

Colloidal Borescope System

Serial-to-USB Driver Update
Instructions to Fix “Crazy Mouse” Syndrome

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DOCUMENTATION CONVENTIONS

This uses the following conventions to present information:



WARNING

An exclamation point icon indicates a **WARNING** of a situation or condition that could lead to personal injury or death. You should not proceed until you read and thoroughly understand the **WARNING** message.



CAUTION

A raised hand icon indicates **CAUTION** information that relates to a situation or condition that could lead to equipment malfunction or damage. You should not proceed until you read and thoroughly understand the **CAUTION** message.



NOTE

A note icon indicates **NOTE** information. Notes provide additional or supplementary information about an activity or concept.

Section 1: Crazy Mouse Syndrome

These instructions are provided to enable customers to prevent the occurrence of the “crazy mouse” syndrome when using the Colloidal Borescope System. This condition is potentially encountered in Microsoft Windows when connecting a device (such as the Borescope system) that continuously transmits binary (e.g. non-ASCII characters) on a Windows serial port. It is caused when the device data is misinterpreted as mouse data by the serial port enumerator (serenum.sys), resulting in erratic mouse cursor activity.

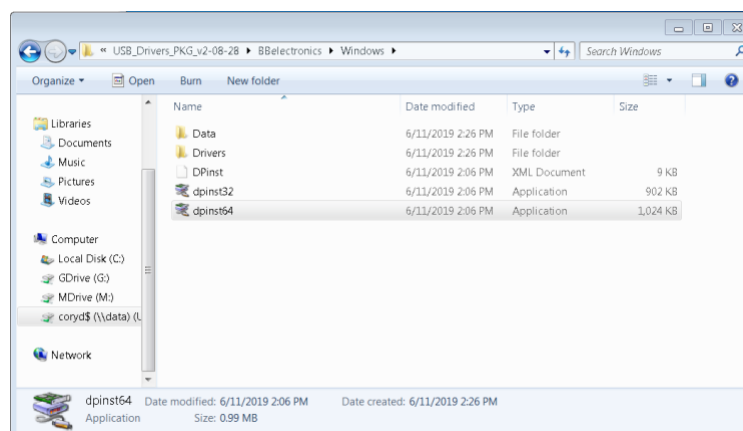
Two different methods of preventing the “crazy mouse” syndrome are provided. The first, and recommended method, is to update the driver software with Geotech provided drivers. The second is to manually disable serial port enumeration through Window’s device manager. The benefit of the first method is that it will correct the problem for all current and future uses of a FTDI-based serial-to-USB convertors that can create a Windows COM port.

The benefit of the second method is that no additional software is required to be installed. However, the second method of manually disabling serial enumeration can only be done while the USB convertor is plugged in (which is difficult if the “crazy mouse” syndrome is triggered), and must be done on all Windows COM ports individually, or every time a new device is plugged in.

The Geotech provided driver update is based on the Serial-to-USB drivers provided by [Advantech](#) for their FTDI-based convertors. Modifications were made to the driver to disable serial port enumeration according to instructions provided by FTDI in [Application Note AN_107](#).

Section 2: Installing Geotech Provided Driver Update

1. There are two different drivers provided based on what version of Windows operating system is being run.
 - a. USB_Drivers_PKG_v2.12.26.zip (for Windows 8/10)
 - b. USB_Drivers_PKG_v2.08.28.zip (for Windows 7 and older)
2. To start installation of the drivers, navigate to the location (usually your Downloads folder) where you have saved the driver ZIP file for your version of Windows.
3. To unzip the files, right-click on the required driver version and select **Extract All**. Follow the provided instructions to select a desired location (Windows by default will choose the current folder the ZIP file is stored in) to extract the files.
4. You will need to navigate to a sub-folder within the extracted files to run the dpinst64 program to install the driver on a 64-bit machine (use dpinst32 if using an older 32-bit machine).



a. Windows 8/10

i. Navigate to:

USB_Drivers_PKG_v2-12-26-(Win-10)\BBSmartWorx\Windows

ii. Double-click on dpinst64 to start the install process.

