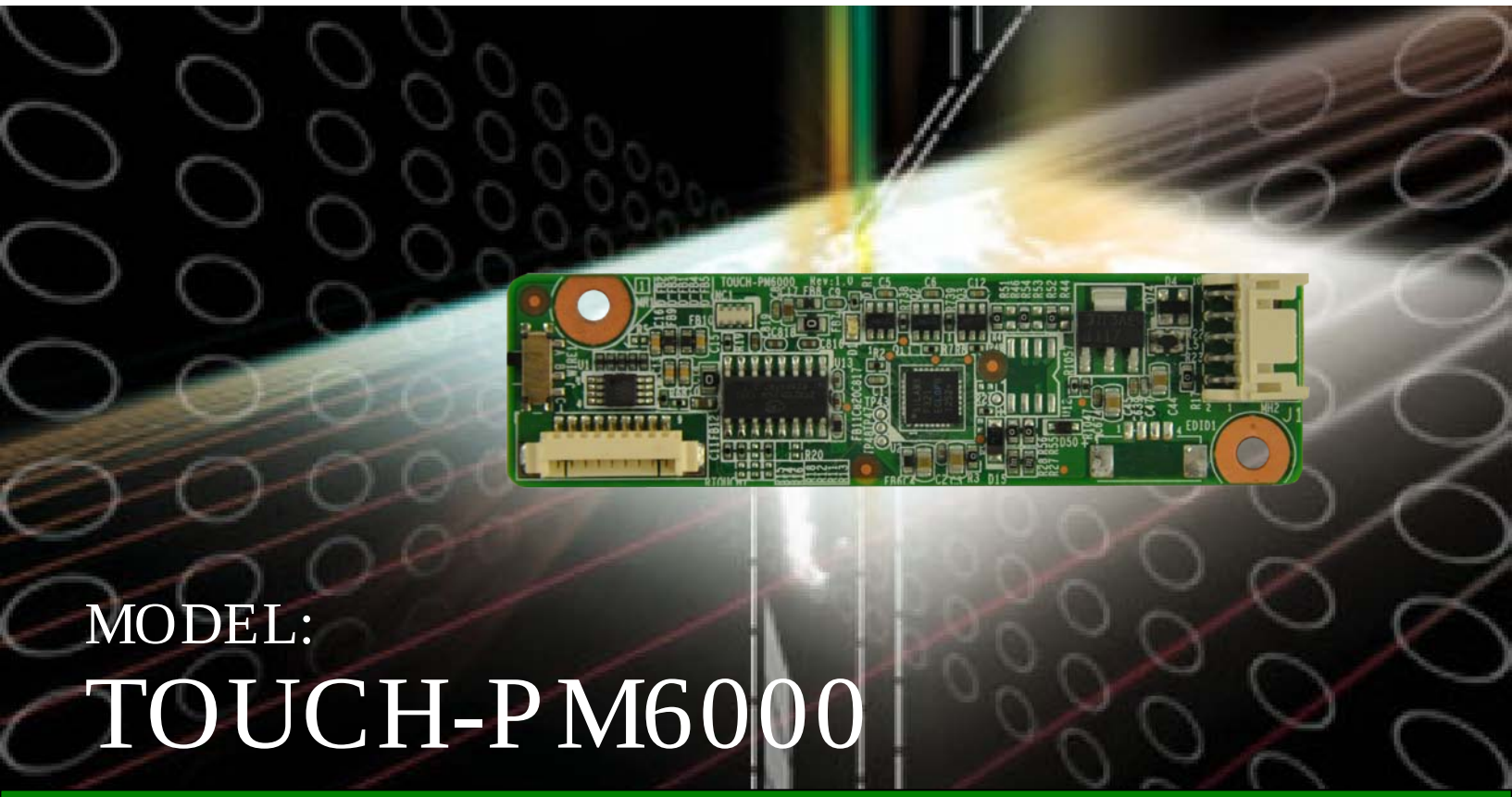
IEI Integration Corp.



