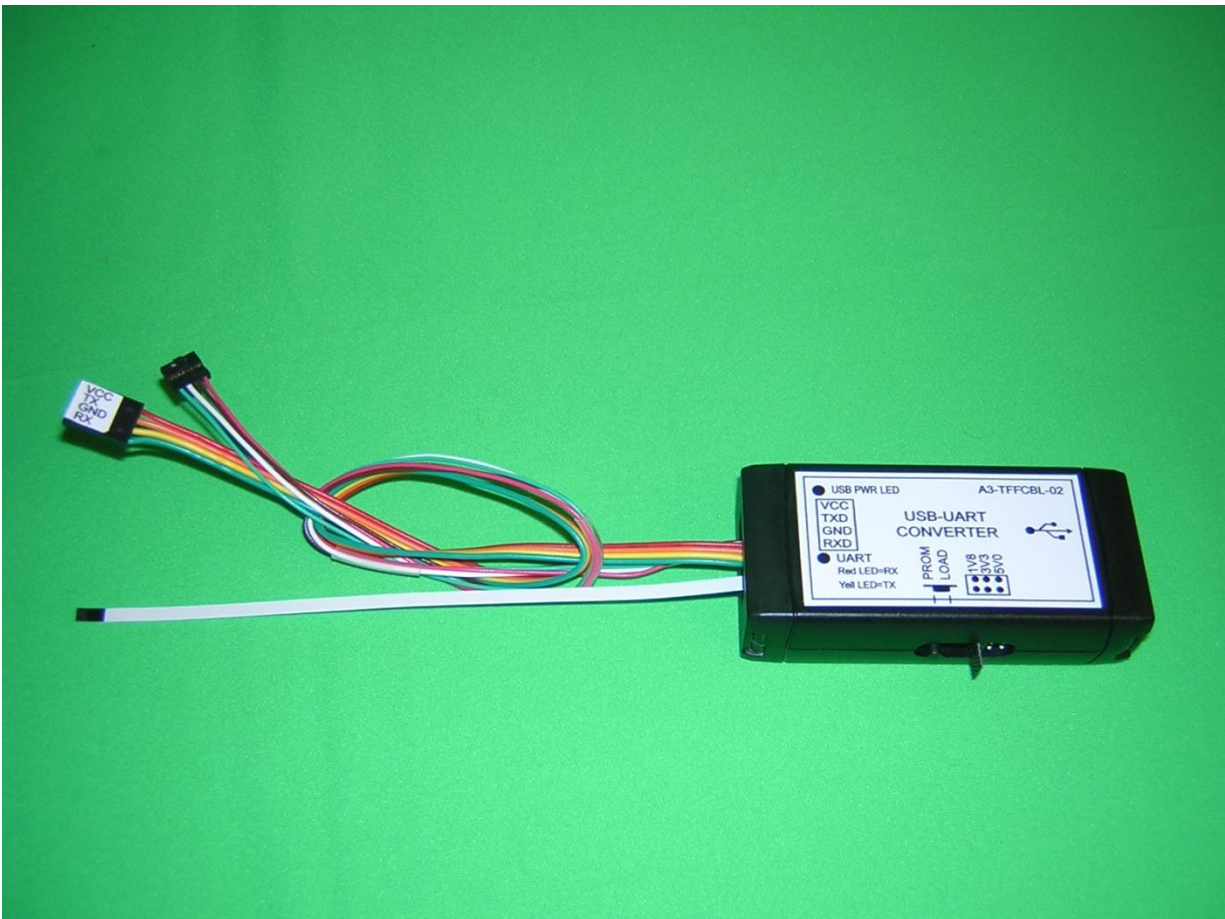




A3-TFFCBL-02 USB-to-UART Adapter

User Manual



Introduction

The A3-TFFCBL-02 provides a convenient method for adapting UART data to USB signaling; it provides the following features:

- Converts from USB to UART signals using Future Technology Devices International FT232RL chip.
- Provides jumper to select between UART I/O voltages of 1.8V, 3.3V, and 5.0V.
- Provides a 4-pin 100mil connector.
- Provides a 4-pin 2mm connector to allow attachment to a Seagate disk drive's control port header.
- Provides 5-pin non-zif flex lead cable.
- Provide a push-button to enable BOOT-PROM LOAD mode. This button activates a short circuit between the two ROM mode lines of the 5-pin flex lead cable, and shorts the ROM mode lead of the 4-pin 2mm disk cable to ground.
- Includes a 1.5 Meter USB-A to USB-B cable to connect the adapter to a computer.
- Includes two LEDs visible from the cable opening of the enclosure. One indicates USB 5V power is applied, and the other indicates UART Tx-Rx are active.

