BERNESE MOUNTAIN DOG
Installation Instructions

The Bernese Mountain Dog is a low-profile, nine-in-one, 5G antenna with MIMO LTE, MIMO WIFI, and GPS/GNSS built into a portable, waterproof enclosure. This rugged, omni-directional antenna works on most of the common North American LTE bands with high efficiency. The Bernese Mountain Dog is optimized for LTE isolation.

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Antenna Versions

The Bernese Mountain Dog case antenna comes in three versions – A, G, and L – with different features, listed below.

Bernese Mountain Dog A	Bernese Mountain Dog G	Bernese Mountain Dog L
• AC Power Port	• 4x RJ-45 Ports • USB-A Port • Battery Operated (battery not included) • 40mm Fan	• AC Power Port • 4x RJ-45 Ports • 40mm Fan

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Required Tools & Accessories

The following tools (not provided) are required in for the installation of the Bernese Mountain Dog case antenna:

- Philips Screwdriver
- 11/32" Wrench

The table below lists the required accessories for the A, G, and L versions of the Bernese Mountain Dog case antenna.

	Bernese Mountain Dog A	Bernese Mountain Dog G	Bernese Mountain Dog L
Provided with Antenna	• NEMA Male to Female Adapter • PTA00351 Black Oval Head Screws with Washers, 21 pcs • PTA0399-TL Pan Head Screws, 4 pcs • PTA0579 Pan Head Screws, 4 pcs • PTA0604 Lock Nuts, 4 pcs • LED Display Cover, 2 pcs	• NEMA Male to Female Adapter • PTA00351 Black Oval Head Screws with Washers, 21 pcs • PTA0368-B Black Flat Head Machine Screws, 6 pcs • PTA0399-TL Pan Head Screws, 4 pcs • PTA0579 Pan Head Screws, 4 pcs • PTA0604 Lock Nuts, 4 pcs • Ethernet Cords, 4 pcs * • USB-A Cord * • Battery Tray for ChargeTech 27K Battery Pack • LED Display Cover • Cable Ties	• NEMA Male to Female Adapter • PTA00351 Black Oval Head Screws with Washers, 21 pcs • PTA0399-TL Pan Head Screws, 4 pcs • PTA0579 Pan Head Screws, 4 pcs • PTA0604 Lock Nuts, 4 pcs • Ethernet Cords, 4 pcs * • LED Display Cover, 2 pcs • Cable Ties
To Be Purchased By Customer	• NEMA 5-15P to IEC C13 Socket Power Cord (i.e. McMaster #71535K51) ***	• 27K AC Battery Pack (ChargeTech #CT-600061) • USB-A Cord ** • Ethernet Cords, 4 pcs **	• Ethernet Cords, 4 pcs ** • NEMA 5-15P to IEC C13 Socket Power Cord (i.e. McMaster #71535K51) ***

	• Router Options (for other routers, contact customer service at support@parsec-t.com)
	  ○ Cradlepoint IBR900 with COR Extensibility Dock (Cradlepoint #170700-000)
	  ○ Cradlepoint R1900 **(4 LTE maximum)**
	• 12V 2x2 Power Supply (Cradlepoint #170716-000)
	• Cradlepoint MC400 Modular Modem **(required for more than 4 LTE)**		

* 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

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Battery and Router Installation

