

# Ethernet-232

# Virtual Serial Driver Manual

Design Gateway Co., Ltd.

*Rev 1.0*

*(PD0503-6-02-01E)*

\*\*\* Please read this manual carefully before using Ethernet-232 \*\*\*



## Revision History

Revision	Date	Detail of Change
1.0	28 December 2005	Initial Release

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## 1. Summary.

The Hardware Virtual Serial Port (VSP) is a software tool for connection between RS-232 serial device and computer through Ethernet. Which The Virtual Serial Port adds a virtual serial com port to computer (Windows OS) and all data from this virtual serial com port are re-directed to the other TCP/IP. The Hardware Virtual Serial Port is free TCP/IP Windows virtual serial port. It can connect to any pin on serial port by The Virtual Serial Port give freedom TCP/IP for serial port. The virtual driver should work as a Client or Server. In the Server mode it closes the connection if there is inactivity through serial port.

## 2. System Architecture.

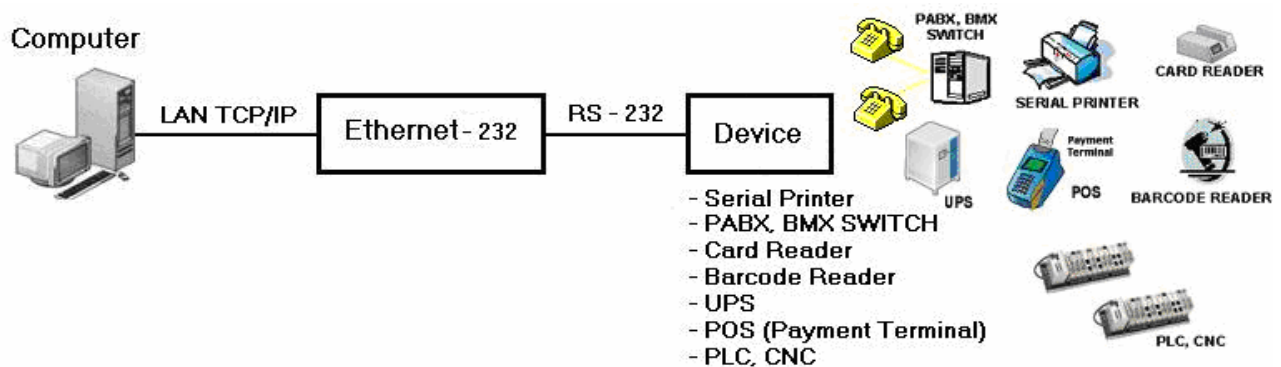


Figure 2-1 The System Architecture Diagram

### 3. How To Setup.

#### 3.1. Minimum Requirement.

##### 3.1.1 Personal Computer.

Operating System	Windows XP, Windows 2000
Space requirement	10 Mbytes
CPU	300 MHz or higher Pentium PC or compatible PC
LAN interface card	10/100 Mbits.

##### 3.1.2 Ethernet - 232 Board.

Board version	1.0
Firmware Version	1.0
DLL version	1.0
Library version	1.0

#### 3.2. How To Install.

- 1). Unzip file HW\_VSP\_setup\_v216.zip.
- 2). The whole SW installation has two parts: The Virtual Serial Driver is installed at first, HW VSP driver is installed after this. It is the real application for the TCP/IP management etc... Because of this two separated parts; user should check the Checkbox on user interface during installation. After the following window is shown, check the “Launch the program” check box to finish the whole driver installation.

