USB TO SERIAL PORT CONVERTERS

  Most LED Signs connect to a computer using a Serial, or RS232 cable. However, computer makers have recently stopped including serial ports in newer computers.   Because of this, we have included a USB to Serial Converter cable with your sign.

  While these USB to Serial Converter cables are reliable, and do work well, they are somewhat complex to set up. They are, unfortunately, the best solution available.   We cannot use USB directly with our signs, because USB cables can only be approximately 6 feet long...the technology is very limited on cable length.   The longer, 50 foot, capability of serial/RS232 cables is still required so that the sign can be placed farther away from the computer.

  This guide will help you get your USB to Serial Converter Cable working with your sign.

This is what a USB port looks like, we have included pictures of both the male and female connectors. Your computer has the female connector, and one end of the USB to Serial converter has the male connector.   See Figure 1 for detail.
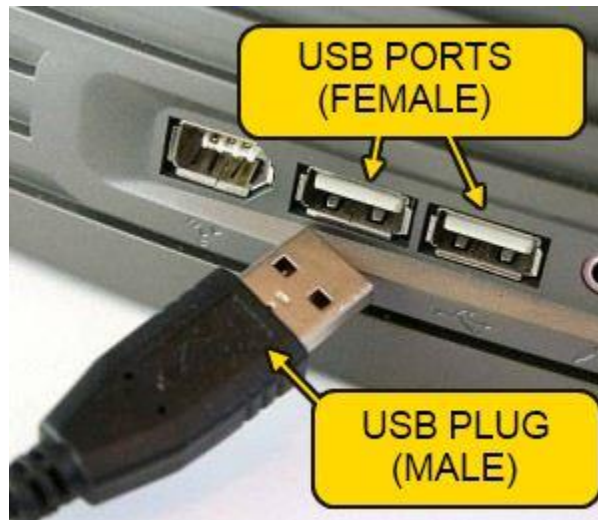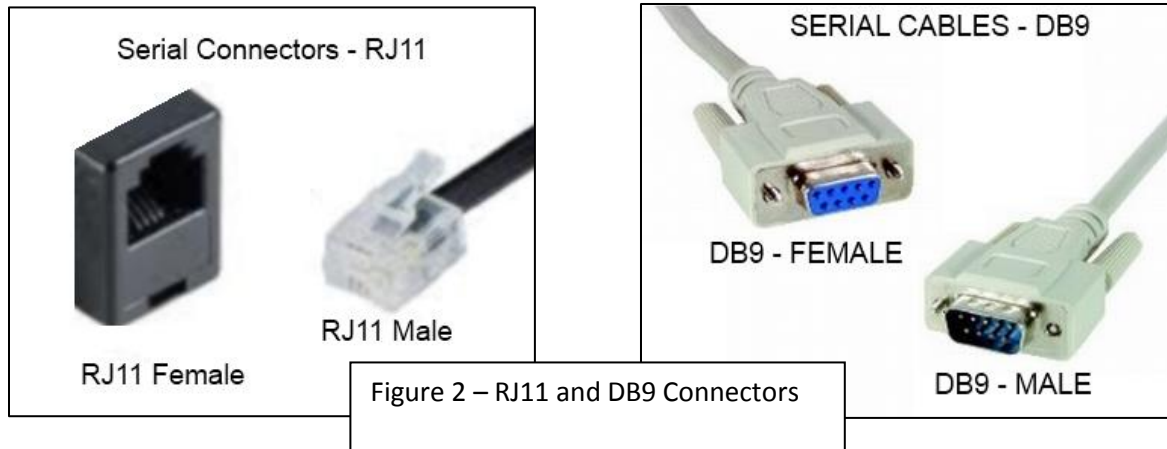

Figure 1 - USB Ports

This is what a Serial Port looks like. There are two different styles of connectors…RJ11, which looks like a telephone connector, and a DB9 connector, which has a metal shell and 9 pins or sockets.

Figure 2 – RJ11 and DB9 Connectors

Cable #1: A serial cable that has a male RJ11 connector at one end, and a DB9 female connector at the other end. The RJ11 connector plugs into the sign, and the DB9 connector plugs into either the computer (if it has a real serial port), or into the USB to Serial Converter.

