

MODELS

TA1000 AIT Tape Array
175005-001, NA

TA1000 AIT Tape Array
195479-001, NA Mod 5

The TA1000 AIT Tape Array offers one terabyte of data storage in a 3U-rack mount device. Using 5 or 10 AIT hot plug tape drives, a customer can receive up to 190 GB/hr data transfer.

OVERVIEW

The Compaq TA1000 Tape Array is a one terabyte backup solution that contains 5 or 10 - AIT 50-GB tape drives in a self-contained enclosure that fits into a 3U rack mount configuration.

TA1000 AIT Tape Array Customer benefits include:

- Thoroughly tested Compaq hardware and software solution
- World class Compaq service and support back up the total solution
- Compaq Insight Manager integration results in lower Total Cost of ownership through reduced administration costs.
- Fewer defects and problems
- Downtime is minimized.
- Spare equipment is eliminated.

KEY FEATURES

- Uses 5 or 10 AIT 50GB tape drives
- Hot plug capability
- Uses in-house Compaq technology
- LVD Interface
- Qualified behind Windows NT 4.0, Windows 2000, and Netware
- Supported with VERITAS Backup Exec and CA ARCserveIT
- A common storage platform allows for future storage consolidation to the SAN.
- Innovative SCA direct connect tape carrier
- Hot pluggable tape drives, power supplies, and fans
- Redundant fans, redundant power supply and dual bus I/O module
- Environmental Monitoring Unit (EMU) – Monitors environmental conditions within the enclosure and components such as the power supply and fans
- Easy removal of parts provides better serviceability. No tools are required!

PRODUCT HIGHLIGHTS

High-Capacity Small Form Factor Backup and Restore

Because of the small form factor, the AIT 50GB tape drives give Compaq the ability to meet a customer's need for high capacity and high performance in a small space. This is becoming more and more critical as the footprint of the servers becomes compressed while the internal storage continues to grow.

High Availability Features

The TA1000 AIT Tape Array offers a one terabyte backup solution in a 3U rack mount configuration. The TA1000 is a self-contained tape array with 5 or 10 AIT 50GB tape drives each in its own hot plug carrier. This product also features a dual redundant power supplies and redundant fans.

Hot Pluggable

Hot Pluggable technology is used for drives, power supplies and fans. Hot Pluggable components can be replaced without powering down the storage system. This feature significantly enhances storage system availability.

Availability and Serviceability

Storage system units accommodate redundant cooling fans and power supplies. All customer removable modules and units are designed for easy removal to ensure better serviceability.

Advanced Intelligent Tape (AIT) Technology

AIT drive employs a helical scan recording style in which data tracks are written at an angle relative to the edge of the tape. This provides higher density recording, enabling Compaq customers to lower costs and increase efficiency by storing more data on a single tape.

Memory-In-Cassette (MIC)

AIT technology features Memory-In-Cassette (MIC), a 16-Kb memory chip built into the data cartridge which speeds access to your data. The MIC chip provides sophisticated data access capability that allows users to load and unload the tape at the mid-point, which helps in locating files in seconds.

PRODUCT HIGHLIGHTS *(continued)*

Form Factor

TA1000 is only available in a rack-mountable self-contained enclosure (3U height) supporting 10 hot pluggable AIT drives. Because of the small form factor and its modular design, Compaq customers can combine multiple enclosures for higher capacity and higher performance.

Manageability

Supported through Compaq Insight Manager, alerting the administrator when tape status changes or when rewrite/reread thresholds are exceeded.

LED Indicators

Front and rear panel LEDs are precisely located for easy assessment of overall system status and device failures.

Compatibility and Integration Testing

Compaq's TA1000 uses in-house technology, which ensures the customer of full compatibility with Compaq ProLiant Servers and controllers. Compaq thoroughly tests products with leading software and operating systems, including VERITAS Backup Exec and CA ARCserve.

Option Kit Contents

TA1000: SCSI Ultra2 rack-mountable enclosure (3U height) with power supplies, fans and EMU, 10 AIT 50-GB drives, five AIT data cassettes and one cleaning cassette, two SCSI cables, Compaq Storage Utilities, User and Installation Guides, power cord and non-licensed live trial software

TA1000 Mod 5: SCSI Ultra2 rack-mountable enclosure (3U height) with power supplies, fans and EMU, 5 AIT 50-GB drives, five AIT data cassettes and one cleaning cassette, two SCSI cables, Compaq Storage Utilities, User and Installation Guides, power cord and non-licensed live trial software

Warranty

3-0-0 (Three year parts)

Note: Tape drive and Carrier should be considered as one unit.