Operating Procedure

- Using the tables in the Cables section on the next page, make sure that the target connector signal assignments are correct for the adapter cable that you have chosen.

At a Minimum:

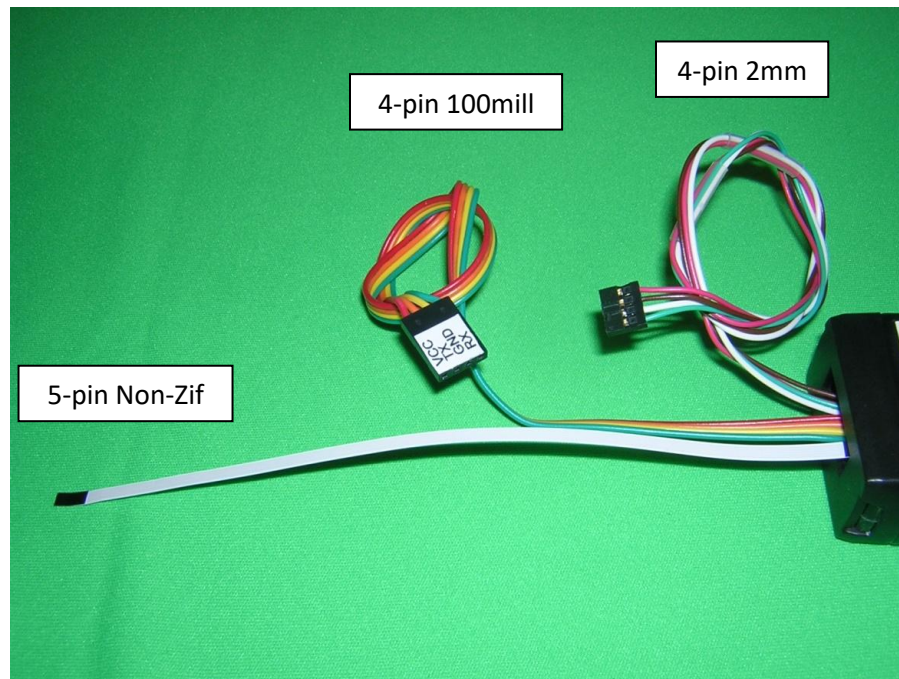
Target RX must be connected to adapter TX.

Target TX must be connector to adapter RX.

Target ground must be connector to adapter ground.

- Select the UART signal voltage level, 1.8V, 3.3V or 5V using the selection header on the side of the enclosure.
 - The Astek 12Gb/s SAS Switch uses 1.8v, while the Astek PCIe HBA uses 3.3v.
- Connect the selected UART cable to the target.
- If using Windows, open the device manager, and scroll to view the Ports (COM & LPT) section.
- Connect the USB cable to a personal computer. The green USB power LED should now be lit.
- The operating system will identify the new device and load the driver from the internet.
- Once the driver has been loaded, the device manager will mount the adapter, and a new COM port will appear in the COM & LPT section. Please note that the FTDI UART IC in the adapter has a unique serial number, and so the device manager will assign a new COM port for each new adapter that is plugged in.
- The adapter is operational, and ready to use.
- The serial port may now be configured for Baud rate, number of start bits and parity etc. to suit.

Cables



4-Pin 100mil

Pin Number	Signal Name	Description
1	RX	Adapter received signal
2	Ground	Ground
3	TX	Adapter transmitted signal
4	UART VCC	Not Used

Note: the triangle marker on the connector is pointing to pin 4.

4-Pin 2mm

Pin Number	Signal Name	Description
1	BOOT PROM LOAD	Push Button grounds this pin to initiate BOOT PROM LOAD
2	Ground	Ground
3	RX	Adapter received signal
4	TX	Adapter transmitted signal

5-Pin Non-Zif Flex Lead Cable

Pin Number	Signal Name	Description
1	RX	Adapter received signal. This line is closest to the outside edge of adapter enclosure.
2	Ground	Ground
3	TX	Adapter transmitted signal

4	BOOT PROM LOAD #1	Push Button connects this to BOOT PROM LOAD #2
5	BOOT PROM LOAD #2	2 nd BOOT PROM LOAD signal.

Controls

The A3-TFFCBL-02 is equipped with a BOOT PROM LOAD enable push-button, which shorts pin-1 of the 4-pin 2mm cable connector to ground. It also shorts pins 4 & 5 of the 5-pin non-zif flex lead cable together. The A3-TFFCBL-02 also provides a 6-pin header, accessible from the side of the enclosure, which allows for user selection of the UART signal levels between 1.8V, 3.3V and 5V.

