

# Interactive Touch Screen

# User Guide

**USB & RS232**



## INTRODUCTION

This manual will explain the workings and setup of the touch screen fitted to this NEC display. An explanation of the monitor and its workings is covered in the NEC Monitor Manual that came with this product. The following pages will tell you how to install the software needed by the touch screen to function and go through the adjustments that user's can change to enable the screen to perform effectively in many different environments.



The touch driver has been written to interface between the **Interactive Touch Screen** and a computer running the Windows XP™ or Windows Vista™ operating system.

Contact support or visit [www.nectouchsolutions.com](http://www.nectouchsolutions.com) for more information on any other operating systems.

**DO NOT PLUG THE TOUCH SCREEN INTO THE PC UNTIL YOU HAVE INSTALLED THE DRIVER AS INSTRUCTED BELOW!**

## INSTALLATION

### LOADING THE TOUCH DRIVER SOFTWARE ONTO YOUR PC

1. Switch on monitor



**Do not plug the touchscreen interface cable into your computer.**

2. Insert the '**Driver CD**' into the PC and select "Install Driver"

If the installation does not start automatically;

1. Click **START** on the Windows™ Taskbar; then click **RUN**.
2. Type d:\autorun.exe where d is the letter of your CD-ROM drive. Click **OK**



(Click on "Install Driver" to continue the installation)

After a few moments the touch driver is installed.

You should then see the following icons in your system tray:



These icons indicate the driver has been installed correctly and that the touch screen service is running.

Once the UPDD Driver software has been successfully installed the touchscreen can now be connected to the host computer. The touch screen can be connected to any unused USB port (or Serial port for Serial version).

## CONNECTING THE TOUCH SCREEN (USB VERSION)

The USB touch screen is a Plug and Play Device (PnP).

It is recommended that the **touch screen be connected directly to an available USB port on the host computer rather than use a self powered USB hub.**

When the USB touch screen is initially connected to the host computer for the first time, the Windows “**Found New Hardware**” pop up box is initiated, as shown below, stating that new hardware has been detected.



Having detected the new hardware, Windows now initiates the “**New Hardware Wizard**”. Windows may pop up an option to search online for the software for the new hardware. You may select “Next” if this message appears.



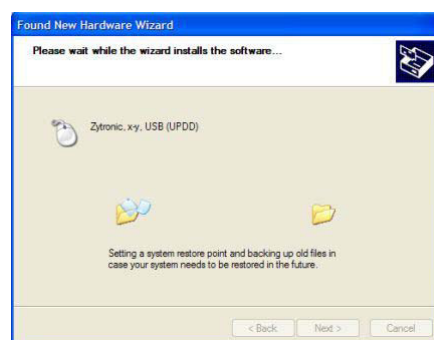
(Select “Next” if this window is shown)

From the next pop up box the user should select the “**Install the software automatically (Recommended)**” option, as shown below then select “Next”.



(Click “Install the software automatically”, then click “Next”)

Windows will then search and install the relevant driver files for the newly detected hardware, as shown below.



(Windows is installing the required driver files)

During installation, Windows may give a security warning about unsigned drivers. Please select “Continue Anyway” on this dialog.

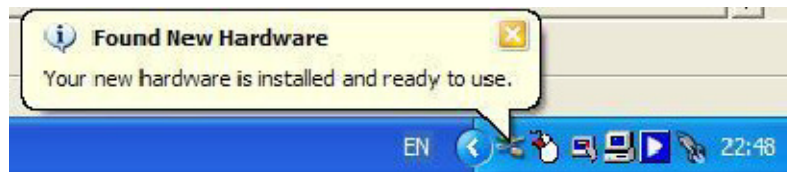


(Windows Security Warning Dialog)

Having installed the relevant driver files, Windows now informs the user that the Found New Hardware procedure is complete and the hardware is ready to use, as illustrated below.



(The "Found New Hardware Wizard" has completed)



Your touch screen should now be installed and ready to use.

## **CONNECTING THE TOUCH SCREEN (SERIAL VERSION)**

Connection of the Serial touch screen is simplistic. All that is required is for the touch screen to be connected to an unused Serial COM Port on the host computer. Once the controller is connected and powered up the driver will find and identify the controller automatically.

Your touch screen should now be installed and ready to use.

## CALIBRATING THE TOUCH SCREEN

### **AUTOMATIC CALIBRATION**

The touch screen has been pre-calibrated at the factory. To use the factory calibration, go to “Start -> Programs -> UPDD -> Auto Calibration”.

