FabiaTech Corporation

IPC Solution

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Flat Panel Display

FD7851 Series

User's Manual

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Part Number: FD7851

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- A list of your name, address, telephone, facsimile number, or email address where you may be reached during the day
- Description of you peripheral attachments
- Description of your software (operating system, version, application software, etc.) and BIOS configuration
- Description of the symptoms (Extract wording any message)

For updated BIOS, drivers, manuals, or product information, please visit us at www.fabiatech.com

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Chapter 1 Introducing the FD7851 Panel Display

Overview

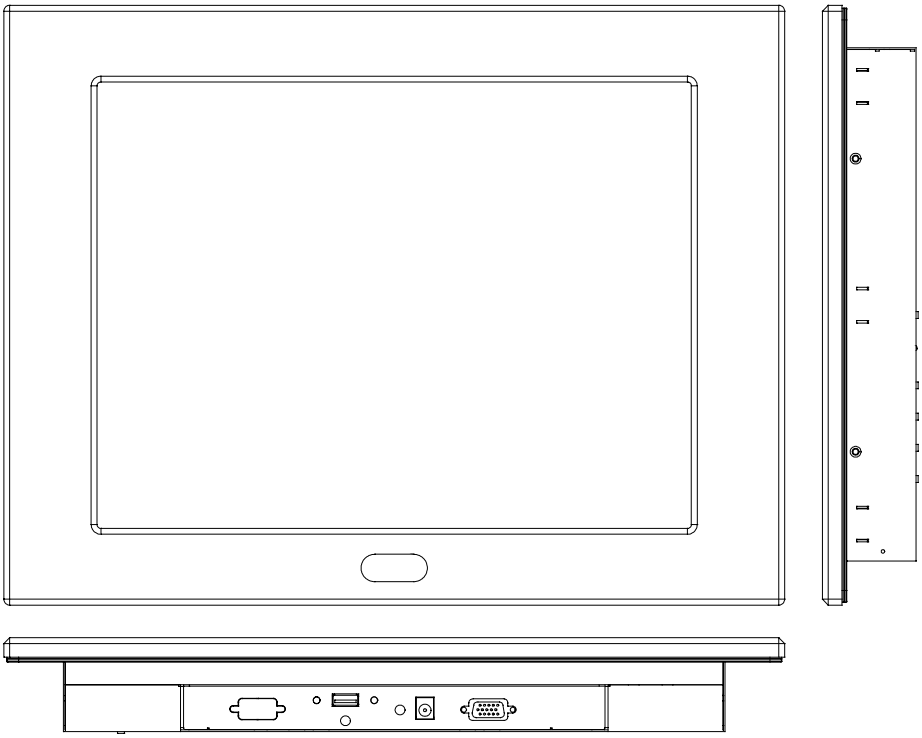
The FD7851x is a 15.0-inch TFT LCD monitor, this panel display with OSD and touch screen device (FD7851T). This user's manual provides its outlook information and I/O outlets description.

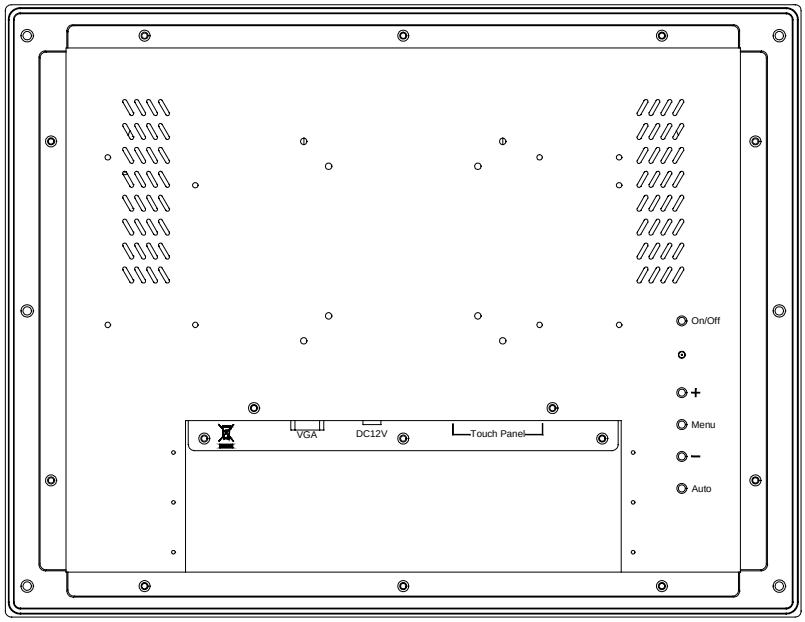
Series Comparison Table

Model	FD7851	FD7851T
Touch Panel	No	Yes
Monitor	15.0" XGA Color	
Resolution	1024X768	
Pitch	0.297x0.297	
Response Time	12ms	
Brightness	250cd/m2	
Contrast Ratio	500:1	
LCD Type	TFT LCD	
Color's	16.2M	
Power	DC12V/1.5A	
Temperature	0~50℃(32~122℉)	
Weight	4.6KG	
Dimensions (Unit: mm)	48(D) x 400(W) X 307(H)	

Layout

FD7851(T)





Specifications

- ***FD7851***

  Front panel with 15.0-inch color TFT LCD panel.

  Supports up to XGA 1024X768 16.2M colors

  Build-in OSD functions with LED indicator and 5 operation keys.

- ***Touch screen –Only for FD7851T***

  5-wire analog resistive touch screen device with USB interface.

  The USB interface Software support Windows 2000/XP.

- ***Temperature***

  Operating temperature 0~50℃(32~122℉)

  Storage temperature -20~60℃(-4~140℉)

- ***Power requirement –***

  Power requirement: External 100~240V AC adapter, output +12V DC, 1.5A maximum.

- ***Dimensions -***

  FD7851/FD7851T:48.0mm (D) x 400.0mm (W) x 307.0mm (H)

Packing List

Upon receiving the package, verify the following things. Should any of the mentioned happens, contact us for immediate service.

