



**8380 RPC**  
**Return Path Combiner**  
**User's Guide**



## **Notice**

Every effort was made to ensure that the information in this manual was accurate at the time of printing. However, information is subject to change without notice, and VIAVI reserves the right to provide an addendum to this manual with information not available at the time that this manual was created.

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# Chapter 1

# General Information

## Ordering Information

For additional information about our products and services, contact your local Viavi representative or visit <https://www.viavisolutions.com/en-us/how-buy>.

## Where to Get Technical Support

Phone US: +1-844-GO-VIAVI or +1-844-468-4284

Outside US: +1-855-275-5378

Email: [Trilithic.support@viavisolutions.com](mailto:Trilithic.support@viavisolutions.com)

Website: <https://support.viavisolutions.com/welcome>

## How this Manual is Organized

This manual is divided into the following chapters:

- Chapter 1, “General Information” provides contact information and describes how this operation manual is structured.
- Chapter 2, “Introduction and Installation” introduces what the 8380 RPC is and what it does. This chapter discusses the practical application, connections, and controls of the 8380 RPC.
- Chapter 3, “Setup” describes the steps needed to perform initial configuration of the 8380 RPC.
- Chapter 4, “Web Access” shows how to access the 8380 RPC through a web browser.
- Chapter 5, “Appendix” shows the technical specifications of the 8380 RPC.

## Conventions Used in this Manual

This manual has several standardized conventions for presenting information:

- Connections, menus, menu options, and user-entered text and commands appear in **bold**.
- Section names, web, and e-mail addresses appear in *italics*.



A ***NOTE*** is information that will be of assistance to you related to the current step or procedure.



A ***CAUTION*** alerts you to any condition that could cause a mechanical failure or potential loss of data.



A ***WARNING*** alerts you to any condition that could cause personal injury.

## Precautions



***Do not use the 8380 RPC in any manner not recommended by the manufacturer***



***The 8380 RPC may not operate correctly in the presence of a strong electromagnetic field.***



# Chapter 2 Introduction & Installation

## What is the 8380 RPC?

The 8380 RPC™ Return Path Combiner is a 16 x 1 non-blocking RF matrix switch designed for use with the VIAVI 8310 RSA™ in the return path of CATV systems. The 8380 RPC has 16 input ports that can be combined into a single output.

There are two versions of the 8380 RPC available, a master and a slave. The master 8380 RPC is used to control each slave using an RS-485 connection. The output from each slave 8380 RPC connects to a corresponding input on the master unit. Slave 8380 RPCs have the ability to be upgraded to a master unit.

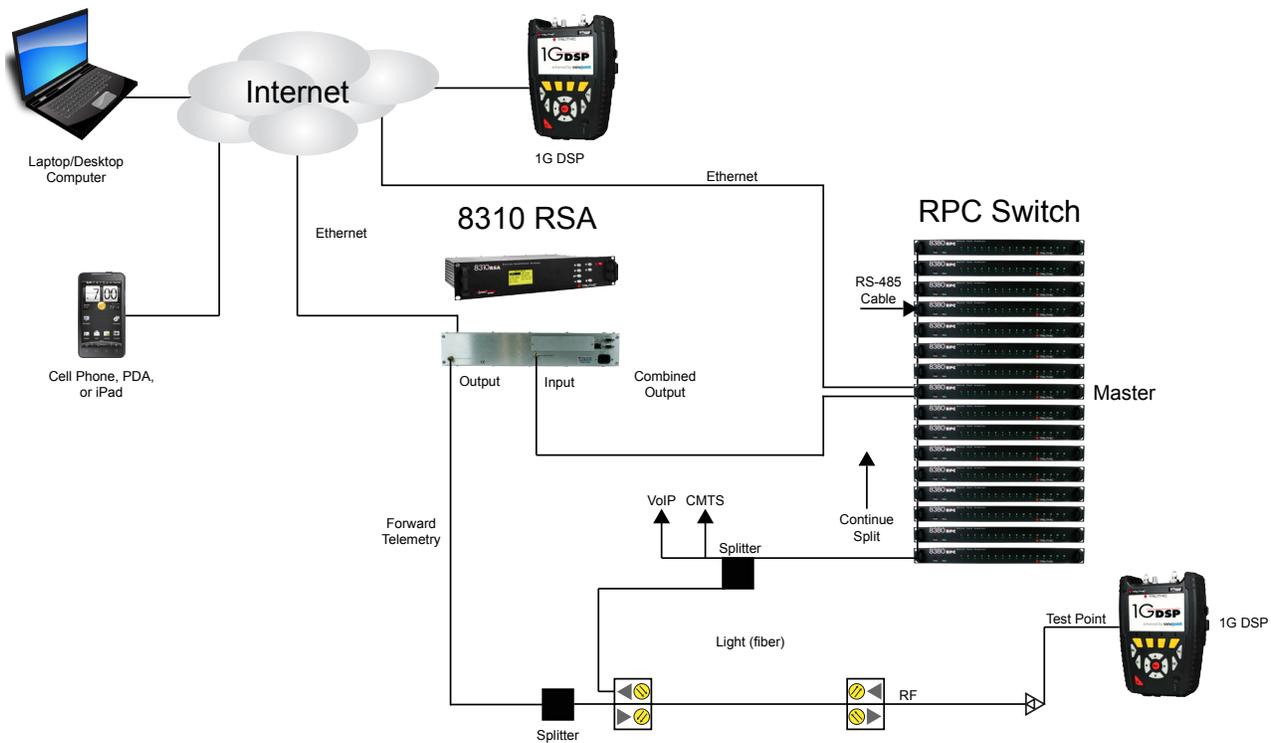
A complete 8380 RPC system consists of a master and 16 slaves allowing for 256 inputs to be combined into a single output. The output of the master may be used for a variety of tests.

Whether you are a technician in the headend or the field, the master 8380 RPC can be controlled from any location with an Internet connection. The 8380 RPC includes a built-in web based configuration that is compatible with any web browser including those on mobile devices and the DSP family of devices.

This versatility allows the technician to connect many ports, but only sweep on the ports they are currently testing, while the other ports remain on stand-by.

# System Diagram

The following diagram shows the typical deployment of an 8380 RPC system.



## 8380 RPC Features

The 8380 RPC includes the following features:

- 16 x 1 Non-Blocking RF Matrix Switch
- 16 Ports per Switch
- 17 8380 RPC Units (1 Master, 16 Slaves) Configuration for 256 Ports Max
- ViewPoint Master Control of All RPC Switches

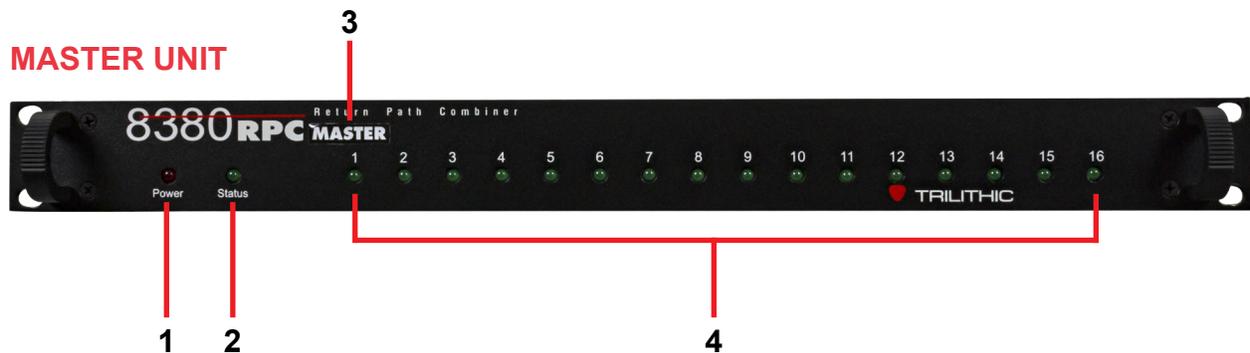
## Equipment Supplied with Your 8380 RPC

The 8380 RPC comes with the following:

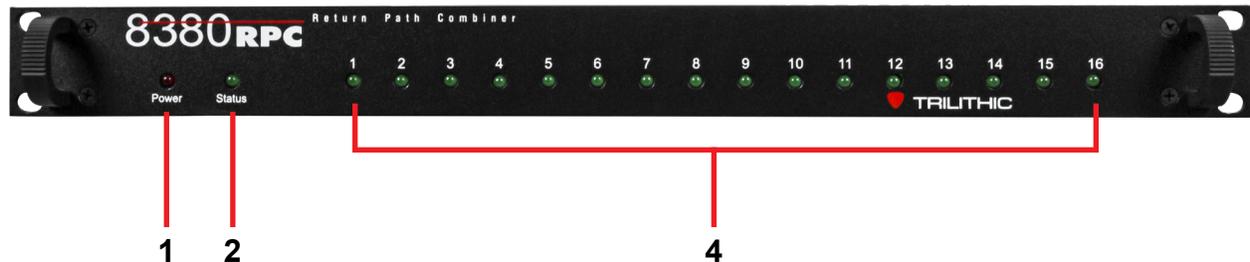
- 8380 RPC Return Path Combiner
- AC to DC Power Adapter
- USB Cable (Type B to Type A) for Initial Configuration and for downloading firmware upgrades, included with Master unit only
- RS-485 Cable with RJ-11 connectors
- Configuration Software and Operation manual on CD