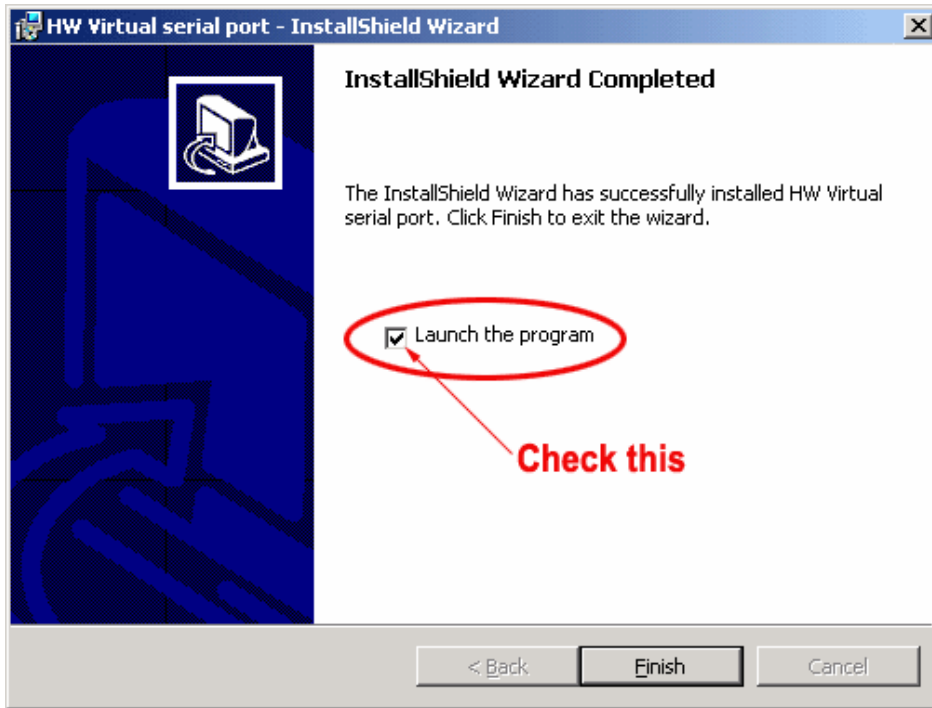


Figure 3-1 Installing Program

- 3). After installation the computer asks you to reboot. After rebooting, the virtual driver will work fine. HW Virtual Serial Driver can be launched by clicking “VSP” The icon with red arrow.



Figure 3-2 The Icon of VSP

### 3.3. How To Use.

#### 3.3.1 Using The Hardware Virtual Serial Port connects Ethernet - 232.

- 1). After rebooting, VSP runs.

