

CRD™ for FirstNet®

A Compact Rapid Deployable COW for FirstNet and Internet Connectivity When and Where it's Needed.



The CRD™ for FirstNet® is a Customer-Owned AT&T FirstNet deployable cell tower. It generates an area of FirstNet Cellular and Wi-Fi Internet coverage, anywhere, anytime. Your very own Cell-On-Wheels (COW) can be deployed by a single person, within minutes, wherever needed. Never go without Internet and Cell service again!

<u>Features</u>	<u>Benefits</u>	<u>Uses</u>
<ul style="list-style-type: none"> • FirstNet Range up to 1 Mile • Wi-Fi Range up to 1000' • High-Speed Internet • 60 Hour Generator Run Time • Weatherproof & Waterproof • Delivered on a Trailer Hitch • Cargo carrier, not a trailer 	<ul style="list-style-type: none"> • Fully Functional FirstNet COW • Connects you to the Cloud • Deployable by Single Person • Goes Right to the Incident • Many Uses, not just FirstNet • No Special Training Required – Simple to Use 	<ul style="list-style-type: none"> • Emergency Response • Remote Internet Connectivity • Business Continuity/Recovery • Restore Internet Service • Supply Internet to Other Units • Support VoIP, RoIP, and IoT • Backup your PSAP or Dispatch

CRD™ for FirstNet® Overview

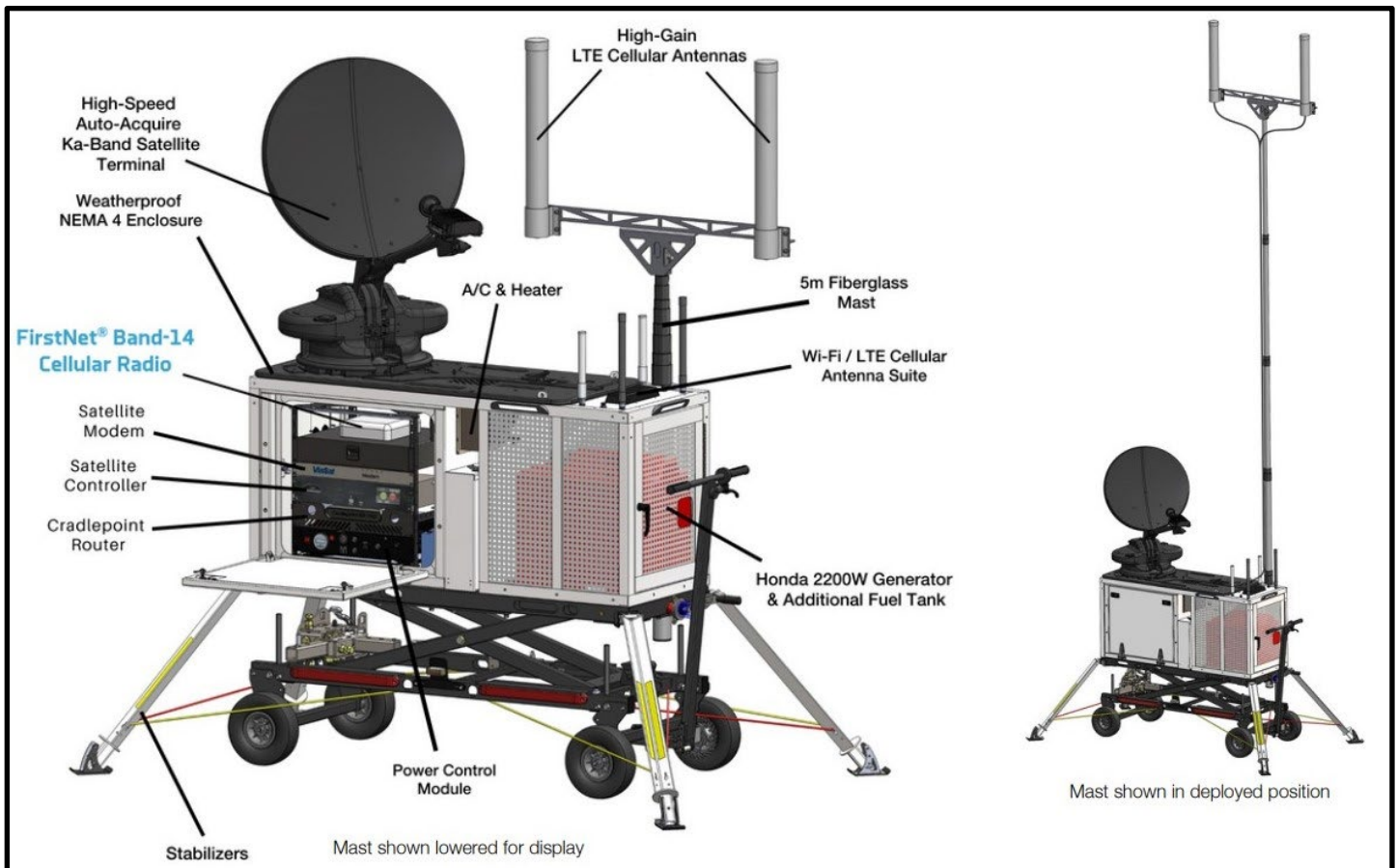
The CRD (Compact Rapid Deployable) provides FirstNet connectivity when and where AT&T cellular coverage is unavailable. This could be due to a network outage, or where AT&T does not provide service. The CRD also provides high speed Internet via Wi-Fi or Ethernet cable. The CRD may be purchased and operated by any Primary or Extended-Primary FirstNet customer. CRDs are easy to store indoors and can be transported by a single person, off the ground, on any standard trailer hitch, with no lifting required to mount or dismount.