- Unpack and inspect the FD7851 package for possible damage that may occur during the delivery process.
- Verify the accessories in the package according to the packing list and see if there is anything missing or incorrect package is included.
- If the cable(s) you use to install the FD7851 is not supplied from us, please make sure the specification of the cable(s) is compatible with the FD7851 system.

Note: after you install the FD7851, it is recommended that you keep the diskette or CD that contains drivers and document files, and keep the document copies, or unused cables in the carton for future use.

The following lists the accessories that may be included in your FD7851(T)/package. Some accessories are optional items that are only shipped upon order.

- One FD7851(T) industrial LCD monitor
- One AC to DC12V power adapter and 1 AC power code.
- One VGA adaptor cable with 1.8M length
- One pack of 6 pair mounting screws
- One touch pen and One USB adapter cable with 1.8M length. (FD7851T only)
- One compact disc includes touch screen driver software.

Chapter 2 Hardware Installation

This chapter introduces the system connectors and guides you to apply them for field application.

Before Installation

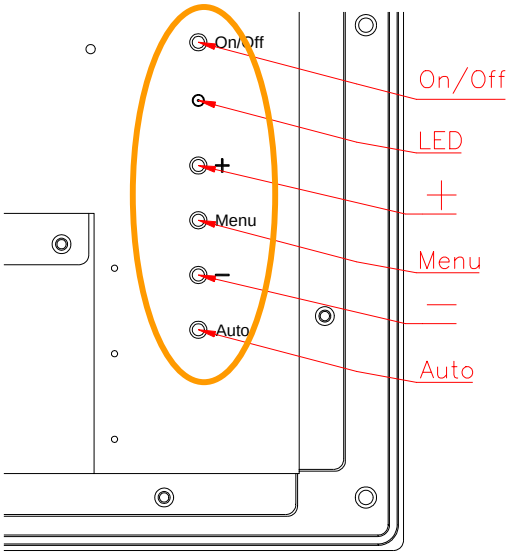
Before you install the system, make sure you follow the following descriptions.

1. Plug the power cable into the AC-DC Power adapter you PC/IPC and LCD monitor before connecting your LCD monitor to the computer.

2. Turn off you PC/IPC and LCD monitor before connecting your LCD monitor to the computer.

□ Keypad (Real View)

Your LCD monitor allows you to easily adjust the characteristics of the image being displayed. All of these adjustments are made using the control buttons on the front of the monitor. While you use these buttons to adjust the controls, an OSD shows you their numeric values as they change.



Item	Description
ON/OFF	1. Turns the Power on or off for the LCD Driver board. 2. Indicates the LED status of the monitor. Green: Normal operation. Amber: Power saving mode or disconnected signal cable.
+ —	1. Moves the selector left or right on the OSD. 2. Increases or decreases the values of the selected function.
MENU	1. Turn the OSD menu on. 2. Moves the selector down on the OSD.
AUTO	1. "Auto" allows the monitor to self-adjust to the incoming video signal in OSD off. The values of fine, coarse and position are adjusted automatically. 2. Moves the selector up on the OSD.

➢ **Out of Scan Range:**

If the horizontal or vertical or both input signal frequency exceed the acceptable input frequency range, the monitor keeps indicating the "OUT OF SCAN RANGE" as the OSD information after 2 seconds. If both input signal frequencies are in the acceptable frequency range, the monitor puts out the OSD indication and goes back to normal state. Horizontal frequency: 31 KHz ~ 60KHz. Vertical frequency: 60Hz ~ 75Hz.

- **No Input Signal:**

If horizontal and vertical input signals are not exist, the monitor displays OSD information “NO INPUT SIGNAL” 3 seconds, and then goes to power save.

- **Accessing the menu system**

1. With the OSD off, push the Menu button to display the main OSD menu.
2. Use "MENU/AUTO" buttons to select the function.

3. After selecting a function, use the "UP/DOWN" buttons to make necessary adjustments. The setting bar moves and the numeric value indicator changes to reflect your adjustments.

- **Entry factory mode**

1. AC power on.
2. Press power key to power tune off. If power on.
3. Press menu key and don’t release.
4. Press power key to power tune on.
5. Release menu key.

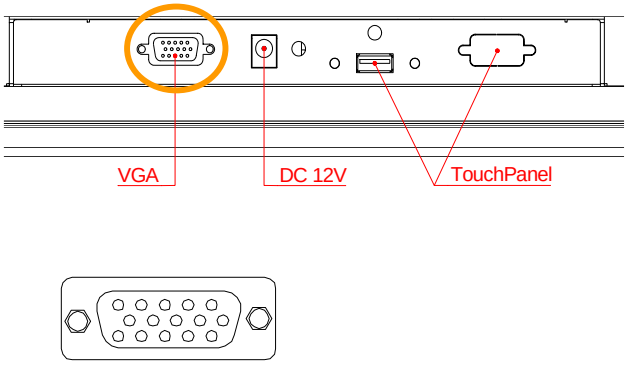
- **OSD Description :**

Auto adjust	Auto adjusts H/V position, clock and phase.
Brightness	Adjust brightness by inverter.
Contrast	Adjust image contrast.

Clock	The clock adjustments allow you to coarse tune the image quality of your monitor to your preference.
Phase	The Phase adjustments allow you to fine tune the image quality of your monitor to your preference.
H-Position	Move the image horizontally.
V-Position	Move the image vertically.
Reset	Recall default data.
Color temperature	Select color temperature. 1. User: User customizable. 2. 6500K: Reddish white. 3. 7500K: Plain white. 4. 9300K: Bluish white.
Red	Adjust red gain of image.
Green	Adjust green gain of image.
Blue	Adjust blue gain of image.
Exit OSD	Exit main menu.
OSD-H Position	Move the OSD Window to the horizontal direction.
OSD-V Position	Move the OSD Window to the vertical direction.
OSD Duration	The number of seconds that the OSD will remain visible before disappearing.
OSD Rotation	Right rotate 90 ° .
OSD Flip	Mirror vertical.
OSD Mirror	Mirror horizontal.
Auto color	Adjust ADC offset and ADC gain to full scale.
Saturation	Change the richness of color (sRGB).
Tint	Change the tone of color (sRGB).
Sharpness	Adjust the sharpness of video.(Soften more, Soften...Medium...Sharpen, Sharpen more)
Language	OSD language and appearance can be changed. ENGLISH / FRANÇAIS / DEUTSCH / ESPAÑOL / ITALIANO / NEDERLANDS / PORTUGUÊS.

