

USB to RS-232

US-101-232 USB To Serial Operation Manual



First Edition, Jun 2008

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1

Introduction

Thank you for your purchase of US-101-232 as the USB to serial adapter. Featuring USB(Universal Serial Bus) interface technology, it is converted the USB to RS-232, so it can be easily adopted for industrial machines with RS232 interfaces. US-101-232 is compatible with fully compatible with the USB V1.0~2.0 . US-101-232's electrical power is from USB port and doesn't need any power adapter. You can connect a PC USB port or USB hub to US-101-232 via the USB cable and High-Speed RS-232 serial port which features easy connectivity for traditional serial devices in your working environments.

The RS232 standard supports handshaking signals (such as RTS, CTS) and full-duplex communication.

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Package checklist

US-101-232 product is shipped with the following items:

- 1 unit of US-101-232 USB to RS-232 converter
- 1 unit of A type to A type USB cable
- User Operation Manual
- Software CD

NOTE: Notify your sales representative if any of the above items is missing or damaged

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Product Specification

- **Serial Port**

- **RS-232**

- No. of Ports : RS-232 * 1 Port
- Port Type : DB-9 male connector
- RS-232 Signals : DCD , RX , TX , GND , RTS , CTS , DTR , DSR
- Receive buffer : 576 Byte
- Transmit buffer : 640 Byte
- Baud Rate Speed : 300 bps ~ 921.6k bps
- Parity : None , Odd , Even , Space , Mark
- Data Bit : 5 , 6 , 7 , 8
- Stop Bit: Auto-Detection : 1 , 1.5 , 2,
- Flow Control : X-On / X-Off or Hardware
- Connected Serial port type identification : Auto-Detection
- 15KV ESD for all signal

- **USB Port**

No. of Ports : USB * 1 Port

- Chipset : Silicon Laboratories CP2102
- Fully compatible with the USB V1.0, V1.2, V2.0
- USB type A connector
- Baud Rates : Full speed 12 Mbps.

- Driver OS Support
 - Windows – 98E / 2000 / XP / Server 2003 / Vista , Mac osx / os9 , Linux 2.4 / 2.6

- Power :USB bus power as voltage DC +5V

- Environment :
 - Operating Temperature: 0℃ ~ 60℃
 - Storage Temperature : -20℃ ~ 85℃

- Humidity: 5-95% RH

- Dimensions : 55 * 40 * 25 mm (W * D * H)

- WEIGHT : 35 gm

- Regulatory Approved :
 - EMC : FCC Class A, CE Class A
 - WARRANTY : 1 Year

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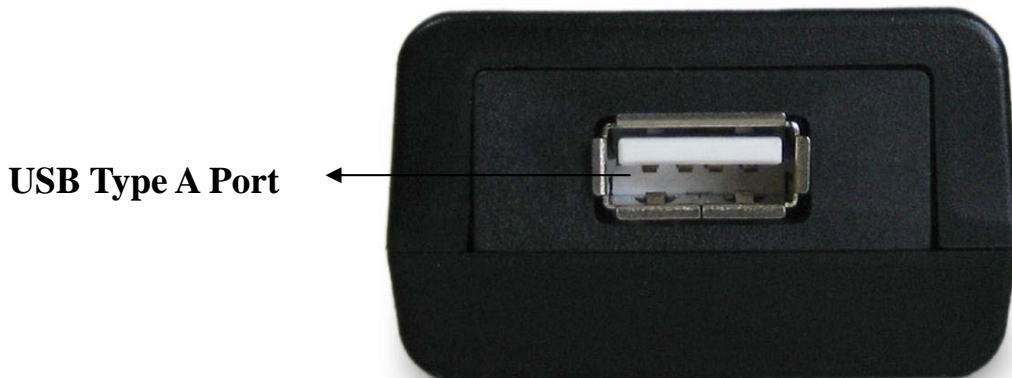
Product Panel Views Description

