

A large, dark blue triangle is positioned on the left side of the page, pointing towards the top-left corner.

**Mini-Circuits' GUI**

**ZTM2 – ZTM3**

A Mini-Circuits Self-Contained Integrated Assembly

**Software Manual**

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# 1 INTRODUCTION

Thank you for choosing Mini-Circuits custom test equipment to meet your needs! The purpose of this Software Manual is to instruct you on installation and use of the Mini-Circuits' software that comes with your equipment.

We're here to support you every step of the way. For technical support and assistance, please find the following points of contact for your convenience:

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**Mini-Circuits Laboratories**  
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## 2 Installation

### 2.1 Download Links

Download links can be found on the datasheet of your specific model or on our website (<https://www.minicircuits.com/softwaredownload/ztm2.html>).

There are generally two links, one for just the Mini-Circuits' GUI software installation and one for the full software package.

The GUI Software download includes only the Setup.exe and supporting files for installation of the GUI.


The Full Software Package includes the GUI Software, .NET and ActiveX DLLs, ReadMe Files, and SCPI Lists for controlling the product.

### 2.2 Installation Steps

1. Unzip the downloaded .zip folder
2. Double click on the Setup.exe file or Install.exe file depending on your download selection
  - a. Please note administrative access is required
3. Simply follow the prompts to install the software
  - a. You will need to indicate where you wish to install the program
4. After installation, a shortcut will be made in your start menu under the Mini-Circuits folder

# 3 Mini-Circuits' GUI

## 3.1 Unit / Profile Selection

When you first open the GUI, you'll see the main screen on the GUI. When you select the Serial Number by pressing on the  or by clicking on the dropdown. Afterwards, the Profile Selection screen will show up. default, only the Admin Profile is available and no password is required. You can create more later from within the GUI when you're signed in as the Admin.

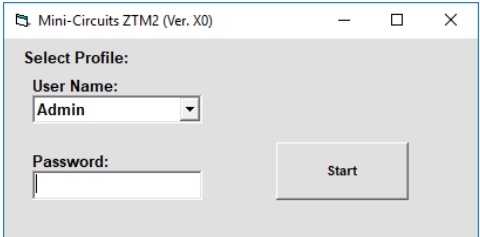


Figure 1: Profile Selection

## 3.2 Main Screen

Once signed on, the main screen of the GUI will appear again. There are multiple sections to this GUI which will be explained below.

The **Current Switch States** section shows you the switches used in your specific unit. It displays the switch #, switch name, type, state, port name, and the counts for the switches.

The **Temperature / Fan Status** will display whether or not the temperature of the control board is within a normal range. Fan operation will indicate if the fans are okay or if there might be a problem (something blocking the fans for example). Fans state simply displays if the fans are on or not. The fans will turn on automatically when the temperature of the box reaches a threshold temperature.