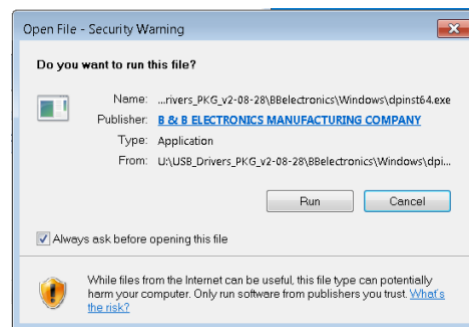
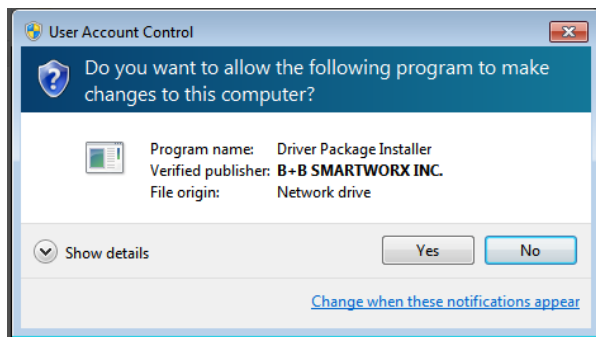
b. Window 7 and older

i. Navigate to:

USB_Drivers_PKG_v2-08-28\BBelectronics\Windows

ii. Double-click on dpinst64 to start the install process.

5. Typically, Windows will have User Account Control enabled. If so, you will see a pop-up window similar to one of these below. Select **Yes** or **Run** to continue the install.

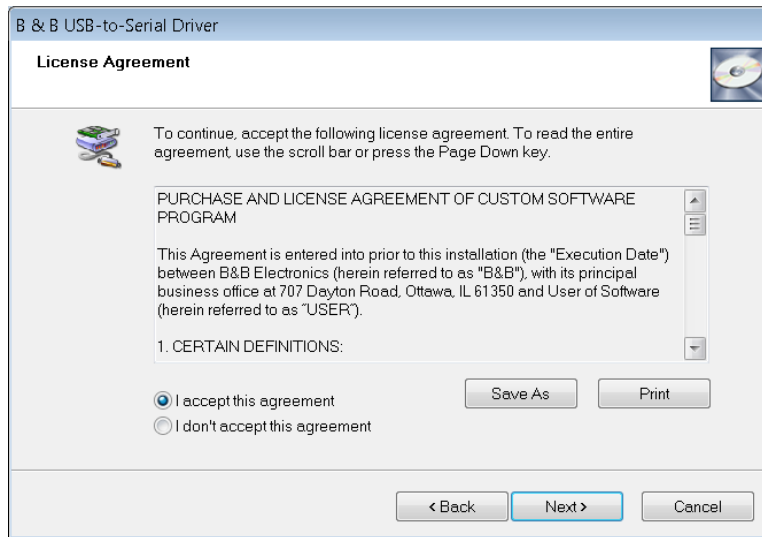


6. Select **Next**

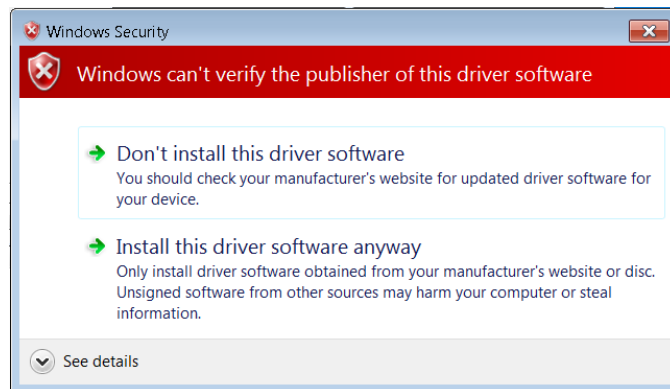


7. The license agreement is with the original manufacturer of the USB convertor device, B&B Electronics, which is now Advantech. Ensure the **"I accept this agreement"** is selected, and hit **Next**.

