USB SERIAL ADAPTOR COM PORT INSTRUCTIONS

Version 1017-CPI

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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 Adapter 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.
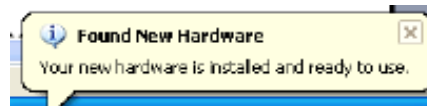
Fig. 1.1.1 – Found New Hardware Notification

Fig. 1.1.2 – Found New Hardware Wizard
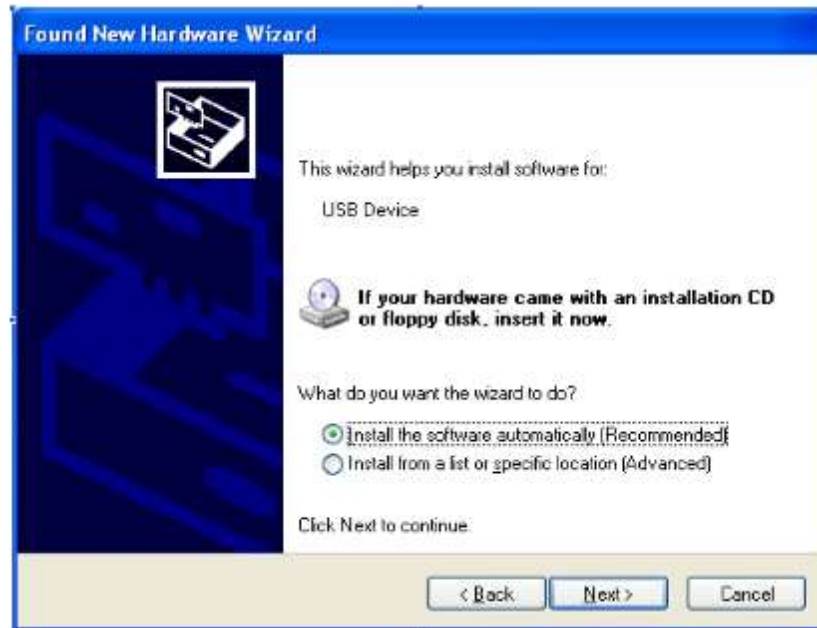
1.1 Getting Started *(continued)*

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

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.
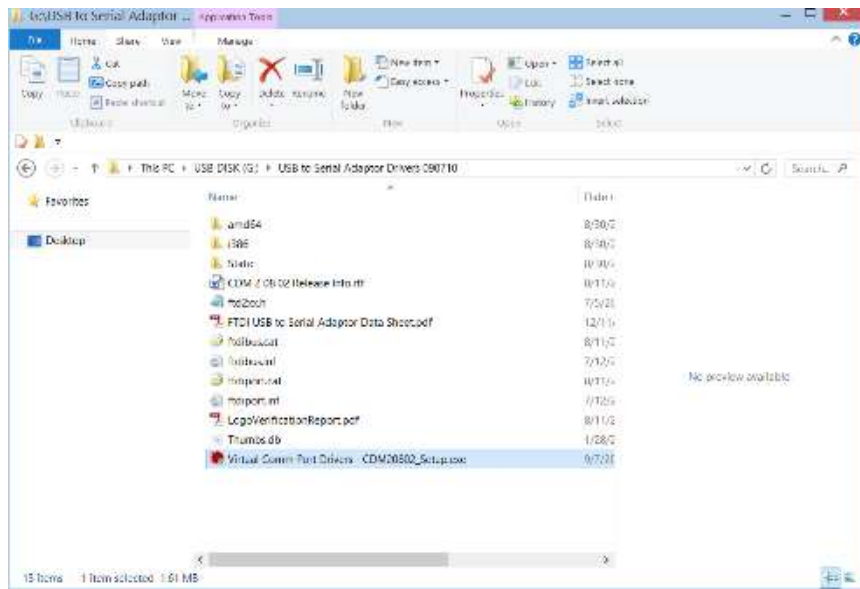

Fig. 1.2.1 – Select Virtual Comm Port Setup File located in USB to Serial Adaptor folder