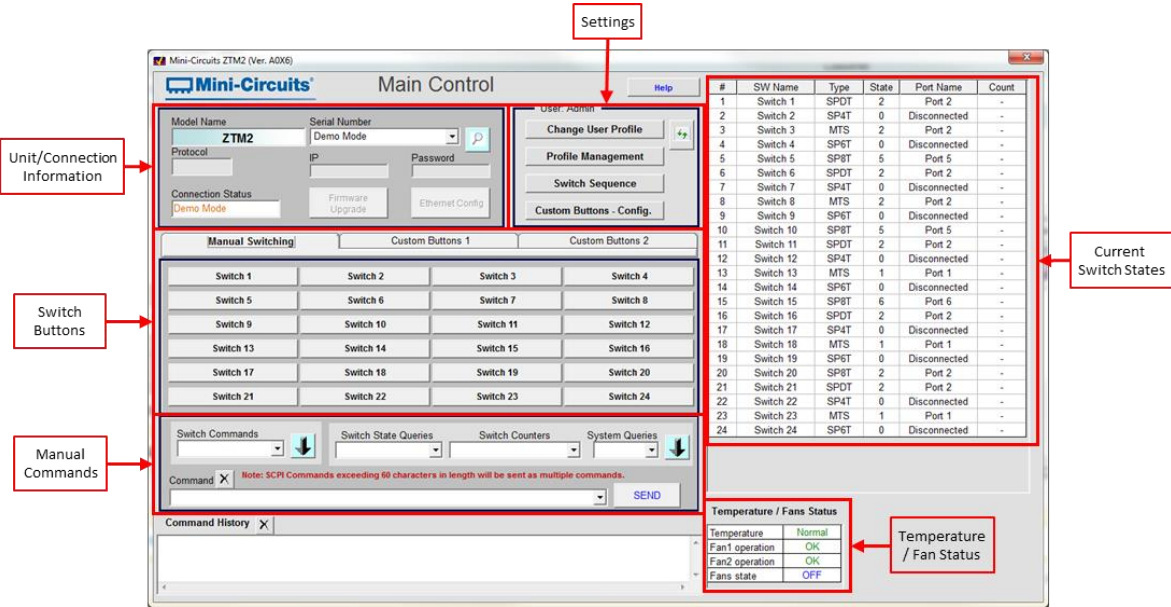


Figure 2: Main Screen

At the top of the GUI, you'll see a **Help** button. This brings up the window displayed in Figure 3. It displays instructions on how to connect to the unit via Ethernet and some example commands to control the unit.

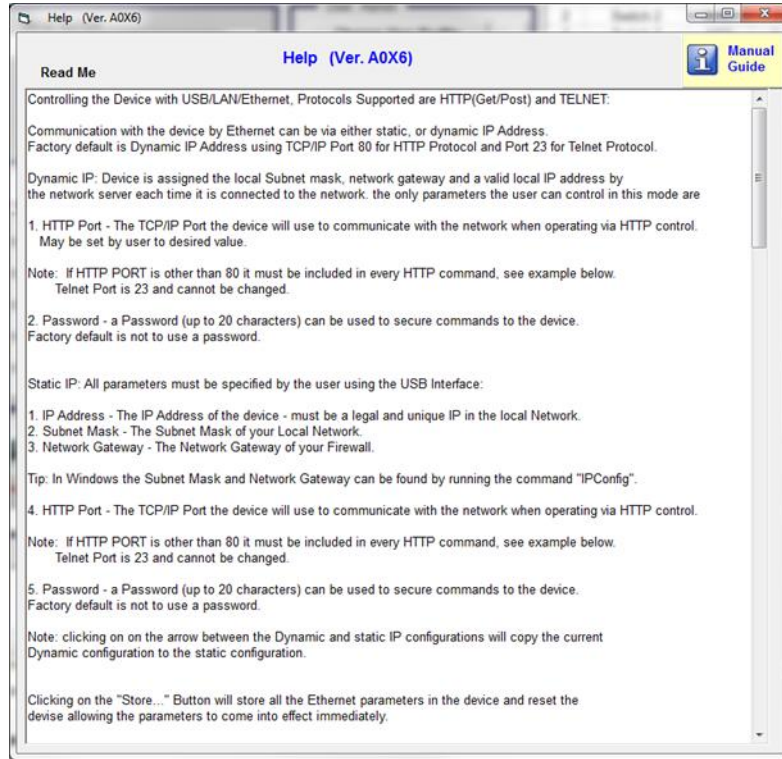



Figure 3: Help Window

### 3.3 Unit/Connection Information

The top left of the GUI is the **Unit/Connection Information**. This section provides useful information involved with the unit connected and how it's connected. It is also where you'll select the unit you wish to connect to via the specific protocol.

Pressing the  button expands the dropdown menu with available connection options. Alternatively, you could also just press on the dropdown. If you have the unit connected, the available serial number/connection protocol combinations will be shown so you can initiate the connection. You can also select to go into Demo Mode to evaluate the software without a unit connected.

