

OLED65G6P T-CON Board Layout and Voltages

LG SIGNATURE
OLED TV

Picture on Glass
4K HDR Smart TV
65" Class (64.5" diagonal)
3840h x 2160v

 **ULTRAHD™
PREMIUM**



Published: July 16th, 2016

Updated: October 31st, 2017

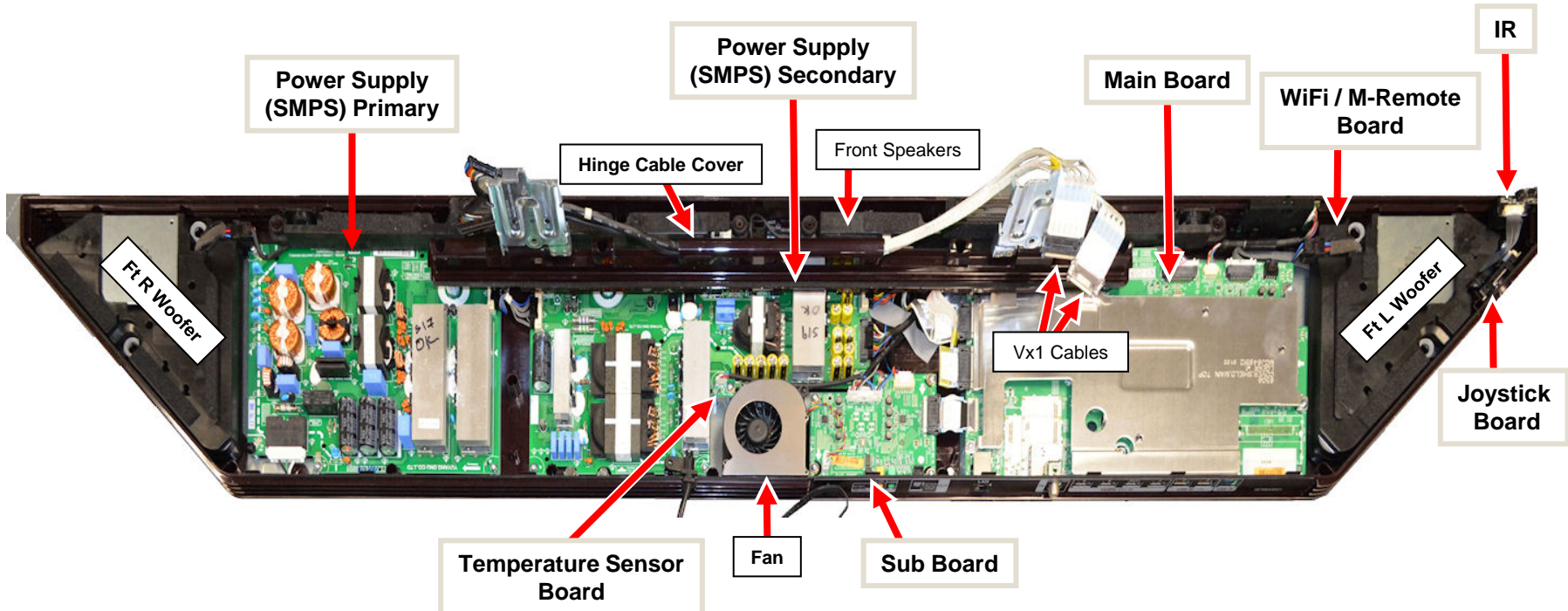


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Warning: The OLED Panel is very Fragile, use caution when handling.

