

BEAGLE

Installation Instructions

The Beagle is a low-profile, five-in-one MIMO LTE, MIMO WIFI, and GNSS antenna built into an IP67-rated* enclosure. This rugged, low-profile, omni-directional antenna works on most of the common North American LTE bands with high efficiency. The Beagle is optimized for LTE isolation.



Table of Contents

Antenna Versions	2
Required Tools & Accessories	2
Battery and Router Installation	3
Connection	5
Final Assembly	10
Operational Setup	13
Battery Operation and Safety Guidelines.....	16

* Conditions apply

Antenna Versions

The Beagle case antenna comes in two versions – G and L – with different features, listed below.

Beagle G	Beagle L
<ul style="list-style-type: none"> • 2x RJ-45 Ports • USB-A Port • Battery Operated (battery not included) • 40mm Fan 	<ul style="list-style-type: none"> • AC Power Port • 2x RJ-45 Ports

Required Tools & Accessories

The following tool (not provided) is required in for the installation of the Beagle case antenna :

- Philips Screwdriver

The table below lists the required accessories for the G, and L versions of the Beagle case antenna.

	Beagle G	Beagle L
Provided with Antenna	<ul style="list-style-type: none"> • NEMA Male to Female Adapter • PTA0071B Black Round Head Screws, 18 pcs • PTA0368-B Black Flat Head Machine Screws, 4 pcs • Ethernet Cords, 2 pcs * • USB-A Cord * • Battery Tray for ChargeTech 27K Battery Pack • Cable Ties 	<ul style="list-style-type: none"> • NEMA Male to Female Adapter • PTA0071B Black Round Head Screws, 18 pcs • PTA0368-B Black Flat Head Machine Screws, 4 pcs • Ethernet Cords, 2 pcs * • Cable Ties
To Be Purchased By Customer	<ul style="list-style-type: none"> • 27K AC Battery Pack (ChargeTech #CT-600061) • USB-A Cord ** • Ethernet Cords, 2 pcs ** 	<ul style="list-style-type: none"> • Ethernet Cords, 2 pcs ** • NEMA 5-15P to IEC C13 Socket Power Cord (i.e. McMaster #71535K51) ***
	<ul style="list-style-type: none"> • Router Options (for other routers, contact customer service at support@parsec-t.com) <ul style="list-style-type: none"> ○ Cradlepoint IBR600 ○ Cradlepoint IBR900 ○ Cradlepoint R500-PLTE • 12V 2x2 Power Supply (Cradlepoint #170716-000) 	

* For connecting the router to the ports on the case

** Optional, for connecting external devices to the case, length as required by customer

*** For powering the antenna, length as required by customer

Battery and Router Installation

Step 1: Mount the ChargeTech 27K battery pack to the cover plate (Beagle G only).

- A. This step only applies to the Beagle G.
- B. Remove the cover plate from the enclosure.
- C. Insert the battery pack into the battery tray, as shown in Figure 1. **Ensure that the battery pack ports are at the open end of the battery tray, as shown below.**
- D. Place the cover plate onto the battery tray and fasten with the six PTA0368-B black flat head machine screws provided in the kit, as shown in Figure 2. **If the battery tray does not align perfectly with the cover plate, partially tighten the screws at opposite diagonal positions first, then install all other screws before fully tightening. It may help to install the screws in the order shown in Figure 2.**



Figure 1: Place the ChargeTech battery pack into the battery tray. (Beagle G)

