Buffer Y

Vs Va Vsc Ve Voltages

SMPS

X Main

Y Main

Logic PCB

Buffer X

Main PCB

Buffer E

Buffer F

SERVICE BULLETINS

Please check GSPN for parts update!

Version	Parts No	Short Description
NY02	BN44-00330A	SMPS
NY02	BN94-03262E	Main PCB
NY02	BN96-12409A	X Main
NY02	BN96-12410A	Buffer X
NY02	BN96-12411A	Y Main
NY02	BN96-12956A	Buffer Y
NY02	BN96-12957A	Logic Main PCB
NY02	BN96-12958A	Buffer E
NY02	BN96-12959A	Buffer F
NY02	BN96-13388B	Function & IR PCB
NY02	BN96-12710A	Panel
NY02	6003-000337	Stand Screw
NY02	BN96-10689A	Stand Guide Neck
NY02	BN96-12989J	Front Cover
NY02	BN96-13431D	Stand Base
NY02	BN96-13432A	Stand Guide
NY02	BN96-13896D	Rear Cover
NY02	BN96-12832D	Speaker
NY02	BN96-13325A	LVDS Cable
NY02	4301-000103	Battery
NY02	BN59-00996A	Remote
NY02	BN63-01798B	Cleaning Cloth
NY02	BN96-10788A	Accessory Pack

HELP : 1-888-751-4086 (Tech Support)
    1-866-894-0637 (FE)

GSPN
http://gspn3.samsungcsportal.com
PLUS ONE
http://my.plus1solutions.net/clientPortals/samsung

