

RD53

Disk Drive

digital



Strengthen Your Microcomputer System with the RD53 Disk Drive.

Make your microcomputer stand above the crowd. Give it more storage capacity and greater performance with an RD53 disk drive package.

The RD53 is a state-of-the-art hard disk designed for microcomputers and the fourth in Digital's growing family of 5.25-inch Winchester disks. It offers up to 71 million bytes of storage (the equivalent of 129,000 typed pages of text) so efficiently packaged that the RD53 fits right into your computer's cabinet. When you calculate how many filing cabinets are needed to hold the same amount of data, you can see that the RD53 offers a lot of storage for your MicroPDP-11- or MicroVAX-based system in a compact package.

Highlights

- 71 Mbytes formatted capacity gives microcomputers increased storage—in a compact package that slides right into your system's box.
- High-performance figures include 38.3 milliseconds average access time, and 5 Mbit-per-second peak transfer rate will increase your system's performance.
- The RD53 options require no preventive maintenance or routine field adjustments, contributing to their low cost of ownership.
- Mass Storage Control Protocol (MSCP) support means that the RD53 is compatible with other Digital Storage Architecture products.



Here's the Storage Capacity and Performance You've Been Looking For.

If you want your microcomputer to deliver large system performance, look at the RD53 disk drive. This mini-Winchester disk packs 71 Mbytes of storage into a package the size of a cassette recorder. Capacity like this means that your microcomputer can support more users and applications, giving you more megabytes for your dollar.

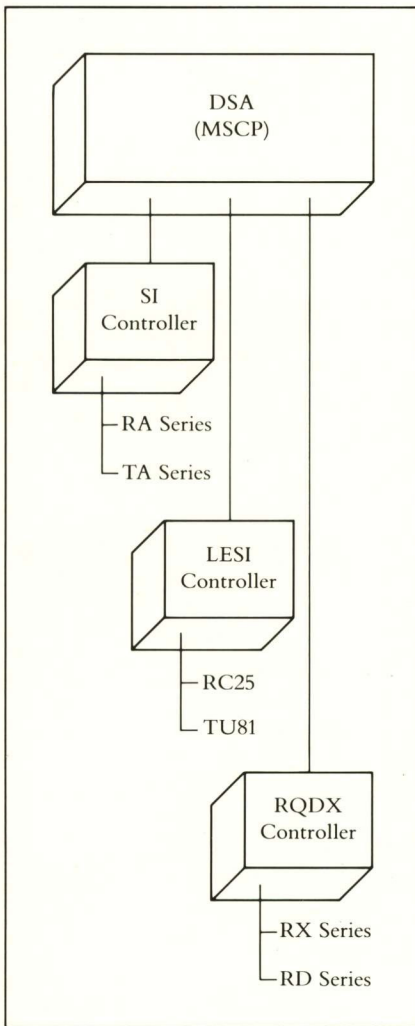
The average access time of 38.3 milliseconds and the 5 Mbit-per-second peak transfer rate increase both multi- and single-user system performance. This means a faster response time from your terminal. And it gives you an edge in such realtime applications as process control so that you can take corrective action quickly. The bottom line—increased productivity.

Make the Most of Your Storage Investment with the Digital Storage Architecture.

Like the RD51 and the RD52, the RD53 when connected to the RQDX controller conforms to Mass Storage Control Protocol (MSCP). MSCP is part of the Digital Storage Architecture (DSA), our proven design standard for mass storage products. Digital Storage Architecture specifies the relationship between disk and tape drives and host computers, eliminating the need for new operating system software to support new drives.

Mass Storage Control Protocol has commands for performing I/O transfers, controlling devices, and for subsystem reporting of significant events, such as drive state changes or faults, to the host computer. The disk class driver in your host MicroPDP-11 and MicroVAX uses MSCP to communicate with the MSCP server in the RQDX controller.

By conforming to DSA, the RD53 disk drive enjoys compatibility with a broad range of current and future Digital systems and storage devices.



Digital Storage Architecture

Good, Solid Engineering Design Makes the RD53 a Disk You Can Count On.

The RD53 design has several advantages that ensure the safety of valuable data and enable you to get that data when you need it. For instance, the RD53 uses an industry-proven, fixed oxide-medium technology on a 5.25-inch hard disk and standard Winchester-type heads. This means that the reliability of Winchester technology is available in the minifloppy form factor (150 cubic inches).

The RD53 also has a head disk assembly that cannot be changed by the operator. This means that your information is safe from damage incurred accidentally while inserting or removing the medium.

The head disk assembly is sealed from external contaminants; and the lightly loaded Winchester heads combine with the clean internal environment to virtually eliminate head crashes.

Easy Maintenance and Low Cost of Ownership Work to Your Advantage.

The RD53 subsystem requires no preventive maintenance or routine field adjustments. This means an extremely low cost of ownership. Modular construction permits easy replacement and upgrading.

The RD53 represents a significant step in the advancement of microcomputer mass storage. Because the RD53 is an integral part of the system, it is inexpensive to buy, inexpensive to own, and above all, saves you time and money every day you use it.

For More Information...

Prerequisites for specific RQDX controller modules and system configurations are defined in the *PDP-11* and *VAX System & Option Catalogues*.

And if you wish to know even more about the 71 Mbyte RD53 mass storage option for your Digital system, contact your local Digital representative or call 1-800-Digital.



Specifications

Performance

Peak transfer rate	5 Mb/s
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Seek times:

Average (including settling time)	30 ms
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Track-to-track (including settling time)	7 ms
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Maximum (including settling time)	60 ms
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Rotational latency	8.3 ms
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Average access time	38.3 ms
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Formatted Capacity

Per drive	71 Mbytes
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Data Organization

Bytes per sector	512
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Sectors per track	17
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Operation

Start time	25 s
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Stop time	20 s
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Rotational speed	3,600 r/min
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Power Requirements (DC Only)

Current (typical)	5 V/0.9 A	12 V/2.5 A
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Current (maximum)	0.9 A	4.7 A
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Heat dissipation (maximum seeking)	122 Btu/h
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Power consumption	36 W (maximum seeking); 64 W (maximum startup)
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Physical Characteristics

Height: 8.25 cm (3.25 in)	Depth: 20.3 cm (8.0 in)
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Width: 14.6 cm (5.75 in)	Weight: 3.18 kg (7.0 lb)
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Operational Environment

Temperature range (sea level)	10 to 50°C (40 to 122°F)
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Relative humidity	20 to 80%
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Maximum wet bulb	20°C (77°F)
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Maximum operating altitude	3.0 km (10,000 ft)
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Mechanical shock	10G, 10 ms half sine
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Vibration (sine)	5-22 Hz, 0.010 in DA, 22-500 Hz, 0.25 Gpk
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Average acoustic noise (ISO 7779)	For both 50 and 60 Hz models
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LNPE	5.7 Bels, operating; 5.0 Bels, idle
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LPA (front bystander position)	51 dB, operating; 46 dB, idle
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