MultiModem® CDMA

External Wireless Modem

Benefits

- Rugged industrial chassis design
- Desktop or panel mounting
- Carrier approved
- RS-232, USB, Bluetooth® and Ethernet interfaces

The MultiModem® CDMA wireless modem offers standards-based multi-band CDMA2000 1xRTT performance. This ready-to-deploy, standalone modem provides wireless data communication and integrates seamlessly with virtually any application. It is available with a broad range of interface options including RS-232, USB, Bluetooth® and Ethernet as well as GPS capabilities to cover all of your application needs. The MultiModem CDMA wireless modem is based on industry-standard open interfaces and can be desktop or panel mounted.

Features

- CDMA2000 1xRTT
- Qualcomm® MSM6050 chipset
- CDMA IS-95A, IS-95B backwards compatible
- Dual-band 800/1900 MHz CDMA
- 800 MHz with R-UIM support
- Packet data up to 153.6K bps forward and reverse
- 14.4K bps circuit switched data
- Class 2.0 Group 3 Fax
- Short Message Services (SMS)
- RS-232, USB, Bluetooth and Ethernet interfaces
- Models available with a complete TCP/IP stack
- SMA antenna connector
- Serial interface supports DTE speeds to 230K bps
- 12-channel GPS functionality
- AT command compatible
- Numerous LEDs provide operational status
- Over-the-Air activation
- Desktop or panel mounting
- CDG 1 and 2 network certified
- Carrier approved
- Two-year warranty
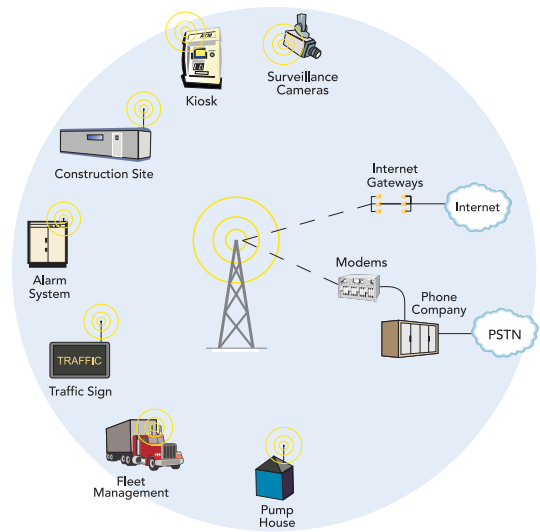
Highlights

Applications. With packet data speeds up to 153.6K bps, the MultiModem CDMA wireless modem is targeted at applications which periodically need to send or receive data over a wireless network. It is ideal for:

- Automated machine-to-machine (M2M)
- Public Safety/Emergency Services
- Public Transit
- Remote Industrial, Medical, Environmental, Monitoring
- Remote diagnostics
- Security Systems
- Telemetry/Remote Metering
- Vehicle Tracking/Fleet Management/AVL

Reduces Development Time. The MultiModem CDMA wireless modem can make your existing and next generation device communication-ready without requiring any hardware changes to its design. It actually provides faster time-to-market because it relieves the burden and expense of obtaining CDG 1 and 2 network and RF approvals. This complete, ready-to-deploy wireless modem allows you to enhance your product while you focus on developing its core features.

Packet-switched Data. The MultiModem CDMA wireless modem supports CDMA 2000 1xRTT packet-switched cellular data. This enables mobile Internet functionality by allowing interworking between the existing Internet and the cellular network at speeds up to 153.6K bps (forward and reverse). Any service that is used over the fixed Internet today – File Transfer Protocol (FTP), web browsing, chat, e-mail, telnet is available over the cellular network as well.

Circuit-switched Data. The MultiModem CDMA wireless modem also supports CDMA IS-95A and IS-95B circuit-switched cellular data connections. Circuit-switched data connections support speeds up to 14.4K bps as well as Class 2.0 Group 3 fax. CSD cellular wireless connections are ideal for applications that require a quick wireless replacement of an existing point-to-point analog dial-up connection. They integrate seamlessly with your current application requiring little infrastructure change.

