FEATURE PRODUCT

COMPUTER ON A CHIP

Intel has introduced an integrated CPU complete with a 4-bit parallel adder, sixteen 4-bit registers, an accumulator and a push-down stack on one chip. It's one of a family of four new ICs which comprise the MCS-4 microcomputer system—the first system to bring the power and flexibility of a dedicated general-purpose computer at low cost in as few as two dual in-line packages.

MCS-4 systems provide complete computing and control functions for test systems, data terminals, billing machines, measuring systems, numeric control systems and process control systems.

The heart of any MCS-4 system is a Type 4004 CPU, which includes a set of 45 instructions. Adding one or more Type 4001 ROMs for program storage and data tables gives a fully functioning micro-programmed computer. Add Type 4002 RAMs for read-write memory and Type 4003 registers to expand the output ports.

Using no circuitry other than ICs from this family of four, a system with 4096 8-bit bytes of ROM storage and 5120 bits of RAM storage can be created. For rapid turn-around or only a few systems, Intel's erasable and re-programmable ROM, Type 1701, may be substituted for the Type 4001 mask-programmed ROM.

MCS-4 systems interface easily with switches, keyboards, displays, teletypewriters, printers, readers, A-D converters and other popular peripherals. For further information, circle the reader service card 87 or call Intel at (408) 246-7501.

Circle 87 on Reader Service Card
Ferroxcube Corporation of America, Saugerties, N.Y., leading manufacturer of ferrite magnetic memory devices, announces the publication of a new 8-page, 2-color bulletin #7101 — "Applications of the Un-Computer to Process Control Systems" — which describes the company’s unique new Series FDC-300 Programmable Digital Data Controllers and their capabilities in various process control applications.

The Un-Computer™ is designed to replace, at less than half the cost, the uneconomical and over-committed minicomputers currently employed by OEM’s in a wide variety of systems requiring various kinds of data manipulation rather than arithmetical computation.

The bulletin stresses the simplicity and modular flexibility of the Un-Computer, which consists, basically, of a 2.5 usec, 4k x 18 random-access, ferrite core memory, plus all necessary control and manipulation electronics.

Circle 86 on Reader Service Card

Intelex, Inc., has introduced the RACE microprocessor, a communications-oriented minicomputer system designed for use as a "building block" in larger computer peripheral and instrumentation systems. The new system features dual memory busses utilizing MOS and bipolar semiconductors, a microprogrammed ROM (Read Only Memory) of up to 64-bit 256 words, a comprehensive command vocabulary of 190 instructions, and an Input/Output channel that can accommodate 32 peripheral devices.

Intelex plans to make the RACE microprocessor available in the general OEM market where its communications orientation and cost/effective features are expected to have greatest impact. It will also be used in larger systems now being manufactured by Intelex including an airlines reservation system, a remote batch terminal and a computer-controlled security system.

The RACE system utilizes state of the art design technology throughout, including an extensive "firmware" capability in its bipolar control and instruction ROMs. The bipolar instruction ROM, expandable up to 2K in 32-word increments having a 250 nsec cycle time, is designed for permanent programs which are first checked out in RAM memory and then transferred to ROM. The MOS RAM is expandable to 16K words in 1024-word increments, having a cycle time of 950 nsec.

Circle 80 on Reader Service Card
HARDWIRED DATA COMMUNICATIONS KITS

The distributed data acquisition, automatic test, or process control system, in which a central computer controls many remote terminals and receives data from them, is now an established trend. When the central computer is a Hewlett-Packard 2100 series computer, two new data communications kits can provide economical and efficient two-way channels for the exchange of data and control information with the remote terminals. The remote terminals can be other HP 2100 series computers or HP 2570A or 2575A Coupler/Controllers, and can be located up to 10,000 feet away from the central computer.

TAPERED SOCKET TERMINAL

A new, wide-angle tapered socket terminal which provides quicker and more efficient loading of integrated circuits on packaging panels has been introduced by Augat, Inc. Augat is the leading supplier of integrated circuit interconnecting products in the electronics industry.

The tapered opening, machined on both the outer sleeve and inner contact, allows easier insertion of the ICs on the panels because the leads can be inserted at different angles and funneled into the sockets. Augat’s tapered sockets and panels will be used in computers, computer peripheral equipment, machine tool equipment, communications, and all other applications associated with the integrated circuit.