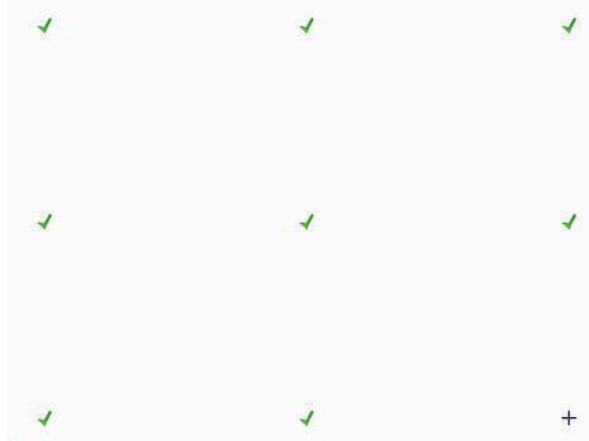


The touch screen will then be calibrated and be ready to use.

### **MANUAL CALIBRATION**

Should you wish to perform a manual calibration, go to “Start -> Programs -> UPDD -> Manual Calibration”.

Calibration targets then appear on the screen. Very carefully touch the centre of the first cross-hair point. Having touched the first point the second point will be displayed. Sequentially touch all points as they are displayed on the screen as shown below.



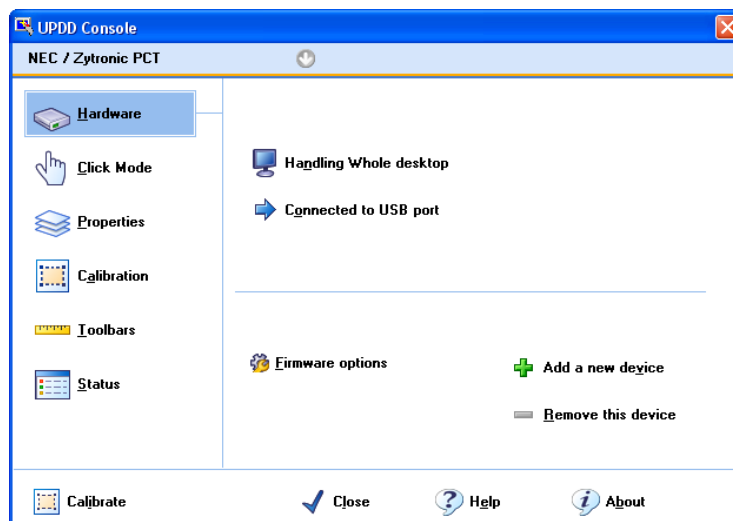
**Important** – The accuracy of the calibration will directly depend on how accurately you touch the centre of each point displayed on the screen.

### **TOUCH SCREEN CONFIGURATION**

To configure the touch screen further, the user must launch the UPDD Console. The UPDD console is the main interface used to configure the functionality and performance of the touch screen.

To launch the UPDD console, go to “Start -> Programs -> UPDD -> Settings”.

This will open the UPDD Console, as shown below.

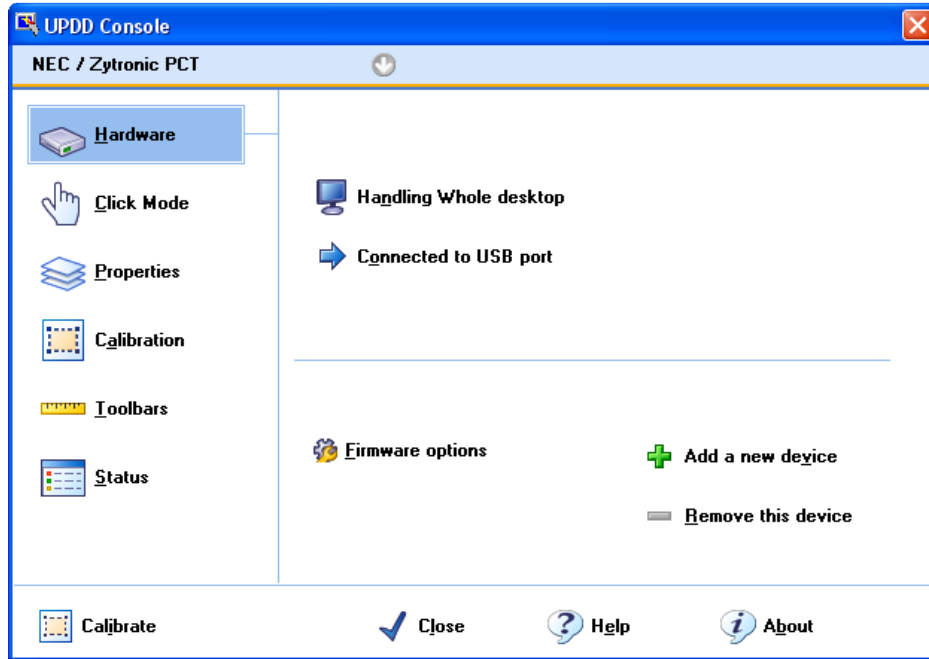


(UPDD Console Hardware Page)







