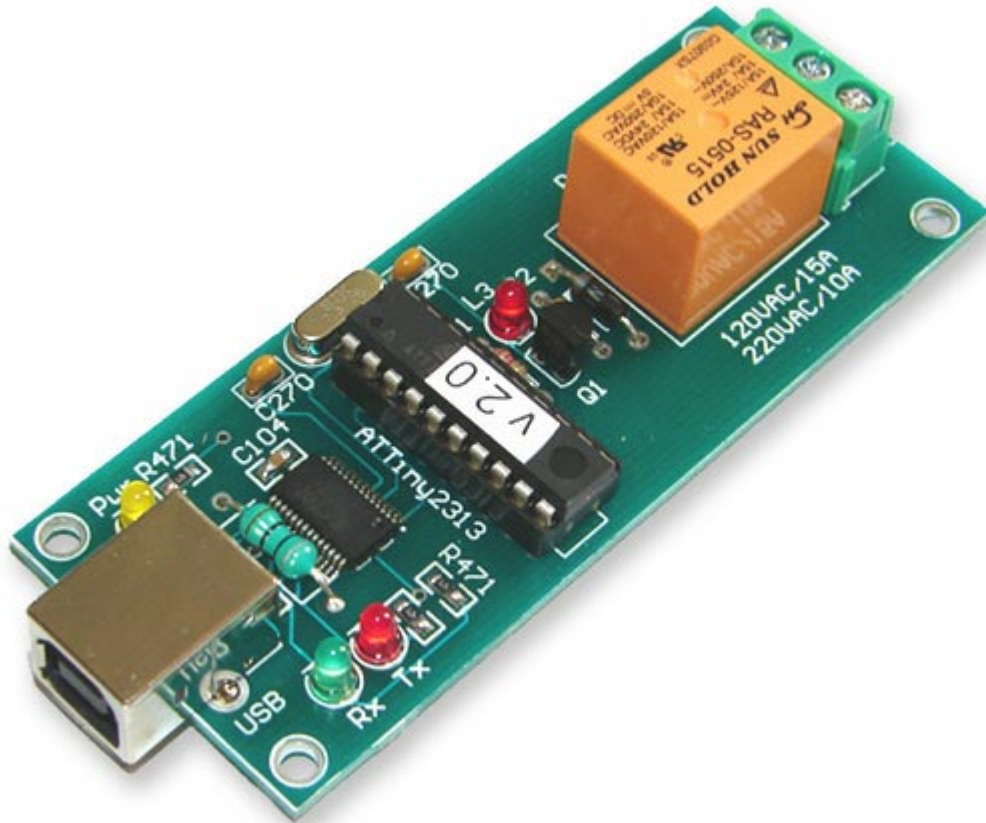


USB One Channel Relay Controller RS232 Serial controlled



A general purpose USB Relay board (controller) for connection to a PC's USB port using VCP (Virtual COM port). Control devices using your PC.

Features:

- Fully assembled and tested.
- For 12V/24V DC 15A or 120V/220V AC at 10A max.

Complete including:

- One USB relay Controller

Dimensions (PCB board):

90 mm / 35 mm

Drivers are available to work with the following operating systems :
Windows Vista x64, Windows XP x64, Windows Server 2003 x64, Windows Vista, Windows XP, Windows Server 2003, Windows 2000, Windows ME, Windows 98, Linux, Mac OS X, Mac OS 9, Mac OS 8, Windows CE.NET (Version 4.2 and greater)

Communication Parameters:

8 Data, 1 Stop, No Parity

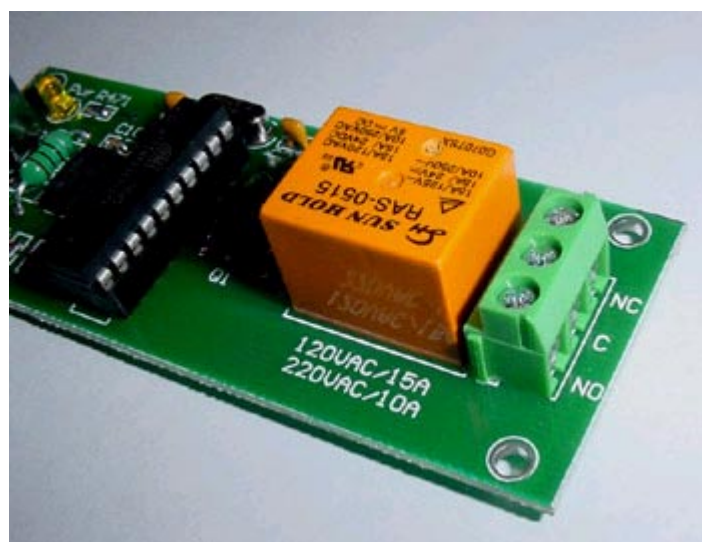
Baud rate : 9600

Commands:

OFF command: "FF 01 00" (HEX) or "255 1 0" (DEC)

ON command: "FF 01 01" (HEX) or "255 1 1" (DEC)

NOTE : Each command consists in 3 binary bytes (shown in hexadecimal below) without any space!