HOT TIPS
-Power On Problems: (pg. 3)
-Video Problems: (pg. 4)
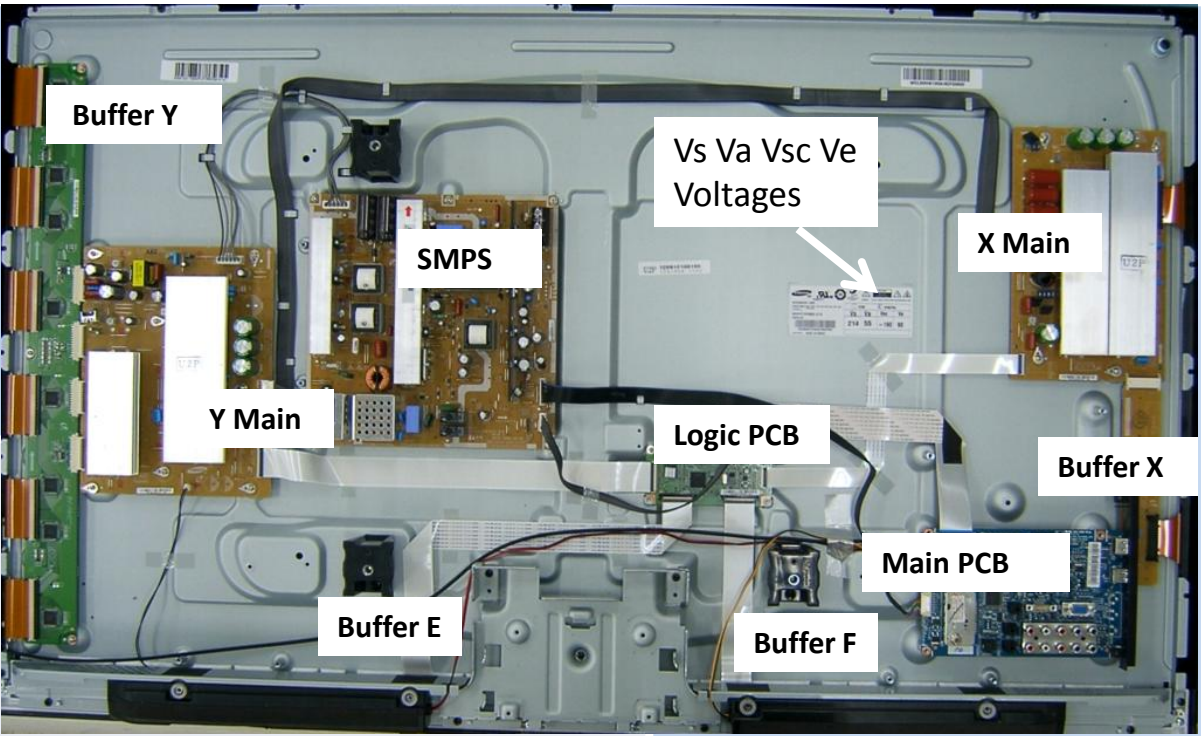
FIRMWARE
Please check Samsung.com for latest update!
Firmware for SX1 Model
 -. Version : 1016.3
 -. Folder Name: T-TDT5AUSC
-. Related Models
    . PDP: C500, C530, C540, C550, C590
-. Description
   This firmware will prevent below problems
    . Picture Noise on specific channels
    . Distorted picture on 70Hz, 75 Hz
Version 1014.1-To improve HDMI 24P
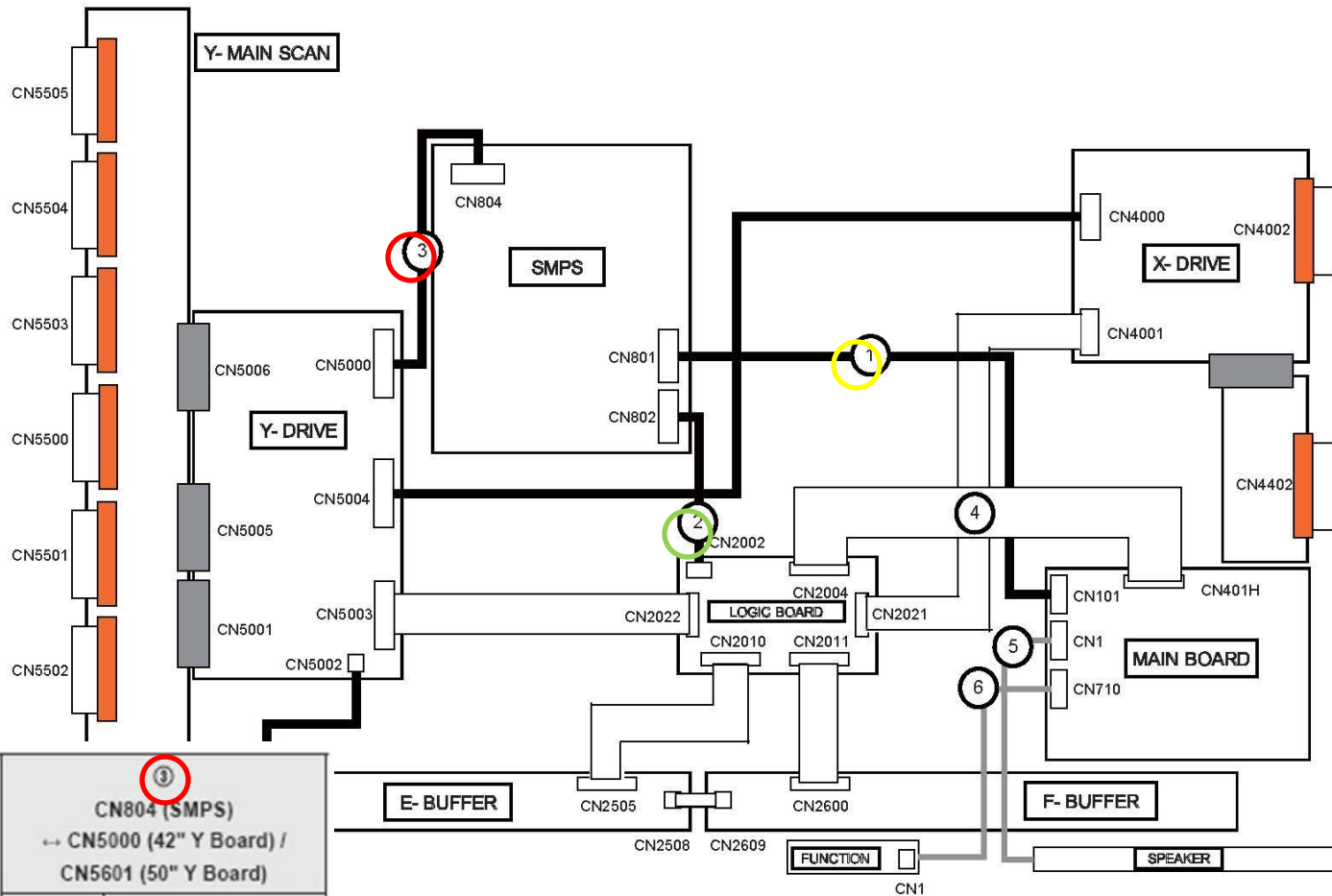
CN801 (SMPS)
↔ CN101 (Main Board)