□ Connecting the LCD Monitor to the PC

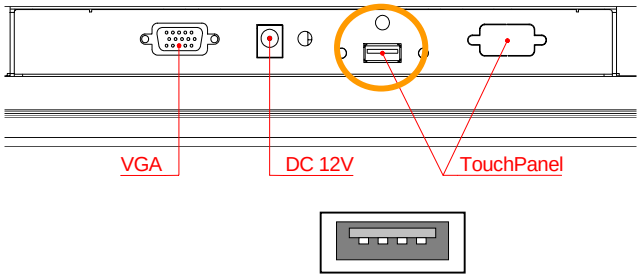
Connect on end of the VGA signal adaptor cable to the PC's D-sub 15 VGA port and other end to the LCD monitor, See following figure and a side pictures.



DB15	Signal
1	Red
2	Green
3	Blue
13	Hsync
14	Vsync
12	DDC Data
15	DDC Clock
5 & 10	Digital Ground
6,7,8	Analog Ground
Others	Not Used

□ Connecting the touch screen-Only for FD7851T

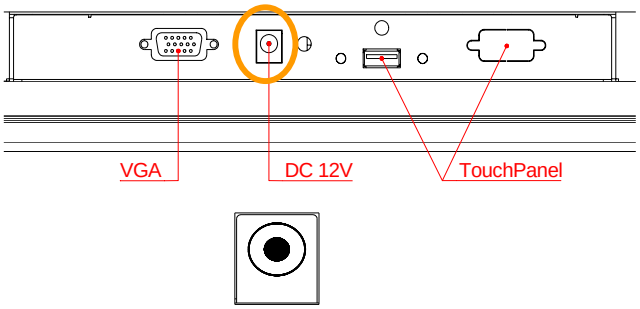
This touch panel controller provides the optimistic performance of analog resistive touch panels for 5 wire model. It communicates with PC system directly through USB connector.



USB	Signal
1	USBV
2	USBD-
3	USBD+
4	USBG

□ Connecting the DC Power and Power Button

Power is supplied through an external AC/DC power adapter. Check the technical specification section for information about AC/DC power input voltage. See following figure and a side pictures.



DC +12, 1.8A minimum

Chapter 3 Software Installation

The enclosed diskette includes FD7851T touch screen driver. To install and configure you FD7851(T) system, you need to perform the following steps.

USB Interface Driver

Driver for WIN2000/XP

Step 1: To install the Touch Screen driver, insert the CD ROM into the CD ROM device, and enter DRIVER>TouchScreen>USB>PM6500.

Step 2: Execute Setup.exe file. Just click **[Next >]** button to continue installation.

Step 3: Then A License Agreement appears. Click "**I Agree…**" and "**Next**"

Step 4: Windows XP will prompt a warning message before driver certificated. Now, Press **[Continue Anyway]** to continue installation.

Step 5: As the setup is completed, the system will generate the message as follows.

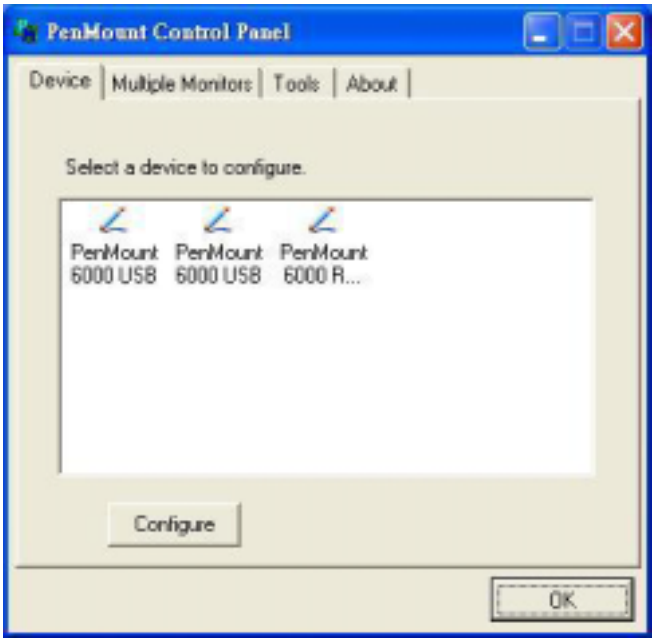
The "InstallShield Wizard Completed" appears. Click "**Finish**"

PenMount Control Panel

The functions of the PenMount Control Panel are **Device, Calibrate**, **Setting**, **Multiple Monitors** ,**Tools** and **About**, which are explained in the following sections.

■ *Device*

In this window, you can find out that how many devices be detected on your system.



➢ **Calibrate**

This function offers two ways to calibrate your touch screen. 'Standard Calibration' adjusts most touch screens. 'Advanced Calibration' adjusts aging touch screens.

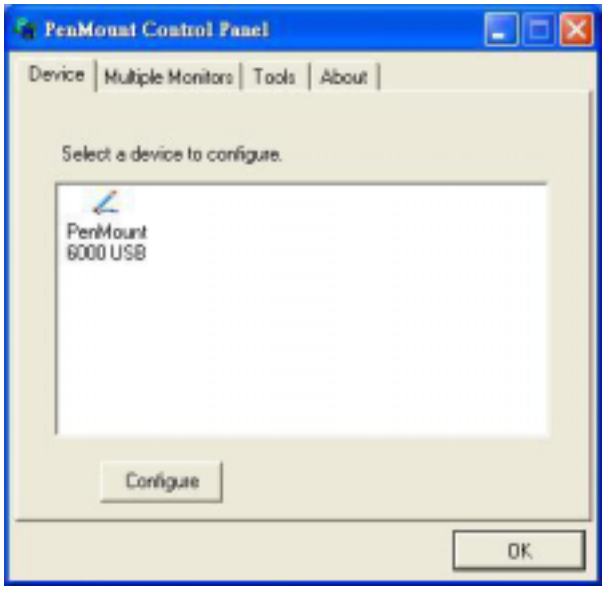
❑ **Standard Calibration**

Click this button and arrows appear pointing to red squares. Use your finger or stylus to touch the red squares in sequence. After the fifth red point calibration is complete. To skip, press 'ESC'.

