

8x8 Non-Blocking Switch Matrix

ZT-8X8NB

50Ω 600-6000 MHz



Product Overview

Mini-Circuits' ZT-8X8NB is a high performance, 8 by 8 non-blocking switch matrix, covering the key worldwide telecoms bands from 600 MHz to 6 GHz. The system comes housed in a compact, 3U height, 19-inch rack-mountable chassis with SMA connections on the front and rear panels.

This bi-directional switch matrix can be programmed to connect the 8 "B" ports to any combination of the 8 "A" ports. The non-blocking configuration supports a wide range of multi-user and multi-device test systems in either fan-out or fan-in configuration. These characteristics are well suited to wireless transmitter and receiver test applications, including cellular base-stations, nodes and handsets.

The system can be controlled via USB or Ethernet (supporting SSH, HTTP and Telnet). 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 (both 32-bit and 64-bit systems).

Key Features

Feature	Advantages
Flexible switch paths	The non-blocking configuration allows the 8 "B" ports to be routed to any combination of the 8 "A" ports, including all "B" ports simultaneously to the same "A" port.
Daisy-chain control stacking	Connect multiple units together to manage multiple switch matrices through a single software and control interface.
SSH, HTTP & Telnet support	Remote control from any computer or device with a network connection
Full software support	The user friendly Windows GUI (graphical user interface automation) allows manual control straight out of the box. A full API (application programming interface), programming examples and manuals are provided to allow automation in most programming environments.

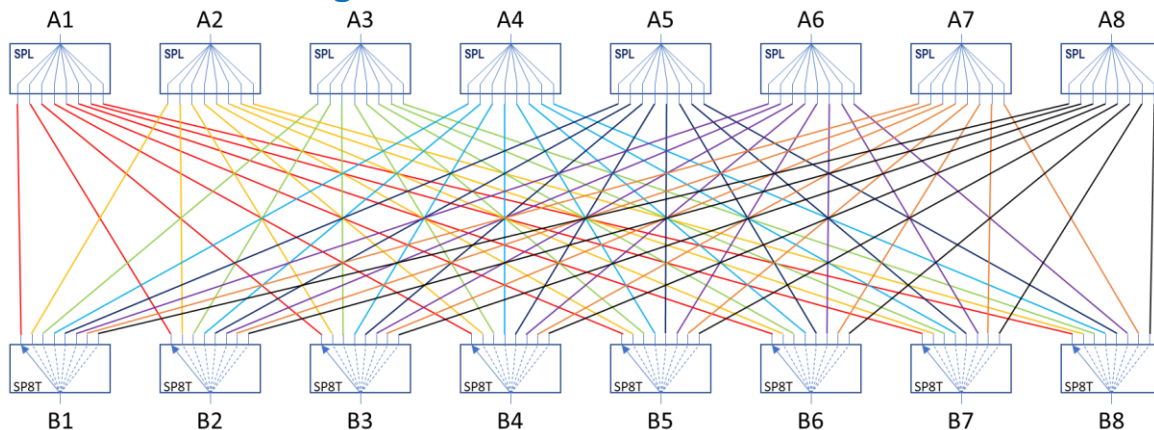
Mechanical Specifications

Dimensions	19" (W) x 3U (H) x 20" (D)			
Case Drawing	99-01-3179			
Case Material	• Aluminum (with protective coating to prevent corrosion)			
RF Connectors	Panel	Connector	Quantity	Port Labels
	Front	SMA female	8	A1 – A8
			8	B1 – B8
Panel Items	Front Panel		Rear Panel	
Panel Marking	<ul style="list-style-type: none"> • ZT-8X8NB • 8x8 Non-Blocking Switch Matrix • 600-6000 MHz 		<ul style="list-style-type: none"> • CE • EAC • Serial number / date code / model name 	
Other Connectors			<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) 	
Other	<ul style="list-style-type: none"> • Power on / off switch with LED • Carry handles 			
Power Supply	AC mains power input (90-260 V, 47-63 Hz)			
Fuse	2A, 250V rating			
Temperature	Operating: 0 to +50 °C			

