

IND-Series

# Panel Mount LCD Monitor

## User Guide

### V1.2



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## ***Declaration***

Please read this chapter with some important notice before operations.

# FCC Regulation Statement



This device complies with part 15 FCC rules.

Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class “a” digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## Copyright Notice

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## Disclaimer

We reserve the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. We assume no responsibility or liability for the use of the described product(s), convey no license or title under any patent, copyright, or mask work rights to these products, and makes no representations or warranties that these products are free from patent, copyright, or mask work right infringement, unless otherwise specified. Applications that are described in this manual are for illustration purposes only. We make no representation or warranty that such application will be suitable for the specified use without further testing or modification.

## Warranty

Our warranty that each of its products will be free from material and workmanship defects for a period of one year from the invoice date. If the customer discovers a defect, we will, at its option, repair or replace the defective product at no charge to the customer, provided it is returned during the warranty period of one year, with transportation charges prepaid. The returned product must be properly packaged in its original packaging to obtain warranty service.

## Customer Service

The user guide includes simple debug and trouble shooting, for system crack or serious damage, please contact with your distributor, sales representative, the customer service center for technical support if you need additional assistance. You may have the following information ready before you call:

Product serial number

Peripheral attachments

Description of complete problem

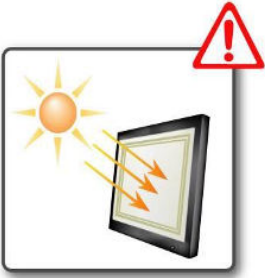


The exact wording of any error messages

In addition, free technical support is available from our engineers every business day.

We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. Please do not hesitate to call or e-mail us.

## Safety Instructions

Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

CAUTION		
Read manual prior to installing the product. The operation of products depends on your reading and following the information in this manual. Re-check your work prior to operating the product.		
EVENT	EFFECT	PREVENTION
	Although the brightness is good under sunlight, it shines directly all day would cause the panel damage.	You should avoid exposing the computer under the sunlight for whole working hours.
	If the product is close to explosive environment or such as on fire, the overheat will cause the product malfunction.	You should avoid placing the product near explosive or firing environment.
	If the product is close to the wet ground such as grassplot, the moisture between panel and glass will make the product malfunction.	You should avoid placing the product on the ground.

Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Please read these safety instructions carefully.

- Please keep this user's manual for later reference.
- Please disconnect this equipment from any AC outlet before cleaning. Do not use acid or caustic liquid or spray detergents for cleaning. The good option is to use a damp cloth.
- Do not touch the LCD panel surface with sharp or hard objects.
- For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
- Place this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage..
- Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- All cautions and warnings on the equipment should be noted.
- If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.

## ***Getting Started***

The design allows you to use it in radical industrial environments – places you would not take with normal commercial grade LCDs / Panel PCs. The mechanical is designed to be embedded in various kind of equipment.

This chapter tells you will find instructions for the following procedures:

- Introduction
- Unpacking
- Installing the monitor



## 2-1 Specification

Specification is subject to change with different configurations and requirement, it has to be accordance with datasheet or ordering context provided by dealers or distributors.

Here are some common points for panel mount LCD monitors:

1. Mounting: Panel mount by mounting clips. (please refer to 2-3 Mounting)
2. Front bezel: Front aluminum bezel (6-10mm)(default) with IP65 water/dust proof sealing. Stainless steel bezel is for option.
3. Power: power input: 12V DC power input through a 3-pin terminal block (default). For wide range DC power input or 100~240V AC power input is for optional.
4. Signal: Default is VGA and DVI input, supporting VESA standard image. (HDMI or DP for option.)
5. Front glass: Either touch glass or normal AR glass in front.
6. Control panel: 5-key button in rear back cover with On/Off, Menu, Arrow keys, Esc keys, (detail function refers to Chapter 3.) Other type of keypad, change positions of control panel are by request.
7. EMC: Panel mount models comply to CE/FCC class B.

## 2-2 Introduction

The procedures for setting up your TFT LCD monitor is as follows:

### Power & Signal Connections

1. Power cable connection:

Connect the power cord to the AC outlet, and connect the power to the monitor through the AC/DC adapter.

2. VGA Signal cable connection:

Plug one end of the 15-pin signal cable to the video signal connector at the rear of the PC system and the other end to the monitor. Secure the connectors with the screws on the cable connector at both ends.

3. Power:

Switch on the power on both your monitor and your computer. The Power Switch is located in the center of the monitor.

