

USB &amp; Ethernet Controlled

# Multi-Function Switch Systems

# RCM-200 Series

50Ω DC to 40 GHz

## The Big Deal

- Flexible mechanical switch system
- Switch options up to 40 GHz
- Full software support via USB & Ethernet
- Custom configurations shipped in 2-3 weeks!



Software Package

## Typical Applications

- 5G node / device testing
- Automated test equipment
- Fail-safe / redundancy switching
- Modular switch matrices

### RoHS Compliant

See our website for RoHS compliance methodologies and qualifications

## Product Overview

Mini-Circuits' RCM-200 series multi-function switch systems offer flexibility and fast turnaround for compact test setups. The design consists of a small, light-weight chassis comprising up to three open hardware windows, supporting a flexible range of switch options up to 40 GHz:

- Up to 6 mechanical SPDT or transfer switches
- Up to 3 mechanical SP4T or SP6T switches
- Up to 2 mechanical SP8T switches
- Custom combinations of SPDT, SP4T, SP6T and transfer switches

With the use of Mini-Circuits' low cost Hand-Flex™ interconnect cables, multiple matrix configurations can be easily created by the user. The switches are controlled via USB or Ethernet, allowing control directly from a PC, or remotely over a network. 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 mechanical switch options	Mechanical absorptive switches provide high reliability, repeatable high performance and internal terminations of input signals on the disconnected paths
Fast turnaround time	2-3 weeks from order to shipment allows test configuration to be rapidly updated without causing production delays.
Compact half-rack chassis	Compact, light-weight design enables easy bench-top use. Shelving in a standard 19-inch equipment rack accommodates two RCM units side by side.
USB & Ethernet control	USB HID and Ethernet (HTTP / Telnet) interfaces provide easy compatibility with a wide range of software setups and programming environments



**Switch Options**

Switch Type	Model Name	Frequency Range
SPDT (Absorptive)	<a href="#">MSP2TA-18XL+</a>	DC-18 GHz
SPDT (Reflective)	<a href="#">MSP2T-18XL+</a>	DC-18 GHz
SPDT (Absorptive)	MSP2TA-26+*	DC-26.5 GHz
SPDT (Reflective)	MSP2T-40+*	DC-40 GHz
SP4T (Absorptive)	<a href="#">MSP4TA-18+</a>	DC-18 GHz
SP4T (Absorptive)	MSP4TA-26+*	DC-26.5 GHz
SP4T (Absorptive)	MSP4TA-40+*	DC-40 GHz
SP6T (Reflective)	<a href="#">MSP6T-12D+</a>	DC-12 GHz
SP6T (Absorptive)	<a href="#">MSP6TA-12+</a>	DC-12 GHz
SP6T (Absorptive)	MSP6TA-18+*	DC-18 GHz
SP6T (Absorptive)	MSP6TA-26+*	DC-26.5 GHz
SP6T (Absorptive)	MSP6TA-40+*	DC-40 GHz
SP8T (Absorptive)	<a href="#">MSP8TA-12D+</a>	DC-12 GHz
SP8T (Absorptive)	MSP8TA-18+*	DC-18 GHz
SP8T (Absorptive)	MSP8TA-26+*	DC-26.5 GHz
Transfer Switch	<a href="#">MTS-18XL+</a>	DC-18 GHz
Transfer Switch	MTS-26+*	DC-26.5 GHz
Transfer Switch	MTS-40+*	DC-40 GHz

\* Please contact [testsolutions@minicircuits.com](mailto:testsolutions@minicircuits.com) for detailed model specifications

**Mechanical Specifications**

<b>Dimensions</b>	8.25" (w) x 4.25" (h) x 8.25" (d); mounting feet add 0.28" height
<b>Case Material</b>	Aluminum (with protective coatings to prevent corrosion)
<b>Case Drawing</b>	99-01-2068
<b>RF Connectors</b>	a) SMA female (switches up to 26.5 GHz) b) 2.92 mm female (switches up to 40 GHz)
<b>Front Panel</b>	a) All RF ports b) LED switch position indicators
<b>Rear Panel</b>	a) Power ON/OFF switch with indicator light b) 2.1 mm center positive DC socket c) 24 V DC Input d) USB & RJ45 control connections
<b>Control Interface</b>	USB and Ethernet TCP/IP supporting HTTP and TELNET protocols
<b>Power Supply</b>	24V DC input (using provided AC/DC adapter)
<b>Operating Temperature</b>	0° to +50° C

