CradlePoint COR IBR600/IBR650

INTEGRATED BROADBAND ROUTERS
IBR600/IBR650 Series – Hardened for Machine-to-Machine

COR IBR600

The CradlePoint COR Series is built for your M2M network. The CradlePoint COR is an affordable, highly featured compact router with an embedded modem designed for critical business and enterprise applications that require 24/7 connectivity.

With its compact size, sleek metal case, mounting bracket, and external mobile broadband and WiFi* (IBR600 only) antennas, CradlePoint COR is ideal for use in high-availability portable or fixed applications like ATMs, kiosks, surveillance, vehicles, etc.

CradlePoint COR provides instant network connectivity with a built-in modem – insert an activated SIM and go. It also supports traditional wired data networks like DSL, cable, or T1 for maximum network flexibility. Business-continuity features like failover/failback come standard in CradlePoint COR. When configured for failover, COR detects network failures and seamlessly switches over to a secondary WAN – keeping your network online.

CradlePoint COR provides VPN endpoint functionality, VLAN support, IPv6 support, multiple remote management methods including SMS, modem data usage management and alerts, GPIO support, USB-to-serial console passthrough support for out-of-band management of connected devices,** and the ability to be part of a PCI-DSS compliant solution. It allows for secure access to company networks for enterprise applications and provides a secure way to transmit sensitive data to and from a remote site.

EXTENDED ENTERPRISE LICENSE

CradlePoint's Extended Enterprise License provides advanced routing and security features: BGP, OSPF, RIP, VRRP, STP, NHRP, L2TP, and NEMO/DMNR.

Subscription required. See **cradlepoint.com/eel** *for details.*

THE HEART OF YOUR M2M NETWORK

• For use in 24/7 business-critical installations such as ATMs, kiosks, surveillance, vehicles, etc.

• WiFi* (IBR600) and no-WiFi (IBR650) options available Wireless 2x2 MIMO "N" WiFi (802.11 b/g/n)*

• Increase your network availability with WiPipe™-powered automatic failover and failback

• Supports both wireless and wired Internet connections (two Ethernet ports for either LAN/LAN or WAN/LAN)

• Several models available with 4G and/or 3G support for US and international operators

• Certified for shock and vibration in accordance with MIL STD 810G and SAE J1455 – be confident in the device's ability to survive challenging environments, including vehicles

• IPsec VPN termination (tunnel, NAT-T, and transport) with GRE support and site-to-site dynamic VPN with NHRP

• Create a custom-branded hotspot with our captive portal feature (include ToS, advertisements, etc.)*

• Standalone active GPS support on -PWD models (1x1 "N" WiFi support)*

CRADLEPOINT ENTERPRISE CLOUD MANAGER

Rapidly deploy and dynamically manage networks at geographically distributed locations with Enterprise Cloud Manager, CradlePoint's next generation application platform. Improve productivity, reduce costs, and enhance the intelligence of your network and business operations.

Subscription required. See **cradlepoint.com/ecm** *for details.*

*WiFi is only supported on IBR600 models. IBR650 models have no WiFi radio.
**Full-size USB port with hardware version 1.3

POWER / RESET / LAN / WAN / USB**
COR IBR600

SIM SLOT / ON-OFF / LEDs / SIGNAL STRENGTH
COR IBR600

cradlepoint.com/cor

COR IBR600/IBR650 Integrated Broadband Router

Internet Access and Device Connectivity

Includes integrated 3G/4G modem (see attached for options and specifications)

2 Ethernet LAN/WAN ports for Ethernet-enabled devices or landline Internet

Wireless 2x2 MIMO "N" WiFi (802.11 b/g/n)[1]

Supports up to 64 WiFi connections at a time[1]

Two SSIDs (with individual security, bandwidth limits, and QoS settings; separate critical traffic or create a public WiFi hotspot)[1]

Security

IPsec VPN (up to 5 concurrent sessions) and GRE Tunneling option, also supports passthrough VPN connections (IPsec, L2TP, PPTP)

Layer 2 Tunneling Protocol (L2TP)[2]

WEP, WPA, WPA2, WPA2 Enterprise with AES encryption for secure WiFi[1]

