

# CT9841FC-n tape drives for HP NonStop servers

Data sheet



## New tape storage products

HP has introduced two new mechanical versions of the StorageTek 9840C tape drive for use with HP NonStop S-series Servers. HP's CT9841FC-1 and CT9841FC-4 tape drives replace the CT9840-1, CT9840-4, CT9840FC-1, and CT9840FC-4 tape drives, which were discontinued from sales in August 2004:

- CT9841FC-1: STK 9840C tape drive for CTL700 Tape Libraries
- CT9841FC-4: STK 9840C tape drive for STK 9310 Powderhorn Tape Library

## Key features and benefits

- Adapted for use with NonStop S-series Servers
- Offer twice the storage capacity of previous tape drives
- Address the need for high-performance, industrial-strength tape storage products
- Provide ability to preserve and extend investment in STK 9840 tape storage technology

Tape drives adapted for use with HP NonStop S-series Servers that provide high-performance, industrial-strength tape storage.

## CT9841FC-n tape drives

The new CT9841FC-n tape drives address the need for high-performance, industrial-strength tape storage products and provide the ability to preserve and extend an investment in STK 9840 tape storage technology for HP NonStop S-series Servers.

Adapted for use with NonStop S-series Servers by long-time HP development partner Tributary Systems, the CT9841FC-n tape drives deliver twice the data storage capacity of predecessor 9840A tape drives.

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### Technical specifications

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#### CT9841FC-n tape drives

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##### Access time\*

Tape load and thread to ready 4 seconds

Average file access time (1<sup>st</sup> file) 8 seconds

Average file access time 12 seconds

Maximum/average rewind time 16/8 seconds

Unload time 4 seconds

Interface 2-Gb Fibre Channel

Compression Enhanced LZ-1, 4:1 Ratio\*\*

##### Device data transfer rates

Head-to-tape 30 MB/s, uncompressed\*\*  
Up to 70 MB/s compressed

Channel rate 200 MB/s (maximum instantaneous)\*\*

##### 9840 Cartridge capacity

Uncompressed 40 GB

Compressed up to 80 GB

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\* The actions of the tape drive can be divided into four distinct phases:

*Phase 1: Load time*—The amount of time required to insert a cartridge in the drive; load the tape; and prepare to read, write, or search.

*Phase 2: Average file access time*—The amount of time required to search from the beginning of the tape to the midpoint; this does not include load time.

*Phase 3: Maximum rewind time*—The amount of time required to rewind the tape from the end to the beginning of the tape. The average rewind time is the time to rewind a tape from the midpoint to the beginning, that is, one-half of the maximum rewind time.

*Phase 4: Unload time*—The amount of time required to eject the cartridge from the drive.

\*\* Results may vary depending on the characteristics of the data and other variables. Performance and throughput of the CT9841FC-n tape drives on NonStop S-series Servers will be similar to CT9840xx-n products.

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#### 9840 Media

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Cartridge types StorageTek 9840 tape cartridge

StorageTek 9840C VolSafe data cartridge

Tape speed

Read and write	3.4 m/s (134 ips)
Rewind	11.0 m/s (440 ips)
Formulation	Advanced Metal Particle (AMP)
Coercivity	1625 +/- 75 Oersteds (130+/16.0 KA/m)
Substrate	Polyethylene naphthalate (PEN)
Track-following servo	Factory prerecorded
Archival life	15-30 years
Short-length durability	80,000 read/write passes minimum
Long-length durability	6,500 read/write passes minimum
Uncorrected bit error rate	$1 \times 10^{-18}$
Permanent errors	0
Loads/unloads	10,000 minimum
Number of tracks	288
Form Factor	Half-inch, 3480/3490e