T-CON Board is on the back of the Panel

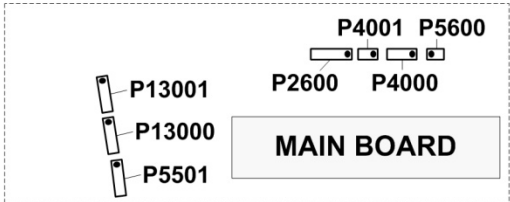
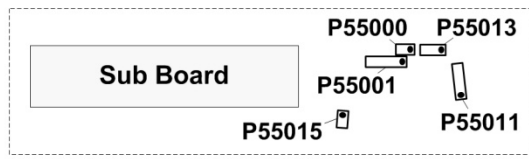
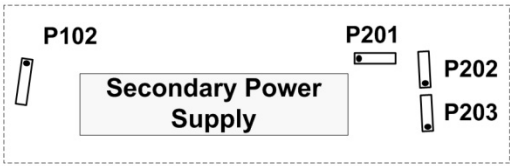
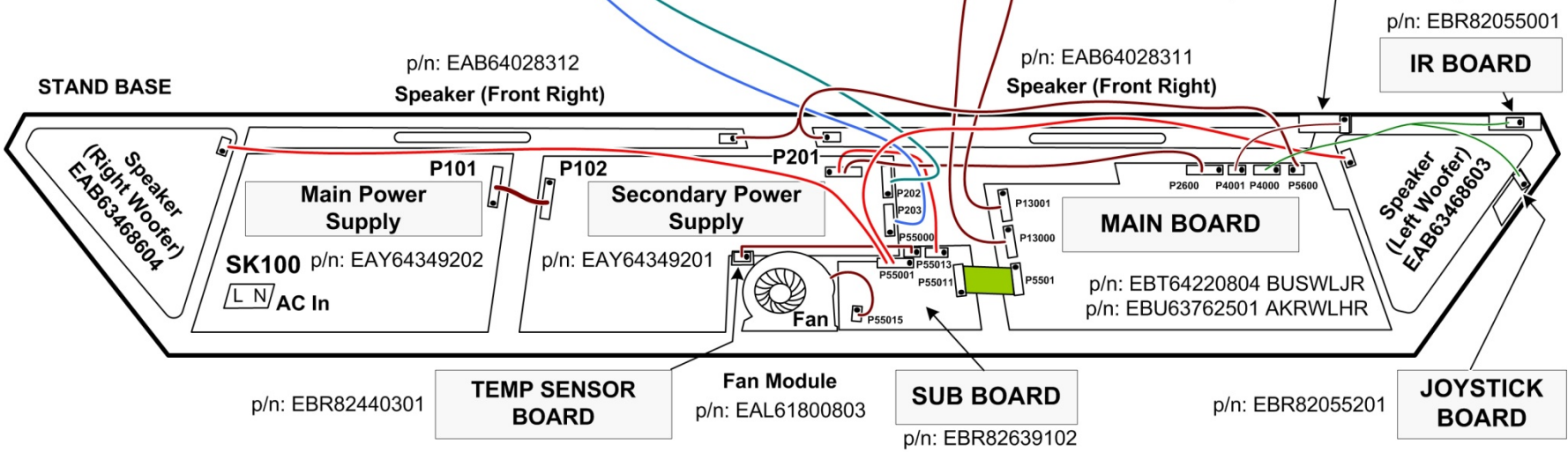
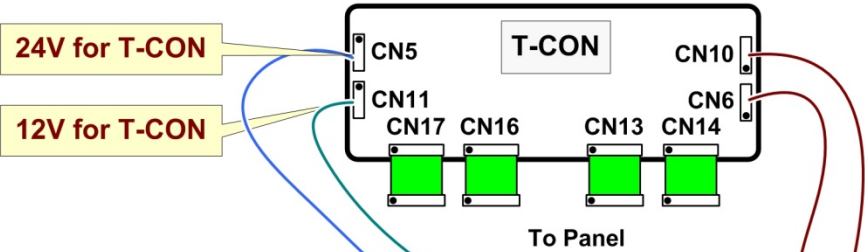


For Disassembly / Reassembly procedures please see the document;
OLED65G6_Set_Disassembly_Assembly_Guide

