

SERVICE BULLETINS

**2011 PDP Option Byte Table
ASC20110630001**

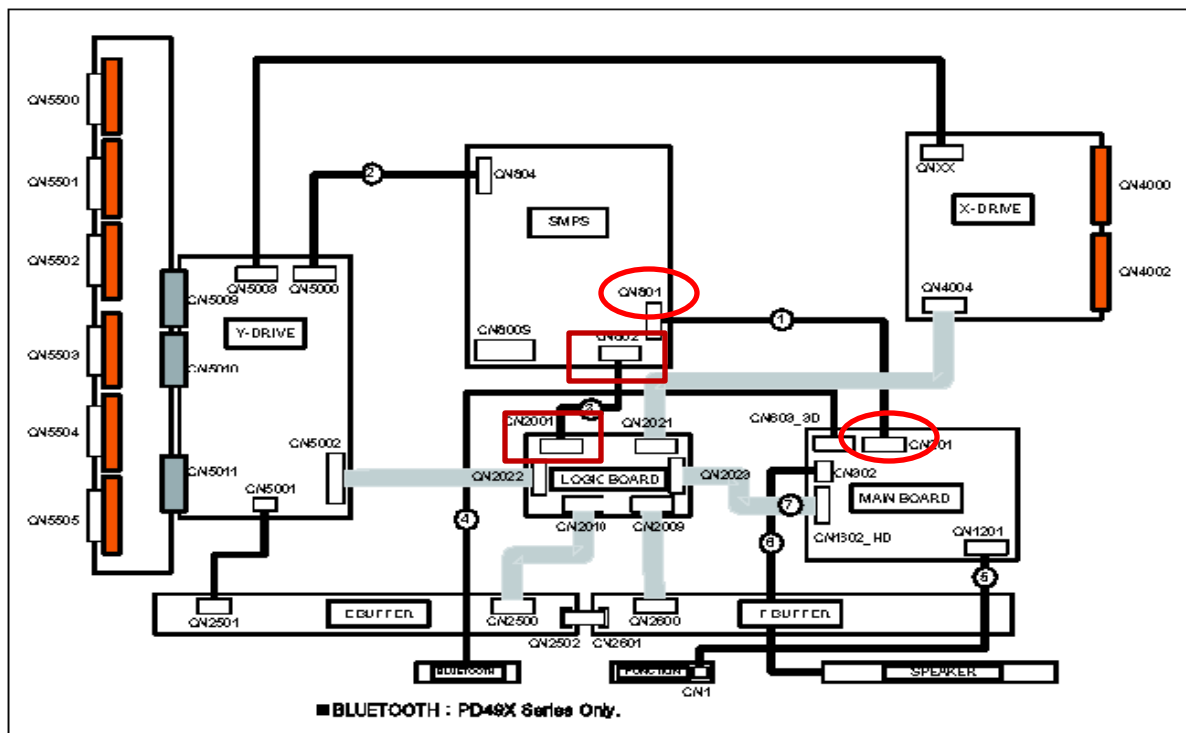
**Quick Parts: Verify any parts changes
before Ordering.**

Parts Category	Version	Parts No	Short Description
PCB	ALL	BN44-00443A	SMPS
PCB	ALL	BN94-04349A	Main PCB
PCB	N102	BN96-16513A	Logic Main PCB
PCB	ALL	BN96-16514A	Buffer E
PCB	ALL	BN96-16515A	Buffer F
PCB	ALL	BN96-16516A	X Main
PCB	N102	BN96-16517A	Y Main
PCB	ALL	BN96-16518A	Buffer X
PCB	N102	BN96-16519A	Y Main Scan
PCB	ALL	BN96-16729C	Function & IR PCB
PCB	ALL	BN96-17107A	RF module PCB
PCB	N409	BN96-20511A	Y Main
PCB	N409	BN96-20512A	Buffer Y
PCB	N409	BN96-20513A	Logic Main PCB
Display	N102	BN96-17357A	Panel
Display	N409	BN96-20477A	Panel
Cosmetic	ALL	BN96-16774A	Front Cover
Cosmetic	ALL	BN96-16783J	Rear Cover
Cosmetic	ALL	BN96-16786A	Stand Guide
Cosmetic	ALL	BN96-16847B	Stand Base
Cosmetic	ALL	BN96-18195A	Stand Guide Neck
Component	ALL	3903-000552	Power Cord
Component	ALL	BN40-00213A	Tuner
Component	ALL	BN96-13325F	LVDS Cable
Component	ALL	BN96-18071C	Speaker
Accessory	ALL	AA59-00482A	Remote