MODEL:

TOUCH-PM6000

4, 5, 8-Wire Touch Control Board

User Manual

Rev. 1.03 - 14 May, 2014

RoHS Lead Free

Revision

Date	Version	Changes
14 May, 2014	1.03	Update Section 1.2: Model Variations
2 January, 2014	1.02	Update Table 1-6: Operation Systems
5 December, 2013	1.01	Update the pictures for touch control board
16 October, 2013	1.00	Initial release

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Table of Contents

List of Figures

List of Tables

Chapter

1

Introduction

1.1 Introduction

Figure 1-1: TOUCH-PM6000

The touch panel controller enables analog resistive touch panels for four-wire, five-wire & eight-wire models. The controller directly communicates with the PC system through the touch panel communications interface. The controller design is superior in sensitivity, accuracy, and friendly operation.

1.2 Model Variations

The model variations of the resistive touch panels supported by TOUCH-PM6000 are listed below.

Models	LCD Size	Touch Screen Interface
T-R065G- R20	6.5”	RS-232
T-R065G-USB-R20	6.5”	USB
T-R084G-R20	8.4”	RS-232
T-R084G-USB-R20	8.4”	USB
T-R104G-R20	10.4”	RS-232
T-R104G-USB-R20	10.4”	USB
T-R121G-R20	12.1”	RS-232
T-R121G-USB-R20	12.1”	USB
T-R150G-R20	15”	RS-232
T-R150G-USB-R20	15”	USB
T-R170G-R20	17”	RS-232
T-R170G-USB-R20	17”	USB

Table 1-1: Model Variations

1.3 Connector Overview

The figure below show all the connectors and jumpers.

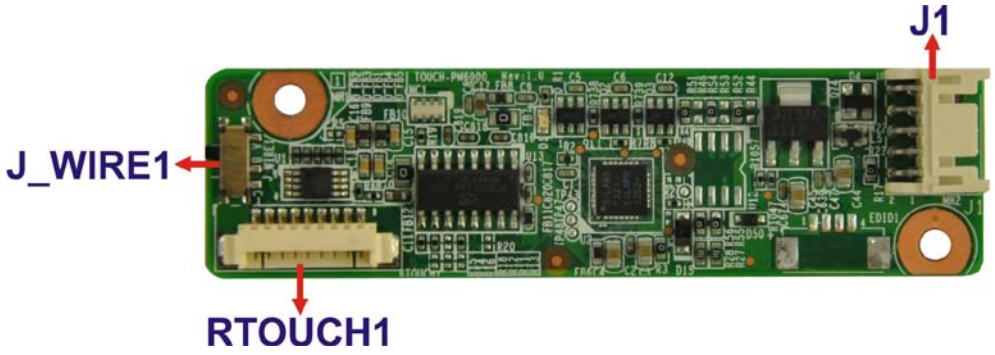

Figure 1-2: Connector Overview

1.3.1 Touch Panel Connector (RTOUCH1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	TS_X+	2	TS_X-
3	TS_Y+	4	TS_SENSE
5	TS_X+	6	TS_X-
7	TS_Y+	8	TS_Y-
9	GND		

Table 1-2: Touch Panel Connector Pinouts (RTOUCH1)

1.3.2 RS-232/USB Connector (J1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	RS232_DSR	2	RS232_5V
3	RS232_DTR	4	USB_5V
5	RS232_RTS	6	GND
7	RS232_RXD	8	USB_D+
9	RS232_TXD	10	USB_D-

Table 1-3: RS-232/USB Connector Pinouts (J1)

1.3.3 5 Wire / 4&8 Wire Selection Switch (J_WIRE1)

PIN NO.	DESCRIPTION
Short A-B	5 Wire Touch Panel
Short B-C	4&8 Wire Touch Panel

Table 1-4: 5 Wire / 4&8 Wire Selection Switch Pinouts (J_WIRE1)

1.4 Technical Specifications

TOUCH-PM6000 technical specifications are listed in table below.

