

NEW PRODUCTS

edited by
Prof. D. A. Michalopoulos
California State University, Fullerton

Comtal Vision One/20 extends memory capacity to 64 images

Up to 134 million bits of image-refresh data-base memory can be contained in a single 6-foot cabinet in the maximum configuration of Comtal's new Vision One/20 digital image processing system. This much memory is capable of supporting 64 images of 512 x 512 pixels by 8 brightness bits. The system can be field-upgraded to a 1024 x 1024-pixel display at the cost of reducing the number of images that can be stored to 16. At the extreme, one complete 4096 x 4096 x 8-bit array, using the entire 134,217,720-bit memory capacity, is viewable in real time.

An extension of Comtal's Vision One, the new system includes all the capabilities of its predecessor—full 24-bit color (8 bits each of red, green, and blue) pseudo-color, real-time roam of multiple displays, small area independent color correction, and convolution processing.

Capable of interactive stand-alone operation, the Vision One/20 can be made still more powerful by interconnection to a host computer. By itself it supports up to four simultaneous users, each with one



New options extend Comtal Vision One/20 to 64 images in the refresh memory.

color monitor, keyboard, trackball, and data tablet.

The price of the fully extended Vision One/20 is about \$700,000, about 80 percent of which goes for memory. A minimum system is on the order of \$35,000 and each image adds about \$10,000. Field upgradeability permits extra functions or memory increments to be added at any time.

Reader Service Number 7



New interactive I-8270 system from NCR Corporation can accommodate from three to 24 visual display units.

NCR announces largest computer in its Interactive 8200 Series

NCR's new I-8270 interactive computer has four times the main memory and disk storage capacity of the I-8250, previously the largest system in the series.

The I-8270 includes a processor with 128K to 512K bytes of memory, 54M to 324M bytes of disk capacity including both fixed and removable-disk units, a variety of printers with speeds ranging from 125 lpm to 900 lpm, from three to 24 visual display terminals, and flexible diskettes, magnetic tape cassettes, and magnetic tape storage systems.

A basic system, with 128K-byte memory, three visual display terminals, a 125-lpm matrix printer, and 54M bytes of disk capacity is priced at \$62,305. Under a rental agreement, the system is available for \$1633 a month. The I-8270 will be available for customer delivery in the fourth quarter of 1979.

Reader Service Number 9

Plessey announces military version of Miproc 16

Plessey Microsystems has introduced a militarized version of its Miproc micro-computer with a processing speed in excess of 3.6 million instructions per second and a data transfer rate up to 10 million words per second.

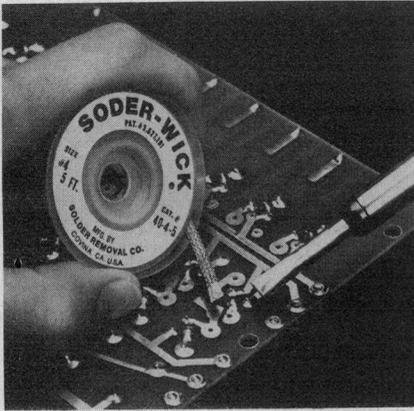
Built from standard Schottky TTL devices, the multichip implementation of the Miproc 16M architecture enables the design to be readily modified to suit a particular application, and gives the system designer considerable flexibility in his choice of speed, power consumption, and packaging options. Units available include the MPC 515M 275-nsec cycle time processor; the MPC 169M index/interrupt unit with five extra address modes and an

8-level priority vectored interrupt system; the MPC 407M application memory with 4K words of program PROM, 1K words of data PROM, and 256K words of data RAM; the MPC 433 2K-word program or data RAM; and the MPC 505 8K-word program or data PROM.

Miproc 16M conforms to the relevant sections of MIL-E-5400 Class 2 (airborne), MIL-E-16400 (shipboard), and MIL-E-4158 (land-based), and is available in ATR or double Eurocard sizes. It is software compatible with the commercial Miproc 16S and 16F processors.