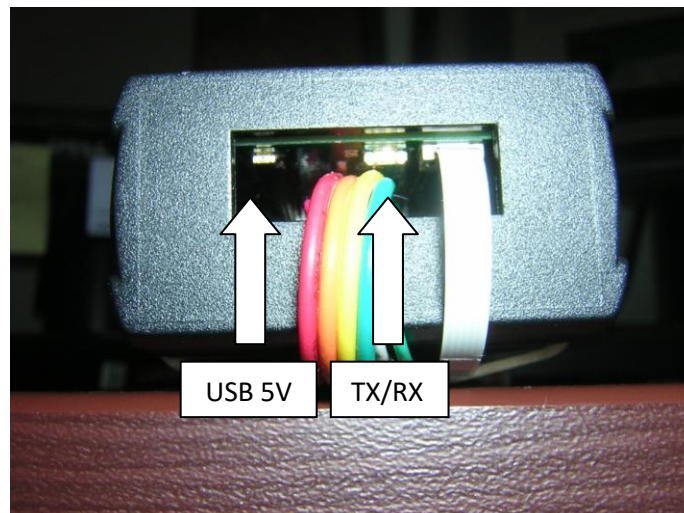


Indicators

The A3-TFFCBL-02 is equipped with two indicator LEDs that may be viewed from the cable opening end of the enclosure. The LED closest to the flex lead cable is a dual Yellow/Red LED.

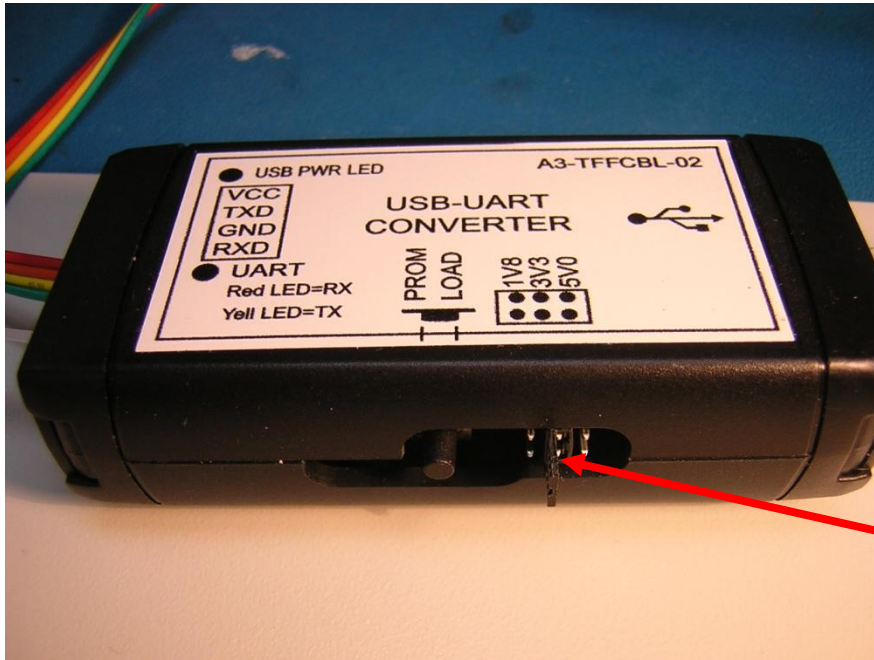
- Yellow LED lit indicates that adapter is transmitting.
- Red LED lit indicates that the adapter is receiving.

The LED closest to the edge of the enclosure opening is green, and lights to indicate that USB +5 Volt power is present.



To use the A3-TFFCBL with the Astek PCIe HBA

Before connecting the A3-TFFCBL to the PCIe HBA it must be configured for 3.3 volts. This is done by inserting the jumper on the 3.3V pins. How to connect it to the PCIe HBA is shown below.



3.3 V jumper