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## Website Configuration Tool

Visit the Mini-Circuits website to select from our standard catalog options or configure your custom switch combination in 3 easy steps:

<https://www.minicircuits.com/WebStore/rcm.html>

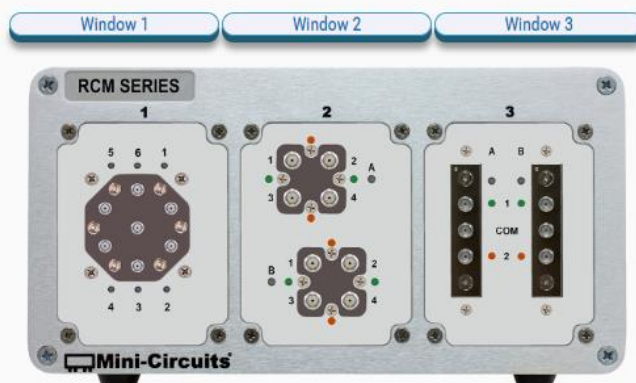
**Step 1:** Choose your configuration

**Step 2:** Enter your contact details

**Step 3:** We will be in touch within 24 hours!

## Customized Configuration

Populate each window of your test system by selecting from the 3 drop-down menus



Your chosen test system configuration:

Window	Window Contents	Model Number(s)	Frequency
1	One SP6T Switch (Absorptive)	MSP6TA-40+	DC-40 GHz
2	Two Transfer Switches	MTS-18XL+	DC-18 GHz
3	Two SPDT Switches (Absorptive)	MSP2TA-18XL+	DC-18 GHz

Included accessories:

- AC power cord (please select region): **US(CBL-3W1-US)**
- USB control cable - 6.8 ft (USB-CBL-AB-7+)
- Ethernet control cable - 5 ft (CBL-RJ45-MM-5+)
- Full software & documentation (including GUI, DLL API files, user & programming manual)

Clear

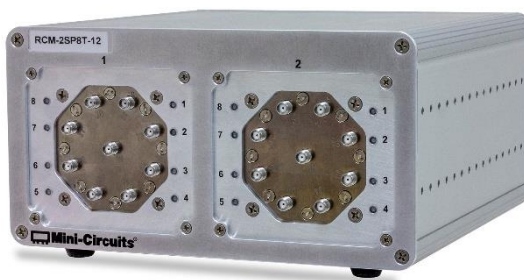
Request a Quote



**Catalog Switch Configurations**

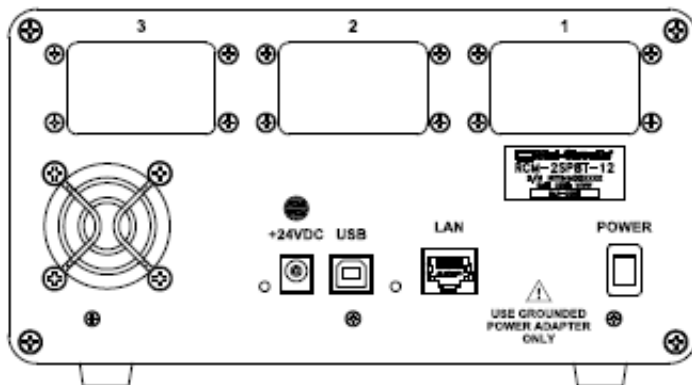
The sample of catalog models below have already been built so may be available on shorter lead-times.

