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LINK

Lava I/O News

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Low-Profile PCI Cards:

A New Approach to Inner Space

Most of us remember our first impression on looking inside the chassis of a desktop or tower computer: is that all there is? Apart from the motherboard, power supply, drives and cables, a few cards, and dust bunnies, things were pretty empty in there. And while we knew that air had to circulate inside the case, the empty spaces inside still seemed a bit large. Notebook computers came along and really confirmed the impression that the inside of typical computers had enough extra space for a game of baseball.

The reason for all the empty space is historical: the original PC's expansion cards were loaded with lots of separate and large components. They were rather tall, and needed to be so. However, as integrated circuit technology advanced, expansion boards got smaller and fewer. Motherboards shrank and incorporated drive controllers, graphics adapters, sound cards, additional interfaces, and so on. But along the way, the standard allowance for adapter card height remained the same.

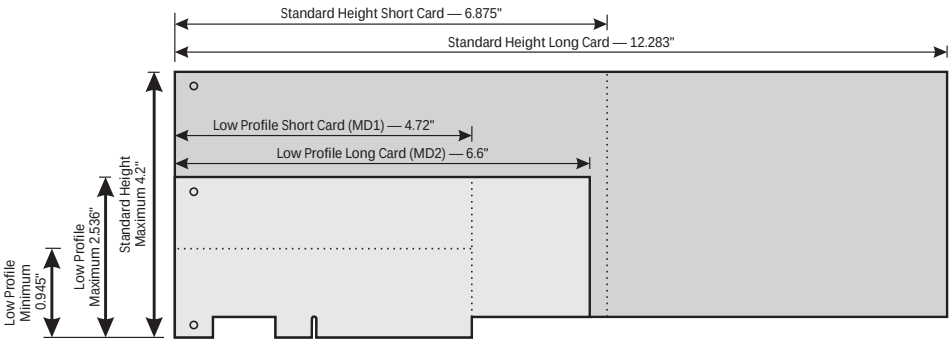
Eventually, in early 2000, someone asked the obvious question: why not cut down the height of expansion cards, and enable case designers to reduce the volume of the computer chassis by almost half? Bingo! low-profile PCI.

What are low-profile PCI cards?

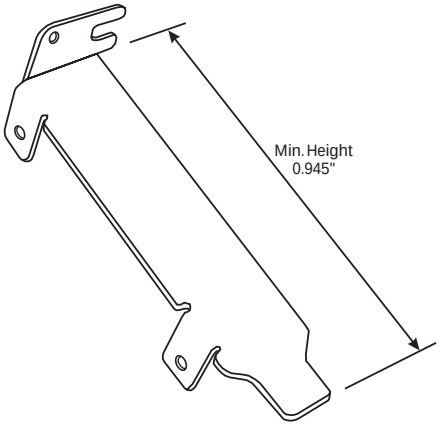
Low-profile PCI cards are simply PCI cards based on a new card size standard. The low-profile PCI standard was developed to standardize the design of PCI cards used in small-footprint systems. Low-profile PCI cards follow the design guidelines of the PCI Special Interest Group, the organization that sets standards for the PCI bus generally. Low-profile PCI cards follow the "PCI Local Bus Specification, Revision 2.2" or later, but in addition adopt the form factor requirements of the new "PCI Engineering Change Notice — Low Profile PCI Card". Designed as a collaborative effort by the PCI Special Interest Group and companies including IBM and Intel, the low-profile PCI standard limits the height of low-profile PCI cards to a maximum of 2.5 inches/60 mm — about 60% of the height of standard PCI cards.

As well as defining a maximum height for cards designated as "low-profile," the low-profile PCI specification also outlines two low-profile PCI card lengths — short (called "MD1") and long ("MD2"). An MD1 low-profile card has a maximum length of 4.72" (119.91 mm). An MD2 card is longer than an MD1 card, but not longer than 6.6" (167.64 mm). Both MD1 and MD2 cards can be no higher than 2.536" (64.41 mm) and can be as short as 0.945" (24 mm). The diagram below compares low-profile PCI card sizes with standard height PCI card sizes.

PCI Card Sizes



The low-profile PCI specification also stipulates a new bracket design. While the low-profile PCI card bracket has the same width as standard height PCI cards' brackets, it is naturally much shorter. In addition, the top part of the low-profile bracket (where a screw secures the bracket to the computer's chassis) is a mirror image of the conventional bracket: a low-profile bracket is not simply a full-height bracket with the bottom cut short.



Apart from their physical dimensions, low-profile PCI cards are no different from other PCI cards. They have the same signaling, electrical, and configuration characteristics as standard PCI 2.2 cards.

Where do low-profile PCI cards fit?

Low-profile cards fit into the new cases sized for Flex-ATX and micro-ATX motherboards. Point-of-Sale systems and 2U rack-mount servers are also candidates for low-profile cards.

AOpen, Compaq, HP, IBM, Intel, and Gateway are among those building low-profile systems.

