

# MultiModem<sup>®</sup> EDGE

## External Wireless Modem



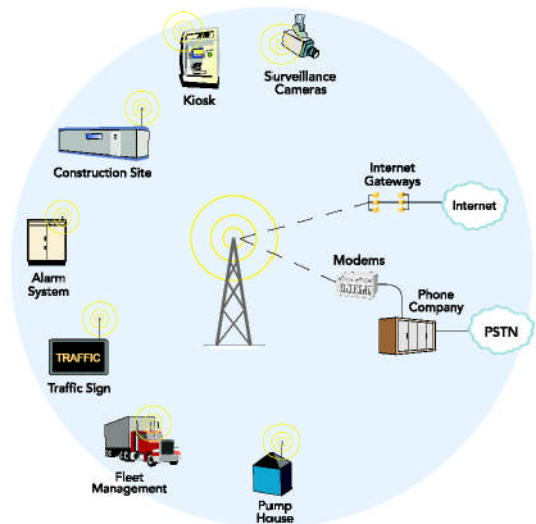
### Benefits

- Up to 3X faster than GPRS modems
- RS-232, USB, Bluetooth<sup>®</sup> and Ethernet interfaces
- 12-channel GPS functionality
- Carrier approved

The MultiModem<sup>®</sup> EDGE wireless modem delivers some of the fastest cellular wireless data speeds by utilizing EDGE technology. It allows users to connect to the Internet and send and receive data up to three times faster than possible with an ordinary GSM/GPRS network making it ideal for highly data-intensive multimedia applications. Based on industry-standard open interfaces, the MultiModem EDGE wireless modem is equipped with quad-band GSM, which means it can be used worldwide on all existing GSM networks. It is available with a broad range of interface options including RS-232, USB, Bluetooth<sup>®</sup> and Ethernet, and provides GPS functionality, so that you are guaranteed to find a solution that meets your application needs.

### Features

- EDGE (E-GPRS) Class 10
- GPRS Class 12
- Quad-band GSM 850/900/1800/1900 MHz
- Packet data rates up to 240K bps (coding scheme MCS-9, LLC layer, 4 time slots)
- Embedded TCP/IP stack
- Circuit-switched data up to 14.4K bps transparent and non-transparent
- Short Message Services (SMS)
- SMA antenna connector
- Desktop or panel mounting
- RS-232, USB, Bluetooth and Ethernet interfaces
- 12-channel GPS functionality
- AT command compatible
- Carrier approved
- Numerous LEDs provide operational status
- Voice features include Half rate (HR), Full rate (FR), Enhanced full rate (EFR), Adaptive multi rate (AMR), as well as hands free echo cancellation, and noise reduction
- Two-year warrant



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## Highlights

**Applications.** With packet data speeds up to three times faster than ordinary GPRS modems, the MultiModem EDGE wireless modem is ideal for highly data-intensive applications such as remote video surveillance and other multimedia applications where you are sending digital images, web pages and photographs. Application examples include:

- 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 EDGE wireless modem can make your existing and next generation device communication-ready without requiring any hardware changes to its design. It actually provides faster timeto-market because it relieves the burden and expense of obtaining PTCRB 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 EDGE wireless modem supports EDGE Class 10 packet-switched cellular data. This enables mobile Internet functionality by allowing interworking between the existing Internet and the cellular network at speeds up to 240K bps. 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. It includes support for PBCCH, coding schemes: CS1 to CS4 and is compliant with SMG3 1bis.

**Circuit-switched Data (CSD).** The MultiModem EDGE wireless modem also supports GSM circuit-switched cellular data connections. Circuit-switched data connections support speeds up to 14.4K bps and Class 1 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 EDGE wireless modem offers SMS features such as text and PDU, Point-to-Point (MT/MO) and cell broadcast.

**Internet-enabled.** The MultiModem EDGE wireless modem includes 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, it sends and receives data over the Internet.

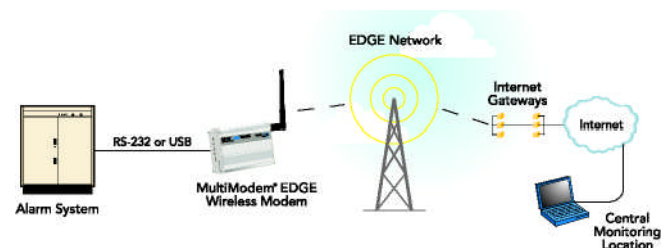
**Industrial Chassis.** The MultiModem EDGE wireless modem is packaged in a rugged, industrial chassis with an SMA antenna connector. It can be desktop or panel mounted and features numerous LEDs providing operational status.

