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Mouse Emulation Software

**TSC-20/DD** v3.08.74P

## User's Guide

DMC Co., Ltd.

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## Introduction

This guide provides the information about using the TSC-20/DD mouse emulation software. Read this guide completely so you can fully utilize the functions of this software.

### Features

The TSC-20/DD mouse emulation software lets you use our touch panel controller, the TSC-20/IC, just as though you were using a mouse by operating the touch panel on Windows.

1. This touch screen software can implement an operating environment equivalent to the mouse function through operating the touch panel.
2. Because you can use the touch screen software together with a mouse, you can change between the touch panel and the mouse without needing a special setting.
3. Whether you connect the touch panel controller with a serial port or USB, you can select the necessary driver at installation.
4. The software lets you customize such functions as changing over the use of mouse's right and left button, details related to clicking, and event customization for touch input, as well as precise calibration function to insure excellent operability in a wide range of applications
5. Supports TSC-20/IC's multi-touch screen function on USB. Supports up to 2 touch screens with USB connection. Serial connection also supports up to 2 touch screens.

### Conventions used in this guide

This user's guide uses the following symbols and symbols to represent specific names and displays of the operating systems and the TSC-20/DD software.

- "\*\*\*\*\*" Represents an icon or buttons. For example, the floppy disk drive icon specifically refers to "3.5-inch FD(A:)."
- <\*\*\*> Represents a key on the keyboard. For example, <Enter> is used to represent the Enter key.
- '\*\*\*\*' Represents the window title name, for example, "Add the button mode."
- [\*\*\*] Represents a character string other than the above. For example, a program in the [Start Menu] is represented as [Program].

When Windows is mentioned in this guide it means Windows XP operating systems.

This software represents the TSC-20/DD.

### Supported models

Supported model: IBM PC/AT or its compatibles

Supported operating system

Windows 2000 Professional, Windows XP Professional, Windows XP HomeEdition

### Remarks

1. The TSC-20/DD mouse emulation software is for our touch-panel controller TSC-20/IC. It is not intended for operation with the other touch-panel controllers and the products similar to them.
2. For how to use TSC-20/DD, read this guide well. Do not use any other methods with the TSC-20/DD software
3. TSC-20/DD is not intended for the model of computer and operating system other than the supported ones.
4. Avoid using this software with other mouse emulation software or with similar functions installed. In such a problematic environment the software may malfunction.
5. Read the about the driver after executing the installer program (setup.exe). You cannot read about the driver before executing the installer program or operating the touch panel.  
And, please do not execute an installation program twice (or more) at the same time.
6. When the previous version is already installed, please be sure to install this software after uninstalling it. If overwrite installation is carried out, the software may malfunction.

## Installation

Installation of TSC-20/DD differs, depending on whether a serial port or USB port, has been connected to the touch-panel controller TSC-20/IC.

This section describes the procedures for installation and the parts that you need to set individually depending on whether you have a serial or USB port connected.

If you use a USB controller, please do not connect it to a host computer till installation completes.

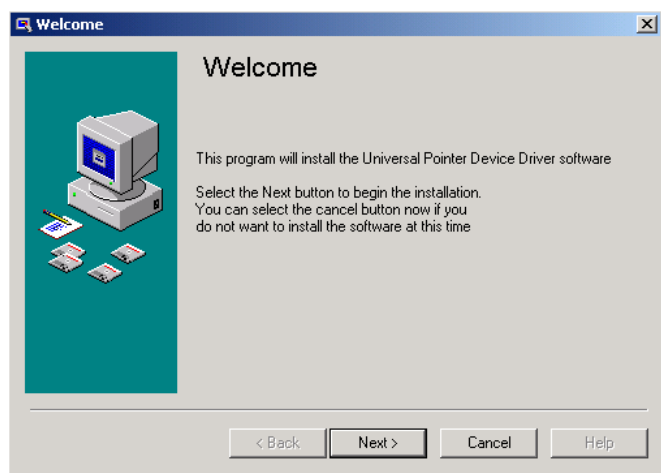
### A Regular installation steps

1. Turn on the computer's power.

Turn on the power to boot Windows.

2. Start the Installer.

Double-click on "setup.exe" to start the installer if "setup.exe" is located in the same directory as "MAINDIR1.cab", "MAINDIR2.cab", "SYSDIR1.cab" and "DRV32\_1.cab". Or save "setup.exe" to a floppy diskette and label it as "Disk 1", "MAINDIR1.cab" to the other floppy diskette and label it as "Disk 2" and "MAINDIR2.cab", "SYSDIR1.cab" and "DRV32\_1.cab" to the other floppy diskette and label it as "Disk 3". And Insert Disk 1 into the floppy diskette drive and double-click on "3.5" FD (A:)" to open the window. Double-click on "setup.exe" to start the installer.



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Almost all of the set values displayed in the Installer screen are the optimum for most of the user, which requires no modification.

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### B. Number of devices

Allows to set the number of touch screens (controllers). Enter the number of touch screens if multiple touch screens are used. Click on "Next (N)" or press <Enter> when finished.

When you use this in multiple touch screens, we recommend that you set the number of devices beforehand. When you add it later, please refer to an item of "B Device".

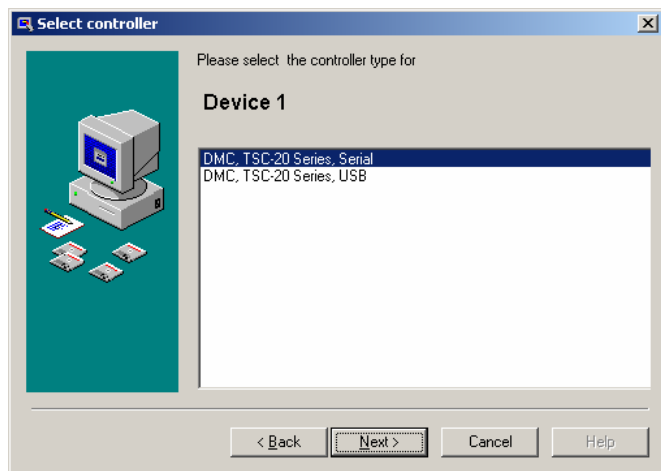


### C Selecting the controller

During the installation sequence, the screen for selecting the controller will appear. Then, you must select whether you want to connect your touch-panel controller to the serial port or USB. To connect the controller with a serial port, choose [DMC TSC-20 Series, Serial]. Alternatively, to connect the controller with the USB port, choose [DMC TSC-20 Series, USB].