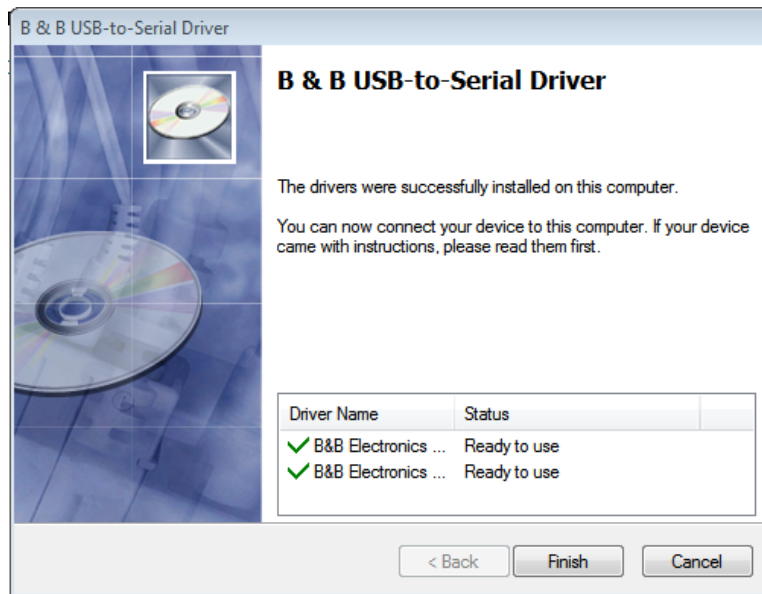
- a. If you cannot accept the license agreement you will need to follow the instructions to manually disable serial port enumeration.



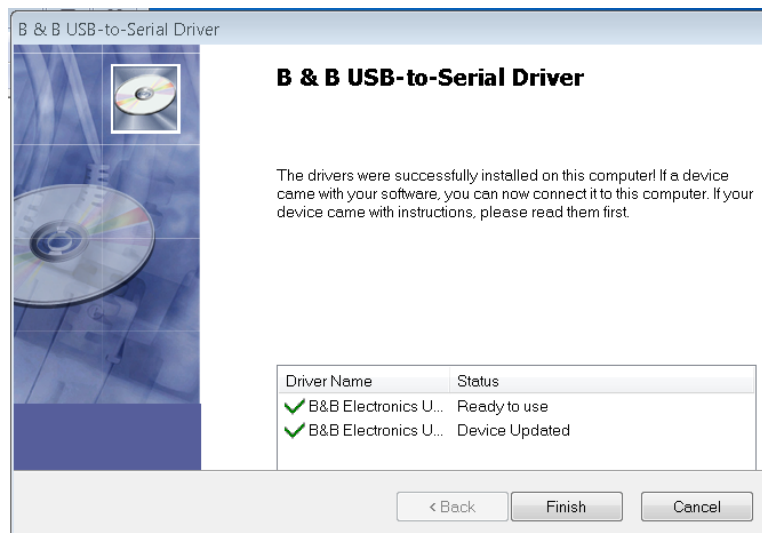
8. Because Geotech modified the original driver, Windows will detect that the driver is unsigned by Advantech. This is expected behavior. Select **"Install this driver software anyway"** to continue installing the updates.
 - a. If your IT policies do not allow you to install unsigned software you will need to follow the instructions to manually disable serial port enumeration.



9. After the drivers have been updated, you should see one of these screens.
 - a. If you have not previously installed the driver on the computer you should see:



b. If you are updating the drivers, you should see:



10. If the final screen indicates that the drivers where not installed or updated for any reason, you will need to follow the instructions below to manually disable serial port enumeration.

