

# USB SERIAL ADAPTOR COM PORT INSTRUCTIONS

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## Table of Contents

1.1 Getting Started .....	3
1.2 USB to Serial Adaptor Installation .....	5
2.1 Determining the correct com port assignment .....	6
2.2 Connecting the Instrument .....	10
3.1 Uninstalling a COM PORT device for Windows 8 <sup>®</sup> and later.....	12
3.2 Uninstalling a COM PORT device for Windows <sup>®</sup> 7 and earlier.....	13

# 1. GETTING STARTED WITH USB TO SERIAL ADAPTOR INSTALLATION

## 1.1 Getting Started

*\*Note: Please be sure to log into your computer using an Administrator account.*

The Serial Adaptor will automatically install on more recent versions of Windows, once it is plugged in. To manually install it, follow the instructions below:

- Step 1.** Plug the USB to Serial Adaptor into an open USB port on your PC. A notification bubble will appear on the start bar in the lower right hand corner, as shown in Fig 1.1.1.
- Step 2.** The USB Serial Adaptor Installer window will open. Follow the on-screen prompts.
- Step 3.** The Windows "Found New Hardware" wizard will start. See Figure 1.1.2 below. If you have a recent version of Windows (including the latest service pack), or if your PC has access to the Internet, select "YES" when Windows asks to automatically search for a driver for your new device. Windows should install both the USB Adaptor and the USB Port. If Windows is unable to locate a compatible driver for the USB Adaptor, navigate to this directory on the Grace Instrument installation CD: **[CD-ROM Drive]:USB to Serial Adaptor Drivers**
- Step 4.** Continue to follow the on-screen instructions to install the USB Adaptor and USB Port. See Fig. 1.1.3, Fig. 1.1.4, and Fig. 1.1.5 on the next page.

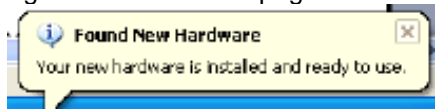
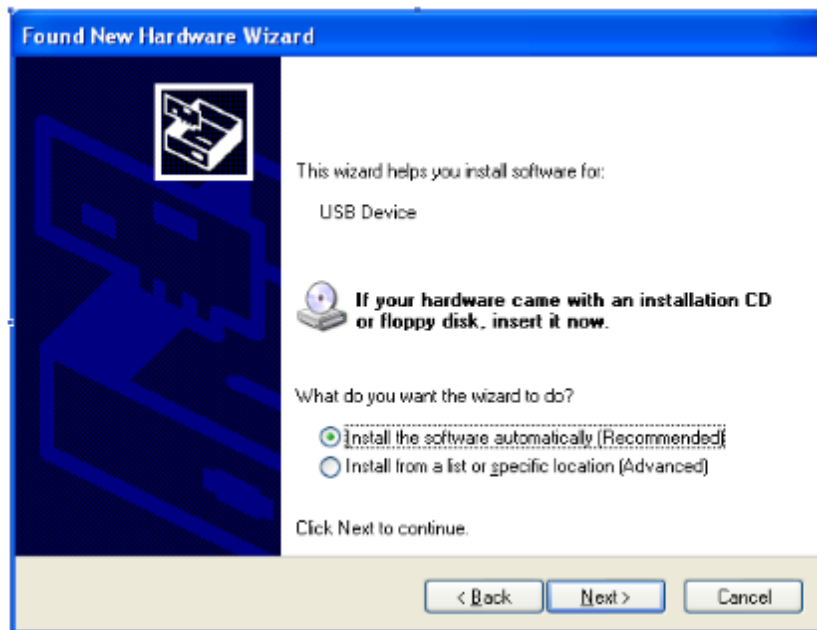


Fig. 1.1.1 – Found New Hardware Notification

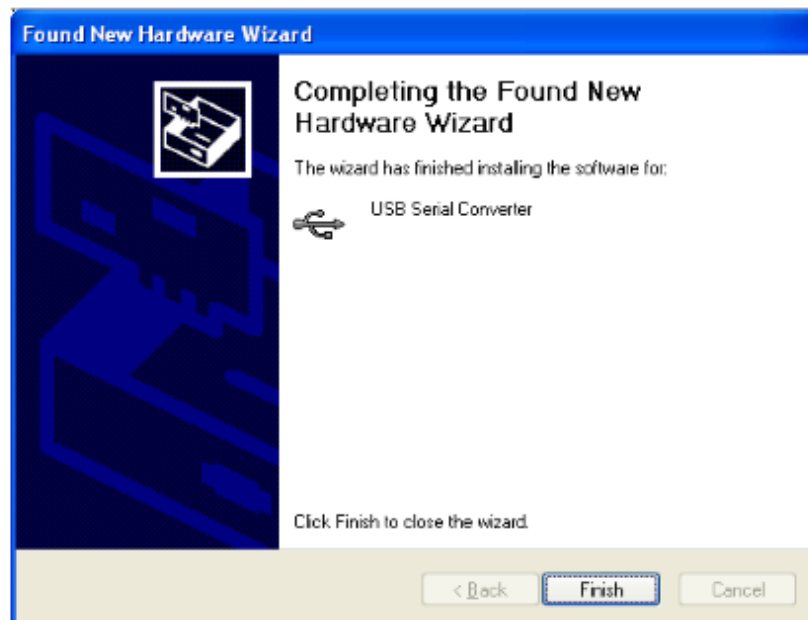


Fig. 1.1.2 – Found New Hardware Wizard

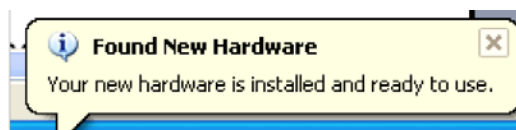
**1.1 Getting Started** *(continued)*



*Fig. 1.1.3 – Install software automatically*



*Fig. 1.1.4 – Install complete*



*Fig. 1.1.5 – Hardware ready to use notification*

**1.2 USB to Serial Adaptor Installation**

All drivers are included on the Grace Instrument installation disk. Navigate to the “USB to Serial Adaptor Drivers 090710” folder on the disk. Double click the “Virtual Comm Port Drivers - CDM20802\_Setup.exe” setup file to begin installation. To install the USB Serial Adaptor driver from our web site, please follow the steps below:

- Step 1.** Navigate to [www.graceinstrument.com/software.php](http://www.graceinstrument.com/software.php)
- Step 2.** Scroll down the page until you see the section *USB ADAPTOR DRIVERS*. Click the plus sign to Expand the section. Click the blue hyperlink to download.
- Step 3.** Once downloaded, navigate to the “USB to Serial Adaptor Drivers 090710” folder. Double click the “Virtual Comm Port Drivers - CDM20802\_Setup.exe” setup file to begin installation. (If the file is zipped, unzip the file first, using a third-party unzipping tool. Then, open the folder and double-click the setup file to install the driver.) See Fig. 1.2.1 below.

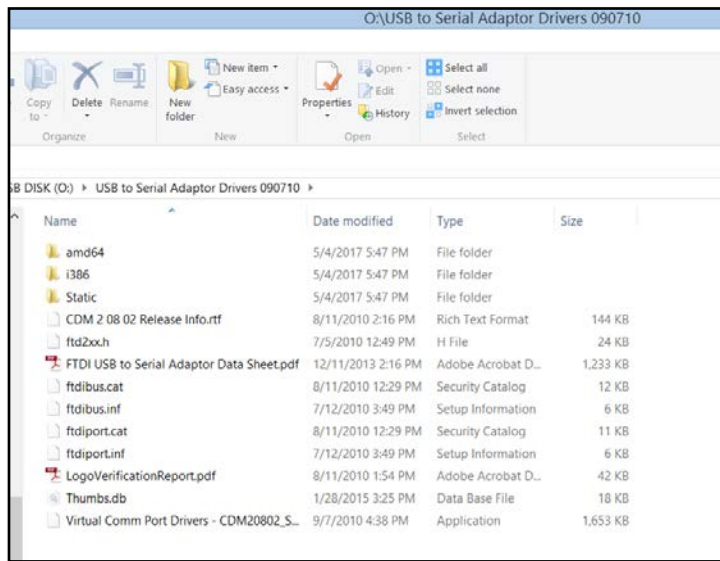


Fig. 1.2.1 – Select Virtual Comm Port Setup File located in USB to Serial Adaptor folder

- Step 4.** The Virtual Comm Port Installer window will open Windows Command Line for installation (as shown below in Fig. 1.2.2). Once the command line states “Installation Complete”. Close the window if it does not close automatically. Continue on to the next section to connect the instrument to the PC.

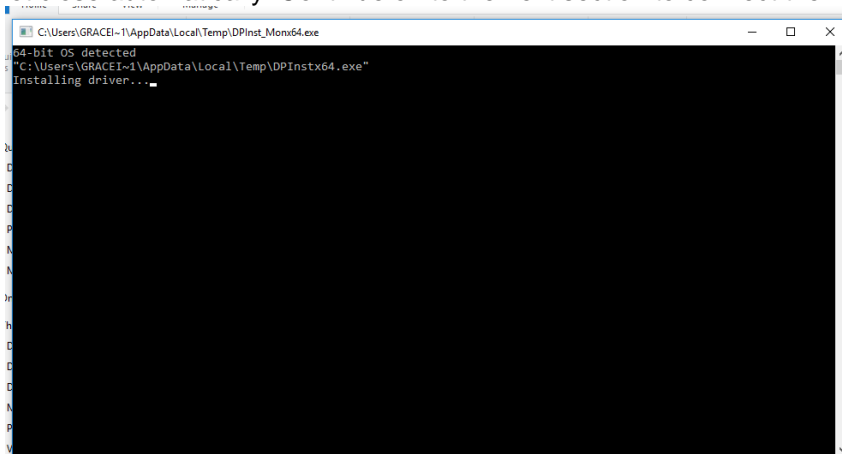


Fig. 1.2.2 – Installing Virtual Comm Port

## 2. CONNECTING THE INSTRUMENT

### 2.1 Determining the correct com port assignment

When you connect the USB/Serial adaptor to your instrument and PC, Windows will assign a com port to the adaptor. You must now determine which com port has been assigned. The following instructions apply to Microsoft Windows XP, but should correspond to the structure of all Windows versions, including Windows 7 and later. This section assumes that you have installed the necessary USB serial driver before proceeding further.

**Note:** It may be necessary to plug the adaptor in repeatedly before Windows will recognize it properly.

- Step 1.** Once you plug the adaptor into your computer, you may be prompted to install a driver. The driver for the USB/Serial adaptor cable is found on the software disk which accompanied the instrument, in a folder titled *USB to Serial Adaptor Drivers 090710*. Refer to *Section 1.2 USB to Serial Adaptor Installation* for more information.
- Step 2.** When the driver has finished installing, go to the Windows CONTROL PANEL and click SYSTEM PROPERTIES. If you have a more recent version of Windows such as Windows 8, or Windows 10, click the Start icon in the bottom right. Choose **Control Panel** (shown in Fig. 2.1.1). Once the Control Panel Window opens, note how the items in the window are grouped. If the Control Panel is grouped by small icons (shown in Fig. 2.1.2), click **Device Manager**. Skip to Step 4.

