

# uPCI RS422/485 Range Summary

CONNECT, CONFIGURE, CONTROL YOUR SERIAL DEVICES



## Range Description

Our RS422/485 cards feature high bandwidth PCI buses and large FIFO's which provides a fast response time for the user. These can run up to 8 times faster than standard RS232 cards. They are compatible with both 5V and 3.3V slots.

**RS422 Standard:** RS422 allows one transmitter and up to 10 receivers with data transmitter rates up to 10 megabits per second for distances up to 40 feet and up to 100 Kilobits per second for distances up to 4000 feet (1219 metres). To achieve good long distance noise immunity, 2 wires are used to carry each signal, configured as a twisted pair of cables. The TXD pair and RXD pair are used to carry the data whilst the RTS pair and CTS pair lines are used for handshaking. Thus 2 twisted pairs are used without handshaking and 4 twisted pair cable is used with handshaking both these schemes allow full duplex data communications.

**RS485 Standard:** RS485, based on the RS422 standard allows up to 32 driver/receivers pairs on a party line data bus. Whilst only one of these should be transmitting data at any time, the rest can all simultaneously listen to the data. Handshaking is performed by software protocol. Two twisted pairs form a full duplex system. Often only one twisted pair cable is used as the TXD and RXD lines are tied together; this is known as half duplex mode. Traditionally, the RTS signal is used as the party line control to tristate the PC's transmitter, but in multitasking operating systems like Windows or Linux the only reliable method is hardware autogating. Brainboxes RS422/485 products implement a state of the art autogating circuit thus ensuring error free communications in half duplex configurations.

## Features across the range

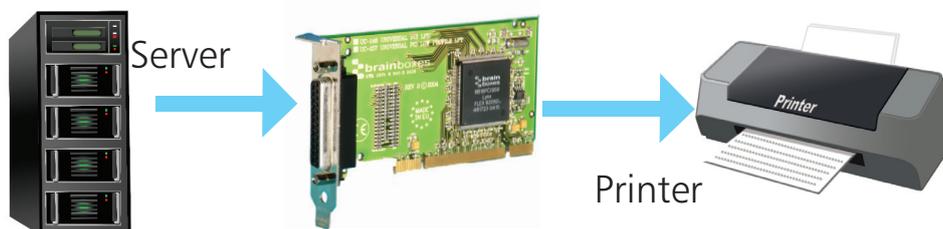
- Max Baud rate: 921,600, 15 or 18 MBaud
- Compatible with both 5V and 3.3V slots
- Autogating for automatic turnaround of transmit enable in RS485 half duplex mode - hassle free operation
- Plug & Play

| uPCI SERIAL CARDS                     | PORTS     | STANDARD CODE | LOW PROFILE CODE |
|---------------------------------------|-----------|---------------|------------------|
| uPCI 1xRS422/485 1MBaud               | 1 x 9 pin | UC-324        | UC-320           |
| uPCI 2xRS422/485 1MBaud               | 2 x 9 pin | UC-302        |                  |
| uPCI 2xRS422/485 1MBaud               | 2 x 9 pin | UC-313        |                  |
| uPCI 1xRS232 + 1xRS422/485 1MBaud     | 2 x 9 pin | UC-357        |                  |
| uPCI 4xRS422/485 1MBaud               | 4 x 9 pin | UC-346 *      |                  |
| uPCI 2xRS422/485 1MBaud Opto Isolated | 2 x 9 pin | UC-310        |                  |
| uPCI 4xRS422/485 1MBaud Opto Isolated | 4 x 9 pin | UC-368 *      |                  |
| PCI 2xRS422/485 15MBaud               | 2 x 9 pin | CC-530        |                  |
| PCI 2xRS422/485 18MBaud               | 2 x 9 pin | CC-525        |                  |

RS422/485 products also available in the following ranges:

- USB To Serial
- Ethernet To Serial
- ExpressCard
- PCI Express
- PCMCIA

## Example Applications



## Brainboxes Ranges



### Ethernet to Serial

- Simple, instant cable replacement providing network integration
- Retain existing software applications on your network and connect from anywhere in the world
- Web-page configuration & RFC2217 compliant interface for non-Windows users
- LED status indication
- Autogating for automatic turn around of transmit enable in RS485 half duplex mode - hassle free operation
- IP30 rated rugged metal enclosure with integrated wall mount & optional DIN rail



### USB to Serial - Industrial

- High retention USB connector for secure connections
- Plug & Play
- Fit any USB port
- Fantastic, proven, robust Boost software for excellent application compatibility
- IP30 rated rugged metal enclosure
- Includes 1m USB cable



### USB to Serial - Desktop

- Powered by USB port - no external power supply required
- Plug & Play
- Fit any USB port
- Fantastic, proven, robust Boost software for excellent application compatibility
- Includes 0.25m USB cable (Type A plug to Type A receptacle)



### PCI Express

- New generation of I/O expansion for PCs
- True serial connectivity for robust connection
- Plug & Play installation - auto configuration
- Works in x1, x4, x8 & x16 lane slots
- 1, 2, 3, 4 & 8 port RS232 & RS422/485 products
- LPT Printer Port, Low Profile & Full Height versions available
- Opto Isolated versions available
- Powered EPOS included in range



### ExpressCard

- New generation of I/O expansion for Notebooks
- Works in both 34 & 54mm slots
- User friendly form factor, convenient and rugged for notebook users
- High speed ExpressCards with excellent Plug-n-Play experience
- One & two port RS232 & RS422/485 products
- PCIe software & LPT Printer Port versions available
- Also available with PCMCIA Adapter



### PCMCIA

- Use in tablet, laptop and Pocket PCs
- Robust connectivity
- Plug & Play Installation
- Option of secure or removable cable
- High speed connection up to 921,600 Baud
- One & two port RS-232 & RS422/485 products
- Also available in ExpressCard



### Bluetooth

- True wireless cable replacement
- Class 1 & 2 devices - 10 to 30 metres
- RS232 Converter, on board software that also works with dumb devices
- Other Bluetooth products available:
  - ◆ Compact Flash
  - ◆ PCMCIA
  - ◆ Bluetooth RS232 Module
- Can be powered by device
- PC and Device connectivity



### Accessories

- DIN rail kits available for 2, 4 & 8 port Ethernet to Serial and USB to Serial devices
- Cables for multiple product ranges - fully RoHS compliant
- Power supplies available for UK, Europe and USA

# Connect, Configure, Control Your Serial Devices

## Company & Product Accreditations



Our in-house Research and Development and Manufacturing facilities also provide "Custom Design, Perfect Fit" solutions.

Brainboxes Corporate Statement - From concept to customer your serial connectivity needs worldwide - solved!