

15,9" Wide Screen Monitor Typ 1 w/o TouchScreen DMXX3600-1

User Manual

(1st Edition 28/06/2017)
All information is subject to change without notice.

Record of Revision

Version and Date	Page	Old Description	New Description	Remark
Jan/21/2010	all		Initial release	

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1 General Description

The DMXX3600-1 is a 15.9 inch color TFT-LCD display with special aspect ratio 16:6.4 and wide resolution 1280 x 512.

It is designed for high brightness 1000 nits with power efficiency LED backlight. It provides LCD panel with specific aspect ratios and sunlight readable for digital signage, public transportation, exhibition hall, department store, and vending machine.

1.1 Features

- Resizing LCD
- High Brightness 1000 nits
- Sunlight Readable
- LED Backlight
- Slim Bezel
- BL MTBF: 70,000 hours

1.2 General Specifications

Model Name	DMXX3600-1
Description	15.9" Resizing LCD, 1000 nits LED backlight, 1280x512
Screen Size	15.9"
Display Area (mm)	376.3(H) x 150.5(V)
Brightness	1000 cd/m ²
Resolution	1280x512
Aspect Ratio	16 : 6.4
Contrast Ratio	1000 : 1
Pixel Pitch (mm)	0.294(H) x 0.294(V)
Pixel Per Inch (PPI)	86
Viewing Angle	170°(H),160°(V)
Color Saturation (NTSC)	79%
Display Colors	16.7M
Response Time (Typical)	5ms
Panel Interface	LVDS
AD Board Input Interface	VGA,DVI-D
Input Power	DC12V
Power Consumption	15W
OSD Key	4 Keys (Power Switch, Menu, +, -)
OSD Control	Brightness, Color, Contrast, H/V Position...etc
Dimensions (mm)	398.4 x 176.2 x 52.7
Bezel Size(U/B/L/R)	10.85/10.85/9.05/9.05 mm
Weight (Net)	2.5 kg
Mounting (mm)	VESA 75x75, 100x100
Operating Temperature	0 °C ~ 50 °C
Storage Temperature	-20 °C ~ 60 °C

1.3 Absolute Maximum Ratings

Permanent damage may occur if exceeding the following maximum rating.

TFT LCD Module

Item	Symbol	Min	Max	Unit	Conditions
Logic/LCD Drive	VDD	-0.3	6.0	[Volt]	Note 1, 2

Absolute Ratings of Environment

Item	Symbol	Min.	Max.	Unit	Conditions
Operating Temperature	TOP	0	+50	[°C]	Note 3
Glass Surface Temperature	TGS	0	+65	[°C]	Note3 Note4
Operation Humidity	HOP	5	90	[%RH]	Note 3
Storage Temperature	TST	-20	+60	[°C]	
Storage Humidity	HST	5	90	[%RH]	

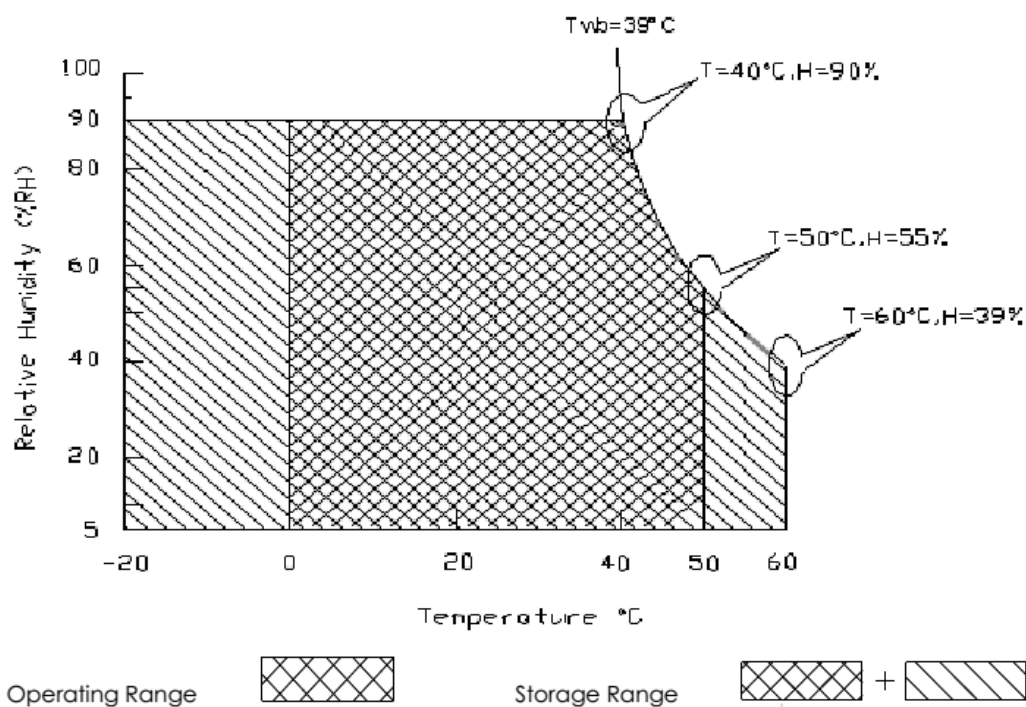
Note 1: With in Ta (25 °C)

Note 2: Permanent damage to the device may occur if exceeding maximum values

Note 3: Temperature and relative humidity range are shown as the below figure.

1. 90% RH Max (Ta ≤ 39 °C)
2. Max wet-bulb temperature at 39 °C or less . (Ta ≤ 39 °C)
3. No condensation

Note 4: Function Judged only



2 Electrical Specifications

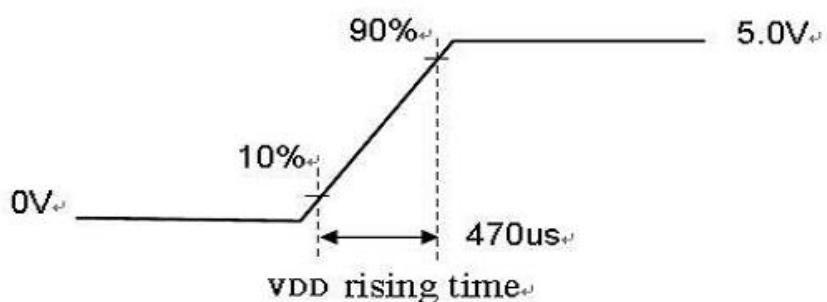
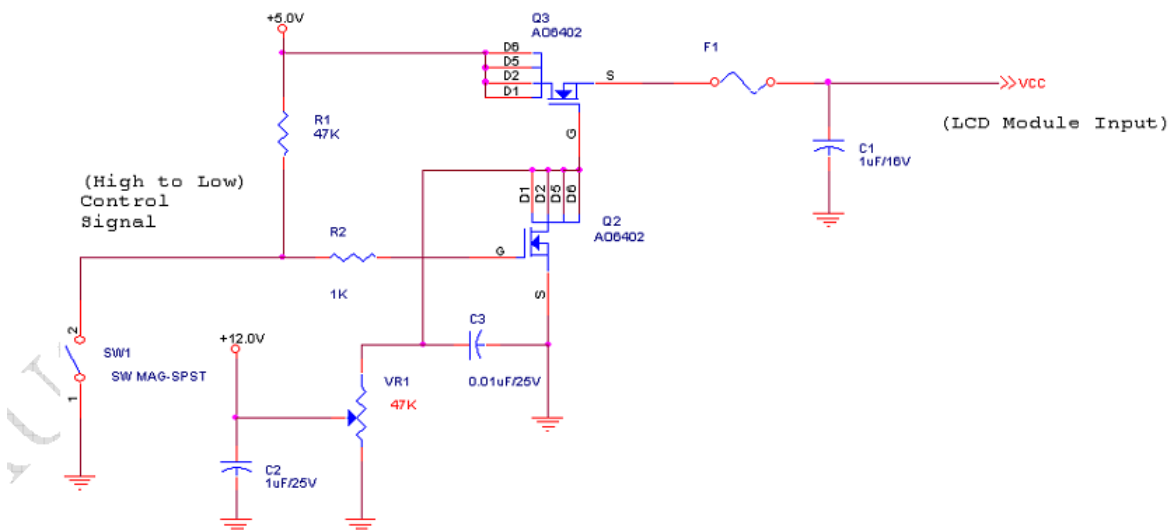
2.1 Power Specification

Input power specifications are listed as follows:

Symbol	Description	Min	Typ.	Max	Unit	Conditions
VDD	Logic/LCD Drive Voltage	4.5	5.0	5.5	[Volt]	+/-10%
IDD1	Input Current	-	0.53	0.64	[A]	VDD= 5.0V, All black Pattern at 60 Hz
		-	0.61	0.73	[A]	VDD= 5.0V, All black Pattern at 75 Hz
PDD1	VDD Power	-	2.7	3.2	[Watt]	VDD= 5.0V, All black Pattern at 60 Hz
		-	3.05	3.7	[Watt]	VDD= 5.0V, All black Pattern at 75 Hz
IRush	Inrush Current	-	-	3	[A]	Note 1
VDDrp	Allowable Logic/LCD Drive Ripple Voltage	-	-	500	[mV] p-p	VDD= 5.0V, All black Pattern at 75 Hz

Note 1: Measurement Conditions:

The duration of rising time of power input is 470 us.