The UPDD Console has five main pages; **Hardware**, **Click Mode**, **Properties**, **Calibration**, and **Status**, list down the left hand side of the console window. Each of these five main pages has parameters that can be altered by the user to select and set different parameters of the touch screen.

## HARDWARE PAGE

The **Hardware** page of the UPDD console is shown below. The **Hardware** dialog is used to associate the pointer device with the monitor / desktop area that is controlled by the device. It also shows hardware port information.



(UPDD Console Hardware Page)

Function	Description
 <b>Handling</b>	Shows the desktop area controller by the pointer device. This is normally set to the whole desktop. In multi-monitor environment this option is used to associate the device to a specific monitor. A custom desktop area can also be defined to restrict the cursor movement to a specific desktop area.
 <b>Connected to</b>	Shows the port connected to the device. In the case of USB, PS/2 and Bus connected devices this shows connection information. In the case of serial this option can be used to configure serial port settings.
 <b>Add a new device</b>	In a multi-device environment this option is used to add additional devices, specifically non PnP devices, such as serial devices.
 <b>Remove this device</b>	Used to remove the current device.
 <b>Redetect PnP devices</b>	Plug and play devices supported by the driver will normally be automatically detected in a Windows environment. Where this does not happen the Redetect PnP device option, can be used to request the driver to check the system for devices supported by the driver. This is normally used if another driver, such as the system's HID driver, has control of the device.
 <b>Firmware options</b>	If shown, this option invokes a controller firmware page to adjust firmware settings and / or test the controller. <b>This should not need adjusting under normal operation. Changes within this section can cause undesirable effects if incorrectly configured and render your touch screen inoperable. Please consult touch screen support before adjusting any settings within this menu.</b>

## ONLINE HELP

At any point when using the UPDD console the **Help** page can be launched.

The **Help** page is a good reference guide to all the functions and parameters that can be altered within the UPDD console.

The online **Help** files can be reviewed by carrying out the following:

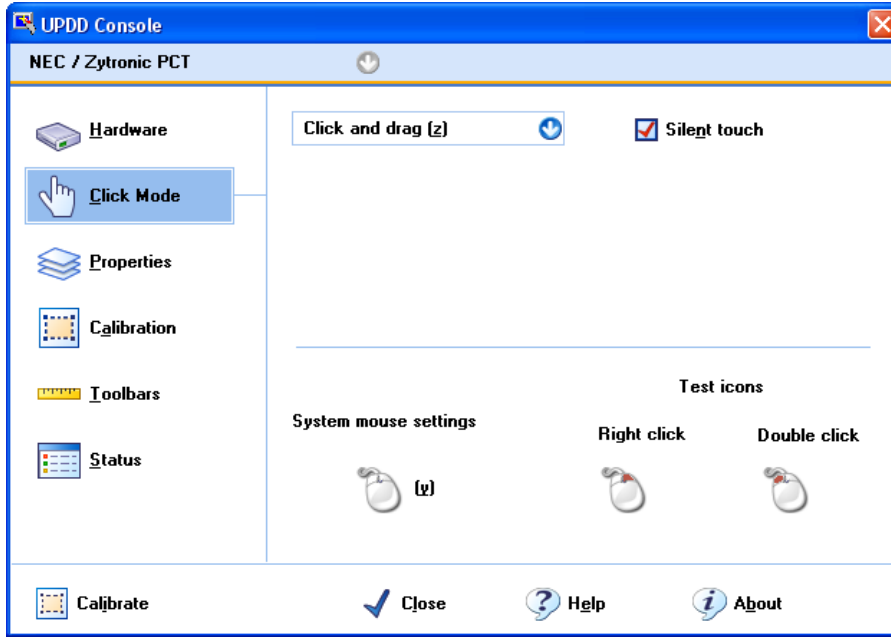
- Click on the **Help** button located at the bottom of the UPDD console, as shown below.











