New Products

Feature Product

New DEC Cassette

A dual transport tape cassette unit that features direct reel-to-reel drive which eliminates belts, capstans, pulleys and clutches found in the typical transport was announced for its PDP-8 and PDP-11 minicomputers by Digital Equipment Corporation at WESCON.

"After spending 18 months evaluating many vendors of tape cassette systems, Digital decided to design and build its own cassette transport because we couldn't find one that met our reliability specifications," said Andrew C. Knowles, vice-president for small computers. Knowles also noted that "direct drive is the most reliable method of moving tape and that considerable engineering effort was also expended on the tape medium itself. The result is a cassette unit which typically operates for 3,000-6,000 passes without failure and is guaranteed for 1,000 passes." Previously, users could only expect a cassette life of 10 to 100 passes.

The increased reliability is achieved with extensive modifications to the Philips-type cassette, by using tape twice the thickness of typical cassettes, and by using full-width track, phase-encoded recording to minimize problems caused by dirt and wear. The tape is also prepared with a proprietary coating which allows the cassette to operate reliably in environmental extremes.

Designated the TU60 DECcassette, the system stores 87K bytes per cassette using 256 byte blocks and features a hardware redundancy check for error control. The TU60's electronics includes features such as bit-to-byte conversion, and cassette protection logic which prevents arbitrary commands from inadvertently harming the tape.

The system has a transfer rate averaging 487 bytes per second at 256 byte blocks. Tape speed averages nine inches per second (IPS) for read/write, 21 IPS during search, and 100 IPS during rewind. Typical full rewind time is 20 seconds.

The TU60 with dual transports and self-contained power supply occupy only 5½ inches of vertical space in a standard 19 inch industrial rack. With either the TA-8-E interface for the PDP-8 and the TA-11 for the PDP-11 computer, the TU60 carries a single-unit price of $3,900. Quantity discounts are available. Digital also has packaged the TU60 with its LA30 DECwriter for $5,700. Deliveries for the PDP-8 cassette begin in November, in January for the PDP-11.

For more information: Digital Equipment of Canada, Ltd., Carleton Place, Ontario, Canada.

Xerox Extends Virtual Memory Operating Systems

Xerox Corporation has announced two major enhancements for its UTS virtual-memory operating system - an expansion of Xerox Sigma 9 support to two million bytes of core memory and a disk-only storage system. Both are scheduled for delivery to UTS users in the fourth quarter of this year.

The extended UTS Sigma 9 support, up from a current figure of 512,000 bytes, is expected to provide significantly faster response time and greater throughput, the company said.

The disk-only system is designed to reduce processing costs for the small-
Honeywell Series 2000 Expanded

Two computer systems have been introduced by Honeywell Inc. The firm calls them a "logical expansion" of the Series 2000 family of high-performance disk-oriented computer systems introduced eight months ago.

In addition, the worldwide computer company also announced major enhancements to its small Model 58 computer system, revised its trade-in policy for purchased Honeywell computer systems and introduced two software application systems.

The two new medium-scale Model 2040A and 2050A systems in Series 2000 are computer systems that can be expanded at a customer's site by adding power modules and memory units. The power modules provide increases in cycle time or input/output capabilities, or both. More main memory can be added in standard increments. The 2040A and 2050A system can only be purchased and will not be available on lease.

As part of its marketing strategy Honeywell announced a new trade-in policy for customers who have purchased Series 200 computers over the past eight years. Any customer who owns an older model Series 200 computer may purchase a newer high-performance Series 2000 computer and receive a trade-in allowance on his older system, Honeywell said.

Enhancements to the Model 58 computer include a single-line communications controller that permits the computer to be used as a satellite to a larger computer. Other Model 58 enhancements are a faster printer; faster card reader; a full COBOL compiler that meets both US and foreign standards; a high-speed extended memory store composed of metal-oxide semiconductor integrated circuits, and the doubling of disk storage capacity to 23 million bytes.

