



# Panel PC

## User Manual

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**FCC Notice**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

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

## Important safety notice

Please read this manual carefully and save to use in the future.



Make sure to unplug the power lead before cleaning the product. Unplug the power lead from the power outlet and wipe the product using a soft, dry cloth.



Do not use components except those recommended by the manufacturer, failure to do so may cause damage.



Do not try to move the monitor by pulling only the cord nor touch the plug with wet hands.



Do not excessively bend the plug and wire nor place heavy objects upon them, which could cause damage.



Keep the product away from places exposed to oil, smoke or moisture, do not install inside a vehicle, this may cause malfunction, an electric shock or fire.



Do not cover the vents on the monitor (Panel PC) case, do not place the monitor (Panel PC) or power adapter on the bed, sofa, carpet etc, as bad ventilation may cause a breakdown or fire.



When installing the product, make sure to keep it away from the direct sunlight.



Only the type of power listed in the label of the LCD can be used. If you have questions of power type, please contact local dealer or power supply department.



Use only a properly grounded plug and receptacle. An improper ground may cause electric shock or equipment damage. If you can't insert the plug into outlet, please change the outlet.



Use only a properly grounded plug and receptacle. An improper ground may cause electric shock or equipment damage. If you can't insert the plug into outlet, please change the outlet.



Make sure the outlet can support total electricity of products be plug into it, do not connect too many extension cords or plugs to an outlet. Otherwise it may cause fire.



Do not place the product on an unstable or small surface area. Place the product on an even, stable surface, as the product may fall and cause harm to someone walking by, specifically children.



Do not try to extend the power wire, otherwise it may cause fire.



Do not open the monitor cabinet by yourself, if monitor needs to be examined or repaired, please contact the professional service.



Firstly pull out the power plug and connect the professional service when it happens following:

- a. Power wire or power cable is damaged.
- b. Monitor fall into ground or monitor cabinet is damaged.
- c. Monitor displays obviously out of the way, needs to be repaired.



Unplug the power cord from the power outlet when monitor is not used.



Do not install the product in places with poor ventilation , high light, high temperature or moisture.

# 1

## Introduction

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### About this Manual

This manual is intended as a reference guide for the Boardmate Corporation MMD (Panel PC) Series Monitors.

This Manual provides the information needed to install, set up and maintain the Boardmate Corporation Monitors. In addition, this manual describes basic technical information about the touch sensor, troubleshooting and contact information.

## **Contact information**

Representatives of Boardmate Corporation can be contacted on the numbers/emails below for further information and to resolve any issues you might have with our products.

### **Boardmate Corporation Inc.**

PO Box. 193 Longtan, Taoyuan

County 32599, Taiwan.

Tel:886-989-732-506

[www.boardmate.tw](http://www.boardmate.tw)

[sales@boardmate.tw](mailto:sales@boardmate.tw)

Please check our website on a regular basis for updates .

## **Overview**

Thank you for purchasing the Boardmate Corporation Monitor, it is a smart multi - frequency scanning LCD with an active matrix TFT LCD that displays sharp and brilliant images of text and graphics.

**FULL HD - Support Timing Table**

<b>Mode</b>	<b>Resolution</b>	<b>H Freq.(KHz)</b>	<b>V Freq.(Hz)</b>
1	640*350@70	31.469	70.087
2	640*400@70	31.469	70.087
3	640*480@60	31.469	59.940
4	640*480@72	37.861	72.809
5	640*480@75	37.500	75.000
6	720*400@70	31.469	70.087
7	800*600@56	35.156	56.250
8	800*600@60	37.879	60.317
9	800*600@72	48.077	72.188
10	800*600@75	46.875	75.00
11	1024*768@60	48.363	60.004
12	1024*768@70	56.476	70.069
13	1024*768@72	58.038	71.918
14	1024*768@75	60.023	75.029
15	1024*768@60	48.019	60.000
16	1024*768@60	47.700	60.000
17	1280*1024@60	63.980	60.000
18	1280*1024@70	74.882	69.853
19	1280*1024@75	79.976	75.025
20	1360*768@60	47.700	60.000
21	1400*1050@60	65.3	60
22	1400*1050@75	82.3	75
23	1440*900@60	59.9	75
24	1440*900@75	75.0	75
25	1600*1200@60	75.0	60
26	1600*1200@65	81.3	65
27	1600*1200@70	87.5	70
28	1600*1200@75	93.8	75
29	1680*1050@60	65.3	60
30	1680*1050@75	74.9	75
31	1920*1200@60	74.6	60