Transport



CRDs roll through standard doorways and onto most elevators. They are transported on any standard Class 3 or better trailer hitch with no modification to the carrying vehicle. Simply turn the scissor lift crank handle to raise the CRD, insert the Hitch Adapter into the trailer hitch, lower the CRD pin into the Hitch Adapter until the load transfers to the Hitch Adapter, and continue to crank the handle to pull the wheels off the ground. Stop, turn, tail lights and a license plate holder are built into the CRD to meet all DOT requirements. Once loaded, the CRD may be driven at highway speeds, Code 3, off-road (4WD), and over debris. Simply reverse the loading process to unload the CRD. You may also transport a CRD sling-loaded under a helicopter.

Detailed Diagram



Deployment Options

Since the CRD is designed to do many jobs, there are multiple ways it can be deployed.

The CRD has multiple pathways it uses to talk to the Internet and the outside world. This is generally called WAN, or Wide Area Network. In the Cellular world, this is called Backhaul.

The pathways the CRD uses to communicate with you the user are called LAN, or Local Area Network. Cellular networks sometimes refer to this as User Access.

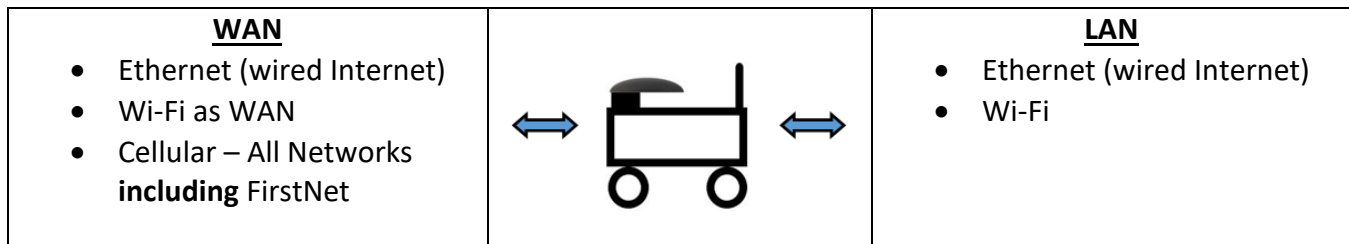
Here are the four standard configurations:

Terrestrial Backhaul (WAN) – FirstNet mast & radio not needed

This configuration is used where you have a ready supply of Internet (WAN) from an Ethernet cable plugged into the CRD, Wi-Fi from a local source, or good Cellular signal from a Cellular network including FirstNet. The CRD is providing (LAN) Ethernet and Wi-Fi. The satellite terminal and FirstNet mast are not needed.