MDS Card Readers
Convert Data to Tape

Two new card readers that read both mark-sense and punched information from the original cards to a computer, magnetic tape, or other data processing device have been announced by Mohawk Data Sciences Corporation.

MDS Card Reader

The models, 6028 and 6029, are compact, economical, self-standing units designed to read punched and hand-marked data simultaneously or separately. The model 6028 reads cards in the IBM format — 80 punched columns and 27 marked columns — and the model 6029 reads cards with a preprinted timing track — 80 columns for punched or marked data. The units can read the cards face-down or face-up, at a rate of 225 or 400 cards per minute in bit-parallel, card-image format, with the desired rate specified at the time of order.

In OEM quantities of 50 to 100, the model 6028 is priced at $2,900 and the model 6029 at $2,780. Further information: Robert Shuck, Director, OEM Marketing, Mohawk Data Sciences Corp., 781 Third Avenue, King of Prussia, Pa. 19406, (215) 337-1910.

Remex Digital Magnetic Tape Cassette System

A new modular and economical family of high reliability digital magnetic tape systems for direct interfacing with computer system has been developed by REMEX, a Unit of Excell-O Corporation, Santa Ana, Ca.

RCP Series Digital Magnetic Tape Cassette Systems prices start at under $1,000 per channel for the three-deck unit," according to R.L. Malone, Marketing Manager.

The new, fully integrated, parallel data storage device incorporates the highly reliable REMEX RCM tape deck with control electronics. It also provides all functions required for direct computer interface including internal timing and control for all commands; all required data formatting for phase-encoded recording, error detection and correction and generation of a status word for external use.

Malone said the new RCP Series is expected to find wide usage in combination with mini, small and medium-size computers, terminals, machine tool controls, photo typesetting and communications equipment.

All serializing and formatting in the versatile cassette system is internal during write-data transfer. Record lengths are absolutely variable up to cassette capacity (up to 250,000 characters on a standard ANSI 288-foot cassette tape).

The new RCP Series uses a precision Philips-type cassette, has vertical cassette loading capability, photoelectric light-sensing cells for detecting clear leaders or ANSI-proposed EOT/BOT holes, optional read/write or read-after-write heads and permanently aligned tape guides.

Tape speed is 7.5 inches per second. A dc brushless capstan motor with accurate speed control allows for cassette interchangeability. The tape has an 800 bits per inch density. Error rate is less than 1 bit in 10^8 bits. The units are DTL/TTL compatible and have a nominal transfer rate in excess of 500 characters per second.

For more information: Robert Malone, (714) 557-6860.
Voice Response From
Minicomputers

The S-11 is a new voice response peripheral for PDP-11's which plugs directly into the Unibus. Output is through a speaker or headset. Or, options permit coupling into the public telephone network or a radio paging system. Also, a Touch-Tone input decode option provides remote two-way communications making every telephone a potential computer terminal.

Voice Response, a well-established I/O method, has previously been restricted to large computer systems because of high incremental costs and large memory requirements. A dramatically new approach to voice generation — the Speech Synthesizer — now makes voice response feasible for mini and midis-computers. This device utilizes an analog of the human vocal system to convert a stream of digital data words into continuous speech. Among the advantages of the Synthesizer are: reduced cost due to a simpler design concept, increased reliability with no moving parts, unlimited vocabulary capability (storage requirements are only about 50 bits per word of English), improved voice quality, and easy expansion of the vocabulary by the user.

The low data rate (less than 20 bytes per second) and an extended input buffer in the S-11 minimize computer I/O requirements and allow multiple channels to be easily accommodated. Also, standard communications options available with the minicomputers including 360/370 channel interfaces offer almost unlimited system flexibility.

Standard software provided with the S-11 consists of an output routine for generating speech from a stored vocabulary table, a composer for use in adding words or modifying inflections, and an input routine for handling the Touch-Tone inputs.

