



Windows Desktop Installation

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www.touch-base.com/documentation/installation

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Welcome to UPDD Windows Desktop platform specific installation instructions and related notes.

These notes should be followed to install the UPDD 4.x.x pointer device driver on Windows Desktops running Windows 2000, 2003, XP, Windows 64 bit, Vista 32 / 64 bit and Windows 7 32 / 64 bit. The driver will not work on Win 95, 98 or NT as these operating systems are supported with old UPDD version 3.x.x driver (9x/ME/NT) and 4.0.6 (NT).

Windows driver build history

Release	Date	Change
4.0.0	April 2006	Initial release
4.0.2	Aug 2006	General bug fixes and stabilisation of new system
4.0.4	April 2007	Vista 32 and 64 bit support
4.0.6	Oct 2007	Bug fixes and improved EEPROM calibration support
4.1.0	Dec 2007	Redesigned to better integrate with OS PNP mechanisms and Vista user access control.
4.1.1	Mar 2008	Minor changes to PnP, improved serial support under Vista, multi-monitor calibration function
4.1.2	June 2008	EEProm support for ELO Smartset controllers USB recovery after BUS error Improved sleep / hibernate support
4.1.3	July 2008	PS/2 support reinstated (see installation notes below) Multi-monitor calibration issues addressed
4.1.4	July 2008	Passed WHQL tests and is digitally signed for both 32 and 64 bit versions. See WHQL documentation for signed controllers.
4.1.6	Dec 2008	
	Sept 2009	64 bit run-time library referenced
4.1.8	Nov 2009	Vista and Windows 7 extended touch feature support

Deliverables

The software will be delivered in one of three ways:

- As an email attachment. The software is attached as a compressed WinZip file, UPDD.ZIP, to avoid the rejection by many mail servers of .exe files. If the zip file is password protected the password is touchbase.
- Delivered to an FTP folder for manual download. The FTP link, user name and password details will be sent in an email.
- Automatically downloaded from a HTTP download link as sent in an email.

The UPDD software comprises:

setup.exe	The installation program
readme.txt	The readme file with any latest information
tbundle.h	The UPDD header files defining the API calls to the driver if writing applications to interface with the driver.
	Obsolete in UPDD 4.1.x
autorun.inf	For use when installing the driver on media that can be utilize the Windows auto run feature

System Requirements

Winzip or equivalent is required to decompress the software if received as a .zip file.

The driver supports Serial, USB and PS/2 devices.

CD Distribution

The setup.exe program is placed on the CD along with a autorun.inf file (which ships with the driver). Insert the CD and the autorun file automatically invokes the setup.exe program. The autorun.inf file contains:

```
[autorun]
OPEN=.\Setup.exe
```

Installation and General Notes

1. Uninstall previous touch drivers

As a matter of course it is highly recommended that any other non UPDD touch drivers be uninstalled (followed by a system reboot) prior to installing UPDD.

2. USB consideration

It is recommended that where possible the USB device is connected to the system after installation. This allows the driver to discover the device once connected and take the appropriate action, avoiding conflict with the Windows device management. If during install or when the device is connected the Windows Hardware Wizard is invoked use the Wizard to select the UPDD driver (this will only happen with certain USB controllers). This completes registration between the device and UPDD. **DO NOT cancel the wizard** as it is possible the touch device will not work. More information on this and other USB issues relating to UPDD install is available [here](#).

The driver will, where possible, automatically take control of USB devices configured in the package. However, if another OEM driver is installed to control the device the UPDD entry will show an error in the device manager as UPDD will not automatically try and remove an existing driver.

To rectify this problem uninstall the existing driver software or remove the device created in the device manager by the other driver and reinstall UPDD. If this is not possible [manually associate UPDD with the device](#).

Under 4.0.x, if HID is in control of the device there is an option in the [UPDD Console, Hardware dialog](#), Redetect PnP device to try and re-associate the device with UPDD. This was removed under 4.1.x.

3. The installation procedure is used to install the software for a single touch screen / UPDD supported pointer device. In a multi-touch screen or pointer device environment invoke the [UPDD Console - Hardware dialog](#) to add additional non PnP devices after installation. USB (PnP) devices, supported by the driver, will be added automatically as they are connected to the system; however you will need to adjust the desktop association to newly discovered devices. See the [Multi monitor and multi device documentation](#) for further information.