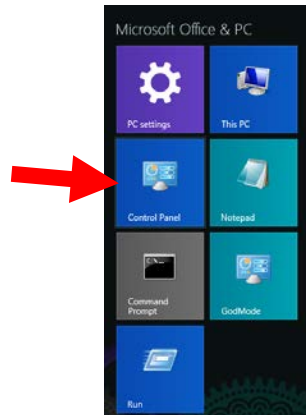


Fig. 2.1.1 Choose Control Panel from Start Menu

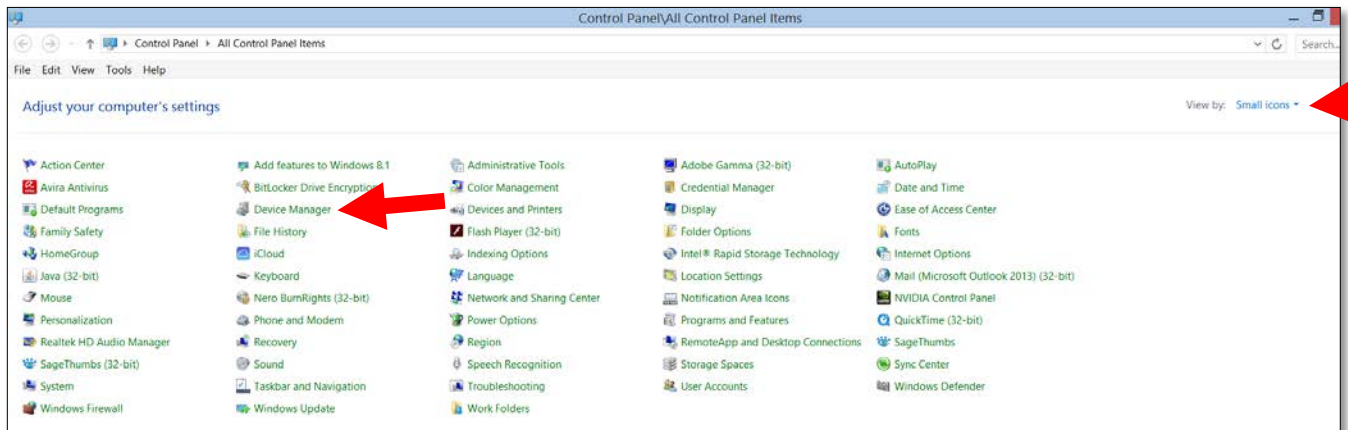


Fig. 2.1.2 –Control Panel Viewed by Small Icons

If your Control Panel is grouped by Category (shown in Fig. 2.1.3), click on **Hardware & Sound**.

