



THE BIG DEAL

- 24 x 8 blocking switch matrix
- Bi-directional operation
- 8 active switch paths
- GUI & API for automation

APPLICATIONS

- Cellular base-station qualification
- Cellular handset certification
- RF signal routing
- High volume production test / ATE



PRODUCT OVERVIEW

Mini-Circuits' ZT-24X8B is a high performance, 24 by 8 blocking switch matrix, covering the key worldwide telecoms bands from 600 MHz to 6GHz. The system is housed in a 5U height, 19-inch rack-mountable chassis with 8 RF "A" ports on the front panel and 24 RF "B" ports on the rear, all SMA female.

This bi-directional, blocking configuration allows the 8 "A" ports to be connected to any combination of the 24 "B" ports in a one-to-one arrangement. Multiple ZT-24X8B matrices can be combined to construct complex, high volume test environments.

The system can be controlled via USB or Ethernet (supporting SSH, HTTP & 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.

KEY FEATURES

Feature	Advantages
High port count	Bi-directional operation between 8 and 24 ports facilitates a wide range of switching applications.
Rack-mount chassis	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 / SSH) interfaces ensure compatibility with most software environments and connection requirements.



MECHANICAL SPECIFICATIONS

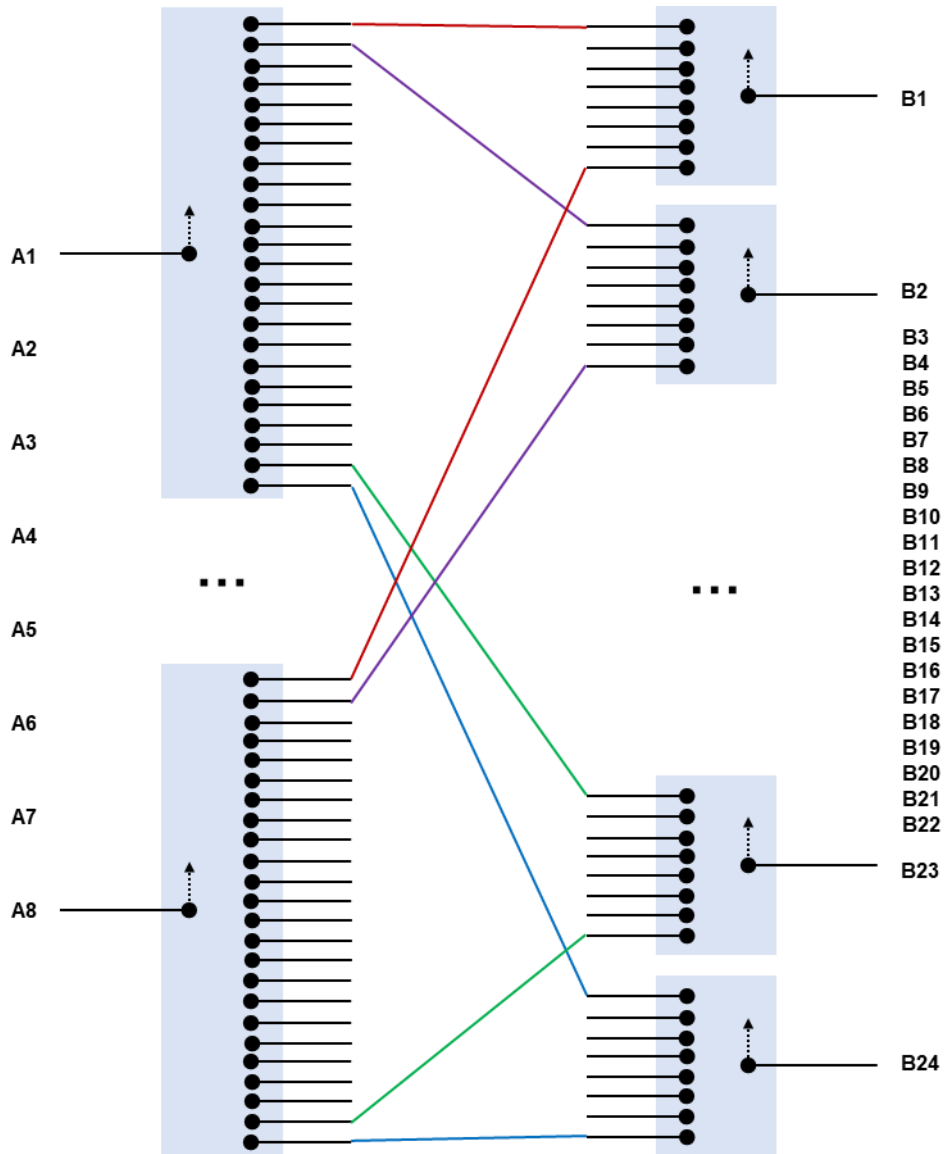
Dimensions	19" (W) x 5U (H) x 20" (D)			
Case Drawing	99-01-2571			
Weight	56.4 lbs (25.6 kg)			
Case Material	Aluminum (with protective coating to prevent corrosion)			
RF Connectors	Panel	Connector	Quantity	Port Labels
	Front	SMA female	24	A1 to A8
	Rear	SMA female	8	B1 to B24
	Front Panel			Rear Panel
Panel Marking	<ul style="list-style-type: none"> ZT-24X8B 24 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 LED switch position indicators 			<ul style="list-style-type: none"> AC mains power input (IEC C14 inlet) USB type B socket RJ45 (LAN) socket Serial In (D-sub 9-pin) Serial Out (D-sub 9-pin) Fan vents
Power Supply	AC mains power input (90-260 V, 47-63 Hz)			
Fuse	2A, 250V rating			
Power Consumption	70W max			
Temperature	Operating: 0 to +50 °C			

