



Product Brief

MCCI® USB 3.0 Connection Exerciser

Connection Problems Analysis

Finding and analyzing USB connection problems is an important part of preparing for USB design compliance testing. USB 2.0 succeeded in the market place because it is a reliable and straightforward way to connect to PC hosts. One way to ensure that USB 3.0 is similarly successful is to test for connect/disconnect problems as a part of the design and development process.

MCCI USB 3.0 Connection Exerciser

The Model 2101 MCCI USB 3.0 Connection Exerciser is a tool that automatically connects and disconnects a USB 2.0 or 3.0 host and device under software control, without requiring that an operator physically manipulate a cable. The microcontroller and the high frequency relays within the Model 2101 can either be operated with a pre-programmed connection pattern or can be controlled real-time through an auxiliary USB port using a Control PC. The Model 2101 Connection Exerciser is a useful tool for finding software defects in host drivers and embedded Host Controller Drivers (HCD). Use it to find and analyze USB 3.0 connection problems in a well controlled and repeatable manner.

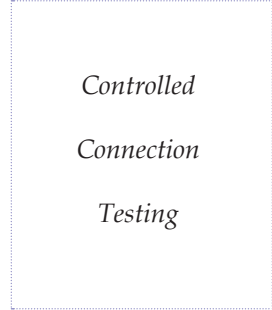
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Kit Contents

The Model 2101 Connection Exerciser is a small device, measuring less than 4.5 x 3 x 1". Complete specifications are printed on the back of this sheet. The 2101 comes with Power Supply, User Manual, Control PC Cable, and USB 3.0 Patch Cables.



Product Features

- An impedance controlled, low loss USB data path. The Exerciser is transparent when in the connected state
- Data relays are rated to 7 GHz
- VBUS and Data signals are connected and disconnected in the same sequence as if done manually
- The ground connection is never broken
- Connection time can be controlled down to 10 ms
- Device Under Test (DUT) VBUS is optionally configurable for flow-through or buffered operation
- Control PC needs no drivers. Native HID drivers are all that is required
- The Model 2101 can also be used for testing low speed, full speed, hi-speed devices and hosts
- The Model 2101 can be powered from any of the following sources:
 - External 5 V power supply
 - Control PC VBUS connection
 - Host Under Test (HUT) VBUS power supply (optional)