SOFTWARE COMPONENTS

Compaq Insight Manager

The comprehensive system management tool that monitors the operation of Compaq servers, workstations, clients and secondary storage devices

SmartStart

The server configuration and software integration tool from Compaq

CS Support

Compaq Services provides a three-year, limited warranty, fully supported by a worldwide network of resellers and service providers and toll-free 7 x 24 hardware technical phone support during the warranty period. In addition, available service offerings include a full range of CarePac packaged hardware and software services:

- Installation and start up
- Extended coverage hours and enhanced response times
- System management and performance services
- Availability and recovery services

COMPAQ SERVICE & WARRANTY SUPPORT

Additional Warranty protection and/or Compaq Installation packages can be purchased for the SSL2020 AIT Library products:

Software Product Services

- Standalone telephone support
- Rights to a new license
- Media and documentation updates

Hardware Product Services

- Installation services
- On-site Maintenance (includes warranty support)
- Response time upgrades during the warranty period
- Post-warranty coverage
- RAID setup and performance consulting via statement of work

For additional hardware installation and maintenance information please refer to the URL's listed below:

http://www.compaq.com/services/hardware/hw_installation.html

http://www.compaq.com/services/hardware/hw_maintenance.html

Warranty Upgrade Options

- Response - Upgrade on-site response from next business day to same day 4-hours
- Coverage - Extend hours of coverage from 9 hours x 5 days to 24 hours x 7 days
- Duration - Select duration of coverage for a period of 1, 3, or 5 years

CarePAQ Information

- CarePAQ is defined as an upgrade to the product warranty attribute, available for a specific duration and hours of coverage.
- CarePAQ is not available for less than the products warranty duration.
- CarePAQ is available for sale anytime during the warranty period for most products, but the commencement date will be the same as the Warranty Start Date (delivery date to end user customer). Proof of purchase may be required.
- CarePAQ services are prepaid.

For additional CarePAQ (hardware & software) information, as well as, orderable part numbers please refer to the URL listed below:

<http://www.compaq.com/services/carepag/index.html>

SPECIFICATIONS

Enclosure

Dimensions (HxWxD)	8.75 x 19 x 18.125 in/22.2 x 48.26 x 46 cm (with handles)
Interface	Dual Ultra2 SCSI Bus, LVD
UPC Code	
175005-001	720591336981
175005-B31	720591336998
175005-291	750291337001 Jan Code 4948382153012
195479-001	720591449773
195479-B31	720591450687
195479-291	720591450694

Transfer Rates

Maximum with 10 Drives	196 GB/hr
Typical	190 GB/hr

Enclosure Shipping Information

Dimensions (HxWxD)	
Shipping (175005-xxx)	30.2 x 15 x 34.25 in/76.84 x 38.1 x 87 cm
Shipping (195479-xxx)	30.2 x 15 x 34.25 in/76.84 x 38.1 x 87 cm
Rack	5.2 x 17.6 x 19.9 in/13.1 x 44.8 x 50.5 cm

Weight

Rack	60 lbs/27.22 kg
Redundant Power Supply	5 lbs/2.3 kg

Enclosure Characteristics

LED Indicators (On Front Panel)	EMU Status LED Enclosure Power LED Fault LED
Drive LED Indicators (On Drive Trays)	Drive LED On Line LED Drive Failure LED
Enclosure LED Indicators (back of unit)	I/O Module EMU Power Supplies
Input Requirements	110 to 240 VAC

Nominal Line Voltage

Range Line Voltage	90 to 264 VAC
Line Frequency	47 to 63 Hz
Typical Input Current	2.3A at 120 VAC

Relative Humidity (non-condensing)

Operating	10% to 90%
Shipping	5% to 90%

Power

377 Watts per supply (load)

Temperature Range

Operating	50° to 94° F/10° to 35° C
Shipping	-40° to 151° F/-40° to 66° C

Tape Drive Characteristics

Data Access Time

Average load/unload swap time	< 16 seconds
Search Speed	Average of 27 to 55 seconds to any point on a 755 ft/230 m tape

Physical Dimensions

5.25-inch 1.6-inch Half Height (HxWxD)	1.62 x 5.87 x 6.68 in/41.2 x 149 x 169.6 mm (internal) 2.28 x 7.44 x 10.31 in/58 x 189 x 262 mm (external)
Tape Width	0.312 in/8 mm
Tape Length	755 ft/230 m

SPECIFICATIONS *(continued)*

Tape Drive Characteristics *(continued)*

Tape Format

Recording Method	8 mm helical scan
Recording Format	ANSI/ ECMA-246
Data Compression	ALDC Adaptive Lossless Data Compression
Error Detection/Correction	Reed Solomon

Drive Type

8 mm tape drive

Media

170 to and 230-meter Advanced-Metal Evaporated (AME) tape with MIC

Interface

Ultra2 SCSI (LVD)

Standards Compliance

ECMA-246

Data Compression

Advanced Lossless Data Compression (ALDC) Capacity

Error Detection/Correction

Reed Solomon

Capacity

Native	50 GB
Compressed (2:1)	100 GB

(Typically, users will be able to compress their data at a 2-to-1 ratio; however, compression ratios will vary, based on the type of data being compressed.)