Cable #2: A USB to serial cable that has a DB9 male connector on one end (plugs into Cable #1), and a USB connector on the other end (plugs into your computer).
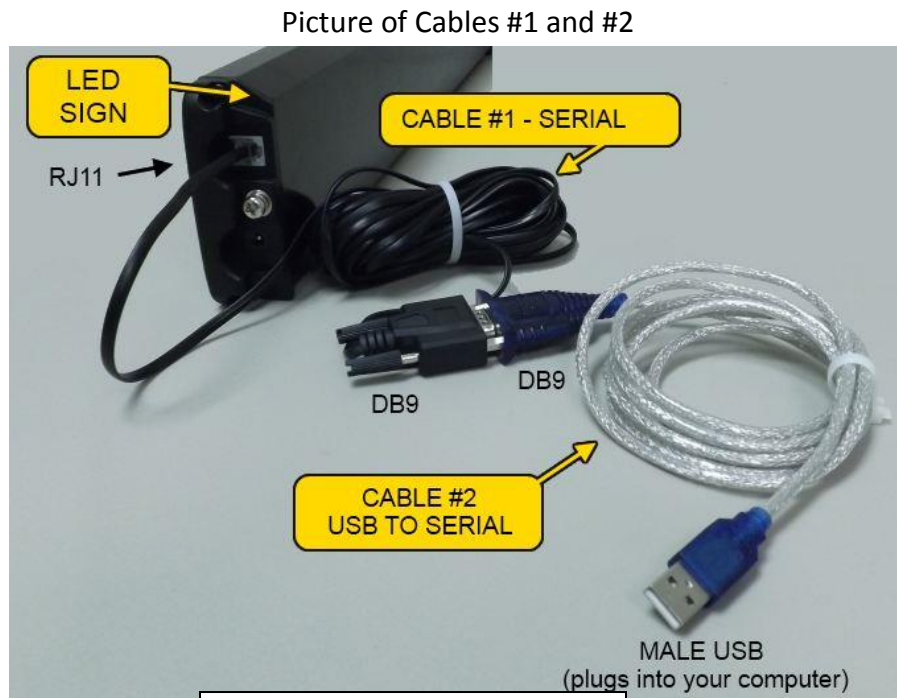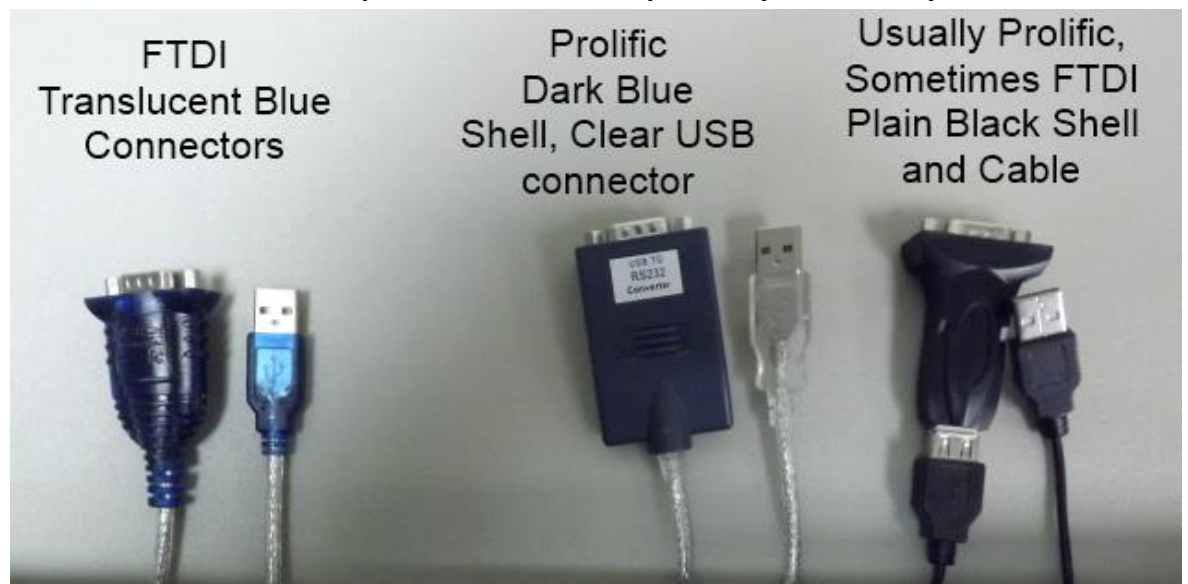
Picture of Cables #1 and #2

