

# Control Data® 9771 Extended Module Drive (XMD)

Designed for Original Equipment Manufacturers (OEM)

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GD  
CONTROL  
DATA

MAY

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The Control Data 9771 Extended Module Drive (XMD) is a 356-millimeter (14-inch) rigid disk drive that provides up to 825 megabytes of unformatted storage in a sealed module.

The 9771 operates with an extended version of the industry standard Storage Module Drive (SMD) interface that has a transfer rate of 14.5 megabits per second. The Intelligent Standard Interface (ISI) and Standard Device Interface (SDI) are optional. All interface electronics are contained in the drive enclosure.

Thin-film heads and improved oxide media provide recording at 960 tracks per inch and 15,400 bits per inch.

## Features

- 16 millisecond average seek
- Thin-film heads
- Rack mountable
- Universal power supply
- SMD, ISI and SDI interface compatibility
- 14.5 megahertz data transfer rate
- Automatic carriage and spindle lock
- High performance linear actuator
- High MTBF
- NRZ to RLL 2, 7 data conversion
- Fixed or variable sectoring (address mark)
- Daisy-chain interface capability
- Dual channel option
- Complies with FCC Class A, VDE, UL and CSA standards
- Fault status display
- Address select plug (0-3)



## Description

The 9771 XMD consists of five disks in a sealed module, a belt-coupled AC spindle motor, internal power supply, air supply, air filter, linear actuator and thin-film heads. Large Scale Integration (LSI) logic is contained in four printed-circuit boards. All read/write, fault, transmitter/receiver, and micro-processor-controlled servo electronics are contained within the logic package.

## Applications

- Business control systems
- Large terminal systems
- Scientific, medical and instrumentation systems
- Seismic systems
- Communications systems
- Database systems

## Accessories

- Rack-mounting slides
- Terminator
- Input/output cables

## Options

- Address select plug (4-7)
- Maintenance manual
- Dual-channel access
- Front panel in color

## Specifications

### Capacity

Per Surface 825 Mbytes  
Per Track 103.13 Mbytes  
50,400 bytes

### Number of Disks

Data Surfaces 5  
Servo Surfaces 8  
Transfer Rate 1  
Spindle Speed 14.5 MHz  
2,160 r/min

### Read/Write Heads

16

### Servo Heads

1

### Recording

Bit Density 15,400 bits/in  
Track Density 960 tracks/in  
Recording Method RLL 2, 7 code

### Access Time

Maximum 30 ms  
Average 16 ms  
Minimum 5 ms  
Positioning Method Linear actuator  
Rotational Latency 13.88 ms

### Data Reliability

Recoverable Read Errors Less than 1 in  $10^{10}$  bits transferred  
Unrecoverable Read Errors Less than 1 in  $10^{12}$  bits transferred  
Seek Errors Less than 1 in  $10^6$  bits transferred

### Reliability

MTBF 12,000 hours  
MTTR Less than 1 hour  
Service Life 5 years  
Preventive Maintenance None  
Adjustments None

### Power Requirements

AC 120 V, 60 Hz or 220, 240 50 Hz

DC None  
Power Dissipation Approx. 750 W (2,559 Btu/h)

### Environmental

Operating Temperature 10°C to 45°C (50°F to 114°F)  
Non-Operating Temperature -40°C to 60°C (-40°F to 140°F)  
Operating Humidity 20% to 80% RH, no condensation  
Non-Operating Humidity 5% to 80% RH, no condensation  
Altitude, Sea Level Ref.  
Operating/Non-Operating -300 m to 3000 m (-983 ft to 10,000 ft)

### Physical Characteristics

Height 264.2 mm (10.4 in)  
Width 480 mm (18.9 in)  
Depth 764.5 mm (30.1 in)  
Weight 80 kg (175 lb)



Head Disk Assembly

Specifications subject to change without notice.

Control Data sales offices are located in principal cities throughout the world.

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