4. **Windows XPe**

If UPDD is installed on an XPe system using the standard setup.exe file, typically to test the driver prior to embedding, UPDD installation has certain dependencies that need to be present for successful installation. One of the less obvious dependencies is the use of RegEdit during install to set up the registry. If RegEdit is not present all selections and dropdowns are blank.

5. **Very important 64 bit note:**

The UPDD 4.1.6 install process calls a 64bit specific install module at 29% of the UPDD install and in some circumstances the install fails at this point. Further investigation has revealed that some 64 bit systems do not have the runtime components of Visual C++ Libraries required to run 64-bit applications developed with Visual C++. Should an install fail on a 64 bit system please install the 64 bit C++ libraries available [here](#) and the security update [here](#) and rerun the install. Both files are called vcredist_x64.exe,

The UPDD 4.1.8 installer statically links these libraries so should not require these libraries to be installed.

6. **Very important Vista/Windows7 driver cache note:**

In some circumstances where an earlier UPDD driver has been used, and even uninstalled, we are aware that the OS can still cache the old driver in memory and not the new/updated driver installed. It is possible that this is because the internal version number does not change during the use of alpha and beta drivers, only once the driver has gone to production does it change. We need to investigate further if we can remove cached drivers during install and uninstallation but if it is thought that an old driver is in use then cached drivers can be cleared as follows:

To empty a driver cache of any UPDD entries perform the following steps WITH ANY TOUCHSCREENS THAT YOU HAVE USED PREVIOUSLY PLUGGED INTO THE COMPUTER:

- 1) Open the Windows Device Manager
- 2) Navigate to the "Mice and other pointing devices" section
- 3) Select the entry "Universal Pointer Device Driver"
- 4) Press the delete key
- 5) You will be prompted to remove the driver.
If there is a checkbox to "Delete the driver software for this device" then select it.
- 6) Hit OK
- 7) For any other UPDD entries perform steps 4, 5, and 6
- 8) Repeat Steps 2 thro' 7 for "Human Interface Devices" section for and UPDD Virtual HID entries.
- 8) Select the "Action" menu and select "Scan for hardware changes"
- 9) You may be prompted to install a driver for any touchscreens plugged in.
If you are given the option of installing UPDD then do so. If UPDD does not appear as a choice of driver then it has been removed from the cache and there is no need to proceed further.
Go to step 7

Further details are available [here](#).

You can now install the new/updated driver in the knowledge it will be used.

7. **Very important PS/2 notes:**

PS/2 support has been reinstated with UPDD 4.1.3 and above. With this implementation the driver is installed as a proper PnP PS/2 device. However, with the new implementation there are some restrictions:

- a) The PS/2 device must be selected during installation; it is not a hot pluggable device (unlike other PnP devices) and we have difficulties with manual addition so the PS/2 devices (like other PnP devices) are not shown as a device that can be added manually. USB PnP devices are automatically added by the new UPDD PnP interface.
- b) It is recommended that the system be booted with the ps/2 device plugged in prior to install (same as for a normal mouse). We are concerned that some old BIOS's will release the PS/2 interrupt if no PS/2 device is seen on the system.
- c) During extensive tests we found that on a couple of occasions the device did not work after install. We have not been able to reproduce this install issue. If you do find that the touch screen is not working after install then:

1. Check for a PS/2 UPDD entry in the Device Manager.
2. If a UPDD entry is not seen use the [hardware wizard to update the driver](#) for the ps/2 touch device to UPDD.
Note – once or twice we got an error “Not enough memory to complete this request” whilst switching drivers this way. It always worked on the 2nd attempt.

d) We do not currently support 64bit with PS/2 devices. This can be easily added at the time it is required.