### **System requirements**

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Hardware	<p>NonStop S74000 Server or later PMF SCSI Port</p> <p>IOMF2 SCSI Port (product number 1980)</p> <p>HP ServerNet Device Adapter SCSI Port (product numbers 6760 and 6762)</p>																		
Software	<p>NonStop Kernel Operating System, RVU G06.24 and later</p> <p>or</p> <p>RVU G06.16 and later with OSM and OSM prerequisite SPRs as follows:</p> <p><i>OSM SPRs</i></p> <table> <thead> <tr> <th>Product number</th> <th>Product name</th> </tr> </thead> <tbody> <tr> <td>T2723AAL</td> <td>OSM Connection Library</td> </tr> <tr> <td>T2724AAL</td> <td>OSM Provider Interface Library</td> </tr> <tr> <td>T2725AAL</td> <td>OSM Configuration</td> </tr> <tr> <td>T2726AAL</td> <td>OSM XML API</td> </tr> <tr> <td>T2727AAL</td> <td>OSM CIMOM</td> </tr> <tr> <td>T2728AAL</td> <td>OSM Service Provider</td> </tr> <tr> <td>T2730AAL</td> <td>OSM Event Viewer</td> </tr> <tr> <td>T2751AAL</td> <td>OSM Web-Based Suite</td> </tr> </tbody> </table>	Product number	Product name	T2723AAL	OSM Connection Library	T2724AAL	OSM Provider Interface Library	T2725AAL	OSM Configuration	T2726AAL	OSM XML API	T2727AAL	OSM CIMOM	T2728AAL	OSM Service Provider	T2730AAL	OSM Event Viewer	T2751AAL	OSM Web-Based Suite
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## Environmental specifications

### CT9841FC-n tape drives

Mechanical	Height/depth	13.3 cm (5.25 in)
Temperature	Operating	15° C to 32° C (59° F to 90° F)
	Nonoperating	10° C to 40° C (50° F to 104° F)
Relative humidity	Operating	20%–80%
	Nonoperating	10%–95%
Voltage tolerance range		100–240 VAC @ 50–60 Hz
Consumption/dissipation (operating maximum continuous—not peak)		82 VA/280 BTU/hr

### 9840 media

Dimensions	Height/depth/width	25.4 cm x 125 cm x 109.0 cm (1.0 in x 4.92 in x 4.29 in)
Drop strength		1.0 m (38.4 in)
Relative humidity	Operating	20%–80%
	Storage up to 4 weeks	5%–80%
	Storage—archive	30%–40%
	Shipping	5%–80%
Temperature (noncondensing)	Operating	15° C to 32° C (60° F to 90° F)
	Storage up to 4 weeks	5° C to 32° C (40° to 90° F)
	Storage—archive	15° C to 25° C (59° F to 77° F)
	Shipping	–23° C to 49° C (–10° F to 120° F)
Wet bulb maximum	Operating	26° C (78° F)
	Storage up to 4 weeks	26° C (78° F)
	Storage—archive	26° C (78° F)
	Shipping	26° C (78° F)

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## Ordering information

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Part number	Product name
CT9841FC-1	9840C tape drive for CTL700/CTL700M Tape Libraries
CT9841FC-4	9840C tape drive for STK 9310 Powderhorn Tape Libraries

### Required Fibre Channel converter

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CT9800FC	Fibre Channel Converter
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### Controller hardware options

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Any NonStop S74000 Server or later PMF CRU SCSI Port

1980	IOMF2 SCSI Port
6760 and 6762	ServerNet/DA with SCSI PIC

9840C tape drives are attached to NonStop servers using a copper SCSI cable, a Fibre Channel Converter (CT9800FC), and a 62.5/125um multimode fiber cable, as described and listed below. The connection sequence is as follows:

Host SCSI port → copper SCSI cable → CT9800FC → 62.5/125um fiber cable → CT9841FC-x tape drive

### Copper SCSI cables

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519-001W	SCSI Cable, 1 m (3.3 ft)
519-003W	SCSI Cable, 3 m (9.8 ft)
519-010K	SCSI Cable, 10 m (32.8 ft)
519-015W	SCSI Cable, 15 m (49.2 ft)
519-020W	SCSI Cable, 20 m (65.6 ft)
519-023W	SCSI Cable, 23 m (75.4 ft)

### Fiber cables

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62.5/125um multimode fiber cables for use with the CT9841FC-x tape drives are available from HP as listed below. Attachment at distances up to 500 meters is supported; however, customers choosing to install these tape drives at distances greater than 125 meters must obtain and install 62.5/125um multimode fiber-optic cable. The length of a customer-supplied 62.5/125um fiber cable may not exceed 500 meters.

M8910-10	10-meter LC-SC, MMF Cables
M8910-20	20-meter LC-SC, MMF Cables
M8910-50	50-meter LC-SC, MMF Cables
M8910-125	125-meter LC-SC, MMF Cables

The following enclosure products are supported for use with the CT9800FC Fibre Channel converters.

7290	Half-Height NonStop S-series Enclosure (optional)
7291	Half-height NonStop S-series Enclosure Add-on (optional)

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## For more information

For more information about CT9841FC-n tape drives for NonStop servers, visit [www.hp.com/go/nonstop](http://www.hp.com/go/nonstop).

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