Short Message Services. The MultiModem CDMA wireless modem offers SMS services such as cell broadcast, Over the Air Activation (OTA), OTASP and OTAPA. The MultiModem CDMA wireless modem is SMS Mobile Originated and SMS Mobile Terminated.

Internet-enabled. Some models of the MultiModem CDMA wireless modem include an embedded TCP/IP protocol stack to bring Internet connectivity to any device without making changes to its hardware design. Using the Internet protocols and the wireless connection to an IP network, the modem sends and receives data over the Internet. It can also serve a single web page in response to a web browser request.

Voice Features. The MultiModem CDMA wireless modem provides telephony and Dual Tone Multi Frequency (DTMF) functionality, as well as, AMPS Voice, QCELP (13K) and echo cancellation.

Compatible Supplementary Services. The MultiModem CDMA wireless modem is compatible with supplementary services such as call forwarding, call barring, multiparty, call waiting and call hold, calling line identification, closed user group and call transfer.

Management Features. The MultiModem CDMA wireless modem provides advanced management features including phone book management, fixed dialing number, real time clock and alarm management.

Industrial Chassis. The MultiModem CDMA wireless modem is packaged in a rugged, water resistant, industrial chassis with an SMA antenna connector. It can be desktop or panel mounted and features numerous LEDs providing operational status.

Multiple Interface Options. The MultiModem CDMA wireless modem is designed around a broad range of interface options including RS-232, USB, Bluetooth, and Ethernet to provide you with seamless connectivity for your application. Each interface option offers unique features and benefits related to the technology it supports. Some models also support GPS for vehicle tracking and fleet management applications.

Ethernet Model

Bluetooth® Model

GPS Model

Serial Connectivity. The MultiModem CDMA wireless modem with a serial interface utilizes RS-232 or USB to connect to any serial device to provide access to the Internet. The RS-232 model supports DTE speeds of 230K bps and provides a DE-15 voice/data interface and permanent screw-type power connector. The USB model provides for the easiest modem installation. The USB interface features a 12M bps serial connection and utilizes an RJ-9 jack for voice connectivity. In addition, it is host-based USB powered which means no external power supply is required.

RS-232/USB Application
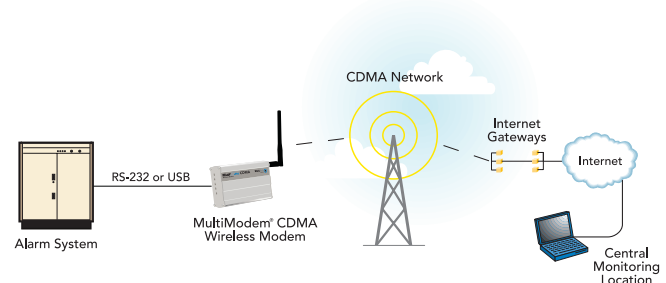
Bluetooth Connectivity. The MultiModem CDMA wireless modem with a Bluetooth interface provides any Bluetooth-enabled peripheral device such as a POS terminal, vending machine, or PDA with CDMA wireless access to the Internet. Providing secure, standards-based wireless data transfer up to 100 meters, the MultiModem CDMA wireless modem completely eliminates the need for serial cable connections. It is Class 1 Bluetooth V1.2 compliant and utilizes 56-bit encryption and 10 alphanumeric Personal Identification Number (PIN) authentication. In addition, it utilizes error correction schemes for guaranteed packet delivery.