8. **Very important BIOS settings issue**

A driver related issue has been reported on some systems with the BIOS settings of UPC and PLD. This has been seen on some systems running Windows 7 that have been reverted to XP. When these systems hibernate or standby they do not return as expected and the system appears totally dead. Investigation revealed that the driver handles and passes on a IRP request (as expected in power management processing) which is never completed and the driver ‘hangs’ waiting for the completion notice. We suspect this may be a BIOS issue on these particular systems. However, we have experimented with not passing on this IRP request and in tests this did not have any ill effect and the system resumed correctly. Since [4.1.6, build 1389](#) the following DWORD registry entry can be used to block the driver’s IRP forward processing:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\tbupddsu\NoForwardPower=1
```

A .reg file to set this setting is available [here](#).

9. **Vista and Windows 7 extended touch features**

With UPDD 4.1.8 and above the driver devices are defined such that the extended touch features native to the OS are enabled and accessible via the UPDD controller device. Utilisation of the extended touch features can be disabled by reverting to legacy mode in the UPDD Console in which case the UPDD touch screen can not utilize the extended touch features. UPDD and OS based extended touch features are described in full [here](#).

10. **Install issues with previous drivers**

a)Vista issues with 4.0.4/4.0.6 (these issues **do not apply** to UPDD 4.1.x under Vista and use this release if possible):

1. During our extensive tests we found a consistent problem when installing the driver for the support of a serial device only in that we could not get the OS to load the driver after install and therefore a reboot was required to complete installation. We have made a change for Vista systems that requires the Device Manager to be loaded during the installation process which may be seen for a second as it is loaded and is then placed in the background.

2. Under Vista you can enable User Account Control (Control panel/ Security Center/ User Account Control (UAC)) such that the user is informed, via alerts, of certain system events that might compromise Security. The UPDD install (setup.exe) program will perform certain tasks such that an UAC Alert is shown informing the user that Setup is requesting permission to proceed. Proceed to complete installation or turn off UAC prior to UPDD install.

b) Start up issue with 4.1.x (these issues **do not apply** to UPDD 4.1.6 and above and use this release if possible)

When a USB device is plugged in UPDD will automatically scan the device list to determine if the newly added device is one that should be handled by UPDD (a different driver could be handed control – see 6 above). During this scanning process touch may be disabled for a few seconds. It was noted that at startup the OS issues many Add Device Windows messages which, if processed, can cause the touch to be disabled for a considerable time. Therefore UPDD does not handle Windows Add Devices messages at start up but only after the login process has been completed and the driver’s daemon process has started and connected to the driver. Any client application connect will enable new device processing. If a touch screen is plugged in during startup and before UPDD is responding to Add Device messages the touch may not work. This does not affect touch devices already plugged in, only those added during the start up process.

11. **Windows System Preparation Tool (Sysprep) issues**

Sysprep is a tool that is designed for system administrators, Original Equipment Manufacturers (OEMs), and others who must automatically deploy the Windows XP operating system on multiple computers.

If Sysprep is installing a Windows image which includes UPDD V4 the touch will not work on the first few screens. These screens are effectively used to complete the Windows installation and once complete Windows services will be enabled and the driver will start working. If it is important that the touch is working during Sysprep we can supply UPDD V3 that does not rely on Windows services. Alternatively, mice and keyboard shortcuts can be used to navigate the first few screens.

There is a possibility that a future release of V4 will overcome this issue.

Installation Procedures

Installation of the driver must be performed whilst logged on as a user with Administration rights.

Expand the .ZIP file and extract and run the setup.exe program. The program initially checks that the OS is supported e.g. Win 95, 98, ME NT is not supported by 4.1.x and will issue a notice and cease installation. It then checks that the driver has support for the OS. E.g. installing a driver only built for 32 bit OS will not install on a 64 bit OS. In the latter case you need to request a setup with the required support.

