



THE BIG DEAL

- 8 active / concurrent switch paths
- Bi-directional operation
- Solid-state switch construction
- Ethernet & USB control



APPLICATIONS

- High volume production testing / ATE
- 5G FR1, WiFi 6E, Bluetooth testing
- MIMO antenna testing
- RF signal routing

Model Name	ZT-8X8B
Case Style	99-01-3179
Connector	SMA female

Refer to our website for compliance methodologies and qualifications



PRODUCT OVERVIEW

Mini-Circuits' ZT-8X8B is solid-state blocking switch matrix covering 10 MHz to 6 GHz. The system supports 8 concurrent paths at any time, each connecting 1 input to 1 output. The solid-state switch construction combines the exceptional reliability needed for automated test environments, with strong RF performance.

ZT-8X8B is housed in a compact 19-inch rack chassis (3U height) with SMA RF connectors on the front and rear panels.

The system can be controlled via USB or Ethernet (supporting both HTTP and Telnet network protocols). Full software support is provided, including our user-friendly GUI application for Windows and a full API with programming instructions for Windows and Linux environments.

Mini-Circuits' novel serial interface allows multiple switch racks to be cascaded together into a daisy-chain; the full chain effectively becoming a single system with every switch controlled through a single USB or Ethernet connection and software interface.

KEY FEATURES

Feature	Advantages
Flexible matrix configuration	Bi-directional operation with 8 active paths between 8 inputs and 8 outputs, facilitates a wide-range of signal routing applications.
Solid-state switch design	Mini-Circuits' solid-state switches provide bullet-proof reliability with excellent RF performance.
Rack-mount chassis	Compact 3U height, 19" rack-mountable chassis with RF connections on the front and rear panels, suits integration in automated production test environments.
Ethernet & USB control	USB HID and Ethernet (HTTP / Telnet) interfaces ensure compatibility with most software environments and connection requirements.



