# cradlepoint MBR1400 Series

Mission-Critical Broadband Router
with Integrated Business Modem



# Setup Guide

## PACKAGE INCLUDES

MBR1400 Router (Wireless N Gigabit)

Integrated Business-Grade Modem
(Optional)

WiFi Antennas (3x)

Modem Antennas (2x optional)

Wall Power Adapter (12v DC)

Ethernet Cable (5-feet)

Mounting Hardware (1x)

Setup Guide

cradlepoint MBR1400 Series

Mission-Critical Broadband Router
with Integrated Business Modem

Setup Guide

The CradlePoint Mission-Critical Broadband Router (MBR1400) is built to provide an instant network connection from high-speed broadband data modems to your network.

**CONNECT**
*Integrated Business-Grade Modem, USB or ExpressCard modems, Ethernet-Based Wired Services, WiFi*

Designed for small businesses, branch offices, and retail locations, the MBR1400 provides a secure, primary or backup connection to the Internet.

With features like failover/failback, secure VPN, VLAN support, multiple encryption modes, dual band WiFi broadcast (2.4 GHz or 5 GHz), guest networks, WiFi as WAN, and data usage management and alerts, the MBR1400 can meet all your business needs.

The MBR1400 is compatible with all major corporate network environments like Cisco, Juniper, SonicWall, and others.  It also fully supports all 802.11 a/b/g/n client adapters for WiFi networking.

Our web-based configuration and status tool supports Windows XP, Windows Vista, Windows 7, Mac OS X, and most of the Linux distributions - allowing you to manage the router in common environments.
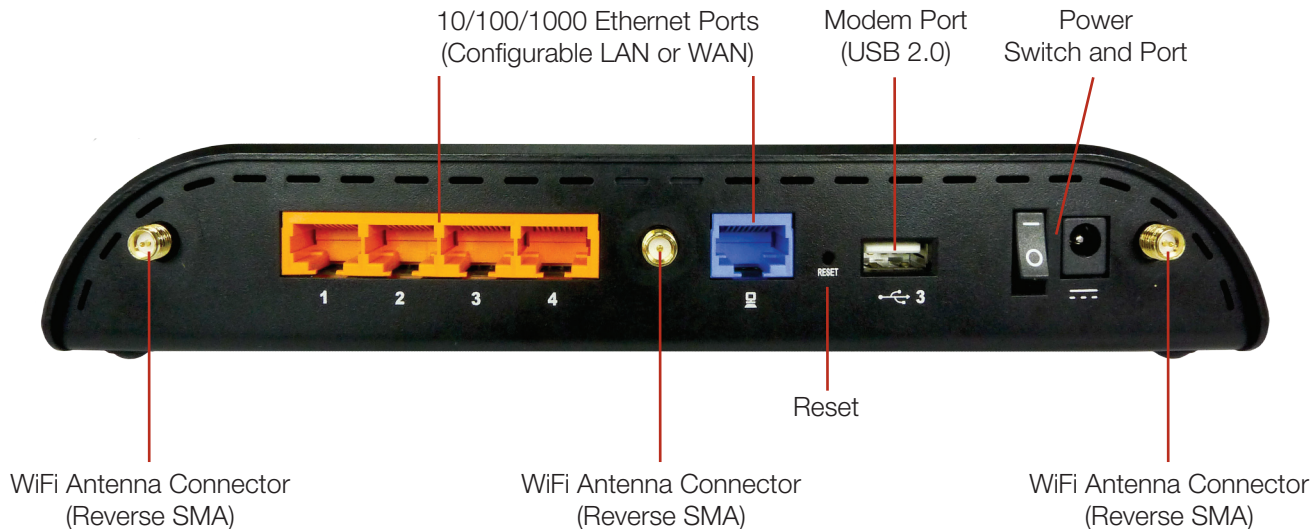
The MBR1400 web-based administration allows you to manage settings, backup and restore, implement the latest firmware upgrades, plus get a complete log of diagnostic and status events for advanced troubleshooting. Remote administration is available through WiPipe Central, SNMP, or a CLI.

The router supports custom DNS configuration with OpenDNS, DHCP server and configuration, and dual-band WiFi options with multiple network names (SSIDs), 802.11 a/b/g/n modes, and broadcast channel selection. This guide will cover additional features of advanced configuration, starting on page 13.

With an MBR1400, you have the power and flexibility you need for the most demanding small business, branch office, or retail environment.  The MBR1400 is a flexible, dependable router you can trust.