Interfaces and software for plug-in expansion to most other common minicomputers are also available. For additional information contact Interface Systems, Inc., 5 Research Drive, Ann Arbor, Michigan 48103, (313) 769-5900.

Motorola Opens Localogic Design Center

In September in Lexington, Massachusetts, Motorola opened the first Localogic LSI design center. Slated to serve Eastern equipment manufacturers, this facility makes possible the local design of custom LSI.

A Motorola Localogic Design Center is a stand-alone, complete CAD facility, with the same powerful and proven Motorola-developed software presently in use at Phoenix.

With this Eastern Design Center, the first of several planned, customers need no longer travel to the IC manufacturer's facilities during development of their custom LSI design, as has normally been the case.

In the Localogic concept, the customer is first put through a brief, but thorough, training and familiarization program. This equips him to work from the system logic directly on his own chip design, using the powerful Motorola Polycell library and software. This effectively reduces custom LSI design to a procedure no more complex than the development of a typical PC board. Circuit designers and logicians alike, with no semi-conductor processing background, find the techniques comfortable, and well within their grasp.

For further information: Technical Information Center, Motorola Inc., Semiconductor Products Division, P.O. Box 20924, Phoenix, Arizona 85036.

*Trademark of Motorola, Inc.

Low-Cost Graphics Terminal

A high-performance, minicomputer-based graphics terminal priced at less than $11,000 has been announced by Digital Equipment Corporation.

The intelligent terminal, designated GT40, links Digital's new PDP-11/10 minicomputer to a specially designed, hard-wired display processor and a 12-inch diagonal refresh scope. A light pen, full ASCII keyboard and character set, a serial communications interface and 31 special mathematical and scientific symbols are standard on the GT40.

The GT40 may be used either as a stand-alone graphics system or as a remote terminal interacting with various types of host computers. John Mucci, marketing manager for the DEC graphic-I1 group, sees the GT40 being particularly useful in the areas of graphic research, design, engineering, architecture business informations systems and many other uses needing a fast low-cost graphics display.

The minicomputer used in the GT40 is the recently introduced PDP-11/10 minicomputer with 4,000
words of core memory. In a stand alone configuration, the PDP-11/10 within the terminal can be expanded with additional memory and any PDP-11 family peripheral to build as complex a system as necessary. "In fact, the central processor used in the GT-40 can be any PDP-11 family processor," says Mucci, "since the display processor is interfaced via the PDP-11's Unibus."

For more information: Ralph Campbell (617) 897-5111, x4036

Disc Memory System

Interdata 3, 4, 5, 70 and 80 computer users can now obtain a compatible disc memory system from Data Disc, Inc. Just announced is the Model 1734, a high-capacity, fast access, head-per-track disc memory peripheral with capacity available in five levels from 131k to 2M bytes. The memory system has an average access time of 16.7 milliseconds and an average transfer rate of 125k bytes per second.

The 1734 communicates with Interdata computers on the selector channel, and the system is compatible with available Interdata drum software. The system consists of a Data Disc 7200 disc memory, power supply, and a single-card interface controller. Mounting hardware and interconnecting cables are also provided.

The disc controller incorporates a 64-byte data buffer to allow asynchronous data transmission between the processor and the disc memory; this elastic interface increases the efficiency of the system. Error check codes, a status byte, a current position status byte, and a memory protect feature further enhance the capability of this disc memory.

The Data Disc Model 1734 Disc Memory System is priced from $9640; OEM discounts are available. Delivery is 45 to 90 days ARO. For more information: Data Disc, Inc., 686 West Maude Avenue, Sunnyvale, California 94086; (408) 732-7330.

Data Input Terminal

A new data input terminal that collects keyboard-entered variable data and fixed data from cards or badges has been announced by Mohawk Data Sciences Corporation's Colorado Instruments Division.

The new Model 4401C C-DEK terminal uses a light source and photo diodes to read card and/or badge input. The terminal is expected to find application in all data collection environments — hospitals, libraries, factories and other industrial locations.

