

A-TRACK – Your DCC Buddy

Installing USB-to-Serial Adapter Drivers for Use with A-Track

Version 4.4.3

Contents

NCE USB Interface Unit	5
Keyspan USA-19HS USB-to-Serial Adapter	9
USB-to-Serial Adapters using Prolific Chipsets	15
Links to USB-to-Serial Interface Vendors	21
Using Multiple NCE USB Interfaces with Windows XP or Vista.....	24

A-Track can be connected to an NCE Power Cab or Smart Booster system by using the NCE USB Interface unit, or can be connected to an NCE Power Pro system either directly from a standard Serial (RS232) port, if your PC is equipped with one, or by using any standard USB-to-Serial interface adapter.

A-Track has been tested with a variety of USB-to-Serial adapters from a number of manufacturers, and will work with devices based on chipsets from Prolific, FTDI, Silicon Labs, Keyspan, and Microchip. Connection of A-Track to an NCE Power Pro Command Station directly from a standard PC Serial Port does not require any additional software to be installed.

Important : If you are planning to use a USB adapter of some kind, then in most cases you will need to **install driver software *before*** you plug the device into your computer and connect to the NCE equipment. If your PC is running Windows 10 then plugging the device into a USB port may prompt automatic download and installation of the correct driver, but this cannot be guaranteed.

Your USB adapter will either have been supplied with suitable driver software on a CD-ROM disk, or it will come with details of how to download the required driver software from an Internet website (usually that of the manufacturer of the particular chip or chipset incorporated within the USB adapter). The driver software may or may not come with instructions (or they may either be posted on, or be downloadable from, the same website). While driver installations follow a fairly standard set of steps, the details can vary a lot between manufacturers. It is very important, therefore, that you read any instructions before doing anything, and then follow them exactly in the course of installation – most failed installations result from skipping a vital step, or doing things in the wrong order.

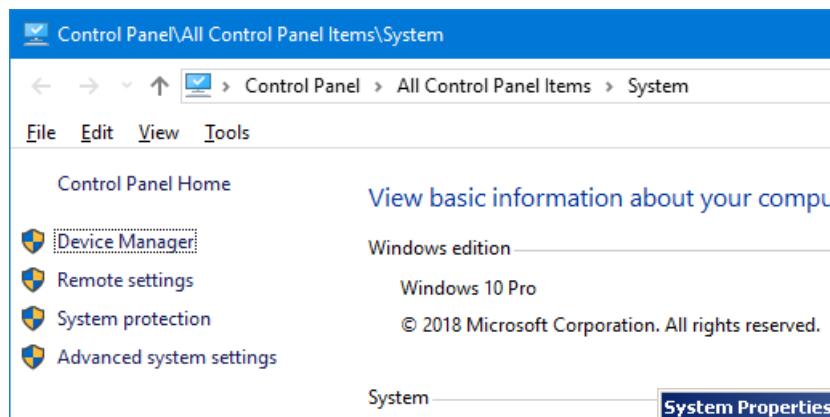
Before starting to install driver software, ensure that the active User has administrative rights (this is the normal status when the operating system is either Windows XP Home or Media Edition, and in both Windows Vista, Windows 7, Windows 8, or Windows 10 Starter or Home Editions, but you may need to log on as an Administrator when using Windows XP Professional Edition, Windows Vista and Windows 7 Business, Professional, or Ultimate Editions, or Windows 8 or Windows 10 Professional or Enterprise Edition).

As an illustration of how to proceed, three examples are given in the following Sections – one for the NCE USB Interface unit, another for a Keyspan USB-to-Serial interface adapter, and finally

advice on how to deal with the cheaper type of adapters which employ chipsets made by Prolific. However, be aware that all driver software and their installation programs tend to be updated frequently, so the website links and installation steps to be followed for the version you obtain for your adapter may not be exactly as shown in the following paragraphs.

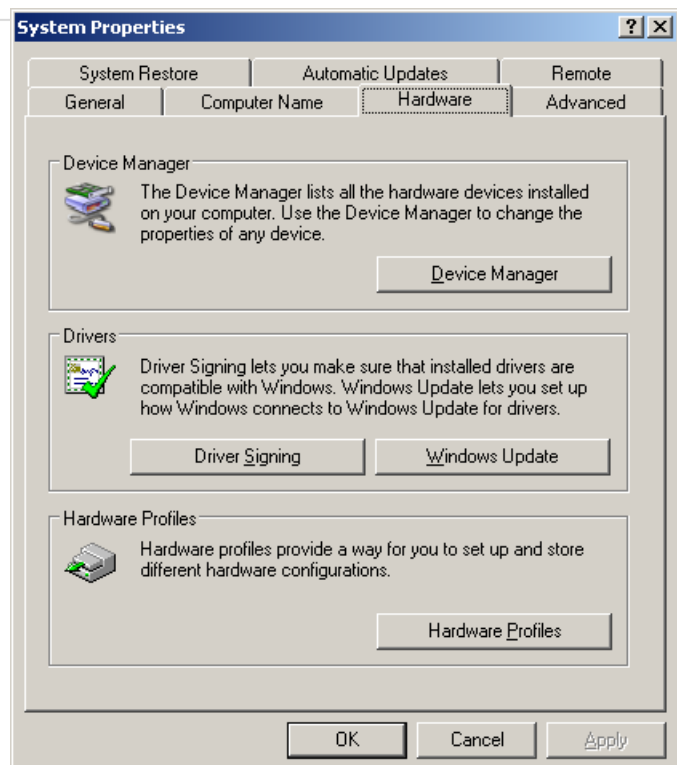
The one thing that all installations do is to assign a COM Port Number to the adapter. Normally this will be the next available unassigned Number and, when you connect to your NCE system using the adapter, A-Track will automatically determine which COM Port is being used and establish communication without you needing to do anything more. However, very occasionally, the driver installation software will incorrectly assign a COM Port Number which has already been assigned to another device. In this case you may find that A-Track cannot connect reliably (or at all) to your NCE system. If you do experience problems in this area then, as a first step you should use the Windows Device Manager application to check that the driver has been properly installed and which COM Port Number has been assigned.

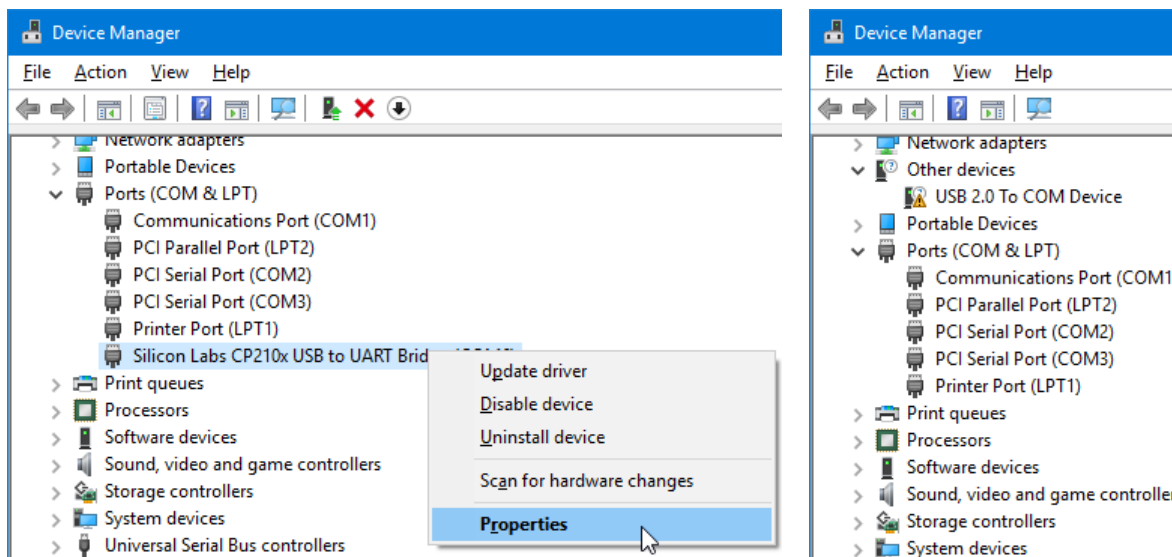
With the adapter plugged into a convenient USB socket, open Control Panel on your computer, find the link or icon labelled **System** and click on it. With Windows Vista, Windows 7, and above this will open a window with a link to Device Manager in the top left corner –



Clicking System in Control Panel when you are using Windows XP opens a rather different window where you need to click on the **Hardware** tab to reveal a button which will give you access to Device Manager –

Click on the link or button to open Device Manager, scroll down and expand the Ports (COM & LPT) group, find the entry corresponding to the adapter driver (Silicon Labs in this case, as used for the NCE USB Interface), and right-click on it –

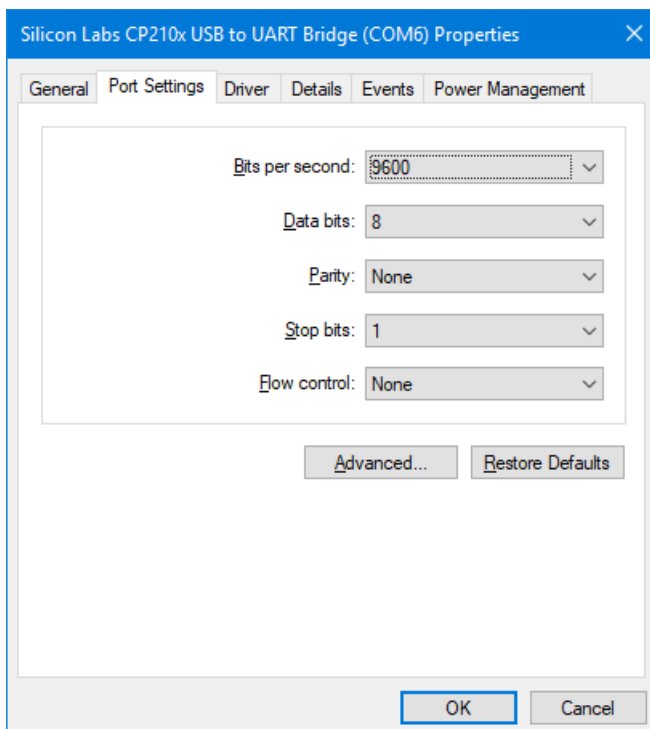




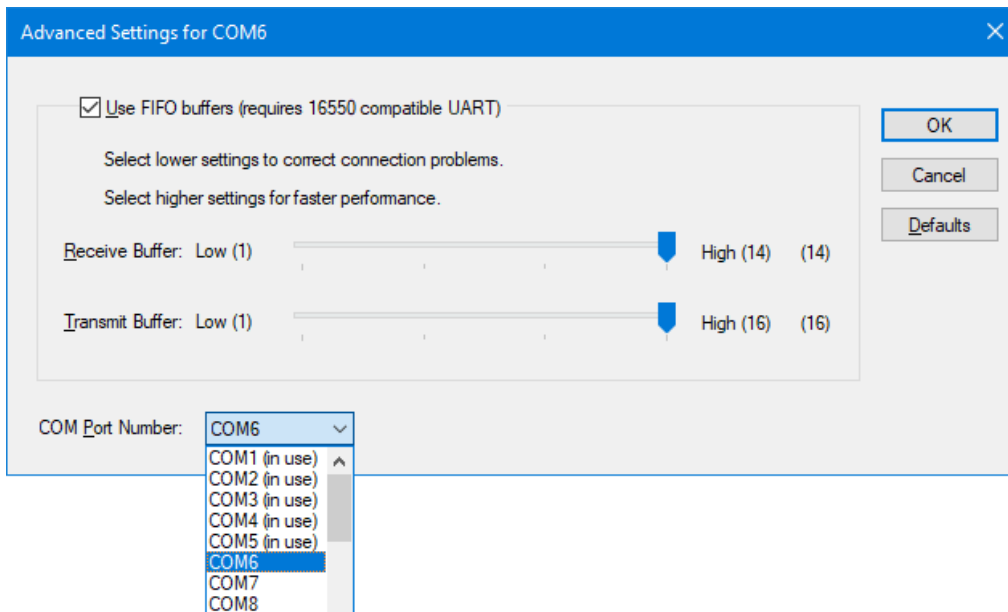
If the adapter driver has installed correctly, you should see a pop-up menu such as that in the lefthand picture above, where you should click on the **Properties** option.

Otherwise, if the driver installation has not succeeded, you will see something like the righthand picture where the adapter is shown as 'USB2.0 To COM Device' under 'Other devices' with a small yellow or orange warning triangle. In the latter case you should unplug the adapter and attempt to reinstall the driver, making sure that you follow any instructions carefully and exactly.

Assuming that the driver is correctly installed, clicking on Properties opens a window where you should click on the **Port Settings** tab, followed by the **Advanced** button –



– which opens the Advanced Settings window –



The only setting which should be changed here, if necessary, is the COM Port Number. If you think that the assigned COM Port Number clashes with another device, and is thereby interfering with communications, click on any unused Number in the drop-down list to assign it to your adapter (such as COM7 or COM 8 here), click **OK** twice to close the open windows, and then close Device Manager.

In particular, you should avoid using COM1 through COM4 since, although they may appear to be unused in many cases, they may have been assigned passively to built-in devices on your PC's motherboard so that attempting to use them for your external adapter can result in unexpected behaviour.