HELP : 888-751-4086; 866-894-0637 FE)

HOT TIPS

If the set has "grainy" video, verify the sources first. If they are good, check the OSD. if that is fine, narrow the inputs if possible. Digital noise will show up as artifacts that customers will describe as "Grainy" and can occur on the HDMI inputs. If this only occurs on the HDMI inputs, and you know the sources are good, replace the main board. Also check external HDMI Cable is < 40 feet.



CN801 (SMPS) ↔ CN201 (Main Board)

Pin No. (SMPS)	Signal (SMPS)	Pin No. (Main Board)	Signal (Main Board)
1	PS-ON	1	SW_POWER
2	STBY	2	A5V_PW
3	GND	3	DGND
4	D15V	4	B15VS_PW
5	GND	5	DGND
6	GND	6	DGND

CN802 (SMPS) ↔ CN2001 (Logic Board)

Pin No. (SMPS)	Signal (SMPS)	Pin No. (Main Board)	Signal (Main Board)
7	D5.3V	7	B5V_PW
8	D5.3V	8	B5V_PW
9	GND	9	DGND
10	D15V	10	B15V_PW
11	D15V	11	B15V_PW
12	D5.3V	12	B5V_PW

CN802 (SMPS) ↔ CN2001 (Logic Board)

Pin No. (SMPS)	Signal (SMPS)	Pin No. (Logic Board)	Signal (Logic Board)
1	D5.3V	1	5.3V
2	D5.3V	2	5.3V
3	GND	3	GND
4	VS-SIGNAL	4	GND
5	PS-ON	5	PS_ON
6	VS-ON	6	VS_ON

Power On Sequence

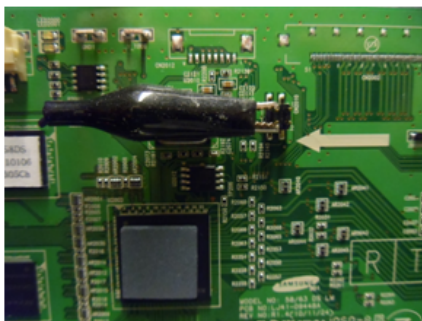
1. STBY 5V (Pin 2 CN801)
2. PS_ON (approx 3.3V – 0V) (Pin 1 CN801)
3. Low Voltages On 5V & 15V (All “B” Signals listed – to Main Board)
4. VS_ON (approx 0V – 3.3V) (Pin 6 CN802) (Sending Vs to Y & X Boards, & Va to Logic Buffer Boards.)
5. TV on with Boot Logo appearing.

“Troubleshooting”

Activating Power & Logic Board Test Patterns without Main Board:

1. Remove Power Cord to Panel
2. Short Highest 2 Pin #s on Logic Board Test Jig (Can be 4 Pin or 6 Pin)

3. Remove Power Connector at Main Board (keeping connection to SMPS)
4. Short “Power On” Pin to Circuit Ground on Power Connector to SMPS.
5. Connect Power Cord to Panel



Supply Adjustments “Vital Signs”
PN59D8000 Illustrated

Va Adjust Vs Test Point

Va Test Point Va Adjust

REV. C-54	
Va	Vs
55 -200	217

1. Record Readings on PANEL LABEL
2. Measure/Adjust Vs Voltage
3. Measure/Adjust Va Voltage

Supply Adjustments “Vital Signs”
PN59D8000 Illustrated

Vsc Test Point Vsc Adjust

Ve Adjust VB (Ve) Test Point

REV. C-54	
Va	Vs
55 -200	217

4. Measure/Adjust Vsc Voltage on the Y-Board
5. Measure/Adjust Ve Voltage on the X-Board

SAMPLE VIEW & READINGS

“VITAL SIGNS”

Power Supply Trouble Shooting Notes:

2010/2011 models

Will not be run with the “X” or “Y” main disconnected. The SMPS will shut down immediately. However if a meter is first connected to the test point when power is applied it will read the correct voltage briefly before shutting down.(You have enough time to check key voltages)

CAUTION: Do not reconnect any connectors to SMPS or Y/X Boards until power has been turned off long enough for Vs to drop below 10V or damage will occur to X or Y Boards.