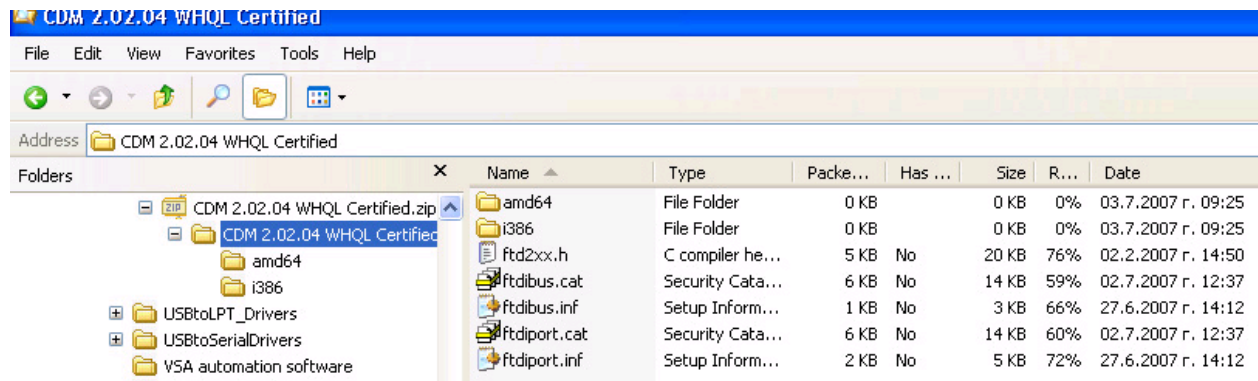


You have to download the drivers from FTDI website :

