

Tabletop 8mm Cartridge Tape  
Subsystem

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# Product Specification

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EXABYTE Corporation  
1685 38th Street  
Boulder, Colorado 80301  
(303) 442-4333

510100-004

## Revision History

Previous revisions of this manual include the following:

Revision	Date
000	March 1989
001	October 1989
002	May 1991
003	November 1991
004	March 1993

## Changes and Enhancements to This Specification

Changes and enhancements to revision 004 of the *Tabletop 8mm Cartridge Tape Subsystem Product Specification* include the following:

- **Chapter 1.** Included information about the EXB-8500c, the Monitor port on the back panel, and related products. Modified information about the SCSI ID switch.
- **Chapter 2.** Modified the specification for the power dissipation and added power consumption specifications.
- **Chapter 4.** Added information about how the Tabletop CTS operates in the SCSI environment, SCSI bus phases and messages, and SCSI commands.
- Reorganized the information in all chapters.

## FCC Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded cables are required for this device to comply with FCC Rules. **Use shielded cables when connecting this device to others.**

## CSA Notice

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de Classe B prescrites dans le reglement sur le brouillage radioelectrique edicte par le Ministere des Communications du Canada.

English translation:

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

## VDE Notices

**Bescheinigung des Herstellers/Importeurs:** Hiermit wird bescheinigt, daß das Tabletop CTS in Übereinstimmung mit den Bestimmungen der Vfg 1046/1984 funkentstört ist. Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt. Die Einhaltung der betreffenden Bestimmungen hängt von der Verwendung abgeschirmter Kabel ab. Für die Beschaffung entsprechender Kabel ist der Betreiber verantwortlich.

Dieses Gerät wurde sowohl einzeln als auch in einer Anlage, die einen normalen Anwendungsfall nachbildet, auf die Einhaltung der Funkentstörbestimmungen geprüft. Es ist jedoch möglich, daß die Funkentstörbestimmungen unter ungünstigen Umständen bei anderen Gerätekombinationen nicht eingehalten werden. Der Betreiber ist für die Einhaltung der Funkentstörbestimmungen seiner eigenen Anlage verantwortlich, in der dieses Gerät betrieben wird.

English Translation:

**Certificate by Manufacturer/Importer:** This is to certify that the Tabletop CTS is shielded against radio interference in accordance with the provisions of Vfg 1046/1984. The German Postal Services have been advised that this device is being put on the market and that they have been given the right to inspect the series for compliance with the regulations. Compliance with applicable regulations depends on the use of shielded cables. It is the user who is responsible for procuring the appropriate cables.

This equipment has been tested concerning compliance with the relevant RFI protection requirements both individually and on system level (to simulate normal operation conditions). However, it is possible that these RFI requirements are not met under certain unfavorable conditions in other installations. It is the user who is responsible for compliance of his particular installation.

## Product Warranty Caution

The Tabletop 8mm Cartridge Tape Subsystem (Tabletop CTS) is warranted to be free from defects in materials, parts, and workmanship and will conform to the current product specification upon delivery. **For the specific details of your warranty, refer to your sales contract or contact the company from which the Tabletop CTS was purchased.**

The warranty for the Tabletop CTS shall not apply to failures caused by:

- Physical abuse or use not consistent with the operating instructions or product specifications provided by EXABYTE's personnel or agent for the applicable equipment.
- Modifications by other than EXABYTE's personnel or agent in any way other than those approved by EXABYTE, provided the warranty shall not be voided by the repair or replacement of parts or the attachment of items in the manner described in maintenance or installation instructions provided by EXABYTE.
- Repair by other than EXABYTE's personnel or agent in a manner contrary to the maintenance instructions provided by EXABYTE.
- Removal of the EXABYTE serial number tag.
- Physical abuse due to improper packaging of returns.

### CAUTION

Returning the Tabletop CTS in unauthorized packaging may damage the unit and void the warranty.

If you are returning the Tabletop CTS for repair, package it in its original packaging (or in replacement packaging obtained from your vendor).

