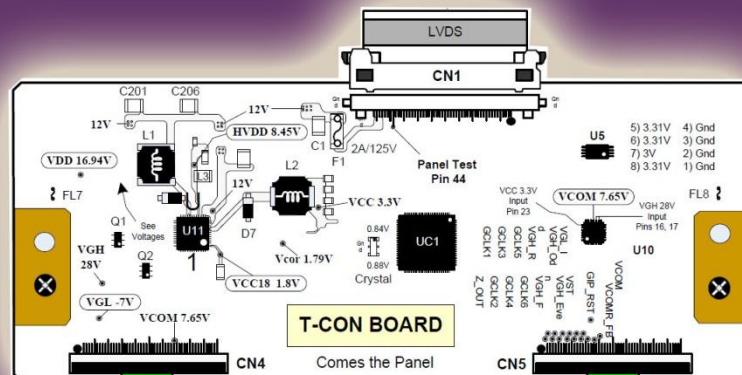
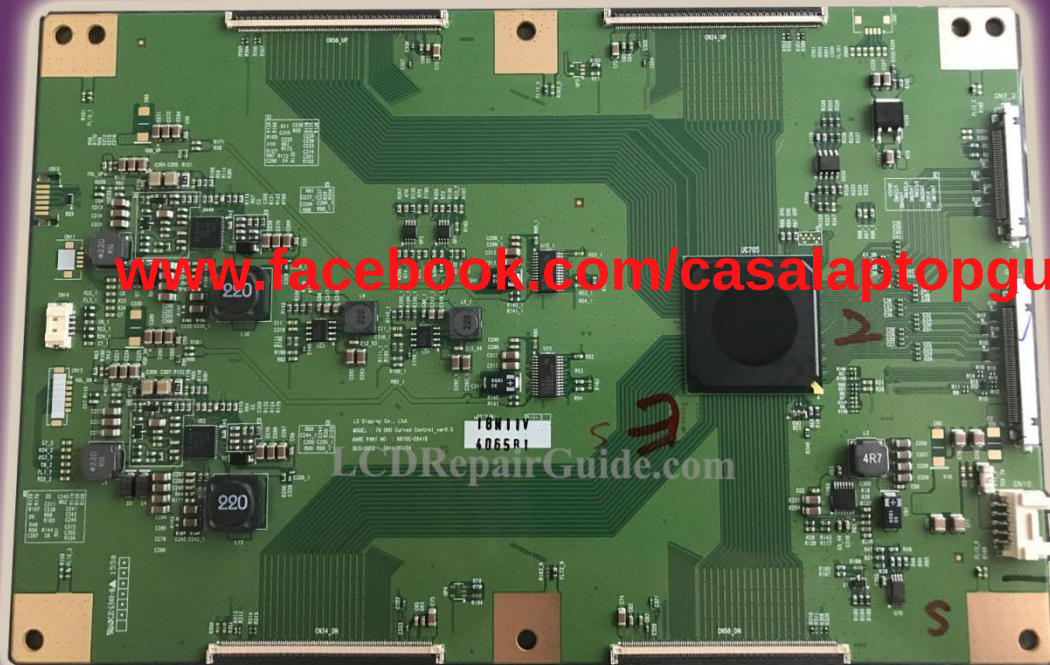


Collection of

LG T-CON Board Testing Points & Voltages



<http://www.LCDRepairGuide.com>

CONTENTS

How to use this guide?

These Models of LG TV T-con section is built-in Mainboard:

- 1) **LG 42LE5500**
- 2) **LG 47LE5500**
- 3) **LG 47LM7600**
- 4) **LG 50LB6500**
- 5) **LG 55LA8600**
- 6) **LG 55LB7200**
- 7) **LG 55LM6700**

T-con Board & Panel Part Numbers:

- 1) **32LH30 Interconnect**

T-con Board P/N: **6870C-0230A** (Similar to 6870C-0266A, LC320WUN)

DESC or Panel Sticker Number: LC320WUN-SAB1

- 2) **37LH55 Interconnect**

T-con Board P/N: **6870C-0264B**

DESC or Panel Sticker Number: LC370WUD-SBM1

- 3) **42LB5800 Interconnect**

T-con Board P/N: **6870C-0480A**

DESC or Panel Sticker Number: V14 42 DRD 60Hz Control_Ver0.3

- 4) **42LG70 Interconnect**

T-con Board P/N: **6870C-0202B**

DESC or Panel Sticker Number: LC420WUF-SAA1

5) 42LH20 Interconnect

T-con Board P/N: **6870C-0240C**

DESC or Panel Sticker Number: LC-420WXN/LC370WXN (or LC420WXE-SBA1)

6) 42LH50 Interconnect

T-con Board P/N: **6870C-4100D**

DESC or Panel Sticker Number: LC420/470WUF-SBM1_SBL

7) 42LH90 Interconnect

T-con Board P/N: **6870C-4000H**

DESC or Panel Sticker Number: LC320/420/470/550WU_120Hz Control (LC420WUL-SBM1)

8) 42LK520 Interconnect

T-con Board P/N: **6870C-0310C**

DESC or Panel Sticker Number: LC420WUN-SCA1 (or similar LC420WUN-SCB1, LC-420WUE-SCA2, LC420WUE-SCV1)

9) 42LN5300 Interconnect

T-con Board P/N: **6870C-0452A**

DESC or Panel Sticker Number: LC420DUE-SFR5, LC420DUE-SFR1 (similar to LC500DUE-SFR1)

10) 42LV5500 Interconnect

T-con Board P/N: **6870C-0358A**

DESC or Panel Sticker Number: LC420EUF-SDA1 (V6 32/42/47 FHD 120Hz)

11) 42SL80 Interconnect

T-con Board P/N: **6870C-0259A**

DESC or Panel Sticker Number: LC420WUD-SBM4 (42/47 Slim & Narrow 240Hz CONTROL)

12) 47GA6400 Interconnect

T-con Board P/N: **6870C-0444A**

DESC or Panel Sticker Number: LC470EUN-SFF2 (DESC: LC470DUE-SFR1)

13) 47LB6000 Interconnect

T-con Board P/N: **6870C-0481A**

DESC or Panel Sticker Number: V14 60Hz 1GID

14) 47LG90 Interconnect

T-con Board P/N: **6870C-0188B**

DESC or Panel Sticker Number: LC470WUL-SAA1-731

15) 47LH85 Interconnect

T-con Board P/N: **6870C-4000H**

DESC or Panel Sticker Number: LC470WUF-SBB1 (DESC: LC320/420/470/550WU_120Hz CONTROL)

16) 47LN5750 Interconnect

T-con Board P/N: **6870C-0444A**

DESC or Panel Sticker Number: LC470DUE-SFU1 (DESC: LC470DUE-SFR1)

17) 47LW5600 Interconnect

T-con Board P/N: **6870C-0358A**

DESC or Panel Sticker Number: LC470EUF-SDF2 (DESC: V6 32/42/47 FHD 120Hz)

18) 47LX6500 Interconnect

T-con Board P/N: **EAX62110705 (0)**

DESC or Panel Sticker Number: LC470EUS-SCA1

19) 47LX9500 Interconnect

T-con Board P/N: **EAX61764003(3)**

DESC or Panel Sticker Number: LX95M47T480V5 (DESC: LA02M)

20) 55EA9800 Interconnect

T-con Board P/N: **6870C-0468B**

DESC or Panel Sticker Number: LC550LUD-MFP2-L31

21) 55GA6400 Interconnect

T-con Board P/N: **6870C-0444A**

DESC or Panel Sticker Number: LC470DUE-SFR1

22) 55LA9700 Interconnect

T-con Board P/N: **6870C-0467A**

DESC or Panel Sticker Number: LC550EQD

23) 55LM6200 Interconnect

T-con Board P/N: **6870C-0401B**

DESC or Panel Sticker Number: LC550EUE-SEF1 (DESC: 32/37/42/47/55 FHD TM120)

24) 55LM8600 Interconnect

T-con Board P/N: **EAX64583702-1.0**

DESC or Panel Sticker Number: LC550EUH-PEF1

25) 55LW5700 Interconnect

T-con Board P/N: **6870C-0369B**

DESC or Panel Sticker Number: LC550EUF-SDF1 (DESC: V6 55 FHD 120Hz)

26) 55LX6500 Interconnect

T-con Board P/N: **EAX62110705(0)**

DESC or Panel Sticker Number: LC550EUC-SCA1

27) 79UB9800 Interconnect

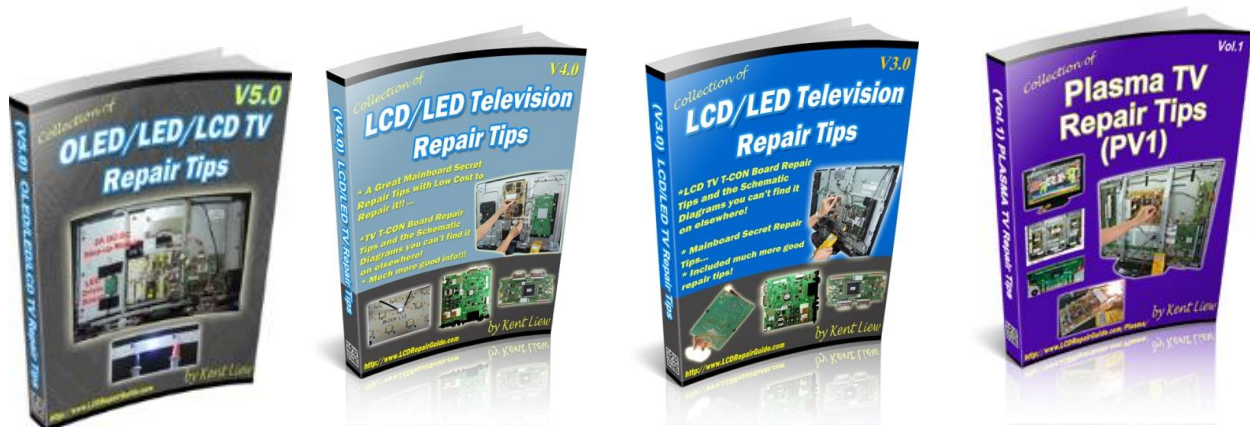
T-con Board P/N: **6870C-0541B**

DESC or Panel Sticker Number: (DESC: 79 UHD Curved Control)

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Highly recommended other great related repair information for you:

With all these great repair information, it will help and improve your skills in troubleshooting and repairing OLED/LED/LCD/Plasma TV quickly and easily:
(Please click on the ebook cover to get more details)



www.facebook.com/casalaptopguide

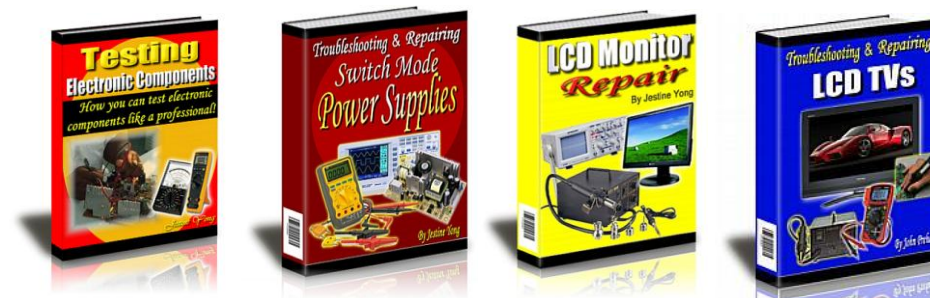


<http://www.LCDRepairGuide.com>

<http://www.LCD-Television-Repair.com> (LCD/LED TV service manuals & etc)

<http://www.Plasma-Television-Repair.com> (Plasma TV service manuals & etc)

Other Great Electronic Repairing Ebooks:



<http://www.LCDRepairGuide.com/screen-repair-v2/>

How to Use this Guide?

- 1) This guide will help the repairer easy to see and find the testing points of their T-con board. You can also easy to learn what's commonly testing points and voltages values in LG T-con board.
- 2) With this guide, you can see the T-con board small fonts easily with the help of PDF viewer ZOOM IN feature.
- 3) Not only that, you also can compare each T-con board has difference circuit design and signal control lines. So from this guide, you can easily to find out what's difference in each T-con board easily.
- 4) Attention: All the testing voltage values and waveform are based on their LG Interconnect TV Models.
- 5) From this guide, you can also find out some of the T-con board just one part number but can use in different sizes of LCD/LED Panel. But the different is their firmware inside the T-con board only! (Some maybe need to change some resistor/s (ohm values or the position/location) setting on the board to match the panel and causing it working properly.

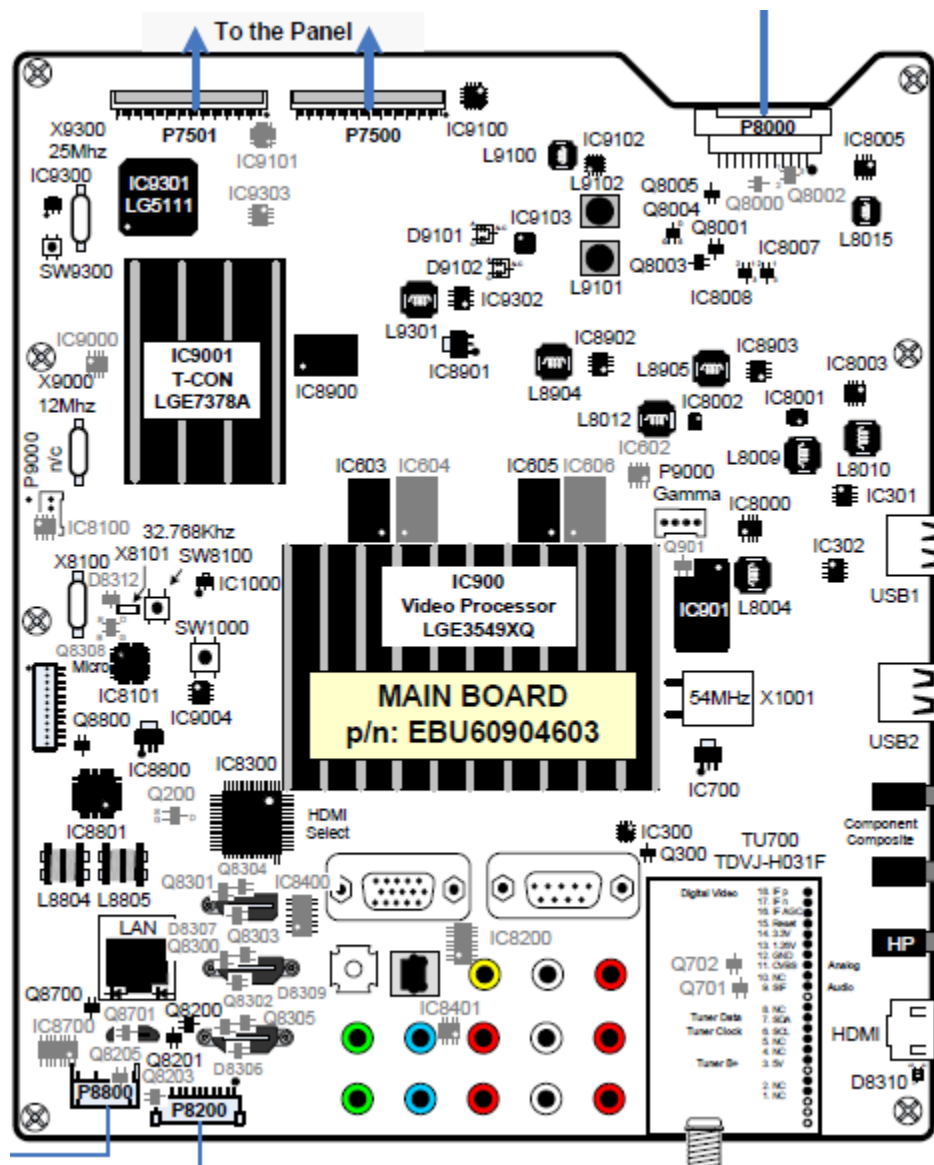
Casa Laptop Guide

These Models of LG TV T-con section is built-in Mainboard

1) 42LE5500 Interconnect

Panel P/N:

Mainboard P/N: EBU60904603



42LE5500 Mainboard (Front Side)**IC9100**

Pin	P-GAMMA Chip
[1]	3.3V
[2]	0V (Gnd)
[3]	3.3V (In)
[4]	0V (Gnd)
[5]	6.8V
[6]	6.8V
[7]	15.3V
[8]	15.3V
[9]	n/c
[10]	13.47V
[11]	12.75V
[12]	11.8V
[13]	10V
[14]	5.96V
[15]	4.06V
[16]	15.3V
[17]	0V
[18]	2.96V
[19]	2.33V
[20]	3.3V (In)

IC9102

Pin	DC to DC HVDD T-CON
[1]	0V (Gnd)
[2]	11.72V (In)
[3]	11.72V (In)
[4]	3.25V
[5]	3.2V
[6]	0V
[7]	0V
[8]	11.7V
[9]	0V (Gnd)
[10]	1.13V
[11]	0V (Gnd)
[12]	0V (Gnd)
[13]	0V (Gnd)
[14]	7.7V
[15]	7.7V (HVDD)
[16]	0V (Gnd)

Q8001

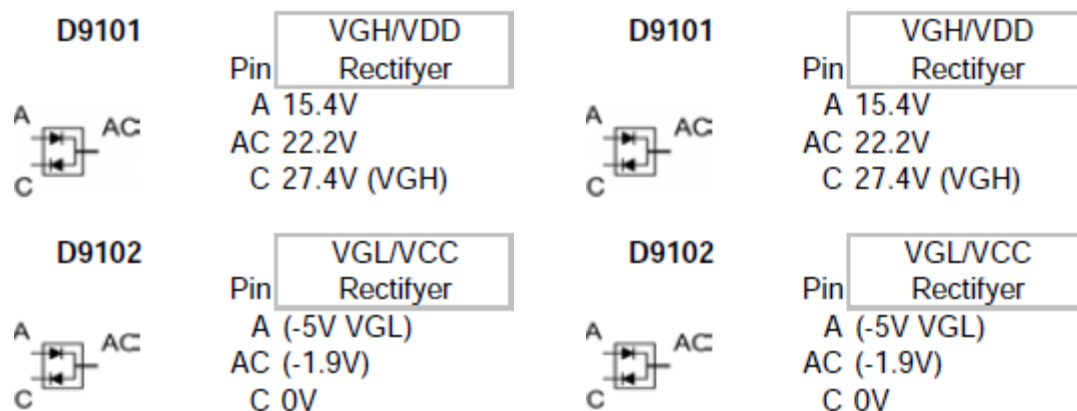
Pin	PANEL_VCC Control 1st Driver
B	0V
C	0.68V
E	Gnd

Q8003

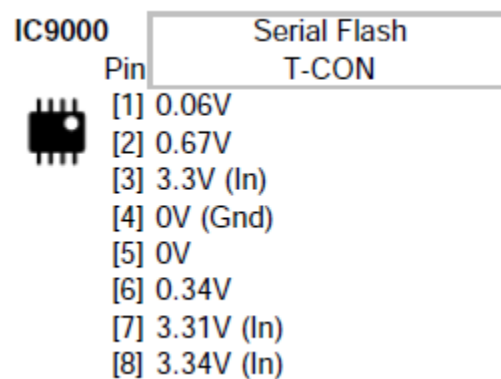
Pin	PANEL_VCC Control 2nd Driver
B	0.679V
C	0V
E	Gnd

Q8004

Pin	PANEL_VCC Switch
S	11.8V (In)
G	1.8V (Enable)
D	11.8V (Out)



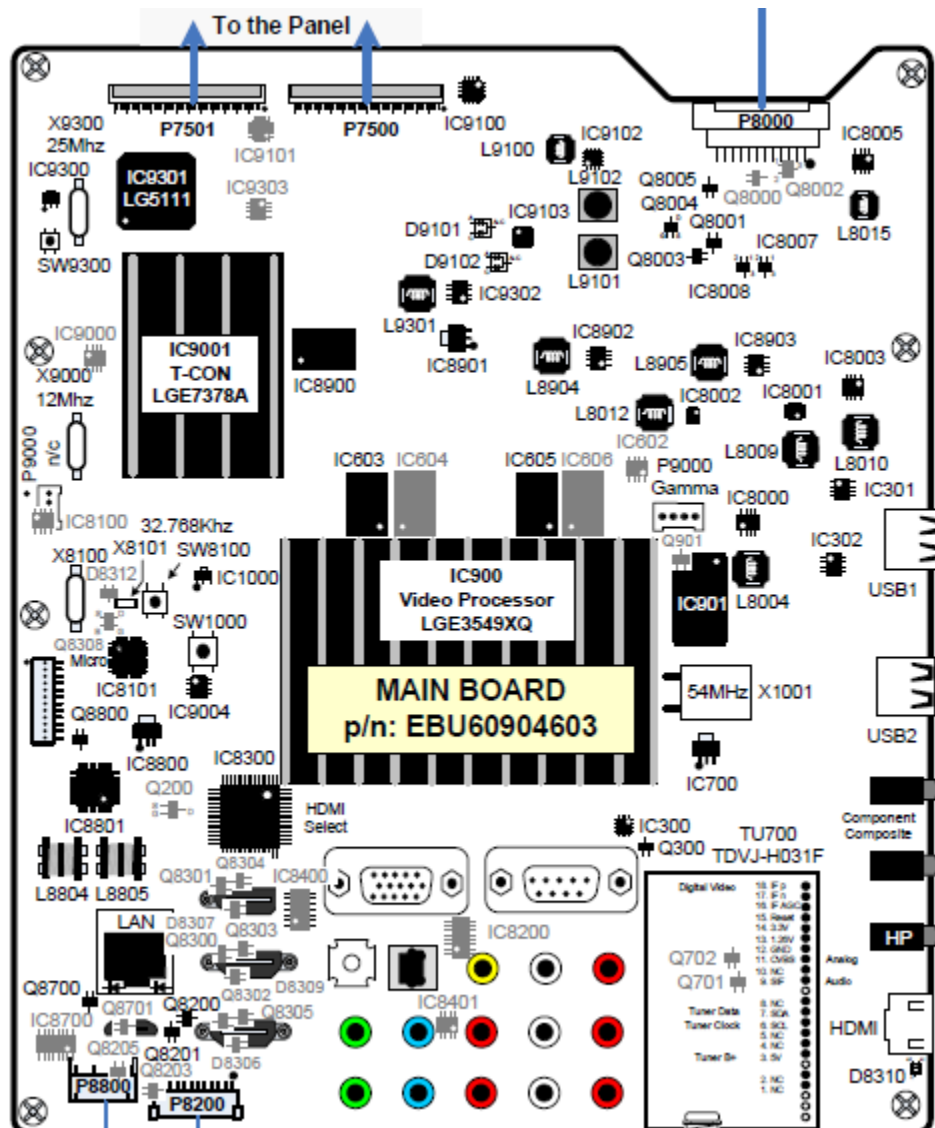
42LE5500 Mainboard (Back Side)



2) 47LE5500 Interconnect

Panel P/N:

Mainboard P/N: EBU60904603



47LE5500 Mainboard (Front Side)

IC9100



P-GAMMA
Chip

Pin
[1] 3.3V
[2] 0V (Gnd)
[3] 3.3V (In)
[4] 0V (Gnd)
[5] 6.8V
[6] 6.8V
[7] 15.3V
[8] 15.3V
[9] n/c
[10] 13.47V
[11] 12.75V
[12] 11.8V
[13] 10V
[14] 5.96V
[15] 4.06V
[16] 15.3V
[17] 0V
[18] 2.96V
[19] 2.33V
[20] 3.3V (In)

IC9102



DC to DC
HVDD T-CON

Pin
[1] 0V (Gnd)
[2] 11.72V (In)
[3] 11.72V (In)
[4] 3.25V
[5] 3.2V
[6] 0V
[7] 0V
[8] 11.7V
[9] 0V (Gnd)
[10] 1.13V
[11] 0V (Gnd)
[12] 0V (Gnd)
[13] 0V (Gnd)
[14] 7.7V
[15] 7.7V (HVDD)
[16] 0V (Gnd)

Q8001



PANEL_VCC
Control 1st Driver

Pin
B 0V
C 0.68V
E Gnd

Q8003



PANEL_VCC
Control 2nd Driver

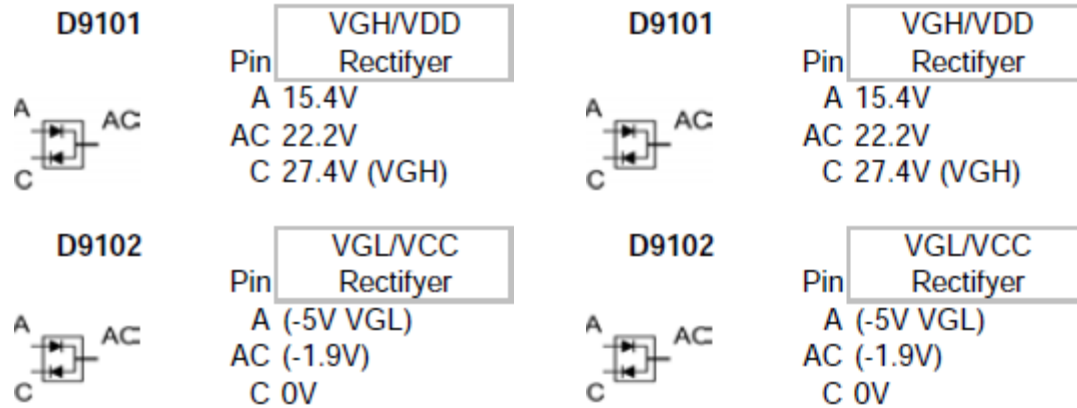
Pin
B 0.679V
C 0V
E Gnd

Q8004

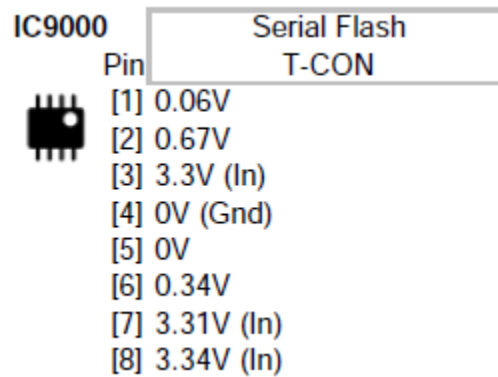


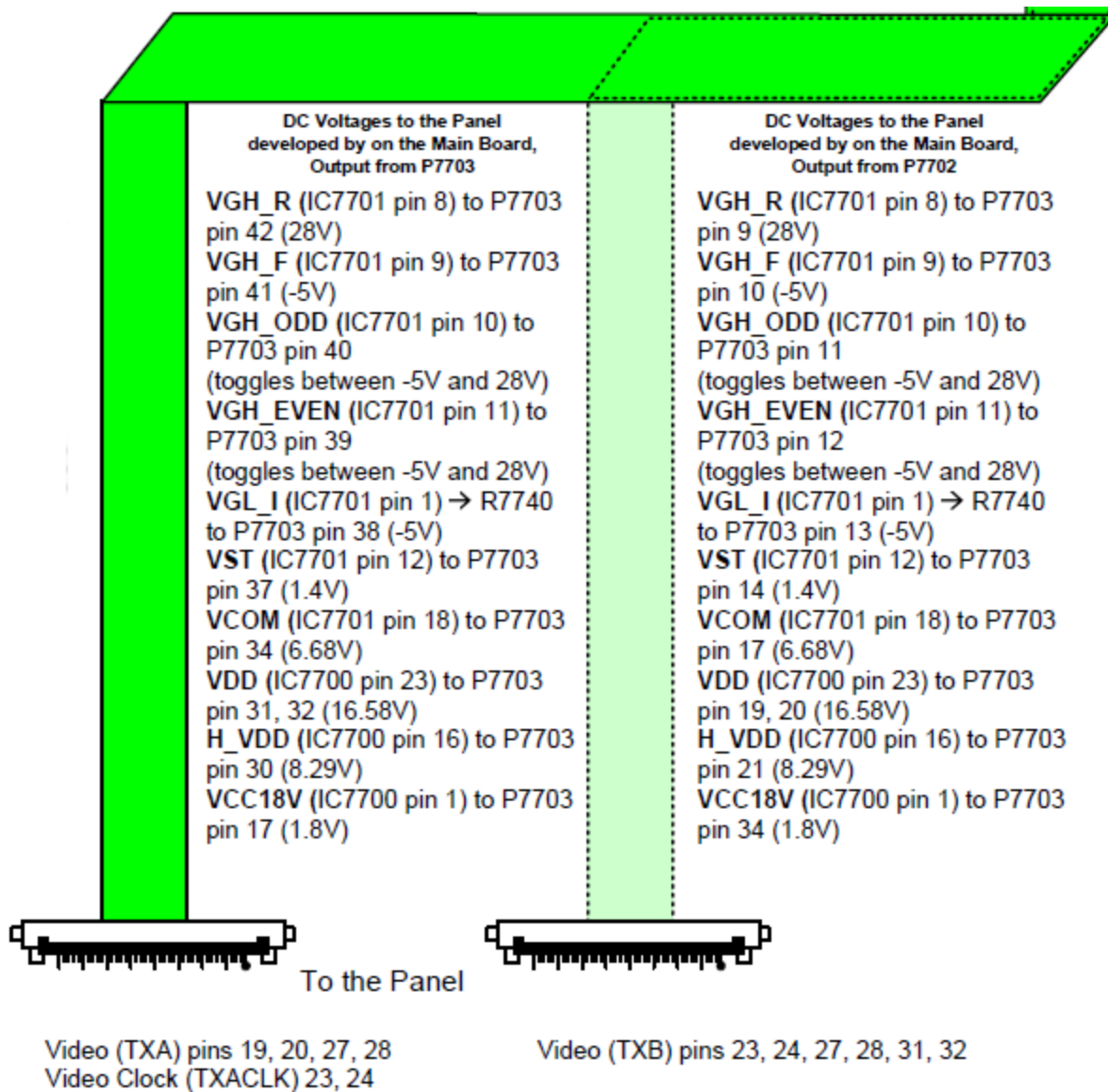
PANEL_VCC
Switch

Pin
S 11.8V (In)
G 1.8V (Enable)
D 11.8V (Out)



47LE5500 Mainboard (Back Side)





Video Signal Level: p/p: Approx: 500mV

P7703

VGH_R (IC7701 pin 8) to P7703 pin 42 (28V)
VGH_F (IC7701 pin 9) to P7703 pin 41 (-5V)
VGH_ODD (IC7701 pin 10) to P7703 pin 40 (toggles between -5V and 28V)
VGH_EVEN (IC7701 pin 11) to P7703 pin 39 (toggles between -5V and 28V)
VGL_I (IC7701 pin 1) → R7740 to P7703 pin 38 (-5V)
VST (IC7701 pin 12) to P7703 pin 37 (1.4V)
VCOM (IC7701 pin 18) to P7703 pin 34 (6.68V)
VDD (IC7700 pin 23) to P7703 pin 31, 32 (16.58V)
H_VDD (IC7700 pin 16) to P7703 pin 30 (8.29V)
VCC18V (IC7700 pin 1) to P7703 pin 17 (1.8V)

P7702

VGH_R (IC7701 pin 8) to P7703 pin 9 (28V)
VGH_F (IC7701 pin 9) to P7703 pin 10 (-5V)
VGH_ODD (IC7701 pin 10) to P7703 pin 11 (toggles between -5V and 28V)
VGH_EVEN (IC7701 pin 11) to P7703 pin 12 (toggles between -5V and 28V)
VGL_I (IC7701 pin 1) → R7740 to P7703 pin 13 (-5V)
VST (IC7701 pin 12) to P7703 pin 14 (1.4V)
VCOM (IC7701 pin 18) to P7703 pin 17 (6.68V)
VDD (IC7700 pin 23) to P7703 pin 19, 20 (16.58V)
H_VDD (IC7700 pin 16) to P7703 pin 21 (8.29V)
VCC18V (IC7700 pin 1) to P7703 pin 34 (1.8V)

Q2407 activated by the Microprocessor pin 4 output of Panel_CTL (Low) to Gate of Q2407
 Generating Panel_VCC turning on DC-to-DC converters for the T-CON section and the Panel.

Q2406

Pin	Panel_VCC Driver
[B]	0.64V
[C]	0.1V
[E]	Gnd

Q2407

Pin	Panel_VCC Switch
[G]	1.9V
[S]	11.92V
[D]	11.92V

Q7700

Pin

VGL_FB / VGL Switch

[B] 0.67V
[C] 4.67V
[E] 0V

Q7701

Pin

VGH / VGH_FB Switch

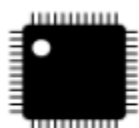
[B] 15.91V
[C] 15.63V
[E] 16.6V

IC7701

Panle Power Level Shifter

Pin

[1]	8.33V
[2]	8.33V
[3]	8.33V
[4]	8.33V
[5]	8.33V
[6]	8.33V
[7]	6.21V
[8]	27.9V
[9]	(-5V)
[10]	27.5V to -5V
[11]	27.5V to -5V
[12]	(-5V)
[13]	(-5V)
[14]	(-4.9V)



Pin

[15]	(-5V)
[16]	28V
[17]	28V
[18]	6.7V
[19]	6.7V
[20]	6.7V
[21]	16.58V
[22]	Gnd
[23]	3.29V
[24]	0V
[25]	0V
[26]	0.07V
[27]	1.36V
[28]	3.37V

IC7700

Panel Power DC-to-DC Conv		
Pin		Pin
[1]	1.89V	[25] 4.95V
[2]	1.89V	[26] 0.52V
[3]	3.4V	[27] 3.31V
[4]	3.4V	[28] 3.31V
[5]	1.2V	[29] 5V
[6]	1.2V	[30] 1.27V
[7]	Gnd	[31] 1.59V
[8]	3.4V	[32] 2.8V
[9]	3.4V	[33] 8.12V
[10]	0V	[34] 8.12V
[11]	11.75V	[35] (-5V)
[12]	11.75V	[36] 0.67V
[13]	11.76V	[37] 13.56V
[14]	11.75V	[38] 12.38V
[15]	8.29V	[39] 10.42V
[16]	8.29V	[40] 5.97V
[17]	Gnd	[41] 5.95V
[18]	Gnd	[42] 2.85V
[19]	Gnd	[43] 6.7V
[20]	11.71V	[44] 6.7V
[21]	11.7V	[45] 6.69V
[22]	14.84V	[46] 6.69V
[23]	10.6V	[47] Gnd
[24]	Gnd	[48] Gnd

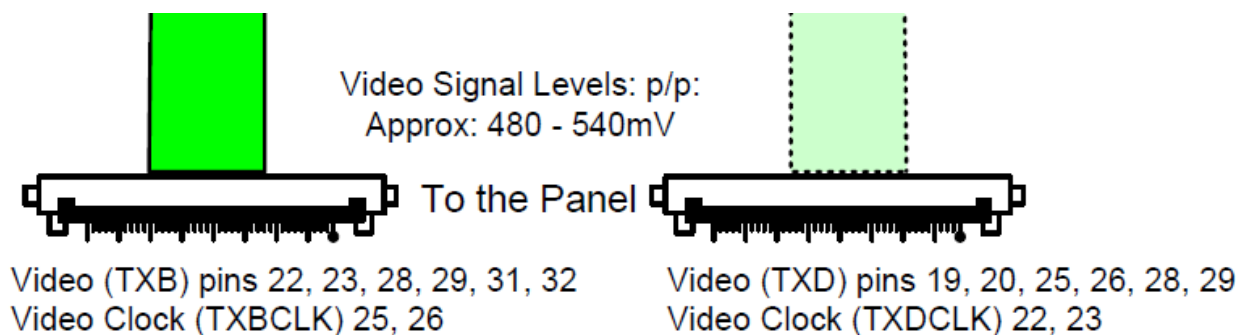


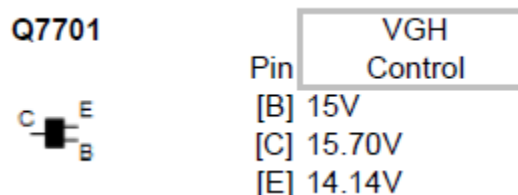
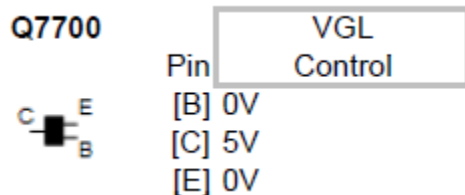
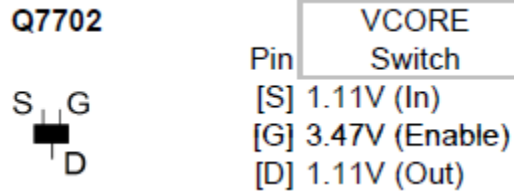
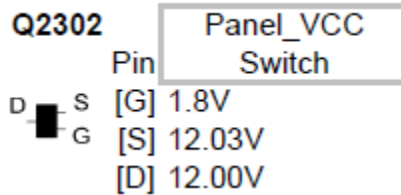
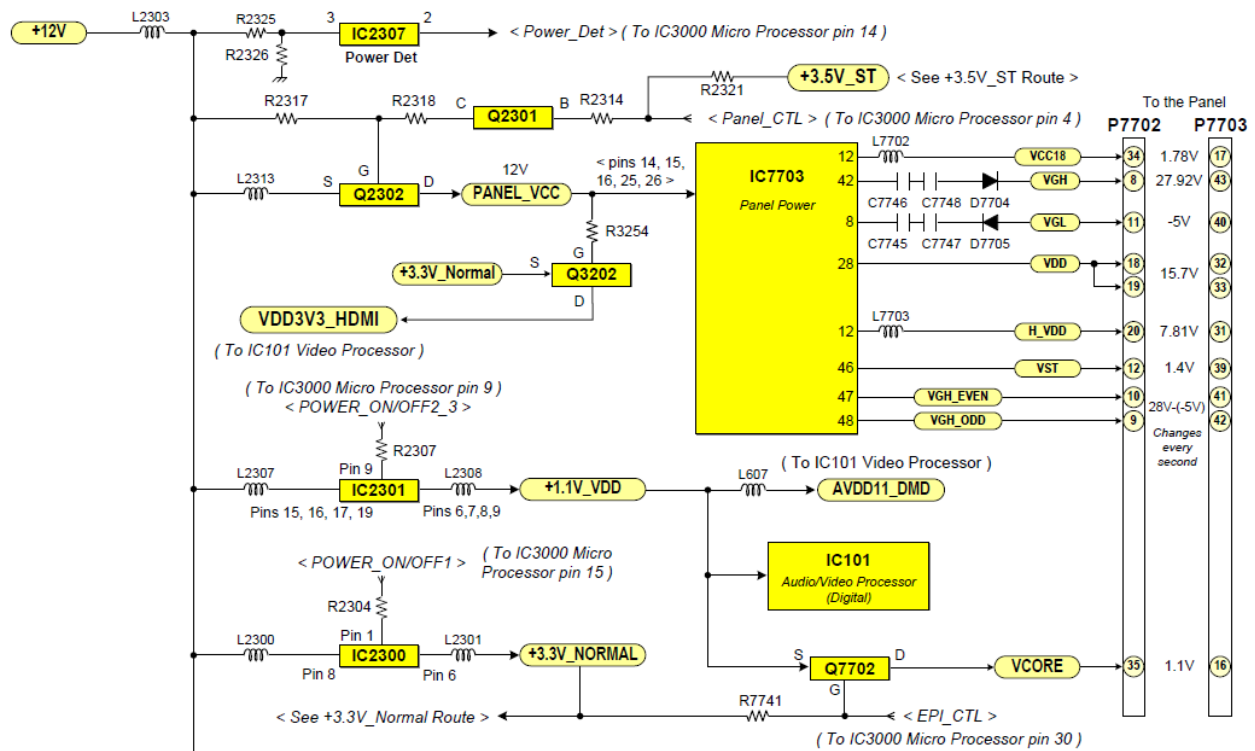
**DC Voltages to the Panel developed
by on the Main Board,
Output from P7702 and P7703**

