

PCM8019

19" Military Panel PC
6th Generation Core i7-6600U 2.6GHz CPU
Fully IP67 Rated Enclosure

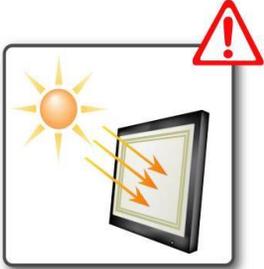
User Manual

IMPORTANT SAFETY INSTRUCTIONS

- Please read these instructions carefully before using the product and save for later reference. Follow all warnings and instructions marked on the product.
- Unplug this product from the wall outlet before cleaning. Clean the product with a damp soft cloth. Do not use liquid or aerosol cleaners as it may cause permanent damage to the screen.
- Do not immerse this product under water (IP67 for standard spec.) For custom spec. not to fit this condition, please check with sales representation.
- Do not place this product which weighs almost 10KG with fully equipped on the unstable cart, stand, or table.
- The product may fall, causing scratching to the product surface or connectors.
- The unit should never be placed near fire or vicinity with highly explosive matters.
- This product should be operated from the type of power indicated on the marking label.
- If you are not sure of the type of power available, consult your dealer or local power company.
- This product is equipped with a 3-wire grounding type plug, a plug having a third (grounding) pin.
- This plug will only fit into a grounding-type power outlet.
- If you are unable to insert the plug into the connector, contact your electrician to replace your obsolete outlet or examine the pin header, do not jostle with hard push in case damage.
- Do not defeat the purpose of the grounding-type plug.
- Do not top up anything on the product identity, or touch closely.
- Do not locate this product where persons will walk on the cord.
- If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord does not exceed the extension cord ampere rating.
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk.
- Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks and will void the warranty.
- Refer all servicing to qualified service personnel.

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.

Getting Started

Congratulations on purchasing our Rugged Military Devices. The design allows you to use it in harsh outdoor environments. You can use it in high temperature desert, subzero freezing snow, driving rain or dusty surroundings – places you could not take with normal industrial grade Computer.

This chapter tells you step by step how to get the Military Computer up and running. You will find instructions for the following procedures:

- Specification
- Unpacking
- Device Overview (An Explanation of External Components and their Functions)

Specification

Panel Specification :

• Size/ Type	: 19" (LED Backlight, with sunlight readable)
• Resolution	: 1280 x 1024
• Brightness	: 1,000 nits (High Brightness)
• Contract Ratio	: 1000 : 1 (typ.)
• Max. Colors	: 16.7M
• Viewing Angle	: -85~ 85 (H); -80~ 80 (V)
• Touch Screen	: 5-wire resistive touch (Optional)

Input / Output :

	: 4 x USB 2.0
Back Side I/O	: 1 x RS232
(D38999/24WH53SN)	: 1 x GbE LAN
	: 1 x RS422
	: 1 x VGA Output
Back Side I/O	: 1 x AC 110~240 V / 60Hz Input
(D38999/26WD5PN)	(Or 9~36V Isolated DC Input)
Front Side I/O	: 2 x IP67 Type A USB 2.0 connectors
(optional)	

System:

• CPU	: Intel® Skylake U-series 6 th Generation Core i7-6600U 2.6GHz
• Chipset	: SoC Integrated
• Memory	: DDR3L 1600MHz 8GB
• Storage	: 1 x 2.5" SSD in Hot swappable array 1 x mSATA SSD 64GB for system boot
• Ethernet	: Intel® i210 Ethernet Controller Intel® i219 Ethernet Connection
• BIOS	: AMI 16Mbit Flash
• System Indicator	: 1 x Power LED, 1 x HDD LED
• VGA Output	: 1 x VGA Output
• WLAN	: Full size miniPCIe for wireless card IEEE 802.11 a/b/g/n 2x2 Dual Band (Optional)
• Watchdog	: Programmable 1~255 sec.
• FN. keys	: Up to 7 programmable function keys

**Specification would be different by different order request, all is subject to PI description.

Options

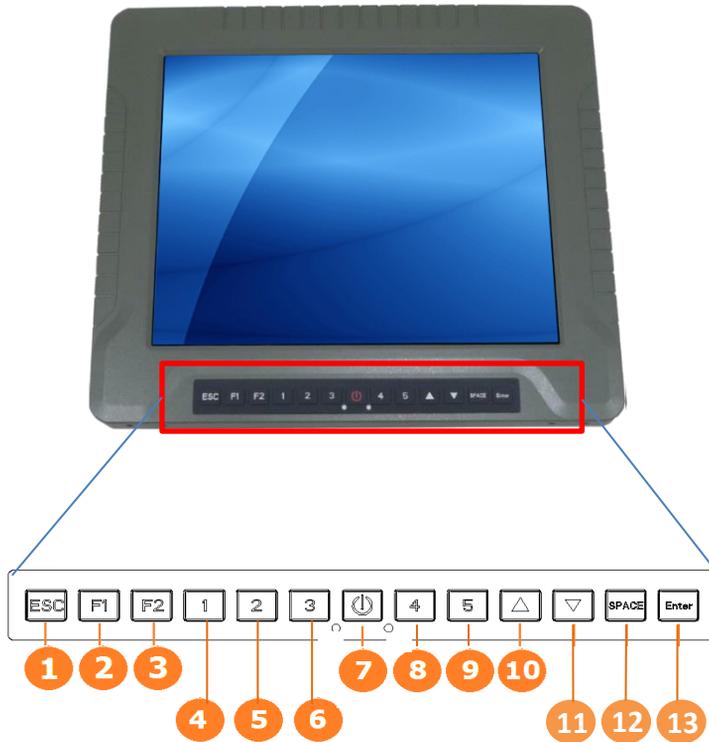
• Processor	: Intel® Core™ i5 Processor
• Video Input	: 1 x VGA, or 1 x AV (BNC) Input
• Touch	: GFG 5-wire resistive touch screen
• Front Filter	: ITO Glass or EMI mesh filter