When connected via USB, you can upgrade the firmware and edit the Ethernet configuration of the unit. Please contact Mini-Circuits ([TestSolutions@minicircuits.com](mailto:TestSolutions@minicircuits.com)) for firmware upgrade requirements.

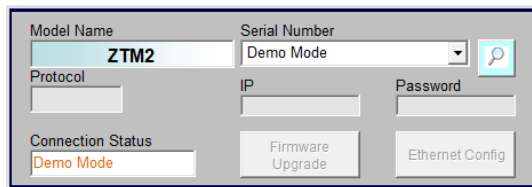


Figure 4: Unit Information

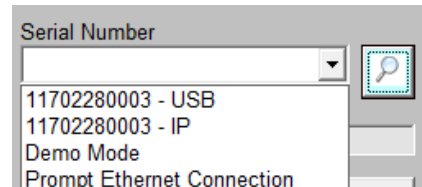


Figure 5: Unit/Connection Selection

### 3.3.1 Ethernet Configuration

All ZTM2 and ZTM3 Series switch matrices are configured with DHCP enabled by default so in most cases a dynamic IP address will be issued by the network's DHCP server on connection. If you wish to change the system's Ethernet configuration (for example to assign a static IP address) then you need to connect to the system via the USB connection and click on the GUI's **Ethernet Config** button to bring up the *Ethernet Device - Configuration* window, shown in Figure 6.

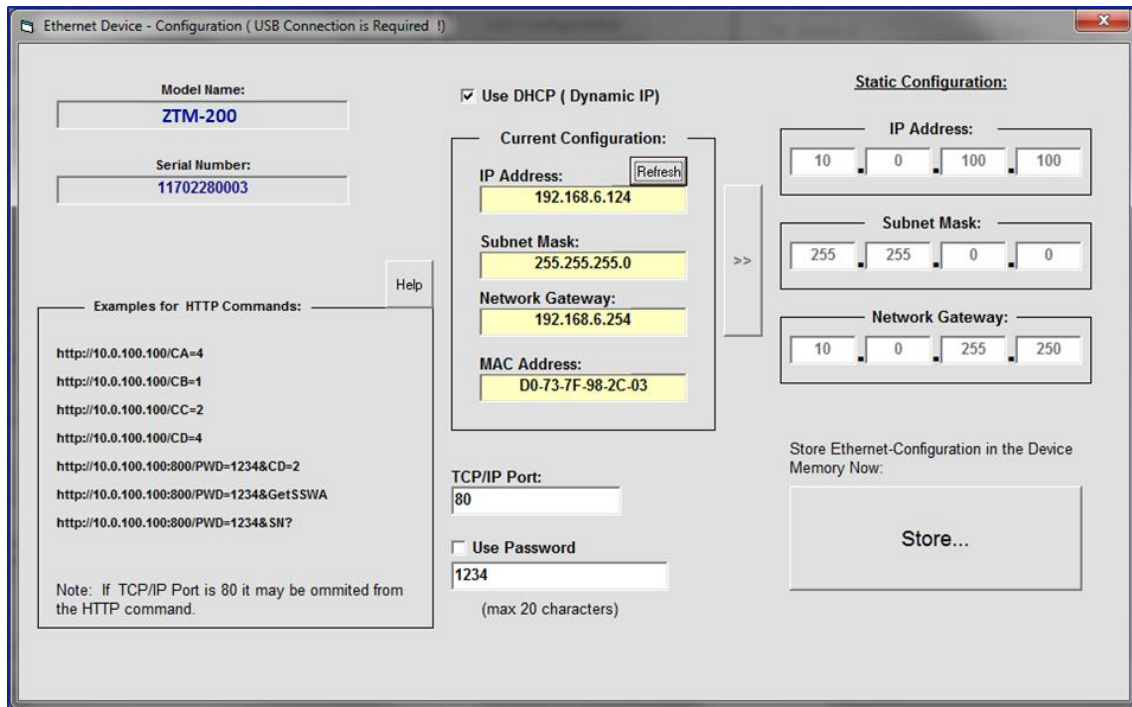


Figure 6: Ethernet Configuration Window

In this window you can either select DHCP or set a static configuration. If DHCP is enabled but the IP Address in the Current Configuration section states “0.0.0.0” it indicates that the system has not yet been assigned an IP address by the network; wait a moment and then click the **Refresh** button to try again. If an IP address still cannot be retrieved, please check the Ethernet connection and consult your network administrator.

