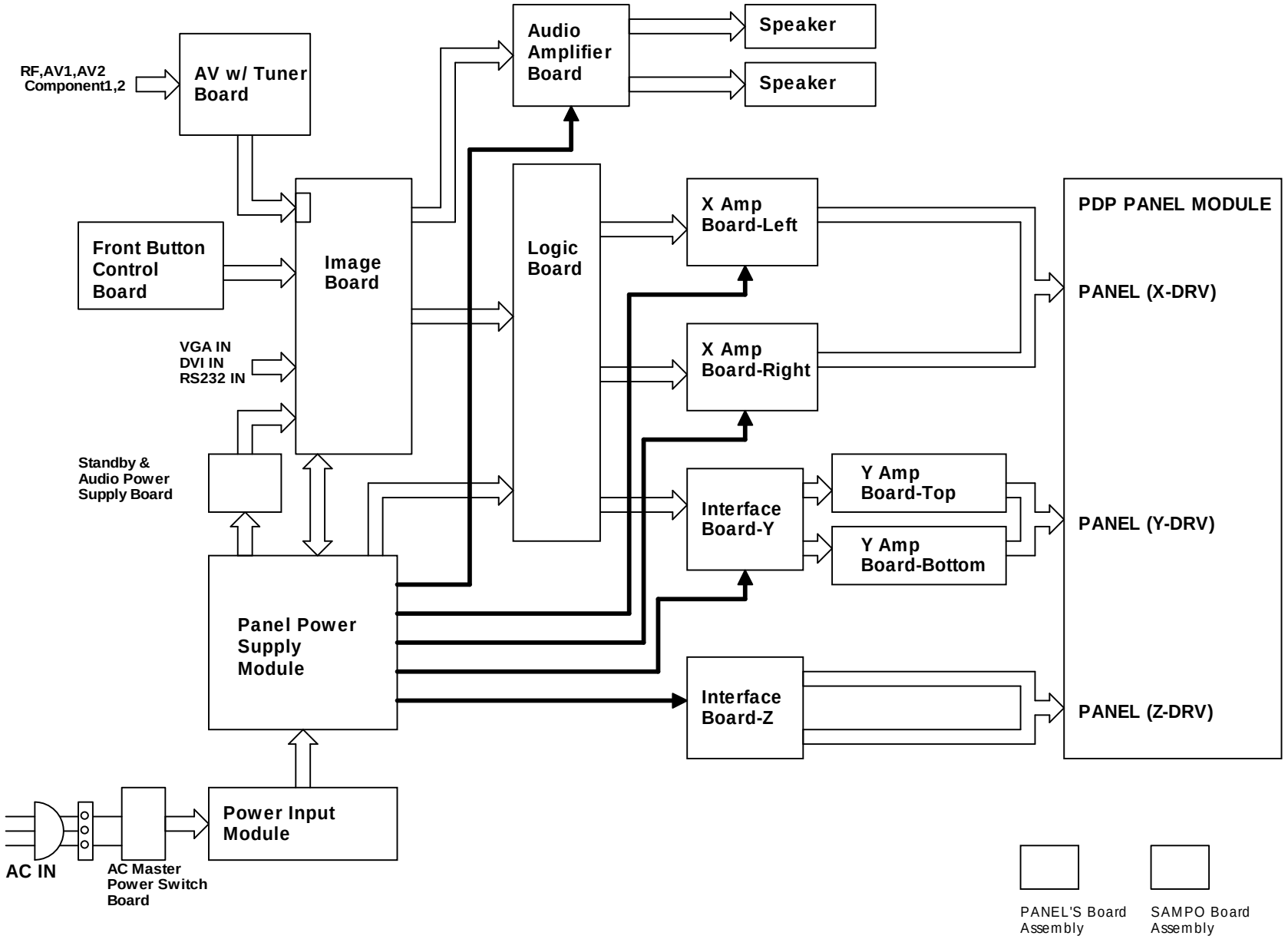
(1) Receive VP-300 dark level center block signal from AV1 input, press the factory key in PDP remote control, you will see the 5400K color temperature setting menu.
(2) 5400K dark level center block adjustment procedure:
A. Press MENU key in remote control to select G-BIAS, and adjust Y=1.5 FL
B. Press MENU key in remote control to select R-BIAS, and adjust x=335±10FL
C. Press MENU key in remote control to select B-BIAS, and adjust y=343±10FL
D. Adjust R/G/B-BIAS, make sure the final value x=335±10FL, y=343±10FL, Y=1.5FL

(3) 5400K bright level center block adjustment procedure: (Please set VP-300 bright level center block signal to 60 IRE)
A. Press MENU key in remote control to select G-GAIN, and adjust Y=30FL

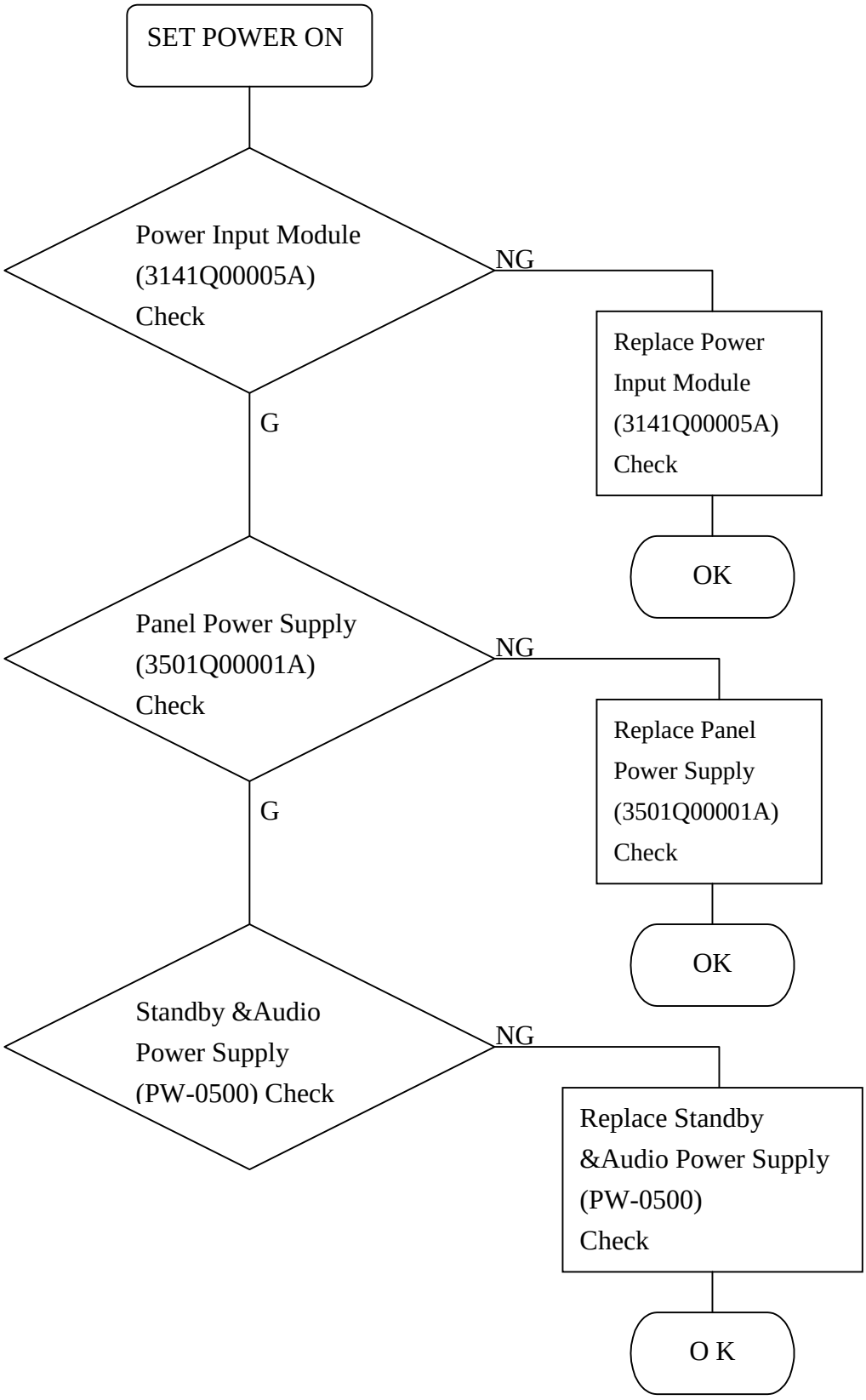
B. Press MENU key in remote control to select R-GAIN, and adjust x=335±10FL
C. Press MENU key in remote control to select B-GAIN, and adjust y=343±10F
D. Adjust R/G/B-GAIN, make sure the final value x=335±10FL, y=343±10FL, Y=30FL.