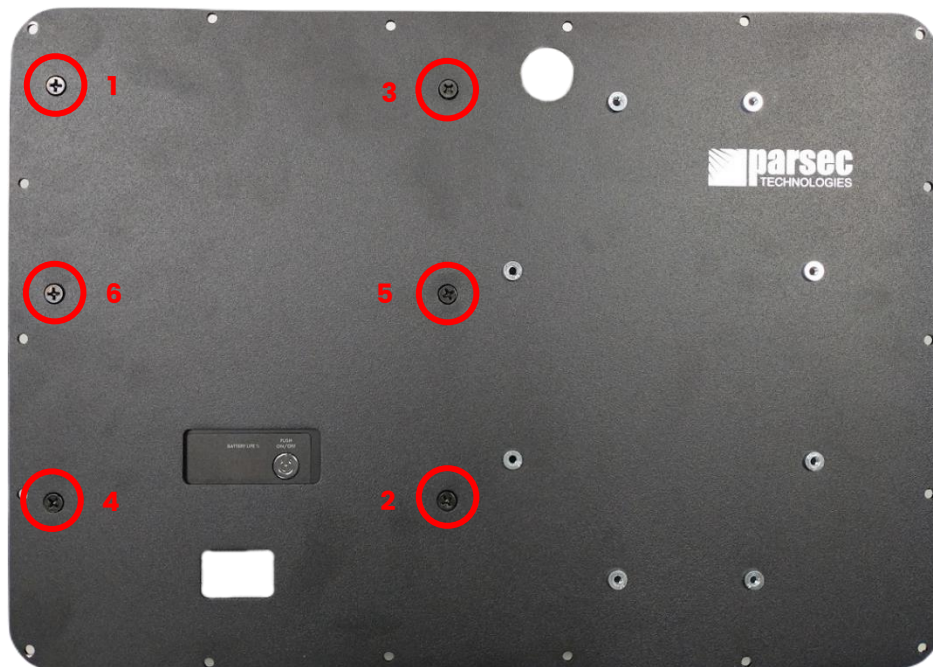


Figure 2: Fasten the battery tray with battery pack to the cover plate using PTA0368-B screws. (Beagle G)

Step 2: Mount the router to the cover plate.

- A. If not already done, remove the cover plate from the enclosure.
- B. Align the router with the holes on the cover plate. **Ensure the router orientation is correct, as shown in the images below.**
- C. Fasten the router to the cover plate using the four PTA0368-B black flat head machine screws provided in the kit, as shown in Figures 3 and 4.
- D. Guide the cable bundles back through the holes in the cover plate.

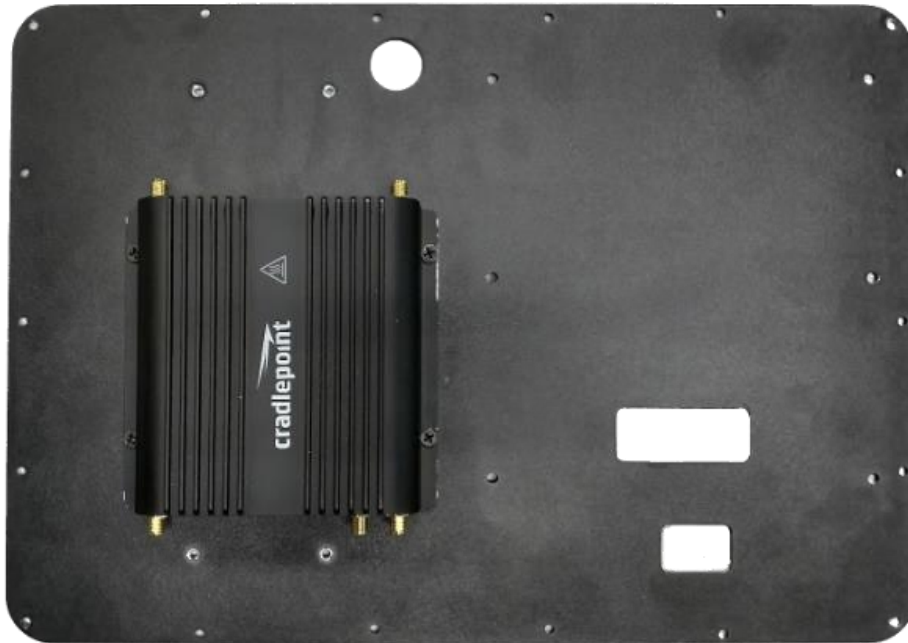


Figure 3: Fasten the router to the cover plate using PTA0368-B screws. (Beagle L)



Figure 4: Fasten the router to the cover plate using PTA0368-B screws. (Beagle G)