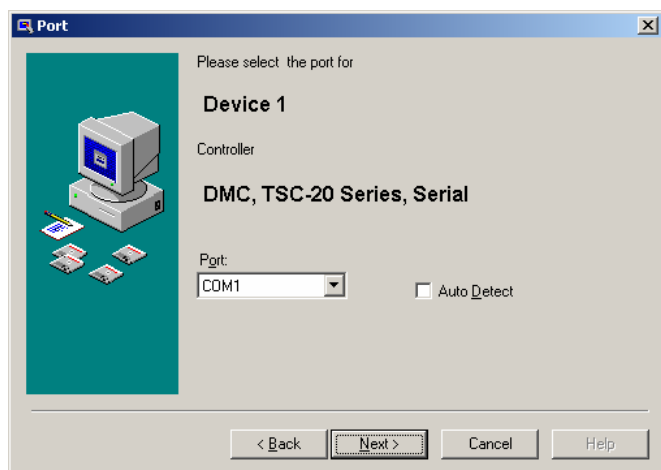
If you choose [DMC TSC-20 Series, Serial], then go to [Complete].

If you choose [DMC TSC-20 Series, USB], then go to [Complete].



### D Serial port connection

If you choose [DMC TSC-20 Series, Serial], the 'Serial port setting' window appears. If you want to use is COM1 as the serial port, click "Next (N)", or press the <Enter> key. If you want to use COM2 or any other part, choose a port from the Popup menu, click on "Next (N)" or any other port, choose a port from the Popup menu, click on "Next (N)", or press the <Enter> key and go to [Complete installation].

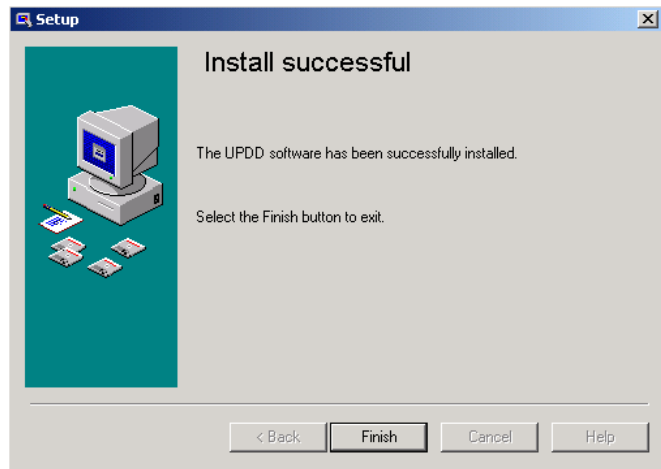


### E Completing the installation

For connecting to a serial port, set 'Serial port connection and go to [Complete installation]. And in USB connection, set 'Select a controller' and go to the USB port. Click on 'Next (N)' or press the <Enter> key. Then, follow the instructions on the screen.

## F After completing the installation

You complete the installation. Click on "Finish", and press the <Enter> key.



Windows XP user.

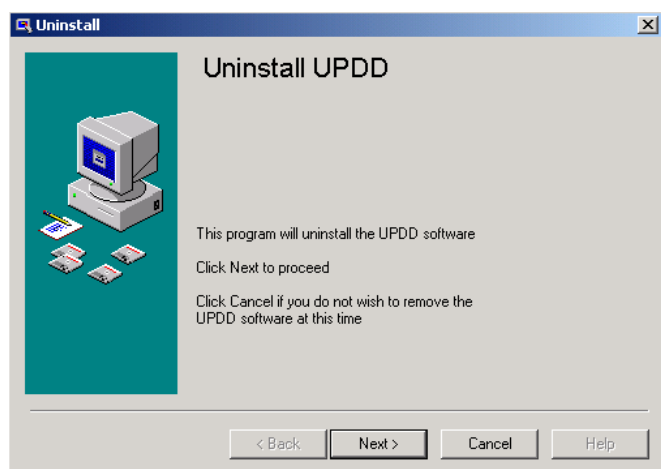
After you complete the installation. When using a USB controller, if a USB plug is connected to PC, the window entitled 'Installation of Hardware' will be displayed. Click on 'Continue(C)' or press the <C> key.

Windows 2000 user.

After you complete the installation. When using a USB controller, if a USB plug is connected to PC, the window entitled 'Digital Signature Not Found' will be displayed. Click on 'Yes(Y)' or press the <Y> key.

## G Uninstalling the software

To uninstall the TSC-20/DD software, run "My Computer", then go to the "Control Panel" and select "Add/Delete Application" to choose the "Touch panel driver." Finally click "Add and Delete(R)." After activating the Uninstaller, follow the instructions on the screen to the software.