(4) When you want to go ahead for next color temperature setting, press the factory key in remote control. For each color temperature setting, please repeat the procedure 1-3. Only x and y value will change in different color temperature mode (in 6500D, x=313, y=329; in 9300K, x=280, y=300; in 13800K, x=270, y=270), Y value are all the same in each color temperature mode (dark level Y=1.5, bright level Y=30).

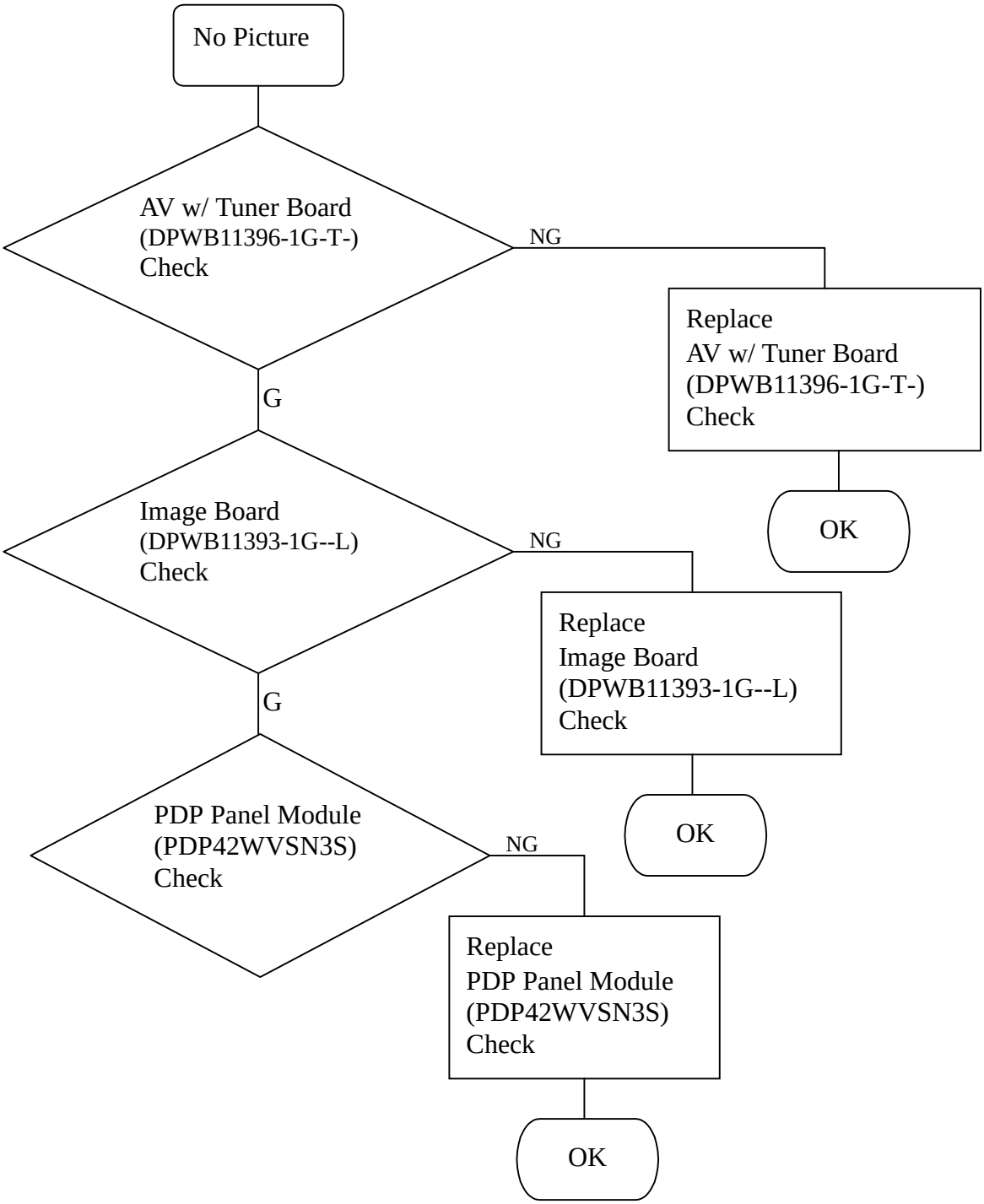
BLOCK DIAGRAM VER1.0



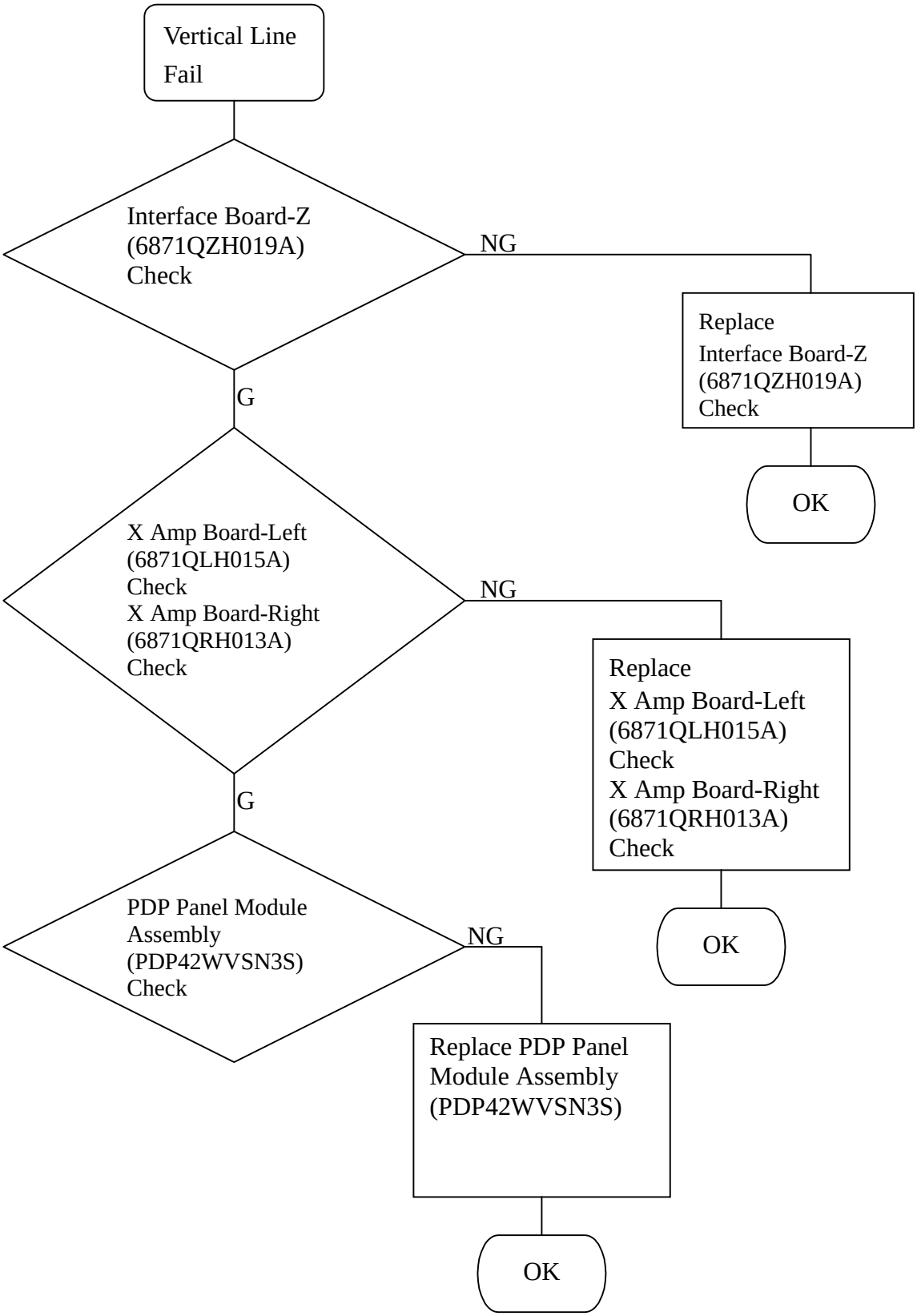
No Power


SET POWER ON
Power Input Module
(3141Q00005A)
Check
NG
Replace Power
Input Module
(3141Q00005A)
Check
G
OK
Panel Power Supply
(3501Q00001A)
Check
NG
Replace Panel
Power Supply
(3501Q00001A)
Check
G
OK
Standby &Audio
Power Supply
(PW-0500) Check
NG
Replace Standby
&Audio Power Supply
(PW-0500)
Check
O K