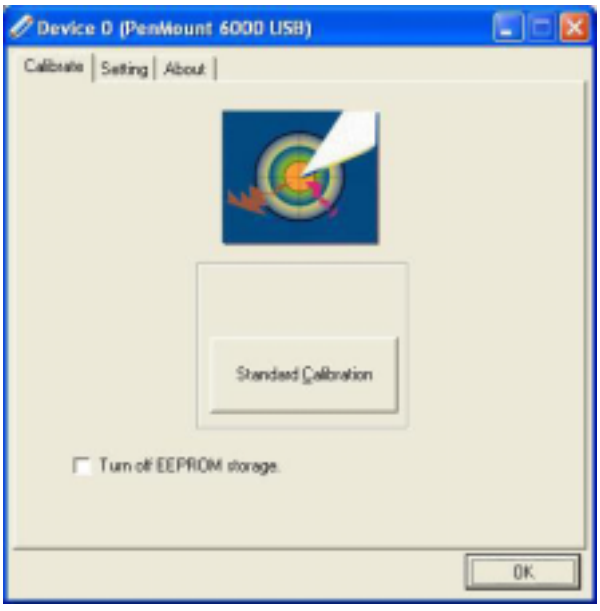
❑ Advanced Calibration

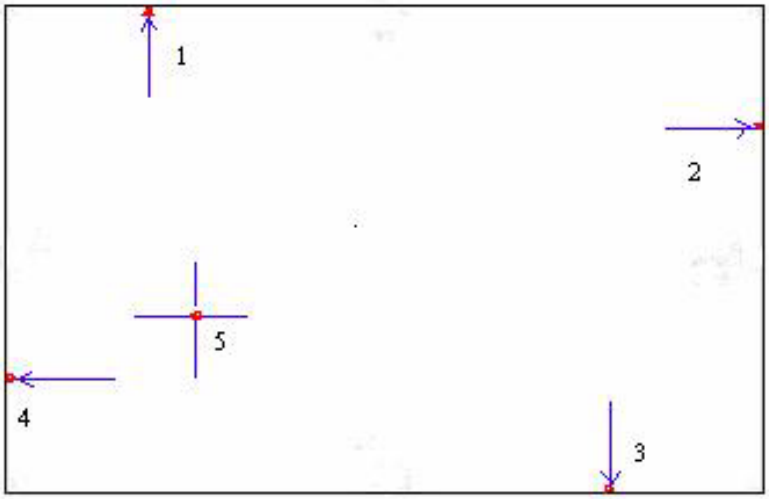
Advanced Calibration uses 4, 9, 16 or 25 points to effectively calibrate touch panel linearity of aged touch screens. Click this button and touch the red squares in sequence with a stylus. To skip, press ESC'.

1. Please select a device then click "Configure". You can also double click the device too.



2. Click "Standard Calibration" to start calibration procedure



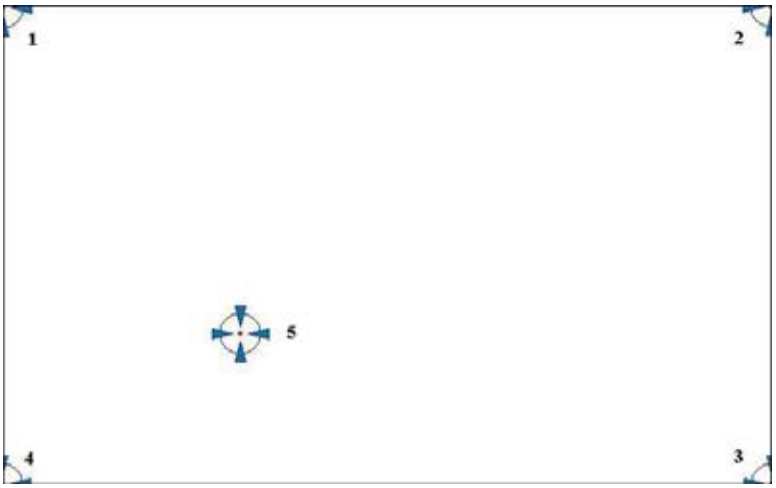


NOTE: The older the touch screen, the more Advanced Mode calibration points you need for an accurate calibration. Use a stylus during Advanced Calibration for greater accuracy. Please follow the step as below:

3. Come back to "PenMount Control Panel" and select "**Tools**" then Click "**Advanced Calibration**".

Select "**Device**" to calibrate, then you can start to do "Advanced Calibration".

NOTE: Recommend to use a stylus during Advanced Calibration for greater accuracy.



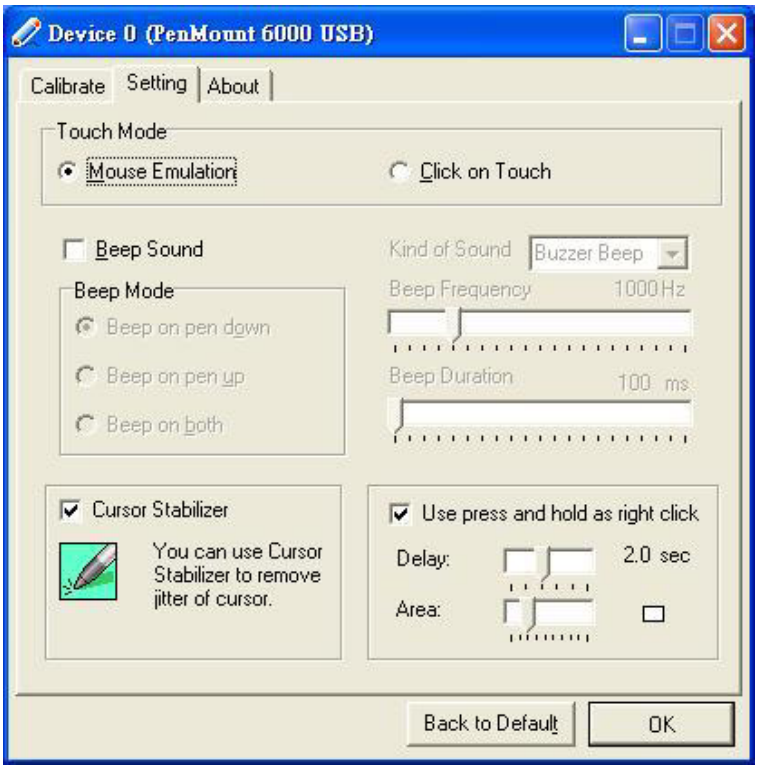
- **Plot Calibration Data**

Check this function and a touch panel linearity comparison graph appears when you have finished Advanced Calibration. The blue lines show linearity before calibration and black lines show linearity after calibration**.**