P7702 P7703 "MAIN Board" To "The Panel"

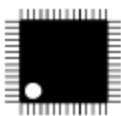
Pin	Pin	Label	Voltage	Source
35	16	Vcore	1.1V	Q7702 Drain
34	17	VCC18	1.78V	IC7703 pin 18
20	31	H_VDD	7.81V	IC7703 pin 17
19	32	VDD	15.7V	IC7703 pin 28
18	33	VDD	15.7V	IC7703 pin 28
13	38	GIP_RST	(-4.86V)	IC7703 pin 45
12	39	VST	1.4V	IC7703 pin 46
11	40	VGL	(-5V)	IC7703 pin 7
10	41	VGH_EVEN	*28V - (-5V)	IC7703 pin 47
9	42	VGH_ODD	*28V - (-5V)	IC7703 pin 48
8	43	VGH	27.92V	Cathode D7704
1	50	Z-OUT	0V	P7702 pin 1

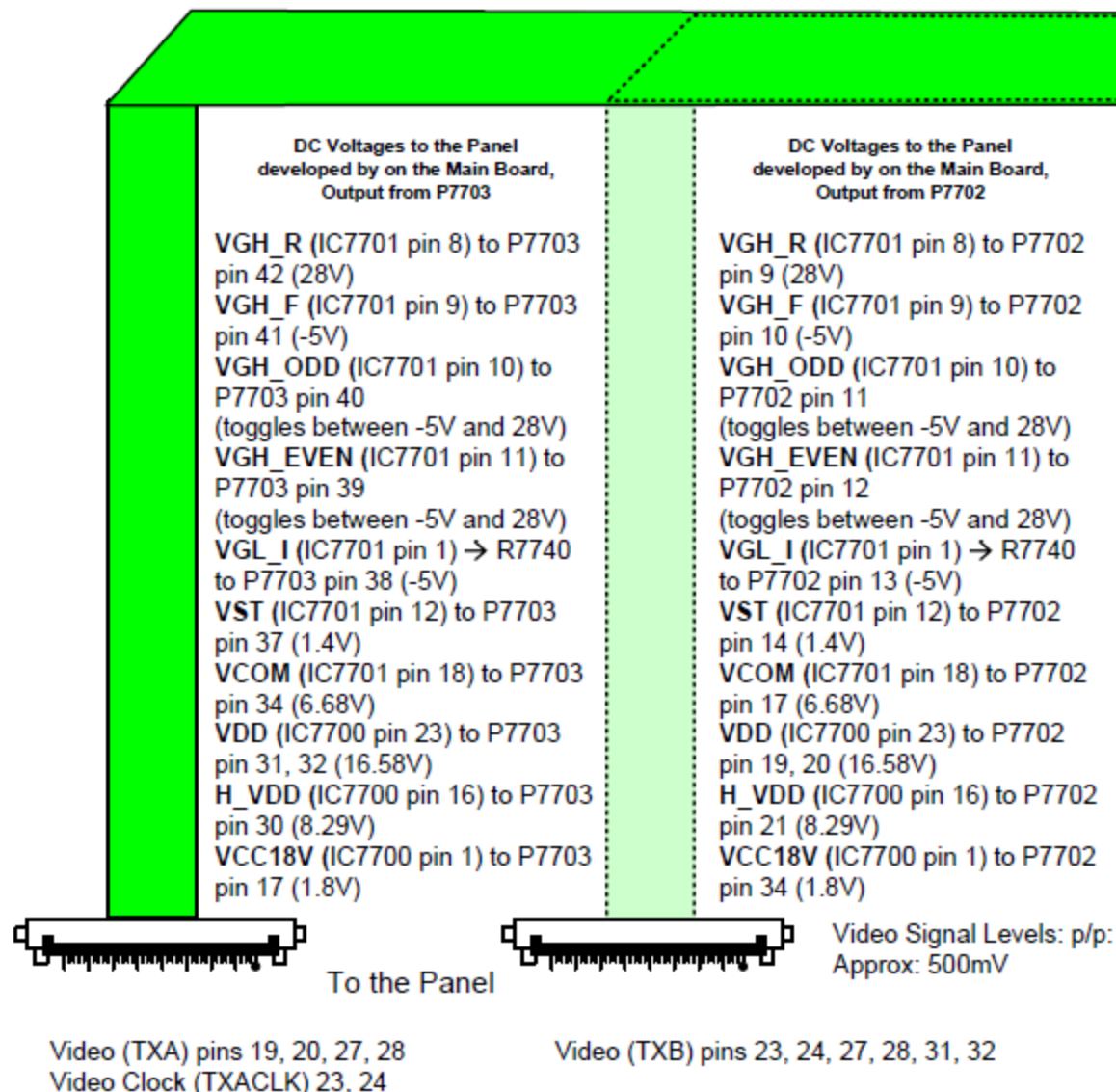
*Toggles every second





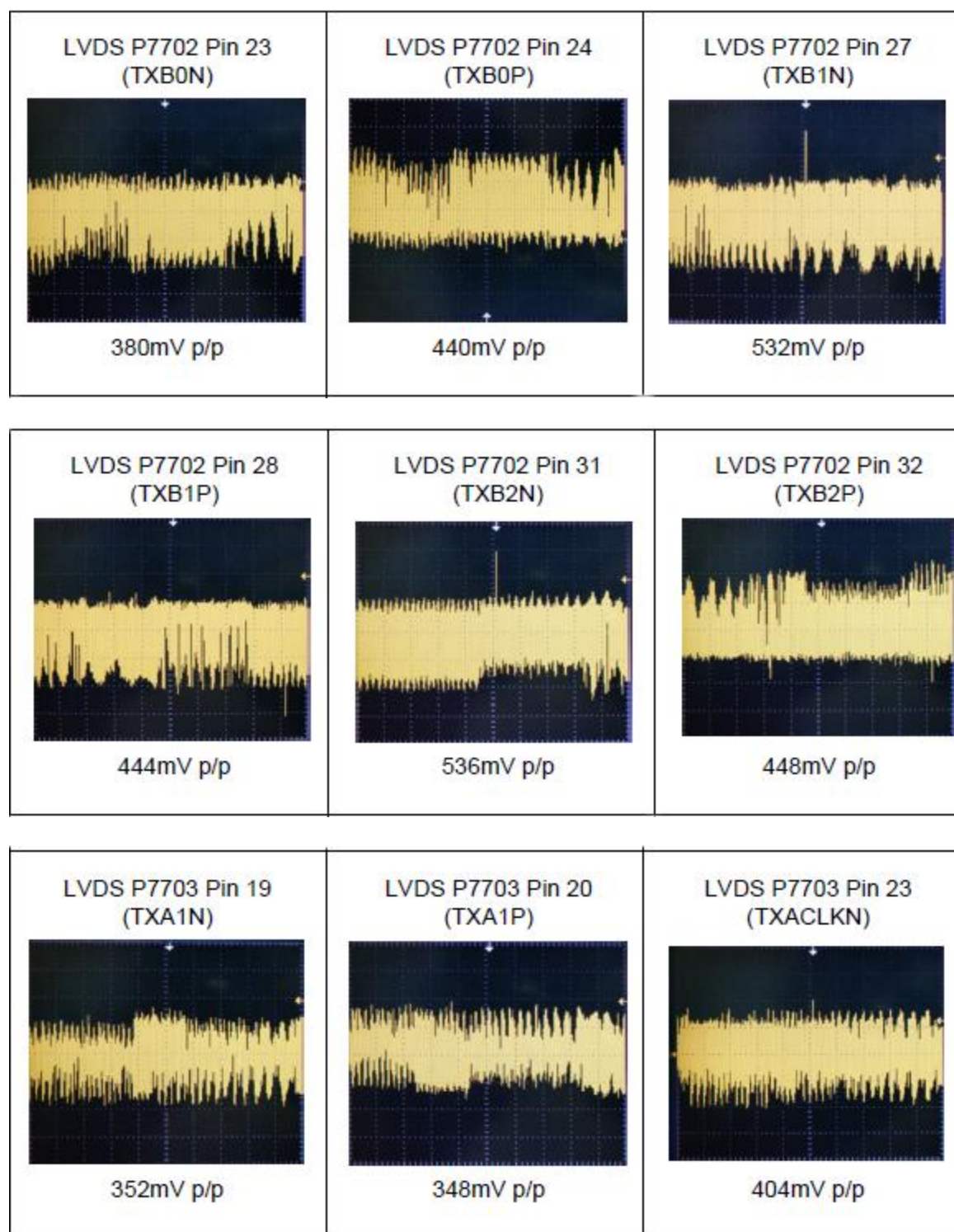
IC7703**Panel Power DC-to-DC Conv**

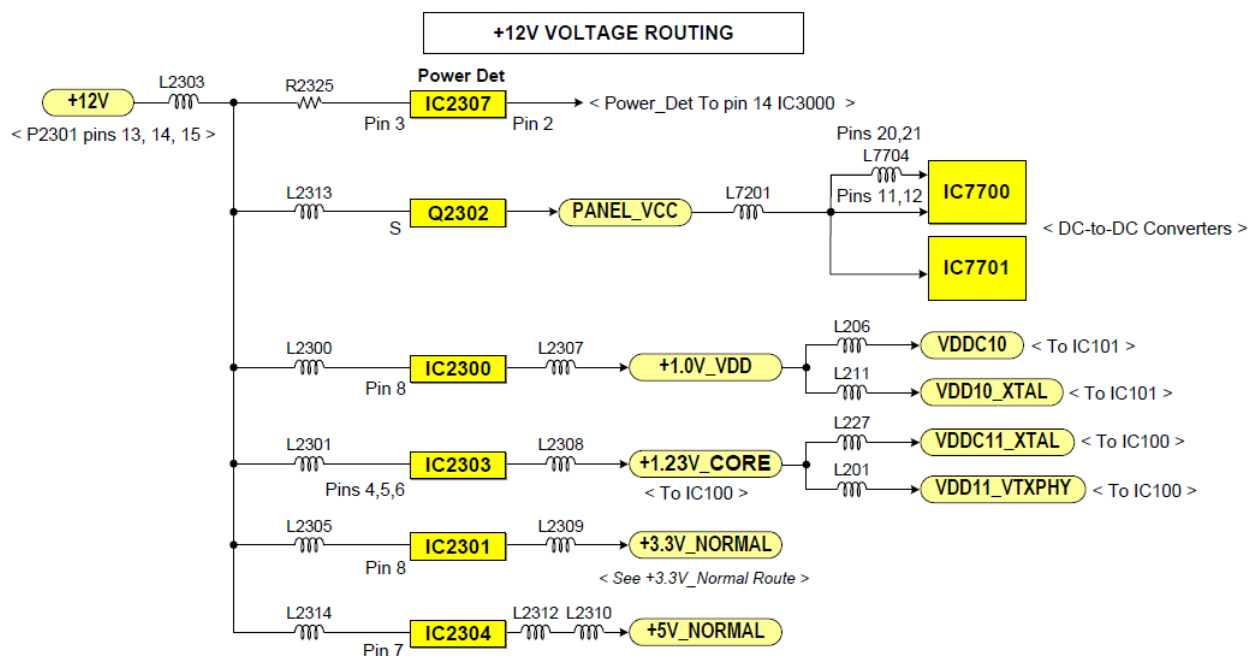
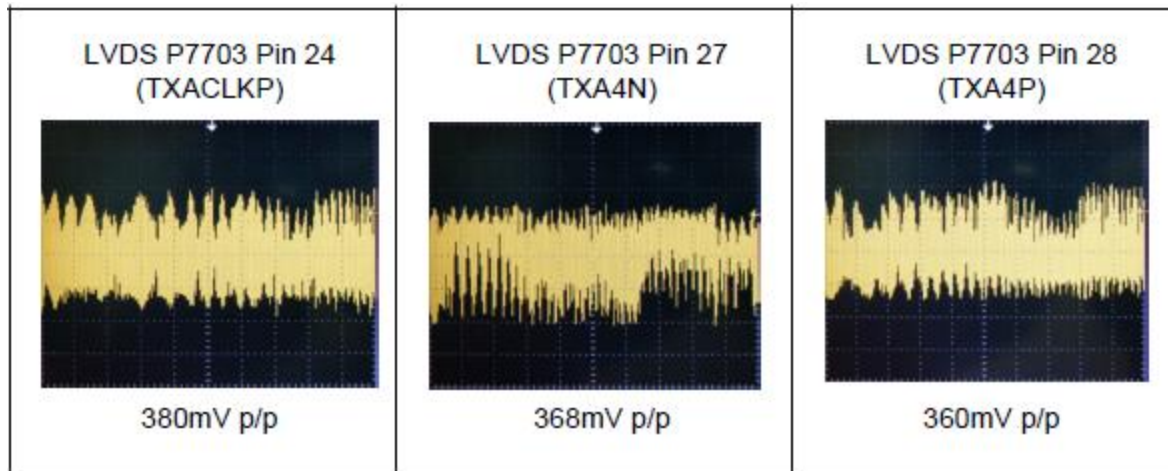
Pin		Pin
[1] 3.79V		[29] 4.93V
[2] 1.67V		[30] 0.47V
[3] 0.07V		[31] 14.86V
[4] 0.02V		[32] 11.73V
[5] 0V		[33] 8.14V
[6] Gnd		[34] 7.29V
[7] (-5.07V) VGL Out		[35] 3.97V
[8] 5.89V		[36] 0.81V
[9] 0.68V		[37] Gnd
[10] 1.81V		[38] 6.73V
[11] 1.81V (VCC18 In)		[39] 6.73V
[12] 1.81V (VCC18 Out)		[40] 6.69V
[13] Gnd		[41] 15.0V
[14] 12.03V (Vcc In)		[42] 7.69V
[15] 12.03V (Vcc In)		[43] 27.89V (VGH Out)
[16] 12.03V (Vcc In)		[44] 27.89V (VGH Out)
[17] 7.81V (HVDD Out)		[45] (-4.95V)
[18] 7.81V		[46] (-5.03V)
[19] Gnd		[47] (-5.06V) VGH_E
[20] 3.32V		[48] 27.86V (VGH_O
[21] 3.32V		[49] n/c
[22] 4.98V (VL Out)		[50] 0.81V (CLK6)
[23] 1.31V		[51] 0V (CLK5)
[24] Gnd		[52] 2.98V (CLK4)
[25] 12.03V (Vcc In)		[53] 3.97V (CLK3)
[26] 12.03V (Vcc In)		[54] 5.68V (CLK2)
[27] 15.73V		[55] 7.28V (CLK1)
[28] 15.70V (VDD Out)		[56] 6.08V

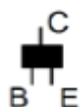


LG 55LA8600 LVDS P7702 and P7703 Video Waveforms

SMTPE Color Bar input signal (Component). All signals taken at 2.5uSec per/sec/
100mV per/div.





Q2301

Pin

Panel_VCC CTRL
Drives Q2302

[B] 0.63V
 [C] 0.08V
 [E] Gnd

Q2302

Pin

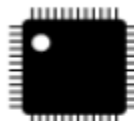
Panel_VCC
Switch

[G] 1.78V
 [S] 11.98V
 [D] 11.94V

IC7701
Panel Power
Level Shifter

Pin

[1] 8.33V
 [2] 8.33V
 [3] 8.33V
 [4] 8.33V
 [5] 8.33V
 [6] 8.33V
 [7] 6.21V
 [8] 27.9V
 [9] (-5V)
 [10] *27.5V to -5V
 [11] *27.5V to -5V
 [12] (-5V)
 [13] (-5V)
 [14] (-4.9V)



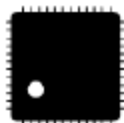
Pin

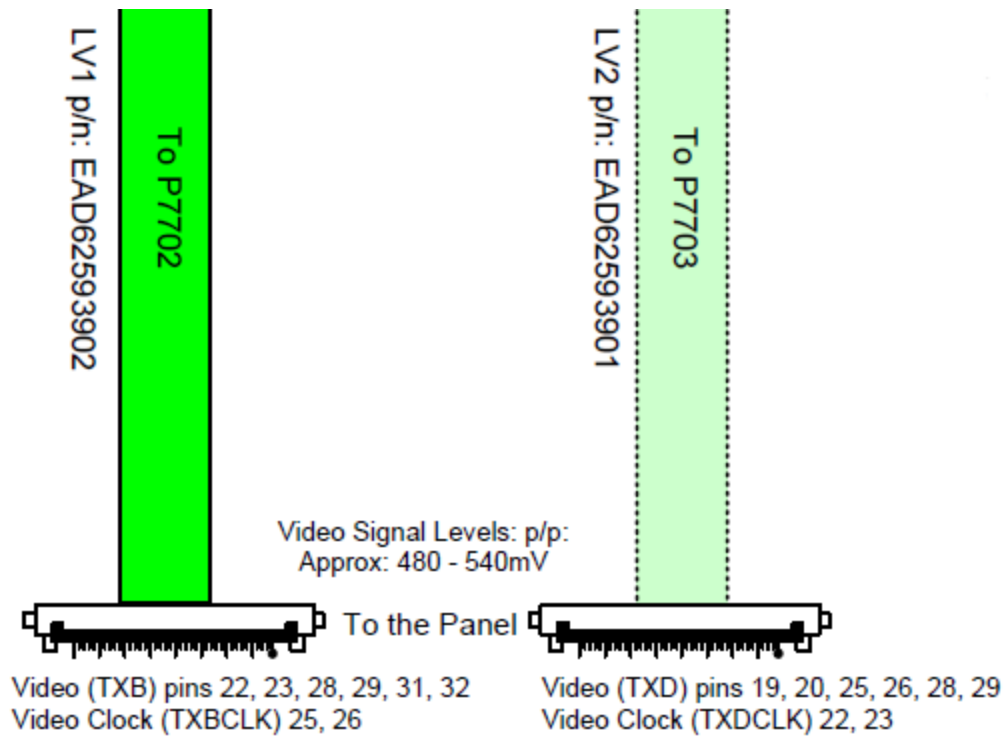
[15] (-5V)
 [16] 28V
 [17] 28V
 [18] 6.7V
 [19] 6.7V
 [20] 6.7V
 [21] 16.58V
 [22] Gnd
 [23] 3.29V
 [24] 0V
 [25] 0V
 [26] 0.07V
 [27] 1.36V
 [28] 3.37V

*Changes once a second

IC7700

Panel Power DC-to-DC Conv			
Pin		Pin	
[1]	1.89V	[25]	4.95V
[2]	1.89V	[26]	0.52V
[3]	3.4V	[27]	3.31V
[4]	3.4V	[28]	3.31V
[5]	1.2V	[29]	5V
[6]	1.2V	[30]	1.27V
[7]	Gnd	[31]	1.59V
[8]	3.4V	[32]	2.8V
[9]	3.4V	[33]	8.12V
[10]	0V	[34]	8.12V
[11]	11.75V	[35]	(-5V)
[12]	11.75V	[36]	0.67V
[13]	11.76V	[37]	13.56V
[14]	11.75V	[38]	12.38V
[15]	8.29V	[39]	10.42V
[16]	8.29V	[40]	5.97V
[17]	Gnd	[41]	5.95V
[18]	Gnd	[42]	2.85V
[19]	Gnd	[43]	6.7V
[20]	11.71V	[44]	6.7V
[21]	11.7V	[45]	6.69V
[22]	14.84V	[46]	6.69V
[23]	16V	[47]	Gnd
[24]	Gnd	[48]	Gnd





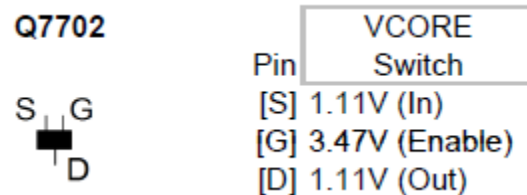
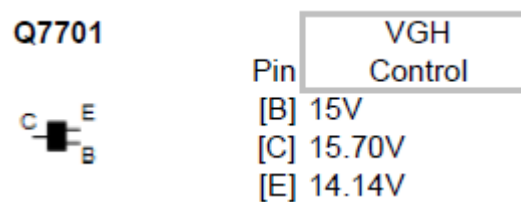
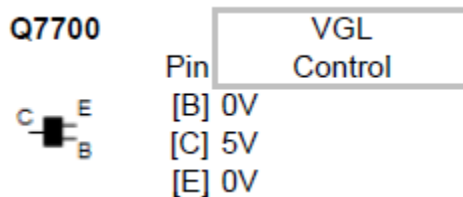
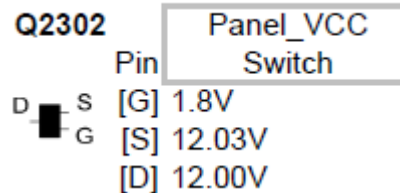
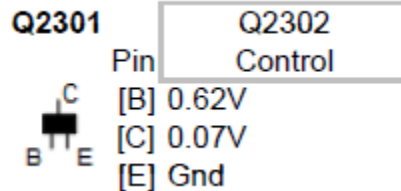
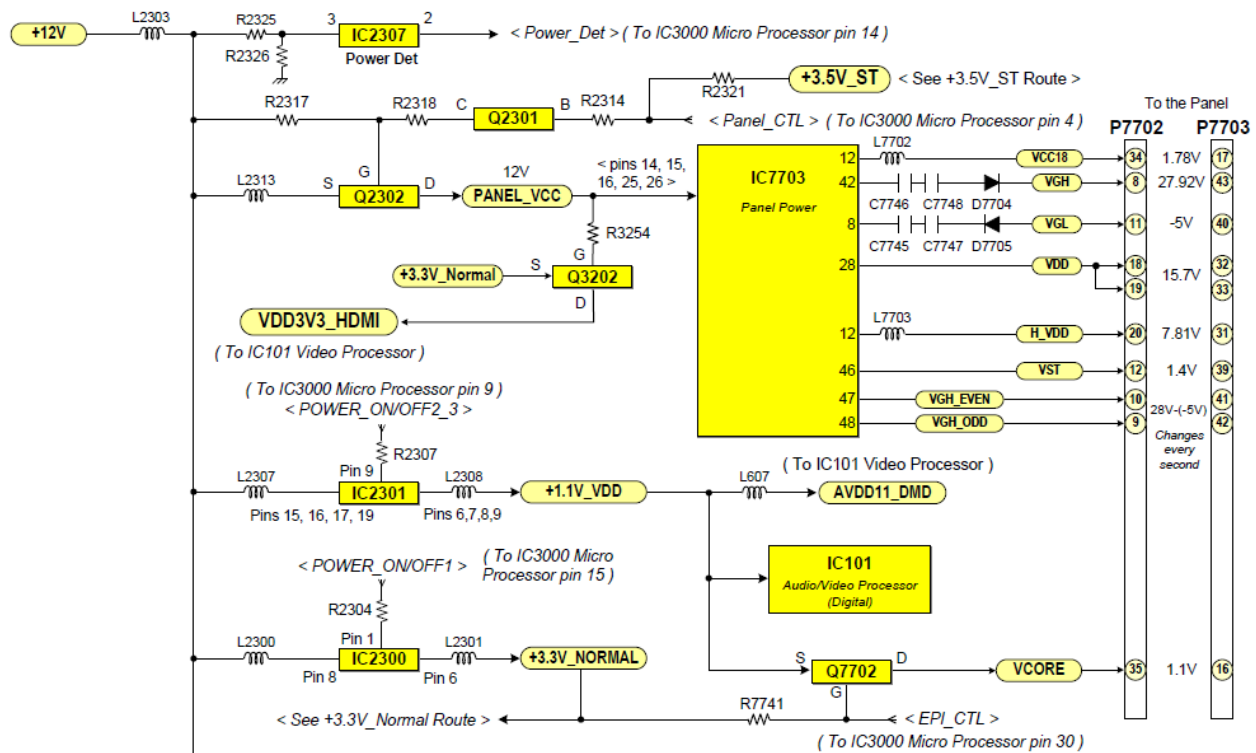
DC Voltages to the Panel developed
by on the Main Board,
Output from P7702 and P7703

P7702 P7703 "MAIN Board" To "The Panel"

Pin	Pin	Label	Voltage	Source
35	16	Vcore	1.1V	Q7702 Drain
34	17	VCC18	1.78V	IC7703 pin 18
20	31	H_VDD	7.81V	IC7703 pin 17
19	32	VDD	15.7V	IC7703 pin 28
18	33	VDD	15.7V	IC7703 pin 28
13	38	GIP_RST	(-4.86V)	IC7703 pin 45
12	39	VST	1.4V	IC7703 pin 46
11	40	VGL	(-5V)	IC7703 pin 7
10	41	VGH_EVEN	*28V - (-5V)	IC7703 pin 47
9	42	VGH_ODD	*28V - (-5V)	IC7703 pin 48
8	43	VGH	27.92V	Cathode D7704
1	50	Z-OUT	0V	P7702 pin 1

*Toggles every second

LG 55LB7200 Mainboard (+12V) Voltage Rating



IC7703

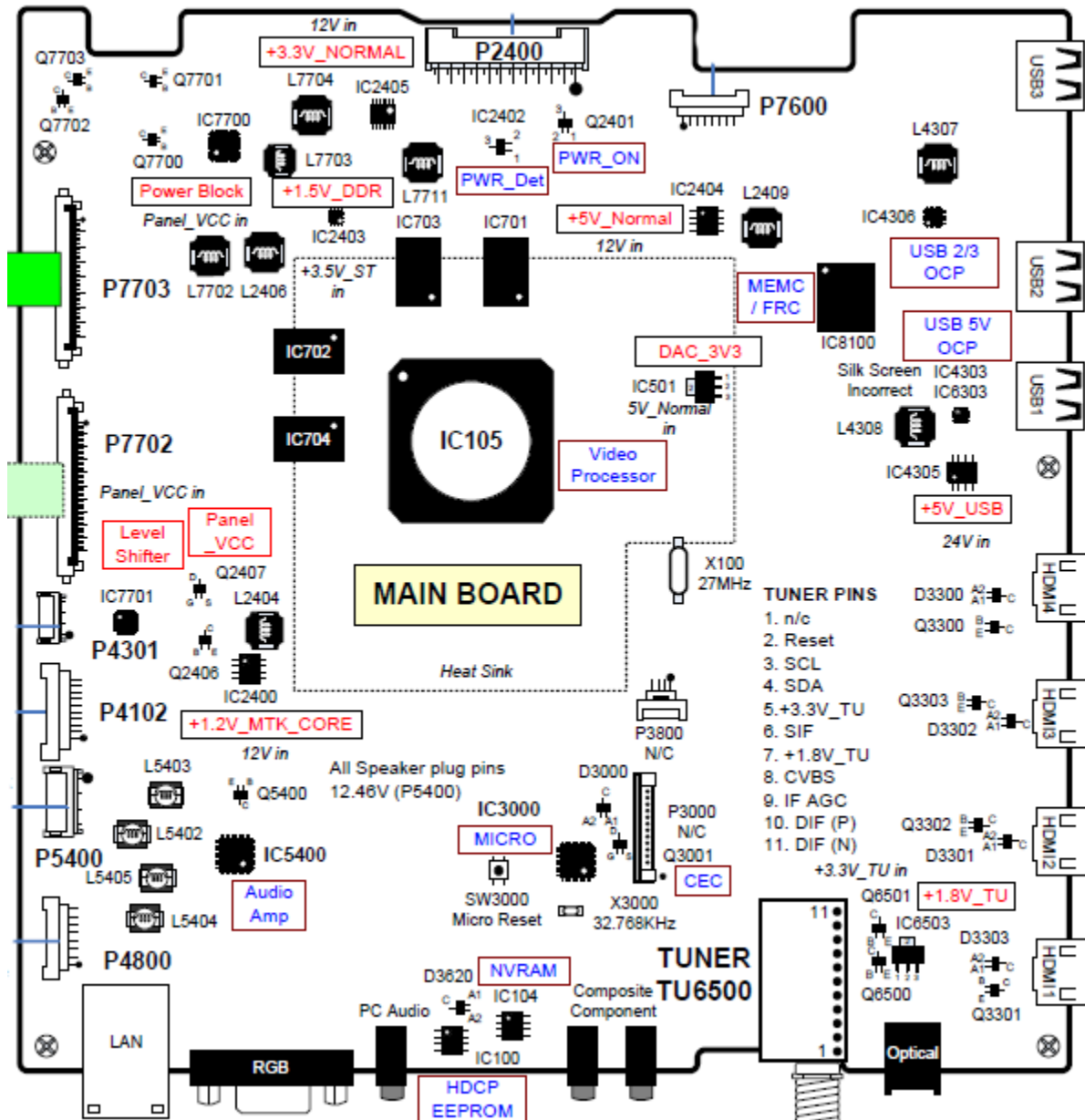
Panel Power DC-to-DC Conv

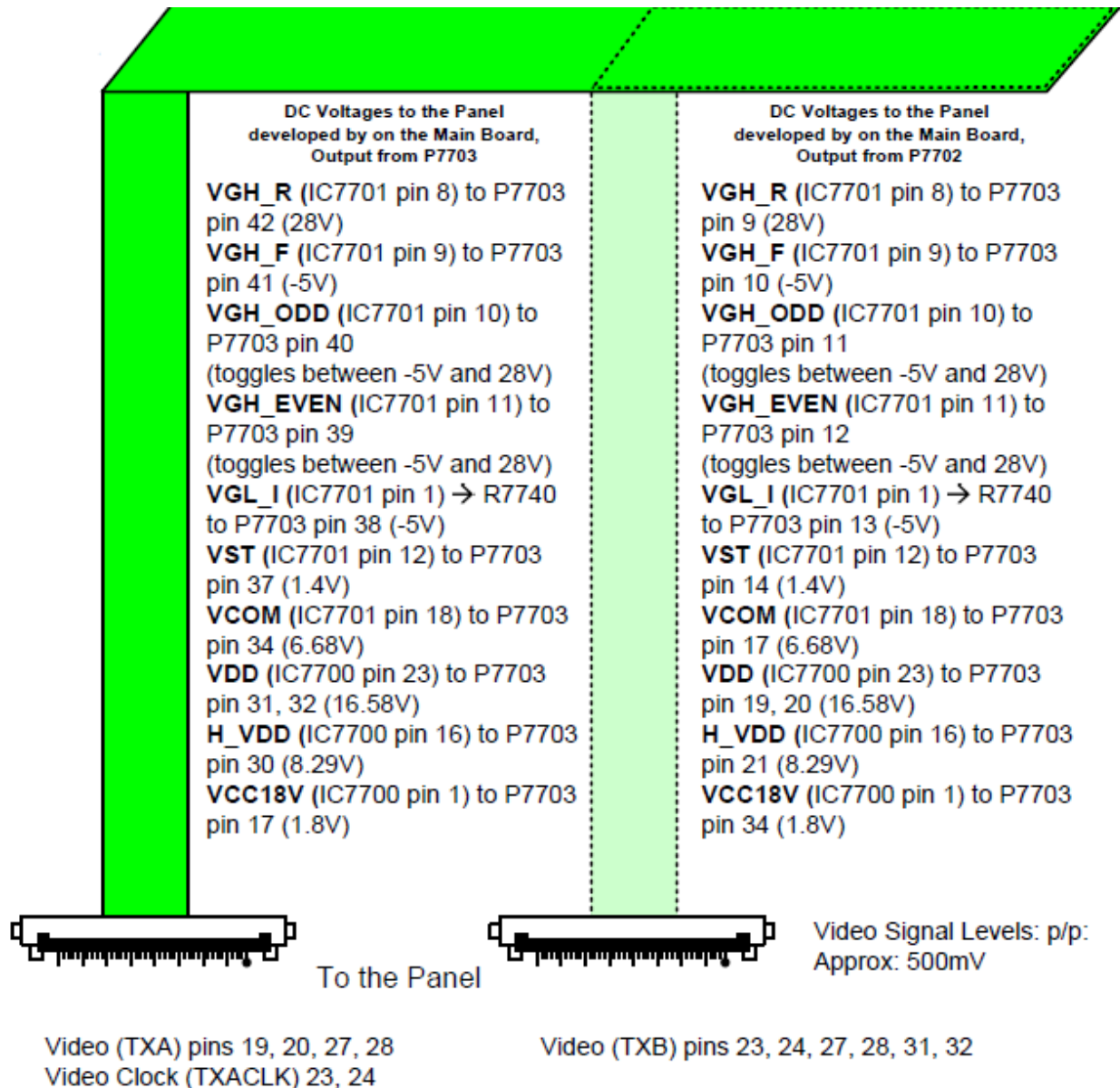
Pin		Pin
[1] 3.79V		[29] 4.93V
[2] 1.67V		[30] 0.47V
[3] 0.07V		[31] 14.86V
[4] 0.02V		[32] 11.73V
[5] 0V		[33] 8.14V
[6] Gnd		[34] 7.29V
[7] (-5.07V) VGL Out		[35] 3.97V
[8] 5.89V		[36] 0.81V
[9] 0.68V		[37] Gnd
[10] 1.81V		[38] 6.73V
[11] 1.81V (VCC18 In)		[39] 6.73V
[12] 1.81V (VCC18 Out)		[40] 6.69V
[13] Gnd		[41] 15.0V
[14] 12.03V (Vcc In)		[42] 7.69V
[15] 12.03V (Vcc In)		[43] 27.89V (VGH Ot
[16] 12.03V (Vcc In)		[44] 27.89V (VGH Ot
[17] 7.81V (HVDD Out)		[45] (-4.95V)
[18] 7.81V		[46] (-5.03V)
[19] Gnd		[47] (-5.06V) VGH_E
[20] 3.32V		[48] 27.86V (VGH_O
[21] 3.32V		[49] n/c
[22] 4.98V (VL Out)		[50] 0.81V (CLK6)
[23] 1.31V		[51] 0V (CLK5)
[24] Gnd		[52] 2.98V (CLK4)
[25] 12.03V (Vcc In)		[53] 3.97V (CLK3)
[26] 12.03V (Vcc In)		[54] 5.68V (CLK2)
[27] 15.73V		[55] 7.28V (CLK1)
[28] 15.70V (VDD Out)		[56] 6.08V

7) 55LM6700 Interconnect

Panel P/N: AFB73410002, EAJ62109301, EAJ62114401

Mainboard P/N: EAY62512702, EBU61749102





P7703

VGH_R (IC7701 pin 8) to P7703 pin 42 (28V)
VGH_F (IC7701 pin 9) to P7703 pin 41 (-5V)
VGH_ODD (IC7701 pin 10) to P7703 pin 40 (toggles between -5V and 28V)
VGH_EVEN (IC7701 pin 11) to P7703 pin 39 (toggles between -5V and 28V)
VGL_I (IC7701 pin 1) → R7740 to P7703 pin 38 (-5V)
VST (IC7701 pin 12) to P7703 pin 37 (1.4V)
VCOM (IC7701 pin 18) to P7703 pin 34 (6.68V)
VDD (IC7700 pin 23) to P7703 pin 31, 32 (16.58V)
H_VDD (IC7700 pin 16) to P7703 pin 30 (8.29V)
VCC18V (IC7700 pin 1) to P7703 pin 17 (1.8V)

P7702

VGH_R (IC7701 pin 8) to P7703 pin 9 (28V)
VGH_F (IC7701 pin 9) to P7703 pin 10 (-5V)
VGH_ODD (IC7701 pin 10) to P7703 pin 11 (toggles between -5V and 28V)
VGH_EVEN (IC7701 pin 11) to P7703 pin 12 (toggles between -5V and 28V)
VGL_I (IC7701 pin 1) → R7740 to P7703 pin 13 (-5V)
VST (IC7701 pin 12) to P7703 pin 14 (1.4V)
VCOM (IC7701 pin 18) to P7703 pin 17 (6.68V)
VDD (IC7700 pin 23) to P7703 pin 19, 20 (16.58V)
H_VDD (IC7700 pin 16) to P7703 pin 21 (8.29V)
VCC18V (IC7700 pin 1) to P7703 pin 34 (1.8V)

Q2407 activated by the Microprocessor pin 4 output of Panel_CTL (Low) to Gate of Q2407
 Generating Panel_VCC turning on DC-to-DC converters for the T-CON section and the Panel.

