

LINK

Lava I/O News

Inside this issue:

- Ether-Serial Links
- Lava Ether-Serial Products
- POS Ether-Serial Link Application
- Distributor Profile



Lava Ether-Serial Links

Intelligent Remote Serial Ports

What are Ether-Serial Links?

Ether-Serial Links are network devices that install serial ports on Ethernet networks. The serial ports in an Ether-Serial Link send information to an Ethernet, by converting it to an IP-compatible format and sending it out the Ethernet side of the Ether-Serial Link. Data moving the other direction, from the Ethernet side of the Ether-Serial Link to the serial device, undergoes the same process in reverse.

Ether-Serial Links are among the most versatile of network devices. With them, you can access and control serial ports across a network, as simply and easily as if they were right in the box of the PC beside you. You can extend a serial connection to any distance, even across the Internet.

Ether-Serial Links assign IP addresses to their serial ports, making it possible for a single PC to control many serial devices, or for many PCs to access a particular serial device. The ports of a Lava Ether-Serial Link are conventional serial and Ethernet ports.

Extend the reach of serial ports, without a network

An Ether-Serial Link can be connected directly to a PC's network interface card using an Ethernet crossover cable. In this configuration, a one-to-one relationship exists between the Ether-Serial Link and a PC. The serial ports of the PC have the serial ports of the Ether-Serial Link added just as if they were in the PC itself. The 50 foot cable limitation of RS-232 no longer exists!

Access and control a serial device across a network

Here's where things get interesting. An Ether-Serial Link makes it possible to attach a serial device anywhere on a LAN or WAN. Simply



attach the serial device you wish to network-enable onto an Ether-Serial Link, and connect the Ether-Serial Link to a network switch or hub. Install the Ether-Serial Link driver on any system that you want to use to access the Ether-Serial Link's ports. This driver installs the Lava Discovery Protocol, which can automatically detect and access Ether-Serial Links on the same network segment. Supply a gateway address, and Ether-Serial Links can be made available to the LAN or WAN as a whole, across switches or routers. Access to the Ether-Serial Link's serial ports can be restricted to specific network users, or open to the network as a whole. Whatever a PC could do through its internal serial ports--controlling factory equipment, operating POS devices, or monitoring a security system, for example--can now be done transparently across a network.

Access and control a serial device across the Internet

The power of the serial networking really shows when it is used to tap the infrastructure of the Internet or a company intranet. In this application, Ether-Serial Links are configured with both IP and gateway addresses, and become available anywhere the Internet reaches. Now that's power!

Ether-Serial Link Marketplaces

- POS Systems
- Security Systems
- Industrial Automation
- Remote Device Management
- Building Automation
- Residential Automation
- Medical Device Monitoring

Ether-Serial Link Benefits

- Network RS-232 serial devices
- Make devices available to multiple users
- Manage multiple serial devices from a single PC
- Eliminate long dedicated serial runs
- Eliminate costly dedicated terminal servers
- Manage serial devices anywhere
- Eliminate long-distance phone-modem charges

Lava's Ether-Serial Link family

Lava builds a range of Ether-Serial Links. Our standard product line has three RS-232 Ether-Serial Links, in single, two, and four-port versions. Each is ideal for POS, industrial, security, or general network use. All Ether-Serial Links are "Ethernet Plug and Play" capable, as they use the Lava Discovery Protocol.

In addition, Lava makes specialized products, such as multi-port and multi-protocol Ether-Serial Links. An example developed for a POS system in major grocery retail chain offers eight RS-232, RS-422, and RS-485 connections in one box. This particular device is used in a grocery chain store's POS system.

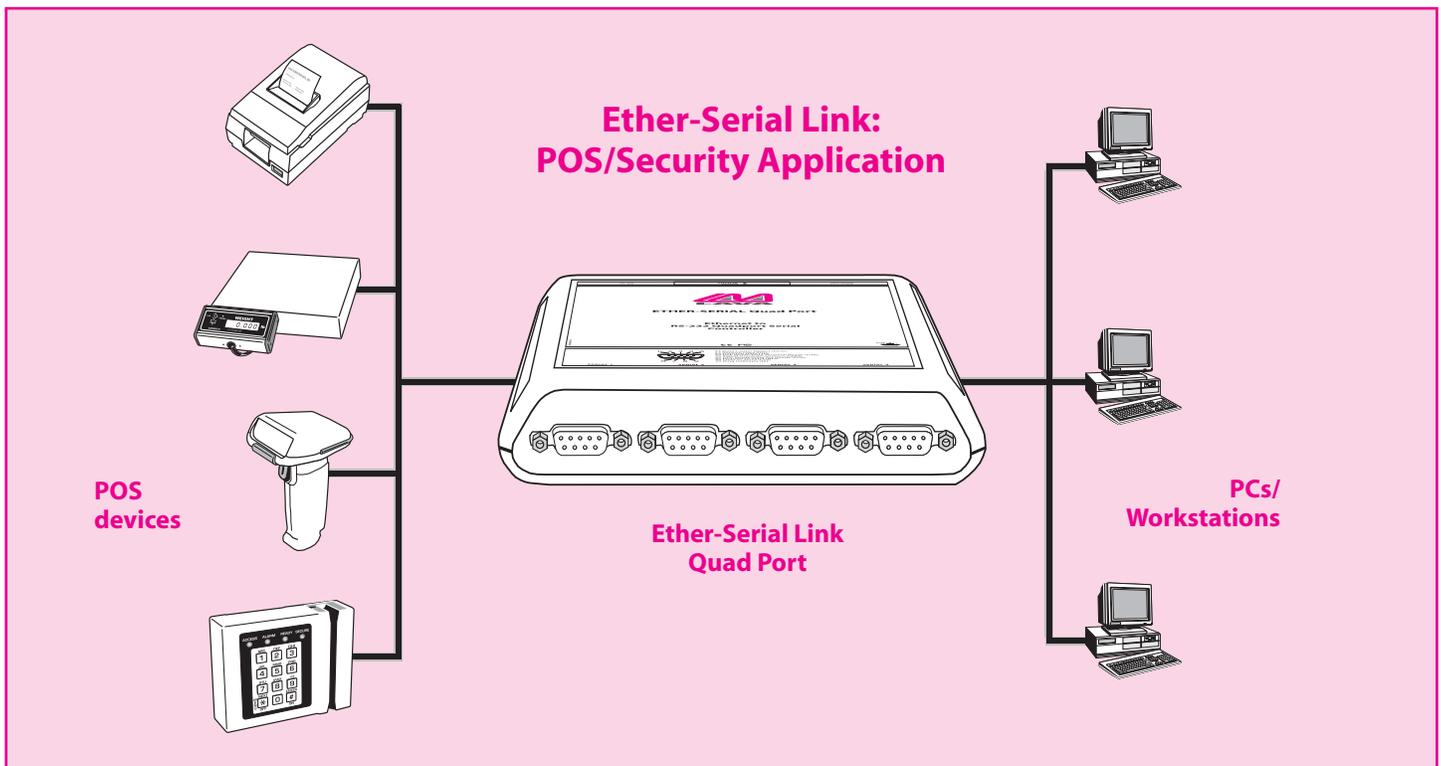
Lava also makes Ether-Serial Links for the embedded market. One example is an Ether-Serial Link board customized for embedding into a retail store's exit security system.