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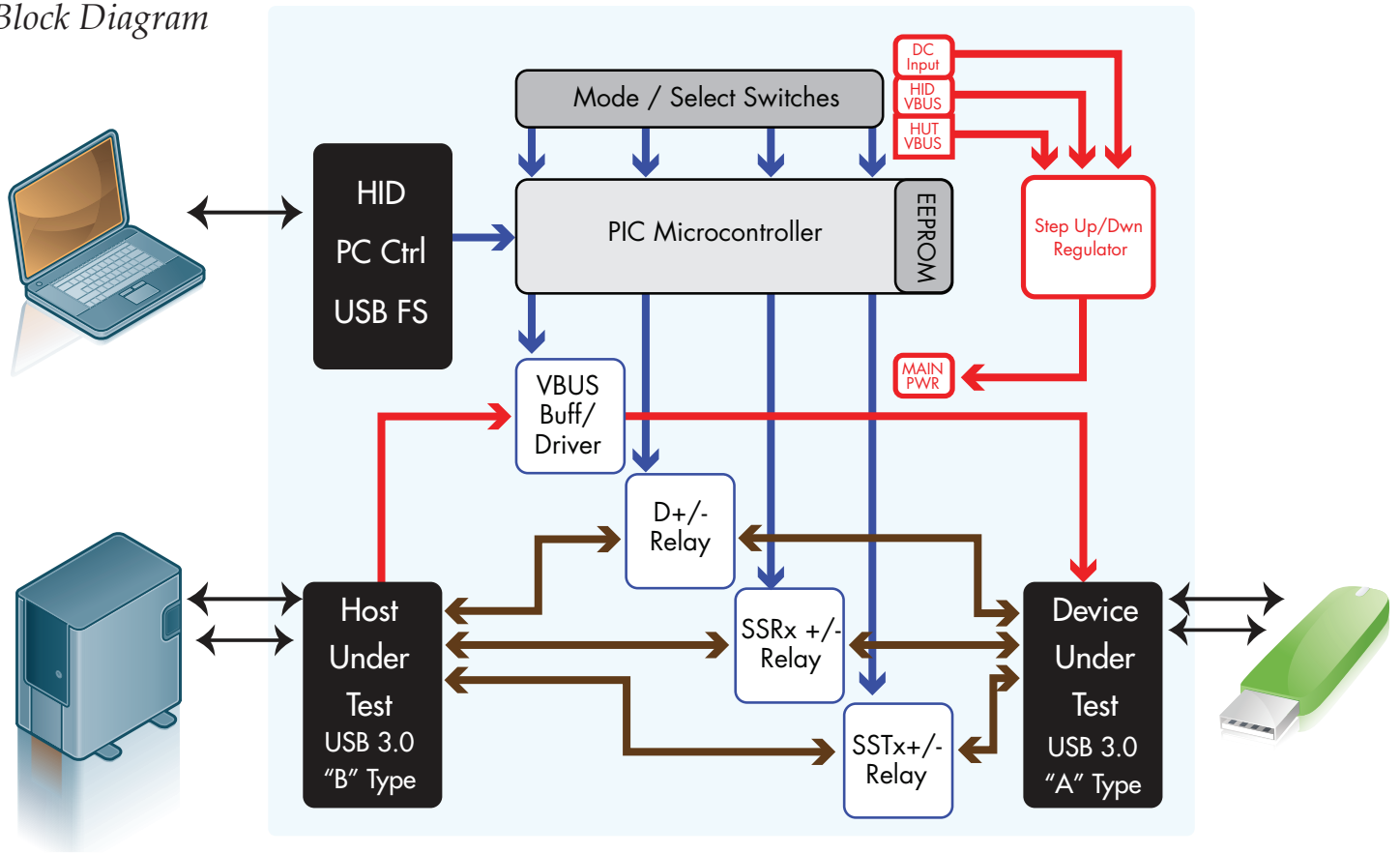
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Block Diagram



Specifications

Mechanical	Size H x W x D	111.25 x 75 x 25.2 mm (4.38 x 2.95 x .99")
	Weight	9 oz
Electrical	Power dissipation (all relays on)	1.75 W
	Max DUT VBUS current switch (VBUS pass-thru mode)	900 mA
	Max DUT VBUS current	900 mA
Connectors	to HUT (on case front)	USB 3.0 Std "B"
	to DUT (on case front)	USB 3.0 Std "A"
	DC Input (on case back)	2.1 mm round, center positive
	to Control PC (on case back)	USB 2.0 Std "B"
LED Indicators	VBUS IN (on case front)	On when HUT VBUS is detected
	VBUS Switch (on case front)	On when VBUS Switch is enabled
	VBUS OUT (on case front)	On when DUT VBUS is detected
	Main Power (on case back)	On when Exerciser is fully powered
	PC Link (on case back)	On when Control PC has enumerated Exerciser
	Soft LEDs 1 thru 4 (on case top)	Used by Exerciser FW for various functions (see User Manual)
Mode Buttons	Momentary soft switches 1 thru 4 (on case top)	Used by Exerciser FW for various functions (see User Manual)
Power Supply	AC supply Input	100 to 240 V AC; 50 to 60 Hz
	DC supply Output	5 V DC, 2.5 A max
Cables	Control PC	4 foot STD "A" to STD "B" USB 2.0
	USB 3.0 Patch Cables (for use from HUT to 2101 or 2101 to DUT).	1 foot STD "A" to STD "B" USB 3.0