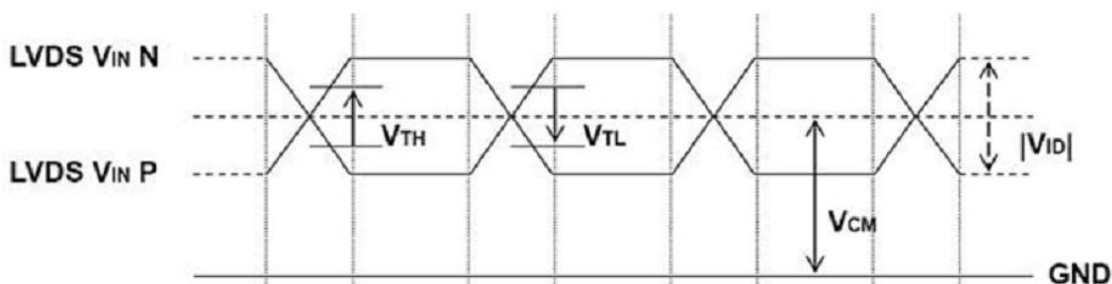
2.2 Signal Electrical Characteristics

(1) DC Characteristics of each signal are as following:

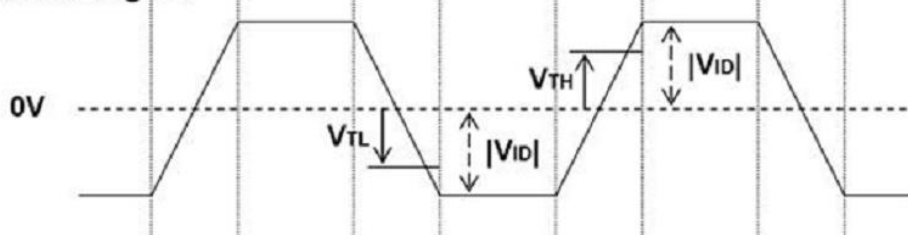
Symbol	Description	Min	Typ	Max	Units	Conditions
V_{TH}	Differential Input High Threshold	-	-	+100	[mV]	$V_{CM} = 1.2V$ Note 1
V_{TL}	Differential Input Low Threshold	-100	-	-	[mV]	$V_{CM} = 1.2V$ Note 1
$ V_{ID} $	Input Differential Voltage	100	-	600	[mV]	Note 1
V_{CM}	Differential Input Common Mode Voltage	+1.0	+1.2	+1.5	[V]	$V_{TH}-V_{TL} = 200mV$ (max) Note 1

Note 1: LVDS Signal Waveform

Single-End

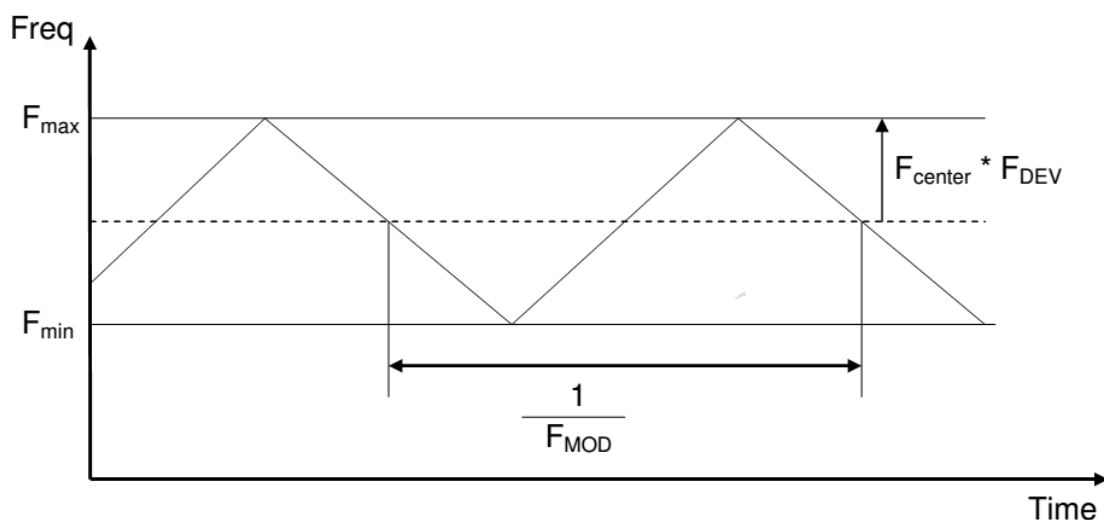


Differential Signal



(2) AC Characteristics

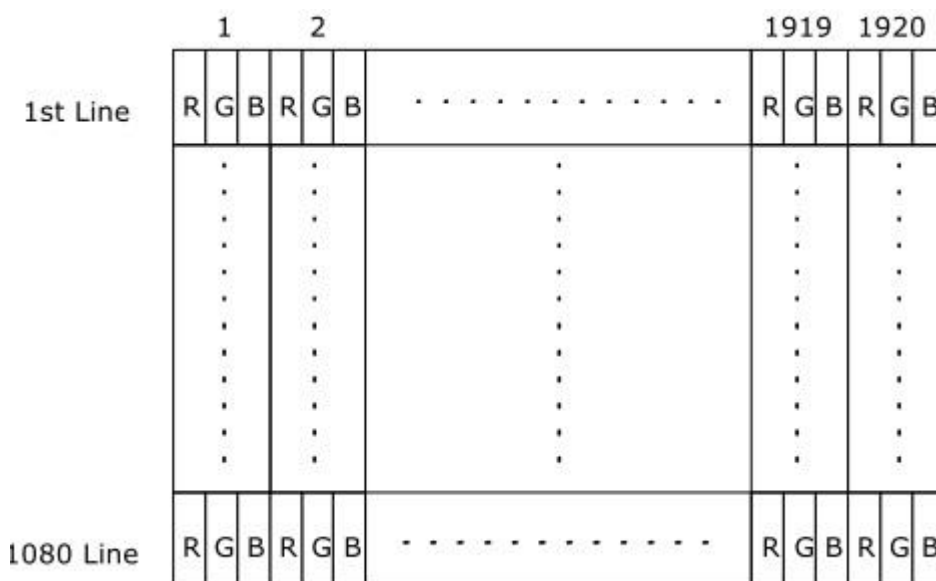
Symbol	Description	Min	Max	Units	Conditions
F_{DEV}	Maximum deviation of input clock frequency during SSC	-	± 3	%	
F_{MOD}	Maximum modulation frequency of input clock during SSC	-	200	KHz	



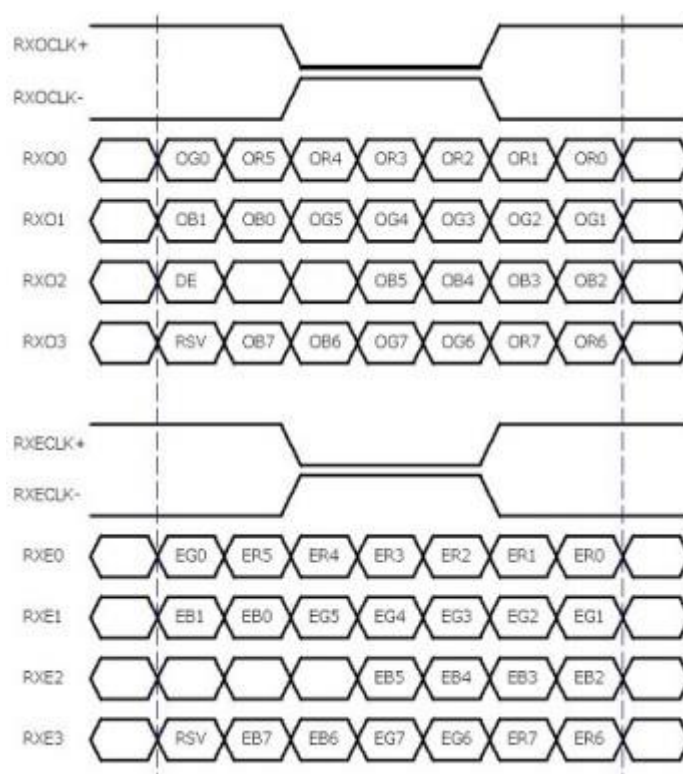
< Spread Spectrum >

2.3 Pixel Format Definition

Following figure shows the relationship between the input signals and LCD pixel format.