Over Current Protection

For the SMPS Power Supply... If a short circuit occurs on either the VS or VA voltage lines, the SMPS stops operating, but should not fail. When the short circuit is removed from the source line, the Power Supply will operate normally again. **Many SMPS Supplies are replaced needlessly!**

When troubleshooting, It’s very important to first check **Vs, Va, Vsc & Ve**. If **Vs** is missing (0V), disconnect power and check for short. Use ohm meter to measure resistance while disconnecting Y-Board & X-Board supply feeds one at a time.

Turn Power On and Test SMPS with short connector removed for correct Vs voltage verification. (It may only come up briefly but to full level). Again be careful not to reconnect Power Connectors until Vs falls below 10V.

If **Va** is low or missing, disconnect Supply Feed to Address Boards and Check to see if SMPS Supply is restored. (Note Va feed normally passes through the Y-Drive to the Address Boards (Logic Buffer Boards).

If **Vsc** is low or missing and Vs was OK, the failure is with the **Y-Board** since the Y-Board generate the Vsc voltage from the Vs supplied by the SMPS.

If **Ve** is low or missing and Vs is OK, the failure is with the **X-Board** since the Ve is generated by the X-Board from the Vs supplied by the SMPS. Please note in some rare cases the Ve may be generated by the Y-Board feed to the X-Board.)

Other SMPS Voltages:

Check Low Voltage feeds to the Main Board and other supplied Assemblies.



TROUBLESHOOTING VIDEO PROBLEMS

1. Verify Video Operation

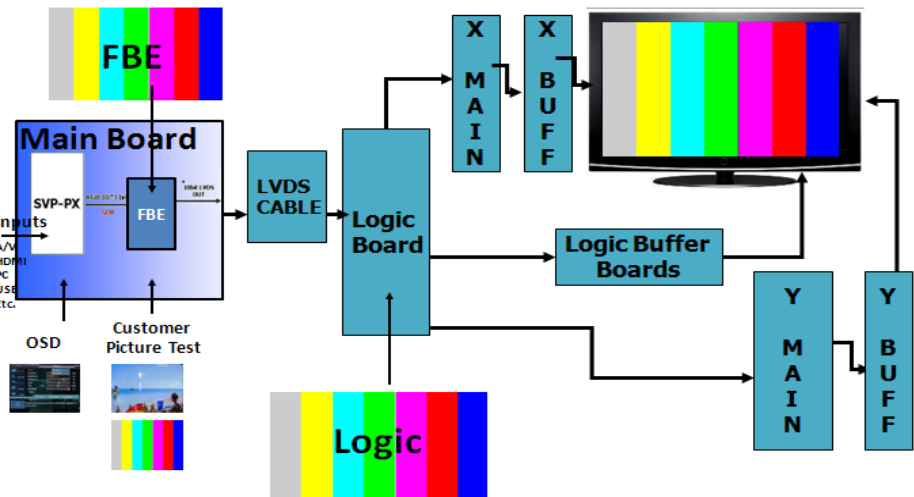
- a. Customer Picture Test (models available)
- b. "Display" (If display is OK source is suspected)
- c. Substitute with known good Source (external DVD or Signal Generator)

2. Using Test Patterns in Service Mode

- ENTERING SERVICE MODE -

- | | |
|---------------------|------------------|
| Customer Remote | Service Remote |
| 1. Power off | 1. Power On |
| 2. Mute, 182, Power | 2. Info, Factory |