10/100/1000 Ethernet Ports
(Configurable LAN or WAN)

Modem Port
(USB 2.0)

Power
Switch and Port



**1**  **2**  **3**  **4**

RESET

3

Reset

WiFi Antenna Connector
(Reverse SMA)

WiFi Antenna Connector
(Reverse SMA)

WiFi Antenna Connector
(Reverse SMA)

*Note: may be covered by Integrated Business-Grade Modem*

Modem Security Tab Slot

ExpressCard Lock

Modem Security Tab Slot

ExpressCard Lock



EC ⊡I 1

EC ⊡I 2

WiFi
On/Off

Modem Port
(USB 2.0)

Modem Port
(USB 2.0)

Modem Slot
(ExpressCard)

Modem Slot
(ExpressCard)

*Integrated Modem*



3G/4G Antenna Connector
(SMA)

3G/4G Antenna Connector
(SMA)

*Step 1*          *Step 2*          *Step 3*          *Step 4*
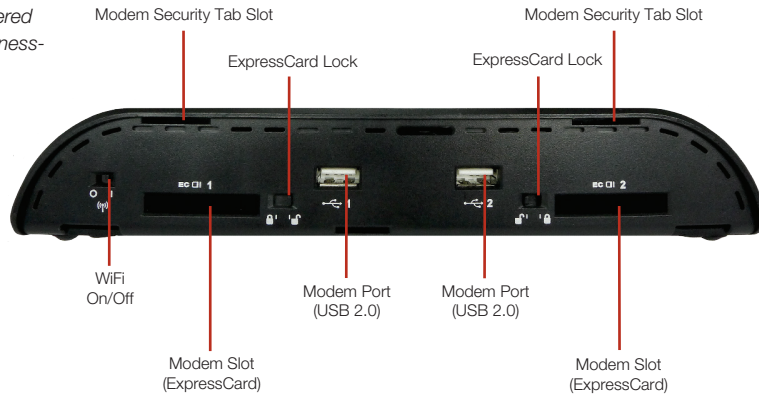
1. Disconnect the modem from the router by pulling from side to side. If you experience difficulty, apply slight pressure to the back of the device to facilitate separation.
2. Insert SIM card in the slot in the modem (notch end first, it will click into place).
3. Reconnect the modem to the router.
4. Insert screws (3) to secure connection between router and modem (backside).

### 1. Connect the Router to a Modem / Data Source.

Keep the router in the OFF position until the modem is securely connected. Connect a CradlePoint Business-Grade Modem, or a supported USB or ExpressCard modem to the router in their appropriate port or slot. Your modem will require an active subscription from your service provider. If you have not already done so, add a service plan to your Integrated Business-Grade Modem by contacting your service provider. You will need the modem IMEI, ESN, or WiMAX MAC and SIM ID (LTE/EVDO version only).Connect a Cable or DSL modem to the Blue Ethernet WAN port (see page 4).

### 2. Connect the WiFi and Modem Antennas.

Attach the three included WiFi and optional modem antennas to the connectors. Antennas are jointed, which enables you to position them for optimal WiFi broadcast. To attach, hold the antenna straight and twist the base of the antenna to connect, folding the joint if needed. Please note that 2.4GHz antennas are provided. 5GHz antennas are available as accessories.

### 3. Connect to a Power Source.

Connect the router to the provided power supply (12V DC Wall Adapter). When you flip the power switch to the ON ( I ) position, watch for the appropriate modem LED to illuminate. Ensure the connected modem LED is lit with a solid green light, which indicates that the modem is properly connected. For other LED states, please see descriptions on page 11 and 12.

### 4. Connect to a Computer or other Network Equipment.

In order to access the MBR1400, establish a connection to the router.  Connect wirelessly to the WiFi broadcast, or with an Ethernet cable connected to your computer and then plugged into one of the Orange Ethernet ports.
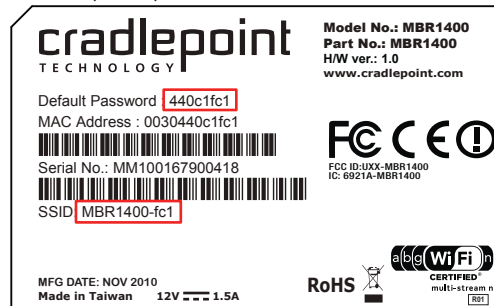
The default WiFi network name broadcast will be seen as "MBR1400-xxx", where "xxx" is the last three characters of your router's MAC address, shown as SSID on the product label.

To connect to the WiFi, you will need to input the default password when prompted.

The default password is provided on the product label found on the bottom of your router (see example below).

