

Touchscreen Driver Installation

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A.1 Introduction

The FPM-3120 Series' optional touchscreen uses an advanced 8-wire resistive technology. It provides more accurate sensing capacity than other technologies. The touchscreen is specially designed for tough industrial environments, and has been approved to FCC Class B standards.

A.2 Touchscreen Specification

Electrical

- **Contact bounce:** < 10 ms
- **Operating voltage:** 3.3 to 5 VDC typical
- **Sheet Resistance:** 20 mA (max.)
- **sheet resistance:** 350 $\pm$ 22% ohm/square
- **Insulation Resistance:** > 20 M ohm@ 25 VDC.
From screen to screen: $\pm$ 20%

Durability

- **Point Activation Life:**
1 Million activations on a single point with a 5/8" diameter silicone finger with a 350g load at 2 Hz
- **Character Activation Life:**
>100,000 characters written within a 20mm x 20mm area on the touch screen
- **Surface Finish Properties:** Minimum 4H hardness.

Optical

- **Visible light transmission:** 75% typical (> 74% @ 550 nm test)
- **Clarity:** Clear Finish - 25% Antiglare Finish - 15%

Sensor board

- Chemical strengthened glass meets “4H” hardness standard

Environmental

- **Operating temperature:** 0 ~ 50° C (humidity 20 ~ 90% RH)
- **Storage temperature:** -25 ~ 70° C (humidity 20 ~ 95% RH)

A.3 Installation of Touchscreen Driver

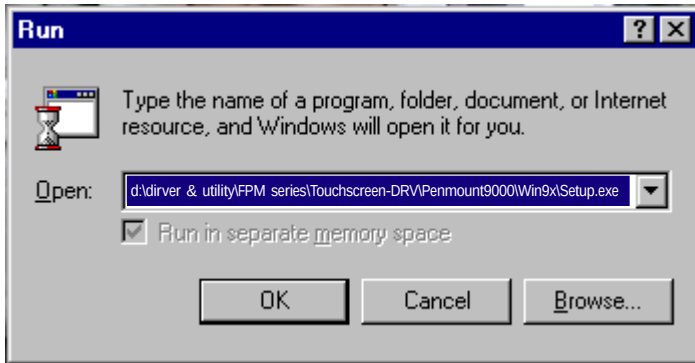
The touchscreen into the FPM-3120 Series provides a driver for use with Windows 95, Windows 98, Windows NT 4.0 or Windows 2000/XP. To facilitate installation of the touchscreen driver, you should read the instructions in this chapter carefully before you attempt installation.

Note 1: The following windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which then appear on your screen.

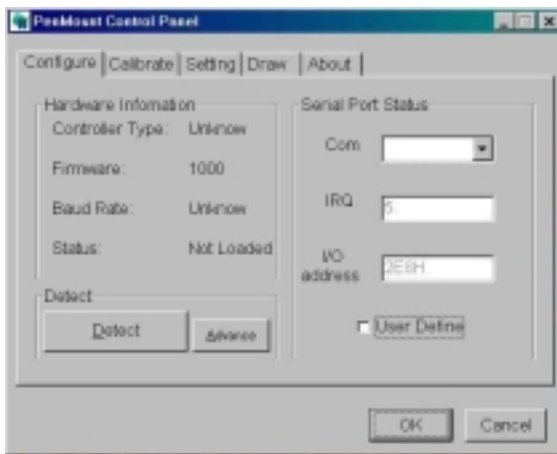
Note 2: Install the HMI CD Driver into the system CD-ROM (D:\ means CD-ROM)

A.3.1 Installation for Windows 95/98

1. A. Select Start menu and then click Run
 - B. Type D:\dirver & utility\FPM series\Touchscreen-DRV\Penmount9000\Win9x\Setup.exe
 - C. Press OK
 - D. Follow the instructions for the setup process



2. A. Click the Detect button
 - B. Press OK and the system will reboot

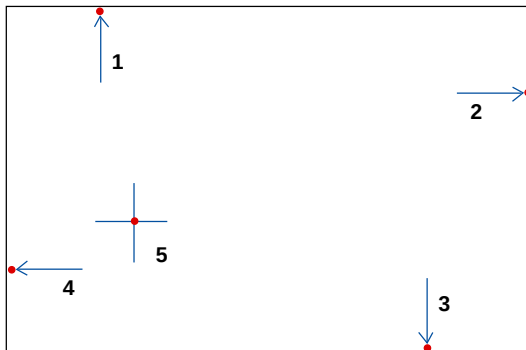


3. A. After the system reboots, click Start, Programs, PenMount Utilities, PenMount Control Panel
B. Select the Calibrate tab
C. Click the Calibrations button on the right



4. Calibration:

To adjust the display with touch panel, click “Calibration” and follow the calibrate point to do calibration, there are five points on screen for calibration.