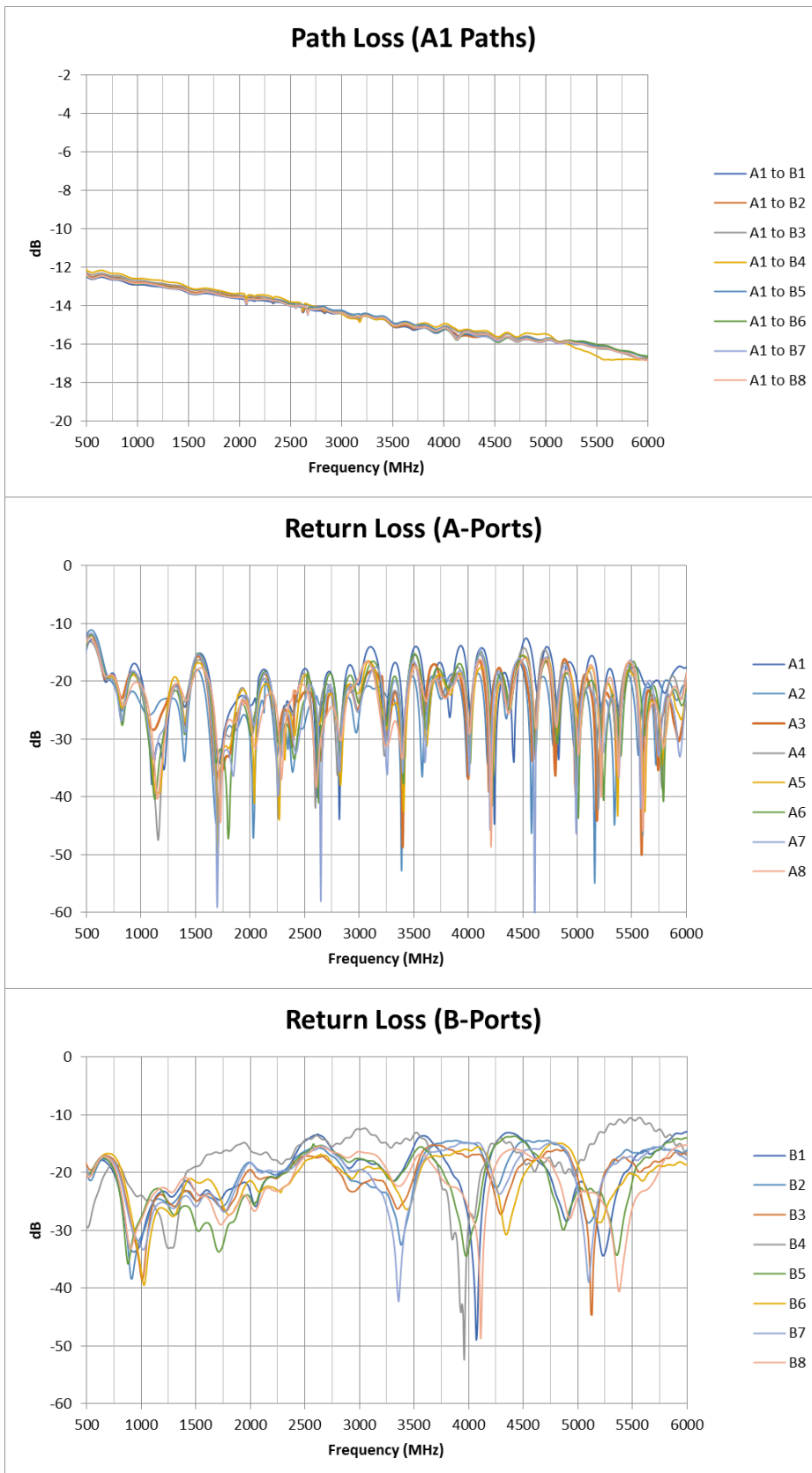
Electrical Specifications at 25°C

Parameter	Conditions	Min	Typ	Max	Units
Frequency		600	-	6000	MHz
Path Loss	600 – 3000 MHz	-	14	16	dB
	3000 – 6000 MHz	-	17	19	
Isolation	A _x – A _y (when both connected to B _z)	90	100	-	dB
	B _x – B _y (when both connected to A _z)	25	30	-	
	A _x – B _y (when path disconnected)	80	100	-	
Return Loss		-	15	-	dB
Input Power	A-Ports	-	-	+25	dBm
	B-Ports	-	-	+15	