Examples:

- Provide a Wi-Fi hotspot using a building’s Ethernet cable as backhaul
- Provide a Wi-Fi hotspot using the FirstNet Cellular network as backhaul
- Provide wired Ethernet to a building (restore Internet) using the FirstNet Cellular network as backhaul

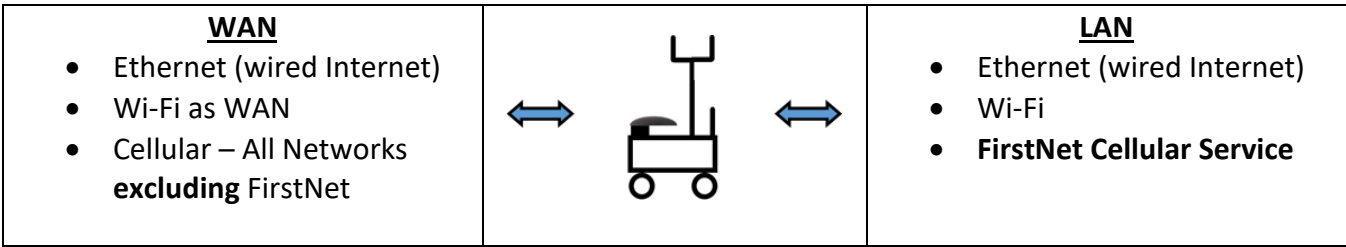


Terrestrial Backhaul (WAN) – FirstNet mast & radio deployed

This configuration is used where you have a ready supply of Internet from an Ethernet cable plugged into the CRD, Wi-Fi from a local source, or good Cellular signal from a cellular network not including FirstNet. You cannot broadcast a FirstNet signal from the CRD’s FirstNet mast/radio and attempt to backhaul to the FirstNet network cell towers at the same time. The CRD is providing Ethernet and Wi-Fi. The FirstNet mast is raised, and the CRD is providing up to a mile of FirstNet Cellular service. The satellite terminal is not needed.

Examples:

- Provide a Wi-Fi hotspot using a building’s Ethernet cable as backhaul
- Provide a Wi-Fi hotspot using the AT&T commercial Cellular network as backhaul
- Provide wired Ethernet to a building (restore Internet) using the AT&T commercial Cellular network as backhaul
- Provide FirstNet Cellular service backhauled to AT&T commercial Cellular, wired Ethernet or Wi-Fi

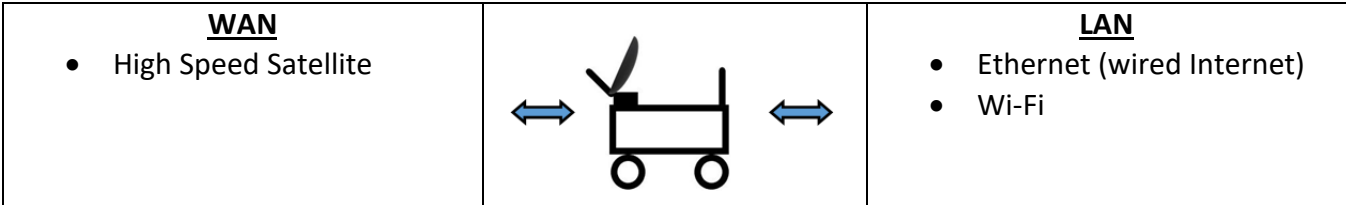


Satellite Backhaul (WAN) – FirstNet mast & radio not needed

This configuration is used where you do not have a supply of Internet (WAN) from terrestrial sources. The high-speed satellite terminal is deployed to provide Internet WAN connectivity. The CRD is providing (LAN) Ethernet and Wi-Fi. The FirstNet COW mast is not needed.

Examples:

- Provide a Wi-Fi hotspot using satellite as backhaul
- Provide wired Ethernet to a building (restore Internet) using satellite as backhaul

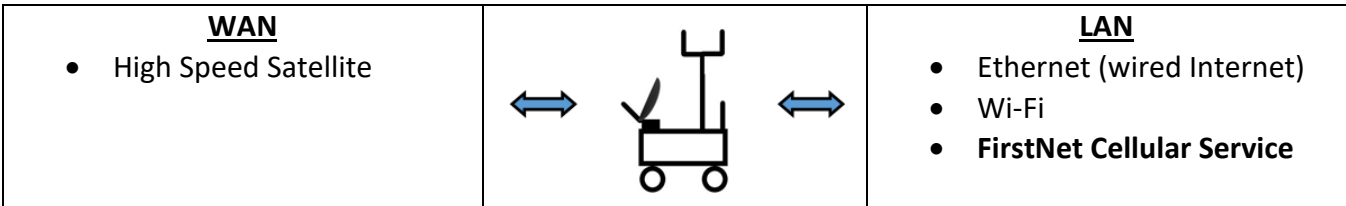


Satellite Backhaul (WAN) – FirstNet mast & radio deployed

This configuration is used where you do not have a supply of Internet (WAN) from terrestrial sources. The high-speed satellite terminal is deployed to provide Internet WAN connectivity. The CRD is providing (LAN) Ethernet and Wi-Fi. The FirstNet mast is raised and is providing up to a mile of FirstNet Cellular service.

