



## LAVA USB-Serial Links

**USB-Serial Links  
add RS-232 serial ports  
to USB-equipped PCs.**

LAVA: The Source for Ports

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### TWO-PORT USB TO SERIAL INTERFACE

#### LAVA USB-Serial Link 2-232-DB9

- Adds two 9-pin 16550 UART serial ports to USB 1.1 and USB 2.0 equipped PCs
- Each port is capable of a maximum throughput rate of 115.2 kbps



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### FOUR-PORT USB TO SERIAL INTERFACE

#### LAVA USB-Serial Link 4-232-DB9

- Adds four 9-pin 16550 UART serial ports to USB 1.1 and USB 2.0 equipped PCs
- Each port is capable of a maximum throughput rate of 115.2 kbps



# FOUR-PORT USB TO SERIAL INTERFACE (CABLED)

## LAVA USB-Serial Link 4-232-DB9 Cabled

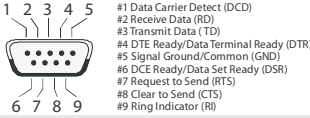
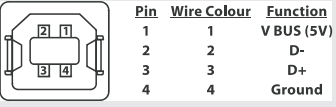
- Adds four 9-pin 16550 UART serial ports to USB 1.1 and USB 2.0 equipped PCs
- Each port is capable of a maximum throughput rate of 115.2 kbps
- Four-port fanout cable included



General Specifications		
USB to serial device interface.	2/4 high speed 16550 UART serial ports (9-pin DB-9) - maximum data rate for each port: 115.2 kbps.	Configuration interface: Windows.
Easy installation - automatically configures ports, I/O addresses, IRQs.	Compatible with all serial RS-232 devices.	Software compatibility: Win 2000, Win XP, Vista 32.
LAVA Lifetime Warranty.		

Technical Specifications					
Enclosure length:	5 in / 130 mm	Enclosure width:	3.875 in / 95 mm	Enclosure height:	1.75 in / 44 mm
Enclosure mass:	6.2 oz / 175 g [2 pt] 7.4 oz / 210 g [4 pt] 7.1 oz / 200 g [4 pt cab.]	Maximum humidity:	90% at STP	Operational temperature:	0° to 70° C
Upstream connection:	USB 1.1 or USB 2.0	Certifications:	FCC, CE, CSA, UL	System requirements:	USB
Infant mortality:	0.137%	MTBF*:	119,000 hours	RoHS status:	compliant
<p>*MTBF calculations are based on the commercial MTBF ratings of the PCB boards and components used in the product. LAVA's calculations take into account the infant mortality and constant failure and wearout rates of the components as well as of the finished products. LAVA's testing excepted such variances as: mishandling of finished product, shipping damage, and damage caused during installation. LAVA's MTBF rates were ascertained as a mix of actual product experience balanced with predictions made by analyzing known factors for newer products.</p> <p>MTBF ratings are provided as a service to our customers to help in planning service level agreements, etc. LAVA Computer MFG Inc.'s Limited Lifetime Warranty will be the deciding factor in all warranty issues.</p>					

Hardware Specifications					
Interface:	[2 port] MOSCHIP MCS7820CV-AA [4 port] MOSCHIP MCS7840CV-AA	UART:	16C552 (dual) 16C554 (quad) [MOSCHIP implementations]	Fanout-cable [supplied with 4 port cabled version]:	4-port DB-9 fanout cable; 7.58 oz / 215 g
Power supply:	none	LED indicators:	Power; Serial TX, RX		

Port Specifications					
Serial interface:	RS-232C	Addressability:	PnP	Frequency:	7.3728 MHz
Signal degradation*:	20m at 115.2 kbps, 25m at 57.6 kbps	Input impedance:	15 ohms	UART:	16550 with 16-byte FIFO implementation
Vendor number:	0AA3H	Data rate:	115 kbps	Receive buffers:	16 byte/128 bit
Connectors:	9-pin on board/ 9-pin cabled	Transmit drivers:	RS-232: SIPEX SP213ECA	Receive drivers:	RS-232: SIPEX SP213ECA
DB-9 male pinout (RS-232):		Series B USB pinout:			
<p>*Signal degradation increases (ie: maximum distances decrease) if DTE and DCE do not share a common ground, or if there is high line noise. Line noise is greatly reduced with a low capacitance cable. The specification for RS-232C serial communications allows for transmission up to 15m at 20 kbps.</p>					

### About LAVA

Headquartered in Toronto, ON, Canada, LAVA Computer MFG Inc. designs and manufactures serial and parallel I/O boards, Ethernet-to-serial device servers, and USB-to-serial interfaces 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, Ether-Serial Links, and USB-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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