"JUMPING MOUSE" SOLUTION

WINDOWS 2000 & WINDOWS XP

TRANSAS RECOMMENDATIONS

Introduction

This section describes procedures to eliminate situations whereby a device (navigational sensor) connected to the computer serial COM port is interpreted by the system as a "Microsoft Serial Ballpoint". As this occurs, the "jumping mouse" effect is exhibited, which consists in the arbitrary jump-like motion of the mouse cursor on the computer screen. The mouse motion is associated with the calling of functions corresponding to the pressing on mouse buttons, which may result in actions not authorised by the user.

ATTENTION!

These recommendation are only applicable is Windows 2000 or Windows XP OS is used. With the use of Windows NT 4.0 SP5 OS, this problem is eliminated through the entry of "NOSERIALMICE" parameter in `boot.ini` file (see document with solution for Windows NT).

Procedure 1

Here, the "jumping mouse" effect is eliminated by disabling "Microsoft Serial Ballpoint" functionality in the OS. To do this, however, the OS should first identify this device (the "jumping mouse" effect should manifest itself). Therein lies the disadvantage of this method, as this effect may not manifest itself permanently and may occur at in arbitrary moment of time in the absence of the operator.

The following procedure is recommended:

- Wait until the "jumping mouse" effect appears;
- Disconnect the device causing this effect from the computer COM port (you may have to disconnect all the navigational sensors from the computer);
- Open the computer's "Control Panel" (if Transas Integrator is installed, use "Run" function of "Task Manager" application);
- Use *System\Hardware\Device Manager\Mice and other pointing devices* path to obtain access to "Microsoft Serial Ballpoint" device;
- Use "Disable" function called via the context (right mouse button) menu, to disable the use of this device;
- Complete the work session with the OS, disconnect power from the computer;
- Connect the disconnected navigational sensors, turn on the computer power supply;
- Check that there is no "jumping mouse" effect and the data is supplied correctly to the NS from the navigational sensors.

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Procedure 2

In this case, the "jumping mouse" effect is eliminated by entering a special key word to Windows system register. This key word allows elimination of Windows error causing the "jumping mouse" effect.

ATTENTION!

This procedure is only applicable with the use of Windows 2000 Service Pack 3 or Windows XP OS.

The following procedure is recommended:

1. Install the OS (Windows XP) or Service Pack 3 (Windows 2000).
2. Open "Registry Editor" (use *Start\Run* function – enter "regedit" in "Open:" line and press <Enter>).
3. Depending on the computer hardware configuration (Motherboard based COM Ports or MOXA Board), enter special keys words in the system register for the following addresses:
   – In case of RS 3 (Non-ACPA HAL) Motherboard based COM Ports, use the following address:

     HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Enum\RootI\ *PNP0501\Port #[1]\Device Parameters.

   – In case of MOXA Board, use the following address:

     HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Enum\Mxser\ MxserPort #[2]\Device Parameters.
4. Enter the following key word for the abovementioned addresses:
   – Name: SkipEnumerations;
   – Type: REG_DWORD.
5. Use "Modify" function of the context menu (right mouse button) to edit the key parameters as follows:
   – Base: Hexadecimal;
   – Value Data: FFFFFFFF.
6. Close "Registry Editor".
7. Port # - number of the COM port which the sensor causing the "jumping mouse" effect is connected to (Motherboard based COM Port is used).

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[1] – Port # - number of the COM port which the navigational sensor causing the "jumping mouse" effect is connected to (Motherboard based COM Port is used).

[2] – PnPBIOS_Port # - number of the COM port which the navigational sensor causing the "jumping mouse" effect is connected to (MOXA Board is used).

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ORIGINAL MICROSOFT RECOMMENDATIONS

Symptoms

When you are using a Windows 2000-based computer, a serial device may be detected as a serial mouse.

Cause

This problem can occur because most of the devices that are detected as serial mice that are some other type of device constantly send data to the serial port which causes the detection code to incorrectly identify the device as a serial mouse.

Resolution

To resolve this problem, obtain the latest service pack for Windows 2000 and then update the registry as instructed below. For additional information about the latest service pack for Windows 2000, click the article number below to view the article in the Microsoft Knowledge Base: Q260910 How to Obtain the Latest Windows 2000 Service Pack.

The English-language version of this fix should have the following file attributes or later:

Date	Time	Version	Size	File name
1/17/2001	03:48p	5.0.2195.3156	13,936	Serenum.sys

WARNING!

If you use Registry Editor incorrectly, you may cause serious problems that may require you to reinstall your operating system. Microsoft cannot guarantee that you can solve problems that result from using Registry Editor incorrectly. Use Registry Editor at your own risk.