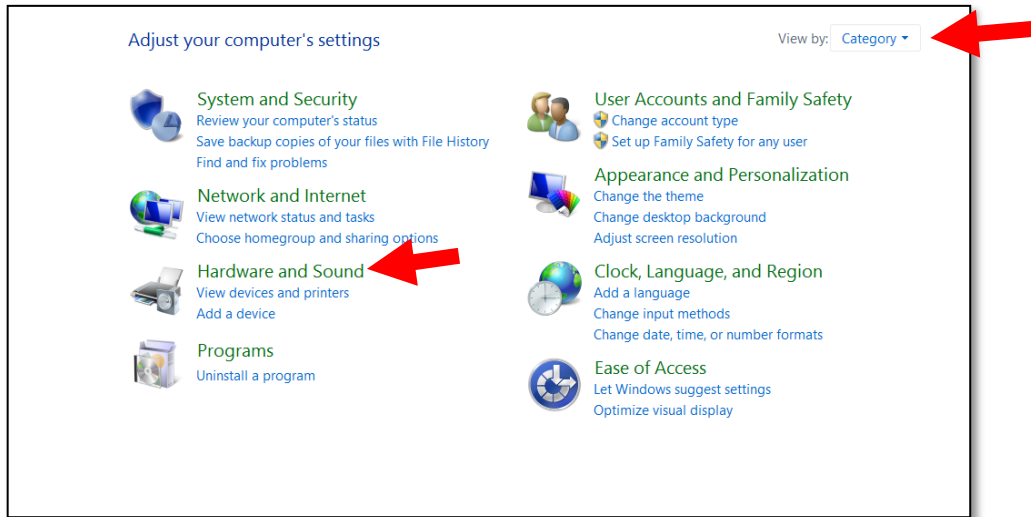


Fig. 2.1.3 – Control Panel View by Category

**Step 3.** Then, click **Device Manager** under **Devices & Printers**. (See Fig. 2.1.4.)

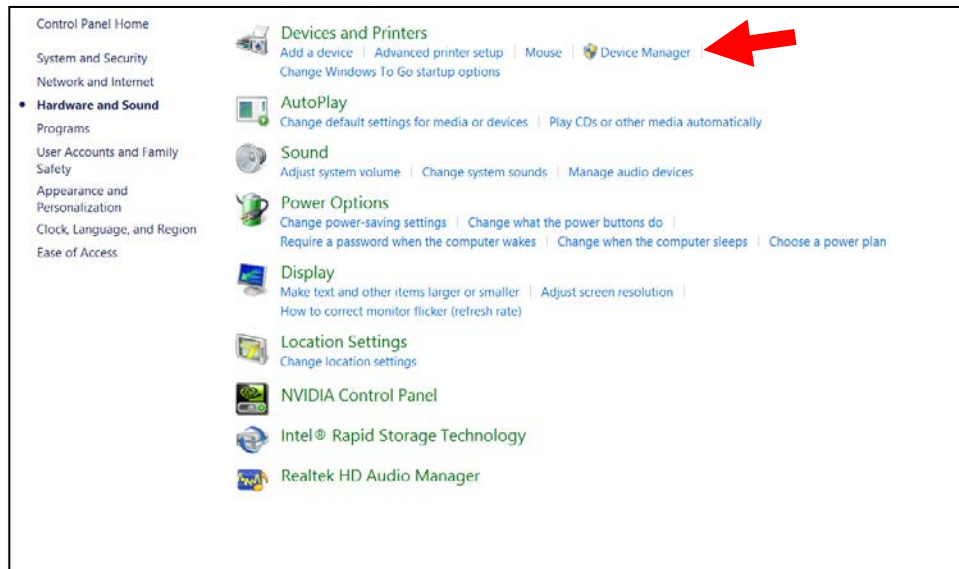


Fig. 2.1.4 – Choose Device Manager

**2.1 Determining the correct Comm Port assignment (continued)**

- Step 4.** Inside Device manager find **Ports (COM & LPT)**. Click the arrow to the left of **Ports (COM & LPT)**, where a collapsible list of items should appear. Some computers show a plus “+” sign. (See Fig 2.1.5 below.)
- Step 5.** Plug in the USB Serial Adaptor. Note the USB Serial Ports that are listed. Then, unplug the USB Serial Adaptor. Note which COM Port has disappeared from the list. Plug the USB Serial Adaptor back in to verify.
- Step 6.** Observe which COM port *Windows* has assigned to the USB adaptor you plugged back in. In this example, *Windows* has assigned it to COM3. Use this COM port number to correspond with the Grace software. (See Fig 2.1.5).
- Step 7.** Go back into the Grace software under the Setup menu and specify the COM port *Windows* has assigned to the adaptor from Step 5. Use the drop-down menu to select the COM port number for each unit. Repeats Steps 3 to 5 until all of your units are assigned unique com port numbers and have been specified in the Grace Software.

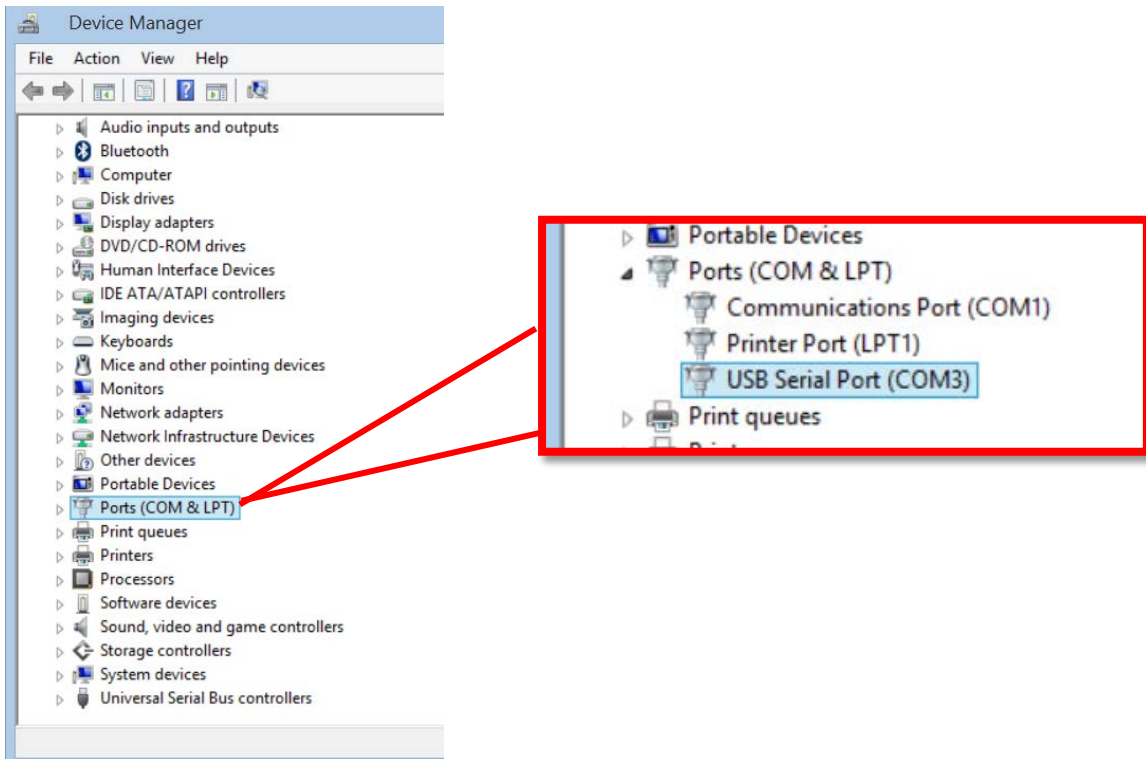


Fig. 2.1.5 Device Manager



- Step 8.** COM port assignments may be changed by double-clicking the USB Serial Port device, as shown in Fig. 2.1.6; however, this step is completely optional.



Fig. 2.1.6 USB Serial Com Port Properties

**2.2 Connecting the Instrument**

Every instrument using Grace Instrument PC software has the same basic setup screen. Click the FILE menu and choose SETUP from the dropdown or use the menu buttons on the side of the screen and click the SETUP button. (See Fig. 2.2.1 and Fig. 2.2.2 below.) Navigate to the hardware tab, if necessary. This is where you will select the COM Port you wish to use. We are using M3600 PC software as an example to connect the PC to the M3600 Automatic Viscometer unit.