Q2406

Pin [B] 0.64V
 [C] 0.1V
 [E] Gnd

Panel_VCC
Driver

Q2407

Pin [G] 1.9V
 [S] 11.92V
 [D] 11.92V

Panel_VCC
Switch

Q7700

Pin [B] 0.67V
 [C] 4.67V
 [E] 0V

VGL_FB / VGL
Switch

Q7701

Pin [B] 15.91V
 [C] 15.63V
 [E] 16.6V

VGH / VGH_FB
Switch

IC7701

Panel Power Level Shifter

Pin		Pin
[1]	8.33V	[15] (-5V)
[2]	8.33V	[16] 28V
[3]	8.33V	[17] 28V
[4]	8.33V	[18] 6.7V
[5]	8.33V	[19] 6.7V
[6]	8.33V	[20] 6.7V
[7]	6.21V	[21] 16.58V
[8]	27.9V	[22] Gnd
[9]	(-5V)	[23] 3.29V
[10]	27.5V to -5V	[24] 0V
[11]	27.5V to -5V	[25] 0V
[12]	(-5V)	[26] 0.07V
[13]	(-5V)	[27] 1.36V
[14]	(-4.9V)	[28] 3.37V



IC7700		
Panel Power DC-to-DC Conv		
Pin		Pin
[1]	1.89V	[25] 4.95V
[2]	1.89V	[26] 0.52V
[3]	3.4V	[27] 3.31V
[4]	3.4V	[28] 3.31V
[5]	1.2V	[29] 5V
[6]	1.2V	[30] 1.27V
[7]	Gnd	[31] 1.59V
[8]	3.4V	[32] 2.8V
[9]	3.4V	[33] 8.12V
[10]	0V	[34] 8.12V
[11]	11.75V	[35] (-5V)
[12]	11.75V	[36] 0.67V
[13]	11.76V	[37] 13.56V
[14]	11.75V	[38] 12.38V
[15]	8.29V	[39] 10.42V
[16]	8.29V	[40] 5.97V
[17]	Gnd	[41] 5.95V
[18]	Gnd	[42] 2.85V
[19]	Gnd	[43] 6.7V
[20]	11.71V	[44] 6.7V
[21]	11.7V	[45] 6.69V
[22]	14.84V	[46] 6.69V
[23]	10.6V	[47] Gnd
[24]	Gnd	[48] Gnd



T-con & Panel Part Numbers

1) 32LH30 Interconnect

TV Models: JVC LT-32J300, JVC LT-32P300, JVC LT-32JM30, LG 32LG5700, LG 32LH30, LG 32LH3000

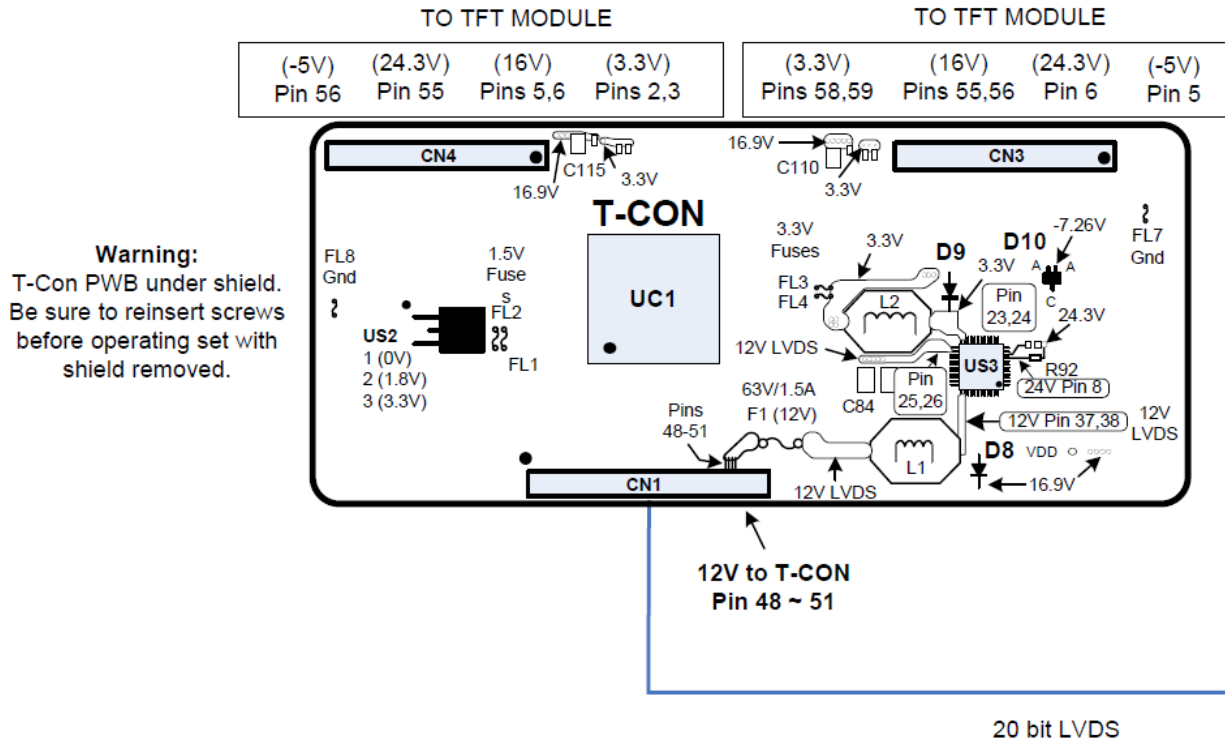
Part Number: 6871L-1438C

T-con Board P/N: 6870C-0230A (Similar to 6870C-0266A, LC320WUN)

DESC or Panel Sticker Number: LC320WUN-SAB1



Photo Source: Shopjimmy.com

**CN1 CONNECTOR "T-CON" PWB CON PWB**

Pin	Pin ID	STBY	Run V	Diode Test
7	LVDS-SEL	0V	0V	1.95V
8	PWM-DIM	0V	*0V	Open
9	OPC-OUT	0V	0V	1.75V
10	OPC-EN	0V	0V	1.75V
12	TXA4+	0V	1.2V	1.1V
13	TXA4-	0V	1.1V	1.1V
14	TXA3+	0V	1.2V	1.1V
15	TXA3-	0V	1.1V	1.1V
16	TXAC+	0V	1.1V	1.1V
17	TXAC-	0V	1.2V	1.1V
19	TXA2+	0V	1.2V	1.1V
20	TXA2-	0V	1.1V	1.1V
32	TXA1+	0V	1.2V	1.1V
23	TXA1-	0V	1.1V	1.1V
24	TXA0+	0V	1.1V	1.1V
25	TXA0-	0V	1.2V	1.1V

P800 "Main" TO CN1 "T-CON"

Pins 1, 11, 18, 21, 26, 34, 37, 42~46 are all Ground
Pins 1~6 and 47 Are not used

Pin	Pin ID	STBY	Run V	Diode Test
27	BIT-SEL	0V	3.24V	1.1V
29	TXB4-	0V	1.2V	1.1V
30	TXB3+	0V	1.2V	1.1V
31	TXB3-	0V	1.1V	1.1V
32	TXBC+	0V	1.1V	1.1V
33	TXBC-	0V	1.2V	1.1V
35	TXB2+	0V	1.1V	1.1V
36	TXB2-	0V	1.2V	1.1V
38	TXB1+	0V	1.1V	0.8V
39	TXB1-	0V	1.2V	1.1V
40	TXB0+	0V	1.1V	0.8V
41	TXB0-	0V	1.2V	1.1V
48	LVDS 12V	0V	12.1V	3.18V
49	LVDS 12V	0V	12.1V	3.18V
50	LVDS 12V	0V	12.1V	3.18V
51	LVDS 12V	0V	12.1V	3.18V

Note: CN1 Pin 1 is P800 Pin 51

2) 37LH55 Interconnect

TV Models: LG 37LH55, LG 37LH5000

PANEL P/N: EAT60664401

Part Number: 6871L-1588A

T-con Board P/N: 6870C-0264B

DESC or Panel Sticker Number: LC370WUD-SBM1

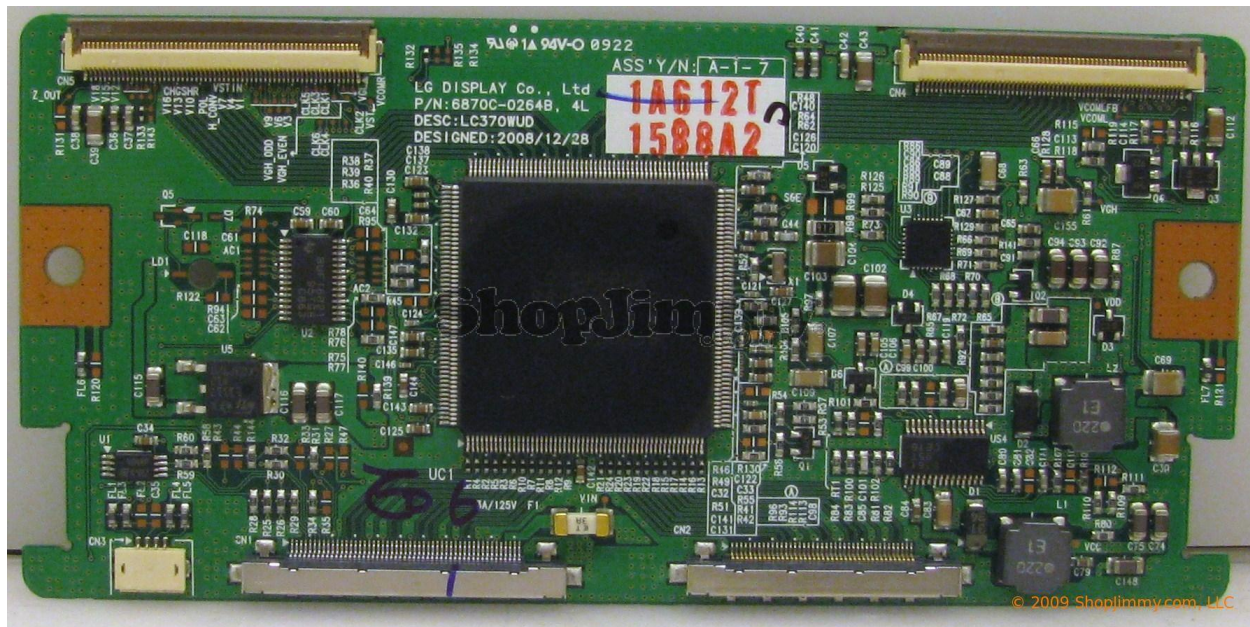
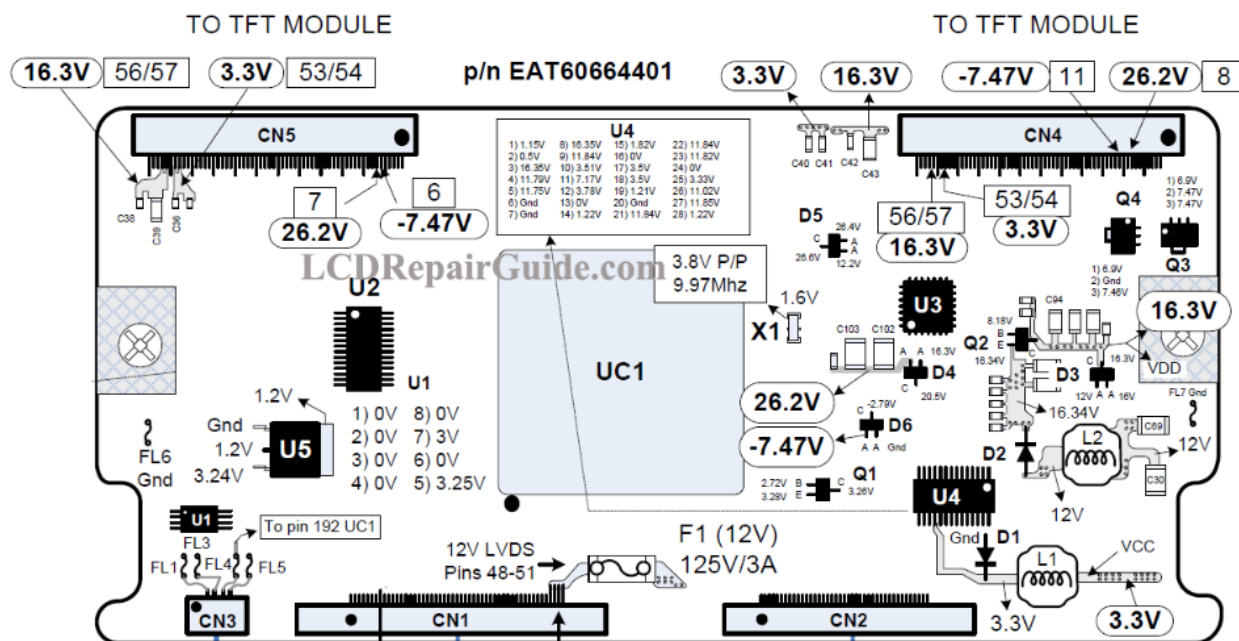


Photo Source: Shopjimmy.com

Warning: T-CON PWB under shield. Put screws back in before operating set with shield removed.

Note: CN1 Pin-1 is P800 Pin-51 (20 bit LVDS)



P800 CONNECTOR "MAIN" AND CN1 T-CON PWB

CN1	P800	Pin ID	Run V	Diode Test
48-51	1-4	12V_TCON	12.06V	3.18V
41	11	URSA_B-4	1.3V	1.1V
40	12	URSA_B+4	1.3V	1.1V
39	13	URSA_B-3	1.3V	1.1V
38	14	URSA_B+3	1.3V	1.1V
36	16	URSA_BCK-	1.1V	1.1V
35	17	URSA_BCK+	1.2V	1.1V
33	19	URSA_B-2	1.3V	1.1V
32	20	URSA_B+2	1.3V	1.1V
31	21	URSA_B-1	1.3V	1.1V
30	22	URSA_B+1	1.3V	1.1V
29	23	URSA_B-0	1.3V	1.1V
28	24	URSA_B+0	1.3V	1.1V
27	25	BIT_SEL	1.1V	1.1V
25	27	URSA_A-2	1.3V	1.1V
24	28	URSA_A+2	1.3V	1.1V

Pins 6-10, 15, 18, 26, 31, 34 and 51 are all Ground.
Pins 5 and 46-50 are not used.

CN1	P800	Pin ID	Run V	Diode Test
23	29	URSA_A-3	1.3V	1.1V
22	30	URSA_A+3	1.3V	1.1V
20	32	URSA_ACK-	1.2V	1.1V
19	33	URSA_ACK+	1.1V	1.1V
17	35	URSA_A-2	1.3V	1.1V
16	36	URSA_A+2	1.3V	1.1V
15	37	URSA_A-1	1.3V	1.1V
14	38	URSA_A+1	1.3V	1.1V
13	39	URSA_A-0	1.3V	1.1V
12	40	URSA_A+0	1.3V	1.1V
11	41	OPC_OUT2	Gnd	Gnd
10	42	OPC_EN	0.6V	1.75V
9	43	OPC_OUT1	3.2V	1.75V
8	44	PWM_DIM	*3.3V	1.3V
7	45	LVDS_SEL	0V	1.95V

U2

1) 7.06V	15) 6.89V
2) 16.27V	16) 16.27V
3) 2.36V	17) 2.36V
4) 13.4V	18) 3.11V
5) 0V	19) 0V
6) 11.14V	20) 16.29V
7) 10.4V	21) 16.27V
8) Gnd	22) 5.25V
9) 0V	23) 6V
10) 16.26V	24) 0V
11) 8.39V	25) 0V
12) 8.1V	26) 0V
13) 3.23V	27) 0V
14) 3.24V	28) 3.25V

U4

1) 1.15V	8) 16.35V	15) 1.82V	22) 11.84V
2) 0.5V	9) 11.84V	16) 0V	23) 11.82V
3) 16.35V	10) 3.51V	17) 3.5V	24) 0V
4) 11.79V	11) 7.17V	18) 3.5V	25) 3.33V
5) 11.75V	12) 3.78V	19) 1.21V	26) 11.02V
6) Gnd	13) 0V	20) Gnd	27) 11.85V
7) Gnd	14) 1.22V	21) 11.84V	28) 1.22V

CN3: Pins-1, 2, 4 => GND, Pin-3= P-DIM. Pin-3 PDIM (Digital Dimming) can vary according to the brightness level of the video signal and the OSD Backlight setting. 0.6V= 0% to 3.3V= 100%. Output from the Video Processing chip IC100 (Mstar).

3) 42LB5800 Interconnect

TV Models: LG 42LB5600, LG 42LB5800, LG 42LY540S

PANEL P/N: EAJ62572101

Part Number: 6871L-3454D

T-con Board P/N: 6870C-0480A

DESC or Panel Sticker Number: V14 42 DRD 60Hz Control_Ver0.3

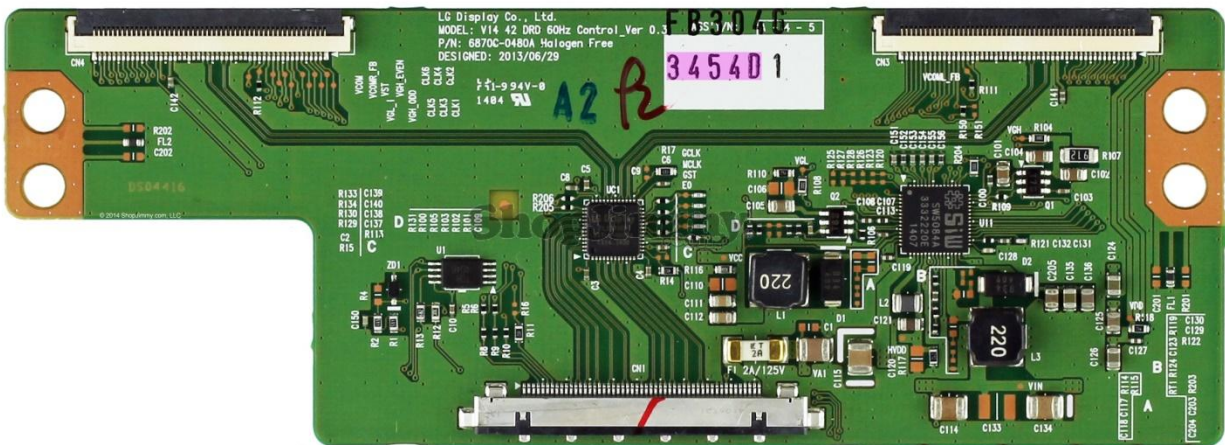
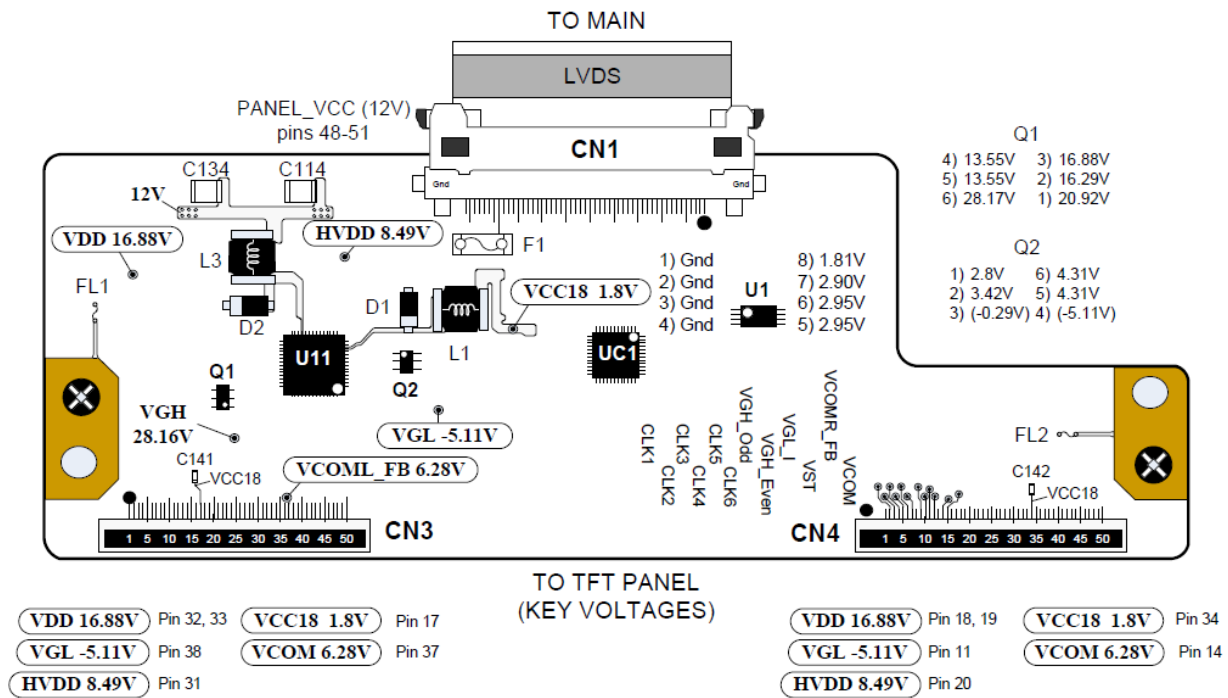


Photo Source: Shopjimmy.com

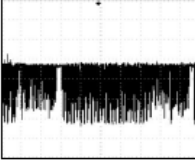
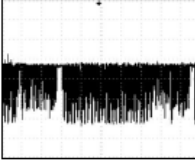
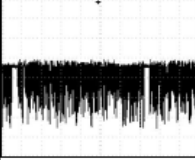
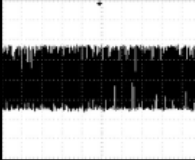
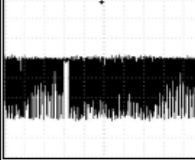
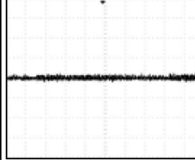
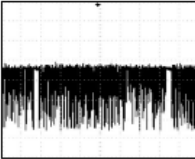
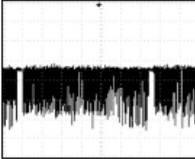
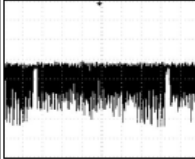
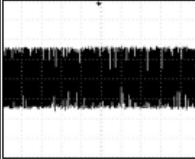
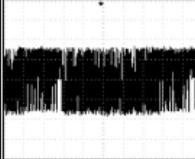
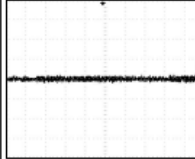
Warning: T-con board under shield. Be sure to reinsert screws before operating set with shield removed.



CN3	OTHER VOLTAGES	CN4
Pin 8	VGH (U11 pin 42, 43) 28.14V	Pin 43
Pin 9	*VGH_ODD (U11 pin 47) -5.09V to 28.14V	Pin 42
Pin 10	*VGH_EVEN (U11 pin 46) -5.09V to 28.14V	Pin 41
Pin 12	VST (U11 pin 45) -5.09V	Pin 39
Pin 18-19	VDD (U11 pin 28) 16.88V	Pin 32-33
		*VGH_ODD and *VGH_EVEN cycle between -5.09V to 28.14V every second.

42LB5800 P7100 LVDS Connector Video Waveforms

All LVDS signals are taken with SMPTY Color Bar signal input (1080P) Component Input. All LVDS signals are “Differential Pairs”. The ones shown are the “Positive” signal of the pair. The Negative signal looks exactly the same but flipped 180 degree. Scope settings are 100mV per/division, 2.5uSec per/division.

Pin 12 (TXA0N)	Pin 14 (TXA1N)	Pin 16 (TXA2N)	Pin 19 (TXACLKN)	Pin 22 (TXA3N)	Pin 24 (TXA4N)
					
360mV p/p	352mV p/p	356mV p/p	336mV p/p	332mV p/p	40mV p/p No Waveform
Pin 28 (TXB0N)	Pin 30 (TXB1N)	Pin 32 (TXB2N)	Pin 35 (TXBCLKN)	Pin 38 (TXB3N)	Pin 40 (TXB4N)
					
344mV p/p	336mV p/p	332mV p/p	328mV p/p	352mV p/p	44mV p/p No Waveform

4) 42LG70 Interconnect

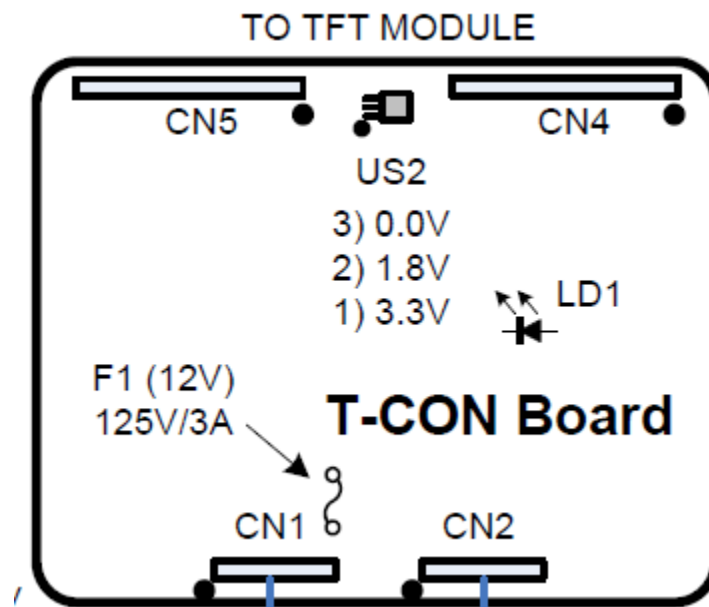
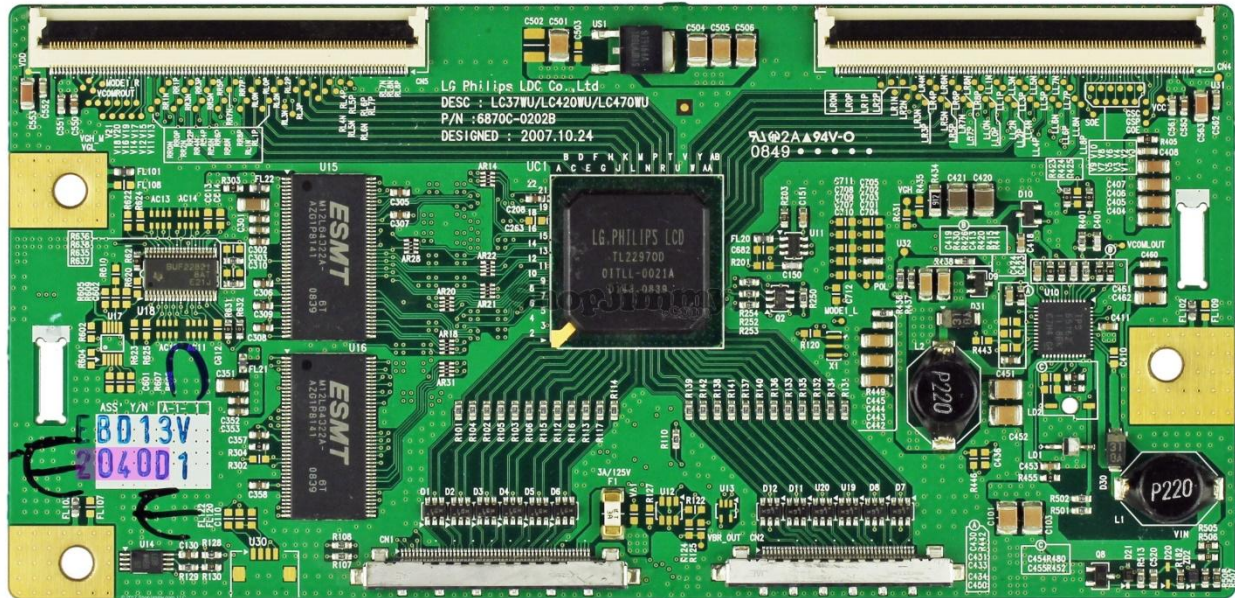
TV Models: LG 42LG70, LG 42LG7000, Philips 42PFL7403D/27, Philips 42PFL7403D/F7, Vizio SV420XVT1A

PANEL P/N: EAT56803001

Part Number: 6871L-2040D

T-con Board P/N:6870C-0202B

DESC or Panel Sticker Number: LC420WUF-SAA1



T-con PWB under shield. Be sure to reinsert screws before operating set with shield removed.

LD1:

Set In Stby: LD1 Off (Anode 0V, Cathode 0V)

Power On: LD1 Lit (Anode 12V, Cathode 0V)

Set On: LD1 Off (Anode 12V, Cathode 9.6V)

5) 42LH20 Interconnect

TV Models: 42LH20

PANEL P/N:

Part Number: 6871L-1596A

T-con Board P/N: 6870C-0240C

DESC or Panel Sticker Number: LC-420WXN/LC370WXN (or LC420WXE-SBA1)

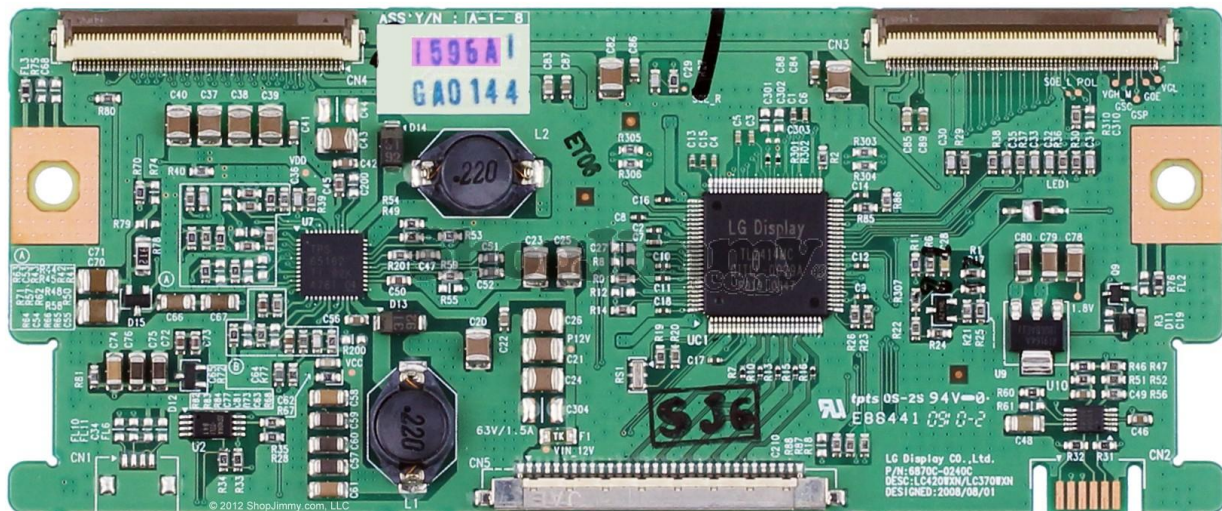
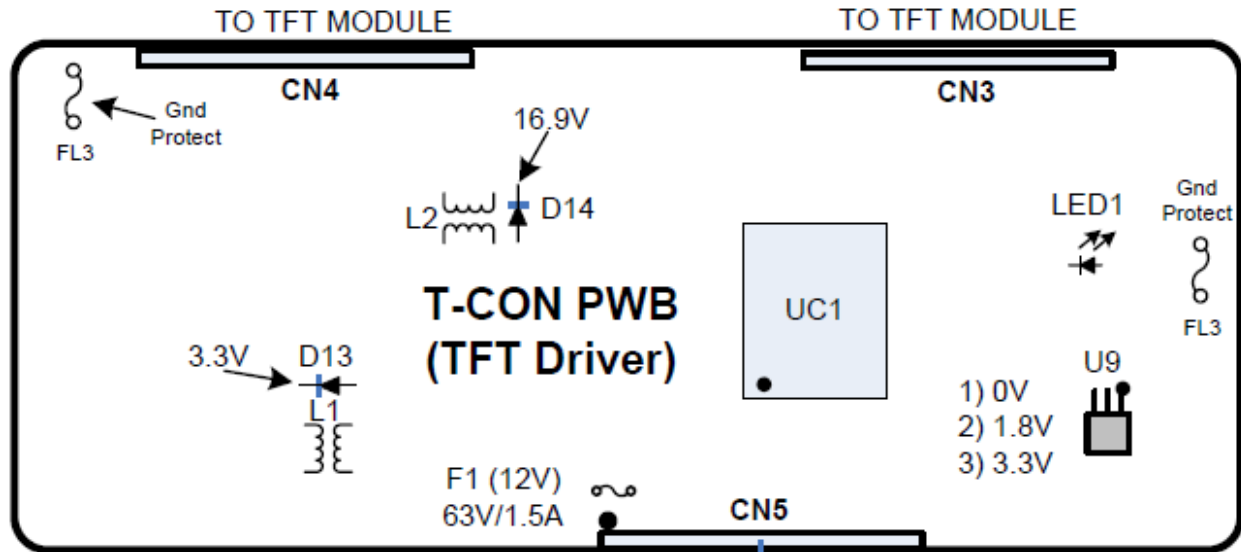


Photo from: Shopjimmy.com

Warning: T-con board under shield. Be sure to reinsert screws before operating set with shield removed.

P801 Pin-3 PWM-DIM, 3.15V (Max 100%) to 0.6V (Min 0%) Customer's MENU backlight setting. However, this is not used on the T-CON Board.



LED1:

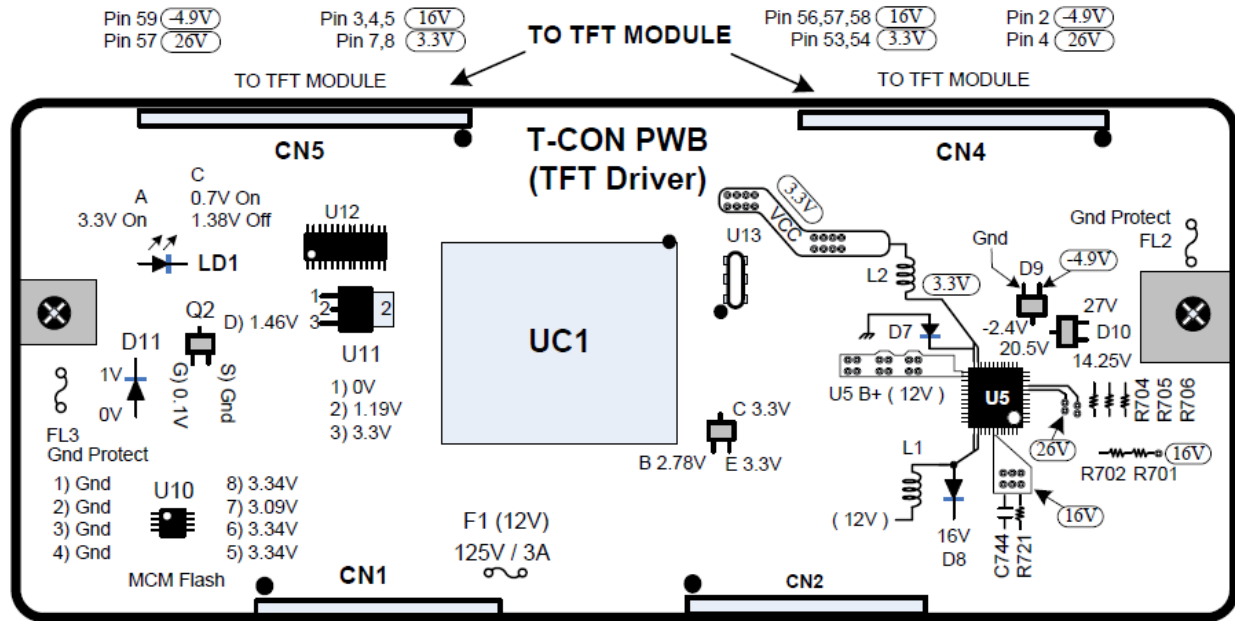
Set In Stby: LED1 Off (Anode 0V, Cathode 0V)

Power On: LED1 Lit (Anode 3.3V, Cathode 0V)

Set On: LED1 Off (Anode 3.3V, Cathode 1.3V)

P801 "Main" to CN5 "T-CON"

Pin	LABEL	SBY	Run	Diode Check	Pin	LABEL	SBY	Run	Diode Check
1	Gnd	Gnd	Gnd	Gnd	16	TXA1-	0V	1.2V	1.1V
2	Gnd	Gnd	Gnd	Gnd	17	Gnd	Gnd	Gnd	Gnd
3	*PWM-DIM	0V	3.1V	1.1V	18	TXA0+	0V	1.1V	0.8V
4	OPC-OUT	0V	3.3V	Open	19	TXA0-	0V	1.2V	1.1V
5	Gnd	Gnd	Gnd	Gnd	20	Gnd	Gnd	Gnd	Gnd
6	TXA3+	0V	1.2V	1.1V	21	OPC-EN	0V	0V	1.1V
7	TXA3-	0V	1.2V	1.1V	22	LVDS-SEL	0V	0V	Open
8	Gnd	Gnd	Gnd	Gnd	23	Gnd	Gnd	Gnd	Gnd
9	TXAC+	0V	1.2V	1.1V	24	Gnd	Gnd	Gnd	Gnd
10	TXAC-	0V	1.1V	1.1V	25	Gnd	Gnd	Gnd	Gnd
11	Gnd	Gnd	Gnd	Gnd	26	Gnd	Gnd	Gnd	Gnd
12	TXA2+	0V	1.1V	1.1V	27	LVDS 12V	0V	12.1V	1.6V
13	TXA2-	0V	1.2V	1.1V	28	LVDS 12V	0V	12.1V	1.6V
14	Gnd	Gnd	Gnd	Gnd	29	LVDS 12V	0V	12.1V	1.6V
15	TXA1+	Gnd	1.1V	1.1V	30	LVDS 12V	0V	12.1V	1.6V



UC1 drives Q2 which drives LD1 to assist the backlights during start up.