## Before use

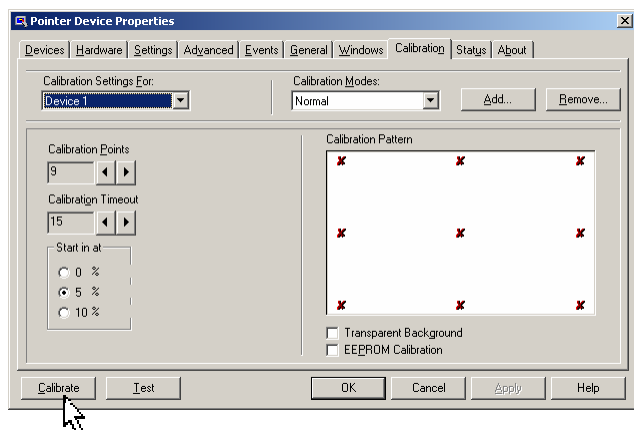
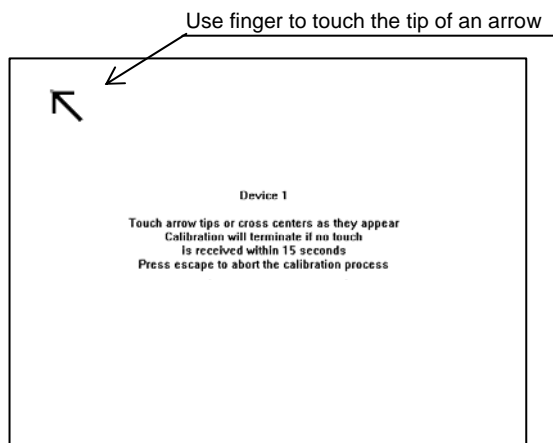
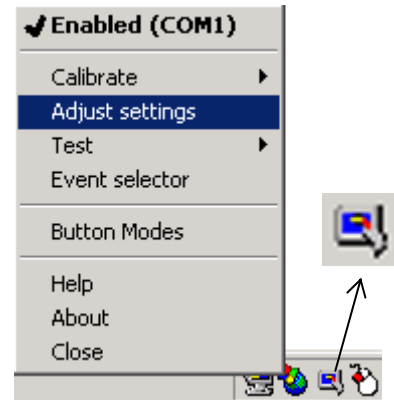
### Calibration

< When an EEPROM Calibration function is not used. >

Before you begin to use the touch panel, you need to adjust (calibrate) it. Calibration is a very important so you can align the position where you touch the touch panel with the Windows cursor position. This calibration adjustment lets you operate the touch panel; with ease.

Once you perform the calibration, the calibration information is stored in Windows. You need not make the calibration every time you boot Windows.

To make the calibration, click the touch panel's icon at the task tray at the right bottom of the Windows desktop, and select [Adjust settings]. Or, select [Start] -> [Program] -> [UPDD], then [Settings]. Then, click "Calibrate" from the "Touch panel Properties" displayed. Then use your finger to touch an arrow at the light gray screen. Touching the section makes an arrow appear at another location. Touching the section makes an arrow appear at another location. Similarly, touch that location too.



When you have selected all the calibration points, a message "Check calibration." appears to request you save the calibration data. When you are able to make a touch respond to every mark + you have been made without any trouble, click the "OK" button, or press the <Enter> key. If you touch a place other than the calibration points by mistake, leave it alone for 15 seconds (Timeout). If you do not make any action for 15 seconds (Timeout), the calibration you made is discarded and is not saved in Windows.

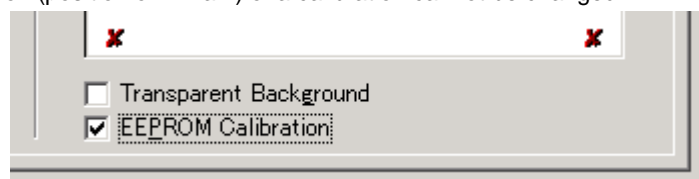
(Notice) Please do not push an Esc key just before timeout. A calibration program may stop.

(Notice) If you use it in multiple touch screens, please do not set under 15 in Timeout setting.

< When an EEPROM Calibration function is used. >

If this function is enabled, operation which performs a calibration is the same as that of the case that the function of EEPROM calibration above mentioned is not used. However, the save place of calibration data is in EEPROM. And, when this function is enabled, the position (position of + mark) of a calibration cannot be changed.

(Notice) It is necessary for an EEPROM to be mounted on the controller.



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The touch panel coordinates may slip from those at installation with time change. In such a case, it is recommended to make calibration again.

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## Using the touch panel for mouse operation

### A Clicking and dragging

You can use the touch panel to perform such basic operations as mouse click, double-click and drag as follows:

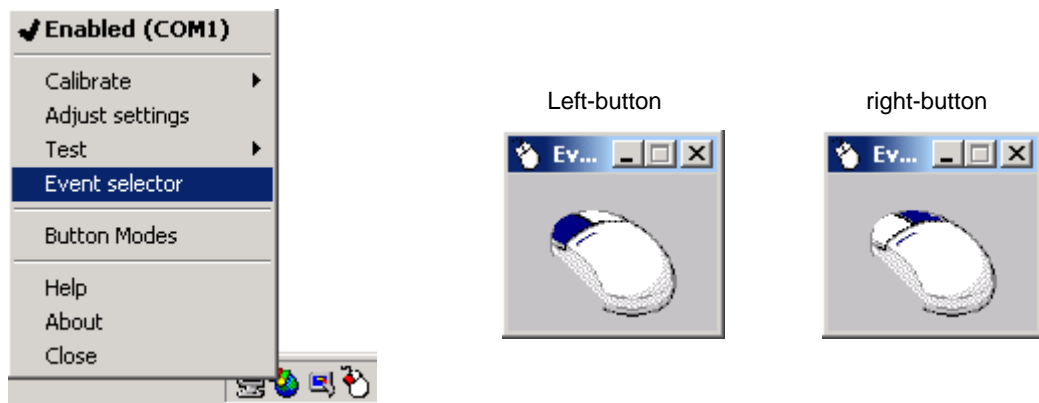
- Click: Touch the touch panel swiftly.
- Double-click: Touch the touch panel twice swiftly.
- Drag: Drag your finger (or stylus) on the screen.

### B Right-clicking the mouse

The touch panel does not provide two buttons unlike a mouse. When you want to perform the right-button operation using the touch panel, do the following:

Click the icon at the task tray, and select the [Event selector]. A small window with a computer mouse appears. Every time you touch the mouse picture, a dark blue mouse button becomes active. Touching the touch panel just after the active button appears; operate it like a mouse button.

In initial setting, after performing right-click operation once, it will return to a left button automatically.



## Function Setting

By the default, this software provides the environment similar to the ordinary mouse-operating environment.

Its flexible customize function facilitates the operating environment which meets a specific application. This section describes [Control setting] which allows you to make various setting.

