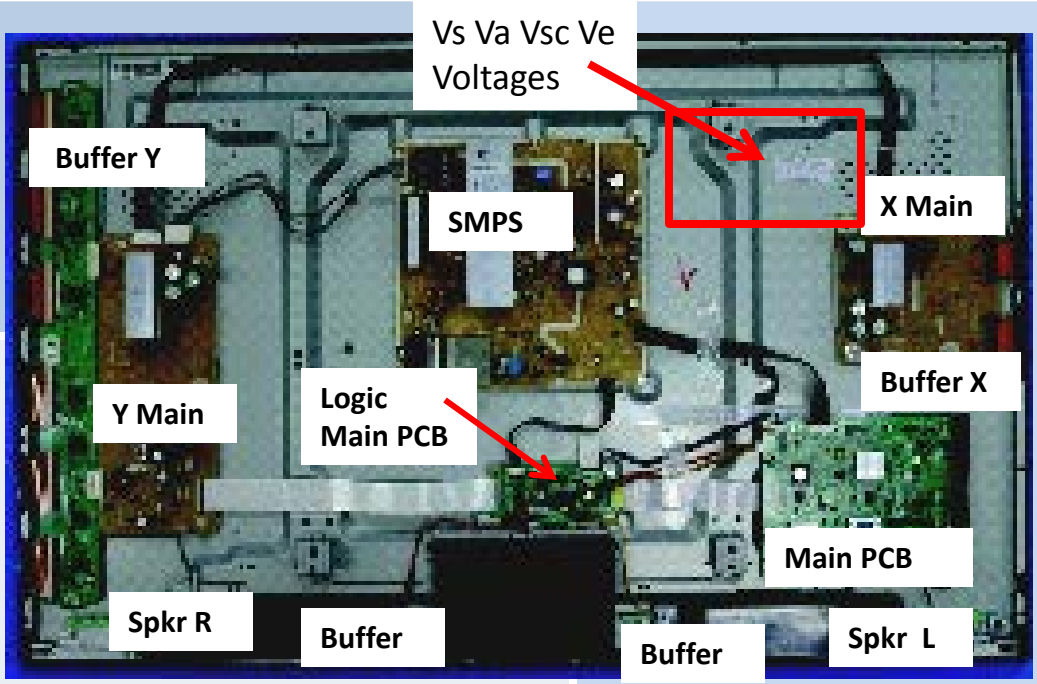
PN43D490A1DXZA Fast Track Troubleshooting Manual - Rev 1/10/12



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.

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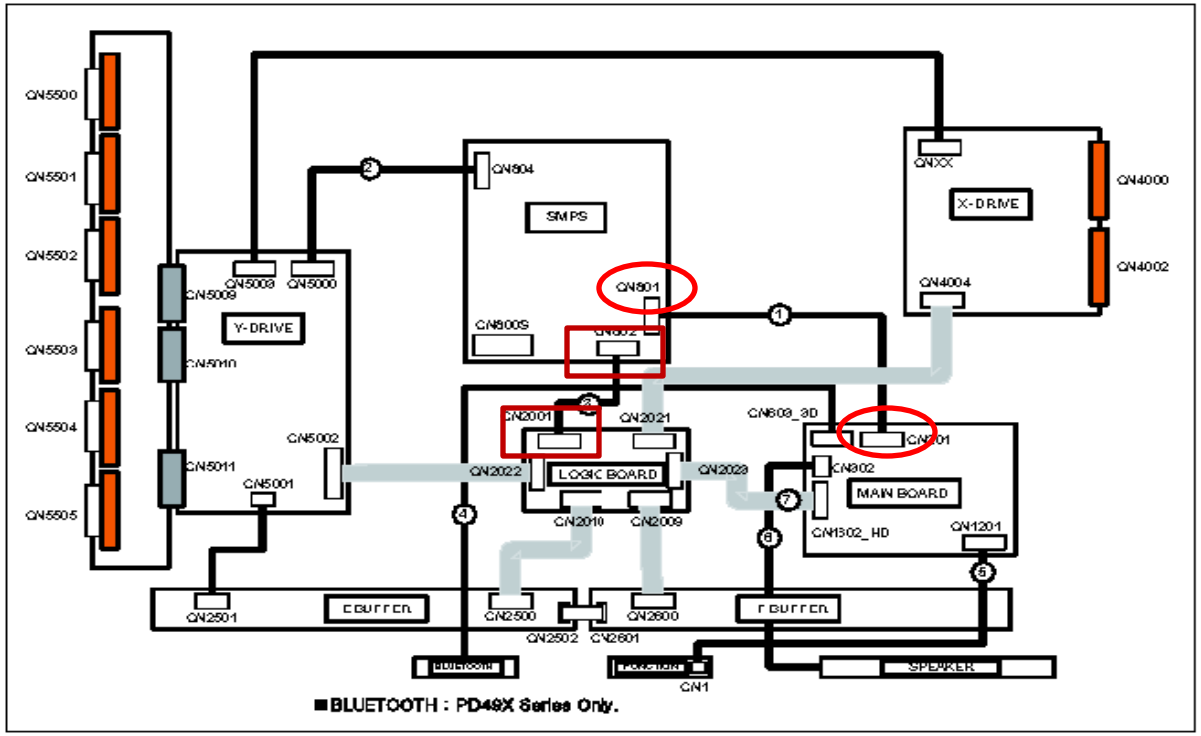