NCE USB Interface Unit

The NCE USB Interface unit is not supplied with any software, but there is a link to the required driver software from the relevant page of the NCE website at –

<https://ncedcc.zendesk.com/hc/en-us/articles/207812203-Windows-USB-Drivers->

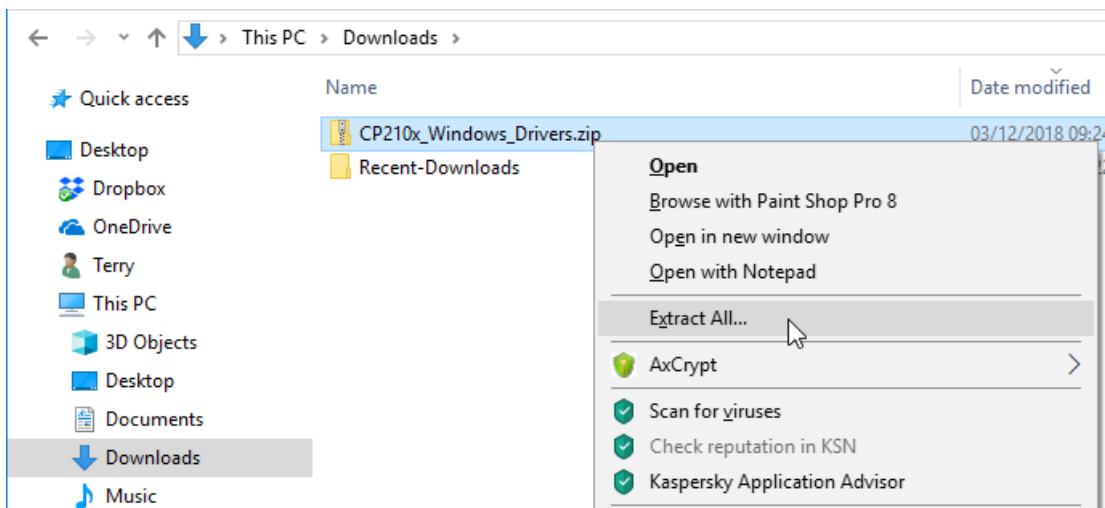
Clicking on the link there takes you to a Silicon Labs webpage (see **Section 9**) –

<https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers>

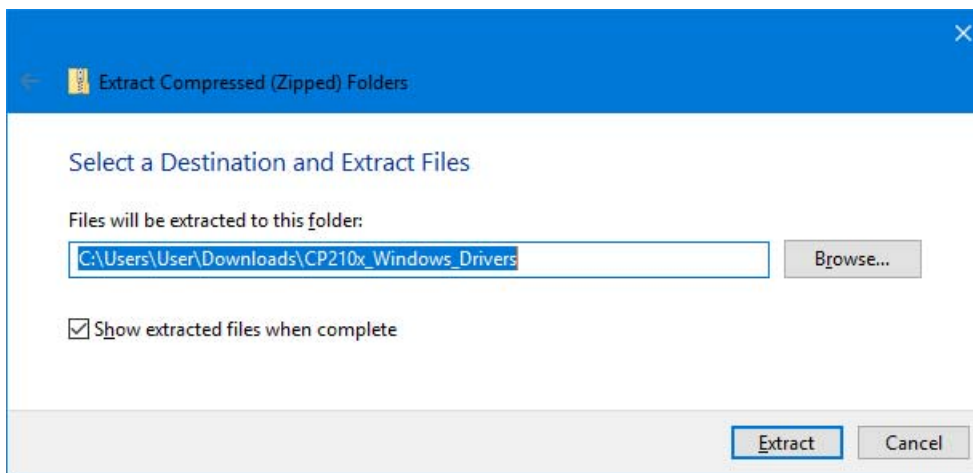
– where you should download a copy of the ‘CP210x USB to UART Bridge VCP Driver’ for whichever version of Windows is installed in your PC, by clicking this time on the link labelled ‘Download VCP’ in the appropriate Windows section of the page.

Depending on which Internet browser you are using, the driver file will either be downloaded directly to your specified Downloads folder (as with Google Chrome, for example) or you will be prompted to Save or Open (Run) the file (by Internet Explorer, for example). In the latter case, click **Save** to transfer the installation file (such as CP210x_VCP_Windows.zip) to a suitable location on your computer. Do **not** try to Open or Run the driver installation file directly from the Internet.

When download is complete, locate the folder into which you downloaded the installation file. The file is in a compressed or “zipped” form, so the next step is to right-click on the filename, and then click on **Extract All ...** on the pop-up menu (unless you have a third-party utility, such as WinZip, installed on your computer, in which case follow the appropriate procedure).



In the window which opens, simply follow the prompts to “unzip” the executable installation files –

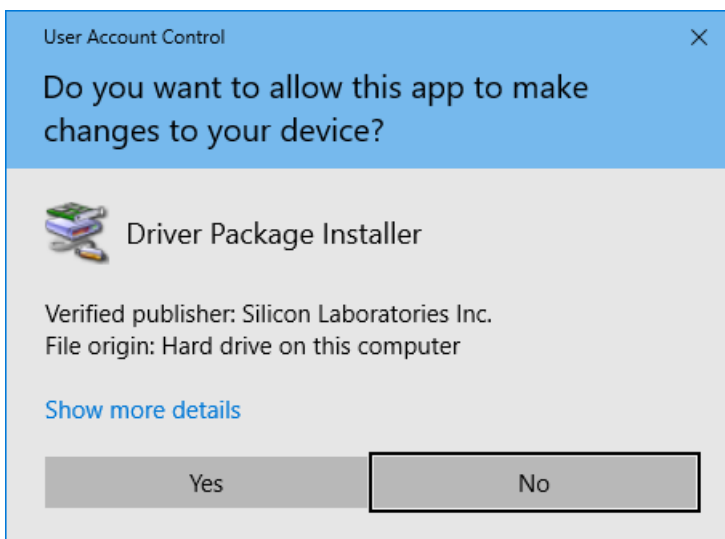


All of the driver files, including **CP210xVCPIInstaller_x86.exe** for 32-bit Windows systems, and **CP210xVCPIInstaller_x64.exe** for 64-bit Windows systems, will be extracted into a folder which, in this case, is **CP210x_Windows_Drivers**.

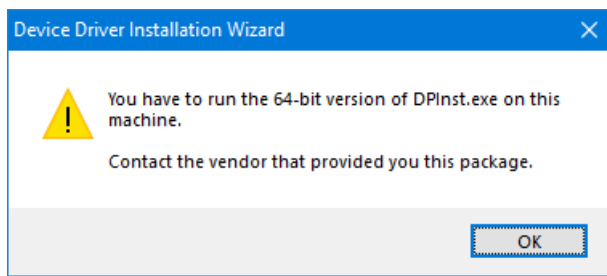
This driver is reasonably straightforward to install, and no specific installation instructions are provided. Installation follows the same steps regardless of the version of Windows running on your computer, so the following example will show the process under Windows 10.

The first step is to locate the folder into which you “unzipped” the downloaded file, open the folder, and then **double-click** on the file appropriate to your version of Windows. If you are unsure, click on Control Panel from the Start Menu, and open the System topic which will tell you whether your system is 32-bit or 64-bit.

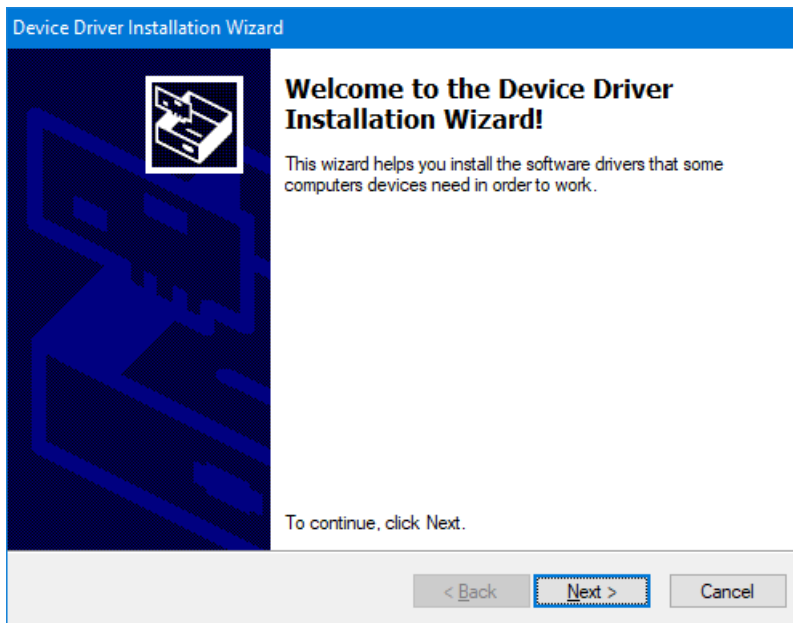
As soon as the process begins, you should ensure that all other open windows (including Windows Explorer) are closed. A warning notice will generally appear (depending on your security settings), requesting permission to continue –



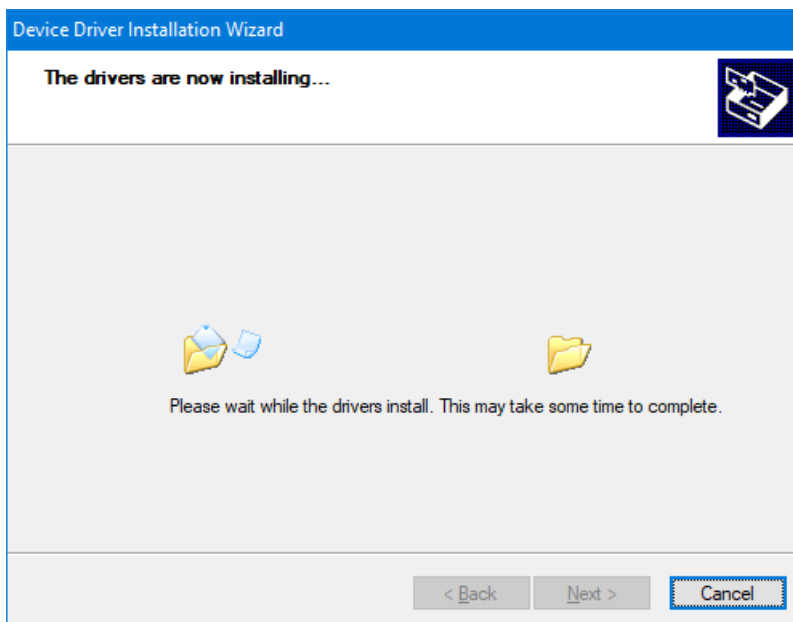
Click **Yes** to start the installation setup. If, for any reason, you have selected the wrong version of setup file, the installer will tell you to use the other one –



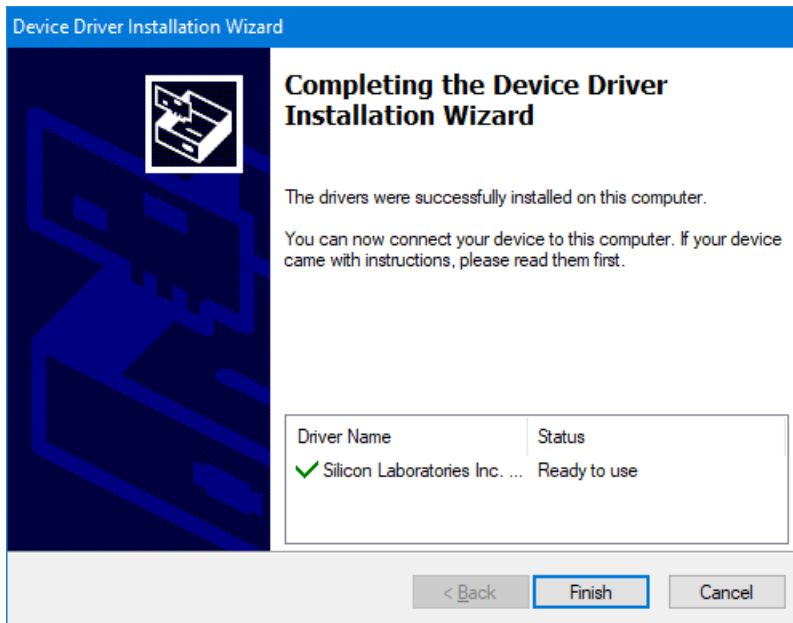
Otherwise, the device driver installation wizard will open –



Click **Next** to start the installation of the driver and its support files –



Wait until the installer indicates that file transfer is complete, then click **Finish** to complete the initial software installation and remove the window from the screen –



You can now connect the NCE USB Interface unit to any available USB port on your computer, using a standard USB A-B cable, when, depending on your version of Windows, you may see a set of small notices appear in the bottom right corner of the screen. The sequence of notices for Windows XP are shown below –



Wait until the final notice appears, indicating that the connected NCE USB Interface is ready for general use –



The NCE USB Interface unit can now be used to connect A-Track to an NCE Power Cab, Smart Booster, or DCC Twin System. A-Track does not require any detailed knowledge of how the driver software has set up communications for the NCE USB Interface, but will simply search all available communications ports automatically to locate a connection to an NCE System.

Note that if, on some future occasion, you choose to connect the NCE USB Interface to a different USB port on your computer, you may see the 'Found New Hardware' notices appear again as the driver software is linked to the new USB port. After the process completes, A-Track will automatically handle any consequent changes to communications port allocations.

Keyspan USA-19HS USB-to-Serial Adapter

Depending on where you obtain your Keyspan USA-19HS USB-to-Serial Adapter, it may be supplied with a CD-ROM containing the driver software documentation, or you may be directed to download the driver software from the Internet.