ELECTRICAL SPECIFICATIONS @ 25°C

Parameter	Conditions	Min	Typ	Max	Units
Frequency		10	-	6000	MHz
Path Loss	10 – 1200 MHz	-	7.0	8.0	dB
	1200 – 2700 MHz	-	8.0	9.0	
	2700 – 6000 MHz	-	11.0	12.5	
Isolation		80	90	-	dB
Return Loss		-	12	-	dB
Input Power	Any active through path	-	-	+27	dBm
	Into any internal termination	-	-	+17	



FUNCTIONAL BLOCK DIAGRAM

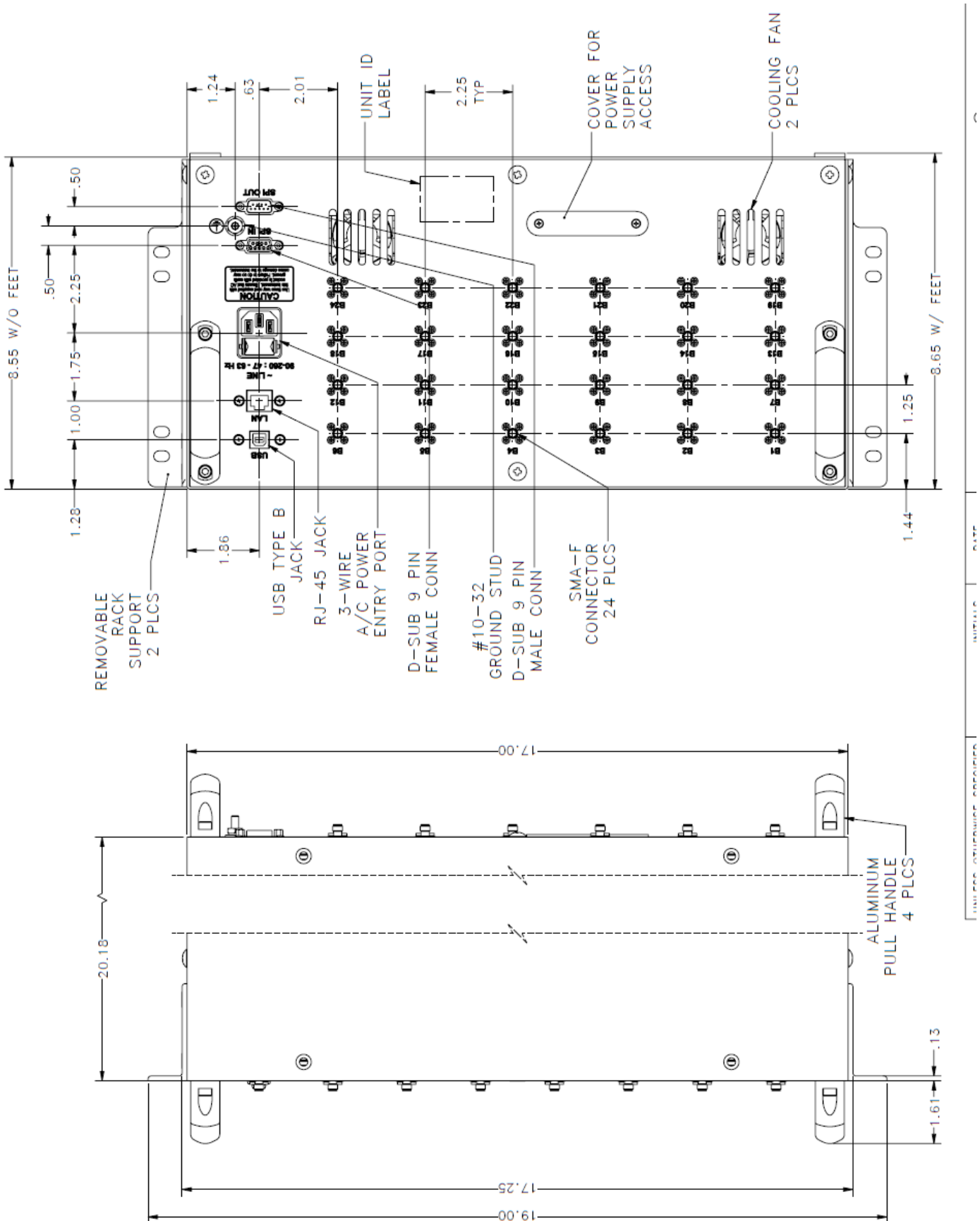




Blocking Switch Matrix

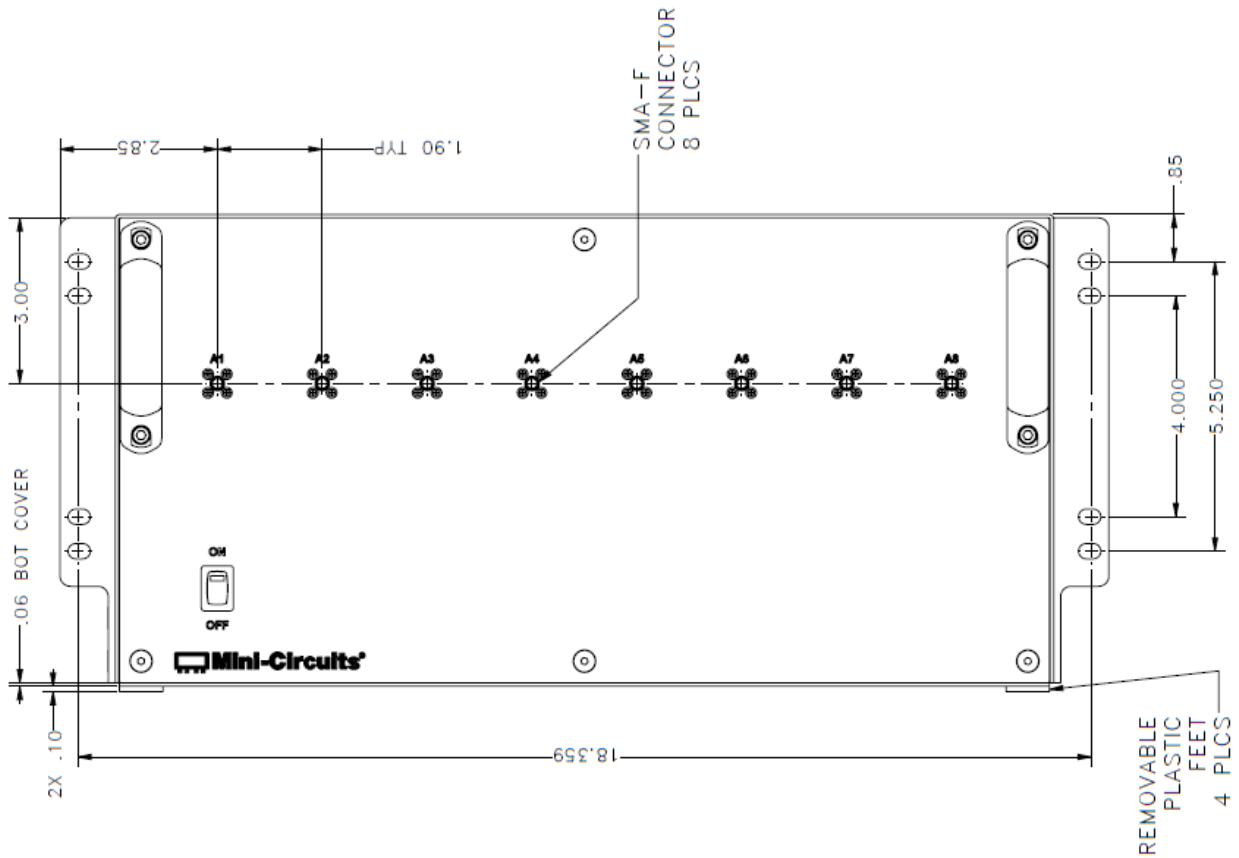
ZT-24X8B