To set a static IP, simply disable DHCP and then type in the IP Address, Subnet Mask, and Network Gateway.

The Ethernet configuration screen also allows you to change the TCP/IP Port of the connection and set a password.

Once everything is properly set, press on the **Store...** button so that your settings are saved.

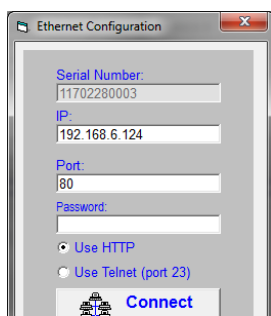


Figure 7: Ethernet Connection

When you choose to connect via Ethernet on the main screen, the window displayed in Figure 7 will appear. This screen is where you'll type in the password for your unit (if one was set). The IP and Port should auto populate, but if you see an error you can change it to the correct values.

You can also choose to control the unit via HTTP or Telnet here.

### 3.4 Settings

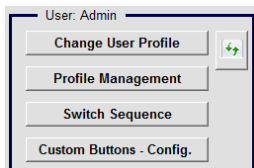


Figure 8: Settings

The **Settings** is where you can refresh, edit, and change your profile, edit your switch and port names, as well as set up your switch sequences and custom buttons.

As the Admin, when you press on **Profile Management**, the window in Figure 9 will appear. This is where you can create new profiles, set passwords for these profiles, and also edit the switches available to each profile.

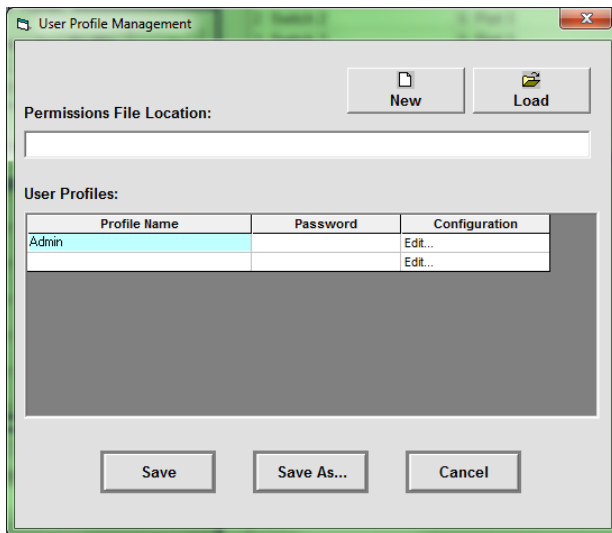


Figure 9: Profile Management

Initially you'll have to press **Save** to create a new permissions file. You'll also have to select the location to save this file. To clear the current settings and create a new permissions file, simply press **New**. Press **Load** to load a pre-existing file or press **Save As...** to save the current permissions file in a new location and/or under a different file name.

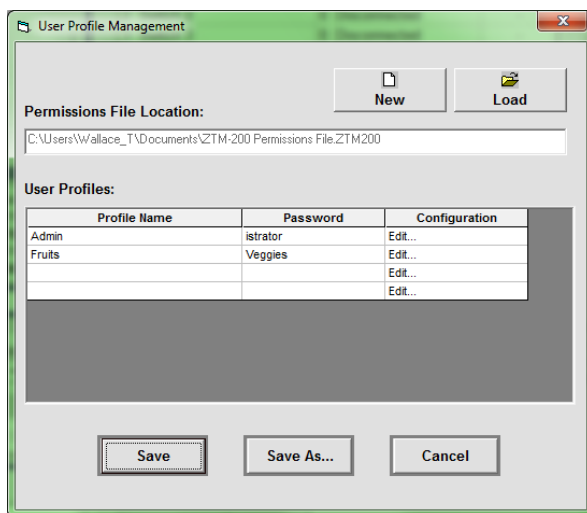


Figure 10: Profile Management

In the above example, the permissions file has been saved as "ZTM-200 Permissions File" in the local user's Documents folder. A password has been entered for the Admin profile so that standard users are not able to log in and overwrite these settings. A new user profile (called "Fruits") has also been created by entering the username and password on one of the empty lines below the Admin user.





