



TSHARC-DOS Driver Setup and Users Manual RS-232 & PS/2

Revision 5.04

Installation Notes: Before You Proceed

As the TSHARC controllers and drivers become more and more sophisticated, it is now more important than ever that your system is set-up properly before you install your TSHARC touch screen drivers. Please review the following to insure that your system is ready.

Hampshire controllers are universal by design. This means that the controller may be configured for any number of touch screen types as well as communication and power settings. Please check your TSHARC controller board to insure that the user configurable configuration settings are set correctly for your application. You may find the users manual for each of Hampshire controller board at: www.hampshirecompany.com.

Make sure that you do not have another manufacturer's touch screen controller driver installed on your system. Many touch screen manufacturer's un-install programs do not completely remove all components of there drivers. Please review the associated drivers' manuals and/or contact the driver manufacturer to learn how to completely remove their driver programs from your system. In most cased this information is available from the manufacturer's web site.

Hampshire drivers use your display driver software settings to accurately configure various touch screen driver setup files. Make sure that your display and your display driver cards are installed properly before installing any TSHARC touch screen controller drivers. If your display's are not configured and working properly prior to loading the TSHARC controller drivers, the TSHARC controllers will not function properly.

Now that you have double checked your system settings and have verified that your system is working properly, proceed with the TSHARC controller driver installation procedure.

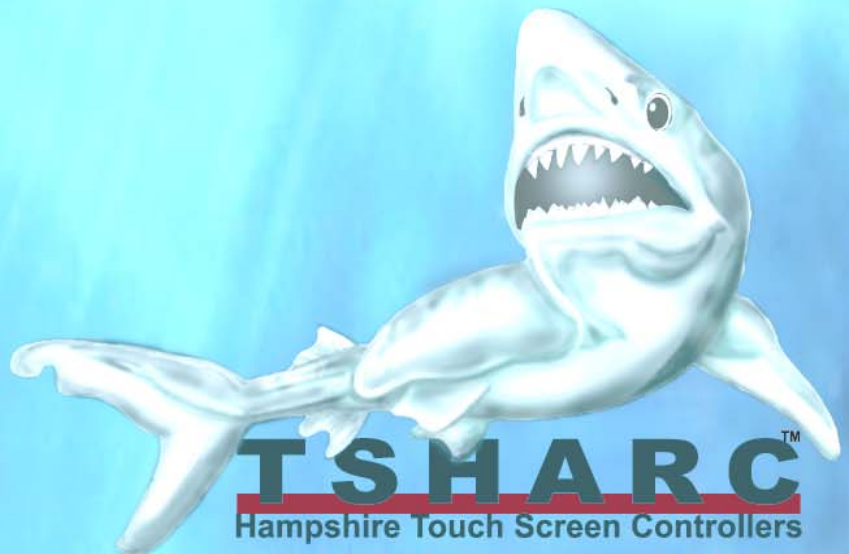
Document version and copyright information

Document Name: DOS_DriverMan5_04.doc

Document Date: Friday, August 10, 2007

Hampshire Company, Inc.
9055 N. 51st Street Unit H
Brown Deer, WI 53223
Main Phone: 414-355-4675
Main Fax: 414-355-4775
www.hampshirecompany.com

Copyright Hampshire Company, Inc. 1995 – 2007 All rights reserved.
Hampshire® and TSHARC™ are trademarks of Hampshire Company, Inc.