OUTLINE DRAWING

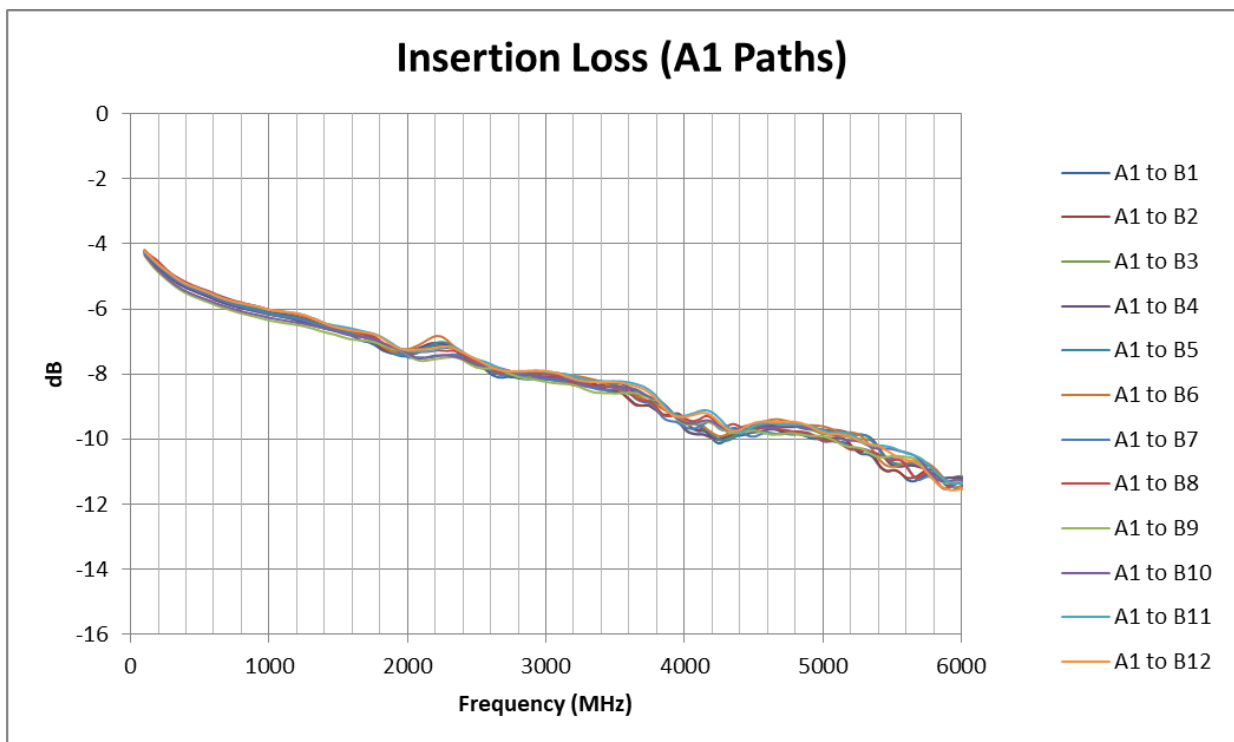




OUTLINE DRAWING

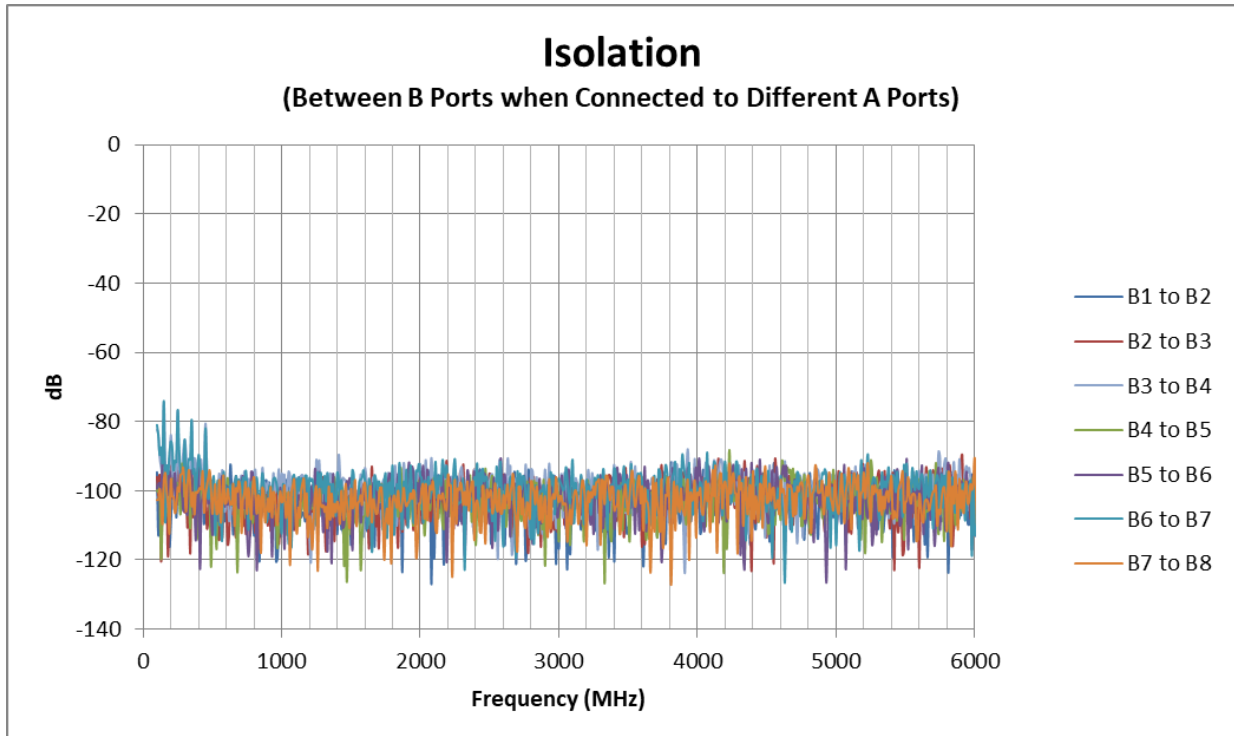
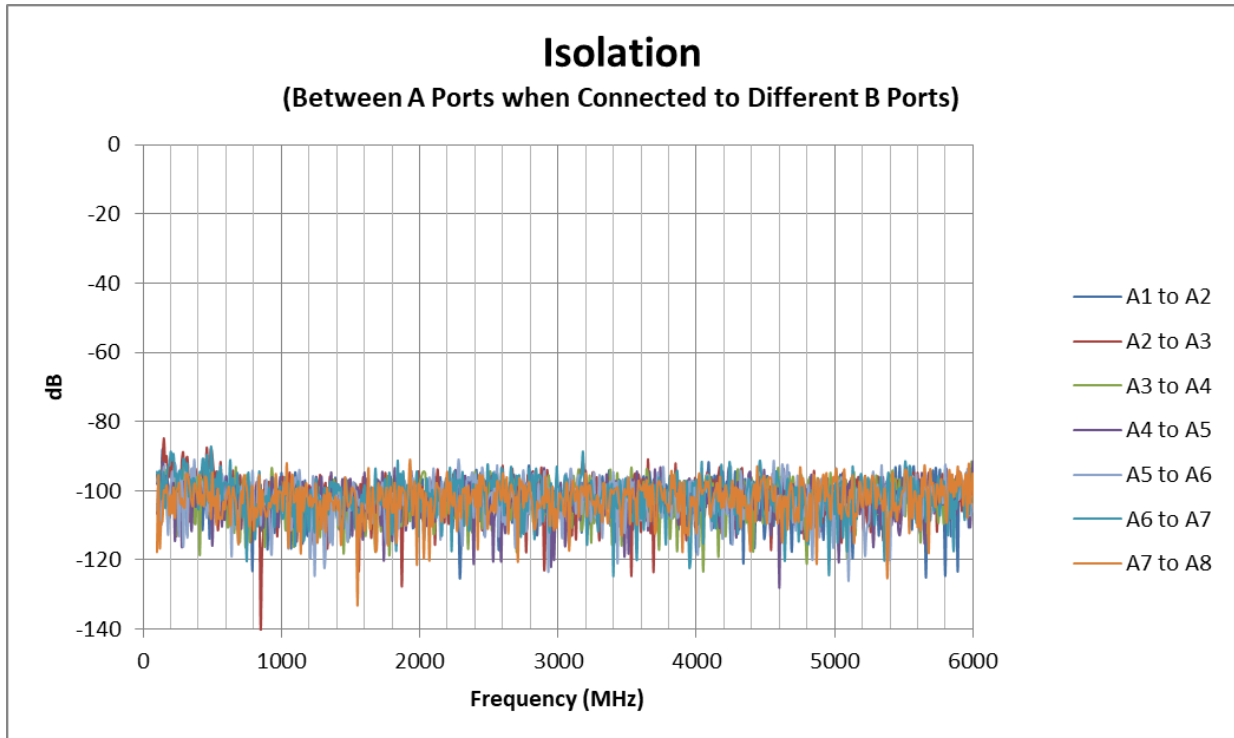


