Am2900 family adds variable clock generator

An Am2900-based design can gain up to 30 percent in speed if its present fixed microcycle clock is replaced with the new Am2925 clock generator and microcycle length controller from Advanced Micro Devices. This single-chip, general-purpose clock generator/driver produces four different clock output waveforms with one of eight different microcycle lengths under microprogram control.

Microcycle length control allows the designer to improve system throughput, says AMD, because the machine cycle is no longer determined by the slowest instruction. By selecting the appropriate clock length, the designer can tailor each microcycle to the actual instruction time required.

A crystal-controlled, on-chip oscillator, which can be driven at frequencies up to 31 MHz, has a 32-nsec oscillator period and provides buffered output. The Am2925 then decodes three inputs, L1, L2, and L3, latched into the microcycle control latch, to determine a microcycle length of from three to ten oscillator periods. These inputs are normally supplied from the microprogram memory and are microcoded to match the microcycle length to the instruction execution time.

The four “C” outputs have the same characteristic timing regardless of the microcycle length: C1 is LOW only on the last oscillator period for each microcycle; C2 is LOW on the last two oscillator periods; C3 has a 50 percent duty cycle; C4 is LOW only on the first oscillator period. The system control inputs provide for halting the clock output (HALT) on the first or last oscillator period (FIRST/LAST) of a microcycle. In half mode, SSNO and SSNC provide single-step control; i.e., a single microcycle step will occur.

The WAITREQ input can initiate a wait, but the wait timing input Cx, determines when during the microcycle the wait will occur. The WAITACK output indicates that the system clocks are halted in the wait mode. A separate READY input takes the Am2925 out of the wait mode. Last, an INIT input overrides all other control inputs and allows the clocks to free run.

The Am2925 comes in a slim (0.3-inch), 24-pin DIP and prices start at $12.20 in 100-unit lots.

Reader Service Number 18

Network for micros uses twisted-pair cable

Omninet is a low-cost, carrier-sense, multiple-access network for microcomputers. According to its manufacturer, Corvus Systems, it offers microcomputer users the power and versatility of mainframe network systems.

A one-megabaud network utilizing low-cost, shielded, twisted-pair cable (RS 422) in lieu of coax, Omninet allows the interconnection of up to 64 microcomputers and peripherals in a 4000-foot serial link. The system is centered around the Omninet transporter, an interface consisting of a Motorola 6801 microprocessor, a custom Omninet gate array, and associated support components. It interfaces directly to a microcomputer or peripheral on any network node and provides transfer of error-free, variable-length messages, with no software intervention required by the sending or receiving microcomputer. In addition, the twisted-pair data link does not require the isolation circuits needed by other networks, says Corvus.

Omninet works with Constellation software, providing up to 80M bytes of shared storage, with multilevel file and user security, pipes, and spooled peripherals.

Available for the Apple II, Onyx C8000, and the DEC LSI-11, Omninet will also connect to any existing Corvus peripheral, including the company’s 5M, 10M, and 20M byte Winchester bus. Future transporters will be designed for the Apple III, Tandy TRS-80, Atari, Commodore, and Altos. Corvus also plans to provide gateways to Ethernet and SNA in 1982.

Omninet transporter units are $495 for Apple and S-100 bus computers, $750 for the DEC LSI-11, and $650 for the Onyx C8000.

Reader Service Number 19

Alpha Microsystems introduces Winchester-based systems

Alpha Micro has announced its AM-1021 system, a Winchester-based business computer providing 8.5M bytes of data storage. The company has also introduced the AM-1041, a similar system with 32M bytes of storage.

Available with these Winchester systems are various backup facilities, including eight-inch floppy disk, magnetic tape, and video cassette tape.

Complementing the AM-1021 and 1041 are the AM-710, a 128-byte memory board with parity and the AM-700, a memory partition controller board. The AM-710 doubles the Alpha Micro bus system standard memory. The AM-700 allocates and uses memory in segments as small as 256 bytes.

The systems include the AlphaVUE word processing and text formatting software package, and AlphaAccounting, a general business accounting package.

Reader Service Number 20

Fast RAM gives nonvolatile data retention

The 9637 from Creative Micro Systems is a 16K byte, static RAM module designed for compatibility with Motorola’s EXORiser-Micromodule microprocessor bus. The module utilizes byte-wide CMOS static memory devices supported by on-board batteries for data retention during periods when system power is absent. The data guard is generated on the card and no external signals are required to maintain data integrity during system power transitions. The 9637 can be removed from the system chassis and transported without loss of data.

The 9637 is organized as two independent 8K bytes. Each block can be selected, by on-board switches, to operate at any 8K boundary. The module can decode four additional address lines for use in memory management systems.

Typical access time is 180 ns and is guaranteed to be less than 250 ns over the 0 to 70°C operating temperature range. The module typically requires two watts of power from a single 5V supply.

The single quantity price is $595 and quantity discounts are available.

Reader Service Number 21