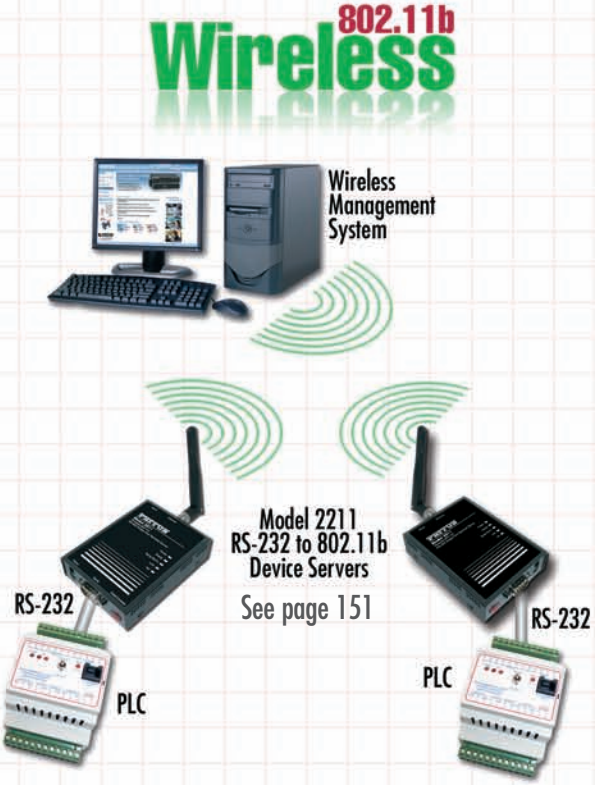
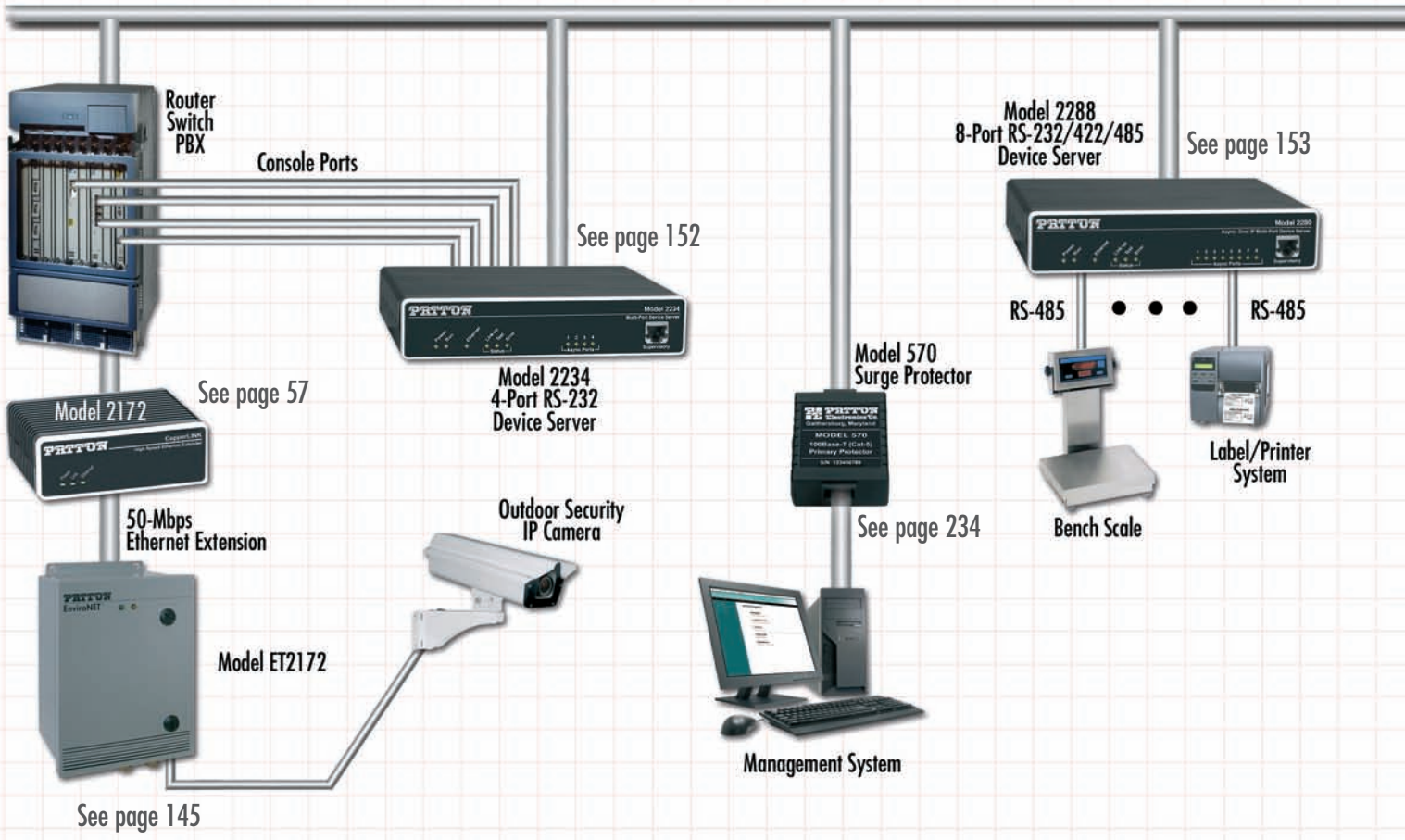
with Patton Industrial Ethernet

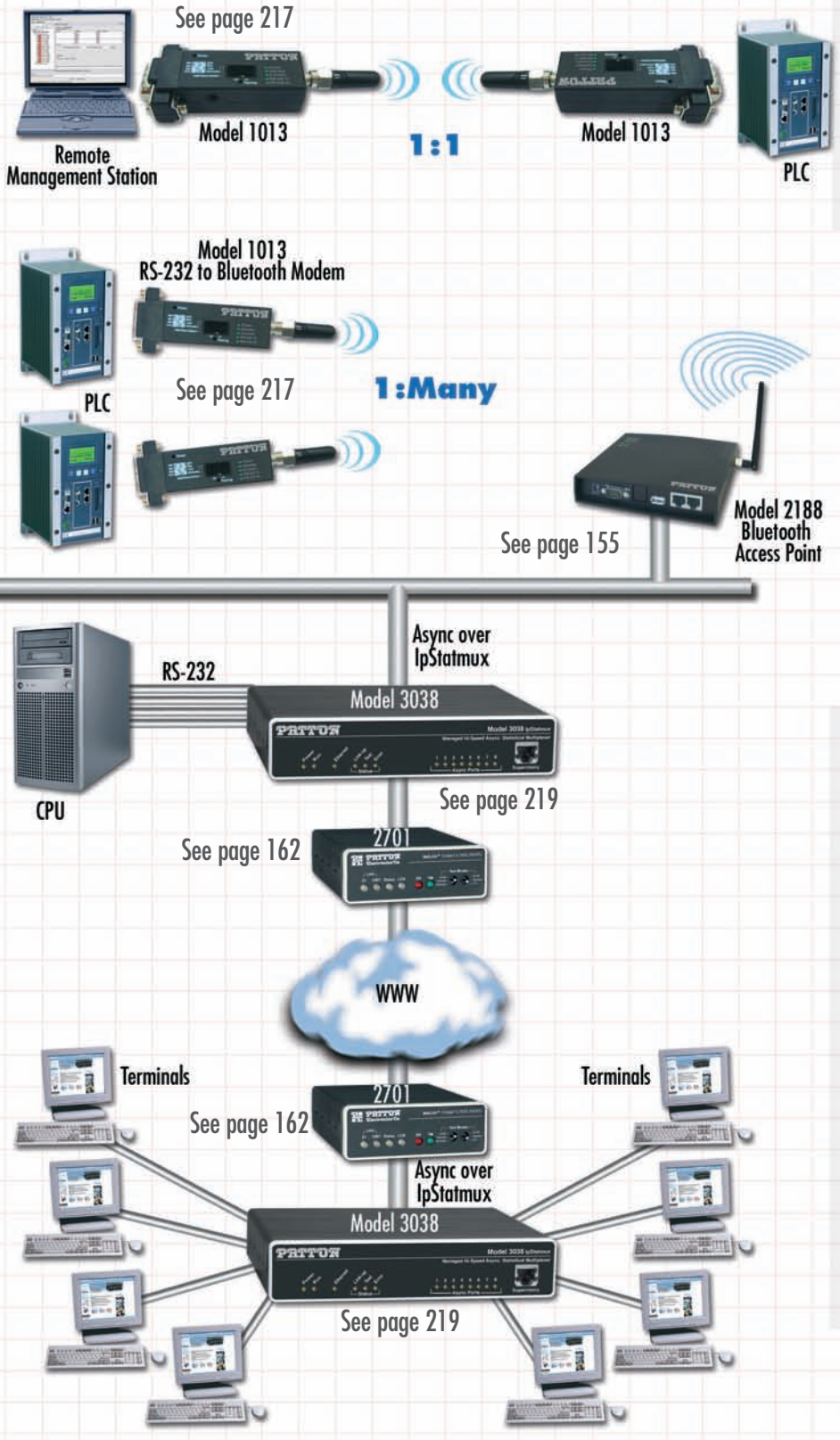
Ethernet is no longer a stranger to the Industrial Community. Ethernet's low cost, reliability, flexibility, and ease to migrate to more bandwidth intensive applications makes it a clear choice over traditional serial communications. Patton Electronics offers a wide variety of products to meet these Industrial Ethernet requirements. Patton's product line includes Device Servers, Ethernet LAN drivers, Wireless Networking, Ethernet/PoE Ethernet Surge Protectors, and a full range of NEMA4 and extended temperature products.