## A Guided Tour of Your 8380 RPC

### Front View



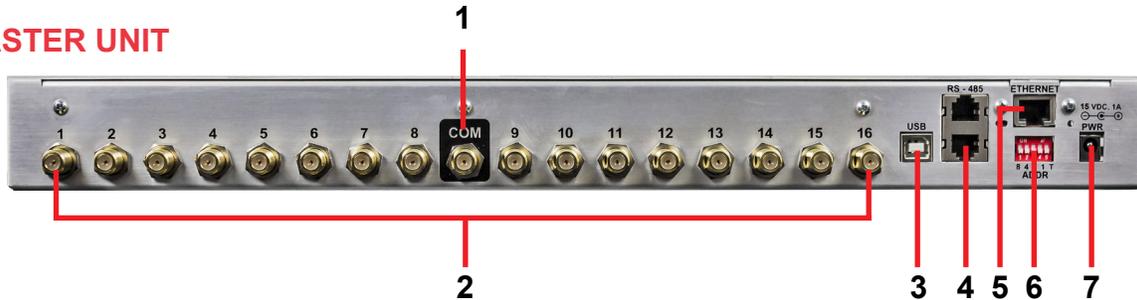
### SLAVE UNIT



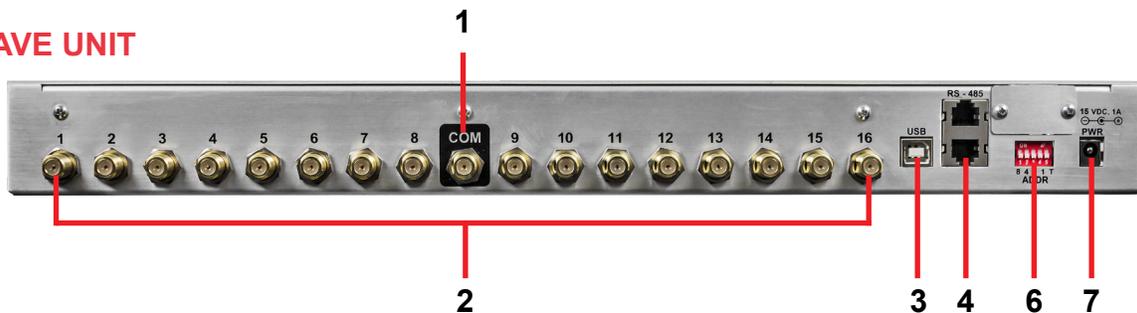
1. **Power** – This LED will illuminate when power is supplied to the unit.
2. **Status** – This LED will illuminate when the unit is ready for operation. This LED will blink if there is an RS-485 connection error.
3. **Label** – This label when present indicates the device is a Master unit.
4. **Input Active** – These LEDs will illuminate when the individual return path inputs are activated.

## Rear View

### MASTER UNIT



### SLAVE UNIT



1. **Combined Output** – This is the combined output of the 16 return path inputs.
2. **Return Path Input (1 through 16)** – These are inputs 1 through 16 of individual return path ports that the 8380 RPC combines into a single output.
3. **USB Port** – This is a USB Type B connector that is used for initial configuration of Master units and to perform firmware upgrades. Upon removing the USB cable from the 8380 RPC, the power to the device should be cycled.
4. **RS-485 Control Ports** – These are RJ-11 Master/Slave control ports for use when connecting master units to slave units.
5. **Ethernet Port** – This port is only available on Master units and is used to directly control the 8380 RPC system via a network connection. Initial configuration using the RPC Setup Software must be completed prior to connecting to the Master unit via a network connection. The ethernet connection to the Master unit should be made prior to powering the unit.
6. **RS-485 Address DIP Switch** – This DIP switch is used to set the RS-485 control address of the 8380 RPC. This is also used to enable the RS-485 termination on the first and last 8380 RPC in the RS-485 communications chain. It is recommended that all RS-485 connections be made prior to powering the corresponding units.
7. **Power Input** – Connect the included AC to DC Power Adapter to this port.

## Installing the 8380 RPC

The following section explains the procedure used to physically install the 8380 RPC. In order to properly setup the 8380 RPC the following steps must be completed in this order. Do not skip any steps.



***DO NOT plug in the power cord of the 8380 RPC until instructed below.***

NOTE

1. Mount the 8380 RPC in a standard rack using four retaining screws.
2. Connect an ethernet cable to the master unit.
3. Connect the RS-485 cables and set the addresses and terminations of the master and slave units accordingly.
4. Plug the AC to DC Power Adapter of the 8380 RPC into the **Power Input** and then into an AC power source. When power is supplied to the 8380 RPC, the Power LED on the front panel of the unit will illuminate.



***If the Power LED is not illuminated upon connecting power to the 8380 RPC, contact 1-844-GO-VIAVI for assistance.***

NOTE

5. When the unit is ready for operation, the Status LED on the front panel of the unit will illuminate.



***Upon reboot (regardless of source/cause), the master 8380 RPC will load the last saved device settings, system settings, user settings, and network configuration as well as deactivate all ports present in the 8380 RPC system.***

NOTE

# Installing the 8380 RPC

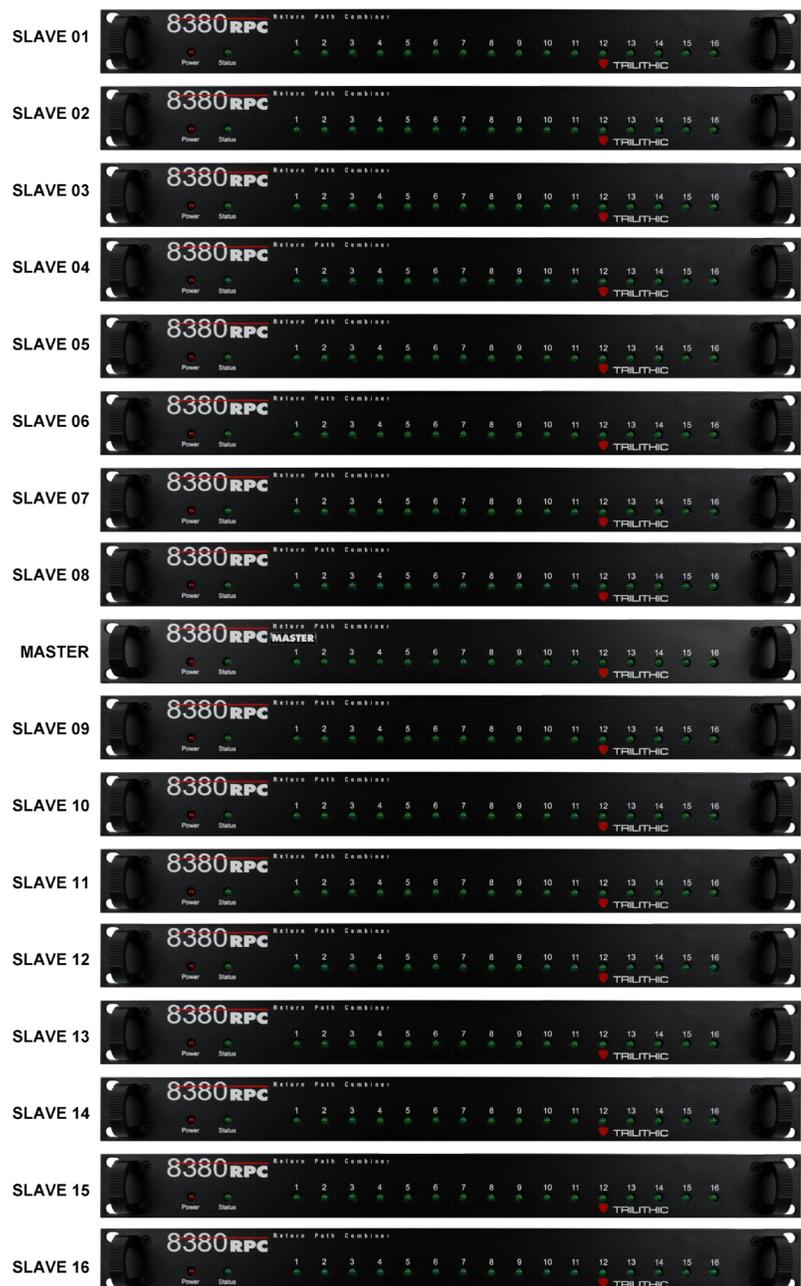
The following section explains the procedure used to physically connect multiple 8380 RPC units using the RS-485 Control Port. In order to properly setup the 8380 RPC the following steps must be completed in this order. Do not skip any steps.

## Unit Installation

When installing a Master unit with several Slave units, the Master unit should always be placed in the middle of the “stack”. Then, Slave units 01 through 08 should be placed above the Master unit and Slave Units 09 through 16 should be placed below the Master unit.

