

***Nitro***<sup>TM</sup>

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**HOME EQUIPMENT  
TROUBLESHOOTING GUIDE**

# THIS DOCUMENT INCLUDES THE FOLLOWING MODELS:

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## CRADLEPOINT R500



CradlePoint R 500 Front

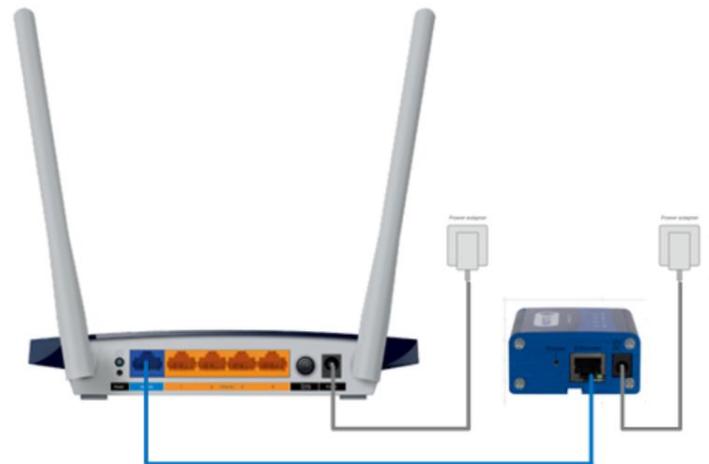


CradlePoint R 500 Back

## SIERRA WIRELESS RV55



## MULTITECH



# CRADLEPOINT R500

## Motorola Nitro Internet Setup and Troubleshooting Guide

Nitro is a wireless technology that provides internet service to our students residing within range of the Nitro towers. This guide provides details on how to install the equipment in the home as well as basic troubleshooting and customer service instructions in case of internet service disruptions.

### SETUP:

1. Attach the Main and DIV antennas if not already attached and position as shown in Figure 1a.
2. Attach the two antennas to the 2.4/5GHz ports as shown in Figure 1b if not already attached.
3. Plug the power cord into the back of the unit (Figure 2) and wait 1 minute for bootup.
4. Verify the LED's are in the acceptable GREEN or BLUE state per the LED table at the end of this document and verify signal activity via the signal strength indicator bar.
5. Turn on Chromebook or Computer device and verify Internet services <School Administration to guide what students need to do to attach their computer to the WiFi access point using provided SSID/Pswd>
6. If you prefer a cable connection instead of Wifi – plug an Ethernet cable between the unit and your Computer (See Figure 3).

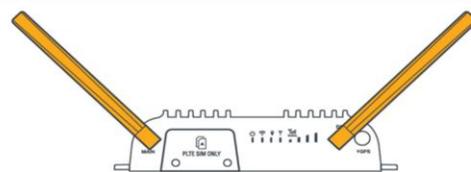


Figure 1a

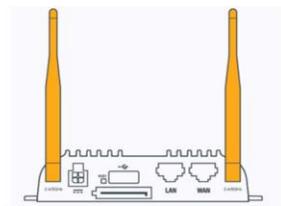


Figure 1b



Figure 2

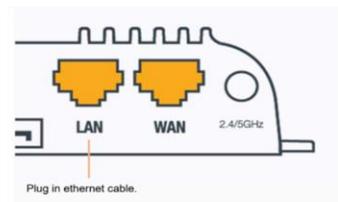


Figure 3

## TIPS and TROUBLESHOOTING

### Connectivity:

- Position the **Modem** in the window facing the school or nearest known LTE site and point the antennas in that direction.
- If the **Modem** is in the window and you are still having poor reception, move the antennas or reposition the modem until the signal strength bars are maximized. Do not hide or cover the antennas.
- If the Computer/Chromebook cannot connect, unplug the power to the Modem and Repeat Installation steps 3, 4, and 5 above.

### Computer / Chromebook Student Device:

- If your Computer/Chromebook is not connecting to the internet, restart the device
- Check the Network and Internet settings on your computer make sure your Wi-Fi adapter is enabled and connected properly
- If your Computer/Chromebook is not working correctly, check for system updates on your device

## MOTOROLA SUPPORT SERVICES

If you follow the troubleshooting activities and your internet service is still not functioning, please contact the Motorola Service Desk.

### Service Desk:

- If you continue to experience loss of service, contact the Motorola automated service desk 24 hours a day, 7 days a week at [1-866-573-6730](tel:1-866-573-6730).
- Follow the instructions to recover your R500 device service.
- You may be asked to enter your support PIN # that was provided with the device.
- You will have the option to speak with a Motorola service desk agent during the hours of 8am to 5pm (CST).