If problems with the Tabletop CTS occur, contact your maintenance organization; do not void the product warranty by allowing untrained or unauthorized personnel to attempt repairs.

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# About This Specification

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This product specification describes the features, characteristics, performance, safety and regulatory agency compliance, shipping and installation procedures, and maintenance procedures for the EXABYTE® Tabletop 8mm Cartridge Tape Subsystem (Tabletop CTS).

## Intended Audience

Engineering, purchasing, or marketing personnel can use this specification to evaluate the Tabletop CTS and its integration into their product line.

## Organization of This Specification

This specification contains the following chapters:

- **Chapter 1** describes the general features, physical characteristics, and related products of the Tabletop CTS.
- **Chapter 2** describes the reliability, power, and environmental specifications for the Tabletop CTS.
- **Chapter 3** describes the Tabletop CTS's compliance with regulatory and safety agency standards.
- **Chapter 4** describes the interface specifications for the Tabletop CTS, including information about SCSI features, SCSI cable requirements, SCSI bus termination, and SCSI commands and messages.
- **Chapter 5** provides general information about shipping and installing the Tabletop CTS.
- **Chapter 6** gives a brief overview of the preventive maintenance procedures for the Tabletop CTS.
- A glossary, index, and reader's comment form are included at the back of this specification.

# Conventions Used in this Specification

This specification uses special conventions to highlight notes, important information, and cautions. These conventions are explained below.

**Note:** Read *Notes* for hints or suggestions about the topic or procedure being discussed.

## **Important**

Read the information in *Important* boxes to learn crucial information about the topic or procedure being discussed.

## **CAUTION**

Read the information in *Caution* boxes to learn ways to avoid damaging the equipment.

## Related Publications

Refer to the following publications for additional, related information.

### Tabletop Cartridge Tape Subsystem

For more information about installing the Tabletop CTS, refer to the following publication:

- *Tabletop 8mm Cartridge Tape Subsystem Installation*, 510107

### EXB-8200 Cartridge Tape Subsystems

For more information about the EXB-8200 and the EXB-8200SX, refer to the following:

- *EXB-8200 8mm Cartridge Tape Subsystem Product Specification*, 510005
- *EXB-8200 8mm Cartridge Tape Subsystem User's Manual*, 510006-005
- *EXB-8200 8mm Cartridge Tape Subsystem User's Manual (2600 level code)*, 510006-006
- *EXB-8200SX 8mm Cartridge Tape Subsystem Product Specification and User's Manual*, 510011

### EXB-8500 Cartridge Tape Subsystems

For more information about the EXB-8500 and the EXB-8500c, refer to the following:

- *EXB-8500 and EXB-8500c 8mm Cartridge Tape Subsystem Product Specification*, 510200
- *EXB-8500 8mm Cartridge Tape Subsystem User's Manual*, 510201
- *EXB-8500c 8mm Cartridge Tape Subsystem User's Manual*, 501209

### Standards

For more information about the standards used for the Tabletop CTS, refer to the following publications:

- *ANSI Small Computer System Interface (SCSI)*, X3.131-1989
- *ANSI Small Computer System Interface-2 (SCSI)*, X3.131-1990
- *ANSI/ISO/IEC 11319-1992 and ECMA-145, 8mm Wide Magnetic Tape Cartridge for Information Interchange*, July 1992

**Notes:**

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# 1

# Product Characteristics

This chapter describes the following:

- General features of the Tabletop CTS
- Physical characteristics of the Tabletop CTS
- Other products related to the Tabletop CTS

# General Features

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The EXABYTE Tabletop 8mm Cartridge Tape Subsystem (Tabletop CTS), shown in Figure 1-1, is a fully integrated tabletop 8mm cartridge tape subsystem. The EXABYTE design integrates a single EXB-8200, EXB-8200SX, EXB-8500, or EXB-8500c CTS into an enclosure containing a fan, a power supply, a Small Computer System Interface (SCSI) ID switch, two SCSI connectors, and a Monitor port.