**HD - Support Timing Table**

<b>Mode</b>	<b>Resolution</b>	<b>H Freq.(KHz)</b>	<b>V Freq.(Hz)</b>
1	640*350@70	31.469	70.087
2	640*400@70	31.469	70.087
3	640*480@60	31.469	59.940
4	640*480@72	37.861	72.809
5	640*480@75	37.500	75.000
6	720*400@70	31.469	70.087
7	800*600@56	35.156	56.250
8	800*600@60	37.879	60.317
9	800*600@72	48.077	72.188
10	800*600@75	46.875	75.000
11	1024*768@60	48.363	60.004
12	1024*768@70	56.476	70.069
13	1024*768@72	58.038	71.918
14	1024*768@75	60.023	75.029
15	1024*768@60	48.019	60.000
16	1024*768@60	47.700	60.000
17	1152*864@75	67.500	75.000
18	1280*960@60	60.000	60.000
19	1280*1024@60	63.980	60.000
20	1280*1024@75	79.976	75.025

## MD Panel PC SERIES Introduction

Brotek technology newest launched product, MD Panel PC series. Mini ITX Motherboard, CPU, RAM, HD, Power supply, VGA board, WiFi, ALL integrated in one case. All you need to do just find a n outlet, and plug in the power core.

MD Panel PC designed in all size, 19" 26" 32" 42" 47" 52" 65"(future), Brotek also provides High-Tech solutions for different customers and to fit different environment, such as IP Function, Sunlight solution, PID Control, PMMA & Tempered Glass Protection sheet, and Touch Screen.

### IP Function

We can do IP function for Monitor, and Panel PC in front bezel with IP 65, to prevent water splash, and dust pollute.

### Sunlight solution

Monitor put outside, and expose to direct sunlight, people can not see the LCD screen easily. Brotek technology provides AR -coat glass, and Optical bonding solution for Monitors and Panel PC, in order to make the screen can be seen easier while they are exposed to di rect sunlight.

### PID Control

Temperature under 0<sup>o</sup> C (32 F) the LCD will can not work, Brotek technology provides PID Control function, before turn ON the Monitor or Panel PC, the sensor will detect the temperature first, worm up the air inside the product, then power on.

Temperature over 55<sup>o</sup> C (132 F) the LCD panel will crash, if sensor detects the temperature over 55<sup>o</sup> C (132 F), PID controller will cut off the power automatically.

## **PMMA & Tempered Glass Protection sheet**

If you put Monitors or Panel PC in the public place, you will face an important problem that how to protect your frangible screens from outside force and artificially attack. Brotek technology not just provide metal case to strengthen products, we also provide PMMA or Tempered Glass to protect your LCD Screens well.

## **Touch Screen**

Do you want your Advertisements, Monitors, and Panel PC can interact with your customers? Attach a Touch screen can make your dream come true!! Brotek Technology provides IR, Optical & SAW Touch screen for 19" 26" 32" 42" 47" even 52".

## **Monitor Function**

Brotek Technology MD Panel PC is not just a PC system, you can also set up a game box through its VGA/DVI port, in other words, you can use it like a normal Monitor. Support 10w(5w x 2) speakers .

## **OSD IR Remote Control**

Brotek Technology exclusive OSD Remote control Function, letting you adjust Brightness, contrast, color, etc., by Remote Control, and you don't have to press any buttons on the product anymore.

## **Customized Product**

Except for standard products, Brotek Technology also provides customize service. We have a professional design team waiting for customer's requirements. Only need one month, you can have your new product which just owned by you in the WORLD !!