LD1:

Set In Stby: LD1 Off (Anode 0V, Cathode 0V)

Power On: LD1 Lit (Anode 3.3V, Cathode 0.7V)

30 seconds later,

Set On: LD1 Off (Anode 3.3V, Cathode 1.38V)

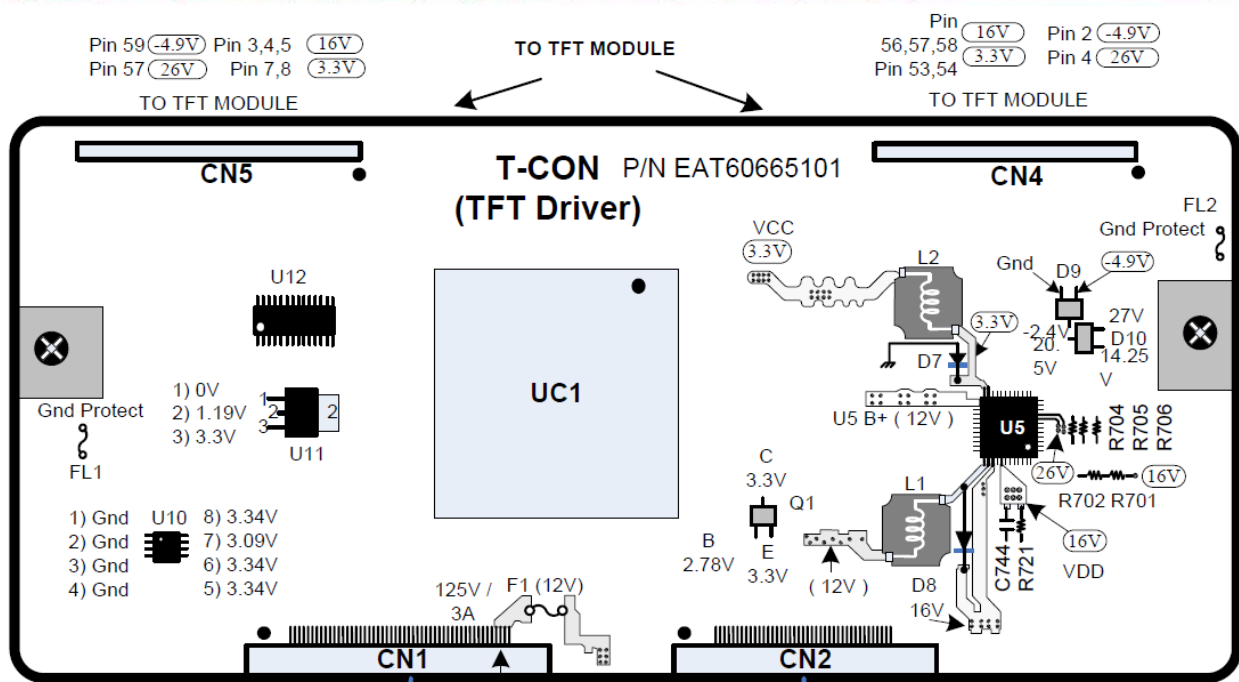
7) 42LH90 Interconnect

TV Models: LG 42LH90

PANEL P/N: EAT60665101

T-con Board P/N: 6870C-4000H

DESC or Panel Sticker Number: LC320/420/470/550WU_120Hz Control
(LC420WUL-SBM1)



8) 42LK520 Interconnect

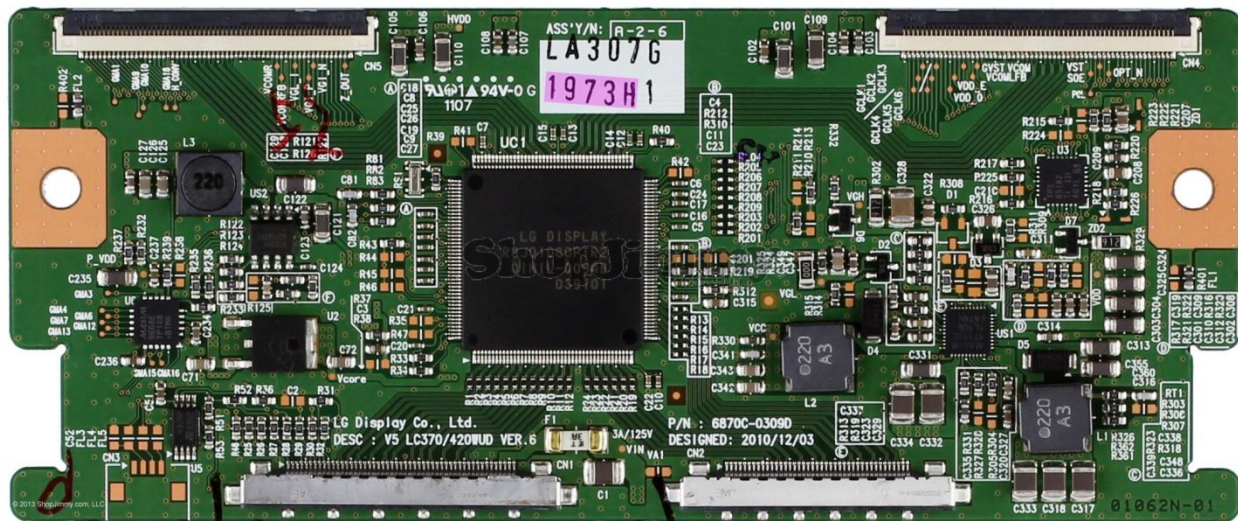
TV Models: LG 42LK520_530, LG 42CS570

PANEL P/N:

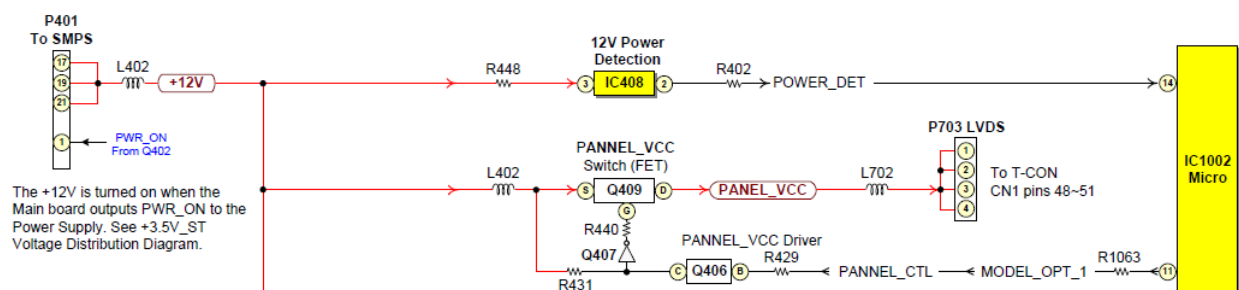
Part Number: 6871L-1973H

T-con Board P/N: 6870C-0309D

DESC or Panel Sticker Number: LC420WUF-SCA2 (DESC: V5 LC370/420WUD)



LG 42LK520 Main +12V Voltage Distribution



9) 42LN5300 Interconnect

TV Models: LG 42LN5200_5300_5400_5700, LG 42WT30, LG 42WL10,
Panasonic TH-42LRU60, Sanyo DP42D23 P42D23-00 & P42D23-11

PANEL P/N: EAJ62310701

Part Number: 6871L-3403A

T-con Board P/N: 6870C-0452A

DESC or Panel Sticker Number: LC420DUE-SFR5, LC420DUE-SFR1 (similar to LC500DUE-SFR1)

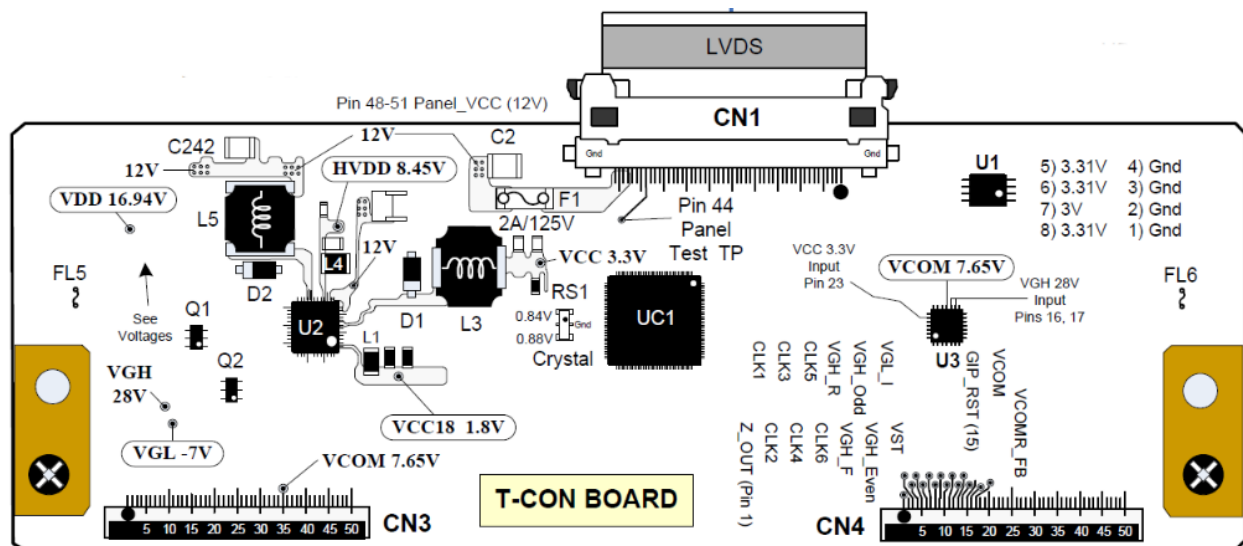


Photo from: Shopjimmy.com

Warning: Be sure to install the screws in the T-CON board before applying power. Damage to the board will occur.

Panel Test:

To run the T-CON “Panel Test”, remove the LVDS cables. Jump 12V to the 12V fuse. Jump VCC 3.3V to pin-44 on CN1. White, Red, Blue, Green and Black patterns show on screen.



Additional Voltages from U3 to the Panel with no silk screen labels:

U3 pin 1 (7.76V)	CN4 pin 48	CN5 pin 3
U3 pin 2 (7.74V)	CN4 pin 47	CN5 pin 4
U3 pin 3 (7.75V)	CN4 pin 46	CN5 pin 5
U3 pin 4 (7.74V)	CN4 pin 45	CN5 pin 6
U3 pin 5 (7.76V)	CN4 pin 44	CN5 pin 7
U3 pin 6 (7.74V)	CN4 pin 43	CN5 pin 8
U3 pin 8 (27.9V)	CN4 pin 42	CN5 pin 9
U3 pin 9 (-6.97V)	CN4 pin 41	CN5 pin 10
U3 pin 10 (-6.95V to 27.9V)	CN4 pin 40	CN5 pin 11
U3 pin 11 (-6.95V to 27.9V)	CN4 pin 39	CN5 pin 12

U3 DC-to-DC

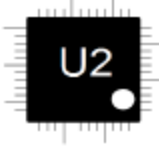
Pin	Panel Power Level Shifter	Pin
-----	---------------------------	-----

[1] 7.76V (GCLK1)		[15] (-6.97) (VGL)
[2] 7.74V (GCLK2)		[16] 27.96V (VGH)
[3] 7.75V (GCLK3)		[17] 27.96V (VGH)
[4] 7.74V (GCLK4)		[18] 7.65V (V_COM)
[5] 7.76V (GCLK5)		[19] 7.65V
[6] 7.74V (GCLK6)		[20] 7.62V
[7] 2.5V		[21] 16.9V
[8] 27.9V (VGH_R)		[22] Gnd
[9] (-6.97) (VGH_F)		[23] 3.3V (VCC)
[10] *(-6.95V to 27.9V) (VGH_ODD)		[24] 0V
[11] *(-6.95V to 27.9V) (VGH_EVEN)		[25] 0V
[12] (-6.91) (VST)		[26] 0.7V
[13] (-6.88) (GIP_RST)		[27] 1.27V
[14] (-6.97)		[28] 3.24V

* EVERY Second

U2 DC-to-DC

T-CON and Panel Power
DC-to-DC Conv

Pin		Pin
[1] 1.81V		[25] 4.95V
[2] 1.86V		[26] 0.53V
[3] Gnd		[27] 3.3V
[4] 3.3V		[28] 3.3V
[5] 1.79V		[29] 4.99V
[6] 1.81V		[30] 1.3V
[7] Gnd		[31] 16.4V
[8] 3.31V (VCC)		[32] 27.94V
[9] 3.31V (VCC)		[33] 5.69V
[10] 0V		[34] 8.21V
[11] 11.7V (Panel_VCC)		[35] (-6.98V) (VGL_FB)
[12] 11.7V (Panel_VCC)		[36] 1.19V
[13] 11.7V (Panel_VCC)		[37] 13.86V
[14] 11.7V (Panel_VCC)		[38] 12.85V
[15] 8.45V (H_VDD)		[39] 10.91V
[16] 8.44V (H_VDD_FB)		[40] 6.55V
[17] Gnd		[41] 4.6V
[18] Gnd		[42] 3.5V
[19] Gnd		[43] 7.65V
[20] 11.7V (Panel_VCC)		[44] 7.64V
[21] 11.7V (Panel_VCC)		[45] 7.63V
[22] 16.97V		[46] 7.61V (VCOM_RFB)
[23] 16.97V (VDD)		[47] 1.61V
[24] Gnd		[48] Gnd

U1

Buffer

Pin	
[1] Gnd	
[2] Gnd	
[3] Gnd	
[4] Gnd	
[5] 3.31V	
[6] 3.31V	
[7] 3.31V	
[8] 3.31V	

Q1

VDD Rectifier

Pin	
[1] 20.2V	
[2] 16.38V	
[3] 16.93V Output	
[4] 12.98V	
[5] 12.98V	
[6] 12.95V	

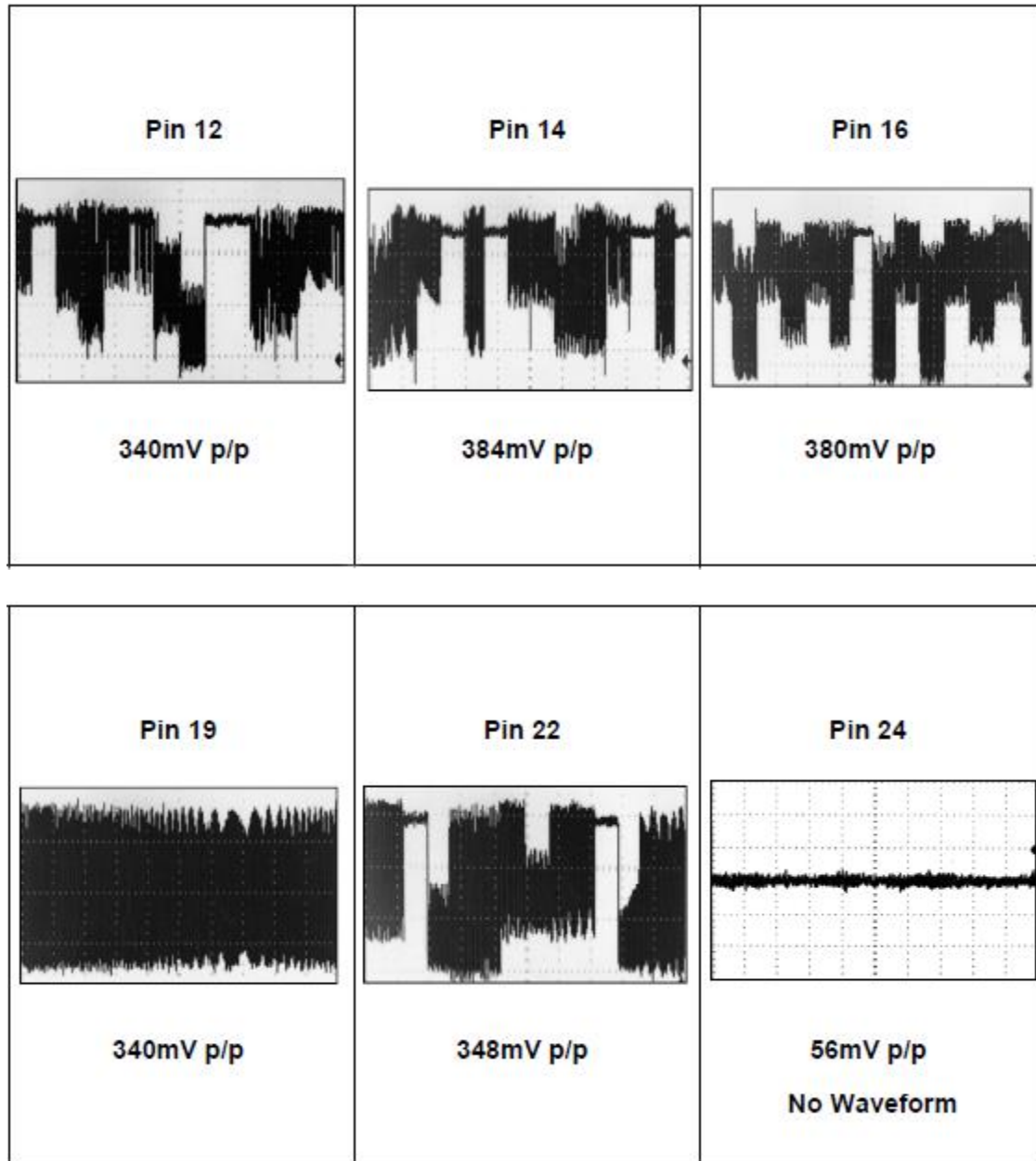
Q2

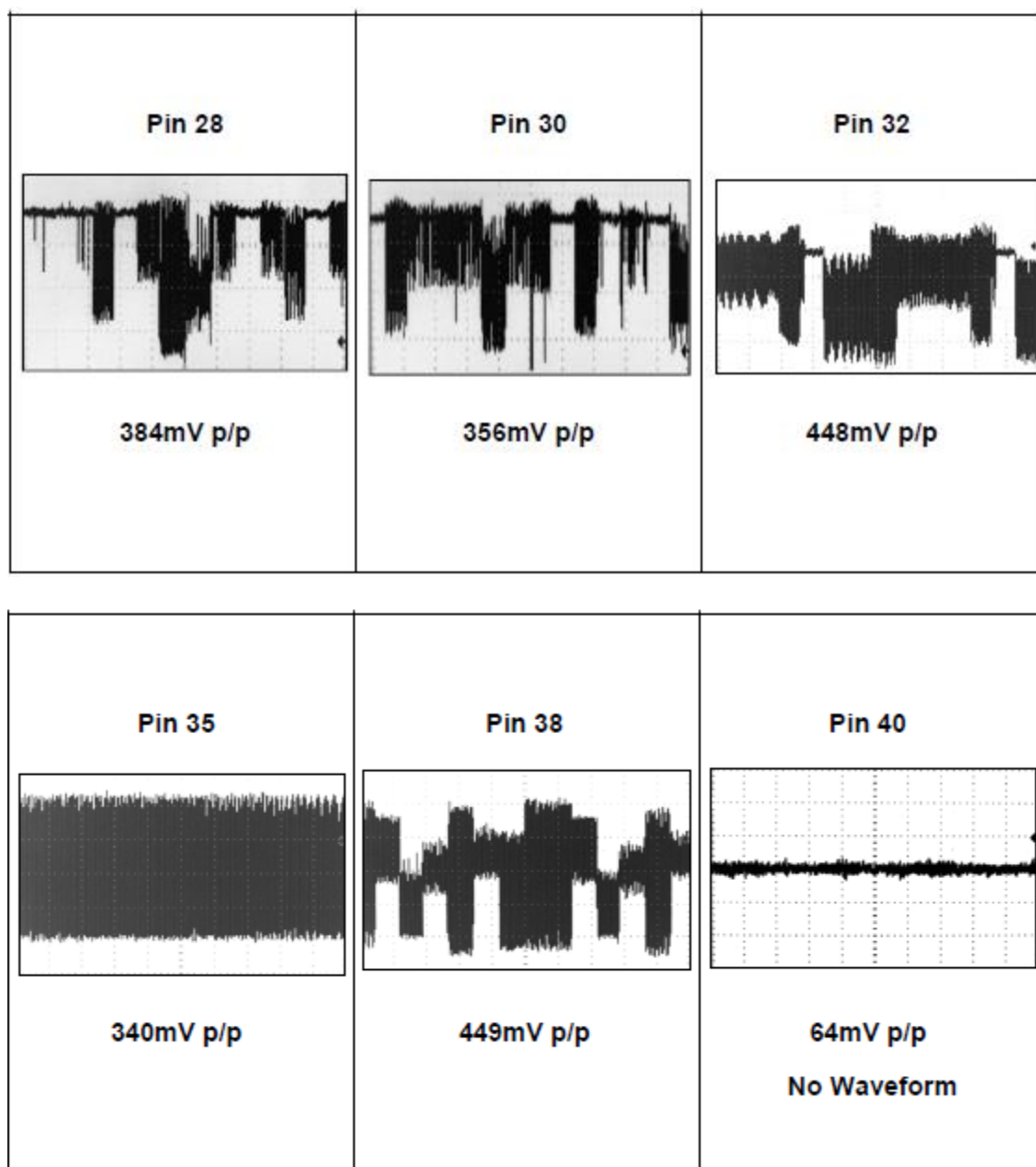
VGL Rectifier

Pin	
[1] 0.56V	
[2] 1.18V	
[3] (-2.9V)	
[4] (-7V) Output	
[5] 2.97V	
[6] 2.97V	

LG 42LN5300 P1100 (Mainboard) CN1 (T-CON board) Connector Video Waveforms

All LVDS signals are taken with SMPTY Color Bar signal input (1080P) Component Input. All LVDS signals are “Differential Pairs”. The ones shown are the “Positive” signal of the pair. The Negative signal looks exactly the same but flipped 180 degree. Scope Settings are 100mV per/division, 2.5uSec per/division.





10) 42LV5500 Interconnect

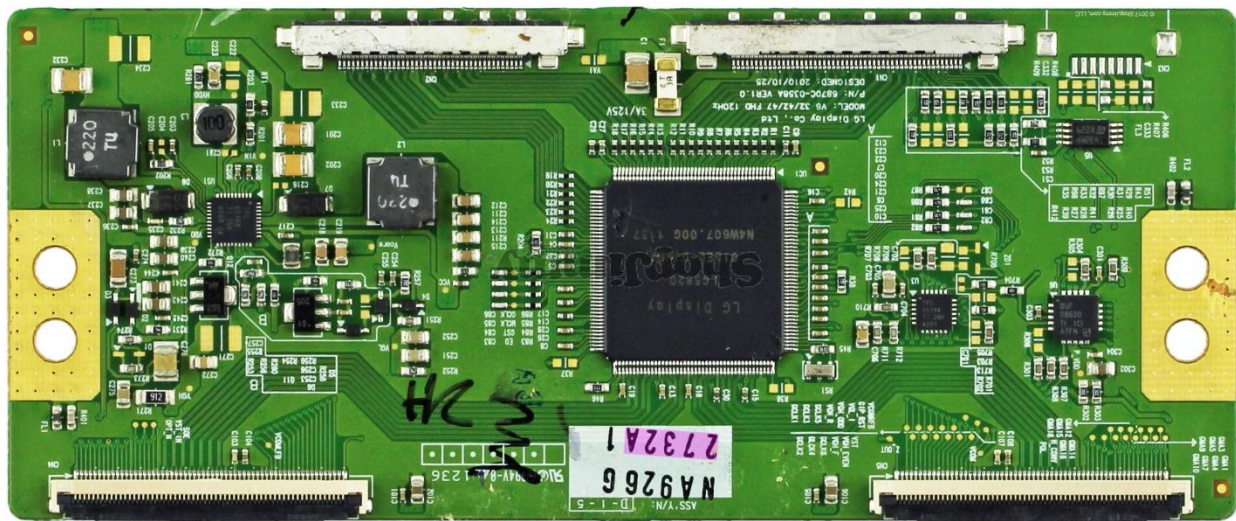
TV Models: LG 42LV5400, LG 42LV5500, LG 42LW5300

PANEL P/N: EAJ61749101

Part Number: 6871L-2693A

T-con Board P/N: 6870C-0358A

DESC or Panel Sticker Number: LC420EUF-SDA1 (V6 32/42/47 FHD 120Hz)

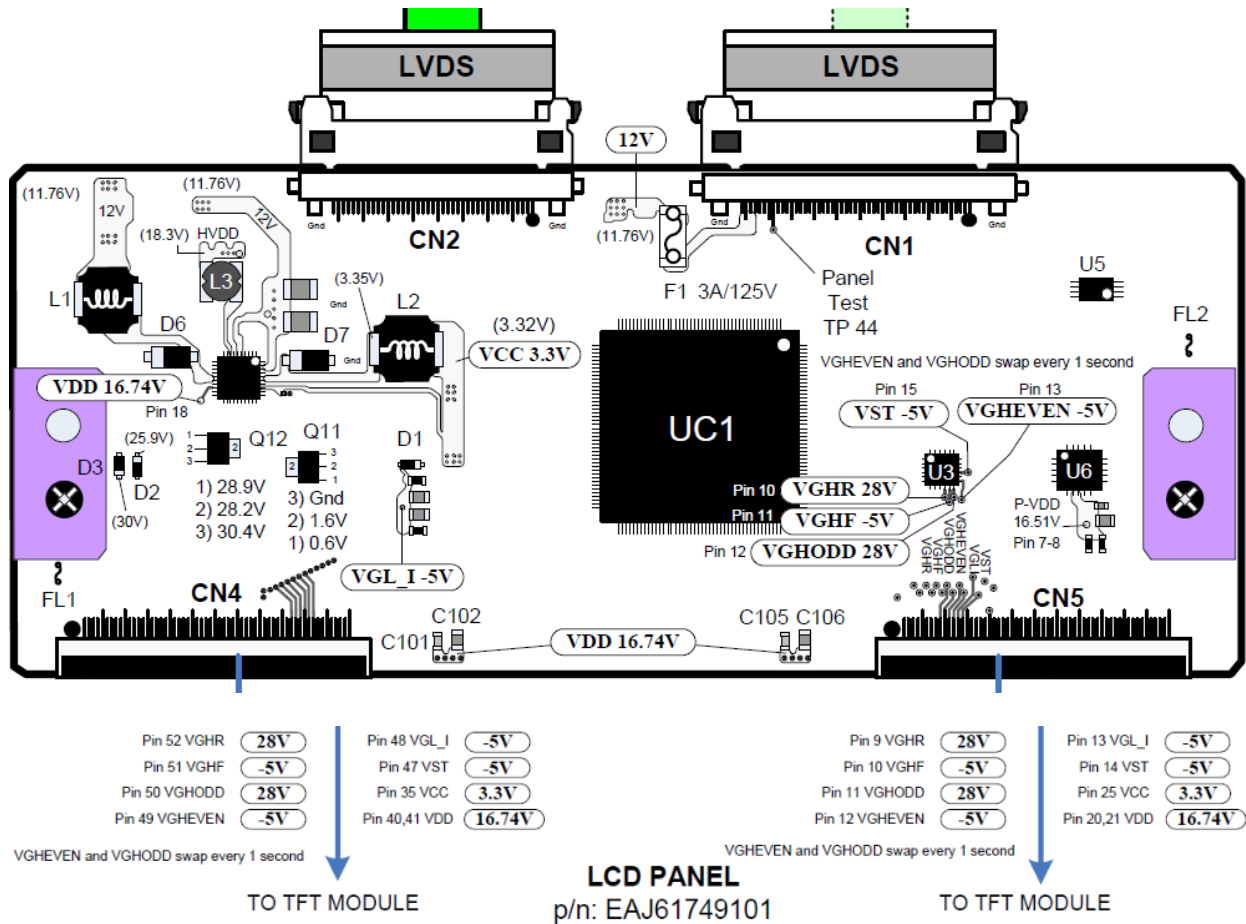


Warning: T-CON Board under shield. Be to reinsert screws before operating set with shield removed.

PANEL Test:

To run the T-con “Panel Test”, remove the LVDS cables. Jump 12V to the 12V fuse. Jump VCC 3.3V to pin-44 on CN1. White, Red, Blue, Green and Black patterns show on screen.

Note: Before doing the Panel Test, make sure their backlight can lit/operating normally.



U5

- 5) Gnd 4) 3.31V
- 6) Gnd 3) 3.3V
- 7) Gnd 2) 2.95V
- 8) Gnd 1) 3.3V

11) 42SL80 Interconnect

TV Models: LG 42SL80

PANEL P/N: EAT60667401

Part Number: 6871L-1828A

T-con Board P/N: 6870C-0259A

DESC or Panel Sticker Number: LC420WUD-SBM4 (42/47 Slim & Narrow 240Hz CONTROL)

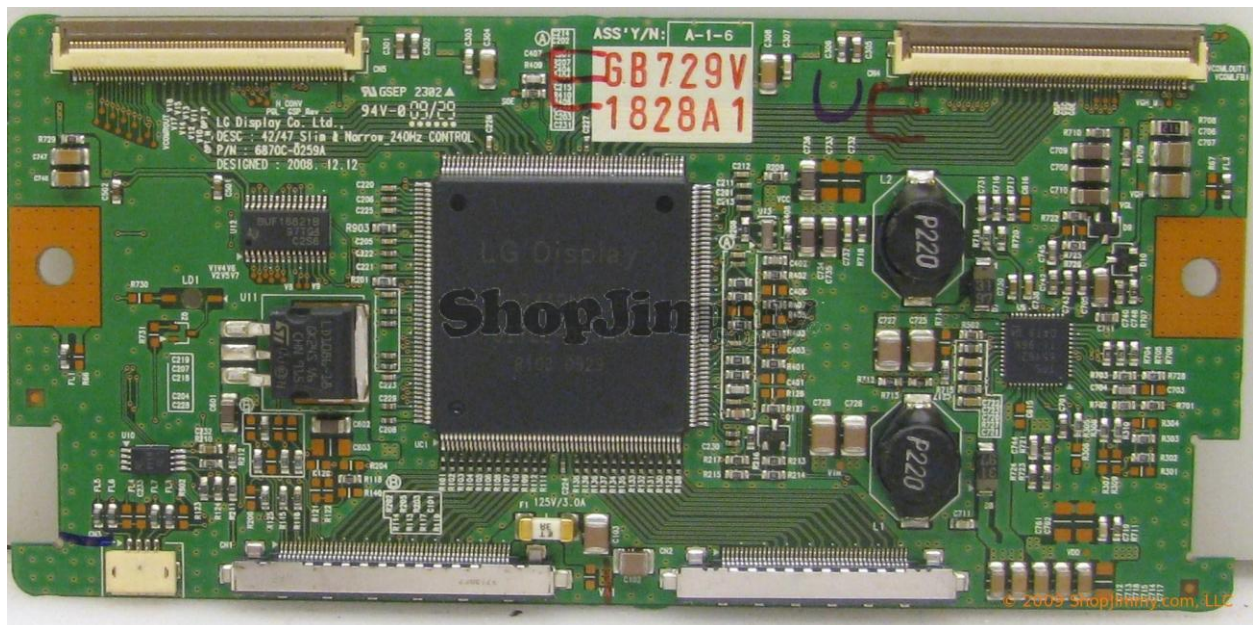


Photo from: Shopjimmy.com

1) 6.9V	15) 3.3V
2) 13.7V	16) Gnd
3) 15.7V	17) Gnd
4) 13.7V	18) Gnd
5) 13.0V	19) 5.8V
6) 12.0V	20) 5.0V
7) 10.9V	21) 3.9V
8) Gnd	22) 2.9V
9) 16.0V	23) 6.0V
10) 10.1V	24) Gnd
11) 8.2V	25) 2.2V
12) 7.7V	26) 0.3V
13) 3.3V	27) 2.2V
14) 3.3V	28) 6.9V

12) 47GA6400 Interconnect

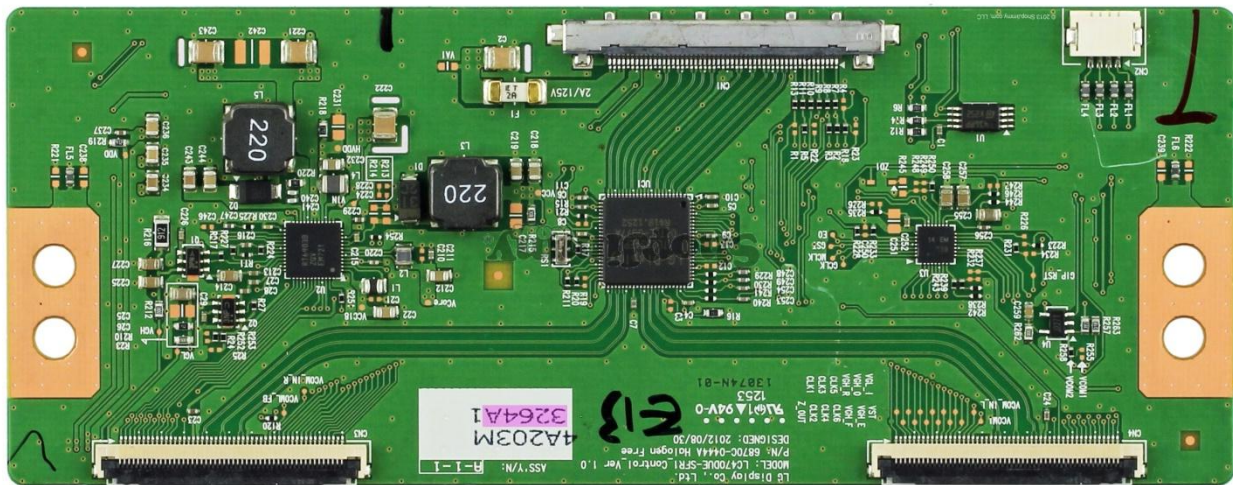
TV Models: LG 47GA6400

PANEL P/N: EAJ62270801

Part Number: 6871L-3264A

T-con Board P/N: 6870C-0444A

DESC or Panel Sticker Number: LC470EUN-SFF2 (DESC: LC470DUE-SFR1)



Warning: Return the screws when servicing the T-CON board with shields removed.

Note: Concerning Quick Start

If Quick Start is turned on in the Options Menu, T-CON 12V will be available during STBY, but there will be no video to process. Also, no Backlight.

CN2: Global Dimming

Pin Label

(1) Scan 1, (2) Scan 2, (3) Scan 3, (4) GND

Note: Pins are inverted on inverter.

CN4 "INV Board" to "T-CON" CN2

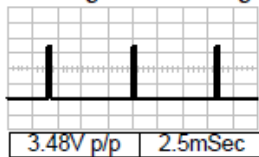
PIN	LABEL	RUN	Diode Check
1	Gnd	Gnd	Gnd
2	Scan 3	0.14V~3.23V	OL
3	Scan 2	0.14V~3.23V	OL
4	Scan 1	0.14V~3.23V	OL

Note: Used for Dimming, See P-DIM.

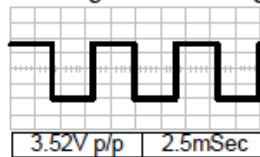
Pins are inverted on T-CON

Scan 1-3 From the T-CON to the Inverter board (120Hz) For Dimming.

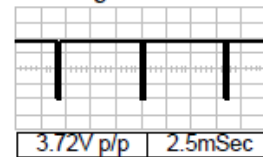
LED Drive Signal 0% Backlights



LED Drive Signal 50% Backlights

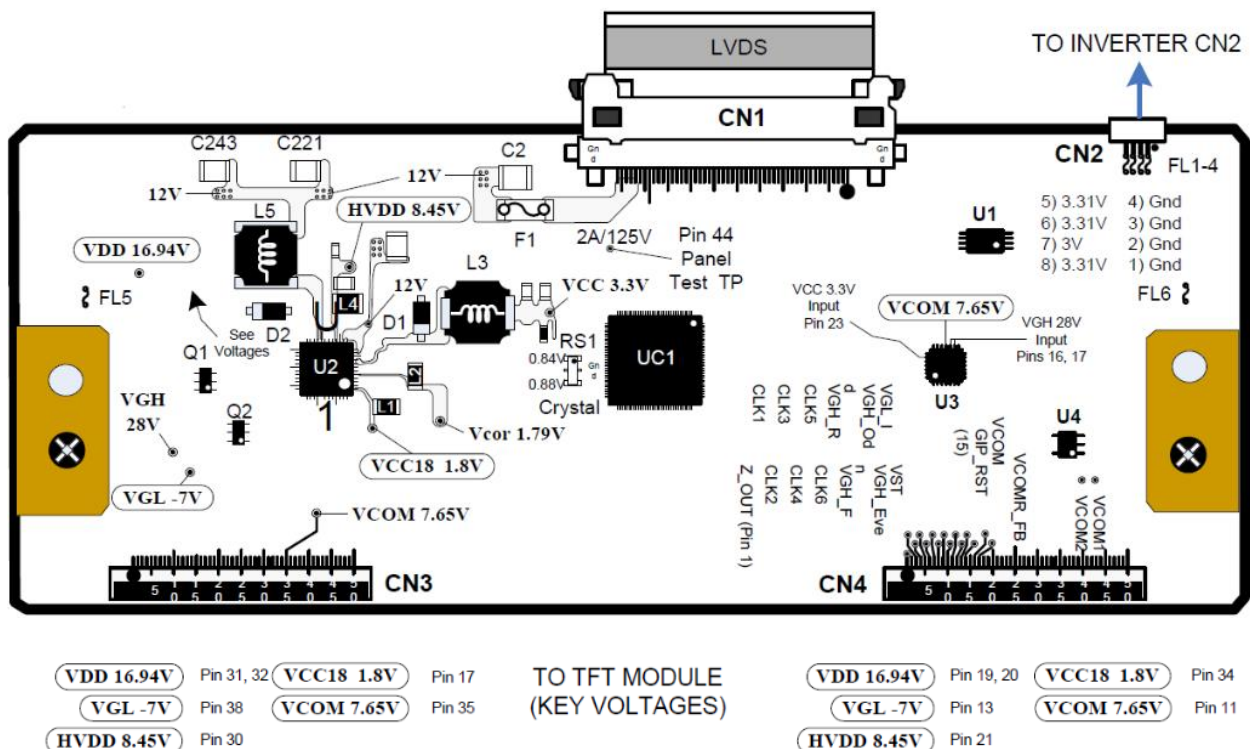


LED Drive Signal 100% Backlights



PANEL Test:

To run the T-CON "Panel Test", remove the LVDS cable CN1. Jump 12V to the 12V fuse on T-con board. Jump VCC 3.3V to pin-44 on CN1. White, Red, Blue, Green and Black patterns show on screen.



Additional Voltages from U3 to the Panel with no silk screen labels:

U10 pin 1 (7.76V) CN4 pin 48 CN5 pin 3
 U10 pin 2 (7.74V) CN4 pin 47 CN5 pin 4
 U10 pin 3 (7.75V) CN4 pin 46 CN5 pin 5
 U10 pin 4 (7.74V) CN4 pin 45 CN5 pin 6
 U10 pin 5 (7.76V) CN4 pin 44 CN5 pin 7

U10 pin 6 (7.74V) CN4 pin 43 CN5 pin 8
 U10 pin 8 (27.9V) CN4 pin 42 CN5 pin 9
 U10 pin 9 (-6.97V) CN4 pin 41 CN5 pin 10
 U10 pin 10 (-6.95V to 27.9V) CN4 pin 40 CN5 pin 11
 U10 pin 11 (-6.95V to 27.9V) CN4 pin 39 CN5 pin 12

Q1

4) 12.98V 3) 16.93V
 5) 12.98V 2) 16.38V
 6) 27.95V 1) 20.2V

Q2

4) (-7V) 3) (-2.19V)
 5) 2.97V 2) 1.18V
 6) 2.97V 1) 0.55V

U3 DC-to-DC

Panel Power Level Shifter	
Pin	Pin
[1] 7.76V (GCLK1)	[15] (-6.97) (VGL)
[2] 7.74V (GCLK2)	[16] 27.96V (VGH)
[3] 7.75V (GCLK3)	[17] 27.96V (VGH)
[4] 7.74V (GCLK4)	[18] 7.65V (V_COM)
[5] 7.76V (GCLK5)	[19] 7.65V
[6] 7.74V (GCLK6)	[20] 7.62V
[7] 2.5V	[21] 16.9V
[8] 27.9V (VGH_R)	[22] Gnd
[9] (-6.97) (VGH_F)	[23] 3.3V (VCC)
[10] *(-6.95V to 27.9V) (VGH_ODD)	[24] 0V
[11] *(-6.95V to 27.9V) (VGH_EVEN)	[25] 0V
[12] (-6.91) (VST)	[26] 0.7V
[13] (-6.88) (GIP_RST)	[27] 1.27V
[14] (-6.97)	[28] 3.24V

* EVERY Second



U1 Buffer

Pin
[1] Gnd
[2] Gnd
[3] Gnd
[4] Gnd
[5] 3.31V
[6] 3.31V
[7] 3.31V
[8] 3.31V

Q1 VDD Rectifier

Pin
[1] 20.2V
[2] 16.38V
[3] 16.93V Output
[4] 12.98V
[5] 12.98V
[6] 12.95V

Q2 VGL Rectifier

Pin
[1] 0.56V
[2] 1.18V
[3] (-2.9V)
[4] (-7V) Output
[5] 2.97V
[6] 2.97V

U2 DC-to-DC

T-CON and Panel Power
DC-to-DC Conv

Pin	Pin
[1] 1.81V	[25] 4.95V
[2] 1.86V	[26] 0.53V
[3] Gnd	[27] 3.3V
[4] 3.3V	[28] 3.3V
[5] 1.79V	[29] 4.99V
[6] 1.81V	[30] 1.3V
[7] Gnd	[31] 16.4V
[8] 3.31V (VCC)	[32] 27.94V
[9] 3.31V (VCC)	[33] 5.69V
[10] 0V	[34] 8.21V
[11] 11.7V (Panel_VCC)	[35] (-6.98V) (VGL_FB)
[12] 11.7V (Panel_VCC)	[36] 1.19V
[13] 11.7V (Panel_VCC)	[37] 13.86V
[14] 11.7V (Panel_VCC)	[38] 12.85V
[15] 8.45V (H_VDD)	[39] 10.91V
[16] 8.44V (H_VDD_FB)	[40] 6.55V
[17] Gnd	[41] 4.6V
[18] Gnd	[42] 3.5V
[19] Gnd	[43] 7.65V
[20] 11.7V (Panel_VCC)	[44] 7.64V
[21] 11.7V (Panel_VCC)	[45] 7.63V
[22] 16.97V	[46] 7.61V (VCOM_RFB)
[23] 16.97V (VDD)	[47] 1.61V
[24] Gnd	[48] Gnd

13) 47LB6000 Interconnect

TV Models: LG 47LB6000

PANEL P/N: EAJ63007701

Part Number: 6871L-3744A

T-con Board P/N: 6870C-0481A

DESC or Panel Sticker Number: V14 60Hz 1GID

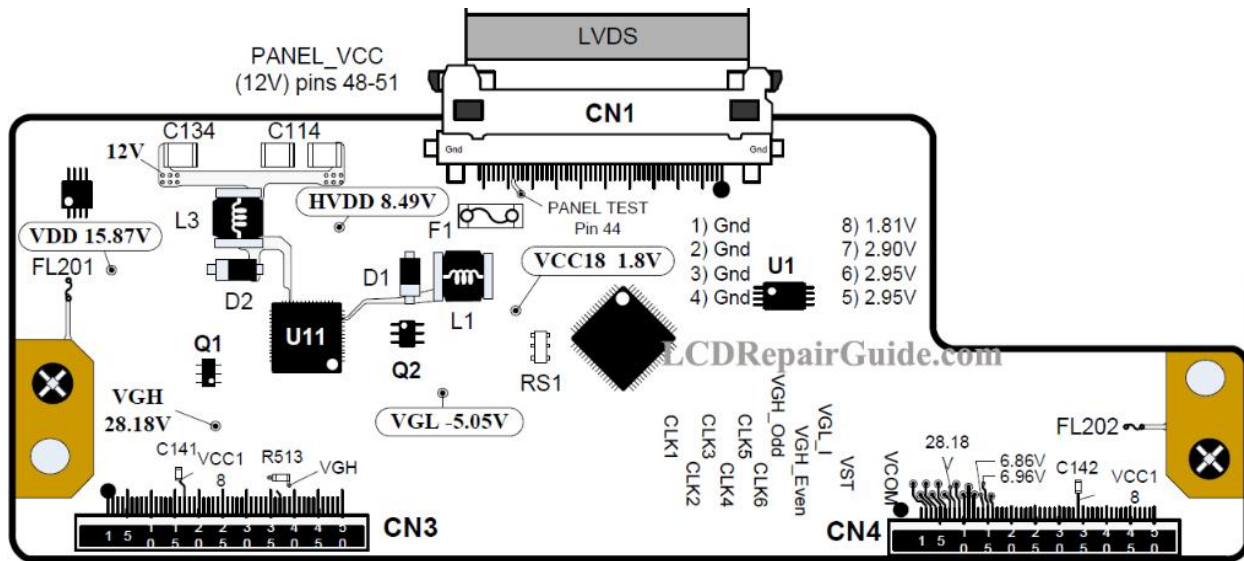


Warning:

Be sure to install the screws in the T-CON board before applying power. Damage to the board will occur.