2.4 Input Data Format Definition



Note 1: R/G/B data 7:MSB, R/G/B data 0:LSB O = "Odd Pixel Data"
E = "Even Pixel Data"

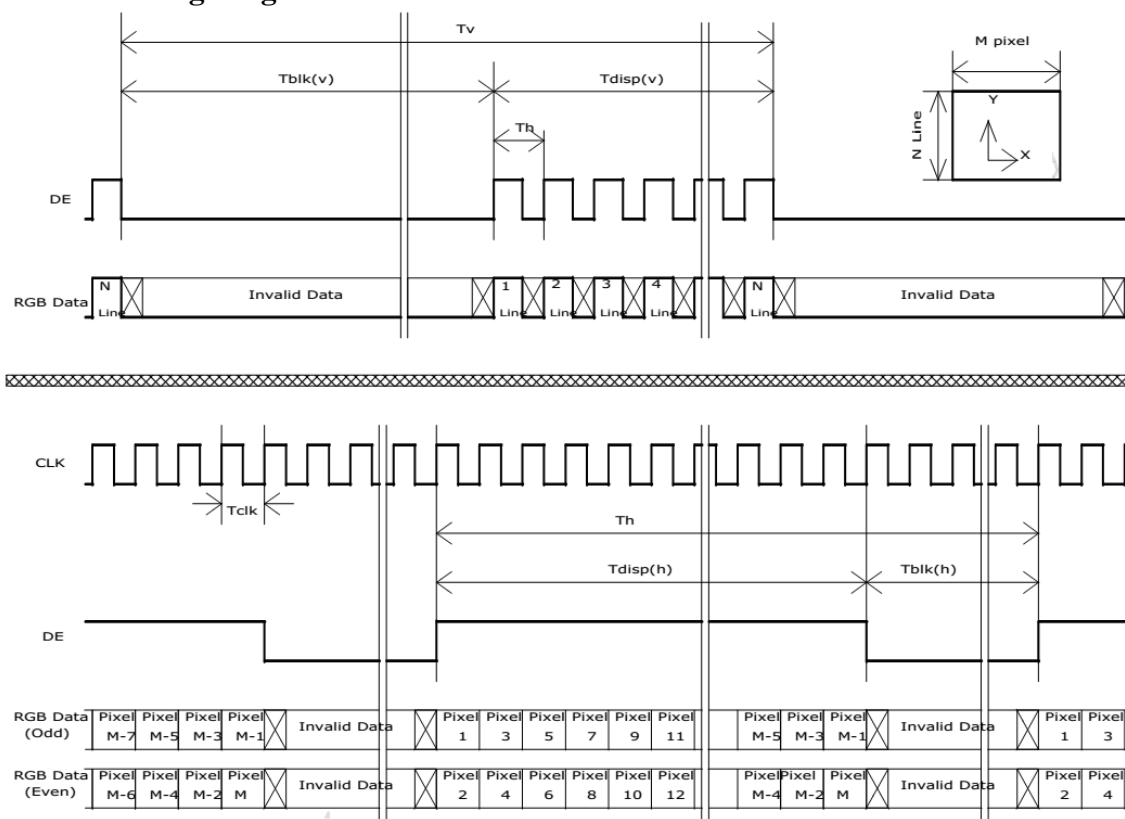
2.5 Timing Characteristics

The input signal timing specifications are shown as the following table

Signal	Item	Symbol	Min	Typ	Max	Unit
Vertical Section	Period	Tv	1036	1066	1873	Th
	Active	Tdisp(v)	1024	1024	1024	Th
	Blanking	Tbp(v)+Tfp(v)+PWvs	12	42	849	Th
Horizontal Section	Period	Th	730	844	1320	Tclk
	Active	Tdisp(h)	640	640	640	Tclk
	Blanking	Tbp(h)+Tfp(h)+PWhs	90	204	680	Tclk
Clock	Period	Tclk	14.6	18.5	26.4	ns
	Frequency	Freq	37.8	54	68.4	MHz
Frame rate	Frame rate	F	50	60	76	Hz
Hsync Frequency	Hsync Frequency	HFreq	51.8	64	93.7	KHz

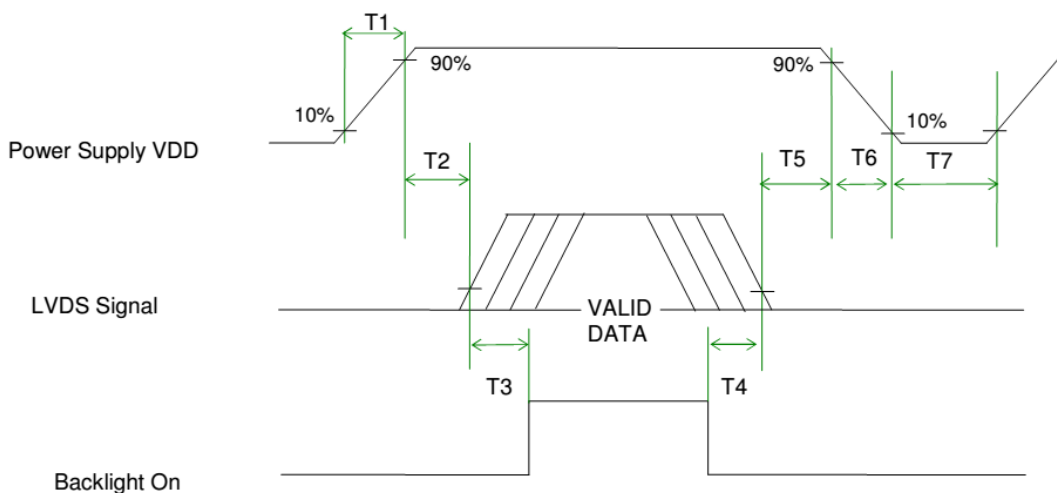
Note 1: DE mode only

2.5.1 Timing Diagram



2.6 Power ON/OFF Sequence

VDD power and lamp on/off sequence are as follows. Interface signals are also shown in the chart. Signals from any system shall be Hi-Z state when VDD is off.



Power Sequence Timing

Parameter	Value			Unit
	Min.	Typ.	Max.	
T1	0.5	-	10	[ms]
T2	0	-	50	[ms]
T3	500	-	-	[ms]
T4	100	-	-	[ms]
T5	0	-	50	[ms] Note 1,2
T6	5	-	100	[ms] Note 1,2
T7	1000	-	-	[ms]

Note1 :Recommend setting T5 = 0ms to avoid electronic noise when VDD is off.

Note2 : During T5 and T6 period , please keep the level of input LVDS signals with Hi-Z state.

2.7 Connector and Pin Assignment

Physical interface is described as for the connector on module. These connectors are capable of accommodating the following signals and will be following components.

2.7.1 Signal Description

PIN #	SIGNAL NAME	DESCRIPTION
1	RxOIN0-	Negative LVDS differential data input (Odd data)
2	RxOIN0+	Positive LVDS differential data input (Odd data)
3	RxOIN1-	Negative LVDS differential data input (Odd data)
4	RxOIN1+	Positive LVDS differential data input (Odd data)
5	RxOIN2-	Negative LVDS differential data input (Odd data, DSPTMG)
6	RxOIN2+	Positive LVDS differential data input (Odd data, DSPTMG)
7	GND	Power Ground
8	RxOCLK-	Negative LVDS differential clock input (Odd clock)
9	RxOCLK+	Positive LVDS differential clock input (Odd clock)
10	RxOIN3-	Negative LVDS differential data input (Odd data)
11	RxOIN3+	Positive LVDS differential data input (Odd data)
12	RxEIN0-	Negative LVDS differential data input (Even data)
13	RxEIN0+	LVDS differential data input (Even data)
14	GND	Power Ground
15	RxEIN1-	Negative LVDS differential data input (Even data)
16	RxEIN1+	Positive LVDS differential data input (Even data)
17	GND	Power Ground
18	RxEIN2-	Negative LVDS differential data input (Even data)
19	RxEIN2+	Positive LVDS differential data input (Even data)
20	RxECLK-	Negative LVDS differential clock input (Even clock)
21	RxECLK+	Positive LVDS differential clock input (Even clock)
22	RxEIN3-	Negative LVDS differential data input (Even data)
23	RxEIN3+	Positive LVDS differential data input (Even data)
24	GND	Power Ground
25	NC	No connection (for AUO test only. Do not connect)
26	NC	No connection (for AUO test only. Do not connect)
27	NC	No connection (for AUO test only. Do not connect)
28	VDD	Power +5V
29	VDD	Power +5V
30	VDD	Power +5V

2.7.2 TFT LCD Module

Connector Name / Designation	Interface Connector / Interface Card
Manufacturer	P-TWO / STM
Type Part Number	187034-30091 / MSBKT2407P30HB
Mating Housing Part Number	FI-X30HL (Locked Type)