Front Keypad



no.	Keypad	Meaning
1.	ESC	: Mapping to keyboard “ESC” key
2.	Function 1	: Mapping to keyboard “F1” key / Programmable key
3.	Function 2	: Mapping to keyboard “F2” key / Programmable key
4.	1	: Mapping to keyboard “1” numerical key / Programmable key
5.	2	: Mapping to keyboard “2” numerical key / Programmable key
6.	3	: Mapping to keyboard “3” numerical key / Programmable key
7.	Power	: Power On/Off the system
8.	4	: Mapping to keyboard “4” numerical key / Programmable key
9.	5	: Mapping to keyboard “5” numerical key / Programmable key
10.	Up	: Mapping to keyboard “Up” arrow key / Programmable key
11.	Down	: Mapping to keyboard “Down” arrow key / Programmable key
12.	Space	: Mapping to keyboard “Space” key
13.	Enter	: Mapping to keyboard “Enter” key

Option with Video Input



no.	Keypad	Meaning
1.	ESC	: Mapping to keyboard “ESC” key
2.	Function 1	: PBP (picture beside picture) for OS program arrangement
3.	Function 2	: PIP, PBP function for between VGA and PC screen
4.	1	: Replace keyboard “ALT+TAB” on OS
5.	2	: GPIO ID_3 reserved for programmable
6.	3	: GPIO ID_4 reserved for programmable
7.	Power	: Power On/Off the system
8.	4	: Go left under OSD menu
9.	5	: Go right under OSD menu / Source selection
10.	Up	: Brightness up / Arrow goes up under OSD menu
11.	Down	: Brightness down / Arrow goes down under OSD menu
12.	Space	: LCD OSD function: Auto/Swap
13.	Enter	: LCD OSD function: Menu/Enter

Unpacking

After unpacking the shipping carton, you should find these standard items. Inspect all items. If any item is damaged or missing, notify your dealer immediately.

- ✓ Device Identity



- ✓ Power Adapter
(Optional or Ordered by request)



- ✓ Power Cord
(Optional or Ordered by request)

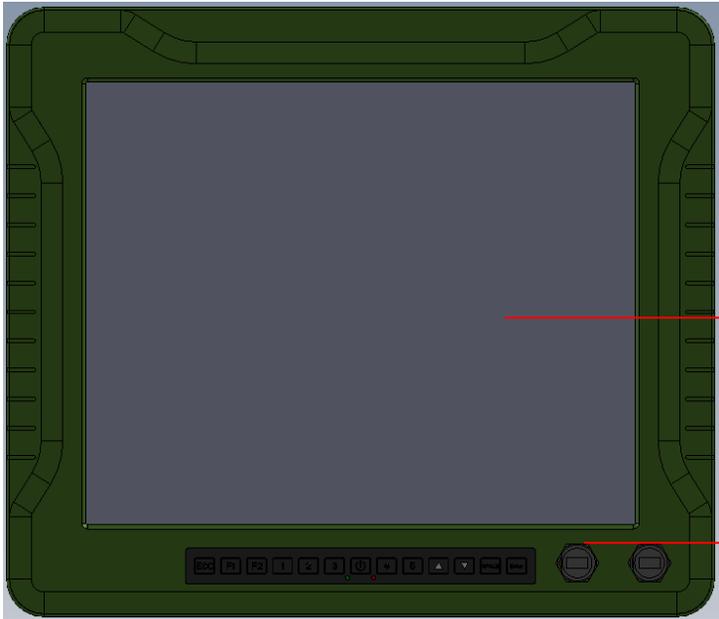


- ✓ Military Plug or which with cables
(Optional or Ordered by request)



Device Overview

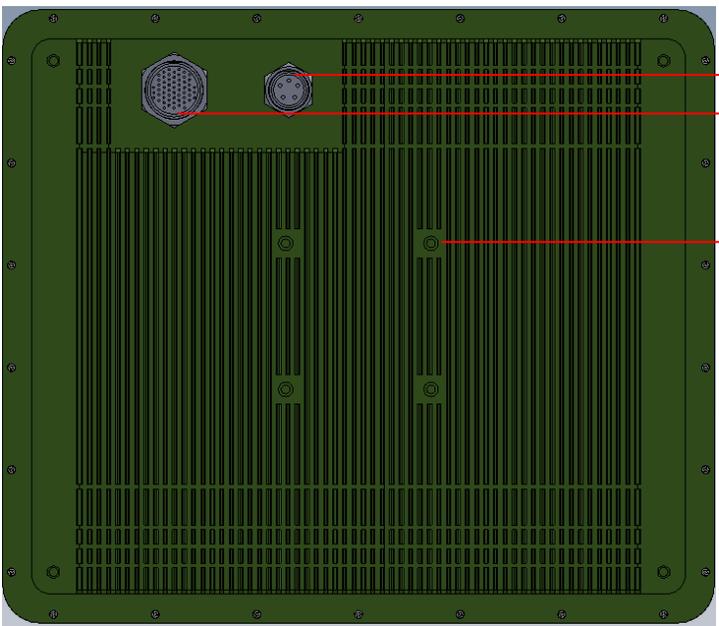
Front View:



19" 1280 x 1024 Display
topped on a protective glass

USB 2.0 (IP67)
USB 2.0 (IP67)