Connection

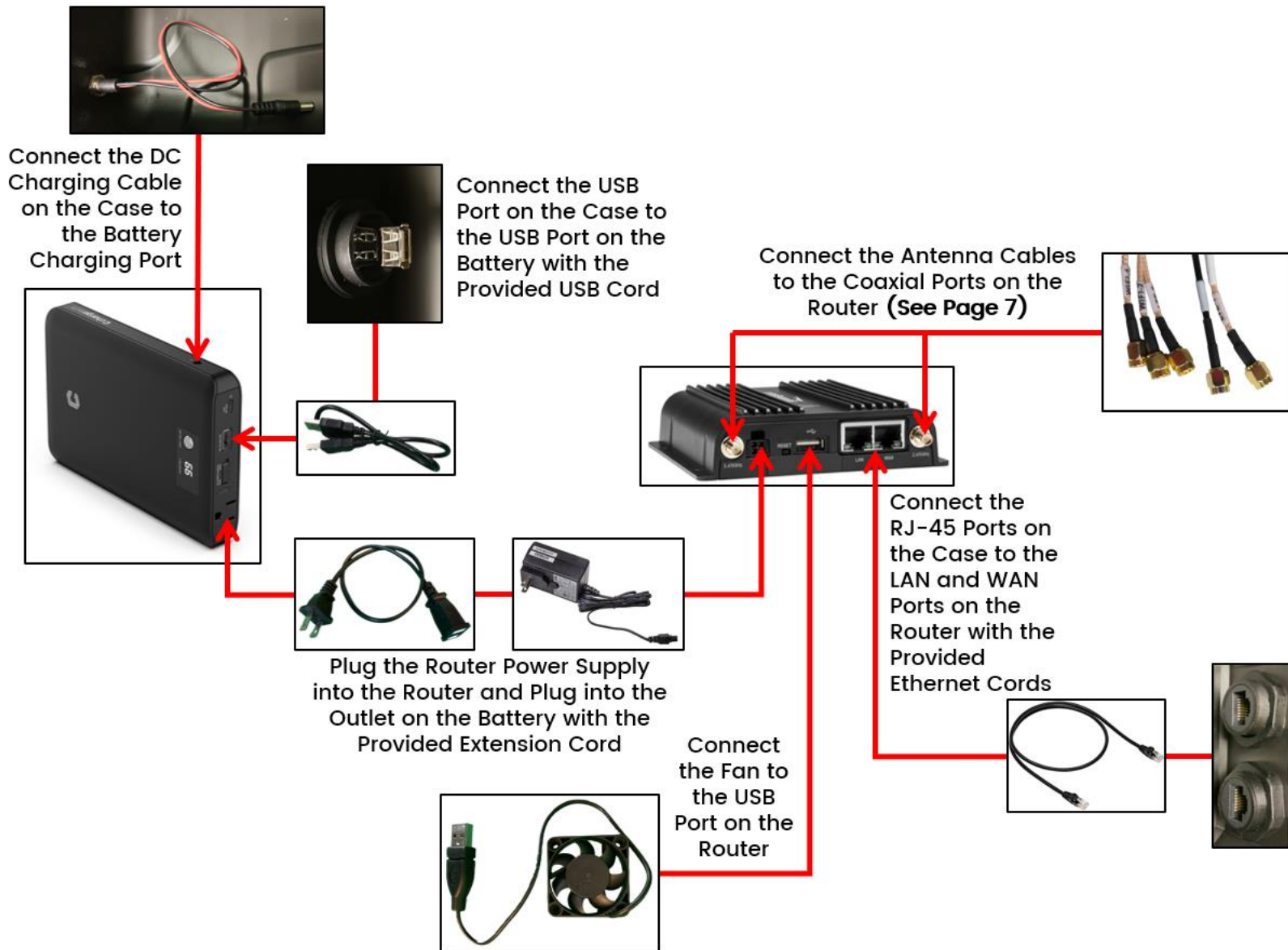


Figure 5: Connection Diagram for Beagle G

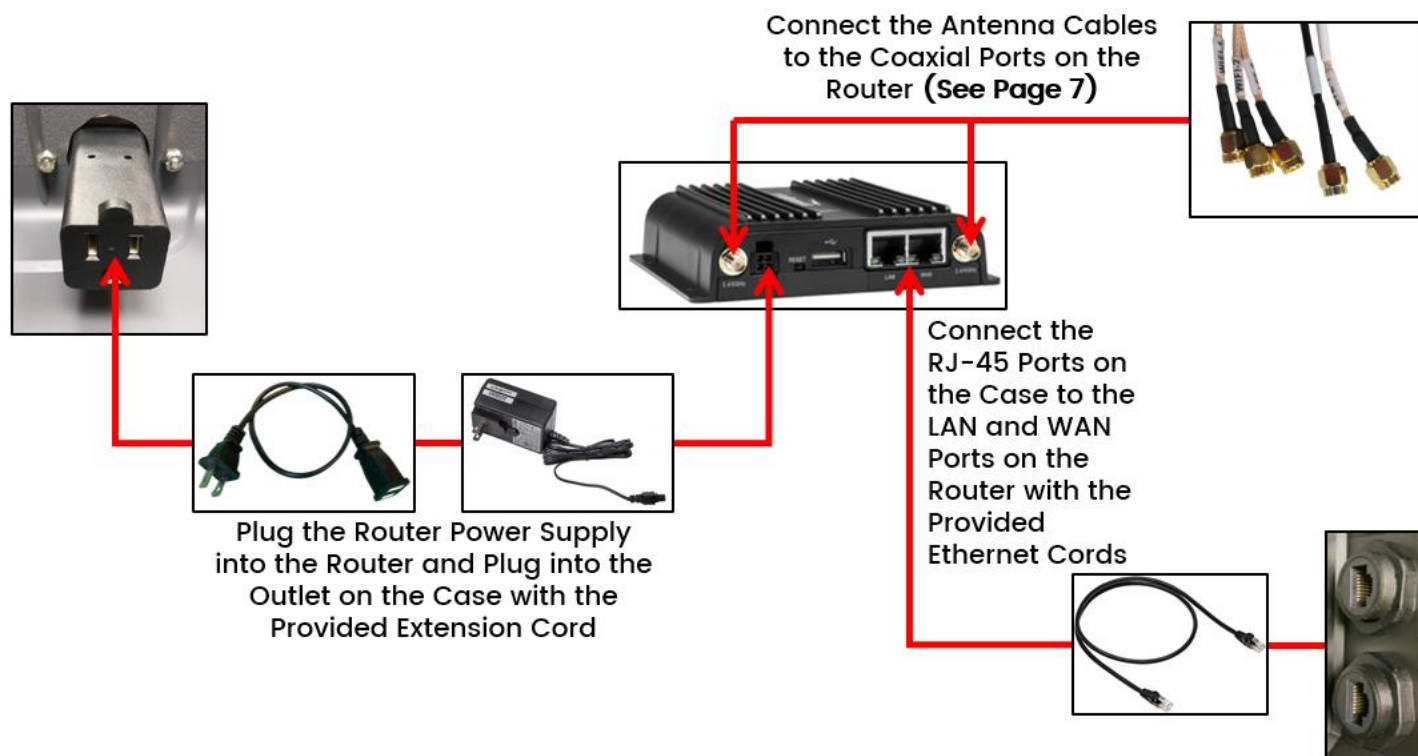


Figure 6: Connection Diagram for Beagle L

Step 1: Connect the antenna cables to the router.

- A. Use canned air or isopropyl alcohol to clean all the connectors to ensure that there is no dust in the terminals.
- B. Connect the antenna cables to the designated terminals on the router, as shown in the tables and images below.

Cradlepoint IBR600 and IBR900	
Antenna Cable	Router Terminal
LTE 1	MAIN
LTE 2	AUX
GPS	GPS
WIFI 1	2.4/5GHz, left
WIFI 2	2.4/5GHz, right

Cradlepoint R500-PLTE	
Antenna Cable	Router Terminal
PLTE 1	MAIN
PLTE 2	AUX
GPS	GPS
WIFI 1	2.4/5GHz, left
WIFI 2	2.4/5GHz, right



Figure 7: Cradlepoint IBR600, IBR900, & R500-PLTE Connections

Step 2: Connect the power supply to the router.

- A. Connect the router power supply to the power supply port on the router, shown in Figure 7, and plug it into the NEMA male to female adapter, provided in the kit.
- B. **For Beagle L**, plug the NEMA male to female adapter into the AC power port on the case.
- C. **For Beagle G**, plug the NEMA male to female adapter into AC outlet on the battery pack, shown in Figure 9.