Bluetooth® Application
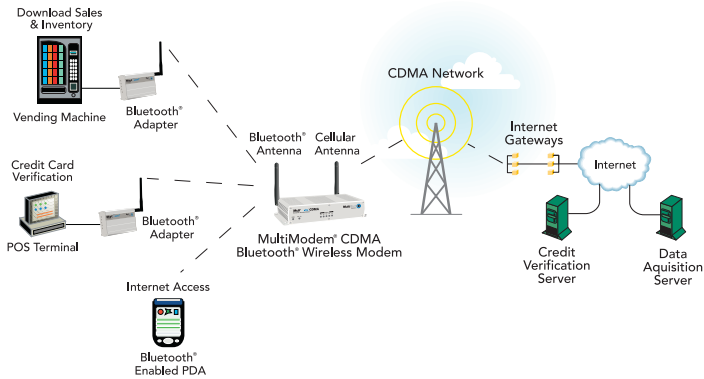
Ethernet Connectivity. The MultiModem CDMA wireless modem with an Ethernet interface provides shared Internet access with one IP address. The built-in routing capabilities provide DHCP services and firewall security utilizing Network Address Translation. The modem can be configured for one of three network connections: always-on, wake-up on ring, or dial-on demand. The always-on network connection automatically establishes a wireless data connection and allows for around the clock surveillance, monitoring or real-time data acquisition of any remote Ethernet device such as a Web camera. If the data link is dropped in the event of poor reception or a complete loss of service, it will automatically re-establish the data link. The wake-up on ring configuration allows the modem to "wake up" and initiate a connection when it detects an incoming ring. For security reasons, you can setup the modem to wake up based on the caller ID. This configuration is ideal for reducing the costs associated with the modem being online and available 24/7. When configured for dial-on demand, the wireless modem only accesses the Internet when data is present. This configuration is ideal for sharing Internet access among networked PCs.

Ethernet Application
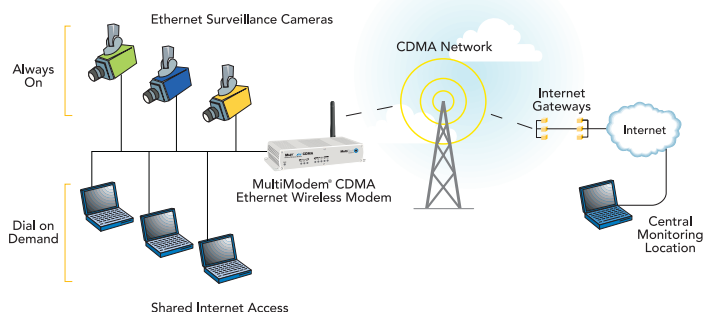
GPS Connectivity. The MultiModem CDMA wireless modem with GPS incorporates an internal Trimble® Lassen® iQ GPS module providing 12-channel GPS functionality. It delivers complete position, velocity and time (PVT) solutions making it ideal for real-time vehicle tracking, navigation and fleet management applications. The GPS functionality supports the four most popular protocols: NMEA 0183, DGPS (RTCM), TSIP (Trimble Standard Interface Protocol), and TAIP (Trimble ASCII Interface Protocol) and provides dual sensitivity modes allowing it to automatically switch to higher sensitivity when satellite signals are weak. The MultiModem CDMA wireless modem with GPS utilizes an RS-232 interface. The GPS information is received on a secondary serial port and can be used for in-vehicle navigation. In addition, the data can be sent through the wireless modem to a central, real-time tracking server via SMS or CDMA2000 1xRTT. The MultiModem CDMA wireless modem provides the flexibility to allow third party GPS applications and Application Service Providers (ASPs) the ability to customize their software to work with the wireless modem hardware.

GPS Application
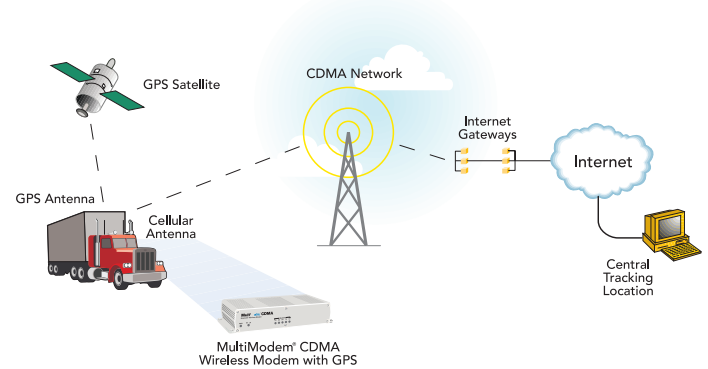
Industry-standard Modem Commands. The MultiModem CDMA wireless modem provides industry-standard AT-style commands for ease of integration into your existing software application.