### 3.5 Switch Buttons

On the main GUI screen, the **Switch Buttons** section has 3 tabs. The first tab (named **Manual Switching**) provides a simple method to control each switch manually. Simply press on the switch you wish to control and then press on the port you want that switch to go to. The example in Figure 13 corresponds to the Ports of Switch 1 (SPDT in this example). Currently, Switch 1 is set to Port 2.

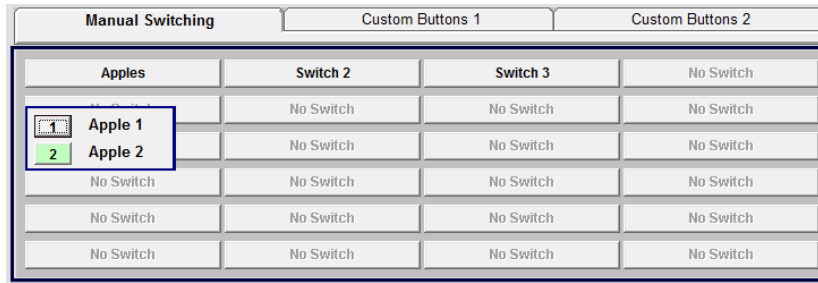


Figure 13: Switch Buttons

Since the above example is logged into the “Fruits” profile, only the first 3 switches are visible (notice the labeling mentioned in the previous section). All other switches are inactive since this user profile does not have permission to access them.

**Tabs 2 and 3** are populated with customizable buttons that you can make use of. Each button can be configured to send multiple commands with a single click. You can rename the tabs and the buttons to whatever fits your application best. We’ll talk more about these buttons later on in the manual.

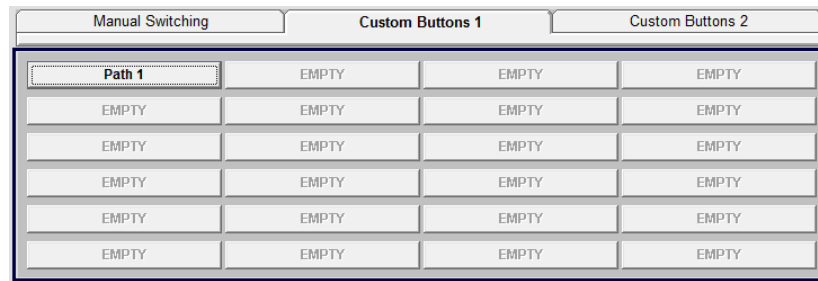


Figure 14: Customizable Buttons

### 3.6 Manual Commands

This section is only active if the profile was given authority to access it via the *GUI Configuration* by the Admin. This section provides an interface for sending ASCII / SCPI text commands to the system directly. Most commands / queries can be accessed through the drop-down menus.

For a full description of the commands you can click on **Help** at the top of the main screen or consult the programming manual.

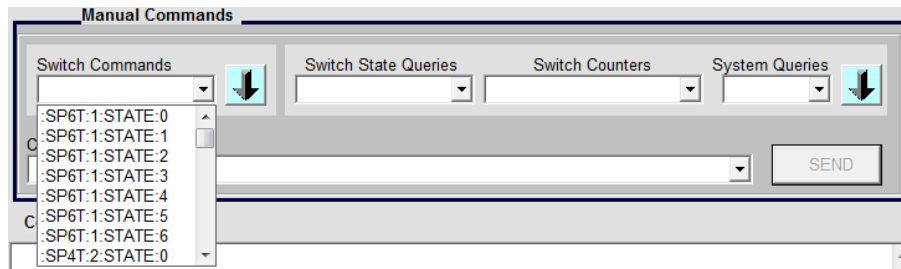


Figure 15: Manual Control

### 3.7 Custom Buttons – Config

To create your own custom buttons in Tabs 2 and/or 3 in the **Switch Buttons** section, simply press on **Custom Buttons - Config**. A new window will appear (displayed in Figure 16).