802.1Q VLAN support to isolate, segment and secure network traffic

SPI (stateful packet inspection) firewall and NAT (network address translation) to prevent unwanted access to connected computers

Variety of security features (URL filtering, IP & traffic filtering, DMZ, port forwarding) for safer Internet access

Advanced security mode and reporting to facilitate PCI-DSS compliance

Flexibility

First-time and advanced setup wizards for easy, swift, and secure setup

Remote management with CradlePoint Enterprise Cloud Manager

SNMP v1/2c/3, CLI over SSH, and SMS

IP passthrough support provides 3G/4G-to-Ethernet adapter

Create a WiFi hotspot with a captive portal (terms of service, ads, etc)[1]

Network failover support & load balancing

GPIO for additional hardware control, serial console available (USB-to-serial)

LAN/WAN affinity to assign specific LAN traffic to a WAN

Enterprise routing protocols:[2] BGP, OSPF, RIP

VRRP for enterprise router redundancy[2]

GPS NMEA GGA, VGT, and/or RMC sentence support

IPv6 support

Advanced APN management

Network Mobility (NEMO) support for session continuity in mobile networks[2]

Roaming control and ability to force 3G or 4G bands

Support and Warranty

CradleCare Support Agreement with technical support, software upgrades, and advanced hardware exchange – 1, 3, and 5 year options

CradlePoint offers a limited 1 or 2 year hardware warranty for products purchased from an authorized distributor* – 3 and 5 year warranty extensions available

IBR600/IBR650 Differences

IBR600: Includes WiFi, hotspot services/captive portal, WiFi as WAN

IBR650: WiFi excluded in order to facilitate PCI and HIPAA compliance

1 – WiFi-related items are only supported on IBR600 models
2 – Requires an Extended Enterprise License

Specifications

WAN Integrated modem, 10/100 Ethernet port, WiFi as WAN[1]
LAN WiFi (802.11 b/g/n)[1], two 10/100 Ethernet ports (WAN or LAN)

TEMPERATURE –20°C to 60°C (–4°F to 140°F) operating modem as WAN
–20°C to 50°C (–4°F to 122°F) operating Ethernet as WAN
–30°C to 70°C (–22°F to 158°F) storage

RELATIVE HUMIDITY (non-condensing) 10% to 85%, operating
5% to 90%, storage

POWER DC input steady state voltage range: 9 – 18VDC
Recommended inline fuse for vehicle installations: 1.5A fast-blow (see vehicle best practices installation guide for details)

WIFI[1] (IBR600) Transmit power: 15 dBm typical for all modes; receive sensitivity: –68 dBm @ HT20 (11n), –65 dBm @ HT40 (11n), –72 dBm typical @ 54 Mbps (11g), –84 dBm typical @ 11 Mbps (11b); antennas: 5 dBi gain

SIZE 3.3-in x 4-in x 0.9-in (85mm x 102mm x 22mm)
WEIGHT 7.2 oz (200g)

CERTIFICATIONS CE, GCF-CC, FCC, WiFi Alliance[1], Shock/Vibration (MIL STD 810G and SAEJ1455) – see individual SKUs for additional certifications

What's In The Box

COR IBR600/IBR650 Integrated Broadband Router w/ metal mounting bracket

External 3G/4G mobile broadband modem antennas (2) (SMA) w/ support for GPS on auxiliary connection (some models), finger tighten only

External WiFi antennas (2) reverse SMA*, 5 dBi gain, finger tighten only

12V / 1.5A power supply w/ locking connector; GPIO/power cable available

Quick Start Guide with warranty information

Accessories

High-gain external antennas (Omni-directional, Patch, Yagi, 12" Mag-mount, 4" Mini mag-mount), GPIO/power cable, see www.cradlepoint.com/COR for more

Requirements

Internet Service Activated SIM with Internet access from cellular provider or Ethernet-based Internet connection (DSL, cable, satellite, T1)

Browser (to configure router) Minimum of Firefox v2.0, Internet Explorer v7.0, Chrome, or Safari v1.0