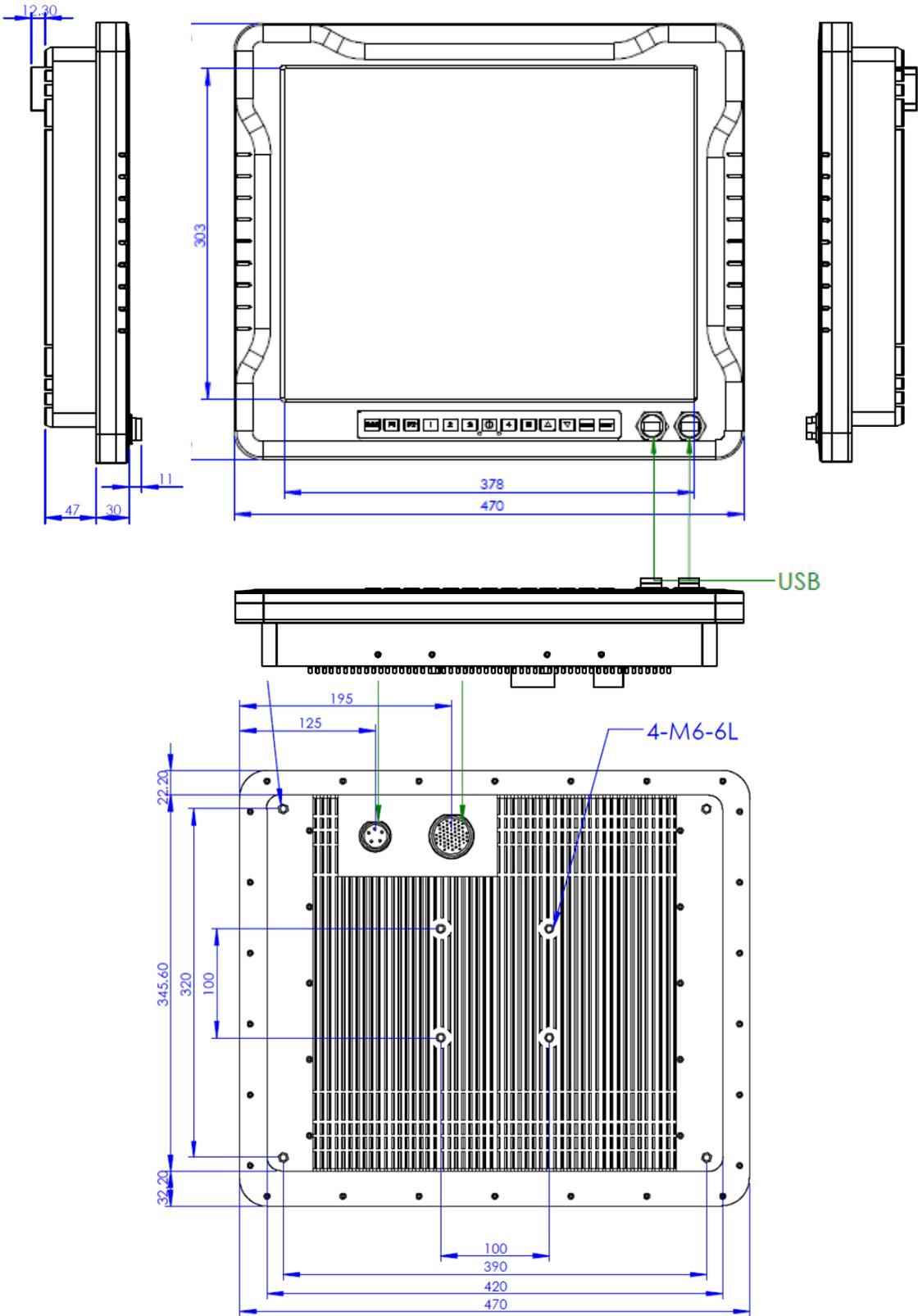
Rear View



Power Input
Signal Port

100x100 VESA (M6x6)

Dimensions



Operation

Congratulations on purchasing our Rugged Military Devices. The design allows you to use it in harsh outdoor environments. You can use it in high temperature desert, subzero freezing snow, driving rain or dusty surroundings – places you could not take with normal industrial grade Computer.

This chapter tells you step by step how to get the Military Computer up and running. You will find instructions for the following procedures:

- Start Up the computer
- Setting Up the Windows
- Driver Installation
- Touch Driver Installation
- Mounting Note

Start Up The Computer

1. Connect the Power Cord:

Be aware of the power input voltage range which will be either DC 18 ~ 32V or AC In, please check in advance with supplier, and check the power source is in correct source. *If you purchase our AC power adapter, please connect the power plug to the socket with AC supply. Plug the Power Cord to the Power port at bottom of the machine, align the foolproof pin then push in before to lock by rotating.

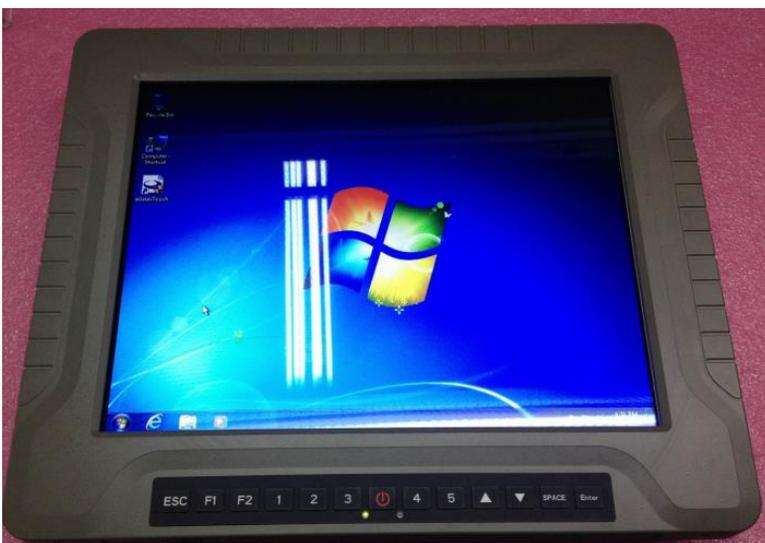
Illustration:



2. Turn On/ Turn Off

Press the middle power button to turn on the Computer. The power indicator will lit up in green. And there are 2 condition after turn-on:

- If no OS pre-installed, please connect the USB port and connect your booting disk to install the OS. (Press DEL to enter the BIOS setting screen, then select your booting device.)
- If OS installed, the screen will go through the BIOS setting then to the normal Windows desktop, and jump to next step.
- Connect the remaining cables for internet access or other USB/COM functionality if necessary.



