

JBM Electronics CDMA and GSM Gateways

Why Wireless?

JBM Electronics is now bridging the gap between traditional wire line devices and CDMA or GSM wireless services. The Wireless Gateways from JBM Electronics offer tremendous cost savings and increased flexibility for companies' networks and remote devices. The Gateways provide a simple backup option for office LANs, superior connections for older equipment and a quick installation almost anywhere in the country.

What About Cost?

The Gateways supports high-speed, normal and telemetry plans cell plans. You can select the best cell plan based upon the service requirements and data volume. For low volume applications such as ATMs, a telemetry plan can be a low-cost replacement for a dial connection. For higher volume applications such as branch office backup, a normal cell plan is the best option. No matter which plan is selected, the Gateway's intelligence can optimize the connection and efficiently utilize the bandwidth.

The Wireless Gateways provide CDMA or GSM wireless connectivity to serial, dial-only, and Ethernet devices and networks. JBM Electronics has developed two product lines, in order to handle any size installation:

The C200 and C250 Series with 1XRTT or GPRS Support
and
The C120 and C130 Series with EV-DO and EDGE/HSDPA Support

Why JBM Electronics?

JBM Electronics' Wireless Gateways are truly unlike any other wireless networking equipment, since we use the power of **Linux** as an operating system. This industry standard operating system offers many advantages in giving our customers flexibility and functionality not found in any other product. A full set of Linux security features is incorporated in the Gateway. Furthermore, the Gateways provide all of the processing capabilities that you need to interface terminal devices to the host system, including custom headers, data manipulation and special routing. The Gateways' fallback and management capabilities allow the units to be quickly integrated into existing networks and management systems.

JBM Electronics has been supplying communications devices since 1980. Our units have helped many large networks adapt to changing requirements with advanced, cost-effective solutions. The wireless Gateways are the newest product, which build on our library of protocols and management tools.



C200 and C250 Series



C120

Benefits

- Immediate deployments
- Support all cell plans from high-speed to Telemetry
- No circuit installation charges
- Increased mobility
- Tremendous improvements in transaction speeds
- Eliminate dedicated dial or leased lines for remote devices
- Lower transaction fees for IP connectivity versus dial or Leased Line
- Reduction in recurring phone lines costs
- Lower capital expense by maintaining existing equipment
- No need to retrain employees on new equipment
- Quick and easy to install
- Seamless installation to existing systems and equipment
- Support different processors through application-specific headers
- Select TCP session and header format via dial string or data
- Facilitate remote management via IP connectivity using Telnet or SNMP
- Improve overall manageability of remote devices and reduce truck rolls

Models

All of the Gateways offer the functionality of a router, protocol converter, VPN endpoint and Firewall. The Gateways are available with CDMA cell modems for Sprint and Verizon and GSM for domestic carrier (Cingular and T-Mobile) and international networks. The carrier must be specified at time of order.

The following tables indicate the port configurations available for each model of the Connector and Consolidator Series units.

C120 and C130 Series

Edge/HSDPA and EV-DO Gateways - The C120 and C130 Series Gateways support carrier-supplied PC Cards that support high-speed connections on GSM Edge and CDMA EV-DO networks. These units provide a CardBus Slot for the PC Card.

Unit	Serial Ports	Modem Ports	Ethernet Port	Console Port	Wireless Port
Gateway C120	-	-	Two	One	One - CardBus

Unit	Serial Ports	Modem Ports	Ethernet Port	Console Port	Wireless Port
Gateway C130	Two	-	Two	One	One - CardBus
Gateway C131	Two - async	One Dial-Tone	Two	One	One - CardBus
Gateway C132	Two - async One - sync	-	Two	One	One - CardBus
Gateway C134	Two - async	One 56 KB Modem	Two	One	One - CardBus



C130

C200 and C250 Series

CDMA Gateways - The C200 Series Gateways support CDMA connections from Sprint and Verizon.

