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 $\hfill\square$  Customer Approved

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Date: 2005.1.10

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# GENERAL DESCRIPTION

- ◆ APPLY TO MULTIPLE LCD MODULE: PD064VT4/5, V16C6448AC\AF\AE.
- ◆ VGA AND VIDEO AND S-VIDEO INPUT SYSTEM

fH : 48.1 Khz fH :37.9Khz fH :35.1Khz fH :31.5Khz

 $f \lor$  : 85Hz  $f \lor$  : 75Hz  $f \lor$  : 72Hz  $f \lor$  : 60 Hz  $f \lor$  : 56 Hz

DOT CLK: 50Mhz DOT CLK: 40Mhz DOT CLK: 36Mhz DOT CLK: 25.175Mhz

- ♦ POWER SOURCE DC 12V
- ◆ POWER CONSUMPTION 700 mA , 8.4W Max.
- ♦ OPERATING TEMPERATURE 0°C ~ 60°C
- ♦ STORAGE TEMPERATURE -20°C ~ 80°C
- ♦ WEIGHT 280 ±3g

# **FEATURES**

- ♦ VGA OR SVGA INPUTS
- ♦ 6-BIT RGB OUTPUT
- ♦ CONVENIENTLY ADJUST IMAGE BY OPERATING KEYBOARD
- SUPPORT INTERGRATED PLL TECHNOLOGY
- ♦ LOW POWER COMSUMPTION

# APPLICATION SCOPE

- SECURITY
- PC MONITOR
- INDUSTRY CONTROL MONITOR
- POS

## DRIVER BOARD INTRODUCTION

**1.Brief Diagram** (Refer Appendix Page For Details)

## 2.Port Definition

- a) CN1 -----Connection port of Driver Board with LCD connector (TTL);
- b) CN12-----Connection port of Driver Board with LCD connector (FPC);
- c) CN2-----Connection with LCD (LVDS)
- d) CN3 -----Keyboard operation port;
- e) CN4A -----Power input port (DC12V) (2PIN)
- f) CN4B-----Power input port (DC12V)
- g) CN5 -----Output port for inverter.

- h) CN6 -----Analog VGA input port (12 pin);
- i) CN7-----Analog VGA input port (15 pin);
- j) CN8 -----Video & S-Video input;
- k) CN9 -----VIDEO;
- l) CN10-----S-VIDEO;
- m) CN11-----TV INPUT
- n) CN14A-----Connection port of AUDIO IN;
- o) CN14B-----Connection port of AUDIO IN;
- p) CN14C-----Connection port of AUDIO IN;
- q) CN15A -----Connection port of SPEAKER OUT;
- r) CN15B-----Connection port of EARPHONE OUT;
- s) VGA CABLE

## \* All ports define square pad as the first position in this book.

#### **3.PIN ASSIGNMENT**

#### CN1: TTL Connector (MOLEX-87758-34 or compatibility)

TE Connector (more ex-orrou-of or compatibility)										
1	GND	2	DCLK	3	DHS	4	DVS			
5	GND	6	DRED2	7	DRED3	8	DRED4			
9	DRED5	10	DRED6	11	DRED7	12	GND			
13	DGRN2	14	DGRN3	15	DGRN4	16	DGRN5			
17	DGRN6	18	DGRN7	19	GND	20	DBLU2			
21	DBLU3	22	DBLU4	23	DBLU5	24	DBLU6			
25	DBLU7	26	GND	27	DEN	28	VCC			
29	VCC	30	L/R	31	U/D	32	NC			
33	NC	34	NC							

#### CN2: LVDS Connector (MOLEX-87758-12 or compatibility)

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	VCC	2	VCC	3	GND	4	GND
5	DA0-	6	DA0+	7	DA1-	8	DA1+
9	DA2-	10	DA2+	11	CLk1-	12	CLk1+

#### CN12: TTL Connector (Face down: ELCO 6210-30pin)

Pin	NO	DEF.	Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.			
1		NC	9	DRED5	17	DGRN6	25	DBLU7			
2		DCLK	10	DRED6	18	DGRN7	26	GND			
3		DHS	11	DRED7	19	GND	27	DEN			
4		DVS	12	GND	20	DBLU2	28	VCC			
5		GND	13	DGRN2	21	DBLU3	29	VCC			
6		DRED2	14	DGRN3	22	DBLU4	30	NC			
7		DRED3	15	DGRN4	23	DBLU5	31	NC			
8		DRED4	16	DGRN5	24	DBLU6	32	NC			

All information is subject to change without notice .