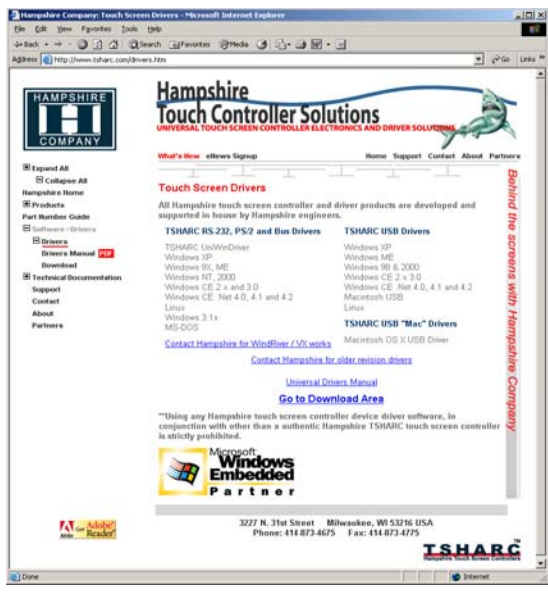
| | |
|--|----------|
| INSTALLATION NOTES: BEFORE YOU PROCEED | 1 |
| DOCUMENT VERSION AND COPYRIGHT INFORMATION | 1 |
| Document Name: DOS_DriverMan5_04.doc | 1 |
| Document Date: Thursday, March 31, 2005 | 1 |
| MAKE "HAMMOUSE" DIRECTORY ON YOUR HARDDRIVE..... | 3 |
| DOWNLOAD OR COPY THE TSHARC DOS FILES TO THE "HAMMOUSE" DIRECTORY. | 3 |
| COPY DOS DRIVER FILES TO HAMMOUSE DIRECTORY | 3 |
| INSTALLING THE TSHARC DOS DRIVER | 4 |
| Default driver load settings..... | 4 |
| DRIVER COMMAND LINE OPTIONS:..... | 4 |
| Baud Rate..... | 4 |
| Comport | 4 |
| Controller | 4 |
| Alternate IRQ | 4 |
| Alternate Base | 4 |
| Alt button | 4 |
| Video Mode | 4 |
| Use PS/2..... | 4 |
| Remove Driver | 4 |
| Help..... | 4 |
| Typical Command line Examples | 4 |
| Special Function Switches:..... | 4 |
| CALIBRATING THE TOUCH SCREEN TO THE DISPLAY | 5 |
| HSDOSCAL variable settings and switches..... | 5 |
| TSHARC CONTROL PANEL | 5 |
| Touch Mode | 5 |
| Cal Mode | 5 |
| Display (size) | 5 |
| Touch Sound | 5 |
| Calibration Button (Cal) Perform selected calibration | 5 |
| Test – Drawing test to test calibration | 5 |
| OK – Save parameters and exit control panel | 5 |
| Cancel – Cancel parameter choices and exit control panel | 5 |

Make "Hammouse" directory on your hard drive

This directory must be created and the files for the Hampshire, TSHARC DOS driver must be placed in this directory in order for the driver to work properly

Create a directory on the root drive named "Hammouse". This directory must be spelled "hammouse" and placed in the root directory:
 Root:\hammouse Example: c:\hammouse\

```
C:\>
C:\>
C:\>md hammouse
```



Download or copy the TSHARC DOS files to the "Hammouse" directory.

- 1) Download the Hampshire TSHARC DOS driver to the "Hammouse" directory from the Hampshire web site. www.hampshirecompany.com or,
- 2) Copy the un-compressed DOS driver files from your Hampshire Drivers CD or,
- 3) Copy the compressed "ZIP" file from the Hampshire DOS driver CD. File name: "DOSRS232PS2504.zip" and decompress the driver files.

Copy DOS driver files to Hammouse Directory

After you have made the Hammouse Directory and copied the driver files to that directory.

After you have decompressed the files into the hammouse directory check the directory to insure that you have the following files listed:

- HMOUSE.EXE
- HDOSCAL.EXE

The HMOUSE.EXE is the driver file for the TSHARC controller. The HDOSCAL.EXE is the calibration program and calls the TSHARC control panel configuration screen.

```
C:\>
C:\>cd hammouse
C:\hammouse>copy d:*.*
```

```
C:\hammouse>dir
Volume in drive C is Local Disk
Volume Serial Number is 40DC-E268

Directory of C:\hammouse

03/28/2005  11:21a    <DIR>          .
03/28/2005  11:21a    <DIR>          ..
02/28/2005  09:54a             152,375 HDOSCAL.EXE
02/28/2005  09:52a             25,186 hmouse.EXE
                2 File(s)      177,561 bytes
                2 Dir(s)    32,373,272,576 bytes free

C:\hammouse>
```

Installing the TSHARC DOS driver

Run: "HMOUSE.exe" to load the TSHARC DOS driver.