PANEL Test:

To run the T-CON “Panel Test”, use the Smart Test Jig or remove the LVDS cables. Jump 12V to the 12V fuses. Apply 3.3V to pin-44 on CN1. White, Red, Blue, Green and Black patterns show on screen.



TO TFT PANEL (KEY VOLTAGES)

VDD 15.87V	Pin 32, 33	VCC18 1.8V	Pin 17	VDD 15.87V	Pin 18, 19	VCC18 1.8V	
VGL -5.11V	Pin 38	VGH 28.18V	Pin 8	VGL -5.11V	Pin 11	VGH 28.18V	
HVDD 8.49V	Pin 31			HVDD 8.49V	Pin 20		

CN3

OTHER VOLTAGES

CN4

**VGH_ODD and *VGH_EVEN
cycle between -5.09V to 28.14V
every second.*

Pin 8	VGH (U11 pin 42, 43) 28.18V	Pin 43
Pin 9	*VGH_ODD (U11 pin 47) -5.09V to 28.14V	Pin 42
Pin 10	*VGH_EVEN (U11 pin 46) -5.09V to 28.14V	Pin 41
Pin 12	VST (U11 pin 45) -5.09V	Pin 39
Pin 18-19	VDD (U11 pin 28) 16.88V	Pin 32-33

Q1

Q2

4) 14.03V	3) 15.99V
5) 14.03V	2) 15.33V
6) 28.17V	1) 21.19V

1) 2.29V	6) 5.0V
2) 2.83V	5) 5.0V
3) 0.1V	4) (-5.05V)

14) 47LG90 Interconnect

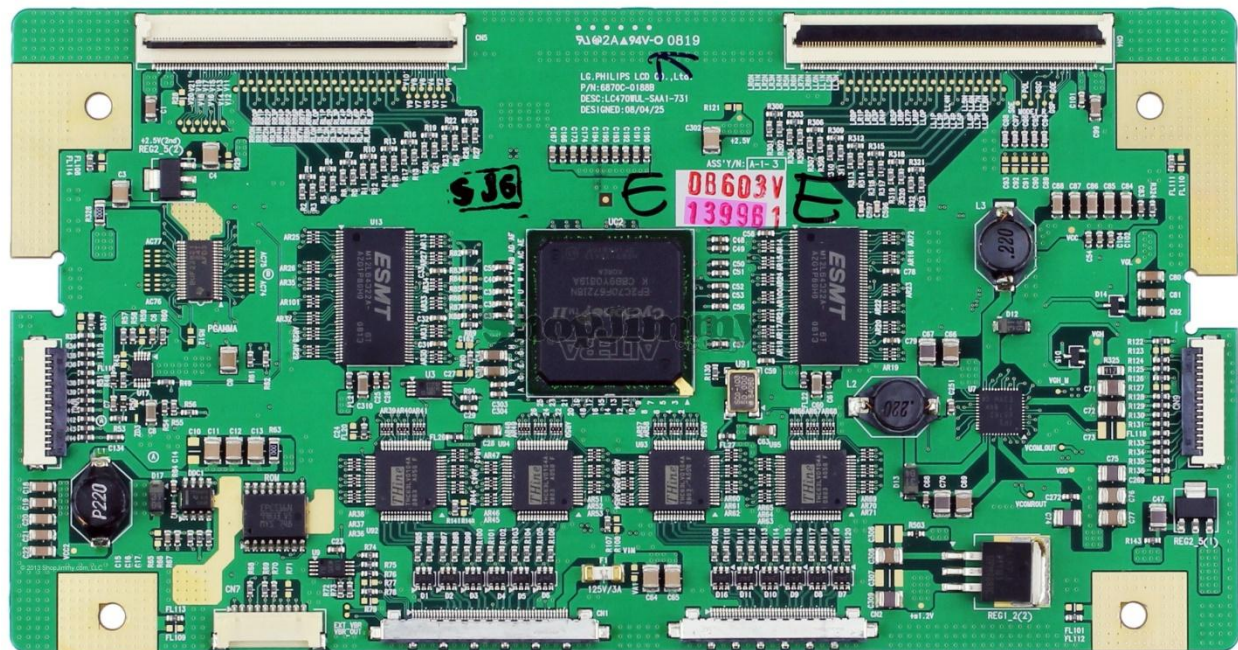
TV Models: LG 47LG90

PANEL P/N:

Part Number: 6871L-1399B

T-con Board P/N: 6870C-0188B

DESC or Panel Sticker Number: LC470WUL-SAA1-731

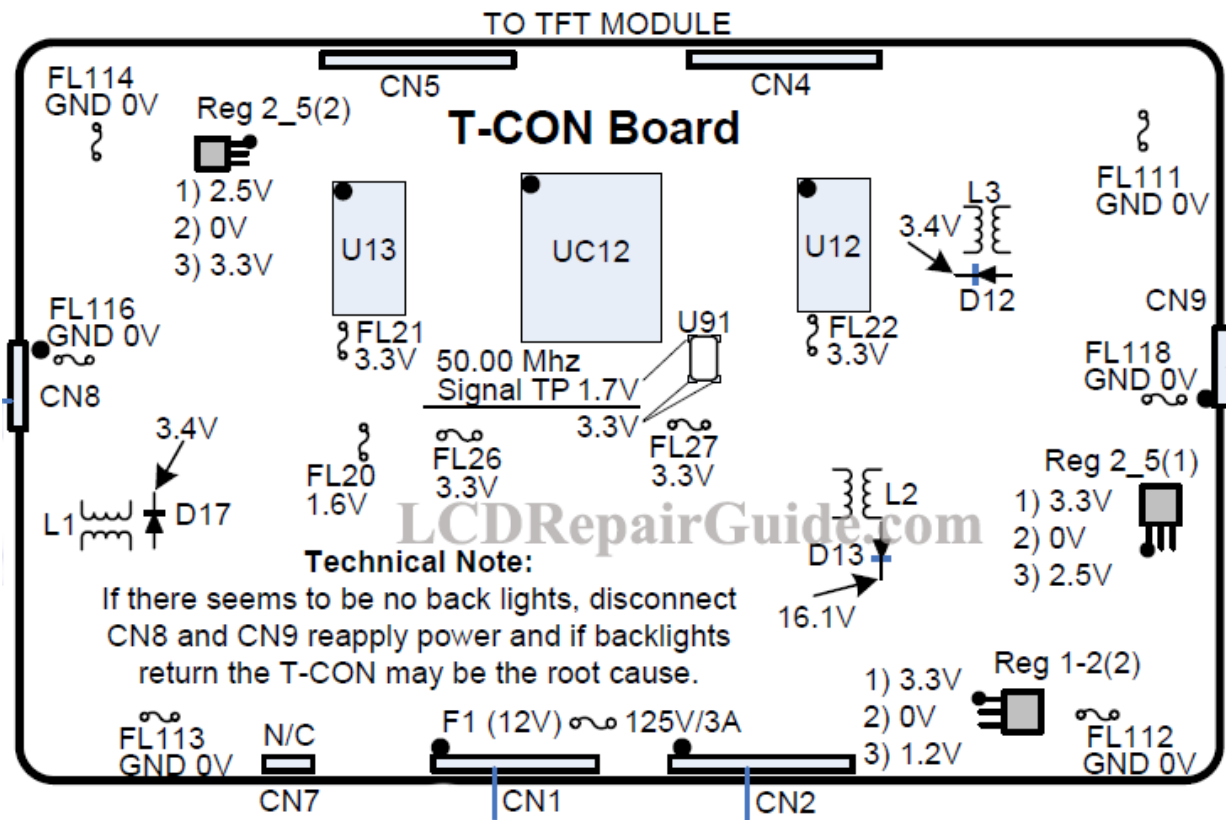


Warning:

T-CON Board under shield. Be sure to reinsert screws before operating set with shield removed.

Technical Note:

If there seems to be no back lights, disconnect CN8 and CN9 reapply power and if backlights return the T-CON may be the root cause.



CN304 INVERTER "M" TO CN8 "T-CON"

CN304

CN8

Pin	Label	STBY	Run	Diode Check	Pin
1,2,3	Gnd	Gnd	Gnd	Gnd	14,15,16
4	EXT_VBR_B	0V	.3/3.4V	Open	13
5	Gnd	Gnd	Gnd	Gnd	12
6	AFLC_SPI_EN	0V	0.1V	1.0V	11
7	AFLC_DET	0V	0V	1.1V	10
8	VBR_LAT	0V	0V	Open	9
9	VBR_SIN	0V	0V	Open	8
10	VBR_SCLK	0V	0V	Open	7
11	DRV_XLATO	0V	0V	1.0V	6
12	n/c	n/c	n/c	Open	5
13	DRV_SIN0	0V	1V	1.0V	4
14	DRV_SCLK0	0V	1V	1.0V	3
15	DRV_BLK0	0V	0V	0.9V	2
16	DRV_GSCLK0	0V	1.7V	0.9V	1

CN804 INVERTER “S” TO CN9 “T-CON”

CN9						CN804
Pin	Label	STBY	Run	Diode Check	Pin	
14,15,16	Gnd	Gnd	Gnd	Gnd	1,2,3	
13	n/c	n/c	n/c	Open	4	
12	n/c	n/c	Gnd	Gnd	5	
11	AFLC_SPI_EN	0V	0.13V	1.0V	6	
10	AFLC_DET	0V	0V	1.1V	7	
9	VBR_LAT	0V	0V	Open	8	
8	VBR_SIN	0V	0V	Open	9	
7	VBR_SCLK	0V	0V	Open	10	
6	DRV_XLATO	0V	0V	1.0V	11	
5	n/c	n/c	n/c	Open	12	
4	DRV_SIN0	0V	1V	1.0V	13	
3	DRV_SCLK0	0V	1V	1.0V	14	
2	DRV_BLK0	0V	0V	0.9V	15	
1	DRV_GSCLK0	0V	1.7V	0.9V	16	

15) 47LH85 Interconnect

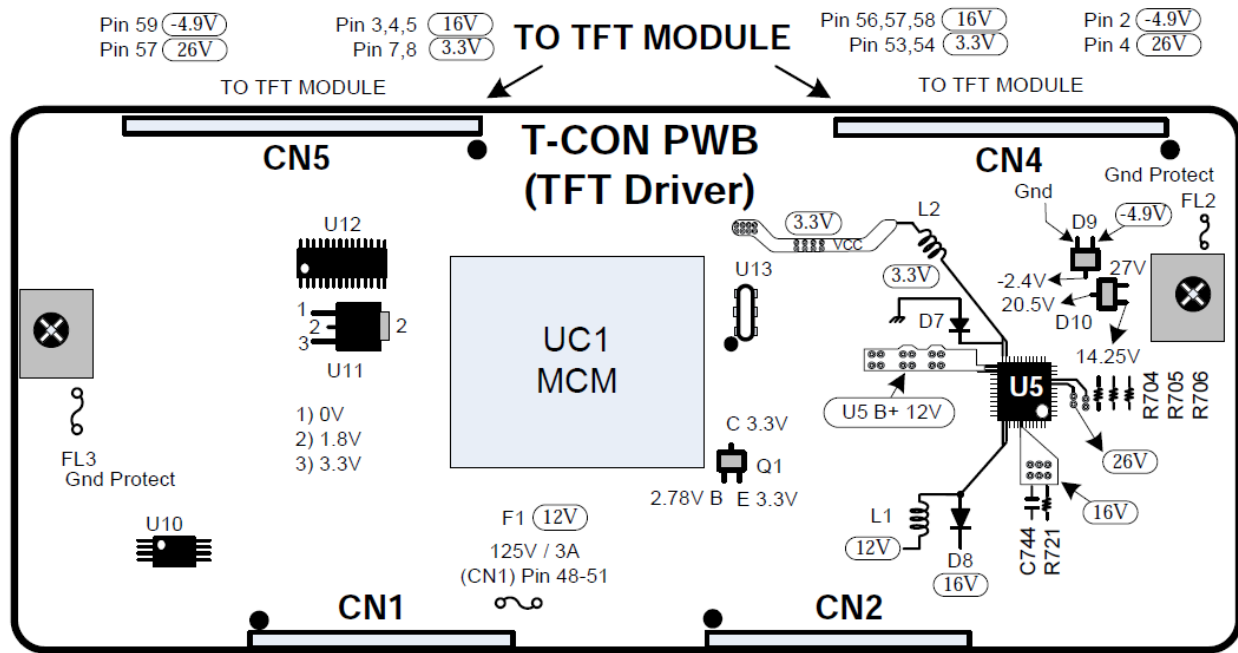
TV Models: LG 47LF7700, LG 47LH85

PANEL P/N:

Part Number: 6871L-4470F

T-con Board P/N: 6870C-4000H

DESC or Panel Sticker Number: LC470WUF-SBB1 (DESC:
LC320/420/470/550WU_120Hz CONTROL)



16) 47LN5750 Interconnect

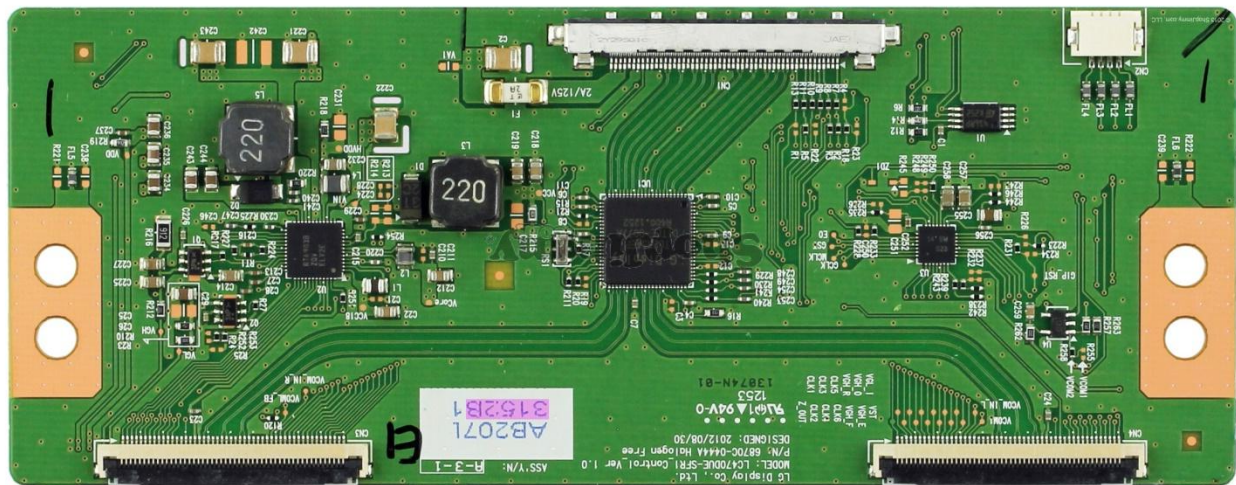
TV Models: LG 47LN5200_5400_5700_5750_5790

PANEL P/N: EAJ62310101

Part Number: 6871L-3152B

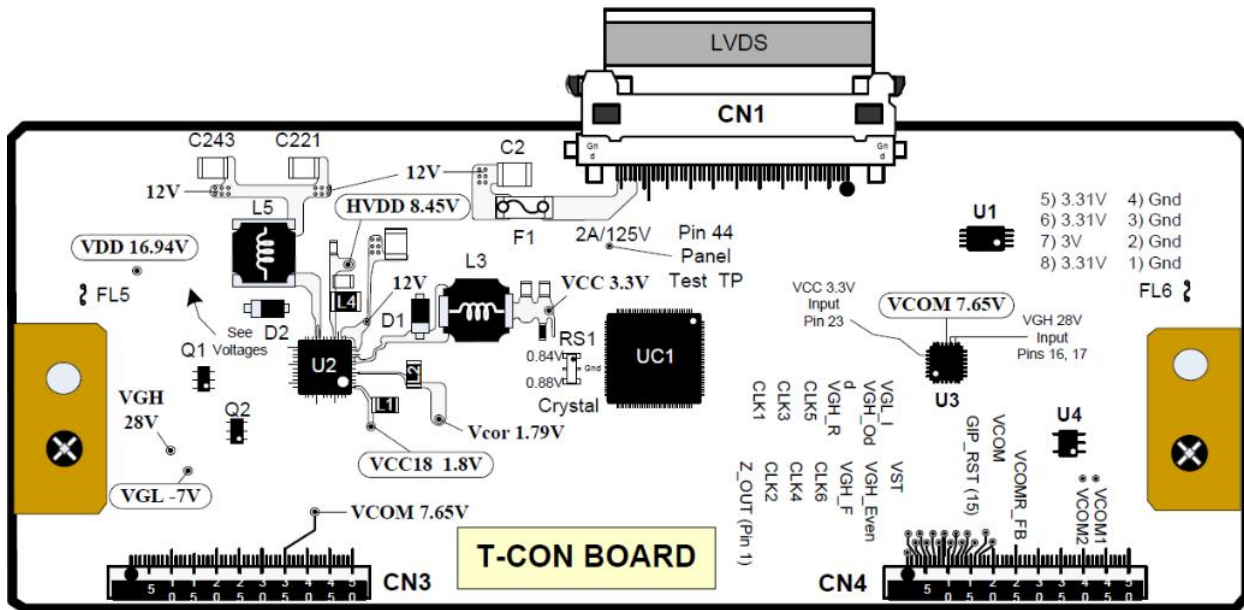
T-con Board P/N: 6870C-0444A

DESC or Panel Sticker Number: LC470DUE-SFU1 (DESC: LC470DUE-SFR1)



PANEL Test:

To run the T-CON “Panel Test”, remove the LVDS cables. Jump 12V to the 12V fuse. Jump VCC 3.3V to pin-44 on CN1. White, Red, Blue, Green and Black patterns show on screen.



VDD 16.94V	Pin 31, 32	VCC18 1.8V	Pin 17	TO TFT MODULE	VDD 16.94V	Pin 19, 20	VCC18 1.8V	Pin 34
VGL -7V	Pin 38	VCOM 7.65V	Pin 35	(KEY VOLTAGES)	VGL -7V	Pin 13	VCOM 7.65V	Pin 11
HVDD 8.45V	Pin 30				HVDD 8.45V	Pin 21		

Additional Voltages from U3 to the Panel with no silk screen labels:

U3 pin 1 (7.76V)	CN4 pin 48	CN5 pin 3	U3 pin 6 (7.74V)	CN4 pin 43	CN5 pin 8
U3 pin 2 (7.74V)	CN4 pin 47	CN5 pin 4	U3 pin 8 (27.9V)	CN4 pin 42	CN5 pin 9
U3 pin 3 (7.75V)	CN4 pin 46	CN5 pin 5	U3 pin 9 (-6.97V)	CN4 pin 41	CN5 pin 10
U3 pin 4 (7.74V)	CN4 pin 45	CN5 pin 6	U3 pin 10 (-6.95V to 27.9V)	CN4 pin 40	CN5 pin 11
U3 pin 5 (7.76V)	CN4 pin 44	CN5 pin 7	U3 pin 11 (-6.95V to 27.9V)	CN4 pin 39	CN5 pin 12

Q1

4) 12.98V	3) 16.93V
5) 12.98V	2) 16.38V
6) 27.95V	1) 20.2V

Q2

4) (-7V)	3) (-2.19V)
5) 2.97V	2) 1.18V
6) 2.97V	1) 0.55V

U1

Buffer

Pin	
1	Gnd
2	Gnd
3	Gnd
4	Gnd
5	3.31V
6	3.31V
7	3.31V
8	3.31V

Q1

VDD Rectifier

Pin	
1	20.2V
2	16.38V
3	16.93V Output
4	12.98V
5	12.98V
6	12.95V

Q2

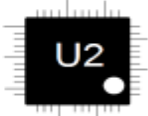
VGL Rectifier

Pin	
1	0.56V
2	1.18V
3	(-2.9V)
4	(-7V) Output
5	2.97V
6	2.97V

U3 DC-to-DC

Panel Power Level Shifter		
Pin		Pin
[1] 7.76V (GCLK1)		[15] (-6.97) (VGL)
[2] 7.74V (GCLK2)		[16] 27.96V (VGH)
[3] 7.75V (GCLK3)		[17] 27.96V (VGH)
[4] 7.74V (GCLK4)		[18] 7.65V (V_COM)
[5] 7.76V (GCLK5)		[19] 7.65V
[6] 7.74V (GCLK6)		[20] 7.62V
[7] 2.5V		[21] 16.9V
[8] 27.9V (VGH_R)		[22] Gnd
[9] (-6.97) (VGH_F)		[23] 3.3V (VCC)
[10] *(-6.95V to 27.9V) (VGH_ODD)		[24] 0V
[11] *(-6.95V to 27.9V) (VGH_EVEN)		[25] 0V
[12] (-6.91) (VST)		[26] 0.7V
[13] (-6.88) (GIP_RST)		[27] 1.27V
[14] (-6.97)		[28] 3.24V
* EVERY Second		

U2 DC-to-DC

T-CON and Panel Power DC-to-DC Conv		
Pin		Pin
[1] 1.81V		[25] 4.95V
[2] 1.86V		[26] 0.53V
[3] Gnd		[27] 3.3V
[4] 3.3V		[28] 3.3V
[5] 1.79V		[29] 4.99V
[6] 1.81V		[30] 1.3V
[7] Gnd		[31] 16.4V
[8] 3.31V (VCC)		[32] 27.94V
[9] 3.31V (VCC)		[33] 5.69V
[10] 0V		[34] 8.21V
[11] 11.7V (Panel_VCC)		[35] (-6.98V) (VGL_FB)
[12] 11.7V (Panel_VCC)		[36] 1.19V
[13] 11.7V (Panel_VCC)		[37] 13.86V
[14] 11.7V (Panel_VCC)		[38] 12.85V
[15] 8.45V (H_VDD)		[39] 10.91V
[16] 8.44V (H_VDD_FB)		[40] 6.55V
[17] Gnd		[41] 4.6V
[18] Gnd		[42] 3.5V
[19] Gnd		[43] 7.65V
[20] 11.7V (Panel_VCC)		[44] 7.64V
[21] 11.7V (Panel_VCC)		[45] 7.63V
[22] 16.97V		[46] 7.61V (VCOM_RFB)
[23] 16.97V (VDD)		[47] 1.61V
[24] Gnd		[48] Gnd

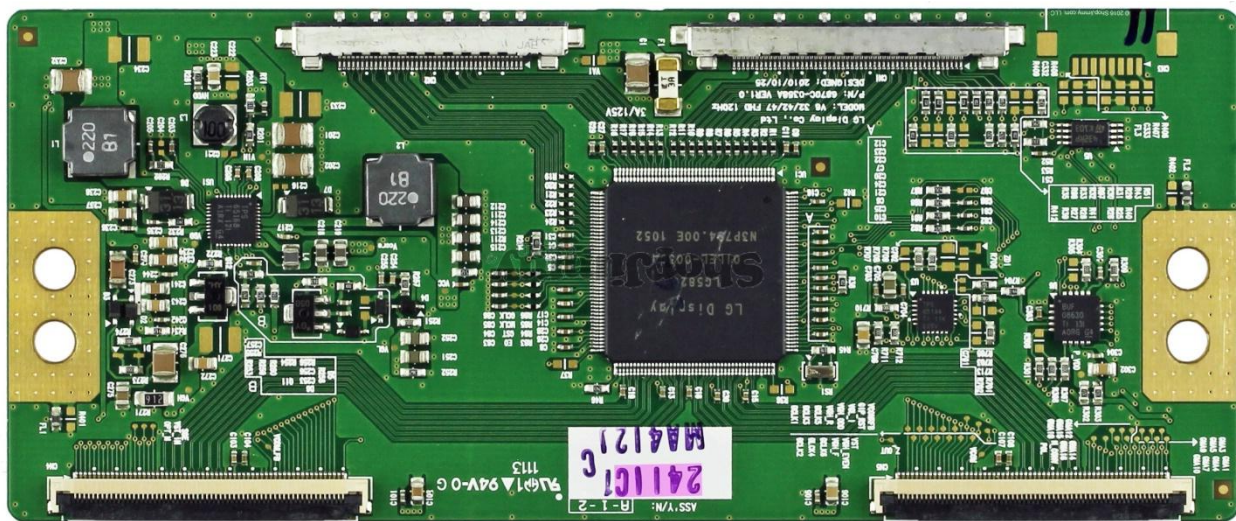
17) 47LW5600 Interconnect

TV Models: LG 47LS4500_47LV550_47LV5500_47LW5300_47LW5600, LG 47LW5700 , LG 47LW6500

Part Number: 6871L-2411C (Substitute: 6871L-2693A)

T-con Board P/N: 6870C-0358A

DESC or Panel Sticker Number: LC470EUF-SDF2 (DESC: V6 32/42/47 FHD 120Hz)

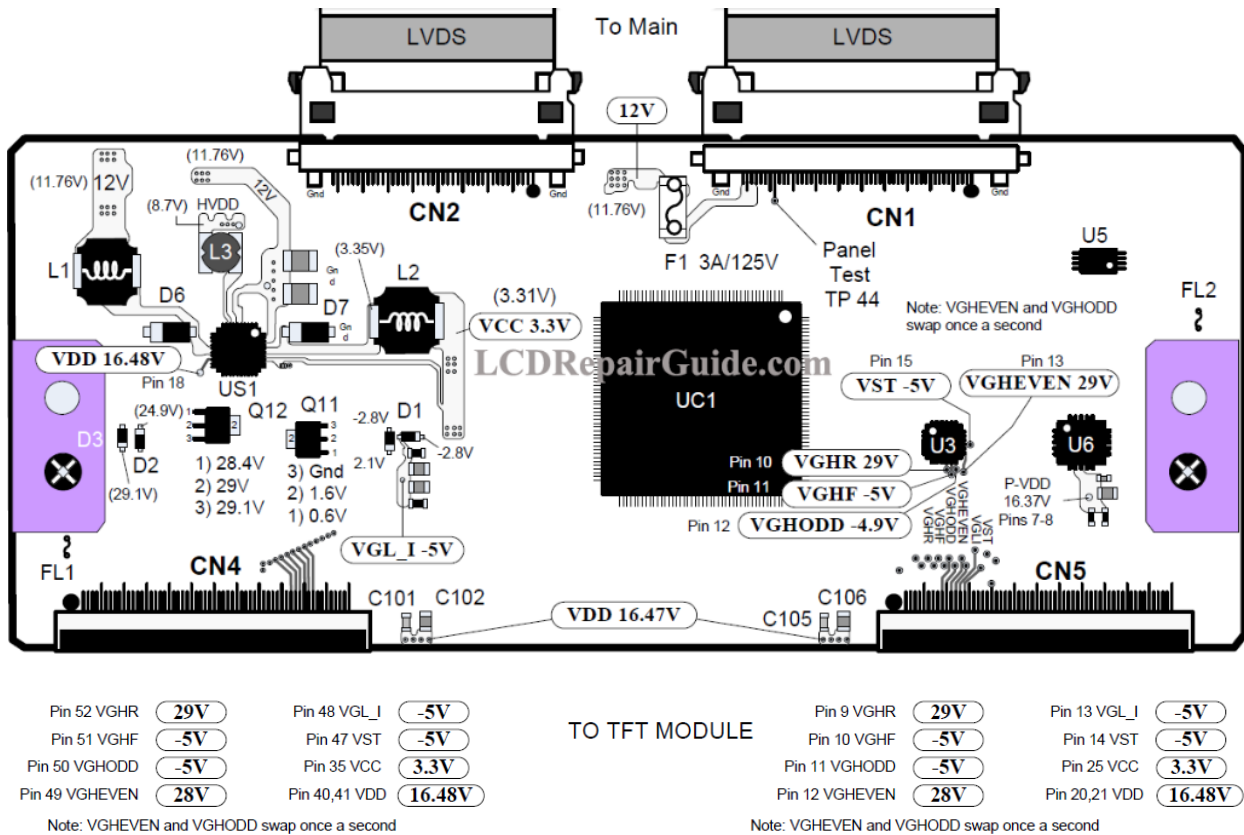


Warning:

T-CON Board under shield. Be sure to reinsert screws before operating set with shield removed.

PANEL Test:

To run the T-CON “Panel Test”, remove the LVDS cables. Jump 12V to the 12V fuse. Jump VCC 3.3V to pin-44 on CN1. White, Red, Blue, Green and Black patterns show on screen.



Other Voltages from U6 to the Panel with no silk screen labels:

- | | |
|--|--|
| U6 pin 11: (13V) to CN4 pin 3, CN5 pin 58 | U6 pin 15: (4.3V) to CN4 pin 9, CN5 pin 52 |
| U6 pin 12: (12.1V) to CN4 pin 4, CN5 pin 57 | U6 pin 18: (3.3V) to CN4 pin 10, CN5 pin 51 |
| U6 pin 13: (10.25V) to CN4 pin 5, CN5 pin 56 | U6 pin 19: (2.65V) to CN4 pin 11, CN5 pin 50 |
| U6 pin 14: (6.17V) to CN4 pin 8, CN5 pin 53 | U6 pin 20: (16.37V) to CN4 pin 40,41, CN5 pin 20, 21 |

U5

- | | |
|--------|----------|
| 5) Gnd | 4) 3.31V |
| 6) Gnd | 3) 3.3V |
| 7) Gnd | 2) 2.95V |
| 8) Gnd | 1) 3.3V |

18) 47LX6500 Interconnect

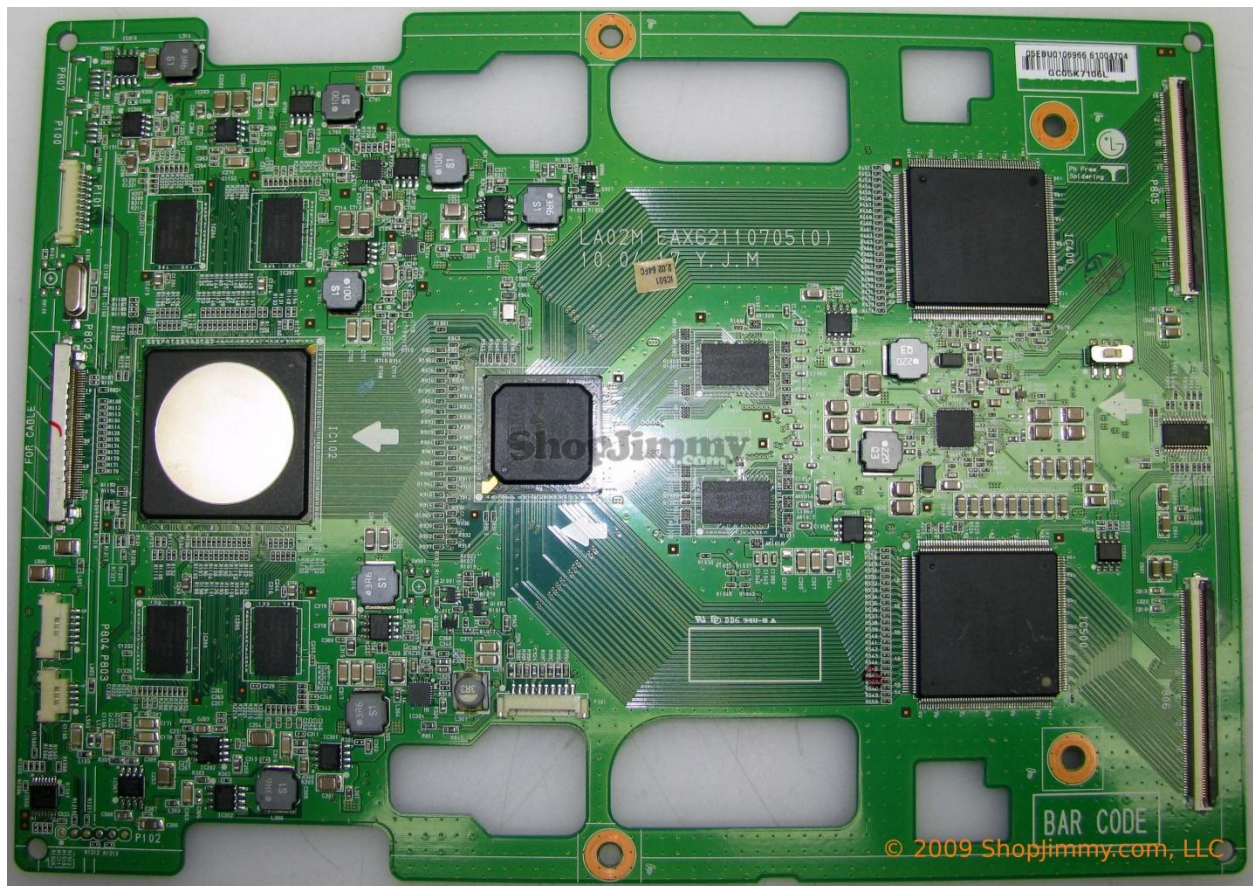
TV Models: LG 47LX6500

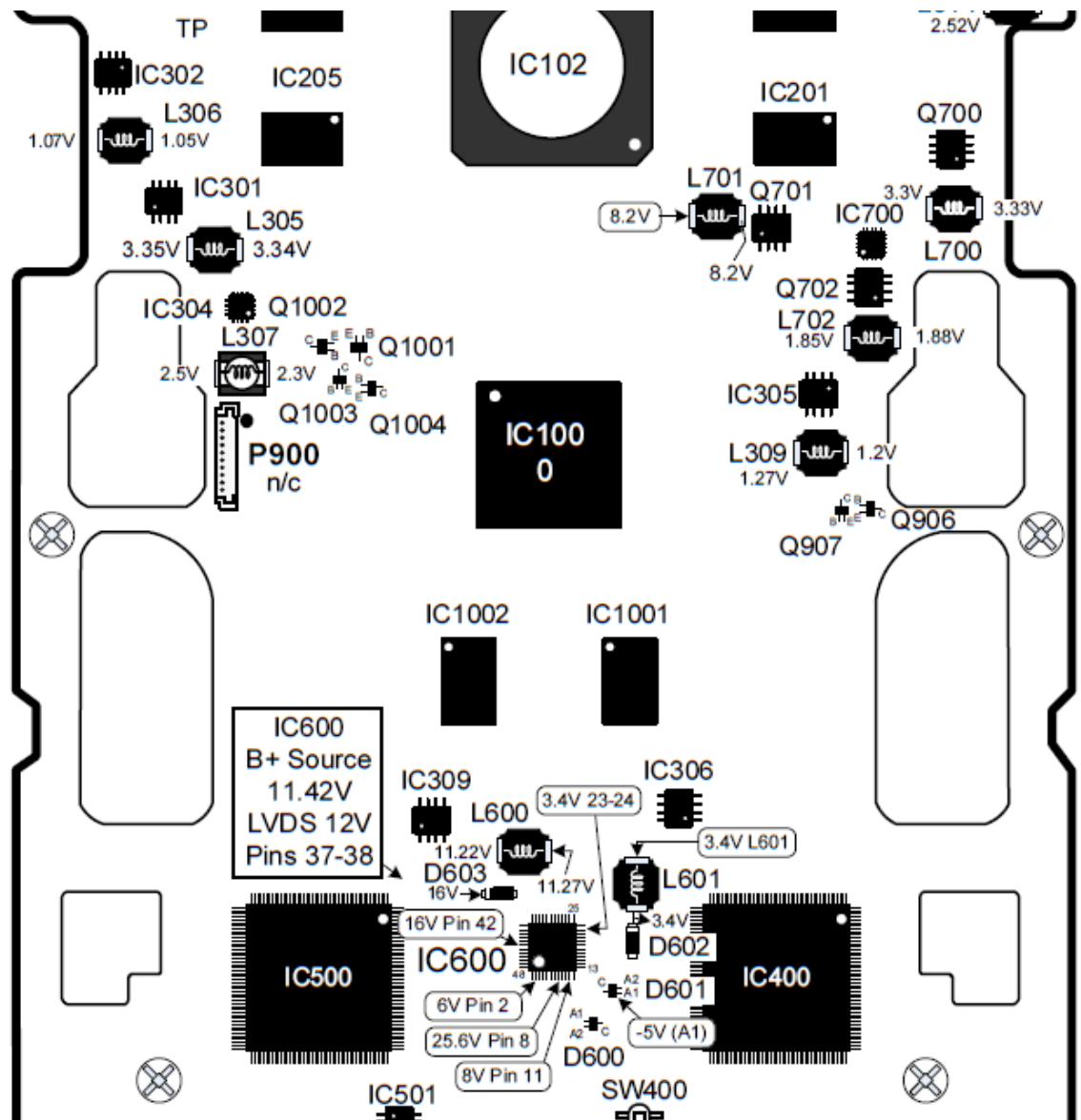
PANEL P/N:

Part Number: EBR61004704

T-con Board P/N: EAX62110705 (0)

DESC or Panel Sticker Number: LC470EUS-SCA1





P7800 "MAIN Board" To "T-CON" P802

Pin	Label	Run	Diode	Pin	Label	Run	Diode
1	PANEL_VCC	12.18V	3.02V	18	Gnd	Gnd	Gnd
2	PANEL_VCC	12.18V	3.02V	19	RRXB2+	1.14V	0.91V
3	PANEL_VCC	12.18V	3.02V	20	RRXB2-	1.2V	1.08V
4	PANEL_VCC	12.18V	3.02V	21	RRXB1+	1.16V	0.91V
5	n/c	n/c	n/c	22	RRXB1-	1.19V	1.08V
6	Gnd	Gnd	Gnd	23	RRXB0+	1.19V	0.91V
7	Gnd	Gnd	Gnd	24	RRXB0-	1.19V	1.08V
8	Gnd	Gnd	Gnd	25	n/c	n/c	n/c
9	Gnd	Gnd	Gnd	26	Gnd	Gnd	Gnd
10	Gnd	Gnd	Gnd	27	RRXA4+	1.08V	0.91V
11	RRXB4+	1.09V	0.91V	28	RRXA4-	1.26V	1.08V
12	RRXB4-	1.26V	1.08V	29	RRXA3+	1.14V	0.91V
13	RRXB3+	1.14V	0.91V	30	RRXA3-	1.2V	1.08V
14	RRXB3-	1.22V	1.08V	31	Gnd	Gnd	Gnd
15	Gnd	Gnd	Gnd	32	RRXACK+	1.2V	0.91V
16	RRXBCK+	1.2V	0.91V	33	RRXACK-	1.16V	1.08V
17	RRXBCK-	1.16V	1.08V	34	Gnd	Gnd	Gnd