### Other connections

1. Compatible cable connection (Optional):

The LCD monitor is designed to work with a variety of compatible video sources. Due to possible deviations between these video sources, you may have to make some adjustment to the monitor settings when switching between these sources. These adjustments are made from the OSD menu.

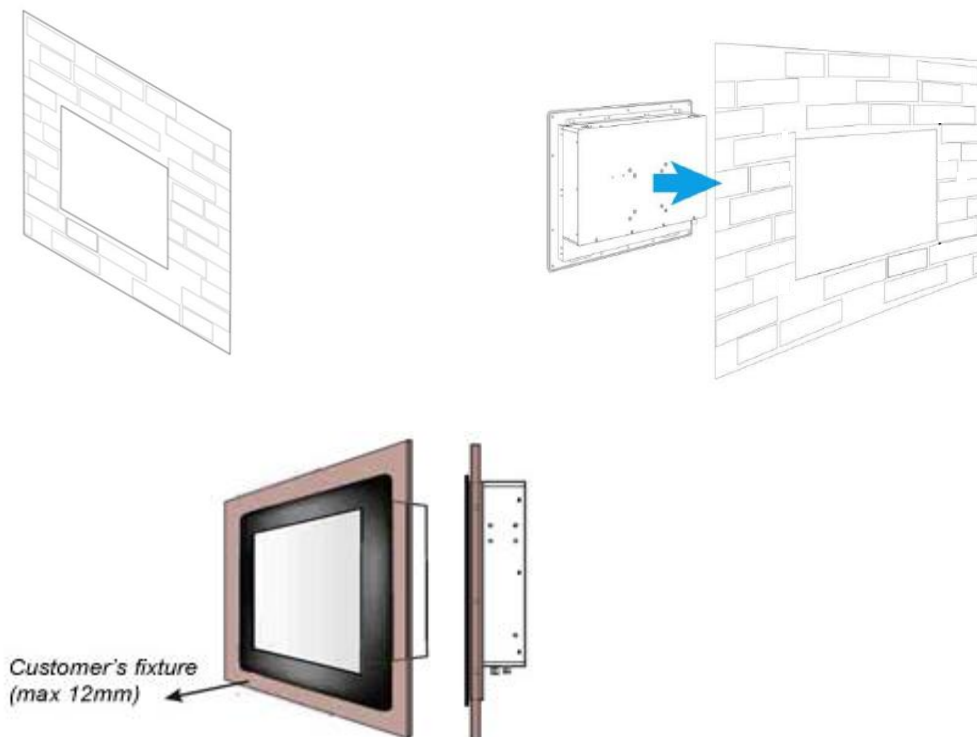
2. HDMI or DP signal cable connection (Optional):

Plug one end of the HDMI/DP signal cable to the video signal connector at the rear of the PC system and the other end to the monitor.

### 2-3 Mounting

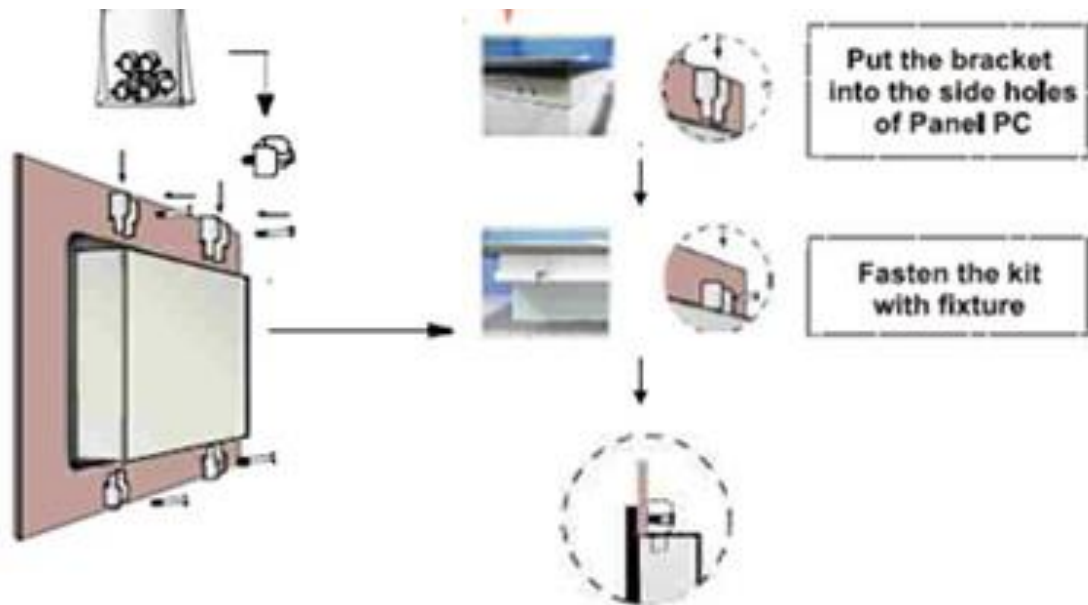
Please ask dealers or distributors to provide the cutout dimensions to fit to different sizes of monitors. The mounting steps are as below,