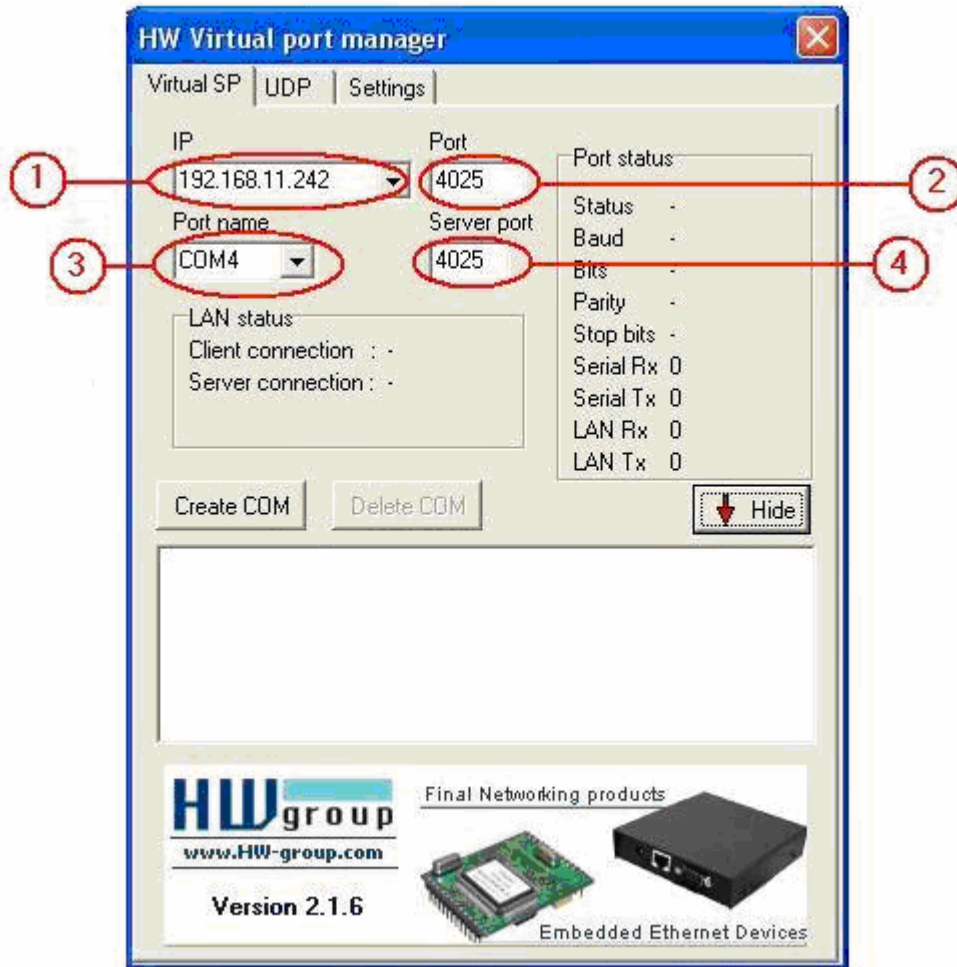


Figure 3-3 Windows of VSP

The above window shows connection record. User can create or delete value of the VSP. Fill the remote serial port IP address and port. One Virtual Port Manager equals to one virtual serial port, but it is possible to start more than one manager at once.

- **IP** (No.1 in Figure 3-3): The IP address of the remote serial port device. It can be automatically identified by using the UDP tab.

- **Port** (No.2 in Figure 3-3): An incoming port of the remote serial port device. User's PC opens a TCP/IP connection to this port and sends data.

- **Port Name** (No.3 in Figure 3-3): Choose a number of the port from COM2 to COM20.

- **Server Port** (No. 4 in Figure 3-3)

When the "TCP server mode" is enabled in the settings, there is incoming TCP port, where the Virtual Serial Port driver listens and acts as a TCP server. It's recommended to

use incoming port higher than 1024, because MS Windows OS allocates some ports for system functions.

2). Set value IP, Port, Port Name and Server Port, then click “Create Com” button.

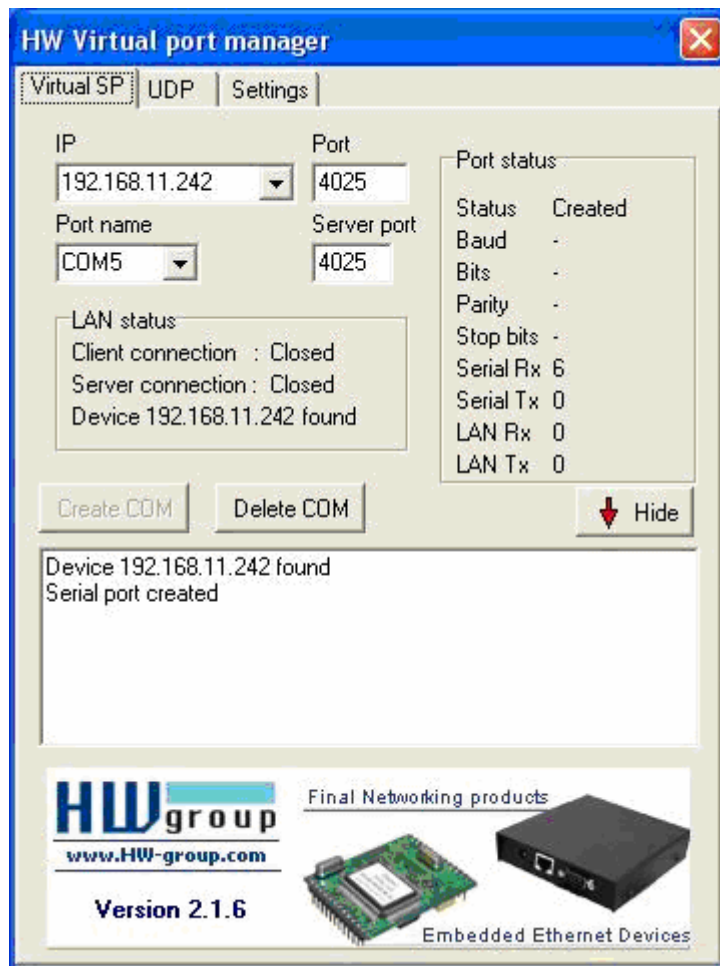


Figure 3-4 VSP Connect Port Com5

3). Status of VSP after connecting com port.