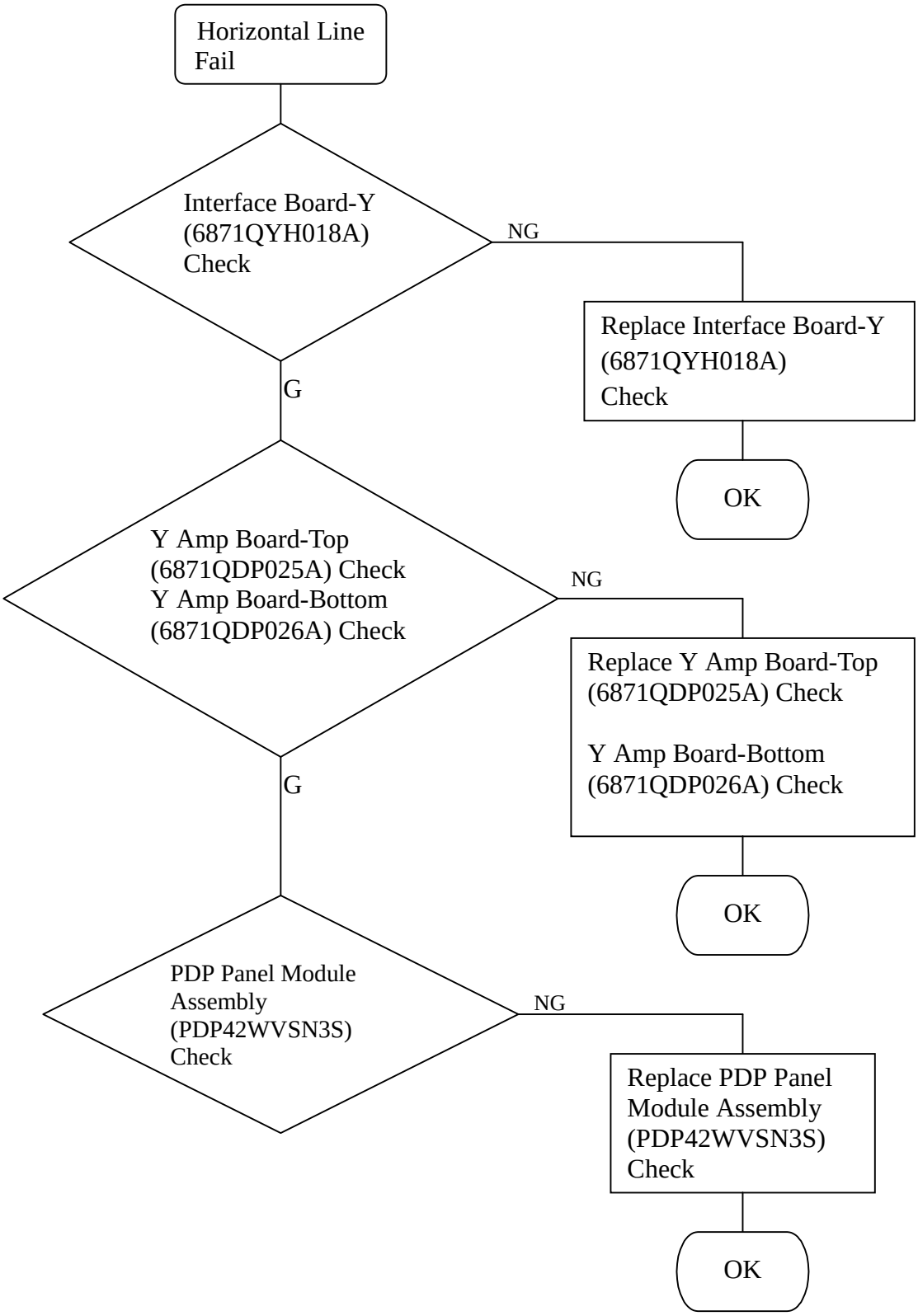
No Picture


No Picture
AV w/ Tuner Board
(DPWB11396-1G-T-)
Check
NG
Replace
AV w/ Tuner Board
(DPWB11396-1G-T-)
Check
OK
G
Image Board
(DPWB11393-1G--L)
Check
NG
Replace
Image Board
(DPWB11393-1G--L)
Check
OK
G
PDP Panel Module
(PDP42WVSN3S)
Check
NG
Replace
PDP Panel Module
(PDP42WVSN3S)
Check
OK

