
HP DAT System Backup Solutions

**Digital Audio Tape drives
for HP workstations and
multi-user systems**



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Introducing the HP Series 6400 Model 2000 and Model 2000DC Digital Audio Tape (DAT) drives.

These DAT drives provide you with the high capacities to meet the increasing demands of Hewlett-Packard high performance workstations, network servers and multi-user systems.

Both products incorporate the latest 3 1/2-inch form factor DAT technology with a SCSI II interface and HP's DATIO backup software utility. In addition, the industry standard Digital Data Storage (DDS) recording format provides compatibility with the HP Series 6400 Model 1300H and Model 1300S DAT drives.

The Model 2000 is a low cost, backup solution, whilst the Model 2000DC uses data compression to provide additional leading edge performance and capacity.



Model 2000 features:

- 2 Gbytes of unattended backup using a single 90 meter DDS cassette.
- Up to 650 Mbytes/hour transfer rate.

Model 2000DC features:

- Up to 8 Gbytes of unattended backup using a single DDS cassette and the industry standard method of data compression (DCLZ*).
- Transfer rate of up to 2.5 Gbytes/hour.

Both products feature:

- Full compatibility with existing HP DAT drives using 60 meter DDS cassettes.
- DATIO software utility for all HP-UX systems.
- Fast file access in an average of 30 seconds.
- Attractive desk top design.
- SCSI II interface.

Model 2000— High capacity and low in cost

The Model 2000 is the low cost backup solution for all levels of workstation, workstation servers and entry-level multi-user systems. This data storage solution sits neatly on your desk and provides up to 2 Gbytes of data storage on a single 90 meter DDS cassette.

Model 2000DC— Breakthrough performance with data compression

The Model 2000DC offers significant performance benefits over the Model 2000. By using 90 meter DDS media and data compression, you can store up to 8 Gbytes of data on each DDS cassette with transfer rates of up to 2.5 Gbytes/hour.

HP's data compression DAT drive uses the advanced DCLZ algorithm which is implemented in the electronics of the tape drive. The entire compression process is resident in the tape drive and remains transparent to the host system. The tape drive compresses in real time leaving the host free to manage other processes.

The DCLZ algorithm is typically able to achieve a compression ratio of between two and four, depending on the type of data being compressed. In the case of repetitive files, such as text and databases, a compression factor of four or more can be obtained.

**Data Compression - Lempel Ziv (DCLZ)*

Note: The data compression factor is dependent on the type of data being compressed. Transfer rates are host and operating system dependent

DATIO enhanced file restore

Both the Model 2000 and Model 2000DC benefit from the DATIO backup utility for HP-UX based systems. The utility provides a complete backup solution which makes the most of the DAT drive's capabilities through:

- A simplified, error tolerant user interface.
- An interactive mode of usage.
- Extremely fast file recovery through Fastsearch.
- The capability to extend data across multiple tapes on multiple drives.
- Advanced data reporting facility** showing the amount of remaining tape and the data compression ratio being achieved.

DATIO is based around the UNIX® *cpio* function. This utility extends *cpio* for use with Fastsearch and fast file restore. The DATIO utility uses a catalogue table which contains the file name and location. The Fastsearch feature can use this to minimize the time taken to locate a file on a tape. A menu driven interface guides you through a fast and efficient restore process.

The industry standard solution

The DDS format was developed jointly by HP and Sony Corporation. It has been accepted as the industry standard recording format by ISO and ECMA, and is pending ANSI approval. HP's solution is compatible with other DDS manufacturers drives and DDS media, allowing data interchange and protecting your investment in the technology.

The Model 2000DC extends the performance of the standard DDS format by supporting data compression. The DDS-DC format maintains the full functionality of DDS and allows the Model 2000DC to also read and write data in non-DC format. This means that you have backward compatibility with HP's first generation DAT drives and the Model 2000. Furthermore, the DDS-DC format allows the interchange of compressed data between HP and other manufacturers DDS-DC drives.



Compatible with existing HP DAT drives

The Model 2000 and Model 2000DC benefit from increased capacity through the use of 90 meter DDS cassettes. These drives also support 60 meter DDS cassettes, thereby providing full compatibility with the previous generation of HP DAT products. The table below illustrates the media compatibility. Please note that the 90 meter media cannot be used in HP's previous generation of DAT products.

DDS Media Compatibility	Non-DC format		DC format
	Read/Write		Read/Write
	60m	90m	60m/90m
HP Series 6400 Model 1300H PN: C1511A HP Series 6400 Model 1300S PN: C1512A	YES	NO	NO
HP Series 6400 Model 2000 PN: C1520B	YES	YES	NO
HP Series 6400 Model 2000DC PN: C1521B	YES	YES	YES

** Available on selected HP systems.

Rely on HP DAT for all your needs

Reliable backup...

HP's DAT drives have been designed to provide maximum data integrity. Extensive testing has been carried out to ensure that HP DAT products provide industry leading reliability.

Furthermore, all DDS labelled media has been specially tested for use in the computer industry. This high quality media provides the most reliable way of backing up data using your DAT drive.

...off-line data storage...

DDS media provides an excellent way to archive your data. Due to a shelf life of more than 10 years and its small size, commercial users can reduce their storage from large data chambers to a small fire proof safe.

... and cost effective software distribution

DDS media is rapidly becoming a preferred way to distribute software. Its high capacity allows most applications to be stored on a single cassette. In addition to this, its low cost and light weight make it an ideal choice for software distribution.