2.7.3 Pin Assignment

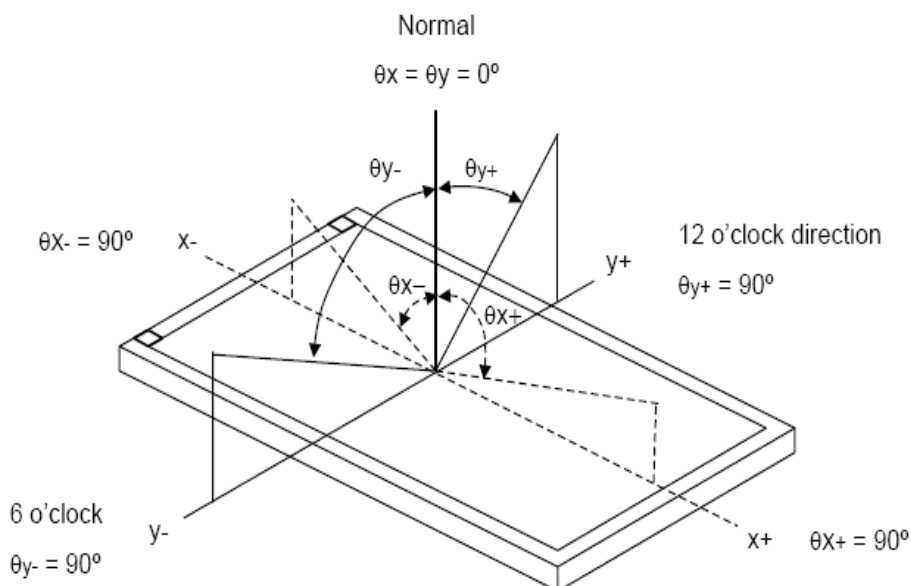
Pin#	Signal Name	Pin#	Signal Name
1	RxOIN0-	2	RxOIN0+
3	RxOIN1-	4	RxOIN1+
5	RxOIN2-	6	RxOIN2+
7	GND	8	RxOCLKIN-
9	RxOCLKIN+	10	RxOIN3-
11	RxOIN3+	12	RxEIN0-
13	RxEIN0+	14	GND
15	RxEIN1-	16	RxEIN1+
17	GND	18	RxEIN2-
19	RxEIN2+	20	RxECLKIN-
21	RxECLKIN+	22	RxEIN3-
23	RxEIN3+	24	GND
25	NC (for AUO test only. Do not connect)	26	NC (for AUO test only. Do not connect)
27	NC (for AUO test only. Do not connect)	28	VDD
29	VDD	30	VDD

3 Optical Specification

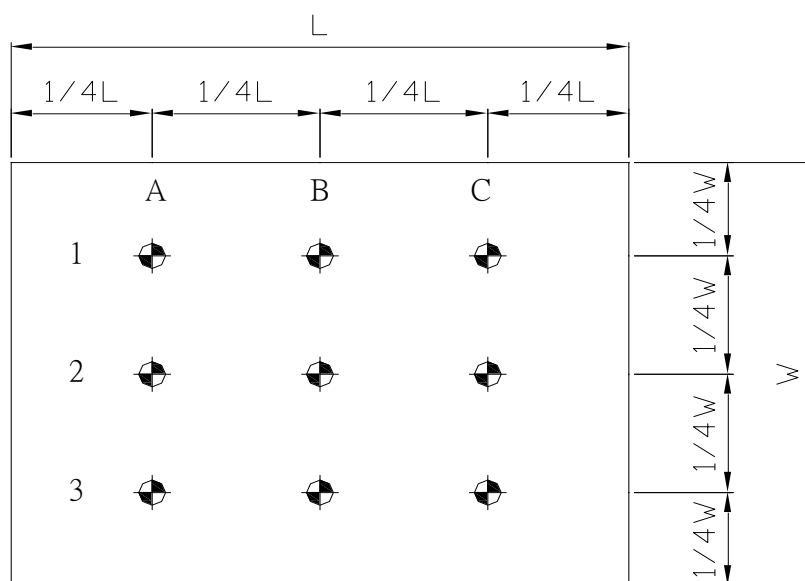
Item		Symbol	Condition	Min.	Typ.	Max.	Unit	Note
Color chromaticity	Red	R _x	$\theta_x=0$ $\theta_y=0$ BM-7	0.609	0.645	0.669	-	Test Mode: (1) (2) (3)
		R _y		0.316	0.344	0.376	-	
	Green	G _x		0.294	0.319	0.354	-	
		G _y		0.597	0.623	0.657	-	
	Blue	B _x		0.124	0.144	0.184	-	
		B _y		0.024	0.052	0.084	-	
	White	W _x		0.283	0.303	0.343	-	
		W _y		0.299	0.335	0.359	-	
Center Luminance of White		L _c		1000		cd/m ²		
Uniform		L _u		85		%		
Contrast Ratio		CR	$\theta_x=0$		1000		-	Test Mode: (1) (4)
Color Saturation		NTSC	$\theta_y=0$ Klein K-10		79		%	
Viewing Angle	Horizontal	θ_{x+}	$CR \geq 10$		85		Deg	Test Mode: (1) (3)
		θ_{x-}			85			
	Vertical	θ_{y+}			80			
		θ_{y-}			80			

Test Mode :

(1) Definition of Viewing Angle (θ_x , θ_y):

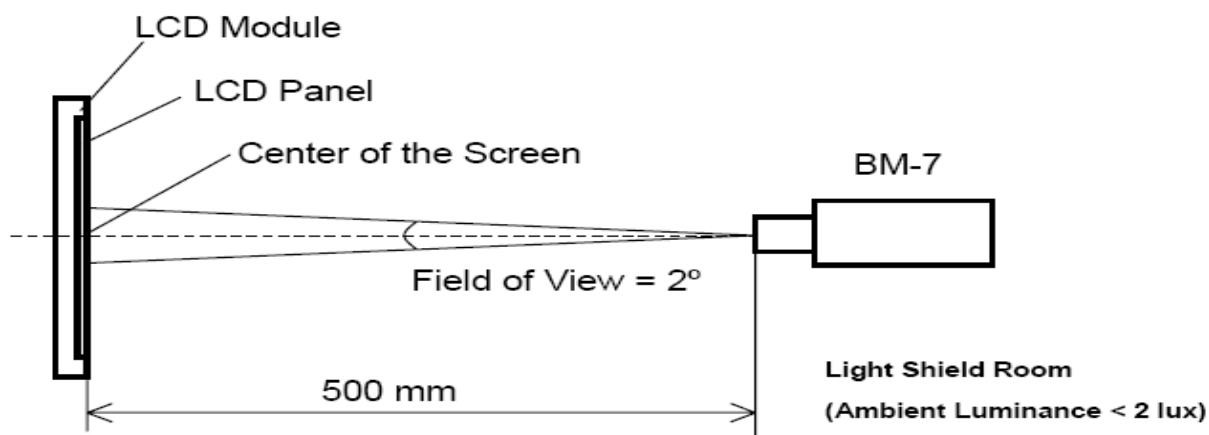


(2) Definition of Test Point:

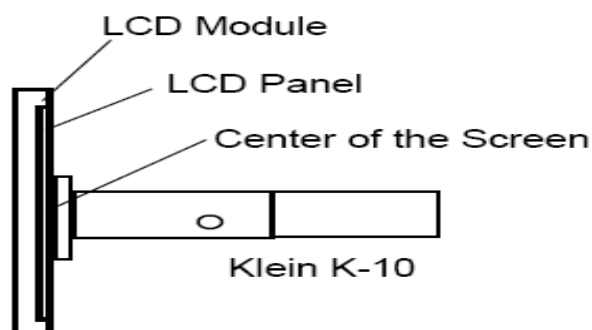


Active Area

(3) BM-7 Measurement Setup:



(4) Klein K-10 Measurement Setup:



4 LED Driving Board Specifications

This specification is applied to LED converter unit for LED backlight.

4.1 Operating Characteristics

Item	Symbol	Conditions	MIN.	TYP.	MAX.	Unit	Remark
Input Voltage	V _{in}		10.0	12.0	14.0	V	
Input Current (Low Brightness)	I _{inL}	V _{IN} =12V, V _{adj} =5V	0.0	-	-	mA	
Input Current (High Brightness)	I _{inH}	V _{IN} =12V, V _{adj} =0V	1.1	0.95	0.84	A	1
LED Current (Low Brightness)	I _{outL}	V _{IN} =12V, V _{adj} =5V	0.0	-	-	Arms	
LED Current (High Brightness)	I _{outH}	V _{IN} =12V, V _{adj} =0V	580	590	600	A	
Working Frequency	Freq	V _{IN} =12V, V _{adj} =0V	230	235	240	KHz	
Brightness Control	V _{adj}	Connect to Voltage	0.2		4.8	V	V _{adj} ±5%
ON/OFF Control	V _{on}	Normal Operation	2	-	5	V	
	V _{off}	Normal Operation	0	-	0.8	V	
Output Voltage	V _{out}	V _{IN} =12V, V _{adj} =0V	17.1	17.5	18	V	
Efficiency	η	V _{IN} =12V, V _{adj} =0V	89.8	90.5	91.3	%	(2)

Remark:

- (1) this data is based on the testing result of practical input voltage, I_{in} is measured by related V_{in}.(min, typ, max)
- (2) $\eta_{\max} = V_{\text{out}(\max)} * I_{\text{outH}(\max)} / V_{\text{in}(\max)} * I_{\text{inH}(\min)}$
 $\eta_{\min} = V_{\text{out}(\min)} * I_{\text{outH}(\min)} / V_{\text{in}(\min)} * I_{\text{inH}(\max)}$

4.2 Connector Socket

Input Connector:

J1 (JST S8B-PH-SM3-TB or Compatible)

PIN No	Symbol	Description
1	Vin	DC+
2	Vin	DC+
3	Vin	DC+
4	GND	Ground
5	GND	Ground
6	GND	Ground
7	Brightness	Brightness control
8	Control	ON/OFF Control

