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Title:

USB to Serial Cable – Hardware and USB Driver Installation instructions

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Abstract:

This application note describes how to connect the Equinox **'USB to Serial Converter'** and how to install the USB Driver software for this cable.



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1.0 Introduction

1.1 Overview

Most Equinox ISP Programmers only have a '**Serial Port**' (COM Port) connection to the host PC. As many modern PCs no longer feature a '**Serial Port**', it is therefore necessary to use a Equinox '**USB to Serial Cable**' to connect the programmer to a USB port on the host PC.



One end of the '**USB to Serial Cable**' plugs into a spare USB port on the host PC. The other end connects to the 'Serial Port' on the Equinox Programmer. This application note describes how to connect the Equinox '**USB to Serial Cable**' and how to install the USB Driver software onto your PC to support this cable.

1.2 Specification of the USB to Serial Cable

Features:

- USB Rev 1.1 compliant
- Support RS-232 serial interface
- Over 1Mbps data transfer rate
- Support remote wake-up power management
- System Requirements

PC System requirements:

- IBM PC 486Dx4 - 100 MHz or higher
- Available USB port
- Windows 98,2000,ME, XP, Vista

1.3 Programmers supported

The '**USB to Serial Cable**' can be used with any Equinox ISP programmers which features a 'Serial Port'. A list of compatible programmers is detailed in the table below.

Programmer	Compatible with USB to Serial Cable
EPSILON5	YES
FS2000A	YES
FS2003	YES
FS2009	YES
PPM3-MK1	YES
PPM3-MK2	YES
PPM4-MK1	Does not require this cable as this programmer has an on-board USB Port.

Please note:

- All the above programmers feature a 9-way D connector 'Serial Port' connection.
- The '**USB to Serial Cable**' can be used to convert the serial connection to a USB connection suitable for use with any host PC which features a USB connector.

2.0 USB Driver Installation

2.1 Overview

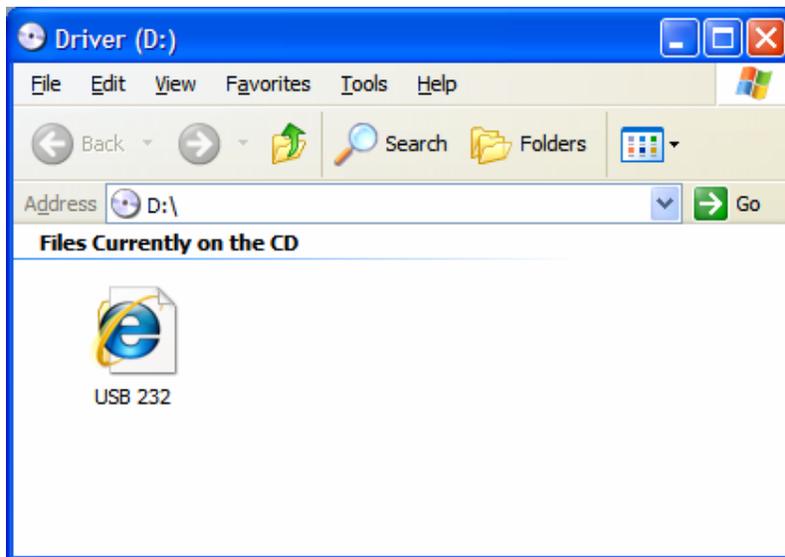
The following instructions detail how to install the USB drivers for the **'USB to Serial Cable'**. The USB drivers are installed into Windows as a 'USB Device' which can then be viewed in 'Device Manager'.

Please note:

- You must be logged in as the **'Administrator'** of the PC or as a **'Local Administrator'** in order to install the USB Drivers.
- Make sure that the **'USB to Serial Cable'** is **NOT** connected to the PC during the USB Driver installation process.
- The installer for the USB Drivers can also be found on the **'EQTools Installation CD-ROM'** in the **USBDrivers\USB232** directory.

2.2 Installation instructions

- Make sure that the **'USB to Serial Cable'** is **NOT** connected to the PC
- Insert the CD-ROM which is supplied with the USB Cable into your CD-ROM Drive
- Using **'My Computer'** browse to your CD-ROM drive
- There should be one folder on the CD-ROM called **'USB 232'** – see screenshot below:



- Double-click the **'USB 232'** icon

→ The installation software will then start up and the following screen will be displayed:



- Click the **<Driver Install>** button to start the installation process

→ The following Windows warning message box (or similar) will be displayed:



- Click the **<Continue Anyway>** button

→ The USB Driver will now be installed.

- When the installation is complete, the following screen will be displayed:



- Click the **<OK>** button

→ The following screen will be displayed:



- Click the <X> icon to close this window.
- The installation of the USB Drivers is now complete.