US-101-232 Product Views



USB Type A Connector

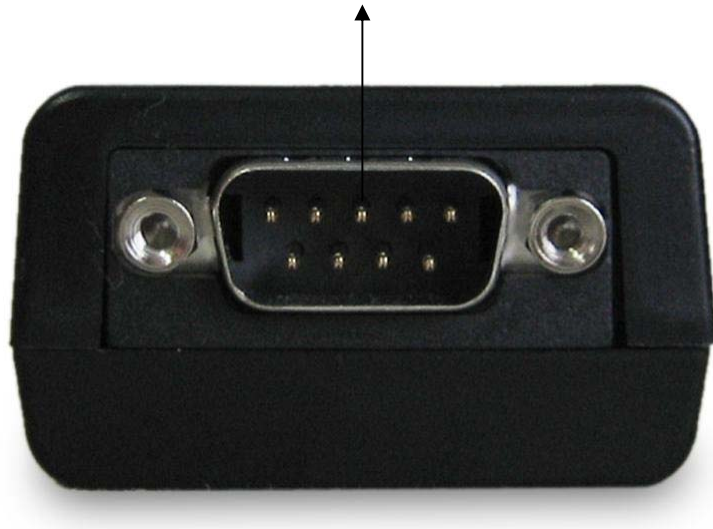
Power Outlet - The US-101-232 USB to RS-232 is powered by USB (Universal Serial Bus) port a single 5V DC (Inner positive/outer negative) power supply and 500mA of current. To connect the USB cable to between a PC USB port or USB hub and US-101-232's USB port.



US-101-232's USB port is a USB type A connector and it is fully compatible with the USB V1.1~2.0

Serial I/O Port

**Serial I/O Port
RS232**



Serial I/O Port of RS-232

To connected the serial data cable between the converter and the serial device. Follow the parameter setup procedures to configure the converter (see the following chapters).

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US-101-232 Driver Installation

When setting up US-101-232 adapter for the first time, you have to install CP201x as “US-101-232 Driver” first in your computer device before connecting it. There are several kind OS as Windows 98 / 2000 / 2003 / XP / VISTA..., Linux ..., Mac... . The utility CD is enclosed in the device box.

All the US-101-232 USB to RS-232 Adapters must be installed the driver first before you use it.

● Driver Installation

Before when connecting up US-101-232 adapter for the first time, you have to install the driver software in your computer first. US-101-232’s driver has supported several kinds of OS like Windows, Mac and Linux

A. Install CP210x_VCP_Win2K_XP software

Through CD-ROM and find adaptable OS to your computer equipment.



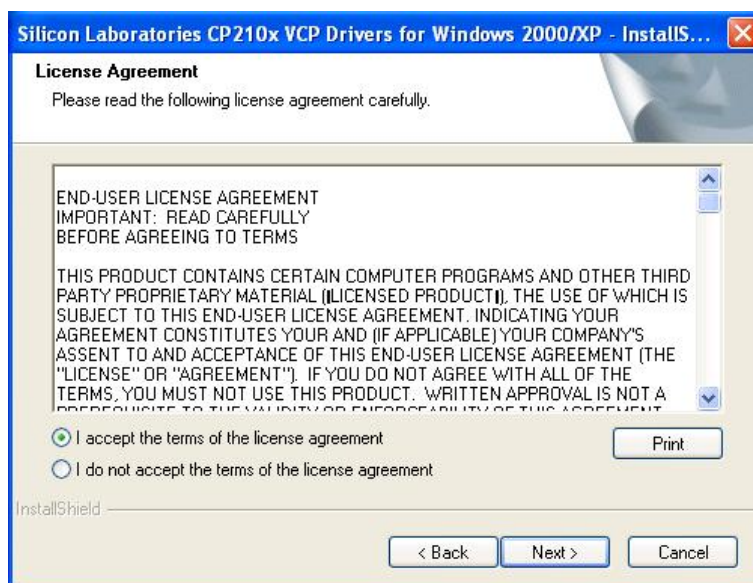
B. Choose “Next” Icon

If your computer equipment is running Windows OS that the pop-up screen of installing message will be showed as “CP210x VCP Drivers for Windows 2000/XP on your computer” and then to Click “Next” icon for going to next step.