If you have the CD-ROM, then it is simply a matter of inserting the disk into a suitable drive on your computer, waiting for the installation program to run automatically, and then following the on-screen prompts.

Alternatively, you can download the required driver software from the **Support** page on the website of Tripp Lite, the current owners of the Keyspan range of products, at –

<https://www.tripplite.com/support/product/part-number/USA19HS>

Click on the link **Software, Firmware & Drivers** to reveal the list of available drivers (if it is not already displayed). There are links to two versions of Windows driver software on the page, one for Windows XP and Vista (USA-19HS Driver (Windows 2000, XP, 2003 Server & Vista)) and the other for Windows 7 and above (USA-19HS Driver (Windows 7, 8 and 10, Windows 2008 Server R2)). Make sure that you click on the correct link for your computer's operating system to start the download of the driver software.

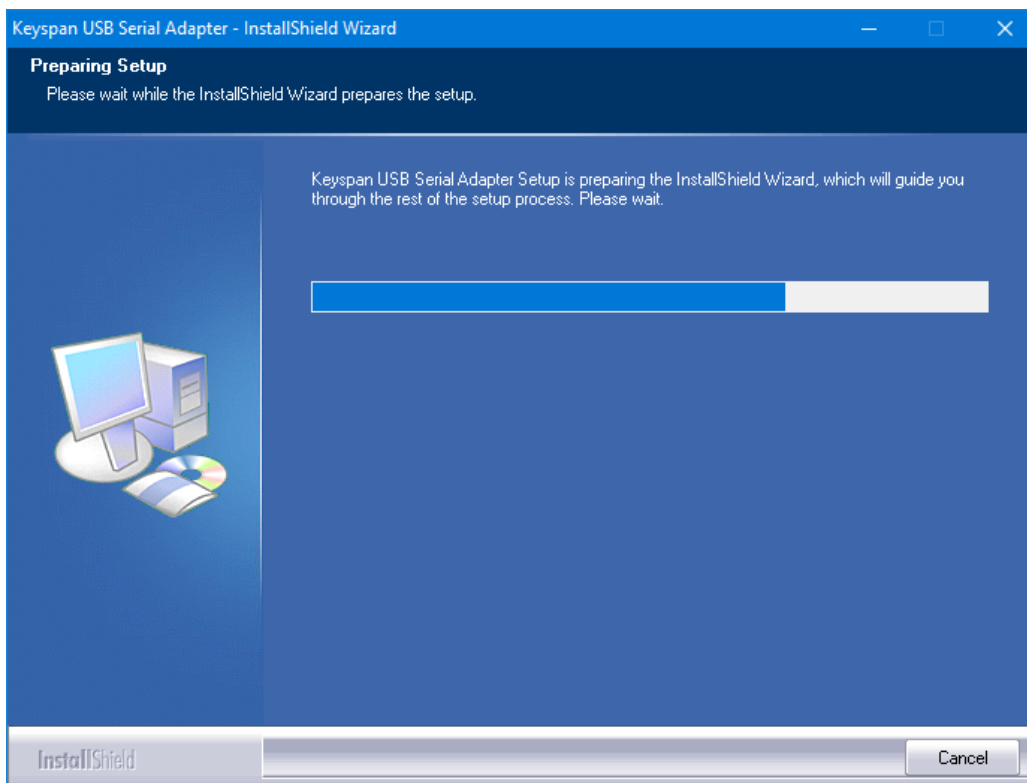
Depending on which Internet browser you are using, the driver file will either be downloaded directly to your specified Downloads folder (as with Google Chrome, for example) or you will be prompted to Save or Open (Run) the file (by Internet Explorer, for example). In the latter case, click **Save** to transfer the installation file a suitable location on your computer. Do **not** Open or Run either driver installation file directly from the Internet.

Both drivers are reasonably straightforward to install, and no specific installation instructions are provided. However, you can download a User Manual for the Adapter (which contains a paragraph on installation) by clicking on the link labelled 'Owner's Manual for USA-19HS Windows v3.7S (English)', but this document is not required for normal use of the device.

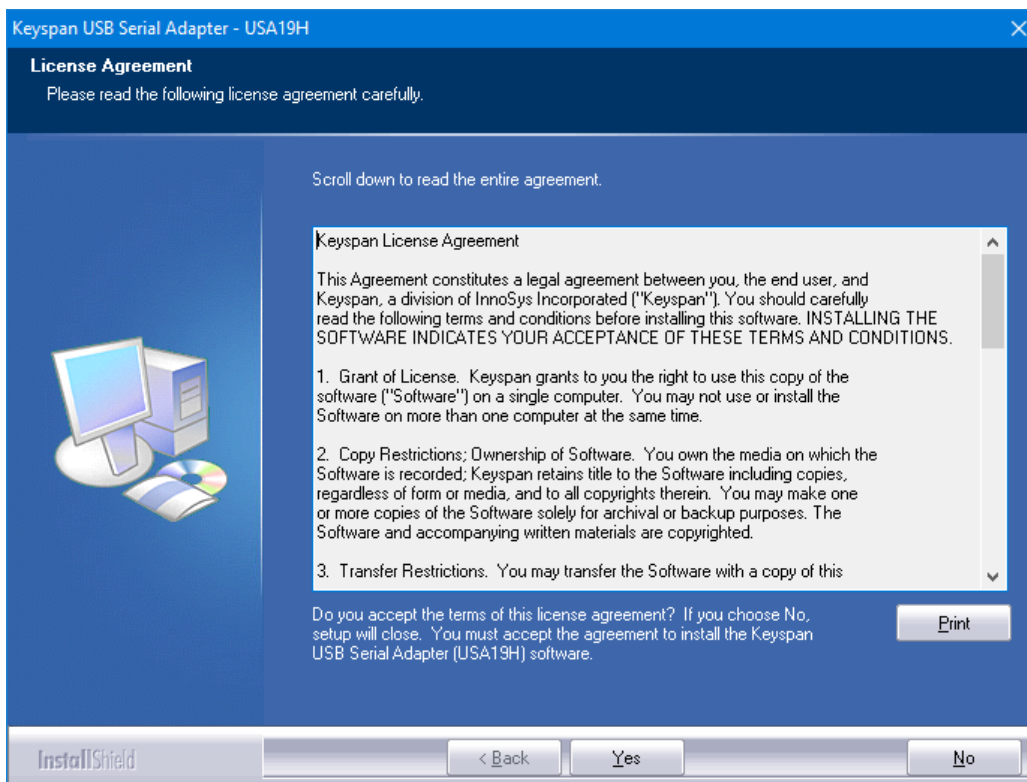
When download is complete, locate the folder into which you downloaded the installation file. The file is in a compressed or "zipped" form, so the next step is to right-click on the filename, and then click on **Extract All ...** on the pop-up menu (unless you have a third-party utility, such as WinZip, installed on your computer, in which case follow the appropriate procedure). In the window which opens, simply click on **Extract** which will "unzip" the executable installation file into the same folder (either **Windows (2000, XP, 2003 Server, Vista)_v3.7S.exe** or **Windows 2008 Server R2, 7, 8, 8.1 and 10_v4.exe**).

Installation follows the same steps regardless of the version of Windows running on your computer, so the following example will show the process under Windows 10.

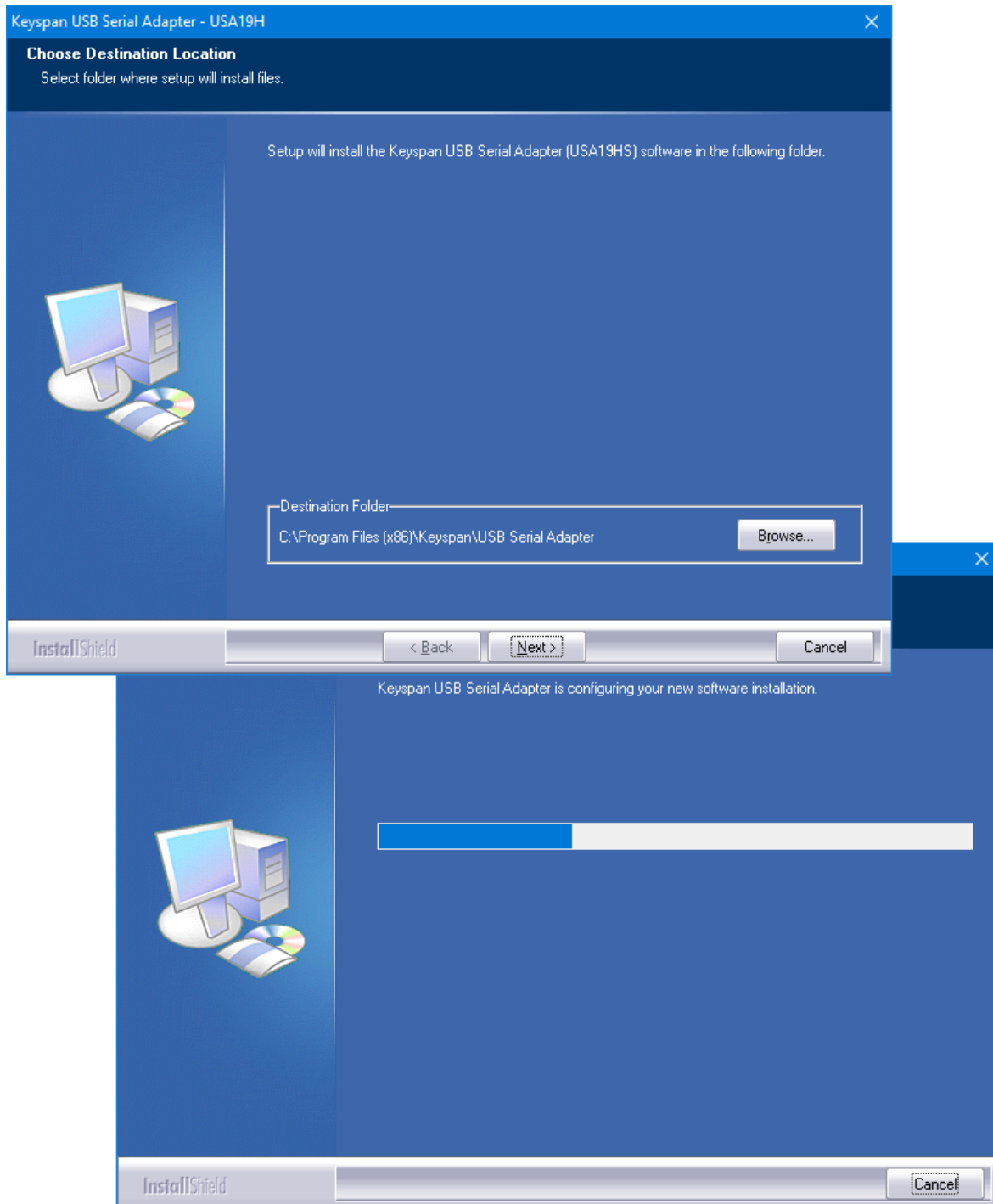
Double-click on the unzipped file to start installing the driver. As soon as the process begins, you should ensure that all other open windows (including Windows Explorer) are closed. The normal Windows 10 warning notices will appear (depending on your security settings), requesting permission to run the installation file – click **Yes** to continue and allow the installer to begin –



Once initial setup is complete, there is a warning to close all other windows if you have not already done so. Click **Next** to continue, and then click **Yes** to agree to the terms of the software licence –

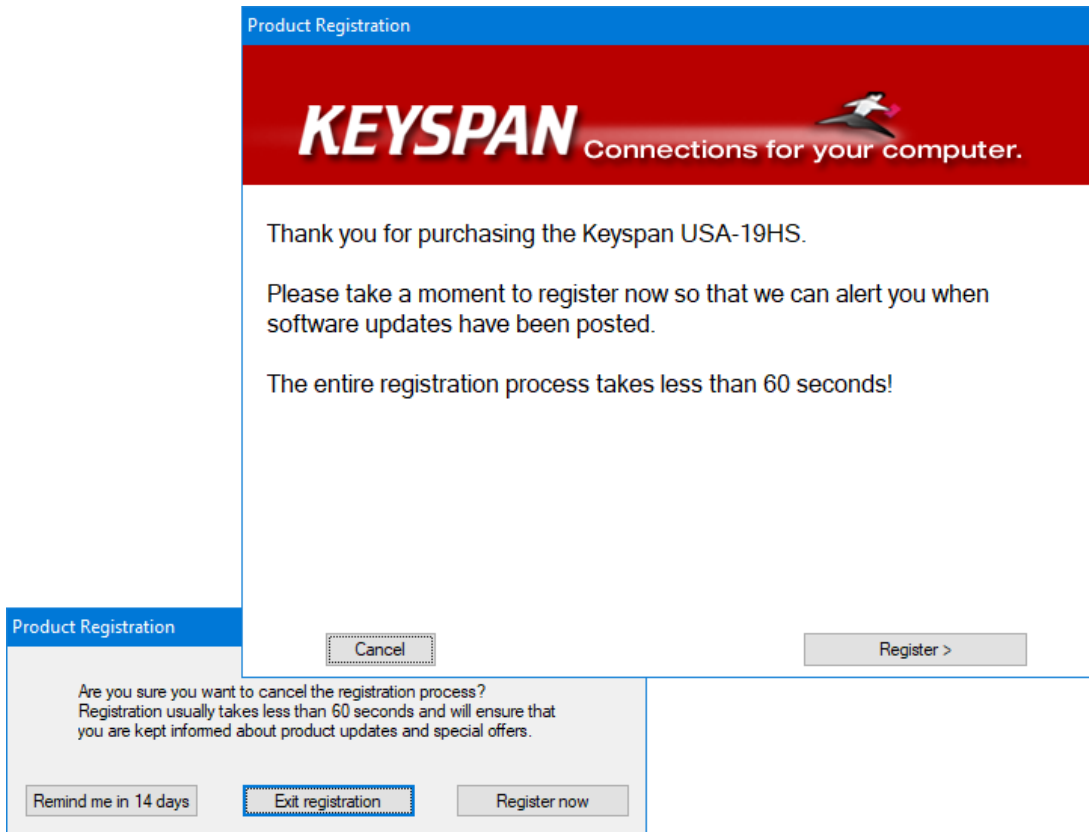


Following this, click **Next** to accept the selected destination folder, after which the installation of the driver files will proceed. You are strongly recommended **not** to change the destination folder since you may prevent Windows finding and running the correct driver when the Keyspan USB-to-Serial Adapter is eventually connected to your computer –