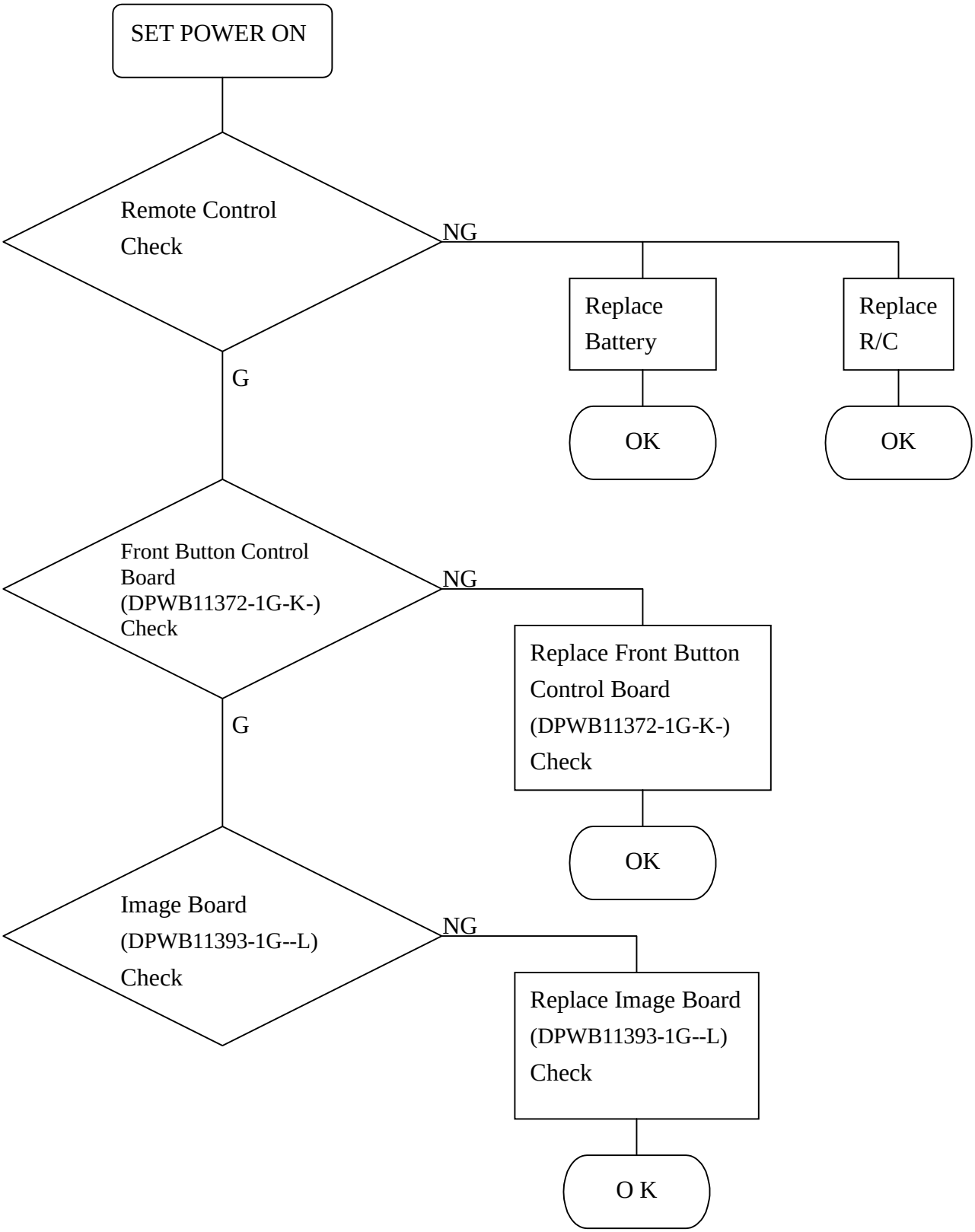
Vertical Line Fail



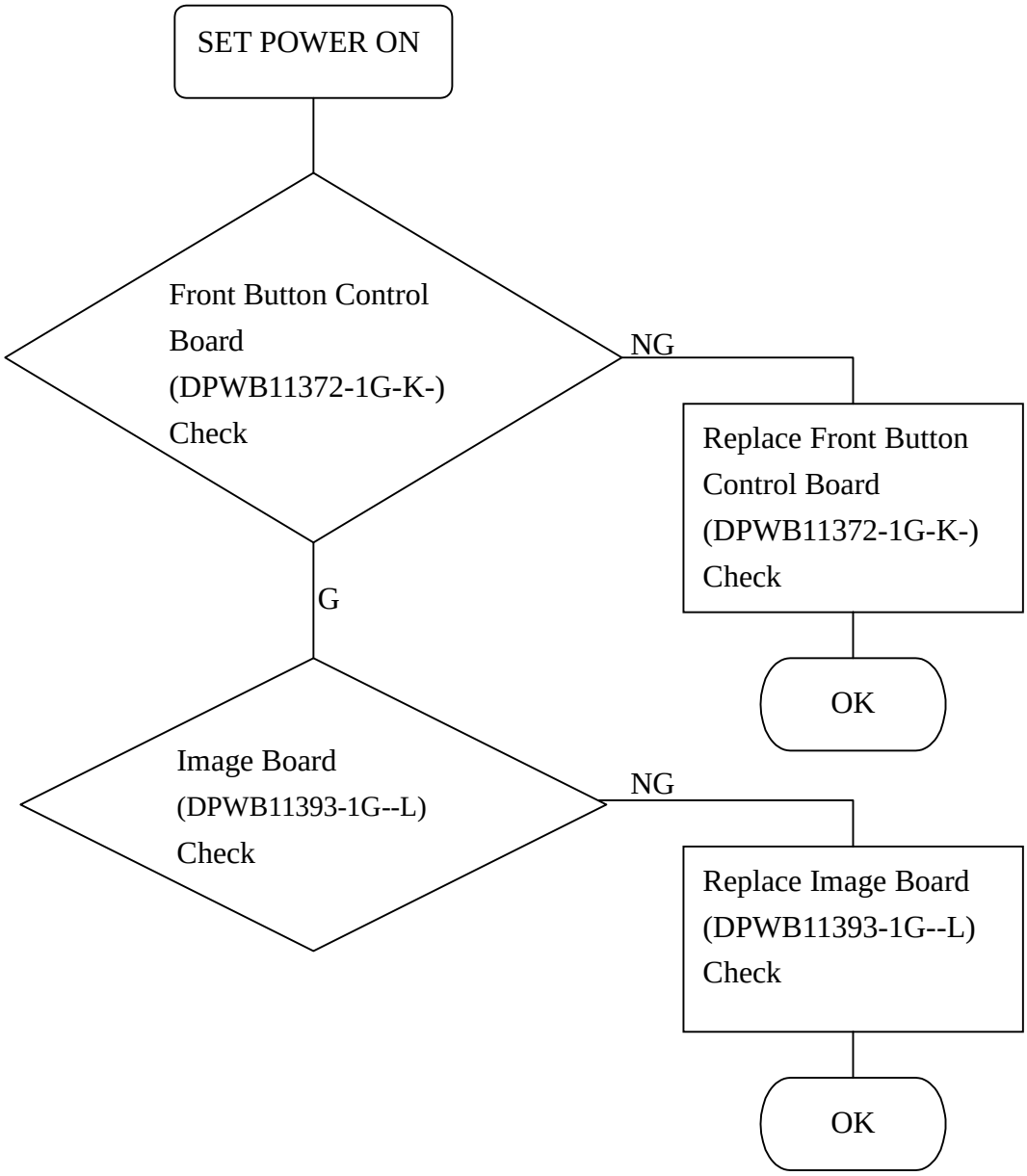
Horizontal Line Fail



No Remote Control



