NuDAM -6530 USB to RS-232/422/485 Converter

1. Introduction

Universal Serial Bus (USB) is an open, royalty free, Plug and Play standard for PC peripheral connectivity, supported by leading computer, telecommunications and software company. It behaves in a similar fashion to conventional bus technology (serial, parallel, ISA…), but is a faster, no extra slots or IRQ required manner.
The ND-6530 takes advantages of the USB technology, and for the convenience to the users of numerous PC, IPC, notebooks, laptops and handheld PC, it provides an easy way to link with industry standard buses interface of RS-232/422/485.

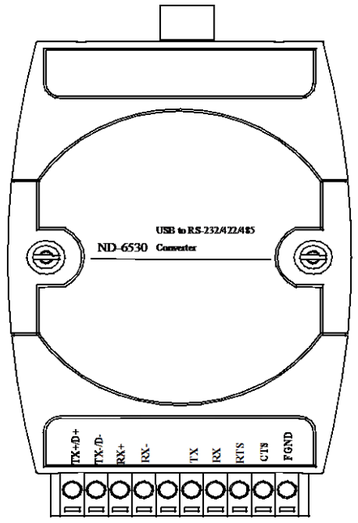
Features

- USB Specification 1.1 Compliant
- Plug and Play Installation
- Self power
- RS-232 support RTS CTS handshake signal
- Full-Duplex RS-422 support
- Half-Duplex RS-485 support
- Up to 128 RS-485 devices on the bus
- Auto direction flow control on RS-485
- High transfer Speed up to 115.2Kbps
- High isolation voltage up to 2500Vrms
- Surge protection on RS-232/422/485 lines
- Driver support for Windows 2000/98
- Low power consumption
- Easily setup and installation

Specifications

- USB controller:
  USB Spec. 1.1 compliant
- Transceiver:
  RS-232: SP385E
  RS-422: LT490
  RS-485: LT1487
- I/O Interface:
  RS-232/422/485 DIP switch selectable
  RS-232 support RXD, TXD, RTS, CTS, FGND signals
  RS-422 support TX+, TX-, RX+, RX- 4 wires full-duplex signals
  RS-485 support DATA+, DATA- signals with auto direction control
  Selectable transfer speed with 1200, 2400, 4800, 9600, 19200, 38400, 115200 bps
  2500Vrms isolation
  Surge protection on all signal lines
- Connector:
  USB type B
  10 pin screw terminal block
- LED Indicator:
  ON: Receiving USB power
  Flashing: Data transfer
  OFF: No power applied
- Cable: Type A to type B
- Storage Temperature Range: -25 to 80 °C
- Operating Temperature Range: -10 to 70 °C
- Power Requirement: USB bus power
- Power Consumption: 0.6W
- Case: ABS with captive mounting hardware
- CE Class A Conformity

2. Pin Assignment

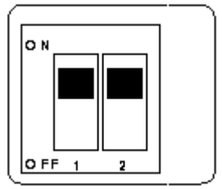


Pin Definitions

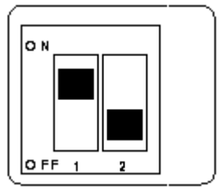
Pin #	Signal Name	Description
1	TX+/D+	RS-422 or RS-485 transmission line, positive
2	TX-/D-	RS-422 or RS-485 transmission line, negative
3	RX+	RS-422 receive line, positive
4	RX-	RS-422 receive line, negative
5	NC	No connection
6	TX	RS-232 transmission line
7	RX	RS-232 receive line
8	RTS	Request to send
9	CTS	Clear to send
10	F.GND	Ground
	USB	Type B connector
1	+5V	USB +5V bus power
2	Data-	USB data line, negative
3	Data+	USB data line, positive
4	Ground	USB bus power ground

DIP Switch Setting

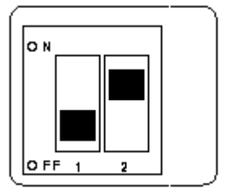
RS-485 (Default)