Unit	Serial Ports	Modem Ports	Ethernet Port	Console Port	Wireless Port
Gateway C200	One	-	One	One	One - CDMA
Gateway C201	One	One Dial-Tone	One	One	One - CDMA
Gateway C202	One - async One - sync	-	One	One	One - CDMA
Gateway C204	One - async	One 56 KB Modem	One	One	One - CDMA

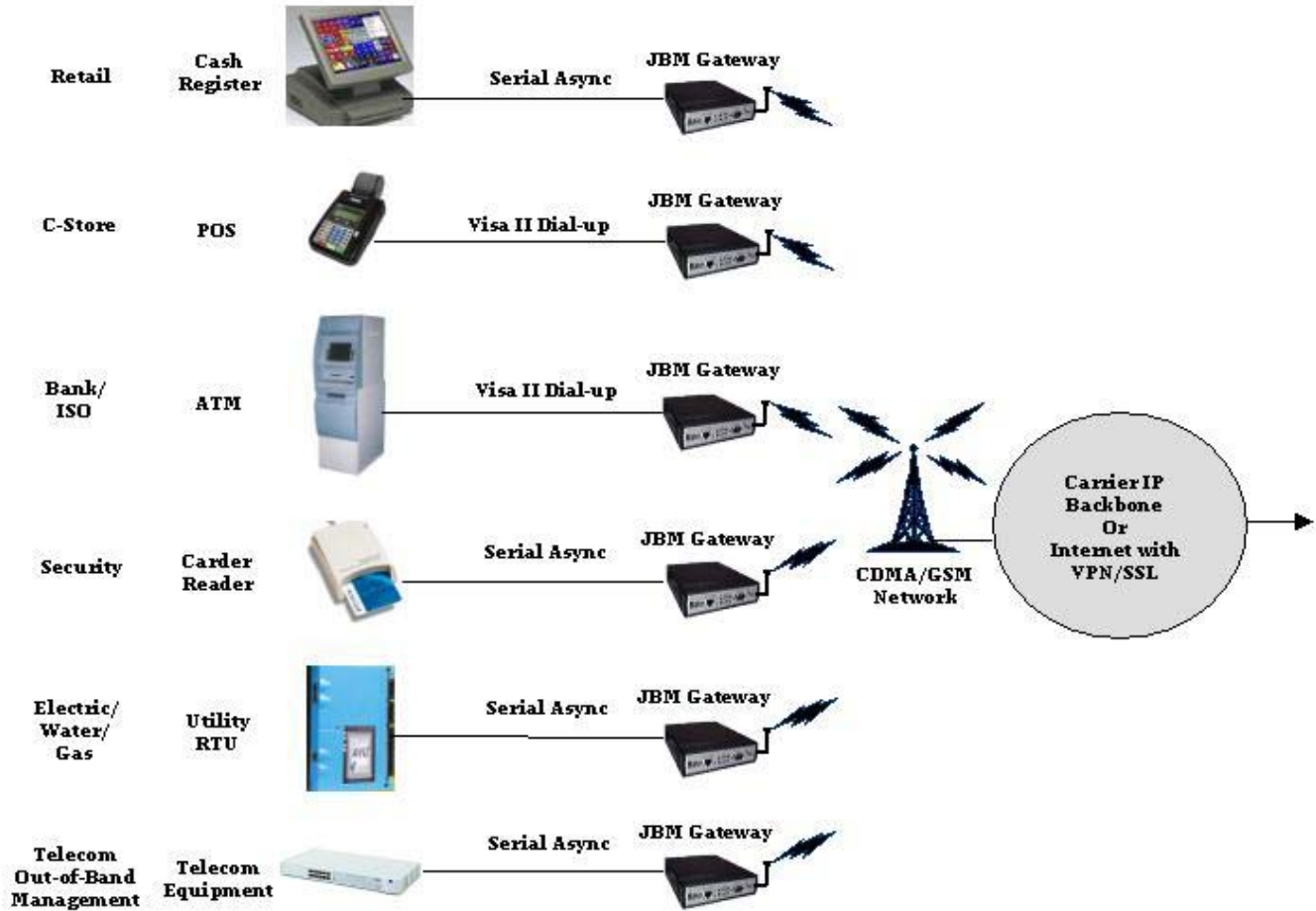
GSM Gateways - The C250 Series Gateways support GSM connections from Cingular and other GSM carriers.