Network and RF Approved. The MultiModem CDMA is CDG 1 and 2 certified. In addition, it has successfully completed worldwide compliance testing for global RF approval.

Comprehensive Service and Support. The Multi-Tech commitment to service means we provide a two-year product warranty and service that includes technical support, 24-hour web site and ftp support.

Specifications

Packet Data Features
CDMA2000 1xRTT, up to 153.6K bps forward & reverse channels

Circuit Switched Data/Fax Features
IS-95A, IS-95B up to 14.4K bps, Group 3 Fax, Class 2.0

SMS Features
ASCII Text & UCS-2, Point-to-Point, cell broadcast

Internet Protocols Supported
Dial-in PPP, DNS, FTP, HTTP, ICMP, IP, IPCP, LCP, POP3, PPP, SMTP, SNMP, SNTP, TCP, Telnet, TFTP, & UDP protocols

Antenna Connectors
RF Antenna: 50 ohm SMA (Female connector)
Bluetooth & GPS Antenna: 50 ohm SMA (Male Connector)

SIM Connector
Standard 3V SIM receptable

Interface Connectors
RS-232 Model: DE-15
USB Model: USB Type B
Bluetooth Model: DB-9
Ethernet Model: RJ-45, 10BaseT/100BaseTX, 802.3
GPS Model: (2) DB-9

Power Connectors
RS-232, Bluetooth, Ethernet, & GPS Models: 2.5mm miniature screw
USB Model: Bus Powered

Voice Connectors
RS-232 Model: Optional Y-cable
USB, Bluetooth, Ethernet, & GPS Models: RJ-9 4-pos modjack

Power Requirements
5V to 32VDC

GPS Features
General: 12-channel, continuous tracking receiver
Protocols: NEMA 0183, TSIP, TAIP, DGPS, Aided GPS through TSIP

Physical Description
RS-232, & USB Models:
4.3" L x 2.4" W x 0.94" H; 4.2 oz.
(11 cm x 6.1 cm x 2.4 cm: 119g)

Bluetooth Model:
2.8" L x 6.4" W x 1.2" H; 11.5 oz.
(7.1 cm x 16.3 cm x 3.0 cm: 326g)
Ethernet Model:
2.8" L x 6.4" W x 1.2" H; 11.5 oz.
(7.1 cm x 16.3 cm x 3.0 cm: 326g)
GPS Model:
2.8" L x 6.4" W x 1.2" H; 11.5 oz.
(7.1 cm x 16.3 cm x 3.0 cm: 326g)

Operating Environment
-30° to +70° C

Certifications
EMC: FCC Part 2, 15, 22, 24, EN 55022, EN 55024
Safety: cUL, UL 60950, EN 60950
Network: CDG 1 & 2

Ordering Information

Product	Description	Region
MTCBA-C*	800/1900 MHz CDMA modem	Regional

Ordering Codes
-N1	Generic, Requires Provisioning (A-key = Random)
-N2	For Sprint Networks (USA)
-N3	For Verizon Networks (USA)
-N4	800 MHz CDMA Modem with R-UIM
-N9	Generic, Requires Provisioning (A-key = 0)
-N12	Bell Mobility (Canada)
-N14	Alltel (USA)
-IP	Embedded TCP/IP Stack
-U	USB Interface
-B	Bluetooth Interface
-EN	Ethernet Interface
-GP	GPS Functionality
-NAM	Includes US Style power cord

* Use ordering codes for specific build options. Go to www.multitech.com for detailed product model numbers.

Made in Mounds View, MN, U.S.A.

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MultiTech®
Systems