Power On Sequence

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.**

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

CN801 (SMPS) ↔ CN201 (Main Board)

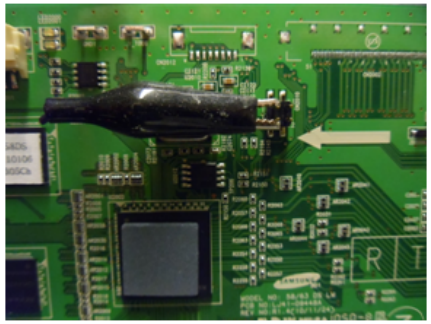
Pin No. (SMPS)	Signal (SMPS)	Pin No. (Main Board)	Signal (Main Board)
1	PS-ON	1	SW_POWER
2	STBY	2	A5V_PW
3	GND	3	DGND
4	D15V	4	B15VS_PW
5	GND	5	DGND
6	GND	6	DGND
7	D5.3V	7	B5V_PW
8	D5.3V	8	B5V_PW
9	GND	9	DGND
10	D15V	10	B15V_PW
11	D15V	11	B15V_PW
12	D5.3V	12	B5V_PW

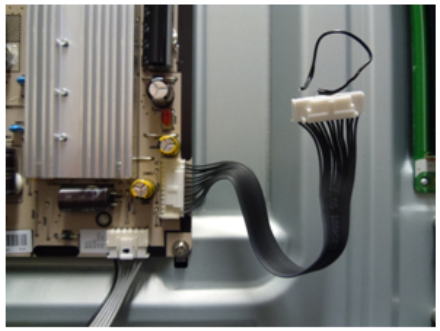
Fast Track Troubleshooting Manual

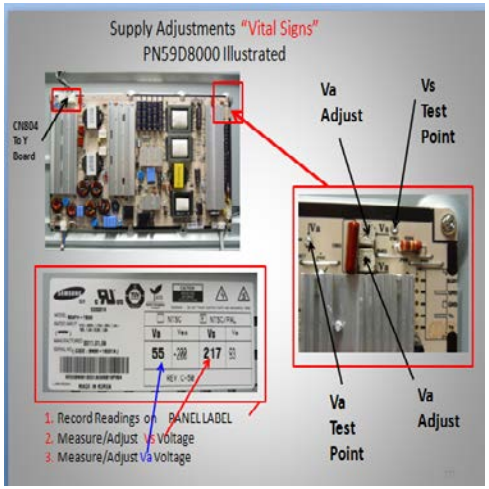
"Troubleshooting"

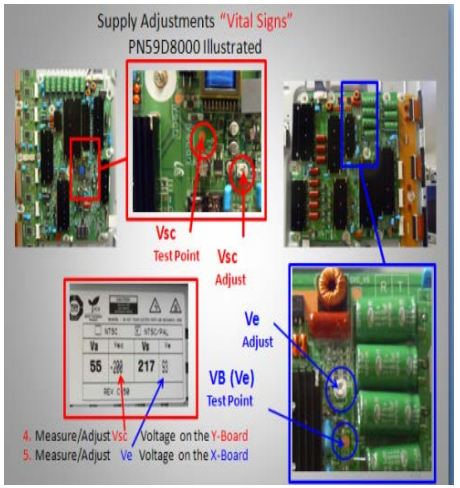
Activating Power & Logic Board Test Patterns without Main Board:

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









SAMPLE VIEW & READINGS

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 shut-ting 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!**

"VITAL SIGNS"

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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.