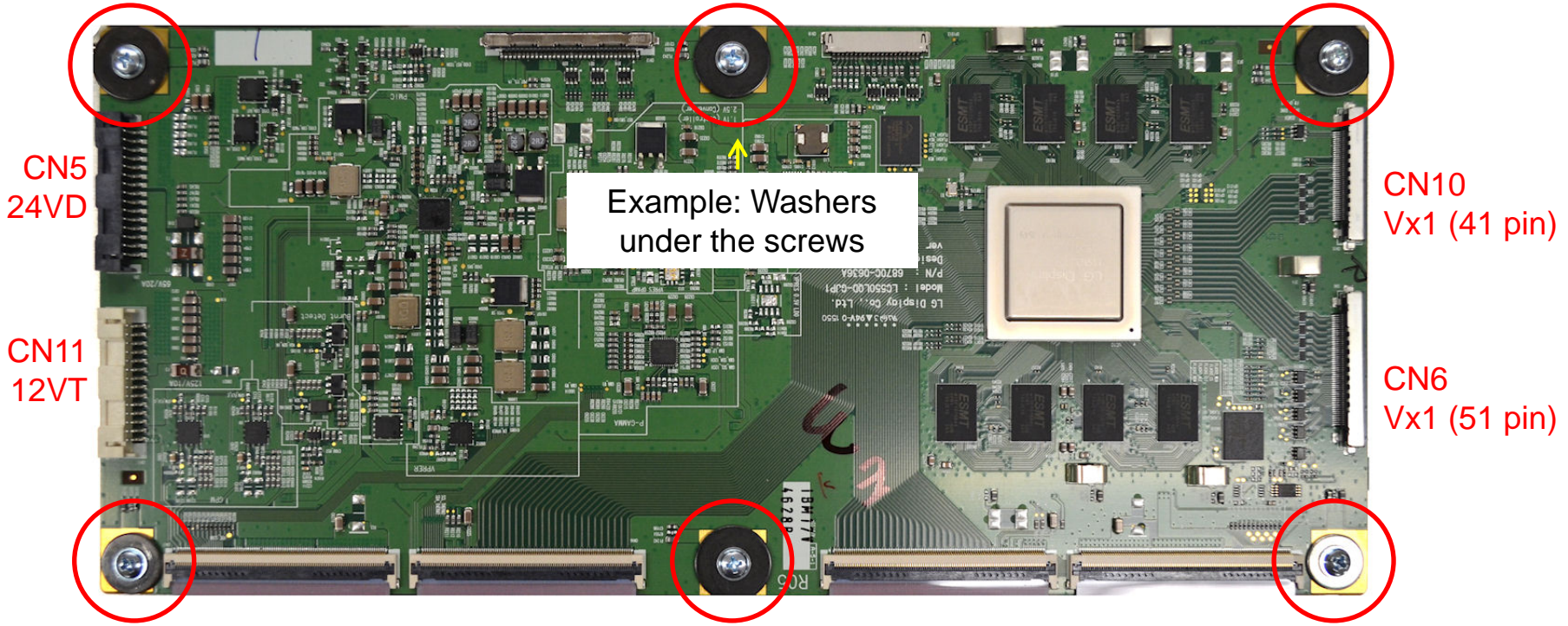
**If the Panel is replaced, reset the Unit's Total Time.
Press In-Stop on the Service Remote**

OLED PANEL
p/n: EAJ63727601

Part of the Panel T-CON p/n: EAT63454001



T-CON Board with Shield Removed



Warning: Be sure to reinstall screws after removing the Shield. This assures good ground return.

OLED65G6P T-CON (TFT Drive) Components Identified

(SHIELD REMOVED)