Figure 3 – The Two Cables

INSTRUCTIONS TO GET THE SIGN WORKING

1. Device Drivers
   a. **If you are running Windows 7, your computer should automatically download and install the drivers for the USB to serial converter once you plug the USB cable into a port on the PC. This can take several minutes. Usually, you will see some indication of the activity in the lower right hand corner of the screen. If, however, you run into issues, see step 1b that covers how to manually install drivers.**
   b. **If you are not running Windows 7, you will need to manually install the drivers. There are two different major manufacturers of USB to Serial Converters, and the driver you download will depend on which one you have. If you aren't sure, you can download and install both. The two major manufacturers are "FTDI" and "Prolific". The picture below can help identify which one you have:**
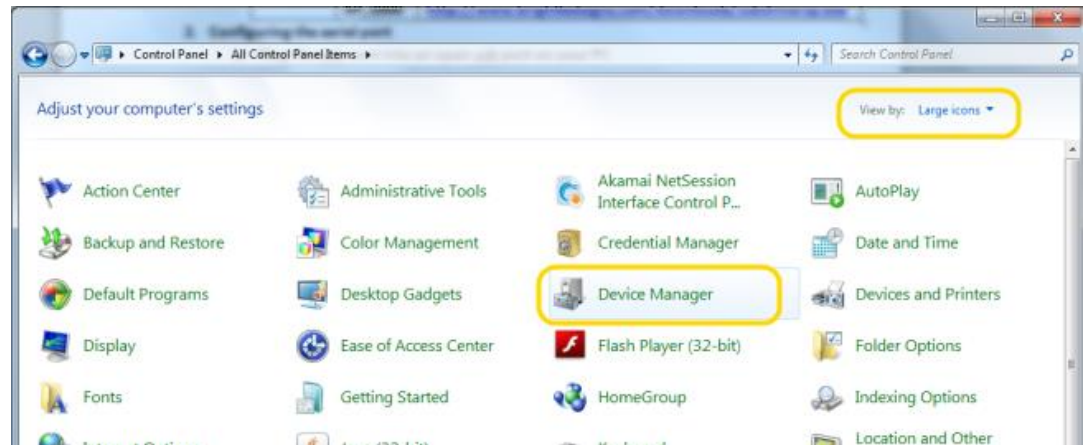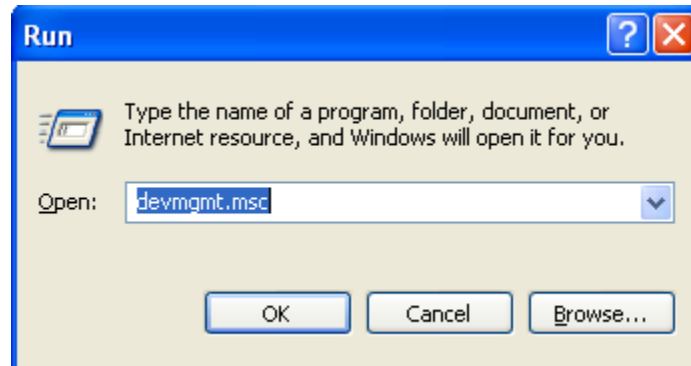