Model Name	Window 1	Window 2	Window 3
RCM-1SP8T-12	SP8T 12GHz	--blank --	--blank --
RCM-2SP8T-12	SP8T 12GHz	SP8T 12GHz	--blank --
RCM-2SP8T-26	SP8T 26GHz	SP8T 26GHz	--blank --
RCM-3SP6T-12	SP6T 12GHz	SP6T 12GHz	SP6T 12GHz
RCM-1SP6T-26	SP6T 26GHz	--blank --	--blank --
RCM-1SP4T-18	--blank --	SP4T 18GHz	--blank --
RCM-3SP4T-18	SP4T 18GHz	SP4T 18GHz	SP4T 18GHz
RCM-6SPDT-18	2x SPDT 18GHz	2x SPDT 18GHz	2x SPDT 18GHz
RCM-200	SP4T 18GHz	MTS 18GHz	--blank --
RCM-202	SP4T 18GHz	SPDT 18GHz	SP4T 18GHz
RCM-203	SP6T 18GHz	SP4T 18GHz	--blank --
RCM-204	SP4T 18GHz	SPDT 18GHz	--blank --
RCM-205	SPDT 18GHz	2x MTS 18GHz	SPDT 18GHz
RCM-207	SP4T 18GHz	2x SPDT 18GHz	SP4T 18GHz
RCM-208	SP4T 18GHz	SPDT 18GHz	2x SPDT 18GHz
RCM-210	SP6T 12GHz	SPDT 18GHz	2x SPDT 18GHz
RCM-211	SP4T 18GHz	2x MTS 18GHz	SP4T 18GHz
RCM-212	2x SPDT 18GHz	--blank --	--blank --
RCM-213	SPDT 18GHz	MTS 18GHz	2x SPDT 18GHz
RCM-401	SP6T 40GHz	SP6T 40GHz	SP6T 40GHz

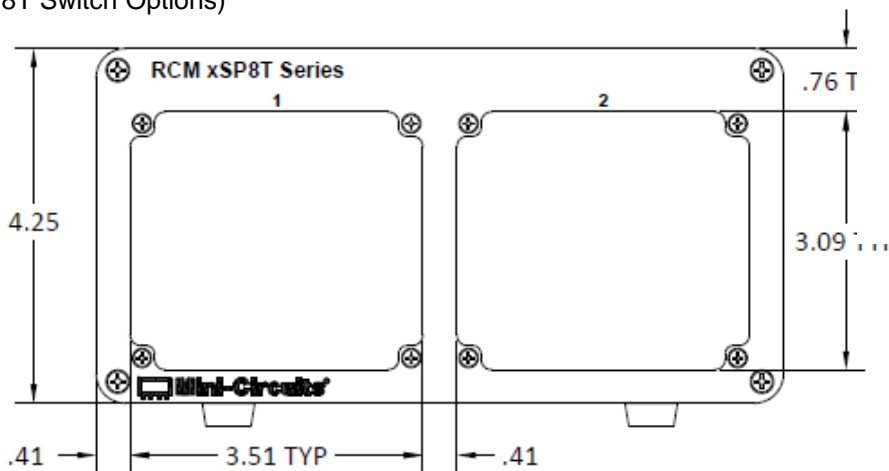


**Case Drawings**

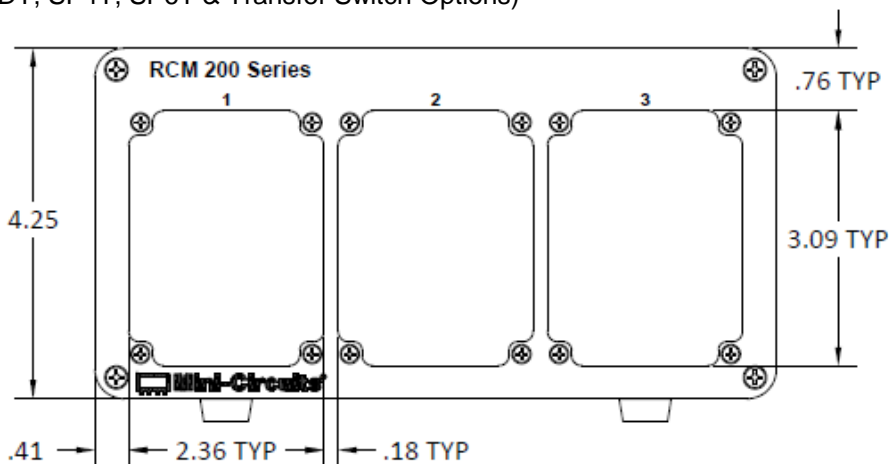
Rear Panel



Front Panel (SP8T Switch Options)



Front Panel (SPDT, SP4T, SP6T & Transfer Switch Options)

