**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.

- 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
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

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>D1 -</td>
</tr>
<tr>
<td>2</td>
<td>D1 -</td>
</tr>
<tr>
<td>3</td>
<td>N/C</td>
</tr>
<tr>
<td>4</td>
<td>D1+</td>
</tr>
<tr>
<td>5</td>
<td>D1+</td>
</tr>
</tbody>
</table>

CN803 IP SMPS to MAIN BOARD

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B13V</td>
<td>8</td>
<td>GND</td>
</tr>
<tr>
<td>2</td>
<td>PWM_DIMM</td>
<td>9</td>
<td>GND</td>
</tr>
<tr>
<td>3</td>
<td>B13V</td>
<td>10</td>
<td>GND</td>
</tr>
<tr>
<td>4</td>
<td>B13V</td>
<td>11</td>
<td>B5V</td>
</tr>
<tr>
<td>5</td>
<td>Vamp 13V</td>
<td>12</td>
<td>A5V</td>
</tr>
<tr>
<td>6</td>
<td>BLU On/Off</td>
<td>13</td>
<td>B5V</td>
</tr>
<tr>
<td>7</td>
<td>Vamp 13V</td>
<td>14</td>
<td>Power On/Off</td>
</tr>
</tbody>
</table>
# UN**EH TV Start Up Sequence

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

<table>
<thead>
<tr>
<th>Command</th>
<th>PIN</th>
<th>Signal</th>
<th>DC Voltage/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR</td>
<td>1</td>
<td>IR</td>
<td>3.3V to 2.5V DC with any Remote Control Commands</td>
</tr>
<tr>
<td>Press</td>
<td>6</td>
<td>Key 1</td>
<td>3.3V to 0.0V DC</td>
</tr>
<tr>
<td>Left</td>
<td>7</td>
<td>Key 2</td>
<td>3.3V to 1.6V DC</td>
</tr>
<tr>
<td>Right</td>
<td>7</td>
<td>Key 2</td>
<td>3.3V to 2.5V DC</td>
</tr>
<tr>
<td>Up</td>
<td>7</td>
<td>Key 2</td>
<td>3.3V to 0.0V DC</td>
</tr>
<tr>
<td>Down</td>
<td>7</td>
<td>Key 2</td>
<td>3.3V to 0.8V DC</td>
</tr>
</tbody>
</table>
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 menu
   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)

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
   2. Power Standby
   3. Mute, 182, Power On
   4. Select SVC
   5. Select Test Patterns

   Service Remote
   2. Power On
   3. Info, Test

T-Con Troubleshooting

- Check for 13V supply to Pins 1-5 and LVDS Side of F1 Fuse, if 13V is **NOT** present....
- Check for defective LVDS Cable or 13V feed error.
- If 13V IS present but NOT on both sides of F1 fuse (Open Fuse)....
- Change T-Con Board
ON SCREEN FAILURE EXAMPLES:

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

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Side Label</th>
<th>Option</th>
<th>Basic Model</th>
<th>SVC Model</th>
<th>Tuner</th>
<th>Region</th>
<th>Ch Table</th>
<th>Front Color</th>
<th>Local Set</th>
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</thead>
<tbody>
<tr>
<td>UN46EH5000FXZA</td>
<td>CS01</td>
<td>Type</td>
<td>46P6AF0D</td>
<td>UEH5000</td>
<td>UEH5000</td>
<td>-</td>
<td>-</td>
<td>SAMEX</td>
<td>US</td>
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<tr>
<td>UN46EH5000FXZA</td>
<td>TS02</td>
<td>Type</td>
<td>46A6AF0D</td>
<td>UEH5000</td>
<td>UEH5000</td>
<td>-</td>
<td>-</td>
<td>SAMEX</td>
<td>US</td>
</tr>
</tbody>
</table>

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.

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

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

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