Step 3: Connect the fan to the router (Beagle G only).

- A. This step only applies to the Beagle G.
- B. Plug the USB-A cord from the fan into the USB-A port on the router, shown in Figure 7.

Step 4: Connect the router to the RJ-45 ports on the case using ethernet cords.

- A. Connect the provided ethernet cords to the LAN port and WAN port on the router, shown in Figure 7.
- B. Connect the other ends of the ethernet cords from the router to the RJ-45 ports on the case. Keep track of which cord is connected to the WAN port on the router. Consider connecting the WAN port on the router to the front RJ-45 port and the LAN port on the router to the back RJ-45 port, as shown in Figure 8.



Figure 8: Connect the router to the RJ-45 ports on the case using ethernet cords.

Step 5: Connect the USB-A port on the case to the battery pack (Beagle G only).

- A. This step only applies to the Beagle G.
- B. Plug the provided USB-A cord into the USB-A port on the case and the USB-A port on the battery pack, shown in Figure 9.

Step 6: Connect the battery pack to the DC charging port on the case (Beagle G only).

- A. This step only applies to the Beagle G.
- B. Connect the DC charging port cable from the case to the DC charging port on the side of the battery pack, shown in Figure 9.

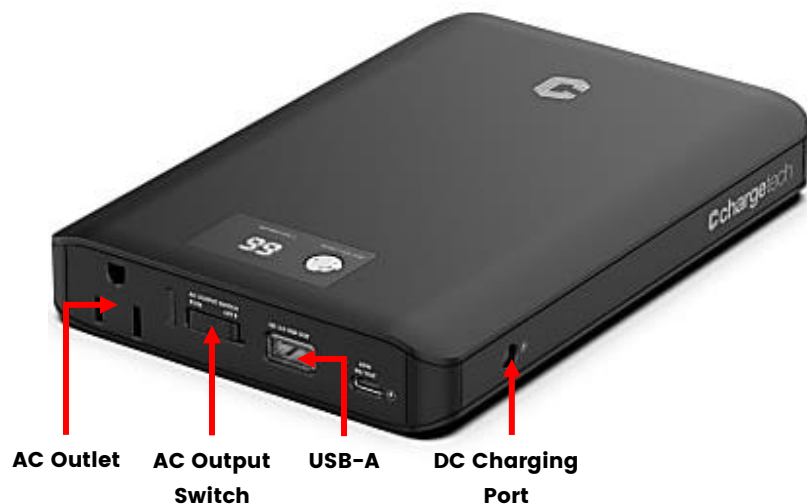


Figure 9: ChargeTech 27K Battery Pack Connections. (Beagle G)

Final Assembly

Step 1: Make sure all the cables and devices are properly connected.

- A. Inspect every cable connection and ensure that no connections are loose.
- B. Use cable ties or other wire management to neatly bundle the cables. Pack the cables neatly inside the bottom half of the case. **Ensure that the antenna cables are not excessively bent ($1/2$ " minimum bend radius).**



Figure 10: Fully Connected 5in1 Beagle G with Cradlepoint IBR900 Router



Figure 11: Fully Connected 5in1 Beagle L with Cradlepoint IBR900 Router

Step 2: Fasten the cover plate to the case.

- A. Place the cover plate onto the bottom half of the case. **Ensure that no cables are pinched between the cover plate and the case.**
- B. Fasten the cover plate to the case using the eighteen PTA0071B black oval head screws provided in the kit, as shown in Figure 12.

