

THE MICROPOLIS MICRODISK™ 8" RIGID DISK SUBSYSTEM WITH OSM.



MULTI-USER, MULTI-TASKING AND INCREASED

The Micropolis MicroDisk is an 8" Winchester disk storage subsystem designed for an S-100 Bus microcomputer using an 8080, 8085, or Z80 microprocessor with a clock frequency of 2-4 MHz. The subsystem, including the OSM software package, provides you with a true multi-user, multi-tasking system.

The MicroDisk subsystem consists of the OSM multi-user, multi-tasking, multi-access software package, full documentation, intelligent Disk Adapter board, interface cable, and from one to eight MicroDisk storage modules, depending on your needs.

The MicroDisk subsystem offers upward expansion of existing program and data files previously created for Micropolis Macrofloppy and Metafloppy subsystems.

The MicroDisk delivers high capacity, file sizes up to 65,000 records in length, fast access, and excellent data reliability.

Micropolis OSM. Another first for MicroDisk.

Micropolis OSM is a set of operating system modules which requires a MicroDisk subsystem as the primary file device. It relies on the Intelligent Disk Adapter in the subsystem to perform the File Management for the MicroDisk. I/O interface cards with appropriate interrupt capability are necessary to support multiple terminals. Bank switchable memory may be used in the host computer to expand memory capacity, although it is not required.

OSM uses techniques of processor control, I/O handling, memory task and resource management to create a true multi-user environment. Using the OSM Executive, users at several terminals can invoke and interact with different application programs written in assembly language or BASIC. The system provides an assembler, a source text editor, and a Disk Extended BASIC Interpreter to support the development, execution, and maintenance of application programs. General system management is provided by Filecopy, Disk Archiving, and other utilities.

The main OSM module is loaded into the host computer memory by the MicroDisk bootstrap process, and is permanently resident during system operation. The bootstrap process also loads the MicroDisk File Management programs into the Intelligent Disk Adapter. Included in the resident module are programs for interrupt servicing, Processor Control, Physical Device Drivers, Logical Device Handlers, Memory Management, Task Management, the system Supervisor, the OSM Executive, and the DEBUG Executive.

OSM Disk File Management.

Important elements of the MicroDisk File Management design include the following: named file access with password protection, dynamically expandable files, sequential record access, direct record access, alphanumeric keyed sequential access, alphanumeric keyed random access, separate key files, multiple key files, user definable file types,

multiple open files with four level access mode locks, automatic read-after-write verification, and re-try logic for maximum data integrity.

There is also a common interface scheme between the floppy disk and the MicroDisk File Managers. All the preceding features (except passwords and keyed access modes) apply to the floppy as well. Floppy disk formatting is compatible with the Micropolis PDS 4.0 format.

OSM Memory Management.

The MicroDisk Memory Manager controls the allocation of memory blocks to tasks, provides dynamic program demand allocation for assembly language programs, and specifiable partition sizes for user BASIC programs. Programs can also be allocated portions of memory from different bank switchable memory boards, if the address ranges do not overlap. For assembly language programs, the address ranges may be noncontiguous. (A BASIC program uses an address-contiguous memory area.)

OSM Executive.

The OSM Executive lets you control the normal operation of your computer system with dialogue through interactive terminals, and offers command dialogue access to the Supervisor facilities. Included in the OSM Executive are controls and commands to initiate a task, name and set the execution priority for a task, load a program as a task, suspend a program, resume a program, place a program in background execution mode, cancel a program, terminate a task, transfer a terminal to another task, view the system status, and view the logical device status.

Access is also provided to the MicroDisk and the floppy disk File Managers by commands to re-name a disk file, change the filetype, filemode or password of a disk file, change the MicroDisk master password, view the directory of a disk drive unit, and view the amount of free space on a disk drive unit.

Nonresident OSM Modules.

Some of the OSM modules are separate programs which are loaded from disk when required, and run under the controls and management of the main OSM resident module. These include an 8080/8085 assembler, a source text editor, a FILECOPY utility, a Disk Archiving utility, and the Micropolis Disk Extended BASIC interpreter.

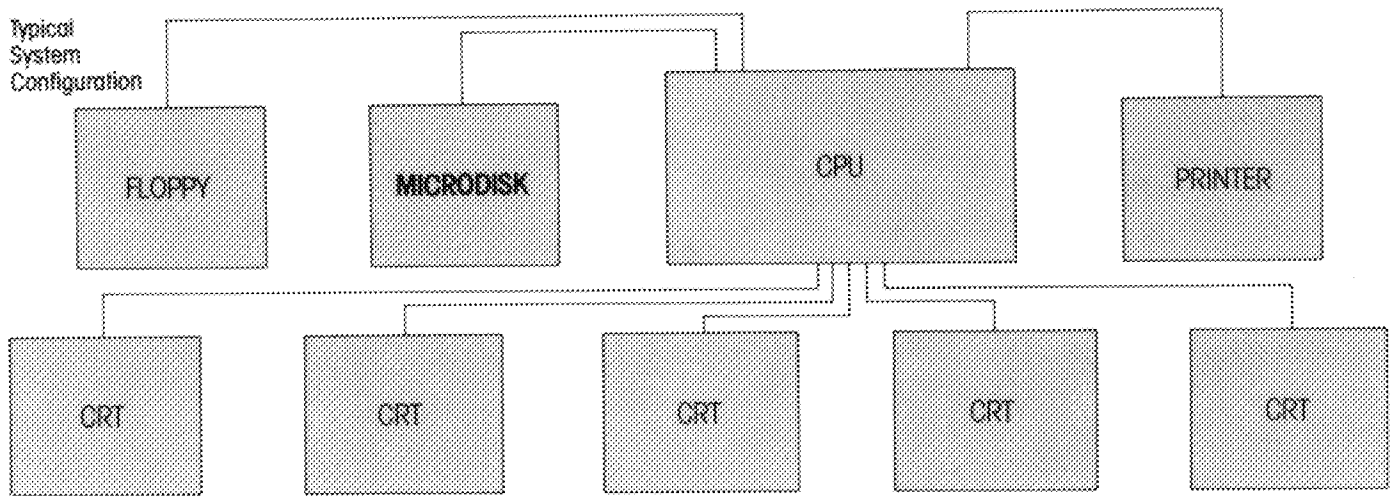
OSM Disk Archiving Utility.

