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Specialized Flow Cytometry Solutions

LASER Communication Port Settings & Tips

1. COM Ports

A communication port or COM port number is an identifier that corresponds to a physical serial port interface or an emulated port (i.e. USB-to-serial adapter, USB interface) in a computer.

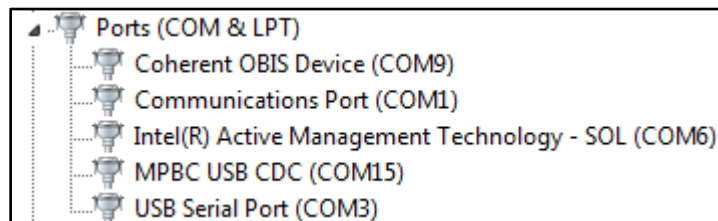
The majority of serial ports have been replaced by USB ports in modern computers and a USB virtual COM port is necessary to establish a bridge and communicate with certain devices. A USB virtual COM port is a piece of software that enables applications to access a USB device as if it were a built-in serial port.

In cytometers, lasers use a variety of communication interfaces (i.e. serial, parallel, USB) often modified with an adapter and routed to a USB hub before reaching the computer.

COM port number assignment can cause conflicts, preventing a laser or multiple lasers from being recognized, or forcing users to follow a specific startup sequence.

2. Identifying the COM Ports

- Open the Computer Management Console (Windows logo key + R > compmgmt.msc).
- Click Device Manager on the left-hand side.
- Open the Ports (COM & LPT) section to check the COM port assignment:



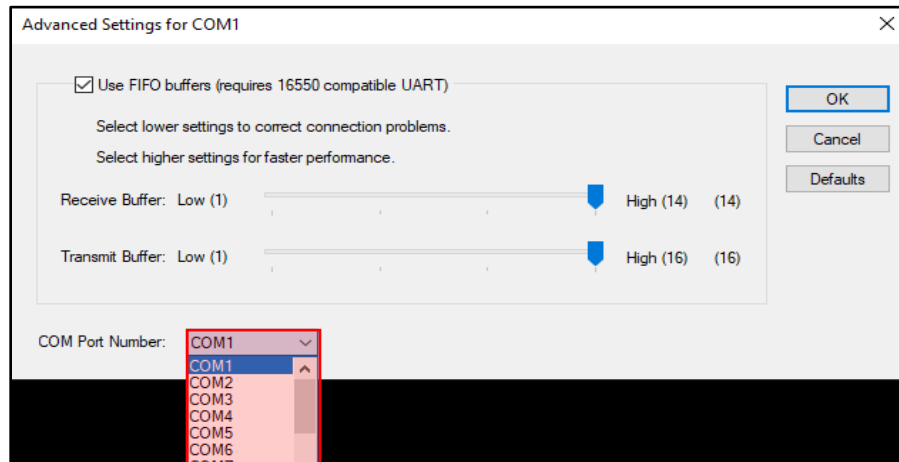
- Physically trace the connection from each laser to the PC and determine the assigned COM ports by process of elimination (unplugging one at a time and checking both the Device Manager and the various software packages controlling the lasers).

3. Modifying the COM Ports

- Double-click a port entry to access its properties.
- Navigate to the Port Settings tab and click the "Advanced..." button.
- Use the drop-down menu to assign an alternate unused COM port then click OK.

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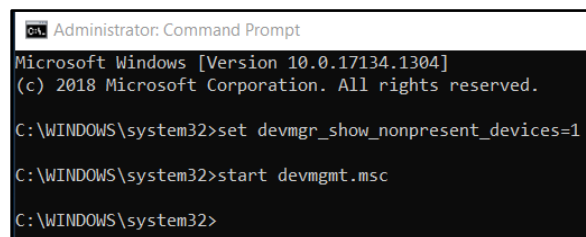


4. Deleting Old COM Ports

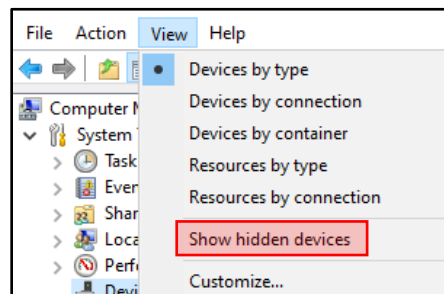
Some COM ports may have been previously assigned to a device and never released when the device stopped being used.