- ✔ EtherBITS Device Servers — Control, Monitor, and Collect RS-232/422/485 over an Ethernet LAN
- ✔ CopperLink™ Ethernet LAN Drivers — Extends Ethernet over standard grade twisted pair over its 328 ft (100m) limitation at lines rates as high as 50 Mbps.
- ✔ Wireless Networking — Extend RS-232 serial devices over BlueTooth, or control, monitor, and collect RS-232 data over 802.11b WiFi.
- ✔ LAN Protectors — Protects valuable Ethernet and PoE Ethernet Device from Surges
- ✔ EnviroNET™ — Ethernet extenders, Device Servers, Multiplexors, T1/E1 extenders, VoIP Gateways and Routers all meeting NEMA4 (IP65) and -40 to 85°C specifications.





Bluetooth



In This Section

EnviroNET™ Solutions

EnviroNET™ EH Series
Environmentally Hardened

MAXIMUM +122°F +32°F MINIMUM

Built to NEMA 4 specs, the durable EH Series protects against rain, sleet, snow, dirt, dust, ice build-up, high humidity (moisture) and physical tampering. Designed to operate in temperatures ranging from 32 to 122°F (0 to 50°C), it is ideal for use in environments that provide controlled temperatures.

EnviroNET™ EC Series
Environmentally Controlled

MAXIMUM +185°F +32°F MINIMUM

The EC Series offers the same protection from environmental elements as the EH Series, plus it has a temperature control system enabling it to operate in temperatures ranging from 32 to 185°F (0 to 85°C).

EnviroNET™ ET Series
Extended Temperature

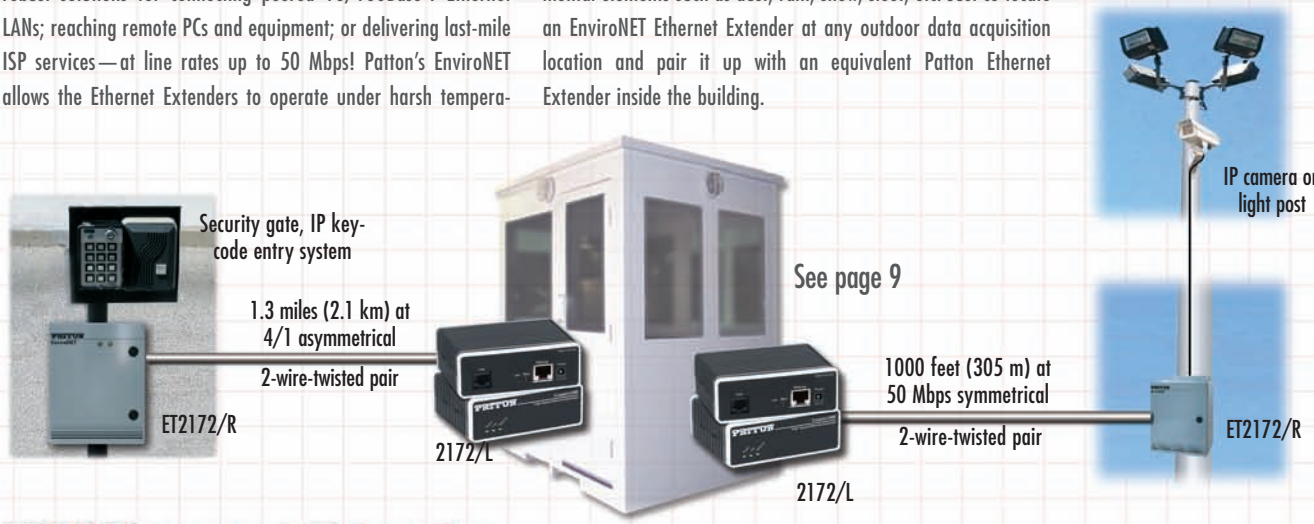
MAXIMUM +185°F -40°F MINIMUM

In addition to providing the same protection from environmental elements as the EH Series, the advanced ET Series temperature control system enables it to operate in temperature extremes of -40 to 185°F (-40 to 85°C). Potential installation locations and applications for the ET Series are virtually limitless!

Ethernet Extension

Extensive range of environmentally hardened and extended temperature solutions for extending Ethernet connections at distances up to 5 miles (8 km) over phone-grade twisted-pair!

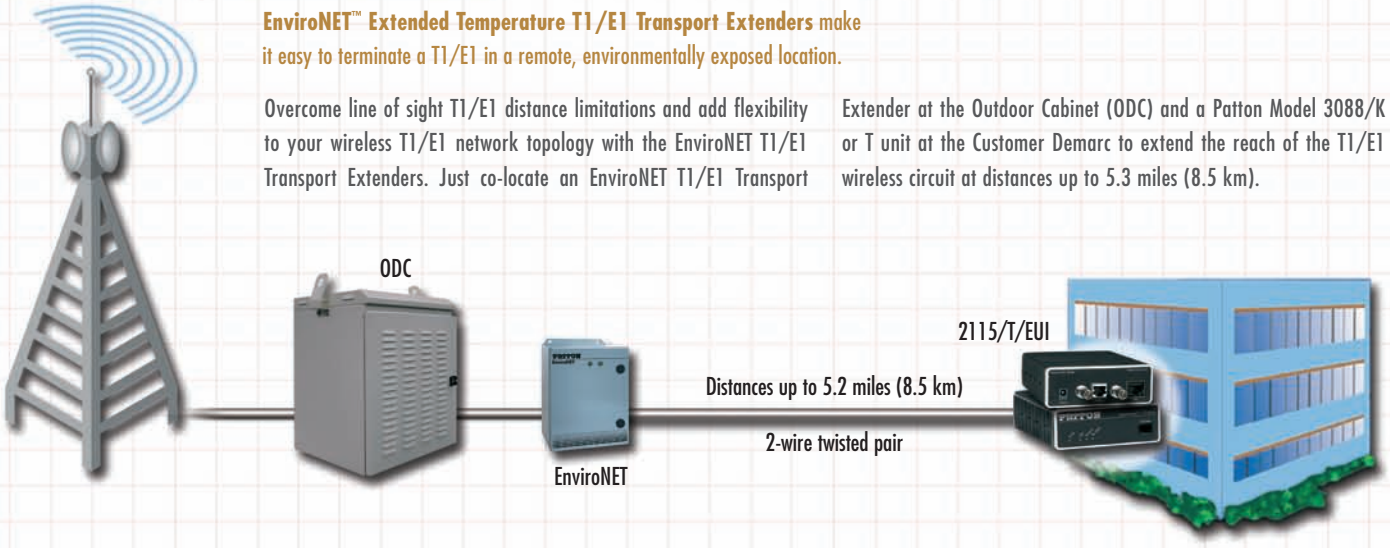
The Patton EnviroNET™ Ethernet Extender offers a reliable and robust solutions for connecting peered 10/100Base-T Ethernet LANs; reaching remote PCs and equipment; or delivering last-mile ISP services—at line rates up to 50 Mbps! Patton's EnviroNET allows the Ethernet Extenders to operate under harsh temperatures of -40 to 185°F (-40 to 85°C) and resist various environmental elements such as dust, rain, snow, sleet, etc. Just co-locate an EnviroNET Ethernet Extender at any outdoor data acquisition location and pair it up with an equivalent Patton Ethernet Extender inside the building.



T1/E1 Transport Extension

EnviroNET™ Extended Temperature T1/E1 Transport Extenders make it easy to terminate a T1/E1 in a remote, environmentally exposed location.

Overcome line of sight T1/E1 distance limitations and add flexibility to your wireless T1/E1 network topology with the EnviroNET T1/E1 Transport Extenders. Just co-locate an EnviroNET T1/E1 Transport Extender at the Outdoor Cabinet (ODC) and a Patton Model 3088/K or T unit at the Customer Demarc to extend the reach of the T1/E1 wireless circuit at distances up to 5.3 miles (8.5 km).