Setting Up Windows

1. Setting up Windows (Windows 7 Pro / Windows 7 Embedded)

Although the Windows has been installed. There's some settings must be done by regional and personal favorite.

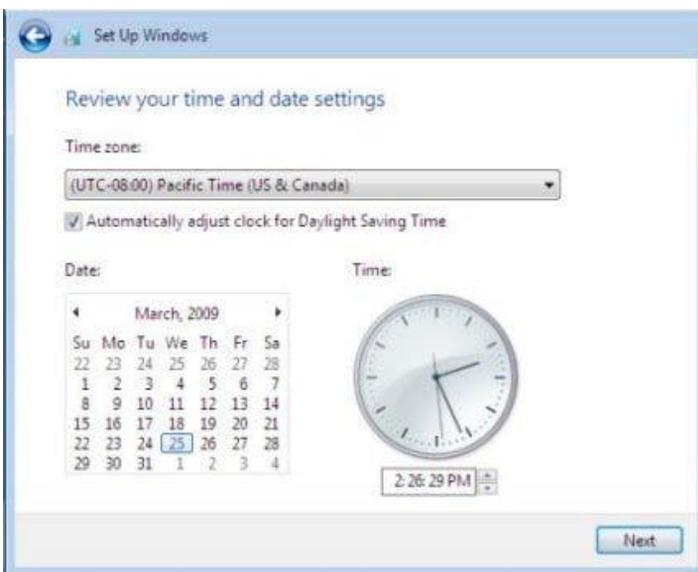
a. License

Key-in the Windows Serial Number from the license sticker.



b. Set Up the time zone and region,

Verify your time zone, time, and date. Make any necessary changes. Then click Next to continue.



c. Choose computer's network

If you have a local network, please connect the cables on the corresponding MIL connector. (or activate the Wireless feature if the wireless function is ordered)

*w/wireless function :

1. Choose a wireless network from the list.
2. If you do not see your network, click Connect to a hidden wireless network , enter the network name, and select the security type and encryption type. Or, click Skip to continue without a wireless connection and set it up later.

*Cable wired on MIL connector :

From the next screen, select one of the following locations for your computer:

Home network: Select this location if all the computers on this network are at your home and you recognize them. This is a trusted home network.

Work network: Select this location if all the computers on this network are at your workplace and you recognize them. This is a trusted work network.

Public network: Select this location if you do not recognize all the computers on the network.



Driver Installation

If NO OS pre-installed in the computer, the user has to install the OS on oneself. The driver has to be installed.

1. Following the step by step to install Driver (Please refer to Mother Board User Manual which is in the Disk note the procedure to install the driver.
2. Include: Graphic, Chipset, VGA, Audio, SATA and Ethernet.

Touch Driver Installation (for option with touch)

Touch driver was not put in the SBC manual. “eGalax Touch” is its driver, which was put in the disk contained the driver for the touch panel controllers for the specified communication connectors, RS232, PS/2 and USB, and the other two utilities.

The two utilities are as follows:

a. Touch Tray support

This is utility for emulating the right and left button of mouse through controlling touch panel. Users can toggle between right/left mouse buttons by this utility.

b. Configuration support

The calibration and draw test of touch panel are done by this utility. Besides, users can add or remove for new RS-232 or PS/2 touch panel devices.

1. Install eGalax Touch

Follow below steps to install Touch-Kit:

Step.1 Put the Driver CD to the CD-ROM.

Step.2 Open the “Touch _xxx” directory.

Step.3 Double click the **Setup.exe**, then windows starts to run the installation program. Notice that does not plug the USB controller on the system before the installation has been finished.

Step.4 Click Next to continue installation. And it will auto-detect touch devices in which USB port in the computer.

After installation, there’s a eGalax Touch icon appears on the desktop.



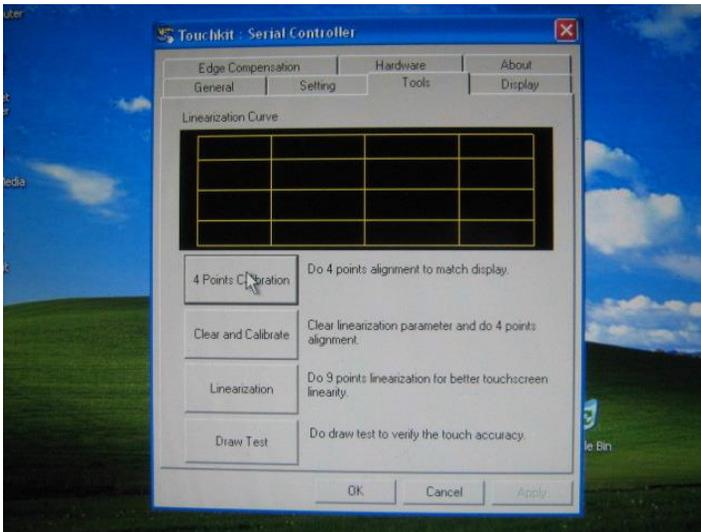
2. Calibration

Please check your touch type. If this is Capacitive touch screen which would not need the additional calibration.

If the order is Resistive touch, please follow the step by step below to do the first calibration.

Step.1 Open the eGalax Touch on the desktop, and select the “Tool” tab.

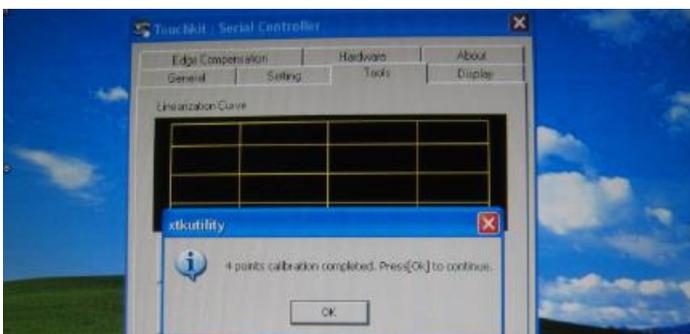
Step.2 At the down side, there’s a icon with 4 Points Calibration, please click it.