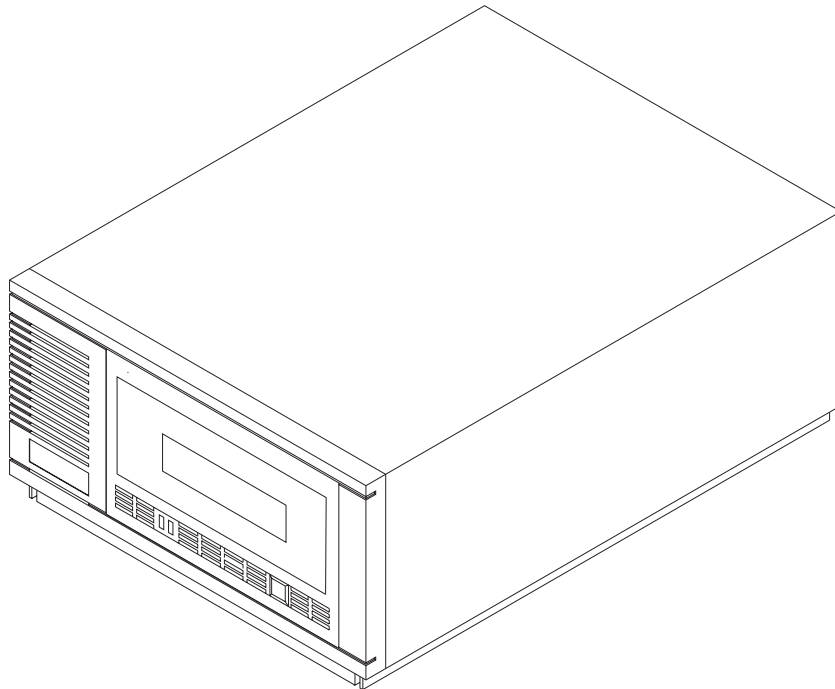


Figure 1-1 Tabletop CTS (EXB-8200 shown)

The Tabletop CTS offers the following features:

- **Flexibility:** Lightweight, completely enclosed design.
- **Advanced interface:** Remote SCSI ID switch and two SCSI connectors provide multiple options in a daisy-chained environment including SCSI-1 and SCSI-2 support.
- **Power protection:** Internal, self-switching universal power supply allows continuous operation during limited power interruptions or surges. An AC line filter minimizes interference.



- **Ease of use:** An external Monitor port offers quick diagnostics and code updates for the enclosed CTS using the CTS Monitor program.
- **Superior reliability:** Maximum EMI/RFI shielding in a fully enclosed container meets the regulatory and safety agency standards listed in Chapter 3.

## Physical Description

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This section describes the physical features of the Tabletop CTS, including its external features, front panel controls and indicators, back panel components, and internal features.

### External Features

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This section describes the size, weight, color, and logo area of the Tabletop CTS. Figure 1-2 shows the dimensions and logo area of the Tabletop CTS.

#### Size and Weight

The Tabletop CTS is 5 inches high (127 mm) × 9 inches wide (228.6 mm) × 12 inches deep (304.8 mm), as shown in Figure 1-2.

Including the integral CTS, the Tabletop CTS weighs 15 pounds (6.8 kilograms).