Pin	Label	Run	Diode
35	RRXA2+	1.14V	0.91V
36	RRXA2-	1.22V	1.15V
37	RRXA1+	1.17V	0.91V
38	RRXA1-	1.19V	1.08V
39	RRXA0+	1.19V	0.91V
40	RRXA0-	1.17V	1.08V
41	n/c	n/c	n/c
42	3D_DIM_2	0.05V	1.03V
43	3D_DIM	0V	1.03V
44	3DTV	0V	Open
45	n/c	n/c	n/c
46	FRC_RESET	3.32V	Open
47	SCL3_3.3V	3.34V	2.99V
48	SDA3_3.3V	3.34V	2.99V
49	V_SYNC	3.33V	1.0V
50	3D_Sync_Out	0.03V	0.99V
51	Gnd	Gnd	Gnd

P803 "T-CON" to P7802 "Main"

Pin	LABEL	Run	Diode
1	Panel_VCC	12.18V	Open
2	Panel_VCC	12.18V	Open
3	Gnd	Gnd	Gnd
4	Gnd	Gnd	Gnd

P804 "TCON" to P7803 "Main Board"

Pin	LABEL	Run	Diode
1	Gnd	Gnd	Gnd
2	E_TCK	0V	Open
3	E_TDO	3.29V	Open
4	E_TMS	3.29V	Open
5	E_TDI	3.29V	Open
6	Gnd	Gnd	Gnd

P802 Pin-2 (1.6V) with 3D source 3.32Vp/p 60Hz 3D-Sync:



P805 LVDS to Panel

PIN	LABEL	RUN	PIN	LABEL	RUN	PIN	LABEL	RUN
1	VDD (16V)	16V	28	V6	11.08V	54	RLMVCLKP	1.19V
2	VDD (16V)	16V	29	V7	10.28V	55	RLMVCLKN	1.18V
3	Gnd	Gnd	30	V9	8.31V	56	Gnd	Gnd
4	VCC (3.3V)	3.4V	31	V10	7.71V	57	RLMV4P	1.15V
5	VCC (3.3V)	3.4V	32	V12	3.37V	58	RLMV4N	1.24V
6	Gnd	Gnd	33	V13	4.94V	59	RLMV5P	1.34V
7	HVDD (8V)	8.2V	34	V14	3.75V	60	RLMV5N	1.22V
8	HVDD (8V)	8.2V	35	V15	2.68V	61	RLMV6P	1.12V
9	Gnd	Gnd	36	V16	1.97V	62	RLMV6N	1.23V
10	OPT_P	n/c	37	V17	0.27V	63	Gnd	Gnd
11	VGL(-5V)	(-5V)	38	V18	0.26V	64	RRMV0P	1.13V
12	Gnd	Gnd	39	Gnd	Gnd	65	RRMV0N	1.23V
13	GOE	0.83V	40	GSP	0V	66	RRMV1P	1.15V
14	GSC	2.3V	41	POL	1.66V	67	RRMV1N	1.23V
15	Gnd	Gnd	42	Gnd	Gnd	68	RRMV2P	1.15V
16	VGH (26V)	25.6V	43	SOE_R	0.25V	69	RRMV2N	1.23V
17	Gnd	Gnd	44	H_CONV	0.44V	70	Gnd	Gnd
18	VCOMRFB	6V	45	OPT_N	3.33V	71	RRMVCLKP	1.19V
19	VCOM ROUT	6V	46	Gnd	Gnd	72	RRMVCLKN	1.18V
20	Gnd	Gnd	47	RLMVOP	0.15V	73	Gnd	Gnd
21	Z_OUT	8V	48	RLMVON	0.17V	74	RRMV4P	1.13V
22	Gnd	Gnd	49	RLMV1P	0.14V	75	RRMV4N	1.24V
23	V1	15.75V	50	RLMV1N	1.24V	76	RRMV5P	1.11V
24	V2	15.75V	51	RLMV2P	1.13V	77	RRMV5N	1.12V
25	V3	14V	52	RLMV2N	1.22V	78	RRMV6P	1.12V
26	V4	13.35V	53	Gnd	Gnd	79	RRMV6N	1.22V
27	V5	12.27V				80	Gnd	Gnd

P806 LVDS to Panel

PIN	LABEL	RUN	PIN	LABEL	RUN	PIN	LABEL	RUN
1	Gnd	Gnd	28	Gnd	Gnd	54	V14	3.75V
2	LLMV0P	1.19V	29	LRMV4P	1.15V	55	V15	2.68V
3	LLMV0N	1.24V	30	LRMV4N	1.25V	56	V16	0.27V
4	LLMV1P	1.18V	31	LRMV5P	1.18V	57	V17	0.26V
5	LLMV1N	1.3V	32	LRMV5N	1.26V	58	V18	0.26V
6	LLMV2P	1.15V	33	LRMV6P	1.17V	59	Gnd	Gnd
7	LLMV2N	1.29V	34	LRMV6N	1.25V	60	Gnd	Gnd
8	Gnd	Gnd	35	Gnd	Gnd	61	Z_OUT	8V
9	LLMVCLKP	1.22V	36	OPT_N	3.33V	62	Gnd	Gnd
10	LLMVCLKN	1.23V	37	H_CONV	Gnd	63	VCOMLOUT	6V
11	Gnd	Gnd	38	GSP	0V	64	VCOMLFB	6V
12	LLMV4P	1.18V	39	POL	1.66V	65	Gnd	Gnd
13	LLMV4N	1.26V	40	Gnd	Gnd	66	VGH (26V)	25.6V
14	LLMV5P	1.26V	41	SOE_L	0.24V	67	Gnd	Gnd
15	LLMV5N	1.27V	42	Gnd	Gnd	68	GSC	2.3V
16	LLMV6P	1.16V	43	V1	15.75V	69	GOE	0.83V
17	LLMV6N	1.26V	44	V2	15.75V	70	Gnd	Gnd
18	Gnd	Gnd	45	V3	14V	71	VGL (5V)	(-5V)
19	LRMV0P	1.17V	46	V4	12.26V	72	Gnd	Gnd
20	LRMV0N	1.28V	47	V5	11.07V	73	HVDD (8V)	8.2V
21	LRMV1P	1.15V	48	V6	11.07V	74	HVDD (8V)	8.2V
22	LRMV1N	1.26V	49	V7	10.27V	75	Gnd	Gnd
23	LRMV2P	1.17V	50	V9	8.31V	76	VCC (3.3V)	3.4V
24	LRMV2N	1.27V	51	V10	5.74V	77	VCC (3.3V)	3.4V
25	Gnd	Gnd	52	V12	Gnd	78	Gnd	Gnd
26	LRMVCLKN	1.21V	53	V13	4.94V	79	VDD (16V)	16V
27	LRMVCLKP	1.23V				80	VDD (16V)	16V

LG 47LX6500 T-CON/3D Components Voltages

IC202



+1.8V
DDR
Reg

- 1) Gnd
- 2) 3.2V
- 3) 0.09V
- 4) 0.09V
- 5) 1.8V
- 6) 3.34V
- 7) 1.18V
- 8) 0.89V

IC203



+1.8V
DDRS
Reg

- 1) Gnd
- 2) 3.27V
- 3) 0.89V
- 4) 0.9V
- 5) 1.8V
- 6) 3.34V
- 7) 1.8V
- 8) 0.9V

IC301



+3.3V
Reg

- 1) 11.41V
- 2) 3.35V
- 3) 3.35V
- 4) 8.77V
- 5) 3.11V
- 6) 0.81V
- 7) 5.02V
- 8) Gnd

IC302



+1.0V
VDC
Reg

- 1) 0.8V
- 2) Gnd
- 3) 3.33V
- 4) 4.26V
- 5) 3.3V
- 6) 1.08V
- 7) 1.08V
- 8) 3.0V

IC304+2.5V
VQ
Reg

- 1) 0.75V
- 2) 5.0V
- 3) Gnd
- 4) 0V
- 5) 2.5V
- 6) 5.0V
- 7) 7.55V
- 8) 11.36V
- 9) 11.36V
- 10) 11.36V
- 11) 11.36V
- 12) 2.55V
- 13) Gnd
- 14) Gnd
- 15) 2.55V
- 16) Gnd
- 17) Gnd
- 18) Gnd
- 19) Gnd
- 20) 2.5V
- 21) 2.5V
- 22) n/c
- 23) 0V
- 24) 2.5V
- 25) n/c
- 26) Gnd
- 27) 1.13V
- 28) 10.99V

IC3061V2
Reg

- 1) n/c
- 2) 2.5V
- 3) 2.51V
- 4) n/c
- 5) n/c
- 6) 1.81V
- 7) 0.81V
- 8) Gnd

IC307+1.8V
DDR
Reg

- 1) n/c
- 2) 2.49V
- 3) 2.51V
- 4) n/c
- 5) n/c
- 6) 1.81V
- 7) 0.81V
- 8) Gnd

IC308+1.8V
DDRS
Reg

- 1) n/c
- 2) 2.47V
- 3) 2.49V
- 4) n/c
- 5) n/c
- 6) 1.8V
- 7) 0.8V
- 8) Gnd

IC600DC-DC
Conv

- | | |
|------------|------------|
| 1) 5.96V | 25) 11.38V |
| 2) 6.03V | 26) 11.38V |
| 3) 3.15V | 27) 11.07V |
| 4) 0.17V | 28) 0V |
| 5) 2.72V | 29) 4.24V |
| 6) 3.3V | 30) 1.9V |
| 7) 0V | 31) 0.59V |
| 8) 25.6V | 32) 3.3V |
| 9) 24.7V | 33) 3.13V |
| 10) 1.26V | 34) 0V |
| 11) Gnd | 35) 0V |
| 12) 5.54V | 36) 0V |
| 13) 0V | 37) 11.33V |
| 14) 0V | 38) 11.37V |
| 15) Gnd | 39) n/c |
| 16) 0V | 40) n/c |
| 17) 1.26V | 41) 1.27V |
| 18) 4.24V | 42) 16V |
| 19) Gnd | 43) 5.96V |
| 20) Gnd | 44) 5.96V |
| 21) 1.27V | 45) 5.96V |
| 22) 11.45V | 46) 5.96V |
| 23) 3.4V | 47) Gnd |
| 24) 3.4V | 48) 5.97V |

IC3051V2
Reg

- 1) 0.8V
- 2) Gnd
- 3) 3.32V
- 4) 4.32V
- 5) 3.3V
- 6) 1.22V
- 7) 1.22V
- 8) 2.98V

IC309DDR
VTT
Reg

- 1) Gnd
- 2) 3.26V
- 3) 0.89V
- 4) 0.9V
- 5) 1.8V
- 6) 3.34V
- 7) 1.8V
- 8) 0.9V

IC3102V5
Reg

- 1) 11.41V
- 2) 2.53V
- 3) 2.53V
- 4) 7.97V
- 5) 3.11V
- 6) 0.8V
- 7) 5.07V
- 8) Gnd

	IC801  Data Buffer	1) 8.01V 2) 15.7V 3) 15.7V 4) 14.05V 5) 13.35V 6) 12.27V 7) 11.07V 8) Gnd 9) 16.02V 10) 10.28V 11) 8.31V 12) 7.72V 13) 3.33V 14) 3.33V 15) 3.33V 16) Gnd 17) 0V 18) Gnd 19) 4.94V 20) 3.75V 21) 2.67V 22) 16.02V 23) 0V 24) Gnd 25) 0.27V 26) 0.27V 27) 0.25V 28) 5.96V	Q700  +3.3V TCON Reg	1) Gnd 2) 3.26V 3) 3.33V 4) 4.79V 5) 11.42V 6) 11.42V 7) 3.34V 8) 3.34V	Q803  B) 2.52V E) 2.52V C) 2.27V
IC701  DC-DC Conv For HVDD			Q701  +8.2V HVDD Reg	1) Gnd 2) 1.42V 3) 8.16V 4) 11.7V 5) 11.42V 6) 11.42V 7) 8.2V 8) 8.2V	Q804  B) 2.52V E) 2.52V C) 2.27V
			Q702  +1.8V TCON Reg	1) Gnd 2) 4.27V 3) 1.89V 4) 2.72V 5) 11.41V 6) 11.41V 7) 0V 8) 1.89V	Q906  B) 0.61V E) Gnd C) 0.03V
			D600  A1) 16V A2) 25.6V C) 20.68V		Q907  B) 0.0V E) Gnd C) 1.9V
					Q1001  B) 0V E) Gnd C) 1.97V
					Q1002  B) 0.6V E) Gnd C) 0.02V
					Q1003  B) 0.59V E) Gnd C) 0.02V
					Q1004  B) 0.02V E) Gnd C) 3.33V

19) 47LX9500 Interconnect

TV Models: LG 47LX9500

PANEL P/N:

Part Number: EBU0107348, 61004703

T-con Board P/N: EAX61764003(3)

DESC or Panel Sticker Number: LX95M47T480V5 (DESC: LA02M)

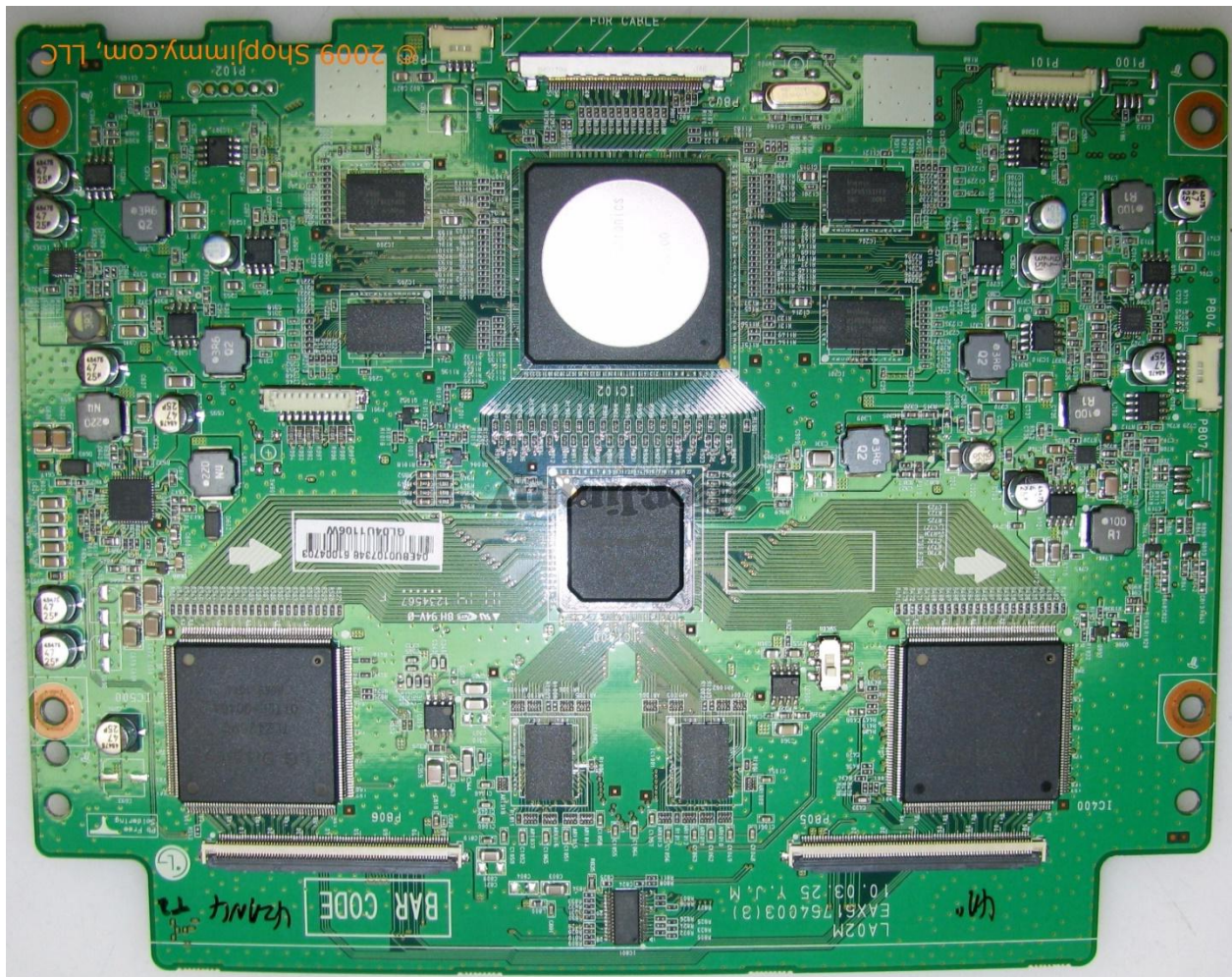
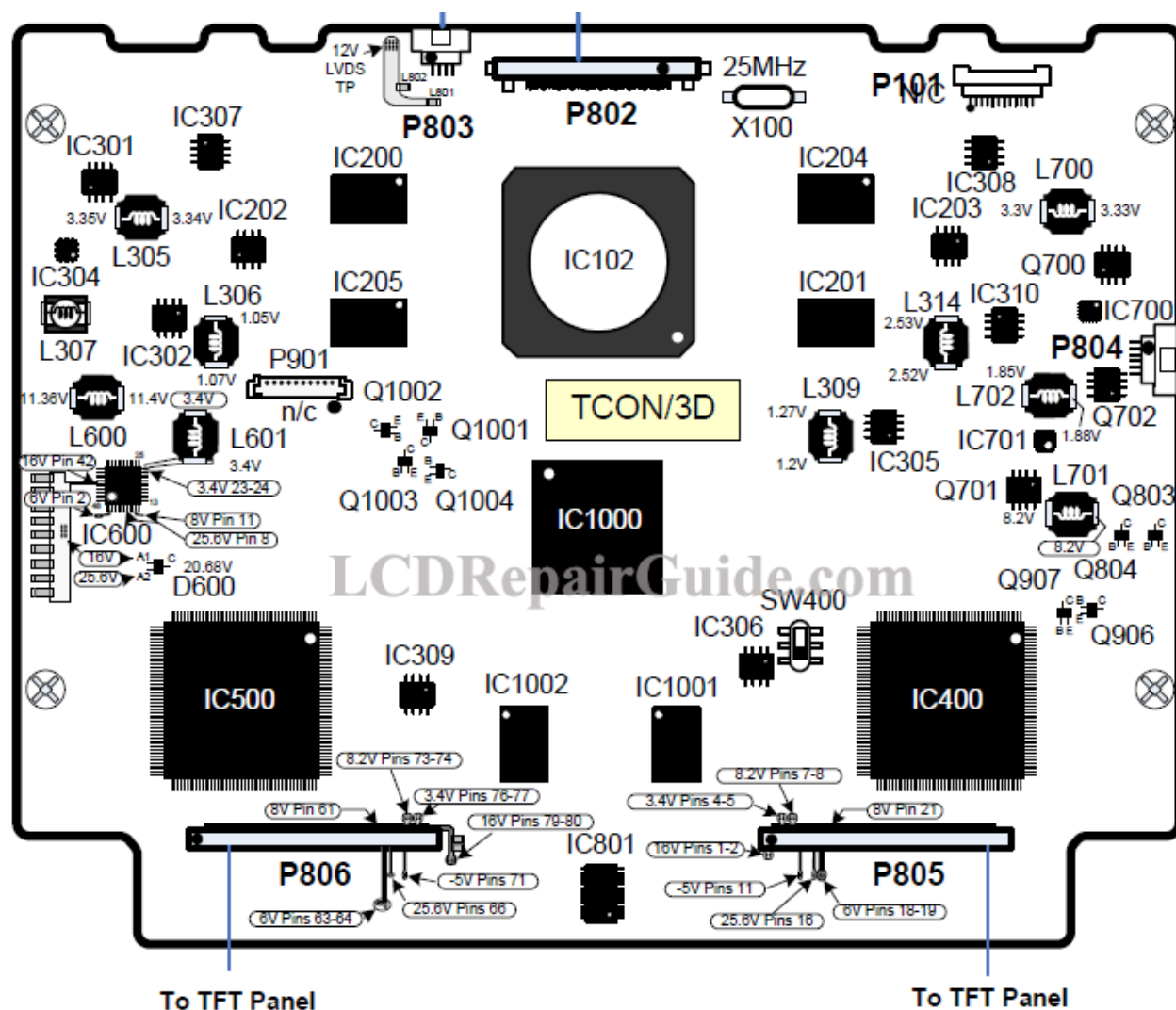


Photo from: Shopjimmy.com



Pin	LABEL	Run	Diode
1	Gnd	Gnd	Gnd
2	E_TCK	0V	Open
3	E_TDO	3.33V	Open
4	E_TMS	0.35V	Open
5	E_TDI	3.32V	Open
6	Gnd	Gnd	Gnd

Pin	LABEL	Run	Diode Check
1	PANEL_VCC	11.55V	Open
2	PANEL_VCC	11.55V	Open
3	Gnd	Gnd	Gnd
4	Gnd	Gnd	Gnd

P804 “T-CON” to P7803 “Mainboard” P803”T-CON” to P7802 “Mainboard”

P7800 "MAIN Board" To "T-CON" P802

Label	Run	Diode Check	Pin	Label	Run	Diode Check	Pin	Label	Run	Diode Check
PANEL_VCC	11.59V	Open	18	Gnd	Gnd	Gnd	35	RRXA2+	1.14V	0.97V
PANEL_VCC	11.59V	Open	19	RRXB2+	1.14V	0.97V	36	RRXA2-	1.22V	1.15V
PANEL_VCC	11.59V	Open	20	RRXB2-	1.2V	1.15V	37	RRXA1+	1.17V	0.97V
PANEL_VCC	11.59V	Open	21	RRXB1+	1.16V	0.97V	38	RRXA1-	1.19V	1.15V
n/c	n/c	n/c	22	RRXB1-	1.19V	1.15V	39	RRXA0+	1.19V	0.97V
Gnd	Gnd	Gnd	23	RRXB0+	1.19V	0.97V	40	RRXA0-	1.17V	1.15V
Gnd	Gnd	Gnd	24	RRXB0-	1.19V	1.15V	41	n/c	n/c	n/c
Gnd	Gnd	Gnd	25	n/c	n/c	n/c	42	3D_DIM_2	0.05V	1.03V
Gnd	Gnd	Gnd	26	Gnd	Gnd	Gnd	43	3D_DIM	0V	1.03V
Gnd	Gnd	Gnd	27	RRXA4+	1.08V	0.97V	44	3DTV	0V	Open
RRXB4+	1.09V	0.97V	28	RRXA4-	1.26V	1.15V	45	n/c	n/c	n/c
RRXB4-	1.26V	1.15V	29	RRXA3+	1.14V	0.97V	46	FRC_RESET	3.32V	Open
RRXB3+	1.14V	0.97V	30	RRXA3-	1.2V	1.15V	47	SCL3_3.3V	3.34V	1.04V
RRXB3-	1.22V	1.15V	31	Gnd	Gnd	Gnd	48	SDA3_3.3V	3.34V	1.04V
Gnd	Gnd	Gnd	32	RRXACK+	1.2V	0.97V	49	V_SYNC	3.33V	0.998V
RRXBCK+	1.2V	0.97V	33	RRXACK	1.16V	1.15V	*50	3D_Sync_Out	0.03V	Open
RRXBCK	1.16V	1.15V	34	Gnd	Gnd	Gnd	51	Gnd	Gnd	Gnd

P802 Pin-50 Waveform:



*50
(1.6V) with 3D source
5.5V p/p 60 Hz
3D-Sync

P806 LVDS to Panel

PIN	LABEL	RUN	PIN	LABEL	RUN	PIN	LABEL	RUN
1	Gnd	Gnd	28	Gnd	Gnd	54	V14	3.75V
2	LLMV0P	1.19V	29	LRMV4P	1.15V	55	V15	2.68V
3	LLMV0N	1.24V	30	LRMV4N	1.25V	56	V16	0.27V
4	LLMV1P	1.18V	31	LRMV5P	1.18V	57	V17	0.26V
5	LLMV1N	1.3V	32	LRMV5N	1.26V	58	V18	0.26V
6	LLMV2P	1.15V	33	LRMV6P	1.17V	59	Gnd	Gnd
7	LLMV2N	1.29V	34	LRMV6N	1.25V	60	Gnd	Gnd
8	Gnd	Gnd	35	Gnd	Gnd	61	Z_OUT	8V
9	LLMVCLKP	1.22V	36	OPT_N	3.33V	62	Gnd	Gnd
10	LLMVCLKN	1.23V	37	H_CONV	Gnd	63	VCOMLOUT	6V
11	Gnd	Gnd	38	GSP	0V	64	VCOMLFB	6V
12	LLMV4P	1.18V	39	POL	1.66V	65	Gnd	Gnd
13	LLMV4N	1.26V	40	Gnd	Gnd	66	VGH (26V)	25.6V
14	LLMV5P	1.26V	41	SOE_L	0.24V	67	Gnd	Gnd
15	LLMV5N	1.27V	42	Gnd	Gnd	68	GSC	2.3V
16	LLMV6P	1.16V	43	V1	15.75V	69	GOE	0.83V
17	LLMV6N	1.26V	44	V2	15.75V	70	Gnd	Gnd
18	Gnd	Gnd	45	V3	14V	71	VGL (5V)	(-5V)
19	LRMV0P	1.17V	46	V4	12.26V	72	Gnd	Gnd
20	LRMV0N	1.28V	47	V5	11.07V	73	HVDD (8V)	8.2V
21	LRMV1P	1.15V	48	V6	11.07V	74	HVDD (8V)	8.2V
22	LRMV1N	1.26V	49	V7	10.27V	75	Gnd	Gnd
23	LRMV2P	1.17V	50	V9	8.31V	76	VCC (3.3V)	3.4V
24	LRMV2N	1.27V	51	V10	5.74V	77	VCC (3.3V)	3.4V
25	Gnd	Gnd	52	V12	Gnd	78	Gnd	Gnd
26	LRMVCLKN	1.21V	53	V13	4.94V	79	VDD (16V)	16V
27	LRMVCLKP	1.23V				80	VDD (16V)	16V

P805 LVDS to Panel

PIN	LABEL	RUN	PIN	LABEL	RUN	PIN	LABEL	RUN
1	VDD (16V)	16V	28	V6	11.08V	54	RLMVCLKP	1.19V
2	VDD (16V)	16V	29	V7	10.28V	55	RLMVCLKN	1.18V
3	Gnd	Gnd	30	V9	8.31V	56	Gnd	Gnd
4	VCC (3.3V)	3.4V	31	V10	7.71V	57	RLMV4P	1.15V
5	VCC (3.3V)	3.4V	32	V12	3.37V	58	RLMV4N	1.24V
6	Gnd	Gnd	33	V13	4.94V	59	RLMV5P	1.34V
7	HVDD (8V)	8.2V	34	V14	3.75V	60	RLMV5N	1.22V
8	HVDD (8V)	8.2V	35	V15	2.68V	61	RLMV6P	1.12V
9	Gnd	Gnd	36	V16	1.97V	62	RLMV6N	1.23V
10	OPT_P	n/c	37	V17	0.27V	63	Gnd	Gnd
11	VGL(-5V)	(-5V)	38	V18	0.26V	64	RRMV0P	1.13V
12	Gnd	Gnd	39	Gnd	Gnd	65	RRMV0N	1.23V
13	GOE	0.83V	40	GSP	0V	66	RRMV1P	1.15V
14	GSC	2.3V	41	POL	1.66V	67	RRMV1N	1.23V
15	Gnd	Gnd	42	Gnd	Gnd	68	RRMV2P	1.15V
16	VGH (26V)	25.6V	43	SOE_R	0.25V	69	RRMV2N	1.23V
17	Gnd	Gnd	44	H_CONV	0.44V	70	Gnd	Gnd
18	VCOMRFB	6V	45	OPT_N	3.33V	71	RRMVCLKP	1.19V
19	VCOM ROUT	6V	46	Gnd	Gnd	72	RRMVCLKN	1.18V
20	Gnd	Gnd	47	RLMVOP	0.15V	73	Gnd	Gnd
21	Z_OUT	8V	48	RLMVON	0.17V	74	RRMV4P	1.13V
22	Gnd	Gnd	49	RLMV1P	0.14V	75	RRMV4N	1.24V
23	V1	15.75V	50	RLMV1N	1.24V	76	RRMV5P	1.11V
24	V2	15.75V	51	RLMV2P	1.13V	77	RRMV5N	1.12V
25	V3	14V	52	RLMV2N	1.22V	78	RRMV6P	1.12V
26	V4	13.35V	53	Gnd	Gnd	79	RRMV6N	1.22V
27	V5	12.27V				80	Gnd	Gnd

LG 47LX9500 T-CON/3D Component Voltages

IC202 1) Gnd

 2) 3.2V
 3) 0.09V
 4) 0.09V
 +1.8V 5) 1.8V
 DDR 6) 3.34V
 Reg 7) 1.18V
 8) 0.89V

IC203 1) Gnd

 2) 3.27V
 3) 0.89V
 +1.8V 4) 0.9V
 DDRS 5) 1.8V
 Reg 6) 3.34V
 7) 1.8V
 8) 0.9V

IC301 1) 11.41V

 2) 3.35V
 3) 3.35V
 +3.3V 4) 8.77V
 Reg 5) 3.11V
 6) 0.81V
 7) 5.02V
 8) Gnd

IC302 1) 0.8V

 2) Gnd
 3) 3.33V
 4) 4.26V
 +1.0V 5) 3.3V
 VDC 6) 1.08V
 Reg 7) 1.08V
 8) 3.0V

IC304 1) 0.75V

 2) 5.0V
 3) Gnd
 +2.5V 4) 0V
 VQ 5) 2.5V
 Reg 6) 5.0V
 7) 7.55V
 8) 11.36V
 9) 11.36V
 10) 11.36V
 11) 11.36V
 12) 2.55V
 13) Gnd
 14) Gnd
 15) 2.55V
 16) Gnd
 17) Gnd
 18) Gnd
 19) Gnd
 20) 2.5V
 21) 2.5V
 22) n/c
 23) 0V
 24) 2.5V
 25) n/c
 26) Gnd
 27) 1.13V
 28) 10.99V

IC305 1) 0.8V

 2) Gnd
 3) 3.32V
 4) 4.32V
 1V2 5) 3.3V
 Reg 6) 1.22V
 7) 1.22V
 8) 2.98V

IC306 1) n/c

 2) 2.5V
 3) 2.51V
 1V2 4) n/c
 Reg 5) n/c
 6) 1.81V
 7) 0.81V
 8) Gnd

IC307 1) n/c

 2) 2.49V
 3) 2.51V
 +1.8V 4) n/c
 DDR 5) n/c
 Reg 6) 1.81V
 7) 0.81V
 8) Gnd

IC308 1) n/c

 2) 2.47V
 3) 2.49V
 +1.8V 4) n/c
 DDRS 5) n/c
 Reg 6) 1.8V
 7) 0.8V
 8) Gnd

IC309 1) Gnd

 2) 3.26V
 3) 0.89V
 DDR 4) 0.9V
 VTT 5) 1.8V
 Reg 6) 3.34V
 7) 1.8V
 8) 0.9V

IC310 1) 11.41V

 2) 2.53V
 3) 2.53V
 2V5 4) 7.97V
 Reg 5) 3.11V
 6) 0.8V
 7) 5.07V
 8) Gnd

IC600

DC-DC
Conv

1) 5.96V	25) 11.38V
2) 6.03V	26) 11.38V
3) 3.15V	27) 11.07V
4) 0.17V	28) 0V
5) 2.72V	29) 4.24V
6) 3.3V	30) 1.9V
7) 0V	31) 0.59V
8) 25.6V	32) 3.3V
9) 24.7V	33) 3.13V
10) 1.26V	34) 0V
11) Gnd	35) 0V
12) 5.54V	36) 0V
13) 0V	37) 11.33V
14) 0V	38) 11.37V
15) Gnd	39) n/c
16) 0V	40) n/c
17) 1.26V	41) 1.27V
18) 4.24V	42) 16V
19) Gnd	43) 5.96V
20) Gnd	44) 5.96V
21) 1.27V	45) 5.96V
22) 11.45V	46) 5.96V
23) 3.4V	47) Gnd
24) 3.4V	48) 5.97V

DC-DC IC700 For +3.3V
Conv TCON



1) 0.59V	13) Gnd
2) 3.3V	14) 3.6V
3) 3.3V	15) 0.12V
4) 0V	16) 5.21V
5) 4.26V	17) 0.6V
6) Gnd	18) 1.13V
7) 1.8V	19) 1.18V
8) 7V	20) Gnd
9) 2.7V	21) 11.4V
10) 4.78V	22) 0.56V
11) 8.47V	23) 0.81V
12) 3.33V	24) 0.9V

IC801

Data
Buffer

1) 8.01V
2) 15.7V
3) 15.7V
4) 14.05V
5) 13.35V
6) 12.27V
7) 11.07V
8) Gnd
9) 16.02V
10) 10.28V
11) 8.31V
12) 7.72V
13) 3.33V
14) 3.33V
15) 3.33V
16) Gnd
17) 0V
18) Gnd
19) 4.94V
20) 3.75V
21) 2.67V
22) 16.02V
23) 0V
24) Gnd
25) 0.27V
26) 0.27V
27) 0.25V
28) 5.96V

IC701	1) Gnd
	2) 11.68V
DC-DC	3) 5.26V
Conv	4) 0.73V
For	5) 0.58V
HVDD	6) 1.97V
	7) 0.59V
	8) 1.20V
	9) Gnd
	10) 5.20V
	11) 1.40V
	12) 13.1V
	13) 8.10V
	14) 11.68V

Q700

+3.3V

TCON

Reg

- 1) Gnd
- 2) 3.26V
- 3) 3.33V
- 4) 4.79V
- 5) 11.42V
- 6) 11.42V
- 7) 3.34V
- 8) 3.34V

Q701

+8.2V

HVDD

Reg

- 1) Gnd
- 2) 1.42V
- 3) 8.16V
- 4) 11.7V
- 5) 11.42V
- 6) 11.42V
- 7) 8.2V
- 8) 8.2V

Q702

+1.8V

TCON

Reg

- 1) Gnd
- 2) 4.27V
- 3) 1.89V
- 4) 2.72V
- 5) 11.41V
- 6) 11.41V
- 7) 0V
- 8) 1.89V

D600

- A1) 16V
- A2) 25.6V
- C) 20.68V

Q803

- B) 2.52V
- E) 2.52V
- C) 2.27V

Q1001

- B) 0V
- E) Gnd
- C) 1.97V

Q804

- B) 2.52V
- E) 2.52V
- C) 2.27V

Q1002

- B) 0.6V
- E) Gnd
- C) 0.02V

Q906

- B) 0.61V
- E) Gnd
- C) 0.03V

Q1003

- B) 0.59V
- E) Gnd
- C) 0.02V

Q907

- B) 0.0V
- E) Gnd
- C) 1.9V

Q1004

- B) 0.02V
- E) Gnd
- C) 3.33V

20) 55EA9800 Interconnect

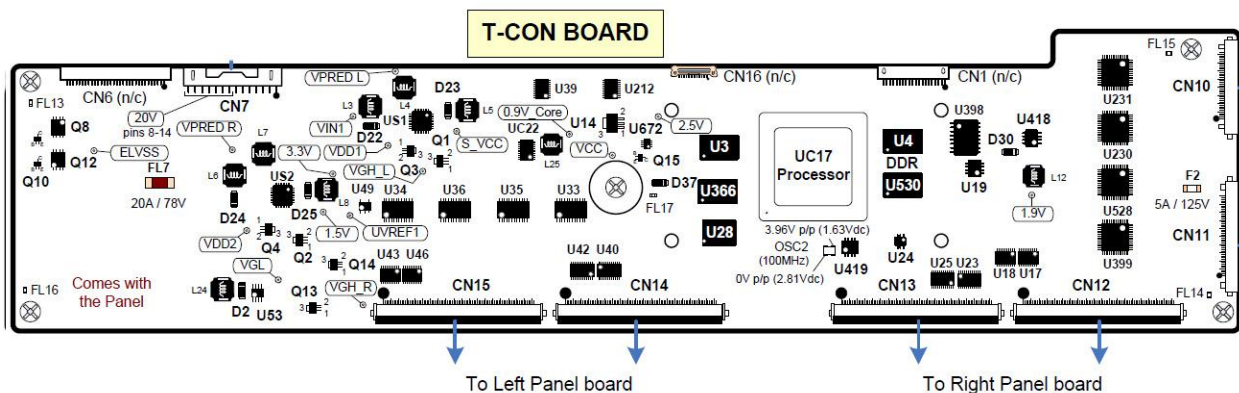
TV Models: LG 55EA9800

PANEL P/N: EAJ62407601

Part Number: 6871L-3395B

T-con Board P/N: 6870C-0468B

DESC or Panel Sticker Number: LC550LUD-MFP2-L31

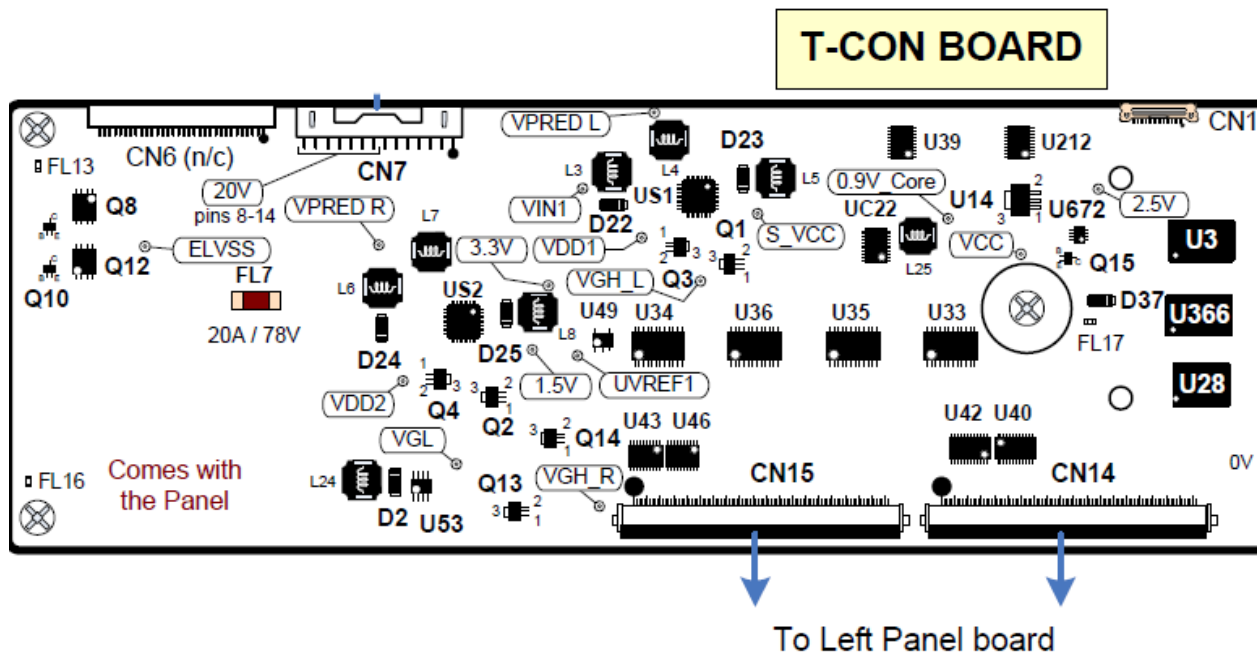


Warning:

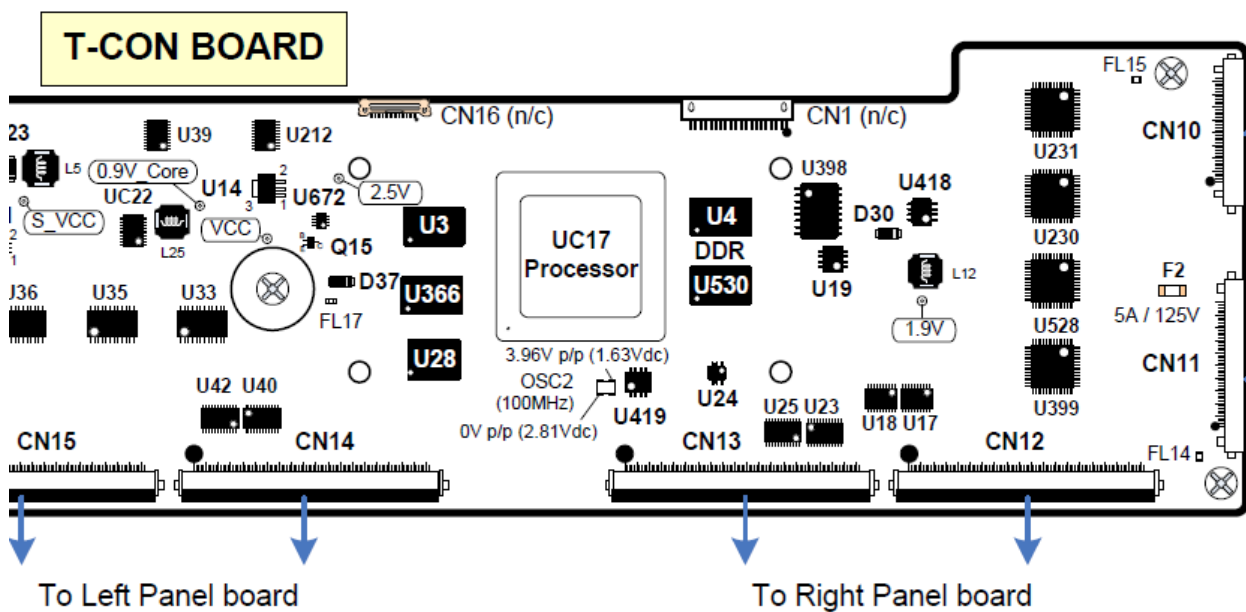
Make sure screws are in place, damage to the board may occur if they are left out.
FI13 ~17 are ground protect EMI Filters.