(UPDD Console Online Help button)

## CLICK MODE PAGE

The **Click Mode** page defines the click mode emulation and links to the click mode settings within the operating system. The **Click Mode** page is shown below.

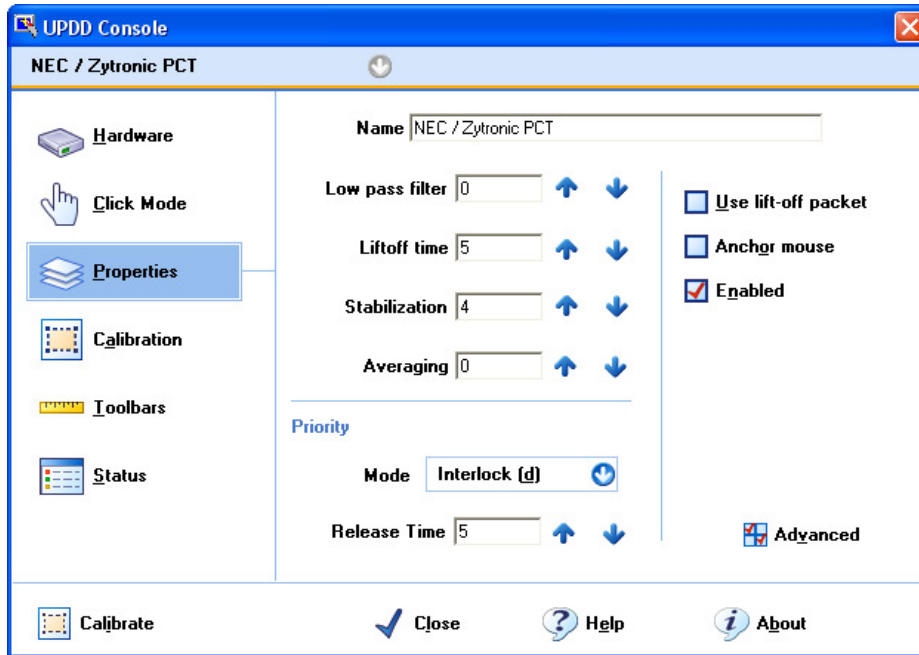


(UPDD Console Click Mode Page)

Function	Description
	Shows the current click mode emulation.
<div style="border: 1px solid black; padding: 5px;"> <p>Select click mode <span style="float: right;">✖</span></p> <ul style="list-style-type: none"> <li> Click and drag</li> <li> Drag then click</li> <li> Point and click</li> <li> Interactive touch</li> </ul> </div>	<p><b>Click and drag:</b> Click held down then drag. Click released at lift off. This is the default mode.</p> <p><b>Drag then click:</b> The mouse is moved and then clicked at lift off. This is useful for accurately hitting targets on the screen and is ideally suited to on-screen keyboards.</p> <p><b>Point and Click:</b> Mouse is clicked at point of screen touch. It is released at lift off. Suited for interactive signage and ease of use.</p> <p><b>Interactive touch:</b> Same as Click and drag except allows for use of right click. To right click press and hold on same spot for several seconds (or as defined in touch screen properties).</p>
<p><b>System mouse settings</b></p> 	Adjust the mouse pointer settings defined within the operating system. Settings should be set to compliment touch usage, especially the double click speed.
<p><b>Test icons</b></p>	<p><b>Right click</b>      <b>Double click</b></p>   <p>Used to test right and double clicks. A green tick is shown if the click test is successful</p>

## PROPERTIES PAGE

The **Properties** page defines device properties. The **Properties** page is shown below.