# 2

## **Mother Board Introduction**

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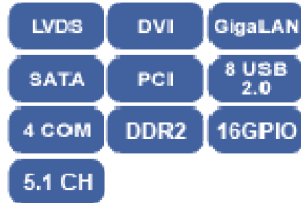
### About this Manual

This manual is intended as a reference guide for the Boardmate Corporation MMD (Panel PC) Series Monitors.

This Manual provides the information about Motherboard for Panel PC , which provided by Boardmate Corporation . If you have any further question, please contact us and get more help.

## EMX-945GME3

Intel® 945GME Core™ Duo/ Core™ Solo/ Core™ 2 Duo Mini ITX  
Motherboard



## Features

- Supports Intel® Core™ 2 Duo / Core™ Duo / Core™ Solo CPU
- Intel® 945GME / ICH7-M Chipset
- Two DIMMs up to 4 GB Dual Channel DDR2 667/533 SDRAM
- Intel® Graphics Media Accelerator 950, 5.1 -CH Audio
- Realtek RTL8111B PCIe GigaLAN
- DVI, 2-CH LVDS, Dual View
- 1 PCI, CF, 4 COM, 8 USB, 2 SATA, 16 GPIO

## Specifications

System	
<b>CPU</b>	Intel® µFC-PGA 478 socket Supports Core™ 2 Duo/ Core™ Duo / Core™ Solo with 65nm process technology
<b>FSB</b>	533/667 MHz
<b>BIOS</b>	Award 1MB Flash ROM BIOS
<b>System Chipset</b>	Intel® 82945GME GMCH / 82801GBM ICH7 -M DH
<b>I/O Chip</b>	Winbond W83627DHG-A
<b>System Memory</b>	Two 240-pin DIMM sockets support up to 4 GB Dual Channel DDR2 667/533 SDRAM
<b>Watchdog Timer</b>	Reset: 1 sec.–255 min. and 1 sec. or 1 min./step
<b>H/W Status Monitor</b>	Monitoring temperatures, voltages, and cooling fan status. Auto throttling control when CPU overheats
<b>Expansion</b>	1 PCI supports 3 PCI master
I/O	
<b>MIO</b>	1 EIDE, 2 SATA, 4 RS-232, 1 KB, 1 Mouse
<b>USB</b>	8 x USB 2.0 ports
<b>DI/O</b>	16-bit
Display	
<b>Chipset</b>	Intel® 82945GME GMCH integrated Graphics Media Accelerator 950
<b>Display Memory</b>	Intel® DVMT 3.0 supports 224 MB video memory
<b>Resolution</b>	2048 x 1536 @ 32 bpp (75Hz)
<b>Multiple Display</b>	CRT+LVDS, or CRT+DVI-D
<b>LVDS</b>	Intel 945GME supports single channel 18/24 bit or dual channel 36 -bit LVDS
<b>DVI</b>	Chrontel CH7307C DVI transmitter up to 165M pixels/sec
Audio	
<b>Chipset</b>	Intel® ICH7-M
<b>AC97 Codec</b>	Realtek ACL888 Audio Codec 5.1+2 ch. with Two independent audio stream
<b>Audio Interface</b>	Mic in, Line in, CD Audio in, Line out
Ethernet	
<b>LAN</b>	Realtek RTL8111B Gigabit LAN
<b>Ethernet Interface</b>	1000Base-T Gigabit Ethernet compatible
Mechanical & Environmental	
<b>Power Requirement</b>	ATX
<b>Power Type</b>	Mini ITX
<b>Operation Temperature</b>	0–60°C (32–140°F)
<b>Operating Humidity</b>	0%–90% relative humidity, non-condensing
<b>Size ( L x W )</b>	6.69" x 6.69" (170 mm x 170 mm)
<b>Weight</b>	0.88 lbs (0.4 kg)

## EMX-965GME

Intel® GME965 Socket P Core™ Duo / Core™ Solo / Core™ 2 Duo Mini ITX  
Motherboard