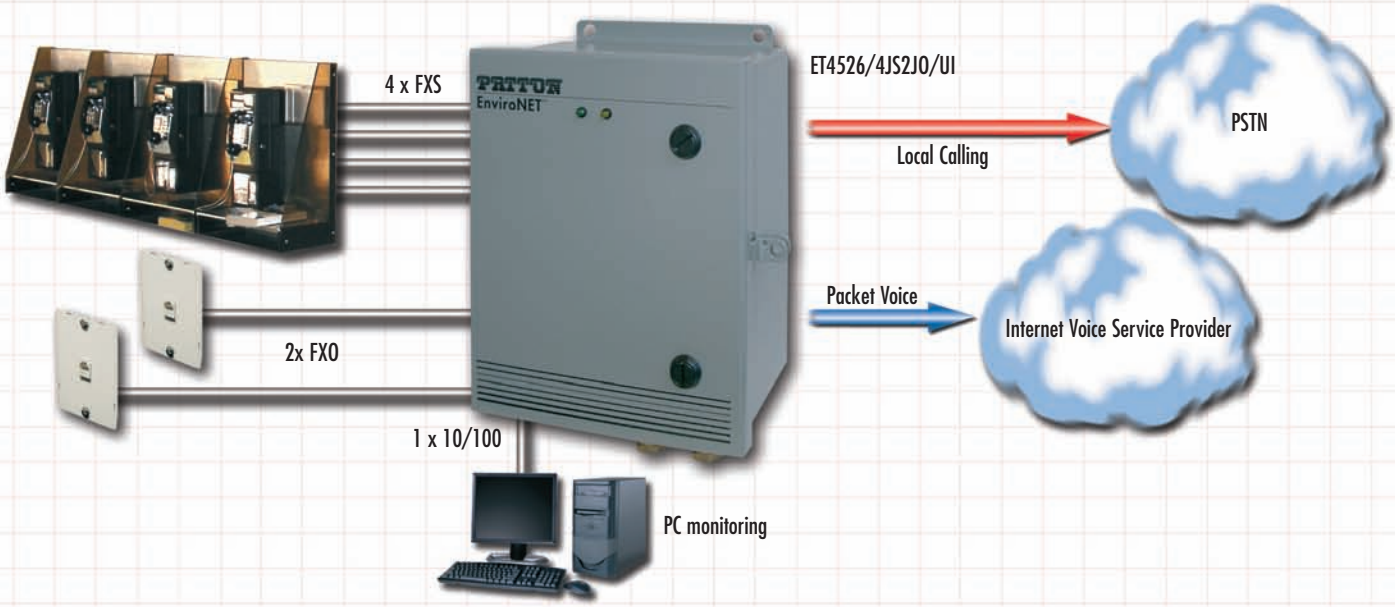
Ethernet Anywhere

EnviroNET™ Hardened Networking Products Deliver...
Voice, Video and Data Communications Services...
In ANY environment.

Voice-over-IP Gateways

EnviroNET™ Voice-over-IP Gateways provide a reliable, robust, and secure solution for converting your Analog FXS/FXO or Digital ISDN circuits to VoIP in harsh environments.

Extending Patton's EnviroNET Voice-over-IP Gateway routers into exposed environments for seamless access between remote packet-voice and local PSTN telephony. Using ToIP call switching, distinctive ring, and Caller-ID a single handset can now access the right service at any time. With Patton's ClearConnect™ fail-over protection, a phone call will be completed. Network health monitoring and ToIP switching ensures a clear call even if the IP network is down. Patton's EnviroNET protective enclosures give service providers unlimited installation locations.



SPECIFICATIONS

General Product Specifications for ET Extended Temperature Product
Operating Temperature: -40 to 185° F (-40 to 85°C)
Dimensions: 8.0 L x 4.5 W x 11.5 H in. (203 L x 114 W x 292 H mm)
Weight: 8.5 lbs (3.86 kg)

General Product Specifications EN Environmentally Enhanced Product
Operating Temperature: 32 to 122°F (0 to 50°C)
Dimensions: 8.0 L x 4.5 W x 11.5 H in. (203 L x 114 W x 292 H mm)
Weight: 8.5 lbs (3.86 kg)

ORDERING INFORMATION

Extended Temperature Ethernet Extender
ET2172/EUI: Multi Rate 50 Mbps
ET2168/EUI: Multi Rate 16 Mbps
ET2157/EUI: Rate Adaptive 4.6 Mbps
ET2156/EUI: Rate Adaptive 2.3 Mbps
ET2155/EUI: Long Range 144 kbps

Extended Temperature Device Servers
ET2232/EUI: RS-232 Device Server 10Base-T
ET2211/EUI: RS-232 Device Server 802.11b
ET2285/EUI: RS232/422/485 Device Server 10/100Base-TX

Extended Temperature T1/E1 Extenders & Converters
ET2115/T/EUI: T1 Extender
ET2113/K/EUI: E1 Extender
ET2720/C/EUI: T1 to V.35 Converter/NTU
ET2720/I/EUI: Ethernet Extender over T1
ET2701/C/EUI: E1 to V.35 Converter/NTU
ET2701/D/EUI: E1 to X.21 Converter/NTU

Extended Temperature xDSL Routers
ET3087/RIC/UI: 4.6 Mbps G.SHDSL V.35 Router
ET3087/RID/UI: 4.6 Mbps G.SHDSL X.21 Router
ET3087/RIK/UI: 4.6 Mbps G.SHDSL E1/T1 Router
ET3201/R/UI: 2.3 Mbps G.SHDSL Router
ET3241/R/UI: 4.6 Mbps G.SHDSL Router

Extended Temperature VoIP Gateways & Routers
ET4524/JS/UI: 4 port FXS VoIP Router
ET4524/JO/UI: 4 port FXO VoIP Router
ET4528/4JS4JO/UI: 4 port FXS plus 4 port FXO VoIP Router
ET4528/8JS/UI: 8 port FXS VoIP Router
ET4552/2BIS/UI: 2 port BRI VoIP Router

Extended Temperature Serial Extenders
ET1080A/UI: RS-232 Long Range Extender
ET3088/D/UI: X.21 Serial Extender
ET3088/C/UI : V.35 Serial Extender
ET1052/UI: RS-232 High Speed Sync Extender
ET1053/UI: RS-232 High Speed Async Extender

NanoServ Industrial PC

NanoServ™ Embedded Linux Family

Patton's NanoServ is a rugged, powerful, industrial-strength, embedded Linux server in an ultra-miniature package.

Model 6073—Diskless and fan-less

The NanoServ family of embedded Linux systems are available for specialized industrial and commercial applications, such as security, networking, and machine control. The NanoServ systems are available in a solid-state, diskless model or in a slightly larger model with a 40-Gbyte disk. Both models come with a rugged metal case suitable for the toughest environments. With no fans or other moving parts in the diskless system, the NanoServ requires no physical maintenance and has nothing to wear out over time.

The Patton NanoServ family provides the equivalent of 1.3 GHz of Pentium processing power based on the 800-MHz VIA Eden Nano CPU. The VIA processor includes support for hardware encryption that enables technologies such as advanced PGP (Pretty Good Privacy) public keys and AES (Advanced Encryption Standard) encryption used in IPsec, enabling the creation of ultra-secure traffic flows between users. The encryption technologies will be useful in applications such as Virtual Private Networks (VPNs), corporate peer-to-peer LANs with restricted access for sensitive projects, and home wireless networks.

Applications can easily be developed to provide secure instant messaging, group chats, distributed presence, file browsing, file transfer, and support for multiple formats of ad hoc secure networking. The NanoServ family is designed to run local applications for specific vertical markets, plus allow access across a network to multi-user Linux servers.

The NanoServ comes pre-installed with a Fedora Core 5 Linux system* that fully boots in under 30 seconds. Fedora Core 5 is compatible with the vast majority of Linux applications and can automatically detect and auto-configure most x86-based hardware.

FEATURES & BENEFITS

- ✔ Compact—6.7 x 4.9 x 1.5 in. (17 x 12.4 x 5.8 cm)
- ✔ Powerful—800-MHz VIA processor equal to 1.3-GHz Pentium
- ✔ Heavy Duty Metal Case—Ready for the toughest environment but attractive enough for a desktop
- ✔ Fan-less—No moving parts; nothing to break; longer life
- ✔ Compatible—The NanoServ comes equipped with all the standard external I/O interfaces (serial, keyboard, mouse, USB, Line/out, Ethernet) found on ordinary PCs.
- ✔ Comes preloaded with Linux.

I'm Ken, one of Patton's Engineers designing the software for industrial computers. To buy one of these state-of-the-art devices, call ***+1 301.975.1000*** *or send e-mail to* ***sales@patton.com****.*

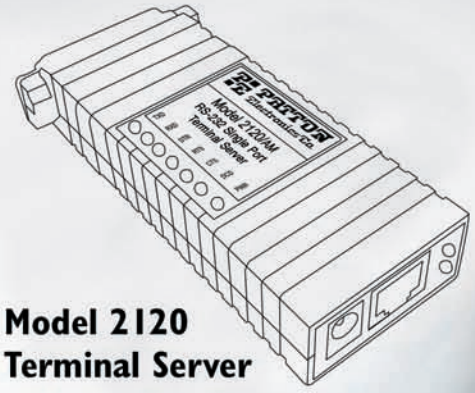
NanoServ interfaces

Model 6075—Fan-less with 40-GB hard disk

ORDERING INFORMATION

6072/UI: Diskless NanoServ in a Thin Case
6073/UI: Diskless NanoServ in an Ultra-Thin Case
6074/UI: NanoServ with a 256MB Flash Drive in a Thin Case
6075/UI: NanoServ with a 40GB Hard Disk in a Thin Case

*Available with other Linux distributions. Call for availability.