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

A. This step only applies to the Bernese Mountain Dog 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.**

Battery Ports at the Open End of the Battery Tray

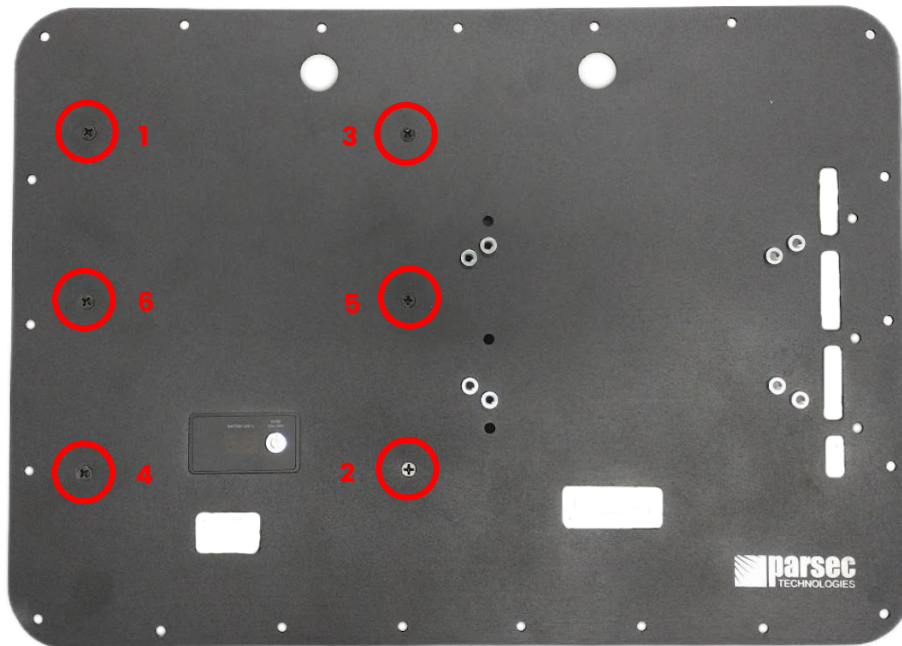*Figure 1: Place the ChargeTech battery pack into the battery tray. (Bernese Mountain Dog G)*

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

Step 2: Mount the router to the cover plate.

A. If not already done, remove the cover plate from the enclosure.

B. Remove the film from the display cover(s) and apply to the cover plate.

C. **For IBR900 router,** install the router onto the COR Extensibility Dock. Align the router with the holes on the cover plate. Mount the router using the four PTA0399-TL pan head screws provided in the kit, as shown in Figure 3.

D. **For R1900 router,** align the router with the holes on the cover plate. Mount the router using the four PTA0579 pan head screws and four PTA0604 lock nuts provided in the kit, as shown in Figure 4. The nuts should be on the router side.

E. **Ensure the router orientation is correct as shown in the images below. The router display should be visible through the slot(s) in the cover plate.**

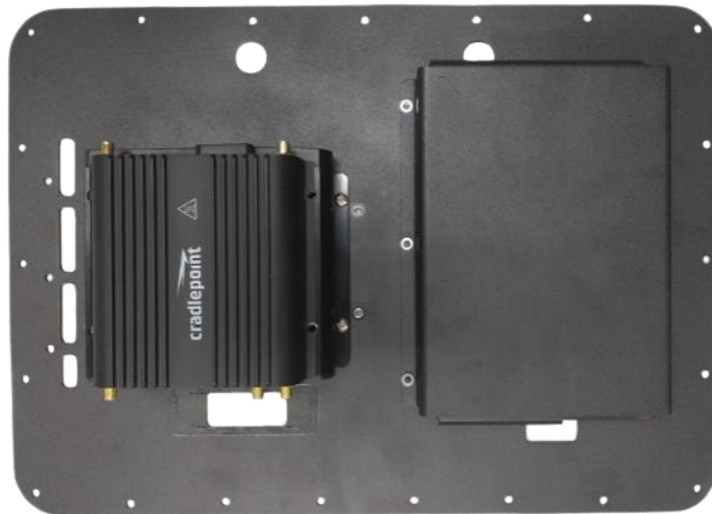F. Guide the cable bundles back through the holes in the cover plate.

Figure 3: For IBR900 router, fasten the router to the cover plate using PTA0399-TL screws.