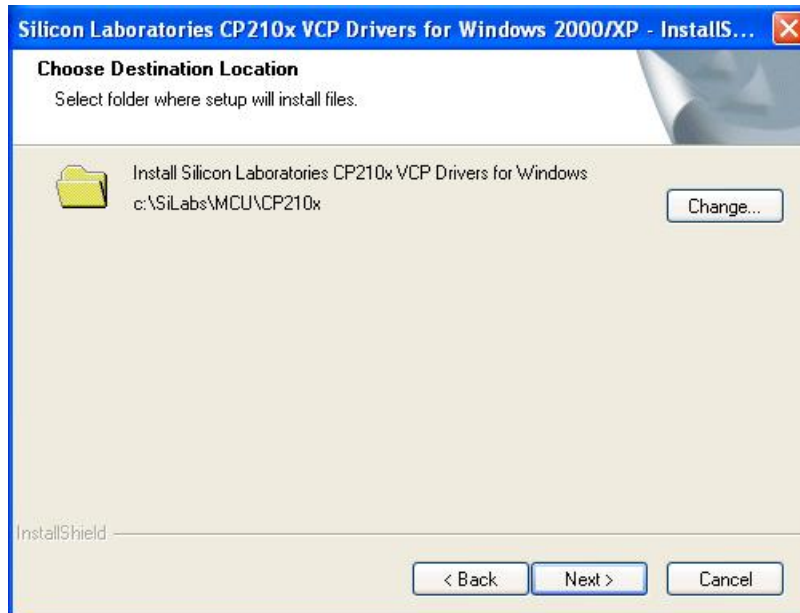
C. Choose “Accept” item of license agreement

After reading the license agreement then if you agree the terms to choose the item “I accept the term of the license agreement”.



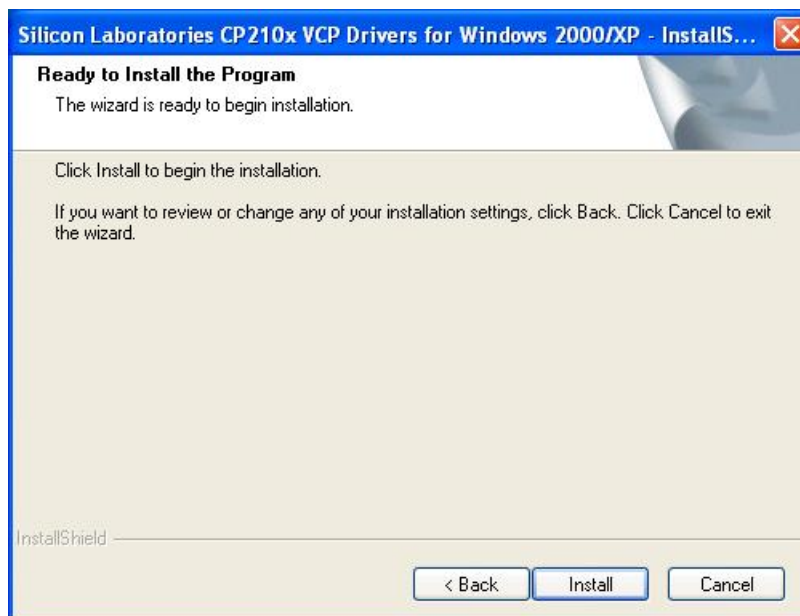
D. Choose destination location

It is for saving the CP201x driver software in destination location of computer.



