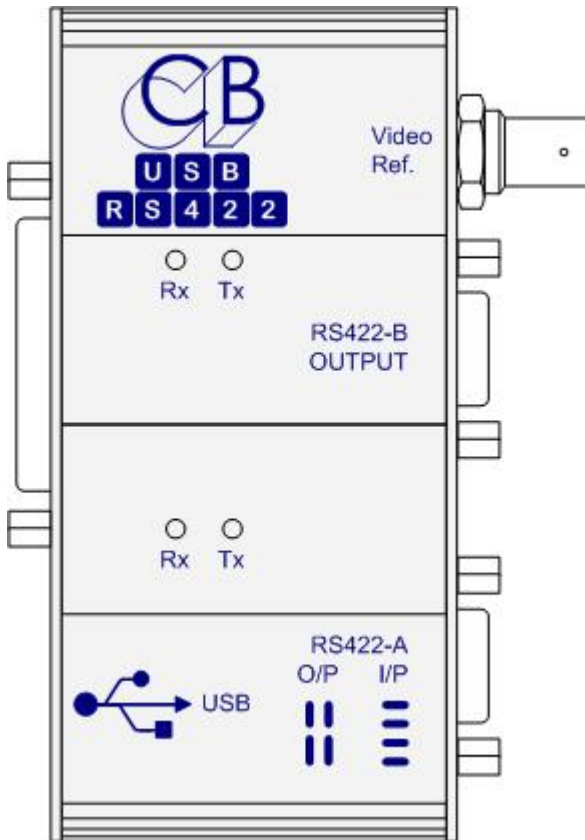




USB422V

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Dual RS-422 USB Interface with Video and GPO



Main Features

- Two RS422 ports, Connections to Standard Sony RS-422 pin-out
- Port A may be configured as a Controller (O/P) or Device (I/P) using internal links
- Port B is configured as a Controller (O/P)
- Video Sync Reference Input
- 25 pin 'D' GPO Input/Output
- Windows 98, ME, 2000 and XP Drivers
- MAC OS-X Driver
- Linux Driver
- Tx and Rx LED's on both ports
- Slow Rate Limited RS422 drivers to minimise EMI and reduce reflections
- Sample Windows Program on website
- Rugged extruded aluminum box
- WEEE/RoHS Compliant



USB Interface:

CB Electronics have for a number of years used USB-RS232 interfaces both with and without RS232-RS422 converters. In designing the USB422 we used the experience with many different manufactures to choose the best combination of hardware and drivers.

RS422 Interface:

Slew Rate Limited RS422 drivers to minimise EMI and reduce reflections on incorrectly terminated connections. Pin-out and termination as per standard Sony connection. Port A may be configured as a Device (I/P) or as a Controller (O/P). Port B is configured as a Controller (O/P), to use as a Device a Tx/Rx invert lead must be used.

Drivers:

Drivers for Windows 98, ME, 2000 and XP with MAC OS-X and Linux are all available from the USB-422 product page on our web site (www.colinbroad.com/cbsoft/usb422/usb422.html).The USB422 windows drivers are optimised for minimum latency. When installed on Windows the port numbers are set to the last two free port numbers, this may be changed using the driver parameters

Driver Installation

- 1) Drivers available from the product page
www.colinbroad.com/cbsoft/usb422/usb422.html or www.ftdichip.com/FTDrivers.htm
- 2) Download appropriate instructions from
www.ftdichip.com/Documents/InstallGuides.htm
- 3) Note: you may be asked to install 4 times, twice for each port this is normal as for each port you have to install the hardware driver and the serial emulation.
- 4) Note: if you connect the USB-422 to a different USB port on your computer you may have to install the drivers again.

Test Program:

A test programme that provides both machine control and a virtual machine is available from our web site. The program locks both the virtual machine (Port-A) and machine control (Port-B) to video syncs. The program is written in Delphi (Object Pascal).

Video Input:

The Optional video sync input is converted to a frame rate square wave and is connected to the Port A and Port B CTS Interrupt input. The CTS input level after change indicates the video field.

RS422 Port A:

Supplied configured as an Input (Device/Emulation) Pinout as follows

2= Tx-, 7= Tx+, 8= Rx-, 3= Rx+, 1= Frame Ground, 4,6,9= Ground

May be changed to an Output (Controller) using the internal links as per diagram on unit.

RS422 Port B:

Configured as an Output (Controller) Pinout as follows

2= Rx-, 7= Rx+, 8= Tx-, 3= Tx+, 1= Frame Ground, 4,6,9= Ground

25 'D' GPO Port

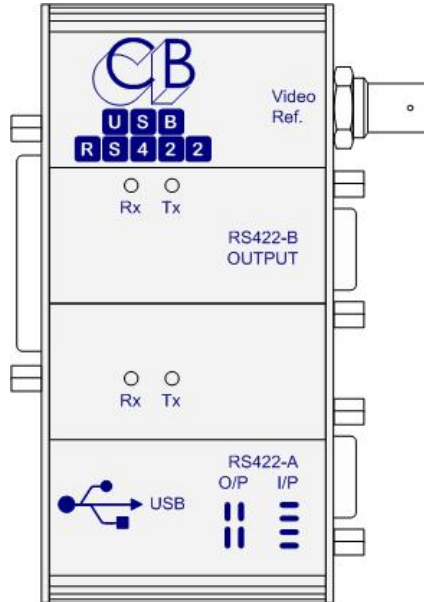
The GPO port is connected to the control inputs on both serial ports. There are 6 inputs and 4 outputs.

