

All-in-One, Cloud-Managed Networking Solution



Quick Start Guide

Cradlepoint AER 2100



Accessories

- Additional MC400 integrated 4G LTE modem*
- · Rack mounting bracket
- · Power adapters and international power cords
- · External modem antennas and cabling

* A Cradlepoint MC400 integrated 4G LTE modem comes standard with the AER 2100. Add a second integrated MC400 modem for a complete "cut-the-wire" 4G LTE solution, fusing enterprise reliability with unparalleled agility.

Enterprise Support

For enhanced services including enterprise-level support, extended warranties, site surveys, and expert installation, check out Cradlepoint's **CradleCare** suite of services. Visit **cradlepoint.com/cradlecare** to learn more.



Cloud-Enabled Management and Application Platform

Cradlepoint Enterprise Cloud Manager

Deploy and Manage the Intelligent Network

Rapidly deploy and dynamically manage networks at geographically distributed stores and branch locations with Enterprise Cloud Manager, Cradlepoint's next generation management and application platform. Enterprise Cloud Manager integrates cloud management with your Cradlepoint devices to improve productivity, increase reliability, reduce costs, and enhance the intelligence of your network and business operations.



To learn more about **Cradlepoint Enterprise Cloud Manager** and to begin a free 30-day trial, contact services@ cradlepoint.com or visit cradlepoint.com/ecm.

Hardware



Hardware

Left Side





With Two MC400 Integrated Modems (one included)



Right Side



WiFi

Modem





When connecting the provided antennas, review the connection points.

- WiFi antennas have flat circular bases (RSMA).
- Modem antennas have protruding pins (SMA). .

LED Information

POWER The Cradlepoint AER 2100 must be powered using an approved 12V DC power source.

- Green = Powered ON.
- No Light = Not receiving power. Check the power switch and the power source connection.
- Flashing Amber = Attention. Open the administration pages (see page 12) and check the router status.

ETHERNET WAN Indicates information about a data source connected to the Ethernet WAN port.

• Blue = Connected to an active Ethernet WAN interface.



WIFI BROADCAST These two LEDs indicate activity on the WiFi broadcast for both the 2.4 GHz and 5 GHz bands.

- **2.4G** (green) = 2.4 GHz WiFi is on and operating normally.
- **5G** (blue) = 5 GHz WiFi is on and operating normally.



SIGNAL STRENGTH Blue LED bars indicate the active modem's signal strength.

- 4 Solid Bars = Strongest signal.
- 1 Blinking Bar = Weakest signal. (A blinking bar indicates half of a bar.)

LED Information

- **INTEGRATED MODEM** Indicates the status of integrated modems.
- **EXTERNAL USB MODEM** Indicates the status of external USB modems.

Both integrated and external USB modems have the following LED indicators:

- Green = Modem has established an active connection.
- Blinking Green = Modem is connecting.
- Amber = Modem is not active.
- Blinking Amber = Data connection error. No modem connection possible.
- Blinking Red = Modem is in the process of resetting.

ADDITIONAL LED INDICATIONS

- Several different LEDs flash when the factory reset button is detected.
- Two of the modem LEDs blink red in unison for 10 seconds when there is an error during firmware upgrade.

Getting Started

1. Insert an activated SIM.

A wireless broadband data plan must be added to your Cradlepoint AER 2100. Wireless broadband data plans are available from wireless carriers such as Verizon, AT&T, Sprint, EE, and Vodafone. The SIM must be provisioned with the carrier. Contact your carrier for details about selecting a data plan and about the process for provisioning your SIM.

Once you have an activated SIM, insert it into the integrated modem. Insert the SIM card into the slot marked **SIM 1** (use the other slot, **SIM 2**, for a secondary/backup SIM). Be sure to insert the card with the notch-end first and the gold contacts facing down—it will click into place.





Getting Started (continued)

2. Attach the integrated modem.

Follow these steps to attach the integrated modem:

1. Remove the left side panel cover from the router. Use a Phillips screwdriver to remove the screws, and use the Multipurpose Retaining Tool (included in the router package) to remove the cover.







2. Slide the modem into the side of the router (left slot first). The protruding section of the modem fits into the groove.