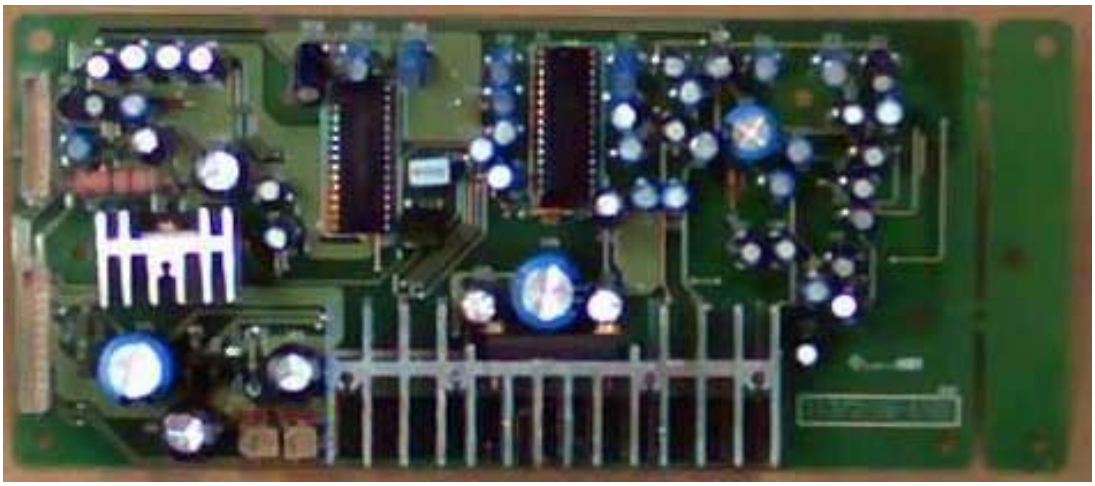
Front Button Fail



P.C. BOARD TOP VIEW VER1.0

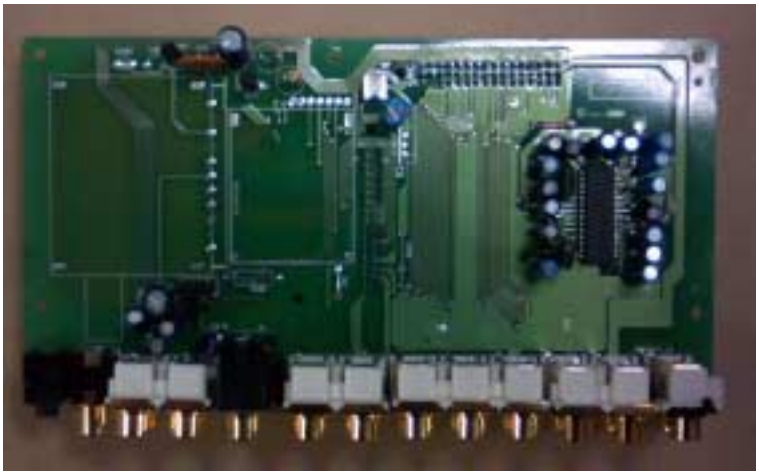
MODULE NAME	PART NO.
IMAGE BOARD ASS'Y	DPWB11393-1G--L