   c. **Where to download the drivers**

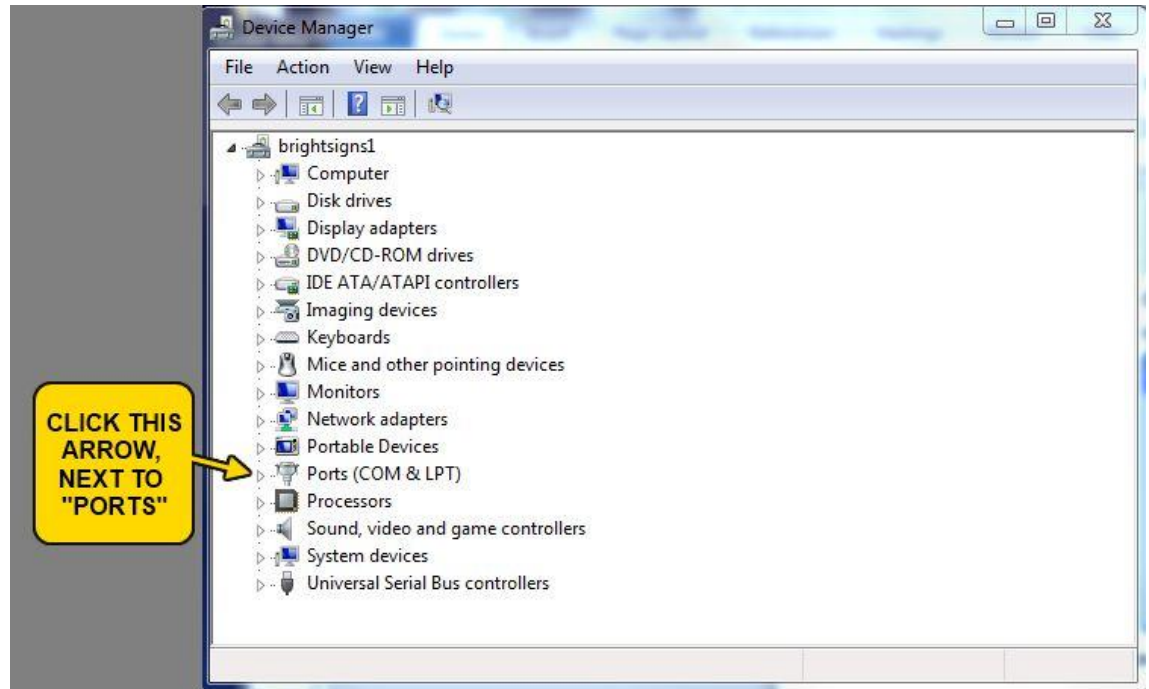| USB Type	Windows Version	Download Link
FTDI	ALL	http://www.brightledsigns.com/downloads/ftdi-drivers.exe
Prolific	7, Vista	http://www.brightledsigns.com/downloads/usbdriver.exe
	XP, 2000	http://www.brightledsigns.com/downloads/usbdriverxp.exe

2. Configuring the serial port
   a. Plug the usb cord into an open usb port on your PC
   b. You should see some activity in the lower right hand side of your screen as windows detects and installs the USB to Serial Converter. WAIT SEVERAL MINUTES FOR THIS TO FINISH.
   c. Start the Windows Device Manager
      i. Windows 7 – Start the control panel, then in the upper right corner of the window, change the "View By" from "Category" to "Large Icons". You'll see an icon for "Device Manager" that you can click.
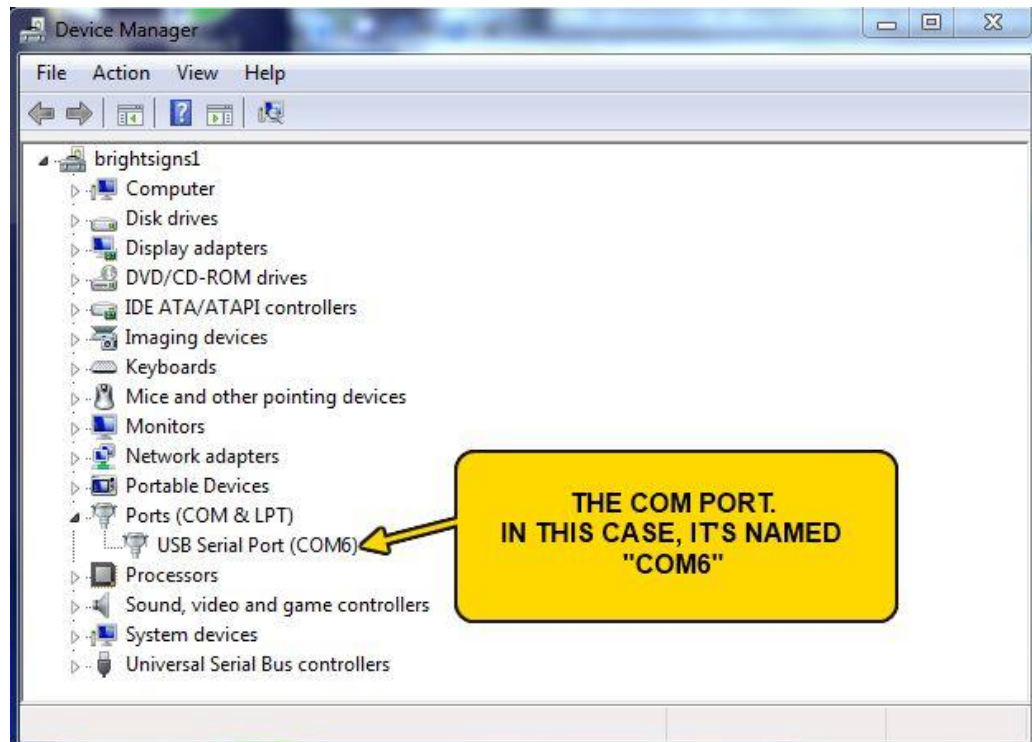

