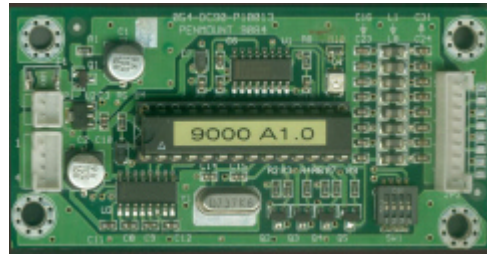


PenMount 9084 Control Board

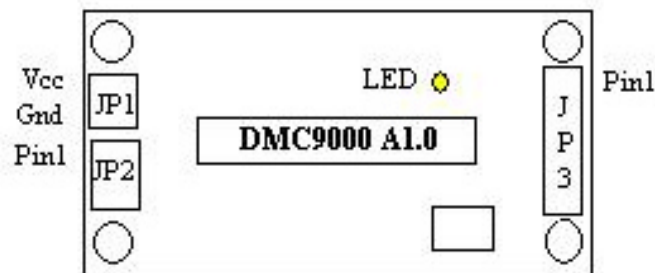


PenMount 9084 control board is a touch screen control board. The touch screen controller is DMC9000 that interfaces analog resistive touch screens to a personal computer through its COM port. PenMount 9084 control board is designed to have a small mechanical size in order to be located inside the system easily. Together with PenMount driver counterparts on various, PenMount9084 control board becomes the most popular touch screen solution worldwide. It's designed to have LED on board to show the touch status and also bundled with three interface cables, customer only needs to power in 5V to 12V DC power to the board, and via RS-232 interface to computer system, PenMount touch screen solution is in your hand.

PenMount 9084 Control Board Features:

- ✂✂ Resolution: 10 bit (1024*1024)
- ✂✂ Design for best touch performance and easy configuration
- ✂✂ Design for best cost arrangement
- ✂✂ Supporting 1024*1024 pen device resolution
- ✂✂ Built-in 10-bit A/D converter inside the DMC9000
- ✂✂ Fast conversion and transmission, 19200 baud rate fixed
- ✂✂ Upgraded noise handling mechanism (3 level scheme)
- ✂✂ Fixed and high-speed sampling rate
- ✂✂ 4-wire and 8-wire touch screen supported
- ✂✂ RS-232 interface supported
- ✂✂ 5V to 12V power input
- ✂✂ Power protection fuse to protect the circuit
- ✂✂ Touch activated indication LED on board

PenMount 9084 Control Board Description



JP1: Power cable: 5V to 12V DC power

JP2: RS-232 cable connector: PIN1: RTS

PIN2: TXD

PIN3: RXD

PIN4: GND

JP3: Touch Screen cable, for 4-wire or 8-wire touch screen

PenMount 9084 Control Board Hardware Installation

1. Connect the RS-232 cable to JP2 on the control board.
2. Connect the RS-232 cable's DB-9 female connector to a 9-pin serial COM port on the back of the computer.
3. Connect the touch screen to the controller using one of the controller interconnect cables (4-wire or 8-wire).
4. Connect the DC power cable to JP1. (5V to 12V)

PenMount DOS Driver Users Manual

(PenMount DOS driver V1.01)

PenMount DMC9000 For DOS Software Installation

This driver supports DOS. PenMount DOS driver detail contents are list as below:

INSTALL.EXE -- General purpose installation utility

PMTSR.COM

README.TXT

PMOUSE.EXE

PMOUSE.CFG

ICECREAM.EXE -- The demo program

PMDETECT.EXE --To identify the communication port and IRQ number of PenMount Touch Screen.

The detected data will be saved to PMOUSE.CFG file

PMSET.EXE

SWITCH.COM

PM.BAT -- PenMount Touch Screen drivers' functions

PMINIT.BAT -- To start up PenMount driver in system

CALIBRAT.BAT -- Calibration utility

SVGA256.BGI

SVGA16.BGI

EGAVGA.BGI

ICECREAM.KEY

PMGET.EXE -- To get touching data

Step 1: Using "INSTALL.EXE" utility to install PenMount software driver.

To install PenMount software under DOS mode, insert the driver CD-ROM and type "INSTALL". 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. Then, 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.

Step 2: Identify the communication port and IRQ number.

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>  
.....
```

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

Step 3: Do Calibration

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).

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.

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

Step 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 V7.10 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>

.....

Step 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 "PENMOUNT" directory can also be applied.

Now, PenMount DOS driver is installed.

PENMOUNT DOS DRIVER FUNCTIONS

There are several functions under PenMount DOS driver, user is able to change the settings from following utilities.

A. Show Current Setting

The current setting data could be found from PM.BAT file. The procedure to get the status is **C:\PENMOUNT\PM**

Choose "2" SHOW CURRENT SETTINGS

B. Beep Sound On or Off

Beep sound is able to set ON or OFF with parameter.

Enable Beep Sound command is

C:\PENMOUNT\PMOUSE /S.

Disable Beep Sound (Default) command is

C:\PENMOUNT\PMOUSE.

C. Getting current touch data

To get the touching data, use "PMGET.EXE" utility. This utility is only available for COM 1 or COM 2 port.

C:\PENMOUNT\PMGET <COM port> <baud rate>

User will see the touching point address is shown in screen.

D. Hide cursor

Hide cursor: c:\penmount\pmouse/h