The Inputs are pulled up to +5 volts

The Outputs are Open Collector and protected by a self resetting fuse

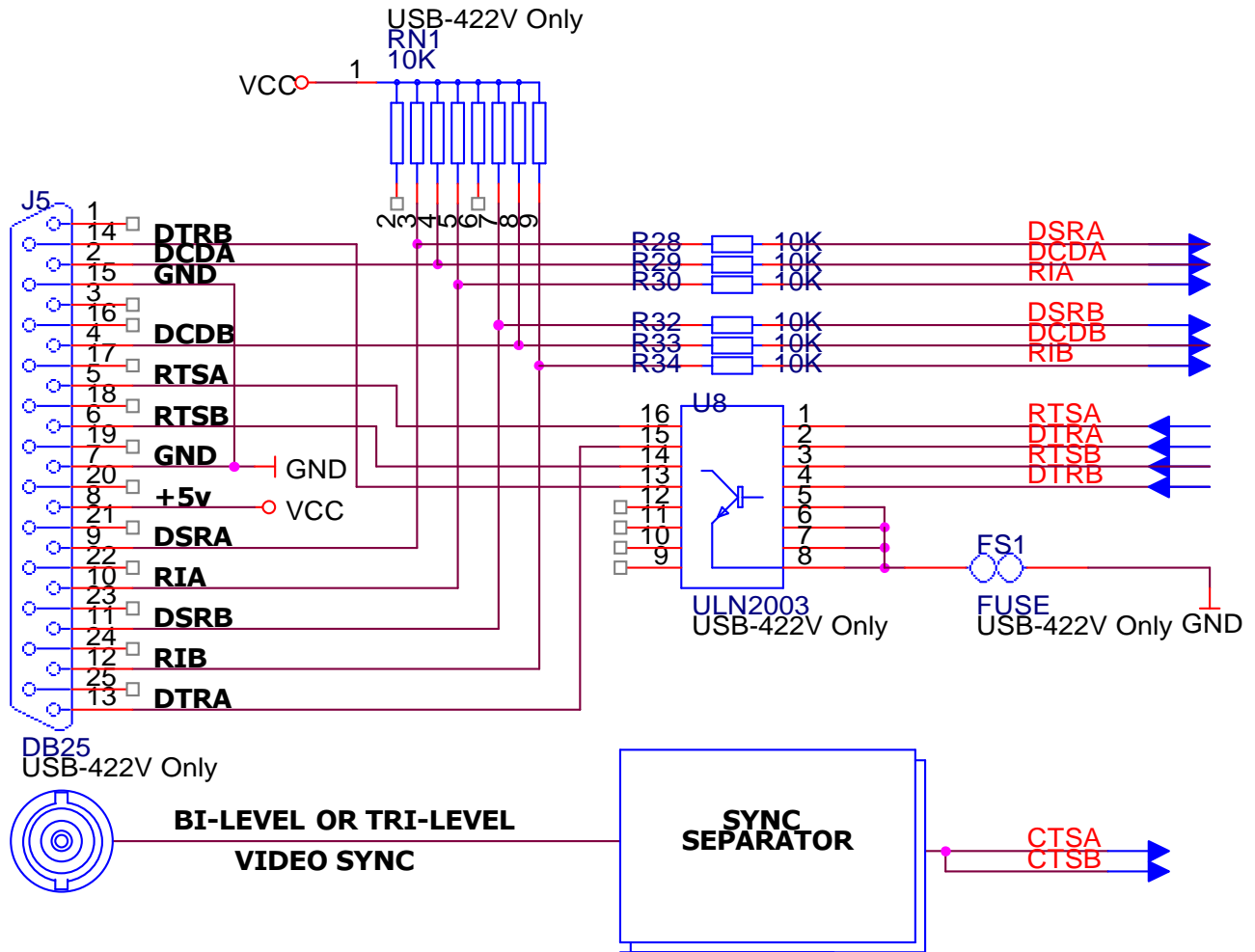
Size: 4.4 x 2.1 x 1.2 (112 x 55 x 31) excluding connectors

USB-422V: USB422 with Bi/Tri Level Video Sync Input and GPIO



- Bi/Tri Level Video Sync Reference Input
- 25 pin 'D' GPIO Input/Output
- Four open collector outputs
- 6 TTL level Inputs'

Internal Connections



USB-422V VIDEO & GPO PORT

GPO Connections			
25 'D' Pin	Port A	Port B	Other
9	DSR Input		
2	DCD Input		
10	Ring Input		
11		DSR Input	
4		DCD Input	
12		Ring Input	
5	RTS Output		
13	DTR Output		
6		RTS Output	
14		DTR Output	
8			+5v Output 100mA Max
7,15			Ground

CBServer & Giant Display

The USB-422V GPIO may be used with CBServer to control the GD-1 Giant Display. The connections are as follows:-

CBServer <> GD-1/LD-1 Cable				
USB-422V		LD-1		GD-1
Function	Port	25 Pin 'D' Male Pin		9 pin 'D' Female Pin
Bright	RTS - Port B	6	4	4
Dim	DTR – Port B	14	9	9
Feet	RTS – Port A	5	3	3
Frames Always	DTR – port A	13	8	8
Ground		7,15	7	7
+5v	100mA Max	8	5	5