UN46EH5000FXZA Fast Track Troubleshooting Manual – Rev 6/26/12

SAMSUNG

MAIN

SMPS

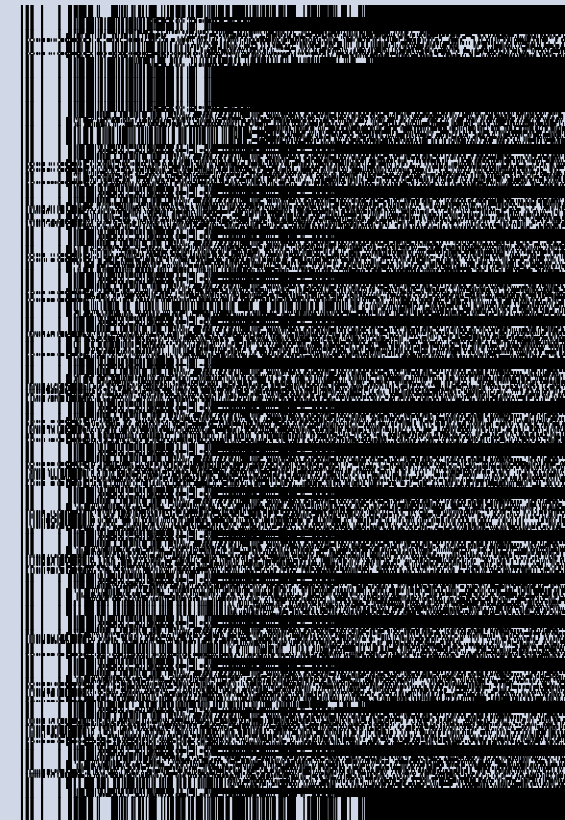LVDS
Cable

SPEEAKER- R

T-CON

SPEAKER- L

-**FIRMWARE: 6/4/2012 Version 1012.3**
-**2012 LED TV X9N Full HD Firmware
(T-MX9FAUSC_1012.3)**
-**"Makes better picture quality and solves
sound noise with 'Auto Volume On'."**
Avail on GSPN or Samsung,Com
Always check for _latest_ updates

Quick Parts List:
- Verify before ordering -

SERVICE BULLETINS

ASC20120319002
**SUBJECT: Rear Cover replacement
procedure for 2012 Full LED (EH
series) TV models**

ASC20120319001
**SUBJECT: Front Cover replacement
procedure**

HOT TIPS
-**New 2012 Model... always check for latest
bulletins and firmware updates.**

**- Important Bulletins for rear cover removal
and front cover replacement to prevent
damage.**

Disassembly Caution for LED-H TV Servicing Prep.