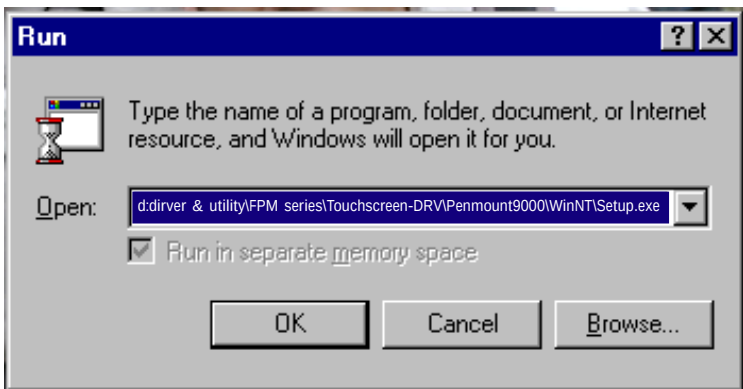


5. Press OK

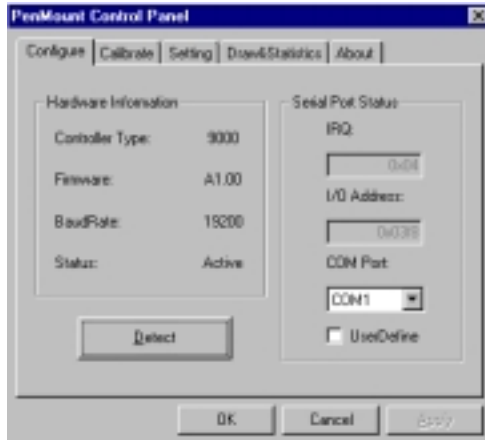


A.3.2 Installation for Windows NT

1. A. Select Start menu and then click Run
- B. Type D:\driver & utility\FPM series\Touchscreen-DRV\Penmount 9000\WinNT\Setup.exe
- D. Follow the instructions for the setup process



2. A. Click the Detect button
B. Press OK and the system will reboot

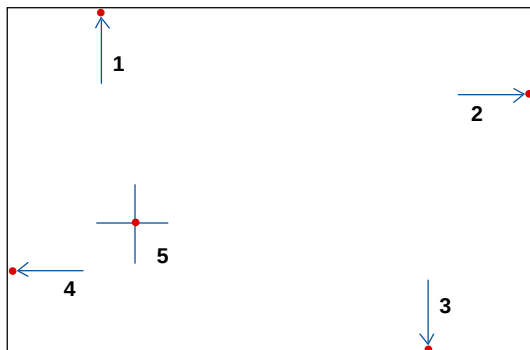


3. A. After the system reboots, click Start, Programs, PenMount Utilities, PenMount Control Panel
B. Select the Calibrate tab
C. Click the Calibrations button on the right



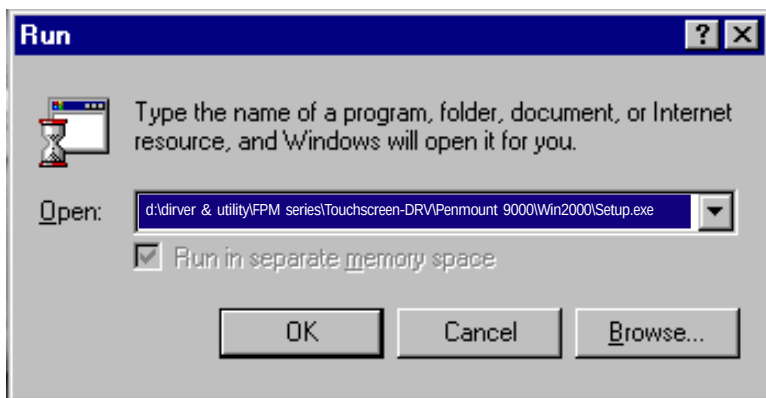
4. Calibration:

To adjust the display with touch panel, click “Calibration” and follow the calibrate point to do calibration, there are five points on screen for calibration.