Typical applications, an MDS spokesman says, will be in source data collection in manufacturing, warehousing, time and attendance, payroll, circulation control, maintenance, and transportation applications.

Data from cards, badges or the keyboard may be entered singularly or in any combination of the three, in each of up to 10 transactions. Operator and task identification, for instance, may be entered by card and badge. The real-time variable data concerning the task will be entered by the operator with the keyboard. The data then may be recorded on magnetic tape, paper tape, punched cards, or sent directly to the computer on-line.

Basic monthly rental is $82.50 on a one year contract.

For further information: Roger Prenzlow, MDS Colorado Instruments Division, 1 Park Street, Broomfield, Colorado 80020, (303) 466-1881 or Telex 45-4450.

Low Cost Document Reader

Computer Entry Systems has introduced a new low cost, applications oriented document reader. Designated the CES 7100, this reader is designed to be a cost justifiable and versatile part of a data processing system.

Intended for low volume OCR applications, the 7100 functions as a stand-alone data entry peripheral or terminal feeding a wide variety of output devices. The CES 7100 monthly lease is less than the cost of one keypunch operator, according to the company.

Card Reader For Data Communications

Three card readers — including a new low-cost unit designed for data terminal applications and matched to modern minicomputer performance — will be featured in FJCC Booths 3002-3004 by Bridge Data Products, Inc., Philadelphia, Pa.

Bridge Data's new economy model, the 8020, offers a reading speed geared to the data transfer rates most commonly used for data communications. Two recently announced units, the Model 8045 and the Model 8803, will also share exhibit space.

The new Model 8020 reads only full-size 80-column cards and carries a base price of $980 in OEM quantities.
The unit’s low price matches that of any reader on the market, yet it still uses the same proprietary feeding and reading mechanisms found in Bridge Data’s higher priced readers. Reading speed is 200 cards per minute; hopper and stacker capacities are 500 cards each.

Two options are offered for the Model 8020: a mark/hole reading capability, and an RS 232C communications interface for using the reader as a remote input terminal. In OEM quantities, the unit with a mark/hole reading option sells for $1,830. The card reader with the communications interface option sells for $1,600.

The Model 8045, which reads either pencil-marked or punched 80-column cards, is one of the units Bridge Data recently introduced with new exterior styling and improved performance features. It photoelectrically reads punched cards, pencil-marked cards, or cards with both punched and pencil-marked data. The reader handles 450 cards per minute on demand and sells for $2,265 in OEM quantities. An option is available for reading 80-column stub cards.

For the end-user market, Bridge Data is showing the Model 8803 that offers IBM System/3 users card reading capabilities not available from other sources. The versatile unit can handle 80-column cards, 80-column stub cards, 96-column cards, and 96-column “topless” stub cards. The price for the Model 8803 is $6,800. Stub card reading options for either 80-column or 96-column cards are $700 each.

For more information: Bridge Data Products, Inc., 738 South 42nd St., Philadelphia, Pa. 19104.

**Voice Synthesizer**

The new Votrax(TM) voice synthesizer, manufactured and marketed world-wide by the Vocal Interface Division of Federal Screw Works, Detroit, will be demonstrated at the Fall Joint Computer Conference.

The Votrax unit, weighing approximately 3 lbs. and measuring 10” x 4” x 11”, can fit into a container as small and portable as an ordinary suitcase.

The solid-state voice synthesizer converts digital commands into completely understandable English or into any language, if programmed for the purpose.

Essentially, Votrax is an analog of the human vocal system, receiving the counterpart of voice signals to the larynx, and duplicating human speech through the utterance of the proper phonemes, a group of like or related speed sounds.

No vocal input whatever is required. Programming is accomplished through use of a keyboard which is marked with the standard phonetic alphabet and/or word list of ROM vocabulary, and interfaced with the voice synthesis unit.

The basic library stored in ROM ranges anywhere from 100 to 500 words. The advanced library which is available to the market offers an unlimited selection or choice of words.