## Features

- Supports Intel® socket P Core™ Duo / Core™ Solo / Core™ 2 Duo CPU
- Intel® GME965 / ICH8-M Chipset
- Two 200-pin SODIMMs up to 4 GB 2-CH DDR2 533/667 SDRAM
- Intel® Graphics Media Accelerator X3100
- DVI, 2-CH LVDS, Dual View
- ALC 888 Supports 5.1-CH Audio
- Realtek RTL8111B PCIe GigaLAN
- COM,10 USB, 3 SATA, 8-bit GPIO
- 1 PCI, 1 Type I/II CF

## Specifications

<b>System</b>	
<b>CPU</b>	Supports Intel® socket P Core™ Duo / Core™ Solo / Core™ 2 Duo CPU with 65nm process technology
<b>FSB</b>	533/800 MHz
<b>BIOS</b>	Award 2 MB SPIROM
<b>System Chipset</b>	Intel® GME965 / ICH8M-DO
<b>I/O Chip</b>	Winbond W83627DHG-A
<b>System Memory</b>	Two 200-pin SODIMM sockets support up to 4 GB Dual Channel DDR2 533/667 SDRAM
<b>SSD</b>	One CompactFlash Type I/II socket
<b>Watchdog Timer</b>	Reset: 1 sec.-255 min. and 1 sec. or 1 min./step
<b>H/W Status Monitor</b>	Monitoring CPU temperature, voltage, and cooling fan status. Auto throttling control when CPU overheats
<b>Expansion</b>	1 PCI (PCI Rev. 2.2 compliant) supports 3 PCI master
<b>I/O</b>	
<b>MIO</b>	1 x DVI-D/D-Sub, 2 x GigaLAN, 4 x USB 2.0, 4 x RS -232, 1 x K/B, 1 x Mouse, Audio (Mic, Line in/out)
<b>IrDA</b>	115k bps, IrDA 1.0 compliant
<b>USB</b>	10 x USB 2.0
<b>D/I/O</b>	8-bit General Purpose I/O for DI and DO
<b>Display</b>	
<b>Chipset</b>	Intel® GME965 integrated Graphics Media Accelerator X3100
<b>Display Memory</b>	Intel® DVMT 4.0 supports 384 MB video memory
<b>Resolution</b>	2048 x 1536 @ 32 bpp (60Hz)
<b>Multiple Display</b>	CRT + LVDS, or CRT + DVI-D
<b>LVDS</b>	Dual-channel 24-bit LVDS
<b>DVI</b>	Chrontel CH7307C DVI transmitter up to 165M pixels/second
<b>Audio</b>	
<b>Chipset</b>	Intel® ICH8M-DO
<b>Audio Interface</b>	Mic in, Line in, (CD Audio in), Line out
<b>Ethernet</b>	
<b>LAN</b>	Dual Realtek RTL8111B PCIe 1000Base-T Gigabit Ethernet Controller
<b>Mechanical &amp; Environmental</b>	
<b>Power Requirement</b>	ATX
<b>Operation Temperature</b>	0~60°C (32~140°F)
<b>Operating Humidity</b>	0%~90% relative humidity, non-condensing
<b>Size ( L x W )</b>	6.69" x 6.69" (170 mm x 170 mm)
<b>Weight</b>	0.88 lbs (0.4 kg)



# 3

## **OSD Introduction**

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### About this Manual

This manual is intended as a reference guide for the LVT Brotek MO Series Monitors.

This Manual provides the information about how to control the OSD function, in order to adjust LVT Brotek Monitor to be more suitable to the environment.

## OSD Control Key

**Power Key** : Turn ON/OFF the monitor.

**Menu Key** : Enter the main menu of the on-screen display.

**DEC “<” Key** : Decrease the value of the chose item .

**INC “>” Key** : Increase the value of the chose item .

**Auto Key** : Automatically adjusts H-Position, V-Position, Pixel Clock and Phase for an optimal image.

## OSD Control Function List

The monitor function settings are accessed using the On-Screen Display (OSD). To access function settings, simply press **Menu** on the IR-Remote control to display “MENU”. Press the “<” or “>” buttons to choose items you wish to adjust, and use **Menu** button to enter the sub-item.