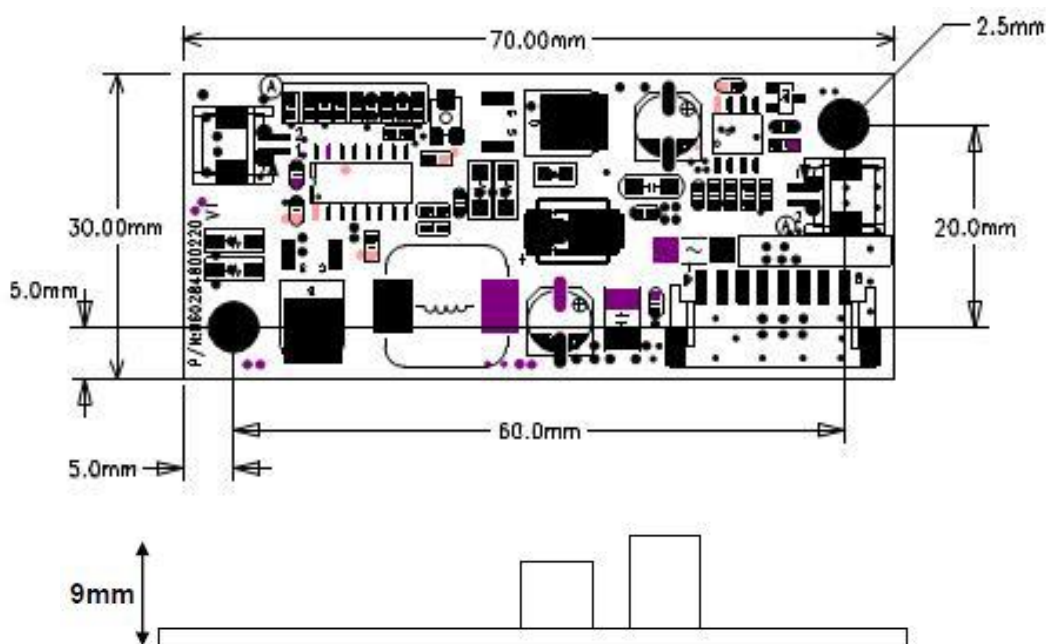
4.3 Output Connector:

J2,J3 (JST S2B-EH or Compatible)

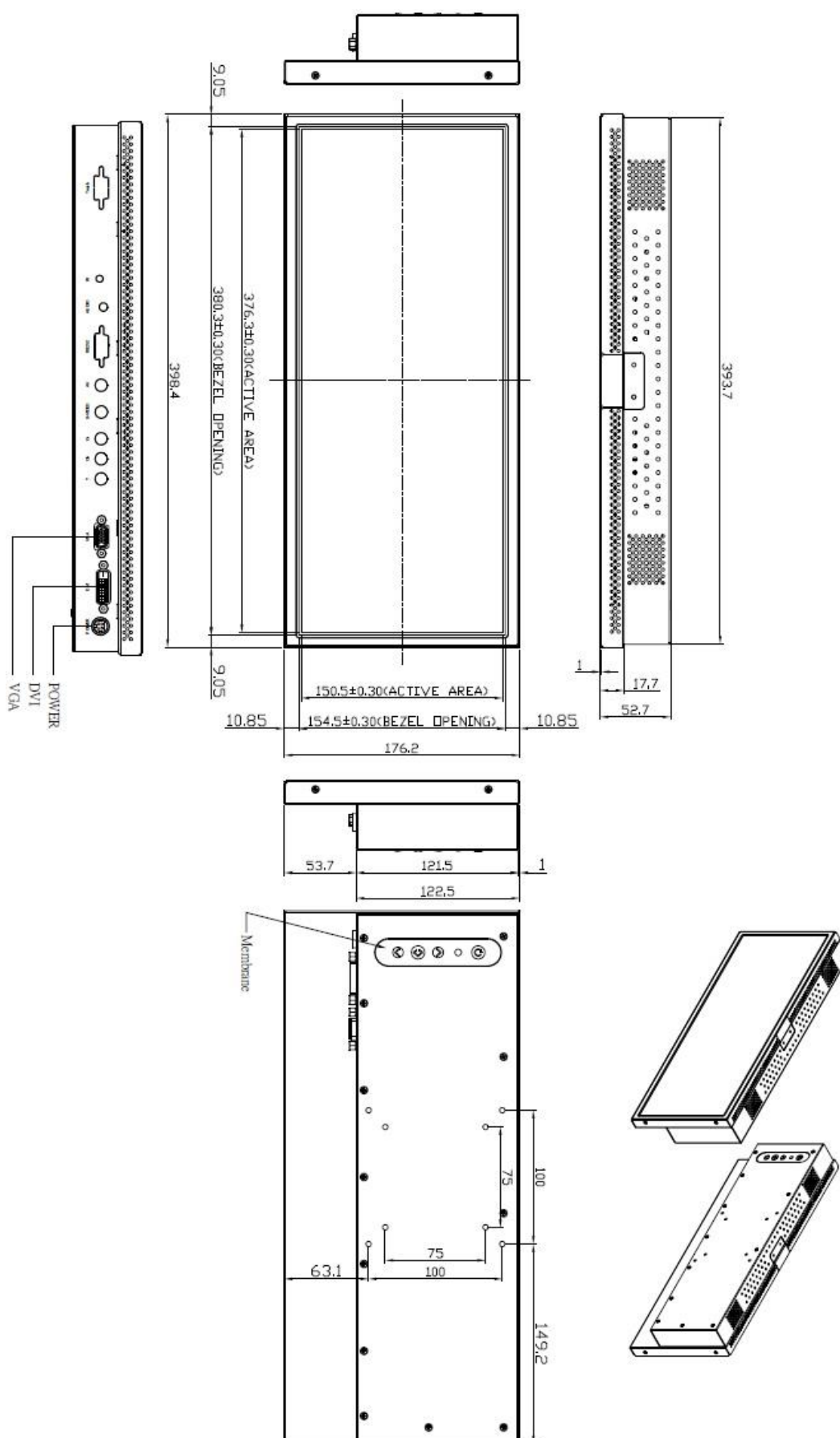
PIN NO	Symbol	Description
1	Output	LED High Voltage(+)
2	Output	LED Low Voltage (-)

4.4 Mechanical Characteristics

Dimension: 70mm*30mm*9mm



5 Mechanical Drawing (Unit:mm)

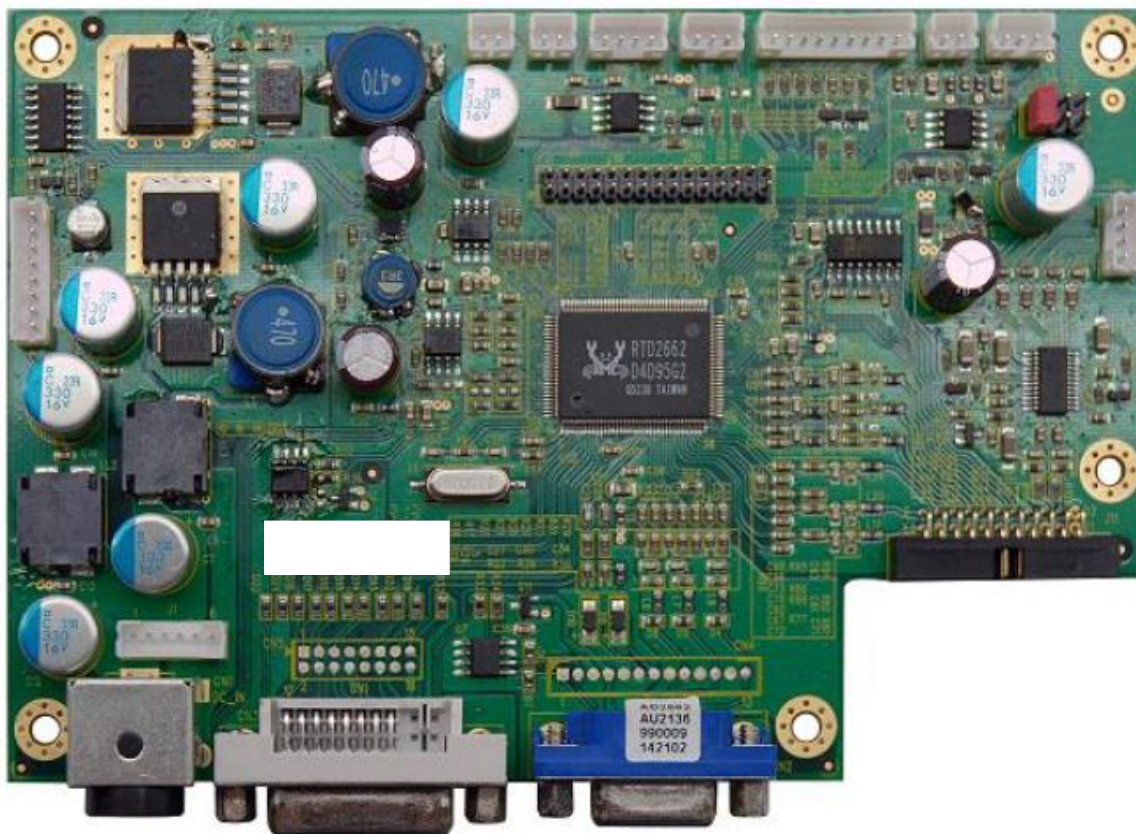


6 AD2662GDVAR & OSD Functions

We developed this A/D board to support industrial high brightness and commercial applications. This A/D board has many functions. It has an external luminance sensor as an option, or optional VR button to control brightness, fan rotation and RS232. Rev.1 is European RoHS compliant.