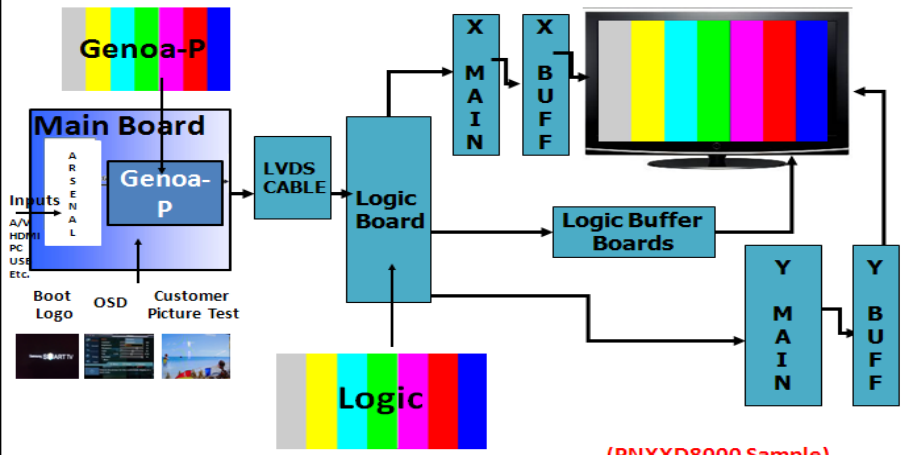
2010 PDP Signal Path for Troubleshooting



Along with the OSD and the test patterns in the FBE₂ IC on the Main board there are additional test patterns on the Logic board that can be accessed from the service mode.

1. Enter Service Mode.
2. Check **FBE Pattern** Test Signals. (Main Board)
3. Check **Logic Pattern** Test Signals. (Logic Board)

2011 PDP Signal Path for Troubleshooting



2011 PDP 8000 Series Sample

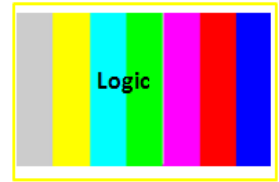
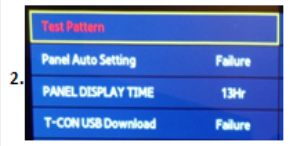
(PNXXD8000 Sample)

Using the Test Patterns to Isolate the Main and Logic or LVDS Cable



- Test Procedure:**
1. Access Service Mode & Select **SVC**
 2. Select **Test Pattern**
 3. Select **GenoaP Pattern Set**
Use the right arrow key to scroll through patterns
 4. Select **Logic Pattern Sel**
Use the right arrow key to scroll through the patterns.

LOGIC Pattern Sel	0
LOGIC Level Sel	255
LDAsic Pattern Sel	0



LOGIC Pattern Sel	0
LOGIC Level Sel	255
LDAsic Pattern Sel	0
GenoaP Pattern Sel	9
GenoaS Pattern Sel	7



- If Logic is OK and GenoaP is OK the problem is normally the source or input
- If the Logic is OK and GenoaP is not OK, problem is normally LVDS Cable or Main Board.
- If Log is not OK then the problem is normally the Logic Board (or X or Y Boards)



ON SCREEN FAILURE EXAMPLES:

"Y" Board Failure Examples

Notice how each error contains a horizontal line

These examples show Y board errors, because the Y electrodes run horizontally, errors can often be seen across the screen.

2010 & 2011 Y board errors will be detected by the Logic Board and often create a High Voltage Power Down ("VS ON" to Off) condition.

When failure exists on either the Y-Board or the Y-Buffer Boards, be sure to replace both assemblies. A failure on either Board can create a failure on both assemblies.

Y Buffer Boards Failures

Y-Buffer Failures will often show blown Scan ICs & will create either Panel Power Down

Or

On Screen Errors across the screen as shown in examples

Two Output Lines on Scan IC Are open or connector to Panel is open.