Unit	Serial Ports	Modem Ports	Ethernet Port	Console Port	Wireless Port
Gateway C250	One	-	One	One	One - GSM
Gateway C251	-	One Dial-Tone	One	One	One - GSM
Gateway C252	One - sync	-	One	One	One - GSM
Gateway C254	One - async	One 56 KB Modem	One	One	One - GSM

The Gateways are also available in a series of models with an integrated Ethernet output. These IP Connector and Consolidator Series models provide the same functionality as the Wireless Gateways and terminate the transactions on a 10/100BaseT connection. For further information on our IP Connector or Consolidator Series, please contact JBM or visit our website at: <http://www.jbmelectronics.com/product/ipconnector.htm>.

Applications

The Gateways provide IT managers the flexibility to convert any Ethernet, serial, or dial-up circuit to wireless. The Wireless Connector Series also allows data from non-IP devices to be converted to IP for transport over a wireless network. Some of the supported device types are illustrated below:



Industry Uses

The Wireless Gateways can convert any Ethernet, RS232 serial, or dial-only device to wireless for transport. This capability allows our customers to support applications like out-of-band management, monitoring and control of remote devices, and transport of transaction data. This opens the door for many industries with remote devices to reduce their carrier costs and save on expensive leased lines or dial-ups. Below is a list of just some of the industries for which the Wireless Connector Series makes sense:

- **Financial** (Transaction Data)
 - Point of Sale (POS) Terminals
 - ATM's
 - Retail
 - C-Store
 - Gas Stations
- **Utilities** (Monitoring & Control)
 - Electric Power Generation & Distribution
 - Natural Gas
 - Water
 - Pipeline
- **Government** (Monitoring & Control)
 - Local
 - State
 - Federal
- **Transportation** (Monitoring & Control)
 - Railroads
 - Airline
 - Reservations
 - Traffic Management
- **Security** (Monitoring & Control)
 - Surveillance
 - Alarms
 - Access Entry
- **Telecommunications** (Monitoring & Control)
 - Out of Band Management
 - Terminal Server
 - Environmental Monitoring & Control

Features & Functionality

Wireless Interface

The JBM Wireless routers use an industry standard Wavecom module for compatibility with all CDMA and GSM wireless carriers. The wireless interface is designed with an external antenna for mounting outside equipment cabinets or ATMs for better reception.

Security

All of the JBM Gateways have a full range of Linux security features including SSL client/server, IPSEC VPN client/server, Manual or Dynamic Keys, 3DES or AES encryption, Network Address Translation (NAT), transparent bridging mode, IP and Port filtering, and intrusion protection with an integrated Stateful Inspection Firewall.

Router Functionality

The Wireless Connector Series offers full IP routing functionality supporting Static, RIP, OSPF, and BGP routing. The Gateways support DHCP, DHCP client, GRE, PPP, and PPPoE for broadband users.

Compatibility

Compatibility is never an issue with the Wireless Connector Series since JBM uses all standards-based protocols. Interoperability between JBM and other router/VPN vendors is fully supported.

Fallback Routing

One of the Gateway's key features is the ability to perform fallback routing. Fallback routing enables a user to configure alternate paths to the host or to several hosts for disaster recovery. The fallback path can be to a different IP server or with a properly equipped Gateway, through a different connection such as a cell or dial modem.

Management

The JBM Gateways can be configured through CLI Command entered via console port or Telnet. The Telnet connection provides command, control, and monitoring of the Gateways. SNMP is supported with SNMP Traps providing notification of major events in the Gateways. SSH is also supported for security of the management connection. Extensions to the Telnet or SNMP commands are available as a special order.

Dial-Tone Support

The Dial-Tone circuitry provides a dial tone for dial-only async devices. This dial tone simulator and associated modem allows for a simple, non-disruptive connection to a dial-only device. The Gateway can route the data based upon the data or phone number dialed (DTMF recognition). This connection supports both legacy async protocols and async PPP. The modem component can also be used as a normal async modem.

The Dial-Tone support can be used to dial the attached device. This capability allows a remote application to connect on demand for management and diagnostic purposes.