1. Place monitor face down on cushioned table.

2. Remove 4 screws from the stand.
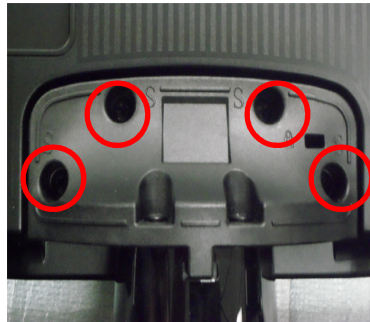
3. Remove stand.

4. **Remove the 1 screw of cover jack.**

5. **Remove cover jack.**

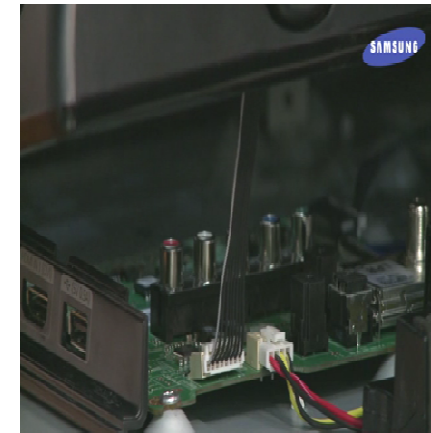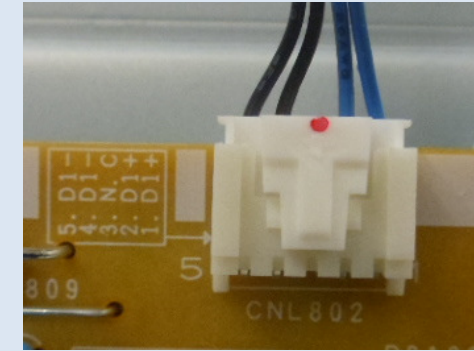6. **Disconnect the function Assy. Cable**

7. Remove the screws of rear-cover.
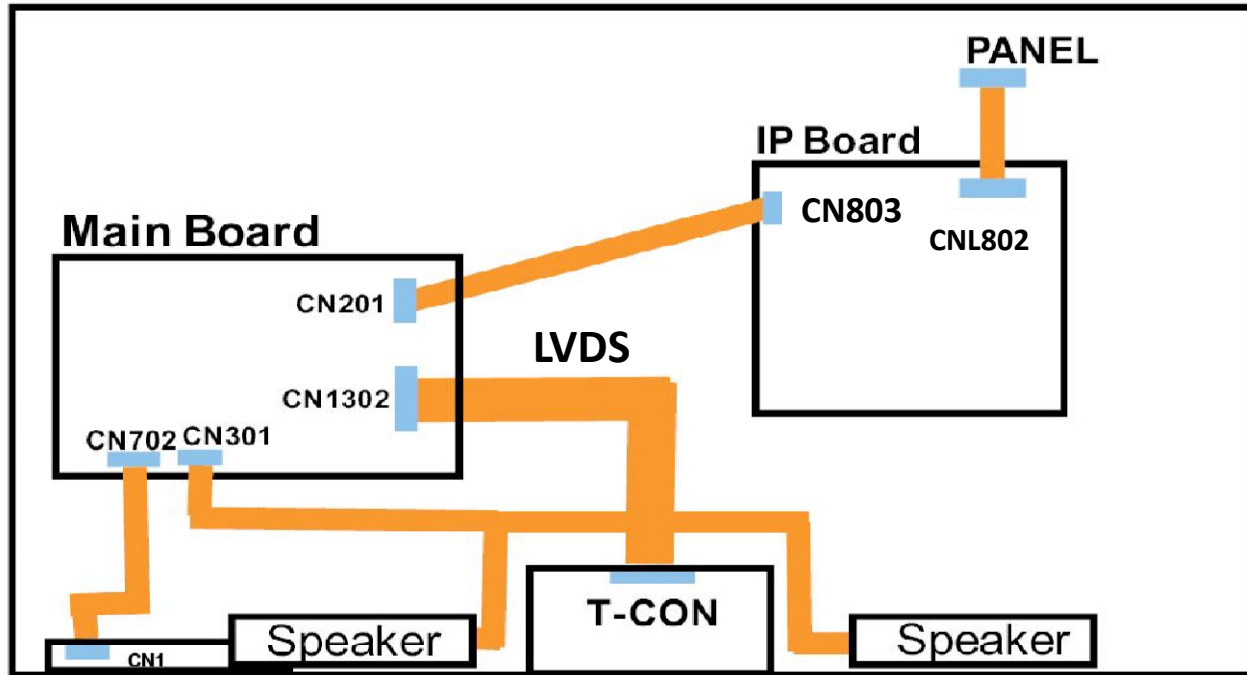
8. Remove the rear cover

Not removing the connector can cause **Damage** to the PC/Connector as shown.