Figure 4: For R1900 router, fasten the router to the cover plate using PTA0579 screws and PTA0604 nuts.
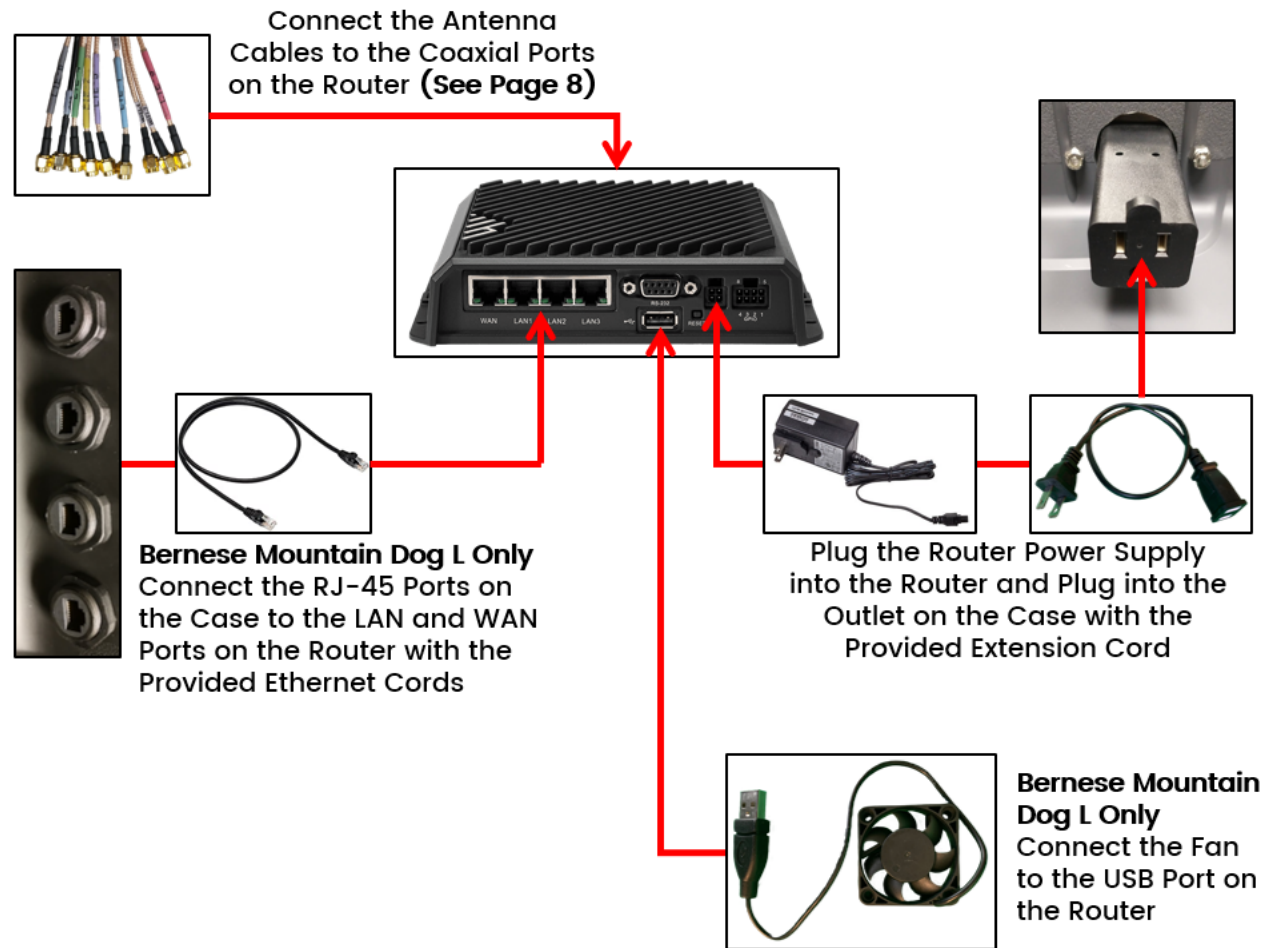
Connection

Connect the Antenna
Cables to the Coaxial Ports
on the Router **(See Page 8)**

Bernese Mountain Dog L Only
Connect the RJ-45 Ports on
the Case to the LAN and WAN
Ports on the Router with the
Provided Ethernet Cords

Plug the Router Power Supply
into the Router and Plug into the
Outlet on the Case with the
Provided Extension Cord

**Bernese Mountain
Dog L Only**
Connect the Fan
to the USB Port on
the Router

Figure 5: Connection Diagram for Bernese Mountain Dog A & L

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Connect the Antenna
Cables to the Coaxial
Ports on the Router
(See Page 8)

Connect the DC
Charging Cable
on the Case to
the Battery
Charging Port

Connect the USB
Port on the Case to
the USB Port on the
Battery with the
Provided USB Cord

Connect the RJ-45
Ports on the Case to
the LAN and WAN Ports
on the Router with the
Provided Ethernet
Cords

Connect
the Fan to
the USB
Port on the
Router

Plug the Router Power Supply
into the Router and Plug into the
Outlet on the Battery with the
Provided Extension Cord

Figure 6: Connection Diagram for Bernese Mountain Dog G

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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 IBR900 with COR Extensibility Dock	
Antenna Cable	Router Terminal
LTE 1	MAIN0 on modem on dock
LTE 2	AUX0 on modem on dock
LTE 3	MAIN1 on modem on dock
LTE 4	AUX1 on modem on dock
LTE 5	MAIN
LTE 6	AUX
GPS	GPS
WIFI 1	2.4/5GHz, left
WIFI 2	2.4/5GHz, right