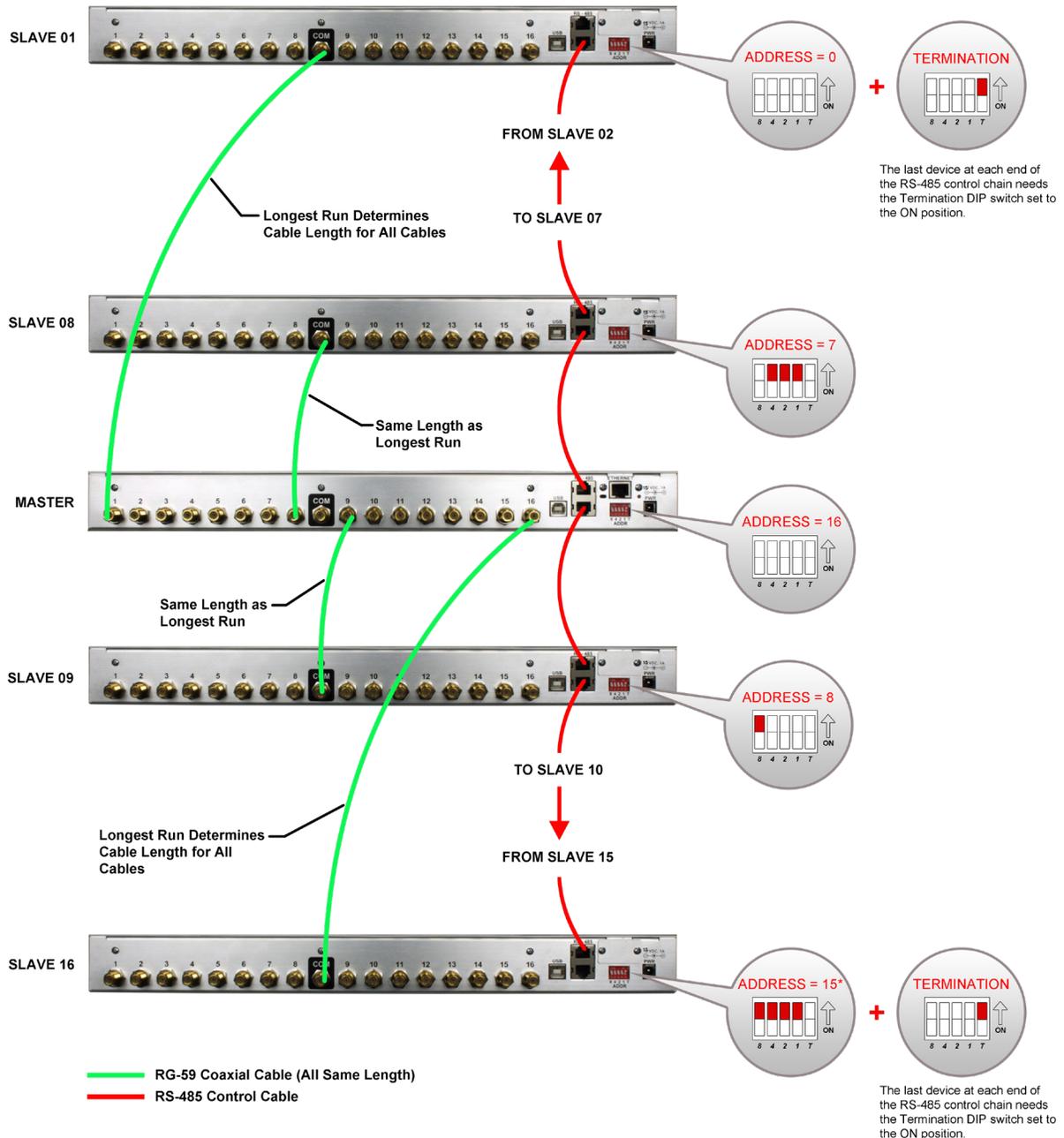
This method of installation is used to reduce the required cable length between Master and Slave units while keeping the connections from having to cross each other.

All units should use the same length cable. The cable length is determined by the longest length needed as measured from the **COM** port of the Slave unit furthest from the Master unit to the corresponding input of the Master unit. Once the cable length is determined, **ALL** cables connecting the Master unit to the Slave units should be the same length.



# RS-485 Connections

Connect the **RS-485 Control Port** from the Master unit to the **RS-485 Control Port** of the Slave unit. Continue connecting the **RS-485 Control Port** of each Slave unit to the **RS-485 Control Port** of the next Slave unit until all Slave units have been connected. See the following diagram for an example of the typical RG-59 & RS-485 connections.

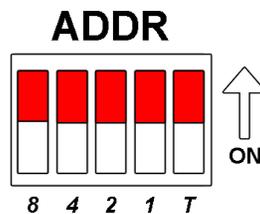


## RS-485 Addressing

The **RS-485 Address DIP Switch** is used to set the RS-485 address of each 8380 RPG. The address is determined by adding the two values shown below each switch that is set to ON. See the following table for an example of each switch setting.

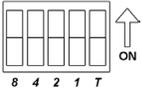
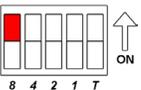
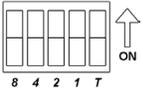
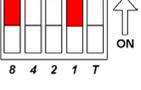
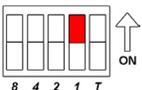
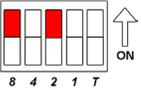
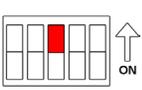
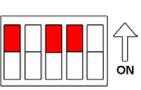
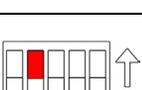
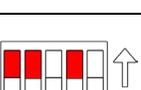
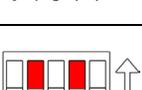
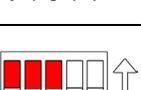
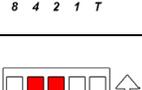
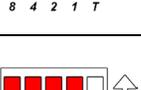
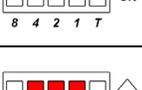
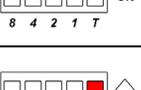
The RS-485 address of the Master is automatically set to 16, and the termination for the last slave at each end of the RS-485 chain must be set to **ON**.

See next page for a Table of Dip Switch Addresses and Settings.



**NOTE**

*The device number is equal to the RS-485 address plus one.*

DEVICE	ADDRESS	DIP SWITCH		DEVICE	ADDRESS	DIP SWITCH
Master	Not Used Leave Set to Zero (0)			Slave 09	8	
Slave 01	0			Slave 10	9	
Slave 02	1			Slave 11	10	
Slave 03	2			Slave 12	11	
Slave 04	3			Slave 13	12	
Slave 05	4			Slave 14	13	
Slave 06	5			Slave 15	14	
Slave 07	6			Slave 16	15	
Slave 08	7			Last Slave Unit at Each End of RS-485 Control Chain	T	

## Return Path Connections Between Master & Slave

This section explains the procedure used to physically connect multiple 8380 RPC units using the return path inputs. The **Combined Output (COM)** port of each slave must be connected to the correct **Return Path Input** of the master unit. The table below shows which slave unit must be connected to each of the return path inputs of the master unit.

MASTER RETURN PATH INPUT	SLAVE NUMBER
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

MASTER RETURN PATH INPUT	SLAVE NUMBER
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16



## Computer System Requirements

In order to install the 8380 RPC Setup software, the following computer hardware and software conditions must be met:

- Windows XP or newer operating system
- A screen resolution of at least 800 x 600 pixels
- 500 MHz processor with 512 MB of RAM and 100 MB of free hard drive space

In addition, a USB Cable (Type B to Type A) is required in order to establish communications between the 8380 RPC Setup software and the 8380 RPC.

## Software Installation

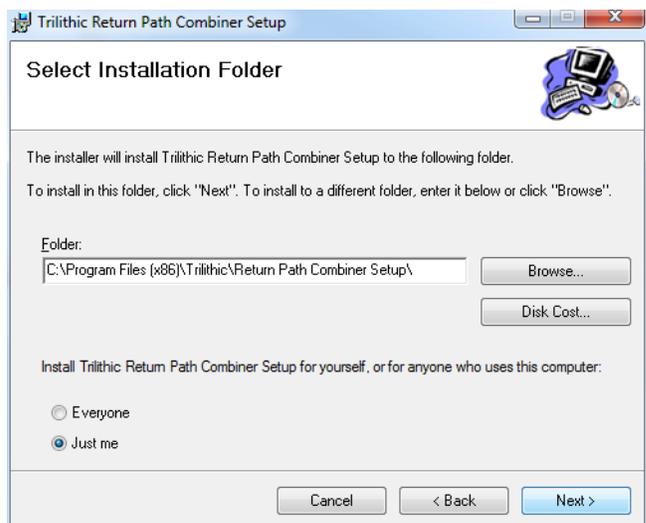
Perform the following steps to install the 8380 RPC Setup software from the included CD:

1. Depending on which operating system you are using, logging in as the system administrator may be necessary.
2. Insert the 8380 RPC Setup software CD into the appropriate drive.
3. If Autorun is enabled for the CD-ROM drive, the 8380 RPC Setup software setup program will start automatically. If the setup program does not start, select the Windows Start button, then select **Run** and type **[drive]:\setup.exe**, then select OK (substitute the appropriate drive letter in the command line, in place of **[drive]**).
4. Depending on which operating system you are using, the “Open File - Security Warning” dialog box may appear. If this dialog box appears, select **Run**.

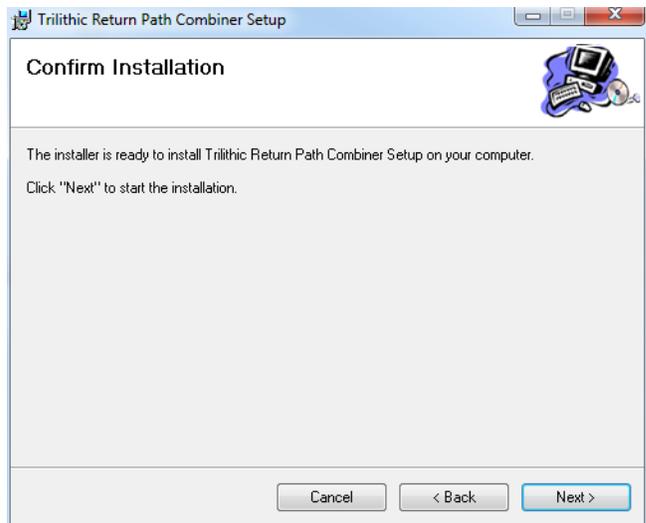
5. The “Welcome to the Trilithic Return Path Combiner Setup Wizard” window will appear. Select **Next**.



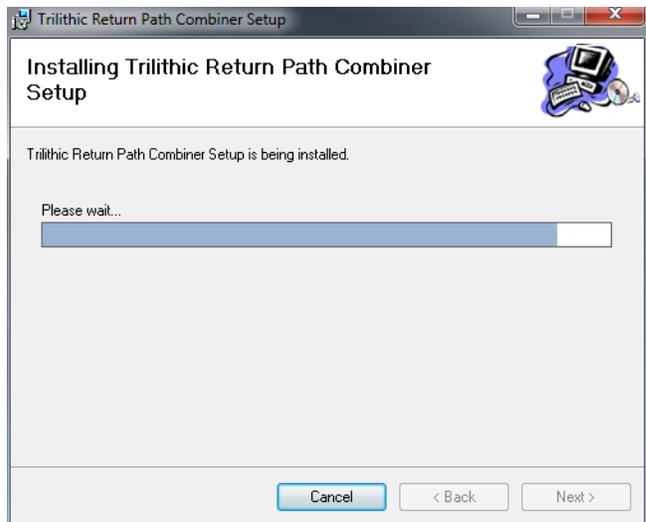
6. The “Select Installation Folder” window will appear. Select **Next** to install the software in the default location.