Bottom 2 Scan ICs affected. (12 ICs total = 1/6 of video)

"X" board Failure Examples

4.3 bit bar shadow

4.3 bit bar shadow

- In this left screen example, the sustain signal from the X board is low or missing.
- For 2009 Models and Older: Verify operation of the X board by disconnecting the power supply cable to the X board. If the other boards are working the picture will be dark.
- If the X-Board Power or Y-Board Power is removed, however, on 2010 or 2011 Models, an error will be detected and the VS Supply from the SMPS will be turned off by the Logic Board. A Black Screen (on right) will occur.

"X" board Failure Examples

4.3 bit bar shadow

4.3 bit bar shadow

- In this example the V_e initialize signal is low or missing creating image retention. No Erasing.
- Troubleshoot the X Board by verifying that the V_e Voltage is correct with the label on the Panel.

Logic Board Failure Examples

Screen vertical Noise Errors usually in Multiple Locations

The examples show the panel illuminated but displays with incorrect noisy video.

Logic Buffer Board Failure Examples

Normal Video Screen with added Vertical Black, Red, Green, or Blue Bar Errors

The examples show the panel illuminated, display is Normal except for area of Logic Buffer Board Failure.

Main Board Failure Symptoms

- Main Board errors are similar to logic errors but the problem can be on a single source such as the tuner.
- If the Menu also shows the defect the main board is suspected

PDP Panel Troubleshooting

Horizontal Error

Magnified View

Plasma Panel Failure Examples

- Plasma Panel failure can usually be identified by observation. Single sub pixel columns or rows that are black or white always are panel failures. Other lines or lines that vary with content are almost never panel failures. Individual pixel errors are almost always panel related.

ALIGNMENTS:

1. Check/Adj. VS, VA, VE, & VSC according to Panel Label and Diffusion test. (see bulletins for any special notes before making changes)

DIFFUSION TEST/ADJ. (cell miss-firing)

- Allow the unit to warm up 15 to 20 minutes
- Access the Burn Protect Sig. Pattern in Cust. Menu.
- Adjust the Vs volts until screen errors are gone in both dark and bright areas.
- Adjust the Vs volts within +/- 10V on the panel label.
- NOTE: Diffusion may appear with aging panels. New panels with Diffusion consult bulletins and/or report problem.

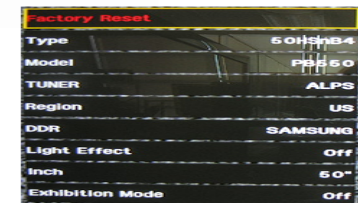


2. Check/Set Option Bytes:

Using the Customer Remote

1. Turn the power off and set to stand-by mode
2. Press the remote buttons in this order: POWER OFF-MUTE-1-8-2-POWER ON to turn the set on.
3. The set turns on and enters service mode. This may take approximately 20 seconds.
4. Press the Power button to exit and store data in memory.
5. If you fail to enter service mode, repeat steps 1 and 2 above.

Project	PRSG	PRSG	PRSG
Model Code	B500	B500	B500
Model Code	PN63500121 XZA	PN63500121 XZA	PN63500121 XZA
No.	1	2	3
1	Factory Reset	---	---
2	Type	50F SFL4	50F MK1
3	Model	PESS0	PESS0
4	TUNER	ALPS	ALPS
5	Region	US	US
6	CHC	SAMSUNG	SAMSUNG
7	Light Effect	Off	Off
8	Inch	50"	50"
9	Exhibition Mode	Off	Off



Option Bytes

Model Code	Side Label	Tvae	Model	Tuner	Region	Option			Front Color
						Light Effect	Audio AMP	Ch Table	
PN43D490A1DXZA	A103	43DHHcD	US	PD490	SI_ATC	-	-	SAMEX	P-S-R-BK
	B104	43DHHcD	US	PD490	SI_ATC	-	-	SAMEX	P-S-R-BK
	1105	43DHHcD	US	PD490	SI_ATC	-	-	SAMEX	P-S-R-BK
	1406	43DHHcD	US	PD490	SI_ATC	-	-	SAMEX	P-S-R-BK
	1407	43DHHcD	US	PD490	SI_ATC	-	-	SAMEX	P-S-R-BK
	1108	43DHHcD	US	PD490	SI_ATC	-	-	SAMEX	P-S-R-BK