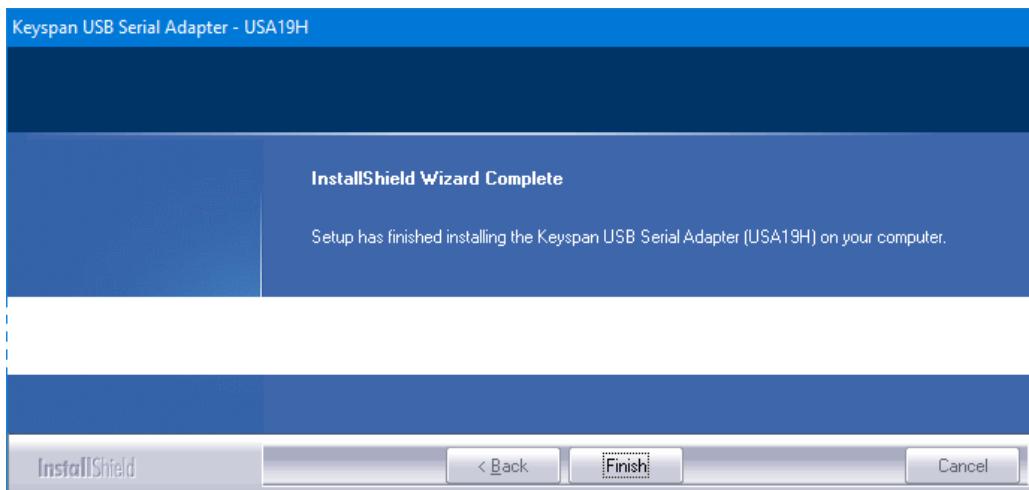


When installation is complete, you will be offered the opportunity to register your copy of the driver.

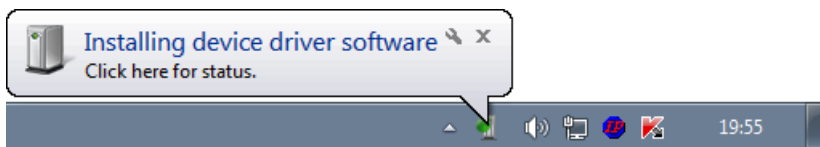
Registration is unnecessary for proper operation of the driver and adapter, so it is your own choice whether to agree or not. If you choose to click **Cancel**, then you will be given a further set of options, and again you can follow your own preferences –



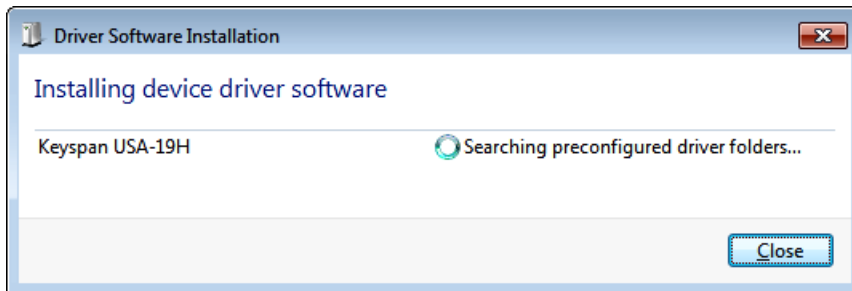
Once registration is accepted or disposed of, there is a final window displayed where you simply click **Finish** to complete the driver software installation –



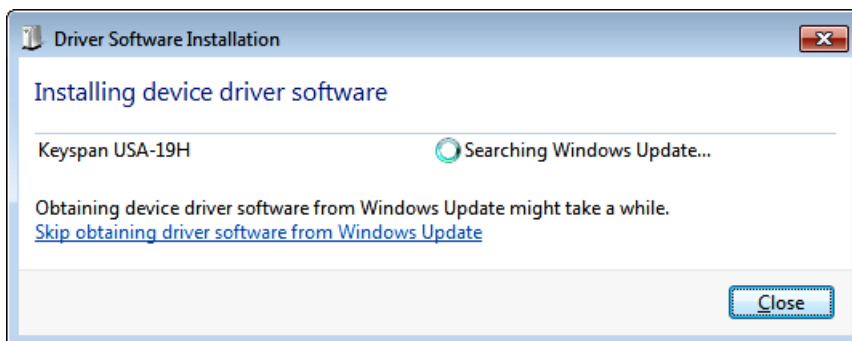
You can now connect the Keyspan USB-to-Serial Adapter to any available USB port on your computer, using a standard USB A-B cable, when you should see a small notice appear in the bottom right corner of the screen, as in this Windows 7 installation –



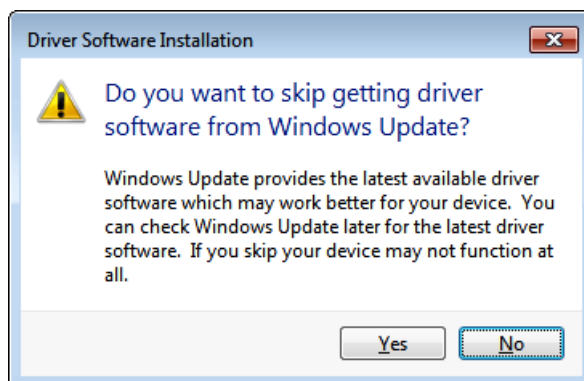
With Windows 7 you have the choice of simply doing nothing, and waiting for final driver installation to complete in its own time, or you can speed the process up a little by clicking on the notice to show the current installation status –



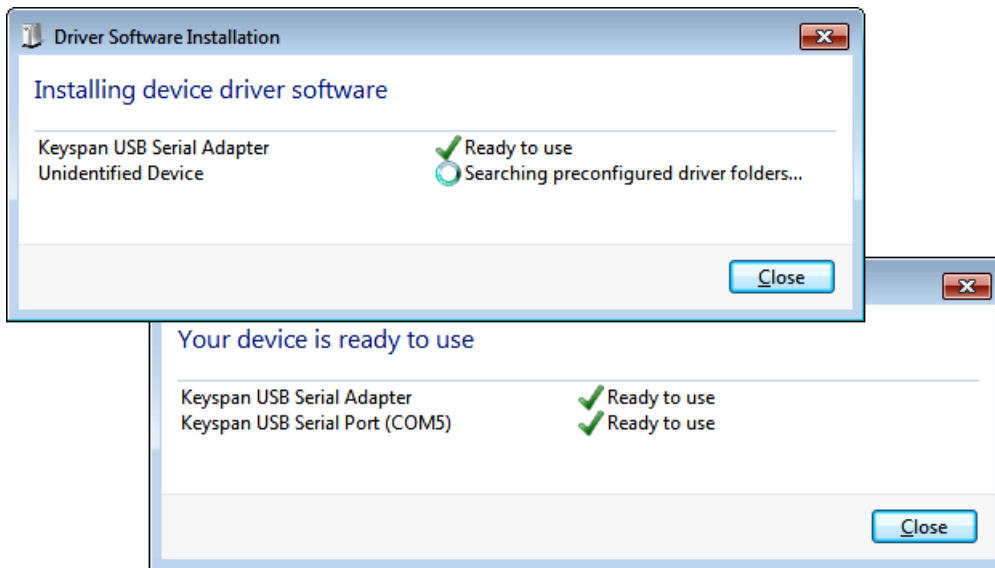
After a short time, you should see a message indicating that Windows Update is being accessed –



If you have downloaded the latest version of the Keyspan driver software, then this step is unnecessary, so click the link to '**Skip obtaining driver . . .**', then confirm this in the window which appears, by clicking **Yes** –



Wait patiently while Windows returns to searching the preconfigured driver folders, and completes the installation of both parts of the driver software –



Click **Close** to finish the installation and remove all windows from the screen.

You can now use the Keyspan USB-to-Serial Adapter to connect A-Track to the RS232 Serial Computer Interface (Serial Port) of an NCE Power Pro Command Station. A-Track does not require any detailed knowledge of how the driver software has set up communications for the Keyspan USB-to-Serial Adapter, but will simply search all available communications ports for a connection to an NCE System.

Note that if, on some future occasion, you choose to connect the Keyspan USB-to-Serial Adapter to a different USB port on your computer, you may see the 'Installing device driver software' notice appear again as the driver software is linked to the new USB port. After the process completes, A-Track will automatically handle any consequent changes to communications port allocations.

USB-to-Serial Adapters using Prolific Chipsets

Many of the cheaper USB-to-Serial adapters on the market are based around chipsets manufactured by Prolific, and users often encounter problems when attempting to install and use such adapters.

When this happens to users who are taking their first steps into the software world, in order to get their PC connected to their railroad control equipment, they tend to pin the blame on the adapter, although this is not always justified.

In most cases the problem is software related - either the driver package is poorly put together (a particular problem with many of the very cheap adapters), or the embedded drivers are incomplete, out-of-date, or fail to load from the supplied installation program, or the drivers are not installed **before** plugging in the adapter.

Problems can also arise in the cheapest adapters either from the incorporation of counterfeit chipsets, which will fail to operate even when the latest genuine Prolific driver software is installed, or from poor quality control during manufacture. In this case, the only solution is to scrap the defective hardware and invest in a better-quality adapter.

Assuming that you are having problems, but do have an adapter with a genuine chipset from Prolific, then you should be able to get it operating properly by following the steps outlined below.

Note that no driver installation should be necessary for Windows 7, 8, 8.1, or 10 computers that are connected to the Internet. The operating system will download the correct drivers automatically when the adapter is plugged in. For all Windows XP and Vista systems and for Windows 7, 8, 8.1, or 10 systems that are not connected to the Internet, please obtain an up-to-date copy of the Prolific driver installation package from a reliable source such as -

<http://plugable.com/drivers/prolific/>

Here, the currently-available file, **PL2303_Prolific_DriverInstaller_v1200.zip**, contains both the driver installer and documentation (and is the driver which is loaded automatically by Windows 7 through 10).

Alternatively, if you want to check that this is the most up-to-date version of the driver (or one which will run on older PC systems), you can visit the Prolific download webpage itself at –

<http://www.prolific.com.tw/US/CustomerLogin.aspx>

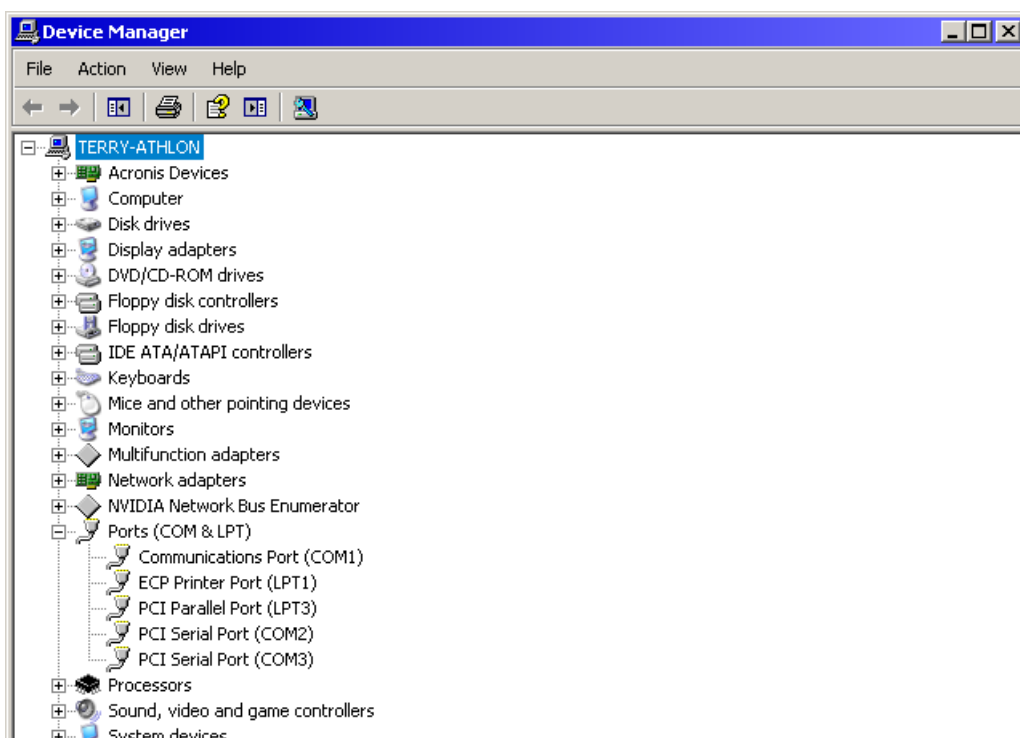
- where you need to log in using 'GUEST' (**not** your e-mail address) as both user name and password, then click the link labelled 'PL2303 USB to Serial Drivers' to access a list of available driver software, including the latest versions for all Windows systems.