SAMSUNG

TROUBLESHOOTING VIDEO PROBLEMS

1. Verify Video Operation

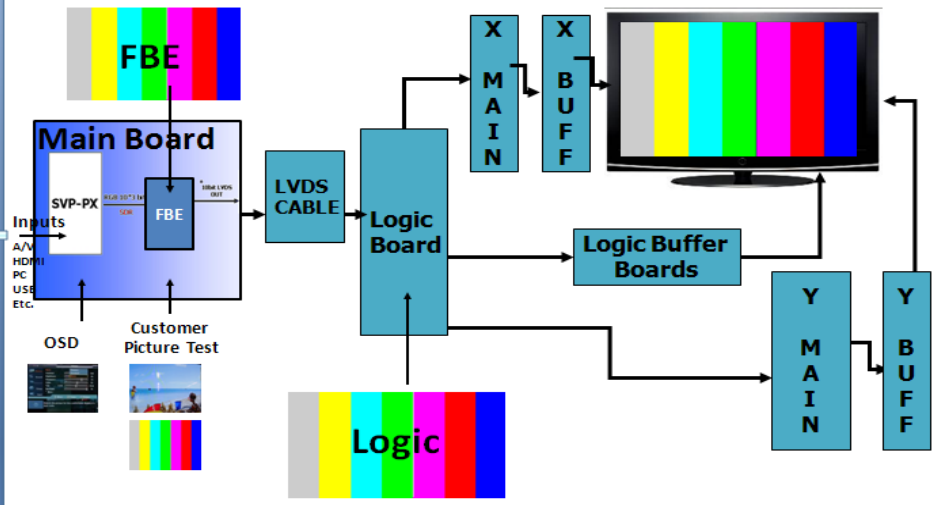
a. **Customer Picture Test** (models available)
b. **"Display"** (If display is OK source is suspected)
C. Substitute with known good Source
(**external DVD or Signal Generator**)

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

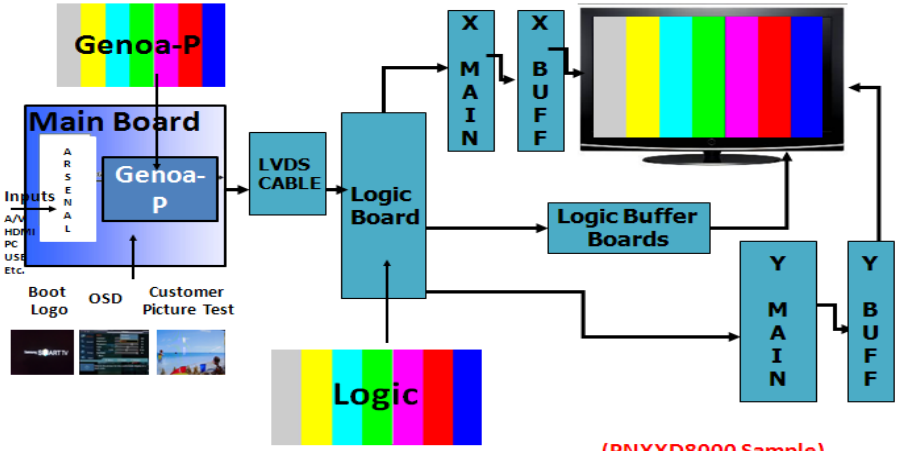
2010 PDP Signal Path for Troubleshooting



Along with the OSD and the test patterns in the FBE$_2$ IC on the Main board there are additional test patterns on the Logic board that can be accessed from the service mode.

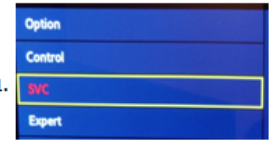
1. Enter Service Mode.
2. Check FBE Pattern Test Signals. (Main Board)
3. Check Logic Pattern Test Signals. (Logic Board)

2011 PDP Signal Path for Troubleshooting



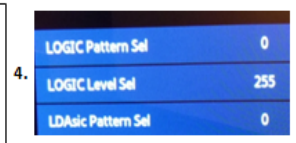
2011 PDP 8000 Series Sample (PNXXD8000 Sample)

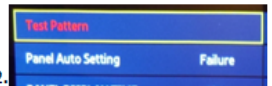
Using the Test Patterns to Isolate the Main and Logic or LVDS Cable

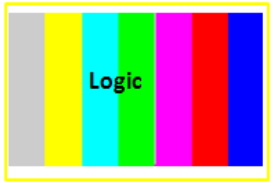


Test Procedure:

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.