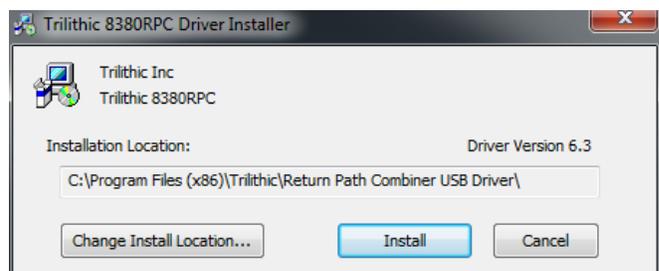
7. The “Confirm Installation” window will appear. Select **Next** to confirm the installation.



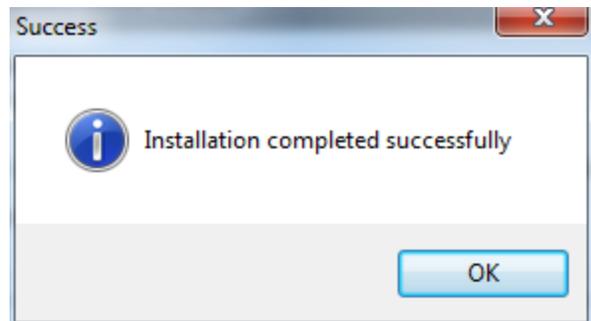
8. The “Installing Trilithic Return Path Combiner Setup” window will appear. Select **Next** to confirm the installation.



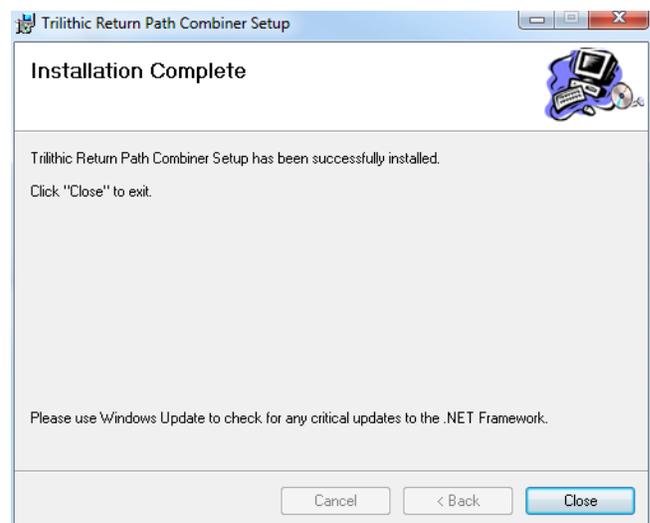
9. The USB driver installer will automatically start. Select **Install** to begin the installation.



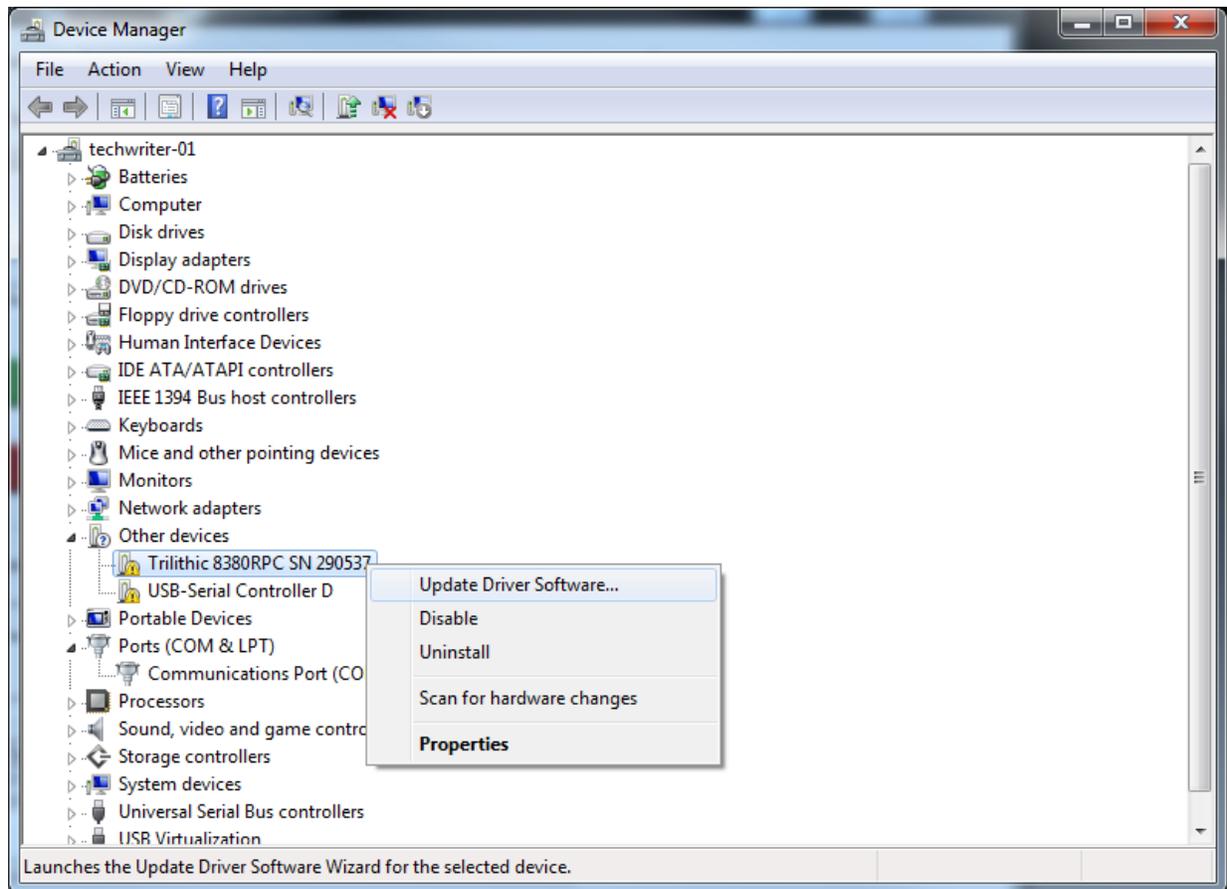
10. The “Installation Completed Successfully” window will appear. Select **OK** to acknowledge the message.



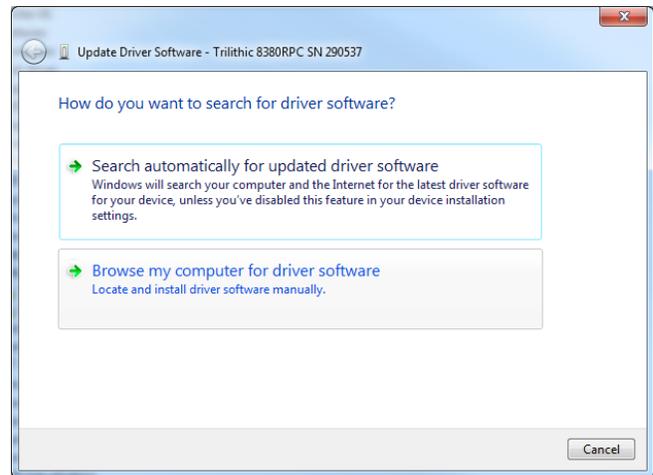
11. The “Installation Complete” window will appear. Select **Close** to exit the installation.



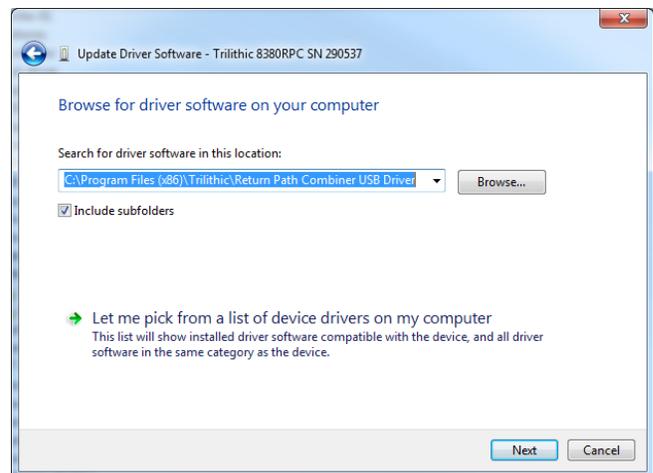
12. From the PC's **Control Panel**, select the **Device Manager** icon. Find the entry for "Trilithic 8380RPC SN #####" and right click on the device as shown in the following image and select **Update Driver Software**. Note that the icon for the device is located under "Other Devices" section and has an exclamation point (!) indicating the driver is not yet installed completely.



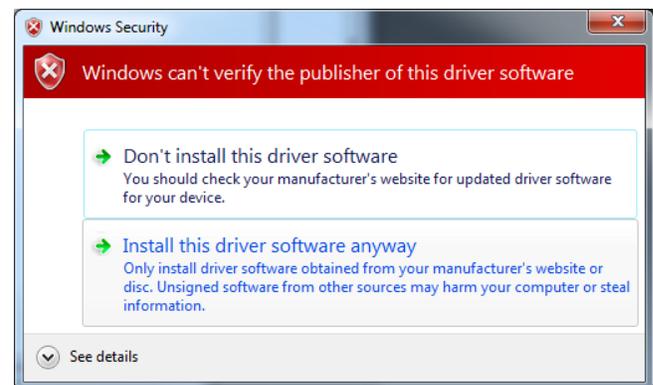
13. The “Update Driver Software” window will appear. Select the **Browse My Computer for Driver Software** option.



