

JBM Electronics Broadband Gateways

Overview

JBM Electronics bridges the gap between Legacy protocol devices and Ethernet networks with the IP Gateways. The Gateways 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 install almost anywhere in the network.

Many industries use serial and dialup devices to pass transaction data or for monitoring & control of remote devices. With companies and government agencies moving towards a total IP infrastructure, the need to convert serial interfaces and protocols is a must. Because of this, JBM Electronics has developed two series of units to handle any size installation:

C110 Series with up to three ports
and
C3000 Series with support with up to eleven ports.

Why JBM Electronics

JBM Electronics' Broadband Gateways are truly unlike any other networking equipment, since we use the power of Linux as an operating system. This industry standard operating system offers many advantages, 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 IP Gateways are the newest product, which build on our library of protocols and management tools.

These low-cost, Linux-based routers provide IP/Ethernet connectivity for any serial or dial-up device. The IP Connector Series routers meet the growing demands of many industries wanting to maintain their existing equipment while allowing them to migrate to a total IP infrastructure.

The C112 also supports Legacy sync protocols such as bisync or SNA/SDLC.

**C110 Series****C3000 Series**

Models

All of the Gateways offer the functionality of a router, protocol converter, VPN endpoint and firewall. The following tables indicate the port configurations available for each model.

C110 Series

The C110 Series are small footprint units designed to connect several devices at a single location to an Ethernet Network.

Unit	Serial Ports	Modem Ports	Ethernet Port	Console Port
Gateway C110	One	-	Two	One
Gateway C111	One	One Dial-Tone	Two	One
Gateway C112	One – Aysnc One - Sync	-	Two	One
Gateway C114	One	56 Kbps Modem	Two	One

C3000 Series

The C3000 Series are designed to connect many devices at a single location to an Ethernet Network. The units can be ordered with an optional 56 KB async modem for fallback.

Unit	Serial Ports	Modem Ports	Ethernet Port	Console Port
Gateway C3100	One	One Dial-Tone	Two	One
Gateway C3200	Two	Two Dial-Tone	Two	One
Gateway C3400	Four	-	Two	One
Gateway C3800	-	Four Dial-Tone	Two	One
Gateway C3280	Two	Six Dial-Tone	Two	One
Gateway C3480	Four	Four Dial-Tone	Two	One
Gateway C3880	-	Eight Dial-Tone	Two	One

The Consolidator Series can be used as a firewall and router for an onsite LAN, while providing protocol conversion for up to eight legacy protocol devices. This single box solution can consolidate and protect all of your data at a given location.

The C3000 Series models listed above are the common configurations. For a list of the available models and their part numbers, please contact us. If you need a different configuration to meet your particular requirements, contact us for a custom configuration.

All of the Gateways are also available with an integrated CDMA or GSM cell modem – The Wireless Connector Series. These models provide the same functionality as the IP Connector Series and terminate the transactions on a wireless network.

Benefits

- Tremendous improvements in transaction speeds
- Eliminate dedicated dial lines for POS terminals and ATM's
- Lower transaction fees for IP connectivity versus dial or Lease Line
- Consolidation of parallel circuits
- Reduction in recurring phone lines costs
- Lower capital expense by continuing to use 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