Router Details

Security NAT, SPI, ALG, inbound filtering of IP addresses, port blocking, service filtering (FTP, SMTP, HTTP, RPL, SNMP, DNS, ICMP, NNTP, POP3, SSH), protocol filtering, WAN ping (allow/ignore), 802.1X Ethernet port security

Redundancy and Load Balancing Failover/failback with 4G, 3G, Ethernet with rule selection, advanced load balancing options (round robin, spillover, data usage, rate), WAN failure detection, VRRP[2]

Intelligent Routing UPnP, DMZ, virtual server/port forwarding, routing rules, NAT-less routing, wired or wireless WAN-to-LAN IP passthrough, route management, per-interface routing, content filtering, IP filtering, website filtering, per-client Web filtering, local DHCP server, DHCP client, DHCP relay, DNS, DNS proxy; ALGs: PPTP, L2TP, PPPoE passthrough, IPsec passthrough, FTP (passive), FTP (active), SIP, TFTP, IRC, MAC address filtering, Dynamic DNS, LAN/WAN affinity, VLAN support (802.1Q), STP, enterprise routing protocols: BGP/OSPF/RIP, multicast proxy support, IP setting overrides, Network Mobility (NEMO), IPv6

Management CradlePoint Enterprise Cloud Manager (subscription-based); web-based GUI (local management); optional RADIUS or TACACS+ username/ password; remote WAN web-based management w/access control (HTTP, HTTPS); SNMP v1, v2c, & v3; CLI over SSH, SSH to serial, SSH to telnet; API; one-button firmware upgrade; modem configuration, update, and management; modem data usage w/ alerts, per-client data usage; custom AT scripting to modems; SMS

Performance & Health Monitoring WiPipe™ advanced QoS with traffic shaping, Modem Health Management (MHM) improves connectivity of modem, SSID-based priority, WAN port speed control, several levels of basic and advanced logging for troubleshooting

VPN (IPsec) Tunnel, NAT-T, and transport modes; connect to CradlePoint, Cisco/ Linksys, CheckPoint, Watchguard, Juniper, SonicWall, Adtran, etc.; certificate support; Hash (MD5, SHA128, SHA256, SHA384, SHA512), Cipher (AES, 3DES, DES), support for 5 concurrent connections, GRE tunneling, multiple networks supported in a single tunnel, site-to-site dynamic VPN with NHRP[2], L2TP[2]

GPS Active standalone GPS on -PWD models, passive standalone GPS on others; GUI mapping as well as local (LAN) or remote (WAN) server logging; NMEA GGA, VGT, and/or RMC sentence support

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Ordering information

CradlePoint COR models	Modem Technology	Carrier / Location	Antenna Symbol	IBR600 (WiFi)	IBR650 (no WiFi)
LP	LTE/HSPA+	Generic	⬠▲	✔[1]	✔[2]
LP2-EU	LTE/HSPA+	Europe	◆▲	✔[1]	✔[2]
P	HSPA+	Generic	▲	✔	✔
P-INTL	HSPA+	International	▲	✔	✔
NM (no modem)	–	–	–	✔	✔

1 -PWD version available (IBR600LP2-EU-PWD, IBR600LP-PWD2) that comes with an active GPS connection at 3.3 V and 100 mA max; IBR600LP2-EU-PWD, IBR600LP-PWD2 versions require MOQ
2 Requires minimum order quantity (MOQ)

Accessories (see CradlePoint's antenna ordering and installation guide for more antenna information)	
Part # 170587-000	Directional Patch antennas for external (outside) mounting
Part # 170588-000	Directional Yagi (Log-Periodic) antennas for external (outside) mounting
Part # 170586-000	Omni-directional antennas for external (outside) mounting
Part # 170605-000	12" Mag-mount antenna
Part # 170606-000	4" Mini mag-mount antenna
Part # 170585-000	COR 2 meter power & GPIO cable (direct wire)
Part # 170446-002	COR international wall power adapter (for IBR600P/IBR650P, IBR600LP2-EU)
Part # 170593-000	COR mounting bracket

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CradlePoint Enterprise Cloud Manager

DEPLOY AND MANAGE THE INTELLIGENT NETWORK

Rapidly deploy and dynamically manage networks at geographically distributed locations with Enterprise Cloud Manager, CradlePoint's next generation application platform. Improve productivity, reduce costs, and enhance the intelligence of your network and business operations.