IP Header Manipulation

Unlike many competitors, the Gateways support Data and Header manipulation, allowing seamless access into many host systems. This important, customizable feature allows the customer to change the content or format of the IP headers. This capability gives the customer the flexibility to connect to any transaction processor or host system.

Data and Phone Number Routing

In addition to the header manipulation, the Gateways can perform routing based upon the dial phone number or specific data fields. The routed message, built with the processor-specific header, can be sent to the remote destination. This capability allows the Gateway to support many unique processors with all of the conversion occurring at the network's edge.

Protocol Conversion

All of the JBM Gateway products support protocol conversion, and when it comes to protocol conversion, JBM is the industry leader with over 50 different protocols in our software library. Protocol conversion is necessary when converting a host to IP or introducing a new Transaction Switching System. Our Gateway products provide our customers with a seamless and non-intrusive migration to IP. The Wireless Connector Series support conversion of most financial async protocols.

Product Specifications

Wireless Module:	Wavecom:	Q2438 (CDMA) or Q2406 (GSM/GPRS)
	Data Rate:	153 Kbps Forward and Reverse
	Power Output:	0.2W – 0.3W
CDMA 2000 1XRTT: C200	Band Class 0:	Tx: 824 ~ 849 / Rx: 869 ~ 894
	Band Class 1:	Tx: 1850 ~ 1910 / Rx: 1930 ~ 1990
GSM/GPRS: C250 Series	Single Band:	GSM 850/900 or GSM 1800/1900
	SIM Module:	User-supplied
LAN Port:	Ethernet:	One 10/100BaseT (C200, C250 Series) Two 10/100BaseT (C120 and C130 Series)
	Interface:	Female RJ-45 connector
Async Port:	Baud Rate:	110-56,000 bps
	Interface:	Female DB-9 connector, RS-232C, DTE mode, DCE mode with adapter cable
Dial-Tone Port:	Baud Rate:	Up to 2400 bps (V.22 bis technology)
	Interface:	Female 6 pin Modular plug for modem, Female 6 pin Modular plug for pass-through (C201)
Sync Port: C132, C202, C252	Baud Rate:	110-19,200 bps
	Interface:	Female DB-25 connector, RS-232C, DCE mode, DTE mode with adapter cable
Async Modem: C134, C204 and C254	Baud Rate:	Up to 56 KB (V.92 technology)
	Interface:	Female 6 pin Modular plug
CardBus Slot: C120 and C130 Series	Expansion Slot:	16-Bit or 32-Bit PC Card
		User-supplied Air Card
Console Port:	Baud Rate:	Up to 115,200 bps
	Connector Series	Female DE-9, RS-232C DCE mode
	Interface:	DTE mode with adapter cable
	Consolidator Series	Male DE-9, RS-232C DCE mode
Interface:	DTE mode with adapter cable	
Operating System:	Embedded Linux 2.4 Kernel (C200 and C250)	
	Embedded Linux 2.6 Kernel (C120 and C130)	
Management:	Console Port:	CLI Access through async PPP connection
	IP Protocol:	SNMP and Telnet or SSH
LED Indicators:	Wireless Port:	Status, Ready, Transmit, Receive
	LAN Port:	Link, Transmit, Receive
	Serial Port:	Transmit, Receive
	Dial Tone Port:	CO, Transmit, Receive
	Modem Port:	Off-Hook, Transmit, Receive
	Power:	On/Off State
Power:	12V DC (External) 120-240 VAC, 50/60 Hz	
Antenna:	Built-in or External, SMA Connector	
Physical C200 and C250Series:	Size:	7" W x 1.4" H x 6" L
	Weight:	1 pound
Physical C120:	Size:	7.75" W x 1.45" H x 7" L
	Weight:	2 pounds
Physical C130:	Size:	11.75" W x 1.75" H x 9.3" L
	Weight:	2 pounds
Processor:	486DX-100	
Memory:	32 MB RAM, 16MB Flash (C200, C250 and C130) 64 MB RAM, 16 MB Flash (C120)	
Warranty:	1 Year Parts and Labor	