      ii. Other Versions of Windows – Select "Run" from the Start Menu and type in 'devmgmt.msc', then press the 'OK' button

d. **You should now see a window for the Device Manager, like below. Click the little arrow**
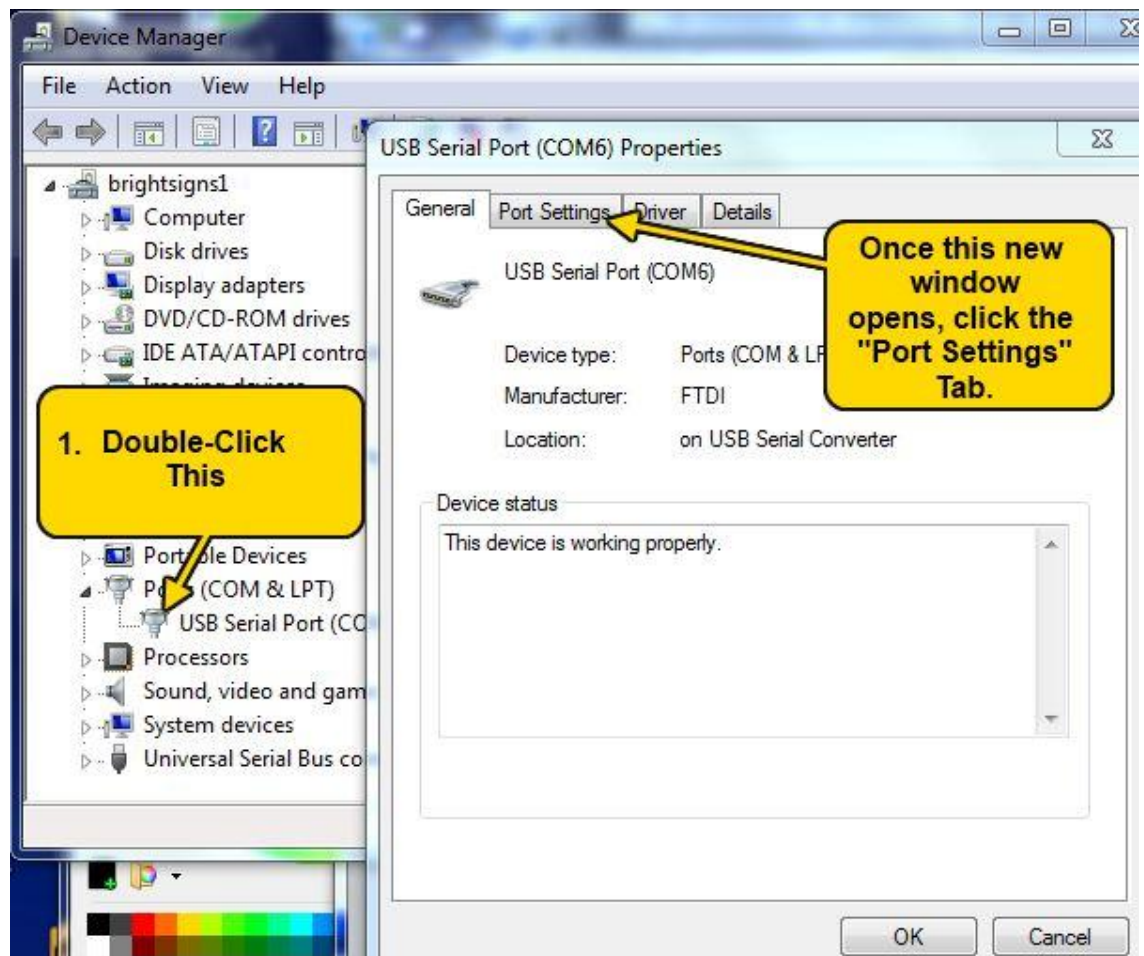