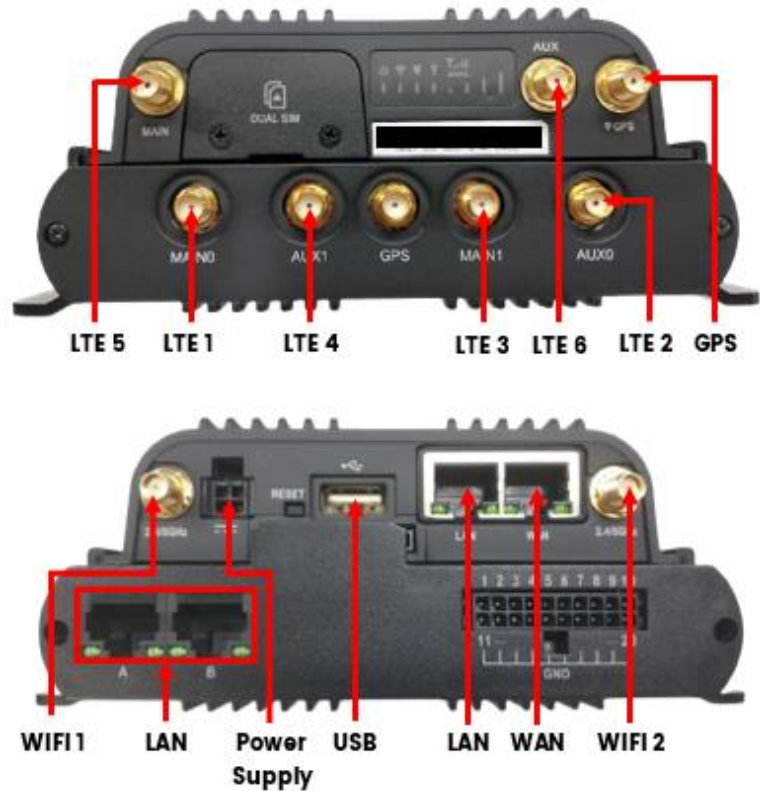| Cradlepoint R1900	
Antenna Cable	Router Terminal
LTE 1	MAIN
LTE 2	DIV
LTE 3	MIMO1
LTE 4	MIMO2
GPS	GPS
WIFI 1	2.4/5GHz, left
WIFI 2	2.4/5GHz, right
Bluetooth	BT

Figure 7: Cradlepoint IBR900 with COR Extensibility Dock Connections

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Figure 8: Cradlepoint R1900 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 Figures 7 and 8, and plug it into the NEMA male to female adapter, provided in the kit.

B. **For Bernese Mountain Dog A & L,** plug the NEMA male to female adapter into the AC power port on the case.

C. **For Bernese Mountain Dog 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 (Bernese Mountain Dog G & L only).

A. This step only applies to the Bernese Mountain Dog G and L.

B. Plug the USB-A cord from the fan into the USB-A port on the router, shown in Figures 7 and 8.

Step 4: Connect the router to the RJ-45 ports on the case using ethernet cords (Bernese Mountain Dog G & L only).

A. This step only applies to the Bernese Mountain Dog G and L.

B. Connect the provided ethernet cords to the LAN ports and WAN port on the router, shown in Figures 7 and 8.

C. 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 ports on the router to the back three RJ-45 ports, as shown in Figure 9.

Figure 9: Connect the router to the RJ-45 ports on the case using ethernet cords.

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

A. This step only applies to the Bernese Mountain Dog 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 10.

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

A. This step only applies to the Bernese Mountain Dog 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 10.

AC Outlet   **AC Output Switch**   **USB-A**   **DC Charging Port**
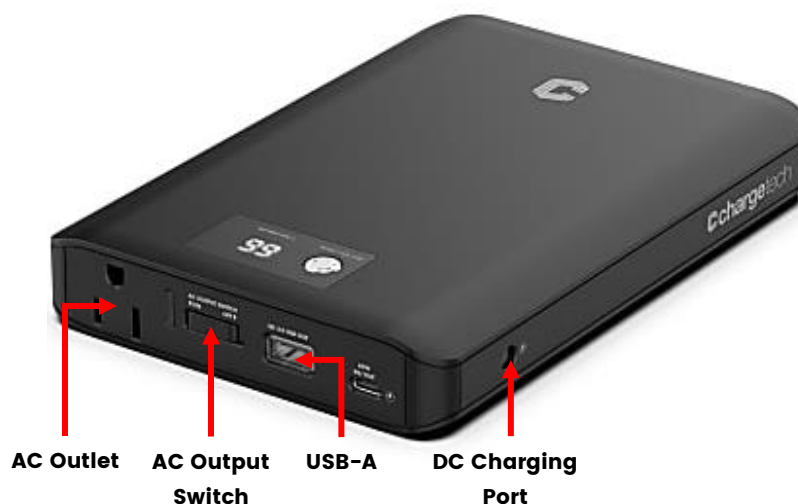
Figure 10: ChargeTech 27K Battery Pack Connections. (Bernese Mountain Dog G)

