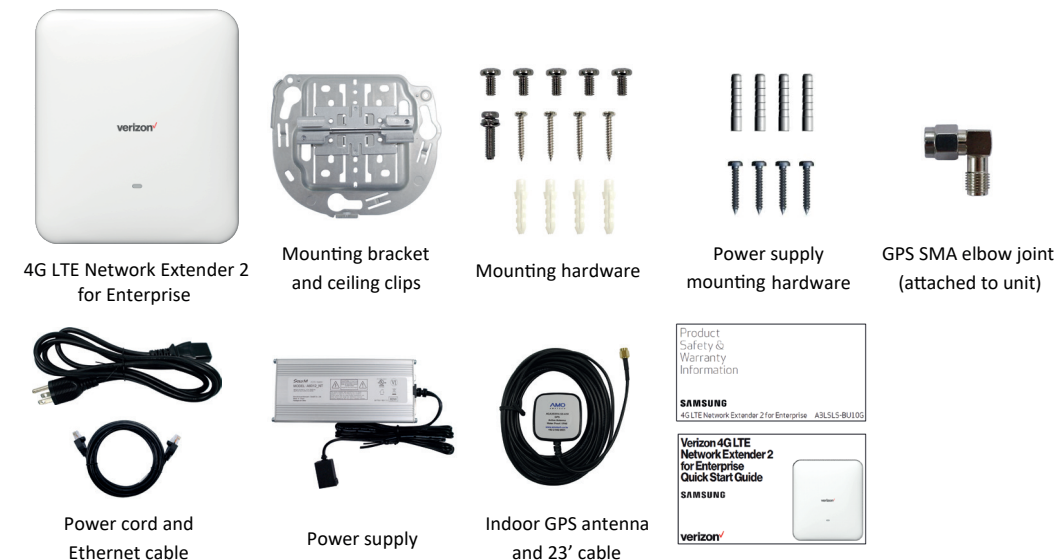


1. In-box Contents

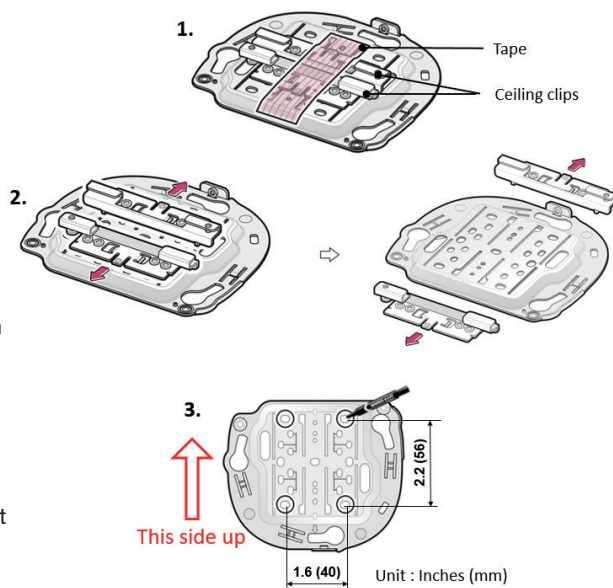
The box contains the following components:



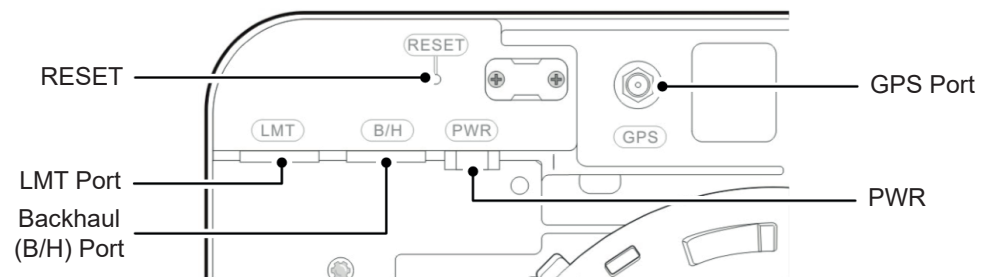
4. Using the Mounting Bracket

The Network Extender can be installed horizontally or vertically on the ceiling, or vertically on the wall (some additional hardware may be required depending on your installation surface). For best placement and orientation, see the Deployment Guide.