### A: Activating the Adjust setting screen

Use one of the following methods:



1. Select and activate "START" -> [Program (P)] -> [UPDD] -> [Settings]
2. Click the icon at the system tray (see the right picture), and select and activate the [Adjust settings].

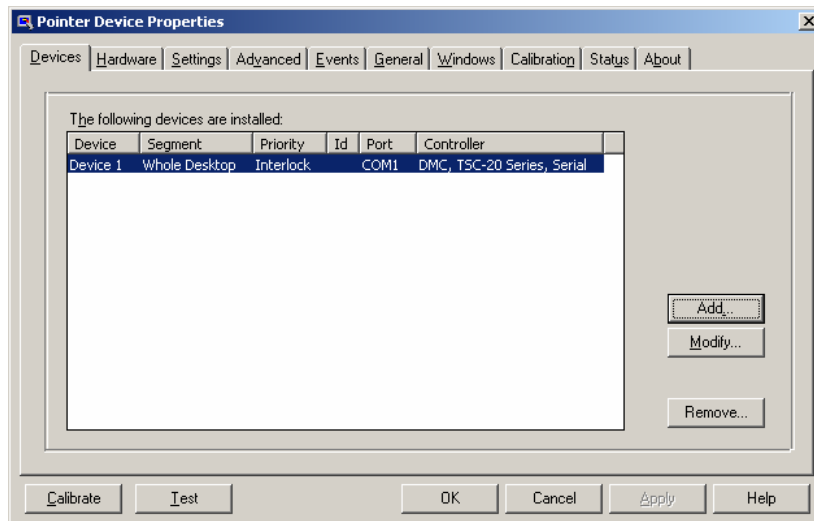
The 'Pointer Device Properties' window appears. The screen is divided by several tabs. These tabs are classified for each purpose of setting. They are gathered into one screen for each content respectively; The controller addition is in the [Device] tab, the controller status confirmation is in the [Status tab], and the contents related to calibration is in the [Calibration] tab.

When you change the setting, be sure to press the "Apply (A)" to apply the changed contents. Pressing the "Apply(A)" button re-initializes the controllers so that the touch panel gives no response for several seconds.)



## B: Device

You can add a controller, change the name, set the touching area, and delete a controller.



### Add:

You can add a controller. When you add a controller, you set [DMC TSC-20 Series, Serial], [DMC TSC-20 Series, USB] selection and operation objects to the entire screen or the right half, upper half or the other range and also the device name.

If you added a USB controller, please connect it to a host computer after "Apply". If you added a serial controller, you set COM port in "Hardware" after connection with a serial controller to a host computer, and please "Apply".

### Modify:

You can change the controller name, change the Interlock Mode, change the Release time and change the operation object.

Select the logical desktop segment:

The operation area of touch screen is specified to the device. If "Custom" is chosen, operation area can be arbitrarily specified by "Custom Segment Settings" indicated below.

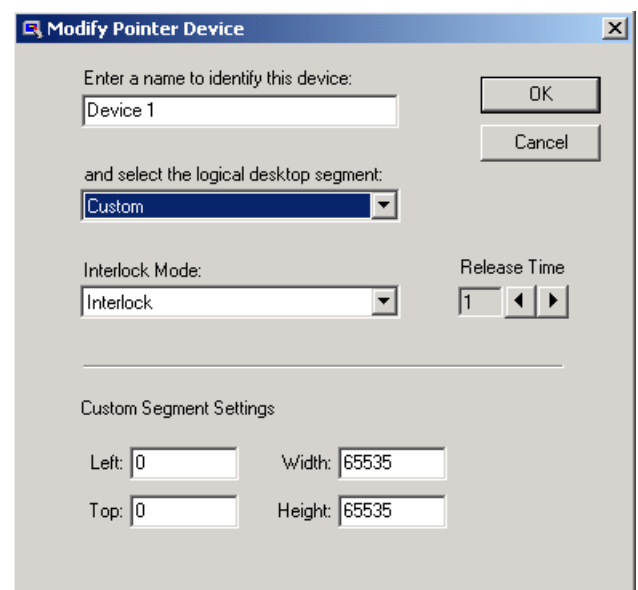
Interlock Mode:

Allows to set the user level.

**Admin:** Allows to use the touch screen anytime and can interrupt when the other user is operating the touch screen.

**Interlock:** Allows to use the touch screen when no other user is operating the touch screen. Allows to take over the operation from the other user when the release time of the other user has passed and releases the permission. The permission is abandoned once admin user starts the operation until admin user releases the permission.

**Disable:** Disables the permission and cannot use the touch screen.



Release time

The time where admin or interlock user releases the permission after the operation (touch screen input) has finished. (100 is about 2 seconds.)

Remove: You can delete a controller. Click a controller you want to delete, select it and execute "Remove..."

Id: When using USB controller, ID numbers shown on Device Tab is the IDs that are assigned to each controller and cannot be changed with this software. ID is 0 when the touch screen ID is 0 and 1 when touch screen ID is 1. Nothing is displayed when Serial controller use.

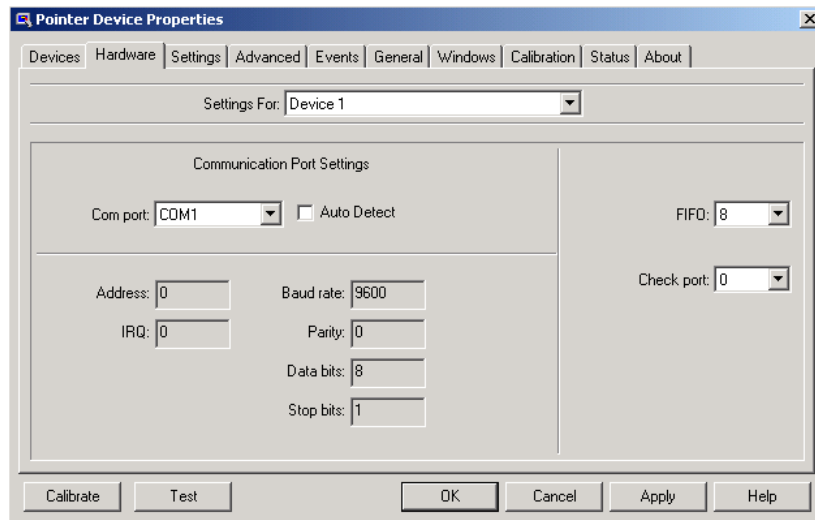
Port: In the case of the Serial controller, the COM port connected is displayed. In the case of the USB controller, it is the address automatically assigned from Windows.