CNL802 IP SMPS to LEDs

1	D1 -
2	D1 -
3	N/C
4	D1 +
5	D1 +

CN803 IP SMPS to /fro MAIN BOARD

1	B13V	8	GND
2	PWM_DIMM	9	GND
3	B13V	10	GND
4	B13V	11	B5V
5	Vamp 13V	12	A5V
6	BLU On/Off	13	B5V
7	Vamp 13V	14	Power On/Off

UN**EH TV Start Up Sequence

MAIN

Sequence	Location	DC Voltage
1. **5V STBY** to Main Board	CN803-12 **(A5V)**	**5V**
2. **Power On/Off** From Main Board	CN803-14 **(Power On/Off)**	**0V-3.5V**
3. **Low Volts On** to Main Board with **Booting Melody (X9 MStar)**	CN803-1,3,5,7 **(B13V)** CN803- 11,13 **(B5)**	**13V** **5V**
4. **Back Light On/Off** From Main Board	CN803-6) **BLU On/Off**	**0V – 4.9V 5 Sec Dly**
5. **Back Light Dim Control** from Main Board "0 to 20" Backlight	**CN803 - 2 (PWM_DIMM)** effective DC Voltage is **max** when backlight **max**	**0.5V – 4.0V (effective)** Dark to Bright
6. **Dim Control Out** from IP SMPS to LEDs **D1 –** is **max** voltage when backlight is **min**	**CNL802-1 & 2 (D1 -)** C NL802-4 & 5 **(D1+)** **D1 + stays constant DC voltage.**	**1.3V-32.8V** **110.8V**
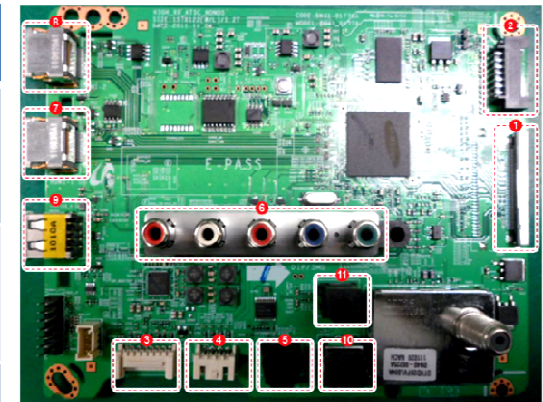
SMPS
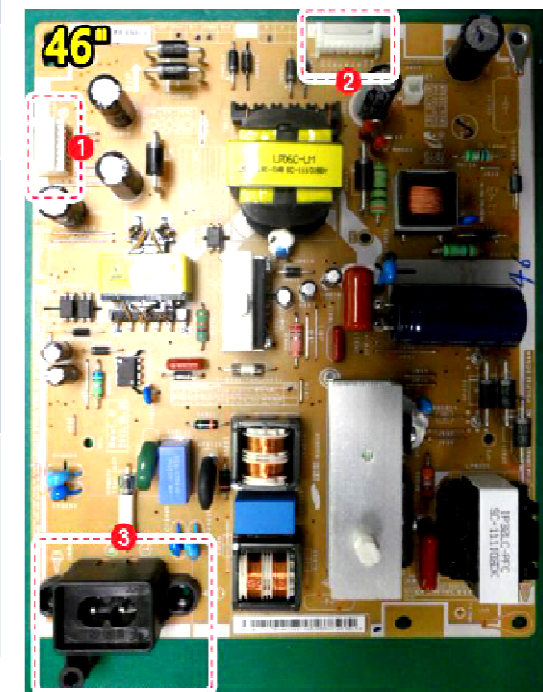
Function Control Troubleshooting