MECHANICAL SPECIFICATIONS

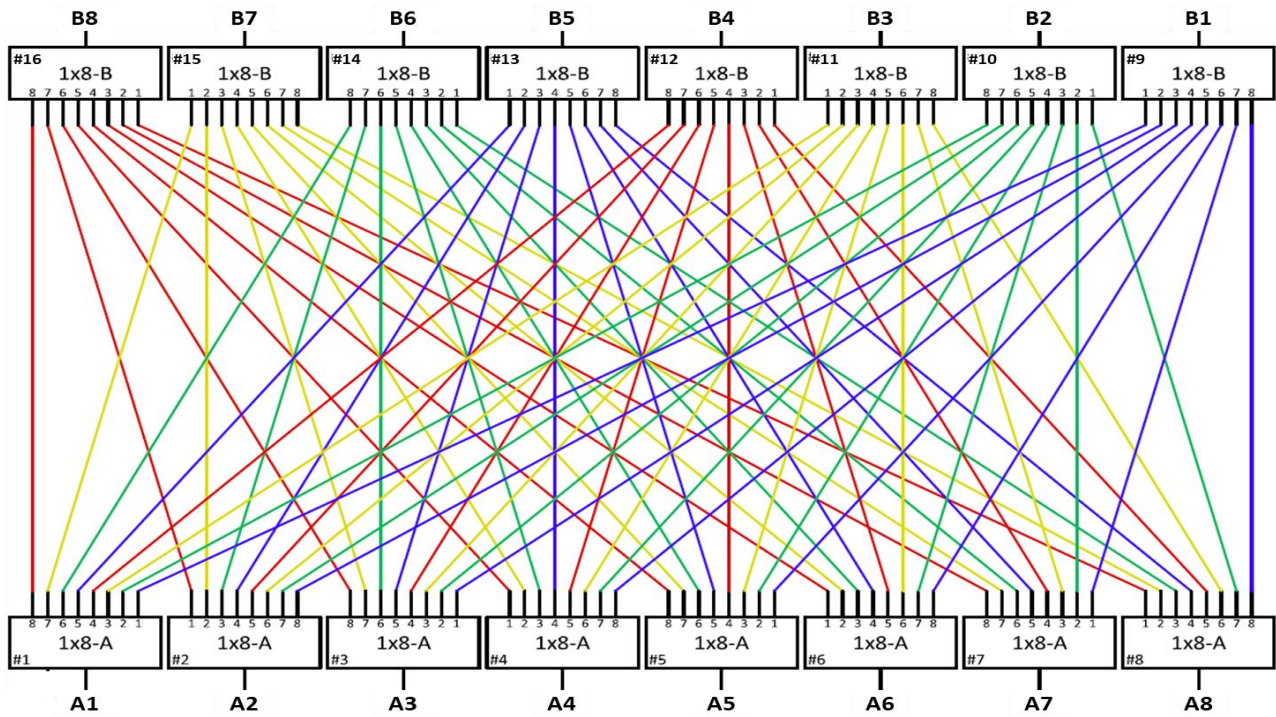
Dimensions	19" (W) x 3U (H) x 20" (D)			
Case Drawing	99-01-3179			
Weight	15.2 kg			
Case Material	Aluminum (with protective coating to prevent corrosion)			
RF Connectors	Panel	Connector	Quantity	Port Labels
	Front	SMA female	8	A1-A8
	Rear	SMA female	8	B1-B8
	Front Panel			Rear Panel
Panel Marking	<ul style="list-style-type: none"> ZT-8X8B 8 x 8 Blocking Switch Matrix 10 – 6000 MHz 			<ul style="list-style-type: none"> CE / EAC / UKCA Serial number / date code / model name
Panel Items	<ul style="list-style-type: none"> Power on / off switch with LED Carry handles 			<ul style="list-style-type: none"> AC mains power input (IEC C14 inlet) USB type B socket RJ45 (LAN) socket 2 x D-Sub 9-pin (Serial In & Out)