However, **before** attempting to run your newly-downloaded, and saved, driver installer (and certainly do **not** attempt to Open or Run any driver installation file directly from the Internet), you need to get rid of any current installation which is not working properly, since this is likely to prevent installation of the correct driver.

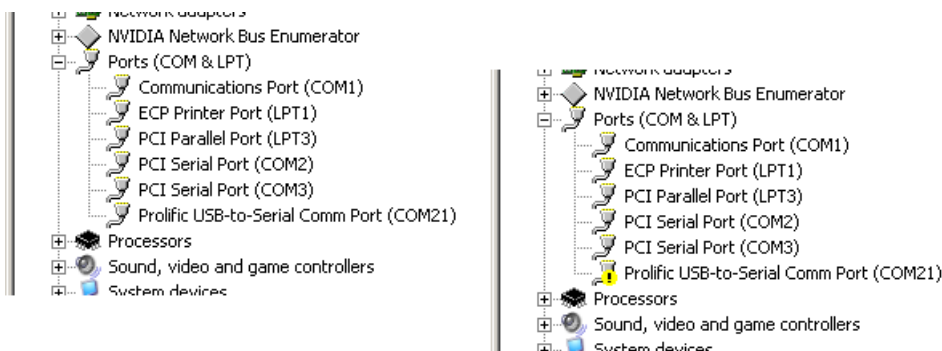
Ensure that the active User has administrative rights (this is the normal status when the operating system is either Windows XP Home or Media Edition, and in Windows Vista or Windows 7 Starter or Home Editions, Windows 8 Standard Edition, and Windows 10 Home Edition, but you may need to log on as an Administrator when using Windows XP Professional Edition, or Windows Vista and Windows 7 Business, Professional, or Ultimate Editions, or Windows 8 or Windows 10 Professional or Enterprise Editions).

Also make sure that the USB-to-Serial adapter which is giving trouble is **unplugged** from your computer at this point. Now open **Device Manager**, by going to Control Panel from the Start Menu or Start Screen and double-clicking on System (see the introduction to **Chapter [Error! Reference source not found.](#)**). Alternatively, for all systems except Windows 8, **right-click** on Computer on the Start Menu, then click on Properties. In Windows 8, from the Start Screen or Desktop, **right-click** in the bottom, lefthand corner of the screen and then click on Device Manager on the pop-up menu.

If you have opened System in Windows Vista, 7, 8, or 10 you should then double-click on Device Manager in the top-left corner of the window. In Windows XP you first need to click on the Hardware tab, and then on the Device Manager button. In all cases, a window showing all installed devices should open, where you can **double-click** on **Ports (COM & LPT)** to view the installed serial ports, as shown below for a Windows XP system –

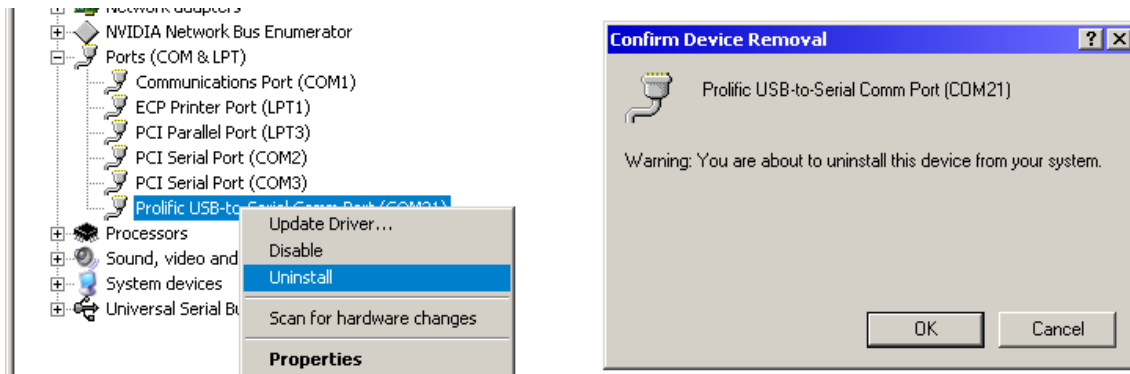


Now **plug** your problem adapter into the USB port on your computer that you normally use. The Device Manager display will update itself automatically, and you should see an additional serial port, with or without a yellow 'fault' flag, as shown below –



Assuming that the adapter shows up as above (and with 'Prolific' in the name), **right-click** on its entry in the list, and then click on **Uninstall** on the pop-up menu which appears, followed by **OK**

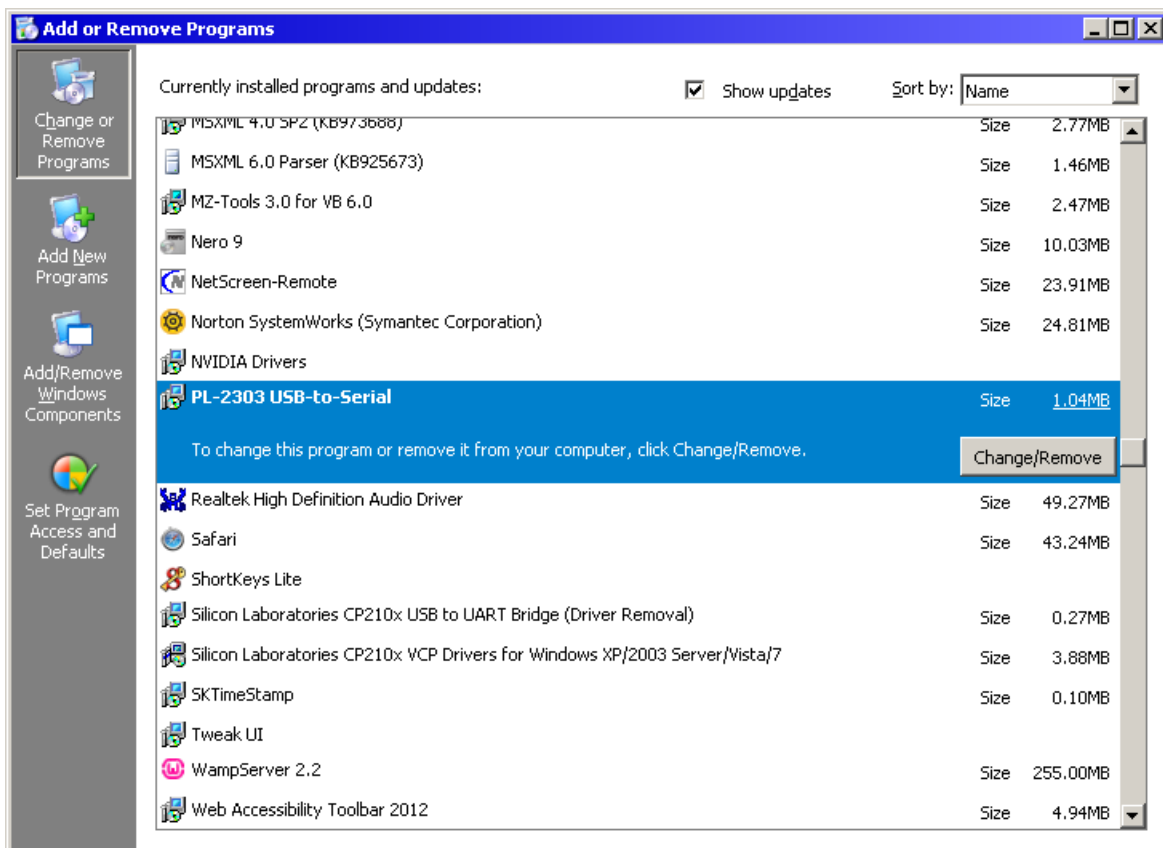
on the Confirm Device Removal notice (in Windows 7 and above you should also tick the checkbox with the option to delete the driver software from the machine) –



When the entry in the port list disappears, **unplug** the Prolific USB-to-Serial adapter and set it aside.

The next step is to check for, and remove, any installed, but non-operational, driver software by opening Control Panel again and then double-clicking on Programs and Features (or Add or Remove Programs in Windows XP). Wait patiently while the list of installed software is constructed, then scroll down to locate the driver software that you originally installed for your Prolific adapter.

Click on the appropriate list entry, and then click either Change/Remove, as shown for Windows XP below, or Uninstall at the top of the window for the other varieties of Windows –

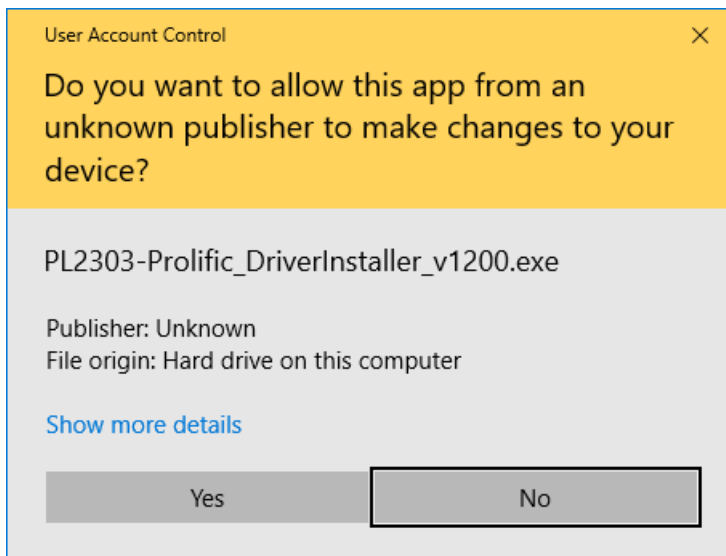


Follow any displayed prompts to complete the uninstallation procedure, including a restart of your computer if necessary.

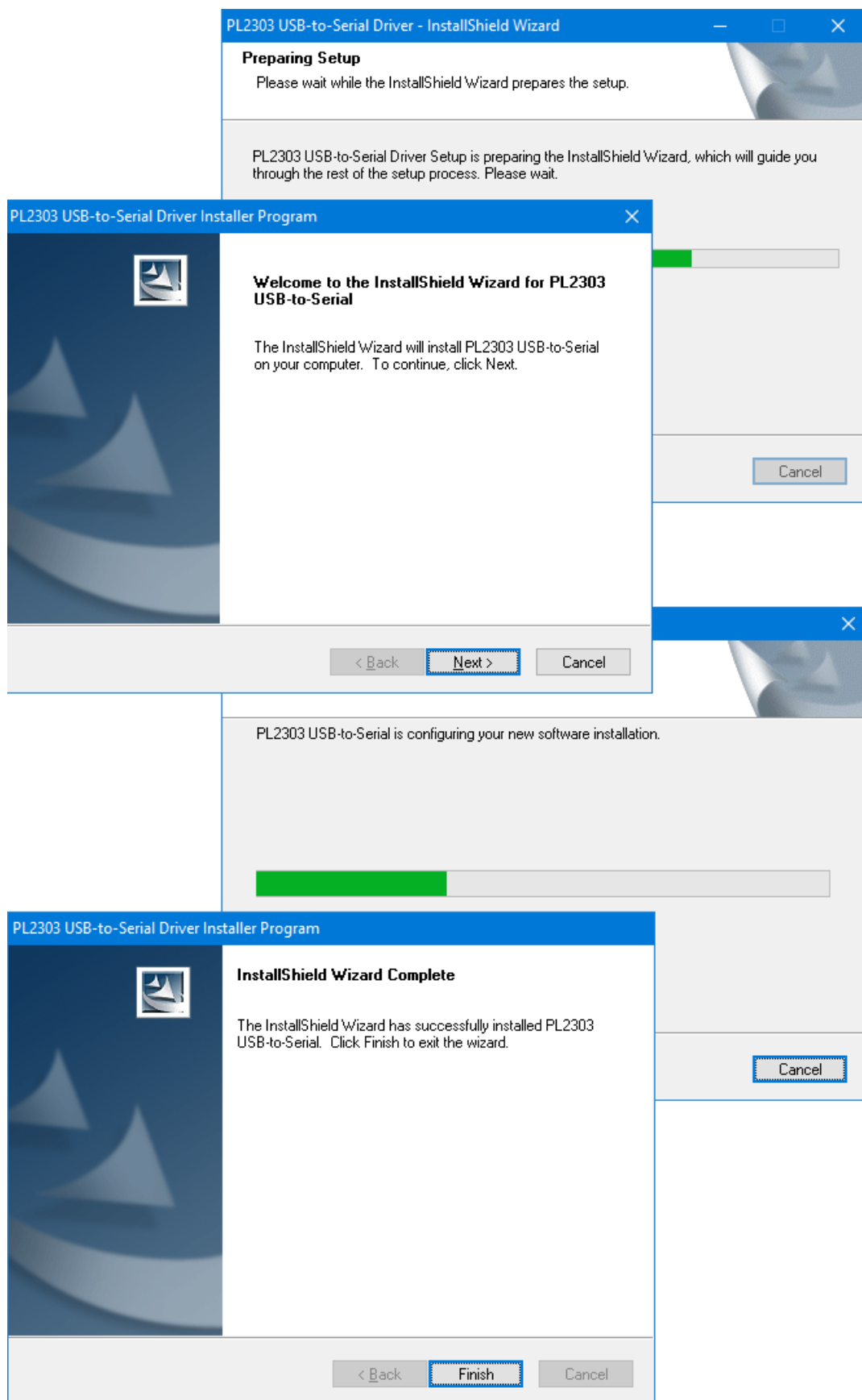
Now, locate the Prolific driver installation file which you downloaded previously, preferably into its own separate folder. The files contained in the recommended download need to be “unzipped” on your PC before installation, by a right-click on the filename, and then a click on **Extract All ...** on the pop-up menu (unless you have a third-party utility, such as WinZip, installed on your computer, in which case follow the appropriate procedure). In the window which opens, simply click on **Extract** which will “unzip” the executable installation files into the same folder as the original downloaded file.

