

HEWLETT-PACKARD

HP 7959B Winchester Disc Drive



Data Sheet

Features

New disc drive features HP's own 5.25-inch Winchester disc for high performance and reliability

- 304 megabyte capacity
- Quiet operation
- Simplified design
- Automatic error correction, logging

The HP 7959B disc drive is ideal for commercial and technical multi-user systems and workstations. Users of HP 1000, 9000 and 3000 computer systems will appreciate the new large capacity and solid reliability this disc drive offers. Plus, it features exceptional performance in a compact desktop package.

Reliability and Serviceability

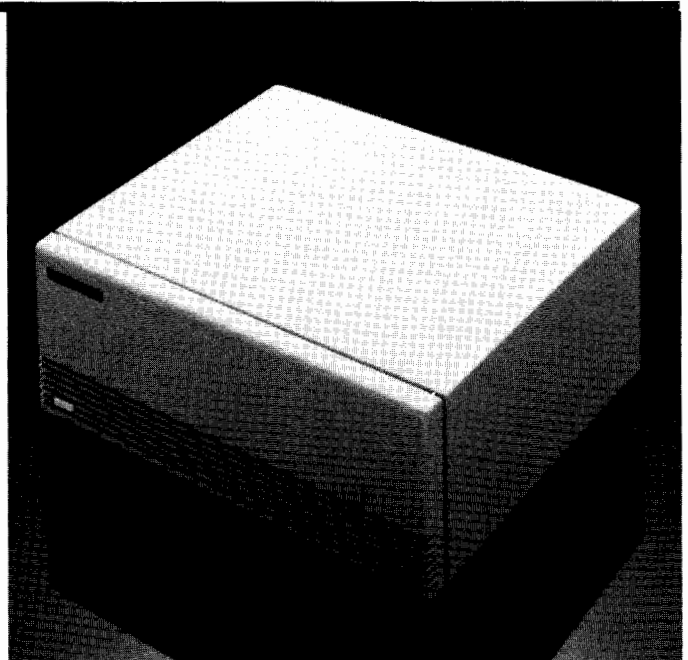
The inherent reliability of this new product is based on seven generations of disc drive design and manufacturing experience at Hewlett-Packard. The foundation of the HP 7959B is an HP-designed and built 5.25-inch Winchester mechanism. This high performance mechanism features a special track positioning system using embedded servo code that essentially eliminates seek errors. In addition, it enhances read/write accuracy over the entire operating temperature range.

The ability to service the product is enhanced by extensive self-test capabilities, error logging and autosparing. The package design contributes to easy service by allowing quick access to all replaceable assemblies. And new low maintenance costs mean a lower overall cost of ownership.

Performance

High performance traditionally found with large system disc drives is now available with this desktop midrange model. The HP-built 5.25-inch mechanism found in the HP 7959B boasts an impressive seek time of 17 ms and an average data transfer rate of approximately 700 kbytes per second. The new HP-IB controller reduces overhead to 1 ms while providing compatibility and cabling for HP systems.

The channel optimization feature of the HP 7959B is another key benefit. Similar to rotation position sensing (RPS), channel optimization allows multiple discs to better utilize a single HP-IB channel.



Compact Design

The HP 7959B's compact design offers quiet operation and the option of desktop use. It also fits into HP's 92211R mini-rack cabinet or can be mounted in a standard 19-inch EIA equipment rack. The disc drive is supplied with all the necessary accessories and is ready to operate after simply being plugged into an AC power source and the HP-IB of any supporting system.

HP 7959B Specifications

Performance Specifications

Formatted capacity	304 Mbytes
Average seek time	17 ms
Average rotational delay	8.96 ms
Average time to transfer 1 kbyte	1.4 ms
Average controller overhead	< 1 ms
Total average transaction time	28.4 ms
Disc performance index	35.3 I/Os per sec
Data transfer rate	
Instantaneous	1.25 Mbytes per sec
Average sustained (full volume)	~ 700 kbytes per sec
Track average	875 kbytes per sec

Recording Characteristics

Bits per inch (maximum)	20,500
Tracks per inch	1,590
Bytes per sector	256
Sectors per track	63
Tracks per data head	1,572
Number of discs	6

Service Characteristics

Mean time to repair	30 minutes
Preventive maintenance frequency	None required
Service life	10 years

Overall Characteristics

Electromagnetic emissions

Radiated and magnetic interference

- For U.S., complies with FCC docket 20780 for Class B computing peripheral devices.
- For Europe, designed to meet EMI level FTZ 1046/84 and provides a Manufacturer's Declaration. Refer to your local sales representative for more information.