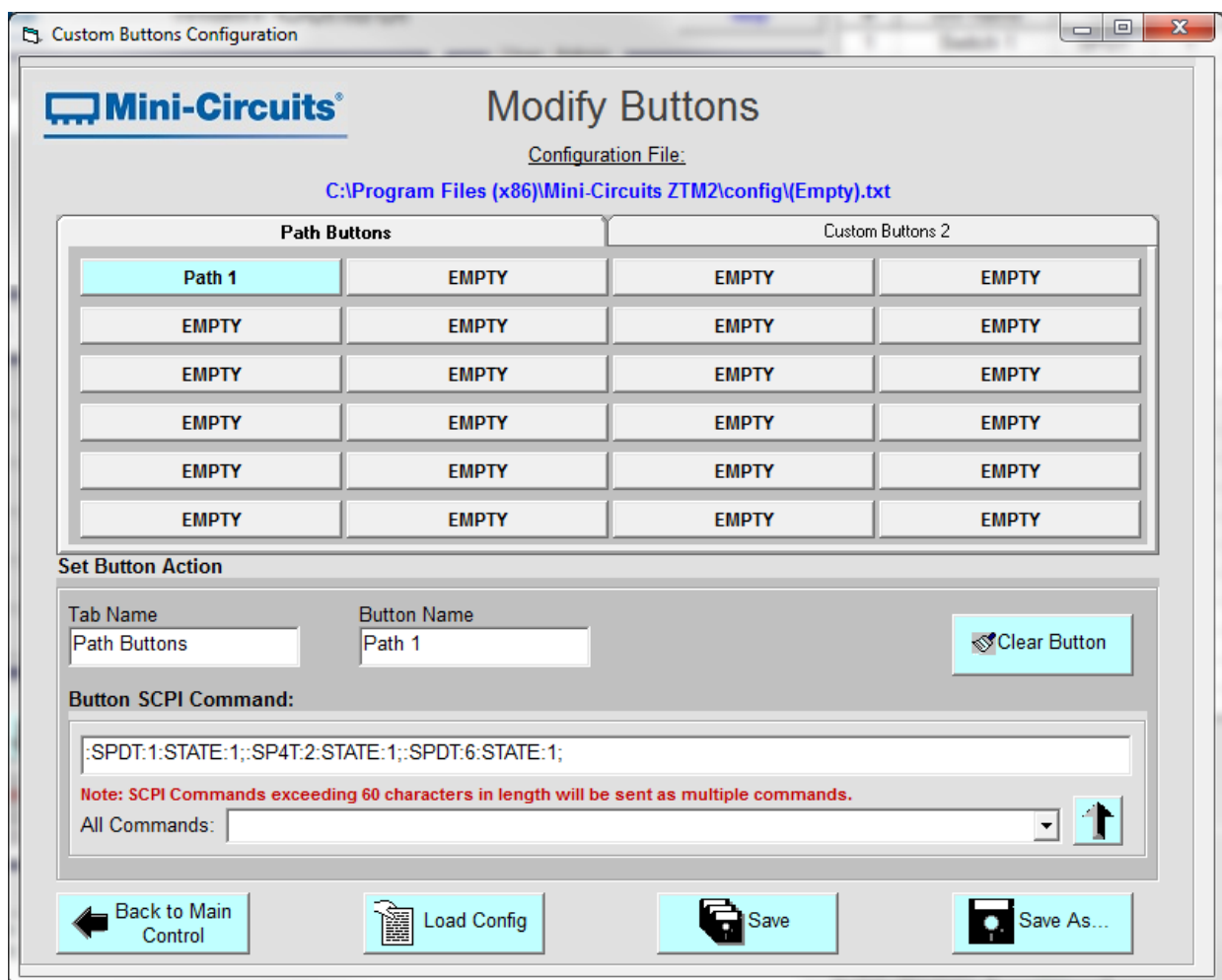


Figure 16: Custom Buttons - Config

At the top you'll choose the button you wish to modify by clicking on it. Then in the **Set Button Action** section you can change the name of the tab where the button is located, the button name, and then type in the command you want the button to do. You can have the button send multiple commands with a single click. Note that command lines that exceed 60 characters will be sent as multiple commands when you press the button on the main screen.

Once you're done with creating your customized buttons press on **Save** to save this configuration file. You can press **Save As...** to save it to a specific location with a specified name.

If you had a previously made configuration, you can press on **Load Config** and select the file that you made previously.

### 3.8 Switch Sequence

This button will bring up the window displayed in Figure 17. Here you can set up a sequence of commands with dwell times for each step. You can run the sequence forward, reverse, or