3.0 Testing the USB to Serial Cable

3.1 Connecting the cable

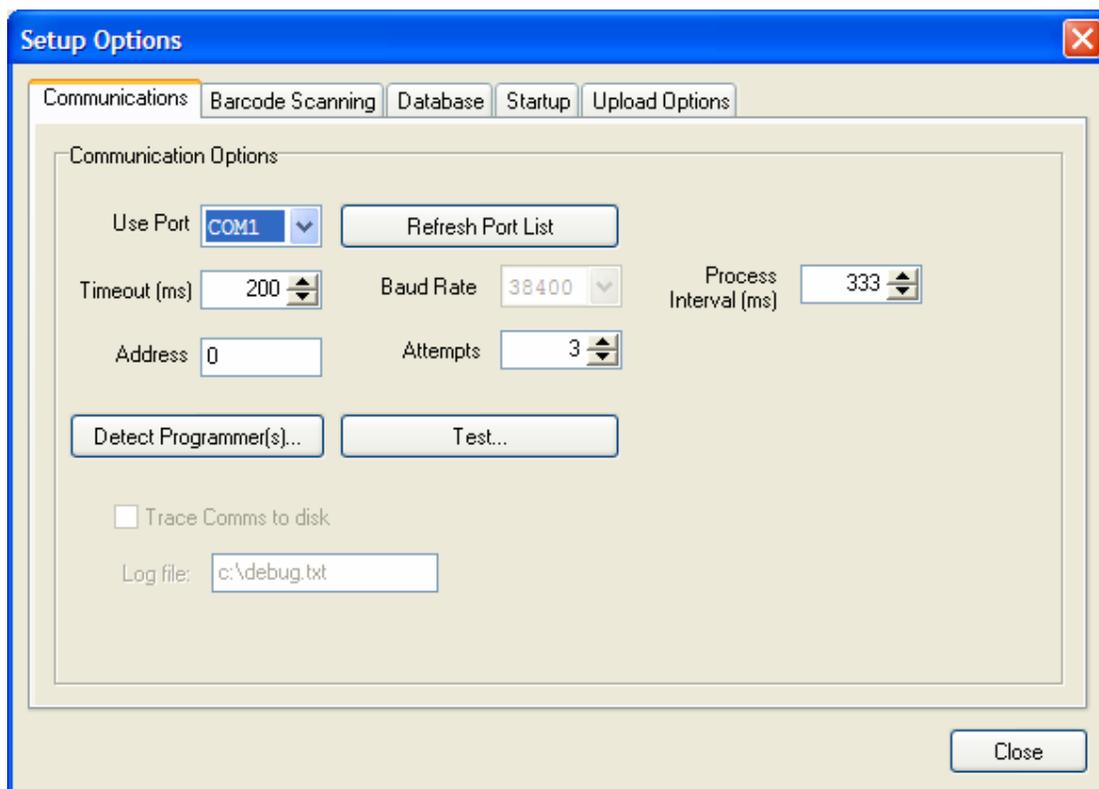
- Connect the USB end of the **'USB to Serial Cable'** to a spare USB port on the host PC.
- Connect the 9-way D connector end of the cable to the **'Serial Port'** on the Equinox Programmer.
- Switch on power to the programmer

3.2 Testing with EQTools

The following instructions detail how to get EQTools to detect a programmer which is connected to the host PC via the **'USB to Serial Cable'**.

Instructions:

- If you have not already installed the Equinox EQTools software, please install it now
- Launch the EQTools software
- Select **<Programmer><Communications and Scripting Setup>**
→ EQTools will display the following screen



- Click the down arrow next to the **'Use Port'** field
→ A list of the available **'COM Ports'** on the host PC is displayed.
- If your PC does not have a physical **'Serial Port'**, then it is likely that there is only one **'COM Port'** now displayed in the list. This will be the COM port to which the **'USB to Serial Cable'** is connected.

- If your PC has multiple '**Serial Ports**' listed, then it could be that you have an internal modem or other serial devices installed in your PC. The '**USB to Serial Cable**' is likely to be the last '**COM Port**' in the list.
 - Select the correct '**COM Port**' to which the '**USB to Serial Cable**' is connected.
 - Click the **<Test>** button
- EQTools will attempt to communicate with the attached programmer via the the '**USB to Serial Cable**'.

If EQTools communicates OK with the attached programmer

→ The installation procedure is complete and you can now use EQTools as you would normally.

If EQTools cannot communicate with the attached programmer:

- Try selecting a different COM port
- Make sure the is the '**USB to Serial Cable**' connected to the programmer
- Make sure the attached programmer is powered on
- Try clicking the **<Refresh Port List>** button. This will refresh the list of available COM ports detected on your PC.