Step.3 Follow the instruction to touch the red dart in sequence.



Step.4 Click OK to finish.



Hot Key Installation

1. Order with Windows

As OS has been installed, the hottab has already been installed in the OS. No need to execute the program from driver CD.

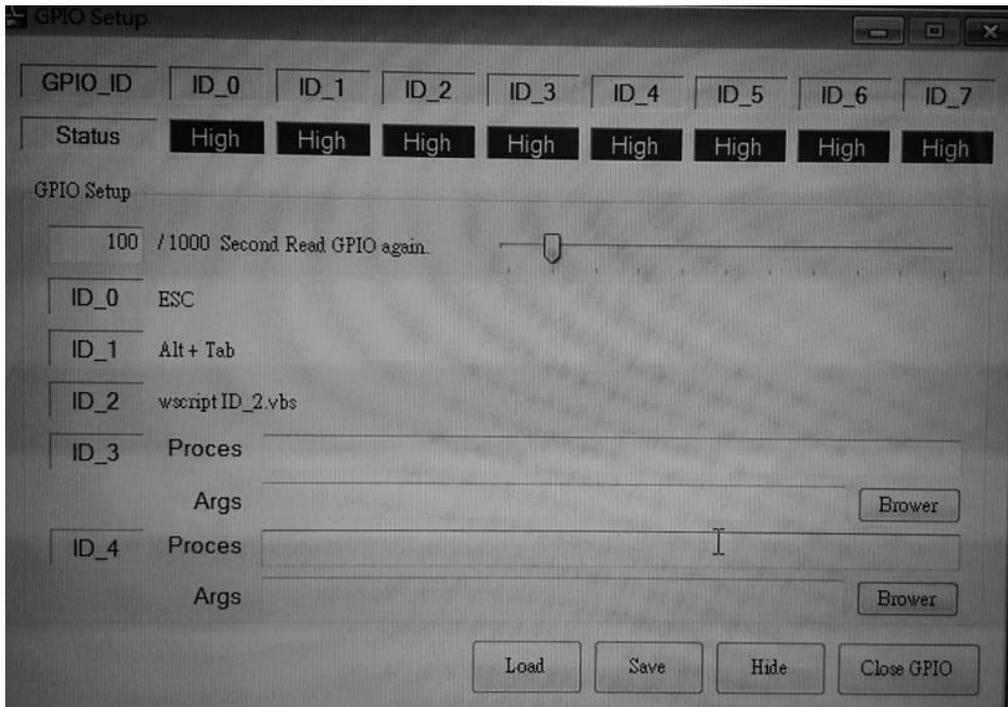
2. No OS pre-ordered

Please install the "Menu" utility in the driver CD.



Hot Key Operation

After installation, there is a small icon at down right corner. Double click to call up the Hot Key program which connects to GPIO pins on the PC, so the program name is "GPIO setup" shown as below,



From ID_0 to ID_2 has been assigned to keypad,

ID_0 -> ESC

ID_1 -> 1

ID_2 -> F1

Only ID_3 and ID_4 are for programmable, press "Browser" button to find the route of the execution file (.exe)

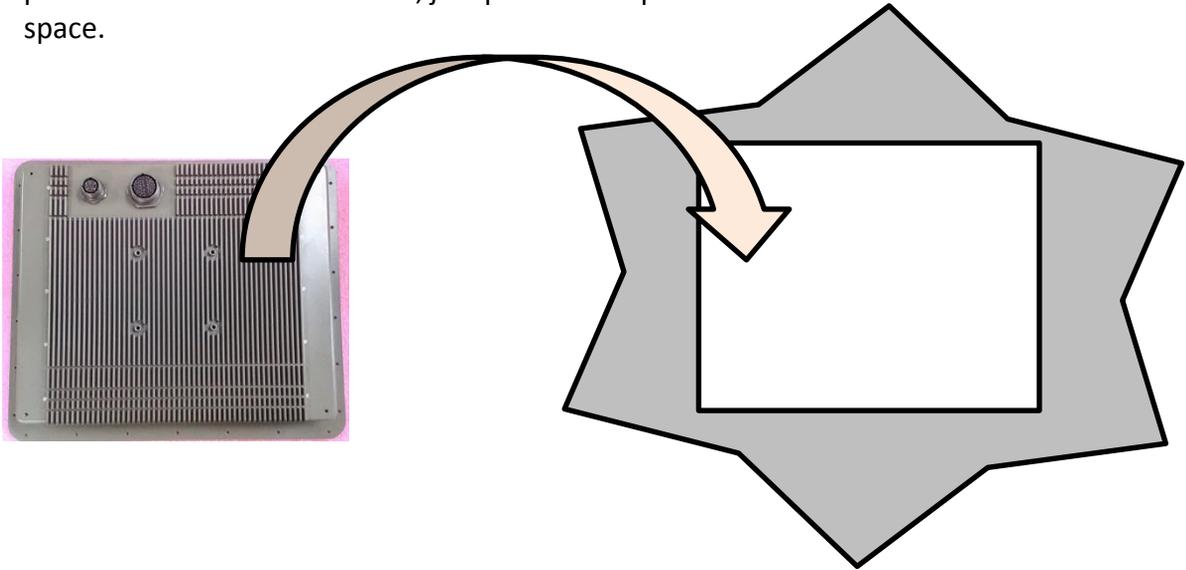
Then press Save to store your settings.

Mounting Notice

The computer is suitable for most of the military application by any kind of mounting approaches. There are two main mounting, the panel mount on console and the VESA mount type. Both are easy for user to operate.