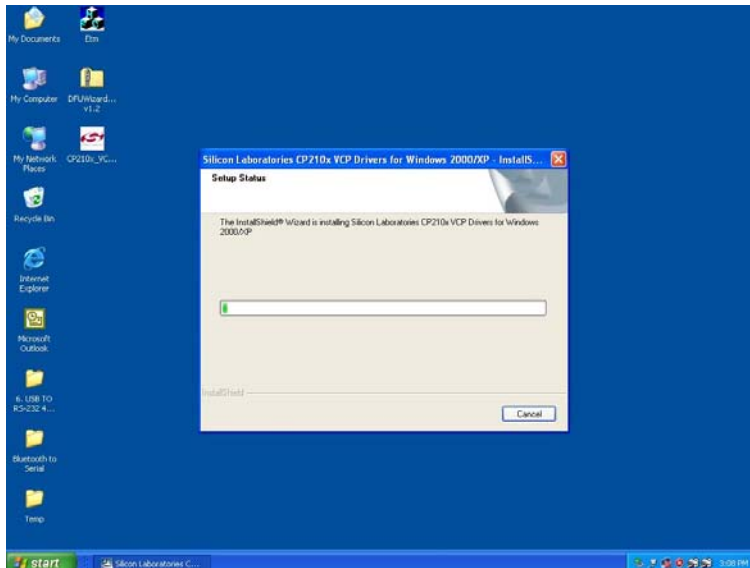
E. Execute the program installation

Click the "install" icon to begin installation of CP210x driver.



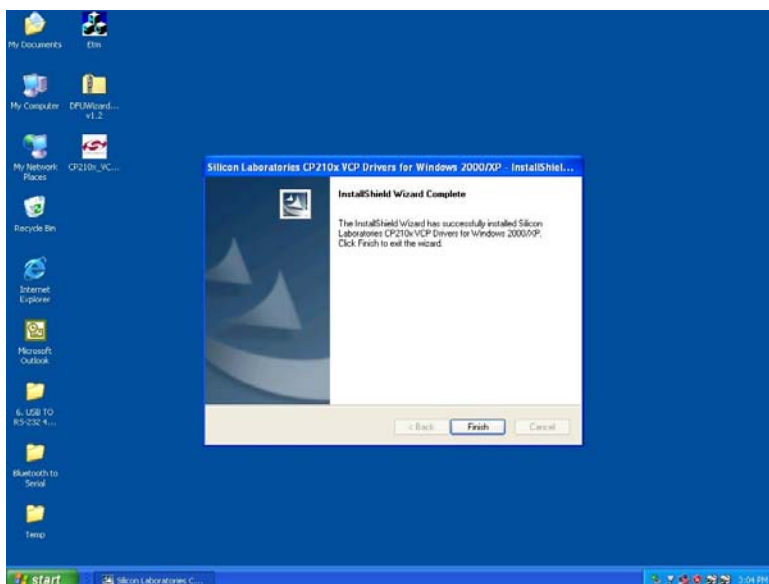
F. install CP210x VCP Driver for Windows 2000/XP

After click “Install” icon, the installshield wizard is installing Silicon Laboratories CP210x drivers for Windows 2000/XP and installation location.



G. InstallShield Wizard Complete

CP210x VCP driver has successfully installed and click “Finish” icon for exiting the wizard.