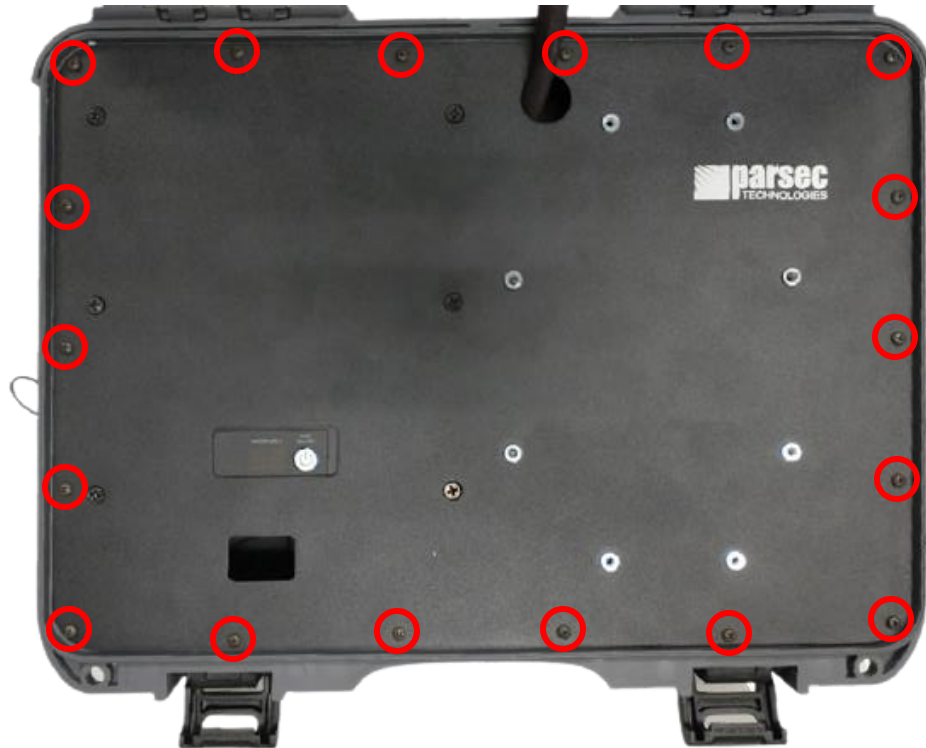


Figure 12: Fasten the cover plate to the case using PTA0071B screws.

Operational Setup

Step 1: Open the fan and vent caps (Beagle G only).

- A. This step only applies to the Beagle G.
- B. Before turning the antenna ON, always open the fan and vent caps. The type of cap may vary.
- C. **Ensure that the antenna is away from any liquids when the caps are open.**



Figure 13: Open the fan and vent caps. (Beagle G)

Step 2: Power on the antenna.

- A. **For Beagle L**, connect a power cord to the AC outlet on the outside of the case.
- B. **For Beagle G**, follow steps 2C–2G below.
- C. Turn the battery pack ON by pressing and holding the power button for 3 seconds. The display on the battery pack will indicate the battery pack's current battery life (%). **Do not hold the button for longer than 3 seconds; this will cause the battery pack to enter programming mode. To exit programming mode, turn the battery pack OFF then ON again.**
- D. Set the AC output switch on the battery pack to ON. The switch can be accessed through the slot in the cover plate.
- E. Shortly after turning on the battery pack, the fan will start.
- F. To charge the battery pack, connect the battery pack charger to the DC charging port on the outside of the case.
- G. See Page 16 for Battery Operation and Safety Guidelines.

Step 3: Connect the antenna to a computer.

- A. Use an ethernet cable to connect a computer to the RJ-45 port on the case that is connected to the LAN port on the router.

Step 4: Login to Cradlepoint NetCloud.

- A. Open a web browser on the computer and type 192.168.0.1 into the address bar. This will bring up the Cradlepoint NetCloud login, shown in Figure 14.
- B. Login to Cradlepoint NetCloud. The username is “admin”, and the password is found on the router, shown in Figure 15.