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

<http://www.ftdichip.com/Drivers/CDM/CDM%202.04.06%20WHQL%20Certified.zip>

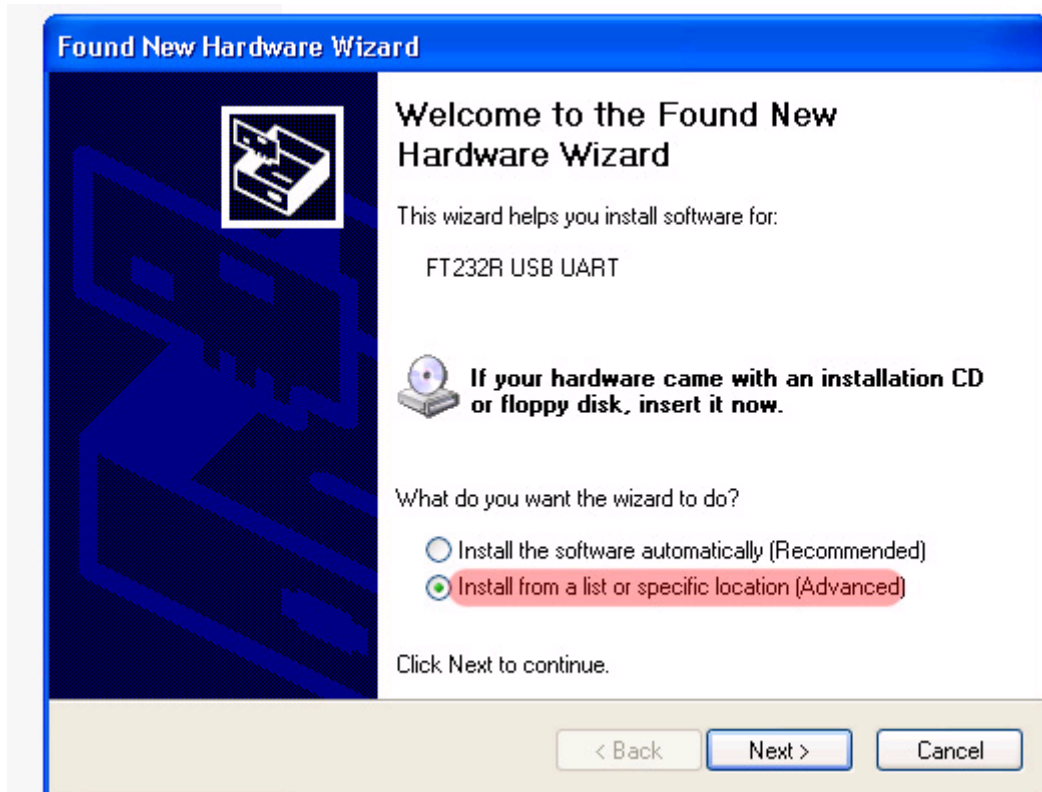
Unzip it to your own folder

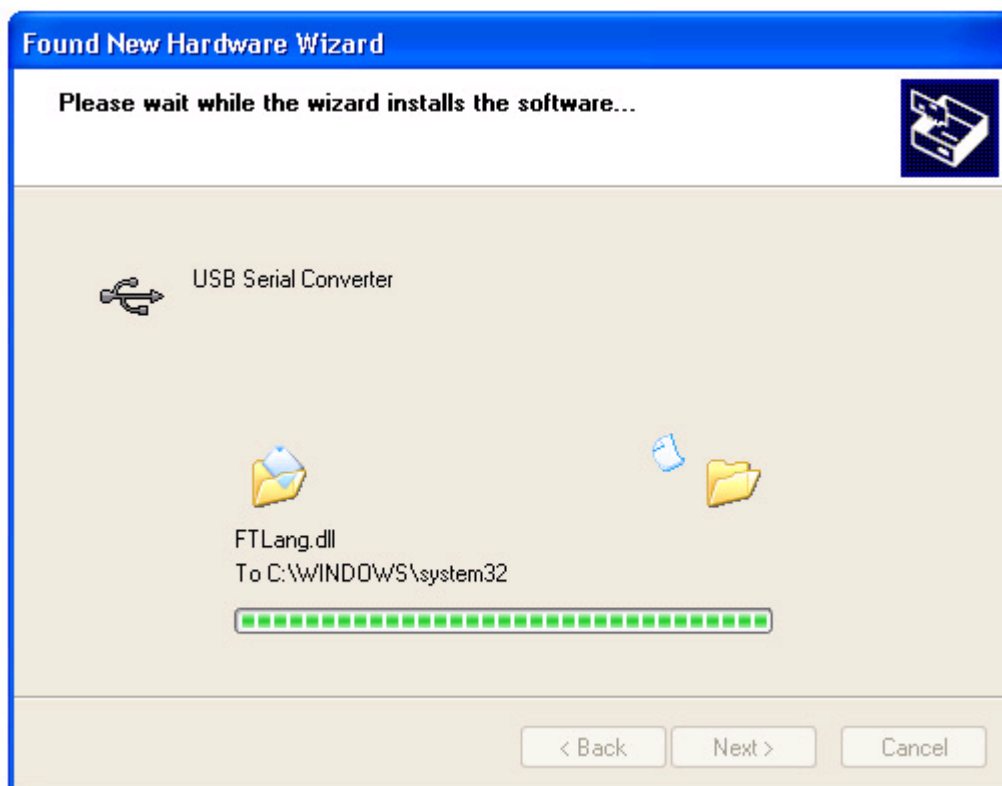
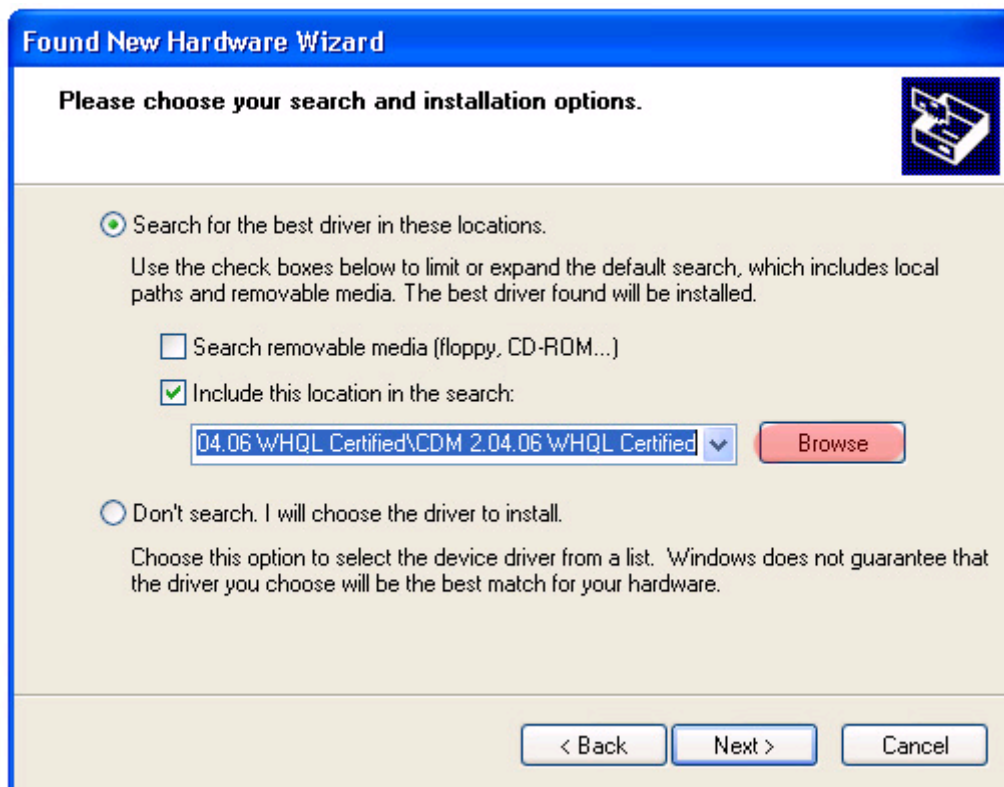