bi-directional. Forward will run the steps from 1 - 100 (or whatever the last step is) and then restart at step 1. For reverse it's 100 - 1. For bi-directional it'll run from steps 1 - 100, then 100 - 1, and so on. You can set the sequence to run continuously until you press on **Stop** or make it run a certain number of cycles. To input a specific number of cycles, you'll have to un-check *Run Continuously* first.

Note that the maximum number of steps you can have is 100. Also, each SCPI Command set cannot exceed 60 characters per step.

At the top of the window there are buttons for you to create a new (simply clears all steps), open, or save the specific sequence file. This will let you recall some of the sequences that you use often.

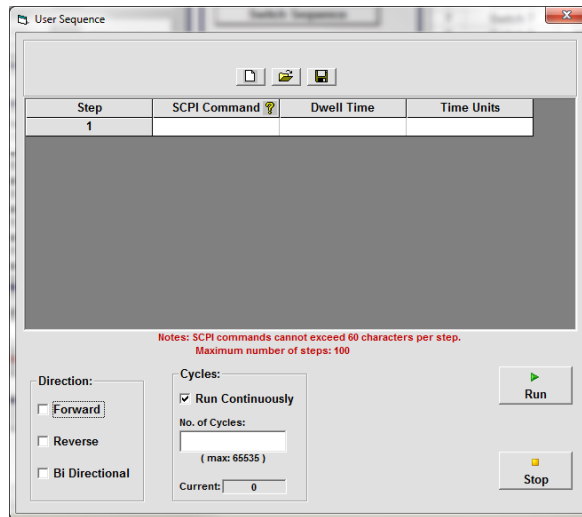



Figure 17: User Sequence

There is also a help file here that you can access by press on . This window contains all the commands that can be inputted into the *SCPI Command* field for sequencing.

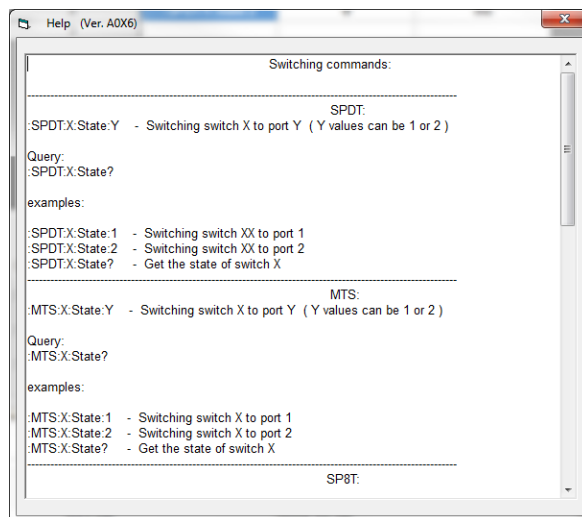


Figure 18: SCPI Help