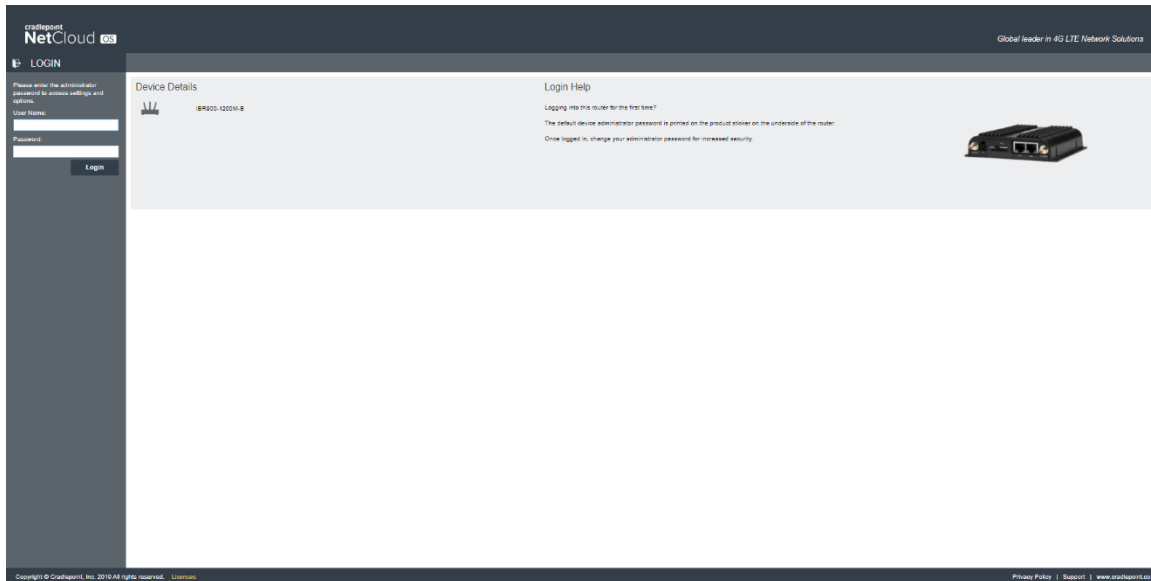


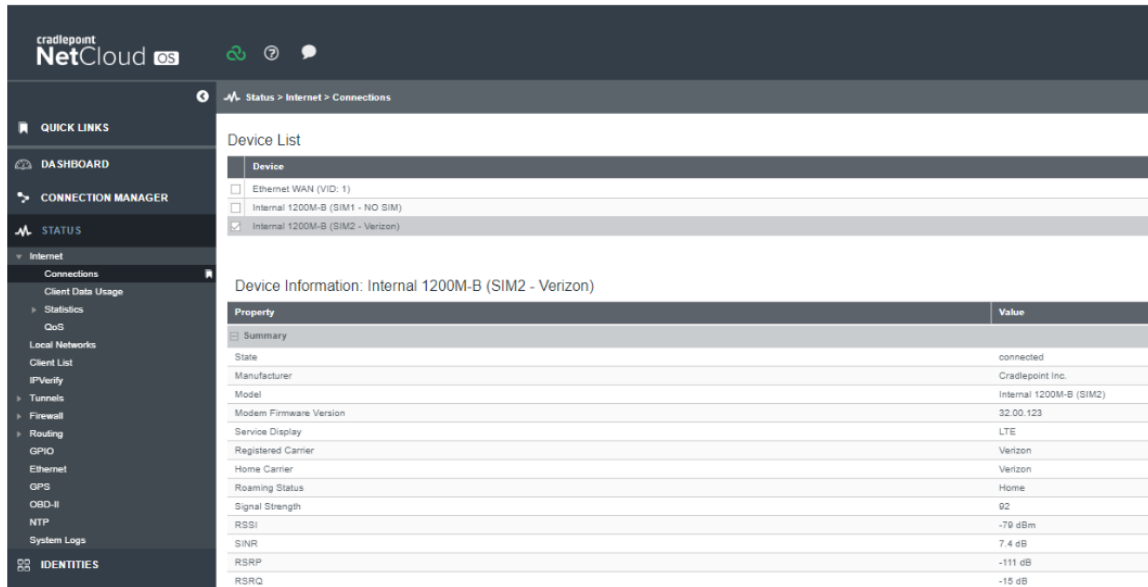
Figure 14: Access Cradlepoint NetCloud.



Figure 15: Cradlepoint NetCloud Login Password

Step 5: Select the antenna in the device list on Cradlepoint NetCloud.

- A. On the left side of the page, select STATUS. From the dropdown menu, select INTERNET and then CONNECTIONS.
- B. In the Device List table, select the option with a cellular SIM, as shown in Figure 16.