Today's Lesson Plan

- TCP
- UDP
- ICMP
- Telnet
- ARP
- DHCP
- FTP
- SLIP
- PPP
- IP NAT
- WINS
- DNS
- PAP

RS232 + 2120 = Ethernet

PPP + IP = Internet Access

Give your serial device an advanced degree in Ethernet

- ✓ Control and monitor any RS-232 terminal or devices over any IP/Ethernet LAN
- ✓ 802.3 Ethernet interface connects to any hub or switch
- ✓ RS-232 over IP
- ✓ Single Port RAS with any Modem
- ✓ User-selectable data rates up to 115.2 kbps
- ✓ Access your private network address through the internet

Single-Port Terminal Server

Model 2120

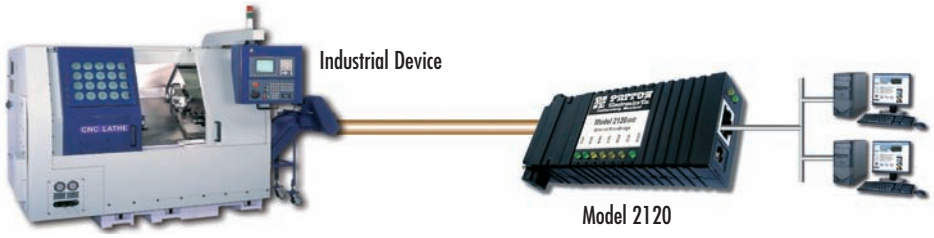
The versatile Patton Model 2120 brings RS-232 serial devices and control ports onto the LAN and also functions as a single-port remote access server.

Patton's Model 2120 Single-Port Terminal Server provides a quick, simple, and cost-effective solution for connecting traditional RS-232 terminals and devices to a local area network. The Model 2120 can be used just about anywhere, including the office, retail outlets, equipment rooms, and on the factory floor. When used with a dial-up modem and connected to a LAN, the Model 2120 also functions as an inexpensive single-port remote access server. The versatile and feature-rich Model 2120 can literally be used in thousands of different applications and environments.

The Model 2120 brings serial RS-232 devices onto the network by encapsulating RS-232 data into IP packets for transport over the LAN. Using Raw TCP or TELNET, the Model 2120 can connect to any user-defined IP address and port. Once connected to the remote host, data is passed transparently end-to-end. The built-in DHCP Client allows the Model 2120 to dynamically obtain an IP address and a subnet mask from a master server. Using dial-up modems and SLIP and PPP connections, remote users can access the network as if they were locally connected.

The Patton Model 2120 Single-Port Terminal Server easily and cost-effectively brings serial RS-232 equipment together with other systems on one local area network!

LAN-to-LAN Bridging



The Patton Single-Port RS-232 Terminal Server provides the ability to bring virtually any RS-232 device onto the LAN. Using industry-based TCP/IP protocol enables Patton's Single-Port Terminal Server to provide a standard Ethernet communication link to any type of host. Above is an example of the Model 2120's role in an industrial environment.

FEATURES & BENEFITS

- ✔ Enables control of any RS-232 asynchronous serial device over a LAN or via the Internet
- ✔ Asynchronous data rates up to 115.2 kbps
- ✔ DTE/DCE-selectable serial port
- ✔ RS-232 status indicators
- ✔ 802.3 10Base-T LAN connection via RJ-45 for network connection
- ✔ Ethernet link and status indicators
- ✔ User-configurable session options
- ✔ Supports standard TCP/IP protocols (TCP, UDP, IP, ICMP, TELNET, ARP, DHCP, FTP, TFTP, SLIP, PPP, PAP, DNS, and WINS)
- ✔ Comes with 1 Mbyte RAM and 512 kbytes FLASH
- ✔ Small package attaches directly to terminal equipment
- ✔ AC or DC power options
- ✔ Download new software via FTP into FLASH memory
- ✔ 64-user database for enhanced security

*I'm Steve, one of Patton's Engineers designing serial device servers. To buy one of these state-of-the-art devices, call **+1 301.975.1000** or send e-mail to **sales@patton.com**.*

SPECIFICATIONS

Serial Interface: DB-25 male or female; DB-9 male or female
Serial Transmission: RS-232 Asynchronous, 0 to 115.2 kbps, configured via serial port or TELNET session
DCE/DTE: Configured via serial port or TELNET session
RS-232 Status Indicators: TXD, RXD, DTR, RTS, CTS, DCD, and Power
Ethernet Interface: RJ-45 female
Ethernet Standard: 10Base-T (IEEE 802.3)
Ethernet Status Indicators: Ethernet link and status
Protocols Supported: TCP, UDP, IP, ICMP, TELNET, ARP, DHCP, FTP, TFTP, SLIP, PPP, PAP, DNS, and WINS
Management Services: Monitoring, control, and diagnostics via serial port or TELNET session
Memory: 1 Mbyte RAM; 512 kbytes FLASH
Power Supply Options: External, universal AC (100–240 VAC) or -48 VDC
Environment: Temp.: 32–122°F (0–50°C) • Humidity: Up to 95% non-condensing
Dimensions: 3.5L X 2.1W X 0.78H in. (9.0L X 5.3W X 1.9H cm)
Weight: 0.2 lbs (0.09 kg)

ORDERING INFORMATION

2120/AM/UI: Single Port RS-232 Terminal Server, Asynchronous, DB-25 Male, UI Power Supply
2120/AM/48: Single Port RS-232 Terminal Server, Asynchronous, DB-25 Male, -48 VDC Power Supply
2120/AF/UI: Single Port RS-232 Terminal Server, Asynchronous, DB-25 Female, UI Power Supply
2120/AF/48: Single Port RS-232 Terminal Server, Asynchronous, DB-25 Female, -48 VDC Power Supply
2120/A9M/UI: Single Port RS-232 Terminal Server, Asynchronous, DB-9 Male, UI Power Supply
2120/A9M/48: Single Port RS-232 Terminal Server, Asynchronous, DB-9 Male, -48 VDC Power Supply
2120/A9F/UI: Single Port RS-232 Terminal Server, Asynchronous, DB-9 Female, UI Power Supply
2120/A9F/48: Single Port RS-232 Terminal Server, Asynchronous, DB-9 Female, -48 VDC Power Supply

EtherBITS™ Device Server

Model 2232 Single Port RS-232 Device Server

Low-cost single-port device server lets you monitor, control, and collect data from any async RS-232 device over any IP network.

The Patton EtherBITS Model 2232 lets you leverage the power and flexibility of Ethernet for low-cost, hassle-free device networking.

Ethernet has far outgrown the confines of the office network. From factories and farms to railways and retail shops, credit bureaus, banks—even medical and dental offices—anywhere serial devices are found—the EtherBITS Model 2232 offers network managers the lowest-cost solution for making the transition from legacy serial infrastructure to the age of IP.

The EtherBITS Model 2232 provides both a serial RS-232 port (male or female/DB-9 or DB25) and a 10Base-T Ethernet port to link any RS-232 serial device to the Ethernet LAN at user-selectable data rates from 1200 bps to 115.2 kbps.

The Model 2232 encapsulates asynchronous serial data into IP packets for transport through the network via TCP or TELNET. The Model 2232 delivers a transparent end-to-end connection to your PC or network management host using any user-defined IP address and TCP port number. For greater flexibility, a built-in DHCP client can dynamically obtain an IP address from a master server anywhere on the network. With the included COM Port Redirector software you can use the existing COM/TTY on your PC, thus avoiding the hassle and expense obtaining an additional software license.

Connect serial devices and terminals to Ethernet quickly and easily with Patton's low-cost EtherBITS Model 2232 Single-Port Terminal Server. The Patton EtherBITS Model 2232 lets you leverage the power and flexibility of Ethernet for low-cost, hassle-free device networking.