Power Supply	AC mains power input (AC mains (100-240 V, 50 / 60 Hz))			
Fuse	2A, 250V rating			
Power Consumption	25W typ			
Temperature	Operating: 0 to +50 °C			

ELECTRICAL SPECIFICATIONS @ 25°C

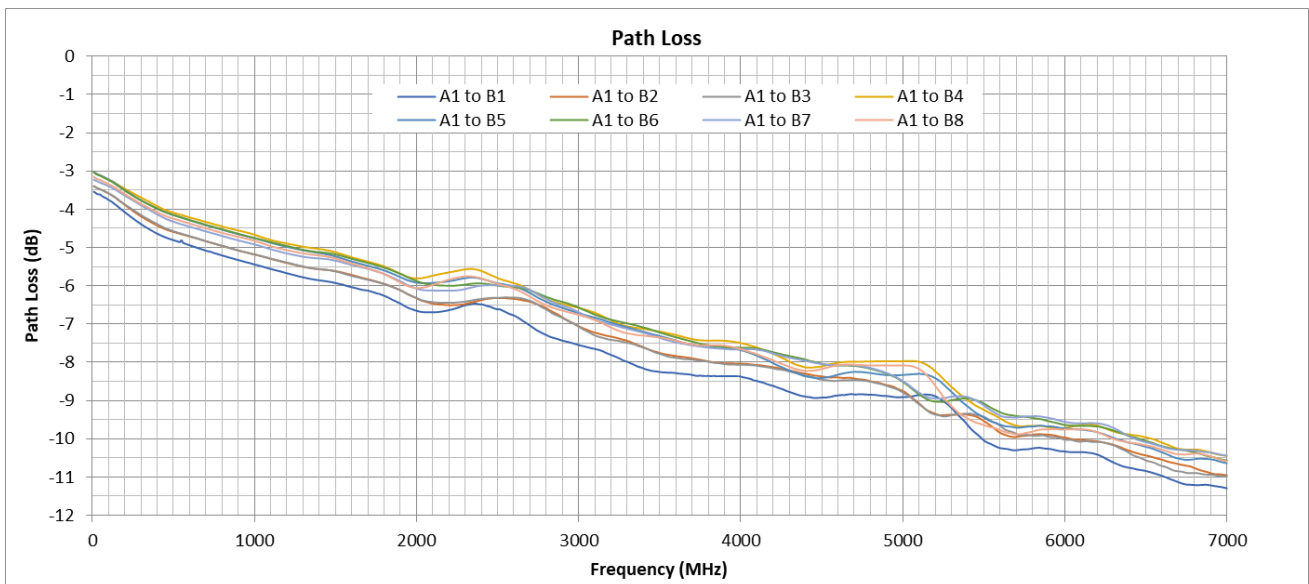
Parameter	Conditions	Min	Typ	Max	Units
Frequency		10	-	6000	MHz
Path Loss	10 – 2000 MHz	-	6.5	8.0	dB
	2000 – 4000 MHz	-	8.0	9.5	
	4000 – 6000 MHz	-	11.0	12.5	
Isolation	A _x to A _y B _x to B _y	75	100	-	dB
	A _x to B _y (when disconnected)	60	90	-	
Return Loss		-	12	-	dB
Input Power	Through path	-	-	+27	dBm
	Hot switching	-	-	+17	
	Into internal terminations	-	-	+17	