If the OS is supported the standard install (running setup.exe without any parameters) will show a list of supported controllers in this build. If installing for a non PnP touch device, such as a serial device, you need to select the controller from the list. PnP devices will be automatically discovered by UPDD driver so there is no need to select. If you select a serial controller you will be able to define the serial port. If the serial port list shows ‘Auto’ this can be selected to request that the device be [auto-detected by the driver](#). Additional non-PnP devices can also be added after install as required.

Since version 4.1.6, build 1156, it is our recommendation to install over existing UPDD builds. If for any reason you experience problems or are advised to uninstall previous versions then [uninstall](#), reboot and

install latest version Further, from 4.1.10 onwards when installing over a compatible UPDD version the existing controller settings will be retained and carried through to the new installation.

Further, if you suspect the newly installed driver is not being used it may be that the old driver is being [cached by the OS](#), even following an uninstall.

Keyboard hotkeys, via the Alt key, can be used to control the install dialog. Up and down arrow keys can be used to traverse the controller list, Alt C to cancel and Alt I to continue with install.

A progress bar shows percentage progress and delays may be seen at certain time as described:

Percentage (approx)	Reason	Note
29	On 64 bit systems switching to 64bit installer mode.	Error may occur if 64 bit libs not loaded, see relevant 64 bit note above:
59	If installing an unsigned version of the driver the system will take a system checkpoint at this time. Depending on system speed, configuration, software, drivers, registry size etc this can take some time.	Install a signed version of the driver (if available) to prevent the system taking a system checkpoint.

Following installation the [UPDD Console](#) and [Calibration utility](#) will be placed in the UPDD applications folder c:\program files\updd, accessible via the Windows Program Manager, UPDD entry.

The UPDD driver often has to compete with other drivers that may also try and control the device. When using USB devices UPDD will take control of a supported device that is not being handled or a device that is being handled by the system's HID driver. If any other 3rd party driver is in control of the device, manual intervention will be required as follows.

- 1) Uninstall the 3rd party driver and reinstall updd
or
- 2) Locate the device in device manager, right click, update and use the [Hardware Wizard to switch to UPDD](#).

If all is well the cursor should move when the touch screen is touched and the calibration program should react to touches of the calibration points.

If this is not the case, see the [Support document](#).

Installation Options

-s Silent install mode

Running setup -s indicates that no UPDD install dialogs are to be shown. Default settings for the touch controller are used unless a clone file is found in which case the settings in the clone file are used.

-sr Silent reinstall mode

The UPDD installer also supports a silent reinstall option (Setup -sr). The silent reinstall upgrades all software components but leaves all previous settings unchanged.

-np No progress bar (4.1.6 onwards)

Progress bar suppression

-f Operating system check override

Depending on the target OS the install will perform different installation tasks. At various stages of the install the software checks what OS is in use and issues a failure if the OS is unknown or unsupported. In some cases this check will fail, especially if installing UPDD as part of an OS image creation where the service called to check the OS returns erroneous data because of the state of the image build process. This option can be used to inform the setup of the target OS, being 2 (2000) X (XP) or V (Vista). If UPDD is installed too early in the OS image build process other OS services calls may fail preventing successful installation.

Clone Duplicate (clone) settings

Once installed the driver can be configured via the [UPDD Console](#). These setting can be replicated (cloned) to a file in the [UPDD Console - Status dialog](#) - Dump settings option. This process will create a .reg file (4.0.x) or .ini file (4.1.x) which, for cloning purposes, should be renamed to upddclon.reg (UPDD version 4.0.x) or tbupdd.ini (UPDD version 4.1.x)

To use this file during UPDD setup, create a folder to hold the updd setup program (setup.exe) and a sub-folder UPDD_EXT within this folder to hold the clone file.

E.g. To perform a 4.1.x clone install:

```
C:\temp
Setup.exe
C:\temp\UPDD_EXT
Tbupdd.ini
```

When setup is invoked it will find the clone file and perform a silent install using the settings within the clone file. The setup.exe should **not** be in a folder called c:\program files\updd

INF Make INF file (under review for 4.1.x)

Running Setup MAKEINF can be used to create an INF file to allow for an INF style installation. See separate [WHQL documentation](#) for further information.

Signed drivers

Our driver and utility programs carries an [Authenticode Certificate](#). An Authenticode digital signature guarantees that the software was produced by the individual or company named in the certificate, which has been verified by the authority that issued the certificate.

However, not all builds of our driver will be WHQL digitally signed. Windows 2000, XP and Vista will automatically show a warning dialog if a digitally unsigned driver is installed. Some UPDD installs, that are installing an unsigned driver, have been configured to automatically handle the warning dialog. This results in a 'dialog flash' during install. Other UPDD installs have been configured to not handle the warning dialog, leaving the user to handle the dialog, as seen below;



Windows 2000, XP and Vista can be configured to not allow the installation of unsigned drivers. Drivers have been identified as one of the major causes for the past instability of Windows. Drivers can be submitted to Microsoft to be approved and 'digitally signed' to show that they have passed specific driver acceptance tests. UPDD cannot on its own be submitted for approval. It can only be approved with the pointer device. Where UPDD has been submitted to Microsoft with appropriate hardware it has passed all tests and been approved and digitally signed. You may or may not be installing a signed version of this driver but you should not be unduly concerned if you are installing an unsigned version. For more information the [WHQL and digital signature documentation](#).

Given that signing is related to the driver and controller combination we can either supply a driver that only supports a signed controller(s) or the driver may support many controllers, some signed and some not. In this case the driver is only signed when using a signed controller. If a supported controller is used, that has not been signed, the system will indicate that this is not a signed combination.

UPDD driver utilities

The installation process not only installs the driver but also a number of driver related utilities as discussed below:

Calibration

Calibration is a procedure used to align the pointer device with the graphically display area or desktop segment. When using the pointer device the mouse cursor should normally position itself under the stylus when it is in contact with the pointer device. If this is not the case then calibration will be required and this is described in full in the [Calibration document](#). The UPDD driver also supports Toolbars, which also require calibrating, and this is covered in full in a separate [Toolbar document](#).

Console

The driver and device settings can be adjusted with the UPDD Console program and is described in full in the [UPDD Console documentation](#).