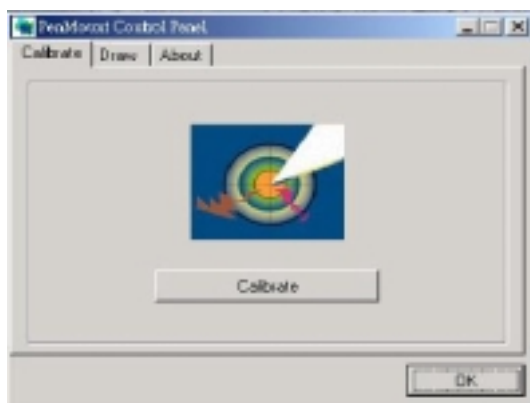


A.3.3 Installation for Windows 2000/XP

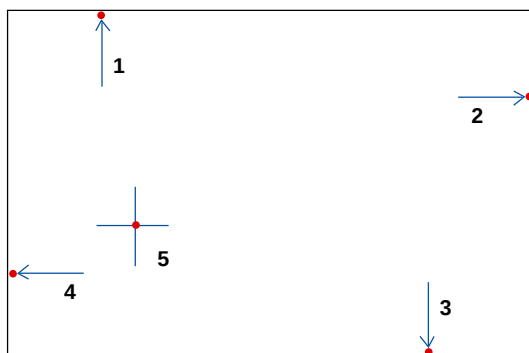
1. A. Select Start menu and then click Run
- B. Type D:\dirver & utility\FPM series\Touchscreen-DRV\Penmount 9000\Win2000 or WinXP\Setup.exe
- C. Press OK
- D. Follow the instructions for the setup process



2. To adjust the display with touch panel, click “Calibration” and follow the calibrate point to do calibration, there are five points on screen for calibration.



3. Calibration:
To adjust the display with touch panel, click “Calibration” and follow the calibrate point to do calibration, there are five points on screen for calibration.



4. Press OK



A.3.4 Installation for DOS.

A.3.4.1 Using “INSTALL.EXE” utility to install PenMount software driver.

1. Insert the driver CD to CD-ROM drive.
2. Type “D:\dirver& utility\FPM series\Touchscreen-DRV\Penmount 9000\DOS\Install.exe “
3. You will see the screen show “Salt International Corp. PenMount Install Utilities. Press ENTER key to allow PenMount install the drivers to drive C or use keyboard to key-in the hard disc drive that you plan to install the driver.
4. The driver will ask “Do you want to modify your Autoexec.bat to initialize PenMount? (Y/N)” Suggest you choose “YES” for generating the initialization instructions in AUTOEXEC.BAT files. Then follow up the instructions to complete the installation.

A.3.4.2 Identify the communication port and IRQ number

1. For the first time installation, or changing PenMount Touch Screen’s COM port, use PMDETECT (e.g. C:\PENMOUNT\PMDETECT) to check the COM port and IRQ number. PMDETECT will save the correct data to PMOUSE.CFG file for further use.

The driver detects your communication COM port and IRQ number from COM1 IRQ4, COM2 IRQ3, COM3.... to COM4 IRQ15. PenMount driver can find the COM port and IRQ number automatically. The screen will then show:

PenMount is initialized successfully!!!

Create file “pmouse.cfg”. Success.

PenMount internal settings:

Comm. Port: COM<n> IRQ<n>

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2. PMDETECT program is able to skip the IRQ number detecting if you

do not need to detect the specified IRQ number. For example, you do not need to detect IRQ5, and the command is:

C:\PENMOUNT\PMDETECT -N5

If you do not need to detect IRQ5 and IRQ9, the command is:

C:\PENMOUNT\PMDETECT -N5 -N9

A.3.4.3 Do Calibration

A1. To adjust the touch screen mapping properly to display screen, use PM.BAT (C:\PENMOUNT\PM) to do calibration. Choose “1” DO CALIBRATION (adjust screen mapping).

2. The message on screen asks you to select video mode number. Select by keyboard to start the calibration, touch the upper-center point, then right-center point, bottom-center point and left-center point in sequence. After calibration, the data is shown in the screen, press any key to continue the progress.

3. After the calibration, suggest you to test touch screen and display mapped results by choose “3” DRAWING TEST under PM.BAT

A.3.4.4 Initializing the PenMount driver

If you don't have the initialization commands in AUTOEXEC.BAT, initialize PenMount (C:\PENMOUNT\PMINIT) controller before you use the PenMount Touch Screen. The display will show the initialization message:

PenMount V7.06 Copyright(c) SALT International Corp.

Test:COM<n> IRQ<n> (<n> is the number after PMDETECT done)

**PenMount communication settings: COM<N> IRQ<n> Baud Rate:
<xxxx>**

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A.3.4.5 Demonstration

To demonstrate or test touch screen operation, selecting “3” DRAWING TEST in PM.BAT file of Utility Directory. Drawing on screen.

The other demonstration program called “ICECREAM.EXE” in the “PEN-MOUNT” directory can also be applied.