Section 3: Manually Disabling Serial Port Enumeration

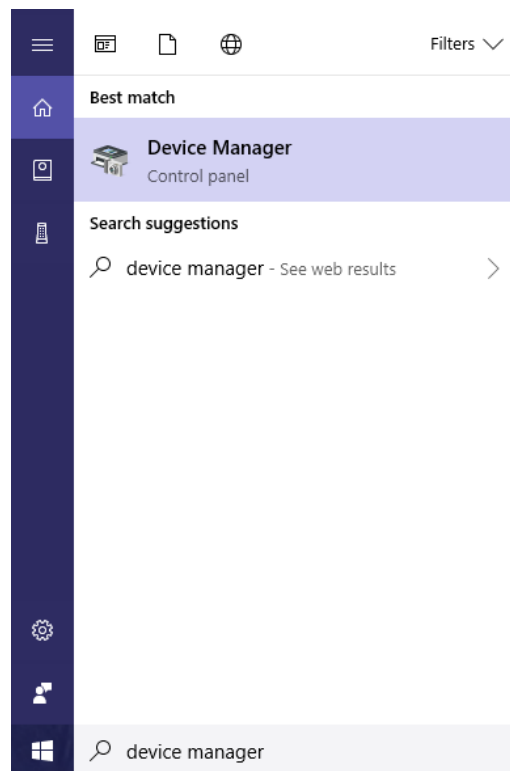
These instructions are provided to enable a user to disable the serial port enumeration on a specific Windows COM port. Serial port enumeration is the fundamental source of the “crazy mouse” syndrome that causes windows to treat a USB serial device as a serial mouse. This process is based on modifying advanced properties under the Window’s Device Manager. Because this process only changes a specific COM port, this process must be repeated for all affected COM ports, or whenever a new device is plugged in for the first time. Once this process is complete for a specific COM port the changes will remain in effect even if the device is unplugged and plugged back in.



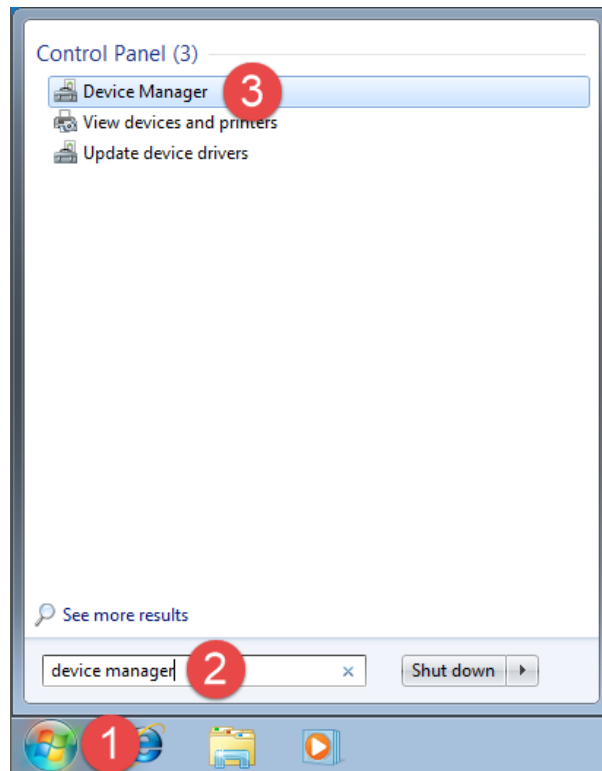
The serial-to-USB convertor must be plugged into the computer for Windows to display it under the Device Manager.

1. Open Device Manager using Window’s search

- a. If you use Windows 10, use the search box near the Start button. Then, type the "device" or "device manager" and click or tap the appropriate search result. Alternatively, you can tell Cortana to "Open Device Manager," and she will do that for you.