\*When a controller cannot be used, the item of the controller is displayed in a red character.

## C: Hardware

Perform the communications setting of the controller installed in [Devices]. In [DMC TSC-20 Series, USB], setting is automatically done and requires no manual intervention. In [DMC TSC-20 Series, Serial], when you change a COM number, use the [Port] setting. When the connection port is automatically detected, check [Auto Detect]. No other change is required. The display varies depending on the OS.

Serial controller:



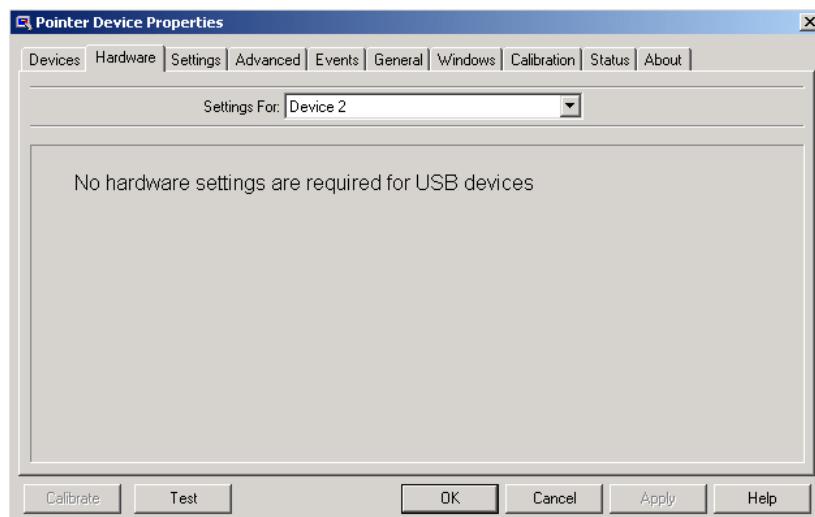
Com port:

You can set the number of a serial port to be connected.

Auto Detect:

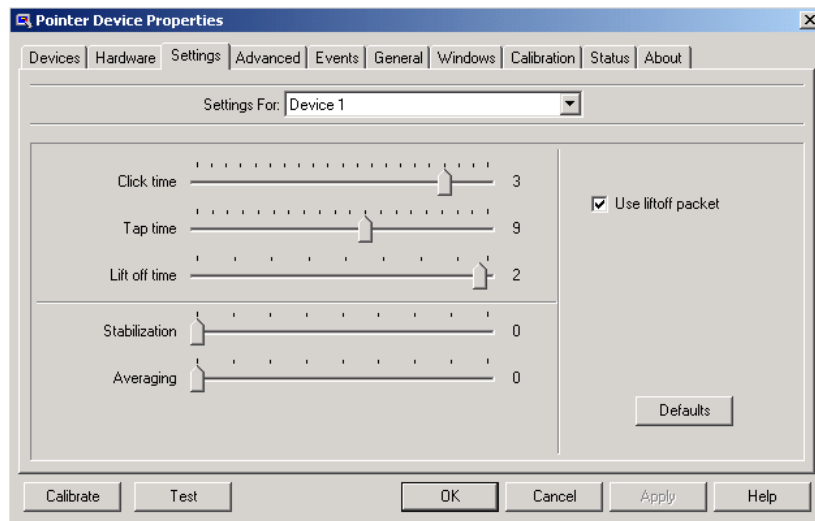
Turning on the check automatically detects a connected serial port when Windows is booted. If you use it in multiple touch screens, please do not set this function.

USB controller:



## D: Setting

You can set a feeling of operation when you touch the touch panel. Some of the items work in linkage with [Event] and [Button mode].



Click time:

When [Time] is specified in [Events], you can set the time from touching to clicking.

Tap time:

When [Tap Double Click Left] is specified in [Events], you can set the validity time taken for the second touch to be regarded as a click.

Lift off time:

When [using the lift off packet is set to OFF, you can set the time taken to regard a finger (pen) having been detached from actual detaching the finger (pen) from the touch panel.

Stabilization:

You can set the degree of the function that the cursor insists to stay at a fixed position. The cursor does not move until the movement amount of the touch input position exceeds a specified amount. It has been initially set to 0 and no stabilization works. The more the set value is, the stronger the stabilization force is.

Averaging:

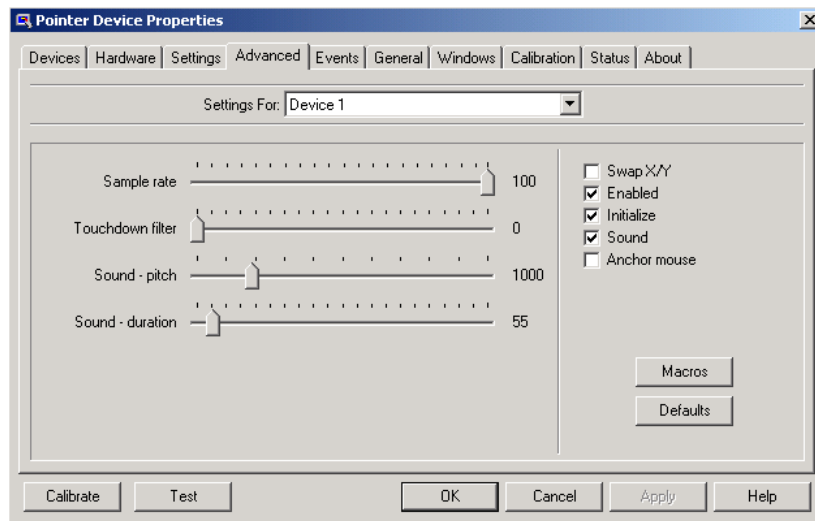
You can set the degree of the function that the cursor insists to stay at a fixed position. It differs from [Stabilize] in that while in stabilization, the cursor does not move from the same position until the movement amount of the touch position exceeds a specified amount; this item stimulates swift movement to the touch position. The initial setting is 0, and no averaging works. The more the set value is, the greater the averaging force is.