MICRO ELECTRONIC CALCULATOR

A new “shirt pocket-sized” electronic calculator one third the size and less than half the price of any other “small” calculator presently on the market is being introduced by Ragen Precision Industries, Inc. Ragen’s calculator is a solid state, full four function, eight digit device (16 digit capacity) with a floating decimal point.

The new “micro” calculator marks the entry of Ragen Precision into the consumer market. Ragen is a leading designer and manufacturer of advanced numerical control equipment, information retrieval systems, sophisticated airborne instrumentation and semiconductor microcircuits.

The totally American-made calculator is small enough (2 3/8” x 7/8” x 3 1/2”) to fit comfortably into a man’s shirt pocket or a woman’s purse. It will operate for more than a year on throw-away batteries and sell for less than one-half price of other “small” calculators now on the market.

In a typical system, tens or hundreds of data acquisition channels at each remote terminal are digitized, multiplexed, and transmitted at high speed over the single cable by the data communications kit. Transmission is bit serial and asynchronous. Because data is transmitted in digital form, delays and inaccuracies associated with long analog signal lines are eliminated.

Each kit includes two interface cards, software, and documentation. Model 12771A is the computer-to-remote-computer kit. Model 12770A is the computer-to-remote-coupler/controller kit. Complete systems vary in cost depending on complexity.

Circle 81 on Reader Service Card

Circle 82 on Reader Service Card

Circle 84 on Reader Service Card
LOGIC CHECKER

Alco Electronic Products, Inc., is offering its new, pocket-size, Model 101 LOGIC CHECKER as an invaluable aid for checking the logic state on 14- and 16-pin DIP integrated circuits. Most TTL and DTL bipolar circuits (except expandable gates or circuits using non-standard voltage levels) may be tested. The rugged, compact, light-weight and completely portable LOGIC CHECKER requires no power cord or batteries and has no complicated adjustments or controls of any kind.

The instrument is actually 16 binary voltmeters, each one indicates the logic state at one of the terminals. The indicator lamps are positioned to correspond to IC pin positions so that interpretation of the light pattern becomes almost second nature. An activated lamp means the associated pin is at a logic high (1) or open state; a dark lamp indicates a logic low (0) or ground level condition. Thus, 16-pin instantaneous display is afforded and changes in state are shown immediately. Grounded or logic-level low terminals do not satisfy their gates and these lamps will not light. Price $89.95.

Circle 83 on Reader Service Card

OFF-LINE COMPUTER-OUTPUT

Compatibility problems between computer output tapes and the input requirements of various types of computer-output equipment are solved economically and efficiently by a new Hewlett-Packard Magnetic Tape Reformatting System, Model 2022A. This minicomputer-based system provides in-house users and service bureaus alike with the flexibility of a software reformatting system while avoiding the problems of a massive investment in software and inefficient use of a large central processor. Typical output devices that often require reformatting are off-line print stations, computer output microfilmers, plotters, data communications devices, and tape units.

Two versions of the new magnetic tape reformatting system are available. One is the basic Model 2022A, which contains all the hardware and software that aren't specific to any particular manufacturer's output unit. The other, Model 2022A Option 101, is a complete reformatting system designed specifically to provide input flexibility to Eastman Kodak Company's KODAK KOM-80 and KOM-90 Microfilmers.

Circle 85 on Reader Service Card

MECL APPLICATIONS HANDBOOK

Motorola Inc., Semiconductor Products Division has released the latest addition to its series of technical handbooks, the 211-page MECL System Design Handbook. (The term MECL identifies Motorola's emitter coupled logic.) The book presents current and complete information for easy design of high speed digital systems using MECL logic.

In the new handbook these factors are outlined by way of rules and guidelines for using the various MECL families. Detailed information is given for designing with MECL II, MECL III, and the new low-power MECL 10,000 Series logic. Particular emphasis is given to the ease of use of the newly introduced MECL 10,000.

Nearly 200 illustrations complement the text, providing informative circuit and waveform diagrams, as well as numerical data for use by a MECL system design engineer. Motorola's MECL System Design Handbook may be purchased for $2.00 per copy. Copies may be obtained by sending check or money order payable to Motorola Inc., at P. O. Box 20924, Phoenix, Arizona 85036.