Sustained Transfer Rate

6 MB/s (native)
12 MB/s (compressed)

(Typically, users will be able to compress their data at a 2-to-1 ratio; however, compression ratios will vary, based on the type of data being compressed.)

Burst Transfer Rate

Asynchronous	12 MB/s
Synchronous	40 MB/s

Linear Recording Density

167,000 BPI

Recording Block Length

Variable or fixed

Average Media Load Time

With MIC	14 seconds
Without MIC	28 seconds

Average Access Time

With MIC	27 seconds
Without MIC	55 seconds

Search Speed

With MIC	120 inches/s (with MIC)
Without MIC	60 inches/s (without MIC)

Rewind Speed

Drum Rotational Speed	120 inches/s (150 times nominal)
Buffer Size	4,800 rpm, 4 MB

Uncorrectable Error Rate

Less than 10⁻¹⁷ bits

MTBF

300,000 Power-On Hours (POH)

(Typically, users will be able to compress their data at a 2-to-1 ratio; however, compression ratios will vary, based on the type of data being compressed.)

Average R/W Head Life

60,000 Tape Contact Hours

Media Uses

20,000 end-to-end passes

Vibration (operating)

0.25 G peak, half sine wave of 5 to 500 Hz (swept)

Shock (operating)

5 G peak, half sine wave of 3 ms duration

CONFIGURATION INFORMATION

Step 1 – “PRODUCT” – BASE CONFIGURATION

Select one:

<u>Model #</u>	<u>Part #</u>	<u>Model Description:</u>
TA1000	175005-001	SCSI Ultra-2 rack-mountable enclosure (3U height) with power supplies, fans and EMU, 10 AIT 50GB drives, five AIT data cassettes and one cleaning cassette, two SCSI cables, Compaq Storage Utilities, User and Installation Guides, power cord and non-licensed live trial software
TA1000 Mod 5	195479-001	SCSI Ultra-2 rack-mountable enclosure (3U height) with power supplies, fans and EMU, five AIT 50GB drives, five AIT data cassettes and one cleaning cassette, two SCSI cables, Compaq Storage Utilities, User and Installation Guides, power cord and non-licensed live trial software

RELATED OPTIONS

<u>Media</u>	<u>Part Number</u>	<u>UPC Code</u>
AIT 50-GB Media 5PK – U.S.	152841-001	743172966902
AIT, Cleaning Tape	402374-B21	743172761996

Controllers/Host Bus Adapters

Dual Channel Ultra2 Controller	295643-B21	
Dual Channel Wide-Ultra SCSI-3 Controller	129803-B21	
Wide-Ultra SCSI 3 Controller	272514-001	743172349668
64-bit Dual Channel (LVD)	348757-B21	743172625199
64-bit Dual Channel Ultra2 SCSI	348757-B21	

Note: No SMART ARRAY Controller Support for either TA1000 Configuration.

Hard Drives

Wide Ultra2 SCSI – Universal Hot Plug

18.2-GB Wide Ultra2 SCSI 10,000 rpm Drive (1")	128418-B22
18.2-GB Wide Ultra2 SCSI Drive (1")	388144-B22
9.1-GB Wide Ultra2 SCSI 10,000 rpm Drive (1")	328939-B22
9.1-GB Wide Ultra2 SCSI Drive (1")	123065-B22
DRIVE HGTH CONV 4-PK	148649-B21

Note: Needed for Hard Drive installation.

Note: Can not mix with tape drives on the same SCSI bus. Hard Drives only allowed on the second (spare) bus of the Mod 5 configuration.

RELATED OPTIONS *(continued)*

Servers

Enterprise

PL 4500R
PL 5000R
PL 5500R
PL 6400R/DL580
PL 6500
PL 7000
PL8000
PL8500/DL750

Corporate

PL 1500R
PL 1600R
PL 1850R/DL380
PL 2500R
PL 3000R

SCSI Cable Options

12' VHDCI – 68-pin SCSI Cable for Smart Array	341177-B21
12' VHDCI – VHDCI SCSI Cable for Smart Array	341175-B21