Please confirm the sales representation before starting to design your system

•••												
	Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.						
	1	GND	5	MENU	9	REMOTE						
	2	POWER	6	LEFT-	10	VCC (+5v)						
	3	RED	7	RIGHT+								
	4	GREEN	8	ENTER								

## **CN3: Key Connector** (JST B10B-XH-A or compatibility)

#### **CN5:** Inverter Connector (JST B3B-XH-A or compatibility)

 (								
Pin NO	DEF	Pin NO	DEF	Pin NO	DEF			
1	+12V	2	GND	3	On/Off			

#### **CN15A: SPEAKER OUT Connector** (JST B4B-XH-A or compatibility)

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	GND	3	GND		
2	R-OUT	4	L-OUT		

#### CN15B: EARPHONE OUT Connector

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	GND	3	GND		
2	R-OUT	4	L-OUT		

## CN6: 12PIN VGA Connector (JST B12B-PH-K-S or compatibility)

Pin NO	DEF	Pin NO	DEF	Pin NO		Pin NO	DEF
1	GND	4	GREEN	7	GND	10	CON
2	RED	5	GND	8	HD	11	SDA
3	GND	6	BLUE	9	VD	12	SCL

#### **CN7: 15PIN VGA Connector**

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	SDA
3	BLUE	8	GND	13	HD
4	NC	9	NC	14	VD
5	GND	10	CON	15	SCL

#### CN8: VIDEO AND S-VIDEO (JST B5B-PH-K-S or compatibility)

			-	-	<b>I</b>	,			
Pin	DEF.	Pin	DEF.	Pin	DEF	Pin	DEF.	Pin	DEF
1	GND	2	VIDEO	3	GND	4	Y-IN	5	C-IN

#### CN11: 10PIN TV Connector (JST B10B-PH-K-S or compatibility)

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	SCL	5	TV AUDIO	9	NC
2	SDA	6	NC	10	GND
3	TV VIDEO	7	5V		
4	NC	8	GND		

All information is subject to change without notice . Please confirm the sales representation before starting to design your system

#### **CN4A:** Power Connector (JST B2B-XH-A or compatibility)

Pin NO	DEF	Pin NO	DEF
1	+12V	2	GND

#### **CN14A: AUDIO IN Connector**

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	L-IN	2	GND		

#### **CN14B: AUDIO IN Connector**

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	R-OUT	2	GND		

#### **CN14C: AUDIO IN Connector (JST B4B-XH-A or compatibility)**

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	GND	3	GND		
2	L-IN	4	R-IN		

# VGA CABLE: VGA INPUT Cable

Pin NO	DEF.	Pin NO	DEF.	Pin NO	DEF.
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	NC
3	BLUE	8	GND	13	NC
4	NC	9	NC	14	NC
5	GND	10	CON	15	NC

## **INVERTER BOARD INTRODUCTION**

## 1.Brief Diagram (Refer Appendix Page For Details)

#### **2.Port Definition**

**CNH1**—— High Voltage Output terminal Connected to Back Lamp.

**CNH2**— High Voltage Output terminal Connected to Back Lamp.

**CN5** — Inverter Input port connected to Inverter Output Port of Driver.

CNH1、CNH2 Terminals Supply AC High Voltage For Back Lamp Which Brightens The LCD Module.

#### 3.Pin Assignment

**CNH1:** Output connector adapter to JST BHR-02VS-1

Pin NO	DEF	Pin NO	DEF
1	Lv	2	Hv 550v

#### **CN5:** Input Connector (JST S4B-XH-A or compatibility)

Pin NO	DEF	Pin NO	DEF	Pin NO	DEF	Pin NO	DEF
1	DC +12V	2	GND	3	ON/OFF	4	Vbrt

## **KEY BOARD INTRODUCTION**

**1.Brief Diagram** (Refer Appendix Page For Details)

## 2.Connector Definition

CN3—This connector connected to key operation port of driver board.

## **3.OSD Function Description**

If you want to get the best effect, an adjustment of keyboard is required.