1. Remove the tape that is holding the ceiling clip to the bracket.
2. Remove both parts of the ceiling clip from the mounting bracket, as shown.
Note: The clips are used when installing on a ceiling joist (M-bar or T-bar). Refer to the Installation Manual for detailed instructions.
3. Place the mounting bracket on the ceiling or wall and, using it as a template, mark the holes with a pencil. Remove the bracket and pre-drill the holes.
Note: When using the mounting bracket on a wall, position with the flat edge up, as shown, so that your Extender will lock into place.



2. Connection Overview

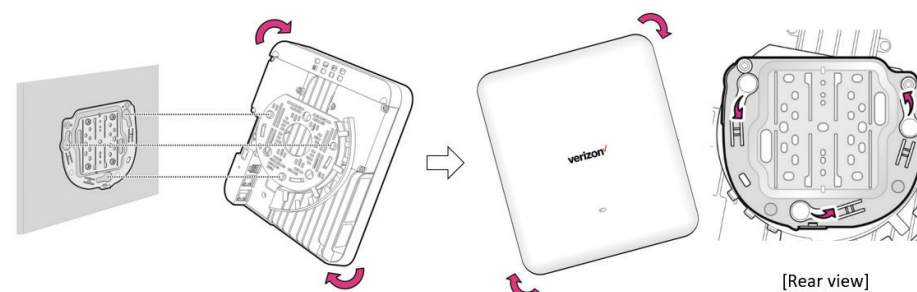


Port Name	Function
GPS	To connect GPS antenna and receive GPS signal.
PWR	To connect Power Supply (12V DC).
B/H	Backhaul port to connect Ethernet cable with router.
LMT	Local Monitoring Terminal Port. To manage setting and display device status.
RESET	Factory Reset. Press RESET hole over 10 seconds with thin tool.

Note: For general safety and precautions, see Product Safety and Warranty Information.

4. Using the Mounting Bracket (Continued)

4. Use a hammer to insert the 4 plastic anchors into the drilled holes. Align the mounting bracket with the anchors and fasten it to the wall with the four M4 x L28 screws.
Note: Drill Bits 0.2 in. (6mm)
Hole Depth 1.4 in. (35mm)
Note: The remaining screws are for use with the ceiling clips, if installing from a ceiling joist (M-bar or T-bar). (See the Installation Manual for detailed ceiling mount instructions.)
M3 x L6: 5 screws
M3 x L12 (TroX): 1 screw
5. Before attaching the Network Extender to the mounting bracket, make sure all the cables are connected. (See 5. Connecting the Cables.) Align the Network Extender with the 3 holes on the mounting bracket and turn clockwise to fix it in place. Then, install the power supply on the wall using the provided mounting hardware.



3. Prerequisites

Power

110V AC or 60W PoE++ Switch or Injector.

Ethernet and Backhaul (B/H) Requirements

CAT5E or CAT6 Ethernet cables are recommended. Cables need a 75 °C operating temperature.

Internet Access: High speed wired broadband with minimum download speed of 20 Mbps and upload speed of 10 Mbps.

For best performance follow the backhaul and bandwidth requirements and specific firewall settings noted in the the User Guide.

GPS Signal

The Network Extender requires a strong GPS signal and includes a GPS antenna for indoor use. For information on using an outdoor GPS antenna, please refer to the User Guide.

Placement

Place the Network Extender in a location that:

- Is central to users
- Has a good GPS signal. An outdoor GPS antenna (not supplied) may be needed if indoor GPS signal is weak
- Is at least 12 feet away from products that generate electromagnetic radiation (e.g., microwave ovens, WiFi Access Points).
- If deploying more than one Network Extender, refer to the Deployment Guide for separation distance to avoid interference.

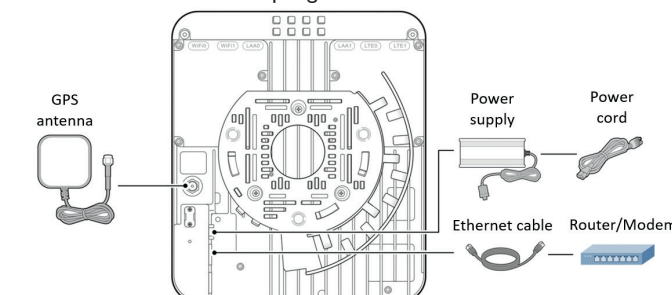
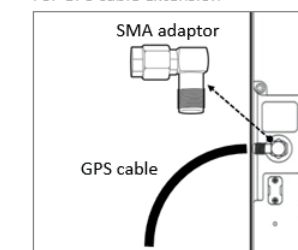
See 4. Using the Mounting Bracket for more information.