Use of a lift-off packet:

Turning on the check lets a touched finger (pen) to be regarded as having been detached immediately when it has been detached. Do not check the item when you enter characters.

## E: Advanced

You can make more detailed setting of the functions provided by this software. However, a mistaken setting causes the touch panel not to work. Only the user familiar with the touch panel controller TSC-20/IC functions can make the setting.



Sound pitch:

Sets the frequency of the click sound. The more the set value is, the higher the sound is.

Sound duration:

Sets the period of the click sound. The more the set value is, the longer the click sound is.

Swap X/Y:

The X axis / Y axis is swapped.

Enabled:

Sets the touch screen enabled/disabled.

Initialize:

The initialization command is sent.

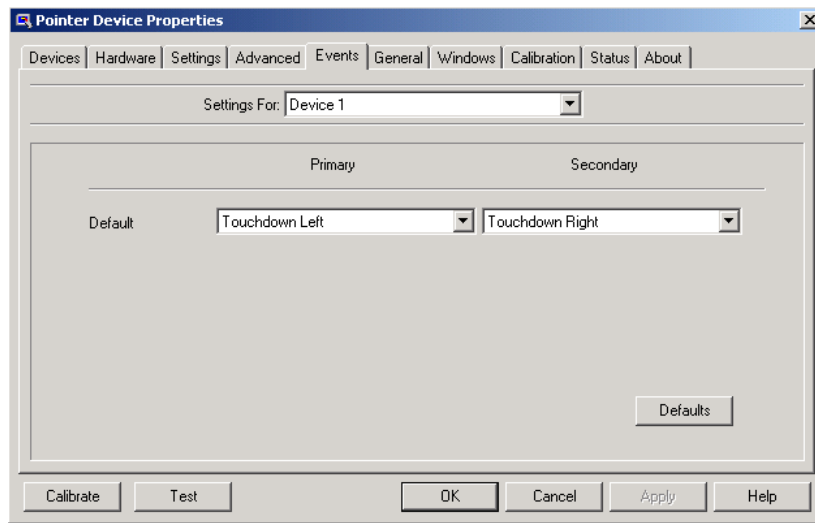
Sound:

Turns ON/OFF the click sound.

\* The other items do not require any setting change.

## F: Event

Selects the function when you touch the touch panel. By the default, the [Primary] setting is applied to the touch operation. When the [Secondary] setting is used, use the [Event Selector] to click the mouse picture or text. Set the right button active or [Secondary].



### Touchdown:

The first touch makes the mouse button be clicked.

### Touchdown Immediate Left:

After touching, it will be considered the finger (pen) was lifted immediately. Enter characters or drag operation will be forbidden.

### Time:

At touching, you cannot click the button until the touch position becomes stable (the touch is stopped.) Use the [Setting] -> [Click time].

### Tap:

The first touch moves the mouse cursor, but does not click the button and the second touch causes it to be clicked. To set the allowable period between the first touch and the second touch, use [Setting] -> [Tap time].

### Lift off:

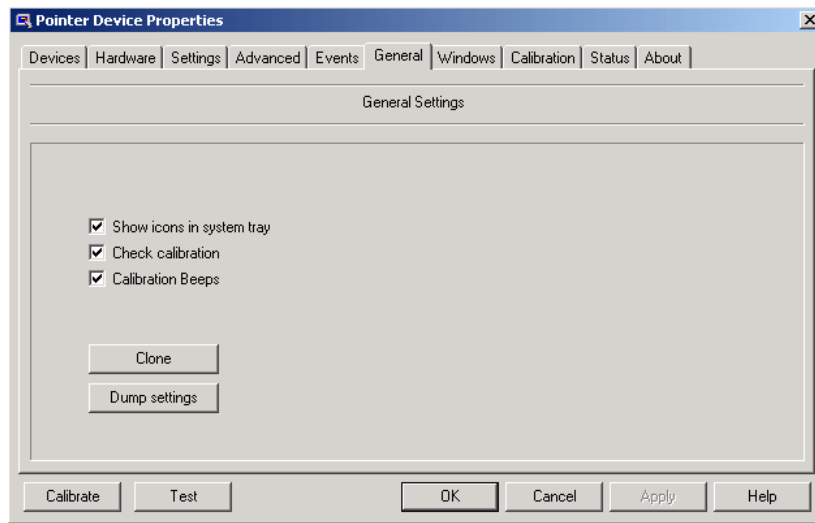
At touching, the cursor is moved and no button is clicked. When your finger (pen) is detached, the item is used for clicking or double-clicking the button.

### Double Click:

Become double click operation.

## G: General

Sets the basic setting of the software. In almost all cases, the default setting needs not be changed.



Show icons in system tray:

Sets whether or not you display an icon at the system tray.

Check calibration:

After calibration is completed, a dialog box appears which confirms whether or not you store calibration data. When storing data, click [OK].

Calibration beeps:

When touching the calibration point, you can set whether or not you make the sound to confirm that it has been entered.