The screenshot shows the Cradlepoint NetCloud OS interface. On the left is a sidebar with navigation links: QUICK LINKS, DASHBOARD, CONNECTION MANAGER, STATUS, and IDENTITIES. The STATUS section is expanded, showing Internet, Connections, Client Data Usage, Statistics, QoS, Local Networks, Client List, IPVerify, Tunnels, Firewall, Routing, GPIO, Ethernet, GPS, OBD-II, NTP, and System Logs. The main content area displays the 'Device List' table with three rows: Ethernet WAN (VID: 1), Internal 1200M-B (SIM1 - NO SIM), and Internal 1200M-B (SIM2 - Verizon). The third row is selected. Below the table, the 'Device Information: Internal 1200M-B (SIM2 - Verizon)' is shown, including a summary table with properties like State, Manufacturer, Model, and Signal Strength.

Property	Value
State	connected
Manufacturer	Cradlepoint Inc.
Model	Internal 1200M-B (SIM2)
Modem Firmware Version	32.00.123
Service Display	LTE
Registered Carrier	Verizon
Home Carrier	Verizon
Roaming Status	Home
Signal Strength	92
RSSI	-79 dBm
SINR	7.4 dB
RSRP	-111 dB
RSRQ	-15 dB

Figure 16: Select the device with a cellular SIM in Cradlepoint NetCloud.

Antenna setup is complete!

If applicable, make sure the fan and vent caps are open while using the antenna.

Battery Operation and Safety Guidelines

- A. To manually power ON/OFF, press and hold the power button (located on the top of the unit) for 3 seconds. All LED lights/display should turn ON/OFF.
- B. Holding the power button for longer than 3 seconds will cause the battery pack to enter programming mode. To exit programming mode, turn the battery pack OFF and then ON again.
- C. Recharging the battery pack can be done with the included 48W Charging Adapter or with a Type-C PD Charger with at least 45W of power and up to 65W maximum.
- D. To use the AC outlet, slide the AC power switch to the ON position and press the power button. The solid red LED light will come on, which indicates that the AC outlet is on. A device plugged into the AC outlet must be 15–85W for the AC outlet to work. Otherwise, the AC outlet will automatically shut off.
- E. If no power draw is detected after 90 seconds, the battery pack will shut OFF to conserve energy. While the unit is OFF, press and hold the power button until the display begins flashing. This activates continuous mode, and the entire unit will stay ON until manually turned OFF.
- F. While plugged in and charging, the battery pack will allow pass-through charging to continue powering any devices that are plugged in to the battery pack. To disable this function, press and hold the power button for 2 seconds while the battery pack is charging. Repeat to re-enable pass-through charging for all ports.
- G. Warning: if the battery pack exceeds a safe operating temperature due to insufficient ventilation or a high-temperature environment, the unit will automatically shut OFF.
- H. **Keep out of reach of children.**
- I. **The product may become uncomfortable warm, reaching 140°F (60°C) under extended, high-power usage. While using the product, make sure to keep it away from materials that may be affected by high temperatures.**
- J. **Hold on carefully when inserting or removing a cable. Make sure not to force or bend cables when inserting them into the charging ports.**
- K. **Avoid inserting any foreign objects into the ports.**
- L. **Do not attempt to open, alter, or modify the unit.**
- M. **Do not use in temperatures over 100°F (40°C).**
- N. **Do not expose the product to wet conditions such as water, rain, or snow.**
- O. **Failure to follow these safety guidelines may cause personal injury and/or property damage to the product. It may also void the product warranty.**

**CAUTION**

To comply with FOC RF Exposure requirements in section 1.1310 of the FCC Rules, antennas used with this device must be installed to provide a separation distance of at least 20 cm from all persons to satisfy RF exposure compliance.

**DO NOT**

- Operate the transmitter when someone is within 24 inches of the antenna
- Install the antenna or mast assembly on a windy day
- Install the mast close to power lines as it can cause serious injuries or death

**WARNING**

This document gives the detailed instructions to install an antenna to the best of our knowledge. This document is for general information only. It cannot be used as a warranty. Parsec Technologies Inc. will not accept any liability for any damage caused by an antenna due to unknown variables.



Parsec Technologies

972-804-4600

support@parsec-t.com

Last Revised: 9-29-2022