e. **Once you've clicked the arrow, it will show the serial port.   This one says "USB Serial Port (COM6). It might say something different like "FTDI" or "Prolific", but it will always say which COM port it is..like COM2, or COM6 or COM12, etc.**
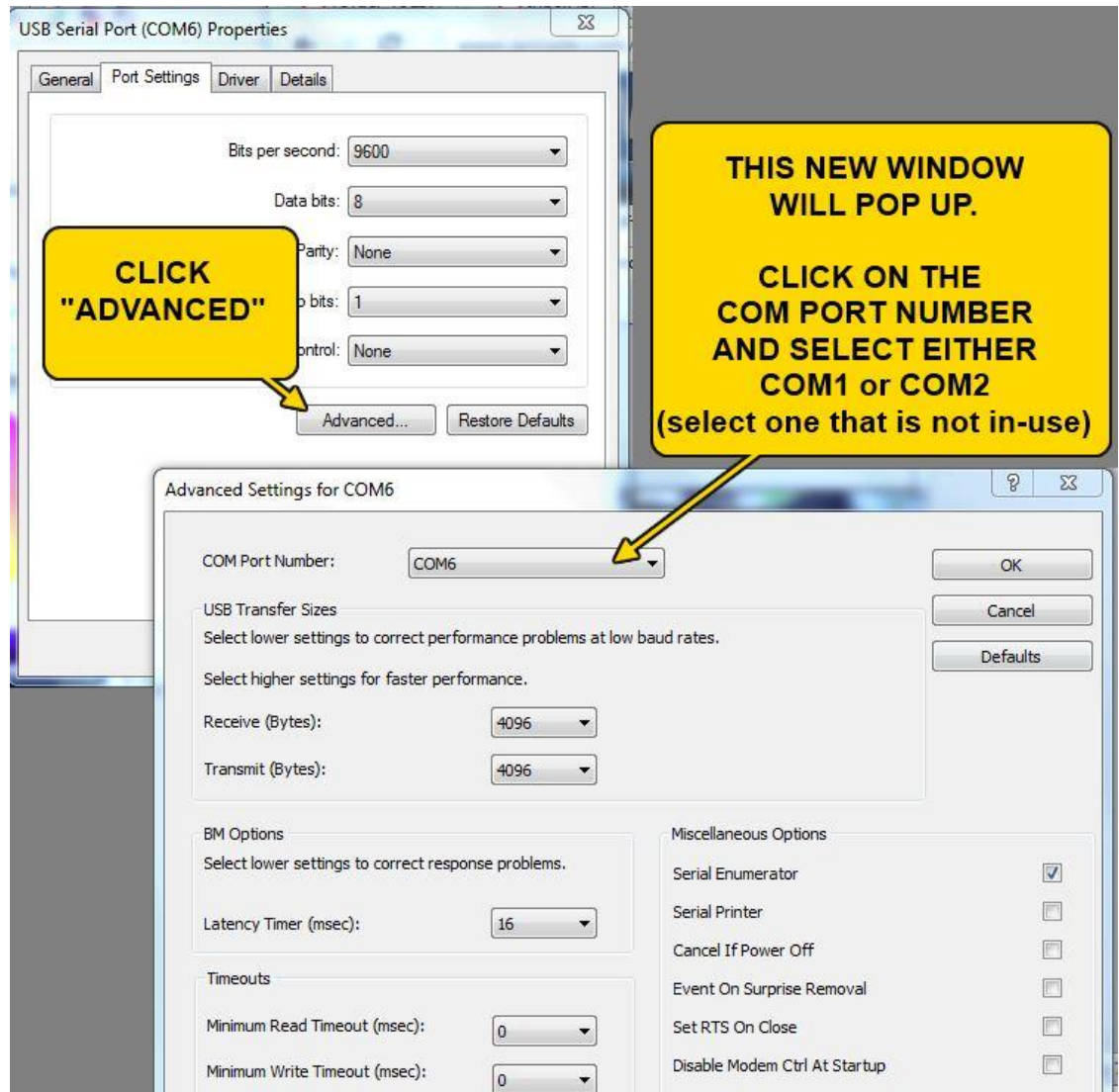
f. The software used to program some LED signs will not allow you to pick every available serial port. While serial ports can be named COM1, COM2, COM99, COM44, COM12, etc…some Led Sign software will limit you to only choosing lowered numbered ports, like perhaps COM1 through COM4

g. If that's the case…and your COM port is numbered higher than the software will allow you to select, you will have to rename the port. For example, you could rename a port called COM22 to a lower numbered port, like COM3.