Daemon task

The [daemon task](#) runs in the background and performs a number of functions related to the driver and user interface. The driver will still function for normal touch usage without the daemon task running but may not work as expected when using some of the more advanced features.

Serial port issues

Change serial port connection

The [UPDD Console - Hardware tab](#) allows the COM port name to be reassigned after installation.

Serial to USB adaptors

If using a serial to USB adaptor, select the appropriate name in the COM port selector.

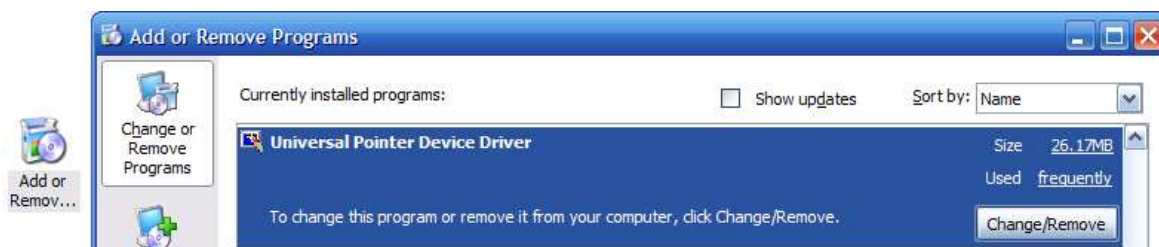
Serial port testing

Should the serial port connection not be working there are a number of procedures to follow to help identify the problem as described in the knowledge base article [here](#).

Uninstall

Automatic

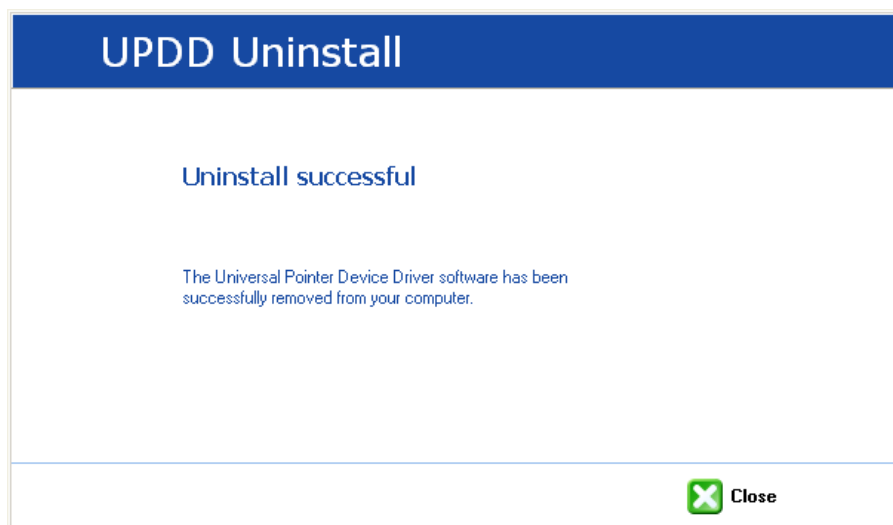
The driver can be removed via the Windows Control Panel, 'Add/Remove Programs' or 'Programs and Features - Change/Remove' option:



Select the 'Universal Pointer Device Driver' entry in the Add/Remove Programs dialog.

The automatic uninstall program can also be invoked by calling the program ...\\updd\\uninstall.exe. For Silent uninstall, with no user dialogs being shown, pass the parameter UNINSTALLS i.e ...\\updd\\uninstall.exe UNINSTALLS. Note – earlier versions of the uninstall program needed the parameter UNINSTALL to be passed to perform the normal uninstall procedure. Running an earlier version without any parameters will invoke an install – don't ask!

Please note: The uninstall process *does not have* any progress bar and can take upwards of 1 minute to complete, depending on system speed. On completion the following dialog is shown:



Manual

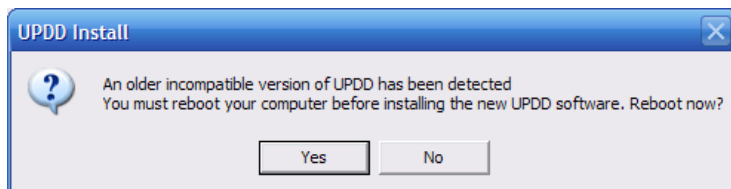
To manually uninstall the driver components you need to:

- Delete the UPDD application folder
e.g. c:\\program files\\UPDD
- Remove any registry branches at HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\Services\\ starting with TBUPDD (i.e. tbupdd, tbupddwu, tbupddsu)
- Delete any tbupdd files in c:\\[windows]\\system32\\drivers where [windows] is the main windows folder.

Following the above a reboot is required to remove the driver and daemon processes.

Trouble shooting

UPDD 4.1.x should install on top of any V4.x.x without error. However, if the install detects an old V3 it will issue the following warning:



At this point you can either manually invoke an uninstall from the Add/Remove programs and run the V4 install again or reboot at which point the V3 uninstall will occur and the V4 install will start automatically. If the V3 uninstall detects an error and asks if you want to remove the UPDD entry in the list of installed programs select 'yes'. This action will remove registry key:

HKEY_LOCAL_MACHINE\\SOFTWARE\\Microsoft\\Windows\\CurrentVersion\\Uninstall\\TBUPDDV3

UPDD V4.1.x will issue the above warning until this key is removed from the system, preferably as a result of a clean V3 uninstall. If all fails then use Regedit to remove this key manually.

Multi-monitor and multi-device support

Multi-monitor and multi pointer devices are supported with this driver and this functionality is covered in full in the multi monitor and device document, [Windows section](#).