	<b>POWER:</b> The Cradlepoint R500-PLTE Router must be powered using a 4-pin power source.
	<b>No Light</b> = Not receiving power. Check the power switch and the power source connection.
	<b>Blue</b> = Powered On
	<b>WI-FI BROADCAST:</b> Indicates Wi-Fi activity.
	<b>No Light</b> = Wi-Fi is not connected.
	<b>Green</b> = Wi-Fi is on and operating normally.
	<b>Yellow</b> = Attention—Log into NCM to troubleshoot. NOTE: Upon initial installation, the light will be yellow until the device is registered in NetCloud Manager (NCM).

	<b>EMBEDDED MODEM:</b> Indicates the status of the embedded LTE modem.
	<b>No Light</b> = Modem not connected.
	<b>Solid Green</b> = Modem has established an active connection.
	<b>Blinking Green</b> = Modem is connecting.
	<b>Solid Yellow</b> = Modem is not active.
	<b>Blinking Yellow</b> = Data connection error. No modem connection possible.
	<b>Blinking Red</b> = Modem is in the process of resetting. <b>Blinking Red with Signal Strength LEDs</b> = SIM door is not installed, modem is off.

	<b>SIGNAL STRENGTH:</b> Blue LED bars indicate the active modem's signal strength.
	<b>Four Solid Bars</b> = Strongest Signal.
	<b>One Blinking Bar</b> = Weakest Signal.
	<b>GPS:</b> Indicates the status of the GPS connection
	<b>No Light</b> = Off/no lock
	<b>Solid Blue</b> = GPS on/locked
	<b>Blinking Blue</b> = Obtaining lock
<b>OTHER</b>	<b>Additional LED Indications:</b>
	<ul style="list-style-type: none"> <li>• Several LEDs blink when the factory reset button is detected.</li> <li>• The embedded modem and signal strength LEDs blink red in unison for 10 seconds when there is an error during an NCOS upgrade.</li> </ul>

# MULTITECH

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### SETUP:

1. Unbox and match the power cords to the devices as shown in the picture
2. Plug the **Blue Ethernet** cable into the “Nitro” device and the **blue** port on the “**Router**” as shown.
3. Plug the power cord of the “**Nitro**” device into the wall, wait 60 seconds
4. Plug the power cord of the “**Router**” into the wall, wait 60 seconds
5. Turn on Chromebook or Computer device and verify Internet services



*Note: Routers versions may vary regarding port and power locations*

### TIPS and TROUBLESHOOTING

#### Connectivity:

- Verify the SIM card is in the slot on the Nitro unit
- Place the “**Nitro**” device in the window facing the school
- If the “**Nitro**” device is in the window and you are still having poor reception, move it higher in the window
- Do not hide or cover the antennas on the “**Nitro**” or “**Router**” devices
- Verify all LEDs on “**Nitro**” box and “**Router**” are GREEN

- If the Computer / Chromebook cannot connect, unplug the power to the “Nitro” device and “router”. Repeat Installation steps 3, 4, and 5 above.

### Computer / Chromebook Student Device:

- If your Computer/Chromebook is not connecting to the internet, restart the device
- Check the Network and Internet settings on your computer make sure your Wi-Fi adapter is enabled and connected properly
- If your Computer/Chromebook is not working correctly, check for system updates on your device

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- Follow the instructions to recover your service.
- You may be asked to enter your support PIN that was provided with the device.
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### Router LEDs

Name	Status	Indication
 (Power)	On	The system has started up successfully.
	Flashing	The system is starting up or firmware is being upgraded. Do not disconnect or power off your router.
	Off	Power is off.

Name	Status	Indication
 (2.4GHz Wireless)	On	The 2.4GHz wireless band is enabled.
	Off	The 2.4GHz wireless band is disabled.
 (5GHz Wireless)	On	The 5GHz wireless band is enabled.
	Off	The 5GHz wireless band is disabled.
 (Internet)	Green On	Internet service is available.
	Orange On	The router's Internet port is connected, but the internet is not available.
	Off	The router's Internet port is not connected.
 (Ethernet)	On	At least one Ethernet port is connected to a powered-on device.
	Off	No Ethernet port is connected to a powered-on device.
 (WPS)	On	A WPS connection is established.
	Flashing	A WPS connection is in progress. This may take up to 2 minutes.
	Off	A WPS connection has been established for more than 5 minutes or WPS connection failed.