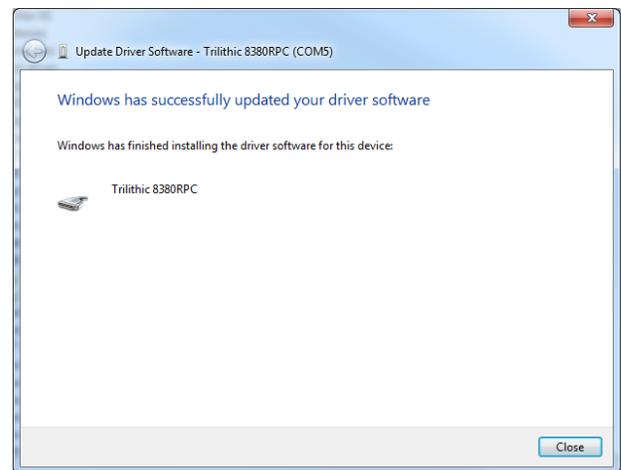
14. Select **Browse** to select the path shown in the image to the right and then select **Next**.



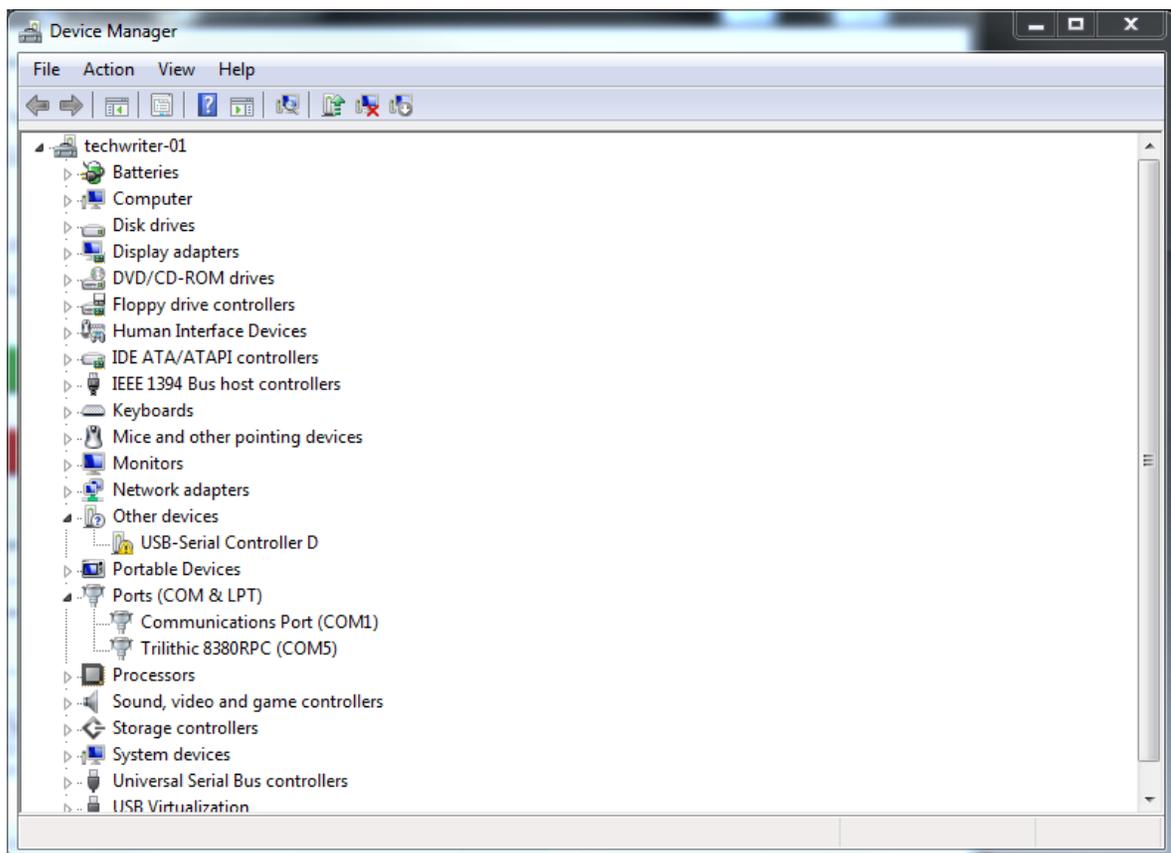
15. Select the **Install this Driver Software Anyway** option to install the driver.



16. When the driver is finished installing, the “Windows has Successfully Updated Your Driver Software” notification window will appear. Select **Close**.



17. Note that the icon for the device has moved to the “Ports” section and no longer has an exclamation point (!). This indicates the driver is installed completely and ready to use.



# 8380 RPC Setup Software Overview

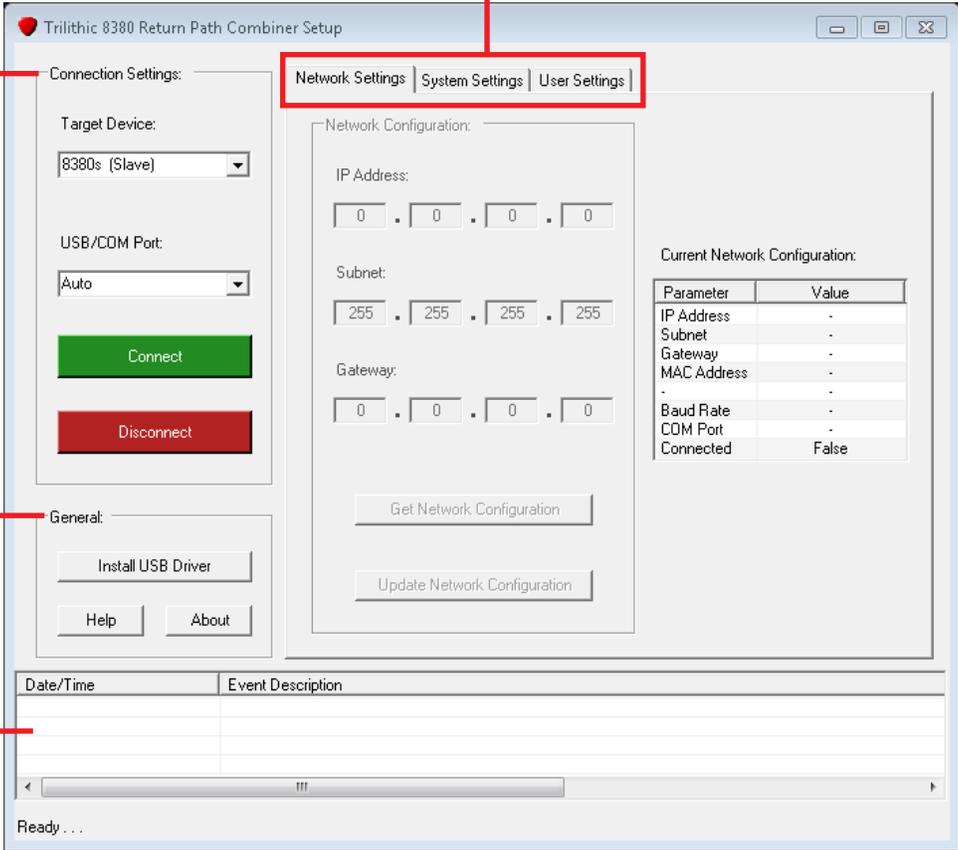
To start the 8380 RPC Setup software, select the “Return Path Combiner Setup” link from the PC desktop or **Start** menu. The 8380 RPC Setup software will appear as shown below:

## Configuration Tabs

## Connection Settings

## General

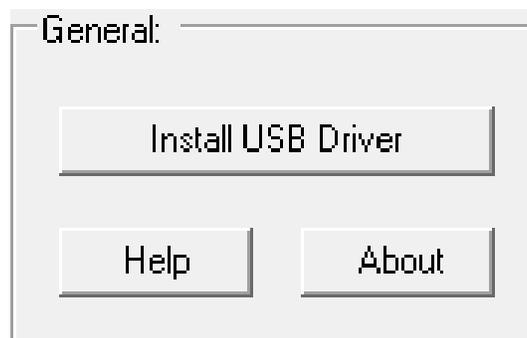
## Event Table



## Installing the USB Drivers

The USB drivers were installed in the Return Path Combiner Setup Wizard, but if you need to update or reinstall the drivers, perform the following steps:

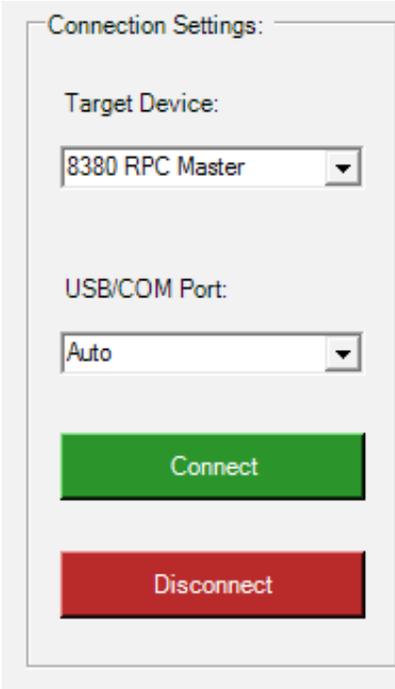
1. From the 8380 RPC Setup software, select the **Install USB Driver** button in the lower left corner of the software.
2. Follow the steps on the previous pages to update the drivers.



## Connecting & Disconnecting the 8380 RPC

Before any changes can be made to the setup of the 8380 RPC, the 8380 RPC Setup software must connect via USB with the 8380 RPC. Perform the following steps to connect the 8380 RPC to the PC running the 8380 RPC Setup software:

1. When the Status LED on the front panel of the 8380 RPC is illuminated, connect the included USB cable to the 8380 RPC and then to the PC that is running the 8380 RPC Setup software.
2. Wait for the Status LED to illuminate.
3. Select the “Return Path Combiner Setup” link from the PC desktop or **Start** menu.
4. From the **Connection Settings** section of the 8380 RPC Setup software, select **8380 RPC Master** from the **Target Device** dropdown list.
5. Select either **Auto** or the specific **COM** port address from the **USB/COM Port** dropdown list.
6. To connect to the 8380 RPC, select **Connect**.
7. When the PC and 8380 RPC have established a USB connection, the information shown in the **System Information** table will populate with the current system information if connected to a master unit.
8. To disconnect from the 8380 RPC, select **Disconnect**.