FUNCTIONAL BLOCK DIAGRAM



TYPICAL PERFORMANCE DATA

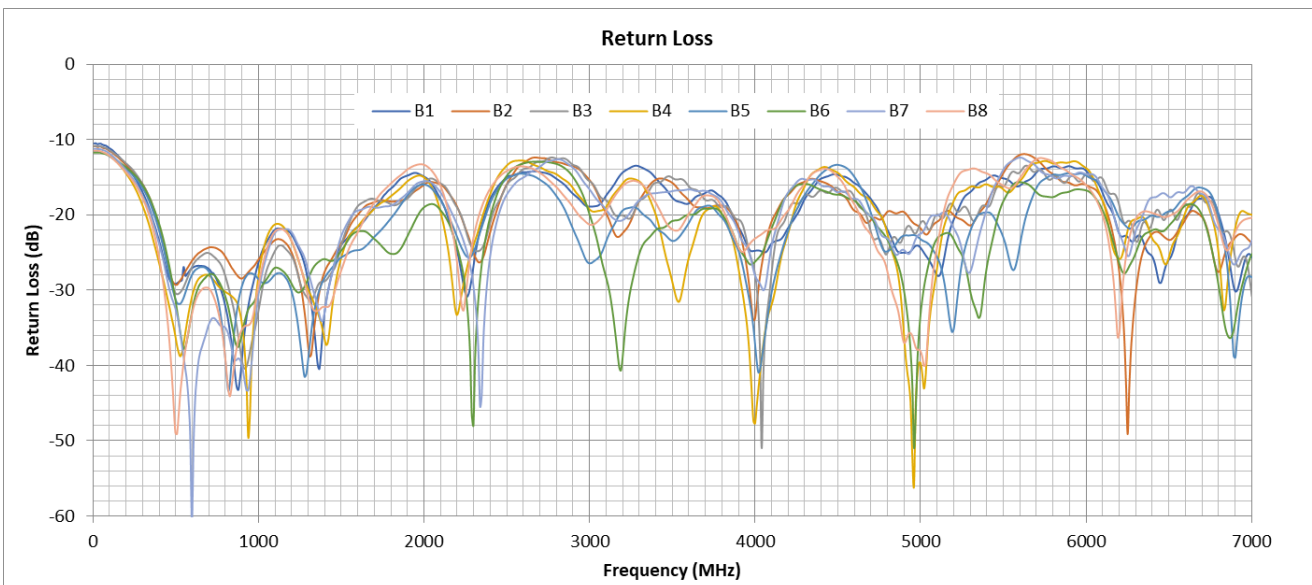