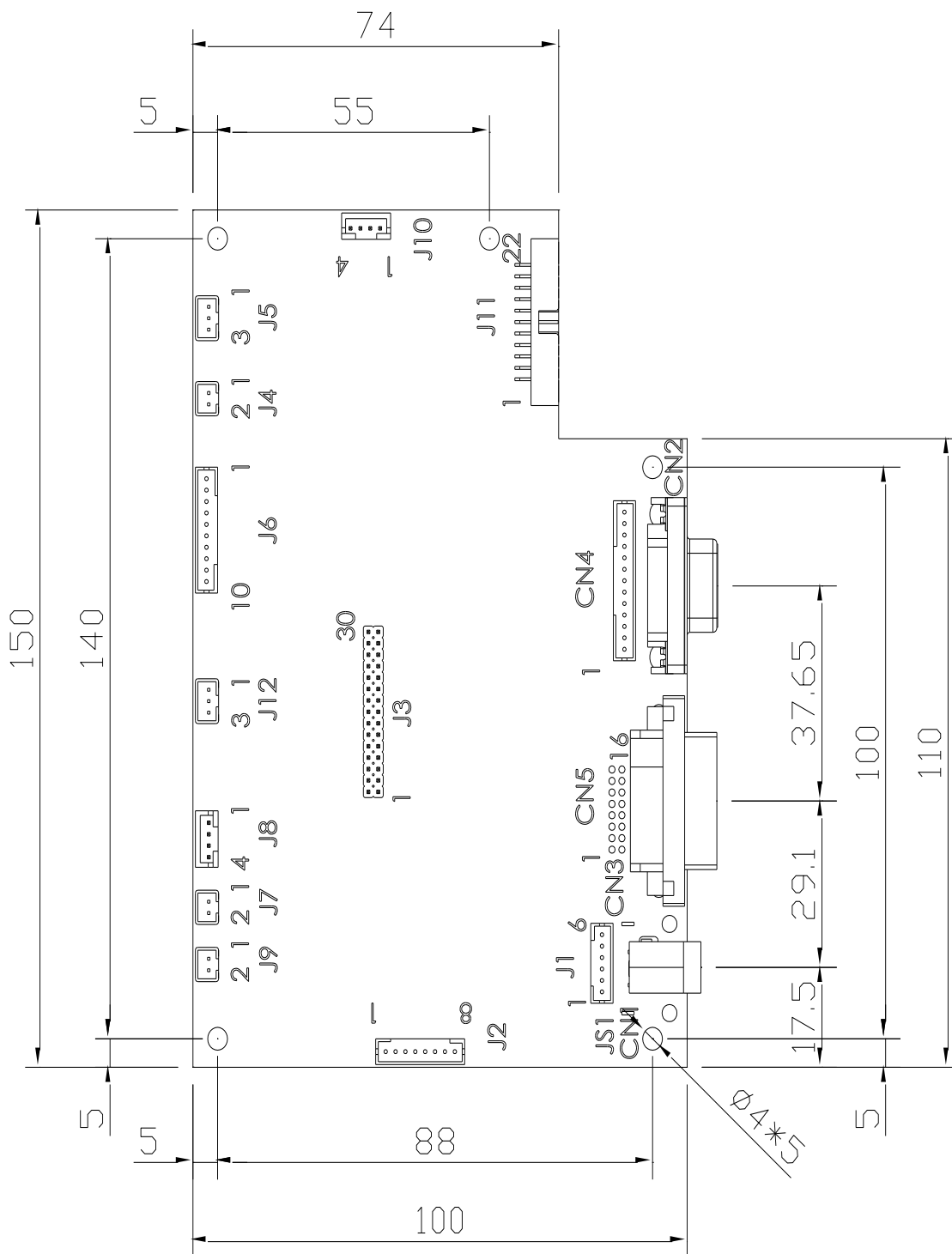
6.1 General Description

- Max resolution up to WUXGA
- Analog RGB input up to 205MHz
- Ultra-reliable DVI input
- Dual/single LVDS interface
- Support panel DC 5V or 3.3V, 12V output
- External fan control by software
- OSD control
- Inverter analog or PWM dimming control
- *External V.R. brightness control (optional)
- *External light sensor brightness control (optional)
- *External RS232 control (optional)
- Input power 12V (DC)
- CBVS, S-VIDEO, *YCbCr (optional) input
- Audio in and 2Wx2 Audio Out (optional)

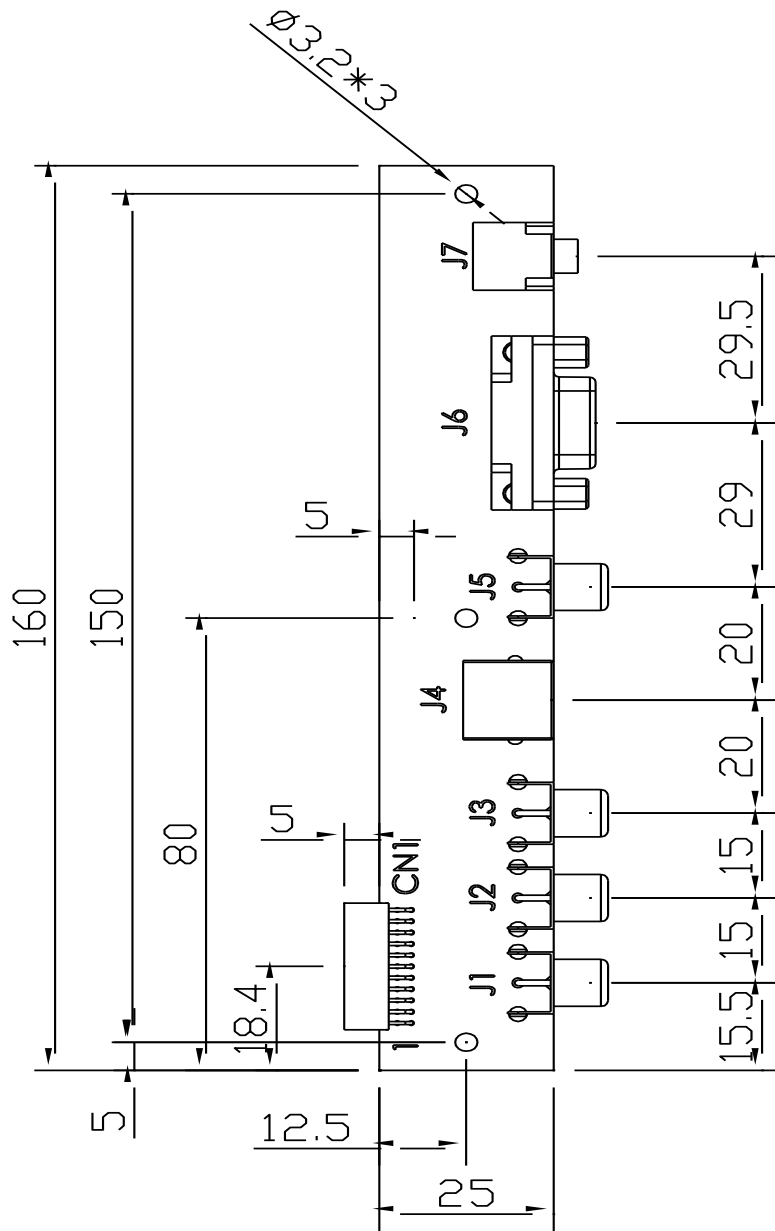


6.2 Outline Dimensions

AD2662 150mmX100X20mm



I/O Board 160mmX25mmX15mm



6.3.1 J3: Panel (LVDS) connector

Pin No.	Function	Pin No.	Function
1	RxO0+	16	RxE1-
2	RxO0-	17	RxE2+
3	RxO1+	18	RxE2-
4	RxO1-	19	RxEC+
5	RxO2+	20	RxEC-
6	RxO2-	21	RxE3+
7	RxOC+	22	RxE3-
8	RxOC-	23	GND
9	RxO3+	24	GND
10	RxO3-	25	GND
11	GND	26	GND
12	GND	27	GND
13	RxE0+	28	PANEL-VCC
14	RxE0-	29	PANEL-VCC
15	RxE1+	30	PANEL-VCC

6.3.2 CN3: DVI-D INPUT Connector

Pin No.	Function	Pin No.	Function	Pin No.	Function
1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	Shield	11	Shield	9	Shield
4	T.M.D.S. Data4-	12	T.M.D.S. Data3-	20	T.M.D.S. Data5-
5	T.M.D.S. Data4+	13	T.M.D.S. Data3+	21	T.M.D.S. Data5+
6	DDC Clock	14	+5V Power	22	Shield
7	DDC Data	15	Ground	23	T.M.D.S. Clock+
8	Not Connected	16	Hot Plug Detect	24	T.M.D.S. Clock-

