

50Ω DC to 10 GHz



Product Overview

Mini-Circuits' ZT-175 is a high performance, 6 by 8 blocking switch matrix, operating over a wide bandwidth from DC to 10 GHz. The system is housed in a compact, 4U height, 19-inch rack-mountable chassis with 6 RF "P" ports on the front panel and 8 RF "T" ports on the rear, all SMA female.

This bi-directional, blocking configuration allows the 6 "P" ports to be connected to any combination of the 8 "T" ports in a one to one arrangement.

The system includes both USB and Ethernet control, providing a range of flexible control options. Software support is provided through our easy-to-use GUI application for remote control over a network, or local control through USB. ActiveX and .NET API objects (for Windows environments) and HTTP / Telnet support ensure compatibility with most common programming environments.

Key Features

Feature	Advantages
High port counts	Bi-directional operation from 6 to 8 ports facilitates a wide range of switch applications
Compact package	The 4U height chassis is easily located within a rack-mounted test environment
Ethernet-TCP/IP (HTTP & Telnet)	Remote control from any Windows®, Mac®, or Linux® computer, or even a mobile device with a network connection and Ethernet-TCP/IP (HTTP or Telnet protocols) support. Using a VPN would allow remote control from anywhere in the world.
USB HID (Human Interface Device)	Local control via USB connection. Plug-and-Play, no driver required. Compatible with Windows® or Linux® operating systems using 32 and 64 bit architectures.
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.

Please contact testsolutions@minicircuits.com for support

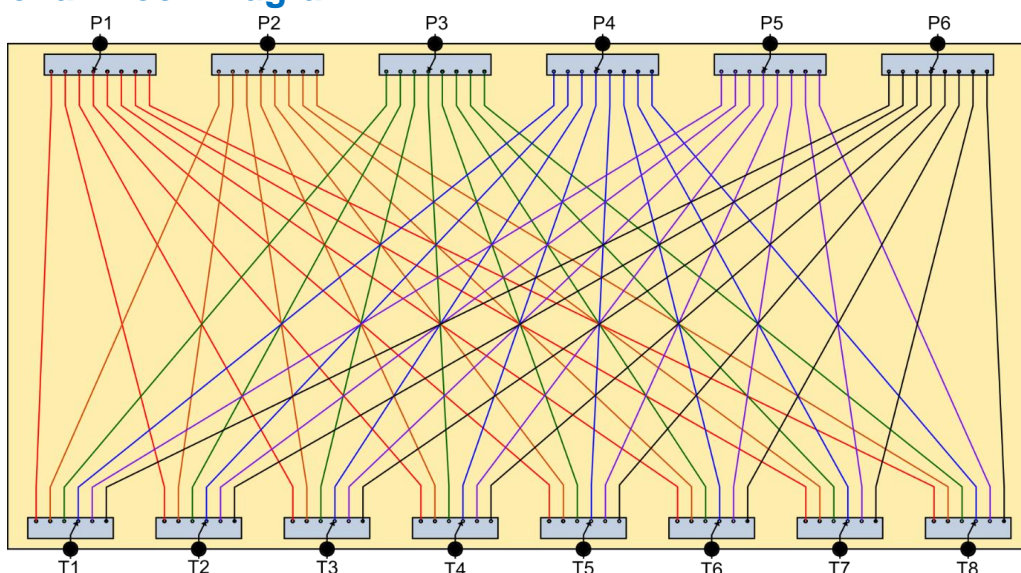
Mechanical Specifications

Dimensions	19" (W) x 4U (H) x 20" (D)
Case Material	Aluminum (with protective coatings to prevent corrosion)
Case Drawing	99-01-2090
RF Connectors	SMA female
Front panel	a) 6 x RF "inputs" (ports P1 to P6, SMA female) b) ON/OFF switch with indicator light c) Carry handles
Rear panel	a) 8 x RF "outputs" (ports T1 to T8, SMA female) b) AC mains power supply input c) USB & RJ45 control connections d) Label with date code/serial number/MCL part# for traceability
Control Interface	a) USB and Ethernet TCP/IP supporting HTTP and TELNET protocols
Power supply	a) AC mains power supply (90-260 V, 47-63 Hz) b) 2A, 250V fuse rating
Operating temp	0° to +50° C