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.
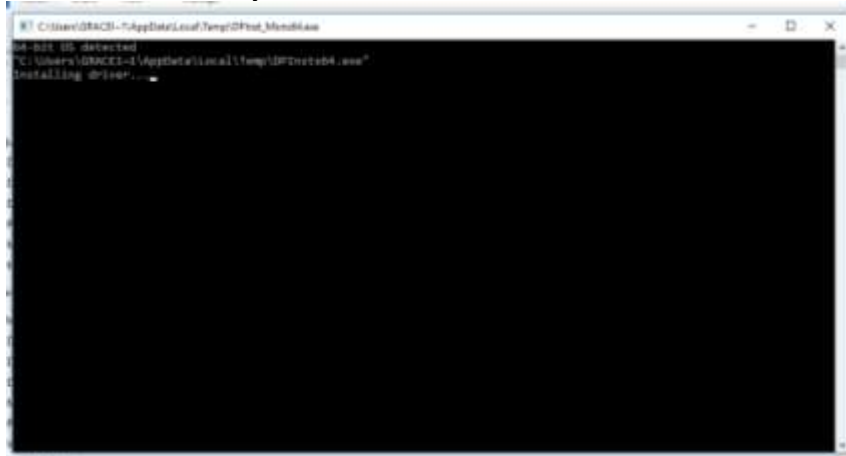

Fig. 1.2.2 – Installing Virtual Comm Port

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 SP2, but should correspond to the structure of all Windows versions, 9X 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 recent version of Windows such 7, 8, or 8.1 click the Start icon in the bottom right. Choose **Control Panel**. Once the Control Panel Window opens, click the Device Manager.
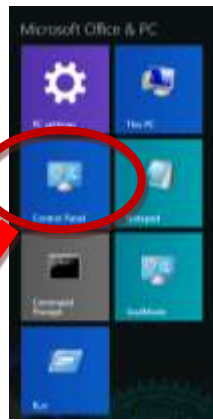

Fig. 2.1.1 Start Menu

Fig. 2.1.2 – Control Panel

NOTE
If your Control Panel is viewed by Category, you may find Device Manager under:
Control Panel ► Hardware and Sound ► Devices and Printers ► Device Manager

2.1 Determining the correct comm port assignment *(continued)*

Step 3. 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 2.1.3 below.)

Step 4. Observe which COM port *Windows* has assigned to the USB adaptor you plugged in. In this example, *Windows* has assigned it to COM3. Use this COM port number to correspond with the Grace software. (See Fig 2.1.3).

Step 5. Go back into the Grace software under the Setup menu and specify the COM port Windows has assigned the adaptor from Step 4. 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.
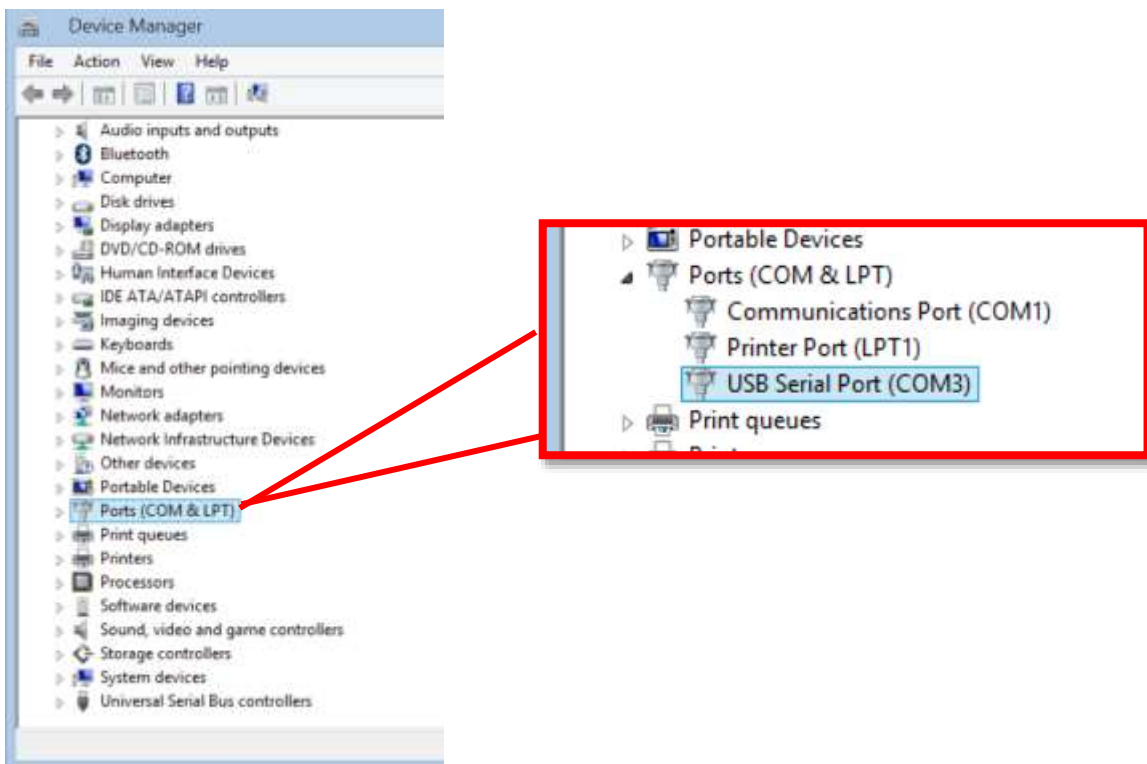