To clear these “ghost” COM ports, follow these steps:

- Open a command prompt with administrator right
- Type `set devmgr_show_nonpresent_devices=1`
- Press Enter
- Type `start devmgmt.msc`
- Press Enter



- In the Device Manager's View menu click “Show hidden devices”



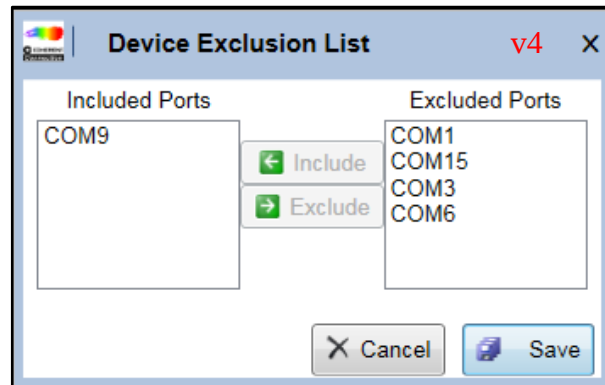
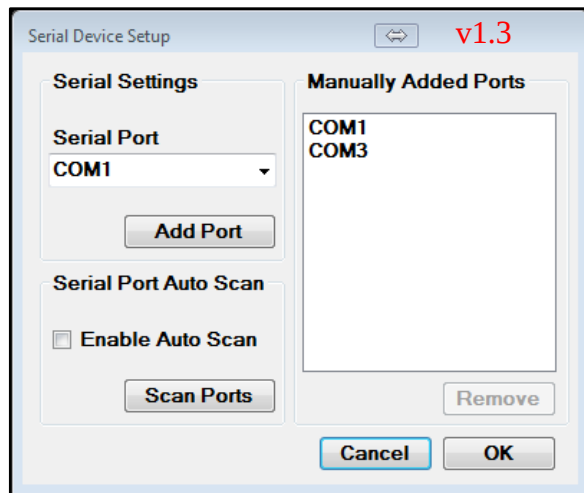
- Select a COM Port to free (greyed out) and press delete on your keyboard then Uninstall.

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5. Considerations

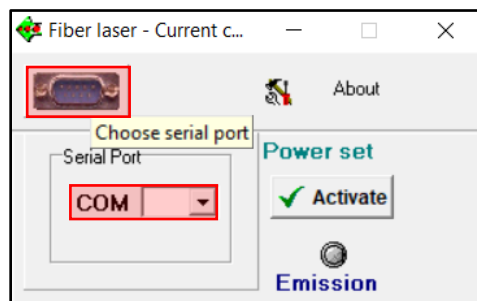
- Coherent Connection may benefit from excluding COM ports used by non-laser devices or other software (Tera Term, Intel® AMT...).



- MPB Communications' laser controlling software usually queries the highest COM port available. A workaround is to assign the highest COM port to the laser controlled by the MPBC software.

Example: a MPBC laser is assigned COM port 8 and a Coherent Connection laser is assigned COM port 9 (highest port used).

- If the MPBC software is launched first, it selects COM port 9, forcing the user to manually modify it to COM port 8.
- If the MPBC software is launched second, it selects the highest available, here 8. The workaround is to assigned to the MPBC laser a higher COM port than 9.



- Some lasers with various interface setups are not assigned a COM port.



6. Coherent Connection Tips

- Software launched with no error but the GUI is not visible:
 - Coherent Connection not visible, press Alt + Space, then select Maximize
- Software not displaying all lasers:
 - Using eye protection and if feasible, open the instrument lid to check if the laser(s) is/are on.
 - Go to Tools > Serial Settings... and manually Scan Ports
 - Turn the cytometer off then on
- UV laser not turning on:
 - Set the laser power to 5mW and turn On, then increase to 100mW