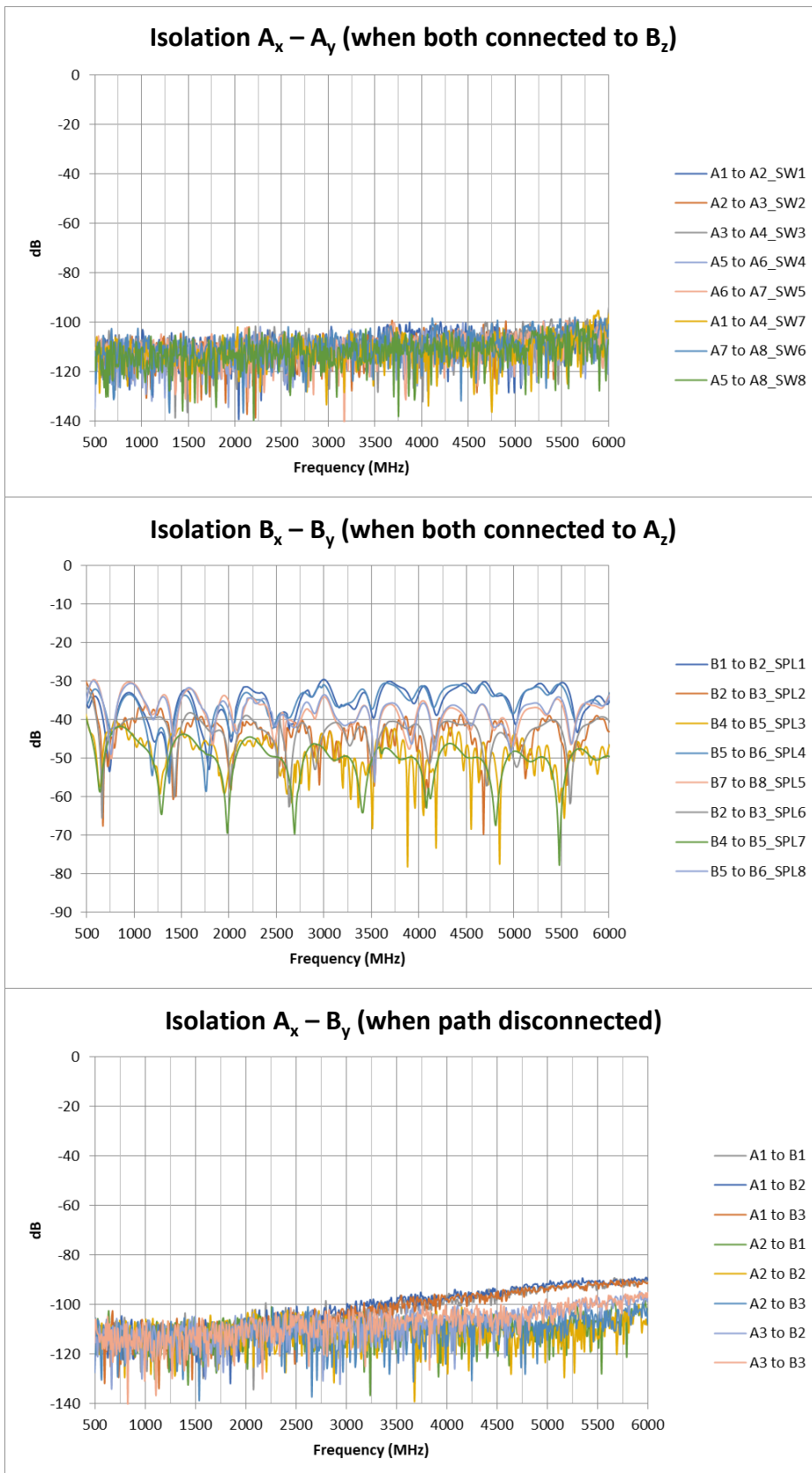
Functional Block Diagram



Typical Performance Data



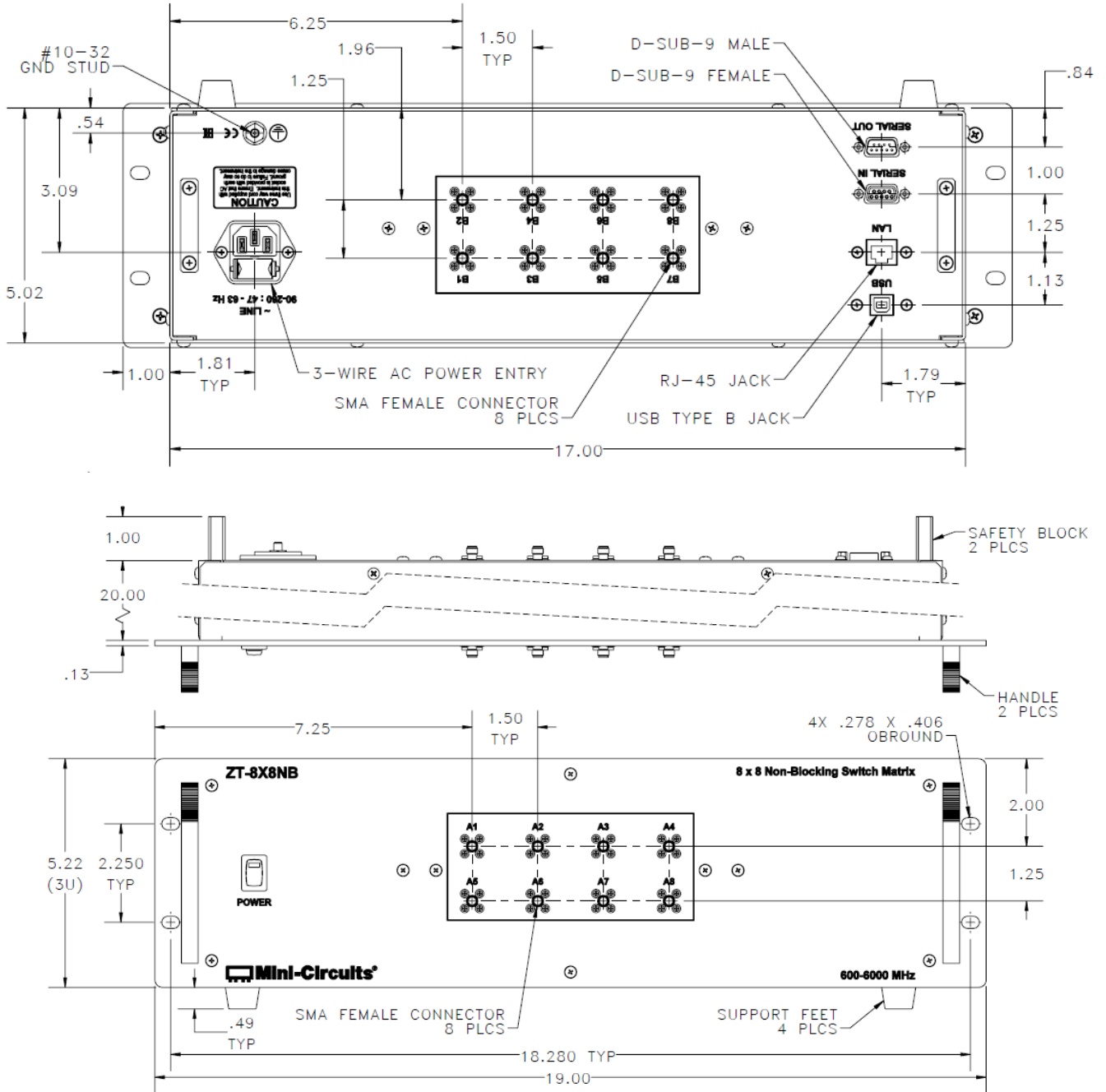
Typical Performance Data



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Outline Drawing



Software Specifications

- Please contact testsolutions@minicircuits.com for support

Ethernet Control	Supported Protocols	TCP / IP, SSH, HTTP, Telnet, DHCP, UDP
	Max Data Rate	100 Mbps (100Base-T Full Duplex)
USB Control	Supported Protocols	HID - High Speed
	Min Communication Time	400 μ s 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 	
Downloads	Software & Documentation	http://yoni-il.minicircuits.com/download/ZT8X8NB_CD_X2.zip