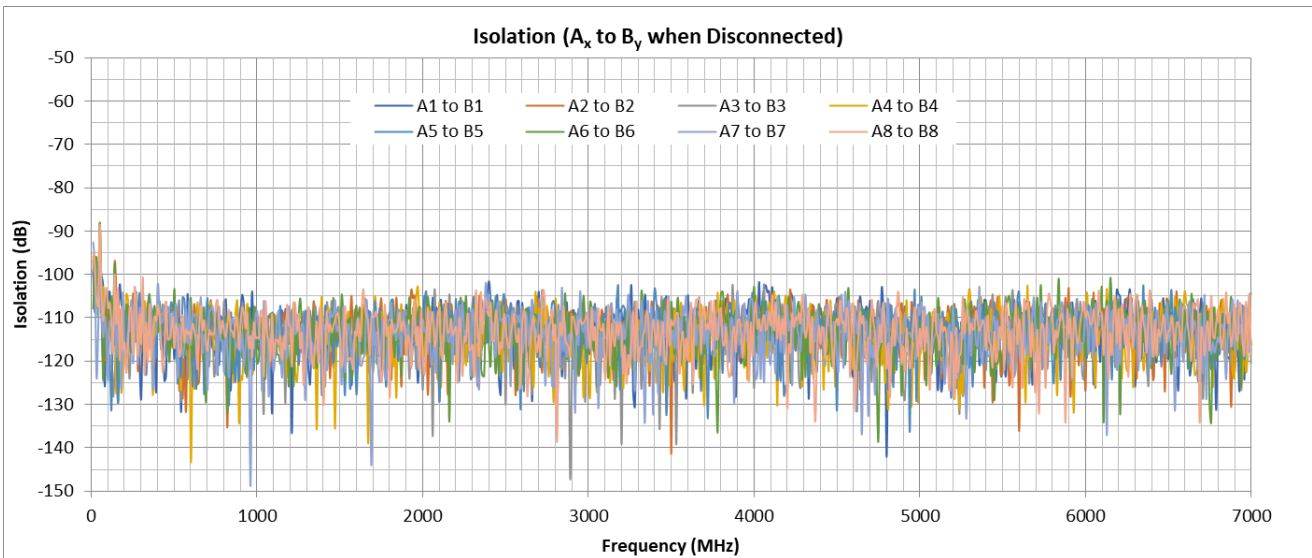
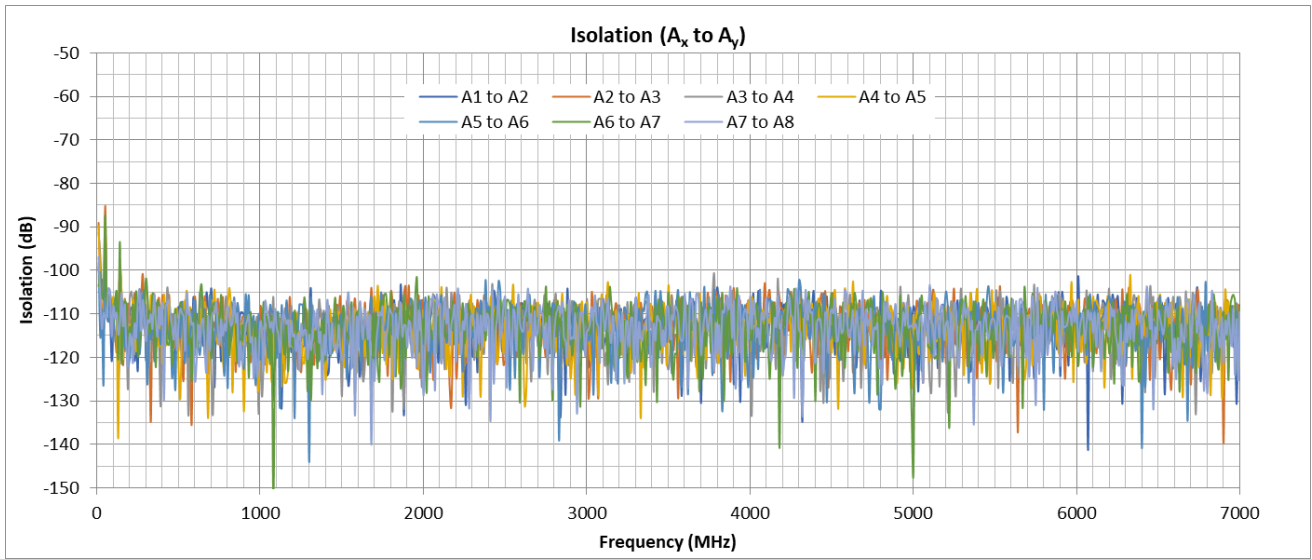