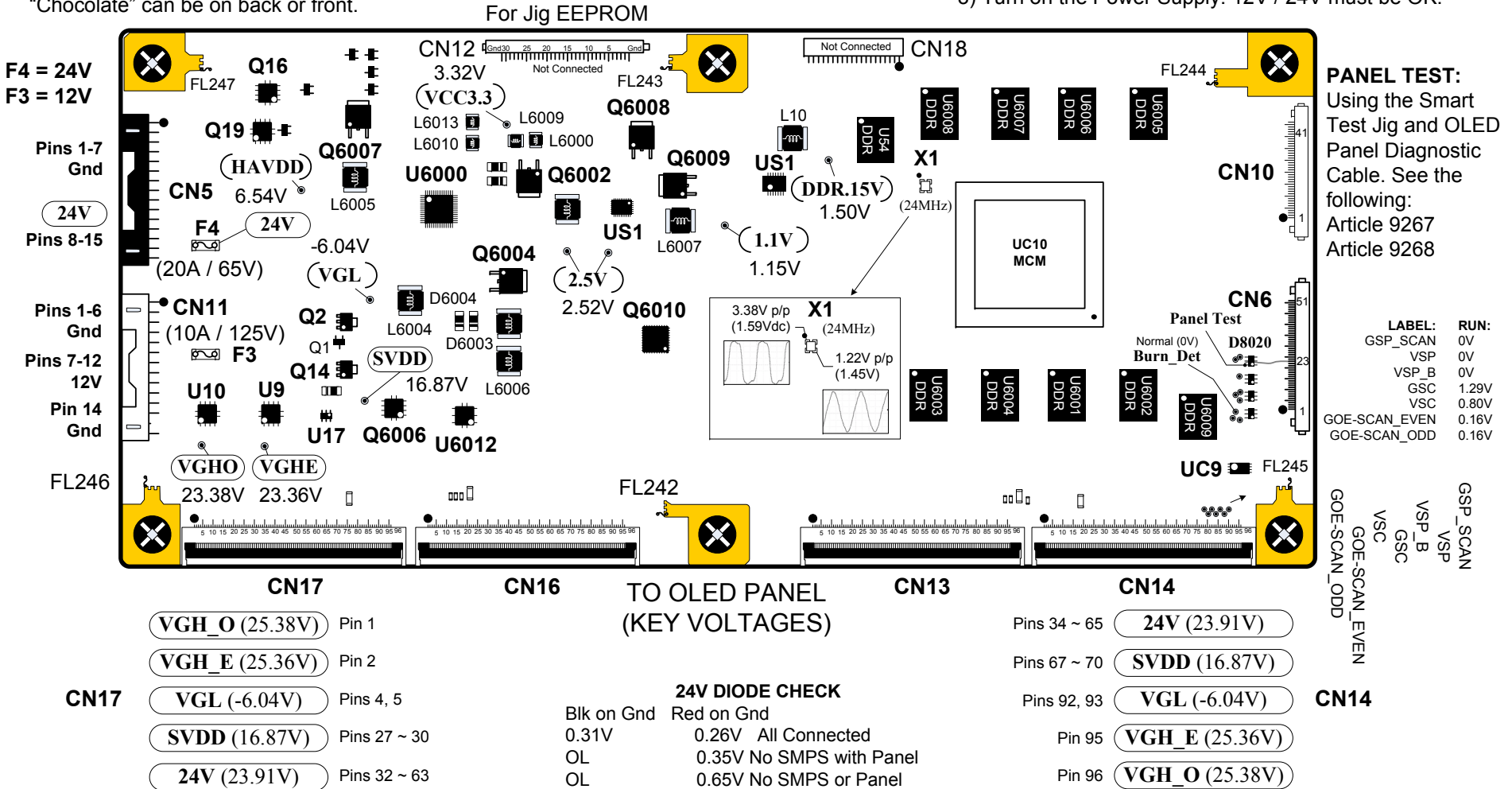
OLED (2016) T-CON Board Layout and Voltages

Warning: Make sure screws are in place, damage to the board may occur if they are left out.
FL244 ~ FL247 are ground protect EMI Filters.

Warning: Make sure before reassembling the Shield that the Heat Transfer materials
"Chocolate" can be on back or front.

Note: To run the "Panel Test"

- 1) Disconnect CN10 and CN6 Vx1 (LVDS) Cables
- 2) Jump 3.3V to bottom left leg of D8020. (Pin 23 CN6).
(Use VCC3.3V or you can use the 3V Simple Jig).
- 3) Turn on the Power Supply. 12V / 24V must be OK.



TROUBLESHOOTING:

Confirm all connections are good going to the T-CON.

CN6, CN10 (Vx1) CN5, CN11 (Power)

CN13, 14, 16, 17 (To the Panel)

Confirm 12V and 24V are arriving at CN5 and CN11

Confirm at least these 5 voltages are going to the panel on CN17 and/or CN14

Q6002: (1) 4.56V, (2) 12V (3) 3.35V

Q6004: (1) 1.88V, (2) 12V (3) Gnd

Q6007: (1) 6.89V, (2) 12V (3) 0V

Q6008: (1) 1.65V, (2) 12V (3) 1.19V

Q6009: (1) 4.34V, (2) 1.19V (3) Gnd

CN5 "T-CON" to "SMPS 2nd Board" P203

Pin	Label	STBY	Run	Diode Check
15	24V	0V	24.31V	OL
14	24V	0V	24.31V	OL
13	24V	0V	24.31V	OL
12	24V	0V	24.31V	OL
11	24V	0V	24.31V	OL
10	24V	0V	24.31V	OL
9	24V	0V	24.31V	OL
8	24V	0V	24.31V	OL
7	Gnd	Gnd	Gnd	Gnd
6	Gnd	Gnd	Gnd	Gnd
5	Gnd	Gnd	Gnd	Gnd
4	Gnd	Gnd	Gnd	Gnd
3	Gnd	Gnd	Gnd	Gnd
2	Gnd	Gnd	Gnd	Gnd
1	Gnd	Gnd	Gnd	Gnd