The Disk Archiving program is an optimized utility that can be used to back-up copy the contents of a MicroDisk unit onto multiple floppy disk volumes.

OSM BASIC.

When BASIC is loaded, you have a powerful set of tools for developing, testing, executing, and maintaining BASIC programs.

CAPACITY FOR YOUR S-100 MICRO-COMPUTER.



OSM BASIC program lines can be as long as 250 characters, and may include multiple statements, the maximum line number being 65,529.

Micropolis OSM BASIC has 11 immediate mode commands, which are as follows: SAVE a file, LOAD a file, SCRATCH a file, LIST a program, DELETE lines from a program, RUN a program, CNTL/C to interrupt a running program, CONT to continue an interrupted program, CNTL/X to cancel an input line, and FLOW and NOFLOW to enable and disable the flow trace debugging aid.

OSM BASIC File Management.

Micropolis OSM BASIC's file management capabilities are performed through the MicroDisk and floppy disk File Managers in OSM. Each file stored on a disk is identified by a file name which may be up to ten characters long, and the files may have an optional password. Files can be BASIC program files, assembly language object files, or data files, and the MicroDisk will support index files. Also, permanent and write protect attributes may be assigned on a per file basis.

There are statements to RENAME files, modify the end-of-file MARKER (EOF), and change file attributes (ATTR). Functions are also available to find the name, size, and attributes of file, as well as to find out how much space is free on a given disk unit.

The File Managers automatically maintain placement of files on the disk, with initial space for a new file allocated by the system at the time of creation. Existing files are automatically extended as necessary without any required preallocation. When a file is SCRATCHed, its space returns automatically to available status.

OSM BASIC File Programming.

Micropolis OSM BASIC data file programming is easy to use. You can open files simultaneously for sequential and random (direct) access in both read and write modes -- with only one OPEN statement. Up to ten files may be open at one time -- with no special buffering provisions necessary.

The CLEAR option lets you open a file for rewrite instead of append, while END option provides you with an on-endfile-goto capability. And the ERROR option gives you an on-error-goto capability.

You can also open MicroDisk files for keyed sequential and keyed direct access. One or more index key files may be associated with a given data file. Index files may be handled separately or they may be automatically coupled to an open data file. Data is written to, and read from, files using PUT and GET statements with variable lists. This allows a mixture of numeric and string variables. Files must be CLOSED after use.

This file I/O structure also extends to your printer and terminal output files, to afford you a high degree of device independence. And additional options on the OPEN statement (PAGESIZE and ENDPAGE) facilitate the pagination of output reports. In fact, print files may be easily diverted to terminal or disk simply by changing a file name in the OPEN statement.

The MicroDisk subsystem. A timely arrival from Micropolis.

The MicroDisk's hardware is available in one, two or three platter configurations, with delivery of formatted storage capacities of 6.2, 18.7, and 31.1 megabytes.

Winchester technology is incorporated in the MicroDisk design, which is packaged in two sections. The lower half, which contains the platters, disk heads, and positioner, is completely sealed. The upper half, which is accessible for maintenance, contains four circuit boards, including the Micropolis intelligent controller.

When you get right down to it, the MicroDisk subsystem is a much-needed, timely solution for capacity-starved microcomputer users.

Maybe that's one reason why, in just four years, Micropolis is already the second-largest producer of 5 1/4-inch floppy disk drives -- for both OEMs and end-users.

And we won't be number two forever.

THE MICROPOLIS MICRODISK SUBSYSTEM SPECIFICATIONS

Capacity

Model No.	1241-I	1242-I	1243-I
Unformatted Capacity			
M Bytes Per Drive	8.9	26.7	44.5
Formatted Capacity			
M Bytes Per Drive	6.2	18.7	31.1

Mechanical Dimensions

Height	7.00"	(177.80 mm)
Width	19.00"	(482.60 mm)
Depth	18.40"	(467.30 mm)
Weight	45. lbs	(20.50 Kg)

Access Time (including Settling)

Track to Track	12 milliseconds
Average (1/2 stroke)	42 milliseconds
Full Stroke	85 milliseconds

Average Latency 8.33 milliseconds

Transfer Rate 7.375 M Bits Sec.

Functional Specifications

Encoding Method	EPM
Platters	1, 2 or 3
Data Surfaces	1, 3 or 5
Data Heads	1, 3 or 5
Available Tracks	580

Environmental

Ambient Temp. Range	50-104°F (10-40°C)
Relative Humidity	10-80% non condensing

Power Requirements

110V 60Hz, 3.5A (max)
220V 60Hz, 1.5A (max)

Specifications subject to change without notice

MICROPOLIS™

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Patents Pending