Examples:

- Provide a Wi-Fi hotspot using satellite as backhaul
- Provide wired Ethernet to a building (restore Internet) using satellite as backhaul
- Provide FirstNet Cellular service using satellite as backhaul



Use Cases

- An incident has occurred (Hurricane, Fire, Flood, Earthquake, Train Derailment, Plane Crash, etc.) where FirstNet Cellular service is disrupted or not available. You deploy your CRD™ with FirstNet®. No Internet or network LTE of any kind is available, so the system uses the high-speed satellite service to supply Internet to the FirstNet radio. All FirstNet cell phones and devices within a mile function normally. Non-FirstNet devices within 1000' can use the Wi-Fi signal. Non-FirstNet cell phones within 1000' can make phone calls using the Wi-Fi Calling feature.
- A backhoe at a construction site accidentally cuts a fiber optic cable, and your building loses Internet and Wi-Fi. You roll the CRD out into the parking lot and link to the FirstNet Cellular network with the CRD's onboard antennas. You stretch an Ethernet (Internet) cable from the CRD into your building and plug it into your building's Internet router. The building Internet and Wi-Fi are restored, VoIP phone service is restored, and everyone goes back to work.
- You need to work in a remote area away from normal cell service. This could be a remote hospital, a concert or festival, fire, remote Law Enforcement operation, etc. You transport your CRD to the site on any trailer hitch, using a 4WD vehicle if needed to traverse rough terrain. Within 10 minutes from arrival, you established a FirstNet cell site and Wi-Fi Hotspot. The generator and expanded fuel system keep the CRD running for 60 hours before refueling.
- You set up Wi-Fi Hotspots to support students, Telemedicine, community access during blackouts.
- You are working a Forest (vegetation) Fire. You deploy a CRD to each Branch/Division or Drop Point on the fire. For the first time, everyone can download IAPs, maps, make phone calls, send/receive email and texts, and make logistics requests at the fire. Safety, efficiency, and morale improve dramatically.
- A Domestic Terrorism act takes out the regional Cellular and Internet communications hub. Within minutes you establish your own High-Speed satellite-backhauled communications network to restore FirstNet service and Internet to PSAPs, ICPs, hospitals and offices. You plug the CRD into shore power and function normally for weeks until the terrestrial communications system is restored.



CRD™ for FirstNet® Specification Sheet

External

- Dimensions: 62" tall X 68" long X 31" wide
- White Powder-Coated Finish
- FirstNet® Built with AT&T Logo – Front & Back
- NEMA 4X/IP66 Compliant Electronics Enclosure
- 400 BTU Solid State AC/Heater
- Enclosure and Generator Compartment Locks
- DOT Compliant LED Stop, Turn, and Taillights
- Illuminated License Plate Mount
- LED Scene lights 4 Sides
- Solid Core Never-Flat Tires
- Hydraulic Disk Brakes with Parking Brake
- Wheel Chocks
- 5M Fiberglass Telescoping Mast with Guy Lines

Power System

- Up to 60 Hours Off-Grid Runtime
- Shore Power and Generator AC Inputs
- 50' AC Power Cord
- Surface Wire Ground Kit / Lightning Protection
- 12 VDC Power Input (Vehicle, Battery, Solar)
- Generator
 - Honda 2200-Watt Inverter Generator with Bluetooth
 - 6-Gallon Auxiliary Gas Tank with Auto-Feed System
- Battery and ICU System (Inverter/Charger/UPS)
 - 50 Ah "Smart" Lithium Iron Phosphate Battery
 - 50 A Micro-Processor Battery Charger/Manager/UPS
 - 1000W Pure Sine Wave Inverter with AC Passthrough
- Power Control Module (PCM)
 - Power Management Switches, Breakers, Fuses
 - Digital Battery Monitor with Bluetooth
 - Alarm System - Visual/Audible and E-Mail/text
- Internal Panel Power Ports
 - 120 VAC, USB
- Surface Wire Ground Kit w/ Lightning Protection