1. Make the suitable cutout, and put the monitor on the wall (or fixture) from front side.

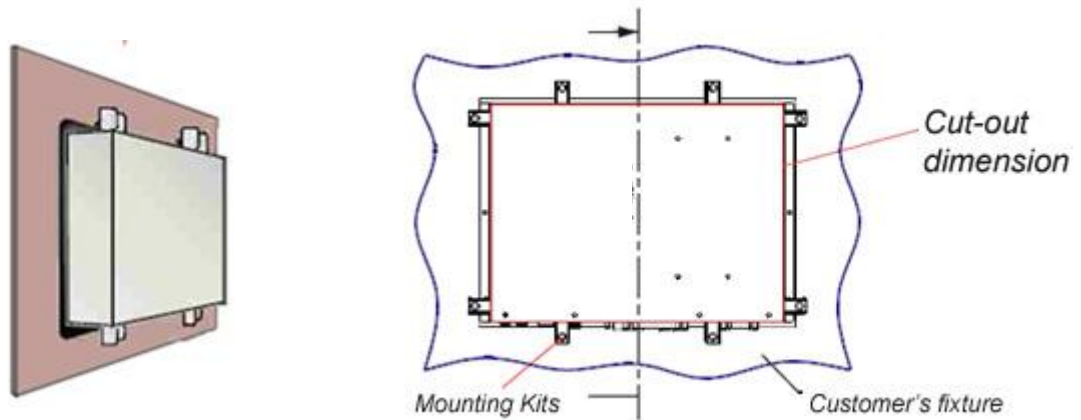


2. Use the mounting kit to fix to the wall or fixture.

Mounting clips hook the monitor, and put the screws in to press front bezel and the fixture to be tight.



3. Finished

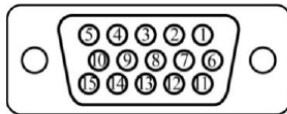


## 2-4 Connecting Peripherals

The panel control port is designed for monitors that work with a variety of compatible video sources. Due to the possible deviations between these signal sources, you may have to make adjustments to the monitor settings from the OSD menu when switching between these sources.

### 1. VGA connector

The Chassis Display Series uses standard 15pin D-sub connector. Plug 15-pin VGA signal cable to the VGA connector in the rear of motherboard, and plug the other end to the monitor. Secure cable connectors with hexagonal copper pillars M3x4mm.



Pin №	Signal Name	Pin №	Signal Name
1	RED	2	GREEN
3	BLUE	4	NC
5	GND	6	AGND
7	AGND	8	AGND
9	VGA_5V	10	GND
11	NC	12	DDCSDA
13	H Sync	14	V Sync
15	DDCSCL		

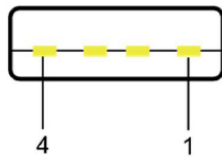
### 2. DVI connector

Use DVI cable to connect your TFT LCD display to the external PC system. Fasten cable connectors with screws.



Pin №	Signal Name	Pin №	Signal Name
1	TMDS2-	2	TMDS2+
3	GND	4	TMDS 4-
5	TMDS4+	6	DVI_SCL
7	DVI_SDA	8	NC
9	TMDS1-	10	DVI_RX1+
11	GND	12	TMDS 3-
13	TMDS3+	14	+5V
15	GND	16	DVI_CON_HP
17	TMDS0-	18	TMDS0+
19	GND	20	TMDS5-
21	TMDS5+	22	GND
23	DVI_CLKP	24	DVI_CLKN
C1	NC	C2	NC
C3	NC	C4	NC
C5	NC		