There are a number of switches that you may use to install the driver to work properly with your system. You must know your com port and set the baud rate to match your controller.

In order to set the installation parameters correctly, you must know the following:

Controller type

Baud Rate of your controller (Typically 9600)

Communication port

IRQ used

UART base address

See the list below for all available options

Default driver load settings

If no switches are selected: Com 1, 9600, TSHARC-12, Base 3F8, IRQ 4



```
C:\HAMMOUSE>hmouse /?
Hmouse DRIVER options, Rev 5.04:
/r Remove Driver From Memory
/B Baudrate:2400, 4800, 9600(Default), 19200
/C Comport: 1 (Default), 2, 3, 4
/T Controller Type: 0 8 bit, 12 10-12 bit (Default)
/D .ini file alternate drive:
      A - Drive A: B - Drive B:
/I  IRQ - 2,3,4,5,6,7,8,9,10,11,12,13,14,15
/U  Uart Base - Any numer in decimal
/A  Use alternate button Press/Release function
/V  Force custom video mode
/P  PS/2 Interface
/?  This Help Screen
Usage Example TSHARC-12 9600bps on Com 1:
      Hmouse /B9600 /C1 /T12
Usage Example TSHARC-12 custom UART base and IRQ
      IRQ 5 and UART base 544 (220 hex) at 9600 bps
      Hmouse /B9600 /15 /U544 /T12
C:\HAMMOUSE>_
```

Driver command line options:

USAGE: HMOUSE /r /B /C /T /D /I /U /A /V /P /? Where:

| | |
|---|--|
| Baud Rate | /B2400 (for TSHARC-8 only) |
| | /B9600 (Default, for all controller except TSHARC-8) |
| Comport | /C1 - COM1 IRQ 4 Base 3F8 (Default) |
| | /C2 - COM2 IRQ 3 Base 2F8 |
| Controller | /T12 - TSHARC-12 (Default) |
| | /T8 - TSHARC-8 (legacy support only) |
| Search alternate drive for touch calibration data. Default is C | /DA - Drive A: |
| | /DB - Drive B: |
| Alternate IRQ | /IX - Where X is IRQ 2- 15 (Default: IRQ 4) |
| Alternate Base | /UXXXX - Where XXXX is the base address in decimal. (Default: 3F8) |
| Alt button | /A |
| Video Mode: | /V |
| Use PS/2 | /P |
| Remove Driver | /r |
| Help | /? |

NOTE: The HMOUSE may coexist with a standard serial mouse only if the standard mouse is installed before the HMOUSE command is performed.

Typical Command line Examples

Example 1: HMOUSE /C1 /B9600 /T12
RS-232 on Com1, 9600 bps, TSHARC-12

Example 2: HMOUSE /9600 /T12 /15 /U544
9600 bps, TSHARC-12 on RS-232 custom Comport with IRQ5, Base 544

Example 3: HMOUSE /p /T12
TSHARC-12, on the PS/2 port

Special Function Switches:

/DB This switch will cause the driver to look on the B drive for calibration data.

/A This switch will cause the driver to report a "1" when the touch screen is touched and a "0" when it is released to the register.

/V This switch may be used to force a custom video resolution.