- ✓ **Standby A3.3V on Function Connector, Pin 3.**

- ✓ **All Pins should read 3.3V before commands.**

- ✓ **Press, at Key 1, Pin 6. 3.3V to 0.0V DC**

- ✓ **Left, Right, Up, Down at Key 2, Pin 7. Check specific voltages on chart.**
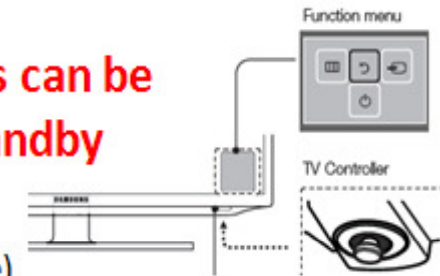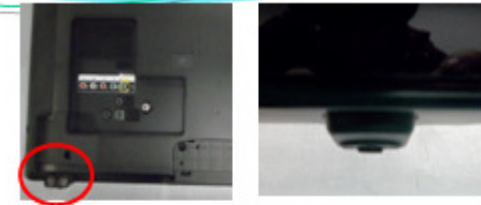
5 Directional Function Control

UNEH4000 Sample

Press	Left	Right	Up	Down

CN702 (FUNCTION)

1	IR	5	MSDA
2	GND	6	KEY1
3	A3.3V	7	KEY2
4	MSCL	8	GND

All Functions can be Tested in Standby Mode

(Standby Voltage)

Function menu

TV Controller

Command	PIN	Signal	DC Voltage/Notes
IR	1	IR	3.3V to 2.5V DC with any Remote Control Commands
Press	6	Key 1	3.3V to 0.0V DC
Left	7	Key 2	3.3V to 1.6V DC
Right	7	Key 2	3.3V to 2.5V DC
Up	7	Key 2	3.3V to 0.0V DC
Down	7	Key 2	3.3V to 0.8V DC

Actual IR Signal

4V P-P Data

SAMSUNG
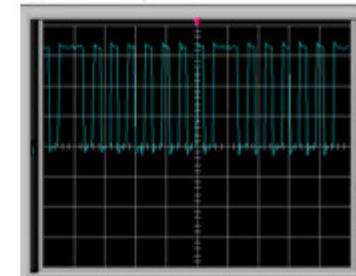
TROUBLESHOOTING VIDEO PROBLEMS

1. **Verify Video Operation (2012 Models)**
   a. **Boot Logo** models with X10 Micro-Processor & above during power on**. Boot Sound** only (X9 MPU) during power on.
   b. **Customer Picture Test** in user men**u**
   c. **"Display"** (If display and Boot Logo & Customer Picture Test are OK the source or cables are first suspected . Then check for a defective input on the Main Board.)
   d. Substitute with known good Source (**external DVD or Signal Generator** to check inputs on Main Board)

Mstar Test Pattern	Off
FBE Test Pattern	
LOGIC Test Patten	Off
FRC Post Pattern	Off
FRC Pre Pattern	Off
FRC PC Mode	Off