RACK-MOUNTED | USB & ETHERNET CONTROLLED 8 x 8 Blocking Switch Matrix

ZT-8X8B

Mini-Circuits



Mini-Circuits



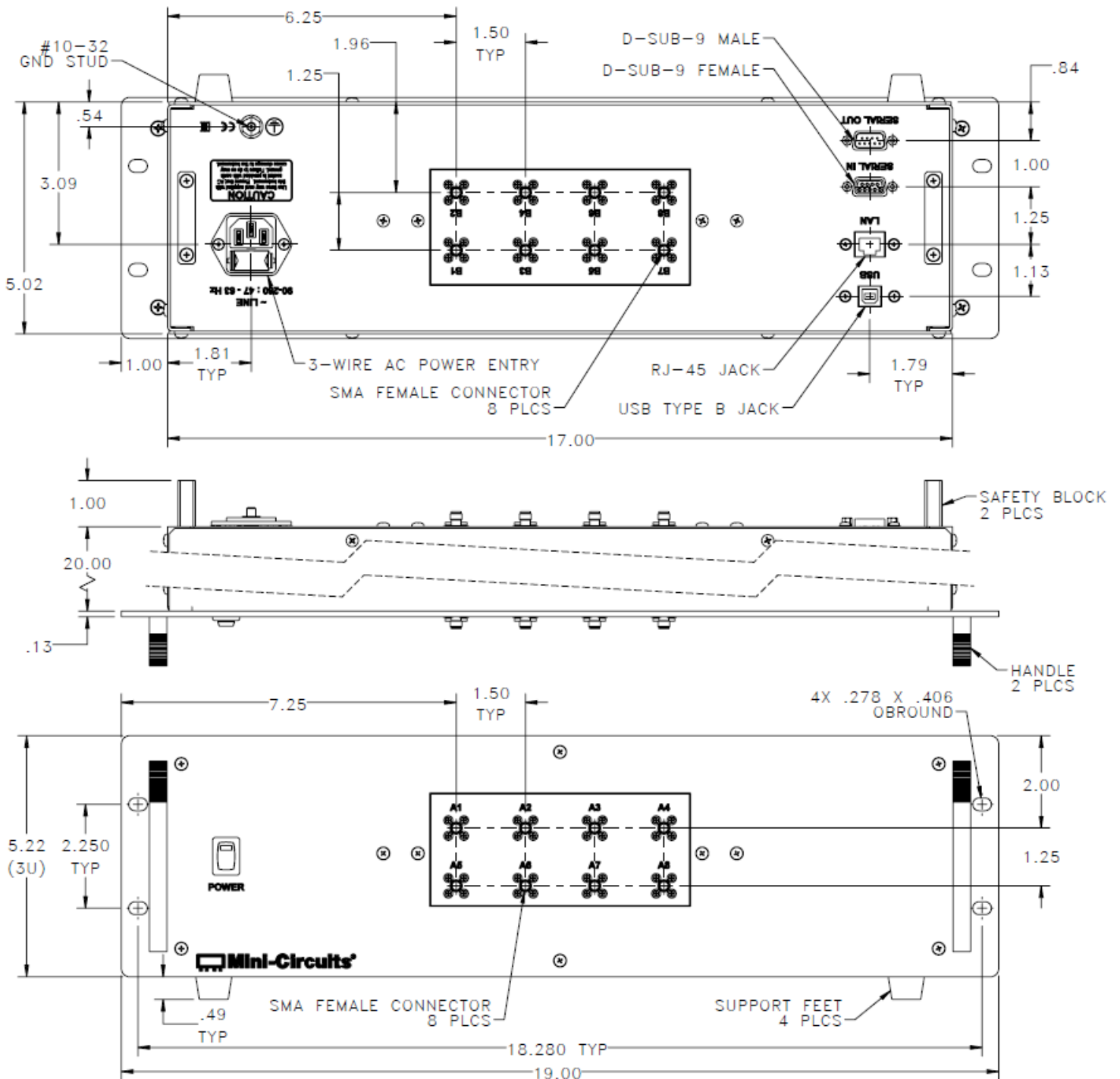
RACK-MOUNTED | USB & ETHERNET CONTROLLED

