

7" TFT-LCD CONTROL BOARD SPECIFICATION

BUYER	
MODEL	

SUPPLIER	
MODEL	GVT070WV-V02

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1. GENERAL DESCRIPTION

1.1 DESCRIPTION

This Control Board is the PCB for driving of **WVGA** (800*480 pixels) TFT-LCD panel. Customer can use the **VGA** input signal. This model is composed of ADC, scaler for driving of the TFT-LCD and **LED driver** for the LED backlight.

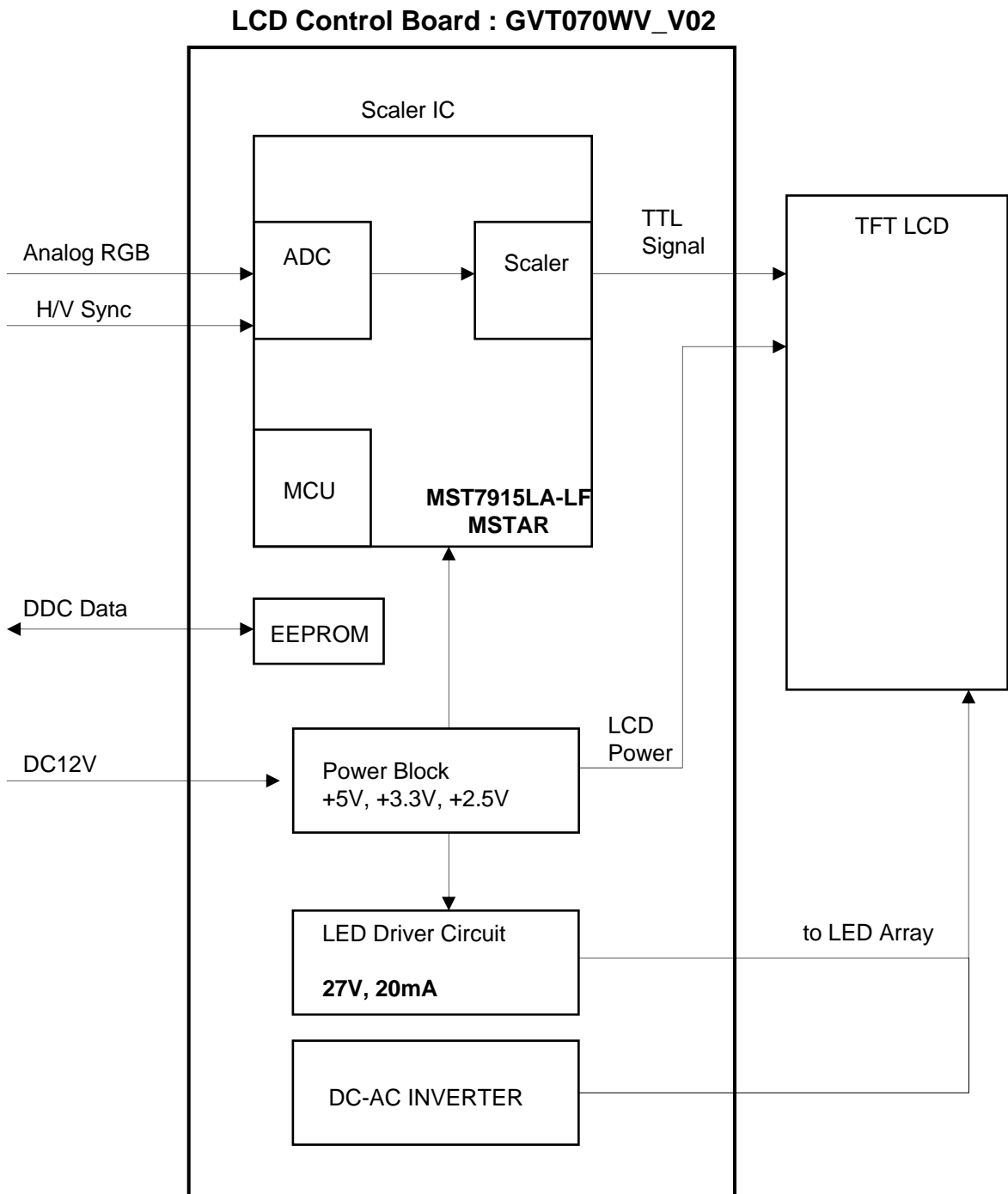
1.2 FEATURES

- Analog RGB (up to WXGA) input
- CVBS, S-VIDEO input
- 1ch, 8 bits TTL output
- Support Panel : LTP700WV-F01, LTE700WQ-F02 (Samsung)
- 3.3V LCD power
- LED Driver On-Board
- 12VDC power input
- Auto Power Off : Power off automatically after about 30 seconds when no signal input.

1.3 APPLICATIONS

- Display terminals for PC application products
- Monitors for Home Automation
- Notebook PC, Tablet PC and Web Pad
- Monitors for Industrial machine

2. Block Diagram



3. Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit	Note
Input Voltage	V_{IN}	-0.3	13.2	V	
Storage temperature	T_{STG}	-30	85	°C	
Operating temperature	T_{OPR}	0	65	°C	

4. Electrical Characteristics

Item		Sym.	Min.	Typ.	Max.	Unit	Note
Input Voltage		V_{IN}	11.4	12.0	12.6	V	
Input Current		I_{IN}	-	230	-	mA	(1)
Analog RGB Input	Video	V_{RGB}	-	0.7	1	Vp-p	(2)
	Sync	V_{SYNC}	-	5.0	-	V	
	Sync Level	V_{HIGH}	2.4	-	-	V	
		V_{LOW}	-	-	0.8	V	