RS-422

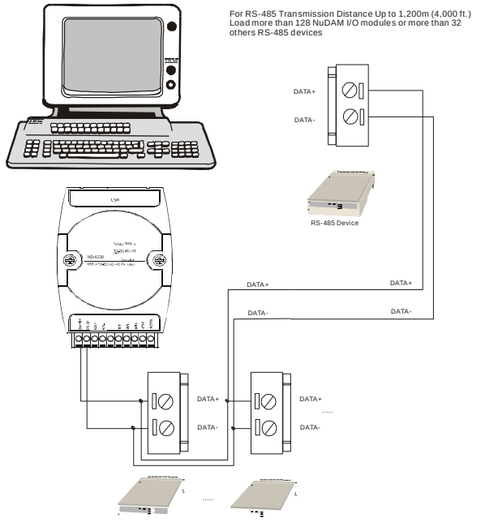


RS-232

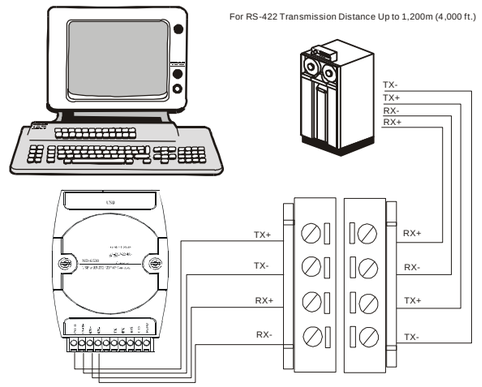


3. Connection Diagram

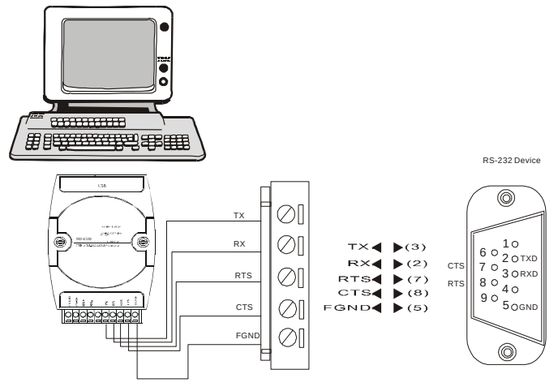
RS-485



RS-422



RS-232



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4. Installation

System Requirement

A computer with USB port
Window 98 or Win2000 operation system
USB host controller installed on the system
USB cable (type A to type B)

Windows 98 Installation

1. Plug the ND-6530 into the computer USB port or a USB hub. The **New Hardware Wizard** appears, click on **Next** to continue.(show as figure).



2. In the dialog box that comes up, leave the default choice (Search for the best drivers for your device), click on **Next** to continue.

3. In the dialog box that comes up, leave the default choice (**Floppy disk drives**), insert the distribution diskette in the floppy (**A:**) drive, click on **Next** to continue.



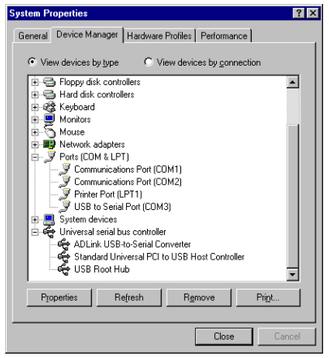
4. In the dialog box that comes up, click on **Next** to continue. Files are now copied to your hard disk.
5. After the driver files have been copied to the hard disk, a dialog box appears to tell you that the installation has finished. **Click on Finish.**(show as figures).





Installation Complete:

Now you have installed ND-6530 on your system, you can see a new USB serial device in **Control → Device Manager.** The ND-6530 plays a role as standard COM port, you can use any UART serial communication utility (eg. HyperTerminal), or call standard windows API for COM.

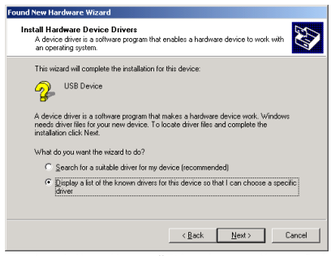


Windows 2000 Installation

1. Plug the ND-6530 into the computer USB port or a USB hub.
2. Then there will be a dialog box as following.

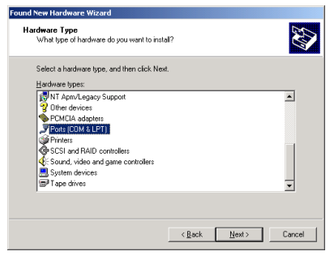


3. Please click the next step, and it will show as.

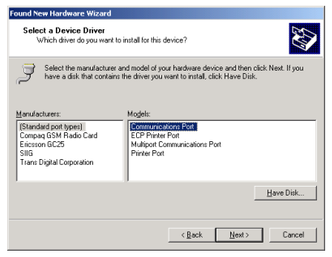


Please select the item “Display a list of the known drivers so that I can choose a specific driver" and click **Next**.

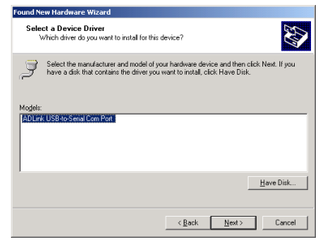
4. Then it will appear the following dialog box, please choose the item “**Com & LPT”** and click **Next.**



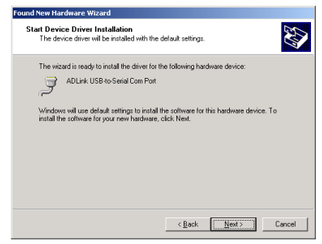
And please choose the device as following



5. Then you should use the driver to find the following device.

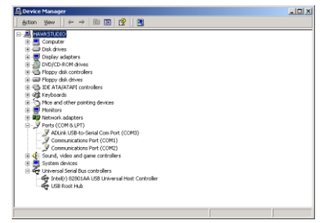


6. After this, you should see the dialog box as



Then you have success to install the ND-6530 on your host

7. To check if the installation is success, please check the device in your device manager, and there should be a device as.



5. ADLINK on the Internet

The full version manual can be download from website
http://www.adlink.com.tw/download/manual/index.htm#6000

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Service: service@adlink.com.tw
Technical Assistance: NuDAM@adlink.com.tw

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