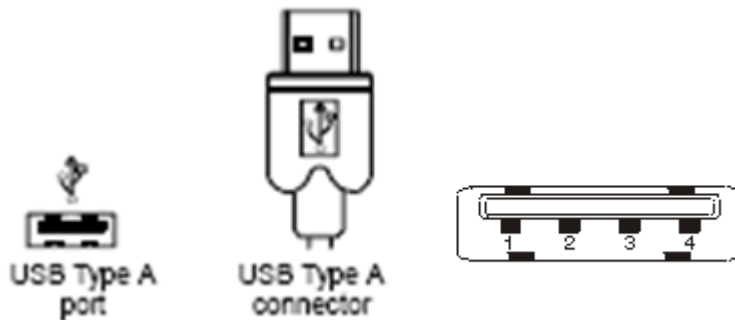


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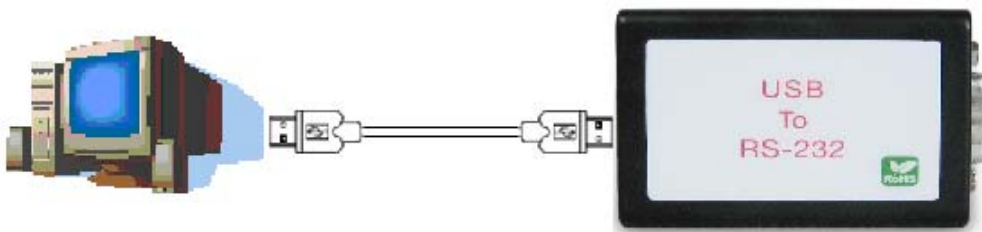
US-101-232 Hardware Installation & Setup

● Hardware Installation

1. Power on your computer and until OS is ready after booting
2. There is a type A USB cable has two distinct connectors to connect the cable from a USB device to as on a computer or USB hub.



3. Connect USB cable between a PC USB port or USB hub and US-101-232 adapter.



4. Connect the serial port RS-232 equipments to US-101-232 of USB to serial adapter.

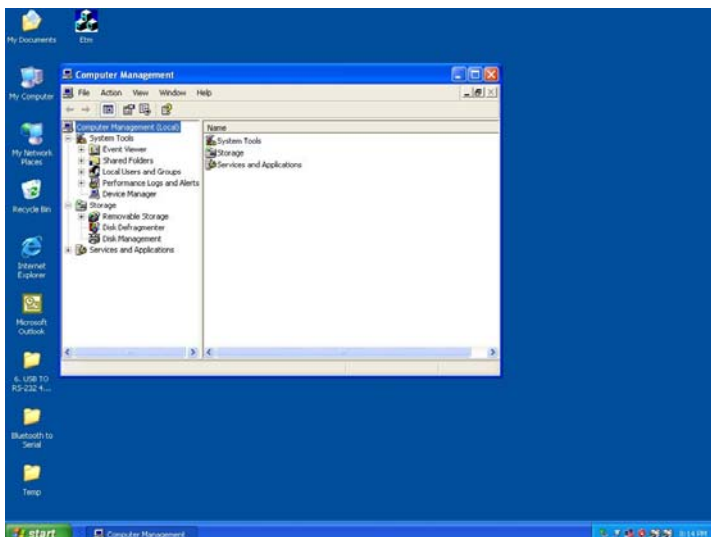
5. After connecting US-101-232 USB to serial converter then a message as “ New device has been connected” will be pop-up on screen. However, the CT201x VCP driver needs to be installed in PC in advance.

● Hardware Setup

When US-101-232 adapter has successfully connected and you can setup more detail parameters by computer's manage.

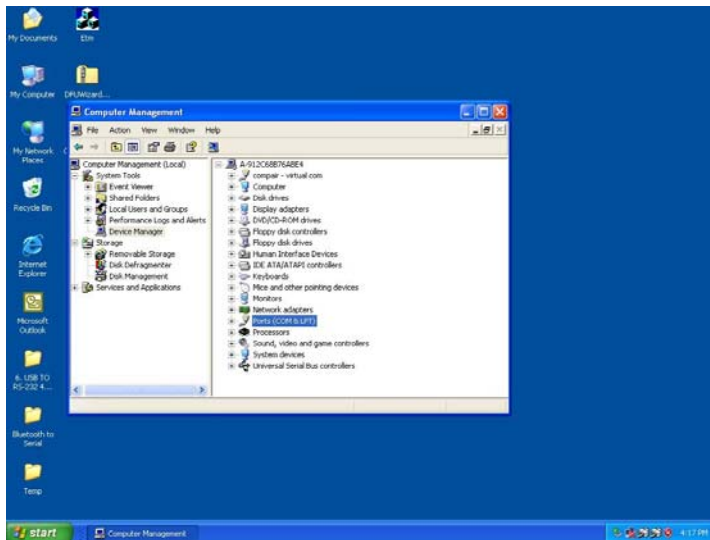
A. Into "Manage" icon in My Computer

Click "My Computer" icon and then press the right side button of mouse. After you click the manage item on list bar then "Computer Management(Local) list will be pop-up .