When you connect the USB board, the following message appears: FOUND NEW HARDWARE and drives need to be installed.

When you connect the USB board to the PC the red and green LED flashes 2,3 times and turn off. When the red LED and the green LED flashes means that there is a communication between the programmer and PC.

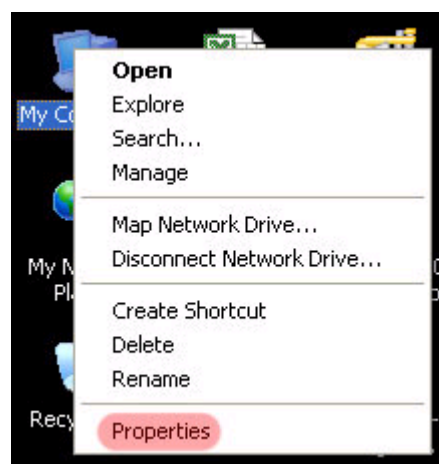
Drivers' installation:

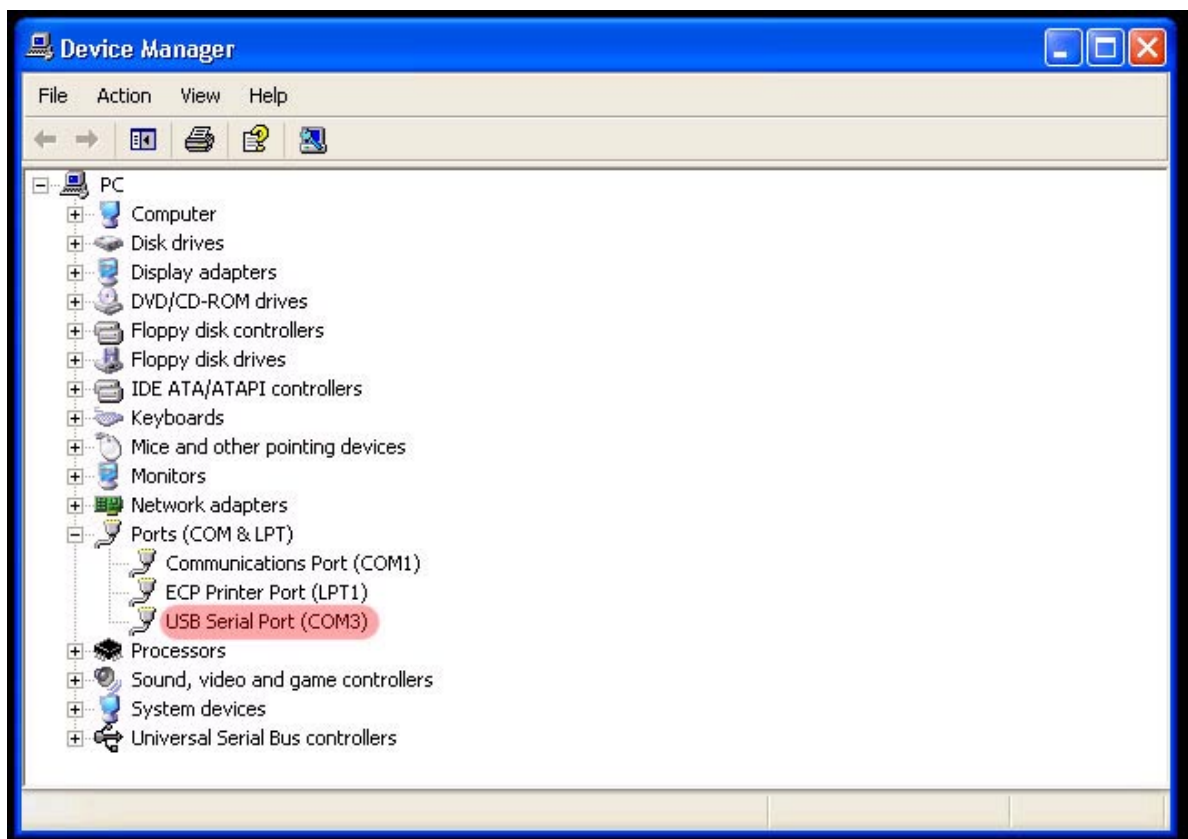
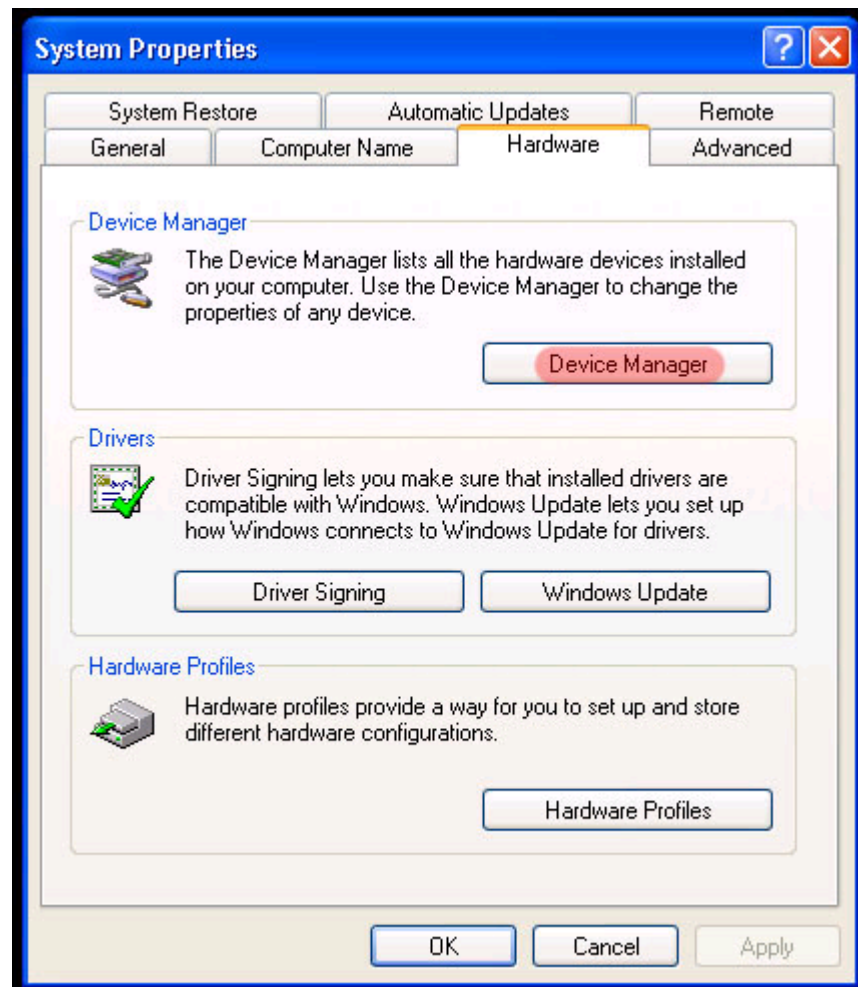






After the drivers' installed, an additional COM port appears in the Device Manager of Windows- usually it is COM3:

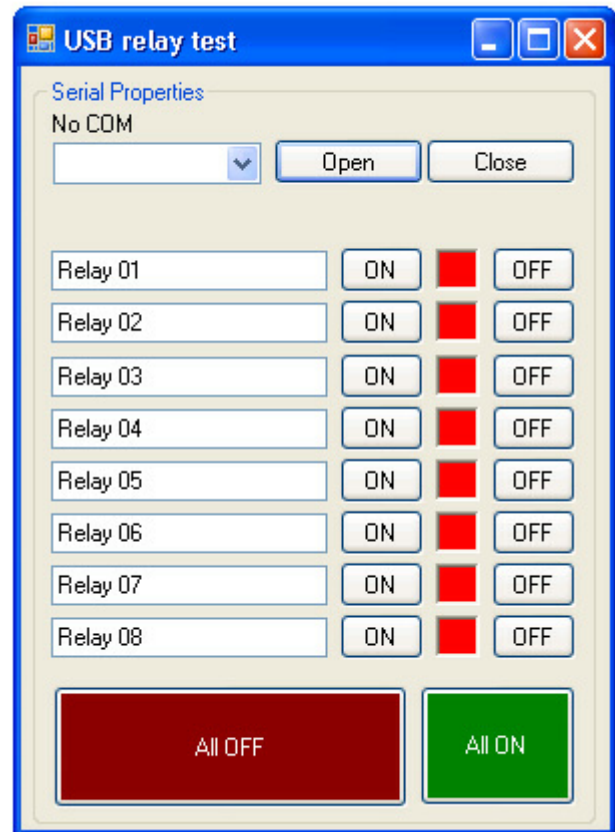




Testing :

1. Download USB Relay Test software from:
http://www.sigma-shop.com/software/usb_relay/usb_relay_software.zip

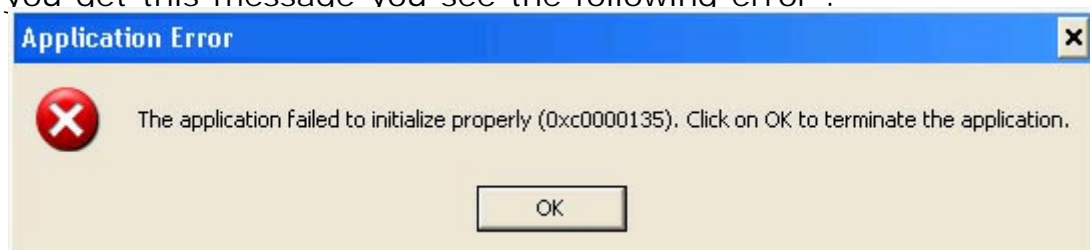
2. Connect board to USB and run software. If everything is ok this should appear :



You can also download source code:
http://www.sigma-shop.com/software/usb_relay/usb_relay_source_code.zip

Support forum:
<http://www.sigma-shop.com/board/viewforum.php?f=17>

If you get this message you see the following error :

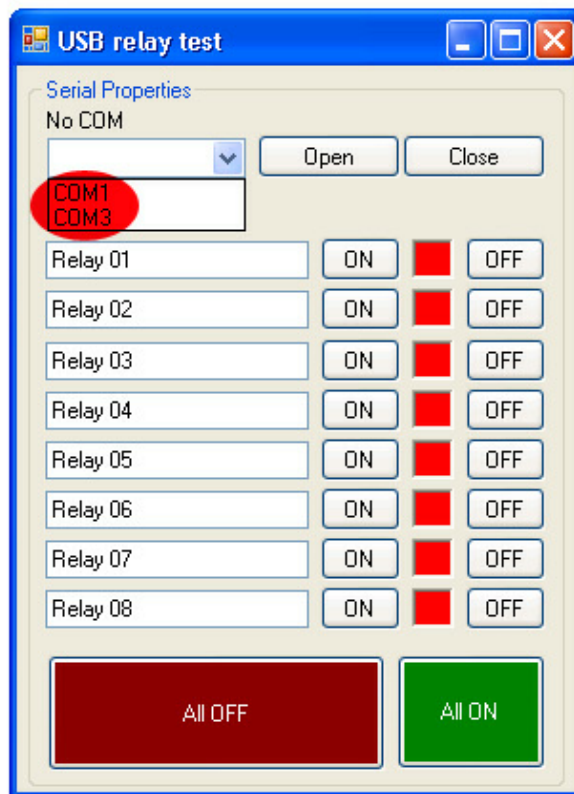


that means that you do not have the latest version of Microsoft .NET Framework installed on your computer.

The program has to be installed on your computer in order to use the software.

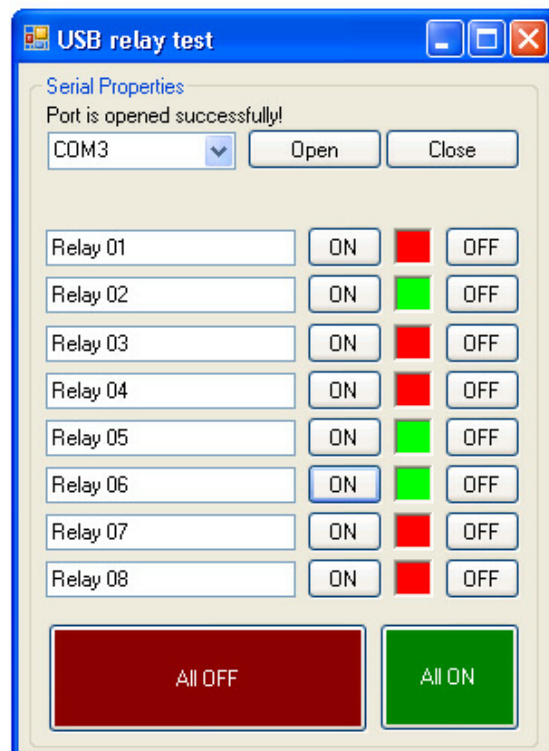
You can download this from [there](http://www.microsoft.com/downloads/details.aspx?FamilyId=333325FD-AE52-4E35-B531-508D977D32A6&displaylang=en)
<http://www.microsoft.com/downloads/details.aspx?FamilyId=333325FD-AE52-4E35-B531-508D977D32A6&displaylang=en>