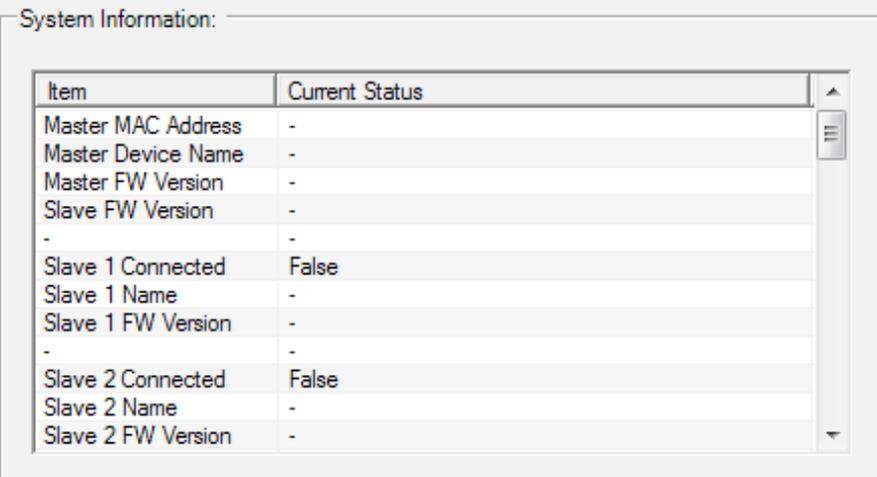
Connection Settings:

Target Device:  
8380 RPC Master

USB/COM Port:  
Auto

Connect

Disconnect



Item	Current Status
Master MAC Address	-
Master Device Name	-
Master FW Version	-
Slave FW Version	-
-	-
Slave 1 Connected	False
Slave 1 Name	-
Slave 1 FW Version	-
-	-
Slave 2 Connected	False
Slave 2 Name	-
Slave 2 FW Version	-

### System Setting Tab

## Network Settings (Master Units Only)

Select the **Network Settings** tab to edit the current network configuration of the master 8380 RPC unit. This tab is not used when connected to an 8380 RPC slave unit.

Select the **Get Network Configuration** button to retrieve the current network configuration from the connected 8380 RPC master unit. The current settings will populate the **Current Network Configuration** table and the **Network Configuration** fields.

To change the network configuration, enter the new **IP Address**, **Subnet**, and/or **Gateway** and then select the **Update Network Configuration** button. The new settings will populate the **Current Network Configuration** table.

The default settings are the following:

IP Address: 10.1.61.90

Subnet: 255.255.0.0

Gateway: 10.1.1.1

The screenshot shows a web interface with three tabs: "Network Settings", "System Settings", and "User Settings". The "Network Settings" tab is active. It contains a "Network Configuration" section with input fields for IP Address (10.1.61.90), Subnet (255.255.0.0), and Gateway (10.1.1.1). Below these fields are two buttons: "Get Network Configuration" and "Update Network Configuration". To the right of the configuration fields is a "Current Network Configuration" table.

Parameter	Value
IP Address	10.1.61.90
Subnet	255.255.0.0
Gateway	10.1.1.1
MAC Address	00-90-C2-CD-D1-EE
-	-
Baud Rate	19200
COM Port	5
Connected	True

## System Settings

Select the **System Settings** tab to view the current system information. The **System Information** table in this tab is automatically updated when connected to the 8380 RPC master unit. This table shows all of the master and slave units connected to the system and their names and firmware versions.

This tab also allows you to update the firmware of the 8380 RPC master and slave units.

The screenshot shows the 'System Settings' tab selected. It contains two main sections: 'System Information' and 'Firmware'.

**System Information:**

Item	Current Status
Master MAC Address	00-90-C2-CD-D1-59
Master Device Name	8380RPC
Master FW Version	11.11.22.1
Slave FW Version	-
-	-
Slave 1 Connected	True
Slave 1 Name	Slave 1
Slave 1 FW Version	-
-	-
Slave 2 Connected	False
Slave 2 Name	Slave 2
Slave 2 FW Version	-

**Firmware:**

Filename: No File Selected

Version:



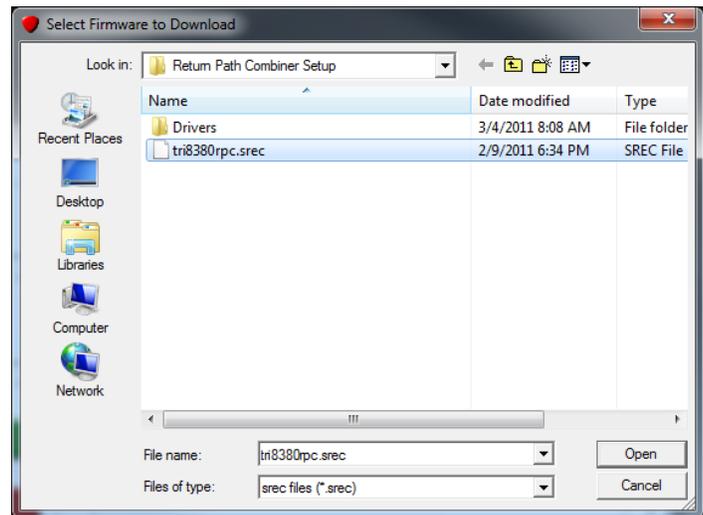
CAUTION

***When upgrading the firmware of the Master 8380 RPC, it is best to first remove all slave devices from the system using the Device Settings web page. This will prevent the Master 8380 RPC from attempting to communicate with the Slave units during the upgrade process, which is desired.***

## Upgrading Master Unit Firmware

Perform the following steps to upgrade the firmware in an 8380 RPC master unit:

1. Connect to the 8380 RPC as a master unit.
2. Select the ... button and the **Open** dialog will appear.
3. From the **Open** dialog, select the appropriate firmware file and then select **Open**.



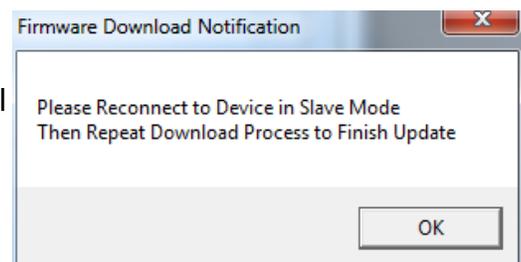
4. The name of the firmware file will be displayed. To send the selected firmware file to the 8380 RPC, select **Download**.



5. The firmware upgrade will begin by updating the firmware of the master control unit. The status bar at the bottom of the window will show the progress of the firmware upgrade as shown in the following image.

Downloading Firmware to Return Path Combiner, Bytes Downloaded = 4352

6. Once the master control unit firmware is installed, the **Firmware Download Notification** window will appear. Select **OK** to proceed with the slave control unit firmware upgrade.

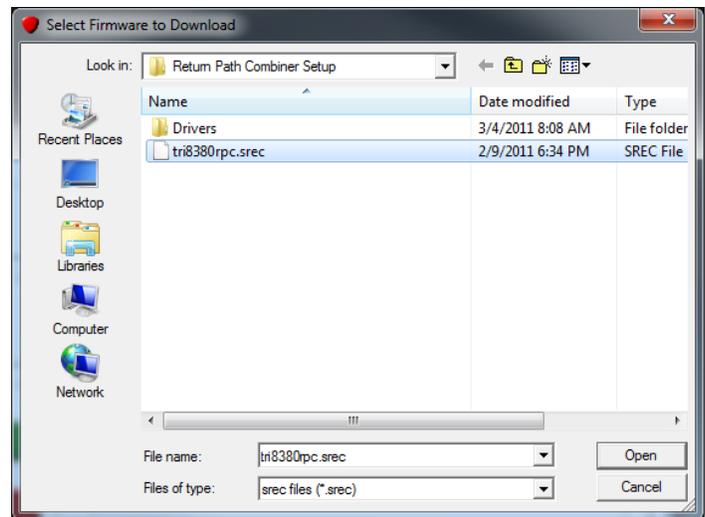


- The 8380 RPC will now automatically reboot. Once this has occurred, reconnect to the unit as an 8380 RPC slave unit and then select **Download**. This will start the slave control unit firmware upgrade.
- When the upgrade is complete, the status will be shown in the event table at the bottom of the window.

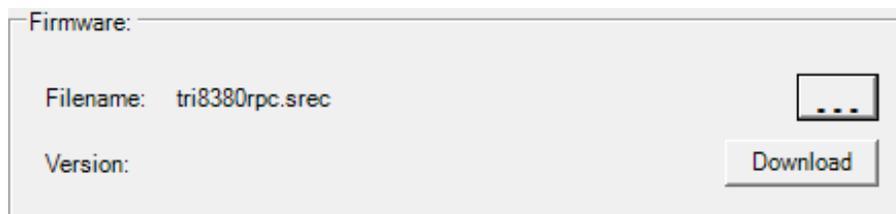
## Upgrading Slave Unit Firmware

Perform the following steps to upgrade the firmware in an 8380 RPC slave unit:

- Connect to the 8380 RPC as a slave unit.
- Select the ... button and the **Open** dialog will appear.
- From the **Open** dialog, select the appropriate firmware file and then select **Open**.



- The name of the firmware file will be displayed. To send the selected firmware file to the 8380 RPC, select **Download**.



- The status bar at the bottom of the window will show the progress of the firmware upgrade as shown in the following image.

Downloading Firmware to Return Path Combiner, Bytes Downloaded = 4352

- When the upgrade is complete, the status will be shown in the event table at the bottom of the window.