After you apply the hotfix or the service pack, follow these steps:

1. Start Registry Editor (`Regedt32.exe`). To do this, click "Start", click "Run", type regedt32 in the "Open" box, and then press "Enter".
2. For instructions on how to identify the `Enumerator`, `DeviceID`, and `InstanceID` for your COM Port refer to the More Information section below:

   `HKEY_LOCAL_MACHINE\System\CurrentControlSet\Enum\Enumerator\DeviceID\InstanceID\Device Parameters`

Note: There is one `InstanceID` for each port.

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3. On the "Edit" menu, click "Add Value", and then add the following registry value:

   ```
   Value Name: SkipEnumerations
   Data Type: REG_DWORD
   Radix: Hexidecimal
   Value: 0 through FFFFFFFE
   ```

   Note that a value of zero (0) disables the feature and device detection can resume. Each time that Plug and Play does an enumeration, it counts down one, and when it counts down to zero, it re-enumerates the hardware and then starts counting down again from the registry value. When you reboot the computer, Plug and Play starts the count again at the value that you typed.

4. Quit Registry Editor.

Workaround

To work around this problem, allow the device to be detected incorrectly, use Device Manager to disable the device that is not the port to which the device is attached, and then reboot your computer. When you do this, the port works correctly and the incorrectly detected device is disabled.

Status

Microsoft has confirmed that this is a problem in the Microsoft products that are listed at the beginning of this article. This problem was first corrected in Windows 2000 Service Pack 3. After you install Windows 2000 Service Pack 3, you must edit the registry as described in the "Resolution" section of this article.

Note that Microsoft Windows XP also includes the fixed `Serenum.sys` file; you must edit the registry as described in the "Resolution" section for Windows XP also.

Motherboard Based COM Ports

First, you need to determine which HAL is being used before you can make the registry change. To determine which HAL is running on the system open Device Manager and expand Computer:

- If the system has an ACPI HAL you can add the `SkipEnumerations Reg_DWORD Value` shown in Step 3 above to the serial port of choice located under:

  ```
  HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Enum\ACPI\PNP0501\Port#\
  Device Parameters
  ```

- If the system has a Standard (Non-ACPI HAL) you can add the `SkipEnumerations Reg_DWORD Value` shown in Step 3 above to the serial port of choice located under:

  ```
  HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Enum\Root\*PNP0501\Port#
  \Device Parameters
  ```

Note: `Port# = InstanceID`.

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COM Ports on Serial Port Add-on Cards

Discovering the correct location in the registry for the port is more involved. Below is a method that will help to you locate and identify each componentL:

1. Open "Device Manager" and view the Com Port's Device Description, or "Friendly Name".

2. Locate the `Setupapi.log` in *C:\Winnt* and search the `setupapi.log` for the Device Description, exactly as it appears in Device Manger, of the Device hanging off the Port in question.

3. Once the device is located in the `setupapi.log` slowly scroll down until you locate the entry "Doing copy-only install of Enumerator\DeviceID\InstanceID." For Example:
   Doing copy-only install of
   `MF\PCI#VEN_131F&DEV_2052&SUBSYS_2052131F&REV_00\3&1E67C166&0&50#CHILD0003`

   ```
   Enumerator = MF
   DeviceID = PCI#VEN_131F&DEV_2052&SUBSYS_2052131F&REV_0
   InstanceID = 3&1E67C166&0&50#CHILD0003
   ```

Note: The `SkipEnumerations Reg_DWORD Value` is to be added under the *\Device Parameter's Key* for each particular `InstanceID`.

4. Open `regedt32.exe` and expand *HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Enum5*. Expand the Enumerator, locate and expand the `DeviceID` then expand the `InstanceID` below that. This is the `Device ID` for the specific port of the Serial Card where the Value is to be added.

   When you attach a device to a serial port on a computer that is running Windows 2000 and reboot the computer, the operating system enumerates devices and looks for new or removed hardware when the computer starts. During this detection phase, the computer detects the serial ports and tries to determine what type of device is attached. Typically, the software detects a serial mouse as attached when it is some other type of hardware device, such as a Global Positioning System (GPS) devise.

5. Expand the Enumerator, locate and expand `the DeviceID` then expand the `InstanceID` below that. This is the `Device ID` for the specific port of the Serial Card where the Value is to be added.

For additional information about how to install Windows 2000 and Windows 2000 hotfixes at the same time, click the article number below to view the article in the Microsoft Knowledge Base:

Q249149 Installing Microsoft Windows 2000 and Windows 2000 Hotfixes.

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