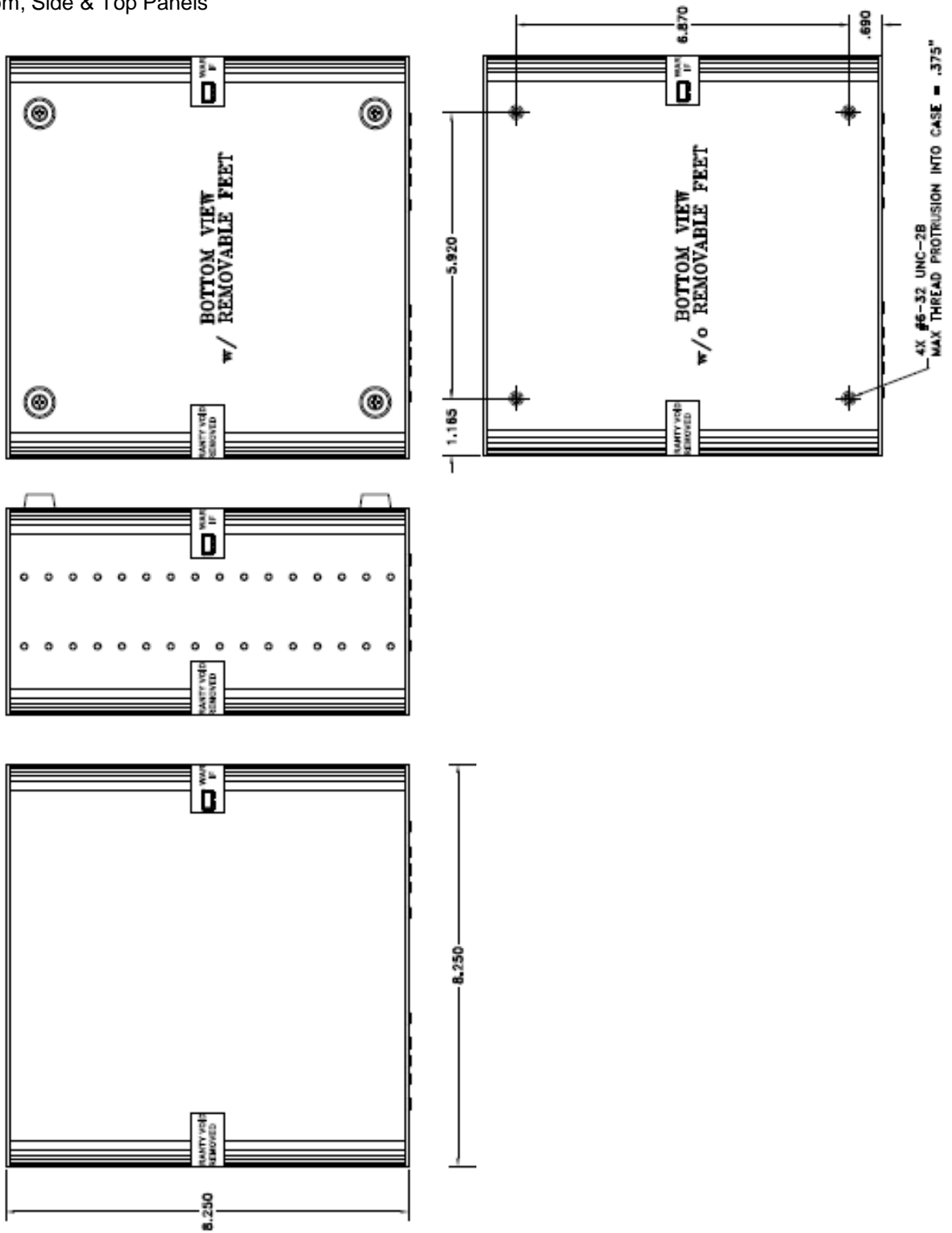


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# RCM-200 Series

## Case Drawings

Bottom, Side & Top Panels

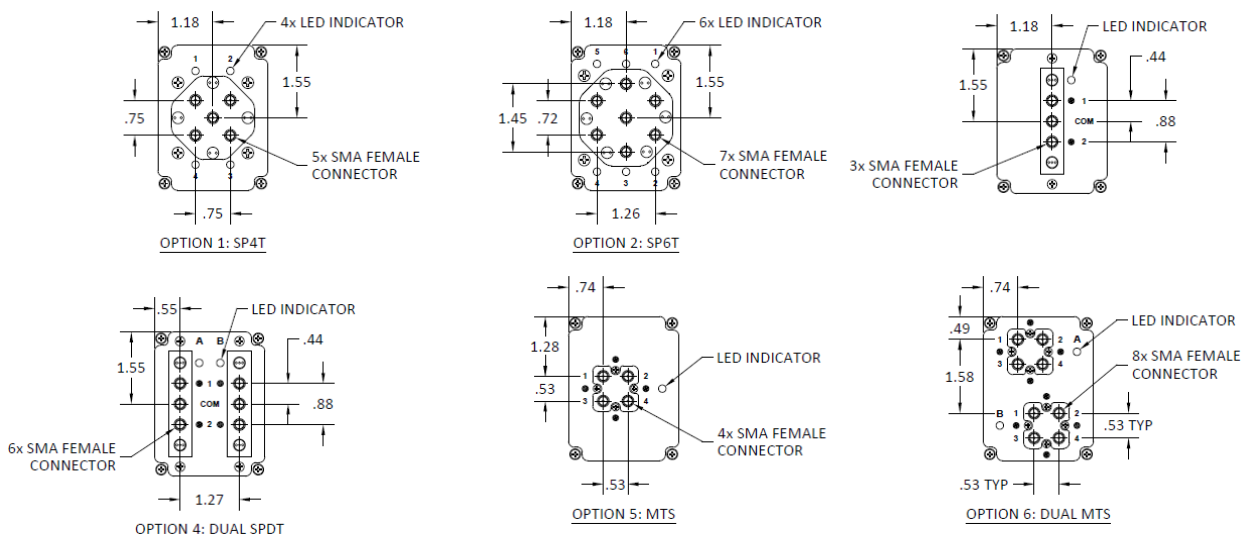


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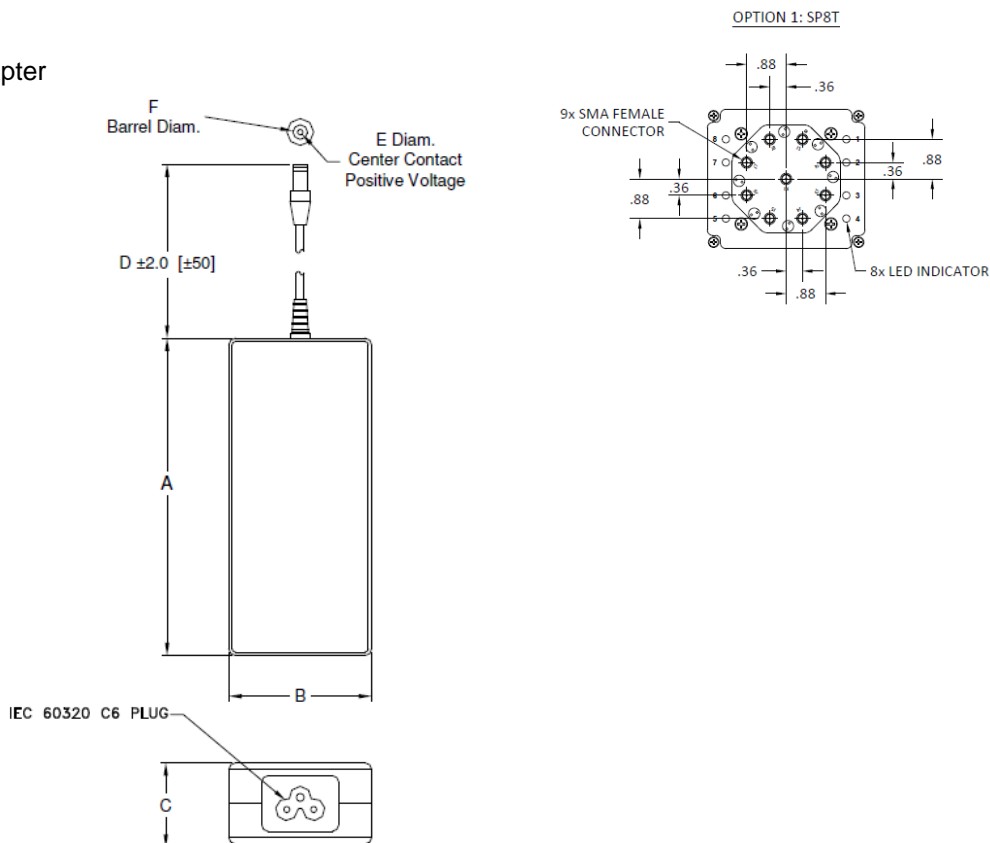
# RCM-200 Series

## Case Drawings

### Switch Window Options



### AC / DC Power Adapter



CASE#	A	B	C	D	E	F	WT. GRAMS
LR1590	4.72 (120)	2.13 (54)	1.26 (32)	72.8 (1850)	0.083 (2.1)	0.217 (5.5)	220



## Software Specifications

### Software & Documentation Download:

- Mini-Circuits' full software and support package including user guide, Windows GUI, DLL files, programming manual and examples can be downloaded free of charge from [https://www.minicircuits.com/softwaredownload/ztm\\_rcm.html](https://www.minicircuits.com/softwaredownload/ztm_rcm.html)
- Please contact [testsolutions@minicircuits.com](mailto: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.