**Step 1.** Click the **Setup** button to bring up the *M3600 Setup* screen and get started using *M3600DAQ*.

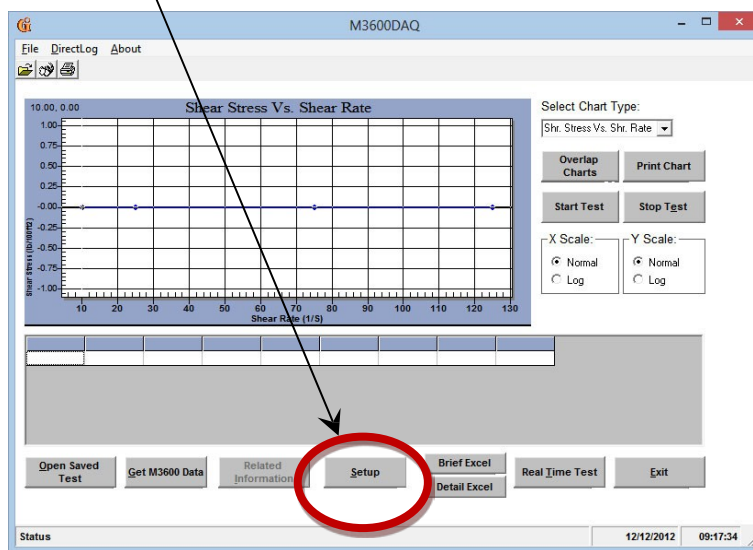


Fig. 2.2.1 – M3600DAQ main screen

	<p><b>NOTE</b></p> <p>It is advised that you disable your PC's screensaver and any power saver settings (such as those which shut off the screen or hard drive) before running a test that will take more than a few minutes. It is also advised that you disable automatic Windows updates before running a lengthy test.</p>
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**Step 2.** Use the "Comm Port No." drop-down menu to choose the correct com port for your PC. Only a unique and available RS-232 Com port (from COMM 1 to COMM 12) may be assigned to each unit.

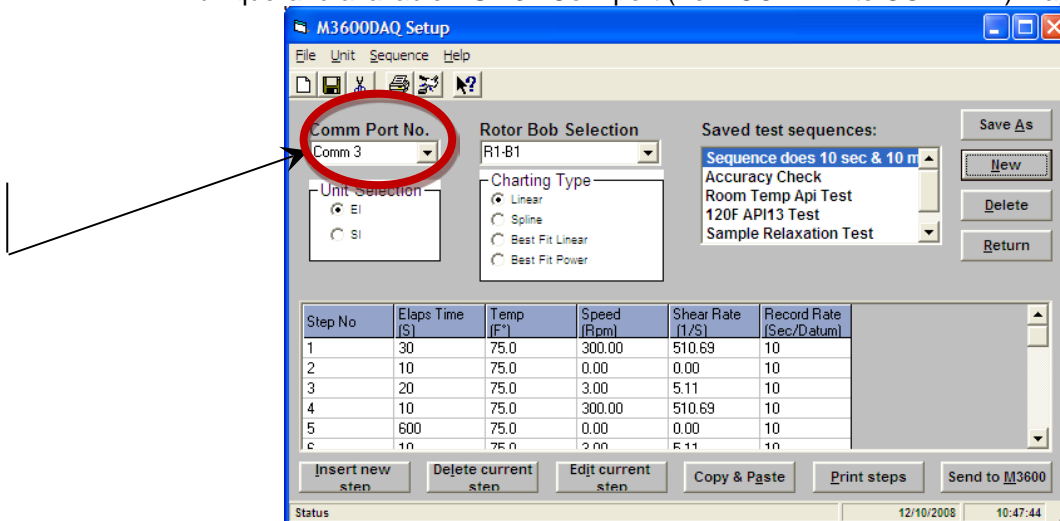


Fig. 2.2.2 – M3600DAQ setup screen

**2.2 Connecting the Instrument (continued)**

Here is another example of connecting the instrument to a PC using our M7350 Ultrasonic Cement Analyzer software. Open the Grace Instrument Software (in this case we are using M7350 PC). Click the SETUP button from the left-side menu on the home screen, shown in Fig. 2.2.3. Click the Hardware & Misc Setup Tab as show in Fig. 2.2.4.