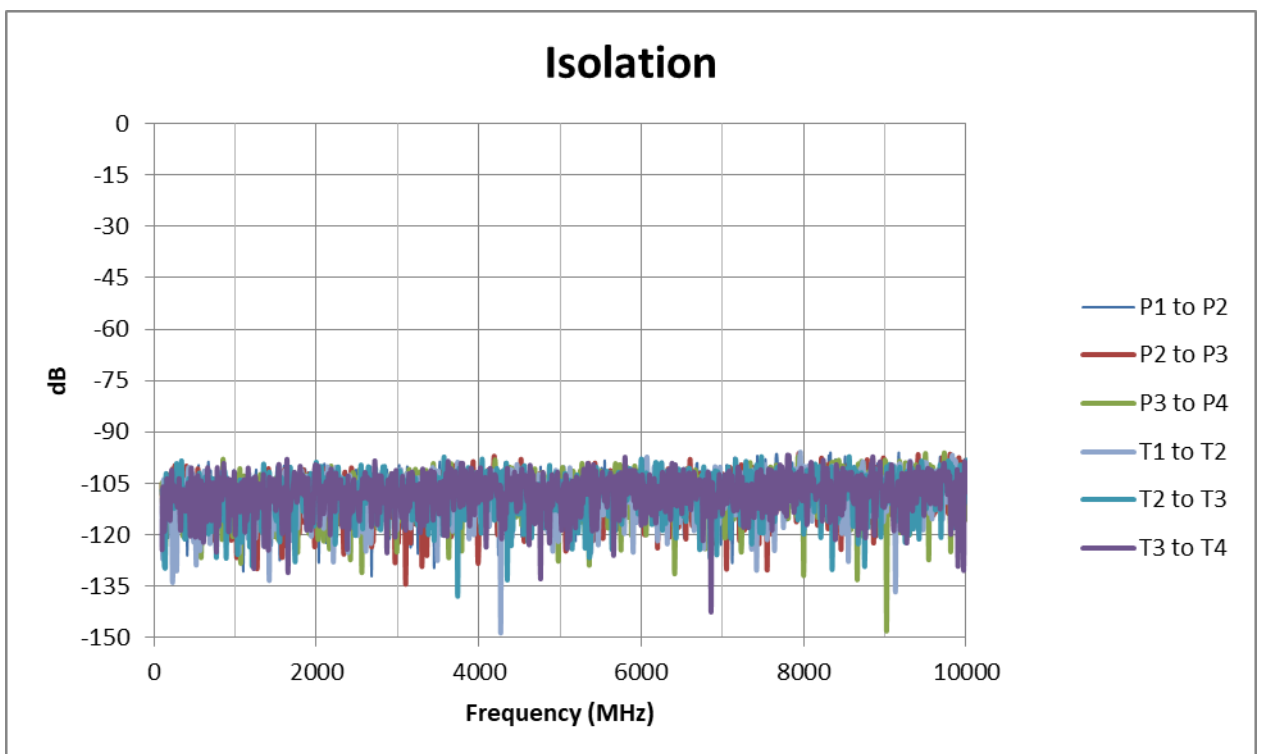
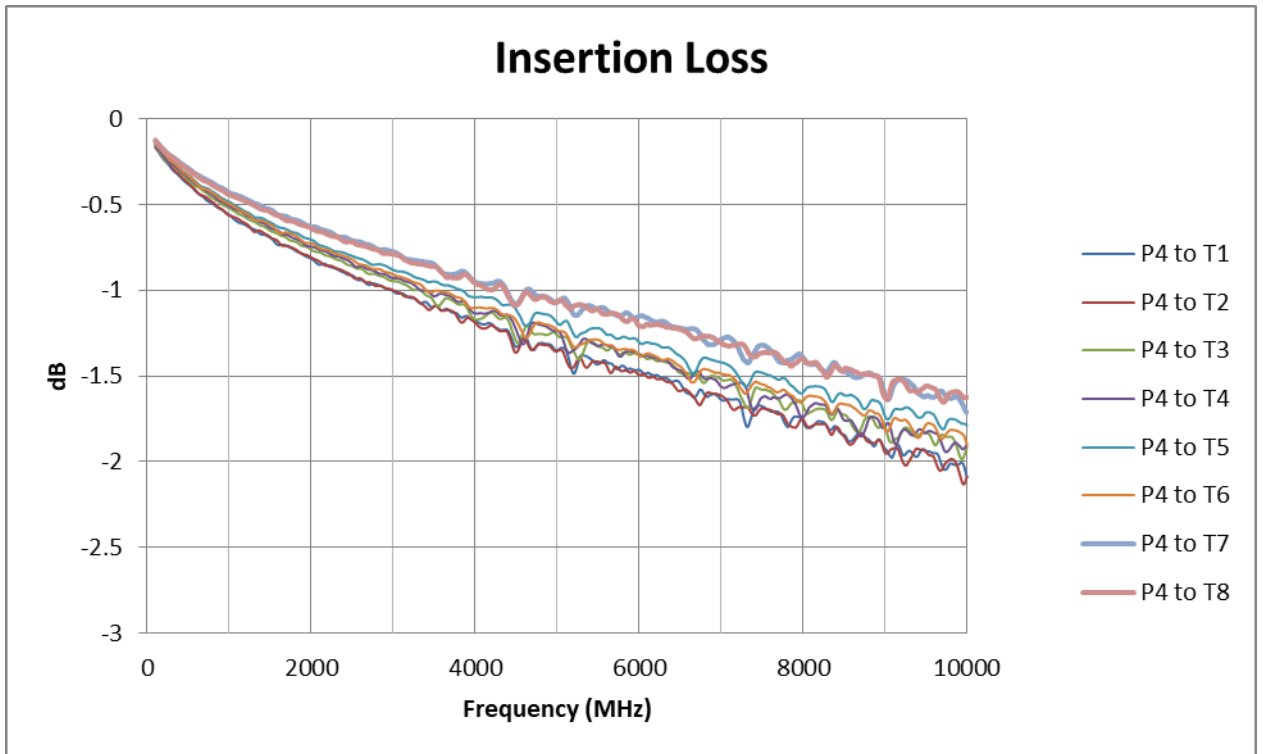
Electrical Specifications at 25°C