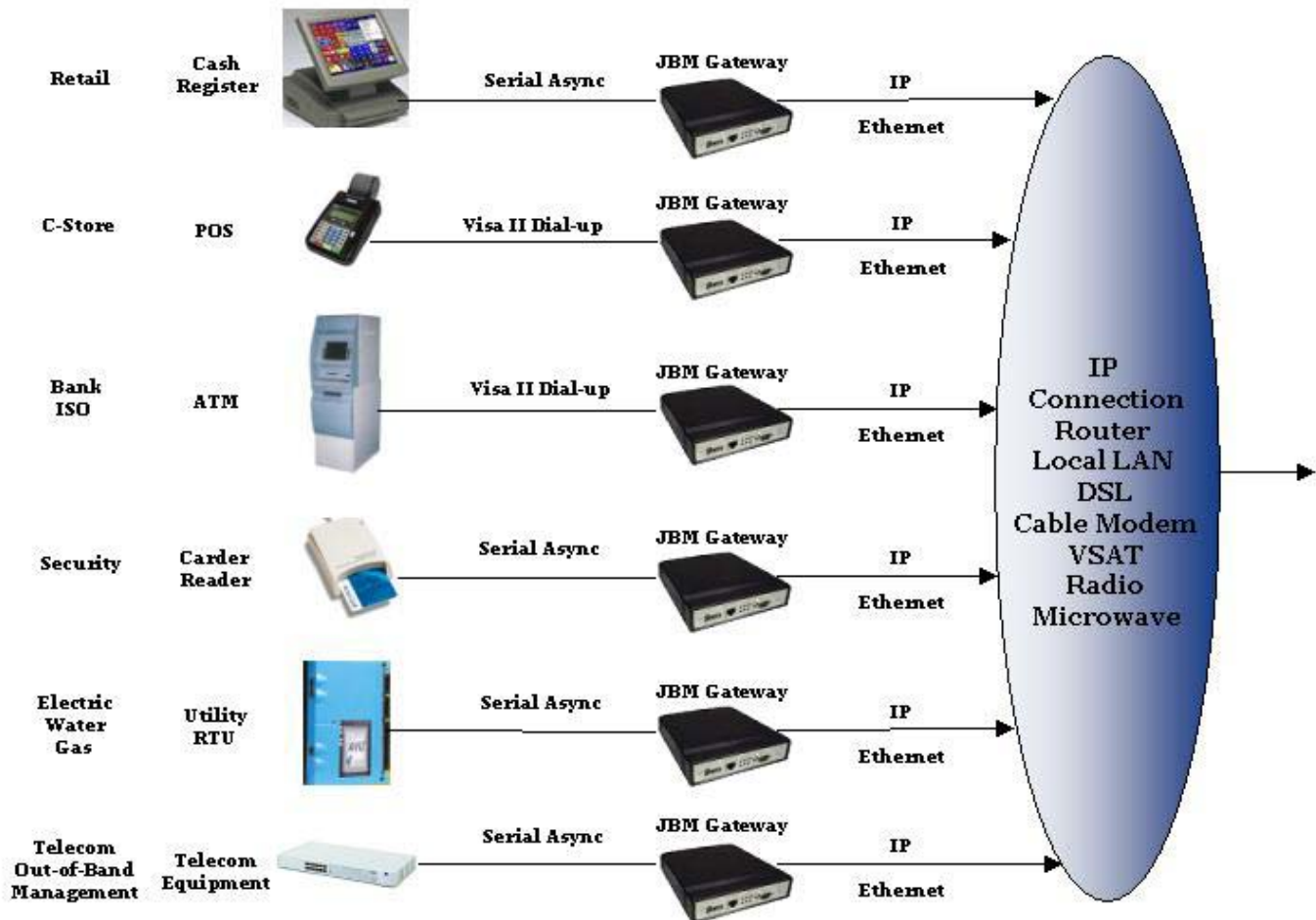
Industry Uses

The Gateways can convert any RS232 serial or dial-only device to IP for transport over Ethernet. 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 consolidate and save on expensive leased lines or dial-ups. Below is a list of just some of the industries for which the IP Connector Series of routers makes sense:

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

Applications

The Gateways provide the flexibility to convert any serial or dial-up circuit to IP. This capability allows data from non-IP devices to be transported over broadband services such as DSL, cable modem, VSAT satellite, microwave radios, or over any local LAN. Some of the supported device types are illustrated in the following diagram:



Features & Functionality

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 encryption, Network Address Translation (NAT), transparent bridging mode, IP and Port filtering, and intrusion protection with an integrated Stateful Inspection Firewall.

Router Functionality

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

Compatibility

Compatibility is never an issue with the IP 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 a GUI from a web browser or a CLI Command entered via console port or Telnet or SSH. Both connections provide 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.

IP Header Manipulation

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 IP Connector Series routers support conversion of most financial async protocols.

The C102 and C112 supports many sync protocol devices, including bisync and SNA/SDLC in both host and terminal modes.

Product Specifications

LAN Port:	Ethernet:	One 10/100BaseT (C100 Series) Two 10/100BaseT (C110 and C3000 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: C101, C111 and C3000 Series	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: C102, C112	Baud Rate:	110-19,200 bps
	Interface:	Female DB-25 connector, RS-232C, DCE mode, DTE mode with adapter cable
Async Modem: C104, C114 and C3000 Series Fallback:	Baud Rate:	Up to 56 KB (V.92 technology)
	Interface:	Female 6 pin Modular plug
Console Port:	Baud Rate:	Up to 115,200 bps
	Connector Series Interface:	Female DE-9, RS-232C DCE mode DTE mode with adapter cable
	Consolidator Series Interface:	Male DE-9, RS-232C DCE mode DTE mode with adapter cable
Operating System:	Embedded Linux 2.4 Kernel	
Management:	Console Port:	CLI Access through async PPP connection
	IP Protocol	SNMP and Telnet or SSH
LED Indicators:	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	
Physical Connector Series:	Size:	7" W x 1.4" H x 6" L
	Weight:	2 pounds
Physical Consolidator Series:	Size:	17.25" W x 1.75" H x 8" L
	Weight:	4 pounds
Processor:	486DX-100	
Memory:	32 MB RAM, 16MB Flash	
Warranty:	1 Year Parts and Labor	

We continually enhance the Gateways so specifications are subject to change without notice.