



# LAVA Ether-Serial Link

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**LAVA Ether-Serial Links are among the most versatile networking devices.**

**LAVA: The Source for Ports**

Extend serial connections across any distance, including the Internet; or access and control serial ports across a network as simply as if they were inside the PC beside you. By assigning TCP port and IP addresses to serial ports, Ether-Serial Links make it possible for a single PC to control many serial devices, or for many PCs to control a single serial device.

#### Simple Installation

The software behind LAVA Ether-Serial Links makes installation effortless. **LAVA Ether Link Manager** makes the serial ports appear as native COM ports, which enables Windows® (and any applications running on the PC) to 'see' those ports as internal ones, regardless of whether they are 10 feet or 10,000 miles away. This makes it possible to find, connect, and configure LAVA Ether-Serial Links anywhere on a network segment in minutes.

#### Flexible Configuration

Whether you need to change serial port settings or upload new firmware, the LAVA Discovery Protocol makes remote configuration possible through a browser-based interface, Telnet interface, or the **LAVA Ether Link Manager**.

#### Reliable DHCP Connectivity

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 the client PC. LAVA's sophisticated port binding technology can also associate a remote serial port with a MAC address or a user-specified name. Reliable connections are maintained between client stations and the LAVA Ether-Serial Link's remote ports, eliminating the need to manually update IP addresses for remote devices, wherever they may be.

#### Applications

LAVA Ether-Serial Links are perfect serial device servers for Point-of-Sale, factory automation, data collection, building automation, security, health care, and logistics connectivity. Anywhere a remote serial port is needed, a LAVA Ether-Serial Link can fit the bill.

**All Ether-Serial Links have:**

- Powerful serial port operating modes
- 10 Base-T Ethernet interface (RJ-45)
- DHCP/manual IP address configuration
- Intuitive installation and configuration
- Auto-detection of Ether Links using LAVA *Ether Link Manager* software
- Support for: IP, HTTP, ICMP, TCP, UDP
- Full-throughput non-blocking serial ports
- Ungradable firmware
- DIN rail mounting option
- Compact design
- Support: Win 98/NT4/2000/XP/2003 Server/Win7, Linux kernel 2.4+, QNX
- Power supply included
- Software included

Serial Port Mode	Description
Driver (default)	Serial port is enumerated on the host computer as a local COM port. Software on the PC can access the ESL ports as normal COM ports. <b>Applications:</b> General serial port access from software running on a PC.
Raw Server	Raw TCP connection to an ESL port. The physical port on the ESL becomes a network resource with an IP address and port number. <b>Applications:</b> Remote monitoring, security systems.
Raw Client	Raw TCP connection to an ESL port. The physical port on the ESL is configured to connect to a pre-defined IP address and port number. <b>Applications:</b> Remote device control, remote polled monitoring.
Data Connect	Combines Raw Client and Raw Server modes. The ESL will either initiate a TCP connection when activity is detected at the serial port, or it will receive TCP packetized serial data from the network port when an outside client connects to it. <b>Applications:</b> Provides a serial-to-serial communication link; can extend serial cables with an Ethernet connection.
RFC 2217	ESL port sends port configuration commands and serial data to the ESL using RFC 2217 framework for serial port control over Telnet. <b>Applications:</b> UNIX systems and other platforms that have RFC 2217 Telnet capability can access and control the ESL's serial port.
Ethernet Modem	Provides a standard "AT" command interface for communicating with devices over Ethernet, as well as control commands for the ESL. An ESL can "dial" an IP address and TCP port; incoming TCP connections are handled under AT command set rules. <b>Applications:</b> Remote console management, POS modem replacement.
RAS Server (8 & 16 port units)	The serial port of the RAS client device is attached to the serial port of the ESL. A user-configured IP address is assigned to RAS client. <b>Applications:</b> Windows CE embedded systems, Palm type units, or other portable data acquisition devices that may need access to a TCP/IP-Ethernet environment, and have PPP capability, but do not have an Ethernet port.

**ETHER-SERIAL LINKS:**

- Ether-Serial Link 1-232-DB9** Single-port DB-9 RS-232, 1.5" x 4" x 5"; 38 mm x 97 mm x 130 mm, 9-29 VDC input
- Ether-Serial Link 1-232-RJ45** Single-port RJ-45 RS-232, serial power on pin 10, 1.5" x 4" x 5"; 38 mm x 97 mm x 130 mm, 9-29 VDC input
- Ether-Serial Link 1-422-DB9** Single-port DB-9 RS-422, 1.5" x 4" x 5"; 38 mm x 97 mm x 130 mm, 9-29 VDC input
- Ether-Serial Link 2-232-DB9** Two-port DB-9 RS-232, 1.5" x 4" x 5"; 38 mm x 97 mm x 130 mm, 9-29 VDC input
- Ether-Serial Link 2-232-RJ45** Two-port RJ-45 RS-232, serial power on pin 10, 1.5" x 4" x 5"; 38 mm x 97 mm x 130 mm, 9-29 VDC input
- Ether-Serial Link 2-422-DB9** Two-port DB-9 RS-422, 1.5" x 4" x 5"; 38 mm x 97 mm x 130 mm, 9-29 VDC input
- Ether-Serial Link 4-232-DB9** Four-port DB-9 RS-232, 1.5" x 4" x 5"; 38 mm x 97 mm x 130 mm, 9-29 VDC input
- Ether-Serial Link 4-232-RJ45** Four-port RJ-45 RS-232, serial power on pin 10, 1.5" x 4" x 5"; 38 mm x 97 mm x 130 mm, 9-29 VDC input
- Ether-Serial Link 4-232-DB9-CBL** Four-port DB-9 RS-232 w. fanout cable, 1.5" x 4" x 5"; 38 mm x 97 mm x 130 mm, 9-29 VDC input
- Ether-Serial Link 5-232-DB9-EMB** Five-port DB-9 RS-232 embedded module, .75" x 3" x 7"; 19 mm x 77 mm x 178 mm, 5 VDC input
- Ether-Serial Link 8-232-RJ45** Eight-port RJ-45 RS-232, serial power on pin 10, 1.6" x 6.25" x 6.75"; 40 mm x 158 mm x 171 mm, 9-29 VDC
- Ether-Serial Link 8-232-DB9-CBL** Eight-port DB-9 RS-232 w. fanout cables, 1.6" x 6.25" x 6.75"; 40 mm x 158 mm x 171 mm, 9-29 VDC
- Ether-Serial Link 16-232-DB9-CBL** Sixteen-port DB-9 RS-232 w. fanout cables, 1.6" x 6.25" x 6.75"; 40 mm x 158 mm x 171 mm, 9-29 VDC

**About LAVA**

Headquartered in Toronto, ON, Canada, LAVA Computer MFG Inc. designs and manufactures serial and parallel I/O boards and Ethernet-to-serial device servers that are widely used in the Point of Sale, Kiosk, Gaming, Industrial Automation, Security and Access Control industries. With well over a million LAVA products built into workstations, servers, retail POS systems, and industrial computers since 1984, LAVA I/O boards and Ether-Serial Links are trusted by resellers, distributors, OEMs and system builders in over 47 countries worldwide. Designed for lifetime performance, each LAVA connectivity link is tested by hand and covered by the LAVA Lifetime Warranty. For more information on LAVA Computer MFG, visit <http://www.lavalink.com>.

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