Model	**TOUCH-PM6000**
Circuit Board Dimension	20mm x 75mm (0.79inches x 2.95inches)
Touch	4 , 5 , 8-Wire resistance touch
Control IC	PM6000
OS	See **Table 1-6**
Power Requirements	D.C.+5V (100mA typical, 50mV peak to peak)
Operating Temperature	-25°C to 85°C
Storage Temperature	-25°C to 85°C
Relative Humidity	95% at 60°C, Non-condensing
Interface	Bi-directional RS-232 serial communication USB:1.1 Full Speed/2.0
Resolution	2048x2048

Table 1-5: TOUCH-PM6000 Technical Specifications

The touch panel driver supports the following operating systems:

OS	Version	Interfaces
Windows	2000/ XP/ 2003/2008/Vista/7/8 XP-Embedded WinCE 4.1/ 4.2 WinCE 5.0/ 6.0 WEC 7/ 8	RS-232/USB

OS	Version	Interfaces
Linux	Fedora (core 5/6/7/8/9/10/11/12/13/14/15/16/17/18/19) SUSE (10.1/10.2/10.3/11/11.1/11.2/11.3/11.4/12.1/12.2/12.3) Debian (4.0 R1/5/6/7) Slackware 12 Ubuntu (6.06/ 6.10/ 7.04/7.1/8.04/8.1/9.04/9.1/10.04/10.1/11.04/ 11.1/ 12.04/12.1/13.04/13.1) CentOS / RHEL(4.6/5.0-5.8/6.0-6.5) GPM V1.20.6 Tizen 1.0	RS-232/USB
DOS	V2.10	RS-232

Table 1-6: Operation Systems

1.5 Dimensions

The dimensions of TOUCH-PM6000 are listed below:

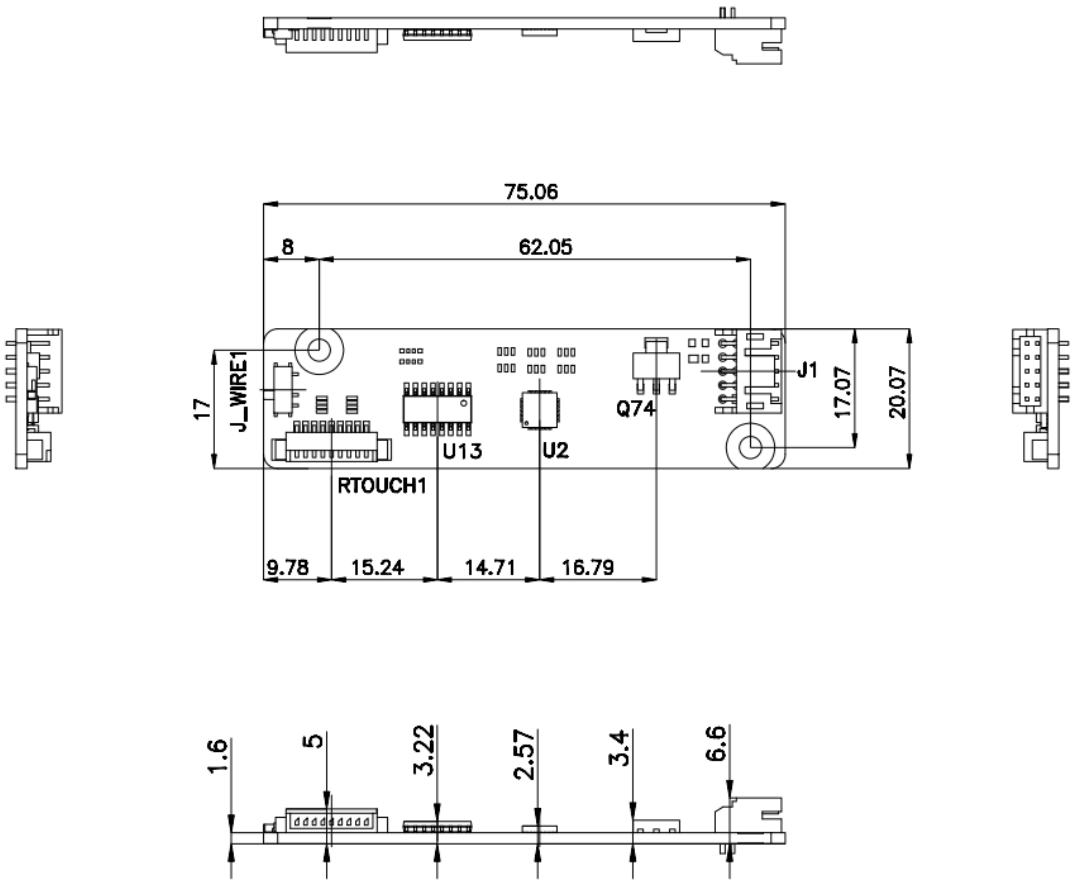

Figure 1-3: TOUCH-PM6000 Dimensions (mm)

Chapter

2

Unpacking

2.1 Anti-static Precautions

WARNING!