Prolific include useful documentation (PL2303 Windows Driver Manual v1.20.0.pdf) with the driver software, covering installation instructions for various versions of Windows together with some notes on problems which can arise. However, installation is very straightforward, and you can proceed without needing to refer to the documentation.

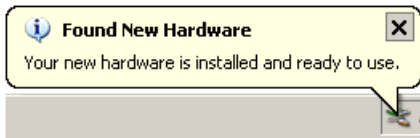
Double-click to run the installer file, **PL2303-Prolific_DriverInstaller_v1200.exe**, ensuring that all other open windows are closed. A warning notice, such as that shown below, may appear (depending on your security settings), requesting permission to continue –



Click **Yes** (or **Run**), then follow the displayed prompts up to **Finish**, to complete the driver installation –



You can now plug the Prolific USB-to-Serial back into whichever USB port on your computer you wish to use, when you may see one or two small notices appear in the bottom right corner of the screen, with a final notice indicating that the connected adapter is ready for general use, as shown in the Windows XP version below –



If you wish, you can open Device Manager again and check that the Prolific adapter appears correctly in the list of serial ports. With the serial end of the adapter connected to your NCE Power Pro Command Station, A-Track will automatically identify the correct COM port and establish communication. However, if you are using a JMRI software application, then you will need to take note of the COM port number corresponding to the Prolific adapter (as shown by Device Manager) and select the correct port in the JMRI setup window.

Note that if, on some future occasion, you choose to connect the Prolific USB-to-Serial adapter to a different USB port on your computer, you may see the 'Found New Hardware' notices appear again as the driver software is linked to the new USB port. After the process completes, A-Track will automatically handle any consequent changes to communications port allocations (although you will again have to change any JMRI settings manually).

If you are still having difficulties connecting your Prolific USB-to-Serial adapter to your computer and are seeing messages such as "This Device cannot start (Code 10)", "No driver installed for this device", or "Device driver was not successfully installed" then it may be that you have an older adapter which pre-dates changes Prolific made to their hardware and software to combat the rise of counterfeit devices. Unfortunately, these changes also stopped earlier genuine Prolific devices working as well. A fix for this problem was developed by Family Software of Aston, Pennsylvania and fully described in one of their newsletters –

<http://www.ifamilysoftware.com/news37.html>

This document contains a set of download links to working Prolific drivers for these older devices, covering all versions of Windows. If you make use of this very helpful resource, then you might consider making a small donation to Family Software.

However, Windows 10 is very reluctant to let go of drivers once they have been installed, and even the fix from Family Software can fail on occasion. If Windows 10 insists on re-installing the latest Prolific driver rather than allowing you to use the older (2008) version which works, then you can remove the problem driver manually by using Driver Store Explorer downloaded from –

<https://github.com/lostindark/DriverStoreExplorer/releases/>

Unzip and install the utility, then ensure that you run it as an **administrator**. Wait for the list of installed drivers to be loaded then scroll down to the Ports (COM & LPT) section and remove all Prolific entries (ser2pl.inf). Now run the Family Software utility **without** plugging your Prolific adapter into a USB port. Restart your computer as directed, and then check in Device Manager (or Driver Store Explorer) that the 2008 version of the Prolific driver is being used when you plug in your adapter.

Links to USB-to-Serial Interface Vendors

The webpage links given in this section represent the best available information, at the time this Reference Manual was written, for those adapter manufacturers whose devices are known to work with A-Track. However, like all information posted on the Internet, the locations of these webpages are subject to change without notice.

If any link no longer appears to function, and you are unable to find the data you require, then please contact A-Train Systems via the Support webpage at <http://www.a-train-systems.co.uk/support.php>, or by e-mail to support@a-train-systems.co.uk, and I will make every effort to assist.

The same advice applies if you are experiencing any difficulties in using A-Track with a USB-to-Serial adapter which uses a chipset from a manufacturer other than those listed below. Although A-Track ought to work with any adapter which sets up a Virtual Communications Port (**VCP**) in your computer, it is, unfortunately, impossible to guarantee that this will always be the case.

Silicon Labs (for NCE USB Interface)

Driver and documentation available from –

<https://www.silabs.com/products/development-tools/software/usb-to-uart-bridge-vcp-drivers>

Required files are from the section of the page specific to whichever version of Windows is installed in your PC. The download contains drivers for both 32- and 64-bit systems, but needs to be 'unzipped' – right-click on the file, then click on 'Extract All' and follow the instructions.

Keyspan

Driver and documentation available from –

<https://www.tripplite.com/support/product/part-number/USA19HS>

Ensure that you select the files which match the correct version of Windows for your computer – one version is for Windows XP and Vista, another for Windows 7, 8 and 10. See **Section 9** for a fuller description of the installation process.

FTDI

Driver and documentation available from –

<https://www.ftdichip.com/Drivers/VCP.htm>

Ignore the links in the table of available drivers which are just version numbers. Locate the link labelled '**setup executable**', shown under Comments at the end of the Windows row in the table, then click on the link to download the driver installer file.

Note that there are two versions of the driver available – the first on the page is for Windows 7 through 10 (**CDM21228_Setup.zip**), but you should scroll down to find a second table if you require a version suitable for Windows XP and Vista (Previous Windows Release – **CDM21226_Setup.zip**). Both versions need to be 'unzipped', as explained in **Section 9**.

If you require further information, click the link to 'Installation Guides' (near the top of the webpage), which will take you to –

<https://www.ftdichip.com/Support/Documents/InstallGuides.htm>

- from where you can download the document appropriate to your version of Windows.

Note that it is not strictly necessary to follow the rather complicated installation procedure detailed in the FTDI Installation Guides. You can simply run the downloaded and extracted **CDM21228_Setup.exe** (or **CDM21226_Setup.exe**) file *before* plugging the adapter into a USB port. This should automatically open a couple of Command Prompt windows and install the driver, similarly to the processes described in **Sections 0, 0 and 0**. You can then plug the adapter into a PC USB port and wait briefly while the driver is linked to the port.

Prolific (chipset often found in cheaper adapters)

Driver and documentation available from –

<http://plugable.com/drivers/prolific/>

Here, the currently-available file, **PL2303_Prolific_DriverInstaller_v1200.zip**, contains both the driver installer and documentation (and is the driver which is loaded automatically by Windows 7 through 10).

Alternatively, if you want to check that this is the most up-to-date version of the driver (or one which will run on older PC systems), you can visit the Prolific download webpage itself at –

<http://www.prolific.com.tw/US/CustomerLogin.aspx>

- where you need to log in using 'GUEST' (**not** your e-mail address) as both user name and password, then click the link labelled 'PL2303 USB to Serial Drivers' to access a list of available driver software, including the latest versions for all Windows systems.

See the previous Section of this document for a fuller description of the installation process, and for solutions to the various problems which can arise with adapters based on Prolific chipsets.

Microchip (MCP2200)

This device differs from other devices, in that the adapters available are intended primarily for use in a development environment –

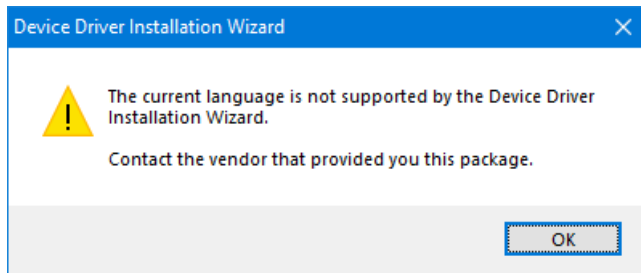
<https://www.microchip.com/DevelopmentTools/ProductDetails/MCP2200EV-VCP> and
<https://www.microchip.com/DevelopmentTools/ProductDetails/ADM00276>

– although they can easily be put to the alternative use of connecting your PC to an NCE Power Pro. Further information and driver software is available from –

<http://www.microchip.com/wwwproducts/Devices.aspx?dDocName=en546923>

Click on the tab labelled Documents near the foot of the page, then scroll down and click on the **MCP2200/MCP2221 Windows Driver & Installer** link to initiate download of the file **MCP2221 Windows Driver 2014-10-09.zip** which needs to be "unzipped", as explained in **Section 0**. When you have extracted the contents of the downloaded 'zip' file into a folder, locate the subfolder 'Driver Installation Tool' which itself has two subfolders, **x64** and **x86**, for 64-bit and 32-bit versions of Windows, respectively. Open the subfolder relevant to your Windows version and run the setup file **McpHCdcDriverInstallationTool.exe**. If you pick the wrong version to run you will see a message telling you to use the alternative file.

You may also see a message declaring that the language currently set for your computer is not supported, and which brings proceedings (and installation) to a halt –



To fix this, locate the file **dpinst.xml** in either the x64 or x86 subfolder and either delete it, or rename it to something like **unused-dpinst.xml**. The only purpose of the file is to display the terms of the Microchip End User License Agreement in your local language. Without the file present, the installation process simply proceeds immediately, without display of the EULA, following similar steps to those described in the preceding Sections of this document.

Note : For those users with nothing better to do, you could edit the dpinst.xml file using Notepad or any other text editor, and insert the ID relevant to your installed language into the file, using the codes available from Microsoft at <https://msdn.microsoft.com/en-us/library/cc233965.aspx>, but this is not really worth the effort for an installation you only need to do once.

After installing the driver, plug the adapter into one of the computer's USB ports, and wait for it to be recognised.

CH340/341 (chipset often found in very cheap adapters)

This chipset was developed by a Chinese company, Jiangsu Yuheng, initially to replace an FTDI chipset used with Arduino microcontroller products (although it does not use FTDI drivers). Trials of USB-to-Serial adapters based on this chipset with A-Track have **not** been satisfactory, with data transfers tending to fail unpredictably and cause A-Track to lock up. Hence, it **cannot be recommended**.

However, if you wish to try such a USB-to-Serial converter, the driver is available from the manufacturer at –

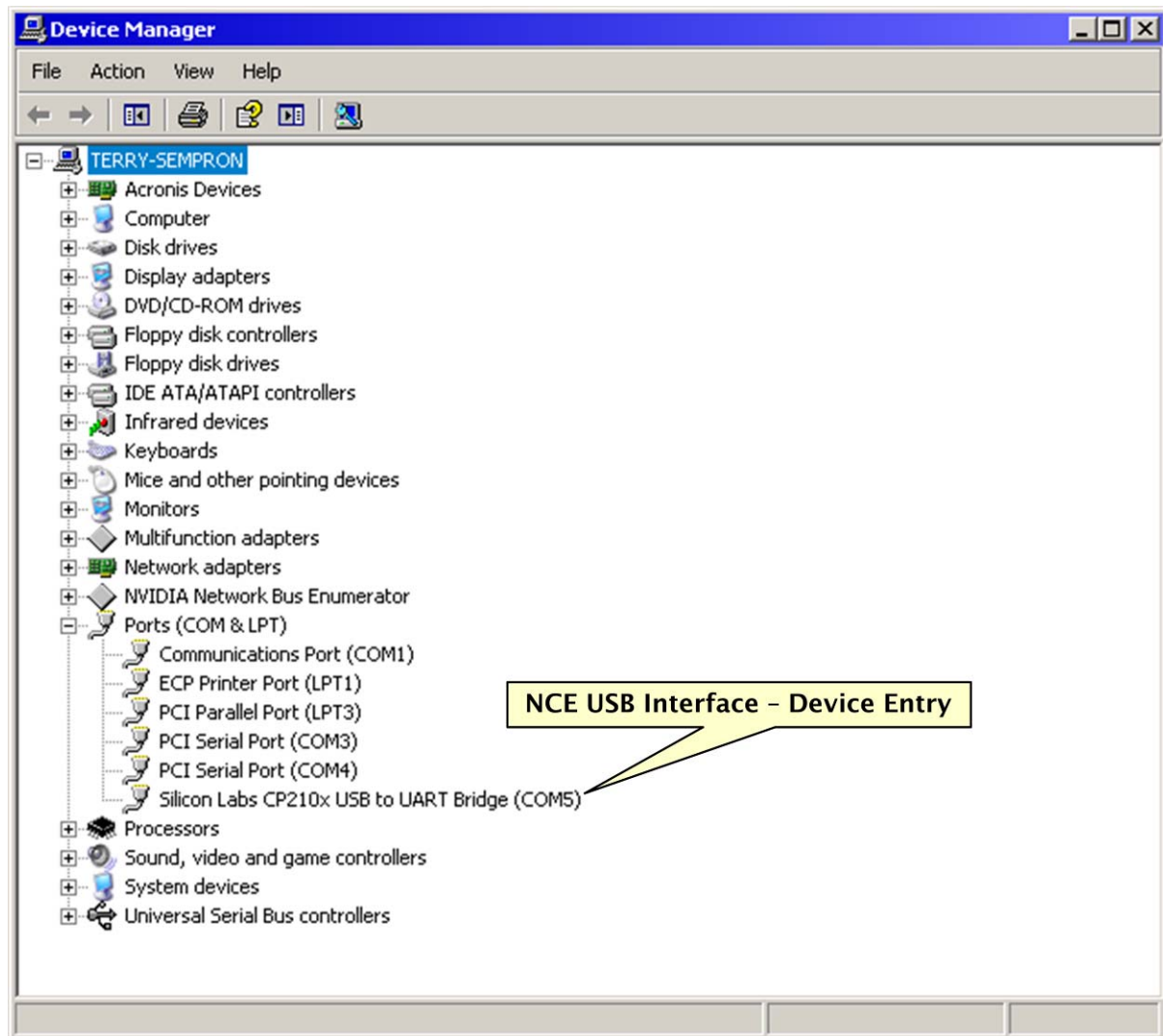
http://www.wch.cn/download/CH341SER_EXE.html

The file CH341SER.EXE is a self-extracting archive which you should run as an Administrator. When the Driver Setup prompt appears, **do not click Install**. Instead, find the extracted folder such as C:\WCH.CN\CH341SER\DRVSETUP64 and then run the installation file DRVSETUP64.exe (for example), again with Administrator privileges to install the driver. You can then plug in the converter and try it with A-Track.