What does Lava offer in low-profile PCI?

Lava makes low-profile versions of its standard-setting EPP card, the Lava Parallel-PCI; its popular and dependable dual serial card the Lava DSerial-PCI; and its single port serial card, the Lava SSerial-PCI. Each of these is an MD1 (short) low-profile PCI card.

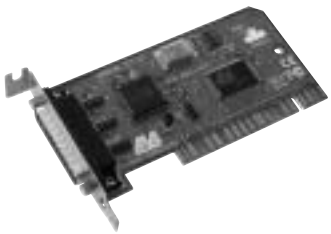
The Parallel-PCI/LP is the classic Lava Parallel-PCI card —our high speed, ultra-reliable, enhanced parallel port —redesigned for low-profile. With throughput up to 4.5 Mbps, this card is up to three times faster than ISA EPP ports, and is renowned for its compatibility and ease of use.

The DSerial-PCI/LP adds two 16550 serial ports, each with speeds up to 115.2 kbps. It comes complete with its own "Y" splitter cable. The DSerial-PCI/LP is very popular with Point-of-Sale system builders designing compact under-the-counter cash register systems.

The SSerial-PCI/LP adds a single 16550 UART serial port on the PCI slot of any low-profile system.

Parallel-PCI/LP

DSerial-PCI/LP



SSerial-PC/LP

Low-Profile PCI Marketplace:

- POS (Point-of-Sale) system builders use the low-profile dual serial card!
- Low-profile PCI cards —parallel and serial —are great for all-in-one systems like the IBM NetVista X40.
- Low-profile cards fit in 2U industrial rack-mount servers.

Win a Lava DSerial-PCI/LP!

Please take a moment to fill out the survey. Tell us a little about yourself so we can serve you better!

By filling out this survey and faxing it to 416.674.8262, you might win Lava's best-selling DSerial-PCI/LP!

NAME _____

COMPANY _____

TEL _____

FAX _____

E-MAIL _____

Your business is a:

❍ Dealership
❍ Retail outlet
❍ On-line e-tailer
❍ Value Added Reseller
❍ System builder
❍ White box manufacturer
❍ National distributor
❍ Regional distributor
❍ Repair center
❍ Mail order supplier
❍ Other

_____

On average, how many I/O cards do you use/resell each month?

_____

Where do you get your information about I/O boards?

❍ Advice from your tech support department
❍ Distributor
❍ Manufacturer
❍ Industry magazines
❍ Internet search engines
❍ Trade shows
❍ Other

_____

Lavalanche winners!

Thanks to all our participants in the Lavalanche Contest.
Your feedback is greatly appreciated and will help us serve you better.

20% Coupon winners

- **Carl Gerken,**
  Computer Doctor, MN, USA
- **Vicki Maytiom,**
  The Computer Center, AR, USA
- **David Truesdale,**
  Cyber Salvage AL, USA
- **Don Dewitt,**
  Jaguar Computer System, FL, USA
- **Robert Semonchik,**
  Genentec Computer, NY, USA
- **Micheal Jarvis,**
  Compzone, SC, USA
- **Tim Berger,**
  Celerius Computer, MD, USA
- **Robin Standafan,**
  Techmedic Computers, OR, USA
- **Stan Rogers,**
  Information Services, IA, USA
- **Keith Callaway,**
  Glenwoodtech, IO, USA

$50 Coupon winners

- **Dan River,**
  Dan River Enterprise, VA, USA
- **Pete Harder,**
  Desert Oasis, WA, USA
- **Nathan Henson,**
  Aardvark Computers and Service,TN, USA
- **Maurice Smith,**
  Computers Plus, IL, USA
- **Mike Timko,**
  Orwell Computer, OH, USA
- **Ed Pogoda,**
  Norsemen Computer, ON, Canada
- **Dwayne Toews,**
  ANO Office Automation, BC, Canada
- **Griggs Enterprises,**
  Toby Griggs, IL, USA
- **Joseph Knapp,**
  Accudata Systems, NJ, USA
- **Marc Wolfe,**
  ProActive, NJ, USA

Jacket winners

- **James Teetzel,**
  Problem Solved, Inc., AB, Canada
- **Steve Carmichael,**
  OnDeck Systems Inc., BC, Canada
- **Grant Meyer,**
  Uniserve Systems Inc., BC, Canada
- **Bill B. Bowman,**
  Bowman Micro-Software Ltd, MB, Canada
- **Janos Kantor,**
  Bestbyte, ON, Canada
- **Sylvie Bishop,**
  HyperTec Systemes, Inc., QC, Canada
- **Josee Fafard,**
  Alfa Logos, Inc., QC, Canada
- **Kristal Kups,**
  TTL Computer Concepts, SK, Canada
- **Stephen Rexford,**
  Matrix Computers, NY, USA
- **Sharach Berman,**
  Advanced Computer Technology, PA, USA
- **Billy Arnold,**
  Kustom Komputers, TN, USA
- **John R. Marler,**
  MarFam Computer Solutions, CA, USA
- **Mike Santos,**
  Escient Convergence Corp., IN, USA
- **Bob McLaughlin,**
  Product Maintenance Repair, NJ, USA
- **Carol A. Weidner,**
  Novatec, NY, USA
- **Tom Sabatino,**
  TC Rose Company, NY, USA
- **Daniel Cadieux,**
  CBM Informatique Inc., NF, Canada
- **Kevin Marshall,**
  Plug n Play Computer Services, NS, Canada
- **Ken Koh,**
  Laurier Computers, ON, USA
- **Jim Butler,**
  Sona Computers Inc., NF, Canada