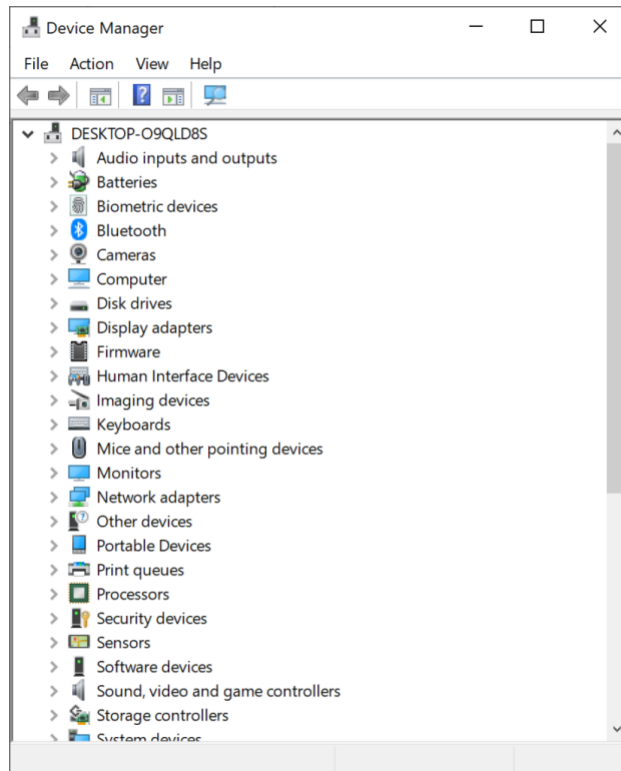
- b. If you are using Windows 7, open the Start Menu and search for "device" or "device manager." Then, click the Device Manager search result.



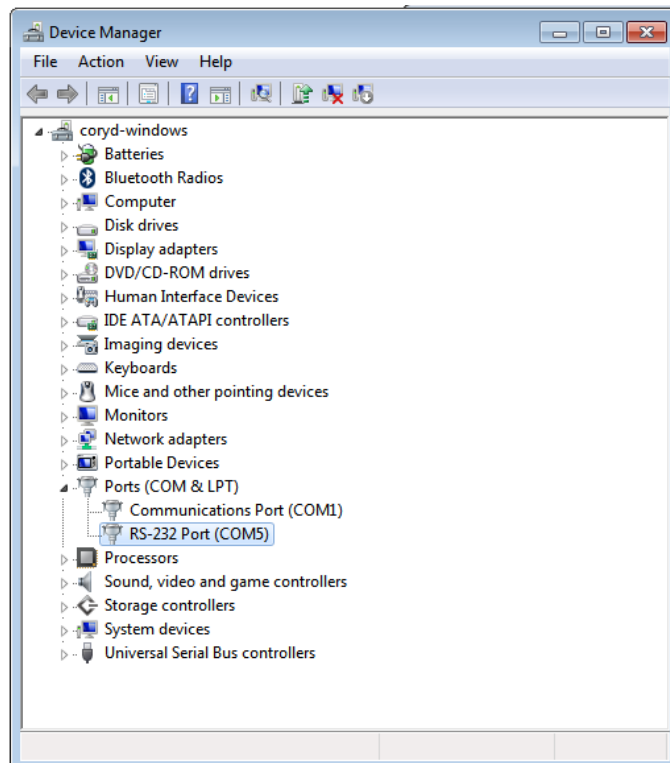
- c. In Windows 8.1, the fastest way to open the Device Manager is to search for it. Switch to the Start screen and start typing the word "device." Then, click or tap the Device Manager result.