Fig. 2.1.3 Device Manager

Step 6. COM port assignments may be changed by double-clicking the USB Serial Port device, as shown in Fig. 2.1.4. However, this step is completely optional.

Fig. 2.1.4 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. 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*.
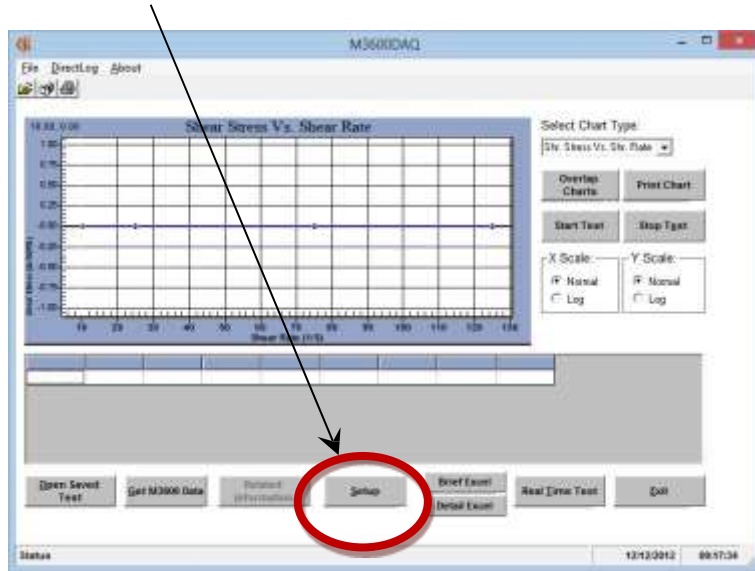

Fig. 2.2.1 – M3600DAQ main screen

	NOTE
⚠	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.

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.
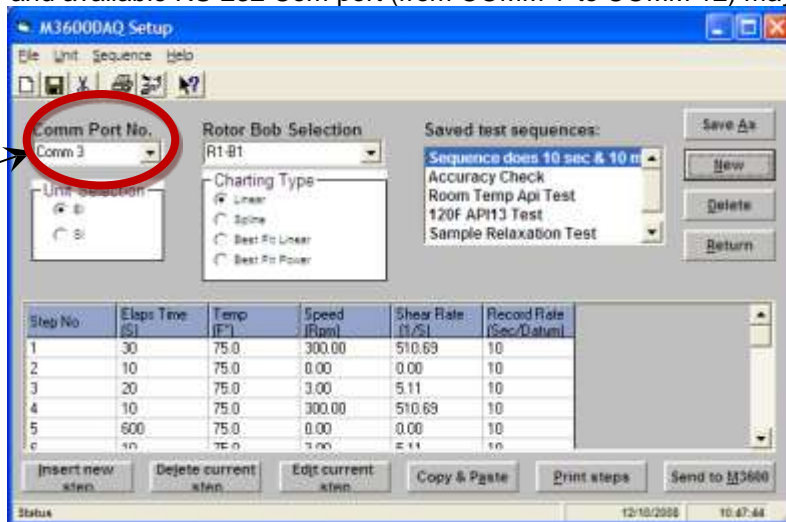

