# Sharp Releases Laser Printer, Optical Drive

**By Renee Mathews**

LAS VEGAS — A compact laser printer targeted at individual PC users and small office environments, as well as an erasable optical disc drive were announced last week at Comdex by Sharp Electronics Corp.

The JX-9300 printer outputs six pages per minute and offers a resolution of 300 by 300 dots per inch, according to the company. The printer offers two resident fonts, with additional font cartridges available, and multiple resident print emulations, including Epson FX-80, IBM GP, IBM Pro Printer, and HP Laserjet Plus. The JX-9300 printer will begin shipping during the first quarter of 1988 and will retail for $2,195.

The company also announced it has developed an erasable 5¼-inch magneto-optical disc drive and disk drive system for large data storage applications such as image processing and artificial intelligence.

The unit provides a double-sided formatted memory capacity of 422 megabytes. It writes with a laser, erases with a magnet, and enables users to rewrite up to 10,000 times, according to the company. The average access time is 150 milliseconds.

According to a Sharp spokesman, the magneto-optical disc drive will be available as early as January in sample quantities and will begin shipping during the summer of 1988. The price of the system has not yet been determined, the company said.

Sharp Electronics Corp., Sharp Plaza, Mahwah, NJ 07430; (201) 529-8200.


*Sharp's JX-9300 laser printer features one of the smallest footprints in the industry.*

# Phoenix Unveils Clone of PS/2 BIOS

**By Edward Warner**

LAS VEGAS — The software portion of the PS/2 cloning equation, the basic input/output system (BIOS), was announced last week by Phoenix Technologies Ltd. of Norwood, Massachusetts.

Since the hardware components of the cloning equation — chip sets compatible with IBM's Micro Channel Architecture and VGA graphics — have already been announced by several manufacturers, efforts to clone the PS/2 appear to be on track. Phoenix said it will ship BIOS programs for clones of the PS/2 Models 30 and 25 in January and for the PS/2 Models 50, 60, and 80 by the end of the first quarter of 1988.

"When PS/2 chip sets come to market, we'll be ready with the systems software [BIOS]," said Lance Hansche, Phoenix's vice chairman.

At the fall Comdex show here last week, Phoenix demonstrated all but the Model 80 BIOS programs, running them on IBM machines to prove their compatibility. "Having the software running in IBM hardware is positive proof that it's compatible," said Hansche.

The BIOS software was developed by programmers who had not seen the IBM PS/2 BIOS programs — at a cost three to four times higher than its PC-compatible BIOS but with the added precaution to guard against copyright infringement charges, said Jonathan Joseph, director of compatibility software products.

While avoiding cost comparisons, Joseph said the PS/2 BIOS programs "won't be priced [even] twice as much" as the earlier Phoenix BIOS programs. He said licenses for the BIOS programs have been signed with several hardware vendors but declined to specify which ones.

One company at Comdex, Zykor Technology Inc. of Ontario, announced at the show that it will use the Phoenix Micro Channel BIOS in its system containing two Micro Channel slots. (See story, this page.)

Phoenix said the BIOS for clones of the PS/2 Models 50, 60, and 80 is compatible with IBM's C (DOS-compatible) and A (Advanced) BIOS programs, while the Model 30 and 25 BIOS supports 3½-inch diskette drives and 3½-inch hard disks.

Phoenix Technologies Ltd., 320 Norwood Park S., Norwood, MA 02062; (617) 769-7020.

# Zykor 386 Motherboard Has Both AT, Micro Channel Slots

**By Mark Stephens**

While some U.S. firms work on how to clone IBM's Micro Channel bus and BIOS, a Canadian firm is ready to introduce a 386 motherboard with slots for AT and Micro Channel cards.

Zykor Technology Inc. announced a 20-MHz motherboard with a dual-bus architecture, including expansion slots for two 32-bit Micro Channel boards, two 8-bit XT slots, and four 16-bit AT slots.

President Terry Flores said the 386 motherboard is built for speed with 1 megabyte, expandable to 16 megabytes, of 32-bit zero-wait-state RAM. An Austek A38152 four-way set associative cache controller with a claimed 90 percent hit rate handles 32K of interleaved static RAM cache. Floating-point power comes from either an optional Intel 80387 coprocessor or an even faster Weitek 1167. Zykor said both coprocessors run at full CPU speed and the motherboard can sustain execution speeds of 5 MIPS.