❑ **Turn off EEPROM storage**

The function disable for calibration data to write in Controller. The default setting is Enable

■ ***Setting***



❑ **Touch Mode**

This mode enables and disables the mouse's ability to drag on-screen icons—useful for configuring POS terminals.

Mouse Emulation – Select this mode and the mouse functions as normal and allows dragging of icons.

Click on Touch – Select this mode and the mouse only provides a click function, and dragging is disabled

❑ **Beep Sound**

Enable Beep Sound – turns beep function on and off

Beep on Pen Down – beep occurs when pen comes down

Beep on Pen Up – beep occurs when pen is lifted up

Beep on both – beep occurs when comes down and lifted up

Beep Frequency – modifies sound frequency

Beep Duration – modifies sound duration

- **Cursor Stabilizer**

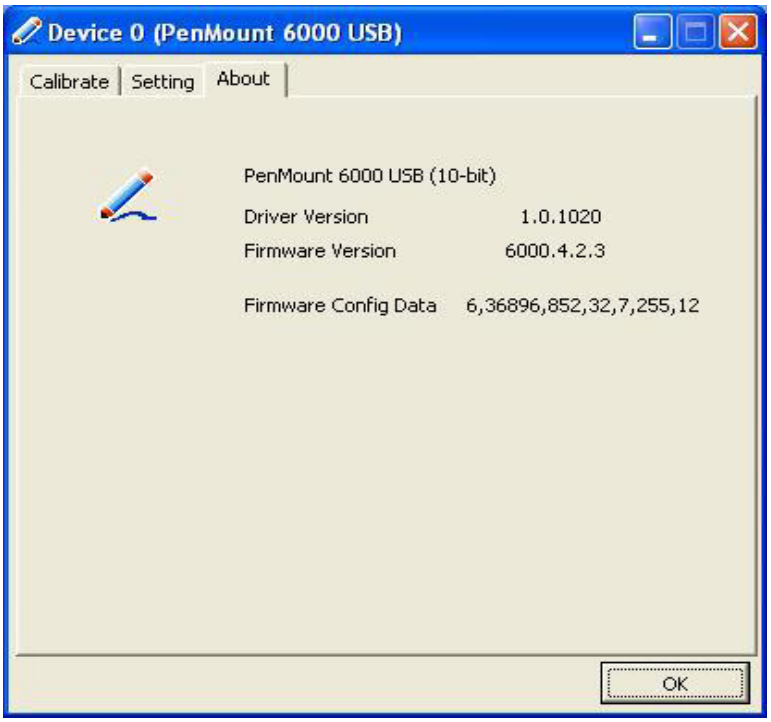
Enable the function support to prevent cursor shake.

Use press and hold as right click

You can set the time out and area for you need

- **About**

This panel displays information about the PenMount controller and driver version



■ *Multiple Monitors*

Multiple Monitors supports from two to six touch screen displays for one system. The PenMount drivers for Windows 2000/XP support Multiple Monitors. This function supports from two to six touch screen displays for one system. Each monitor requires its own PenMount touch screen control board, either installed inside the display or in a central unit. Driver installation procedures are the same as for a single monitor. Multiple Monitors supports the following modes:

Windows Extend Monitor Function

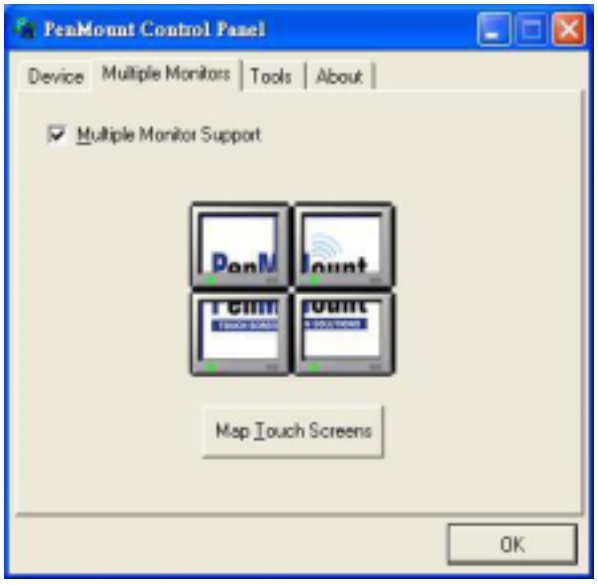
Matrox DualHead Multi-Screen Function

nVidia nView Function

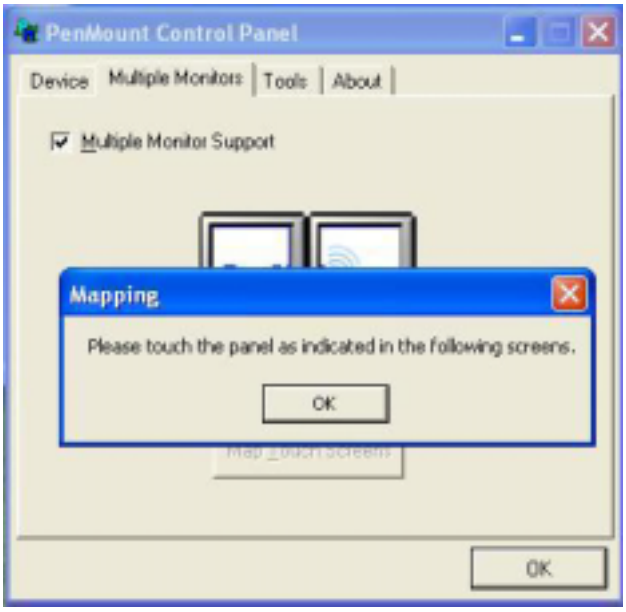
NOTE: The Multiple Monitors function is for use with multiple displays only. Do not use this function if you have only one touch screen display. Please note once you turn on this function the Rotating function is disabled.

