

10M-byte removable cartridge subsystem based on flexible media

ALPHA 10, a 10M-byte removable cartridge storage subsystem, is based on a technique for high density recording on flexible media. The unit, developed by Iomega Corp, 4646 S 1500 West, Suite 160, Ogden, UT 84403, includes disc drive, integrated controller, and 10M-byte flexible media cartridge. The subsystem package, including controller, fits in the envelope of a standard 8" (20-cm) flexible disc drive.

A media stabilization system is used to enable the flexible media to fly close to the head, resulting in high density non-contact recording. Embedded servo and parity sector error correction further enhance the high density and data reliability achieved with the technology.

Competing favorably with Winchester products in the same capacity range, the unit's average access time of 35 ms is achieved by a simple PCB rotary actuator. A brushless dc drive motor spins the media at 1500 r/min resulting in a 1.1M-byte/s transfer rate.

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I/O subsystem provides 64M-bytes buffer memory, streaming data channels

An enhanced I/O subsystem provides up to 8M words (64M bytes) of buffer memory, dual high performance channels for streaming data to central memory, and support for online magnetic tape. Developed by Cray Research Inc, 1440 Northland Dr, Mendota Heights, MN 55120, the unit meets the high throughput demands of the CRAY 1/S supercomputer.

The I/O subsystem, with its multiple I/O processors, acts as a data concentrator for input to the CPU and distributes output from the CPU. In this role, it handles I/O for a variety of front-end computer systems and for peripheral devices such as disc units and user supplied magnetic tapes. An integral part of models S/1200 through S/4400, the I/O subsystem is composed of two to four I/O processors, buffer memory, disc control units (DCU-4s), optional block multiplexer control units (BMC-4s), three CRT

consoles, and peripheral expander and maintenance peripherals.

The I/O processors all interconnect with each other and with buffer memory. Connecting to the CPU, to one to three frontend computer systems, and to maintenance peripherals via a peripheral expander, the master I/O processor handles communications protocol with other mainframes.

A second processor, the buffer I/O processor controls system disc storage and moves data between buffer memory and central memory and the CPU. This processor contains one to four DCU-4 disc controllers, each of which independently controls up to four DD-29 disc storage units. Each disc unit has a capacity of 600M bytes.

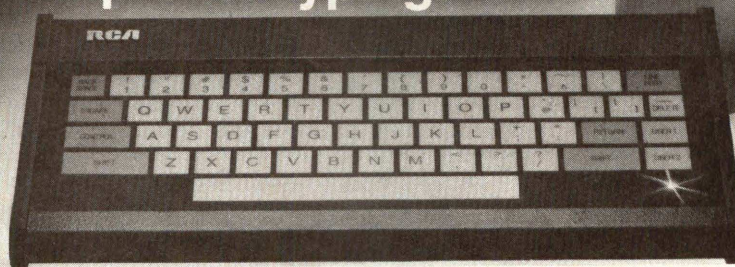
Optional third and fourth I/O processors each may support up to 16 additional disc units for a maximum system

capacity of 28.8G bytes. As an alternative, one optional processor may contain 1 to 4 block multiplexer controllers. Each BMC-4 consists of four channels. Controller units for peripheral devices such as magnetic tape units may be connected to these block multiplexer channels.

Buffer memory is a solid state secondary storage unit, consisting of either 1M or 8M 64-bit words, that is accessible to all I/O processors in the subsystem. I/O processors connect to the buffer memory through internal channels capable of transfer rates of over 800M bits/s. Bandwidths of approximately 1250M and 2500M bits/s are possible between buffer memory and up to four I/O processors, depending on the number of banks (8 or 16) in the buffer memory.

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