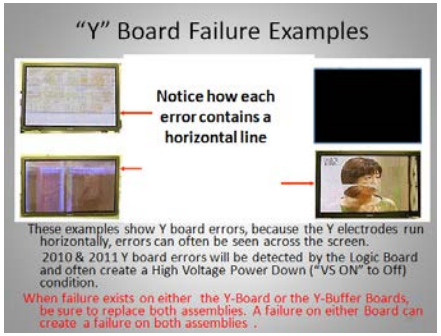


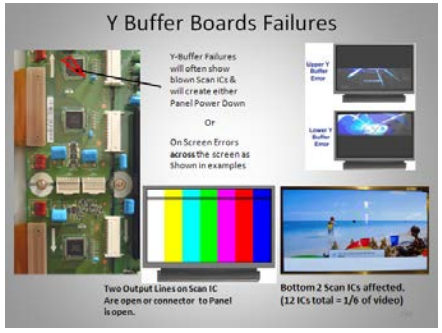


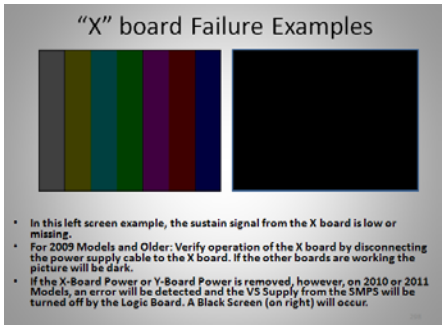
- If Logic is OK and GenoaP is OK the problem is normally the source or input
- If the Logic is OK and GenoaP is not OK, problem is normally LVDS Cable or Main Board.
- If Log is not OK then the problem is normally the Logic Board (or X or Y Boards)

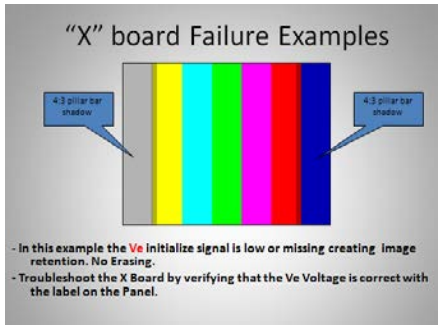
Fast Track Troubleshooting Manual

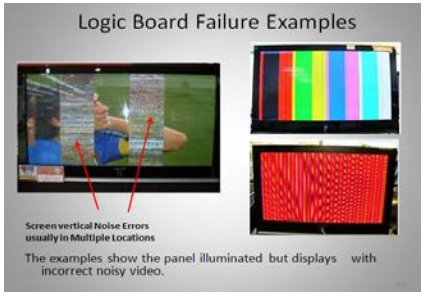
ON SCREEN FAILURE EXAMPLES:

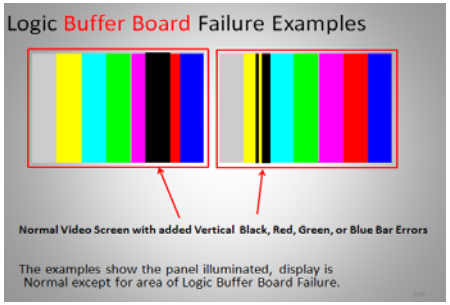


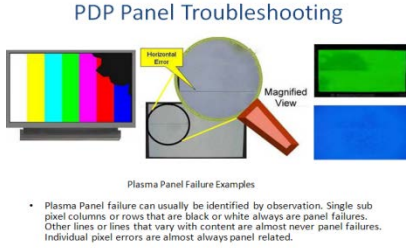












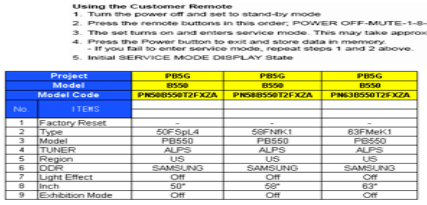
ALIGNMENTS:

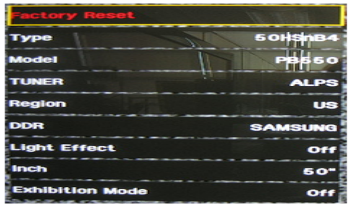
1. **Check/Adj. VS, VA, VE, & VSC according to Panel Label and Diffusion test. (see bulletins for any special notes before making changes)**

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:**





Model Code	Side Label	Option							
		Type	Model	Tuner	Region	Light Effect	Audio AMP	Ch Table	Front Color
PN43D490A1DXZA	A103	43DHHcD	US	PD490	SI_ATC	-	-	SAMEX	P-S-R-BK
	B104	43DHHcD	US	PD490	SI_ATC	-	-	SAMEX	P-S-R-BK
	I105	43DHHcD	US	PD490	SI_ATC	-	-	SAMEX	P-S-R-BK
	I406	43DHHcD	US	PD490	SI_ATC	-	-	SAMEX	P-S-R-BK
	I407	43DHHcD	US	PD490	SI_ATC	-	-	SAMEX	P-S-R-BK
	I108	43DHHcD	US	PD490	SI_ATC	-	-	SAMEX	P-S-R-BK