Array processor transforms LSI-11s into number crunchers

Sky Computer's "Micro Number Cruncher" array processor—the SKYMNK—is, according to the company, the first fully programmable floating-point array processor designed specifically for microcomputers.

SKYMNK consists of two quad PCBs that plug into any LSI-11 or 11/23 quad Q-bus backplane. Able to operate under RT-11 or RSX-11M for Fortran or Macro programs, the processor can compute vector math and fast fourier transforms and do digital filtering, format conversion, and image processing at speeds of up to one million floating-point operations per second.

SKYMNK operates internally with standard PDP-11, 32-bit, single-precision, floating-point format and 48-bit extended precision operation. It is tightly coupled to the host and shares the host's memory (up to 1M byte addressable). This architecture keeps any memory expansion under user control, says Sky. SKYMNK extends the LSI-11's instruction set to include vector, matrix, and compound mathematical instructions computed in real and complex arithmetic.

SKYMNK is listed at $5990 (under $4000 to OEMs in quantity). Delivery is 90 days.

Reader Service Number 20

Microprocessor trainer includes TBug monitor

The Omnibyte Trainer 1 is an industrial-quality microprocessor training module designed to give beginners a comprehensive knowledge of microcomputer systems.

The two-board system includes the company's OB8001A single-board computer and a trainer interface board. The OB8001A comprises the MC6800 CPU, 1.25K on-board RAM, provisions for up to 4K PROM, and onboard I/O capability. When unplugged from the trainer interface board, the OB8001A can function as a stand-alone computer or can be used to control a complete Omnibyte microprocessor system. The trainer interface board features an eight-digit display, an LSI keyboard encoder, separate command/data keys, and a hexadecimal keypad with positive tactile feedback. A TBug 2K-byte monitor program and hardware trace circuitry are provided.

The system user's manual includes step-by-step instructions, data sheets, schematics, and a complete TBug source code listing.

Trainer 1 prices range from $349.95 to $526.45, depending on configuration.

Reader Service Number 23

Assembler for bit-slice machines provides macro facility

Microtecs Macro Meta Assembler allows programming of bit-slice microprocessors such as the AMD 2900 and Fairchild Macrologic. According to the company, it permits the user to perform many functions that are either impossible or very difficult with the basic AMDASM language, while remaining upward-compatible with AMDASM.

The Macro Facility, the principal new feature of the package, lets the user define variable-length microwords, define noncontiguous variable fields, and represent complex overlaid instructions with a single mnemonic. Expression-value and character-string-comparison-conditional assembly statements are also provided. Other features include the availability of boolean and relational operators in expressions, automatic generation of entry point PROMs, and automatic generation of parity.

The Macro Meta package consists of three programs—a definition program in which instruction mnemonics and macros and their associated bit patterns can be defined; an assembly program that operates like a conventional two-pass assembler, producing an output listing and object module; and a PROM formatting program that allows the user to break up the object code into organizations compatible with the target PROM/ROM array.

Written in ANSI-standard Fortran IV, Macro Meta will run on any general-purpose computer, including 16-bit minis.

Reader Service Number 21

In-circuit emulator for S-100-based 8048s announced

Mice-48 is an in-circuit emulator for the 8048 family of single-chip microcomputers. S-100 bus compatible, it can emulate the Intel (or equivalent) 8035/8039/8048/8049/8748 parts, the National 8040/8050 parts, and the 80C48/80C35 CMOS versions from NEC and others, says Signum Systems, the manufacturer.

Contained on a standard S-100 board, Mice-48 runs under CP/M or on any 8080 or Z80-based CPU. A ribbon cable with a buffer assembly connects the emulator to the user system in place of the user's 8048 processor. Emulation is done in real time, using the user's clock or crystal at speeds of up to 11 MHz.

Mice-48 also features a trace facility, an unlimited number of breakpoints, and the ability to display and modify program memory, external RAM, registers, I/O ports, and flags. A mapping command allows the user to map program memory to his PROM/EPROM or to the emulator's RAM.

Mice-48 comes with supporting software, including an 8048 macroassembler. It is priced at $950.

Reader Service Number 22

Reader Service Number 20