TYPICAL PERFORMANCE DATA



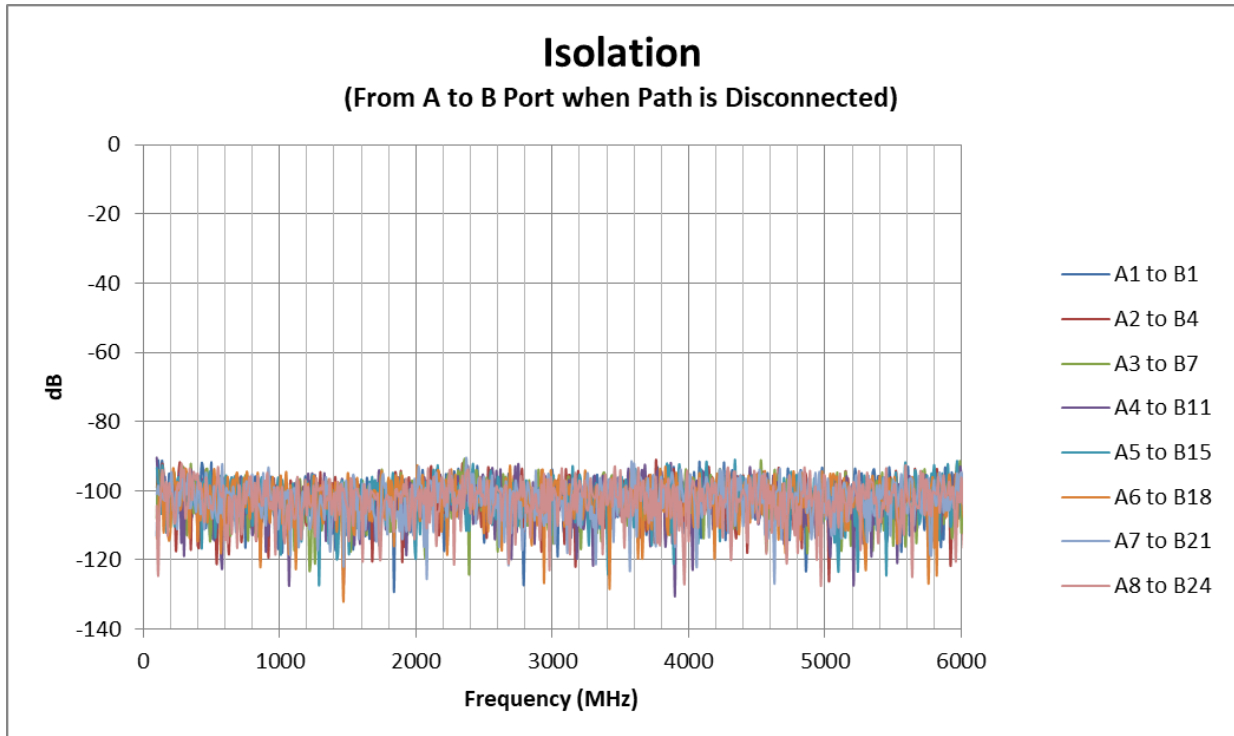
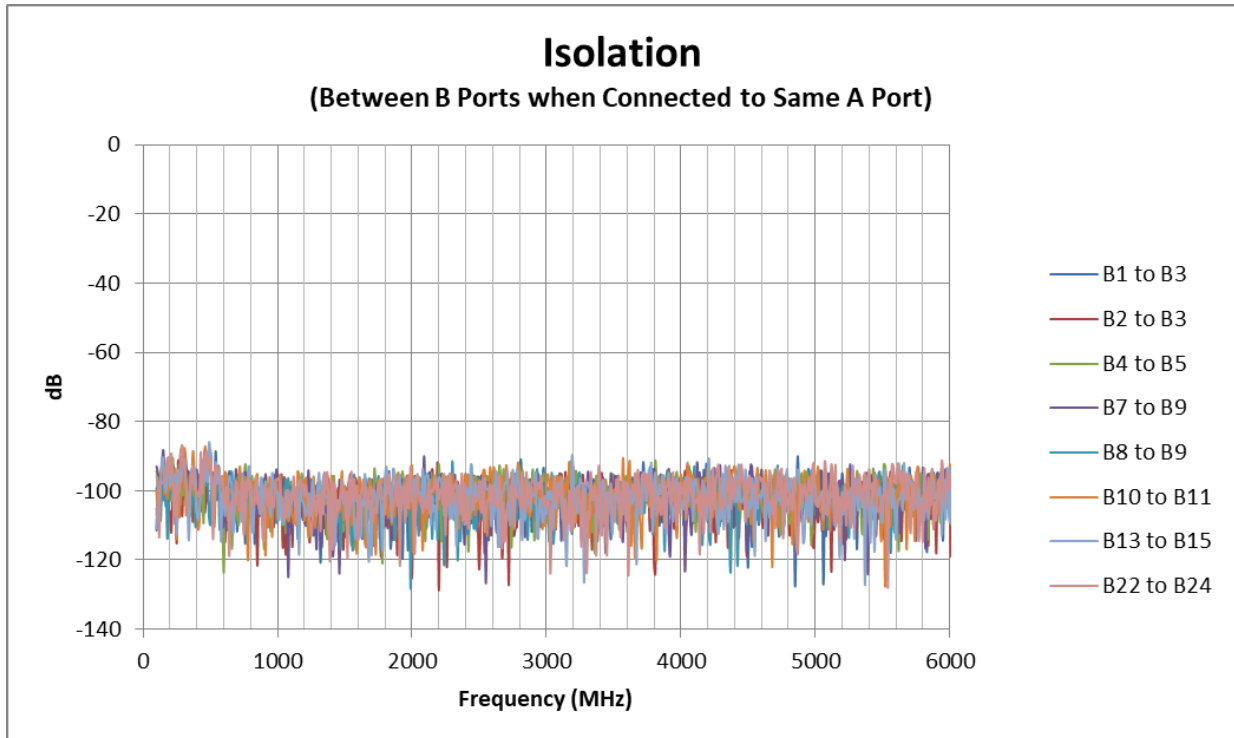