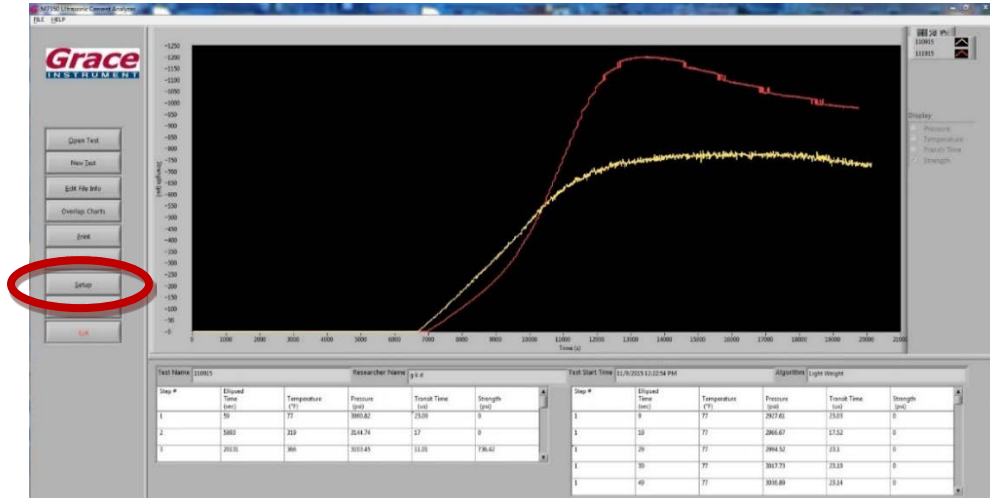


Fig. 2.2.3 – M7350 PC home screen with side menu

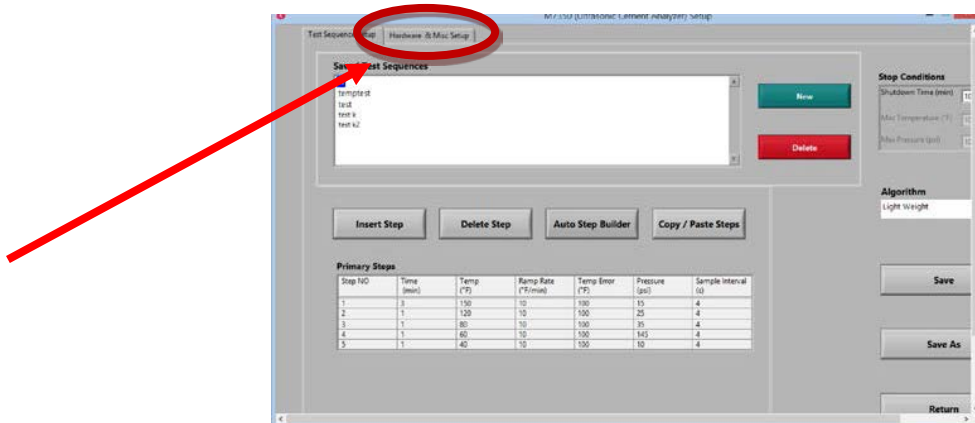


Fig. 2.2.4 – M7350 PC setup window

Within the M7350 PC Hardware & Misc Setup Tab, you may connect up to 8 units using the appropriate COM ports/USB Serial Adapters.

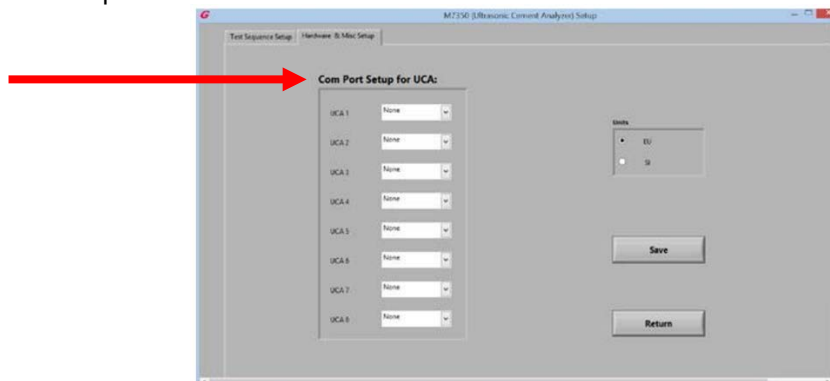


Fig. 2.2.5 – M7350 PC Hardware & Misc. setup window

### 3. UNINSTALLING THE COM PORT

#### 3.1 Uninstalling a COM PORT device for Windows 8® and later

Sometimes, when a USB device is plugged in, it introduced as new COM port device, even if it had been previously used on that PC. This results in a new COM port number for each and every subsequent COM port plugged in. This will raise issues within the Grace PC software as you are attempting to assign a COM port number to a unit. To remedy this problem, simply delete the unnecessary COM port device using the steps below.

*For WINDOWS® 8, WINDOWS® 8.1, and Windows® 10 only*

- Step 1.** Open Device Manager. Refer to Section 2.1 Determining the correct COM Port for help with locating the device manager. See Fig. 3.1.1 below.

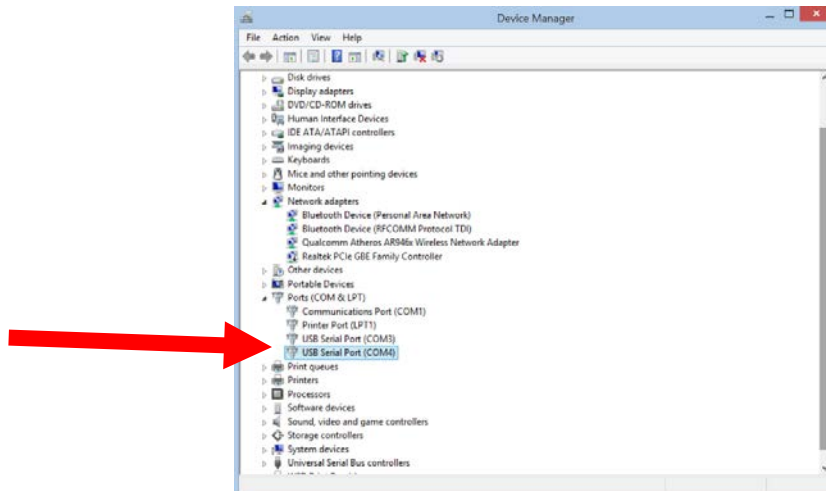


Fig. 3.1.1 Select a COM Port to uninstall/delete

- Step 2.** Select the USB device, or COM Port you wish to uninstall. In this example, we are uninstalling COM 4. Right-click COM 4 and select UNINSTALL from the menu. Check the box if you also want to delete the driver software for the device. Click “OK” to continue. See Fig. 3.1.2 below.



Fig. 3.1.2 Confirm device uninstall

**3.1 Uninstalling a COM PORT device (continued)**

**Step 3.** Navigate to the Device Manager File Menu and click VIEW. Select “Show hidden devices” to list and show every COM Port/device on the PC. See Fig. 3.1.3 below.

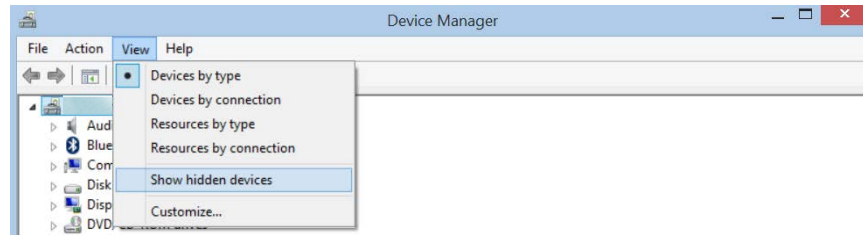


Fig. 3.1.3 Show hidden devices

**Step 4.** If the COM Port you selected has been uninstalled, it will not display under Ports. You may continue onto the Grace PC Software to finish setting up COM Port numbers and exit Device Manager.