# User Settings



***This tab can only be used with Master 8380 RPC units.***

NOTE

Select the **User Settings** tab to view the current user information. The **User Settings** tab allows the adjustment of the user name, password, and privilege settings of active users of the 8380 RPC system.

The **Current Users** section displays a table containing a list of the active users of the 8380 RPC system. The user information includes the user number, user name, and privilege. Select **Get Current Users** to populate the data in this table.

To save changes to your user settings, select **Update User**. Note that only the settings for one user can be submitted at a time.

The default users are as follows:

## Administrator Privileges

**Name:** admin

**Password:** admin

## Field User Privileges

**Name:** field

**Password:** field

The screenshot shows the 'User Settings' tab selected. On the left, the 'User Settings' form has the following fields: 'User Number' (set to 1), 'User Name' (set to 'admin'), 'Password' (empty), and 'Privilege' (set to 'Administrator'). Below these are buttons for 'Get Current Users' and 'Update User'. On the right, the 'Current Users' table is populated with the following data:

User #	User Name	Privilege
1	admin	Administrator
2	field	Field User
3		None
4	adam	Administrator
5	linda	Administrator
6	user6	Administrator
7	patrick	Administrator
8	user8y789012	Administrator
9	stephen	Administrator
10	user10-89012	Administrator
11	carol	Administrator
12	user12-9012	Administrator
13	Dave	Administrator
14	12345678901~	Administrator
15	JD	Field User
16		None
17		None
18		None
19		None
20		None
21		None
22		None
23		None
24		None

## ***Adding a New User***

When adding a new user to the 8380 RPC system, all user parameters (user name, password, and privilege) must be added. The maximum number of users is 24.

## ***Removing a User***

To remove a user from the 8380 RPC system, with the user number selected, select **Remove** from the **Privilege** dropdown box. Note that removing a user clears their information from the master device and will result in the master automatically deactivating all ports associated with the user.

## ***User Name***

User names support up to 12 characters and must be at least one character to be considered valid. Note that certain characters ( ' , " , and \ ) cannot be used. If a user name containing errors is submitted, the 8380 RPC will reject the changes and an error message will be displayed.

## ***Password***

For security purposes when entering the password, the field only displays an asterisk (\*) instead of the typed characters.

Passwords support up to 12 characters and must be at least one character to be considered valid. Note that certain characters ( ' , " , and \ ) cannot be used. If a password containing errors is submitted, the 8380 RPC will reject the changes and an error message will be displayed.

## ***Privilege***

The user's privilege can be set to **Administrator** or **Field User** by selecting the corresponding setting from the dropdown list. Selecting **Remove** will remove the user from the active users for the 8380 RPC System.

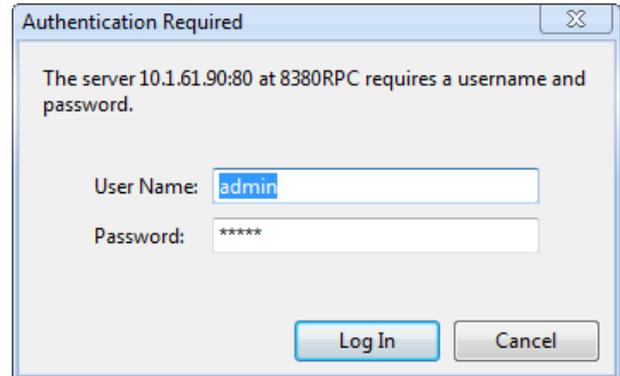
Note that **User Number 1** (Default User) must always have its privilege set to **Administrator**. This ensures that there is always at least one administrator for the 8380 RPC system.

There is no upper limit to the number of administrators and/or field users that can be present simultaneously. For example, there is no reason why all users could not have administrative privilege. The maximum number of users is 24 regardless of their privilege.

### Accessing the 8380 RPC with a Web Browser

To access the 8380 RPC from a web browser, perform the following steps:

1. Verify that the steps outlined in **Chapter 3: Setup** are completed before attempting to connect to the 8380 RPC.
2. Open an Internet Web Browser and enter the IP address of the master 8380 RPC.
3. A dialog box will appear, enter your username and password and then select **Log In**.
4. The Homepage of the master 8380 RPC will be displayed as shown in the following section.



## 8380 RPC Homepage

The 8380 RPC Homepage is used to display the number of currently active ports and a table containing active port information that is alphabetized by port name. The active port information includes the name of the device associated with the active port, the name of the user that activated the port, and the time remaining before the port automatically deactivates.

The homepage is set to automatically refresh once per minute. The homepage will be displayed in one of two ways dependent on the privilege setting of the user that is logged in.

**Administrator** – The homepage will be displayed as shown below.

**Field User** – The homepage will be displayed as shown below, but without the *Administrator Options* link.

---

### 8380 RPC Homepage

---

**Master: 8380RPC**

**Active Ports: 0**

---

[Administrator Options](#)  
[Select Ports](#)

# Administrator Options

The **Administrator Options** page is the main navigation page for access to the administrator settings of the 8380 RPC system. A user with **Administrator** privileges must be logged in order to access this page.

The [\*Device Settings\*](#), [\*System Settings\*](#), and [\*User Settings\*](#) links are provided to access the individual administrator settings pages of the 8380 RPC system. See the following sections for more information on each of these administrator settings pages.

The [\*Homepage\*](#) and [\*Select Ports\*](#) links are provided for quick access back to either of these main navigation pages.

## 8380 RPC Administrator Options

---

### Options:

- [Device Settings](#)
  - [System Settings](#)
  - [User Settings](#)
- 

[Homepage](#)  
[Select Ports](#)

## Device Settings

The **Device Settings** page allows users with **Administrator** privileges to set the name of all devices and ports, the presence of each device (with the exception of the master, which is always present), and the presence of each individual port for each device on the 8380 RPC system. Device/port presence (see Display column) indicates that the device/port should be displayed on the **Select Ports** page. This feature is used to control which devices/ports users have access to on the **Select Ports** page.

The **Device Settings** page displays a dynamically built table that populates its cells based on the device name and number selected.

See the following sections for more information on how to adjust the device settings.

To save changes to your device settings, select **Submit**. To refresh the form without saving, select **Reset**.

Note that changes can only be submitted for one device at a time.

The [Administrator Options](#), [Homepage](#), and [Select Ports](#) links are provided for quick access back to these main navigation pages.

## 8380 RPC Device Settings

Update Device: (M) - 8380RPC ▾

	Name	Display
Device	8380RPC	<input checked="" type="checkbox"/>
Port 1	Port_M_1	<input checked="" type="checkbox"/>
Port 2	Port_M_2	<input checked="" type="checkbox"/>
Port 3	Port_M_3	<input checked="" type="checkbox"/>
Port 4	Port_M_4	<input checked="" type="checkbox"/>
Port 5	Port_M_5	<input checked="" type="checkbox"/>
Port 6	Port_M_6	<input checked="" type="checkbox"/>
Port 7	Port_M_7	<input checked="" type="checkbox"/>
Port 8	Port_M_8	<input checked="" type="checkbox"/>
Port 9	Port_M_9	<input checked="" type="checkbox"/>
Port 10	Port_M_10	<input checked="" type="checkbox"/>
Port 11	Port_M_11	<input checked="" type="checkbox"/>
Port 12	Port_M_12	<input checked="" type="checkbox"/>
Port 13	Port_M_13	<input checked="" type="checkbox"/>
Port 14	Port_M_14	<input checked="" type="checkbox"/>
Port 15	Port_M_15	<input checked="" type="checkbox"/>
Port 16	Port_M_16	<input checked="" type="checkbox"/>

Submit

Reset

[Administrator Options](#)

[Homepage](#)

[Select Ports](#)

## ***Device and Port Names***

Device names support up to 20 characters and must be at least one character to be considered valid. Note that certain characters ( ' , " , and \ ) cannot be used. If a device name containing errors is submitted, the 8380 RPC will reject the changes and display a message indicating the error.

Port names follow the same rules as device names with the exception that the port names only support up to 12 characters.

## ***Adding and Removing Devices***

### *Addition*

Each slave device may be added to the 8380 RPC system by selecting the checkbox next to the device name field.

Once the slave device has been added, the master routinely polls it for its current switch states. This allows the master to verify the slave is functioning properly and responding to RS-485 commands.

If RS-485 communications between the master and slave are interrupted for any reason, the master will automatically flag the error (slave device name will be grayed out on the **Select Ports** page, and the user will not have access to the slave ports) and will deactivate all ports associated with the device in error. Note that the ports that were previously activated do not reactivate when the connection is restored.

In the case of an RS-485 communications error, the Status LED lights on the Slave will blink to indicate the error.

### *Removal*

Each slave device may be removed from the 8380 RPC system by deselecting the checkbox next to the device name field.

Once the slave device has been removed, the master will automatically deactivate all ports associated with the device removed. The device will also be removed from the **Select Ports** page.



CAUTION

***When upgrading the firmware of the Master 8380 RPC, it is best to first remove all slave devices from the system using the Device Settings web page. This will prevent the Master 8380 RPC from attempting to communicate with the Slave units during the upgrade process, which is desired.***

## ***Adding and Removing Ports***

### ***Addition***

Each individual port of each device on the 8380 RPC system can be added by selecting the checkbox next to the port name field under the **Display** column.

Note that adding a port to the 8380 RPC system does not mean that the port is active. Before the new port can be accessed, the corresponding device must be added to the 8380 RPC system.

### ***Removal***

Each individual port of each device may be removed from the 8380 RPC system by deselecting the checkbox next to the port name field.

Once the port has been removed, the master will automatically deactivate the port if necessary.

Removing a master port prevents the corresponding slave device from being accessed from the **Select Ports** page, and it automatically removes the slave device from the 8380 RPC system. Also, all active slave ports for the device will automatically deactivate upon removal of the master port.

## System Settings

The **System Settings** page allows users with **Administrator** privileges to set the current date/ time of the 8380 RPC system as well as the **Port Timeout** parameter.