FEATURES & BENEFITS

- ✔ Control and Monitor Serial Device—Link asynchronous serial devices and terminals to your IP network
- ✔ Supports a Wide Range of Data Rates—User-selectable async data rates up to 115.2 kbps
- ✔ Connects Directly to the LAN—10Base-T LAN connection via shielded RJ-45 connector
- ✔ Standard TCP/IP Protocols Supported—ARP, ICMP, TCP, DHCP client, Telnet
- ✔ COM Port Redirector Software Included—Windows-Tactical COM Port Redirector Linux-vtty drivers

ORDERING INFORMATION

RS-232 to 10Base-T Device Server

2232-25F/E: 10Base-T; DB25F RS-232
2232-25M/E: 10Base-T; DB25M RS-232
2232-9F/E: 10Base-T; DB9F RS-232
2232-9M/E: 10Base-T; DB9M RS-232

Accessories

08057R5DC-700M-EU: EU Desktop Power Supply
08057R5DC-700M-NA: NA Desktop Power Supply
INS/A-DIN-35: Set of DIN rail clips

SPECIFICATIONS

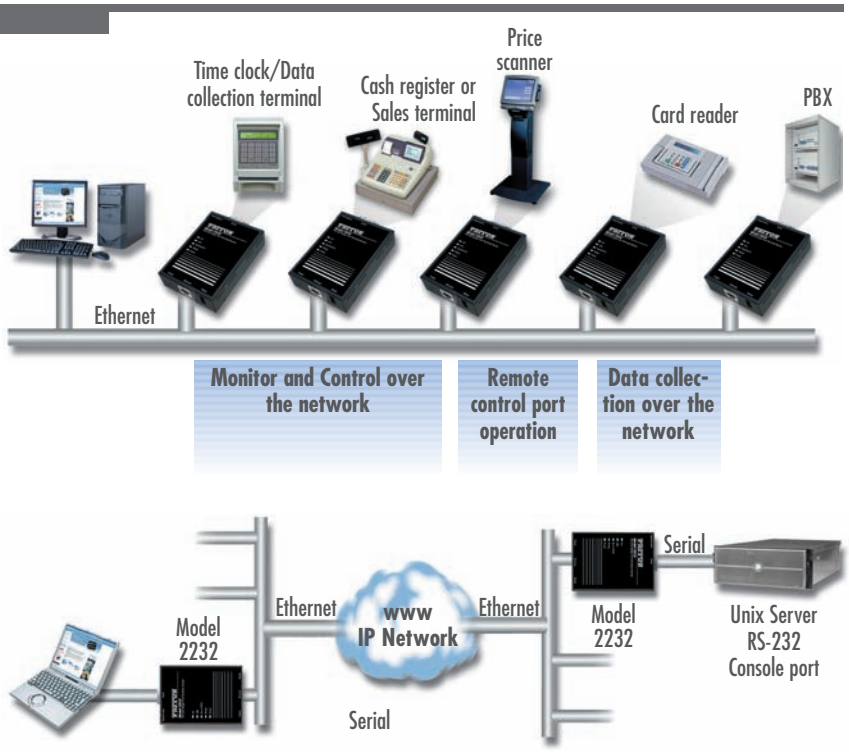
Physical Interface:
Serial: Serial: DB-9M/F; DB-25M/F
Ethernet: Shielded RJ-45
Serial Transmission: RS-232 rates from 1200 bps to 115.2 kbps
Ethernet Transmission: 10Base-T
Management: Monitoring, control, and diagnostics via serial port, TELNET session, or HTTP
LED Indicators: Power, Ethernet Link and Activity, Serial Receive and Transmit
Power: External AC: 9~30 VDC, 300 mA at 9 VDC
Compliance: EMC Directive 89/336/EEC, Low Voltage Directive 73/23/EEC; CE Mark
Environment:
Temperature: 40–122°F (5–50°C)
Humidity: Up to 90% non-condensing
Dimensions: 4.5L x 3.2W x 1.0H in. (9.0L x 5.3W x 1.9H cm)
Weight:
Packaged: 0.66 lbs (300 g)
Unit only: 0.55 lbs (250 g)

Application diagrams

The Model 2232 Single-Port Device Server is used to connect various RS-232 serial devices to the local area network through their serial control ports. The 2232 enables monitoring, control, and data collection from this equipment by remote computers located anywhere on the local or wide area network.

COM Port redirector is provided for users who choose to use their existing serial communication application programs. Using the redirector software provided on the Patton Model 2232 allows existing COM/TTY-based software to be preserved, thus no additional investment is required on additional software.

The Patton Model 2232 can be used for serial data tunneling when used in pairs. When operating in pairs, the 2232s will simulate a direct serial link between two serial devices over an Ethernet connection. Using IP allows the user to extend serial connections from across the building to across the world using the World Wide Web.



EtherBITS™ Universal Device Server

Model 2285 RS-485/422/232 Device Server

Control, monitor, and collect data from all your serial devices over the local network or Internet. Patton's Model 2285 universal single-port device server is cost-effective and feature-rich, linking virtually any serial RS-485/422/232 device to any IP network over a secure connection.

Use Patton's Model 2285 universal single-port device server to control, access, interconnect, and manage RS-485/422/232 devices from any remote location as if you were there. Patton's device servers provide a new level of efficiency and affordability to a variety of application environments including industrial automation, health care, security, transportation, retail, and many others.

With built-in DHCP the Model 2285 automatically obtains an IP address and a subnet mask from the master server. With the IP address identified and the serial port attached, the Model 2285 can tranparently pass data end-to-end using Telnet over TCP. Users can access management features over telnet, serial console, or the web. Security features include static key based RC4 data encryption, SSL to provide a secure connection between client and server, HTTPS for secure data transfer over the network, and IP filter, which limits and controls access to the serial device. COM Port Redirector is included with Patton's 2285 enabling users to use their existing COM/TTY-based software, preventing the hassle and expense of investing in additional software.

The Patton Model 2285 provides physical-layer connectivity by a user selectable RS-485/422/232 serial port and 10/100Base-TX Ethernet port. Configure the serial port's data rate, ranging from 75 bps to 230 kbps, and choose from a variety of connector types including DB9 or DB25 male or female.

Easily and cost effectively bring serial devices onto one global or local area network!

FEATURES & BENEFITS

- ✔ User Selectable RS-485/422/232—Control, access, and monitor your asynchronous serial terminals and devices over the LAN
- ✔ Secure Communication—Security features include static key based RC4 data encryption, SSL, HTTPS, and IP filtering
- ✔ COM Port Redirector Software Included—Windows®—Tactical COM Port Redirector Linux-vtty drivers
- ✔ Standard TCP/IP Protocols Supported—ARP, ICMP, TCP, Raw TCP, UDP, DHCP, Telnet/SSH, HTTPS, DNS, Dynamic DNS, SNMP v1, & v2, SSL
- ✔ Connects Directly to the LAN—10/100Base-TX LAN connection via RJ-45 connects to any hub/switch

ORDERING INFORMATION

RS-232/422/485 to 10/100BaseT Device Server

2285-9F/E: 10/100; DB9F RS-232/422/485

2285-9M/E: 10/100; DB9M RS-232/422/485

Call for DB25 versions

Accessories

08059DC-700M-EU: EU Desktop Power Supply

08059DC-700M-NA: NA Desktop Power Supply

INS/A-DIN-35: Set of DIN rail clips

SPECIFICATIONS

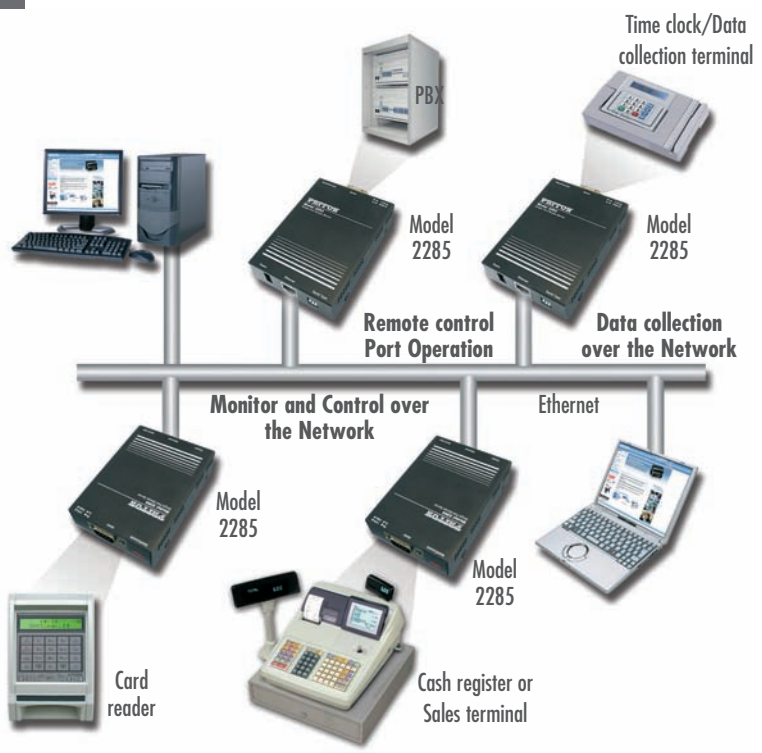
Physical Interface:
Serial: DB-9M/F; DB-25M/F
Ethernet: Shielded RJ-45
Serial Transmission: RS-485, 422, and 232 rates from 75 bps to 230 kbps (user selectable)
Ethernet Transmission: 10/100Base-TX
Management: Monitoring, control, and diagnostics via serial port, TELNET session, or HTTP
LED Indicators: Power, Ethernet Status, and Activity
Power: External AC: 9~30 VDC, 300 mA at 9 VDC
Compliance: EMC Directive 89/336/EEC, Low Voltage Directive 73/23/EEC; CE Mark
Environment:
Temperature: 40–122°F (5–50°C)
Humidity: Up to 90% non-condensing
Dimensions: 4.5L x 3.2W x 1.0H in. (9.0L x 5.3W x 1.9H cm)
Weight:
Packaged: 1.05 lbs (0.46 kg)
Unit only: 0.15 lbs (0.06 kg)

Application diagram

The Patton Model 2285 connects various RS-485/422/232 serial devices to a central location over an Ethernet Local Area Network. The device server enables monitoring, controlling, management, and data collection.