Profile

Supercom is an established company specializing in the manufacture of personal computers and the distribution of computer products. Representing hundreds of manufacturers, including Lava, Supercom has built a strong and dynamic organization by focusing on customer partnerships, quality products and low-cost, high-volume distribution.

Supercom serves its vendor and reseller partners by providing an extensive array of service and support. Supercom operates authorized service and repair facilities on behalf of many of their vendor partners and maintains a national reseller network of authorized service centres providing local support for Supercom-manufactured systems across Canada. Supercom's manufacturing division includes specialized PC system and server manufacturing, integration, and custom configuration services.

Founded in 1989, Supercom has Canadian sales offices in Toronto, Montreal and Vancouver with fully stocked warehouses, manufacturing plants and authorized service centers in Toronto and Vancouver. Supercom's Markham, Ontario facility serves as Canadian headquarters.

Servicing a customer base of over 16,000 computer resellers across Canada and the United States, Supercom has been consistently acknowledged as one of the top distributors in Canada.

Supercom

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Markham, ON
Canada L3R 0Z9

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FAX: 905.415.1177
TOLL FREE: 800.949.4567
www.supercom.ca

PRODUCT SUMMARY

Serial Cards

PCI	SSerial-PCI	Single 9-pin serial, 16550 UART
	SSerial-PCI/LP	Single 25-pin serial, 16550 UART, low profile
	DSerial-PCI	Dual 9-pin serial, 16550 UARTs
	DSerial-PCI/LP	Dual 9-pin serial, 16550 UARTs, low profile
	Quattro-PCI	Four-port 9-pin serial, 16550 UARTs, IRQ sharing
	Octopus-550	Eight-port 9-pin serial, 16550 UARTs, IRQ sharing
	LavaPort-650	Single 9-pin serial, 16650 UART
	LavaPort-PCI	Dual 9-pin serial, 16650 UARTs
	LavaPort-Quad	Four-port 9-pin serial, 16650 UARTs, IRQ sharing
ISA	SSerial-550	Single 25-pin serial, Com 1-4, 16550 UART, IRQ 3/4/5/7
	DSerial-550	Dual 9-pin serial, Com 1-4, 16550 UARTs, IRQ 2/3/4/5/7/10/11/12/15
	RS422-550	Dual 9-pin serial, 16550 UARTs, RS422 pinout
	LavaPort-ISA	Single 9-pin serial, Com 1-4 16650 UART, IRQ 2/3/4/5/10/11/12/15
	LavaPort-PnP	Single 9-pin serial, 16650 UART, plug & play

Parallel Cards

PCI	Parallel-PCI	Single EPP parallel
	Parallel-PCI/LP	Single EPP parallel, low profile
	Dual Parallel-PCI	Dual EPP parallel
ISA	Parallel Bi-Directional	Single bi-directional parallel port, LPT 1/2/3, IRQ 5/7
	Parallel-ECP/EPP	Single ECP/EPP parallel, LPT 1-6, IRQ 2/3/4/5/7/10/11/12

Combo Cards

PCI	SP-PCI	Single 9-pin serial, 16550 UART + single bi-directional parallel
	2SP-PCI	Dual serial (9 & 25-pin), 16550 UARTs + single EPP parallel
	LavaPort-Plus	Dual serial (9 & 25 pin), 16650 UARTs + single EPP parallel
ISA	2SP-550	Dual 9-pin serial, Com 1-4, 16550 UARTs + single bi-dir. parallel, LPT 1-2

USB 2.0 & 1.1 Devices

USB 2.0 Host Adapter	Dual USB 2.0 ports, 480 Mbps, fits in PCI slot
Kazan	Hard drive enclosure with USB 2.0-to-IDE interface
USB 1.1 Host Adapter	Dual USB 1.1 ports, 12 Mbps, fits in PCI slot
SPH-USB 1.1 Hub	Three powered USB ports, parallel port, serial port, connects to USB

IEEE 1394 (FireWire®) Devices

IEEE 1394 FireHost	Dual IEEE 1394 ports, 400 Mbps, fits in PCI slot
FireDrive®	Hard drive enclosure with FireWire®-to-IDE interface
IEEE 1394/IDE Controller	FireWire®-to-IDE hard drive interface

Specialty Cards

8255-PIO	8255 PIO interface card

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LIFETIME WARRANTY