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 11: Fully Connected 9in1 Bernese Mountain Dog A with Cradlepoint IBR900 Router and COR Extensibility Dock

Figure 12: Fully Connected 9in1 Bernese Mountain Dog G with Cradlepoint IBR900 Router and COR Extensibility Dock

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Figure 13: Fully Connected 9in1 Bernese Mountain Dog L with Cradlepoint IBR900 Router and COR Extensibility Dock

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 twenty-one PTA0351 black oval head screws with washers provided in the kit, as shown in Figure 14.
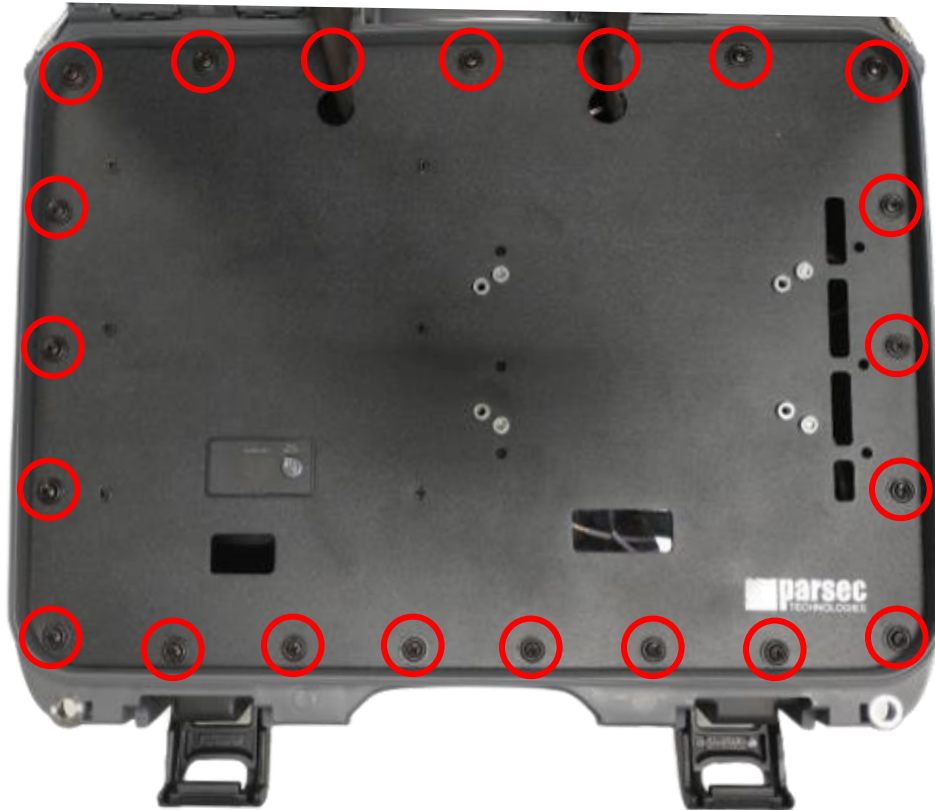
Figure 14: Fasten the cover plate to the case using PTA0351 screws.

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Operational Setup

Step 1: Open the fan and vent caps (Bernese Mountain Dog G & L only).

A. This step only applies to the Bernese Mountain Dog G and L.

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 15: Open the fan and vent caps. (Bernese Mountain Dog G & L)

Step 2: Power on the antenna.

A. **For Bernese Mountain Dog A & L,** connect a power cord to the AC outlet on the outside of the case.

B. **For Bernese Mountain Dog 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 19 for Battery Operation and Safety Guidelines.

Step 3: Connect the antenna to a computer.

    A. Use an ethernet cable to connect a computer to one of the RJ-45 ports on the case that are connected to the LAN ports 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 16.