Make sure before reassembling the cover and counter weights that the Heat Transfer materials “Chocolate” are replaced over UC17 and UC33-U36.

Left Side of T-con Board:



Right Side of T-con Board:



T-CON Panel Connector Checks:**CN7 "T-CON" to "SMPS Board" P201**

PIN	LABEL	RUN	Diode Check
1-7	Gnd	Gnd	Gnd
8-14	20V	20V	OL

CN15 Connector

Pin 8: 6.54V	(From VGH-R)
Pins 10-11: -6.98V	(From VGL)
Pin 13: 3.3V	(From 3.3V)
Pins 24-38: 20V	(From 20V in.)
Pins 39-53: (0V) Not Used	(From ELVSS)
Pins 55-56: 1.8V	(From S_VCC)
Pins 58-61: 16V	(From VDD2)
n/a	(From VPRED L)
Pins 63-65: 6.54V	(From VPRED R)
Pins 67-69: 1.9V	(From 1.9V L12)

CN12 Connector

n/a
Pins 85-86: -6.98V
Pin 84: 3.3V
Pins 59-72: 20V
Pins 43-57: (0V) Not Used
Pins 40-41: 1.8V
Pins 34-37: 16V
Pins 30-32: 7.99V
Pins 30-32: 6.54V
Pins 26-28: 1.9V

T-CON Key Voltage Checks:

Name:	Volts:	Name:	Volts:
0.9V_Core	0.94V	VPRED L	7.99V
1.5V	1.5V	VPRED R	6.54V
1.9V	1.9V		
2.5V	2.5V		
3.3V	3.3V		
ELVSS	Not Used		
S_VCC	1.8V		
UVREF1	0.39V		
VCC	3.27V		
VDD1	16.07V		
VDD2	16V		
VGH_L	22.96V		
VGH_R	6.54V		
VGL	(-6.98V)		
VIN1	11.59V		

21) 55GA6400 Interconnect

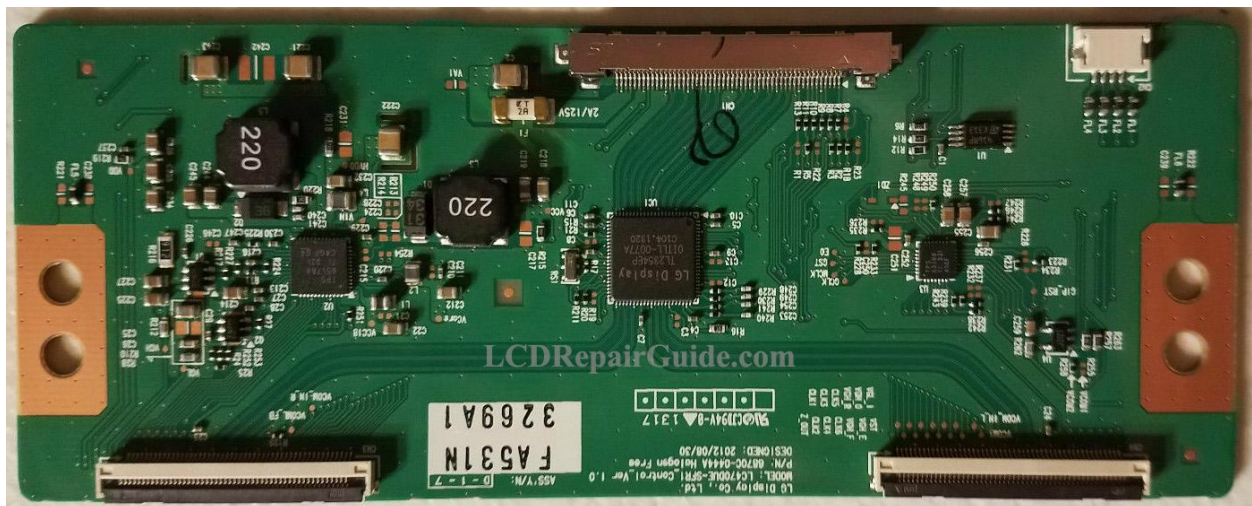
TV Models: LG 55GA6400

PANEL P/N: EAJ62271001

Part Number: 6871L-3269A

T-con Board P/N: 6870C-0444A

DESC or Panel Sticker Number: LC470DUE-SFR1



Warning:

Return the screws when servicing the T-CON board with shields removed.

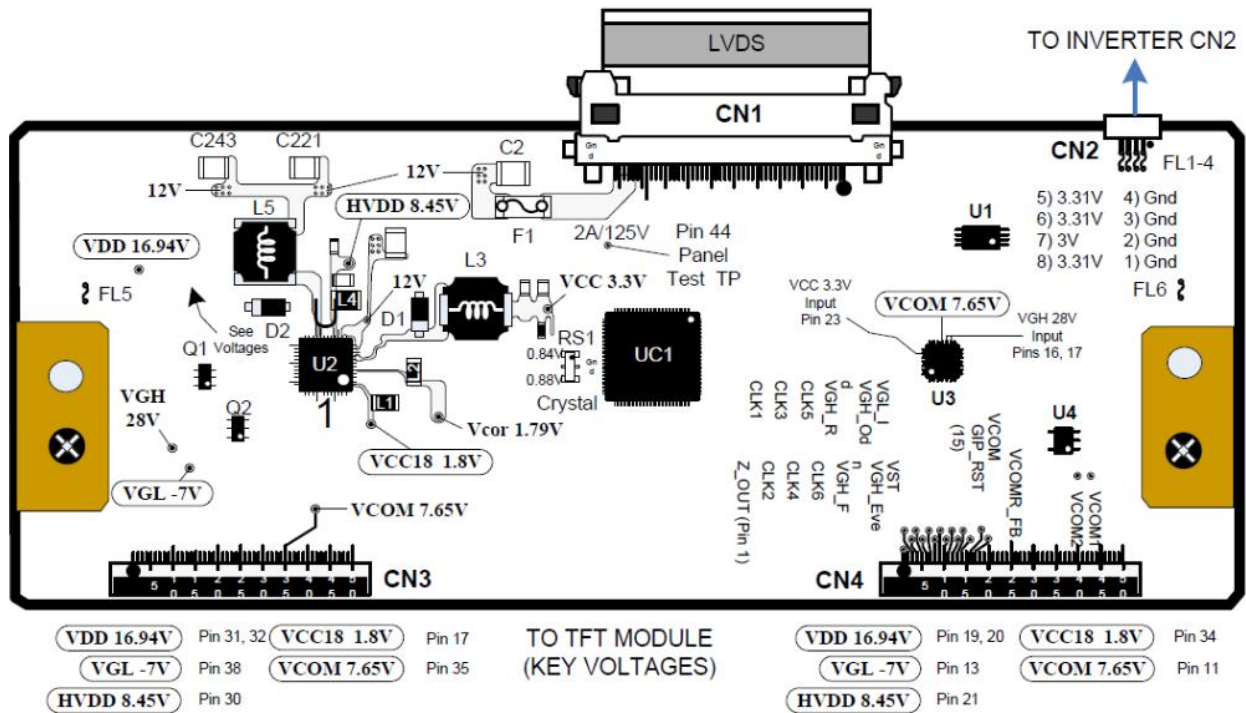
Note: Concerning Quick Start

If Quick Start is turned on in the Options Menu, T-CON 12V will be available during STBY, but there will be no video to process. Also, no backlights.

PANEL Test:

To run the T-con “Panel Test”, remove the LVDS cable CN1. Jump 12V to the 12V fuse. Jump VCC 3.3V to pin-44 on CN1. White, Red, Blue, Green and Black patterns show on screen.

<http://www.LCDRepairGuide.com/screen-repair-v2/>



Additional Voltages from U3 to the Panel with no silk screen labels:

U10 pin 1 (7.76V) CN4 pin 48 CN5 pin 3
 U10 pin 2 (7.74V) CN4 pin 47 CN5 pin 4
 U10 pin 3 (7.75V) CN4 pin 46 CN5 pin 5
 U10 pin 4 (7.74V) CN4 pin 45 CN5 pin 6
 U10 pin 5 (7.76V) CN4 pin 44 CN5 pin 7

U10 pin 6 (7.74V) CN4 pin 43 CN5 pin 8
 U10 pin 8 (27.9V) CN4 pin 42 CN5 pin 9
 U10 pin 9 (-6.97V) CN4 pin 41 CN5 pin 10
 U10 pin 10 (-6.95V to 27.9V) CN4 pin 40 CN5 pin 11
 U10 pin 11 (-6.95V to 27.9V) CN4 pin 39 CN5 pin 12

Q1

4) 12.98V	3) 16.93V
5) 12.98V	2) 16.38V
6) 27.95V	1) 20.2V

Q2

4) (-7V)	3) (-2.19V)
5) 2.97V	2) 1.18V
6) 2.97V	1) 0.55V

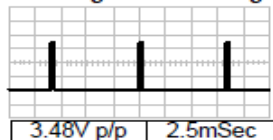
CN2 Global Dimming

Pin Label (Note: Pins are inverted on Inverter)

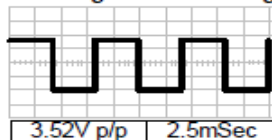
(1) Scan 1, (2) Scan 2, (3) Scan 3, (4) GND

Scan 1-3 From the T-CON to the Inverter board (120Hz) For Dimming.

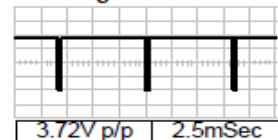
LED Drive Signal 0% Backlights



LED Drive Signal 50% Backlights



LED Drive Signal 100% Backlights



CN2 "INV Board" to "T-CON" CN2

PIN	LABEL	RUN	Diode Check
1	Gnd	Gnd	Gnd
2	Scan 3	0.14V~3.23V	OL
3	Scan 2	0.14V~3.23V	OL
4	Scan 1	0.14V~3.23V	OL

Note: Used for Dimming, See P-DIM.
Pins are inverted on T-CON

LG 55GA6400 T-CON Board Component Voltages**U3 DC-to-DC**

Panel Power Level Shifter	
------------------------------	--

Pin		Pin
[1] 7.76V (GCLK1)		[15] (-6.97) (VGL)
[2] 7.74V (GCLK2)		[16] 27.96V (VGH)
[3] 7.75V (GCLK3)		[17] 27.96V (VGH)
[4] 7.74V (GCLK4)		[18] 7.65V (V_COM)
[5] 7.76V (GCLK5)		[19] 7.65V
[6] 7.74V (GCLK6)		[20] 7.62V
[7] 2.5V		[21] 16.9V
[8] 27.9V (VGH_R)		[22] Gnd
[9] (-6.97) (VGH_F)		[23] 3.3V (VCC)
[10] *(-6.95V to 27.9V) (VGH_ODD)		[24] 0V
[11] *(-6.95V to 27.9V) (VGH_EVEN)		[25] 0V
[12] (-6.91) (VST)		[26] 0.7V
[13] (-6.88) (GIP_RST)		[27] 1.27V
[14] (-6.97)		[28] 3.24V
		* EVERY Second

U2 DC-to-DC

T-CON and Panel Power
DC-to-DC Conv

Pin		Pin
[1] 1.81V		[25] 4.95V
[2] 1.86V		[26] 0.53V
[3] Gnd		[27] 3.3V
[4] 3.3V		[28] 3.3V
[5] 1.79V		[29] 4.99V
[6] 1.81V		[30] 1.3V
[7] Gnd		[31] 16.4V
[8] 3.31V (VCC)		[32] 27.94V
[9] 3.31V (VCC)		[33] 5.69V
[10] 0V		[34] 8.21V
[11] 11.7V (Panel_VCC)		[35] (-6.98V) (VGL_FB)
[12] 11.7V (Panel_VCC)		[36] 1.19V
[13] 11.7V (Panel_VCC)		[37] 13.86V
[14] 11.7V (Panel_VCC)		[38] 12.85V
[15] 8.45V (H_VDD)		[39] 10.91V
[16] 8.44V (H_VDD_FB)		[40] 6.55V
[17] Gnd		[41] 4.6V
[18] Gnd		[42] 3.5V
[19] Gnd		[43] 7.65V
[20] 11.7V (Panel_VCC)		[44] 7.64V
[21] 11.7V (Panel_VCC)		[45] 7.63V
[22] 16.97V		[46] 7.61V (VCOM_RFB)
[23] 16.97V (VDD)		[47] 1.61V
[24] Gnd		[48] Gnd

U1

Buffer

Pin
[1] Gnd
[2] Gnd
[3] Gnd
[4] Gnd
[5] 3.31V
[6] 3.31V
[7] 3.31V
[8] 3.31V

Q1

VDD Rectifier

Pin
[1] 20.2V
[2] 16.38V
[3] 16.93V Output
[4] 12.98V
[5] 12.98V
[6] 12.95V

Q2

VGL Rectifier

Pin
[1] 0.56V
[2] 1.18V
[3] (-2.9V)
[4] (-7V) Output
[5] 2.97V
[6] 2.97V

22) 55LA9700 Interconnect

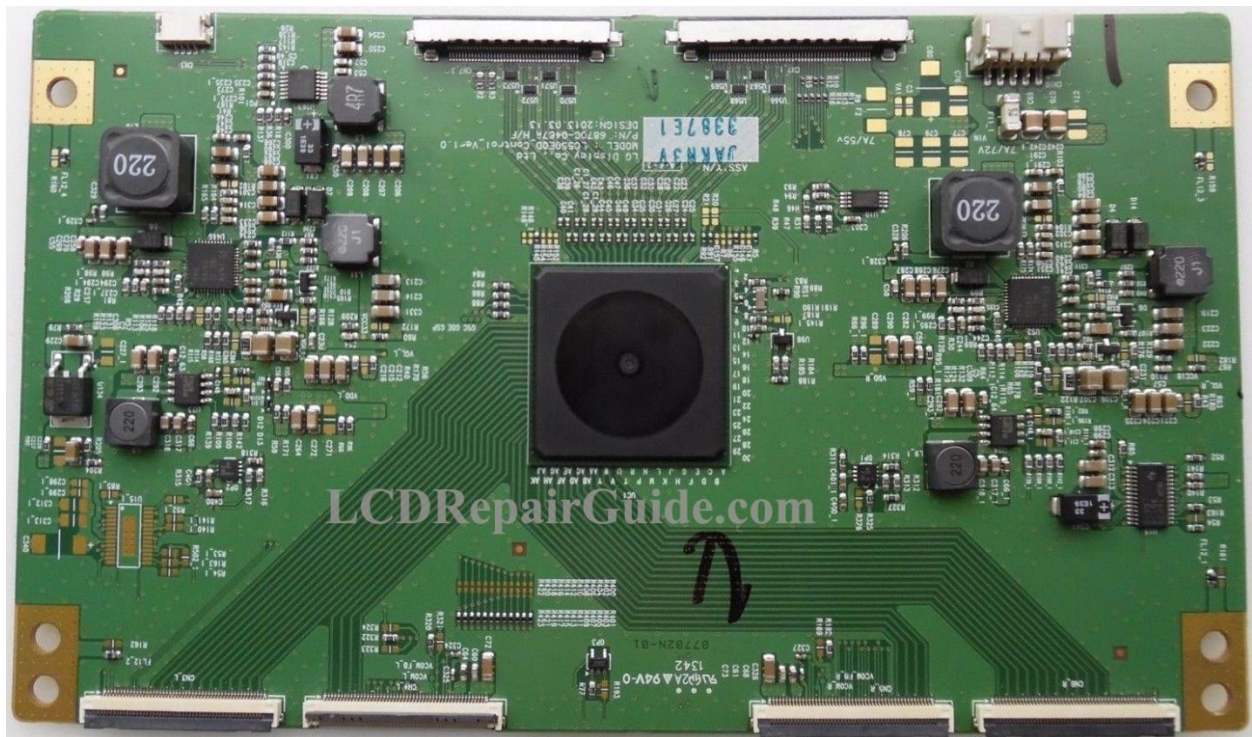
TV Models: LG 55LA9650_55LA9700

PANEL P/N: EAJ73589402

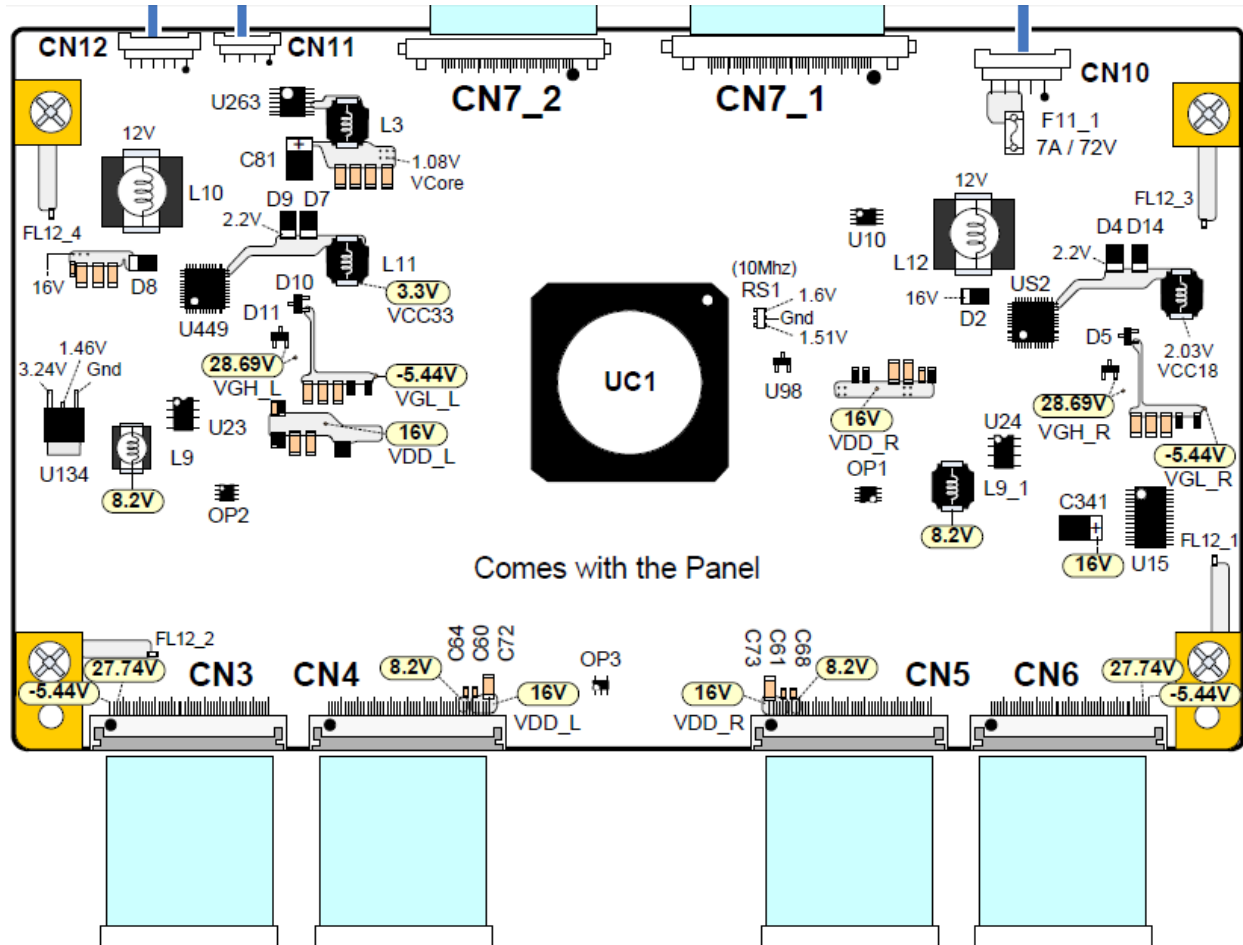
Part Number:

T-con Board P/N: 6870C-0467A

DESC or Panel Sticker Number: LC550EQD



From UHD Board (p/n: EBT62643201)



To the Panel

Pin 1 **-5.44V** VGL_L Pin 39 **3.3V** VCC_L Pin 12 **3.3V** VCC_R Pin 48 **27.74V** 28V
Pin 3 **27.74V** 28V Pin 41-43 **8.2V** 8V Pin 8-10 **8.2V** 8V Pin 50 **-5.44V** VGL_R
Pin 45-50 **16V** VDD_L Pin 1-6 **16V** VDD_R

CN3, CN4, CN5 and CN6 to the Panel

P1401 "UHD Board" to CN10 "T-CON"

PIN	LABEL	RUN	Diode
1-2	Gnd	Gnd	Gnd
3-5	12V	11.95V	2.09V

CN200 "INV Secondary" to CN11 "T-CON"

PIN	LABEL	RUN	Diode
1	SPI_CLK	1.0V	OL
2	SPI_Data	0.07V	OL
3	Gnd	Gnd	Gnd
4	VSync	0.01V	OL

CN1200 "Inverter Main" to CN12 "T-CON"

PIN	LABEL	RUN	Diode
1-2	N/C	n/c	n/c
3	SPI_Data	0.07V	OL
4	SPI_CLK	1.0V	OL
5	Gnd	Gnd	Gnd
6	VSync	0.01V	OL

23) 55LM6200 Interconnect

TV Models: LG 55LM4600_4700_6200

PANEL P/N: EAJ62088501

Part Number: 6871L-2856C (Substitute: 6871L-2753M)

T-con Board P/N: 6870C-0401B

DESC or Panel Sticker Number: LC550EUE-SEF1 (DESC: 32/37/42/47/55 FHD TM120)

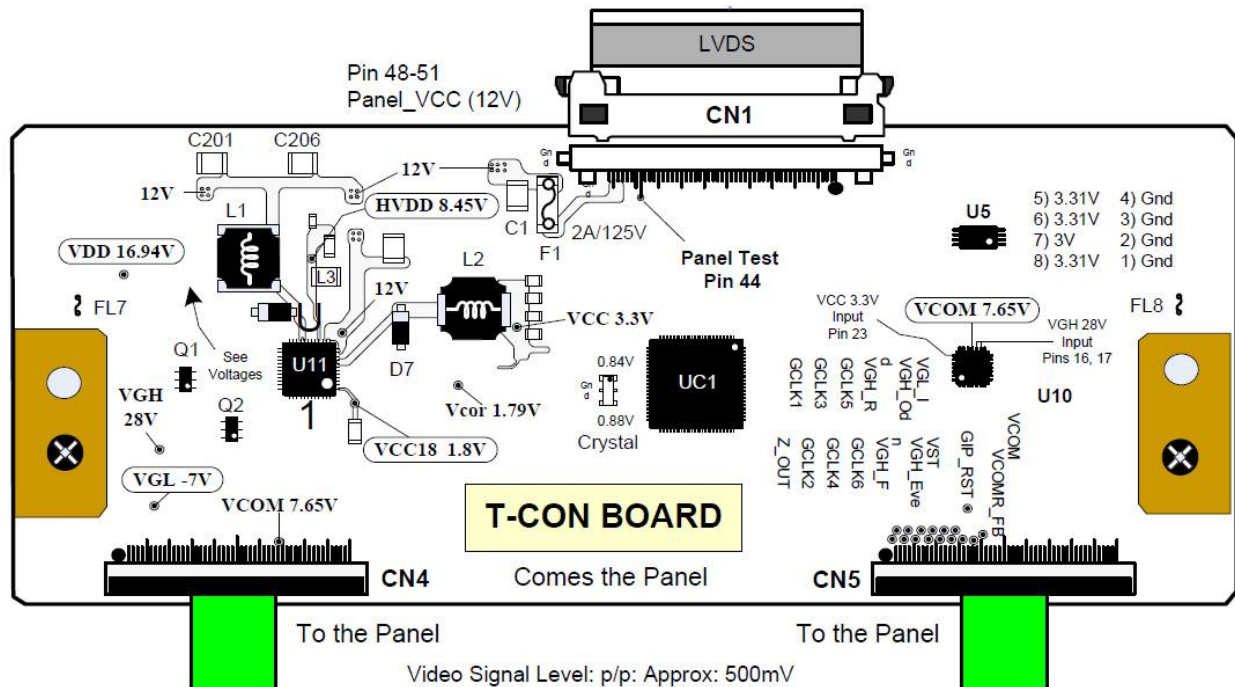


Warning:

Return the screws when servicing the T-con board with shields removed.

PANEL TEST:

To run the T-CON “Panel Test”, remove the LVDS cables. Jump 12V to the 12V fuse. Jump VCC 3.3V to pin-44 on CN1. White, Red, Blue, Green and Black patterns show on screen.



VDD 16.94V	Pin 31, 32	VCC18 1.8V	Pin 17	VDD 16.94V	Pin 19, 20	VCC18 1.8V	Pin 34
VGL -7V	Pin 38	VCOM 7.65V	Pin 34	VGL -7V	Pin 13	VCOM 7.65V	Pin 17
HVDD 8.45V	Pin 30			HVDD 8.45V	Pin 21		

Additional Voltages from U10 to the Panel with no silk screen labels:

U10 pin 1 (7.76V)	CN4 pin 48	CN5 pin 3	U10 pin 6 (7.74V)	CN4 pin 43	CN5 pin 8
U10 pin 2 (7.74V)	CN4 pin 47	CN5 pin 4	U10 pin 8 (27.9V)	CN4 pin 42	CN5 pin 9
U10 pin 3 (7.75V)	CN4 pin 46	CN5 pin 5	U10 pin 9 (-6.97V)	CN4 pin 41	CN5 pin 10
U10 pin 4 (7.74V)	CN4 pin 45	CN5 pin 6	U10 pin 10 (*-6.95V to 27.9V)	CN4 pin 40	CN5 pin 11
U10 pin 5 (7.76V)	CN4 pin 44	CN5 pin 7	U10 pin 11 (*-6.95V to 27.9V)	CN4 pin 39	CN5 pin 12

**Changes once a second.*

U10 DC-to-DC

Panel Power Level Shifter

Pin		Pin
[1] 7.76V (GCLK1)		[15] (-6.97) (VGL)
[2] 7.74V (GCLK2)		[16] 27.96V (VGH)
[3] 7.75V (GCLK3)		[17] 27.96V (VGH)
[4] 7.74V (GCLK4)		[18] 7.65V (V_COM)
[5] 7.76V (GCLK5)		[19] 7.65V
[6] 7.74V (GCLK6)		[20] 7.62V
[7] 2.5V		[21] 16.9V
[8] 27.9V (VGH_R)		[22] Gnd
[9] (-6.97) (VGH_F)		[23] 3.3V (VCC)
[10] *(-6.95V to 27.9V) (VGH_ODD)		[24] 0V
[11] *(-6.95V to 27.9V) (VGH_EVEN)		[25] 0V
[12] (-6.91) (VST)		[26] 0.7V
[13] (-6.88) (GIP_RST)		[27] 1.27V
[14] (-6.97)		[28] 3.24V

* EVERY Second

U5

Buffer

Pin
[1] Gnd
[2] Gnd
[3] Gnd
[4] Gnd
[5] 3.31V
[6] 3.31V
[7] 3.31V
[8] 3.31V

Q1

VDD Rectifier

Pin
[1] 20.2V
[2] 16.38V
[3] 16.93V Output
[4] 12.98V
[5] 12.98V
[6] 12.95V

Q2

VGL Rectifier

Pin
[1] 0.56V
[2] 1.18V
[3] (-2.9V)
[4] (-7V) Output
[5] 2.97V
[6] 2.97V

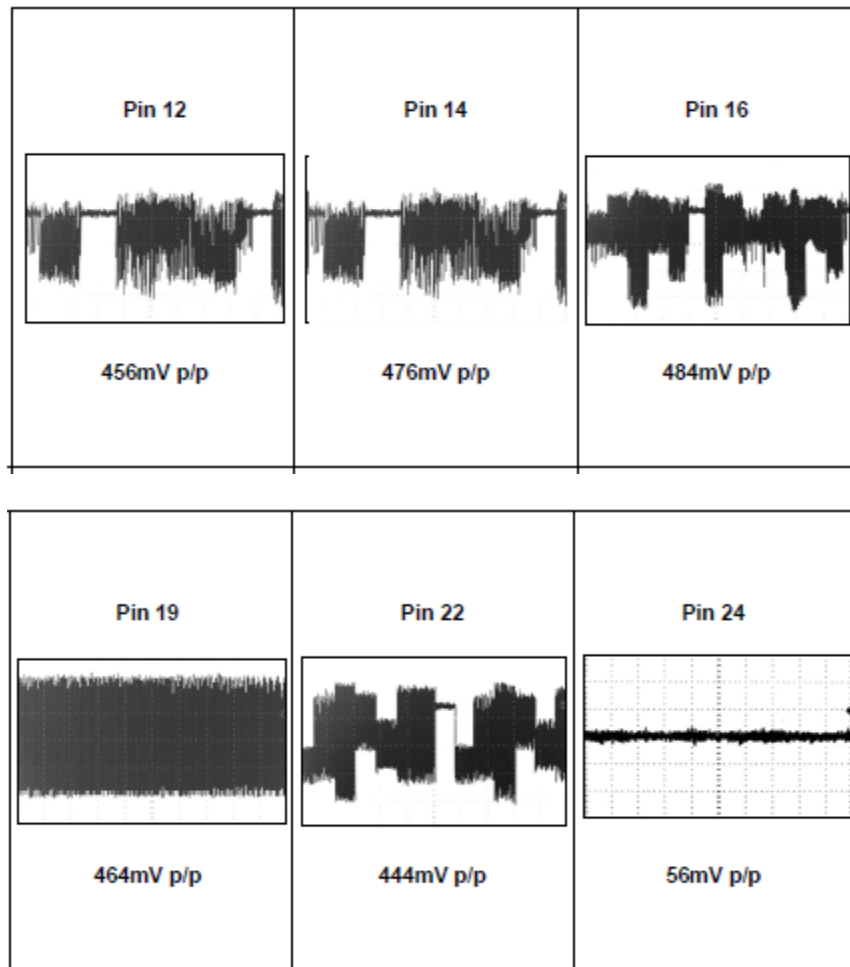
U11 DC-to-DC

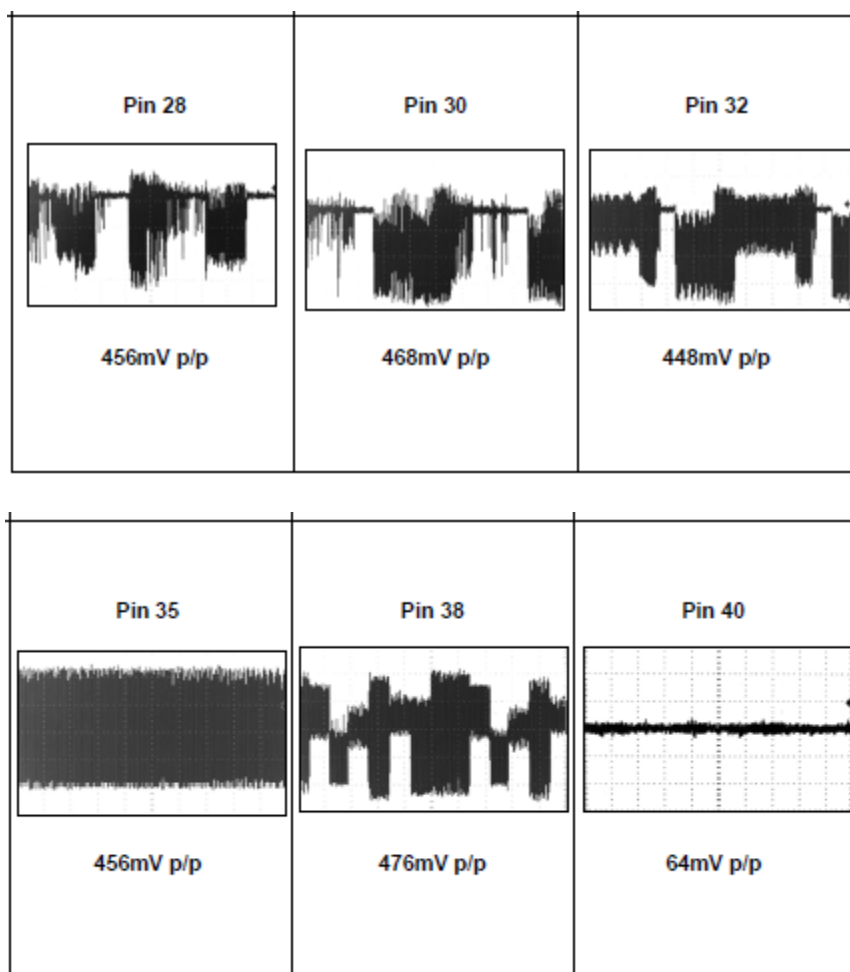
T-CON and Panel Power DC-to-DC Conv
--

Pin		Pin
[1] 1.81V		[25] 4.95V
[2] 1.86V		[26] 0.53V
[3] Gnd		[27] 3.3V
[4] 3.3V		[28] 3.3V
[5] 1.79V		[29] 4.99V
[6] 1.81V		[30] 1.3V
[7] Gnd		[31] 16.4V
[8] 3.31V (VCC)		[32] 27.94V
[9] 3.31V (VCC)		[33] 5.69V
[10] 0V		[34] 8.21V
[11] 11.7V (Panel_VCC)		[35] (-6.98V) (VGL_FB)
[12] 11.7V (Panel_VCC)		[36] 1.19V
[13] 11.7V (Panel_VCC)		[37] 13.86V
[14] 11.7V (Panel_VCC)		[38] 12.85V
[15] 8.45V (H_VDD)		[39] 10.91V
[16] 8.44V (H_VDD_FB)		[40] 6.55V
[17] Gnd		[41] 4.6V
[18] Gnd		[42] 3.5V
[19] Gnd		[43] 7.65V
[20] 11.7V (Panel_VCC)		[44] 7.64V
[21] 11.7V (Panel_VCC)		[45] 7.63V
[22] 16.97V		[46] 7.61V (VCOM_RFB)
[23] 16.97V (VDD)		[47] 1.61V
[24] Gnd		[48] Gnd

LG 55LM6200 P7100 LVDS Connector Video Waveforms:

All LVDS signals are taken with SMPTY Color Bar signal input (1080P) Component Input. All LVDS signals are “Differential Pairs”. The ones shown are the “Positive” signal of the pair. The Negative signal looks exactly the same but flipped 180 degree. Scope Setting are 100mV per/division, 2.5uSec per/division.