 Reattach the panel cover and screw it back on. (When necessary, remove the cover and modem using the Multipurpose Retaining Tool.)

3. Attach the WiFi and modem antennas.

Attach the three included WiFi antennas and two included modem antennas to the connectors. Antennas are jointed, which enables you to position them for optimal signal. To attach, hold the antenna straight and twist the base of the antenna to connect, folding the joint if needed.

Examples of suggested antenna orientations:



Care should be taken to ensure that the router antennas are not near metal or other RF reflective surfaces.

Getting Started (continued)

4. Connect the power source.

Plug the provided power supply (12V DC wall adapter) into an electrical outlet. Then connect the power supply to the router.

Ensure power is switched on:

- 0 = 0FF
- I = ON



When you set the power switch to the ON (1) position, watch for the power LED to illuminate.

If you would like to secure the power supply cord, attach the Multipurpose Retaining Tool as shown. Secure with included screws.



5. Connect to a computer or other network equipment.

Connect wirelessly to the WiFi broadcast or with an Ethernet cable connected to your computer and then plugged into one of the Ethernet LAN ports (numbered 1–4). The default WiFi network name is "2100-xxx", where "xxx" is the last three characters of your router's MAC address (this is the **SSID** on the product label). To connect to the WiFi, you will need to input the **DE-FAULT PASSWORD** when prompted. The **DEFAULT PASSWORD** is provided on the product label found on the bottom of your router.

Accessing the Administration Pages (local GUI)

Once you are connected, open the Cradlepoint AER 2100's GUIbased local administration pages to make configuration changes to your router.

1. Open a browser window and type "cp/" or "192.168.0.1" in the address bar. Press ENTER/ RETURN.



2. When prompted for your password, type the eight character **DEFAULT PASSWORD** found on the product label.

NOTE: All configuration changes can be made remotely through Cradlepoint Enterprise Cloud Manager. See page 14 for information about connecting to Enterprise Cloud Manager.

When you log in to the local administration pages for the first time, you will be automatically directed to the **FIRST TIME SETUP WIZ-ARD**, which will walk you through basic steps to customize your Cradlepoint AER 2100. You have the ability to configure any of the following:

Administrator Password Time Zone WiFi Network Name Security Mode Access Point Name (APN) Modem Authentication Failure Check

If you are currently using the router's WiFi network, you will need to reconnect your devices to the network using the newly established wireless network name and password.

NOTE: To return to the First Time Setup Wizard after your initial login, select GETTING STARTED on the top navigation bar and FIRST TIME SETUP in the dropdown menu.

Depending on your ordering process, your devices may have already been bulk-loaded into Enterprise Cloud Manager (ECM). Simply log in at **cradlepointecm.com** using your ECM credentials and begin managing your devices seamlessly from the cloud.

If your device has not yet been loaded into your ECM account, you need to register. Log into the local administration pages (see page 12) and go to **GETTING STARTED ENTERPRISE CLOUD MANAGER REGISTRATION**. Enter your ECM username and password, and click on "Register".

Once you are logged into cradlepointecm.com, begin managing your devices individually or by group. For example...

- View the **Dashboard** for a visual analytics overview of your devices, including a data usage chart.
- Make a configuration change and apply it to all the devices a **Group**.
- Set up emailed **Alerts** for when a modem reaches its Data Cap Threshold, for a Configuration Change, etc.

For more information about how to use Cradlepoint Enterprise Cloud Manager, see the following Knowledge Base articles:

- knowledgebase.cradlepoint.com/articles/Support/CradlePoint-Enterprise-Cloud Manager
- knowledgebase.cradlepoint.com/articles/Support/Getting-Started-with-Enterprise-Cloud-Manager

To learn more about **Cradlepoint Enterprise Cloud Manager** and to begin a free 30-day trial, contact services@cradlepoint.com or visit **cradlepoint.com**/ecm.

Firmware Updates

HOW TO UPDATE FIRMWARE (through Enterprise Cloud Manager)

- 1. Log in at **cradlepointecm.com** using your Enterprise Cloud Manager credentials.
- 2. Navigate to the Groups page. (This can also be done for an individual device on the Devices page.)
- 3. Select a group and click on the **Firmware** option in the top toolbar. In the dropdown menu that opens, select the desired firmware version.
- 4. Wait a moment while firmware is updated and the router reboots.