**Multiple Interface Options.** The MultiModem EDGE 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.



**Serial Connectivity.** The MultiModem EDGE 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 460K 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



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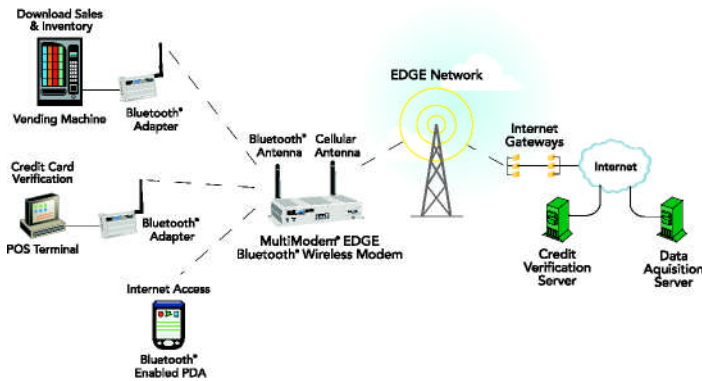


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**Bluetooth Connectivity.** The MultiModem EDGE wireless modem with a Bluetooth interface provides any Bluetooth-enabled peripheral device such as a POS terminal, vending machine, or PDA with EDGE wireless access to the Internet. Providing secure, standards-based wireless data transfer up to 100 meters, the MultiModem EDGE 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



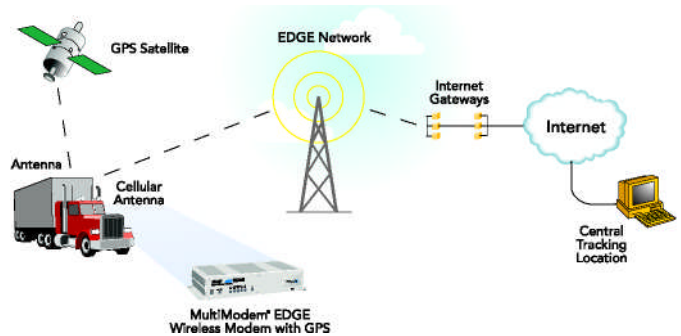
**Ethernet Connectivity.** The MultiModem EDGE wireless modem with an Ethernet interface provides shared Internet access with one IP address. The built-in routing capabilities provide DHCP services and firewall security utilizing Network Address Translation. The modem can be configured for one of three 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 EDGE 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 EDGE 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 E-GPRS. The MultiModem EDGE 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 EDGE wireless modem provides industry-standard AT-style commands for ease of integration into your existing software application.

**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.

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## Specifications

### Packet Data Features

EDGE: E-GPRS Class 10, Modulation and coding scheme MCS 1-9, Mobile station Class B  
GPRS: GPRS Class 12, full PBCCH support, coding scheme 1 – 4, Mobile station Class B

### Circuit Switched Data/Fax Features

Asynchronous, transparent & non-transparent up to 14.4K bps

Group 3 Fax, Class 1

### SMS Features

Text & PDU, Point-to-Point MO & MT, cell broadcast

### Internet Protocols Supported

TCP, UDP, DNS, FTP, SMTP, POP3, HTTP

### Voice Features

Half rate (HR), Full rate (FR), Enhanced full rate (EFR), & Adaptive multi rate (AMR). Basic hands free operation with echo cancellation & noise reduction

### 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-pin 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 +65° C

### Certifications

CE Mark, R&TTE  
EMC: FCC Part 2, 15 Class A, 22, 24; EN 55022; EN 55024  
Safety: cUL, UL 60950; EN 60950  
Network: PTCRB

## Ordering Information

Product	Description	Region
MTCBA-E	Quad-Band EDGE Class 10	Global
Ordering Codes:		
-U	USB Interface	
-B	Bluetooth Interface	
-EN -	Ethernet Interface	
GP -	GPS Functionality	
NAM	Includes US style power cord	
-EU -	Includes Euro style power cord	
GB/IE	Includes UK style power cord	

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

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**OmniCell Communications**

**PO Box 670411**

**Marietta, GA 30066**

**404.218.9972**



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