ption	
ontrol	
SVC	
xpert	
ADC/WB	
Advanced	

Test Pattern	
T-CON Download	Failure

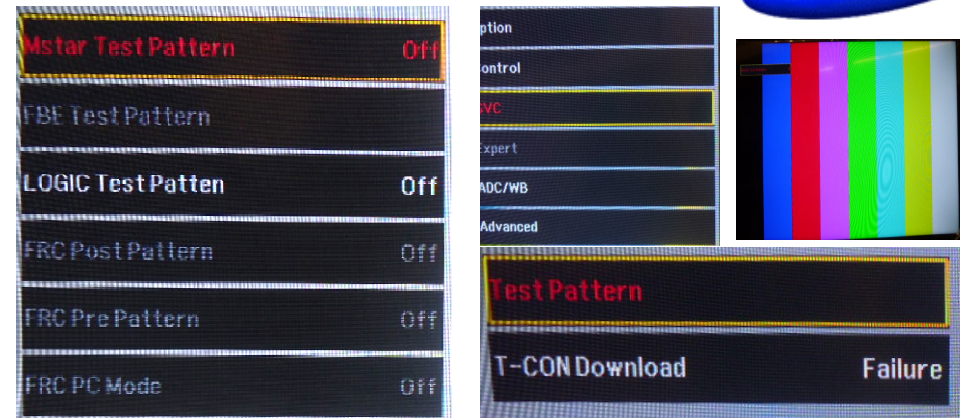## 2. Using Test Patterns in Factory Mode
- ENTER FACTORY MODE –
1. Select an active source signal since Test Pattern may rely on signal source to appear or select TV Source mode.
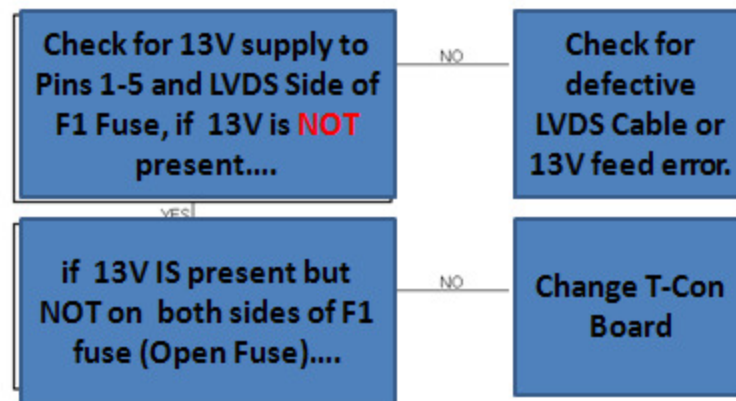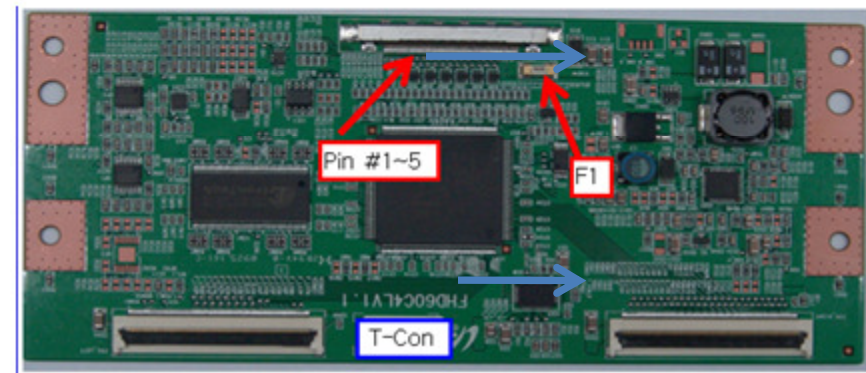
Customer Remote	Service Remote
2. Power Standby	2. Power On
3. Mute, 182, Power On	3. Info, Test
4. Select SVC	
5. Select Test Patterns	

T-Con Troubleshooting

Pin #1~5   F1

T-Con

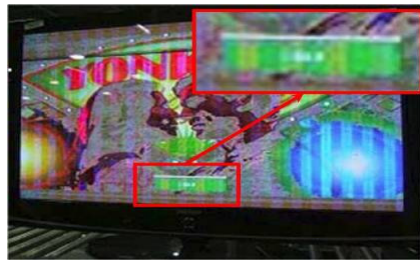|			
Check for 13V supply to Pins 1-5 and LVDS Side of F1 Fuse, if 13V is **NOT** present....	NO	Check for defective LVDS Cable or 13V feed error.	
if 13V IS present but NOT on both sides of F1 fuse (Open Fuse)....	NO	Change T-Con Board	

Fast Track Troubleshooting Manual

ON SCREEN FAILURE EXAMPLES:

If Picture & Display errors Defective Main Board, LVDS, or T-CON

Green lines or a green screen defective main board , LVDS , or T-CON.
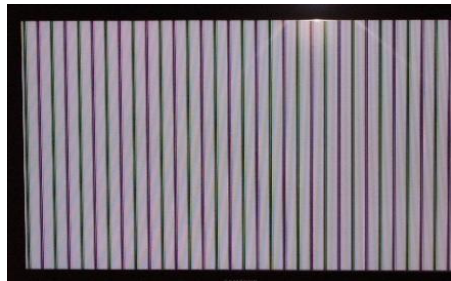