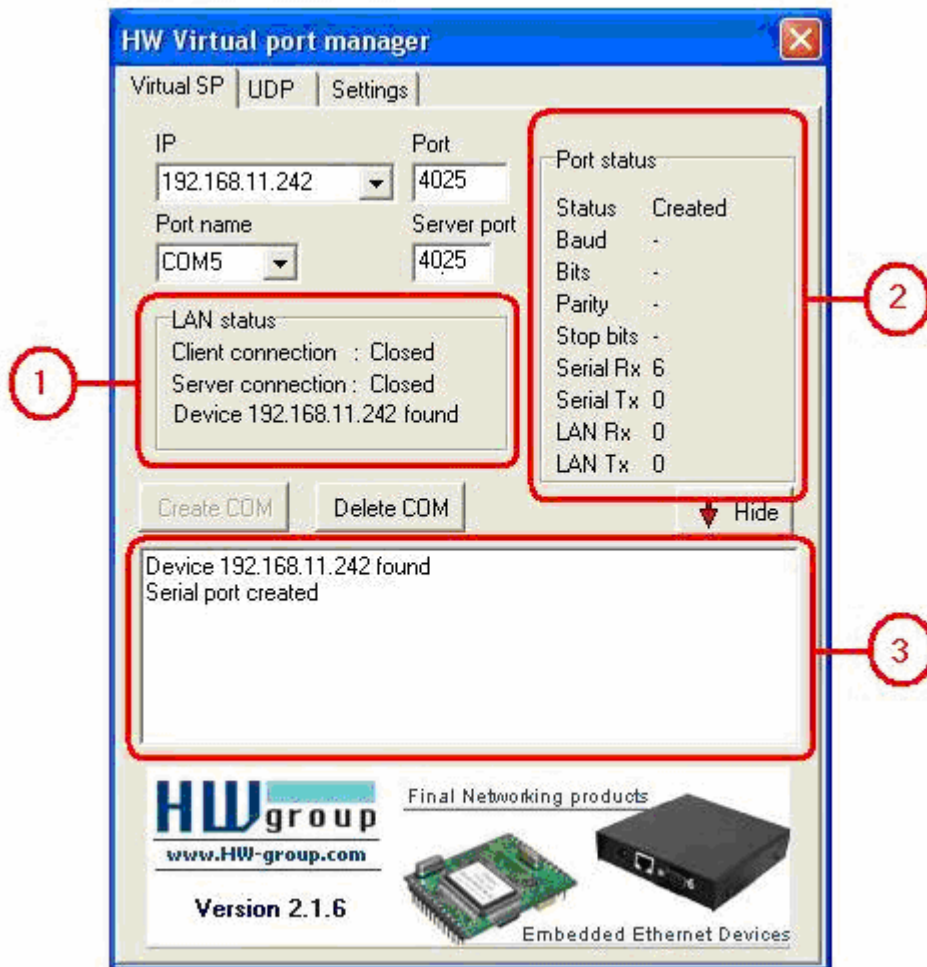


Figure 3-5 Status of VSP after Connect Com Port

- LAN Status (No.1 in Figure 3-5): Identify status of LAN connection.
- Client connection: Status of VSP is client, isn't it? open = client, close = close status client .
- Server connection: Status of VSP is server, isn't it? open = server, close = close status server.
- Device 192.168.11.242 found is device VRP found or connected.
- Port Status (No.2 in Figure 3-5): Identify status of port.
- Status = status of connect.
- Baud = baud rate of communication. (Bit per second)

- Bit = total of bit data. (0 – 7 bits)
- Parity = parity bit. (Odd or even)
- Stop bits = total of stop bit.
- Serial Rx = total of receive data with serial.
- Serial Tx = total of transceiver data with serial.
- LAN Rx = total of receive data with LAN.
- LAN Tx = total of transceiver data with LAN.
- **Status Edit** (No.3 in Figure 3-5): Identify data of connection.