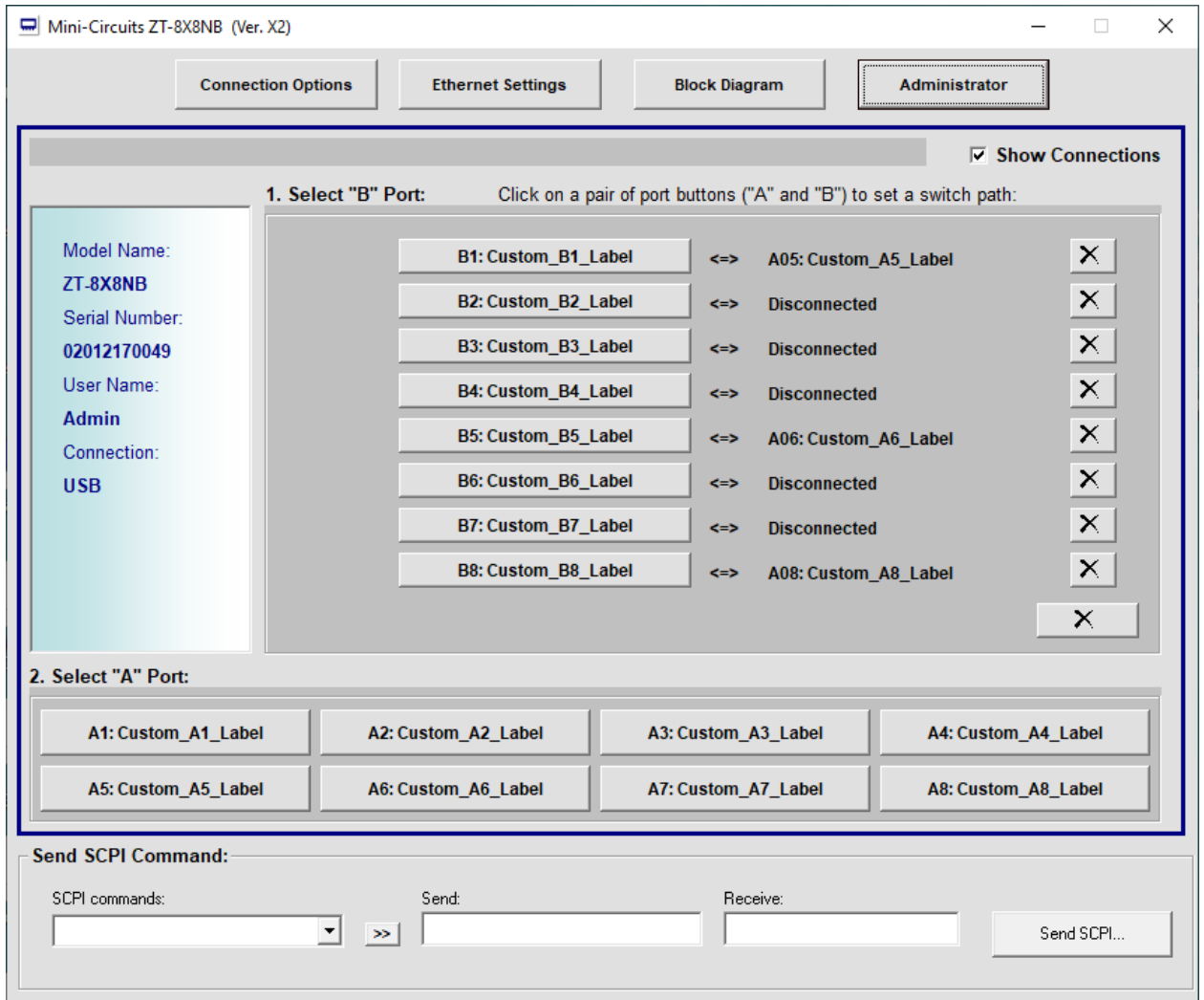
Programming Commands

- 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:input?	Check which output is connected to the specified input port
:PATH:A1:B1	Set a specific switch path between 2 ports

Graphical User Interface (GUI) for Windows - Key Features

- 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



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)
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

Additional Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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