HOW TO UPDATE FIRMWARE (through the local administration pages)

1. Log into the local administration pages (see page 12). You may have changed the **ADMINISTRATOR PASSWORD**.

2. Select SYSTEM SETTINGS SYSTEM SOFTWARE.

- 3. If new firmware is available, select AUTOMATIC (Internet).
- 4. Wait a moment while firmware is updated and the router reboots (do not close the browser window when updating).

If you do not have an active Internet connection, you may need to use the **MANUAL FIRMWARE UPLOAD** option. To use this option, download new firmware to a local device and then upload it to the router on the **SYSTEM SETTINGS SYSTEM SOFTWARE** page.

NOTE: Access to firmware upgrades requires CradleCare Support or Enterprise Cloud Manager.

Setting the APN

Depending on your modem, you may need to specify the **APN** (Access Point Name).

SELECT THE APN

1. Log into the administration pages (see page 12).

2. Select INTERNET CONNECTION MANAGER.

- 3. Select the modem you would like to manage. Click EDIT to open the WAN Configuration editor.
- 4. Select the **SIM/APN/AUTH SETTINGS** tab. In the **ACCESS POINT CONFIGURATION** field, either select the desired APN from the options displayed or enter it manually.

5. Input the username and password for authentication if required by your carrier.

6. Click SUBMIT.

Features

The Cradlepoint AER 2100 is a business-grade router specifically designed to meet the needs of distributed enterprise: retail locations, branch offices, retaurants, and convenience stores. Optimized for performance, reliability, and maximum WiFi range, the AER 2100 has access to a cloud-enabled management and application platform called Cradlepoint Enterprise Cloud Manager for rapid deployment, dynamic management, and enhanced intelligence of Cradlepoint enterprise edge solutions.



The Cradlepoint AER 2100 supports WEP, WPA, and WPA2 encryption modes to create secure Internet connections for up to 128 connected devices per WiFi channel (2.4 GHz and 5 GHz). 253 users can connect via Ethernet (with default DHCP settings). Prevent unwanted access to computers connected to your networks with an SPI Firewall and NAT (Network Address Translation). Features like URL Filtering, Traffic Filtering, DMZ, Virtual Server, Port Forwarding, and FTP pass-through (passive and active) are also available to enable safe Internet access for all connected users.

HOW TO CONFIGURE: Select NETWORK SETTINGS FIREWALL for firewall options. Select NETWORK SETTINGS WIFI / LOCAL NETWORKS for WiFi security settings, IPv6 configuration, and more.

VPN (Virtual Private Networking), GRE (Generic Route Encapsulation)

Create, manage, and terminate secure VPN tunnels between remote computers and secure corporate networks with IPsec. With up to 20 concurrent sessions, the Cradlepoint AER 2100 supports both VPN and GRE, including multiple routes in a single tunnel. Provide end-to-end protection of secure company communications with Hash and Cipher encryption algorithm protocols.

HOW TO CONFIGURE: Select INTERNET VPN Tunnels or INTERNET GRE Tunnels. Click ADD to create a new tunnel.



Load Balancing

When multiple data sources are connected to the router (4G, Ethernet, WiFi), it can be configured to distribute all connected users or device traffic across active data connections. This feature distributes each connected user to the best data source available, relieving congestion and pressure on any single data source. *If you are using more than two LTE modems, a special 12V 4A (48W) power supply is required.*

HOW TO CONFIGURE: Select **INTERNET CONNECTION MANAGER**. In the WAN Interfaces table, select **LOAD BALANCE** for the WAN devices you want configured for load balancing.

Failover

When multiple Internet sources (4G, Ethernet, WiFi) are connected to the Cradlepoint AER 2100, the router can automatically detect an Internet outage and "fail over" to a secondary connection and "fail back" when the primary data service returns. Redundant connection keeps your business going.

HOW TO CONFIGURE: Select INTERNET CONNECTION MANAGER. Order your connections by failover priority.