Vocabulary and access lines, moreover, can be changed and upgraded as required by the customer.

Several versions of the Votrax voice synthesizer are available for use either as a computer peripheral or a stand alone unit, the latter accepting digital commands from a variety of sources, including practically any kind of instrumentation, Touch-Tone telephones, etc.

The basic unit price of the voice synthesizer in OEM production quantities in excess of twenty-five units is under $2,000, according to company spokesmen.

For more information: Mr. Al Lubieniak, General Manager, Vocal Interface Division, Federal Screw Works, 3401 Martin Avenue, Detroit, Michigan 48210, (313) 841-8400.

**CALCULATORS**

**Texas Instruments**

Texas Instruments has introduced three new calculators, the TI-2500 portable calculator and the TI-3000 and TI-3500 desk models.

The TI-2500 portable electronic calculator is a four-function, full-floating-decimal-point unit with an eight-digit light-emitting-diode display. With a suggested retail price of under $120, the TI-2500 calculator is rechargeable and capable of portable or ac operation. The TI-2500 unit uses algebraic entry — ideal for general public use.

The TI-3000 and TI-3500 desk electronic calculators have suggested retail prices of under $85 and under $100, respectively. Both of these calculators are four-function units with gas-discharge displays, and both use formula entry — the same as standard business machines. The TI-3000 is an eight-digit unit and has a fully floating decimal point. The TI-3500 calculator uses a ten-digit display and can be operated with either a fully floating decimal point or the decimal can be preset at either the second or fourth position. Contact: Texas Instruments, P.O. Box 5012, Dallas, Texas 75222.

**Melcor**

The Melcor 360, a new U.S.-built 8-digit readout calculator features a Touch Tronic(TM) Keyboard containing no mechanical buttons and working on pressure. A bright Light Emitting Diode (LED) digital display records the entry. Capabilities include add, subtract, divide, multiply and chain and mixed calculations. The Melcor 360 contains a four function K-Tronic(TM) memory which automatically stores numbers for repeat operations. The 360 also features a floating decimal, negative credit balance indicators, and the widest operating temperature range, 0° to 70°F. of any other calculator. The Melcor 360 is available in a disposable battery model and a rechargeable model. The Melcor 360 measures 5-7/8” x 3” x 3/4” (thick (pocket size) and weighs only 6-1/2 ounces. Suggested retail price for the 360’s range from $99.95 to $129.95 depending upon features.


**T.I. “Calculator-on-a-Chip”**

The TMS100 family of “calculator-on-a-chip” MOS/LSI integrated circuits, introduced by Texas Instruments last September as the TMS1802, has been expanded to nine standard off-the-shelf circuits. All nine of these units are available immediately from Texas Instruments. Price in 100-piece quantities for the eight-digit chips is $38.15 and $41.97 for the 10-digit ones.

Contact: Texas Instruments Incorporated, Inquiry Answering Service, P.O. Box 5012, M/S 308, Dallas, Texas 75222.

**Hewlett-Packard**

An accessory that reduces the risk of theft of the tiny HP-35 pocket scientific calculator has been placed on the market by Hewlett-Packard Company.

The nine-ounce calculator locks into the new security cradle, which can be attached securely to a desk top or other work surface for protection against pilferage.

A companion six-foot-long stainless steel cable, when fastened to a desk or other object and attached to the accessory case, permits greater mobility in using the calculator while maintaining security.

The security case is not unlocked and the calculator removed when it is to be used away from the office area. Price of the case and cable is $24.50. Contact: Inquiries Manager, Hewlett-Packard Company, 1501 Page Mill Road, Palo Alto, California 94304.

**NRMEC LCDs**

North American Rockwell Microelectronics Company (NRMEC) is mass-producing “liquid crystal displays” (LCDs) for more than 200,000 calculators ordered by Lloyd"s Electronics, Inc., Compton, Calif., and Sears, Roebuck and Company, Chicago, Ill. Contact: Scotty Maxwell (714) 632-2321.