	Horizontal Frequency	f_H	30		50	KHz	
	Vertical Frequency	f_V	-	60	-	Hz	
	Pixel Frequency	f_P	-		90	MHz	

Note

(1) Red, Green or Blue pattern

(2) Impedance Resistance 75ohm

5. In / Out Interface Signal Pin assignment

Analog RGB Input (CON1) (Connector : 2.54x2.54-2x8 Pin Header)

Pin No.	Signal	Description	Pin No.	Signal	Description
1	RED	Analog Red Data Input	9	NC	Open
2	GREEN	Analog Green Data Input	10	GND	Ground
3	BLUE	Analog Blue Data Input	11	NC	Open
4	GND	Ground	12	SCL	DDC Data
5	GND	Ground	13	HSYNC	Horizontal Sync Input
6	GND	Ground	14	VSYNC	Vertical Sync Input
7	GND	Ground	15	SDA	DDC Clock
8	GND	Ground	16	GND	Ground

Analog RGB Input (CN102) (Connector : 12505WR-15, YEONHO)

Pin No.	Signal	Description	Pin No.	Signal	Description
1	PWR	Power Supply(+12V)	9	BLUE	Analog Blue Data Input
2	PWR	Power Supply	10	GND	Ground
3	GND	Ground	11	HSYNC	Horizontal Sync Input
4	GND	Ground	12	VSYNC	Vertical Sync Input
5	RED	Analog Red Data Input	13	GND	Ground
6	GREEN	Analog Green Data Input	14	NC	Open
7	GREEN	Analog Green Data Input	15	NC	Open
8	GND	Ground			

VIDEO Input (CN101) (Connector : 12505WR-15, YEONHO)

Pin No.	Signal	Description	Pin No.	Signal	Description
1	GND	Ground	7	CVBS	VIDEO SIGNAL
2	GND	Ground	8	GND	Ground
3	S-Y	Y SIGNAL of S-VIDEO	9	GND	Ground
4	GND	Ground	10	GND	Ground
5	S-C	C SIGNAL of S-VIDEO	11	PWR	Power Supply(+12V)
6	GND	Ground	12	PWR	Power Supply(+12V)