Note: Use of anti-static gloves is recommended when handling the Network Extender.

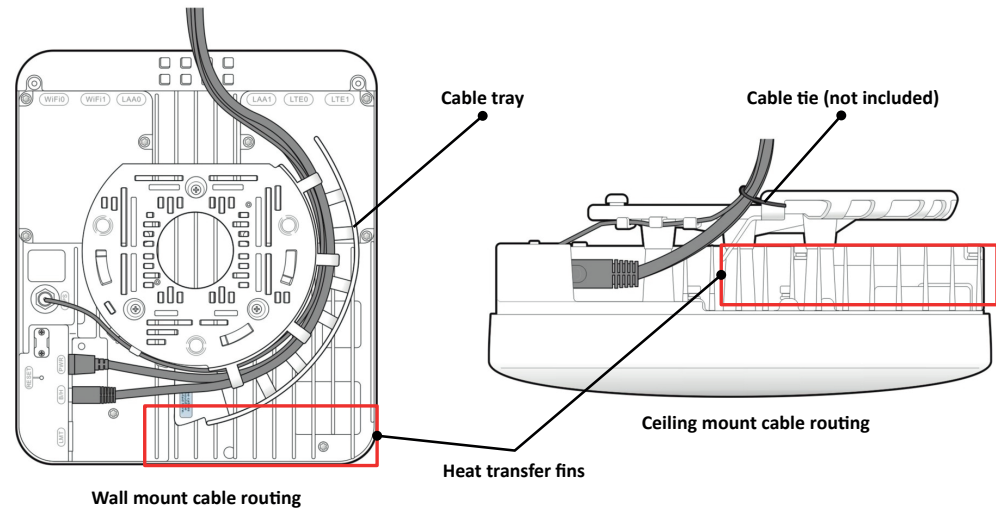
5. Connecting the Cables

1. Connect the included GPS antenna or a GPS extension cable (available from any third-party GPS supplier) to the attached SMA elbow joint on the Network Extender.
Note: If using the included antenna, you can remove the elbow joint with a 5/16" (8mm) wrench and attach the antenna directly to the GPS port to make it easier to run the antenna cable through the cable tray as noted in step 4.
2. Attach the Power Supply cable to the Network Extender.
3. Attach the Ethernet cable from your router or modem's LAN port to the Network Extender unit's B/H port for network connectivity.
4. Route the cables in the cable tray. Refer to the picture on next page for details.
5. Connect the Power Cord to the Power Supply and plug it into a wall outlet. The Network Extender will turn on.
Note: The first time you turn on your Network Extender, it may take 30-60 minutes to acquire GPS or software configuration. Monitor the LED status for progress.

For GPS cable extension



5. Connecting the Cables (Continued)



Note: For safety, make sure the attached cables do not come in contact with the unit's metal heat transfer fins. To avoid this, route the cables through the cable tray or secure with a cable tie, as show above.

WARNING: Do not connect the AC power supply when using Power over Ethernet (PoE).

7. Accessing Your Network Extender's Admin Website

You can manage your Network Extender's settings from its Admin website. There are 2 ways to access the site:

To connect via a computer connected to same subnet as the Network Extender:

1. Find out the Network Extender's IP address from the ARP table or via the LMT port.
2. Open a browser and enter `http://<Network Extender's IP address>`

To connect via a computer that is directly connected to the LMT port:

1. Adjust your computer's LAN IPv4 settings.
 - a. Go to **Start > Control Panel > Network and Internet > Network and Sharing Center > Change adapter settings > Local Area Connection > Properties**
 - b. Select **TCP/IPv4**
 - c. Under **Properties**, select **Use the following IP** and enter **192.168.32.28**
 - d. Select **Subnet Mask 255.255.255.0**
 - e. Click **OK**
2. Open a browser and enter `http://192.168.32.27`

Sign in to the Admin website using the default admin password: **LTEFemto + last 4 digits of the MAC ID** (e.g., LTEFemto9D0F).

Note: The password is case sensitive. Letters in the last four digits of the MAC ID should be UPPER case. The MAC ID can be found on the label on the side of the Network Extender.

For more detailed information on changing the TCP/IPv4 settings of the laptop, see the User Guide.