3. Software will detect all COM ports you have and there must be one more (Virtual COM port) :



4. Choose COM port. Click on "OPEN" button and using "ON" and "OFF" buttons you can test relays.

NOTE : USB one relay no support "All ON" and "All OFF" buttons



Software examples :

Abacom ProfiLab-Expert example:



Download software:

http://www.sigma-shop.com/software/usb_relay/abacom_proflabexpert_one_channel_relay.zip

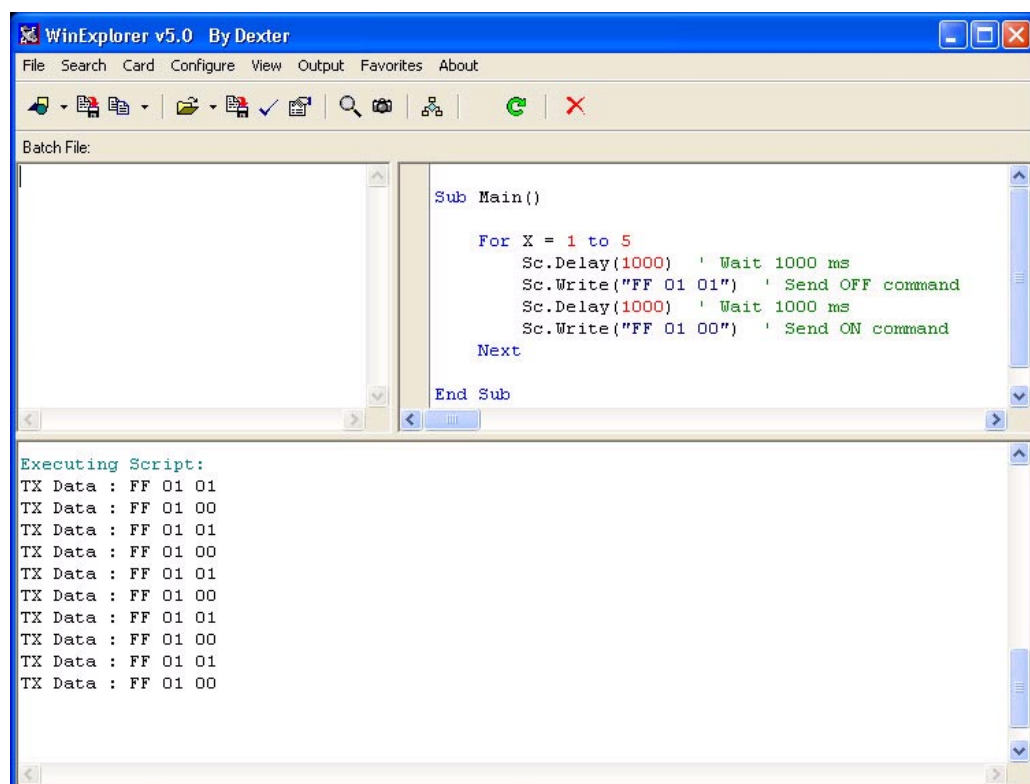
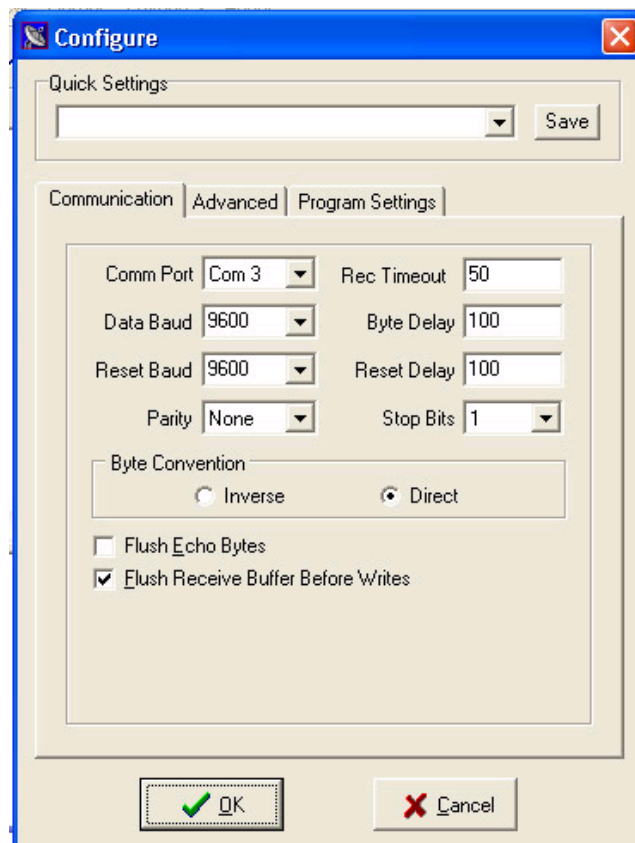
You can made similar application with ProfiLab within minutes!