## 1 Product Characteristics

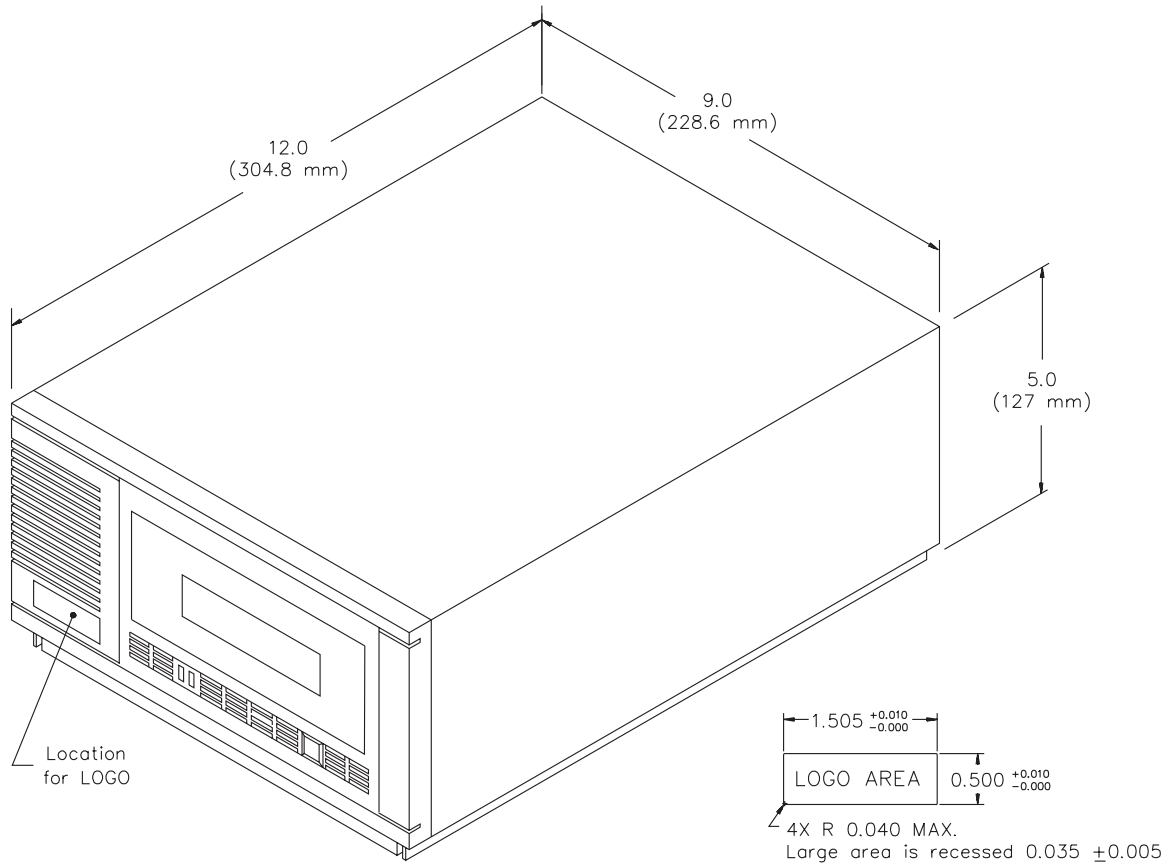


Figure 1-2 Dimensions and logo area of the Tabletop CTS (EXB-8200 shown)

### Logo Area

The front faceplate of the Tabletop CTS is designed with a recessed area in the lower left corner for a company logo. The logo area is 1.505 inches wide (38.227 mm)  $\times$  0.500 inches high (12.700 mm).

No logo is provided on the standard unit. For custom label information, contact your EXABYTE account manager.

### Color

The standard Tabletop CTS enclosure, including the faceplate and door of the integral CTS, is pearl white. For custom color information, contact your EXABYTE account manager.

## Front Panel Controls and Indicators

This section describes the controls and indicators on the front panel of the Tabletop CTS. The front panel includes the power-on LED, two status LEDs, and an unload button. Figure 1-3 shows the controls and indicators on the front panel of the Tabletop CTS, with an EXB-8200 installed.