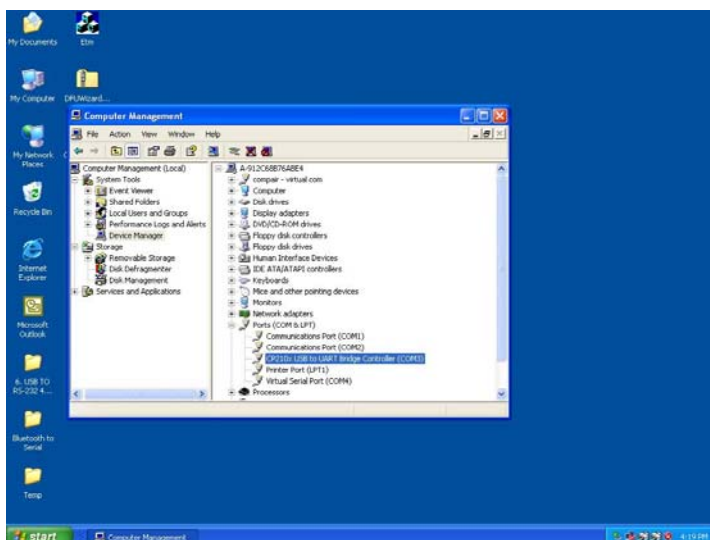
B. Choose “Device Manager” and click “Ports(COM & LPT)” in Device Manager

Click “Device Manager” item, all devices of computer will be list on right site of screen and then click “Ports (COM & LPT)” item for looking for more COM devices.



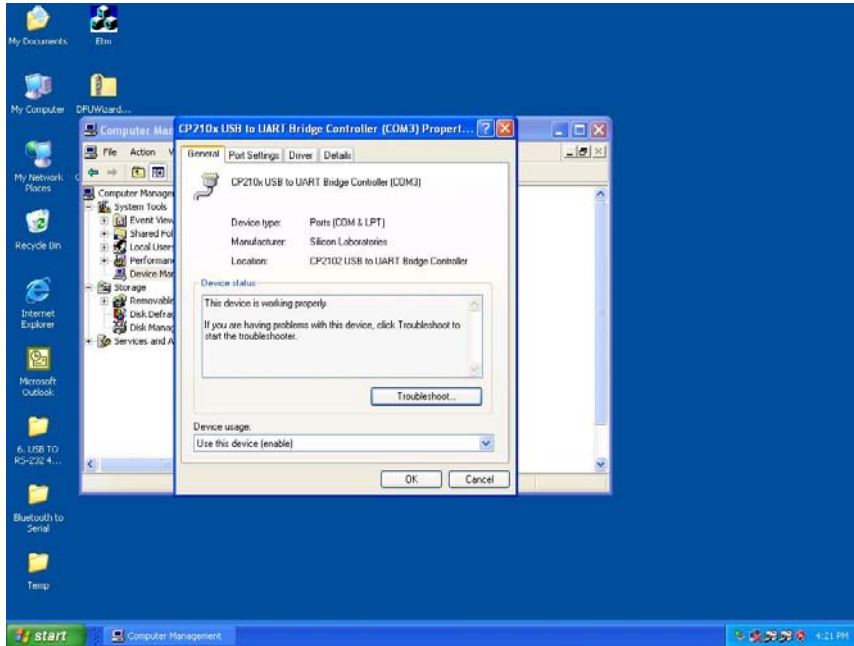
C. Detail parameters of CP210x USB to UART Bridge Controller

Click “CP210x USB to UART Bridge Controller” for getting more detail information of the device.