Checkboxes are provided to allow the user to specify which parameters are updated upon submission to the master device. See the following sections for more information on each of these system settings.

To save changes to your system settings, select **Submit**. To refresh the form without saving, select **Reset**.

The [Administrator Options](#), [Homepage](#), and [Select Ports](#) links are provided for quick access back to these main navigation pages.

### 8380 RPC System Settings

---

#### Update System Date/Time

Local Date/Time							Method
Thu Jan 5 11:08:37 EST 2012							PC (Auto) <input checked="" type="radio"/>
Day of Week	Month	Day	Year	Hours	Minutes	Seconds	User (Manual) <input type="radio"/>
Thursday ▾	1 ▾	31 ▾	2011 ▾	19 ▾	53 ▾	28 ▾	

#### Update Port Timeout (Hours)

24 ▾

---

[Administrator Options](#)  
[Homepage](#)  
[Select Ports](#)

## ***System Date/Time***

If the **Update System Date/Time** checkbox is selected, the date/time of the system will be updated upon submission to the master device. There are two distinct ways of controlling the date/time settings of the 8380 RPC system as follows:

**PC (Auto)** – This method retrieves the current date/time from the user's PC or mobile device.

**User (Manual)** – This method allows the user to specify each individual parameter of the date/time settings. The user may set the day of the week, day of month, month, year, hours, minutes, and seconds.

## ***Port Timeout (Hours)***

If the **Update Port Timeout (Hours)** checkbox is selected, the port timeout of the system will be updated upon submission to the master device.

The port timeout setting is used to control the automatic deactivation of all active ports. The port timeout is adjusted by selecting the number of hours (0 for no timeout, 1 to 72, default of 24) from the dropdown list.

This parameter does not imply that all active ports deactivate at the same time, but they will remain active for the same amount of time before automatically deactivating.

## User Settings

The **User Settings** page allows users with **Administrator** privileges to adjust the user name, password, and privilege settings of all users of the 8380 RPC system.

This page displays a table containing a list of the active users of the 8380 RPC system. The user information includes the user number, user name, and privilege.

This page also displays a dynamically built table that populates its cells based on the value (1 to 24) that is selected from the **User Number** dropdown box. Note that for security purposes, the password does not automatically populate.

To save changes to your user settings, select **Submit**. To refresh the form without saving, select **Reset**.

Note that only the settings for one user can be submitted at a time.

The [Administrator Options](#), [Homepage](#), and [Select Ports](#) links are provided for quick access back to these main navigation pages.

## 8380 RPC User Settings

---

### Current Users:

User Number	Name	Privilege
1	admin	Administrator
2	field	Field User

Update User: 1 ▾

User Name	<input type="text" value="admin"/>
Password	<input type="password"/>
Privilege	<input type="text" value="Administrator"/> ▾

---

[Administrator Options](#)  
[Homepage](#)  
[Select Ports](#)

## ***Adding a New User***

When adding a new user to the 8380 RPC system, all user parameters (user name, password, and privilege) must be added. The maximum number of users is 24.

## ***Removing a User***

To remove a user from the 8380 RPC system, with the user number selected, select **Remove** from the **Privilege** dropdown box. Note that removing a user clears their information from the master device and will result in the master automatically deactivating all ports associated with the user.

## ***User Name***

User names support up to 12 characters and must be at least one character to be considered valid. Note that certain characters ( ' , " , and \ ) cannot be used. If a user name containing errors is submitted, the 8380 RPC will reject the changes and display a message indicating the error.

## ***Password***

For security purposes when entering the password, the field only displays an asterisk (\*) instead of the typed characters.

Passwords support up to 12 characters and must be at least one character to be considered valid. Note that certain characters ( ' , " , and \ ) cannot be used. If a password containing errors is submitted, the 8380 RPC will reject the changes and display a message indicating the error.

## ***Privilege***

The user's Privilege can be set to **Administrator** or **Field User** by selecting the corresponding setting from the dropdown list. Selecting **Remove** will remove the user from the active users for the 8380 RPC system.

Note that the current user cannot modify their own privileges and **User Number 1** (Default User) must always have its privilege set to **Administrator**. This ensures that there is always at least one administrator for the 8380 RPC system.

There is no upper limit to the number of administrators and/or field users that can be present simultaneously. For example, there is no reason why all users could not have administrative privilege. The maximum number of users is 24 regardless of their privilege.

# Select Ports

The **Select Ports** page is the main navigation page for access to the ports of the 8380 RPC system, and it provides an interface for all users to activate and deactivate ports.

See the following sections for more information on how to select ports. After selecting or deselecting ports, select **Submit** to make the desired changes. To refresh the form without saving, select **Reset**.

The [Administrator Options](#) and [Homepage](#) links are provided for quick access back to either of these main navigation pages. The [Administrator Options](#) link is only available to users with **Administrator** privileges.

### 8380 RPC Select Ports

Active Ports:

Master Port	<--	Slave Device	<--	Slave Port
Port_M_1	<--	Slave 1	<input type="radio"/>	<input type="text"/> <input type="checkbox"/>
Port_M_2	<--	Slave 2	<input type="radio"/>	<input type="text"/> <input type="checkbox"/>
Port_M_3				<input type="text"/> <input type="checkbox"/>
Port_M_4				<input type="text"/> <input type="checkbox"/>
Port_M_5				<input type="text"/> <input type="checkbox"/>
Port_M_6				<input type="text"/> <input type="checkbox"/>
Port_M_7				<input type="text"/> <input type="checkbox"/>
Port_M_8				<input type="text"/> <input type="checkbox"/>
Port_M_9				<input type="text"/> <input type="checkbox"/>
Port_M_10				<input type="text"/> <input type="checkbox"/>
Port_M_11				<input type="text"/> <input type="checkbox"/>
Port_M_12				<input type="text"/> <input type="checkbox"/>
Port_M_13				<input type="text"/> <input type="checkbox"/>
Port_M_14				<input type="text"/> <input type="checkbox"/>
Port_M_15				<input type="text"/> <input type="checkbox"/>
Port_M_16				<input type="text"/> <input type="checkbox"/>

[Administrator Options](#)  
[Homepage](#)

## Active Port Count

Upon loading, the page displays the number of currently active ports. As the user selects/deselects ports, the count will automatically update to reflect the number of active ports that would be present if the user was to submit the current form data. This allows the user to preview the total number of active ports and keep track of how many additional ports they can activate. The maximum number of active ports is 16.

## Devices & Ports Table

This table is structured to allow the user to not only view the system layout, but to verify the current status of all devices and ports in the 8380 RPC system.

### ***Master Ports***

Each master port that is selected to be displayed from the **Device Settings** page is listed in the **Master Ports** column.

If the master port is not connected to a slave, a checkbox representing the current port state will be displayed. Note that as slave ports are activated, the corresponding master port is automatically activated. If all ports of a slave are inactive, the corresponding master port automatically deactivates.

A master port may be active without affecting the active port count when connected to a slave with active ports. Instead, the slave ports contribute to the port count. In addition, if communications with the slave device are lost, the corresponding master port will automatically deactivate.

Note that administrators may select/deselect any master port provided the maximum port count is not exceeded. Field users may only select an inactive port if the maximum port count is not exceeded, and they can only deselect ports that they originally activated.

### ***Slave Devices***

Each slave device that is selected to be displayed from the **Device Settings** page is listed in the **Slave Device** column.

If the slave device is present and communicating, its name will appear in black and a radio button will be provided to access its ports. Slave devices that are specified as present but not responding to RS-485 commands will be grayed out, and it will not be possible to access their ports. Note that the corresponding master port must be present for the slave device to appear.

## ***Slave Ports***

When the **Select Ports** page loads, the slave ports column will be empty. To view the slave ports for a single device, select the radio button next to the desired device.

Each slave port selected to be displayed from the **Device Settings** page is listed in the **Slave Ports** column. The column displays all present slave ports and checkboxes indicating their current switch states for the selected slave device.

Note that administrators may select/deselect any slave port provided the maximum port count is not exceeded. Field users may only select an inactive port if the maximum port count is not exceeded, and they can only deselect ports that they originally activated.



## Specifications

### Electrical

<b>Switch Configuration</b>	16 x 1 Non-Blocking
<b>Frequency Range</b>	4 to 200 MHz
<b>Insertion Loss</b>	$\leq 0.0 \pm 0.3$ dB
<b>Impedance</b>	75 Ohms
<b>Return Loss</b>	$\geq 15$ dB
<b>Termination</b>	All Inactive Ports
<b>Input</b>	+30 dBmV Max (for 60 dB spurious free operation)
<b>Max Active Ports</b>	16 (total for master plus slaves)
<b>Isolation</b>	60 dB Min (any unselected port to common)
<b>Noise Figure</b>	18 dB
<b>Control</b>	RS-485 (Slave), Ethernet (Master) Initial setup and firmware upgrades via USB (Master and Slave)
<b>Switching Speed</b>	< 1 second
<b>Power</b>	15 VDC @ 1 Amp - External AC to DC Power Adapter

### Mechanical

<b>Enclosure</b>	19" 1 RU Rack
<b>RF Connectors</b>	F-Female (RG-6) Non-Replaceable
<b>RS-485 Connectors</b>	RJ-11 IN and OUT
<b>RS-485 Address</b>	Via Rear Panel DIP Switch
<b>RS-485 Termination</b>	Via Rear Panel DIP Switch
<b>Ethernet</b>	RJ-45 (Master Only)
<b>USB</b>	Type B Connector
<b>Power</b>	2.5 x 5.5 mm DC Input Jack
<b>Front Panel Indicators</b>	18 LEDs Input Active, Power, and Status



## Limited Warranty

For the latest warranty information, visit

<https://www.viavisolutions.com/literature/viavi-solutions-inc-general-terms-en.pdf>



**Rev. 3, May 2018**  
**English**

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<b>email</b>	<b><a href="mailto:TAC@viavisolutions.com">TAC@viavisolutions.com</a></b>