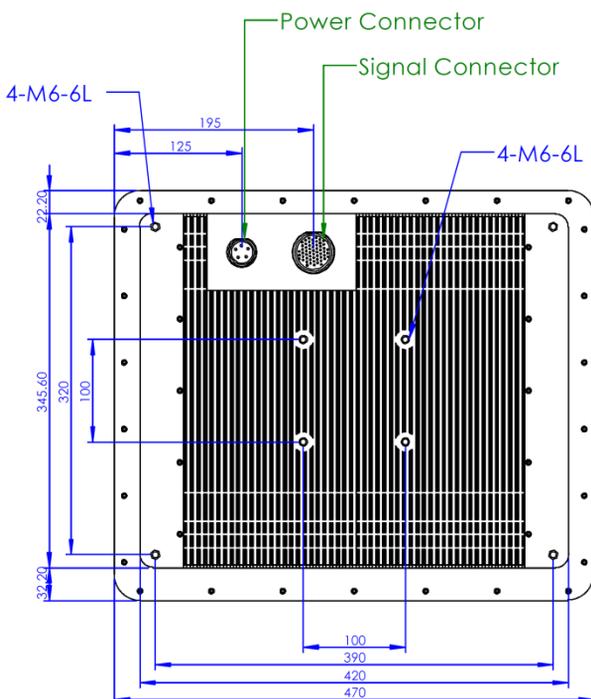
Panel Mount

For Panel Mount use, the mounting kit was provided by order if needed. If no needed, we could provide the cut-out of the unit, just put the computer from front side embedded to the cutout space.



VESA Mount

1. We provide the standard VESA holes 100x100 M6x6 VESA Mount.
2. Except the regular VESA 100, we provide 4 threads with M6x6 on each corner for strengthening the reliability. The relative distance between 4 threads is 390 x 320mm



OSD Menu User Guide (For Video Input Options)

Main Menu – Call up the Main Menu, press “Enter” on keypad

The main menu screen is the gate to get access to detail LCD character and display settings.

Operation:

- i. When OSD is disabled, it displays the OSD Main Menu.
- ii. When OSD is enabled, it confirms a selection.

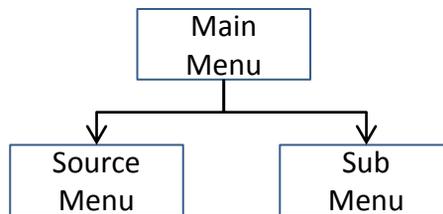


Under Main Menu, there are 2 other downstream menu, one is “source menu”, another is called “sub menu”.

Operation:

When above main menu appears,

- i. Press “▼” on keypad to get access to source menu.
- ii. Press “Enter” on keypad to get access to sub menu.



Source Menu – Call up the Main Menu, press “4” on keypad

The source menu screen is to quickly get access to signal input source. **

Operation:

There are VGA, DVI, S-Video, and Composite ports shown on the monitor, for useable ports are defined by suppliers or changed in different spec. The VGA port and DVI port both support PC graphics signals as well as 1080i video signals. When either the Main Display or PIP Display is selected, press “▼ (Down)” to navigate the OSD Source Menu. Use “4”/ “5” to select an input source In the Source Menu. Press “ENTER” to save the current selection. Press “F2” to return to the Main Menu without saving.

* Note 1: Please Note: The Source Menus for both the Main Display and PIP Display are identical in appearance

**Note 2: OS is on DVI port. Only VGA is selectable for 2nd input



Figure: Source Menu

OSD Sub Menu

When either the Main Display or PIP Display is selected in the Main Menu, press “**ENTER**” to access the Sub Menu. This Sub Menu gives the user access to “Display / Image / Position / Color / PIP Control” Item Menus. Note that the Image Item Menu is not accessible for the PIP Display. To access each of these Item Menus, press either the “**ENTER**” or “**▼**”. There are 5 main category on Sub Menu, 1.Item Menu (main) 2. Item Menu (2nd) 3. OSD Item Menu 4. OSD Audio Item Menu 5. Factory Reset Item Menu,

Item Menu

Press “**4**” / “**5**” to cycle through the Item Menu. Press “**ENTER**” or “**▼**” to access the Item Menu currently selected. Note that the contents of the Item Menu are dependent on the input source, which is currently active