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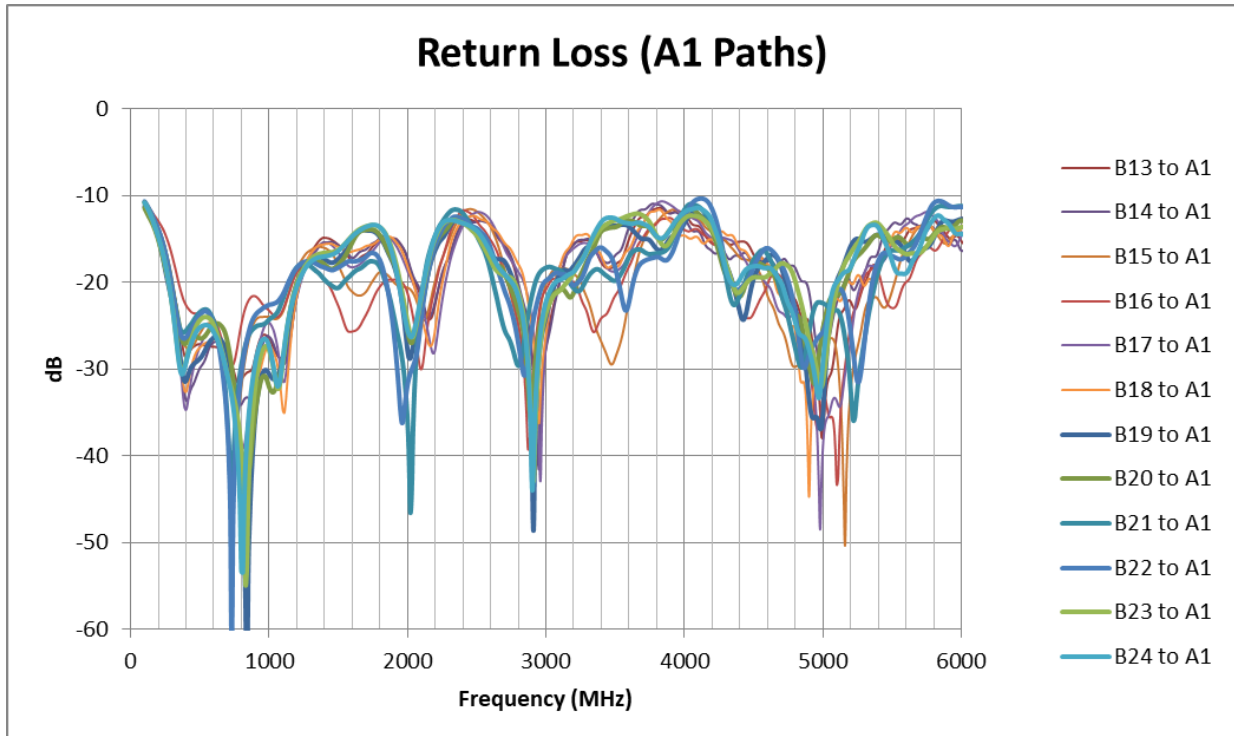
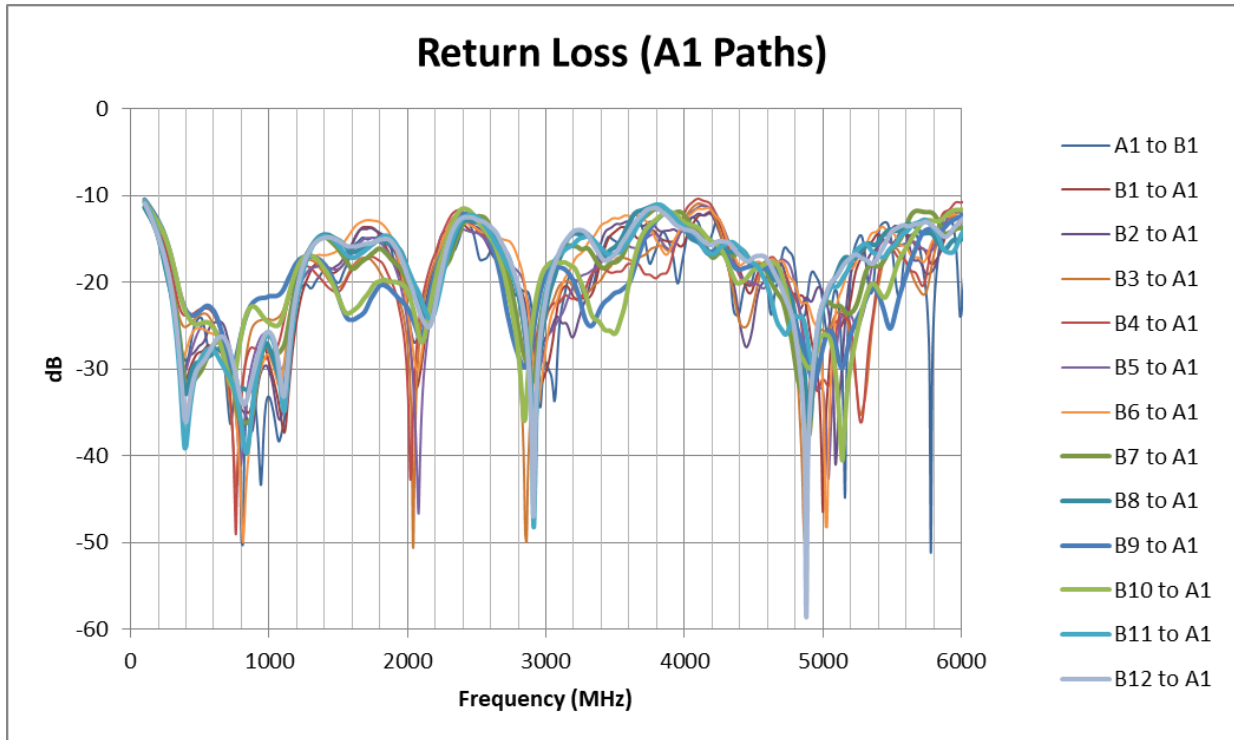