MODULE NAME	PART NO.
AC MASTER POWER SWITCH B/D ASS'Y	DPWB11395-1G---



MODULE NAME	PART NO.
AUDIO AMPLIFIER BOARD ASS'Y	DPWB11372-1G-S-

MODULE NAME	PART NO.
FRONT BUTTON CONTROL BOARD ASS'Y	DPWB11372-1G-K-

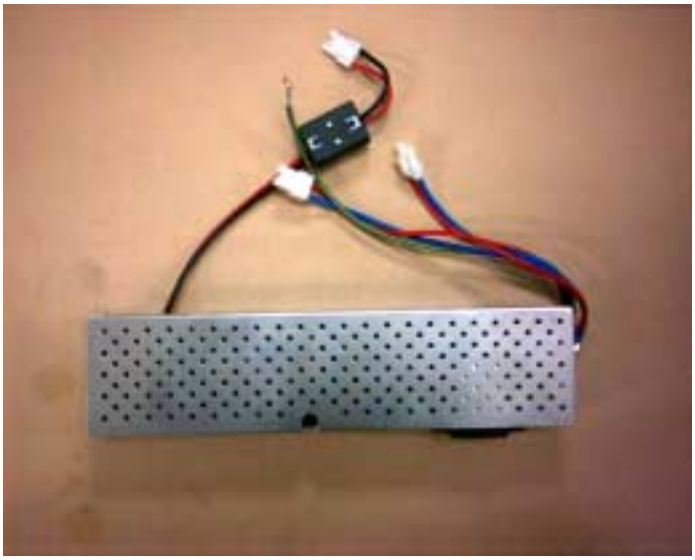


MODULE NAME	PART NO.
AV W/ TUNER BOARD ASS'Y	DPWB11396-1G-T-

MODULE NAME	PART NO.
STANDBY & AUDIO POWER SUPPLY ASS'Y	PW-0500

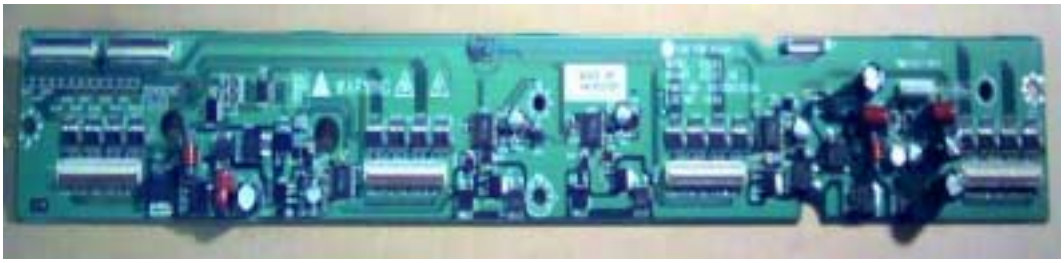
MODULE NAME	PART NO.
LOGIC BOARD ASS'Y	6871QCH013A

MODULE NAME	PART NO.
PANEL POWER SUPPLY ASS'Y	3501Q00001A



MODULE NAME	PART NO.
POWER INPUT MODULE ASS'Y	3141Q00005A

MODULE NAME	PART NO.
X AMP BOARD-LEFT ASS'Y	6871QLH015A

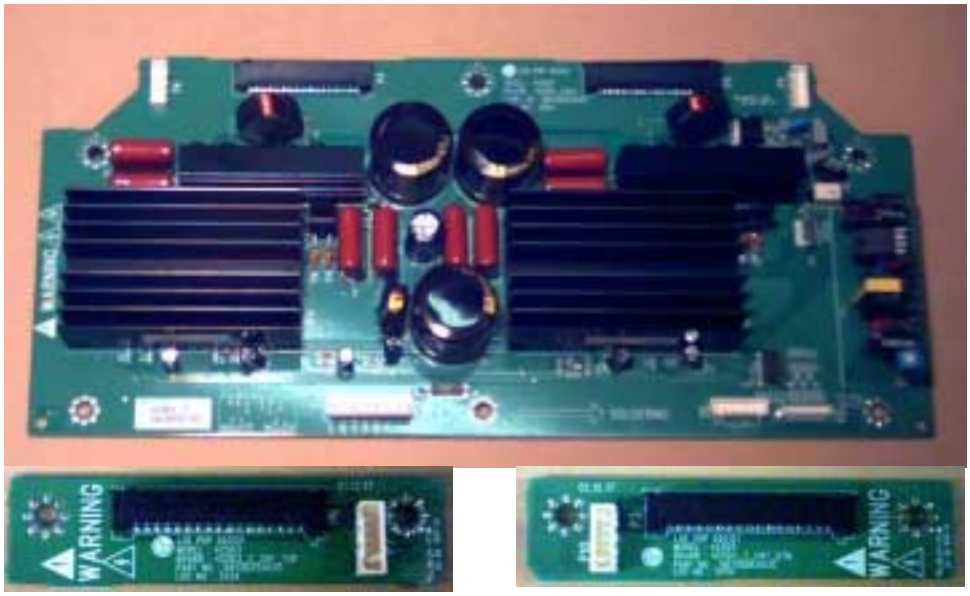


MODULE NAME	PART NO.
X AMP BOARD-RIGHT ASS'Y	6871QRH013A

MODULE NAME	PART NO.
Y AMP BOARD-TOP ASS'Y	6871QDP025A

MODULE NAME	PART NO.
Y AMP BOARD-BOTTOM ASS'Y	6871QDP026A

MODULE NAME	PART NO.
INTERFACE BOARD-Y ASS'Y	6871QYH018A



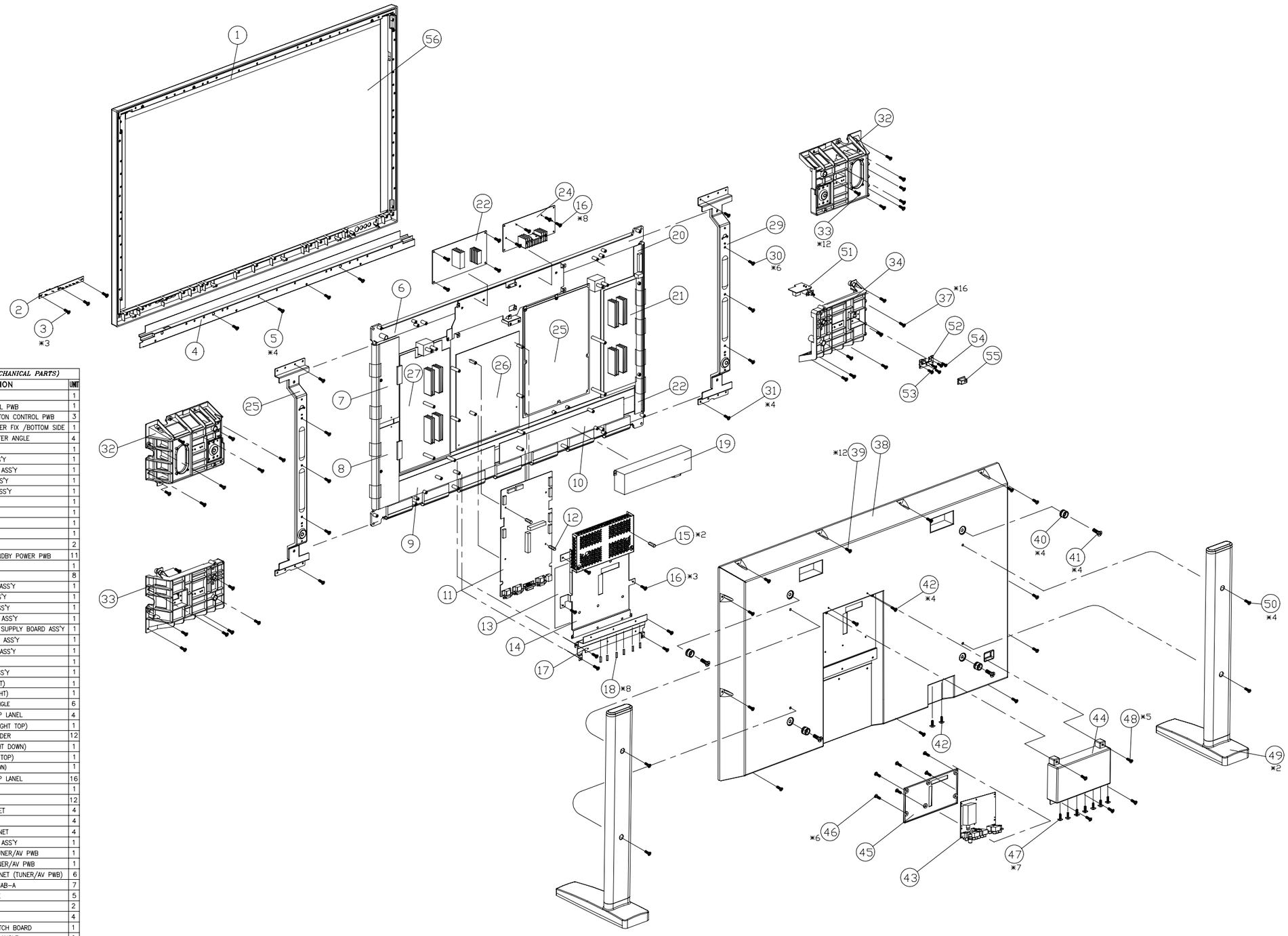
MODULE NAME	PART NO.
INTERFACE BOARD-Z ASS'Y	6871QZH019A