1. Display Item Menu

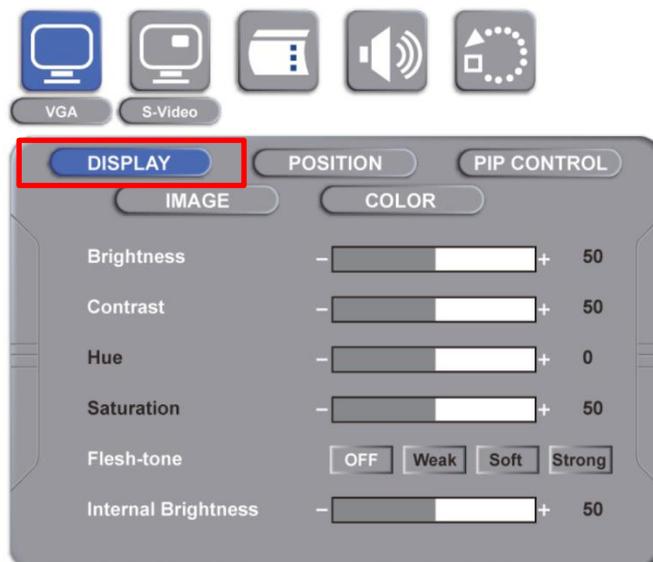


Figure: Display Item Menu

2. Image Item Menu

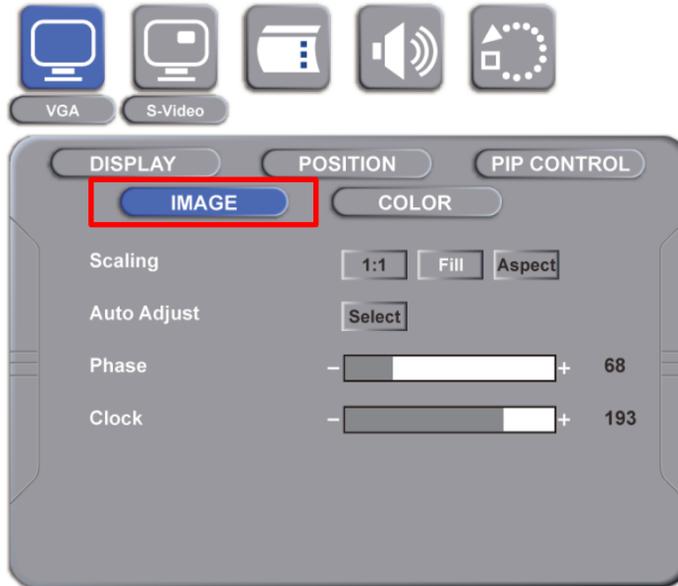


Figure: Image Item Menu

Image Item Menu		
Menu	Input Source	Description and Usage
Scaling	VGA / DVI	Change the scaling mode by using the “ 4 ” / “ 5 ” buttons to select 1:1, Fill or aspect. Press “ENTER” to activate the selected Scaling mode. In 1:1 mode, the input image is centered on the screen. In Fill mode, the input image is stretched (or compressed) to fill the available display area. In Aspect mode, the input image is stretched (or compressed) by the same horizontal and vertical factor.
Auto-Adjust	VGA	Initiate this to have the monitor logic to choose the best settings for the current input signal. The only button available is to select. Note this may change the values of Phase and Clock, and there is no ‘undo’ feature.
Phase		Adjust Phase to optimize the display quality by using “ 4 ” / “ 5 ” to change the value.
Clock		Select Clock to adjust the horizontal screen size by using “ 4 ” / “ 5 ” to change the value.

3. Color Item Menu

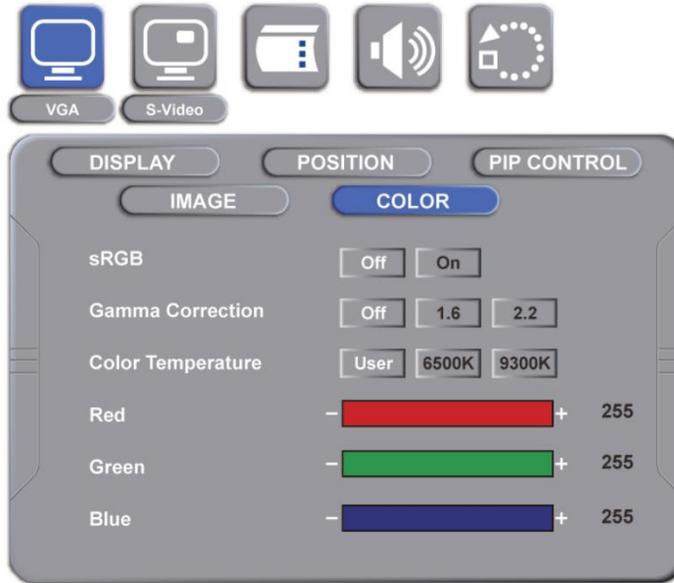


Figure: Color Item Menu

Position Item Menu		
Menu	Input Source	Description and Usage
Gamma Corrections	VGA / DVI	To configure gamma correction, by pressing the ENTER key; the OSD should display three selectable items. Use “ 4 ” / “ 5 ” to change the value to Off, 1.6, or 2.2. The setting will be saved in the NVRAM when exiting this control feature item.
Color Temperature		To configure color temperature, use “ 4 ” / “ 5 ” to change the value to 9300 K, 6500 K, or User Preset to set a color temperature to suit your own preference. When User Preset is selected, the values of the Red, Green, and Blue sliders below are used to determine color settings.

4. Position Item Menu



Figure: Position Item Menu

Position Item Menu		
Menu	Input Source	Description and Usage
Vertical	VGA	Move the screen up or down by using “ 4 ” / “ 5 ” to change the vertical position value.
Horizontal		Move the screen left or right by using “ 4 ” / “ 5 ” to change the horizontal position value.
Zoom	VGA / DVI	Change the current Zoom setting only to the Main Display, using “ 4 ” / “ 5 ” to select either In or Out. Zoom is at a temporary setting and will be lost at power down.
Zoom Horizontal Pan		Horizontal Pan is unavailable until the user performs a Zoom In action. Using “ 4 ” / “ 5 ” to select either Left or Right to change the current Horizontal Pan setting. Pan settings will be lost at power down.
Zoom Vertical Pan		Vertical Pan is unavailable until the user performs a Zoom In action. Using “ 4 ” / “ 5 ” to select either Up or Down to change the current Vertical Pan setting and. Pan settings will be lost at power down.

4. OSD PIP Control Item Menu



Figure: PIP Control Item Menu

Position Item Menu		
Menu	Input Source	Description and Usage
Mode	VGA /DVI	Use “ 4 ” / “ 5 ” to change the Mode value to be Off, Single, or PAP. In Off mode, the Main display fills the entire screen. In Single mode, a PIP display floats over the screen. In PAP mode, the screen is divided into two side-by-side display areas.
Size		PIP Size can be altered only when Single PIP mode is selected. To configure the PIP display size, use “ 4 ” / “ 5 ” to change the value to Small, Medium or Large.
Vertical / Horizontal		Both vertical and horizontal PIP position can be altered only when Single PIP mode is selected. Configure the PIP Vertical and Horizontal Position, by using “ 4 ” / “ 5 ” to change the value using the slider bar.