Safety

The HP 7959B disc drive meets all applicable safety standards of the following:

- IEC 380 and IEC 435 compliant
- UL listed 114 and 478
- CSA certified 22.2 No. 154 and 220

Power Requirements

Voltage:

115V setting: 100V, 115V, 120V, single phase (inclusive tolerance range is 90V to 132V)

230V setting: 220V, 240V, single phase (inclusive tolerance range is 180V to 264V)

Frequency: 47.5 to 66 Hz

Phase: Single

Power (typical):

115V setting: 65W (60 Hz)

230V setting: 65W (50 Hz)

Current (typical):

115V setting: 1.0A

230V setting: 0.6A

Heat dissipation (typical):

65W (222 Btu/hr, 56 Kcal/hr)

Heat dissipation (maximum):

85W (290 Btu/hr, 73 Kcal/hr)

Environmental Requirements

Temperature:

Operating: 5 to 45°C (maximum rate of change 20°C per hour)

Nonoperating: -40 to 65°C

Humidity:

Operating: 8 to 80% noncondensing

Nonoperating: 5 to 80% noncondensing

Shock:

Operating: 4 G @ 11 ms, half sine waveform

Nonoperating: 20 G @ 11 ms, half sine waveform

Vibration:

Operating: Random vibration with power spectral density (PSD) of 0.0001 g²/Hz from 5 to 350 Hz; -6 dB/octave from 350 to 500 Hz; PSD of 0.00005 g²/Hz at 500 Hz.

Nonoperating: Random vibration with power spectral density (PSD) of 0.015 g²/Hz from 5 to 100 Hz; -6 dB/octave from 100 to 137 Hz; PSD of 0.008 g²/Hz from 137 to 350 Hz; -6 dB/octave from 350 to 500 Hz; PSD of 0.0039 g²/Hz at 500 Hz.

Altitude:

Operating: Maximum 4,572 m (15,000 ft)*

Nonoperating: Maximum 15,240 m (50,000 ft)*

*Slew rate less than 5,000 ft/minute.

Acoustic Emissions:

Average sound pressure level

~ 41 dB(A)

Sound power level

< 54 dB(A)

Physical Characteristics

Dimensions:

Height: 132 mm (5.2 in.) with feet
129 mm (5.1 in.) without feet

Width: 325 mm (12.8 in.)

Depth: 285 mm (11.2 in.)

Weight:

Net: 10.6 kg (23.2 lb)

Shipping: 13.6 kg (29.9 lb)

Ordering Information

The HP 7959B includes a 304 megabyte hard disc drive, integral controller, power supply and 1-metre HP-IB cable. Warranty is standard one-year return-to-HP.

Options Available

015 - Voltage selector switch is set for 230V operation for non-U.S.A. shipments.

550 - Deletes 1-metre HP-IB cable.

W03 - Converts one-year return-to-HP warranty to 90-day on-site warranty.

Accessories

Available through the HP supply organization:

HP 19500B Rack slide kit for mounting in a standard 19-inch EIA cabinet.

HP 92211R Mini-rack cabinet.

United States: Hewlett-Packard Company, 4 Choke Cherry Road, Rockville, MD 20850, (301) 670-4300; Hewlett-Packard Company, 5201 Tollview Dr., Rolling Meadows, IL 60008, (312) 255-9800; Hewlett-Packard Company, 5161 Lankershim Blvd., No. Hollywood, CA 91601, (818) 505-5600; Hewlett-Packard Company, 2015 South Park Place, Atlanta, GA 30339, (404) 955-1500; **Canada:** Hewlett-Packard Ltd., 6877 Goreway Drive, Mississauga, Ontario L4V1M8, (416) 678-9430; **Australia/New Zealand:** Hewlett-Packard Australia Ltd., 31-41 Joseph Street, Blackburn, Victoria 3130, Melbourne, Australia, (03) 895-2895; **Europe/Africa/Middle East:** Hewlett-Packard S.A., Central Mailing Department, P.O. Box 529, 1180 AM Amstelveen, The Netherlands, (31) 20/547 9999; **Far East:** Hewlett-Packard Asia Ltd., 47/F China Resources Building, 26 Harbour Road, Hong Kong, (5) 833-0833; **Japan:** Yokogawa-Hewlett-Packard Ltd., 29-21, Takaido-Higashi 3-chome, Suginami-ku, Tokyo 168, (03) 331-6111; **Latin America:** Hewlett-Packard de Mexico, Sp.A. de C.V., Monte Pelvux No. 111, Lomas de Chapultepec, 11000 Mexico D.F., Mexico, (905) 596-7933.

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