- **DEPLOYMENT –** configure devices by groups or individually, and update firmware easily with a few clicks.
- **MANAGEMENT –** monitor device statuses in real-time and set proactive alerts for optimized 3G/4G data usage and network uptime.
- **INTELLIGENCE –** view network analytics and manage security and PCI compliance.

Annual and multi-year licenses available. See **cradlepoint.com/ecm** for details.

CradleCare Support	
CradleCare Support Agreement	When your applications are mission critical, you need the assurance that only a CradleCare Support Agreement can provide: coverage every day, all year – including holidays. With a CradleCare Support Agreement, you will be assigned an account engineer* for consistency and follow-up on all your cases, with periodic case reviews provided. • Unlimited technical support center assistance; extended warranty; next-day parts replacement; assigned account engineer*; guaranteed response times; online video-based training sessions; software bug fixes and upgrades; advanced replacement; access to CradlePoint Enterprise Advanced Services Knowledge Base and online documentation. *Account engineer for customers with 50+ sites.*
CradleCare Extended Warranty	This plan extends the standard CradlePoint warranty to 3 or 5 years: software bug fixes; access to CradlePoint Enterprise Advanced Services Knowledge Base and online documentation; hardware repair/replacement.

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International SKUs

COR IBR600LP2-EU   4G/3G LTE/HSPA+ for Europe
COR IBR650LP2-EU*
COR IBR600LP2-EU-PWD*

4G

Technology: LTE, HSPA+

Downlink Rates: LTE 50 Mbps, HSPA+ 21.1 Mbps (theoretical)

Uplink Rates: LTE 50 Mbps, HSPA+ 5.76 Mbps (theoretical)

Frequency Bands:
- LTE (800/900/1800/2100/2600 MHz)
- HSPA+/UMTS (900/2100 MHz)
- GSM/GPRS/EDGE (900/1800/1900 MHz)

Module Power: LTE 23 +/− 1 dBm, UMTS 23 +/− 1 dBm (typical conducted)

Module: Sierra Wireless MC7710

Module Antennas: two SMA male (plug), 1 dBi (LTE), 2 dBi (HSPA+) gain; support for GPS on aux connection; finger tighten only

GPS: standalone GPS support; –PWD model includes active standalone GPS support (WiFi reduced to 1x1 N)

Power:
idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W)
Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)

Industry Standards & Certs: CE, GCF-CC, WiFi Alliance

Certification Part Number: IBR600LP2

Includes power adapter kit for US, EU, and UK.

* The SKUs marked with an asterisk require a minimum order quantity (MOQ):
- COR IBR650LP2-EU
- COR IBR600LP2-EU-PWD

COR IBR600P-INTL   HSPA+ for International
COR IBR650P-INTL

3.7G

Technology: HSPA+

Downlink Rates: HSPA+ 21 Mbps (theoretical)

Uplink Rates: HSPA+ 5.76 Mbps (theoretical)

Frequency Bands:
- HSPA+/UMTS (850/900/1900/2100 MHz)
- GSM/GPRS/EDGE (850/900/1800/1900 MHz)

Module Power: UMTS 23 +/− 1 dBm (typical conducted)

Module: Sierra Wireless 8705

Module Antennas: two SMA male (plug), 2 dBi gain; finger tighten only; maximum torque spec is 7 kgf-cm

GPS: standalone GPS support

Industry Standards & Certs: CE, GCF-CC, IC, PTCRB, FCC, WiFi Alliance (IBR600 only)

Power
idle: typical=350mA@12V(4.2W) worst case=700mA@12V(8.4W)
Tx/Rx: typical=600mA@12V(7.2W) worst case=1200mA@12V(14.4W)

Certification Part Number: IBR600P, IBR650P

CradlePoint products with the -EU and -INTL SKUs enable and disable WiFi channels to comply with EU law. The -EU and -INTL SKUs are not legal for use in North America.

The -EU and -INTL versions come with an adapter kit for non-USA/Canada power outlets (includes US, EU, and UK options).

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