Pin No.	Signal
1	PS_ON
2	STBY
3	GND_15Vamp
4	15Vamp
5	GND_5.3V
6	GND_5.3V
7	5.3V
8	5.3V
9	GND_15V
10	15V
11	15V
12	5.3V

CN804 (SMPS)
↔ CN5000 (42" Y Board) /
CN5601 (50" Y Board)

Pin No.	Signal
1	Vs
2	Vs
3	GND
4	Vg
5	GND
6	Va

CN802 (SMPS)
↔ CN2002 (Logic Board)

| Pin No.	Signal
1	D5.3V
2	D5.3V
3	GND
4	GND
5	PS_ON
6	VS_ON

Power On Sequence
-**STBY 5V (Pin 2 CN801)**
-**PS_ON (approx 3.3V – 0V) (Pin 1 CN801)**
-**VS_ ON (approx 0V – 3.3V) (Pin 6 CN802)**

2

"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
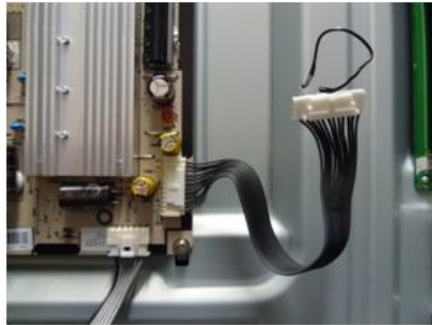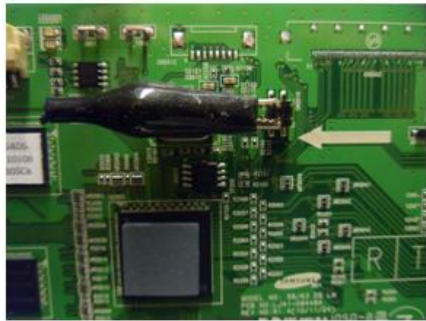
Supply Adjustments "Vital Signs"
PN59D8000 Illustrated

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

Va	Vsc	Vs	Ve
55	-200	217	93

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

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 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!**

"VITAL SIGNS"

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** (if available)
b)   **"Display"** (If display is OK source is suspected)
c)   Substitute with known good Source
      (**external DVD or Signal Generator**)
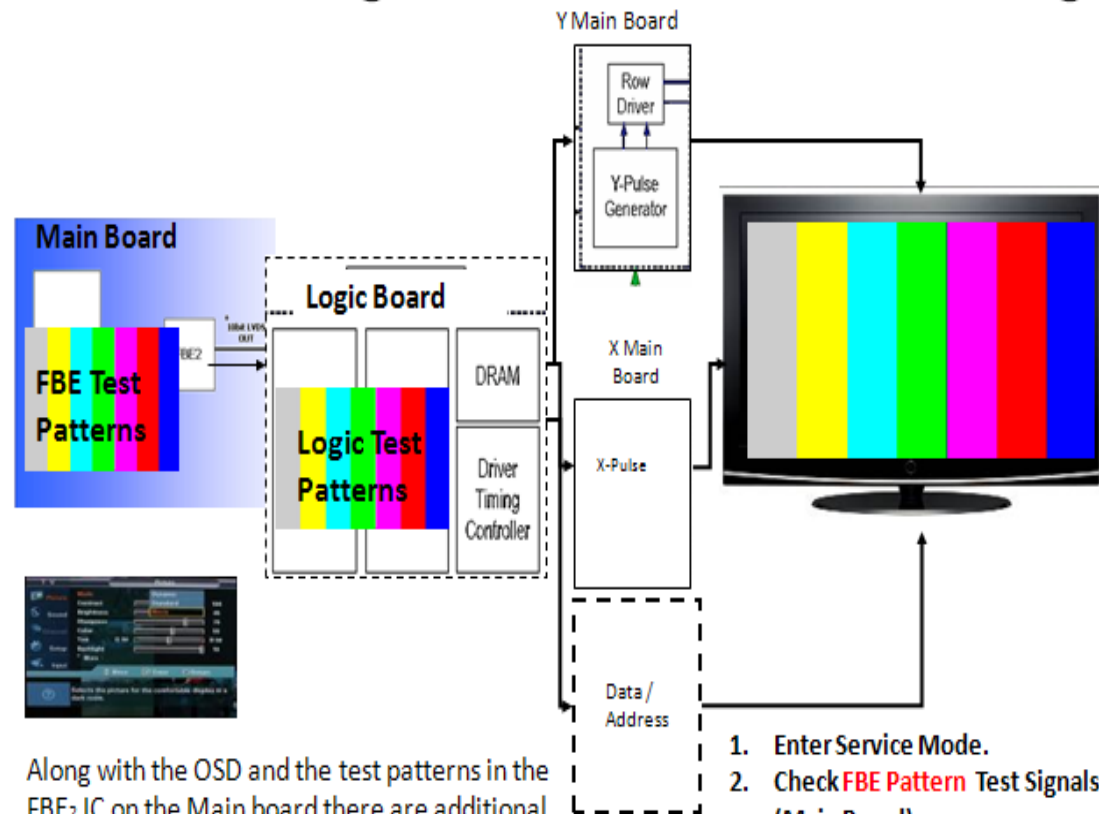
2. Using Test Patterns in Service Mode
- **ENTERING SERVICE MODE -**