Static electricity can destroy certain electronics. Make sure to follow the ESD precautions to prevent damage to the product, and injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the TOUCH-PM6000. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the TOUCH-PM6000 or any other electrical component is handled, the following anti-static precautions are strictly adhered to.

- ***Wear an anti-static wristband***: Wearing a simple anti-static wristband can help to prevent ESD from damaging the board.
- ***Self-grounding***: Touch any grounded conducting material before handling the board. During the time the board is handled, frequently touch any conducting materials that are connected to the ground.
- ***Use an anti-static pad***: When configuring the TOUCH-PM6000, place it on an antic-static pad. This reduces the possibility of ESD damaging the TOUCH-PM6000.

2.2 Unpacking Precautions

When the TOUCH-PM6000 is unpacked, please do the following:

- Follow the antistatic guidelines above.
- Make sure the packing box is facing upwards so the TOUCH-PM6000 does not fall out of the box.
- Make sure all the packing list items are present.

2.3 Packing List

NOTE:

If any of the components listed in the checklist below are missing, do not proceed with the installation. Contact the IEI reseller or vendor the TOUCH-PM6000 was purchased from or contact an IEI sales representative directly by sending an email to sales@iei.com.tw.

The TOUCH-PM6000 is shipped with the following components:

Quantity	Item	Image
1	TOUCH-PM6000	
1	Utility CD	

Chapter

3

Software Drivers

3.1 Overview

A CD is shipped with the touch panel controller. The CD contains a user manual and driver for the touch panel controller.

3.2 Touch Screen Driver

WARNING:

Before the touch screen driver is installed, make sure the touch panel controller is connected to the resistive touch panel with a USB cable or an RS-232 cable.

To install the touch panel software driver, please follow the steps below.

Step 1: Access the driver list.

Step 2: Locate the setup file and double click on it.

Step 3: A **Welcome Screen** appears (**Figure 3-1**).

Step 4: Click NEXT to continue.

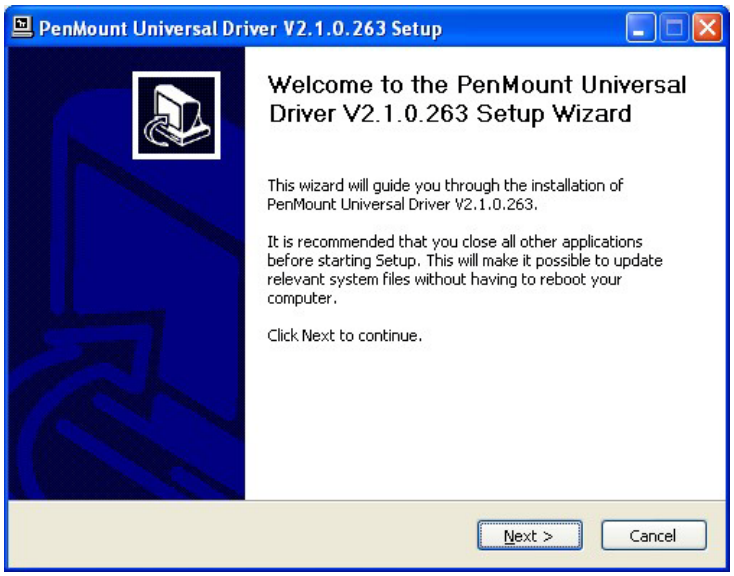

Figure 3-1: Touch Screen Driver Welcome Screen

Step 5: The **License Agreement** shown in **Figure 3-2** appears.

Step 6: Click I AGREE to accept and continue.