### Nitro LEDs

Item	Description
Power	On: Solid when the device is in normal operational mode.
	Off: No power.
	Flashing: Device is in upgrade/recovery mode
SIM	On: SIM card detected and ready.
	Off: SIM card not present or not detected.
	Flashing: Detecting and querying SIM card information.
Internet	On: 4G/3G is established and active.
	Off: No active cellular connection.
	Flashing: Active data transferred via cellular.
Signal	On: Solid when there is a strong cellular signal.
	Off: No cellular signal.
	Flashing fast: Medium cellular signal.
	Flashing slow: Weak cellular signal

# SIERRA WIRELESS RV55

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### SETUP:

1. Attach and position all antennas as shown in the picture
2. Plug the power cord into the back of the unit
3. Verify the LED's are **GREEN** as shown in the picture and the LED tables at the end of this document.
4. Turn on Chromebook or Computer device and verify Internet services  
<School Administration to guide what students need to do to attach their computer to the WiFi access point using provided SSID / PW>
5. If you prefer a cable connection instead of Wifi – plug an Ethernet cable between the unit and your Computer



### TIPS and TROUBLESHOOTING

#### Connectivity:

- Position the **Modem** in the window facing the school or nearest known LTE site and point the antennas in that direction.
- If the **Modem** is in the window and you are still having poor reception, move the antennas or reposition the modem until the LEDs are solid **GREEN**. Do not hide or cover the antennas.

- If the Computer / Chromebook cannot connect, unplug the power to the modem and repeat installation steps 2, 3 and 4 above.

### Computer / Chromebook Student Device:

- If your Computer / Chromebook is not connecting to the internet, restart the device
- Check the Network and Internet settings on your computer. Also, make sure your Wi-Fi adapter is enabled and connected properly.
- If your Computer / Chromebook is not working correctly, check for system updates on your device.

### MOTOROLA SUPPORT SERVICES

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#### Service Desk:

- If you continue to experience loss of service, contact the Motorola automated service desk 24 hours a day, 7 days a week at [1-866-573-6730](tel:1-866-573-6730).
- Follow the instructions to recover your service.
- You may be asked to enter your support PIN that was provided with the device.
- You will have the option to speak with a Motorola service desk agent during the hours of 8am to 5pm CST.

LED	Color / Pattern	Description	LED Power Saving Mode <sup>a</sup>
<b>Power</b> 	<b>Off</b>	No power or input voltage $\geq 36$ VDC or $\leq 7$ VDC	
	<b>Solid Green</b>	Power is present.	
	<b>Green with Amber Flash</b>	Power is present and the router has a GPS fix.	
	<b>Solid Red</b>	Standby mode	
	<b>Flashing Green</b>	When you press the reset button, flashing green indicates when to release the reset button to reboot the router.	
	<b>Flashing Red</b>	When you press the reset button, flashing red indicates when to release the reset button to reset the router to the factory default settings.	
	<b>Flashing Amber</b>	When you press the reset button for more than 20 seconds, flashing amber indicates when to release the reset button to enter Recovery mode. (See <a href="#">Recovery Mode</a> on page 40.)	
<b>Signal</b> 	<b>Solid Green</b>	Good signal (equivalent to 3–5 bars)	Off
	<b>Solid Amber</b>	Fair signal (equivalent to 2 bars)	Off
	<b>Flashing Amber</b>	Poor signal (equivalent to 1 bar) If possible, Sierra Wireless recommends moving the router to a location with a better signal.	
	<b>Flashing Red</b>	Inadequate (equivalent to 0 bars) Sierra Wireless recommends moving the router to a location with a better signal.	

LED	Color/Pattern	Description	LED Power Saving Mode <sup>a</sup>
<b>Network</b> 	<b>Solid Green</b>	Connected to an LTE network	Off
	<b>Solid Amber</b>	Connected to a 3G or 2G network	Off
	<b>Flashing Green</b>	Connecting to the network	
	<b>Flashing Green (3 sec. on/1 sec. off)</b>	Network Ready—WAN over Wi-Fi (router is in Wi-Fi client mode)	
	<b>Flashing Red</b>	No network available	
	<b>Flashing Red/Amber</b>	Network Operator Switching is enabled, but the router is unable to locate the required firmware. For more information, refer to the ALEOS Software Configuration User Guide (Admin chapter).	
<b>Activity</b> 	<b>Flashing Green</b>	Traffic is being transmitted or received over the WAN interface.	
	<b>Flashing Red</b>	Traffic is being transmitted or received over the serial port. This behavior only appears if the RV55 router is configured to display it. For more information, refer to the ALEOS Software Configuration Guide (Serial chapter).	
	<b>Flashing Amber</b>	Traffic is being transmitted or received over both the WAN interface and the serial port. This behavior only appears if the RV55 router is configured to display it. Refer to the ALEOS Software Configuration Guide (Serial chapter).	
<b>ALL</b>	<b>Green LED chase</b>	Radio module reconfiguration/firmware update or Network Operator Switching is in progress.	
	<b>Amber LED chase</b>	ALEOS software update is in progress.	
	<b>Red LED chase</b>	Recovery mode	