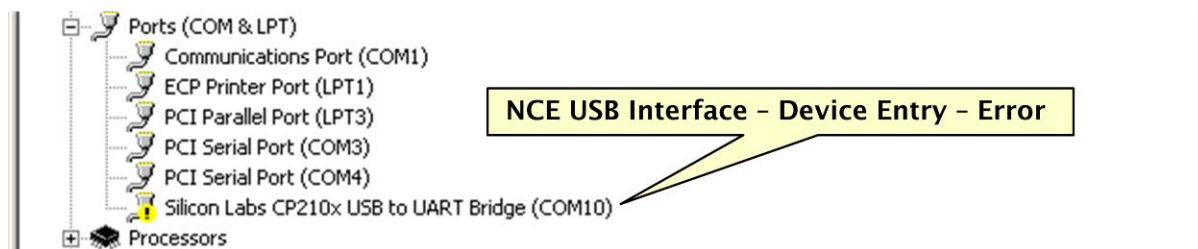
Using Multiple NCE USB Interfaces with Windows XP or Vista

Connecting several Command Stations to your PC and A-Track using more than one NCE USB Interface unit presents a difficulty if you are using Windows XP or Windows Vista. With these operating systems, when more than one NCE USB Interface is connected, you will find that none of the NCE USB Interfaces will then operate or provide a connection to a Command Station.

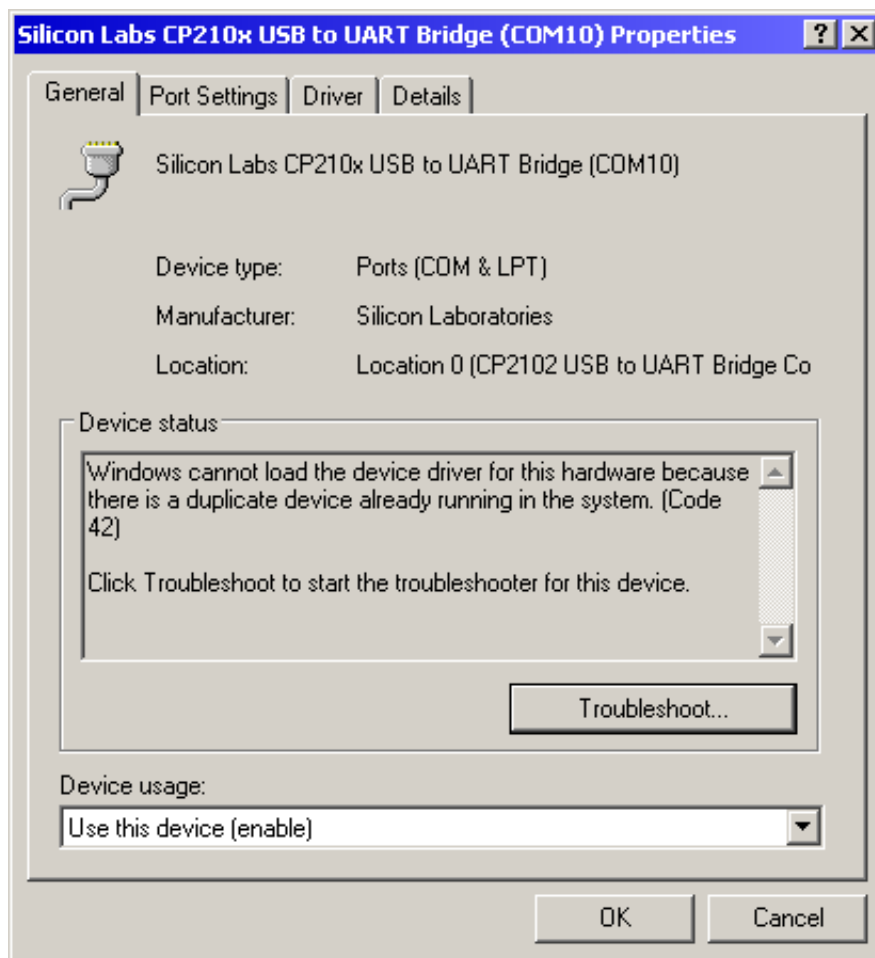
If, after installing the Silicon Labs CP210x USB to UART Bridge VCP Driver for the NCE USB Interface, as described in [Section 9](#), and then connecting the Interface to a USB port, you open the Windows Device Manager (go to Control Panel, click System, then click on the button or link labelled **Device Manager**) you will see the relevant entry under the **Ports (COM & LPT)** section



However, if you then connect a second NCE USB Interface to another USB port you will see that the second Interface replaces the original entry in Device Manager (now Port COM10 instead of COM5) but with an error flag displayed –



A right-click on the entry, and then on **Properties**, provides an explanation of the error –



The problem is that, in Windows XP or Windows Vista, rather than take note of the actual port being used, or other distinguishing feature (as is done in Windows 7, 8, or 10), a connected USB device is only identified by three of its internal parameters, the vendor identifier (VID), the product identifier (PID) and the serial number. In the case of the NCE USB Interface, all three parameters are identical for all units, both Version 6 and Version 7.

Hence, when more than one NCE USB Interface is connected to a Windows XP or Vista system, Windows will decide that duplicate devices have been connected, and you will find that **none** of the NCE USB Interfaces will then operate or provide a connection to a Command Station. Running the Windows Troubleshooter, as suggested above, provides no help in fixing the problem.

The solution is to download and install a utility from Silicon Labs which will allow you to change the serial number of each additional NCE USB Interface unit. The operation only needs to be

performed once for each Interface unit since the new serial number is stored in non-volatile memory in the device and so is retained even when power is removed.

The Silicon Labs utility requires the Java runtime environment to be installed on your computer. If you have a computer running Windows 7, 8, or 10 then, if Java is not already installed, you can simply download and install a free copy from -

<https://www.java.com/en/download/>

- and then download and install the Silicon Labs utility from -

https://www.silabs.com/documents/public/software/CP210x_Windows.exe

However, if you only have a computer running Windows XP or Vista, and do not have access to a computer running Windows 7 or later, the setup procedure can, unfortunately, be a bit more involved. Firstly, if the computer does not already have the Java runtime environment installed, you will find that the latest version of Java will neither install nor run. A compatible (older) version of Java can be downloaded from the Oracle website at -

<https://www.oracle.com/technetwork/java/javase/downloads/java-archive-downloads-javase6-419409.html>

Scroll down the page to locate the list of files for the **Java SE Runtime Environment 6u45**, select the option labelled 'Accept License Agreement' if required to do so, either before or after clicking on the correct file for your operating system (**jre-6u45-windows-i586.exe** for 32-bit systems, or **jre-6u45-windows-x64.exe** for 64-bit systems). You are then required to sign-in to your Oracle account before the download will proceed. Create a (free) account if you do not have one, by following the on-screen prompts and providing all of the required details.

Oracle will immediately send you an e-mail message in order to verify your e-mail address and, once you have followed their instructions, you can then return to the sign-in page, enter your e-mail address and chosen password, and save the downloaded file to a suitable folder. Run the downloaded file to install the Java runtime environment.

As a final step you need to download a required DLL file, **winusb.dll**, which is not normally present in Windows XP or Vista systems. You can obtain a copy of this file from -

http://www.dll-found.com/winusb.dll_download.html

The version you require is 6.1.7600.16385 (16896 Bytes, dated 2013-4-30) for 32-bit systems, or 6.0.6001.18000 (20480 Bytes, dated 2014-2-28) for 64-bit systems. This source appears to be free of any embedded or attached malware, unlike many of the multitude of sites offering DLL files for download, but it is strongly recommended that you ensure that your anti-virus or Internet security software is up-to-date before downloading any such files.

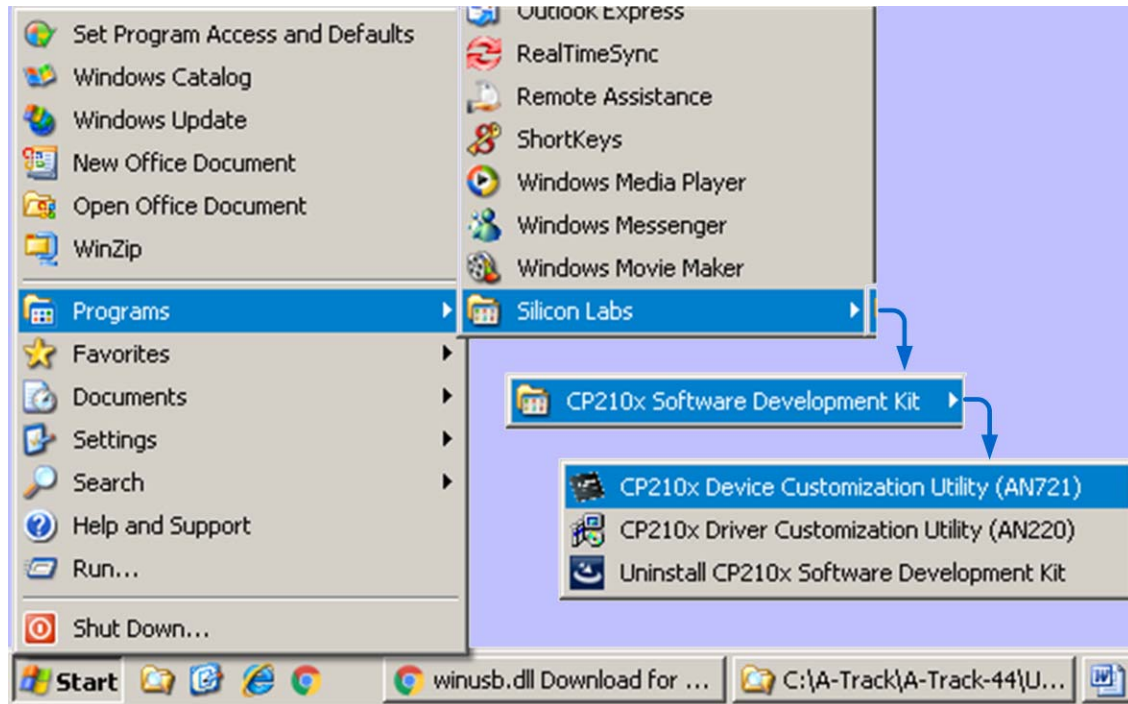
Copy the file into the **System32** subfolder of your main **Windows** folder (usually C:\Windows\System32). It is not necessary to install or register the file with the Windows system.