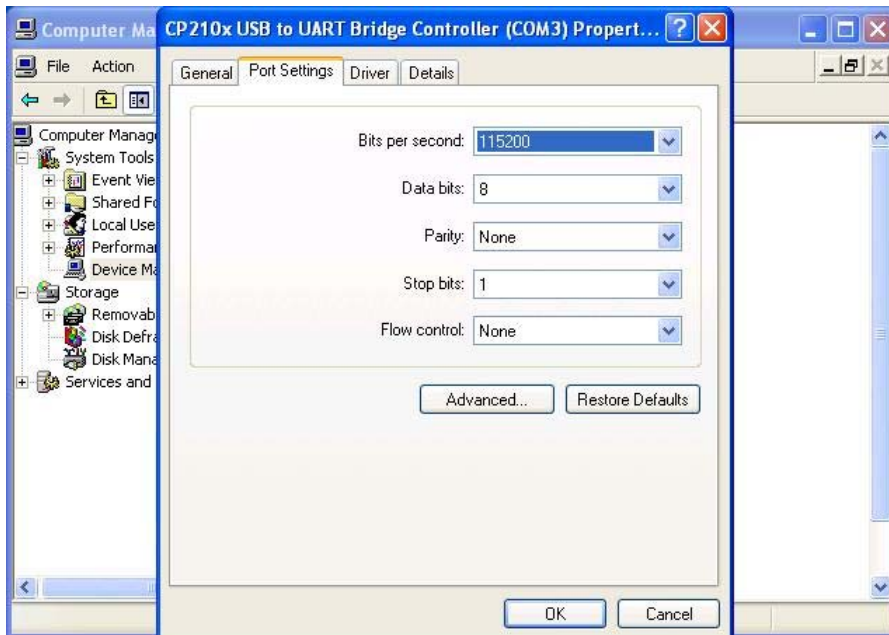
D. Device general status of CP210x USB to UART Bridge Controller

This is showing the status of device and some product general information. COM port number of device is also displayed on.



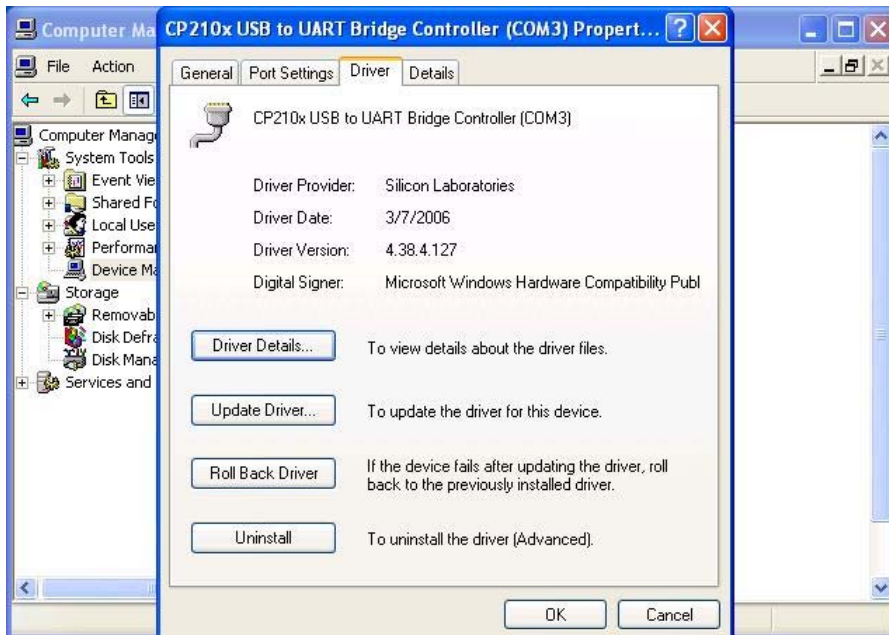
E. "Port Settings" communication detail information

This is for checking and setting more detail parameters of device for communicating.