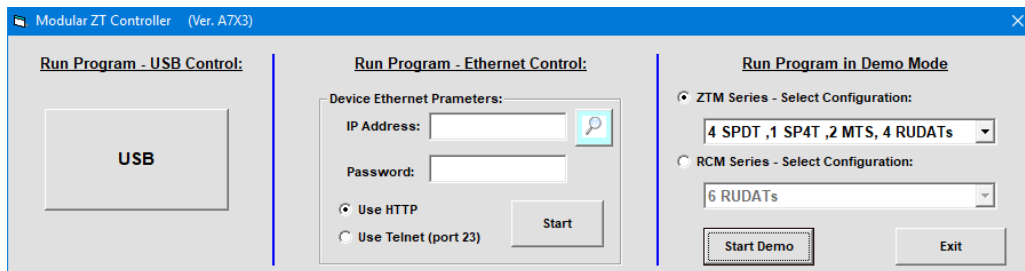


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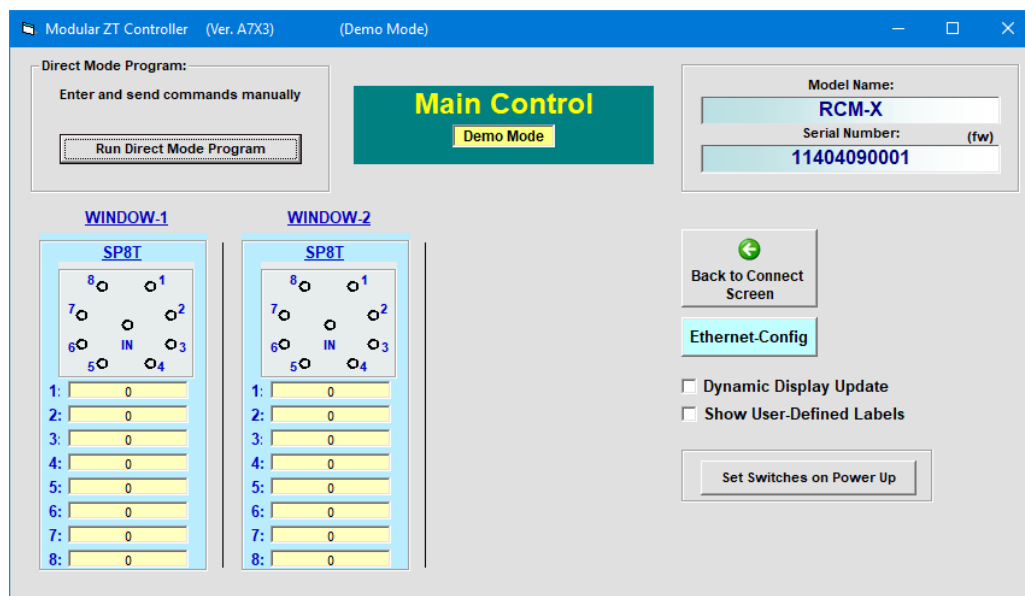
## RCM-200 Series

### 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 switch states at the click of a button
- Configure and run timed switching sequences
- Set start-up switch state
- View switch position counters
- Configure Ethernet IP settings



## Ordering Information

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

[testsolutions@minicircuits.com](mailto:testsolutions@minicircuits.com)

## Included Accessories

Model Name	Quantity	Description
CBL-3W1-xx*	1	AC power cord
AC/DC-24-3W1	1	AC / DC (24V) adapter
USB-CBL-AB-3+	1	USB cable (3 ft)

Cable Model	Region
CBL-3W1-US	USA
CBL-3W1-EU	Europe
CBL-3W1-IL	Israel
CBL-3W1-UK	UK
CBL-3W1-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](http://www.minicircuits.com/MCLStore/terms.jsp)