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TYPICAL PERFORMANCE DATA





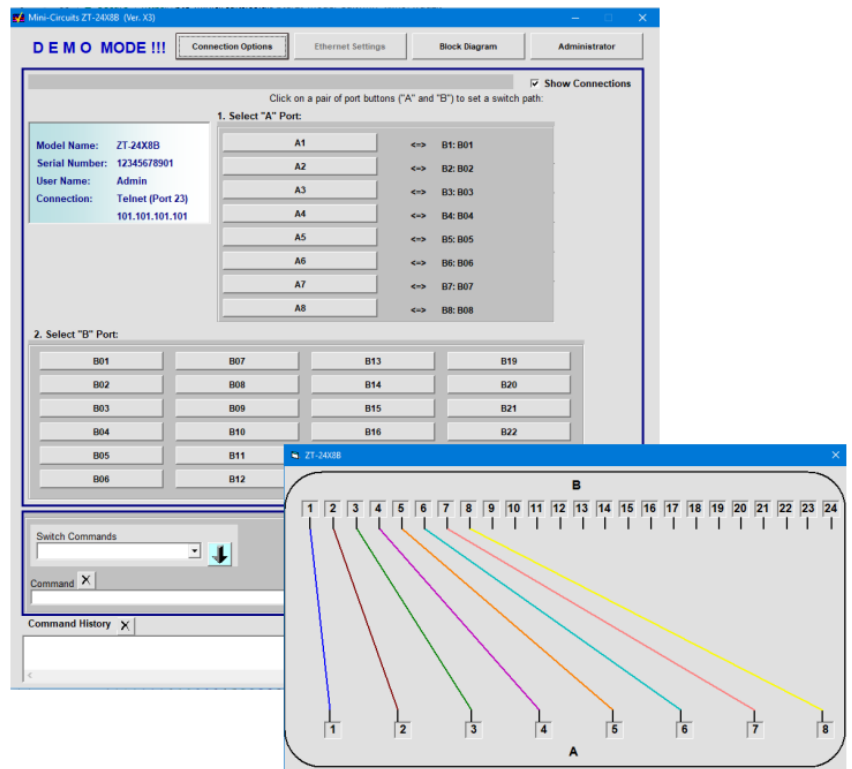
SOFTWARE SPECIFICATIONS

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 μs 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 	

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



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



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)

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

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

Revision	Updates	Date	Creator	Reviewer
1	Initial web release	24-Sep-19	LW	WT
2	Updated format; expanded frequency range	8-Aug-22	LW	WT

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