When first press the "menu" key, OSD enter the menu operation status (the fist item is picture), called nonadjustable status; press enter key, enter the adjustment status and you can adjust the value of the highlight submenu item by press "left" or "right" key; press the "enter" key again you can exit the adjustment status and save the value at the same time. In the nonadjustable status, press the "menu" key could switch menu items. The different menu displayed when input different signal source. The menus item shown as following:

MENU ITEM	SUBMENU	DESCRIPTION
	Brightness	Adjust the display brightness
	Contrast	Adjust the picture contrast
Disture	Focus	Adjust the picture scan mode
Picture	Clock	Adjust the clock frequency
	H-Position	Adjust the picture horizontal position
	V-Position	Adjust the picture vertical position
	Native	Setting the color temperature
Color Sotting	C9300	
Color Setting	C6500	
	User	
	Input Signal	Select the input signal source: PC-VGA; AV1; AV2; TV.
	Language	Select the OSD language: Chinese; English.
Function	OSD H-Position	Adjust the OSD display horizontal position
	OSD V-Position	Adjust the OSD vertical position
	Reset	Reset the factory defaults

#### Analog VGA input status:

#### Analog Video or S-video signal input:

	maiog viaco or s viaco signar input				
MENU ITEM	SUBMENU	DESCRIPTION			
	Brightness	Adjust the display brightness			
	Contrast	Adjust the picture contrast			
Picture	Color	Adjust the picture color			
	Tint	Adjust the picture tint			
	Sharpness	Adjust the picture sharpness			
Sound	Volume	Adjust the Audio output AMP			
	Input Signal	Select the input signal source: PC-VGA; AV1; AV2; TV.			
System setting	Language	Select the OSD language: Chinese; English.			
System setting	Blue screen	ON: Non-signal display blue screen. OFF: Non-signal			
		display white screen			

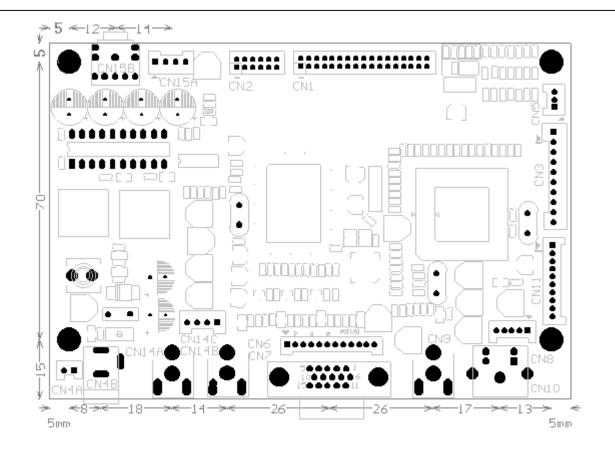
	Rotation	Adjust the OSD display position: Mirror and flip
	Wide screen	Switch between 16:9 and 4:3
TV signal inp	ut:	
MENU ITEM	SUBMENU	DESCRIPTION
	Channel	Adjust the TV channel
TV Satting	Color system	Adjust the color
TV Setting	Sound	Select the audio frequency band
	Auto search	Auto search TV

## Notes:

- > Do as foregoing description if want to get favorite image. But the best state is set before shipment
- Occasional flare of Image may occur when starting the LCD monitor, it is normal pheno mena because of auto adjustment internal.
- Particularly there are snow-flare and bad pictures because that timing does not match with the sequ ence, please do an auto or handle adjustment.

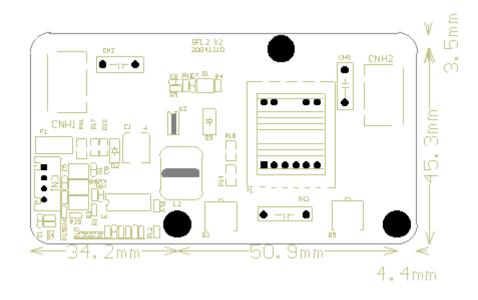
## **MECHANICAL DRAWING**

**Driver Board** 



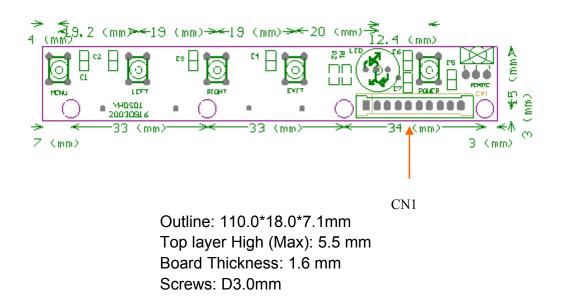
Outline: 132.0\*90.0\*17.1mm Top Layer High (Max): 13.0 mm Bottom Layer High (Max): 2.5 mm Board Thickness: 1.6mm Screws: D3.0mm\*4 Edited by Foxit PDF Editor Copyright (c) by Foxit Software Company, 2004 For Evaluation Only.

#### **Inverter Board**



Outline: 89.5\*48.8\*9.1mm Top layer High (Max): 7.5mm Board Thickness: 1.6mm Screws: D 3.0mm

# **Key Board**



Appendix Page

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