

BYTE News . . .

S-100 8086 AND Z8000 CARDS COMING: At least 6 S-100 product manufacturers are about to release 16-bit processor cards for the S-100 bus that use the Intel 8086 and Zilog Z8000. One such card has already been announced, a 8086 processor card from Seattle Computer Products Inc, Seattle WA. All will conform to the Institute of Electrical and Electronic Engineers (IEEE) S-100 standard that is soon to be adopted. They will work with most 8-bit memory cards using byte-serial read/write. However, for full speed operation you will need either a true 16-bit memory card or a modification of your present memory cards. To modify memory cards requires cutting traces, some rewiring, and adding some logic circuitry.

Microsoft has already announced and demonstrated an 8086 BASIC, and is working on a Z8000 BASIC, as well as other 16-bit software. Digital Research is working on a 8086 version of CP/M. Most 16-bit software in development will be designed for multiprocessing environments, using real-time clocks and interrupt-driven user-inputs.

CP/M 2.0 TO BE RELEASED SOON: There is no doubt that the most widely used disk operating system for microcomputer is CP/M, developed by Gary Kildall of Digital Research, back in 1974. Although originally written for the Intel 8080 development system, it was adapted to run on 8080, 8085 and Z80 systems of many types. Its power and flexibility puts microcomputers in the big leagues by providing features and capabilities normally found on the bigger models.

Gary Kildall is planning to release the 1st major revision to CP/M (Version 2.0). It will use a real-time clock and be interrupt-driven. It will support all present CP/M software. Look for its release around September 1st.

RANDOM RUMORS: Matsushita Inc is rumored to be working on a \$250 printer which will generate "letter quality" type. It will print at 15 characters per second and include a keyboard. Rumors about Hewlett-Packard's Personal Computer are getting warmer. It may be introduced in time for the Christmas market. Expected to sell in the \$2500 area, it will have a 5-inch black and white monitor, 16 K bytes of programmable memory, BASIC in read-only memory, a built-in thermal printer and cassette I/O (input/output). Texas Instruments is developing a 3 or 4-inch Winchester-type disk drive to sell for approximately \$50. Shugart is about to start delivery on the \$70 5-inch floppy disk drive made by Matsushita. Infoton, a video terminal manufacturer, is rumored to be about to introduce a video terminal which will sell for less than \$400 in large quantities. It will use the Zilog Z8 micro-processor and have a total of only 16 integrated circuits. All circuitry will be on 1 printed circuit card, the power supply will be transformerless, and a special elastomeric keyboard will be used.

HAND-HELD COMPUTER IN DEVELOPMENT: Matsushita Electrical of Japan and Friends-Amis Inc of CA have agreed to develop and produce "the first practical hand-held personal computer." The size of a hand-held language translator, the unit could be in production by the end of the year. The computer will be able to accept preprogrammed and user programmed memory capsules. Preprogrammed capsules will include information on business, science, language, education, etc. The computer will have modular construction, enabling new technology modules to be added as they are introduced. Add-ons will include a miniprinter, miniature video display, and a voice synthesizer.

MICRO-MOUSE CONTEST FINALLY ENDS: The 2 year long "Amazing Micro-Mouse Contest" run by the IEEE has finally ended. Although several thousand entries were received, less than 100 actually ran the maze. The contest's objective was to design a robot-type device which could negotiate and learn a maze as it went through. The trials were held at conventions of the IEEE, NCC shows and PC-78.

The ultimate winner was entered by the team of Howard P Katseff and Roy Tramwell from Bell Labs, Holmdel NJ. Their mouse ran the 8½ by 8½-foot maze in just under 30 seconds. It employed a Z80 microprocessor with 4 K bytes of read-only memory and 1 K bytes of programmable memory. Second prize was taken by the team from Batelle Memorial Institute of Richland WA. Art Boland, Ron Dilbeck and Phil Stover's mouse ran the maze in just over 31 seconds. One high performer was actually nonprocessor controlled, and ran the maze in just under 40 seconds.

VOICE-OPERATED TV DEMONSTRATED: Sanyo Electric Co recently demonstrated a television receiver that responds to voice commands to turn on and off and switch stations. Utilizing a micro-processor, the unit compares the voice input to voice patterns stored in memory. The unit has a 30-word vocabulary, and can respond to the voices from 2 different people. Furthermore, the voice input can be used to play games. Sanyo has not announced any immediate plans for incorporating the receiver into its television sets.

APL FOR MICROCOMPUTERS: Despite a report in an earlier BYTE NEWS column, Quark has decided against introducing its APL microcomputer using the Intel 8086 microprocessor.

JAPANESE MOVING SWIFTLY INTO MICROCOMPUTERS: At least 9 Japanese manufacturers are presently manufacturing microprocessor integrated circuits. Approximately 80 different micro-processors are being made. Most of them are original designs including advanced features (eg: analog-to-digital converters, multiply/divide, counter/timers, etc). Five different 16-bit micro-processors are already in production. Furthermore, over a dozen personal computers/trainers are in production to support a very strong interest in personal computers in Japan. Thus far only a few units are available for export.

MOTOROLA ANNOUNCES 68000 DELIVERY AND PRICES: Motorola has announced that it expects to start shipping limited sample quantities of its new 68000 16-bit microprocessor by the end of the year. Single unit price will be \$249. Limited production quantities are expected to be available by the end of the 1st quarter of 1980, with full production by late 1980. No second source arrangements have been finalized.

75 MEGABYTE WINCHESTER DRIVE RUMORED: At least 6 companies exhibited 8-inch Winchester-type drives at the recent NCC show. All of the drives could fit into the same space as an 8-inch floppy disk drive, and provided from 10 to 45 M bytes of storage. At least 8 companies will be delivering these drives by the end of the year, and a 75 M byte version is expected next year. The drive should sell for under \$2000 in quantity.

PERSONAL COMPUTER MANUFACTURERS RANK WITH COMMERCIAL DATA PROCESSORS: Datamation magazine, in their most recent annual report of the top 50 US companies in the data processor industry, disclosed some interesting facts about changes in the computer industry. For the 1st time a personal computer manufacturer, Tandy, ranked among the top 50 in computer equipment sales, and Commodore ranked second among fastest growing companies. Commodore had a 190% increase in sales in 1 year, to \$75M. Tandy (ranked 43rd) reported computer sales of \$105M and total company sales of \$1,152M resulting in a net income of \$76M. The company reported a sales gain of only 11.6% (which is about equal to the rate of inflation, and hence could be considered 0 sales growth). If Commodore continues to grow at its past year's pace, it too will soon rank among the top 50. It was reported that 63% of Tandy's computer revenues were from TRS-80 sales, 26% from peripherals, 10% from services and 1% from supplies.

Each data processing company in the top 50 reported sales increases, and most were 20% or better. For example, IBM's sales rose almost 28%, while Digital Equipment Corporation's sales rose nearly 36%. In fact, none of the traditional maxi or mini makers appear to have been affected by personal computers, despite the predictions that were made 2 and 3 years ago.

MAIL: I receive a large number of letters each month, as a result of this column. If you write to me and wish a response, please include a stamped self-addressed envelope.

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