Process-control system is fault tolerant, features video programming facility

The PCS-300 Can't-Fail Programmable Control System consists of a process-control system and a video programmer, both fully supported with software. Manufactured by August Systems, the PCS-300 is based on the company's fault-tolerant Series 300 industrial control computer. According to the company, it provides continuous correct operation through triply redundant microprocessor-based logic modules, triplex process interfaces, and peripheral devices which may or may not be replicated depending on the needs of the application. Any module can be removed and replaced without disrupting operation.

The system's video programmer lets the user visually construct ladder-logic diagrams of its process-control algorithms at a graphic CRT display. A special keyboard provides a set of ladder management keys.

The video programmer doubles as an off-line programming system and as an on-line system-control console. Off line, the unit is used to develop programs which are either downloaded to the process-control system or transferred to diskette. In the on-line mode, the operator monitors the logic flow, revises the ladder, and dynamically changes limits, setpoints, and other system parameters. Accidental or unauthorized tampering with the system is guarded against through the use of a key switch and security password.

According to August Systems, the modular design of the PCS-300 suits it for use as a programmable controller in small, simple applications or, when expanded, as a large process-control system. The PCS-300 provides for analog as well as digital input and output; this, says the company, eliminates the need for external thresholding, allows capturing of pretrip histories for later analysis, and provides all the control capability of a programmable controller.

Digital-to-analog converter requires no external components for 18-bit conversion

A complete 18-bit buffered CMOS DAC with true 16-bit linearity, the Micro Power Systems' MP377-18 includes storage registers, internal reference, and output amplifier.

According to the company, the device features 16-bit (± 0.0008%) linearity and 450 mW typical power dissipation. Its input storage registers are designed as one 2-bit and two 8-bit segments. They provide data storage when latched but are transparent when unlatched, allowing data conversion to be performed continuously or from stored data. This feature is compatible with most microprocessor data bus interfaces, says Micro Power Systems.

MP377-18 DACs are $220 each in lots of 25 to 99 pieces and are packaged in 28-pin double-wide DIPs. The devices are also available with MIL-STD-883 screening and testing.

Reader Service Number 20

Microsoft memory card for IBM PC emulates disk

The RAMCard is an expandable plug-in memory system for the IBM Personal Computer that provides disk emulation capability, according to its manufacturer, Microsoft.

The system includes a board with up to 256K bytes of random-access memory, a diskette containing a version of PC-DOS that directs the computer to use an area of the memory—called RAMDrive—for disk I/O, and a system manual written for the computer novice. The RAMDrive feature is designed for programs requiring repeated disk access. According to Microsoft, it prevents them from becoming bottlenecked while the disk drive is moving among tracks and sectors.

The RAMCard utilizes 64K x 1 dynamic RAMs with 200-ns access time and 4-mS refresh. Power consumption at +5 volts ranges from 290 mA (64K version) to 525 mA (256K version) in the idle state, and from 325 mA (64K) to 600 mA (256K) in the accessing state.

Microsoft is supplying the RAMCard in 64, 128, 192, and 256K-byte configurations, with prices ranging from $495 to $1095. A user can expand the lower configurations himself by purchasing a 64K byte upgrade kit, called RAMChip, for $200.

Reader Service Number 22

Eight-bit member of 68000 family announced

An eight-bit data-bus version of the MC68000, the MC68008 maintains complete compatibility with the MC68000 instruction set. The eight-bit microprocessor provides the performance capabilities of the 16/32-bit 68000 architecture while preserving the cost-effectiveness of an eight-bit microprocessor system, says Motorola.

Resources available to the users of the MC68008 include eight 32-bit data registers, nine 32-bit address registers, 1M byte of address space, and 56 instruction types. Other features include operations on five main data types, memory mapped I/O, 14 addressing modes, and a bus structure supporting both synchronous and asynchronous transfer.

The product is the only processor to offer a 32-bit architecture on an eight-bit data bus, according to Motorola. It is designed to provide a migration path, within the 68000 family, from entry-level systems to multiuser virtual memory systems.

The MC68008 will be sampled in the fourth quarter of 1982 and will be initially offered in a 48-pin ceramic or plastic package.

Reader Service Number 23

Reader Service Number 10

Reader Service Number 21