Enable the multiple display function as follows:

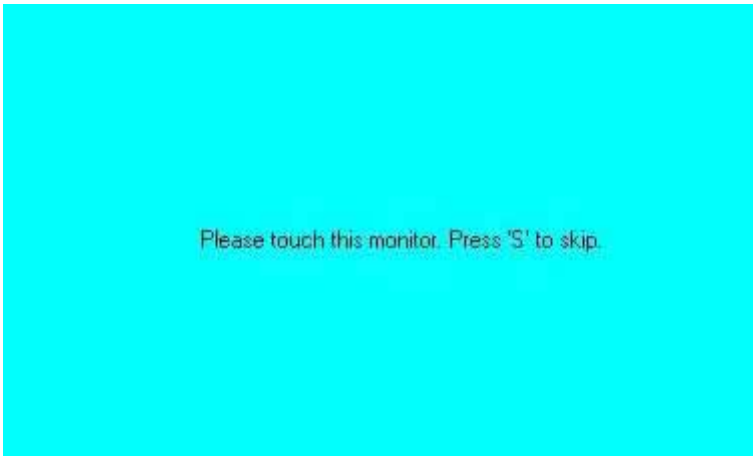
1. Check the "**Multiple Monitor Support"** box; then click "**Map Touch Screens"** to assign touch controllers to displays.



2. When the mapping screen message appears, click "**OK"**



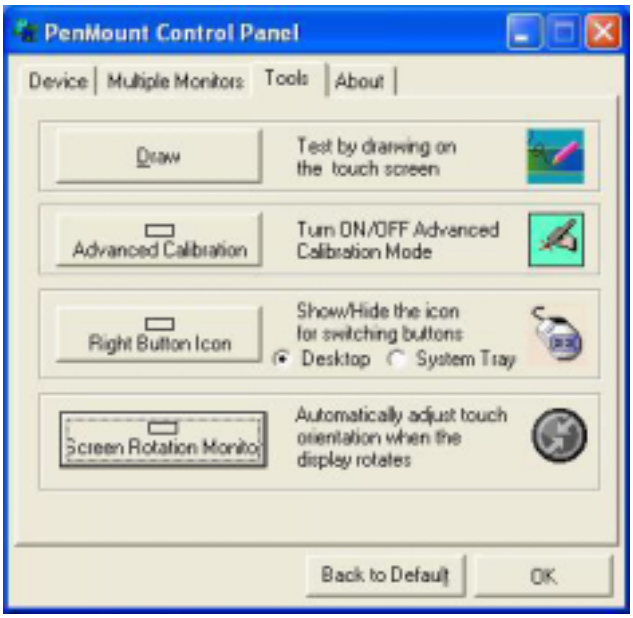
3. Touch each screen as it displays **"Please touch this monitor. Press 'S' to skip"** Following this sequence and touching each screen is called **mapping the touch screens**.



4. After the setting procedure is finished, maybe you need to calibrate for each panel and controller

NOTES:
1. If you used a single VGA output for multiple monitors, please do not use the **Multiple Monitors** function. Just follow the regular procedure for calibration on each of your desktop monitors.
2. The Rotating function is disabled if you use the Multiple Monitors function.
3. If you change the resolution of display or screen address, you have to redo **Map Touch Screens** so the system understands where the displays are.
4. If you more monitor mapping one touch screen, **Please press 'S' to skip mapping step.**

- ***Tools***



➢ **Draw**

Tests or demonstrates the PenMount touch screen operation.

➢ **Advanced Calibration**

Enable Advanced Calibration function

➢ **Right Button Icon**

Enable right button function. The icon can show on Desktop or System Tray (menu bar).

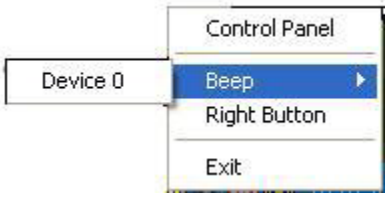
- **Screen Rotation Monitor**

The function support nVidia, Intel, SMI or ATI and software such as Portrait Pivot Pro rotation automatic detection.

PenMount Monitor Menu Icon

The PenMount monitor icon (PM) appears in the menu bar of Windows 2000/XP system when you turn on PenMount Monitor in PenMount Utilities.

PenMount Monitor has the following function



- **Control Panel**

  Open Control Panel Windows

- **Beep**

  Setting Beep function for each device

- **Right Button** 

When you select this function, a mouse icon appears in the right-bottom of the screen. Click this icon to switch between Right and Left Button functions.

- **Exit**

Exits the PenMount Monitor function.

❑ PenMount Rotating Functions

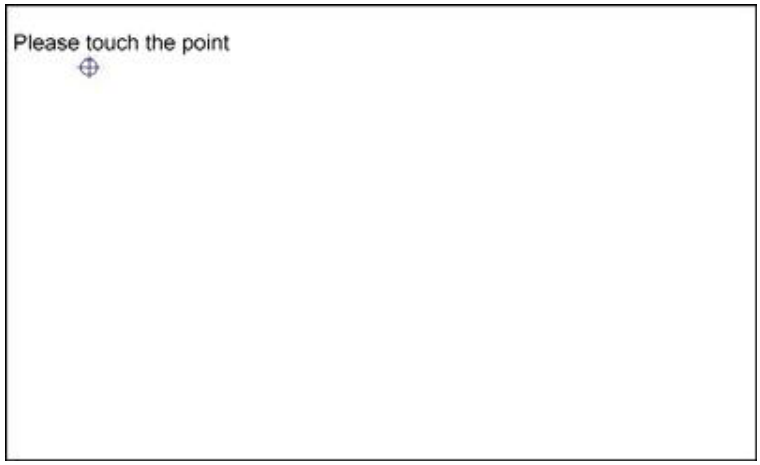
The PenMount driver for Windows 2000/XP supports several display rotating software packages. Windows 2000/XP support display rotating software packages such as:

- Portrait's Pivot Screen Rotation Software
- ATI Display Driver Rotate Function
- nVidia Display Driver Rotate Function
- SMI Display Driver Rotate Function
- Intel 845G/GE Display Driver Rotate Function

❑ Configuring the Rotate Function

1. Install the rotation software package.

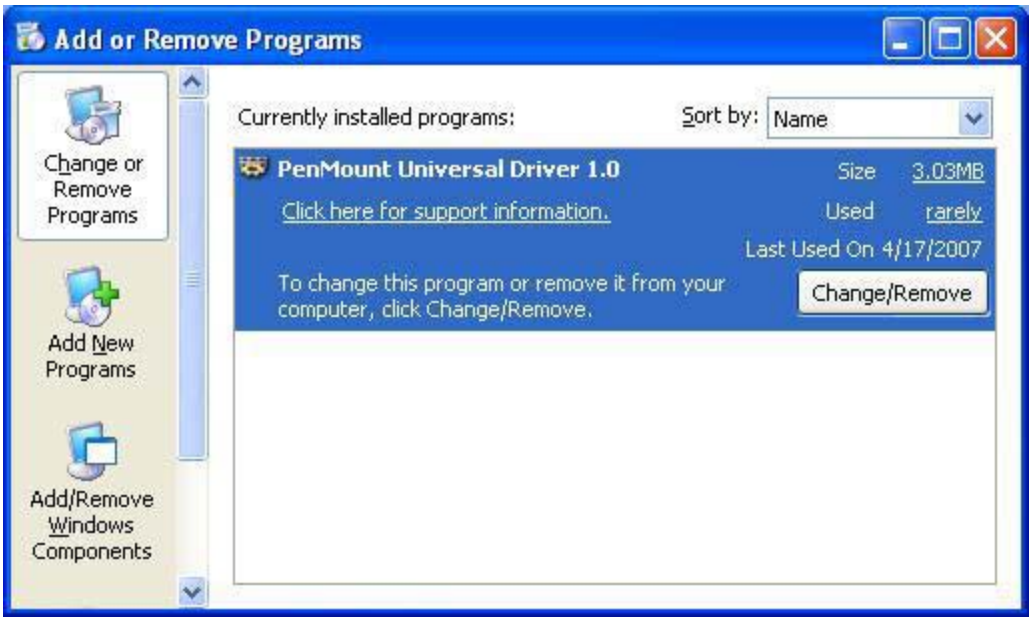
2. Choose the rotate function (0°, 90°, 180°, 270°) in the 3rd party software. The calibration screen appears automatically. Touch this point and rotation is mapped.



NOTE: The Rotate function is disabled if you use Monitor Mapping

Uninstall Software

1. Exit the PenMount monitor (PM) in the menu bar in advance.
2. Go to Settings, then Control Panel, and then click “Add/Remove program”
3. Select ”PenMount Universal Driver 1.0”. Click the “**Chang/Remove”** button



4. Select ‘**Yes**’ to remove the PenMount driver.

5. Select ‘**Yes**’ to reboot your system or ‘**No**’ to reboot your system later.

Chapter 4 Technical Reference

This section outlines the errors that may occur when you operate the system, and also gives you the suggestions on solving the problems.

Topic include:

- Technical Reference
- Trouble Shooting for LCD Display and Touch Screen

Technical Reference

Physical and Environmental

DC Inputs: 12V/1.8A Minimum

Temperature: Operating 0°C ~ 50°C

Relative humidity 8 % to 85 % non-condensing

Touch screen-knock Test: 35,000,000 times

LCD Lamp Life Time: 20,000 Hr

Compatible VGA Timing Chart

TYPE	RESOLUTION	H-FREQUENCY(KHz)	V-FREQUENCY (Hz)
FD7851(T) VESA Of VGA IBM-AT	640X480 800X600	31.5	60.0
		37.9	72.0
		37.5	75.0
		35.1	56.4
		37.9	60.0
		48.1	72.0
		46.9	75.0
	1024X768	48.3	60.0
		56.5	70.1
		60.0	75.0

Trouble Shooting

The following information informs the LCD display and touch serene driver. Please adjust your systems according to the messages below. Make sure all the components and connectors are in proper position and firmly attached. If the errors still exist, please contact with your distributor for maintenance.

Touch Screen

- Windows might cause Page Fault blue screen when keep touching the touch panel during system booting up for USB model.

Workaround:

- Do not keep touch the touch panel when system booting up.

- USB touch kit driver will not be loaded properly if the panel was kept touched during system booting up in Windows 2000/XP.

Workaround:

- Do not keep touch the touch panel when system booting up.
- Check CMOS BIOS setting, the USB Function must enable.

LCD Display is unstable

- There is no display on the LCD Monitor.