Clone:

Re-installation is used for reproducing the previous environment due to some reason. After clicking the button, C:\Program Files\UPDD\upddclon.reg is created. Make folder "updd\_ext" in the layer which is the same as the installer "setup.exe". Executing "setup.exe" at this state, "upddclon.reg" is applied.

eg: C:\setup.exe

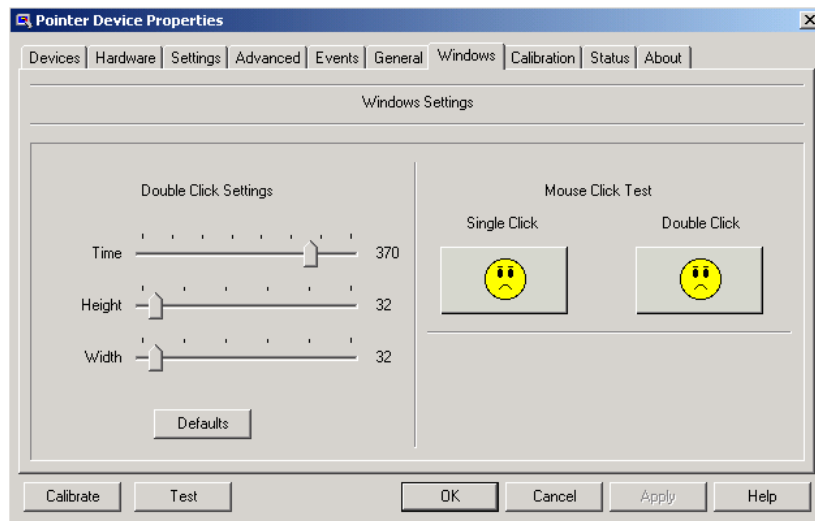
C:\updd\_ext\upddclon.reg

Dump settings:

Used for dumping the setting. The directory to be dumped varies depending on the OS.

## H: Windows

Makes the setting for double-clicking.



### Time:

Set the allowable time from the first touch to the second touch. The greater the set value is, the longer the allowable time is.

### Height:

At the second touch, set the number of dots in the vertical allowable value for which the position is regarded as the same as the first touch, if a too small value is set, note that you cannot double-click the button

### Width:

At the second touch set the number of dots in the right and left allowable value for which the position is regarded as the same as the first touch. If a too small value is set, note that you cannot double-click the button.

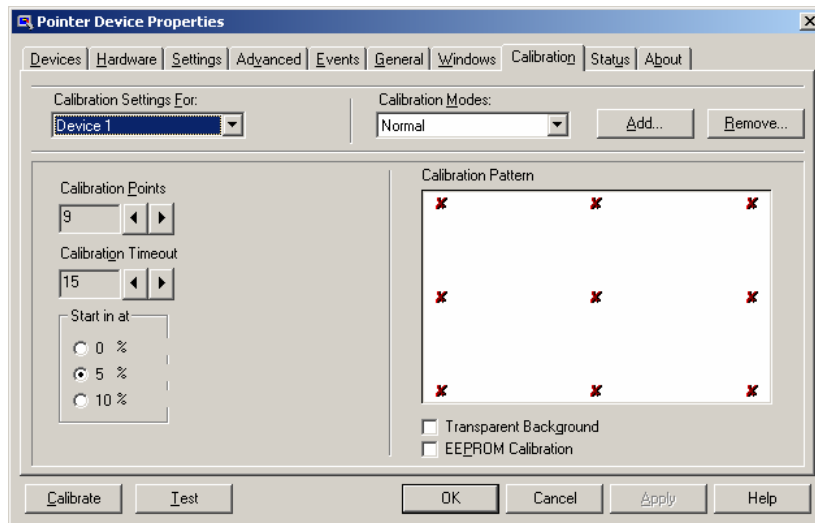
### Mouse Click test:

Used for confirming the operation after setting. For the single-click test, click the [single click] icon, and for the double-click test, click the [Double click] icon.



## I: Calibration

Makes the setting for calibration. For calibration, multiple settings are allowed. You can change such setting items as the number of compensation points and timeout value for each setting.



### Calibration Settings For:

When multiple controllers are listed in the device, select a calibration controller.

### Calibration Modes:

Adding a mode in the [Calibration mode] allows you to have multiple calibration data items. Use the [Add] button to add a mode, and use the [Delete] button to delete a mode.

### Calibration Points:

Sets the number of calibration points. By the default, it is 9 points. We recommend that you do not change this setting.

### Calibration Timeout:

At calibration, if you do not touch the button for a while after the calibration screen has appeared, timeout occurs. Set the timeout value. By the default, it is set to 15 (seconds.) According to the need, you can set a maximum of 60 (seconds).

### Start in at:

When the screen edge is 0%, set at what percent position you display the calibration point. By the default, it is set to 5%.

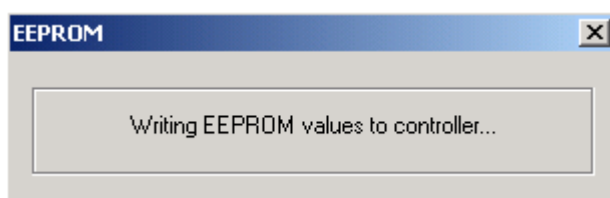
### Transparent Background:

Turning on the check allows you to display the desktop at the background of the calibration screen.

### EEPROM Calibration:

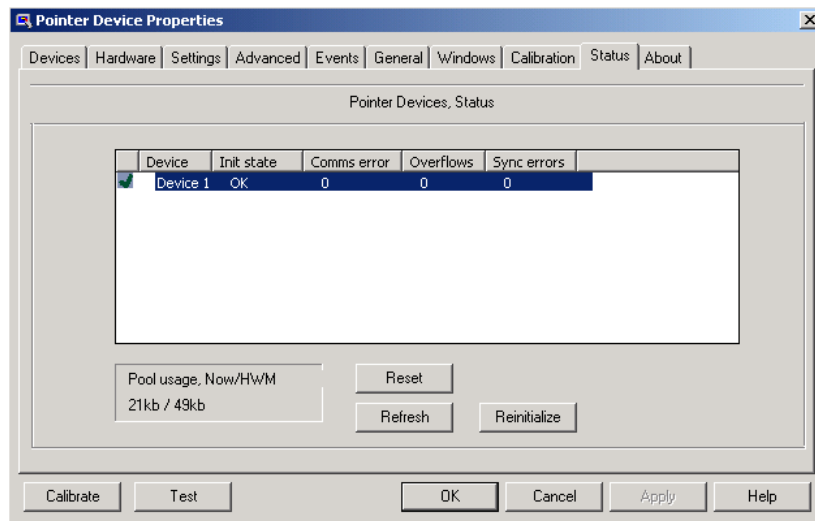
If the check is turned on, the save place of calibration data is in EEPROM. And, when this function is enabled, the position of calibration (start in at) cannot be changed.