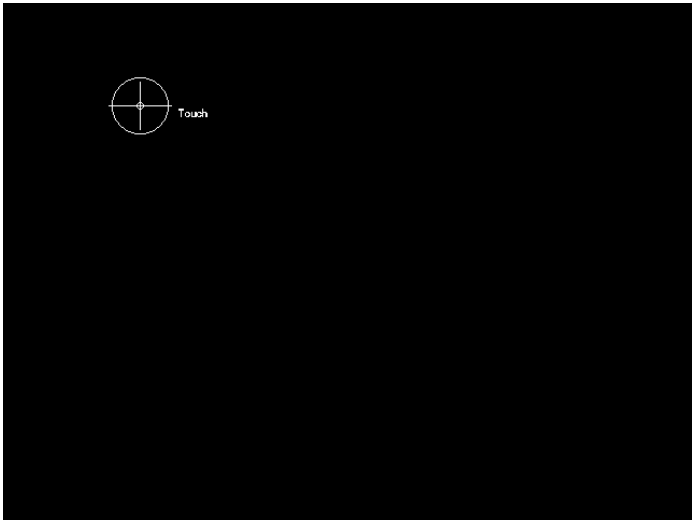
NOTE: If you intend to use a standard mouse concurrently with the Hampshire PS/2 DOS driver, you must not allow your standard mouse driver to search the PS/2 ports for a standard mouse. If the standard mouse driver finds the Hampshire PS/2 controller it will automatically load the standard mouse driver and the touch screen controller will not function

Calibrating the touch screen to the display

Once you have installed the HMOUSE driver you must calibrate your touch screen to the display. The HDOSCAL.exe file will allow you to calibrate the touch screen.

The HDOSCAL program will also display the control panel which may be used to set a variety of user configurable variables such as Touch mode, Calibration type, sound and a drawing test screen.

The first time you run the HDOSCAL program, a calibration screen will appear before the control panel. Every subsequent time you run the HDOSCAL program, the control panel will be displayed. And you may call the calibration from that application.



```

USAGE: HDOSCAL OPTIONS: /Tx /Sx /Cxx /Vx
Where:
/Tx Touch Mode
x - S Stream
x - U PenUp
x - D PenDown
/Sx Touch Sound
x - F Off
x - N On
/Cxx Cal Mode
x - 3 3 Point
x - 4 4 Point
x - 20 20 Point
/V Force Video Mode
x - Text
x - 640x200
x - 640x350
x - 640x480
x - 800x600
x - 1024x768
x - Custom Requires Custom.ini

Copyright HCO Inc 1995-2005 Version 5.04
C:\HAMMOUSE>
    
```

HSDOSCAL variable settings and switches

USAGE: HDOSCAL /Tx /Sx /Cxx /Vx

Where:

- /Tx - Touch Mode
 - /TS - Stream
 - /TU - Pen-UP
 - /TD - Pen-Down
- /Sx - Touch Sound
 - /SN - Sound ON
 - /SF - Sound OFF
- /Cxx - Cal Mode
 - /C3 - 3 point
 - /C4 - 4 point
 - /C20 - 20 point
- /V - Video Mode
 - /VTEXT - Calibrate Text mode
 - /V640x200 - Calibrate 640x200 mode
 - /V640x350 - Calibrate 640x350 mode
 - /V640x480 - Calibrate 640x480 mode
 - /V800x600 - Calibrate 800x600 mode
 - /V1024x768 - Calibrate 1024x768
 - /Vcustom - Calibrate custom mode

TSHARC control panel

Touch Mode

- Stream - Standard mouse emulation mode
- Pen-Up - Perform touch event on pen up
- Pen-Down - Perform touch event on pen-down

Cal Mode

- 3 point - Calibrate the touch screen with 3 points. Least accurate
- 4 point - Calibrate touch screen with 4 points. Recommended
- 20 point - Calibrate touch screen with 20 points. Most accurate

Display (size)

- Text- Identify the display as a text screen type
- 640 x 200 - Display is 640 x 200 resolution
- 640 x 350 - Display is 640 x 350 resolution
- 640 x 480 - Display is 640 x 480 resolution
- 800 x 600 - Display is 800 x 600 resolution
- 1024 x 768 - Display is 1024 x 768 resolution

Note: other resolutions may be entered using HDOSCAL.exe command.

Touch Sound

- Off - Turn off touch sound
- On - Turn on touch sound

Calibration Button (Cal) Perform selected calibration

Test - Drawing test to test calibration

OK - Save parameters and exit control panel

Cancel - Cancel parameter choices and exit control panel