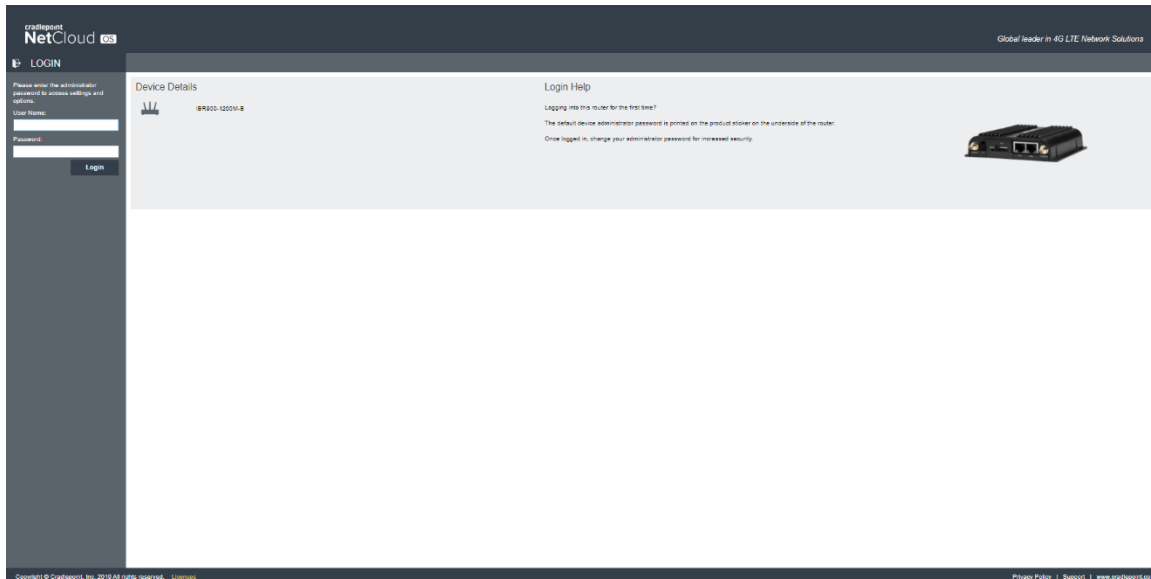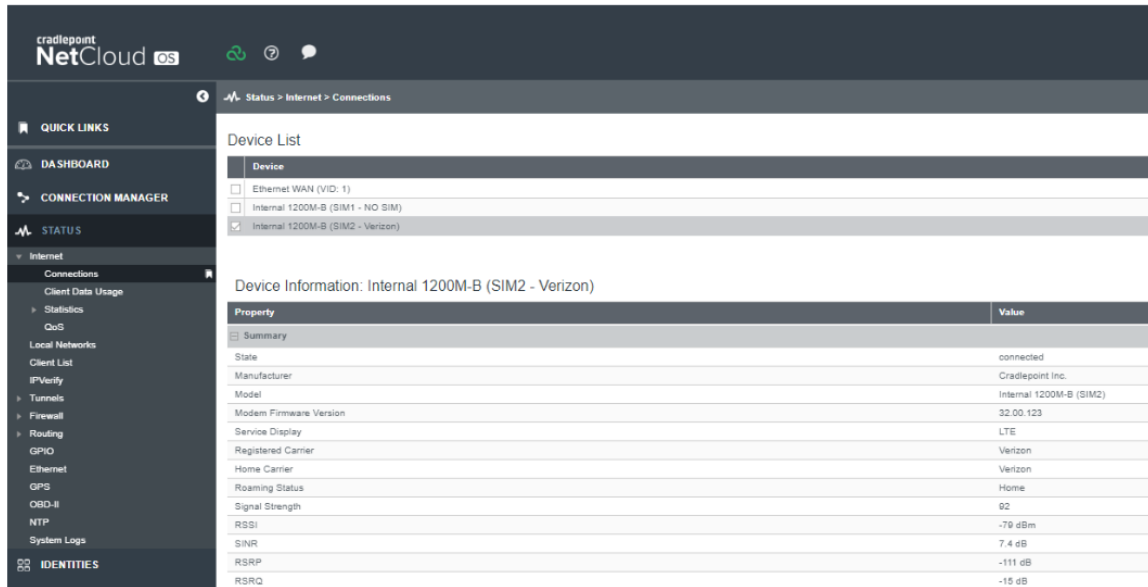   B. Login to Cradlepoint NetCloud. The username is "admin", and the password is found on the router, shown in Figure 17.

Figure 16: Access Cradlepoint NetCloud.

Figure 17: 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 17.

Figure 17: 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 with 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.**

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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.

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