The window below is displayed after EEPROM calibration execution.



## J: Status

You can confirm the controller status display, and re-initialize the controller.



### Re-initialize:

Re-initialize the controller. In almost all cases, this button operation is not required. When [DMC TSC-20 Series, Serial] is selected for the controller, and the controller is connected after booting Windows, press the "Re-initialize" button for re-initialize the system.

### Reset:

Clears the [Comms error], [Overflows], and [Sync errors] values.

### Refresh:

Resets the [init state] to the up-to-date display.

### Init state

OK	The init macro contains an ACK statement and the device acknowledged the initialization macro as expected.
Timed out	The init macro contains an ACK statement but a valid acknowledgement was not seen from the device within the specified time.
Failed	Touch screen is not connected to a touch screen controller. Or data in an EEPROM may be empty.
Unavailable	Initialization status is unavailable.
Not required	No initialization macro is defined.
In progress	Macro initialization in progress.

If you use a USB controller, it is blanks here.

## K: Event selector

Using the Event Selector allows you to classify the left and right clicking of the mouse button.

### 1. Activating the Event Selector

Select "Start" -> [Program(P)] -> [UPDD] -> [Event Selector].



Or click the icon at the system tray (see the right picture), and select and activate the Event Selector].

### 2. Settings

To select the Event Selector, click a small mouse picture at the left top of the window, and select a menu displayed.

Small icon:

Displays a smaller size mouse picture in Windows.

Medium icon:

Displays the standard size mouse picture in Windows.

Large Icon:

Displays a larger size mouse picture in Windows.

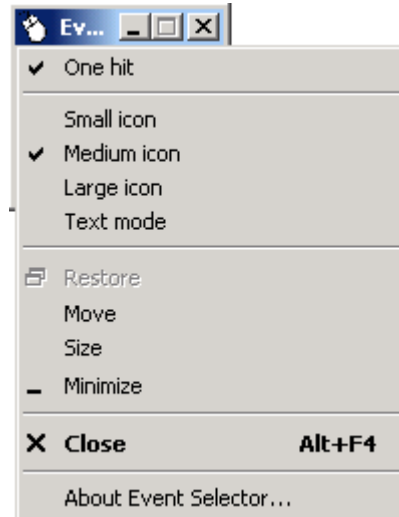
Text mode:

Provides text display in Windows. One hit:

Enables only once touch in the right-click setting.

One hit:

Enables only once touch in the right-click setting.



## L: Help

The help about this software is displayed.

Activating the Help.

The help button in a 'Pointer Device Properties' window is pushed and started.

Or it clicks on the icon of a system tray (see the right picture). Help is clicked and started.



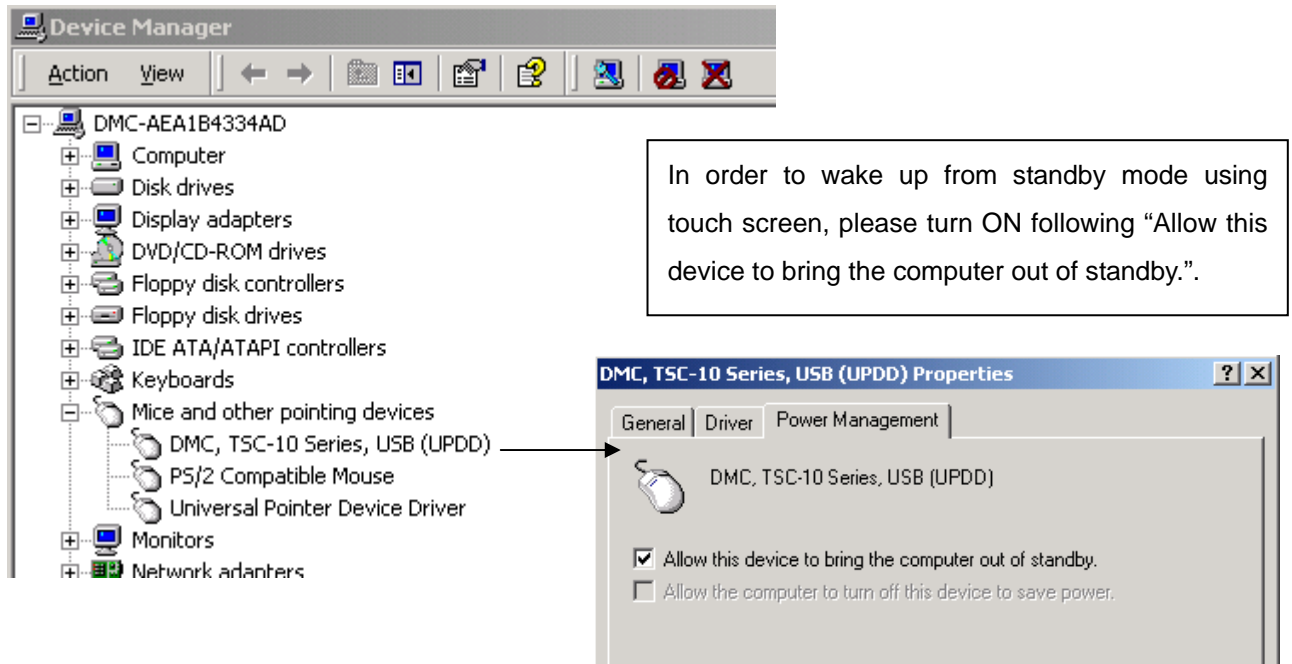
\* You must have Internet Explorer 5 or later installed to support HTML help.

## Others

### Waking up from STANDBY mode.

“Universal Pointer Device Driver” is installed as a system driver and can be located in the “Mice and other pointing devices” entry of the Window's device manager, as shown in the following examples. When using a USB controller, “DMC TSC-20 Series, USB (UPDD)” is added there, after plugging it to computer.

Windows 2000 / XP (The diagram below is sample of TSC-10 series.)



TSC-20/DD v3.08.74P User's Guide

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