### 5. Use.

For most users, the MBR1400 Router can be used immediately without any special configuration changes.  If you would like to change your network name, level of WiFi security, etc. follow the First Time Setup Wizard steps on page 9.

cradlepoint
T E C H N O L O G Y

Model No.: MBR1400
Part No.: MBR1400
H/W ver.: 1.0
www.cradlepoint.com

Default Password 440c1fc1
MAC Address : 0030440c1fc1

Serial No.: MM100167900418

SSID MBR1400-fc1

FCC ID:UXX-MBR1400
IC: 6921A-MBR1400

MFG DATE: NOV 2010
Made in Taiwan    12V    1.5A

RoHS

abg Wi-Fi n
CERTIFIED
multi-stream n
R01

The First Time Setup Wizard will help you customize the name of your wireless network, change passwords to something you choose, and establish an optimal WiFi security mode. The MBR1400 comes out of the box with a unique password at WPA2 WiFi security level.

**CradlePoint recommends BEST WPA2 WiFi security.**

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.

3) When you log-in for the first time, you will be automatically directed to the **FIRST TIME SETUP WIZARD**.

4) If you choose, you can change the router's **DEFAULT ADMINISTRATOR PASSWORD**.
   Then, select your **TIME ZONE**. Click **NEXT**.

5) CradlePoint recommends you customize your **WiFi Network Name**. Type in your personalized network name here. You can also enable the Guest Network feature (see description on page 15).

Choose the **WIFI SECURITY MODE** that best fits your needs:  **POOR** for **WEP**, **GOOD** for **WPA1/WPA2** or **BEST** for **WPA2**. Make sure your PC or other devices support the mode you choose.

Choose a personalized **WPA PASSWORD or WEP KEY**.  This password will be used to reconnect devices to the router's WiFi broadcast once the security settings have been saved.  Click **NEXT**.

6) If you are using a 4G WiMAX modem, you will want to establish the Realm for your carrier. This setting ensures that the modem, when attached to the router, will properly connect to your carrier's wireless broadband service.  The MBR1400 will default to the Sprint 4G Realm.  Select your carrier from the drop-down menu.  Click **NEXT**.

7) Review the details and record your wireless network name, administrative and wireless WPA password. Click **APPLY** to save the settings and update them to your router.

*NOTE:  If you are currently using the MBR1400 WiFi network, reconnect your devices to the network using the new wireless network name and security password.*

**SIGNAL STRENGTH BUTTON** Blue LED bars indicate the active modem's signal strength. Press button to turn on/off. 4 Solid Bars = strongest signal. 1 Blinking Bar = weakest signal.

**POWER** The MBR1400 must be powered using an approved 12V DC power source.
Green = Powered On. No Light = Not receiving power. Check that the unit is connected to an outlet.
Amber = Attention. Check router status page.

**NETWORK LAN CONNECTION** Indicates a connected device on the 1-4 LAN ports on the MBR1400.
Green = Connected to an active 10/100 Ethernet interface. Blinking Green = Traffic. Blue = Connected to an active 10/100/1000 Ethernet interface. Blinking Blue = Traffic. No Light = Not connected, the connection is not configured correctly, router is not configured correctly, or may not be turned on.

**WPS** WiFi Protected Setup. When you press the WPS button for five seconds, it allows you to use WPS for your WiFi security. Blinking Blue = WPS setting is in progress. Solid Blue = WPS is active.
CradlePoint recommends using WPA2 WiFi Security.

**WAN CONNECTION** Indicates information about a data source connected to the WAN port (Blue Ethernet port).
Green = Connected to an active 10/100 Ethernet interface. Blinking Green = Traffic. Blue = Connected to an active 10/100/1000 Ethernet interface. Blinking Blue = Traffic. No Light = Not connected, the connection is not configured correctly, and/or router are not configured correctly or turned on.

$((\gamma))$ **WiFi BROADCAST** Indicates activity on the WiFi broadcast for either the 2.4GHz and 5GHz bands.
Green = 2.4 GHz WiFi is on and operating normally.
Blue = 5GHz WiFi is on and operating normally.
Blinking Red = Error with 2.4GHz or 5GHz connection.
No Light = WiFi is off.

$\rightarrow$ **USB MODEMS** Indicates the status of any USB or Business-Grade modems connected to the MBR1400.
A connected CradlePoint Business Grade Modem LED information will be shown on LED #1 or #2.
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.

EC ⊡ **EXPRESS CARD MODEMS** Indicates the status of any ExpressCard modems connected to the MBR1400.
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.

The CradlePoint MBR1400 is a business-grade router specifically designed for retail locations and small/branch offices.  Optimized for performance, reliability, and maximum WiFi range, the MBR1400 has access to a cloud-based tool called WiPipe Central, for group-based configuration, management, and monitoring of remotely deployed routers.