Dual-Band Concurrent WiFi Networks

The Cradlepoint AER 2100 can broadcast up to four WiFi networks on both the 2.4 GHz and 5 GHz bands. Secured SSIDs are used for your trusted workgroup members. Guest (public) SSIDs can provide full, secure access to the Internet, but users are restricted from accessing the router administration console or any connected devices on the private network. Each network can be configured with its own security, QoS, and VLAN Settings. You also have the ability to "Hide" network names (SSIDs) from broadcast.

HOW TO CONFIGURE: Initial WiFi settings are available in the First Time Setup Wizard. For more WiFi configuration options, go to **NETWORKS SETTINGS WIFI / LOCAL NETWORKS**.

Features

VLAN Support

Create and manage virtual LANs to segregate and secure your network.

HOW TO CONFIGURE: Select NETWORK SETTINGS WIFI / LOCAL NETWORKS. Select the "VLAN Interfaces" tab under LOCAL NETWORK INTERFACES.

WiFi as WAN

The Cradlepoint AER 2100 can receive an existing WiFi signal and use it to create secure Internet access, allowing you to connect devices using the CradePoint AER 2100's security features. The WiFi as WAN feature can be used as a WiFi repeater or as a WiFi-to-Ethernet adapter for non-WiFi devices.

HOW TO CONFIGURE: Select **INTERNET** WIFI AS WAN. In the "WiFi Client Mode" field, select **WIRELESS AS WAN**. The router automatically detects nearby WiFi networks: import the desired network.

VRRP (Virtual Router Redundancy Protocol)

VRRP provides hardware redundancy for increased reliability. Configure master and backup routers for you network.

HOW TO CONFIGURE: Select **NETWORK SETTINGS WIFI / LOCAL NETWORKS**. Select the desired network and click **EDIT**. Select the **VRRP** tab for configuration options. *Requires a feature license.*

Advanced Routing Protocols (BGP/OSPF/RIP)

Border Gateway Protocol (BGP), Open Shortest Path First (OSPF), and Routing Information Protocol (RIP) are enterprise routing protocols that improve router communication and understanding of the network topology.

HOW TO CONFIGURE: Select NETWORK SETTINGS ROUTING PROTOCOLS. Select the desired routing protocol to view

Regulatory, Warranty, Safety, and Privacy Information

Model: S3A340A

This important Product Information and Safety Guide contains safety, handling, disposal, regulatory, trademark, copyright, and software licensing information. Read all safety information below and operating instructions before using the AER2100 device to avoid injury.

FEDERAL COMMUNICATION COMMISSION INTERFERENCE STATEMENT This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

FCC CAUTION: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE

FCC Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

To comply with FCC regulations limiting both maximum RF output power and human exposure to RF radiation, for the AER2100 and IBR1150, the maximum antenna gain in the cellular bands must not exceed 3dBi. For the AER2100, the maximum WiFi antenna gain in the 2.4 and 5 GHz bands must not exceed 5dBi.

Under no circumstances should the AER2100 device be used in any areas (a) where blasting is in progress, (b) where explosive atmospheres may be present, or (c) that are near (i) medical or life support equipment, or (ii) any equipment which may be susceptible to any form of radio interference. In such areas, the AER2100 device MUST BE POWERED OFF AT ALL TIMES (since the device otherwise could transmit signals that might interfere with such equipment). In addition, under no circumstances should the AER2100 device be used in any aircraft, regardless of whether the aircraft is on the ground or in flight. In any aircraft, the AER2100 device MUST BE POWERED OFF AT ALL TIMES (since the device otherwise could

transmit signals that might interfere with various onboard systems on such aircraft). Furthermore, under no circumstances should the AER2100 device be used by the driver or operator of any vehicle. Such use of the device will detract from the driver's or operator's control of that vehicle. In some jurisdictions, use of the AER2100 device while driving or operating a vehicle constitutes a civil and/or criminal offense.

Due to the nature of wireless communications, transmission and reception of data by the AER2100 device can never be guaranteed, and it is possible that data communicated or transmitted wirelessly may be delayed, corrupted (i.e., contain errors), or totally lost. The AER2100 device is not intended for, and Cradlepoint recommends the device not be used

in any critical applications where failure to transmit or receive data could result in property damage or loss or personal injury of any kind (including death) to the user or to any other party. Cradlepoint expressly disclaims liability for damages of any kind resulting from: (a) delays, errors, or losses of any data transmitted or received using the device; or (b) any failure of the device to transmit or receive such data.