Power Input (CN304)
(Connector : SMW200-02, YEONHO)

Pin No.	Signal	Description
1	GND	Ground
2	+12V	Power Supply

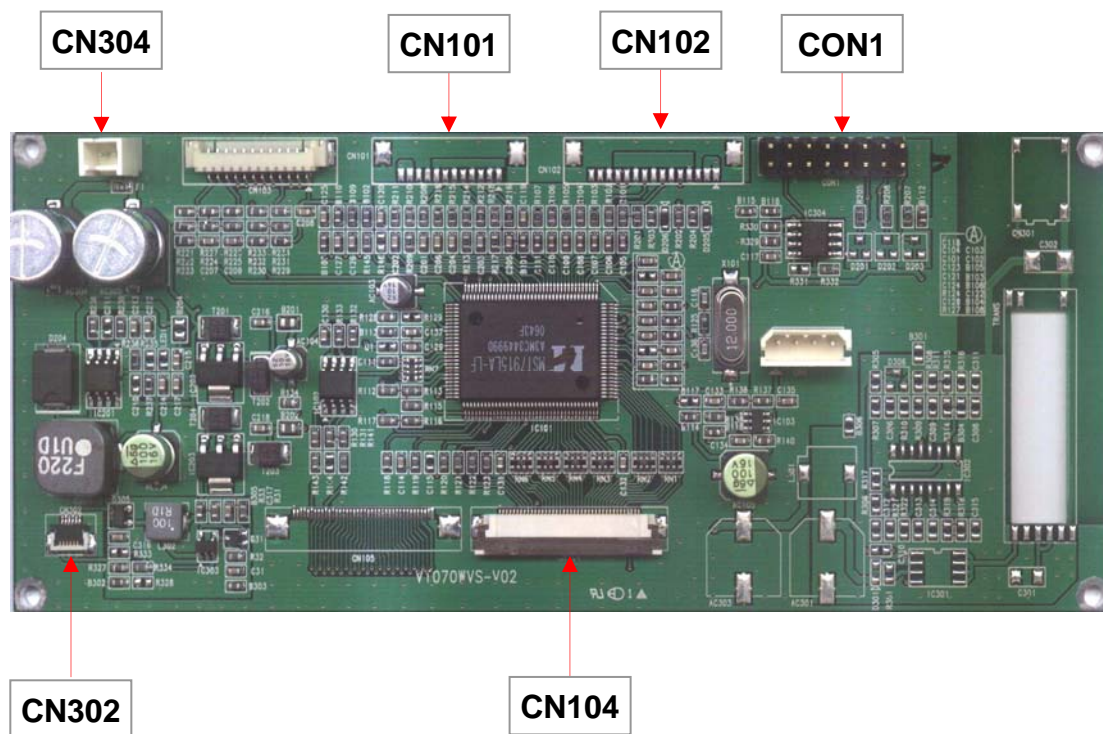
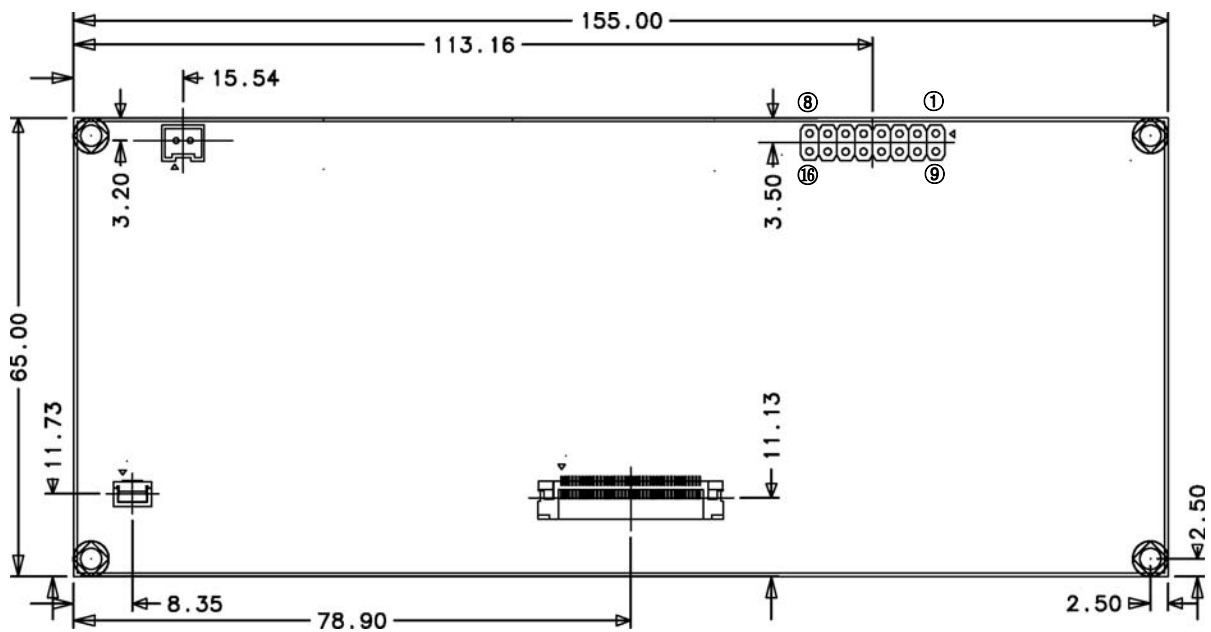
LED Driver Output (CN302) for LED Array
(Connector : 04-6298-006-000-883, Kyocera-ELCO)