**3.2 Uninstalling a COM PORT device for Windows® 7 and earlier**

*For Windows® 7, Windows® VISTA, Windows® XP, and earlier only*

**Step 1.** Click the Start Menu. (See Fig. 3.2.1 and Fig. 3.2.2). Type **cmd.exe** into the search box as shown in Fig. 3.2.3 below.



Fig. 3.2.1 Click Start Menu button

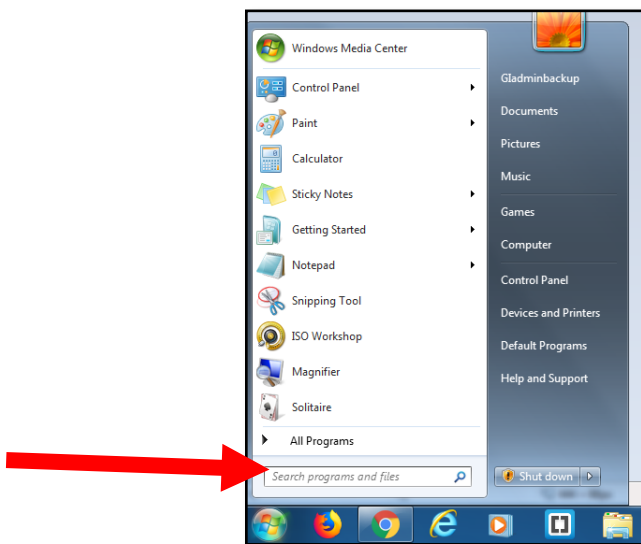


Fig. 3.2.2 Type in search box

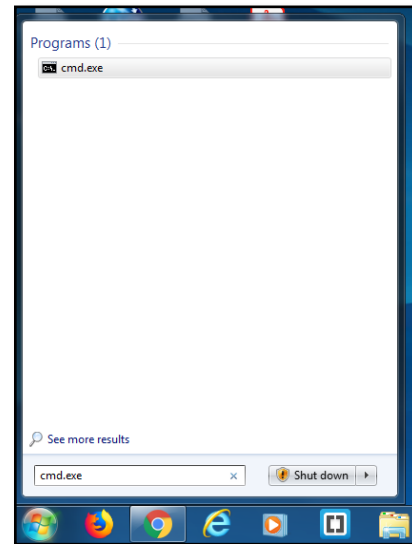


Fig. 3.2.3 Bring up cmd.exe

**3.2 Uninstalling a COM PORT device for Windows® 7 and earlier (continued)**

**Step 2.** Right click the cmd.exe program to display the menu shown in Fig. 3.2.4. Select **Run As Administrator**.

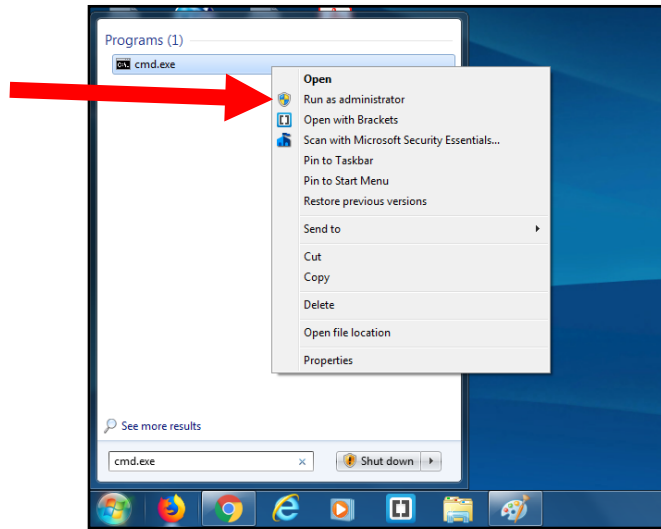


Fig. 3.2.4 Right click to display menu

**Step 3.** The command prompt window will appear. (See Fig. 3.2.5). Type in the following prompt and then press enter: **set devmgr\_show\_nonpresent\_devices=1**