### 3. USB connector (for touch option)



Pin No.	Signal Name	Pin No.	Signal Name
1	+5V	2	Data-
3	Data+	4	GND

### 4. HDMI connector (optional)



Pin №	Signal Name	Pin №	Signal Name
1	HDMI_RX2+	2	GND
3	HDMI_RX2-	4	HDMI_RX1+
5	GND	6	HDMI_RX1-
7	HDMI_RX0+	8	GND
9	HDMI_RX0-	10	HDMI_RXC+
11	GND	12	HDMI_RXC-
13	HDMI_CON_CEC	14	NC
15	HDMI_CON_SCL	16	HDMI_CON_SDA
17	GND	18	+5V_HDMI
19	HDMI_CON_HP		

## *Operation*

When using a device, be sure to read the instructions accompanying the device together with the relevant section in this chapter. This chapter gives guidelines on using the device

### 3-1 OSD Key functions

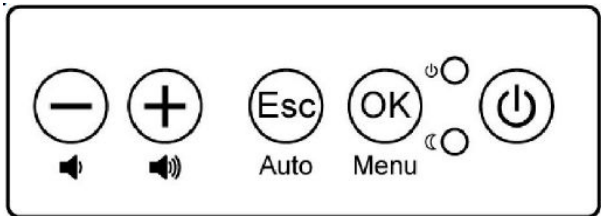
The OSD menu varies based on your OSD control panel.

1. OSD Key functions

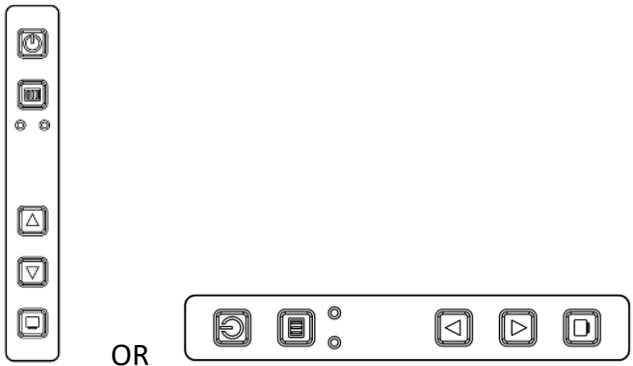
Type A



Type B



Type C (optional)










Icon	Function
	Decrease the value / Select up
	Increase the value / Select down
	Power Switch
	Exit / Auto adjustment
	Enter/ Call main OSD menu

## 2. LED Indicators

Icon	Description
Power Indicator	Lights up in "Green" when the monitor turns on
Standby Indicator	Lights up in "Orange" when the device cannot detect any input source


## 3-2 OSD Menu Navigation

	<b>BRICONTRAST</b>	BRIGHTNESS CONTRAST		<b>CHANNEL</b>	AUTO Scan ANALOG HDMI
	<b>POSITION</b>	Only support VGA mode H position V position		<b>RECALL</b>	YES NO
	<b>IMAGE</b>	Only support VGA mode Auto Adjustment Clock Phase White Balance		<b>OSD EXIT</b>	YES NO
	<b>COLOR</b>	USER 9300K 6500K ADC RIGHTNESS			
XII	<b>GAMMA</b>	GAMMA0 GAMMA1 GAMMA2			
OP	<b>OPTION</b>	VR Brightness Volume Speaker			




## BRICONTRAST

Brightness and contrast adjustment

OSD Icon	Sub-menu	Settings	Note
 BRICONTRAST	<b>BRIGHTNESS</b>	slider bar	Default 50
	Use to adjust the screen's brightness. Range 0 to 100		
	<b>CONTRAST</b>	slider bar	Default 50
	Use to adjust the screen's contrast. Range 0 to 100		


## POSITION

For VGA signal input only

OSD Icon	Sub-menu	Settings	Note
 POSITION	<b>H POSITION</b>	slider bar	
	Use to adjust the image to the left or right on the screen		
	<b>V POSITION</b>	slider bar	
	Use to adjust the image up or down on the screen		


## IMAGE

Image adjustment, for VGA signal input only

OSD Icon	Sub-menu	Settings	Note
 IMAGE	<b>AUTO</b>	Select and execute	
	Use to choose the best settings for the current input signal		
	<b>CLOCK</b>	slider bar	
	Use to adjust the value of horizontal image. Range 0 to 100		
	<b>PAHSE</b>	slider bar	
	Use to adjust the phase control (Phase adjustment may be required to optimize the display quality)		
	<b>WHITE BALANCE</b>	Select and execute	
	Use to set RGB signal voltage level		