Original Image   Image on Screen

Pixelization can be caused by the main board but is more commonly a source error

Vertical or Horizontal Lines :Defective Panel likely but also T-CON, LVDS, or Main Board. Use Test Patterns in Factory Service Mode to determine error)

ALIGNMENTS:

1. Check/Set **Option Bytes**: in Factory Mode
    (Must be performed after replacing **Main Board.**)

Standard Remote
1. Power OFF the TV
2. Press MUTE, 1 8 2, then POWER

Factory remote
1. Power the TV ON
2. Press INFO then FACTORY

2. Check/Perform latest **Firmware** Upgrade for **all** repairs.

3. Perform reset in Service Mode if Main board is replaced.

SPECIAL NOTES:
Inform customer of reset of all Settings if Main Board is replaced.

Option Bytes settings for UN46EH5000

Model Code	Side Label	Option Type	Basic Model	SVC Model	Tuner	Region	Ch Table	Front Color	Local Set
UN46EH5000FXZA	CS01	46P6AF0D	UEH5000	UEH5000	–	–	SAMEX	U-S-C-5K	US
UN46EH5000FXZA	TS02	46A6AF0D	UEH5000	UEH5000	–	–	SAMEX	U-S-C-5K	US

'2012 LED Hybrid Disassembly cautions for Front Cover

(New panels come with the Front Cover)

To prevent the removal process from damaging the connections on the sides of the panel.

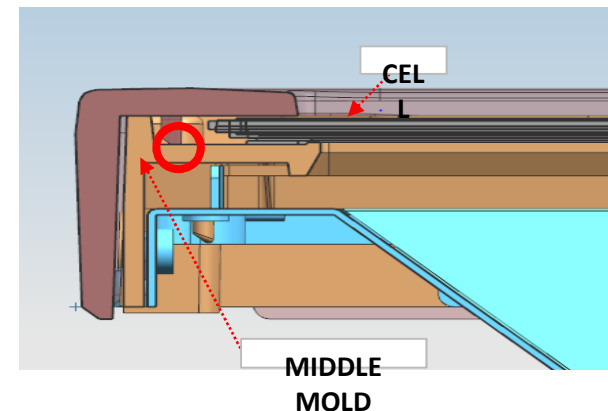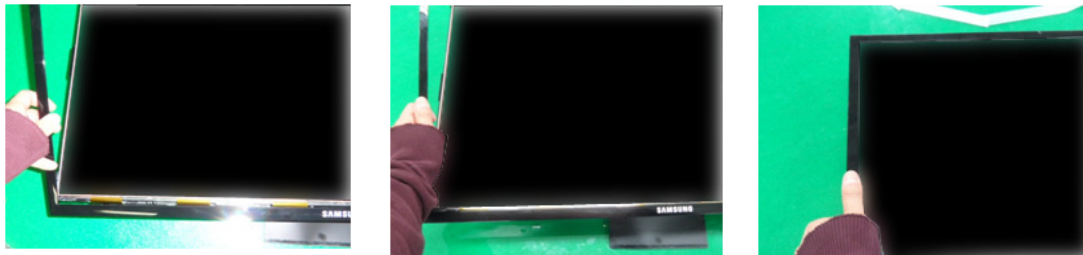**1. Place TV face up on cushioned table.**

2. Cut and split the cover off at the top

3. Carefully remove the Front Cover and insulated paper in Front of T-Con area.

4. Attach the Front Cover bottom first to the panel

CEL

L

MIDDLE MOLD

5. Secure the plastic latch on the left and right side of the Front Cover as shown
6. Visually inspect the spacing between the Cover and the panel for equal clearance
7. Combine to stick the Front Cover Rib into the middle mold.