Parameter	Conditions	Min	Typ	Max	Units
Frequency		DC		10	GHz
Insertion Loss	2 GHz		1.0		dB
	6 GHz		1.7		
	10 GHz		2.5		
Return Loss	2 GHz		20		dB
	10 GHz		15		
Isolation			85		dB
Input Power				+20	dBm

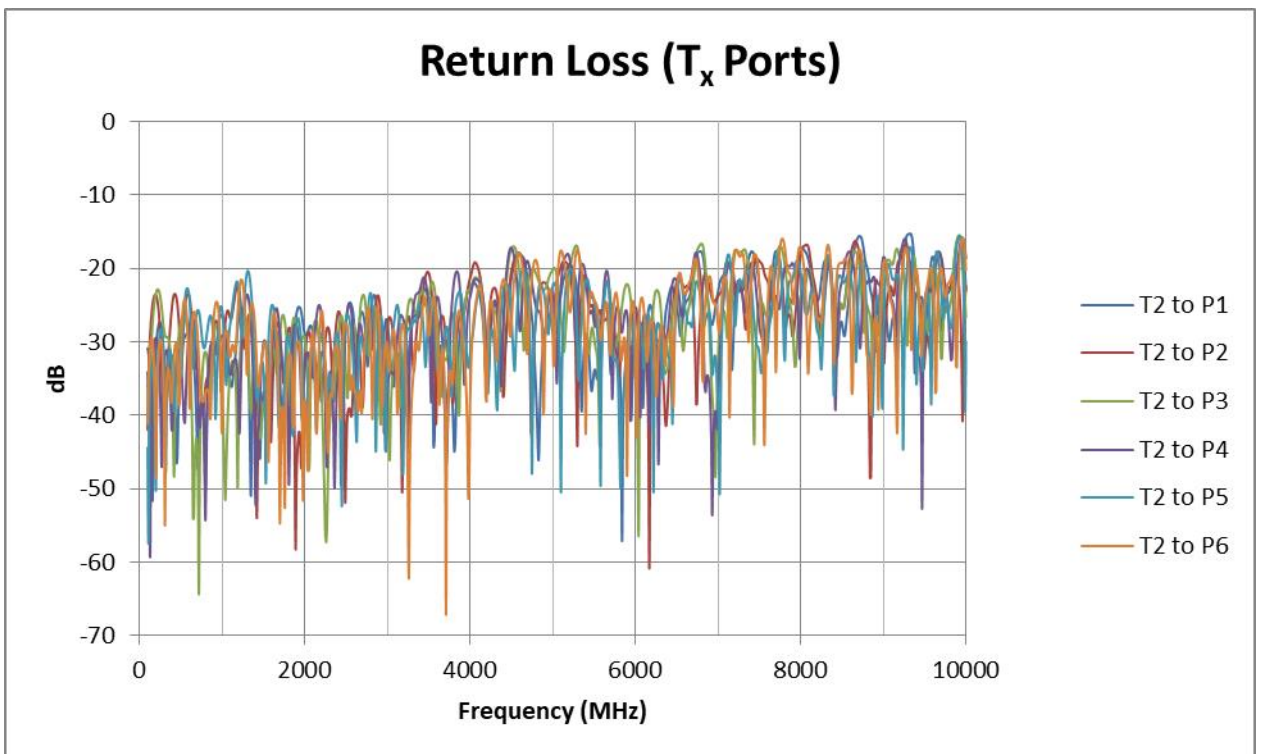
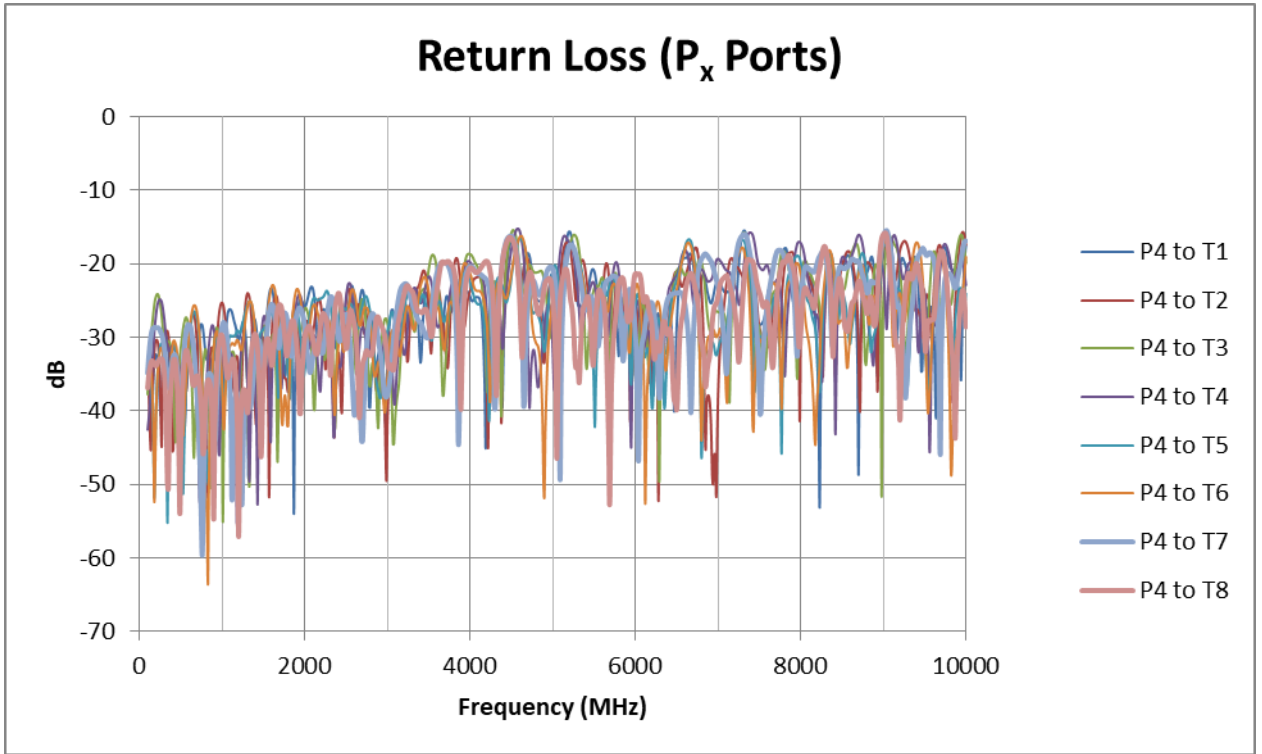
Functional Block Diagram