Having negotiated this rather complicated preparation, you can now download and install the appropriate version of the Silicon Labs utility from -

https://www.silabs.com/documents/public/software/CP210x_SDK_Windows_XP_Vista.exe

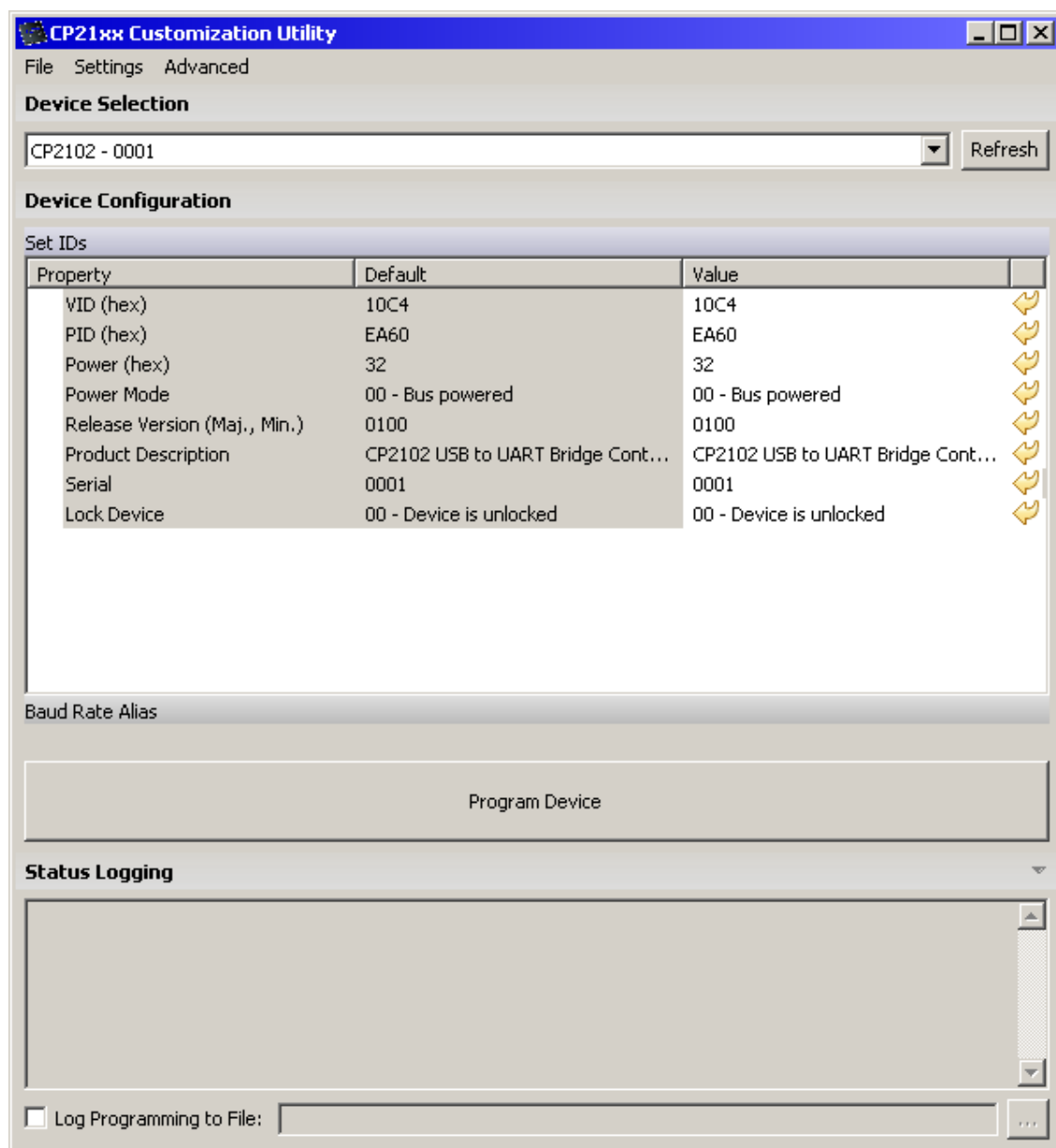
Once the utility is installed, connect your second NCE USB Interface unit, ie. the device which needs a new serial number, to a USB port of your computer, ensuring that it is the **only** NCE USB Interface unit connected at this time.

Now go to the Programs section of the Start Menu and select the Silicon Labs group, followed by the CP210x Software Development Kit, and finally click on the **CP210x Device Customization Utility (AN721)**, as shown below for Windows XP (rearranged a little to fit on the page). Follow similar steps if you are running the utility under Windows 7 or a later version of Windows –

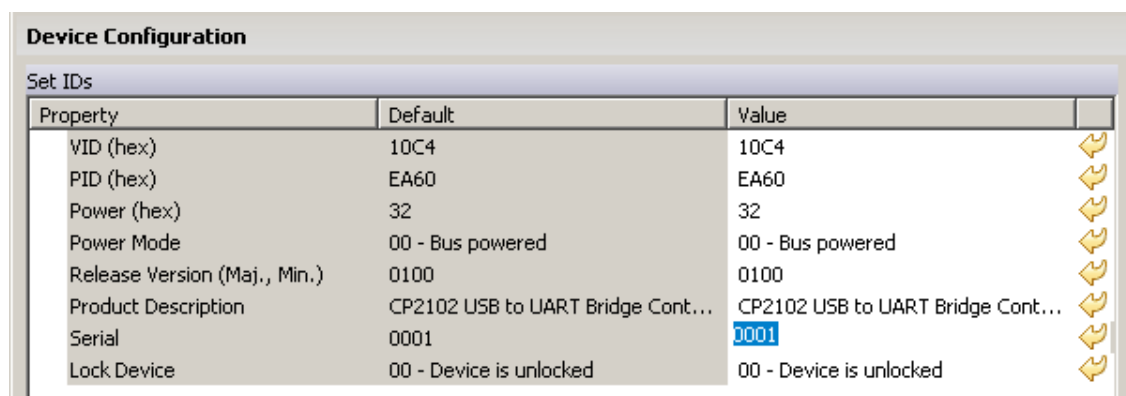


When the utility opens, it should detect the connected NCE USB Interface unit, with its identity (**CP2102- 0001**) shown in the **Device Selection** section of the utility window. If no device is shown, click the **Refresh** button to make the utility scan again for connected devices.

Once the NCE USB Interface is detected, details of its current parameters will be displayed in the **Device Configuration** section of the window –



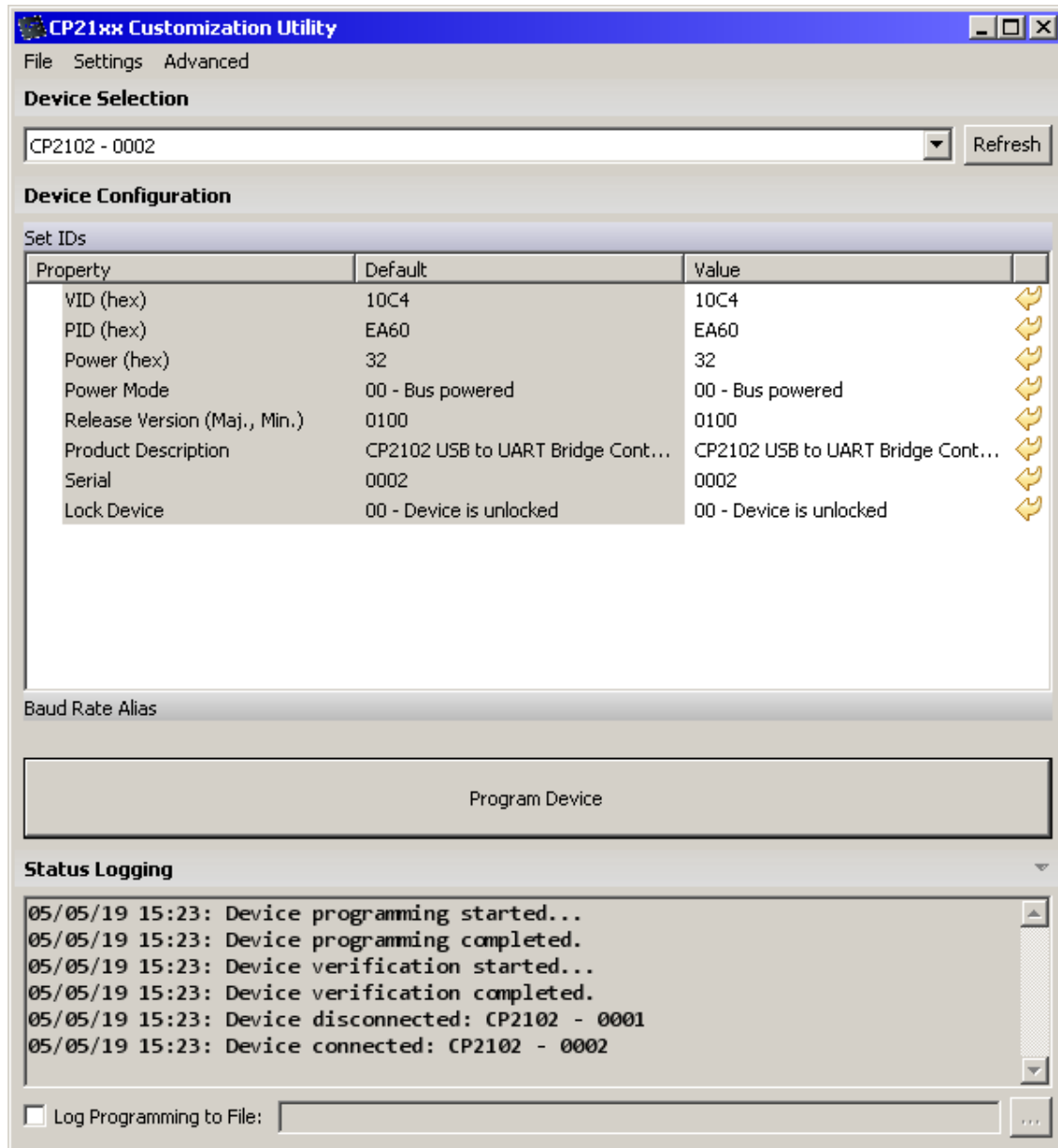
Now highlight the **Serial** entry in the **Value** column, as shown below –



- and type in a new value which is anything other than 0001, such as 0002 –

Finally, click the large **Program Device** button which stretches across the full width of the window, and *wait patiently* while the new serial number is programmed into the device – the process can take between 15 and 30 seconds to complete (with no indication that anything is happening).

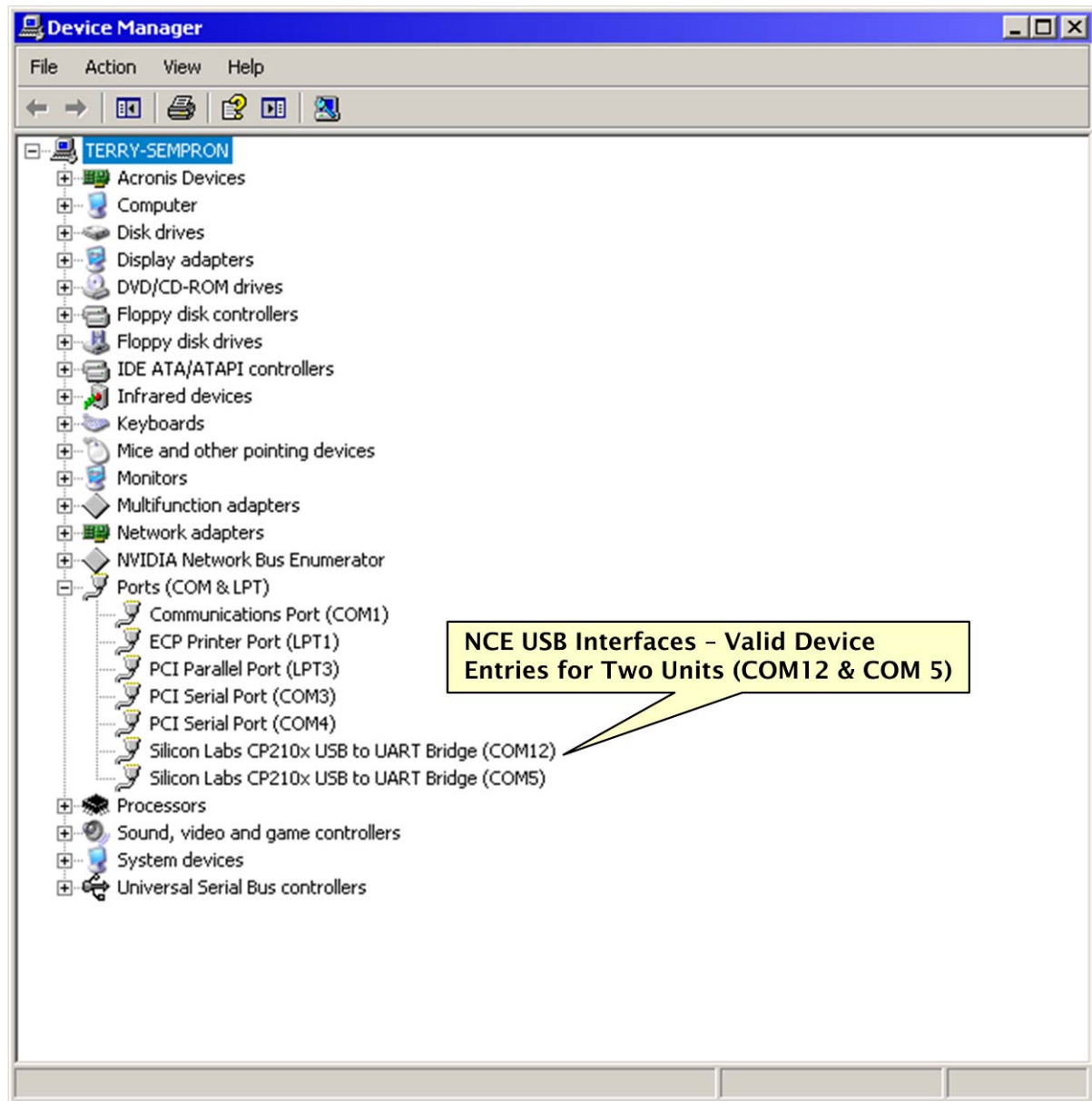
Eventually, a report of the reprogramming activity will appear in the **Status Logging** area of the window, and the updated serial number will be shown in the **Device Selection** textbox, and in both the **Default** and **Value** columns of the **Device Configuration** area –



If you have further NCE USB Interface units to have their serial numbers changed, then unplug the current unit, connect each additional unit **one at a time** to the computer, and repeat the process, allocating a unique serial number to each unit.

Once reprogramming is complete, close the Silicon Labs utility, and connect all of the updated NCE USB Interface units to appropriate USB ports of the computer. If you now open Device Manager, as described at the beginning of this Section, you should see a valid entry for each unit

in the Ports (COM & LPT) section, as shown below for two NCE USB Interfaces (COM 12 and COM 5) –



Each NCE USB Interface can now be used to connect to a different NCE Command Station without generating any conflicts when operating under Windows XP or Vista. They will also operate perfectly happily with any later version of Windows.