

More MCA Bus Masters Unveiled at Comdex

IBM Shows i860-Based Wizard Bus Master

BY ALICE LAPLANTE

LAS VEGAS — More Micro Channel Architecture bus-mastering products were announced and demonstrated for the first time at fall Comdex, including IBM's own Wizard bus-master card based on Intel's i860 RISC coprocessor.

The PS/2 Wizard Adapter, an application accelerator for the PS/2 Models 70 and 80, will begin shipping by the end of the year.

Wizard allows compute-intensive tasks to be moved from the main processor of a system and executed on the Wizard Adapter in a fraction of the usual processing time.

Jointly developed by Intel and IBM, Wizard is powered by Intel's 33-MHz 64-bit i860 microprocessor, supported by three IBM-designed logic chips.

The adapter comes with 2 megabytes of 85-nanosecond DRAM. For larger applications, the Wizard's memory can be expanded to 8 megabytes, with an additional 6 megabytes offered by the Wizard Memory Expansion Option, also announced last week.

The Wizard Adapter is priced at \$7,000, and the memory-expansion option costs \$3,685.

Among other MCA bus-master products at the show, YARC Systems Corp. of Westlake Village, California, announced the Micro 785, a bus-master coprocessor featuring a 40-MHz Motorola 68020, which offers PS/2 users an alternate processor to the Intel processor.

Likewise, Prometa of Stockholm, Sweden, announced a bus-master card based on Motorola's 88000 RISC architecture that effectively provides PS/2 users with a complete Unix System V workstation that runs all 88 Open Unix applications in parallel with OS/2 or DOS software.

Core International of Boca Raton, Florida, announced the first MCA 32-bit bus-master hard disk controller based on a new chip set jointly announced by IBM and Intel (see related story, this page).

The CNT-IMC uses the advanced features of the MCA to take over the I/O tasks and release the main processor to handle other tasks.

IBM, Intel, C&T Announce Bus-Master Chip Sets

Intel Will Sell Chip Set Developed With IBM

BY RON COPELAND

LAS VEGAS — IBM Corp. announced here last week projected first-quarter availability of bus-master chip sets from development partners Intel Corp. and Chips & Technologies Inc. to facilitate the development of Micro Channel Architecture bus-master products from system and board developers.

Codeveloped with IBM, Intel's 82325 Micro Channel Architecture bus-master two-chip chip set provides interface functions for I/O, memory and DMA transfers, and bus control.

Intel will exclusively market the bus-master chip set, which allows local CPUs to off-load processes from the host processor.

The 82325 chip set also supports the the 32-bit Streaming Data Procedure, part of the enhanced MCA feature set, which doubles the system's data-transfer rate from 20 megabytes to 40 megabytes, according to Intel.

The 82C614 Bus Master Microchip from Chips & Technologies supports the enhanced Micro Channel features an-

nounced by IBM in September, including Streaming Data Procedure, Synchronous Channel Check, and Subsystem Control Block.

Supporting 16-bit data paths with parity checking and a 32-bit address path, the chip offers a bus-master streaming data-transfer rate of 20 megabytes per second, according to Chips & Technologies.

Support for direct memory access for non-CPU involved adapter-to-adapter and adapter-to-system memory is also provided.

Intel will also market the 16-bit 82326 slave interface device, which contains the interface circuitry and register adapters for 8- or 16-bit slave cards. The 82326 slave chip will simplify the development efforts of MCA adapter card makers, reducing development time, which should quickly increase the number of MCA adapter cards available to users, according to Intel.

Chips & Technologies Inc., 3050 Zanker Road, San Jose, CA 95134; (408) 434-0600.

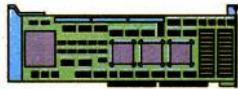
Intel Corp., 3065 Bowers Ave., Santa Clara, CA 95052-8065; (415) 765-8080.

Bus Masters of the MCA Universe

Company	Product Name	Description	Availability
Adaptec Inc., Milpitas, CA	SCSI Host Adapter	SCSI I/O channel	Shipping
AOX Inc. Waltham, MA	Micromaster 386 Micromaster 486	386 upgrade board 486 upgrade board	Shipping First half of 1990
Ariel Computer Corp. Flemington, NJ	Video One	Image capture	End of 1989
BICC Data Networks Inc. Westborough, MA	Isolan Controller Card	Ethernet card	Shipping
Comtech Imaging Technology Bloomfield, CT	Personal Image Channel/2	Netbios-compatible LAN document storage retrieval and management Intelligent Netbios gateway	3/90 Shipping
Core International Boca Raton, Florida	CNT-IMC	32-bit hard disk controller	
Eracom Pty Ltd. Burleigh Heads, Australia	MC Master Encryptor	Encryption subsystem	End of 1989
GSS Inc. Beaverton, OR	MC1000	Graphics accelerator	Shipping
HAAR Industries Inc. Washington	Smart Eight/2	8-port serial board	Shipping
I-Beam Inc. Waltham, MA	The I-Beam Board	Character generation system for readability	End of 1989
IMC Networks Corp. Tustin, CA	Pcnic MCA bus	32-bit Ethernet LAN card	Shipping
Lantana Technology Inc. San Diego, CA	Cypress/2	Token Ring controller	Shipping
Madge Networks San Jose, CA	MC Ringnode	Token Ring interface adapter card	Shipping
Metacomp Inc. San Diego, CA	PS-Comm 2/4 PS-Connect	Serial I/O controller Serial I/O communications subsystem	Shipping Shipping
Mountain Computer Inc. Campbell, CA	Filesafe Series 1200	8mm 2.2 GB scan tape drive	Shipping
Northern Telecom Inc. Richardson, TX	PC Link/MC	Provides access to Meridian DNS Network servers	Shipping
Pacific Image Communications Inc. Pasadena, CA	Superfax MC/PS	Fax board	Shipping
Pixelworks Inc. Hudson, NH	Ultra Clipper Graphics	Graphics coprocessor	Shipping
Polywell Computers South San Francisco, CA	Accelerator 50/60	Accelerator board	Shipping
Prometa AB Stockholm, Sweden	WS/88K Bus Master	Motorola 88000 RISC card	12/89
Proton Inc. Westborough, MA	Pronet-4	4MB/second Token Ring connector	Shipping
Systems Solutions Newconset, NY	HA-1000	SCSI adapter	Shipping
Western Digital Irvine, CA	WD7000MX/SS1	32-bit plug-in host	2/90
YARC Systems Corp. Westlake Village, CA	Micro 785	Motorola 68020 coprocessor	Shipping

A variety of MCA bus-master cards are now available or slated for early 1990.

MCA Bus-Master Chip Sets



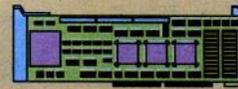
Intel and IBM's DMA Slave Chip Set

- Data Parity
- Programmable Option Select
- 16- and 32-Bit Data Path
- Boot ROM Support



Chips & Technologies 16-Bit Bus-Master Chip Set

- 20MB/Second Transfer Using SPD
- Subsystem Control Block Architecture Support
- 16-Bit Data Path With Parity
- Programmable Option Select
- 4 DMA Channels With FIFO



Intel and IBM's 32-Bit Bus-Master Chip Set

- 40MB/Second Transfer Using SPD
- Data and Address Parity
- 16- and 32-Bit Data Path
- 24- and 32-Bit Address Support
- Programmable Option Select

MCA bus-master chip sets expected from Intel Corp. and Chips & Technologies Inc. early next year are intended to facilitate development of products from both system and board makers.