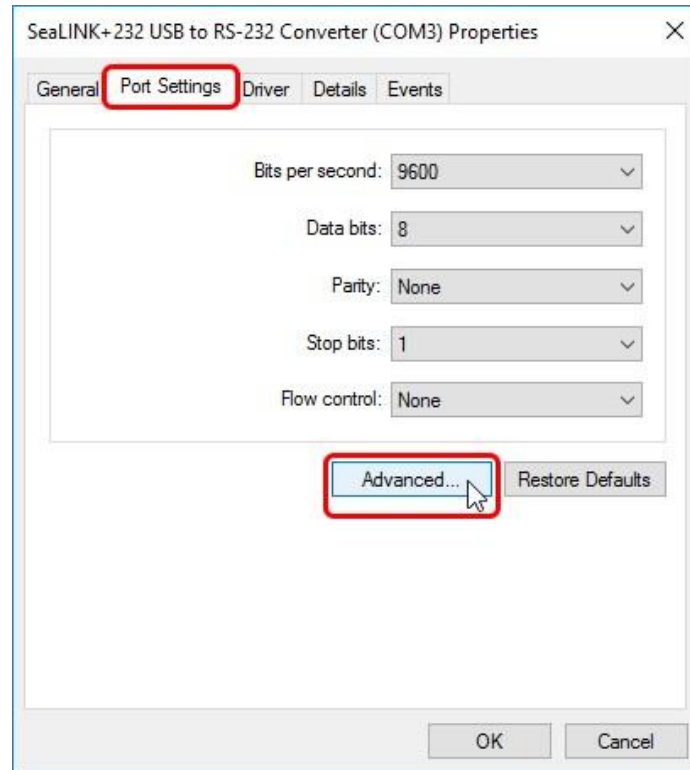
2. You should see the Device Manager Window



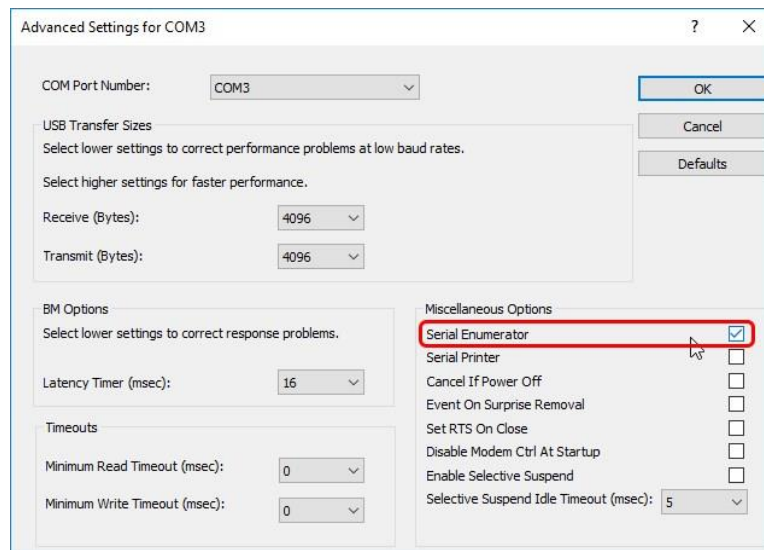
3. In the Device Manager window, expand the **Ports (COM & LPT)** section by clicking on the '>' or triangle ('+' symbol in Windows XP), as shown.
4. Under 'Ports (COM & LPT)', double-click on the USB serial device entry to bring up the Device Properties dialog box. Note, this may appear different on your specific machine. In the example below you would double-click on 'RS-232 Port (COM5)'.



5. In the Device Properties window
 - a. Click the 'Port Settings' tab.
 - b. Then click the 'Advanced' button, as shown, to open the Advanced Settings window.



6. In the Advanced Settings window, locate the Miscellaneous Options section and uncheck the box for 'Serial Enumerator', as shown. This will prevent serenum.sys from being associated with this COM port.



7. Click the OK button to confirm your changes.
8. Click the OK button to close the Device Properties window.
9. Close the Device Manager by clicking the 'X' in the top-right corner.

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