IBM has not licensed the Micro Channel, but Flores thinks it is only a matter of time. "We are buying our Micro Channel connectors from IBM," Flores said. "I can't imagine that they would sell connectors if they did not intend to license the technology. We will not sell this motherboard as a Micro Channel product without a license from IBM."

The motherboard will be available in December with the Phoenix Technologies Ltd. Micro Channel BIOS. .

Zykor Technology Inc., 7035 Maxwell Road, Unit 3, Mississauga, Ontario, Canada L5S 1N1; (416) 672-2606.

# IBM Will Supply Unix for Model 80 Next Year

**By Sharon Fisher**

LAS VEGAS — An IBM-supplied version of Unix will be available for the Model 80 in September 1988.

Advanced Interactive Executive (AIX), already available on IBM's RT PC, is a 32-bit, Unix-based, multitasking operating system that can support up to 16 users. At least 2 megabytes of memory are required on the Model 80, IBM said. It supports Ethernet, TCP/IP, and token ring networking protocols, and will cost $595.

"It is our intention to provide a full range of advanced workstations with a consistent operating system, user interface, I/O, and applications, so that we provide our customers with a complete set of Unix-based solutions," said William Lowe, president of IBM's Entry Systems Division. IBM is also setting up a program to help developers port their Unix applications to the Model 80 and the RT PC, he said.

AIX will support IBM's Systems Application Architecture in every attribute where it makes sense, but not the ones that are inherent to Unix, IBM said. Although AIX for the PS/2 is a subset of the RT version in a few areas, IBM said, most areas are identical.

Frank King, vice president of development for the Entry Systems Division, said that the PS/2 and RT lines would be drawing closer together and sharing more elements, eventually with both architectures supported in a single unit. He also said that the 16-user limit could be increased as the machines were upgraded to become faster.

IBM also announced several related programs, including AIX PS/2 DOS Merge, the X-Windows windowing system, and a series of communications programs, but details were not available at press time.

# Micro Channel Links, LANs Lead Communications Pack

**By the InfoWorld Staff**

*Communications product introductions at Comdex focused on the PS/2 Micro Channel Architecture and new LAN offerings .*

**Pathway Designs Inc.** of Natick, Massachusetts, demonstrated a micro-to-mainframe link for the IBM PS/2 Micro Channel computer along with another link that uses coaxial cables between PCs and IBM 3174/3274 cluster controllers.

The company said its PC-Path/MC for the IBM PS/2 Models 50, 60, and 80 uses proprietary software and a communications adapter board to provide full 3270/3770 terminal emulation. The $990 product is scheduled to ship this month.

The Coaxpc 3270 terminal emulation board and software permits each PC to maintain up to five concurrent Systems Network Architecture-Distributed Function Terminal sessions with the mainframe. The product is available now for $995.

Pathway also showed Version 3.0 of its Netpath SNA-3270, which connects LANs to IBM mainframes. The revision can produce as much as a 40 percent reduction in response time over previous versions, the company said.

**Wall Data** of Redmond, Washington, announced a LAN gateway that allows PCs to emulate IBM 5250 terminals when communicating with System/36 or System/38 minicomputers.

The Datagate/LAN 5250 can emulate up to four remote IBM 5294 or 5251-12 cluster controllers and support up to 32 sessions, the company said. A dedicated PC is not required. Each PC on a Netbios-compatible LAN can have up to seven active host sessions.

Included with the product is software that allows a PC to emulate an IBM 5251-11, 5291, or 5296 terminal or an IBM 5256 printer. Other software supports high-speed file transfer, support for the PC Support 36/38 file transfer program, and unattended operation.

The program will be available in January for $1,995 or $2,495 for eight host sessions and one or two host links, $2,795 or $3,295 for 16 host sessions and one or two host links, and $3,995 or $4,495 for 32 host sessions and one or two host links.

**Moses Computers** of Los Gatos, California, announced a shielded twisted-pair LAN for up to 17 PCs.

The Promise LAN runs at a speed of 1 megabit per second and uses a half-size board in each networked PC XT, AT, or compatible. Each host adapter supports up to four PCs, and each PC can be up to 1,000 feet from the host computer. An Appletalk interface port is also provided.

It supports Netbios, which means users have their choice of LAN software. Moses also said it is developing a network operating system called Promise Lock.

The company said the product is priced as low as $375 for a two-PC configuration. Additional slave adapters cost $150.