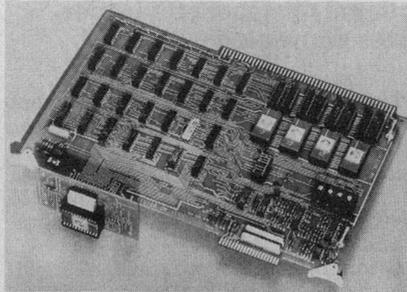
Reader Service Number 8

The Core Memory Project



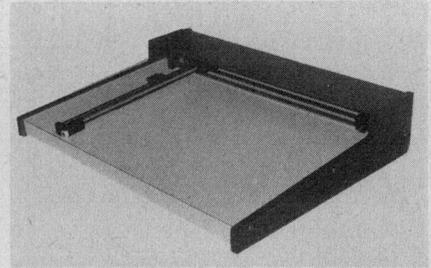
Solder-Wick pulls solder from component leads by capillary action. The copper desoldering braid is available in six widths packaged in five-foot rolls. Application costs less than one-half cent per desoldered connection, according to the manufacturer, Solder Removal Co.

Reader Service Number 10



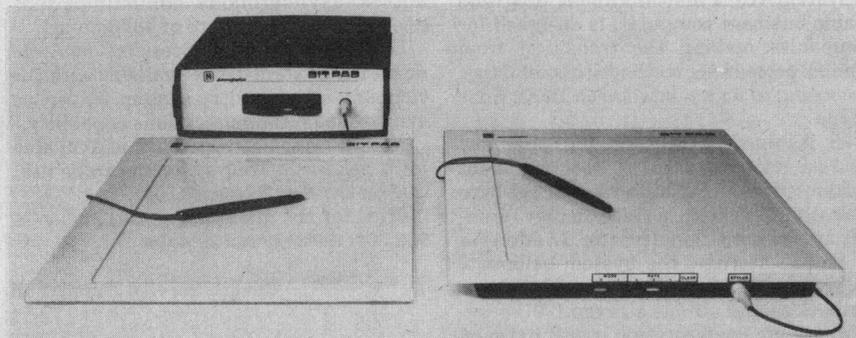
Texas Instrument's TM990/302 is an entry-level software development tool for use with an existing EIA-terminal, power supplies, and a TM990/100 or a TM990/101 16-bit microcomputer board. Software can be generated using assembly language or TI's new Power Basic. EPROM-resident tools include a text editor, symbolic assembler, debug package, relocating loader, EPROM programmer, and EIA uplink. The board costs \$625; separate EPROM personality modules are \$60 each.

Reader Service Number 11



Sylvanhill Laboratory's new x-y plotter unit includes a plotter, drawing surface, electronics, and power supply completely assembled and ready for interface to an 8-bit TTL parallel port; the pen holder accepts any writing instrument or stylus 7-11 mm in diameter. Unit 1, with 11 x 17-inch drawing area, is \$1049; Unit 2, with 17 x 22-inch drawing area, is \$1249. The plot driver software is available as ASCII source files on paper tape or CP/M small disk formats. Both the Basic and assembler source are provided.

Reader Service Number 14



Bit Pad One (right), a one-piece version of Summagraphic's Bit Pad digitizer (left), combines the tablet and electronics in one 11 x 11-inch table-top unit. Designed for data collection of x-y values, the digitizer interfaces to a variety of microcomputers via either 8-bit parallel output, RS-232 serial communications interface, or IEEE-488 standard interface. The new Bit Pad One with interface is available immediately at a price of \$666.

Reader Service Number 12

Motorola introduces multiple-output switching power supplies

Motorola has announced its entry into the switching power supply field with the introduction of a 400-watt, 25-kHz pulse-width modulated supply series. Designed for users of microprocessors, small computers, and numerical control equipment, the series consists of three models differing in the available number of outputs.

The single-output PSN1801, with 5 Vdc output voltage and 80 A maximum output current, is priced at \$495 in unit quantity. The dual-output PSD1802 provides a main output of 5 Vdc output voltage and 60 A maximum output current; auxiliary output is 12 Vdc output voltage and 8 A maximum output current. It is \$560. The triple-output model PST1803 is priced at \$625. Main output is 5 Vdc output voltage and

60 A maximum output current. The first auxiliary is 12 Vdc output voltage and 4 A maximum output current; second auxiliary is 12 Vdc output voltage and 4 A maximum output current.

All three units feature remote turn-on/turn-off, soft-start circuitry, overcurrent protection, and overvoltage protection with automatic reset. Efficient heat-sinking provides for low operating junction temperatures. At the full rated power output (all outputs simultaneously) and a maximum ambient temperature of 60°C, the power semiconductors will be operating at 65% or less of their maximum junction-temperature rating, according to Motorola.

Reader Service Number 13

Second-source data acquisition modules feature direct fit

Two data acquisition modules featuring pin and function compatibility with the Analogic MP6812 and MP6912 are now available from Data Translation.