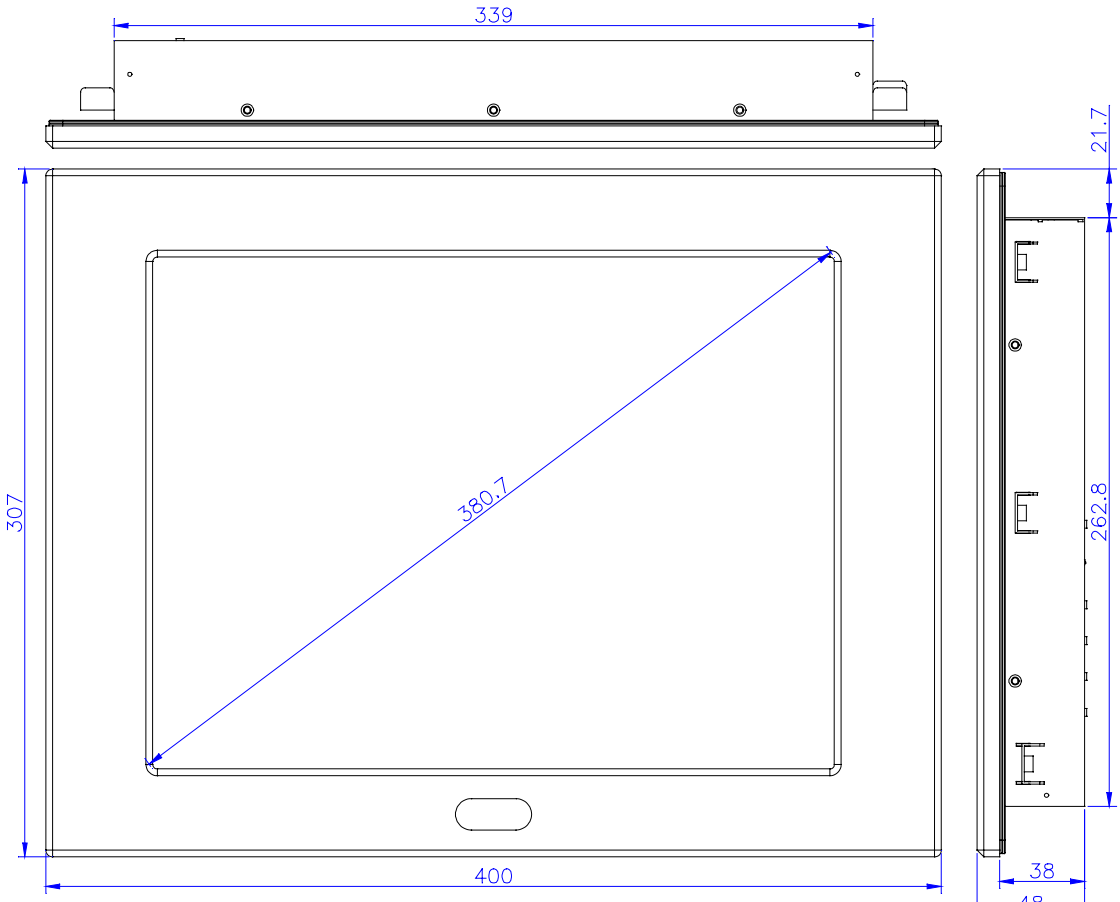
Workaround:

- Make sure the AC-DC power supply indicator on the LCD and Power LED.
- Make system is running on the correct display (VGA or SVGA), Adjustment KEYPAD (OSD) press "Auto" function.
- Connector to the external CRT monitor. If you system functions properly with a CRT monitor but it does not function with the LCD monitor, check system BIOS to see if there is dual (Both) scan for LCD OR CRT only and try again. If these is no display., may be problem with you system

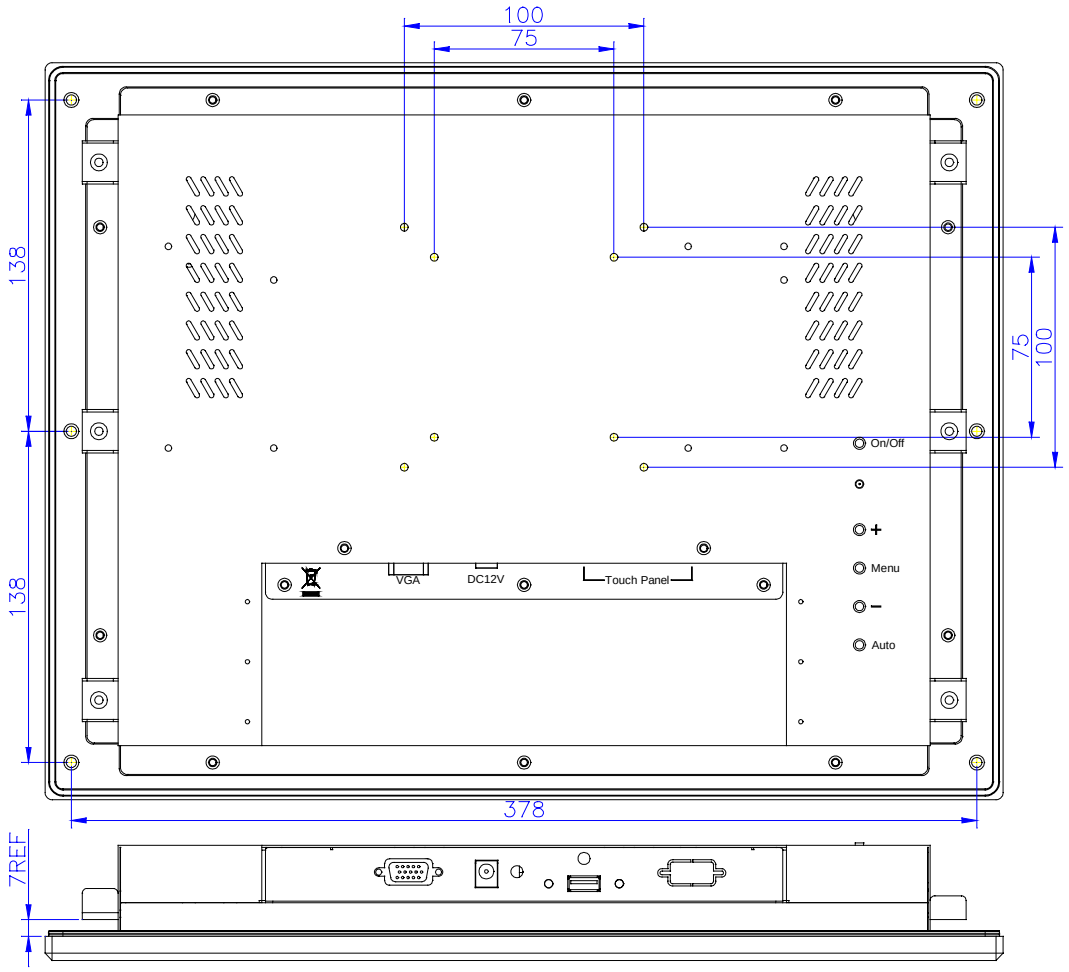
Appendix

Dimension

FD7851/T



Cut out dimension 342 x 265 mm


100
75
138
138
75
100
On/Off
+
Menu
−
Auto
VGA
DC12V
Touch Panel
378
7REF

Mounting Dimension