The Model 2285 enhances COM Port Redirection with the addition of encryption. Secure connections between the 2285 and the controller's COM port are implemented with the Serial/IP COM port redirector or OpenSSL Toolkit with an SSL security option.

The Model 2285 performs Serial Data Tunneling when used in pairs. The 2285's will simulate a direct serial link between two serial devices over an Ethernet connection. Using IP allows the user to extend serial connections across the building or acros the world.



EtherBITS™ Wireless (802.11b) Device Server

Model 2211 Wireless Single-Port Device Server

Best, most cost-effective method to control, monitor, and collect data from your RS-232 serial devices over a wireless local area network.

Ethernet continues to be the predominant office networking infrastructure. Now, Ethernet has made its way from the office to the shop floor. Traditional serial environments require the use of multi-port serial cards, expensive cables, and the personnel to manage multiple systems. Patton's Model 2211 Single-Port Device Server provides a quick, inexpensive, and hassle-free solution for connecting legacy serial terminals and devices to a local area network (LAN).

The Model 2211 links legacy serial RS-232 devices to the network by encapsulating serial data into IP packets for transport over the wireless LAN. Using TCP or TELNET, the Model 2211 can connect to any user-defined IP address and port. Once connected to the remote host, data is passed transparently end-to-end. The built-in DHCP Client allows the Model 2211 to dynamically obtain an IP address and a subnet mask from a master server. COM Port Redirector is included with Patton's 2211 enabling companies to use their existing COM/TTY-based software, preventing the hassle and expense of investing in additional software.

Physical layer-connectivity is provided via an RS-232 serial port and a 10Base-T Ethernet port. Configure the serial port's data rate, ranging from 1200bps to 115.2 kbps, and choose from a variety of connector types including DB9 or DB25 male or female.

Patton's Model 2211 offers the lowest transition cost in turning your serial infrastructure to IP.

FEATURES & BENEFITS

- ✔ Control and Monitor Serial Device—Control and monitor your serial asynchronous terminals and devices over the local area network
- ✔ Connects Directly to the Wireless LAN—802.11b WiiFi 10Base-T LAN connection via built-in WiFi module; 64-bit WEP security
- ✔ Standard TCP/IP Protocols Supported—ARP, ICMP, TCP, DHCP client, Telnet
- ✔ COM Port Redirector Software Included—Windows-Tactical COM Port Redirector Linux-vtty drivers

ORDERING INFORMATION

RS-232 to Wireless 802.11b Device Server

2211-25F/E: 802.11b; DB25F RS-232
2211-25M/E: 802.11b; DB25M RS-232
2211-9F/E: 802.11b; DB9F RS-232
2211-9M/E: 802.11b; DB9M RS-232

Accessories

08059DC-700M-EU: EU Desktop Power Supply
08059DC-700M-NA: NA Desktop Power Supply
INS/A-DIN-35: Set of DIN rail clips

SPECIFICATIONS

Mechanical Interface: Serial: DB-9M/F; DB-25M/F; Ethernet: WiFi 802.11b
Serial Transmission: RS-232 Rates from 1200 bps to 115 kbps
Ethernet Transmission: 802.11b Wireless Ad Hoc/Infrastructure Modes; 10Base-T Ethernet
Management: Monitoring, control, and diagnostics via serial port or TELNET session
LED Indicators: Power, Ethernet Link and Activity
Power: External AC: 9–30 VDC, 300mA at 9 VDC
Compliance: EMC Directive 89/336/EEC, Low Voltage Directive 73/23/EEC; CE Mark
Environment: Temperature: 40–122°F (5–50°C) Humidity: Up to 90% non-condensing
Dimensions: 4.5L x 3.2W x 1.0H in. (9.0L x 5.3W x 1.9H cm)
Weight: Packaged: 0.66 lbs (300 g) Unit Only: 0.55 lbs (250 g)

Application diagrams

The Model 2211 Single-Port Device Server is used to connect various RS-232 serial devices to the Local Area Network through their serial control ports. The 2211 enables monitoring, control, and data collection from this equipment by remote computers located anywhere on the local or wide area network. Both Ad hoc and Infrastructure mode is supported on the 2211.

COM Port redirector is provided for users who choose to use their existing serial communication application programs. Utilizing the COM Port redirector software provided on the Patton Model 2211 allows existing COM/TTY-based software to be preserved, thus no additional investment is required on additional software.

Multi-Port Asynchronous RS-232 Device Server

EtherBITS™ 2234 & 2238 (RS-232)

The 2230 series is a cost effective Mulit-Port Device Server enabling user to configure, control, and monitor up to eight RS-232 devices over a Local Area Network.

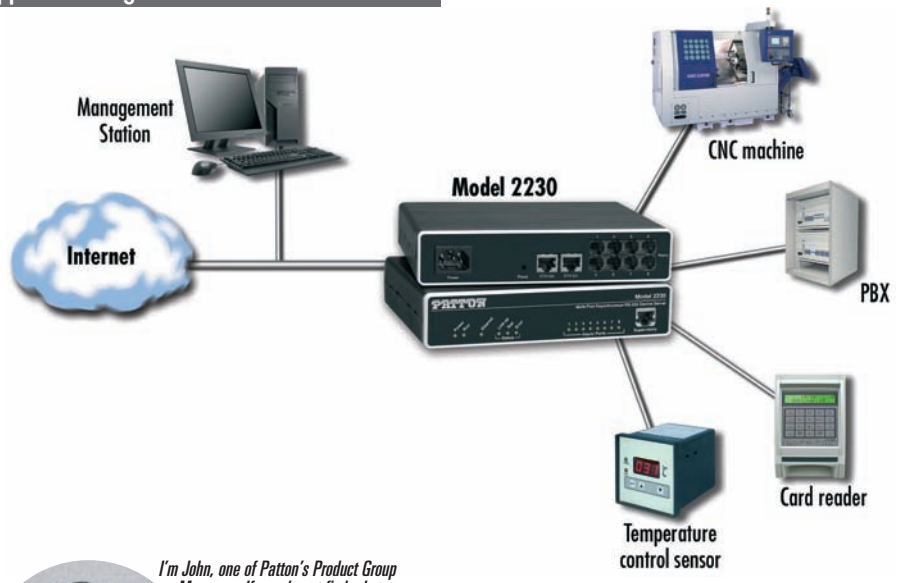
The EtherBITS family of device servers provide easy, feature rich, secure and reliable serial to LAN, WAN or Internet connectivity. Placing serial devices on to the LAN eliminates the hassle of serial cables, dedicated PCs, and local management. Providing Ethernet connectivity to your serial devices not only protects your current hardware investments, but simplifies future expansions and the management of that hardware.

LAN connectivity of your serial devices gives you the ability to remotely manage serial devices from anywhere in the world.

The EtherBITS 2230 series encapsulates the asynchronous serial data of up to 8+1 ports into IP packets for transport through the network via TCP or TELNET. Patton's COM port redirector software makes it possible to establish a connection between the host and a networked serial device by creating a local COM or TTY port on the host computer, allowing existing software applications to work without modification.

The EtherBITS 2230 support a host of applications including industrial automation, credit bureaus, banks, point-of-sale, utilities, and any other applications that require asynchronous RS-232 serial to IP connectivity.

Application diagram



I'm John, one of Patton's Product Group Managers. If you do not find what you need at ***www.patton.com*** *or in this catalog, or if you have technical questions or comments concerning Device Servers, please call me at* ***+1 301.975.1000, x160.*** *You can also send e-mail to* ***jgrant@patton.com.***

Ask the Experts

FEATURES & BENEFITS

- ✔ High-density desk top box allows up to 8+1 Async RS-232 to connect to the LAN or WAN.
- ✔ Individually configurable serial channel with speeds of 1200bps to 230 kbps
- ✔ Hardware (RTS/CTS) and software flow control (XON/XOFF)
- ✔ User configurable IP services ensure reliable connectivity to any LAN or WAN. NAT, DHCP and Firewall permits advanced networking and flexibility.
- ✔ Ensure data is secure end to end using IPsec with DES/3DES.
- ✔ Configure and control up to 8 serial devices with Web-based management, SNMP, or command line all with password protection.