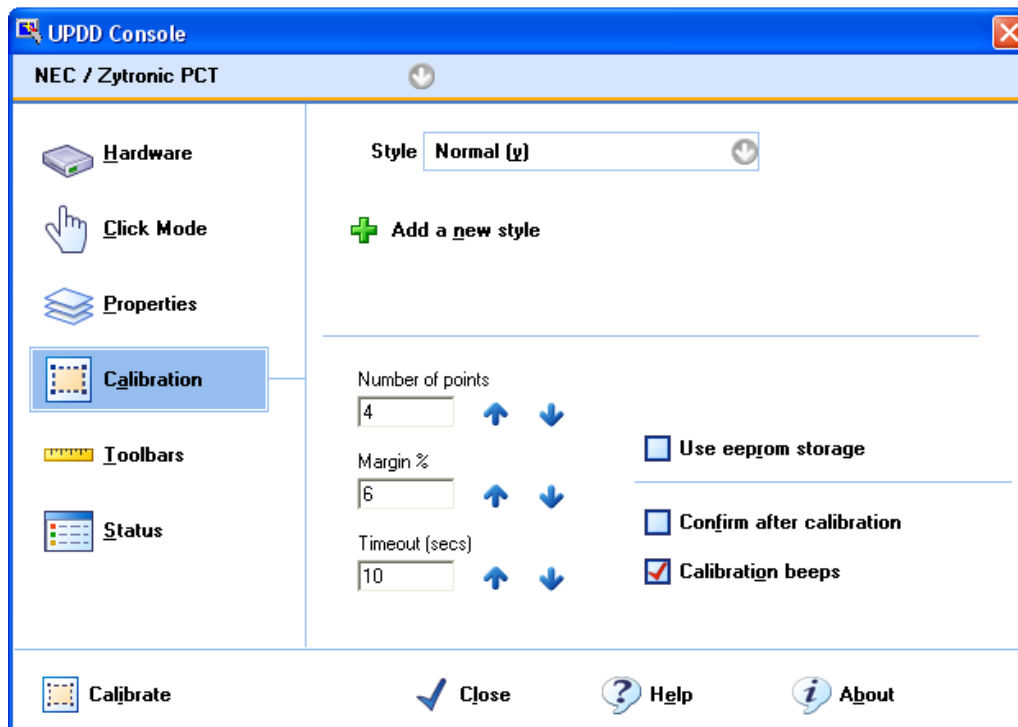


(UPDD Console Click Mode Page)

Function	Description
Name <input type="text"/>	Associates a name to the device. By default the name is the driver's controller device name.
Low pass filter <input type="text"/> 3	Applies a filter to produce smoother drawing. Software implementation of a low pass filter algorithm to remove jitter. This is a more advanced approach to filtering that can improve drawing but will affect the speed of drawing the higher the value used.
Liftoff time <input type="text"/> 5	The Lift off Time value specifies the time interval required to register a stylus lift after the last touch packet is received. Lift off time is defined in units of 20ms. This value is used to perform a pen up if the 'Use Lift off' packet is disabled otherwise Pen ups are generated as soon as the stylus leaves the pointer device display.
<input checked="" type="checkbox"/> Use lift-off packet	If enabled the pen up data packet is used to invoke pen up otherwise the pen up processing will generate a pen up event at the lift off time threshold as described above. Enabling lift-off packet will increase the point and click speed. Disabling will improve drag and drop and annotation.
Stabilization <input type="text"/> 0	Stabilization causes small movements to be ignored. A lower value increases the touch resolution when drawing and dragging.
Averaging <input type="text"/> 0	Applies a filter to produce smoother drawing. Averaging takes the average of the last N coordinates. This is a very basic approach to filtering that can improve drawing and not affect drawing speed.
Mode <input type="text"/> Interlock	In a multi pointer device environment this setting indicates the priority given to the device: <b>Interlock:</b> The device can only be used if no other device is in use (i.e. touch screen being touched) and the time since the last use of another device exceeds the 'release time' period. Release time is defined in units of 20ms and defaults to 20ms. <b>Admin:</b> Any device currently in use is forced into a 'pen up' state and the device is given immediate priority.
Release Time <input type="text"/> 1	Defines the interlock release time, as described above.
<input type="checkbox"/> Anchor mouse	The Anchor Mouse option is set if the mouse cursor is to return to its original position after the pointer device has been used.
<input checked="" type="checkbox"/> Enabled	Indicates if the device is enabled. If the device is disabled the hardware port's resources are available for use by another device or process. This is a way of freeing up the resources without having to uninstall the driver. If UPDD has a connection to the device it cannot be 'stopped' until disabled by UPDD.

## CALIBRATION PAGE

The **Calibration** page is used to set the calibration settings for the current device. The **Calibration** page is shown below.