Display rotation considerations

Under Windows there are various methods for rotating the desktop and UPDD will work with most rotate implementations as explained in detail in the separate [rotate documentation](#).

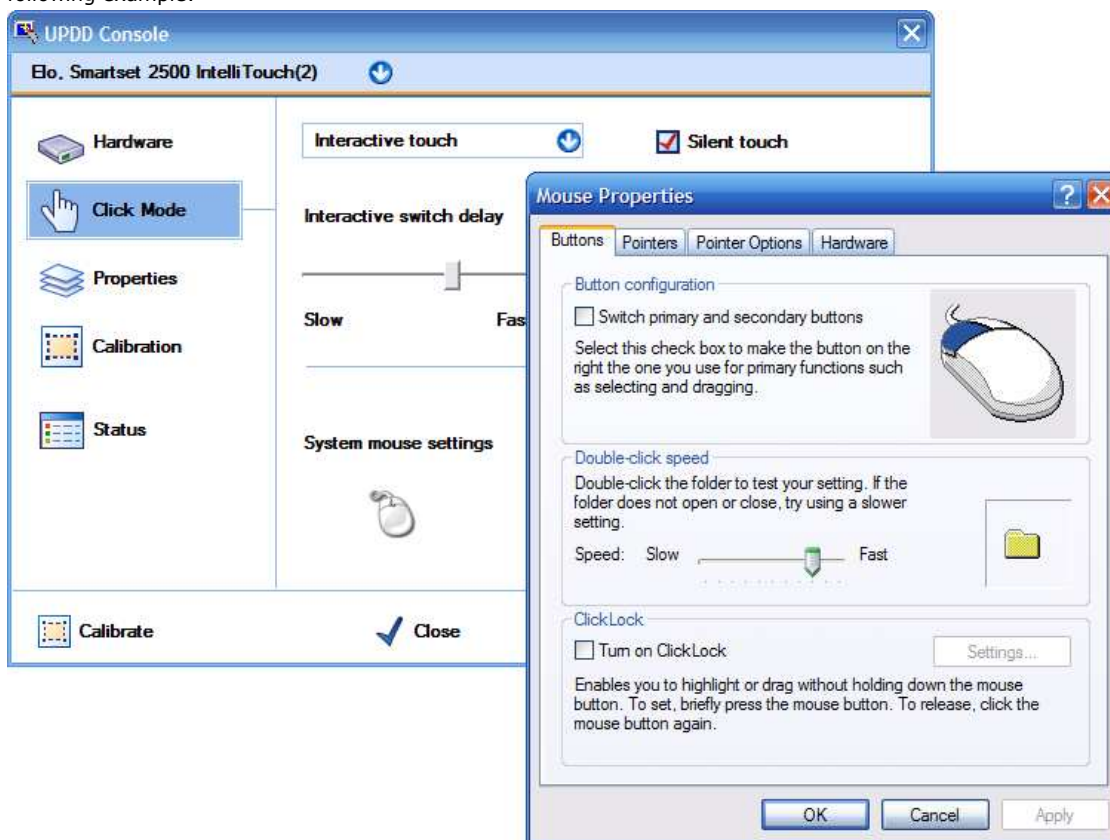
System Setting

Certain system settings may affect the functionality of the pointer device. This section highlights some of the settings that may need to be changed as required.

Mouse settings

Double click capabilities are affected by the system's Mouse settings. To achieve a double click using the pointer device these settings need to cater for the type of device in use. A touch screen may well require different settings to that required by a mouse. The main setting that affects the ability to double click is the double click speed. If this is set too fast it may be impossible to produce a double click. Ensure this is set to an appropriate value in the mouse settings to allow for double clicks via a stylus.

The UPDD Console, Click Mode dialog, System Mouse settings will invoke the Windows Mouse settings as shown in the following example:



More information on double click settings are available [here](#).

Remote Wakeup settings

Some touch devices can be used to bring a system out of sleep/standby/hibernate. If the device is capable of this you also need to specify in the Device Manager (Start, Control Panel, System, Hardware tab, Device Manager) that the device can be used for this purpose, as shown below:

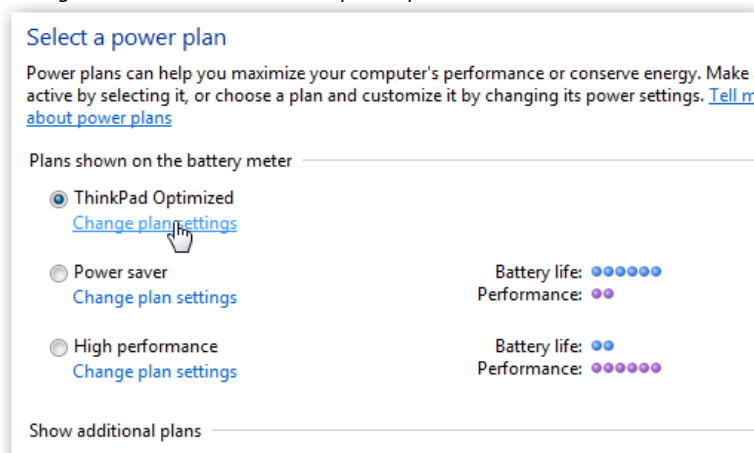


In the Device Manager, identify the UPDD device entry, right click to bring up the device menu, select Properties, Power Management and set accordingly.

Remote Wakeup notes

- 1) The system must be configured to allow the device to bring the computer out of standby.
- 2) The device must be capable of interfacing with the system to wake it up. Not all touch screen controllers are able to perform this function
- 3) We have found that some environmental settings can affect the ability of certain devices to return a system from standby. In our tests under Vista we found that the ability of some devices can be affected by the "hybrid sleep" setting whereby the device can be used to return a system from standby, sleep or hibernation but not the new 'hybrid sleep' state.

To disable Hybrid Sleep, open up the Power Options setting from the control panel and select the "Change plan settings" links below the selected power plan:



Once in the resulting dialog, choose "Change advanced power settings" and scroll through the options to find the "Sleep" node. Expand this and then the "Allow hybrid sleep" node below it. Set both the "On battery" and "Plugged in" to off



Touch Utilities

Virtual Keyboards

A number of Virtual keyboards are available on the Web for Windows as detailed in the [UPDD Virtual keyboard documentation](#).

Mouse Cursor

A Windows cursor scheme settings program called TBcursor is shipped with UPDD and installed in the UPDD Application folder which can also be configured from within the [UPDD Console, Extensions](#), Cursor tab.

Contact

For further information or technical assistance please email the technical support team at technical@touch-base.com