6.3.3 CN5: DVI-D Connector (16pin 2.0mm)

Pin No.	Function	Pin No.	Function	Pin No.	Function
1	RX2-	7	DDC_SDA	13	GND
2	RX2+	8	DDC_SCL	14	GND
3	RX1-	9	GND	15	DVI HP
4	RX1+	10	GND	16	DVI_5V
5	RX0-	11	RXC-		
6	RX0+	12	RXC+		

6.3.4 CN2: Analog RGB Input connector (D-SUB 15Pin)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	RED	Analog Red	9	+5V	+5VDDC
2	GREEN	Analog Green	10	SGND	Sync GND
3	BLUE	Analog Blue	11	NCD	Reserved
4	GND	Reserved	12	SDA	DDC Serial Data
5	NC	VGA_CAB	13	HSYNC	Horizontal Sync
6	RED_RTN	Red Return	14	VSYNC	Vertical Sync
7	GREEN_RTN	Green Return	15	SCL	DDC Data Clock
8	BLUE_RTN	Blue Return			

6.3.5 CN4: Analog RGB Input connector (13pin connector)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	SCL	DDC Data Clock	8	BGND	Blue Return
2	SDA	DDC Serial Data	9	BLUE	Analog Blue
3	GND	Reserved	10	GGND	Green Return
4	+5V	+5VDDC	11	GREEN	Analog Green
5	GND	Reserved	12	RGND	Red Return
6	VSYNC	Vertical Sync	13	RED	Analog Red
7	HSYNC	Horizontal Sync			

6.3.6 JS1: Power DIN(12V)

Pin No.	Function	Pin No.	Function
1	12VDC	2	12VDC
3	GND	4	GND

6.3.7 JS1: Power Jack (12V)

Pin No.	Function	Pin No.	Function
1	12VDC	2	12VDC

6.3.8 J1: Power connector (12V) (6PIN 2.0mm)

Pin No.	Function	Pin No.	Function
1	12VDC	4	GND
2	12VDC	5	GND
3	12VDC	6	GND

6.3.9 J8: Power connector (5V/12v)(4PIN 2.0mm)

Pin No.	Function	Pin No.	Function
1	5VDC	2	GND
3	12VDC	4	GND

6.3.10 J2: Inverter Connector(8PIN 2.0mm)

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	ON/OFF	Backlight ON/OFF	5	GND	GND
2	BRIGHT	Dimming adjust	6	12VDC	Input 12VDC
3	GND	GND	7	12VDC	Input 12VDC
4	GND	GND	8	12VDC	Input 12VDC

6.3.11 J7, J9: FAN (2PIN 2.0mm)

Pin No.	Function	Pin No.	Function
1	FAN(+)	2	GND

6.3.12 J6: Key Pad (9PIN 2.0mm)

Pin No.	Function	Pin No.	Function
1	POWER KEY	6	MENU KEY
2	GREEN LED	7	AUTO KEY
3	RED LED	8	GND
4	DOWN KEY	9	GND
5	UP KEY		

6.3.13 J10: Speaker Connector (4PIN 2.0mm)

Pin No.	Function	Pin No.	Function
1	SPK-L	2	GND
3	GND	4	SPK-R

6.3.14 J11 Extern Function Connector (11P X 2PIN 2.0mm)

Pin No.	Function	Pin No.	Function
1	Pb	2	Y
3	GND	4	Pr
5	GND	6	SY
7	GND	8	SC
9	GND	10	AV
11	GND	12	GND
13	TXD	14	RXD
15	GND	16	GND
17	GND	18	GND
19	Audio-R	20	Audio-L
21	GND	22	GND

6.3.15 J4: Ambient (3PIN 2.0mm)

Pin No.	Function	Pin No.	Function
1	3.3VDC	2	Sensor Out

6.3.16 VR connector (3PIN 2.0mm)

Pin No.	Function	Pin No.	Function
1	3,3VDC	2	VR Out
3	GND		

6.3.17 JP1: PANEL VCC (3PIN 2.54mm)

Pin No.	Function	Pin No.	Function
1-2	12V	5-6	3.3V
3-4	5V		

I/O BOARD Pin Define

6.3.18 J1:Component Y

Pin No.	Function	Pin No.	Function
1	Y	2	GND

6.3.19 J2:Component Cb

Pin No.	Function	Pin No.	Function
1	Cb	2	GND

6.3.20 J3:Component Cr

Pin No.	Function	Pin No.	Function
1	Cr	2	GND

6.3.21 J4:S-Video

Pin No.	Function	Pin No.	Function
1	GND	2	GND
3	Luminance	4	Chrominance

6.3.22 J5:Composite

Pin No.	Function	Pin No.	Function
1	Y	2	GND

6.3.23 J6:D-SUB9(RS232)

Pin No.	Function	Pin No.	Function
1	NC	2	TXD
3	RXD	4	NC
5	GND	6	NC
7	NC	8	NC
9	NC		

6.3.24 CN1:11P X 2 Connector

Pin No.	Function	Pin No.	Function
1	Component Cb	2	Component Y
3	GND	4	Component Cr
5	GND	6	S-Video Y
7	GND	8	S-Video C
9	GND	10	Composite
11	GND	12	GND
13	TXD	14	RXD
15	GND	16	GND
17	GND	18	GND
19	Audio IN(L)	20	Audio IN(R)
21	GND	22	GND

IR Receive Board Pin Define

6.3.25 J1: IR Connector

Pin No.	Function	Pin No.	Function
1	DATA OUT	2	GND
3	VCC	4	NC

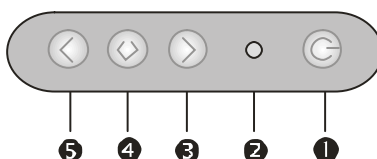
DC Characteristics

Power Consumption	10W	Note1
Operation Temperature	0~70	°C
Storage Temperature	-20~85	°C

Note: These values are for the A/D board body.

6.4 OSD Functions

MEMBRANE CONTROL BUTTOM



❶ POWER SWITCH:

Pushing the power switch will turn the monitor on. Pushing it again to turn the monitor off.

❷ Power LED:

Power ON-Green / Power off-No.

❸ Up Key :

Increase item number or value of the selected item.

❹ Menu Key:

Enter to the OSD adjustment menu. It also used for go back to previous menu for sub-menu, and the change data don't save to memory.

❺ Down Key :

Decrease item number or item value when OSD is on. When OSD is off, it is hot key for input switch between VGA, AV, and S-video.

Screen Adjustment Operation Procedure

1. Entering the screen adjustment

The setting switches are normally at stand-by. Push the Menu Key once to display the main menu of the screen adjustment. The adjustable items will be displayed in the main menu.

2. Entering the settings

Use the Down Key < and Up Key > buttons to select the desired setting icon and push the SELECT button to enter sub-menu.

3. Change the settings

After the sub-menu appears, use the Down Key < and Up Key > buttons to change the setting values.

4. Save

After finishing the adjustment, push the SELECT button to memorize the setting.

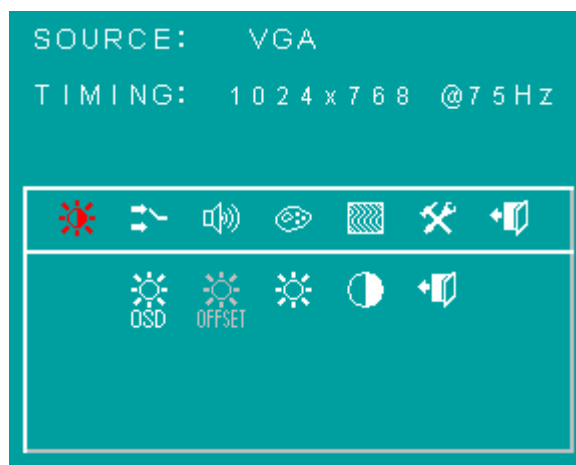
5. Return & Exit the main menu

Exit the screen adjustment; push the "MENU" button. When no operation is done around 30 sec (default OSD timeout), it goes back to the stand-by mode and no more switching is accepted except MENU to restart the setting.

6.5 OSD MENU

Here are some instructions for you to use the OSD (On Screen Display). By pressing the “menu”, you will see the below picture.

Timing shows resolution, H-frequency, and V-frequency of the panel. Version shows the firmware control version. This 2 information is not changeable by user.



There are 7 subpages inside the OSD manual, Brightness, Signal select, Sound, Color, Image, Tools, and Exit. When you press “menu” button, you enter the “Brightness” subpage. You will see 5 selections:



press “menu”



press “menu”



press “menu”



OSD Brightness:



press “right” key



press “menu” once, you can go into adjust the brightness. Press “left” you can dim down the brightness to “0”, while press “right” you can increase the brightness to “100”.