Communications & Connectivity

- FirstNet built with AT&T Nokia SBO eNodeB (Band-14)
 - Up to ½ Mile Range
 - Connected to 6 dBi High Gain Mast Mount Antennas
- Cradlepoint IBR1700 1200M Enterprise Router (FirstNet Ready™)
 - Local and Cloud-Based NetCloud Manager
 - 5 Year, 24/7/365 Support
 - 5 Year Hardware Warranty
 - Dual Modem Capability – One modem supplied
 - SD-WAN with Auto Failover/Failback
 - ❖ Wired Ethernet
 - ❖ Wi-Fi as WAN
 - ❖ LTE WAN (Customer Provide SIMs)
 - ❖ SATCOM

Communications & Connectivity

- Multi-Band Antennas
 - 7-in-1: MIMO-LTE/Wi-Fi/GPS
 - 4 High Gain LTE
 - 2 High Gain Wi-Fi
- SATCOM
 - Winegard WV750 One-Touch Auto Acquire Ka-Band VSAT Terminal with ViaSat® nomadic modem
 - Expedition Communications Data Plans
 - ❖ Purchased Separately by customer
 - ❖ Emergency Response Plans - Priority QoS
 - ❖ Single CRD plans for individual terminals
 - ❖ Pool plans available for Multi-CRD usage
 - Auto Deploy, Point & Stow
 - Remote Terminal Deployment System – 100' Cables
 - 24/7/365 Telephone Support
 - Manual Compass & Bubble - Emergency Alignment
- User Access (LAN)
 - FirstNet® Band-14 LTE
 - Wi-Fi 802.11 a/b/g/n/ac
 - Wired Ethernet & VoIP Capable
 - Wi-Fi Calling with most Mobile Phones
 - 16-Port Keystone Jack Patch Panel
 - Waterproof Ethernet Exterior Bulkhead Panel

Additional Options

- Helicopter Sling

Temperature

- Cold Start -20° to 50° C (-4° to 122° F)
- Operating -30° to 50° C (-22° to 122° F)

Other

- 1 Year Manufacturer Warranty
- Accessory Bag
- Keys
- Owner's Manual

Shipping Details

- Pallet (Common Carrier)
 - Dimensions: 40" w x 80" l x 60" h
 - Weight: up to 650lbs
 - Forklift or Lift Gate Required

Pricing

- **\$69,995**
- Includes free delivery within the contiguous United States.
 - Alaska and Hawaii additional shipping charges.
- Customer adds Satellite data plan, SIM card/s, and a second Cradlepoint modem (if desired).

First Responder Ka-Band Satellite Data Plans (Expedition Communications)

- Customer establishes their own satellite data plan with Expedition Communications.
- First Responder Data Plans have “High-Priority” satellite access with the ViaSat® satellite modem.
- High-Priority Satellite Access Plans supersede/preempt all Aviation, Commercial or Home users.
- Plan SLA is 18 Mbps downlink X 5 Mbps uplink. Burst may exceed 30 Mbps X 10 Mbps.
- No throttling or shut-off if you go over your annual data usage limit.
- Overage use billing for a major incident can be separately charged to the incident budget. When this happens, your annual data plan resets and you will not have a data plan fee for the next year.
- The most popular 40GB plan is sufficient for multiple training events and several incidents per year for less than \$10/day. Note that most training events test the satellite and then switch the rest of the training to LTE backhaul. As mentioned, major incident data usage can be charged against the incident.
- Most data usage occurs from recreational video viewing. Controlling recreational video usage on your data plan will allow a 40GB annual data plan to be sufficient for most agencies.

Expedition Communications First Responder Satellite Data Plans	
SINGLE CRD SATELLITE DATA PLANS – Annual Renewal	
40GB prepaid bandwidth	\$3,395.00
250GB prepaid bandwidth	\$9,995.00
500GB prepaid bandwidth	\$14,995.00
POOLED SATELLITE DATA PLANS – Support Multiple CRDs From One Plan¹ - Annual Renewal	
1TB pooled bandwidth	\$24,995.00
2TB pooled bandwidth	\$44,995.00
4TB pooled bandwidth	\$84,995.00

¹ Multiple sites means up to 30 CRD's per Pooled data plan.

Warranty, Service & Support

- 1-year standard commercial warranty except Cradlepoint Router (5-Year).
- Service & Support plans available for annual service visits and unscheduled service/repair visits.
- On-Site Training available for purchase
- 24/7/365 phone support
- Your IT department can log in to your network from anywhere via Cradlepoint Net Cloud Manager

For more information, please contact your AT&T FirstNet Sales Team.

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