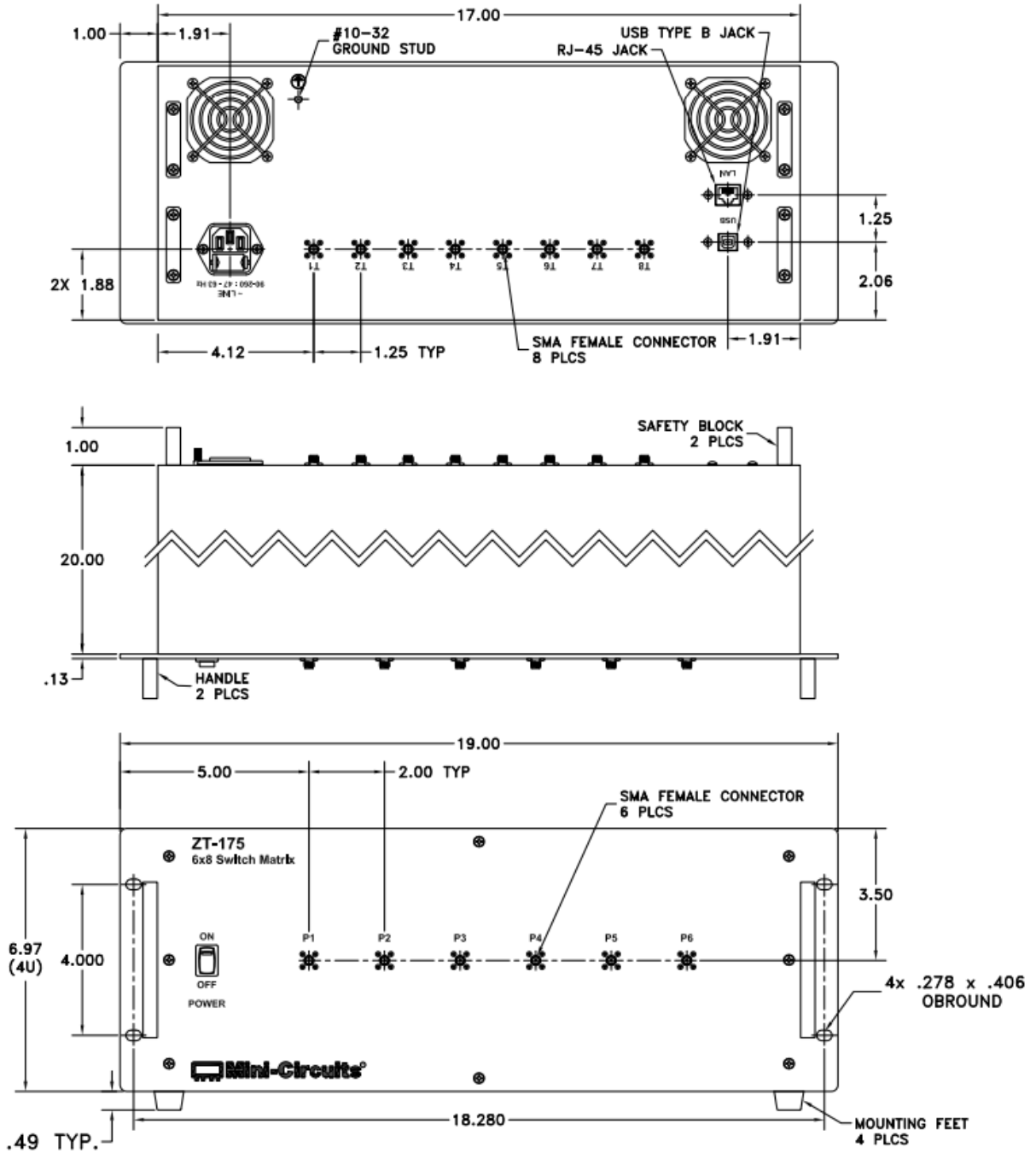
Typical Performance Data



Typical Performance Data



Outline Drawing



Software Specifications

Software & Documentation Download:

- Mini-Circuits' full software and support package including user guide, Windows GUI, DLL files, programming manual and examples are available on request
- Please contact testsolutions@minicircuits.com for support

Minimum System Requirements:

Parameter	Requirements	
Interface	USB HID & Ethernet (HTTP & Telnet)	
System Requirements	GUI	Windows 98 or later
	USB API DLL	Windows 98 or later and programming environment with ActiveX or .NET support
	USB Direct Programming	Linux; Windows 98 or later
	Ethernet	Windows, Linux or Mac computer with a network port and Ethernet TCP / IP support
Hardware	Pentium II or later with 256 MB RAM	

Application Programming Interface (API)

Ethernet Support:

- Simple ASCII / SCPI command set for attenuator control
- Communication via HTTP or Telnet
- Supported by most common programming environments

USB Support (Windows):

- ActiveX COM DLL file for creation of 32-bit programs
- .NET library DLL file for creation of 32 / 64-bit programs
- Supported by most common programming environments (refer to application note [AN-49-001](#) for summary of supported environments)

USB Support (Linux):

- Direct USB programming using a series of USB interrupt codes

Full programming instructions and examples available for a wide range of programming environments / languages.

Graphical User Interface (GUI) for Windows - Key Features

- Connect via USB or Ethernet
- Evaluate software in demo mode
- View and set all switch paths
- Set individual switch states
- Configure Ethernet settings
- Upgrade firmware
- Send SCPI commands
- View temperature & system status