SPECIFICATIONS

Terminal/Channel Ports: Serial Asynchronous start-stop • # of Ports: 8 ports (3038); 4 ports (3034) • Max Aggregate Speed: 2Mbps • Interface: CCITT V.24 (EIA-561) on 8-pin RJ-45F • Data Communication Speed: Selectable 50bps-115.2kbps; auto-speed detection up to 115.2kbps • Data Format: Selectable 5,6,7, or 8 bits; 1, 1.5 or 2 stop bits, odd, even, or no parity • Flow Control: Software selectable (XON/XOFF) or hardware (RTS/CTS) in both directions • Break Propagation: Transparent • EIA signal propagation: Status of local DTR signal can be propagated to the remote end • Echo: Character echo can be selectively enabled for each terminal port

Ethernet Port(s): Auto-sensing 10/100BaseTX MDI-X Ethernet • Clock: Receive clock: external; Transmit clock: selectable as internal or external

Supervisory Port(s): Interface Auto-sensing 10/100BaseTX MDI-X on RJ-45 or Serial RS-232 (EIA-561) on RJ-45 • Serial Communication protocol: Asynchronous start-stop • Serial Speed: 300,1200,4800, or 9600 bps • Serial Data format: 7/8 bits, 2 stop bits, odd/even/no parity • Echo: Optional

Commands: Set/modify/view parameters • View status • Store parameters in non-volatile memory • Copy parameters between ports • Provide local/remote loop backs on port • Establish connection between supervisory and terminal ports • Obtain statistic reports • Unit reset; individual port reset • Remote supervisory access • Enable/Disable remote access

IP Services Supported: IPv4 • RIPv1 and v2 (RFC 1058 and 2453) • ICMP redirect (RFC 792); packet fragmentation • DiffServ/ToS set or queue per header bits • Packet policing discards excess traffic • 802.1p/Q VLAN support with 4096 IDs • IPSEC AH & ESP Modes • Manual/IKE keying • AES/DES/3DES Encryption

IP Connectivity Supported: TCPRAW • UDP • Telnet • DHCP • NAT

Operating Environment: Temp.: 0–40°C • Humidity: 5–80% (non condensing)

System: CPU Motorola MPC859 @ 50 MHz • Memory 16MB SDRAM/4MB Flash • Power: 100–240 VAC (50/60 Hz) • Power dissipation: 4W

Compliance: EMC compliance: EN55022 and EN55024 • Safety compliance: EN 50950 • CE compliance FCC Part 15 Class A

ORDERING INFORMATION

2234/EUI: 4 port RS-232

2234/E48: 4 port RS-232

2238/EUI: 8 port RS-232

2238/E48: 8 port RS-232

Multi-Port Async. RS-232/422/485 Device Server

Models 2284 & 2288 (MEI)

The 2280 series is a versatile Mulit-Port Device Server enabling user to configure, control, and monitor up to eight RS-232/422/485 DCE or DTE devices over a Local Area Network.

The EtherBITS family of device servers provide easy, feature rich, secure and reliable serial to LAN, WAN or Internet connectivity. Placing serial devices on to the LAN eliminates the hassle of serial cables, dedicated PCs, and local management. Providing Ethernet connectivity to your serial devices not only protects your current hardware investments, but simplifies future expansions and the management of that hardware. LAN connectivity of your serial devices gives you the ability to remotely manage serial devices from anywhere in the world.

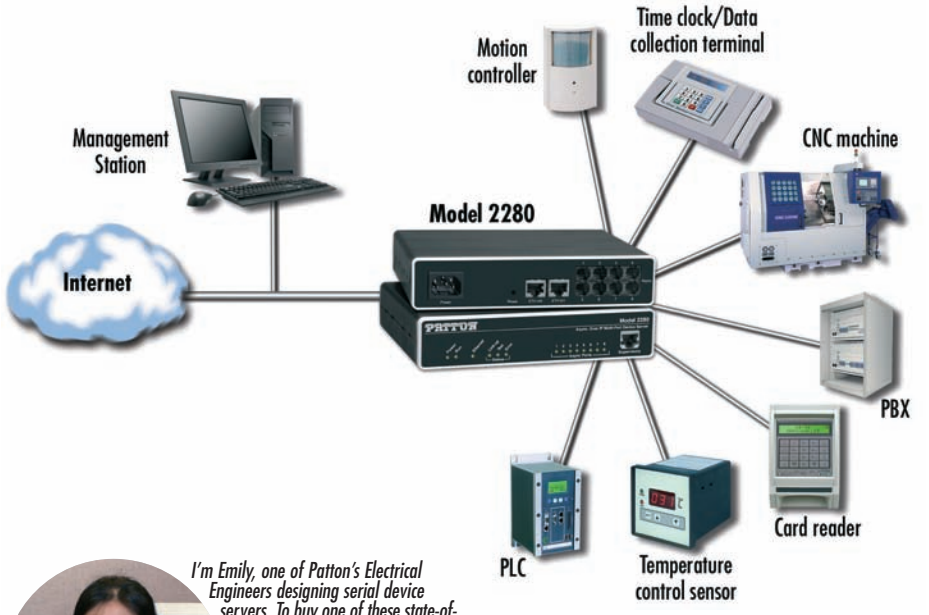
The EtherBITS 2280 series encapsulates the asynchronous serial data of up to 8+1 ports into IP packets for transport through the network via TCP or TELNET. Patton's COM port redirector software makes it possible to establish a connection between the host and a networked serial device by creating a local COM or TTY port on the host computer, allowing existing software applications to work without modification.

The EtherBITS 2280 support a host of applications including industrial automation, credit bureaus, banks, point-of-sale, utilities, and any other applications that require asynchronous RS-232/422/485 serial to IP connectivity.

FEATURES & BENEFITS

- ✔ High-density desk top box allows up to 8+1 Async DCE or DTE RS232/422/485 to connect to the LAN or WAN.
- ✔ Individually configurable serial channel with speeds of 1200 bps to 230 kbps
- ✔ Per port DCE or DTE configurable
- ✔ Hardware (RTS/CTS) and software flow control (XON/XOFF)
- ✔ User configurable IP services ensure reliable connectivity to any LAN or WAN. NAT, DHCP and Firewall permits advanced networking and flexibility.
- ✔ IPsec with DES/3DES ensures data is secure end-to-end.
- ✔ Configure and control up to 8 serial devices with Web-based management, SNMP, or command line all with password protection.

Application diagram



SPECIFICATIONS

Terminal/Channel Ports: Serial Asynchronous start-stop • # of Ports: 8 ports (3038); 4 ports (3034) • Max Aggregate Speed: 2Mbps • Interface: CCITT V.24 (EIA-561) on 8-pin RJ-45F • Data Communication Speed: Selectable 50bps-115.2kbps; auto-speed detection up to 115.2kbps • Data Format: Selectable 5,6,7, or 8 bits; 1, 1.5 or 2 stop bits, odd, even, or no parity • Flow Control: Software selectable (XON/XOFF) or hardware (RTS/CTS) in both directions • Break Propagation: Transparent • EIA signal propagation: Status of local DTR signal can be propagated to the remote end • Echo: Character echo can be selectively enabled for each terminal port

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Supervisory Port(s): Interface Auto-sensing 10/100BaseTX MDI-X on RJ-45 or Serial RS-232 (EIA-561) on RJ-45 • Serial Communication protocol: Asynchronous start-stop • Serial Speed: 300,1200,4800, or 9600 bps • Serial Data format: 7/8 bits, 2 stop bits, odd/even/no parity • Echo: Optional

Commands: Set/modify/view parameters • View status • Store parameters in non-volatile memory • Copy parameters between ports • Provide local/remote loop backs on port • Establish connection between supervisory and terminal ports • Obtain statistic reports • Unit reset; individual port reset • Remote supervisory access • Enable/Disable remote access

IP Services Supported: IPv4 • RIPv1 and v2 (RFC 1058 and 2453) • ICMP redirect (RFC 792); packet fragmentation • DiffServ/ToS set or queue per header bits • Packet policing discards excess traffic • 802.1p/Q VLAN support with 4096 IDs • IPSEC AH & ESP Modes • Manual/IKE keying • AES/DES/3DES Encryption

IP Connectivity Supported: TCPRAW • UDP • Telnet • DHCP • NAT

Operating Environment: Temp.: 0–40°C • Humidity: 5–80% (non condensing)

System: CPU Motorola MPC859 @ 50 MHz • Memory 16MB SDRAM/4MB Flash • Power: 100–240 VAC (50/60 Hz) • Power dissipation: 4W

Compliance: EMC compliance: EN55022 and EN55024 • Safety compliance: EN 50950 • CE compliance FCC Part 15 Class A

I'm Emily, one of Patton's Electrical Engineers designing serial device servers. To buy one of these state-of-the-art devices, call ***+1 301.975.1000*** *or send e-mail to* ***sales@patton.com****.*

ORDERING INFORMATION

2284/EUI: 4 port 232/422/485
2284/E48: 4 port 232/422/485
2288/EUI: 8 port 232/422/485
2288/E48: 8 port 232/422/485

Leased-Line Extender over IP

Models 2292 & 2294

Save leased-line costs extending up to four audio lines between two locations over any IP network. Patton's Leased-line extenders provide PSTN grade voice quality and integrated QoS mechanisms enable it to work reliably even over the public Internet.

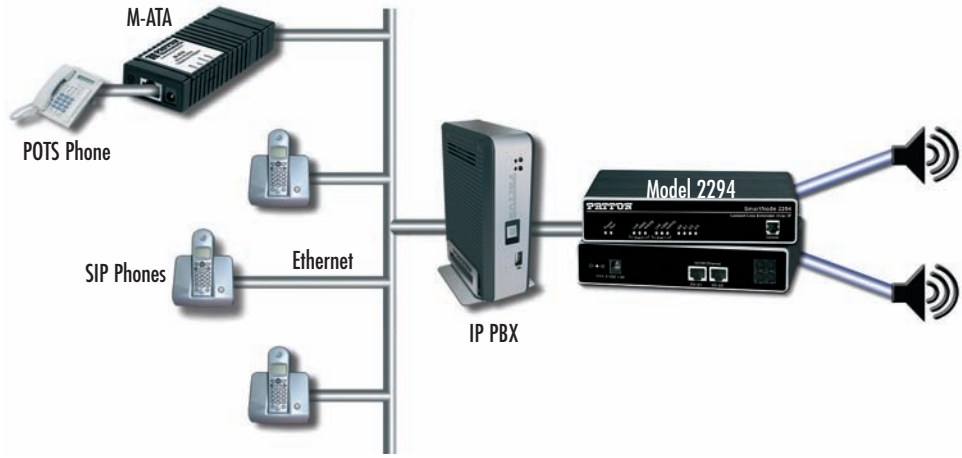
The Leased-Line Extender product family gives you the ability to save big on Leased-Line costs. Using only one Extender on each side, audio information on up to four Leased-Lines can be transported over a packet-based network. This means: Internet access in two different locations around the world is sufficient to establish up to four Leased-Lines between these two locations!