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

3. Determine cause
a)   If Logic pattern is NG; Logic board, Logic buffers or Panel are suspect.
b)   If FBE patterns is NG and Logic is OK; Main or LVDS cable are suspect.
c)   If both are OK it is likely a source issue.

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)**

5

"Y" Board Failure Examples
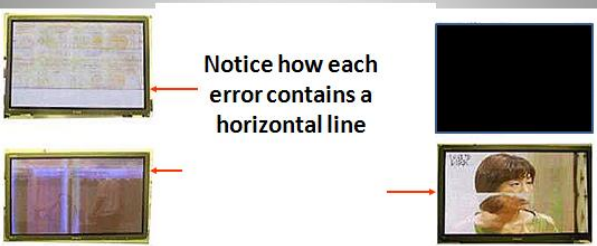
**Notice how each error contains a horizontal line**

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

Upper Y Buffer Error

Lower Y Buffer Error

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
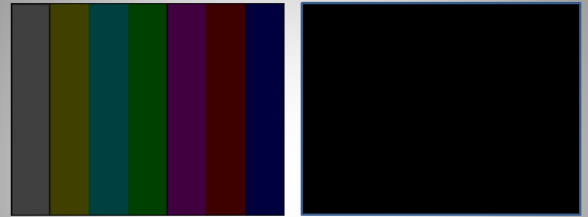
- In this left screen example, the sustain signal from the X board is low or missing.
- For 2009 Models and Older: Verify operation of the X board by disconnecting the power supply cable to the X board. If the other boards are working the picture will be dark.
- If the X-Board Power or Y-Board Power 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.
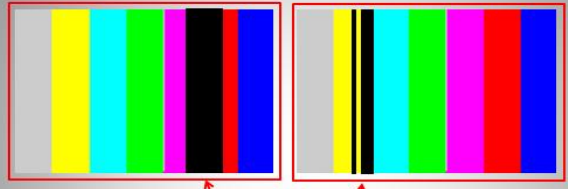
Logic Board Failure Examples
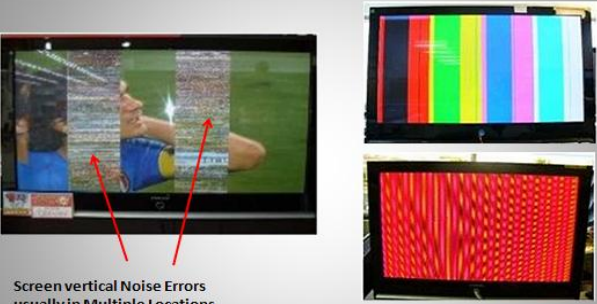
Screen vertical Noise Errors usually in Multiple Locations

The examples show the panel illuminated but displays with incorrect noisy video.
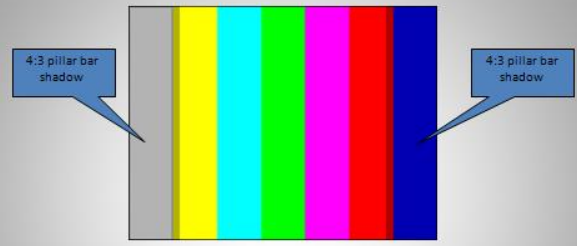
Logic Buffer Board Failure Examples

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.