OSD Item Menu



Figure: OSD Item Menu

Position Item Menu		
Menu	Input Source	Description and Usage
Vertical / Horizontal	VGA / DVI	Use “ 4 ” / “ 5 ” to change the value of the slider bar to configure the OSD Vertical and Horizontal Position. The OSD itself is moved each time the value is adjusted.
Blend		Use “ 4 ” / “ 5 ” to change the value of the slider bar to configure the OSD Transparency Blend. The transparency of OSD icons is changed each time the value is adjusted. Some OSD elements may not be affected by Blend settings.
Time-Out		The OSD automatically closes itself if no buttons are pressed for a defined amount of time. To configure the OSD Time-Out, use “ 4 ” / “ 5 ” to change the value of the slider bar. A value of 0 disables OSD Time-Out, causing the OSD to remain visible until closed by the user.
OSD Zoom		To increase the size of the OSD, select Yes for OSD zoom. By default, OSD zoom is set to No, or turned off. Changing this option to Yes increases the size of the OSD. On lower resolution panels, the OSD zoom feature may cause the OSD to extend beyond the screen.

Factory Reset Item Menu



Position Item Menu		
Menu	Input Source	Description and Usage
Factory Reset	VGA / DVI	To reset all settings to factory defaults, open the Factory Reset Item Menu. Use “ 4 ” / “ 5 ” to select the “Yes” option, and press “ENTER”. WARNING: All user adjustments will be lost. Press “ F2 ” to return to the Main Menu without making changes.

Maintenance Manual

As this Military LCD is complex function with LCD Display and PC System integrated. It's very easy to diagnose the problem at hardware aspects, this chapter will lecture the maintenance while in storage and in operation.

- Maintenance Manual
- Trouble Shooting
- Storage Instructions

Maintenance Manual

Self Service

Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks and will void the warranty. Such as to cause IP67 protection invalid , or EMI solution broken or fail.

For any incidence, please check the trouble shooting (next page) in the first place to judge the level of serious., then please refer all servicing to qualified service personnel or local distributors.

Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.

If the product exhibits a distinct change in performance, indicating a need for service.

Cleaning Guidelines

Use a soft cloth moistened with water or a non-alkaline detergent to wipe the exterior of the computer, and gently wipe the display with a soft, lint-free cloth.

Although with glass in front, it is allowed to use alcohol kind of liquid to wipe the top surface, please avoid to use other strong acidic detergent on the display.

Touchscreen Guidelines (If w/touch spec.)

- Using a sharp or metallic object may cause scratches and damage the display, thereby causing errors.
- Use a soft cloth to remove dirt on the display. The touchscreen surface has a special protective coating that prevents dirt from sticking to it. Not using a soft cloth may cause damage to the special protective coating on the touchscreen surface. To clean off hard to remove dirt, blow some steam on the particular area and gently wipe away using a soft cloth.
- Do not use excessive force on the display. Avoid placing objects on top of the display as this may cause the glass to break.
- When there is a noticeable discrepancy in the operation of the touchscreen function, recalibrate the touchscreen display (see “Calibrating the Screen”)

Trouble Shootings

Problem	Solution
The screen suddenly turns blank and the power indicator goes off.	<ol style="list-style-type: none"> 1. Please check the power cable is connected well. 2. Check whether the input power source (voltage is in its range, and supplies enough wattage to the computer.)
Front side keypad no reaction	<ol style="list-style-type: none"> 1. Please operate it under OS, it's no function under BIOS 2. Please connect the physical keyboard to see whether keyboard is workable. If works, the keypad is broken. Please temporarily use On-screen keyboard to replace the function.
No USB signal or searching USB device pop-up frequently	<ol style="list-style-type: none"> 1. Make sure the USB cable connected well 2. Provide more power to the USB device which might not get enough power from the computer
No Ethernet connection	<ol style="list-style-type: none"> 1. Please check the Ethernet cable well-connected. 2. Refer to this document in "Setting Up Windows", to re-check your network status.
GPS can not detect the signal	<ol style="list-style-type: none"> 1. Please use GPS outdoors 2. Please install the satellite detective program which includes in the driver CD tests whether the satellite could be pinged by this program.
LCD Screen broken	As the outside the touch, there's still a layer of glass in protection, so, if the condition is not serious, means the touch works well and not hardly affect the visibility, please keep using it until back from the field.
Touch is not calibrated	Refer to this manual "Touch Driver Installation" to re-calibrate the touch (only applicable for Resistive touch screen.) If the touch is capacitive type, please check whether the touch was broken by seriously hit, then use On-screen keyboard to replace its function temporarily.
Screen turns to blue background and white words	Please contact local distributors to deal with the problem, it might be the RAM or Storage failed.

Storage Instructions

Cleaning the Monitor

1. Make sure the monitor is turned off.
2. Never spray or pour any liquid directly on the screen or case.
3. Wipe the screen with a clean, soft, lint-free cloth. This removes dust and other particles.
4. The display area is highly prone to scratching. Do not use ketone type material (ex. Acetone), Ethyl alcohol, toluene, ethyl acid or Methyl chloride to clear the panel. It may permanently damage the panel and void the warranty.
5. If it is still not clean enough, apply a small amount of non-ammonia, non-alcohol based glass cleaner onto a clean, soft, lint-free cloth, and wipe the screen.
6. Don't use water or oil directly on the monitor. If droplets are allowed to drop on the monitor permanent staining or discoloration may occur.

Disclaimer

We do not recommend using any ammonia or alcohol-based cleaners on the monitor screen or case. Some chemical cleaners have been reported to damage the screen and/or case of the monitor. Seller will not be liable for damage resulting from the use of any ammonia or alcohol-based cleaner.

Location Guidelines

Keep the computer at least 13 cm (5 inches) away from electrical appliances that can generate a strong magnetic field such as radar, sonar, large audio speaker or high frequency electronic devices.

General Guidelines

- Do not place heavy objects on top of the computer as this may damage the display.
- The screen surface is not easily scratched. No need the additional screen protective film for the display. But to avoid stabbing it with a pen or pencil or sharp metal pieces.
- To maximize the life of the backlight in the display, allow the backlight to automatically turn off as a result of power management. Avoid using a screen saver or other software that prevents the power management from working.