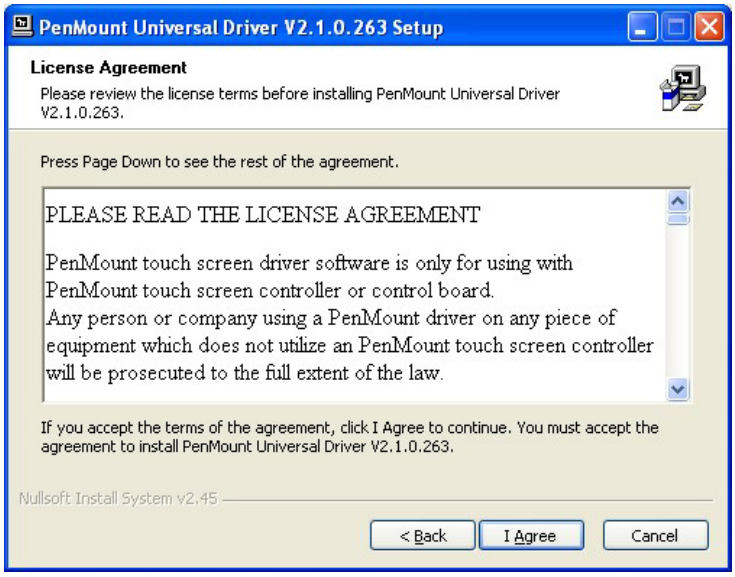

Figure 3-2: Touch Screen Driver License Agreement

Step 7: Browse for an install location or use the one suggested (**Figure 3-3**).

Step 8: Click INSTALL to continue.

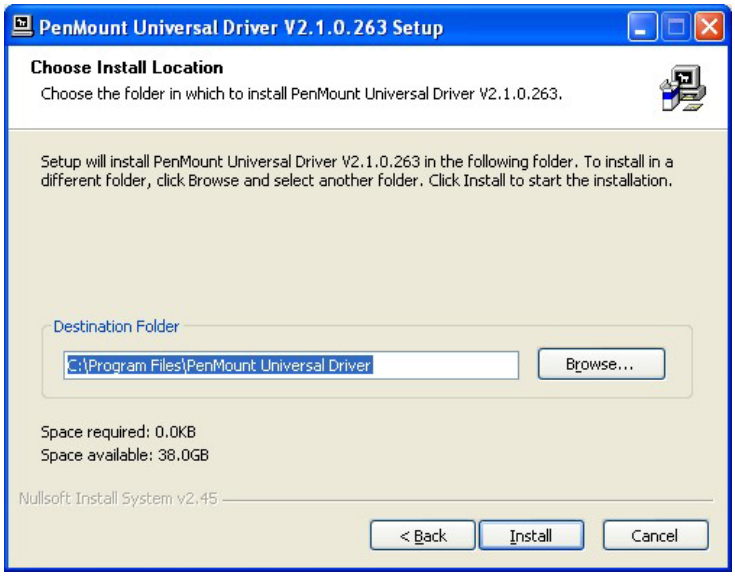

Figure 3-3: Touch Screen Driver Choose Install Location

Step 9: The **Install** screen appears and displays the progress of the installation (**Figure 3-4)**.

Step 10: Click NEXT to continue.

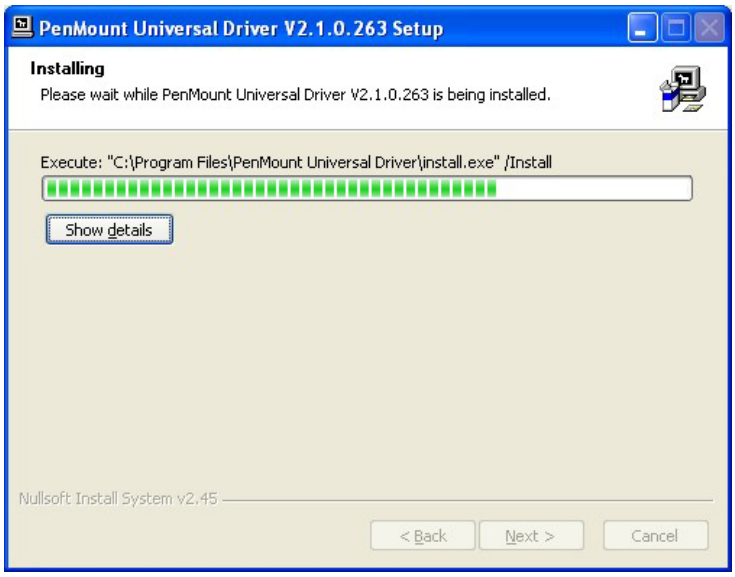

Figure 3-4: Touch Screen Driver Installation Screen

Step 11: When the installation is complete, click FINISH to exit setup. (**Figure 3-5**).