Fig. 2.2.2 – M3600DAQ setup screen

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.
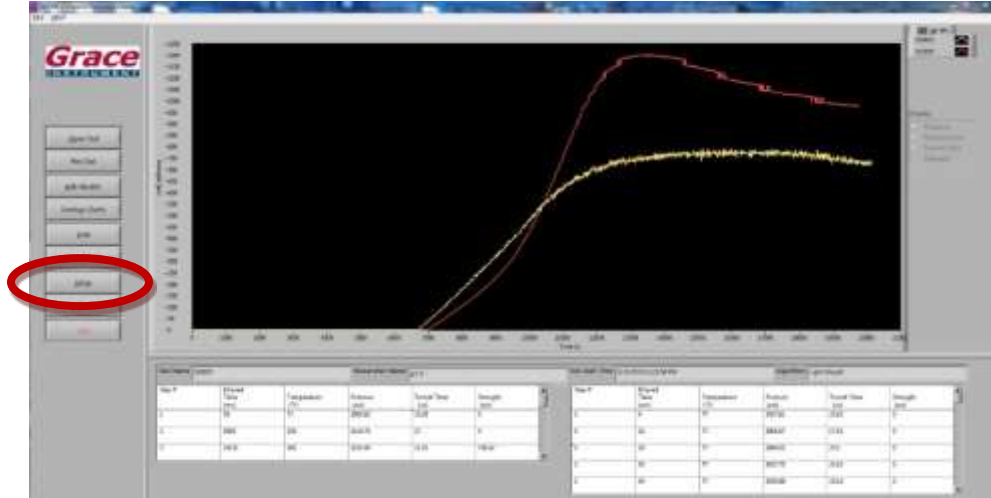

Fig. 2.2.3 – M7350 PC home screen with side menu
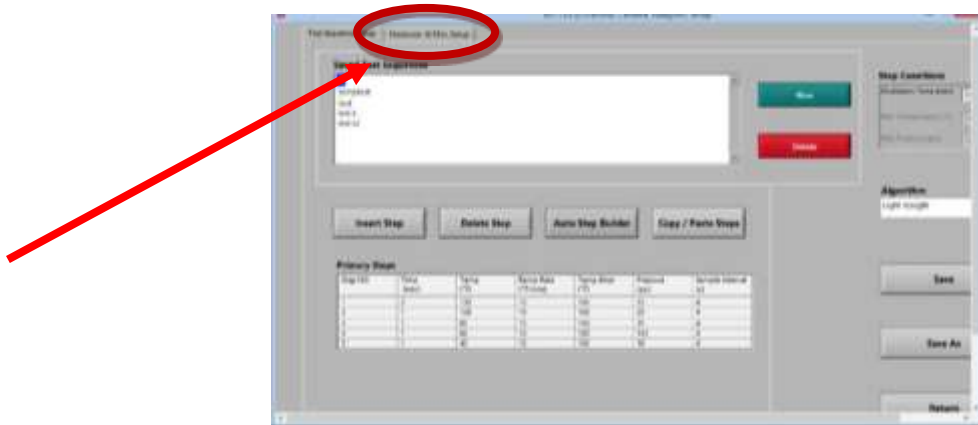

Fig. 2.2.4 – M7350 PC setup window

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

2.3 Uninstalling a COM PORT device

Sometimes, a USB device, when plugged in, is 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.

Step 1. Open Device Manager. Refer to *Section 2.1 Determining the correct COM Port* for help with locating the device manager. See Fig. 2.3.1 below.
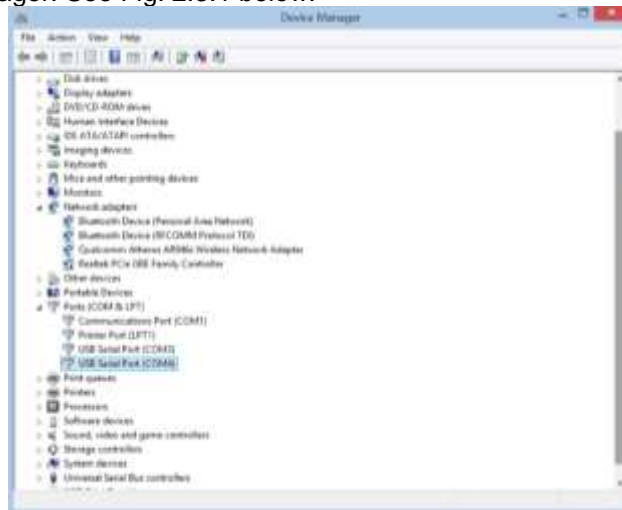

Fig. 2.3.1 Select a COM Port to uninstall/delete

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. 2.3.2 below.

Fig. 2.3.2 Confirm device uninstall

Step 3. Navigate to the Device Manager File Menu and click VIEW. Select "Show hidden devices" to show and list every COM Port/device.

Fig. 1.4.3 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.