### 3.3.2 UDP.

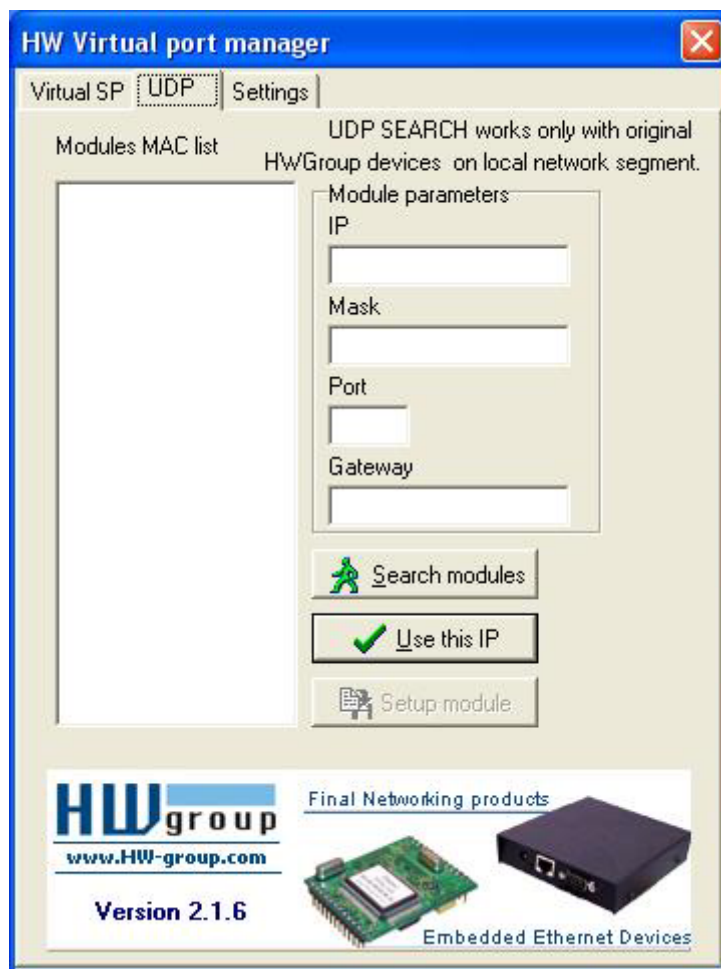


Figure 3-6 Windows of UDP

UDP is in use when computer cannot connect hardware group with serial port, which user can search hardware group network devices over the UDP broadcast.

- **Search Modules**

Searches original HW group devices, displays a list on the left side of the window. After clicking a MAC address in the window on the left, the basic network parameters of the chosen module will be shown.

- **Use this IP**

Transfers IP address of the chosen device to the IP address of the device in the main menu in which a connection is established.

- **Setup Module**

If user's HW group remote serial port has enabled TCP Setup, user can be configured by using this function. Check the screen shoot.

### 3.3.3 VSP Driver Setting.

VSP Driver Setting is for configure functions in order to support The Hardware Virtual Serial Port.

- **log enabled.**

The VSP driver creates the "C:\serialport.log" for recording all virtual serial port activities.



Figure 3-7 Windows of VSP Driver Settings

**- TCP Server Mode.**

Activates the VSP as the TCP/IP server. The driver then acts like a TCP Client/Server device (the side that first receives any data will switch to client mode and open the connection).

**- Create Port on start VSP.**

If this checkbox is enabled and VSP is started, it will create virtual serial port without any questions. If user wants to create VSP after booting the Windows, user has to enable it and click the "Start VSP on boot" checkbox.

**- Hide on startup.**

Hide the VSP task from the taskbar. User can find the VSP icon next to the clock.

- Do not create port with ping fail.

IP address of the device is tested before VSP port creation. When the ping fails, the VSP is not created.

- Connect to module if port is closed.

When the virtual serial port is not used with any application, user can lose the data from the remote serial port if this checkbox is checked.

- Start VSP on Boot.

Insert the VSP path to the RUN register

(HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\run) of the Windows OS. The VSP will be started with the Windows every time.

#### 4. Comment:

If user wants to run automatic visual serial port, user should check the Checkbox “Create port on start VSP”, “Hide on startup” and “Start VSP on boot”.

If user wants to set baud rate for connection, user must use Ethernet - 232 program in setting. Hyper Terminal or other program cannot set baud rate for connection.

#### 5. Reference

Table 4.1 Reference

File Name	Version
<a href="http://www.design-gateway.com">http://www.design-gateway.com</a>	-
<a href="http://www.hw-group.com/products/hw_vsp/index_en.html">http://www.hw-group.com/products/hw_vsp/index_en.html</a>	-





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