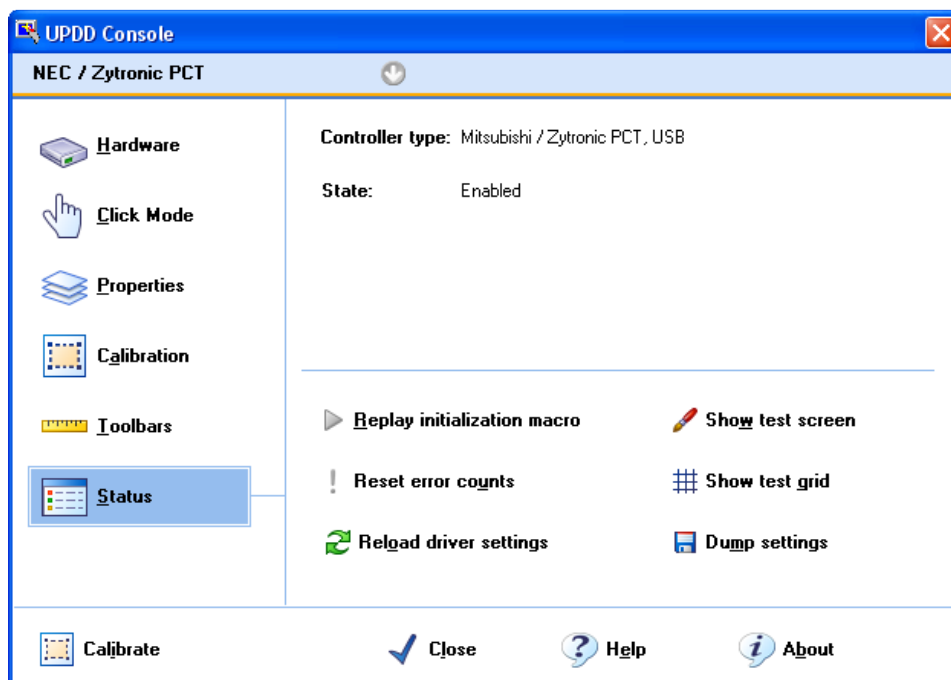


(UPDD Console Calibration Page)





Function	Description
<b>Style</b> <input type="text" value="Normal"/>	Shows/selects the current calibration style. Each device can have more than one calibration style which can be calibrated independently. Calibration styles can be invoked/switched from an application, a toolbar or the UPDD activator. e.g. a whiteboard device may be used as a whiteboard or in projected mode to show a large desktop. Two calibration modes can be defined, whiteboard and projected and calibrated when used in those modes. The appropriate calibration style can then be invoked when required, thus avoiding the need to constantly recalibrate when switching usage.
<b>Add a new style</b>	Add a new calibration style.
<b>Remove this style</b>	Remove the selected calibration style.
Number of points <input type="text" value="4"/>	This determines how many calibration touches are required to calibrate the screen. In many situations 4 points provide a good level of accuracy. For screens that require a higher level of accuracy or for larger displays, 9 points (or more if desired) provide the optimum calibration.
Margin % <input type="text" value="12"/>	Indicates the percentage margin in from the edge of the visual display area from which to draw the calibration points.
Timeout (secs) <input type="text" value="10"/>	Specifies the number of seconds to wait for a calibration touch before cancelling the calibration procedure.
<input type="checkbox"/> <b>Use eeprom storage</b>	If enabled the calibration data is stored on the controller.
<input type="checkbox"/> <b>Confirm after calibration</b>	If enabled a calibration check dialog is shown at the end of the calibration procedure. The calibration confirm button must be selected (with the touch screen!) if the new calibration data is to be used.
<input type="checkbox"/> <b>Calibration beeps</b>	If enabled a beep will be generated on calibration touch.
<b>Calibrate</b>	Invoke calibration procedure for the current device. Calibration points are shown to be touched. The ESC key can be used to cancel calibration if required. Calibration will timeout if calibration points are not touched within the specific timeout period.

## STATUS PAGE

The Status page shows device status and allows for driver and controller re-initialization along with test functions. The Status page is shown below.



(UPDD Console Status Page)

Function	Description
<b>Controller type:</b>	Shows the actual controller type in use.
<b>State:</b>	Indicates, as best as possible, if the device is connected. For serial controllers this may be difficult to determine.
 <b>Reload driver settings</b>	This function reloads the driver. This could take a number of seconds to perform.
 <b>Show test screen</b>	Invoke the test screen.
 <b>Show test grid</b>	Invoke the test grid.
 <b>Dump settings</b>	Dump driver settings to a file. The file is useful for support purposes and may be requested by technical support.

## MORE INFORMATION

Below are a list of web links to sources of further information and help.

### Latest touch screen drivers and user manuals:

<http://www.nectouchsolutions.com/downloads>

### Advanced documentation on the UPDD Console:

<http://touch-base.com/documentation.asp>

### Technical Support:

<http://www.nectouchsolutions.com/support>

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