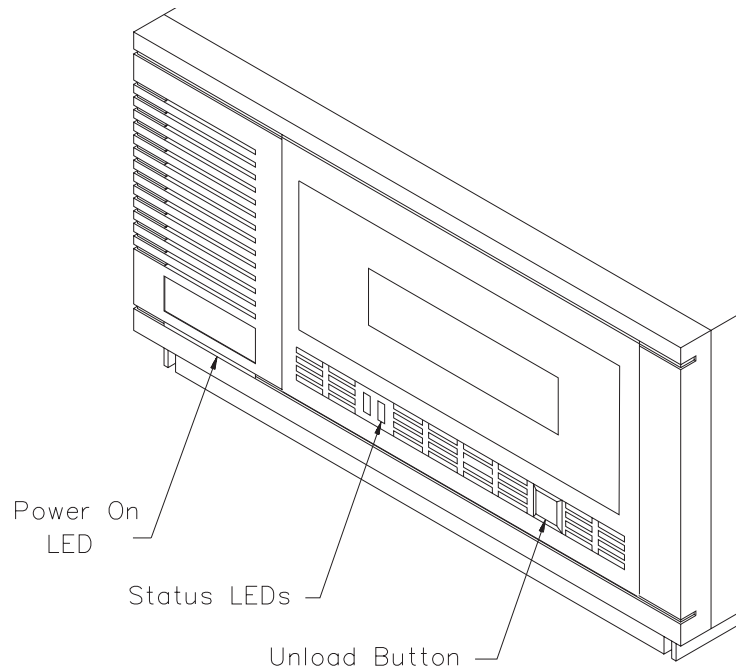


Figure 1-3 Front panel of the Tabletop CTS (EXB-8200 shown)

### Power-on LED

When you turn on power at the rear of the Tabletop CTS, the green power-on LED on the lower left corner of the faceplate lights up. When power is off or disconnected, the LED turns off.

### Unload Button

You can use the unload button to perform the CTS's unload sequence. The unload sequence rewinds and ejects the data cartridge.

**Note:** Figure 1-3 shows the location of the unload button for an EXB-8200. The unload buttons for the EXB-8500 and EXB-8500c are in a different location. See the *EXB-8500 and EXB-8500c 8mm Cartridge Tape Subsystems Product Specification* for more information.

## Status LEDs

The green and amber LEDs on the front panel of the CTS are status indicators. For more information on these indicators, refer to the *EXB-8200 8mm Cartridge Tape Subsystem Product Specification* or the *EXB-8500 and EXB-8500c 8mm Cartridge Tape Subsystems Product Specification*.

## Back Panel Components

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This section describes the components on the Tabletop CTS's back panel. The back panel contains the SCSI ID switch, two SCSI connectors, Monitor port, fan, power switch, power connector, and the labels. Figure 1-4 shows the back panel of a Tabletop CTS.