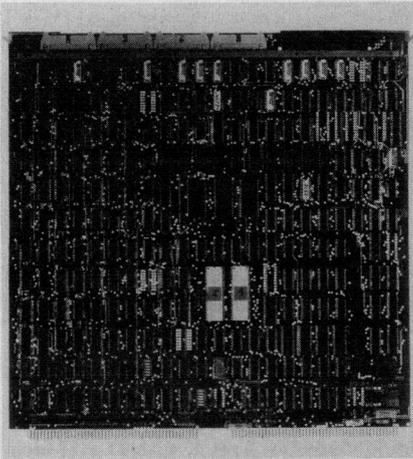
Both models contain a 12-bit, successive approximation analog-to-digital converter, a high-performance sample and hold, a gain adjustable differential amplifier, and a multiplexer which can be user-configured for either 16 single-ended or eight differential input channels by external pin jumpers. Provisions are included for external gain and offset adjustments.

The Model DT6812, the MP6812 equivalent, samples up to 30,000 channels per second, with A/D conversion of each channel requiring 25 μ sec. Tri-state data outputs for computer bus connection are available in either CMOS or TTL at no additional charge. For faster conversion with less resolution, the A/D converter can be externally pin-jumpered.

The model DT2009, the MP6912 equivalent, samples 100,000 channels per second, with A/D conversion time of 6.5 μ sec. Throughput rates of 75,000 and 35,000 channels per second are available as lower priced options. The data outputs are standard TTL logic levels.

In 1-9 quantity, pricing is \$250 for the model DT6812 and \$575 for the Model DT2009. Prices of the lower speed options of the DT2009 are \$375 for the 75,000 channel per second model and \$275 for the 35,000 channel per second model. Availability for all models is five days ARO.

Reader Service Number 15



Single-board controller interfaces 4 disks to Data General computers

Ball Computer Product's 3255 disk controller interfaces up to four storage modules, Winchester, or 3330 type disk drives to any Data General Nova or Eclipse computer, providing an on-line storage capability of up to 1.2 billion bytes.

Occupying a single slot in the host computer mainframe, the 15-inch-square controller board provides multiplex capability for disk files with data transfer rates ranging from 806K bytes to 1.2 M bytes per second, including CDC 9730/60/62/64/66, Ampex 940/80 and 9100/200/300, Memorex 601 and 677, and Ball Computer BD 50/80 disk drives. All drives can be intermixed on the same data bus regardless of capacity, organization, or transfer rates, according to Ball.

Utilizing a proprietary error correction capability, the 3255 can perform error correction on bursts of up to 11 bits in length, as well as detect all burst errors of up to 25 bits. The 3255 also supports strobe/track offset error recovery routines.

Record lengths are switch selectable in the controller between 256, 512, 768, and 1024 16-bit words, without restrapping of the disk drives. Disk tracks may be reformatted dynamically under software control whenever a data base requires record length modification.

The 3255 also has provisions for bad-track flagging, is capable of alternate track sparing, and incorporates a 2K-byte, FIFO data buffer that allows matching of processor and disk drive data transfer rates. Automatic diagnostics are performed under microprocessor control.

Production deliveries of the 3255 have begun with a delivery lead time of 60 days. Single unit price is \$3500; OEM discounts are available.

Reader Service Number 16

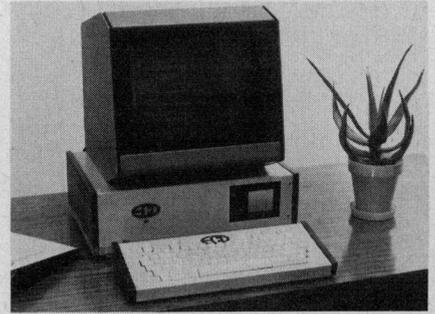
<http://www.thecorememory.com>

Integral minicassette loader gives convenience of ROM

The Smart ASCII-2, an intelligent 132-column terminal from EDC Corp., automatically loads its program from a built-in minicassette drive when it is turned on, providing the convenience of a ROM based system without sacrificing programmability.

According to EDC, the standard intelligent terminal/word processing program can be modified to emulate different protocols, character codes, character sets, or other specific terminals. Because the character set is loaded from the minicassette, foreign languages can also be accommodated.