**Ether-Serial Links:
Single, Dual,
and
Quad Port**



**Switchable Eight-port
RS-232, RS-422, RS-485
Ether-Serial Link**



Ether-Serial Link: POS/Security Application

**POS
devices**

**Ether-Serial Link
Quad Port**

**PCs/
Workstations**

What Sets the Lava Ether-Serial Link Apart?

Yes, other companies make products that can access a serial port across an Ethernet network. So what makes the Lava Ether-Serial Link better? Simply put, the Lava products are a whole lot smarter. This intelligence provides several key benefits: simpler installation, greater ease of use, flexible configuration, more reliable connectivity, and reduced administrative maintenance.

Simpler Installation

The software behind the Lava Ether-Serial Link is carefully and innovatively engineered to make installation as effortless as possible. The unique "Lava Discovery Protocol" (LDP), which all Lava Ether-Serial Links recognize and respond to, makes it possible for a station running Lava's device management software to discover, connect to, and configure Lava Ether-Serial Links anywhere on a network segment. Lava makes the Ethernet network act very much like the PCI bus in a computer, and the Lava Ether-Serial Links are effectively Plug and Play devices!

This ease and simplicity contrasts with the difficulties involved with installing typical products from other manufacturers. Those require that the IP address of the serial port device to be known and entered at the client station in order to connect to the device, regardless of the network configuration.

Greater Ease of Use

The Lava Ether-Serial line of remote serial parts are the easiest to use. Lava's driver software completely handles the interface between applications running on your PC and the serial ports on Lava Ether-Serial Links. This makes Lava's Ether-Serial Links easy to use: if your software is looking for a serial port, `_nothing_` needs to be done to make it work with a Lava Ether-Serial Link. By contrast, the majority of Ethernet-to-serial devices on the market require an additional layer of code be written to make the serial output of an application hand off its data to the Ethernet side of their Ethernet-to-serial device.

Lava's driver software makes the serial ports on the Lava Ether-Serial Link appear just as if they were inside your computer's case. The operating system and any applications running on the PC see those ports as internal, whether they are actually 10 feet or 10,000 miles away. What could be more intuitive?

Flexible Configuration

The Ether-Serial Link from Lava can be easily and remotely configured. Whether you need to change serial port settings or upload a new firmware image, the Lava Discovery Protocol's configuration software makes full remote configuration possible through a browser-based interface communicating with an embedded web server in the Lava Ether-Serial Link.

More Reliable Connectivity

Lava's remote serial ports have a major advantage when deployed on a network segment that is assigning IP addresses dynamically. When the IP address of an Ether-Serial Link's remote port changes (typically by being reassigned by a DHCP server), the device does not lose connection with client PCs on its network segment. Reliable connections are maintained between those client stations and the Lava Ether-Serial remote ports.

Reduced Administrative Maintenance

The Lava Discovery Protocol eliminates the need to manually update IP addresses for Lava's remote devices, wherever they are. Why bother finding a device server's new IP address, then going to each client station in turn to update IP addresses manually? Let Lava's software do all this automatically.

Warranty

The Lava Ether-Serial Links, like all Lava products, are covered by the Lava Lifetime Warranty.

Profile

Founded in 1986, Lin Haw is a business based on a simple concept – providing a range of high-quality cabling at low prices, while maintaining the best level of service possible. Preserving the ideal but expanding the product line, Lin Haw's business has grown to include goods as diverse as computer cases, network equipment, and high-end cooling solutions, and Lava I/O boards – to name just a few. As one of Canada's leading wholesale distributors of cabling and accessories, Lin Haw serves many different sectors of the market – from the smallest retailer to nationwide chains, from wholesalers to government, educational, and medical institutions – quickly, efficiently, and cost-effectively.

For knowledgeable staff, excellent service, and competitive pricing, you need look no further than Lin Haw — serving the Canadian market since 1986.



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