Choosing the right solution

The HP DAT System Backup Solutions provide:

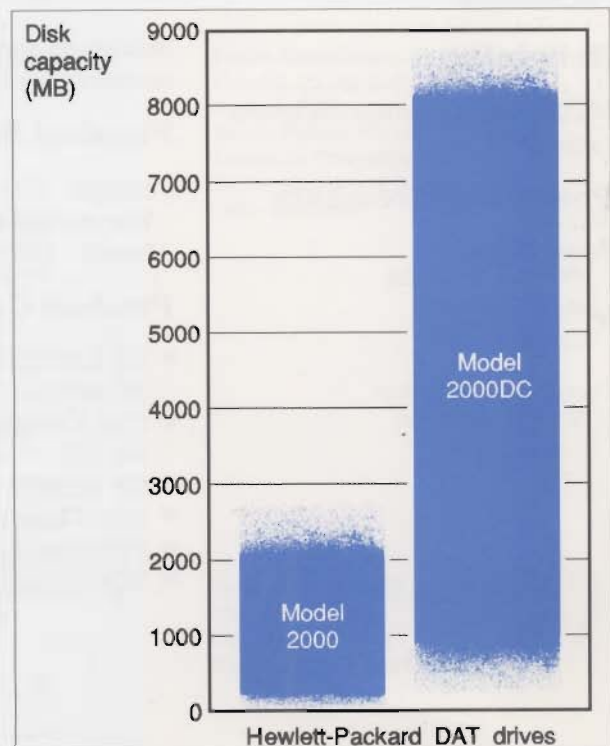
- Industry leading reliability.
- Industry leading technology with the assurance of an industry standard format.
- HP worldwide service and support.
- Software solutions—TurboSTORE XL/II, Omniback, Omniback Turbo, DATIO.

Choose the Model 2000 for:

- Low cost, entry level solution.
- Full unattended backup of up to 2 Gbytes.
- Flexibility to connect to a wide range of HP systems.
- Ease of data interchange - compatibility with existing DAT drives.
- Fast file access in an average of 30 seconds.

Choose the Model 2000DC for:

- High performance, high capacity DAT drive.
- Full unattended backup of up to 8 Gbytes.
- Effective backup of text, databases and files with high levels of repetition.
- Flexibility to read and write both compressed and non-compressed data.
- Fast file access in an average of 30 seconds.



Specifications for the HP Series 6400 Model 2000 and 2000DC

Performance

Model 2000:

Capacity:
2 Gbytes (90 meter tape)
1.3 Gbytes (60 meter tape)

Transfer rate (sustained):
183 Kbytes/sec max

Model 2000DC:

Capacity:
Up to 8 Gbytes (90 meter tape)

Transfer rate (sustained):
Up to 732 Kbytes/sec max

Models 2000 and 2000DC:

Transfer rate (burst):
Asynchronous
1.5 Mbytes/sec max
Synchronous
5.0 Mbytes/sec max

Search speed:
An average of 30 seconds
access for any file on a 90
meter tape.

Reliability

MTBF: 50,000 power-on hours
typical***

Power requirements

Power Supply
100-240 AC volts
50-60 Hz
0.5 amps max

Power consumption
12 watts typical

Environmental Conditions

Shock
Operating: 5G for 3 ms max

Vibration (random)
Operating:
0.2G rms 5 to 500 Hz

Non-operating:
2.1G rms 5 to 500 Hz

Ambient Temperature****

Mechanism
Operating:
0° to 55°C (32°F to 131°F)
Non-operating:
-40 to 70°C (-40°F to 158°F)

Media
Operating:
5° to 40°C (41°-104°C)
Non-operating:
-40° to 45°C (-40°F to 113°F)

Relative Humidity****

Mechanism
Operating: 20% to 80%
Non-operating: 15% to 95%
Media
Operating: 20% to 80%

Maximum wet-bulb
temperature = 26° C

Physical Specifications

Height: 100 mm
Width: 116 mm
Depth: 220 mm

Product Certifications:

- UL LISTED to UL 1950
1st edition
- CSA Certification C22.2
No. 950
- GS Mark
- FCC Class B certified
- FTZ 1046 Level B
- VCCI Class 2



***Hewlett-Packard does not warrant that the predicted MTBF is representative of any particular unit installed for customer use. Failure rates are derived from a large data base of test samples. The actual figures will vary from unit to unit.

****Operating limits are media constrained. Specifications are subject to change without notice.

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Ordering Information

HP Series 6400 Model 2000 Product Number C1520B

HP Series 6400 Model 2000DC Product Number C1521B

HP DAT PC Backup Solution is Product Number: C1520A
(see datasheet PN: 5091-1916E for details)

Product Number C1520B and C1521B include:

User and Installation Guide, DDS Cassette (90 meter), DATIO utility, DDS Cleaning Cassette, Power Cord, SCSI Interface Cable†, SCSI Bus Terminator†.

†The following parts are supplied with product number C1520B and C1521B :
SCSI Cable Part Number: K2296.
SCSI Bus Terminator Part Number: 1252-3251

The following accessories are available:

SCSI Interface 0.5 meter Cable 92222A
SCSI Interface 1 meter Cable 92222B
SCSI Interface 2 meter Cable 92222C
SCSI Interface 0.9 meter Cable K2286
SCSI Interface 0.9 meter Cable K2296
SCSI Interface 1.5 meter Cable K2297
SCSI Extender Cable 92222D
SCSI Bus Terminator 1252-3251
Box of 5 DDS Cassettes (60 meter) 92283A
Box of 5 DDS Cassettes (90 meter) 92283B
Cleaning Cassette 92283K

For the nearest authorised HP dealer near you, call toll-free 1-800-752-0900. Or contact one of the regional offices listed below:

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Rolling Meadows, IL 60008
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2015 South Park Place
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