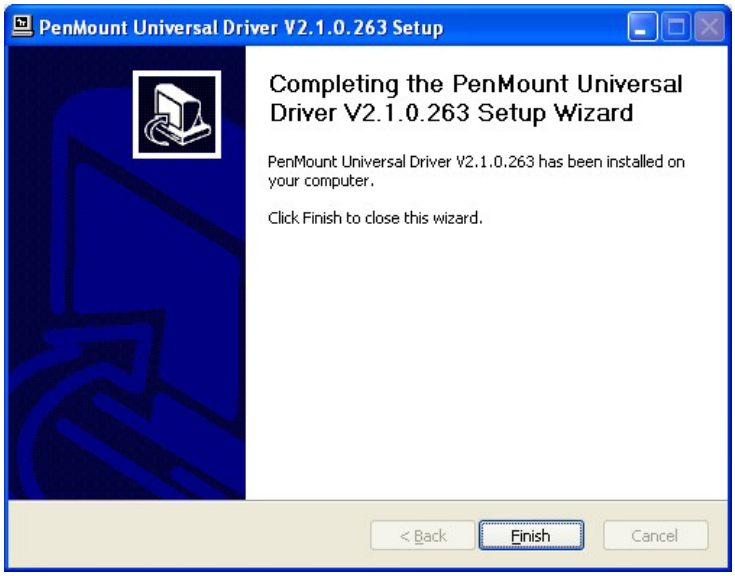

Figure 3-5: Touch Screen Driver Update Complete

3.3 Calibrating the Touch Screen

To calibrate the touch screen cursor with the motion of the touch screen pen (or finger), please follow the steps below:

Step 1: Make sure the touch screen driver is properly installed.

Step 2: Locate the PenMount Monitor icon in the bottom right corner of the screen.

Figure 3-6: PenMount Monitor Icon

Step 3: Click the icon. A pop up menu appears. See **Figure 3-7**.

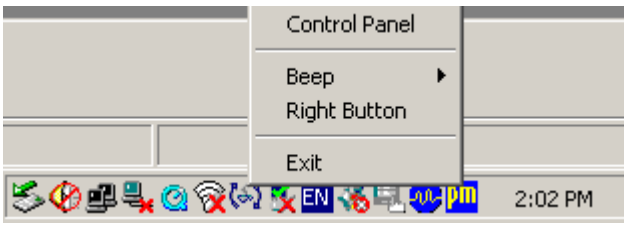

Figure 3-7: PenMount Monitor Popup Menu

Step 4: Click Control Panel in the pop up menu shown in **Figure 3-7.**

Step 5: The configuration screen in **Figure 3-8** appears.

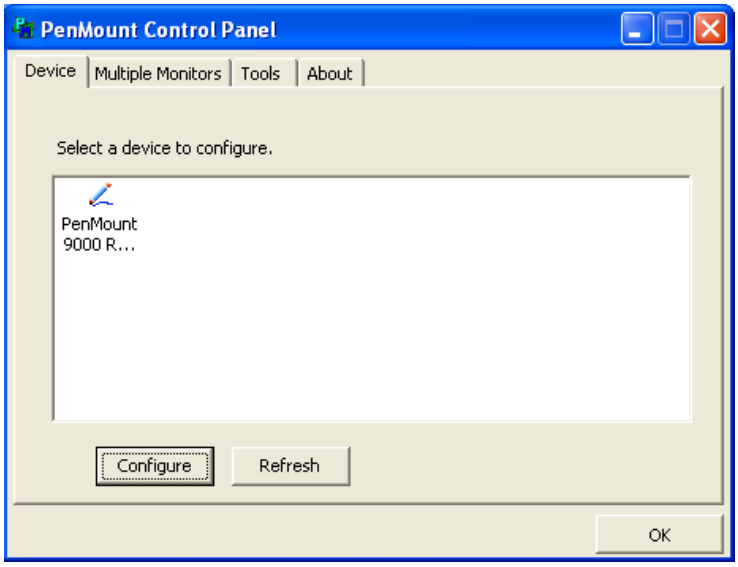

Figure 3-8: Configuration Screen

Step 6: Double click the PenMount 9000 icon as shown in **Figure 3-8**.

Step 7: The calibration initiation screen in **Figure 3-9** appears.