Pin No.	Signal	Description
1	GND	Ground
2	+27V	LED Power Supply
3	GND	Ground
4	+27V	LED Power Supply
5	GND	Ground
6	+27V	LED Power Supply

TTL output (CN104) for TFT-LCD interface
(Connector :05002HR-40A02, YEONHO)

Pin No.	Signal	Description	Pin No.	Signal	Description
1	NC	No Connect	21	G7	Green data (MSB)
2	NC	No Connect	22	G6	Green data
3	GND	Ground	23	G5	Green data
4	GND	Ground	24	G4	Green data
5	NC	No Connect	25	G3	Green data
6	NC	No Connect	26	G2	Green data
7	DE	Data Enable	27	G1	Green data
8	VSYNC	Vertical Sync	28	G0	Green data (LSB)
9	HSYNC	Horizontal Sync	29	R7	Red data (MSB)
10	PON	LCD Power On / Off	30	R6	Red data
11	DCLK	Dot Clock	31	R5	Red data
12	GND	Ground	32	R4	Red data
13	B7	Blue data (MSB)	33	R3	Red data
14	B6	Blue data	34	R2	Red data
15	B5	Blue data	35	R1	Red data
16	B4	Blue data	36	R0	Red data (LSB)
17	B3	Blue data	37	VDD	LCD Power Supply (+3.3V)
18	B2	Blue data	38	VDD	LCD Power Supply (+3.3V)
19	B1	Blue data	39	GND	Ground
20	B0	Blue data (LSB)	40	GND	Ground

6. Dimension & Picture



7. VGA Mode Table

Mode	Pixel Freq.	Horizontal Timing				Vertical Timing			
		Sync Polarity	Freq.	Total	Active	Sync Polarity	Freq.	Total	Active
	MHz	+/-	KHz	Pixel	Pixel	+/-	Hz	Line	Line
720x400 @70Hz	28.287	N	31.430	900	720	P	70.000	449	400
640x480 @60Hz	25.175	N	31.469	800	640	N	59.940	525	480
800x600 @60Hz	40.000	P	37.879	1056	800	P	60.317	628	600
1024x768 @60Hz	65.000	N	48.363	1344	1024	N	60.005	806	768
1280x768 @60Hz	79.500	P	47.800	1664	1280	N	59.900	798	768