CN11 "T-CON" to "SMPS 2nd Board" P202

Pin	Label	STBY	Run	Diode Check
14	Gnd	Gnd	Gnd	Gnd
13	N/C	n/c	n/c	n/c
12	12V	0V	11.98V	1.15V
11	12V	0V	11.98V	1.15V
10	12V	0V	11.98V	1.15V
9	12V	0V	11.98V	1.15V
8	12V	0V	11.98V	1.15V
7	12V	0V	11.98V	1.15V
6	Gnd	Gnd	Gnd	Gnd
5	Gnd	Gnd	Gnd	Gnd
4	Gnd	Gnd	Gnd	Gnd
3	Gnd	Gnd	Gnd	Gnd
2	Gnd	Gnd	Gnd	Gnd
1	Gnd	Gnd	Gnd	Gnd

OLED65G6P PANEL TEST

OLED PANEL TEST PROCEDURE:

Testing the Power Supply, T-CON and Panel without the Main Board.

Page 4: Using the Smart Power Test Jig and Multi-Gender board along with the OLED Panel Diagnostic cable.

Page 5: Preliminary Information and Warnings

Page 6: OLED65G6P Manually Running the OLED Panel Test Patterns

Use an ohm meter to check the insertion point for the 3.3V before applying voltage to pin 23 of the 51 pin connector (Vx1) on the T-CON board, see page 6.

Produced: June 13th, 2017



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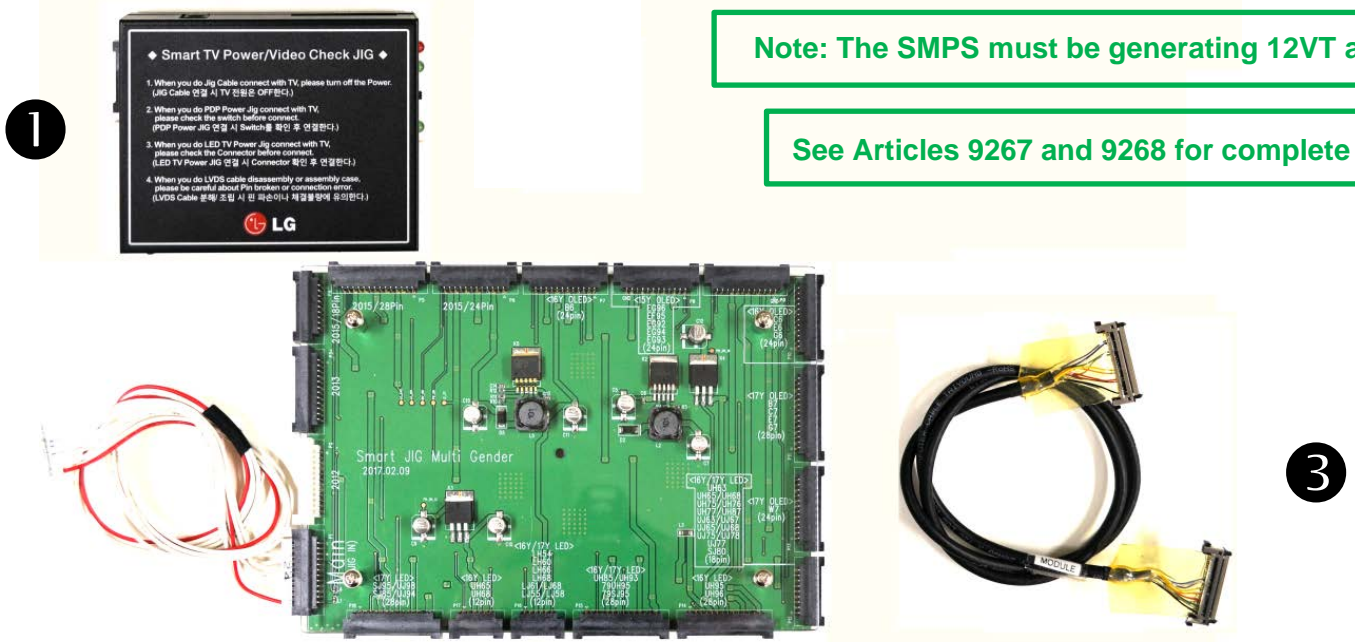
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NEW PROCEDURE BEGINNING IN 2017:

To perform the T-CON Panel test, where the Panel will produce patterns on the Screen without the Main Board being connected. These "Patterns" will be Vertical and Horizontal Bars of Red, Green Blue Black and white. Then the brightness is dropped and it repeats. This process is called "Rolling Test Patterns". This new procedure will be set-up using the items shown below in the picture.

- (1): Smart Power Supply Test Jig
- (2) Multi-Gender Board
- (3) OLED Panel Diagnostic Cable

To see the complete process see the two articles on Tech Assist. 9267 for Turning on the Power Supply and 9268 for running the OLED Panel Test.



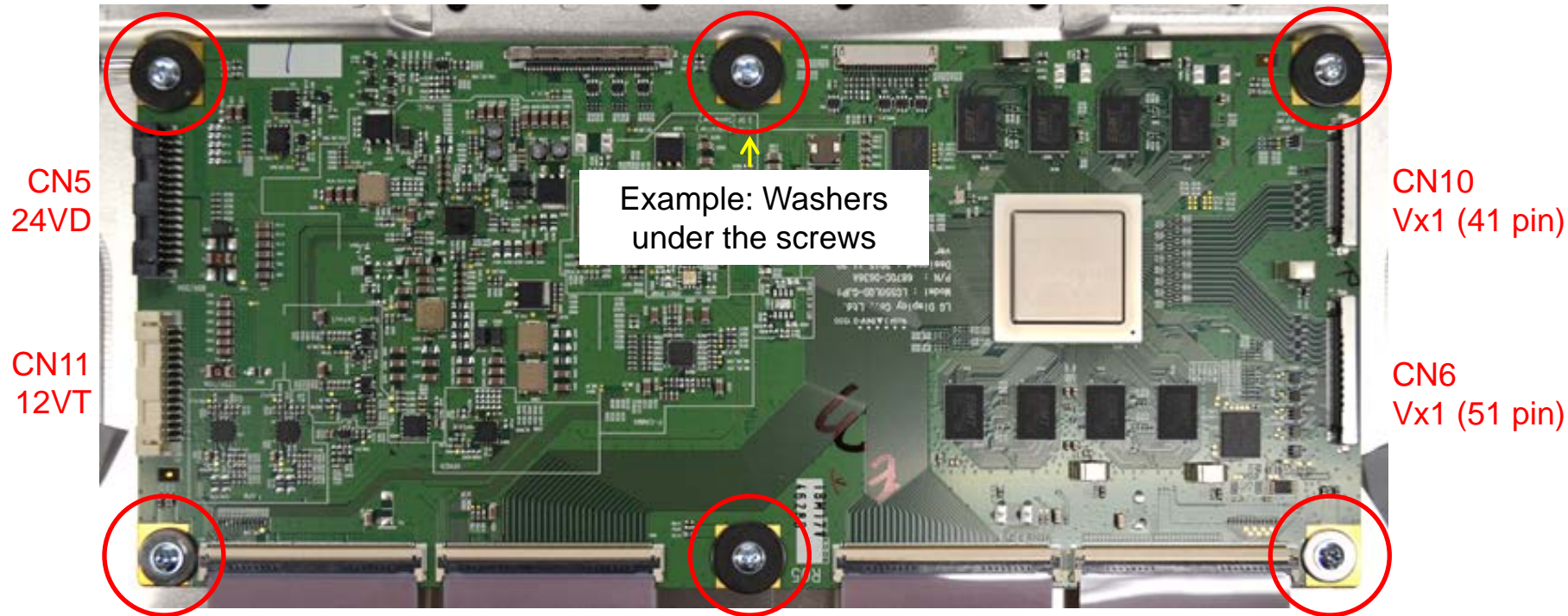
Note: The SMPS must be generating 12VT and 24VD.