Ambient light sensor: press this Icon, must to accompany with DELTA COMPONENTS ambient light sensor to auto dimming.(OPTION)



Potentiometer: press this icon, adjust VR function.(OPTION)



Ambient light sensor with OSD offset: press this Icon



Press “menu” once, you can adjust min. luminance to fit your application (OPTION)

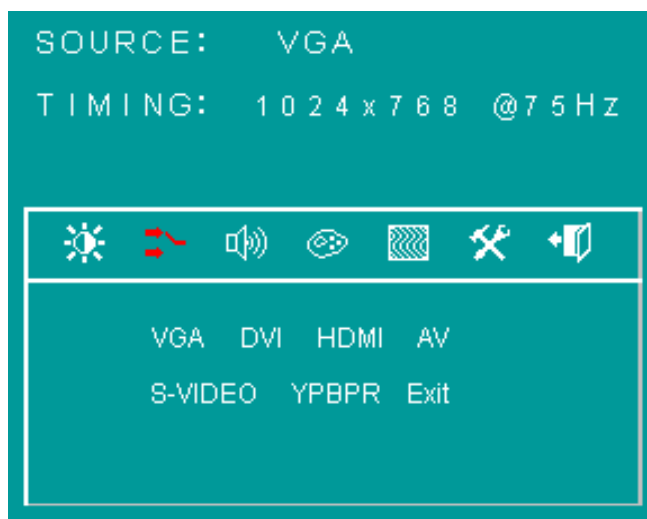


Contrast: Press “menu” and “right” you can adjust the contrast from “0” to “100” by pressing the “left” and “right”.



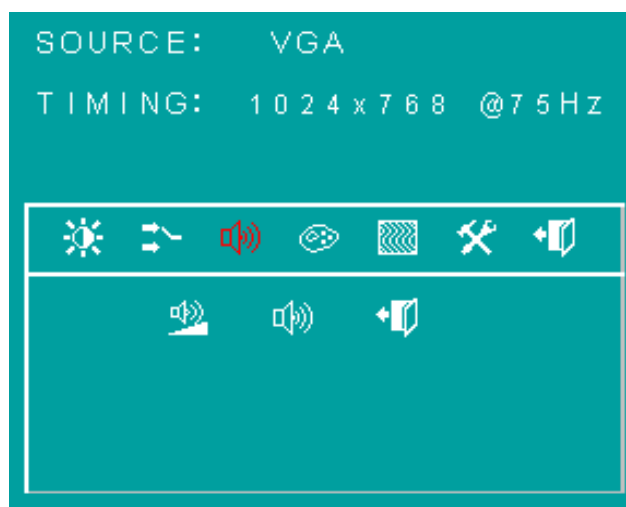
Exit: You can exit this sub menu back to normal screen.

Source:



There are 6 options for “Source” subpage.
There have VGA, DVI, HDMI, AV, S-VIDEO, YPBPR source input.

Sound:



There are 3 options for “Sound” subpage.



Audio Volume: Audio volume adjustment.



Mute: You can mute the speaker by pressing this option.



Exit: back to the normal screen.

Color:



Auto Color: by press this “Auto Color” option, you can get the optimal color performance.



SRGB: Windows standard color setting.



Color Temperature: You can have 3 options in this selection , have User/6500/9300



Color Temperature User



Color Temperature_6500K



Color Temerapture_9300K



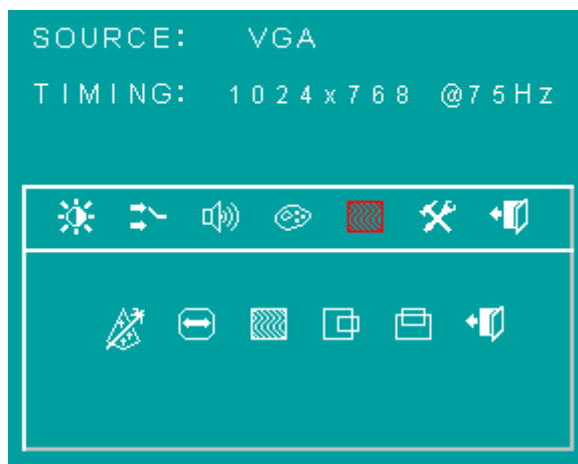
Exit: back to the normal screen.

“User mode”, “6500K” (Warm color scheme), “9300K (Cold color scheme).

Default is “user”, and inside all “R”, “G”, and “B” are set “100”

Image:

Go into the “Image” page, you can see below picture.



Auto just: Pressing this option, the AD5621 will adjust the optimal frequency of horizontal and vertical. You will see “Auto tune....” On the screen for around 3 seconds.



Clock: If you are not satisfied about the Auto tune result, you can adjust manually by “Clock”. The screen will be “wider” if you adjust this function.



Phase: If you see “double image” on characters, you can adjust “Phase” to make it perfect image.



HPos: You can shift the screen horizontally by this function.



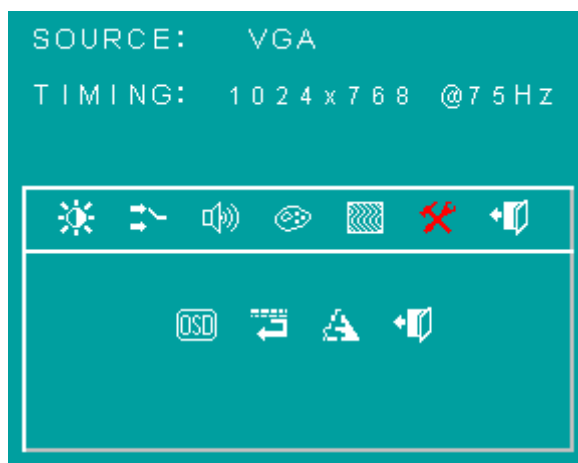
Vpos: You can shift the screen vertically by this function.



Exit: Back to normal screen.

Tools :

On the “Tools” sub menu, you will see 4 icons.





OSD Control: Select this option, you will see 4 more options:



Factory_Reset: By pressing this, the screen will be back to the factory setting on very beginning and lost all the personal settings.



Sharpness: You can make the characters looks sharper.



Exit



Osd_time: You can selection the time of OSD from 2 sec. to 16 sec. Default is 6 sec.



Osd_HPos: You can move the OSD horizontally over the screen.



Osd_VPos: You can move the OSD Vertically over the screen.



Exit: back to main menu.

BURNIN MODE:

Factory Burn-in mode: While your VGA cable is connected on the monitor, press “Menu” and Left and Right <” simultaneously, you will see “BURN IN MODE” on the center of the screen for 3 sec. Then unplug the VGA cable, the screen will show Red, Green, Blue, White, and Black in sequence automatically.

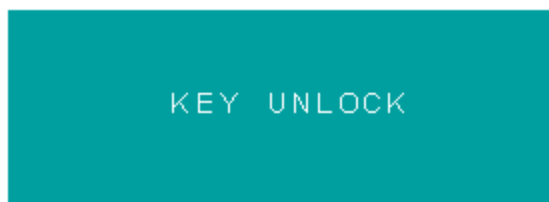
You can plug in the VGA signal cable, and re-plug the power connector to exit the burn-in mode.

KEY LOCK MODE:

OSD Lock Function: It is possible to lock all the OSD buttons to prevent unauthorized changes to occur by pressing “Menu” and “right >” buttons simultaneously. You will see the “lock” icon below on the center of the screen for 3 seconds. If any button is pushed after the lock function is initiated, the below icon will appear on the screen.



To release the OSD lock, press “Menu” and “Right >”. The below icon will appear on the center of the screen for 3 seconds. Now all OSD keys are active again.



7 Precautions

7.1 Handling Precautions

- (1) The module should be assembled into the system firmly by using every mounting hole. Be careful not to twist or bend the module.
- (2) While assembling or installing modules, it can only be in the clean area. The dust and oil may cause electrical short or damage the polarizer.
- (3) Use fingerstalls or soft gloves in order to keep display clean during the incoming inspection and assembly process.
- (4) Do not press or scratch the surface harder than a HB pencil lead on the panel
- (5) because the polarizer is very soft and easily scratched.
- (6) If the surface of the polarizer is dirty, please clean it by some absorbent cotton or soft cloth. Do not use Ketone type materials (ex. Acetone), Ethyl alcohol, Toluene, Ethyl acid or Methyl chloride. It might permanently damage the polarizer due to chemical reaction.
- (7) Wipe off water droplets or oil immediately. Staining and discoloration may occur if
- (8) they left on panel for a long time.
- (9) If the liquid crystal material leaks from the panel, it should be kept away from the eyes or mouth. In case of contacting with hands, legs or clothes, it must be washed away thoroughly with soap.
- (10) Protect the module from static electricity, it may cause damage to the C-MOS Gate Array IC.
- (11) Do not disassemble the module.
- (12) Do not pull or fold the lamp wire.
- (13) Pins of I/F connector should not be touched directly with bare hands.

7.2 Storage Precautions

- (1) High temperature or humidity may reduce the performance of module. Please store LCD module within the specified storage conditions.
- (2) It is dangerous that moisture come into or contacted the LCD module, because the moisture may damage LCD module when it is operating.
- (3) It may reduce the display quality if the ambient temperature is lower than 10 °C. For example, the response time will become slowly, and the starting voltage of lamp will be higher than the room temperature.

7.3 Operation Precautions

- (1) Do not pull the I/F connector in or out while the module is operating.
- (2) Always follow the correct power on/off sequence when LCD module is connecting and operating. This can prevent the CMOS LSI chips from damage during latch-up.

8 Disclaimer

All information in this document are subject to change.