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MICROCOMPUTER SYSTEMS CORPORATION:
PRODUCT OVERVIEW

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PRODUCT OVERVIEW

MSC-1101

The MSC-1101 is an intelligent, single-board controller that interfaces the Digital Equipment Corporation's Unibus with Winchester and other standard SMD interface high-capacity disk drives.

Aimed at OEMs using the PDP-11 and VAX series, the MSC-1101 controller offers much higher system performance than previous Unibus-compatible disk controllers. It makes available to minicomputers the performance-boosting, input/output (I/O) processing techniques hitherto available only on large, main-frame computers.

Standard advanced features include command chaining, automatic error correction and retry recovery, implied overlapped seek, automatic head and cylinder switching, and DMA load regulation. Two-drive, dual-port control also is standard.

To insure functional compatibility and ease of installation, MSC provides users with software integration packages for RT-11, RSX, IAS, RSTS/E and VAX/VMS operating systems. Comprehensive documentation assures facility of MSC-1101 integration into special purpose systems.

The MSC-1101 is an evolution of the successful MSC-1000 controller series, based on high-speed, bipolar microprocessors. Because the MSC-1101 is microprocessor-based, much of the I/O processing normally performed by the CPU is done by the controller.

MSC-1080

The MSC-1080 is an intelligent, single-board controller that interfaces Shugart Associates's SA4000 series fixed disk drives to a variety of different microprocessor buses.

Based on a bipolar microprocessor for high-performance, low-CPU overhead and increased reliability, the MSC-1080 can control as many as four Shugart drives, including the 14.5-megabyte SA4004, the 28-megabyte SA4008 and the 58-megabyte SA4100 drives.

This controller provides all generally required formatting and operating functions. Numerous advanced features also included are command chaining, error checking and correction (ECC), write protection, automatic head and cylinder switching, relative addressing, automatic seek to alternate tracks, implied overlapped seeks, and variable interleave. The MSC-1080 also performs extended microdiagnostics for easy maintenance.

The high-level commands that provide these capabilities unburden the host microprocessor and simplify program development. Upgrades from floppy disk storage can easily be accomplished with the standard commands.

MSC-1088

The MSC-1088 is an intelligent, single-board controller that can interface the IEEE 488 bus to two SA4000 series Winchester drives storing up to 58 megabytes each.

The controller provides error correction, self-testing and other advanced features, as well as upgrades from as little as 14.5 megabytes to over 100 megabytes. It controls Shugart Associates's 14.5-megabyte SA4004, 28-megabyte SA4008 and the new 58-megabyte SA4100 drives.

The result is a cost-effective alternative to floppy disk storage for small business computers, microcomputer-based instrumentation and other systems using the IEEE 488 bus as a general-purpose interface bus.

In addition to complete compatibility with the IEEE 488 bus, the MSC-1088 controller provides all basic MSC-1080 series control and maintenance features. It can be used in new OEM systems or, with simple system software modifications, in floppy disk replacement applications.

MSC-1690 Series

The MSC-1690 series is a family of hard disk storage subsystems designed for plug-compatibility with the Hewlett-Packard-3000 computer. Each disk storage system includes a controller, a host adapter, and up to eight disk drives.

The host adapter is a single printed-circuit board that plugs directly into the HP-3000 selector channel to obtain the signals needed for HP drive emulation. The adapter is connected to the rack-mounted controller unit which, in turn, is connected to the disk drives.

The MSC systems are based on newly-developed MSC-1694 and MSC-1696 intelligent disk controllers. The MSC-1694

controller handles up to eight industry standard disk drives with capacities of 300 megabytes, and the MSC-1696 controller handles up to eight 600-megabyte drives. In contrast, Hewlett-Packard's largest drive--the HP-7925--stores 120 megabytes of formatted data.

The controllers allocate unique storage areas on the attached physical drives to represent each drive being emulated. The MSC-1694, for example, enables one 300-megabyte drive to be perceived by the MPE operating system as two HP-7925, 120-megabyte disk drives, thereby providing up to 1,920 megabytes of storage capacity with the possible attachment of eight drives.

For even greater storage capacity potential, the MSC-1696 controller maps storage areas on the attached 600-megabyte physical drives to represent each HP-7925, 120-megabyte drive being emulated. The HP-3000 may "recognize" up to 32 HP-7925 drives, and may have up to 3,840 megabytes of storage capacity, while actually being attached to eight 600-megabyte disk drives.

In addition to total software transparency and hardware compatibility, MSC's intelligent controllers provide data buffering, automatic track seek and position verification, error checking and correction, and extensive resident diagnostics. The microprocessors of the standard MSC-1694 and MSC-1696 controllers are microprogrammed for transparent operation with the standard HP-3000 MPE operating system.

MSC-05/06

The MSC-05 and the MSC-06 are disk storage subsystems designed to be plug-compatible with Digital Equipment Corporation's MassbusTM peripheral system.

These subsystems offer users of DEC's minicomputers--such as the System 10, the System 20, the PDP-11, the PDP-11/70, and the VAX-11/780--the option of selecting either the DEC-supplied disk units (RP-05/06) or the MSC-supplied disk drives. The MSC systems provide this option at a 15 to 25 percent cost reduction by utilizing an innovative architecture.

The MSC-05 is equivalent to DEC's RP-04 and RP-05, as is the MSC-06 to the RP-06. While the architectures of the MSC and DEC subsystems are fundamentally different, both are based on an industry standard disk drive.

Because the MSC-05/06 subsystems are plug-compatible with the DEC Massbus I/O controller, MSC-05/06 disk drives can be added to an existing DEC installation by simply plugging them in. Thereafter they appear to the operating system to be identical to the equivalent RP-04/05/06 units. Since no changes in the operating system software are needed to implement the MSC disk storage capability, DEC users can expand their systems as easily with the MSC subsystems as they can with the RP subsystems.