MODULE NAME	PART NO.
PDP PANEL MODULE ASS'Y	PDP42WVSN3S

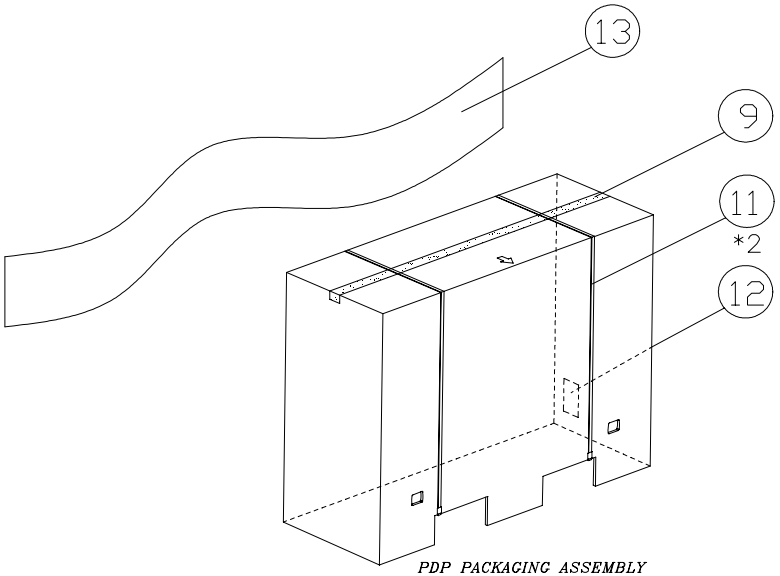
ELECTRONIC MODULES LIST VER1.0

Model Name: GTW-P42M102

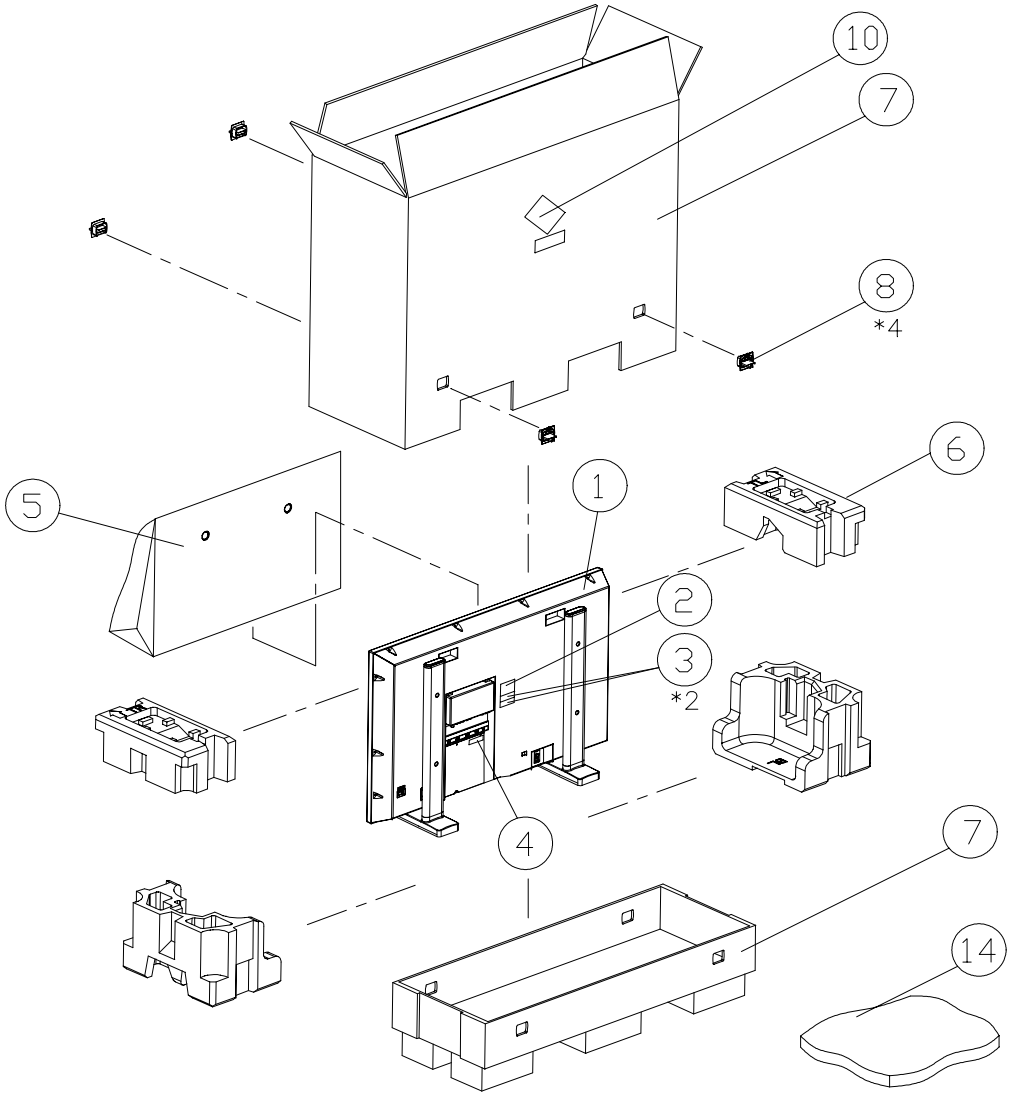
No.	Module	Supplier	Supplier's Part Number	Quantity Per Final Assembly
1	Image Board	Sampo	DPWB11393-1G--L	1
2	AC Master Power Switch Board	Sampo	DPWB11395-1G---	1
3	Audio Amplifier Board	Sampo	DPWB11372-1G-S-	1
4	Front Button Control Board	Sampo	DPWB11372-1G-K-	1
5	AV w/ Tuner Board	Sampo	DPWB11396-1G-T-	1
6	Standby & Audio Power Supply	LG	PW-0500	1
7	Logic Board	LG	6871QCH013A	1
8	Panel Power Supply	LG	3501Q00001A	1
9	Power Input Module	LG	3141Q00005A	1
10	X Amp Board- Left	LG	6871QLH015A	1
11	X Amp Board- Right	LG	6871QRH013A	1
12	Y Amp Board- Top	LG	6871QDP025A	1
13	Y Amp Board- Bottom	LG	6871QDP026A	1
14	Interface Board- Y	LG	6871QYH018A	1
15	Interface Board- Z Z Amp Board- Top Z Amp Board- Bottom	LG	6871QZH019A	1
16	PDP Panel Module	LG	PDP42WVSN3S	1