8 x 8 Blocking Switch Matrix

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Mini-Circuits

OUTLINE DRAWING



DIMENSIONS ARE IN INCHES

TOLERANCES ON:

2 PL DECIMALS ± .03

3 PL DECIMALS ± .015



SOFTWARE SPECIFICATIONS

Please contact testsolutions@minicircuits.com for support and software download links

Ethernet Control	Supported Protocols	TCP / IP, HTTP, Telnet, DHCP, UDP
	Max Data Rate	10 Mbps (10Base-T Half Duplex)
USB Control	Supported Protocols	HID - Full Speed
	Min Communication Time	3 ms typ
Software Support	<ul style="list-style-type: none"> • Mini-Circuits' Universal GUI for USB & LAN control (Windows only) • ASCII / SCPI command syntax for LAN programming (all OS) • ActiveX / .Net DLL APIs for USB programming (Windows only) • Interrupt codes for direct USB programming (all OS) • Full programming instructions and examples for a wide range of languages 	

PROGRAMMING COMMANDS

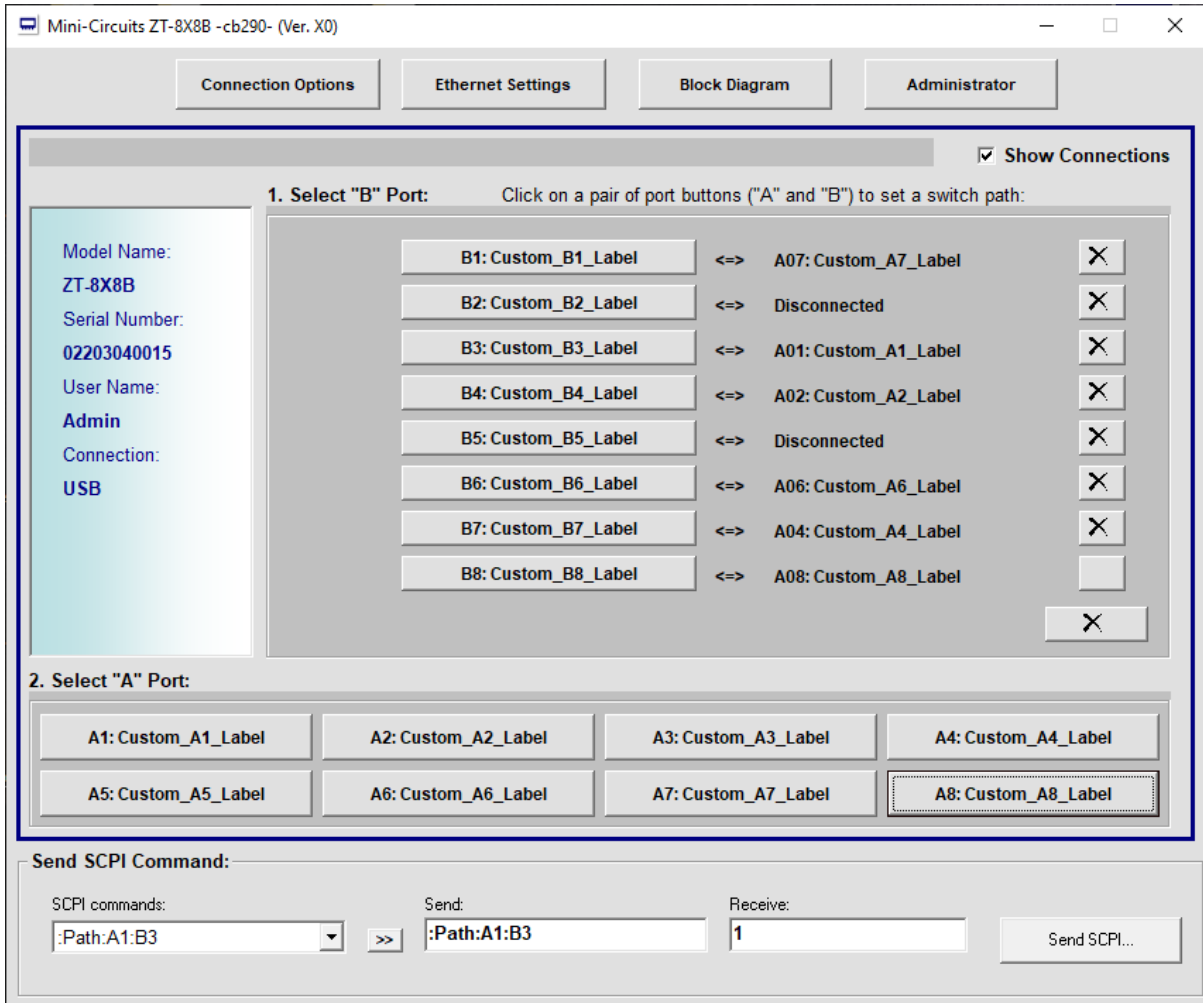
- The key ASCII / SCPI commands for control of the system are summarized below
- These can be sent via the USB or Ethernet API
- Please refer to the programming manual for full details

Command / Query	Description
:MN?	Read model name
:SN?	Read serial number
:FIRMWARE?	Read firmware version
:PATH:a_port:n_port	Set the path between 2 switch ports: <ul style="list-style-type: none"> • a_port = "Input" port • n_port = "Output" port Example. :PATH:A1:N8 (connect A1 to N8)
:PATH:input?	Check which "output" is connected to a specified input port



GRAPHICAL USER INTERFACE (GUI) FOR WINDOWS

- Connect via USB or Ethernet
- Run GUI in "demo mode" to evaluate software without a hardware connection
- View and set all switch paths
- Configure Ethernet settings
- Upgrade firmware
- Send SCPI commands





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Mini-Circuits

ORDERING INFORMATION

Please contact Mini-Circuits' Test Solutions department for price and availability:

testsolutions@minicircuits.com

INCLUDED ACCESSORIES

Model Name	Quantity	Description
CBL-3W-xx*	1	AC power cord (IEC C13 connector to local plug)
USB-CBL-AB-7+	1	USB cable (6.8 ft)
CBL-RJ45-MM-5+	1	Ethernet cable (5 ft)
D-SUB9-MF-6+	1	D-Sub (9-pin) serial cable
HT-4-SMA	1	SMA Cable Wrench (4 in)

Cable Model	Region
CBL-3W-US	USA
CBL-3W-EU	Europe
CBL-3W-IL	Israel
CBL-3W-UK	UK
CBL-3W-AU	Australia / China

*Please specify one option on the purchase order, at no charge

Revision	Updates	Date	Creator	Reviewer
1	Initial web release	26-Jan-23	LW	WT

NOTES

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