24) 55LM8600 Interconnect

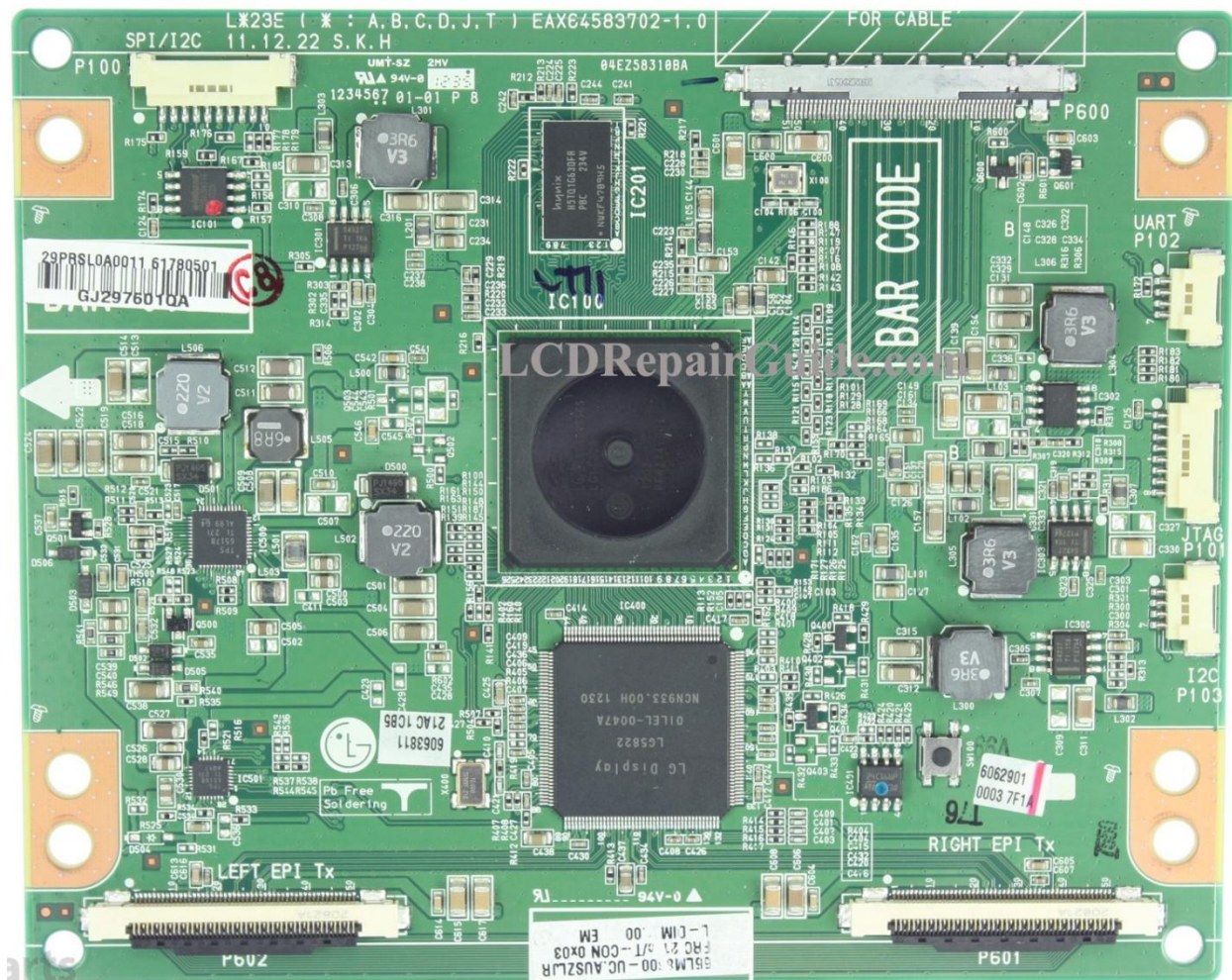
TV Models: LG 55LM8600

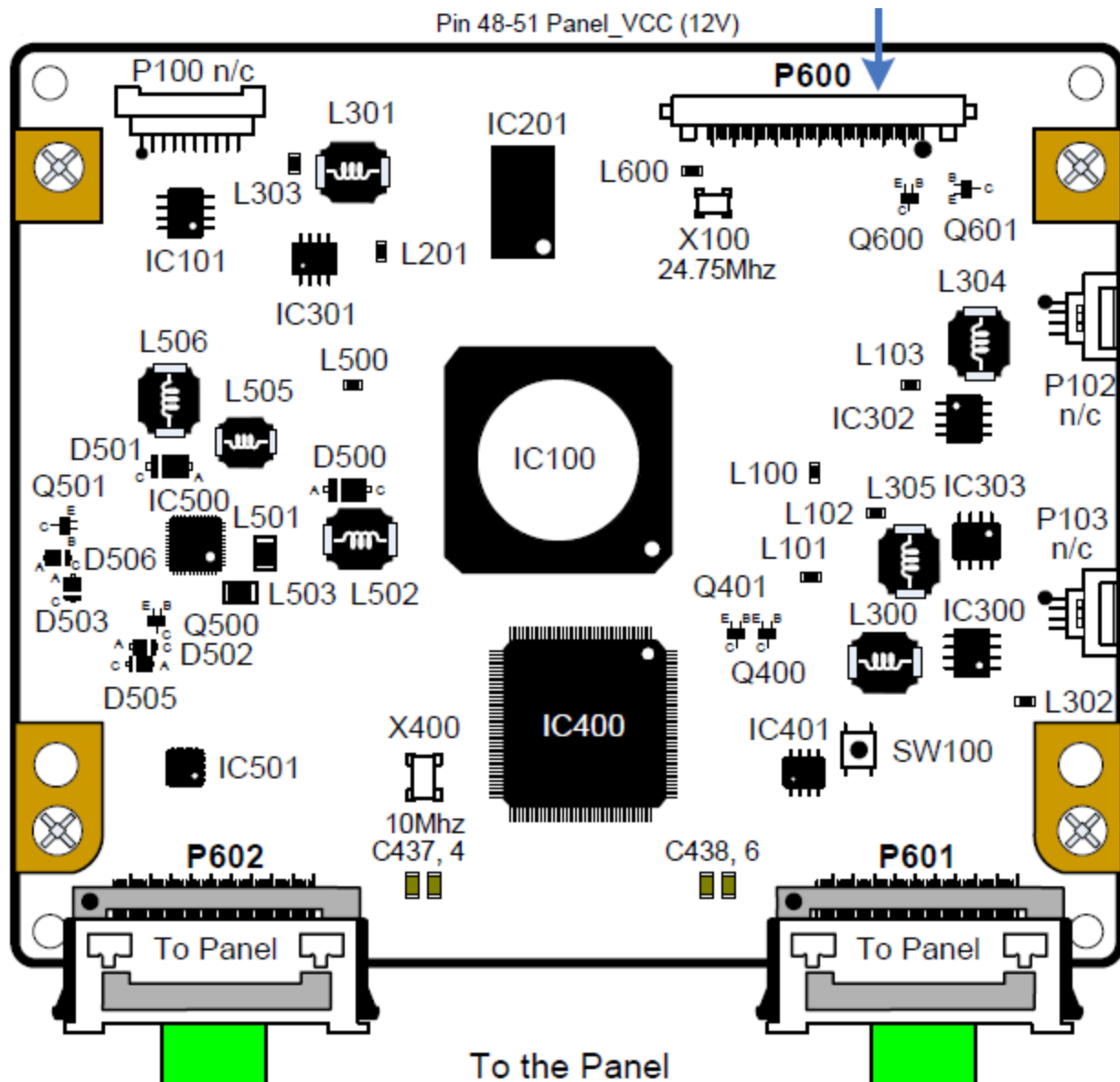
PANEL P/N: AFB73409602 or EAJ62128801

Part Number: EBR61780501

T-con Board P/N: EAX64583702-1.0

DESC or Panel Sticker Number: LC550EUH-PEF1





DC Voltages to the Panel developed on the T-CON

Output from P602

Pin 17 VCC_18 (1.8V)
 Pin 30 H_VDD (8.48V)
 Pin 31, 32 VDD (16.92V)
 Pin 37 VST (-5V)
 Pin 39 VGH_EVEN *(-5V to 28V)
 Pin 40 VGH_ODD *(-5V to 28V)

Output from P601

Pin 34 VCC_18 (1.8V)
 Pin 21 H_VDD (8.48V)
 Pin 19, 20 VDD (16.92V)
 Pin 14 VST (-5V)
 Pin 12 VGH_EVEN *(-5V to 28V)
 Pin 11 VGH_ODD *(-5V to 28V)

*Changes once a second.

T-CON Board Key Voltages

VCC_18 = 1.8V (IC500 pin-1)

H_VDD= 8.48V (IC500 pin-25)

VDD = 16.92V (IC500 pin-23)

VST = -5V (IC501 pin-12)

VGH_EVEN * = -5V to 28V (IC500 pin-11)

VGH_ODD * = -5V to 28V (IC500 pin-10)

IC101



- 1) 3.29V
- 2) 0.13V
- 3) 0V
- 4) Gnd
- 5) 0V
- 6) 0V
- 7) 3.28V
- 8) 3.28V

IC300



- 1) 11.32V
- 2) 0.78V
- 3) 5.46V
- 4) 5.43V
- 5) Gnd
- 6) 1.81V
- 7) 7.2V
- 8) 11.64V

IC301



- 1) 3.2V
- 2) 0.77V
- 3) 3.44V
- 4) 3.4V
- 5) Gnd
- 6) 1.52V
- 7) 6.89V
- 8) 11.65V

IC303



- 1) 11.32V
- 2) 0.77V
- 3) 5.44V
- 4) 5.4V
- 5) Gnd
- 6) 3.28V
- 7) 8.64V
- 8) 11.64V

IC302



- 1) Gnd
- 2) 11.64V
- 3) Gnd
- 4) 0.8V
- 5) 0.75V
- 6) 3/22V
- 7) 1V
- 8) 1V

IC401



- 1) Gnd
- 2) Gnd
- 3) Gnd
- 4) Gnd
- 5) 3.31V
- 6) 3.31V
- 7) 3.3V
- 8) 3.31V

Q400



- B) 3.26V
- E) 3.28V
- C) 3.31V

Q401



- B) 0V
- E) 3.28V
- C) 3.31V

Q500



- B) 0.25V
- E) Gnd
- C) 4.53V

Q501



- B) 16.25V
- E) 16.93V
- C) 13.13V

Q600



- B) 3.28V
- E) 3.28V
- C) 3.29V

Q601



- B) 3.28V
- E) 3.28V
- C) 3.29V

D500



- A) Gnd
- C) 3.32V

D501



- A) 16.95V
- C) 11.62V

D502



- A) (0.45V)
- C) 4.53V

D503



- A) 20.27V
- C) 27.97V

D505



- A) (-5.09V)
- C) (-0.46V)

D506



- A) 13.13V
- C) 20.27V

DC-DC Conv	IC500 	On T-CON	DC-DC Conv	IC501 	On T-CON	
1) 1.8V		25) 4.96V				L100  1) 1.8V 2) 1.8V
2) 1.81V		26) 0.5V				
3) 3.27V		27) 3.28V				L101  1) 1.8V 2) 1.8V
4) 3.31V		28) 3.28V				
5) 1.01V		29) 4.99V				L102  1) 3.28V 2) 3.28V
6) 1.03V		30) 1.41V				
7) Gnd		31) 16.28V				
8) 3.32V		32) 27.96V				
9) 3.32V		33) 8.2V				
10) n/c		34) 3.62V				L103  1) 0.95V 2) 0.97V
11) 11.62V		35) (-5.08V)	1) 6.04V		15) (-5.08V)	
12) 11.62V		36) 0.25V	2) 6.04V		16) (-5.08V)	L201  1) 1.51V 2) 1.51V
13) 11.02V		37) 13.85V	3) 6.05V		17) 27.96V	
14) 11.62V		38) 12.83V	4) 6.04V		18) 27.96V	
15) 8.48V		39) 10.9V	5) 6.04V		19) 7.57V	
16) 8.48V		40) 6.54V	6) 6.04V		20) 7.54V	L302  1) 11.67V 2) 11.67V
17) Gnd		41) 4.59V	7) 5.08V		21) 16.92V	
18) Gnd		42) 3.5V	8) 27.93V		22) Gnd	
19) Gnd		43) 7.57V	9) (-5V)		23) 3.2V	L303  1) 11.66V 2) 11.66V
20) 11.6V		44) 7.54V	10) 27.9V to (-5V)		24) 0V	
21) 11.6V		45) 7.55V	11) 27.9V to (-5V)		25) 0V	
22) 16.94V		46) 7.5V	12) (-5V)		26) 0.06V	L307  1) 1.8V 2) 1.8V
23) 16.93V		47) 1.97V	13) 0V		27) 0V	
24) Gnd		48) Gnd	14) (-5.08V)		28) 2.71V	

L500 1) 11.64V
1  2) 11.65V

L501 1) 1.01V
1  2) 1.03V

L503 1) 1.80V
1  2) 1.81V

L600 1) 11.64V
1  2) 11.65V

25) 55LW5700 Interconnect

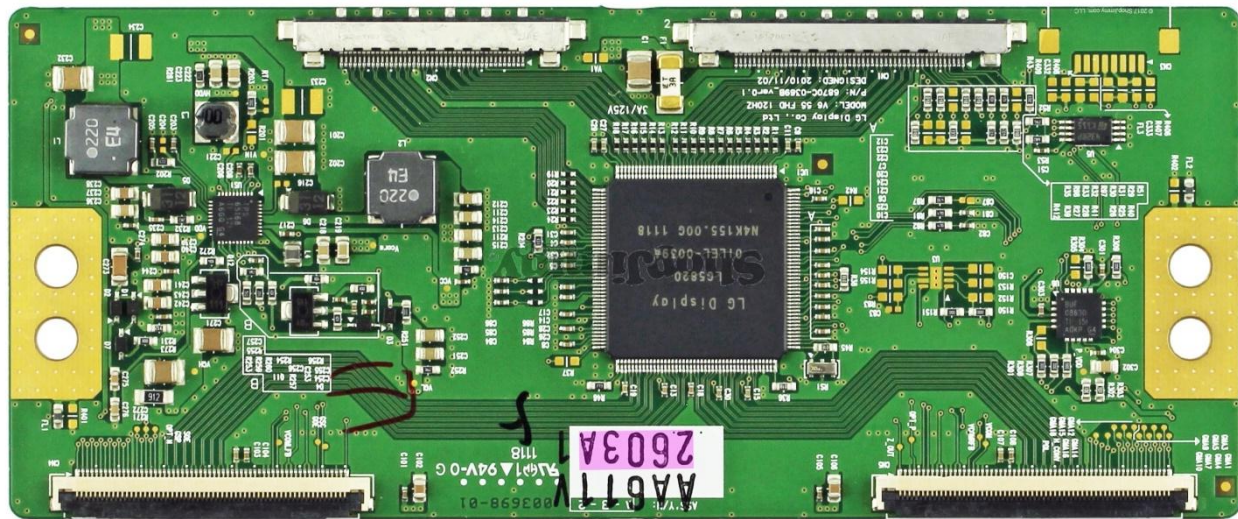
TV Models: LG 55LW5600_5700_6500

PANEL P/N:

Part Number: 6871L-2603A

T-con Board P/N: 6870C-0369B

DESC or Panel Sticker Number: LC550EUF-SDF1 (DESC: V6 55 FHD 120Hz)



Warning:

T-Con board under shield. Be sure to reinsert screws before operating set with shield removed.

Panel Test:

To run the T-con “Panel Test”, remove the LVDS cables. Jump 12V to the 12V fuse. Jump VCC 3.3V to pin-44 on CN1. White, Red, Blue, Green and Black patterns show on screen.

Pin 9, 10 VGH	27.74V	Pin 25, 26 VCC	3.3V
Pin 13, 14 VGL	-5V	Pin 20, 21 VDD	16.4V
Pin 22, 23 HVDD	8.21V		

U6 pin 10: (16.12V) to CN4 pin 2, CN5 pin 59	U6 pin 14: (5.9V) to CN4 pin 8, CN5 pin 53
U6 pin 11: (13.3V) to CN4 pin 3, CN5 pin 58	U6 pin 15: (4.05V) to CN4 pin 9, CN5 pin 52
U6 pin 12: (12.2V) to CN4 pin 4, CN5 pin 57	U6 pin 18: (3.01V) to CN4 pin 10, CN5 pin 51
U6 pin 13: (10.26V) to CN4 pin 5, CN5 pin 56	U6 pin 19: (2.36V) to CN4 pin 11, CN5 pin 50

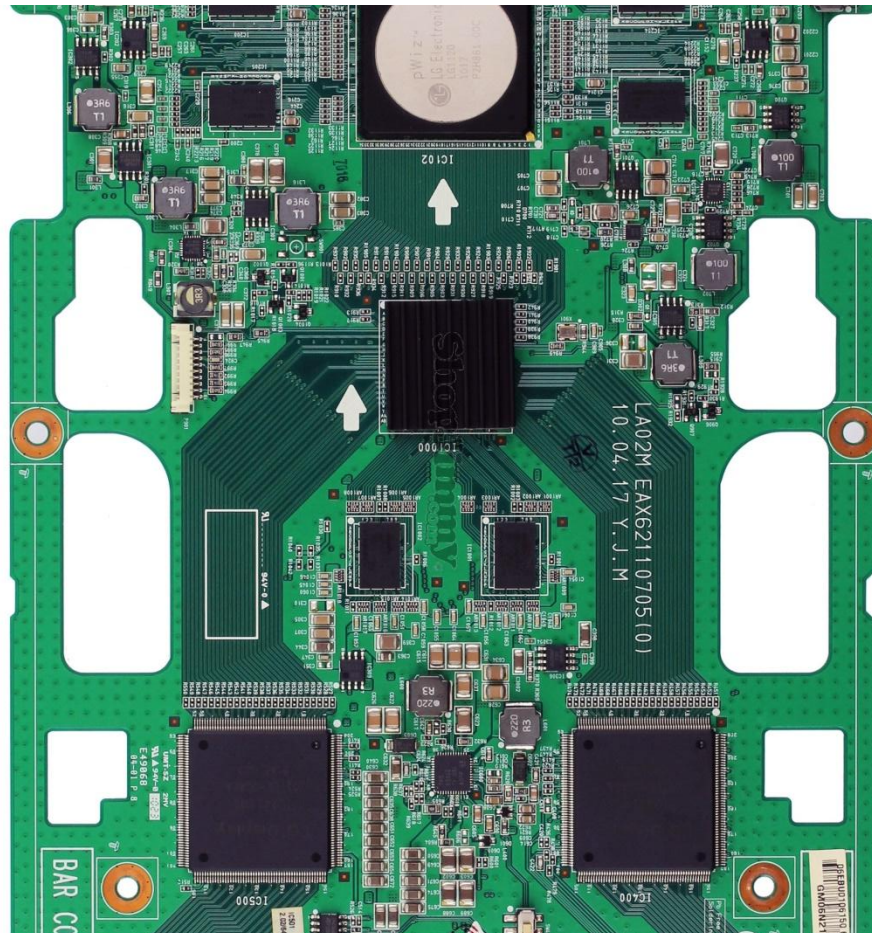
26) 55LX6500 Interconnect

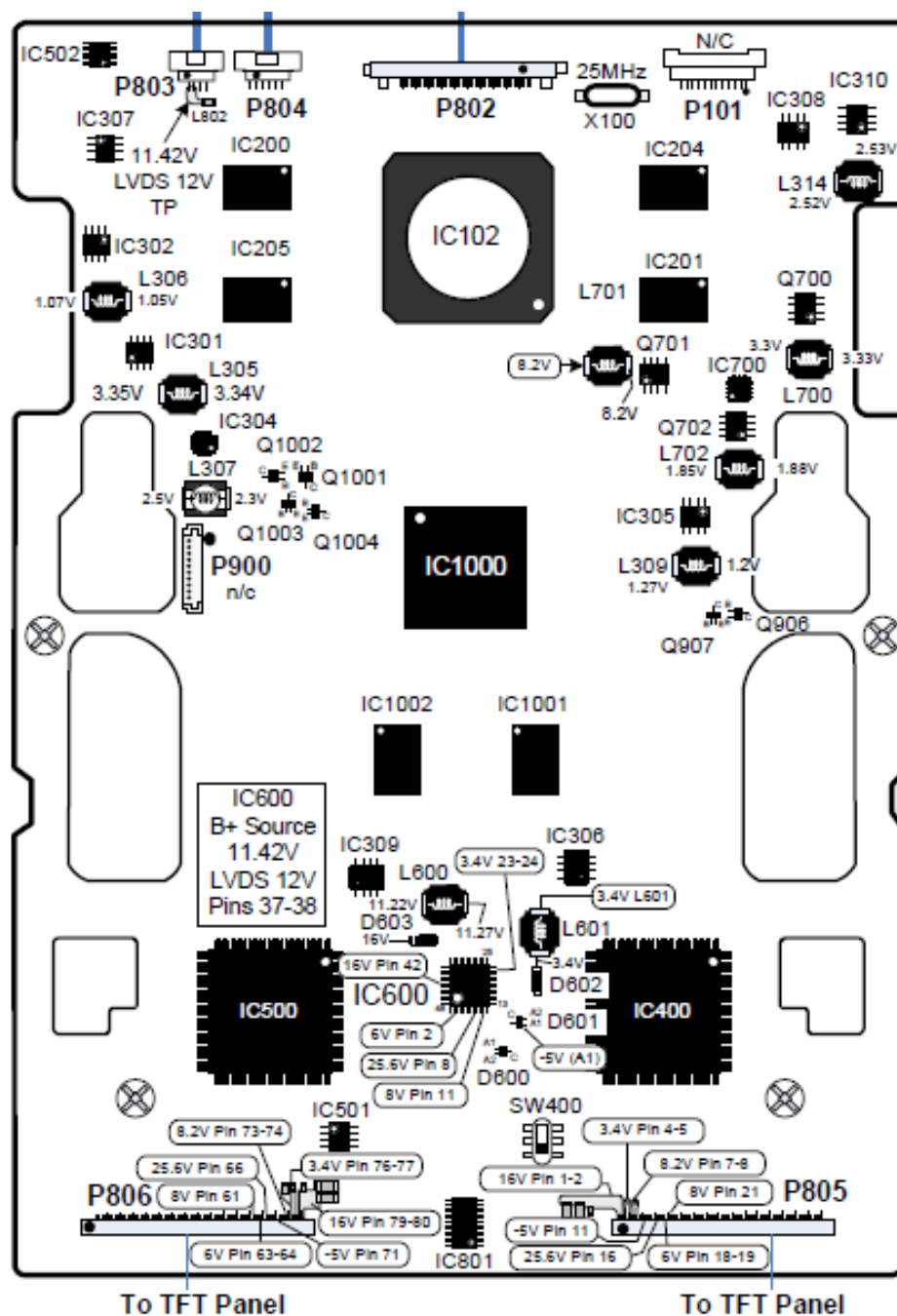
TV Models: LG 55LX6500

Part Number: EBU61004702

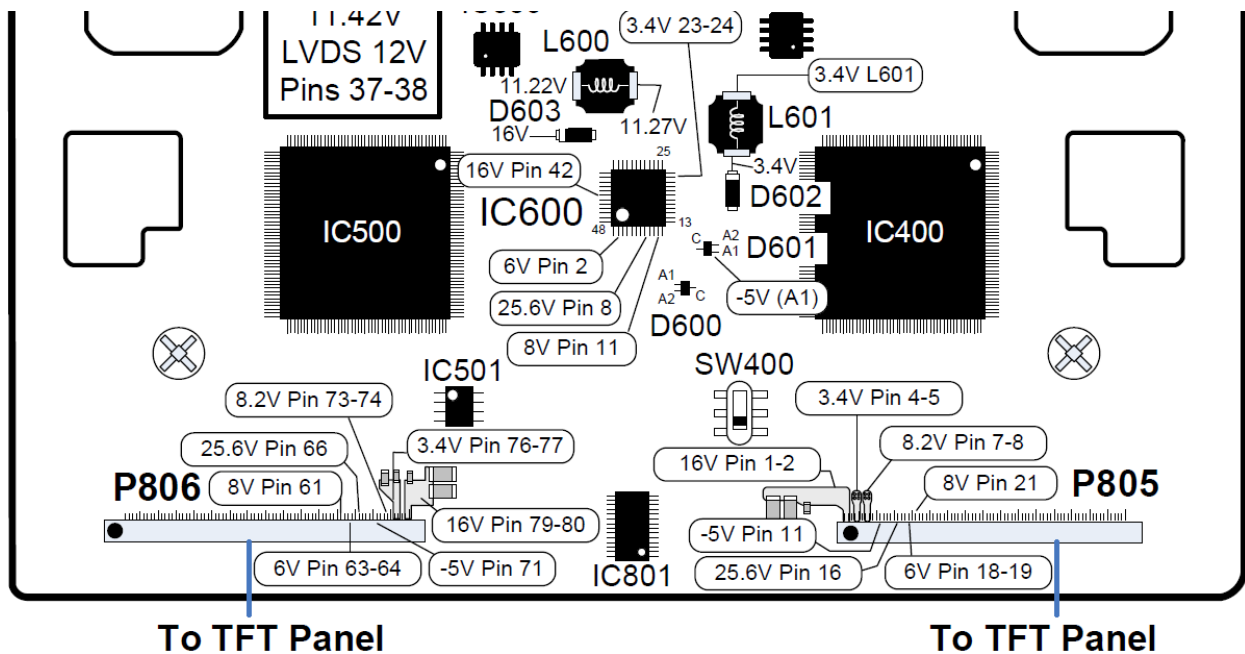
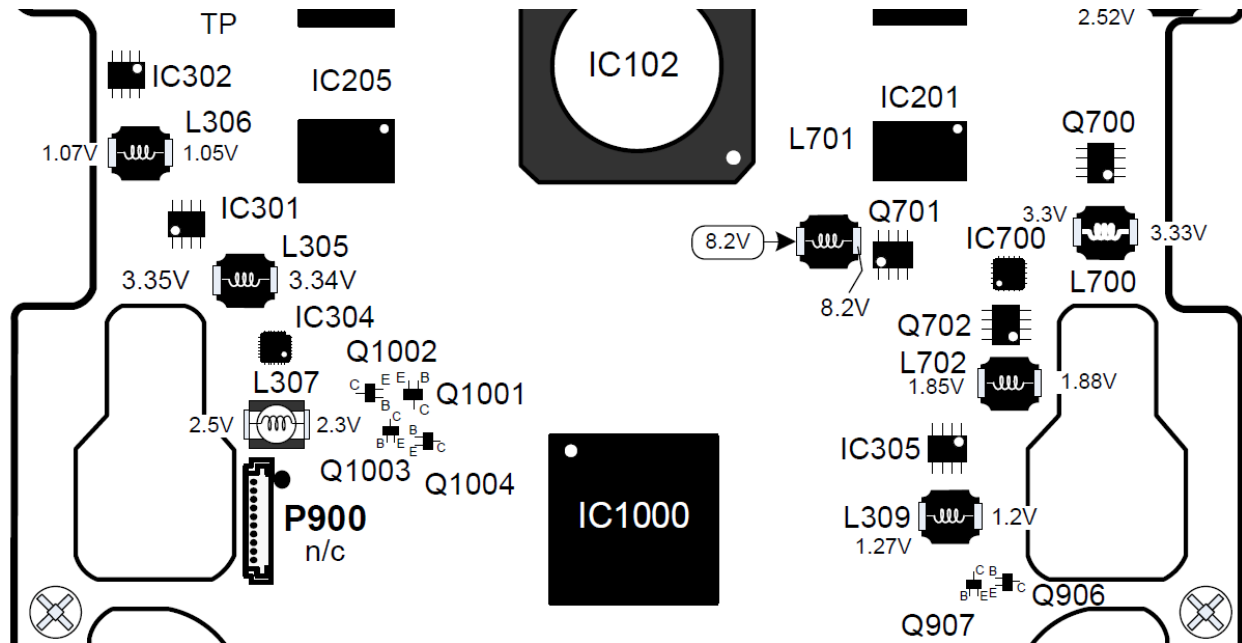
T-con Board P/N: EAX62110705(0)

DESC or Panel Sticker Number: LC550EUC-SCA1





More Clear of LG 55LX6500 T-CON Board Layout:



P803 "T-CON" to P7802 "Main"

Pin	LABEL	Run	Diode
1	PANEL_VCC	11.55V	Open
2	PANEL_VCC	11.55V	Open
3	Gnd	Gnd	Gnd
4	Gnd	Gnd	Gnd

P804 "TCON" to P7803 "Main Board"

Pin	LABEL	Run	Diode
1	Gnd	Gnd	Gnd
2	E_TCK	0V	Open
3	E_TDO	3.33V	Open
4	E_TMS	0.35V	Open
5	E_TDI	3.32V	Open
6	Gnd	Gnd	Gnd

P802 "T-CON" to P7800 "MAIN Board"

Pin	Label	Run	Diode Check	Pin	Label	Run	Diode Check
1	Gnd	Gnd	Gnd	24	RRXA4	1.26V	1.67V
*2	3D_Sync_Out	0.03V	2.34V	25	RRXA4+	1.08V	1.67V
3	V_SYNC	3.33V	1V	26	Gnd	Gnd	Gnd
4	SDA3_3.3V	3.34V	1.73V	27	n/c	n/c	n/c
5	SCL3_3.3V	3.34V	1.73V	28	RRXB0-	1.19V	1.67V
6	FRC_RESET	3.32V	Open	29	RRXB0+	1.19V	1.67V
7	n/c	n/c	n/c	30	RRXB1-	1.19V	1.67V
8	3DTV	0V	Open	31	RRXB1+	1.16V	1.67V
9	3D_DIM	0V	Open	32	RRXB2-	1.2V	1.67V
10	3D_DIM_2	0.05V	Open	33	RRXB2+	1.14V	1.67V
11	n/c	n/c	n/c	34	Gnd	Gnd	Gnd
12	RRXA0-	1.17V	1.67V	35	RRXBCK-	1.16V	1.67V
13	RRXA0+	1.19V	1.67V	36	RRXBCK+	1.2V	1.67V
14	RRXA1-	1.19V	1.67V	37	Gnd	Gnd	Gnd
15	RRXA1+	1.17V	1.67V	38	RRXB3-	1.22V	1.67V
16	RRXA2-	1.22V	1.67V	39	RRXB3+	1.14V	1.67V
17	RRXA2+	1.14V	1.67V	40	RRXB4-	1.26V	1.67V
18	Gnd	Gnd	Gnd	41	RRXB4+	1.09V	1.67V
19	RRXACK-	1.16V	1.67V	42-46	Gnd	Gnd	Gnd
20	RRXACK+	1.20V	1.67V	47	n/c	n/c	n/c
21	Gnd	Gnd	Gnd	48-51	PANEL_VCC	11.59V	Open
22	RRXA3-	1.20V	1.67V				
23	RRXA3+	1.14V	1.67V				

*Pin 2
(1.6V) with 3D source
5.5V p/p 60 Hz
3D-Sync



P805 LVDS to Panel

PIN	LABEL	RUN	PIN	LABEL	RUN	PIN	LABEL	RUN
1	VDD (16V)	16V	28	V6	11.08V	54	RLMVCLKP	1.19V
2	VDD (16V)	16V	29	V7	10.28V	55	RLMVCLKN	1.18V
3	Gnd	Gnd	30	V9	8.31V	56	Gnd	Gnd
4	VCC (3.3V)	3.4V	31	V10	7.71V	57	RLMV4P	1.15V
5	VCC (3.3V)	3.4V	32	V12	3.37V	58	RLMV4N	1.24V
6	Gnd	Gnd	33	V13	4.94V	59	RLMV5P	1.34V
7	HVDD (8V)	8.2V	34	V14	3.75V	60	RLMV5N	1.22V
8	HVDD (8V)	8.2V	35	V15	2.68V	61	RLMV6P	1.12V
9	Gnd	Gnd	36	V16	1.97V	62	RLMV6N	1.23V
10	OPT_P	n/c	37	V17	0.27V	63	Gnd	Gnd
11	VGL(-5V)	(-5V)	38	V18	0.26V	64	RRMV0P	1.13V
12	Gnd	Gnd	39	Gnd	Gnd	65	RRMV0N	1.23V
13	GOE	0.83V	40	GSP	0V	66	RRMV1P	1.15V
14	GSC	2.3V	41	POL	1.66V	67	RRMV1N	1.23V
15	Gnd	Gnd	42	Gnd	Gnd	68	RRMV2P	1.15V
16	VGH (26V)	25.6V	43	SOE_R	0.25V	69	RRMV2N	1.23V
17	Gnd	Gnd	44	H_CONV	0.44V	70	Gnd	Gnd
18	VCOMRFB	6V	45	OPT_N	3.33V	71	RRMVCLKP	1.19V
19	VCOM ROUT	6V	46	Gnd	Gnd	72	RRMVCLKN	1.18V
20	Gnd	Gnd	47	RLMVOP	0.15V	73	Gnd	Gnd
21	Z_OUT	8V	48	RLMVON	0.17V	74	RRMV4P	1.13V
22	Gnd	Gnd	49	RLMV1P	0.14V	75	RRMV4N	1.24V
23	V1	15.75V	50	RLMV1N	1.24V	76	RRMV5P	1.11V
24	V2	15.75V	51	RLMV2P	1.13V	77	RRMV5N	1.12V
25	V3	14V	52	RLMV2N	1.22V	78	RRMV6P	1.12V
26	V4	13.35V	53	Gnd	Gnd	79	RRMV6N	1.22V
27	V5	12.27V				80	Gnd	Gnd

P806 LVDS to Panel

PIN	LABEL	RUN	PIN	LABEL	RUN	PIN	LABEL	RUN
1	Gnd	Gnd	28	Gnd	Gnd	54	V14	3.75V
2	LLMV0P	1.19V	29	LRMV4P	1.15V	55	V15	2.68V
3	LLMV0N	1.24V	30	LRMV4N	1.25V	56	V16	0.27V
4	LLMV1P	1.18V	31	LRMV5P	1.18V	57	V17	0.26V
5	LLMV1N	1.3V	32	LRMV5N	1.26V	58	V18	0.26V
6	LLMV2P	1.15V	33	LRMV6P	1.17V	59	Gnd	Gnd
7	LLMV2N	1.29V	34	LRMV6N	1.25V	60	Gnd	Gnd
8	Gnd	Gnd	35	Gnd	Gnd	61	Z_OUT	8V
9	LLMVCLKP	1.22V	36	OPT_N	3.33V	62	Gnd	Gnd
10	LLMVCLKN	1.23V	37	H_CONV	Gnd	63	VCOMLOUT	6V
11	Gnd	Gnd	38	GSP	0V	64	VCOMLFB	6V
12	LLMV4P	1.18V	39	POL	1.66V	65	Gnd	Gnd
13	LLMV4N	1.26V	40	Gnd	Gnd	66	VGH (26V)	25.6V
14	LLMV5P	1.26V	41	SOE_L	0.24V	67	Gnd	Gnd
15	LLMV5N	1.27V	42	Gnd	Gnd	68	GSC	2.3V
16	LLMV6P	1.16V	43	V1	15.75V	69	GOE	0.83V
17	LLMV6N	1.26V	44	V2	15.75V	70	Gnd	Gnd
18	Gnd	Gnd	45	V3	14V	71	VGL (5V)	(-5V)
19	LRMV0P	1.17V	46	V4	12.26V	72	Gnd	Gnd
20	LRMV0N	1.28V	47	V5	11.07V	73	HVDD (8V)	8.2V
21	LRMV1P	1.15V	48	V6	11.07V	74	HVDD (8V)	8.2V
22	LRMV1N	1.26V	49	V7	10.27V	75	Gnd	Gnd
23	LRMV2P	1.17V	50	V9	8.31V	76	VCC (3.3V)	3.4V
24	LRMV2N	1.27V	51	V10	5.74V	77	VCC (3.3V)	3.4V
25	Gnd	Gnd	52	V12	Gnd	78	Gnd	Gnd
26	LRMVCLKN	1.21V	53	V13	4.94V	79	VDD (16V)	16V
27	LRMVCLKP	1.23V				80	VDD (16V)	16V

27) 79UB9800 Interconnect

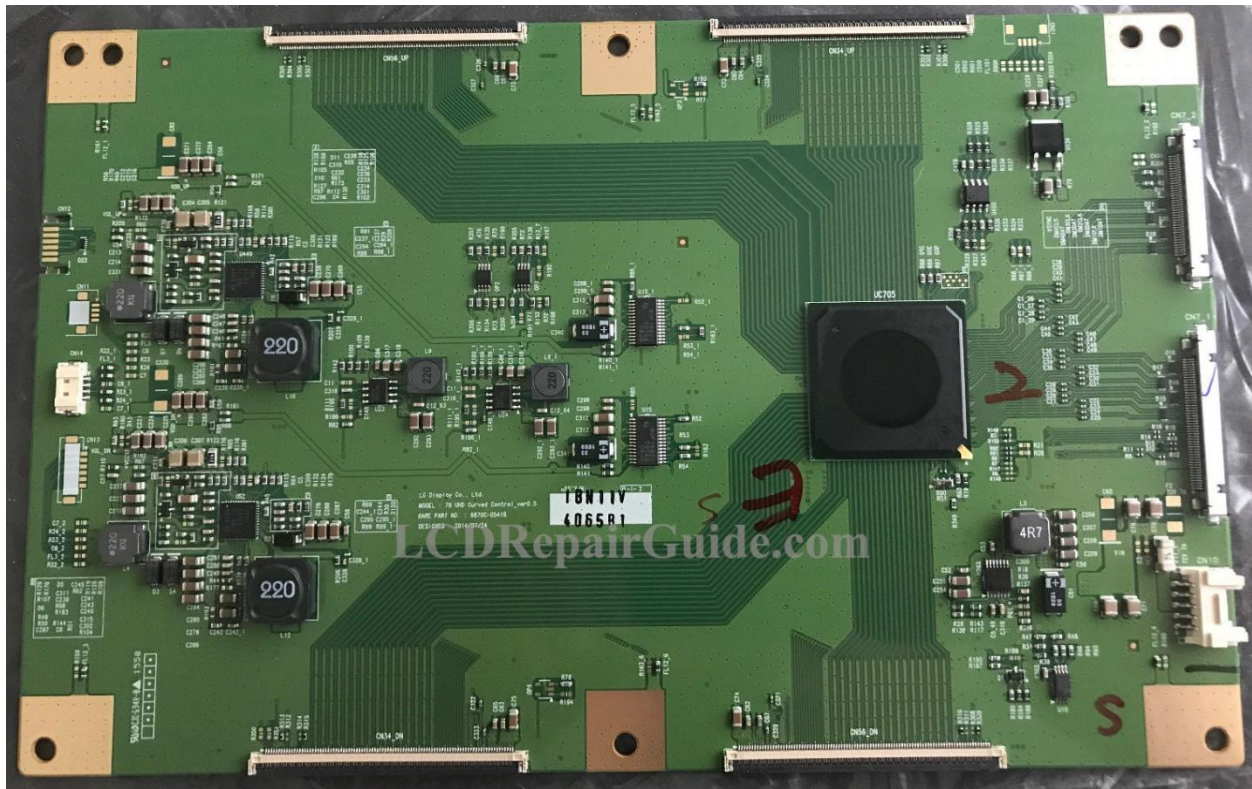
TV Models: LG 79UB9800, LG 79UF7700

PANEL P/N: EAJ62573301

Part Number:

T-con Board P/N: 6870C-0541B

DESC or Panel Sticker Number: (DESC: 79 UHD Curved Control)



Warning:

Be sure to install the screws in the T-CON board before applying power. Damage to the board will occur.

CN10 "T-CON" to P13401 "Main"

PIN	LABEL	RUN	Diode Check
3-5	12V	11.66	OL
1-2	Gnd	Gnd	Gnd

P201 "SMPS Board" to P13002 "MAIN Board"

PIN	LABEL	STBY	RUN	Diode Check
28	*V_SYNC	0V	0.02V	OL
27	*SIN	0V	0.07V	OL
26	*Gnd	Gnd	Gnd	Gnd
25	*SCLK	0V	0.04V	OL
23-24	Gnd	Gnd	Gnd	Gnd
18-22	24V	0V	24.38V	1.12V
16-17	Gnd	Gnd	Gnd	Gnd
11-15	12V	0V	11.74V	0.44V
9-10	Gnd	Gnd	Gnd	Gnd
7-8	3.5V	3.57V	3.46V	OL
6	Gnd	Gnd	Gnd	Gnd
5	3.5V	3.57V	3.46V	OL
4	⁽⁴⁾ P-DIM2	0V	0.94V	OL
3	⁽³⁾ P-DIM	0V	0.16V~3.25V	OL
2	DRV_ON	0V	3.07V	1.66V
1	PWR_ON	0V	3.34V	1.15V

* The last 4 pins go to the T-CON board CN14.

Pin 25 to pin 4, 26 to pin 3, 27 to pin 2, 28 to pin 1

Highly recommended other great related repair information for you:

With all these great repair information, it will help and improve your skills in troubleshooting and repairing OLED/LED/LCD/Plasma TV quickly and easily:
(Please click on the ebook cover to get more details)

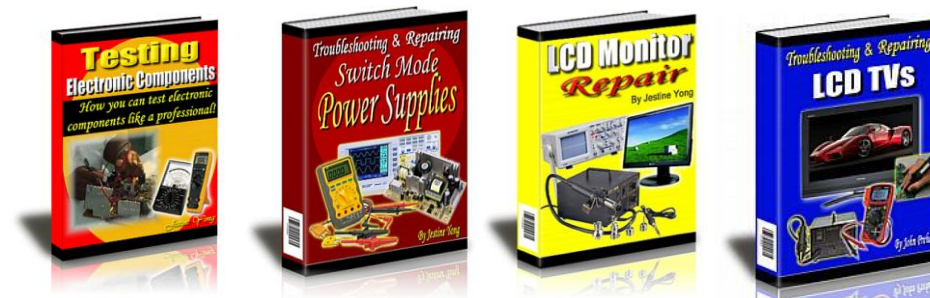


<http://www.LCDRepairGuide.com>

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