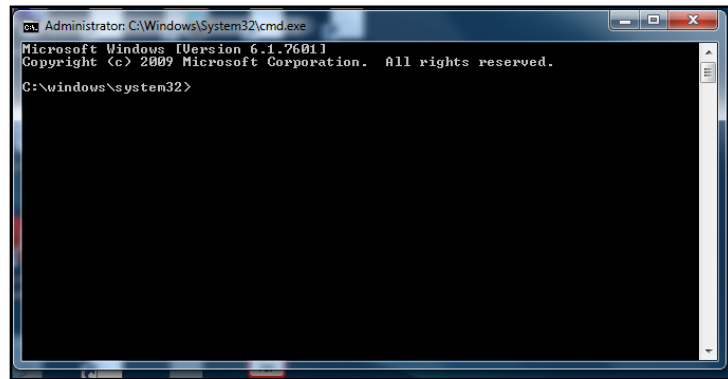


Fig. 3.2.5 Type in first prompt

**Step 4.** Type in the second prompt (see Fig. 3.2.6) and then press enter: **start devmgmt.msc**

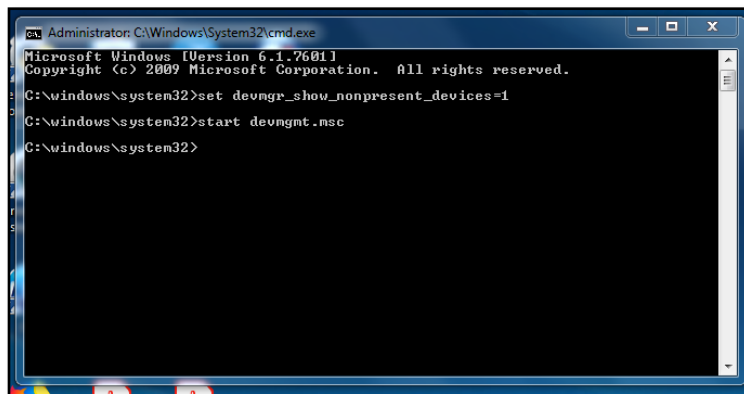


Fig. 3.2.6 Type in second prompt

**3.2 Uninstalling a COM PORT device for Windows® 7 and earlier (continued)**

**Step 5.** The device manager window will appear as shown in Fig. 3.2.7 below.

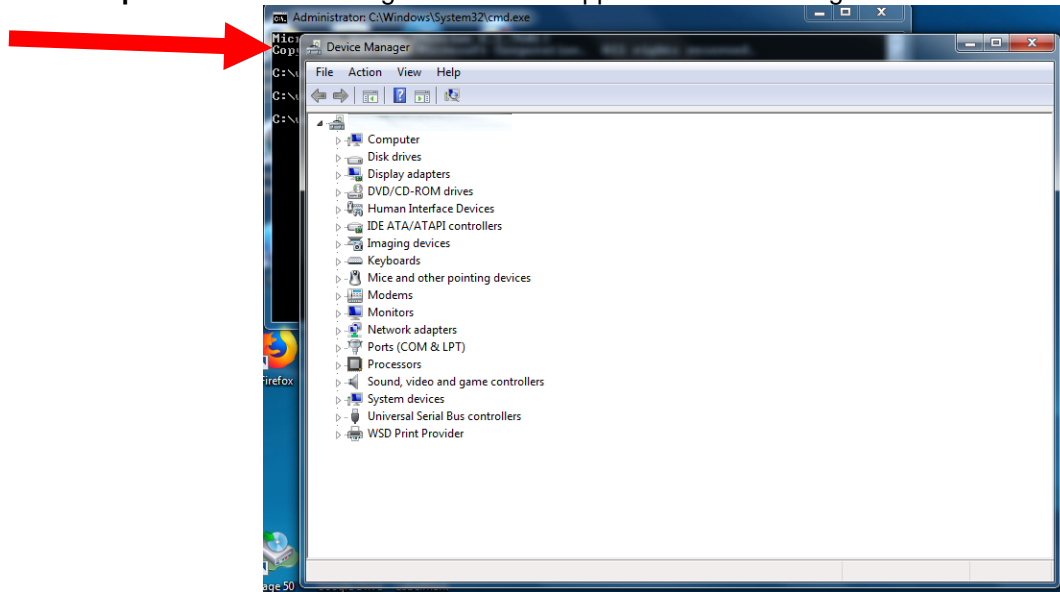


Fig. 3.2.7 Device manager opens

**Step 6.** Click on the View menu and select "Show hidden devices". (See Fig. 3.2.8)

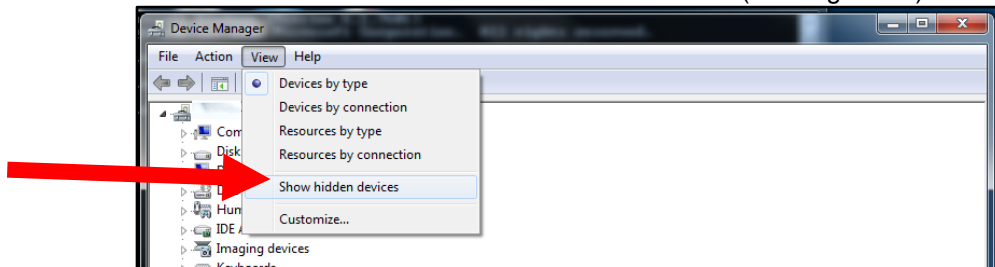


Fig. 3.2.8 Show hidden devices

**Step 7.** Now select Ports (Com & LPT) and expand the menu by clicking the triangle on the left side. All previously used ports will appear in the list. Select the COM Port(s) you wish to uninstall. Right click the selection and click uninstall to remove the ones no longer in use. (See Fig. 3.2.9)

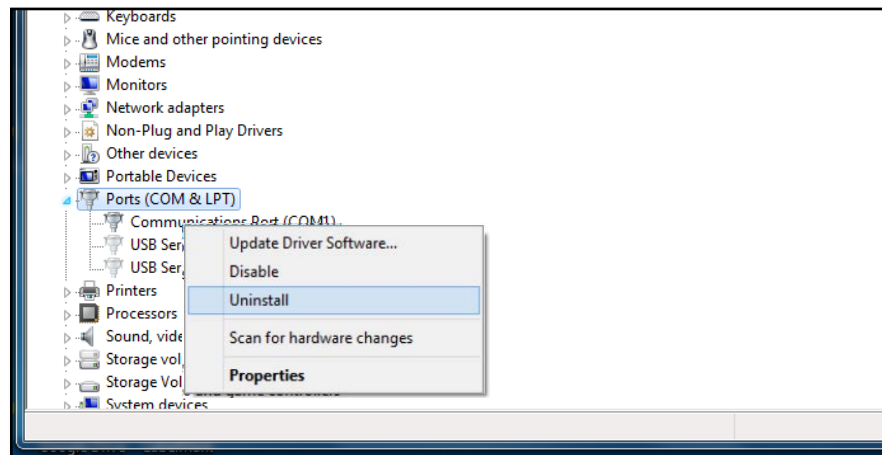


Fig. 3.2.9 Show hidden devices