h. IMPORTANT: Only follow these last few steps if you need to rename the port. If your LED sign software already allows you to select the port, there's no need to do this.
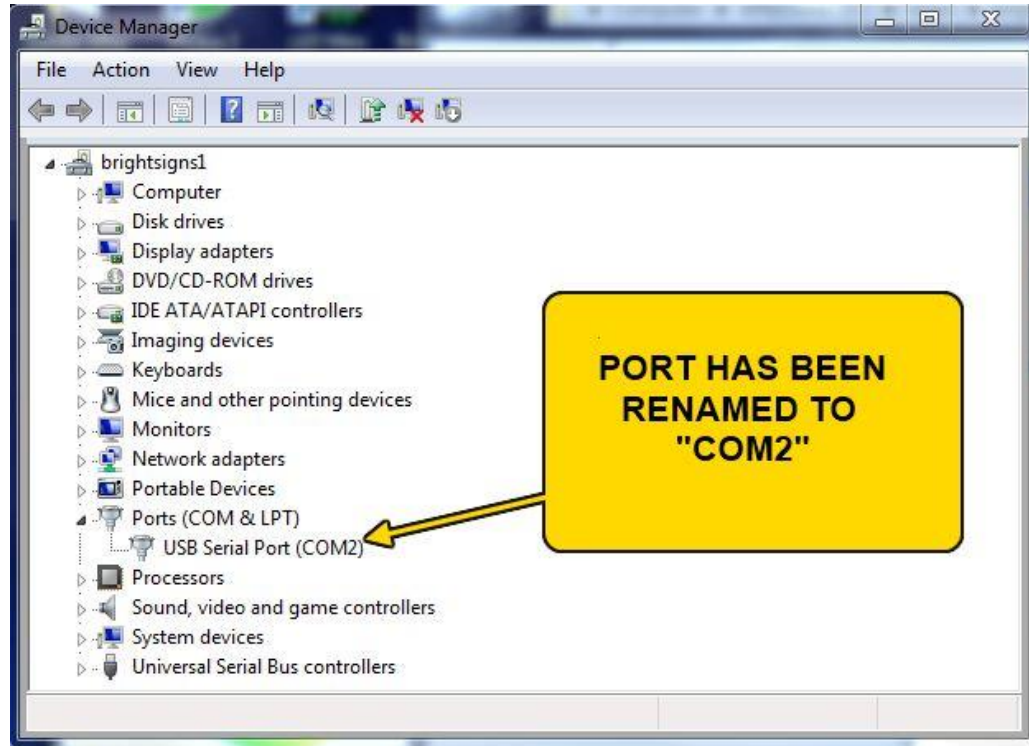
i. Once you've double-clicked, you'll see a new window. Click the "Port Settings" tab.

j. Once you have the Port Settings Tab open, click on "Advanced", and set the COM port number to something lower, like perhaps COM1, COM2, COM3, or COM4.   Pick a COM port that is not marked as "in use".

k. Now click on "OK" on each window until you are left only with the original Device Manager window. You should see that the COM port was renamed. In the picture below, the port was renamed to "COM2", when it was originally "COM6".

l. Your sign is now ready to use with the software. If you need a new copy of the software, see the following links:

Sign Type	Download	Link
Single Line M500	Software	http://www.brightledsigns.com/downloads/single-line-v4-software.exe
Single Line M500	Remote Control Manual	http://www.brightledsigns.com/downloads/remote-control-manual-single-line.pdf
Single Line M500	PC Manual	http://www.brightledsigns.com/downloads/pc-manual-single-line.pdf
BB/SB Signs	Software	http://www.brightledsigns.com/downloads/wonderfulled.exe
BB/SB Signs	PC Manual	http://www.brightledsigns.com/downloads/wled-software-manual.pdf

m. **IMPORTANT NOTES:**

   i. Please be sure to select the right COM port (COM1 or COM2) from within the sign software. The sign software asks you which port to send the data to.

   ii. If you plug the USB cable into a different port then the original one on your PC, it will rename the port, and you will have to repeat this procedure. Similarly, if you install a different USB to Serial converter, it can also cause the port to be renamed. Always run the windows Device Manager to double-check the COM port number if you aren't sure.