6. Startup Sequence with Troubleshooting Tips

Startup Sequence	LED State	Description/Troubleshooting
Hardware/Startup Initialization	Solid red	Initialization in progress. If the LED stays solid red for more than 10 minutes, internal initialization failed. If this condition persists for more than 10 minutes, restart the Network Extender. If this condition still persists, call Customer Service.
Active Ethernet cable is not detected in the Ethernet port	Alternating yellow & red	Check that the Ethernet cable is not defective and properly connected to the Network Extender and a functioning switch or router. If you are using a PoE source, make sure the source is configured to supply at least 51W to avoid the switch from disabling the Ethernet Port. (See the Power supply/PoE section of the User Guide.)
Acquiring IP Address	Solid yellow	If this state persists for more than 5 minutes, check your router/DHCP server, LAN settings or contact your Network Administrator.
Acquired local IP and DNS - Attempting Secure VPN connection to Verizon Network	1 yellow blink	The Network Extender is attempting to establish a secure connection to the Verizon Network. If this state persists for more than 15 minutes, sign in to the Admin website and see if the server connectivity status is reachable or not. If not reachable, check the LAN/firewall setting or contact your Network Administrator.
Authentication failure (cause code 4)	2 red blinks	The Network Extender failed authentication and may not be provisioned. Call Customer Service.
Auto Lock (All reasons except FDR Authentication Failure)	Alternating 2 red blinks & 1 yellow blink	The Network Extender is locked due to abnormal service conditions (Out of service). If restarting the Network Extender does not clear the issue, call Customer Service.
Admin Lock	Alternating 2 red blinks & 2 yellow blinks	The Network Extender is locked for maintenance and is out of service. If this situation persists, call Customer Service.
GPS/PTP Acquisition	3 yellow blinks	The Network Extender is attempting to access GPS or PTP for location and time synchronization. If the unit remains in this state for 15 minutes, sign in to the Admin website and see the GPS signal strength or PTP server status. If the GPS signal is weak, you may need to relocate the indoor antenna or install an outdoor antenna.

8. Troubleshooting

No GPS Signal

If the unit remains in this state (3 yellow blinks) for 15 minutes, sign in to the Admin website and see the GPS signal strength or PTP server status. If the GPS signal is weak, you may need to relocate the indoor antenna or install an outdoor antenna.

Is my wireless device connected to the Network Extender?

Check the Network Extender "Home" icon on your Android devices or dial #48 on your phone.

Can't reach Network Extender GUI or locked out of device.

Insert the end of an unfolded paper clip or pin into the **RESET** hole on the back of the Network Extender and press for 10 seconds. The unit will restart (solid red LED) and come up with factory default settings and password.

Port Down

If the LED blinks alternating red and yellow, check the **Status and Alarms** page in the **About** tab of the Admin website.

Support

For complete installation and operational information tips, see the User Guide at www.verizonwireless.com/NetworkExtender

To contact Verizon Customer Service, call **800.922.0204**.

Startup Sequence	LED State	Description/Troubleshooting
Software Configuration Download	4 yellow blinks	Software download in progress. Download times may depend on your backhaul. Do not reset the unit. The system will transition to 4 red blinks if there is a failure or fast blinking yellow if successful.
	4 red blinks	The unit wasn't able to download software and configuration parameters. If trouble continue, call Customer Service.
Software Configuration in progress	Fast blinking yellow	Software configuration should take less than a minute. If this status persists for more than 5 minutes, restart the unit.
In Service	Fast blinking green	System is operational. Providing connection to the Verizon network.

Alarms with Troubleshooting Tips

Network Extender Status	LED State	Description and Troubleshooting
GPS Holdover Started & Locking Fail Alarm "ON" (In Service)	Alternating 1 green & 3 yellow	The unit is no longer receiving a GPS signal and may lose service if the weak GPS signal situation is not addressed. Check the GPS antenna and location. If the alarm continues, see the Troubleshooting section of the User Guide. If the situation persists, call Customer Service.
Holdover Exceed Alarm "ON" (Out of Service)	3 yellow blinks	The unit has lost the GPS signal and is now out of service. Check the GPS antenna and location. If the alarm continues, see the Troubleshooting section of the User Guide.
Alarms which do not result in the system deactivating LTE services	Fast blinking green	See the Alarms section of the User Guide.
Alarms which result in the system deactivating LTE services	Alternating green & red	
Alarm occurred when Ethernet port is not detected	Alternating yellow & red	Make sure both ends of the Ethernet cable are connected. (See 5. Connecting the Cables)
Excessive interference occurred	Fast blinking red	The Network Extender is not in-service due to a high level of radio interference. Move the Extender to a different location. (See 3. Prerequisites: Placement)

Verizon 4G LTE Network Extender 2 for Enterprise Quick Start Guide

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