Choose to enter the Sub-choice of a sub-item, and adjust its value by “<” or “>” buttons. The display will change its status according to the adjustments you made. When the adjustment is done, press **Auto** button until you exit the OSD setting window.

**VGA MODE – The screen of OSD when connected to PC**

ITEM	SUB-ITEM	SUB-CHOICE
1. Brightness		
2. Contrast		
3. Color	9300	
	6500	
	User	Red
		Blue
	Green	
4. Manager	H Position	
	V Position	
	Clock	
	Phase	
5. Tools		10sec
		15sec
		30sec
	Reset	
		10sec
		15sec
		OFF
		English
		Deutsch
		Francais
		Espanol
		Italiano
		Simplified Chinese
		Traditional Chinese
	Japanese	
	Portuguese	
6. Volume		
7. Input Source	VGA	
	DVI	
8. Scaling Select	4 : 3	
	15 : 9	
	16 : 9	

## Brightness

Press **Menu** to enter OSD function menu. Press **Menu** again to make a selection to choose "Brightness". Use the "<" and ">" buttons to adjust their values. After the adjustments are done, press **Auto** to exit.

## Contrast

Press **Menu** to enter OSD function menu. And use the "<" and ">" buttons to choose "Contrast". Press **Menu** again to make a selection to choose "Brightness". Use the "<" and ">" buttons to adjust the values. When the adjustments are done, press **Auto** to exit.

## Color

Press **Menu** to enter OSD function menu. And use the "<" and ">" buttons to choose "Color". Press **Menu** to choose from the selections (9300°K, 6500°K, User) settled. Press **Auto** back to the main menu.

## Color (User)

Use the "<" and ">" buttons to toggle among sub-choices (Red, Green, Blue) and press **Menu** to enter. Use the "<" and ">" buttons to adjust the values of each color. When the adjustments are done, press **Auto** to exit.

## Manager

Press **Menu** to enter OSD function menu. Press "<" and ">" to make a selection to choose "Manager". Press **Menu** to enter "Manager" settings and then use "<" and ">" buttons to select the sub-item (H. Position, V. Position, Clock, Phase) you would adjust and press **Menu** to enter. Use the "<" and ">" buttons to adjust the values. When the adjustments are done, press **Auto** to exit.

## Tools

Press **Menu** to enter OSD menu and use the “<” and “>” buttons to choose “Tools”. Press **Menu** to choose from the selections (OSD Timeout, Reset, Power Save, Language) setting. Press Auto to return to the main menu.

### Tools (sub menu) OSD Timer

To choose the “OSD Timer” function and then use “<” and “>” buttons to toggle between the selections. Press the **Menu** button to select the time you want the OSD menu to remain on the screen when it is not in use.

### Tools (sub menu) Reset

If you choose to “Reset” option this will return settings to the default settings. The monitor will turn off, then power up again to adjust to the default setting.

### Tools (sub menu) Power Save

Choosing the “Power Save” function, use the “<” and “>” buttons to toggle between the selections. Press the **Menu** button to make a selection.

### Tools (sub menu) Language

If you choose the language sub-menu, use the “<” and “>” buttons to toggle between the Language selections. Press the **Menu** button to select a language. Press the Auto to exit.

## Volume

Press **Menu** to enter OSD function menu. Press “<” and “>” to make a selection to choose “Volume”. Press **Menu** to enter “Volume” settings and then use “<” and “>” buttons to adjust it .

## **Input Source**

Press **Menu** to enter OSD function menu. Press “<” and “>” to make a selection to choose “Input Source”. Press **Menu** to enter “Input Source” settings and then use “<” and “>” buttons to choose VGA or DVI.

## **Scaling Select**

Press **Menu** to enter OSD function menu. Press “<” and “>” to make a selection to choose “Scaling Select”. Press **Menu** to enter “Scaling Select” settings and then use “<” and “>” buttons to choose 4 : 3, 15 : 9, 16 : 9.

# 4

## Appendix

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