See Articles 9267 and 9268 for complete details.

Note: To run the test manually without the aid of the items shown here, please see the next page.

KEY POINTS: To perform the T-CON Panel test, the Power Supply 12VT and 24VD should be good. When you run the test you can turn the SMPS on and off using the Main board. If the Main board doesn't work, you can use the 3V simple Jig to turn on the Power Supply, (See SMPS Layout and Troubleshooting for details on your model). If the Panel Test doesn't work, you'll need to check your T-CON Key Voltages, (see Page 4 for details) to determine if you have a defective Panel or T-CON Board.

Warning: The Shield on the T-CON board will have to be removed. You **MUST** put the screws back in the T-CON board before running this test. Due to the fact that the shield also works as washers, so you will have to put washers under the screws when you put them back in. Many of the stand-offs on which the T-CON board sets extend too high through the board, the screws with washers guarantee a good ground. Failure to make sure of a good ground may damage the T-CON board.



Warning: Be sure to "Unplug" the two Vx1 (LVDS) cables between the T-CON and Main board. Failure to do so will damage the Main board and possibly the Vx1 (51 pin) cable.

PROCEDURE:

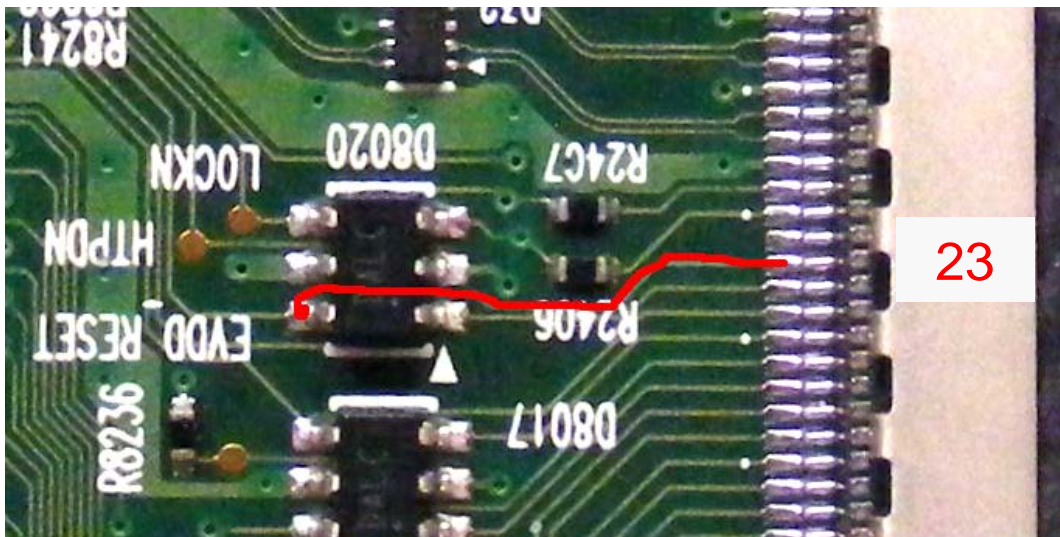
Unplug the two Vx1 (LVDS) cables to the T-CON Board, CN6 and CN10.
Find 3.3V. (This can be picked up on the T-CON (VCC3.3) or external 3V Jig (See Tip below).
Jump 3.3V to Pin 23 (CN6) of the T-CON Board, (Use lower left leg of D8020 for easier access).
Apply Power to the TV, and make sure the 12VT and 24VD is arriving at the T-CON.
Observe the Screen. It should be cycling through White, Red, Green, Blue etc....
This indicates the Power Supply, T-CON and Panel are good.

Location: Top Left



T-CON BOARD

Location: Bottom Right



Jump VCC3.3 to the bottom left leg of D8020 Near pin 23 of CN6

Tip: Another way to get 3.3V.
You can use the "3V Simple Jig" for a 3V supply.
Use chassis ground for the Jig.
(See Article 8979 Building 3V Jig).

Warning: Do not forget to disconnect the two Vx1 (LVDS) cables between the T-CON and Main Boards. Failure to do so will cause damage to the main board and Vx1 (51pin) cable.