In addition to the terminal program, a version of Basic is provided to run in the Smart ASCII-2. It can be run stand-alone or in communication with other computers. Basic can also be used to control the RS-232 interfaces, the serial or parallel



I/O lines, or the analog I/O lines, all of which are standard with the system.

A standard Smart ASCII-2, including a 15-inch CRT, an 80-key relegendable keyboard, processor unit with 37K of memory, and a minicassette drive with tapes for intelligent terminal and Basic programs, is \$7700. A variety of options are available.

Reader Service Number 17

Basic Four announces new System 410

System 410, a multi-terminal, programmable business computer, is designed for companies making the transition from manual accounting methods to computers, according to its manufacturer, Basic Four Corp.

In its base configuration, the new System 410 consists of 40K bytes of system memory, a high-speed 14M-byte disk storage system, a video display terminal, and a bidirectional printer. In addition to on-line storage, the system utilizes a 9.2M-byte magnetic tape cartridge drive for backup and off-line storage.

Maximum configuration is 96K bytes of system memory, a 42M-byte disk storage system, a 9.2M-byte tape cartridge, eight video display terminals, two serial printers, and two line printers; 150, 300, and 600-lpm printers can be used on the system.

The System 410 CPU is a microprogrammed computer designed and manufactured by Basic Four. The Basic operating software system, BOSS, utilizes 32K bytes of protected operating system memory and 8K bytes of user memory, and consists of a disk-oriented, real-time executive and an interpreter for executing Business Basic.

The system utilizes a 14M-byte fixed disk drive enclosed in the CPU console, with an upgrade capability to 28 or 42M bytes. An associated controller contains a microprogrammed processor which performs selected error-checking and correcting routines, as well as controlling data transfers between the CPU and the disk drive.

Equipped with a standard typewriter keyboard and 10-key numeric station, each of the System 410 video display terminals has a capacity of 24 lines of 80 characters; a total of 1920 characters can be displayed at one time. Data is transmitted over full-

duplex asynchronous communications lines at a maximum rate of 9600 baud.

In a distributed processing environment, the System 410 is available with the company's forms entry system, as well as synchronous communications capability.

Applications software that is available for other Basic Four systems can be utilized on the new System 410.

Price for the minimum configuration is \$32,500; delivery is 120 days.

Reader Service Number 18

AMLC improves throughput, reduces CPU overhead

An asynchronous multi-line controller that enhances communication throughput and reduces CPU overhead on Prime 350, 400, and 500 systems is now available from Prime Computer, Inc.

The new AMLC reduces CPU overhead by cutting the number of interrupts generated and serviced by the AMLC device software, according to Prime. It uses microcode to establish and maintain buffers for output data to provide efficient processing of characters sent over asynchronous lines.

According to the company, tests on a Prime 400 with the new AMLC have shown approximately a 4 to 1 reduction on the CPU overhead when servicing 9600-bps terminals.

An eight-line AMLC has a US list price of \$3500, with a monthly maintenance charge of \$18. A 16-line AMLC lists for \$4000, with a monthly maintenance of \$21.

Reader Service Number 19

The Core Memory Project Fairchild introduces Integrator II

The Integrator II, a host computer system that provides a central data base for processing and analyzing data generated from automatic test systems, was introduced recently by the Test Systems Group of Fairchild Camera and Instrument Corporation.

The Integrator II minicomputer can be used to develop tester software in addition to providing data analysis, report generation, display, and communication of data. According to Fairchild, this division of labor leaves the automatic test equipment free to continue product testing.

The basic system consists of a Hewlett-Packard 1000 computer modified with Fairchild microcoded instructions. Other hardware includes a standard VKT terminal, a medium-speed printer, and an 800-bpi tape drive. The applications software includes data analysis, tester communications, and utilities.

The Integrator CPU has 19.6M bytes of disk storage and 128K bytes of memory. Disk is expandable in increments of 19.6 or 50M bytes to a maximum of 400M bytes. The floating point processor executes single and extended processor operations

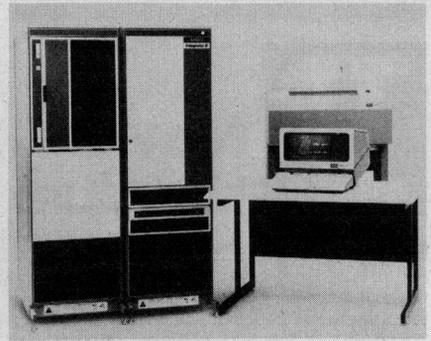
in 4.9 to 6.2 μ sec. The fast-Fortran processor speeds up commonly used Fortran routines by a factor of 2 to 20, Fairchild states.