The Extenders ship as a matched pair—and after installation, the connection between the two establishes immediately. It also re-establishes after any kind of problem, should it be needed. The connection is secured with hardware-accelerated 3DES or AES encryption end-to-end between the Extenders, preventing wiretapping and making Patton the right choice for security conscious enterprises.

For advanced users, the Extenders can be bought separately, and multiple Extenders can be arranged in a multi-location formation. This allows e.g. always-on direct intercom between different locations or posts. The integrated SIP and H.323 voice-over-IP (VoIP) protocols enable any VoIP phone system to talk to the Extenders—finally offering real audio interfaces. An intelligent agent inside the Patton 2292 and 2294 can assure the VoIP calls are always up.

The 2292 and 2294 extend leased lines over any IP network

The 2292 and 2294 provide audio interfaces to any VoIP system



FEATURES & BENEFITS

- ✔ Security—Connections are always-on and securely encrypted with IPsec and IKE. Choose DES/3DES or AES.
- ✔ Quality—Advanced traffic management and shaping, combined with Patton's patent-pending DownStream QoS™ enforce uninterrupted toll-quality voice over best-effort networks.
- ✔ Integrated access router with NAT, Firewall, ACL, PPPoE, DHCP, DynDNS and VLAN
- ✔ Connects analog 2-wire 600-ohm voice-grade interfaces via a G.711 RTP stream.
- ✔ Narrow-band FXS style 2-wire hybrid T/R.
- ✔ Talks SIP and H.323—adds real audio interfaces to SIP and H.323 signaling systems.

SPECIFICATIONS

Capacity: 2 audio lines (2292) 4 audio lines (2294)
Audio connectivity: 2-wire RJ-11, Bandwidth 4kHz, Impedance 600-ohm, Narrow Band FXS style hybrid transmit/receive
Data Services: Two 10/100 Ethernet ports • Complete IP access router • DHCP Client & server • Packet fragmentation • Static firewall, NAT, NAPT RFC 1631 access control lists • DMZ port • IPsec, IKE, AES/DES/3DES Encryption
Quality of Service: Audio priority • DownStreamQoS™ • Traffic management, shaping and policing • IEEE 802.1p, TOS, DiffServ labeling • IEEE 802.1Q, VLAN tag insertion/deletion (simultaneous support of multiple VLANs)
Voice Signaling: H.323v4, SIPv2 (B2BUA capable, multi-instance, simultaneous support of multiple registrars and direct IP dialing) • SIP call transfer, redirect • DTMF in-band & out-of-band
Voice Processing: CODEC G.711 a-law/mu-law, G.723, G.729ab, • G.726, G.727. T.38 fax relay (9.6 k, 14.4k) • G.711 transparent fax and bypass
Management: Web/HTTP, CLI with local console and remote Telnet access • TFTP configuration & firmware loading • SNMP MIB II and product MIB • Secure Mass provisioning for both firmware and unit configuration • Built-in diagnostic tools (trace, debug, call generator)
System: CPU Motorola MPC875 @66MHz • Memory 32MB SDRAM/8MB Flash • Power 100–240 VAC (50/60Hz) • Power dissipation 4-8W, model dependent
Temperature: 32–104°F (0–40°C)
Humidity: 5–80%, non-condensing
Compliance: EMC compliance: EN55022 and EN55024 • Safety compliance: EN 60950 • CE compliance • FCC Part 15 Class A • RoHS

ORDERING INFORMATION

2292/EUI-2PK: Dual port 2-wire Leased-Line audio over IP Extender, dual 10/100 Ethernet, UI power. Package contains two matched units.

2294/EUI-2PK: Quad port 2-wire Leased-Line audio over IP Extender, dual 10/100 Ethernet, UI power. Package contains two matched units

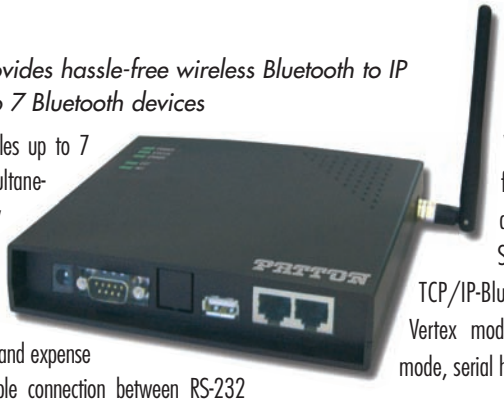
2292/EUI: Dual port 2-wire Leased-Line audio over IP Extender, dual 10/100 Ethernet, UI power. Single unit for integration in existing SIP or H.323 networks

2294/EUI: Quad port 2-wire Leased-Line audio over IP Extender, dual 10/100 Ethernet, UI power. Single unit for integration in existing SIP or H.323 networks.

EtherBITS™ Bluetooth IP Access Point

Model 2188

The Model 2188 provides hassle-free wireless Bluetooth to IP connections for up to 7 Bluetooth devices



Patton's Model 2188 enables up to 7 Bluetooth devices to simultaneously connect to any 10/100Base-TX Ethernet Network. Using the 2188 in conjunction with the Model 1013 eliminates the hassle and expense of running a dedicated cable connection between RS-232 devices thus giving installers, maintenance workers, and others the ability to remotely monitor and control RS-232 devices.

The Model 2188 supports multiple Bluetooth profiles for the serial port, dial-up networking, LAN access and PAN. Versatile host modes allow for a wide variety of user applications such as, TCP Server and Client modes for TCP/IP-Bluetooth replay applications, Vertex mode for multicasting, repeater mode, serial hub mode, and RS-232 mode.

The Model 2188's flash memory allows for easy field upgradeable software upgrades. A built in web server and web interface allows for simple installation and remote configuration and management.

Application diagram

Bluetooth enables wireless RS-232 connections, making installations and service calls more efficient by eliminating the time, hassle, and expense of cable runs.

Antenna Distance Chart	
Default Antenna to Default Antenna	328 feet (100 meters)
Default Antenna to Dipole Antenna	492 feet (150 meters)
Dipole Antenna to Dipole Antenna	656 feet (200 meters)
Patch Antenna to Dipole Antenna	1,312 feet (400 meters)
Patch Antenna to Patch Antenna	3,937 feet (1,200 meters)

FEATURES & BENEFITS

- ✔ RS-232 Serial Cable Replacement—Bluetooth connections can be made over 3,280 feet (1,000 meters).
- ✔ Wide Variety of supported Bluetooth Profiles—Serial Port, LAN Access, PAN and Dial up Networking.
- ✔ Supports Many Applications & Host Modes—TCP Server & Client, Vertex mode, Repeater mode, and RS-232 modes.
- ✔ Network Protocols Supported—HTTP/FTP/Telnet/IP Sharing/DHCP/PPP/RADIUS Authentication SNMP v1/v2/v3

10-BT-PAT

10-BT-DAT

10-BT-UPA

10-BT-DPA

1013

ORDERING INFORMATION

2188/EUI: EtherBITS Bluetooth to IP Access Point

Accessories

1013: Wireless RS-232 Short Range Modem
10-BT-SAT: Bluetooth Stub Replacement Antenna
10-BT-DAT: Bluetooth Dipole Antenna
10-BT-PAT: Bluetooth Patch Antenna
10-BT-UPA: Bluetooth USB to Power Adapter Cable
10-BT-DPA: Bluetooth DC to Power Adapter Cable
10-BT-CBL-1: Bluetooth 1M Antenna Extension Cable

SPECIFICATIONS

Ethernet Interface: 10/100BaseTX connection via RJ45 • Static IP and Dynamic IP address **Bluetooth Interface:** Bluetooth V1.1; Class 1 • Level: -18dBM • Profiles: Serial Port, LAN Access, PAN, Dial up Networking • Distance: 32–1,312 feet (10–400 meters) • Protocols Supported: HTTP; FTP, Telnet, DHCP client; SNMP v1/v2/v3; PPP server and PPP tunneling; RADIUS • Management: Windows Utility; Web, Telnet, Console; Modem AT command set • Diagnostic LEDs: Power, Status, Error, NET and EXP **General Product Specifications:** Operating Temperature: 40–122°F (5–50° C) • Dimensions: 5.8L x 4.4W x 1.3H inch (147 L x 112 W x 32H mm) • Weight: 0.5 lbs (225 g)