Step 8: Select the **Standard Calibration** button as shown in **Figure 3-9**.

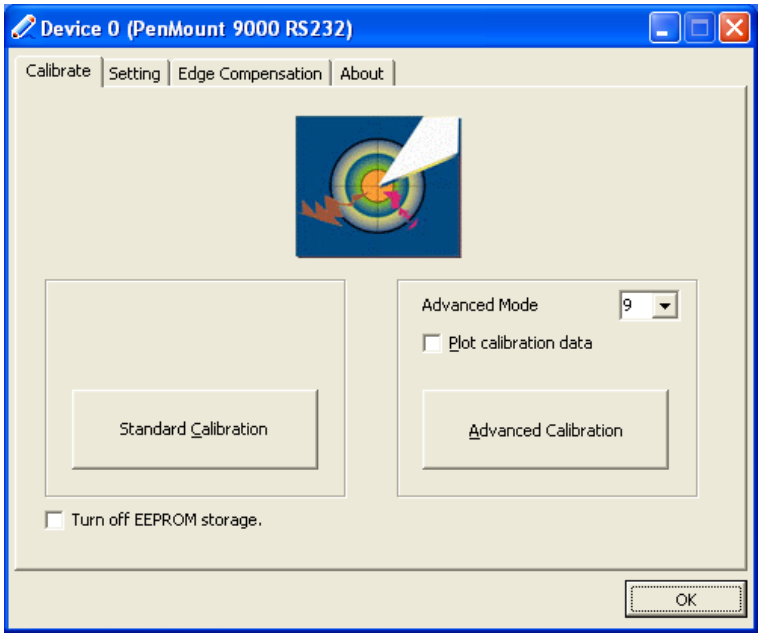

Figure 3-9: Calibration Initiation Screen

Step 9: The calibration screen in is shown. See **Figure 3-10**.

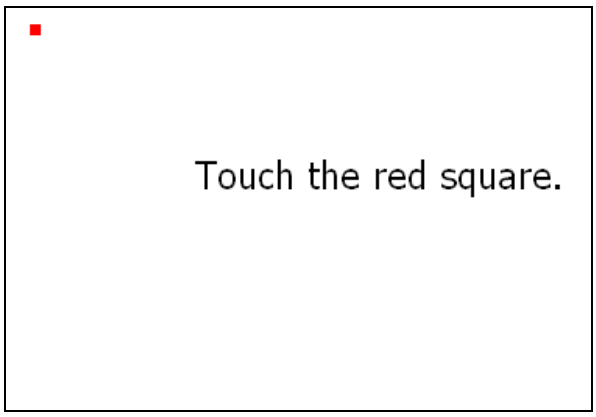

Figure 3-10: Calibration Screen

Step 10: Follow the instructions. The user is asked touch the screen at five specified points after which the screen is calibrated.

Appendix

A

Hazardous Materials Disclosure

A.1 Hazardous Material Disclosure Table for IPB Products Certified as RoHS Compliant Under 2002/95/EC Without Mercury

The details provided in this appendix are to ensure that the product is compliant with the Peoples Republic of China (China) RoHS standards. The table below acknowledges the presences of small quantities of certain materials in the product, and is applicable to China RoHS only.

A label will be placed on each product to indicate the estimated “Environmentally Friendly Use Period” (EFUP). This is an estimate of the number of years that these substances would “not leak out or undergo abrupt change.” This product may contain replaceable sub-assemblies/components which have a shorter EFUP such as batteries and lamps. These components will be separately marked.

Please refer to the table on the next page.

Part Name	Toxic or Hazardous Substances and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (CR(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
Housing	O	O	O	O	O	O
Display	O	O	O	O	O	O
Printed Circuit Board	O	O	O	O	O	O
Metal Fasteners	O	O	O	O	O	O
Cable Assembly	O	O	O	O	O	O
Fan Assembly	O	O	O	O	O	O
Power Supply Assemblies	O	O	O	O	O	O
Battery	O	O	O	O	O	O

O: This toxic or hazardous substance is contained in all of the homogeneous materials for the part is below the limit requirement in SJ/T11363-2006

X: This toxic or hazardous substance is contained in at least one of the homogeneous materials for this part is above the limit requirement in SJ/T11363-2006