Multiple test engineers can write and edit programs on the Integrator using Factor test language and then download programs via the communications link to the test system. A master test program library can be developed on the Integrator, allowing all testers to have access to the same, up-to-date programs.

The system interfaces with up to eight testers simultaneously and can be tied in with up to 32 VKT terminals. Terminals can be hardware connected up to 16,000 feet away or connected via dial-up or leased phone lines. The Integrator is compatible with Sentry magnetic formats to support remote testers not connected to the system. An interface with IBM 360/370 computers is also available.

Data analysis capabilities include histograms, wafer maps, scatter plots, trend reports, detail listings, and schmoo plots.

Planned Integrator hardware options and software packages, available early in 1979, include high reliability or end-of-life application software, interactive graphics software and associated printer/plotter hardware, and a Factor compiler for developing Sentry device programs.



Fairchild's Integrator II minicomputer provides information for analyzing data generated from up to eight semiconductor testers. The system can be used to develop tester software and provide data analysis, report generation, display, and communication of data. The base system consists of a Hewlett-Packard 1000 computer modified with Fairchild microcoded instructions, a standard VKT terminal, a medium-speed printer, and an 800-bpi tape drive.

The cost of the basic Integrator is \$153,000. Delivery is scheduled for this month.

Reader Service Number 21

UCC introduces lathe module for IBM APT systems

University Computing Company has announced a lathe module for installation with IBM APT-IC/AC systems. According to UCC, the module simplifies lathe programming and reduces coding time by using a shorthand, blueprint-like language, automatic threading, and area clearance routines.

Its lathe sequence feature, LATHSQ, is used to program a sequence of lathe moves for roughing a part, for a finish pass, or for defining an area to be cleaned out by a roughing operation. The statement allows nested definitions, nested computations, postprocessor commands, predefined APT geometry, and scalar variables.

In a single thread sequence statement, THRSQ, the thread form is defined to be left or right hand, internal or external, single or multi-start, straight or tapered. Included in the statement are the start location, length of the thread pass, the approach angle, constant or varying step in the major and minor diameters, and the pitch. All moves required to machine the thread are automatically generated, UCC states.

The UTURN feature is used to program the roughing operations on turning, boring, facing, and other lathe area clearance operations. An automatic routine, it eliminates the need for individually programming many required moves; only the boundaries of the area need be defined, according to UCC.

Reader Service Number 20

SENIOR SYSTEMS DEVELOPMENT ENGINEER

The Foxboro Company is a multi-national manufacturer and distributor of instrumentation and control systems with over 10,000 employees worldwide. Our line of products includes over 1000 different items from simple instruments to completely integrated process control systems. 1977 dollar orders were \$371 million, a 13.8% increase over 1976. We're recognized around the world as the leader in Process Management and Control.

In Foxboro, Mass. you'll find a typical New England lifestyle. Good neighbors, both indoor and outdoor recreational and social activities and we're only 30 minutes from the cultural and educational centers of Boston and Cambridge. You'll appreciate the quality of life that goes with a Foxboro career.

Our Engineering Development Group has the prime responsibility for both the development and engineering of state-of-the-art product ideas. Their efforts play a large part in continuing our position as a world leader in Process Management and Control Systems. This is an extremely challenging area offering good personal visibility plus an opportunity for technical expression that may be lacking in your present position.

You will be responsible for writing functional and performance specifications for new Foxboro control system products, in a development environment, perhaps in conjunction with other engineers depending on the size and nature of the product. You would work with Marketing to review the product specifications against their requirements, and would work with hardware and software designers to explain the specifications, to resolve design tradeoffs, and to plan how to test development prototypes against the specifications. You would also consult with Training and Technical Writing Groups.

The ideal person would have a good understanding of digital and analog control systems for industrial process, both in application and hardware/software design (relatively more emphasis on application). 5 years' or more experience, all or part with a company doing similar work, or in a customer environment with a BS or an MS in some type of engineering, would be desirable.

You'll find our compensation and benefits programs among the best in industry and you will share in our continued success through our Profit Sharing (7.7% in 1977) and Employee Investment Plans.

Forward resume, including salary requirements, to Mike Boyd, Dept. 179C, The Foxboro Company, 38 Neponset Avenue, Foxboro, MA 02035. Foxboro is an equal opportunity employer, M/F.

FOXBORO