ProfiLab-Expert is available in our shop:

<http://www.sigma-shop.com/category/1/software.html>

WinExplorer:

http://www.sigma-shop.com/software/usb_relay/WinExplorer.zip



Sample VB6 code :

```
Private Sub cmdOff_Click()  
    With MSComm1  
        'make sure the serial port is open  
        If .PortOpen = False Then .PortOpen = True  
        'send the data  
        .Output = Chr$(255)  
        .Output = Chr$(1)  
        .Output = Chr$(0)  
    End With 'MSComm1  
End Sub
```

```
Private Sub cmdOn_Click()  
    With MSComm1  
        'make sure the serial port is open  
        If .PortOpen = False Then .PortOpen = True  
        'send the data  
        .Output = Chr$(255)  
        .Output = Chr$(1)  
        .Output = Chr$(1)  
    End With 'MSComm1  
End Sub
```

Sample 1 Microsoft Visual Basic 2008 code :

```
Private Sub ON_Button_Click(ByVal sender As System.Object, ByVal e As  
System.EventArgs) Handles ON_Button.Click  
    SerialPort1.Open()  
    SerialPort1.Write(New Byte() { 255, 1, 1 }, 0, 3)  
    SerialPort1.Close()  
End Sub
```

```
Private Sub OFF_Button_Click(ByVal sender As System.Object, ByVal e As  
System.EventArgs) Handles OFF_Button.Click  
    SerialPort1.Open()  
    SerialPort1.Write(New Byte() { 255, 1, 0 }, 0, 3)  
    SerialPort1.Close()  
End Sub
```

Sample 2 Microsoft Visual Basic 2008 code :
(Many thanks to Andrew Magennis for this code)

```
If SerialPort1.IsOpen = False Then  
    SerialPort1.Open() 'opens the serial port  
    Dim data(3) As Byte  
    data(0) = 255 'data for entering comand mode  
    data(1) = 1 'data to select which relay 1-8, in this case 2  
    data(2) = 1 'turn on the relay, or 0 to turn it off  
    SerialPort1.Write(data, 0, 3) 'write the data to the serial port, SerialPort1.  
End If
```

```
If SerialPort1.IsOpen = False Then  
    SerialPort1.Open() 'opens the serial port  
    Dim data(3) As Byte  
    data(0) = 255 'data for entering comand mode  
    data(1) = 1 'data to select which relay 1-8, in this case 2  
    data(2) = 0 'turn on the relay, or 0 to turn it off  
    SerialPort1.Write(data, 0, 3) 'write the data to the serial port, SerialPort1.  
End If
```

Sample C# code :

```
private void button1_ON_Click(object sender, EventArgs e)
{
    serialPort1.Write(new byte[] { 0xFF, 0x01, 0x01 }, 0, 3);
}

private void button1_OFF_Click(object sender, EventArgs e)
{
    serialPort1.Write(new byte[] { 0xFF, 0x01, 0x00 }, 0, 3);
}
```

Linux :

In this case the driver is correctly installed and with the bash's command :

The old kernel's "echo" commands:

```
echo $'\xff\x01\x01' > ttyUSB0
the relay 1 go ON.
```

```
echo $'\xff\x01\x00' > ttyUSB0
the relay 1 go OFF.
```

The new kernel's "echo" commands:

```
echo -e '\xff\x01\x01' > /dev/ttyUSB0
the relay 1 go ON.
```

```
echo -e '\xff\x01\x00' > /dev/ttyUSB0
the relay 1 go OFF.
```