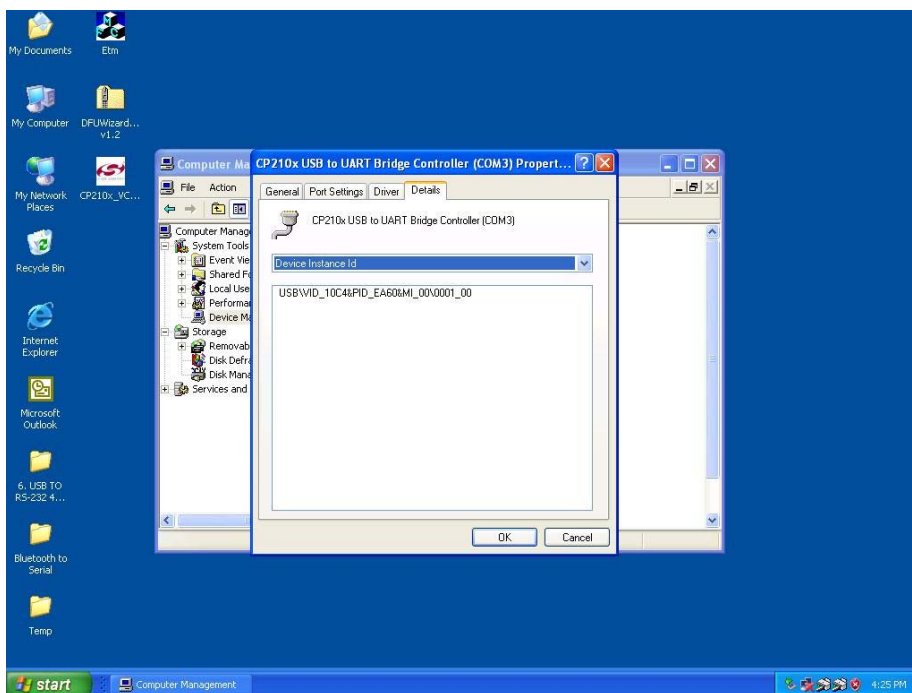
F. “Driver” detail information

The driver detail information as you installed in your computer.



G. “Details” item

It is for checking device ID numbers as device instance ID.

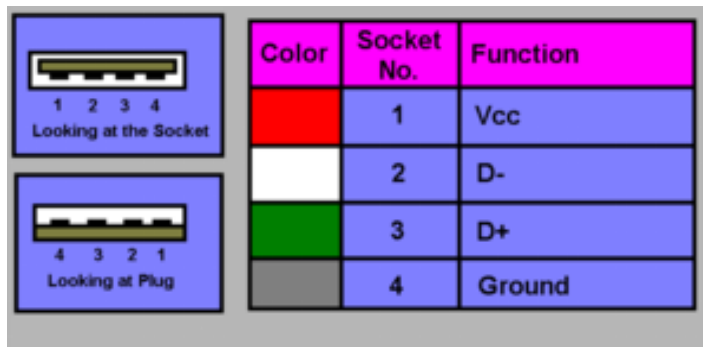


Appendix A

Pin outs and Connector

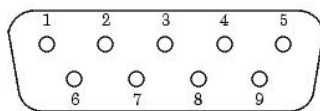
□ USB Layout Diagram

Type A USB Connector



□ RS-232 Pin Assignment

The pin assignment scheme for a 9-pin male connector is given below.



PIN 1 : DCD

PIN 2 : RXD

PIN 3 : TXD

PIN 4 : DTR

PIN 5 : GND

PIN 6 : DSR

PIN 7 : RTS

PIN 8 : CTS

PIN 9 : X

□ RS-232 Wiring Diagram

Serial Device

US-101-232

2 RX

3 TX

3 TX

2 RX

5 GND

5 GND

7 RTS

8 CTS

(Flow Control)

8 CTS

7 RTS

(Flow Control)