CTW-P42M102 EXPLODED VIEW (MECHANICAL PARTS)			
ITEM	PART NO.	DESCRIPTION	UNIT
1	DMSKP0124-1F--J	BEZEL ASS'LY	1
2	DPWB11372-1G-k-	FRONT BUTTON CONTROL PWB	1
3	XEASD30P08000--	SCREW FOR FRONT BUTTON CONTROL PWB	3
4	LANGQ0013-1P--B	ANGLE FOR COLOR FILTER FIX /BOTTOM SIDE	1
5	XTTSB40P20000--	SCREW FOR COLOR FILTER ANGLE	4
6	VVPDP42WSN3S--	PANEL ASSEMBLY	1
7	6871QDP025A	Y AMP BOARD-TOP ASS'Y	1
8	6871QDP026A	Y AMP BOARD-BOTTOM ASS'Y	1
9	6871QLH015A	X AMP BOARD-LEFT ASS'Y	1
10	6871QRH013A	X AMP BOARD-RIGHT ASS'Y	1
11	DPWB11393-1G--L	IMAGE BOARD ASS'Y	1
12	LSTD-0009-1----	STUD FOR IMAGE PWB	1
13	PSLDM0331-1P---	SHIELD (PVC)	1
14	PSLDM0330-1P---	SHIELD	1
15	LSTD-0011-1----	STUD FOR IMAGE PWB	2
16	XBPSD30P08JS0--	SCREW FOR AUDIO/STANDBY POWER PWB	11
17	LANGF0847-1P--A	RGB FIX ANGLE	1
18	LX-BZ1034-1----	SCREW FOR IMAGE PWB	8
19	3141Q00001A	POWER INPUT MODULE ASS'Y	1
20	6871QTH023A	Z AMP BOARD-TOP ASS'Y	1
21	6871QZH019A	INTERFACE BOARD-Z ASS'Y	1
22	6871QTH024A	Z AMP BOARD-BOTTOM ASS'Y	1
23	PW-0500------	STANDBY AUDIO POWER SUPPLY BOARD ASS'Y	1
24	DPWB11372-1G-S-	AUDIO AMPLIFIER BOARD ASS'Y	1
25	3501Q00001A	PANEL POWER SUPPLY ASS'Y	1
26	6871QCH013A	LOGIC BOARD ASS'Y	1
27	6871QYH018A	INTERFACE BOARD-Y ASS'Y	1
28	LANGF0848-1P---	PDP PANEL ANGLE (LEFT)	1
29	LANGF0848-1P--A	PDP PANEL ANGLE (RIGHT)	1
30	XBPSD30P08JS0--	SCREW FOR PDP PANEL ANGLE	6
31	XTTSB40P20000--	SCREW FOR HOLD /PDP LANEL	4
32	LHLDP0079-1F---	PDP PANEL HOLDER (RIGHT TOP)	1
33	XBPSD30P08JS0--	SCREW FOR PANEL HOLDER	12
34	LHLDP0081-1F---	PDP PANEL HOLD (RIGHT DOWN)	1
35	LHLDP0080-1F--A	PDP PANEL HOLD(LEFT TOP)	1
36	LHLDP0082-1F---	PDP PANEL HOLD (LEFT DOWN)	1
37	XTTSB40P20000--	SCREW FOR HOLD /PDP LANEL	16
38	GCABB0297-1P--K	REAR COVER ASSEMBLY	1
39	XTTSB40P20000--	SCREW FOR CAB-B	12
40	LHLD-0288-1---A	BUSH FOR REAR CABINET	4
41	XBPSQ80P30JS0--	SCREW FOR BUSH	4
42	XBJSQ30P08000--	SCREW FOR REAR CABINET	4
43	DPWB11396-1G-T-	AV W/ TUNER BOARD ASS'Y	1
44	GCABA0251-1F--C	FRONT CABINET FOR TUNER/AV PWB	1
45	GCABB0299-1F--B	REAR CABINET FOR TUNER/AV PWB	1
46	XEASD30P10000--	SCREW FOR REAR CABINET (TUNER/AV PWB)	6
47	XESSB30P12000--	SCREW FOR AV JACK/CAB-A	7
48	XBTSQ30P08000--	SCREW FOR TV/AV BOX	5
49	DSTN-0009-1F--A	STAND ASSEMBLY	2
50	XTTSB40P20000--	SCREW FOR LEG TUBE	4
51	DPWB11395-1G---	AC MASTER POWER SWITCH BOARD	1
52	LANGF0807-1P---	AC MASTER POWER SW ANGLE	1
53	XBSSQ30P08000--	SCREW FOR PUSH POWER SW	2
54	XEASD30P10000--	SCREW FOR AC MASTER POWER SW ANGLE	3
55	JKNBP0520-1F--A	AC MASTER POWER SW KNOB	1
56	PGLS-0013-1----	PDP FILTER (42" GLASS)	1



PDP PACKAGING ASSEMBLY



GTW-P42M102 EXPLODED VIEW (MECHANICAL PARTS)				
ITEM	PART NO.	DESCRIPTION	UNIT	REMARKS
1	SET	GTW-P42M102	1	
2	TLABM1179-1----	MODEL LABEL	1	
3	TLABD1142-1----	BAR CODE	2	
4	TLABD1139-1B--A	SRS LABEL	1	
5	SSAKH0184-1---B	EPE BAG	1	
6	SPAKA0640-1F--A	POLYFOAM	1	
7	SPAKC0693-1R--T	CARTON	1	
8	JHNDP0020-1----	CASE HANDLE	4	
9	ZTAPEQ075T050--	TAPE	1	
10	TLABW0056-1----	G METER	1	
11	ZTIE-P155Y1600-	WRAPPING STRAP	2	
12	TLABD1144-1B---	BARCODE	1	
13	ZTAPEZ500T500--	PE FILM	1	
14	BRC-241SGATEWAY	REMOTE CONTROL	1	
	QACCF1066-1DX--	POWER CORD	1	
	RBATB0221-1DC--	BATTERY	1	