Warning: This product is only to be installed by qualified personnel!

For product available in the USA/Canada market, only channel 1–11 can be operated. Selection of other channels is not possible. This device and its antenna(s) must not be colocated or operated in conjunction with any other antenna or transmitter.

INDUSTRY CANADA STATEMENT

This device complies with RSS-210, RSS-102, and RSS-Gen of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE: Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

This device has been designed to operate with cellular antennas having a maximum gain of 3 dBi. Antennas having a higher gain are strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

This device has been designed to operate with WiFi antennas having a maximum gain of 5 dBi. Antennas having a higher gain are strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

DÉCLARATION D'INDUSTRIE CANADA

Ce dispositif est conforme à la norme CNR-210, CNR-102, et CNR-Gen d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

NOTE IMPORTANTE (Pour l'utilisation de dispositifs mobiles): Déclaration d'exposition aux radiations

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps

Ce dispositive a ete concu pour fonctionner ave une antenna cellulaire ayant un gain maximal de 3 dBi. Une antenne a gain plus eleve est strictement interdite par les reglemnets d'Industrie Canada. L'impedance d'antenne requise est de 50 ohms.

Ce dispositive a ete concu pour fonctionner ave une antenna WiFi ayant un gain maximal de 5 dBi. Une antenne a gain plus eleve est strictement interdite par les reglemnets d'Industrie Canada. L'impedance d'antenne requise est de 50 ohms.

INFORMATION FOR EUROPE, DECLARATION OF COMPLIANCE Cradlepoint, Inc declares that the AER2100 / IBR1150 is in compliance with the essential requirements of the R&TTE Directive 1999/5/EC, Energy Related Products Directive 2009/120/EC, Electromagnetic Compatibility Directive 2004/108/EC, Low Voltage Directive 2006/95/EC, and RoHS2 Directive 2011/65/EU.

A copy of the original European DoC may be obtained from cradlepoint.com/product-certifications AT BE BG CY CZ DK EE FI FR DE GR HU IE IT LV LT LU MT NL PL PT RO SK SI ES SE GB IS LI NO CH TR Operation of the device in the 5150-5200 MHz frequency band is restricted to indoor use only. To comply with RF Exposure requirements, the product must be installed and operated with a minimum separation distance of 20 cm between the antennas and nearby persons.



RECYCLING AND ENVIRONMENTAL INFORMATION To find information on Cradlepoint's commitment to our environment and how to responsibly recycle Cradlepoint products, please visit cradlepoint.com.

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WARRANTY INFORMATION Cradlepoint, Inc. warrants this product against defects in materials and workmanship to the original purchaser (or the first purchaser in the case of resale by an authorized distributor) for a period of one (1) year from the date of shipment. This warranty is limited to a repair or replacement of the product, at Cradlepoint's discretion as purchaser's sole and exclusive remedy. Cradlepoint does not warrant that the operation of the device will meet your requirements or be error free. Within thirty (30) days of receipt should the product fail for any reason other than damage due to customer negligence, purchaser may return the product to the point of purchase for a full refund of the purchase price. If the purchaser wishes to upgrade or convert to another Cradlepoint, Inc. product within the thirty (30) day period, purchaser may return the product and apply the full purchase price toward the purchase of another Cradlepoint product. Any other return will be subject to Cradlepoint, Inc.'s existing return policy.

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Part Number: 170650-001

The best in wireless WAN ... meets the best in wireless LAN.



- Combines Integrated 4G LTE and Dual-Band Dual-Concurrent WiFi with 802.11ac
- Ultimate WAN Diversity™: Use 4G LTE with dual-modem, dual-SIM, and multi-carrier functionality; Ethernet; and/or WiFi as WAN
- Failover/failback and load balancing: 4G LTE + Ethernet + WiFi as WAN
- Enterprise-level security and features, including VPN, VLAN, VRRP, BGP, OSPF, RIP, and more (some features require license)

P/N 170626-004