## COLOR

RGB color and color temperature adjustment

OSD Icon	Sub-menu	Settings	Note
 COLOR	<b>USER</b>	<b>R.G.B slider bar</b>	
	Choose RED/GREEN/BLUE to set value of color temperature brightness to suit your own preference		
	<b>9300K</b>	<b>Select and execute</b>	
	Use to set value of monitor for the CIE coordinate 9300 color temperature		
	<b>6500K</b>	<b>Select and execute</b>	
	Use to set value of monitor for the CIE coordinate 6500 color temperature		
	<b>ADC BRIGHTNESS</b>	<b>slider bar</b>	Default 50
	Set value of monitor for ADC Brightness. Range 0 to 100		

## GAMMA


Gamma value selection

OSD Icon	Sub-menu	Settings	Note
XII GAMMA	<b>GAMMA 0</b>	<b>Select and execute</b>	Default GAMMA0
	Choose the parameter of GAMMA 0 as default setting.		
	<b>GAMMA 1</b>	<b>Select and execute</b>	
	Choose the parameter of GAMMA 1 as default setting.		
	<b>GAMMA 2</b>	<b>Select and execute</b>	
	Choose the parameter of GAMMA 2 as default setting.		

## OPTION


For option, it only supports with optional hardware specification selected.

Please check to your local dealer or distributor.


OSD Icon	Sub-menu	Settings	Note
	<b>VR Brightness</b>	<b>ON/OFF</b>	Default OFF
	Choose the brightness control mode by VR control		
	<b>Speaker (option)</b>	<b>ON/OFF</b>	Default 10 OFF
	Use to set value of Volume Speaker		
	<b>LED On/OFF (option)</b>	<b>ON/OFF</b>	Default ON
	Use to set LED indicators On/Off		

## CHANNEL


Signal input selection, default set as AUTO.

OSD Icon	Sub-menu	Settings	Note
	<b>AUTO SCAN</b>	<b>Select and execute</b>	Default mode
	Auto detect the input source		
	<b>ANALOG</b>	<b>Select and execute</b>	
	Switch the setting of signal input to Analog mode		
	<b>HDMI (Option: DVI)</b>	<b>Select and execute</b>	
	Switch the setting of signal input to HDMI /DVI mode		

## RECALL

OSD Icon	Sub-menu	Settings	Note
	<b>YES</b>	<b>Select and execute</b>	
	Recall the factory default setting		
	<b>NO</b>	<b>Select and execute</b>	
	Return to main menu		

## Exit

OSD Icon	Sub-menu	Settings	Note
	<b>YES</b>	<b>Select and execute</b>	
	Exit the OSD menu		
	<b>NO</b>	<b>Select and execute</b>	
	Return to main menu		

## ***Trouble Shooting***

This chapter covers the following topics:

- Storage Notice
- Troubleshoot your LCD Monitor

If your monitor fails to operate correctly, consult the following chart for possible solution before calling for repairs.

## 5-1 Trouble Shooting

If your terminal fails to operate correctly, consult the following chart for possible solution before calling for repairs:

Condition	Check Point
1. The picture does not appear	<ul style="list-style-type: none"><li>● Check if the signal cable is firmly seated in the socket.</li><li>● Check if the Power is ON at the computer</li><li>● Check if the brightness control is at the appropriate position, not at the minimum.</li></ul>
2. The screen is not synchronized	<ul style="list-style-type: none"><li>● Check if the signal cable is firmly seated in the socket.</li><li>● Check if the output level matches the input level of your computer.</li><li>● Make sure the signal timings of the computer system are within the specification of the monitor.</li><li>● If your computer was working with a CRT monitor, you should check the current signal timing and turn off your computer before you connect the VGA Cable to this monitor.</li></ul>
3. The position of the screen is not in the center	<ul style="list-style-type: none"><li>● Adjust the H-position, and V-position, or Perform the Auto adjustment.</li></ul>
4. The screen is too bright (too dark).	<ul style="list-style-type: none"><li>● Check if the brightness or contrast control is at the appropriate position, not at the Maximum (Minimum).</li></ul>
5. The screen is shaking or waving	<ul style="list-style-type: none"><li>● Perform the Auto adjustment.</li><li>● Moving all objects which emit a magnetic field such as motor or transformer, away from the monitor.</li><li>● Check if the specific voltage is applied.</li><li>● Check if the signal timing of the computer system is within the specification of monitor.</li></ul>
6. VGA signal got noise when using PIP function	<ul style="list-style-type: none"><li>● Change PIP mode again.</li></ul>

If you are unable to correct the fault by using this chart, stop using your monitor and contact your distributor or dealer for further assistance.

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