## Secure Access
The MBR1400 supports WEP, WPA, and WPA2 encryption modes to create secure Internet connections for up to 128 connected devices via WiFi. 253 users can connect via Ethernet.  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.

## 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 MBR1400 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.

## Network Failover Support
When multiple Internet sources (4G, 3G, DSL, Cable, T1, modems) are connected to the MBR1400, it can automatically detect an Internet outage and "failover" to a secondary connection and "failback" when the primary data service returns. Redundant connection keeps your business going.

HOW TO CONFIGURE:  Select **INTERNET** from top tab and **CONNECTION MANAGER** from drop-down menu.  Order your connections by failover priority.  Select a connection and click **EDIT**. Select desired **FAILURE CHECK** and **FAILBACK CONFIGURATION** settings. Click **SUBMIT.**

## Load Balancing
When multiple data sources are connected to the MBR1400 (up to two 4G devices), the router 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.

## Dual-Band WiFi
The MBR1400 provides the option of broadcasting your WiFi network on either the 2.4GHz or 5GHz band. This allows administrators the option to select the less used 5GHz frequency band if desired. For best operation, use the 5GHz antenna available as an accessory.

## WiFi Networks

The MBR1400 can make four WiFi networks on either the 2.4GHz or 5GHz band. 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.  The ability to "Hide" network names (SSIDs) from broadcast is also available.

HOW TO CONFIGURE:  Enable the Guest Network in Step 2 of the First Time Setup Wizard.  It will appear by default as "Guest-XXX" in your available networks list (XXX = the last three characters of your routers MAC Address).

## VLAN Support

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

## WiFi as WAN

The MBR1400 can receive an existing WiFi signal and use it to create secure Internet access, allowing you to connect up to 128 devices using the MBR1400'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:  Enable this feature by logging in to your router (see steps 1 & 2 on page 9) and select **INTERNET** on the top navigation bar and then **WiFi as WAN** settings in the drop-down menu.

### WiPipe Central:  Efficiently manage all your CradlePoint Routers.

CradlePoint's cloud-based management service, WiPipe Central, gives you a consolidated router management tool to communicate with and manage dispersed CradlePoint routers.  This service allows you to have firmware update and configuration options for the edge of your network, as well as gain information about other data connections (4G/3G/T1/DSL/Cable/etc) across geographies and networks.

Designed to eliminate conflict with existing firewalls (using device-initiated HTTP protocols), WiPipe Central has user-defined groups for quick communication with all grouped devices.  It provides remote access to an individual router or pre-defined group for firmware and configuration updates.

CradlePoint has a demonstration of WiPipe Central available for your use.

visit:  **https://services.cradlepoint.com**
username:  **Demo**
password:  **Demo**

NOTE:  This account is tied to 15 dedicated routers at CradlePoint Headquarters. The routers and account are live – you may view connection status, update firmware, and change the configuration settings.  The routers and management account are reset nightly to original settings.

To learn more about WiPipe Central, contact services@cradlepoint.com

The CradlePoint series of Business-Grade Modems provides the highest level of data throughput at the same location as a standard USB modem. CradlePoint optimizes and intelligently manages the co-existence between the wireless broadband signal and the WiFi broadcast of the router, creating a fast, wide-range, truly business-class, modem-based instant network.

**FEATURES**

- Business-Class modems provide optimal data throughput and co-existence

- Establish continuous uptime with optimum total cost of ownership for broad deployment

- Flexible installation provides highest level of 3G/4G performance

- Standardized platform and centralized remote management

- Enterprise-level security features

- Simple to install, configure and maintain - minimal impact on IT

- Ability to attach remote antennas for better signal reception



*CradlePoint Business-Grade Modem Series.*

*LTE/EVDO, WiMAX and EV-DO models available.*

CradlePoint recommends the following antenna positioning for best performance.

Verizon: MBR1400LE-VZ (LTE/EVDO), MBR1400E-VZ (EVDO)
Sprint:  MBR1400W-SP (WiMAX), MBR1400E-SP (EVDO)



Desk Mount Use
(All modems desk mount)

Note: Desk mount not recommended for Sprint WiMAX
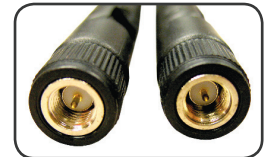


Wall Mount Use
(All modems wall mount)

**WiFi**



When connecting the provided antennas,
review the connection points.

WiFi antennas have flat circular bases.

Modem antennas have protruding pins.

**Modem**

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