"X" board Failure Examples

4:3 pillar bar shadow

4:3 pillar bar shadow

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

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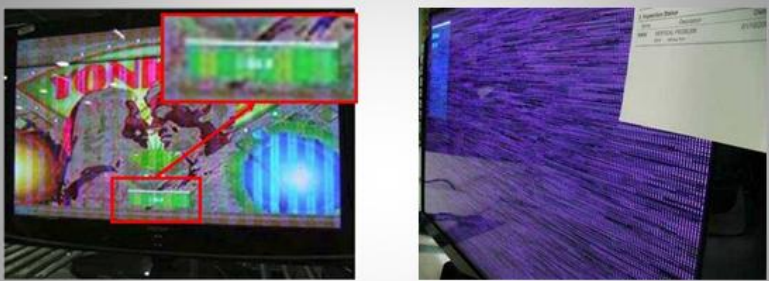
- Main Board errors are similar to logic errors but the problem can be on a single source such as the tuner.
- If the Menu also shows the defect the main board is suspected

PDP Panel Troubleshooting

Horizontal Error

Magnified View
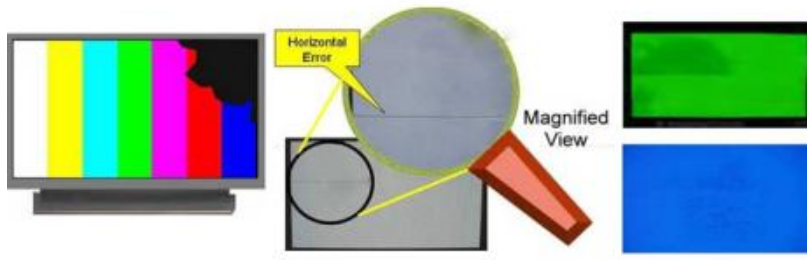
Plasma Panel Failure Examples

- 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)
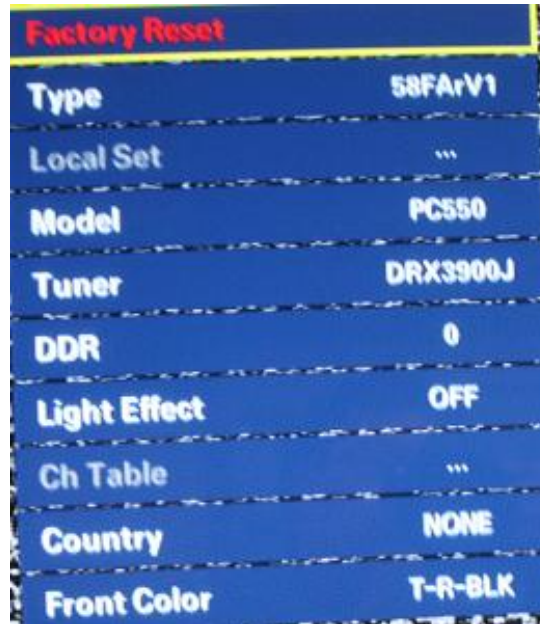
2. **Check/Set Option Bytes:**

- **ENTER SERVICE MODE -**

Customer Remote
1. Power off
2. Mute, 182, Power

Service Remote
1. Power On
2. Info, Factroy

DIFFUSION TEST/ADJ. (cell miss-firing, older units)
- **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.**

Factory Reset

Type	58FArV1
Local Set	""
Model	PC550
Tuner	DRX3900J
DDR	0
Light Effect	OFF
Ch Table	""
Country	NONE
Front Color	T-R-BLK

Model Code	Side Label	F/W directory	Option						
			Type	Model	Tuner	DDR	Light Effect	Country	Front Color
PN50C540G3FXZA	NY01	T-TDT5AUSC	50FArN4	PC540	DRX3900J	0	Off	USA	T-R-BLK
	NY02	T-TDT5AUSC	50FArN4	PC540	DRX3900J	0	Off	USA	T-R-BLK
	IY03	T-TDT5AUSC	50FArN4	PC540	DRX3900J	0	Off	USA	T-R-BLK
	IZ04	T-TDT5AUSC	50FArN4	PC540	DRX3900J	0	Off	USA	T-R-BLK
	N005	T-TDT5AUSC	50FArN4	PC540	DRX3900J	0	Off	USA	T-R-BLK
	N006	T-TDT5AUSC	50FArN4	PC540	DRX3900J	0	Off	USA	T-R-BLK
	I007	T-TDT5AUSC	50FArN4	PC540	DRX3900J	0	Off	USA	T-R-BLK
	I008	T-TDT5AUSC	50FArN4	PC540	DRX3900J	0	Off	USA	T-R-BLK