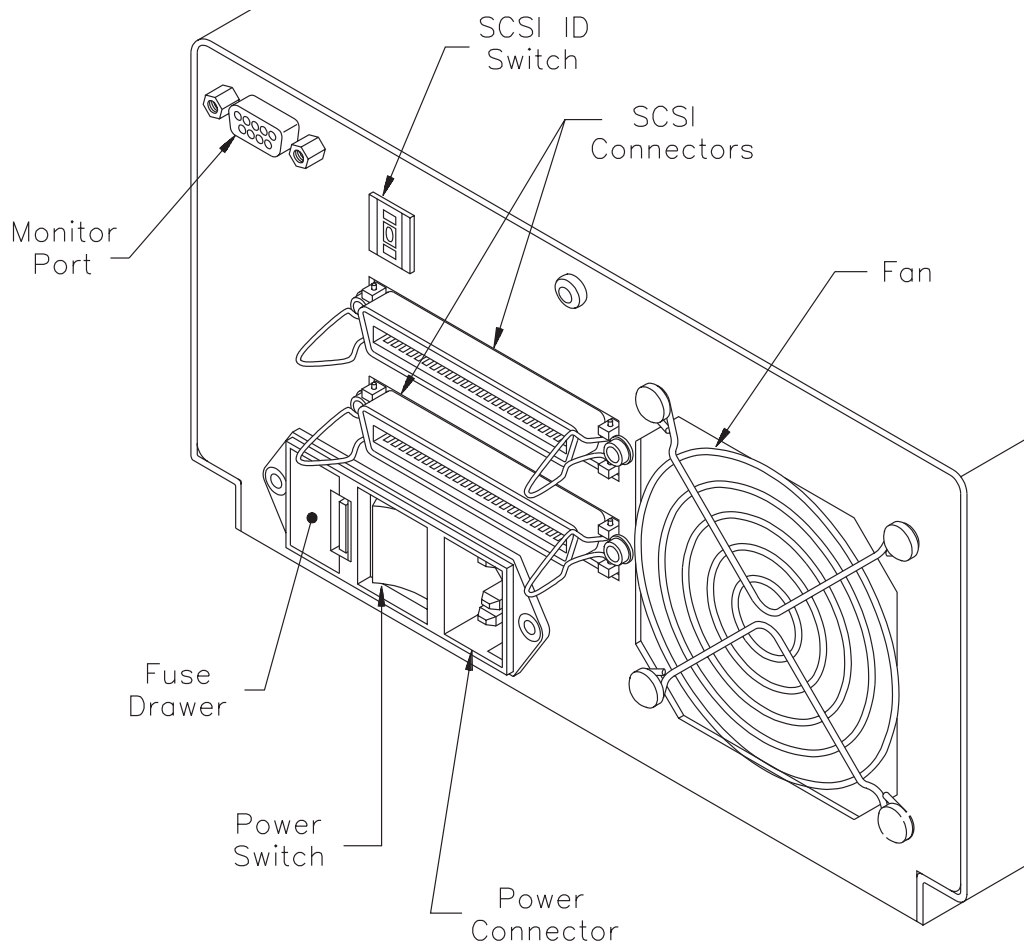


Figure 1-4 Back panel components

## SCSI ID Switch

You can use the SCSI ID switch to change the address of the CTS on the SCSI bus from 0 to 7. The SCSI ID switch is recessed to prevent accidental selection; you must use a pointed object such as a pen to change its setting.

## SCSI Connectors

You can use the SCSI connectors on the back panel to connect the CTS to a SCSI bus. Use shielded 50-pin male ribbon connectors to connect to the two 50-pin SCSI connectors at the back of the Tabletop CTS. You can connect multiple Tabletop CTSs in a series of daisy-chained configurations. If the Tabletop CTS is the last device on the SCSI bus, you must connect a cable to one connector and an external terminator to the other connector.

## Monitor Port

You can use the Monitor port to change configuration options, upload code to the CTS, and perform diagnostic procedures on the enclosed CTS. To use the Monitor port, you need an IBM AT<sup>®</sup>, XT<sup>™</sup>, or compatible system with a serial port, a 9-pin RS-232 serial cable with a male D connector, and the CTS Monitor program (available from EXABYTE).

## Fan

The fan maintains the operating temperature of the Tabletop CTS and the enclosed CTS.

## Power Supply, Power Connector, and Power Switch

The Tabletop CTS includes a power supply for the enclosure and the CTS. The universal input power supply accepts 100 to 240 VAC at 50 to 60 Hz. The power supply automatically adjusts to any changes in voltage or frequency within the specified range.

The Tabletop CTS includes a seven-foot (2.1-meter), three-conductor 120 VAC power cord for use in the United States and Canada. The power connector accepts a standard IEC type CEE-22 female connector.

You can turn on power with the rocker switch on the back panel.

## Labels

The Tabletop CTS includes FCC, ESD, and serial number labels. These labels provide component, serial number, part number revision information, and electrical information.

## Related Products

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This section describes other EXABYTE products that are used with the Tabletop CTS, including the following:

- EXABYTE 8mm Cartridge Tape Subsystems
- EXATAPE 8mm Data Cartridges
- EXABYTE 8mm Cleaning Cartridge

### EXABYTE 8mm Cartridge Tape Subsystem

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You can purchase a Tabletop CTS with one of the following EXABYTE 8mm Cartridge Tape Subsystems (CTSs) installed:

- EXB-8200
- EXB-8200SX
- EXB-8500
- EXB-8500c

Figure 1-5 shows a close-up view of an EXB-8500; except for minor modifications to the faceplate and unload button, the EXB-8500c, the EXB-8200, and the EXB-8200SX are similar in appearance.

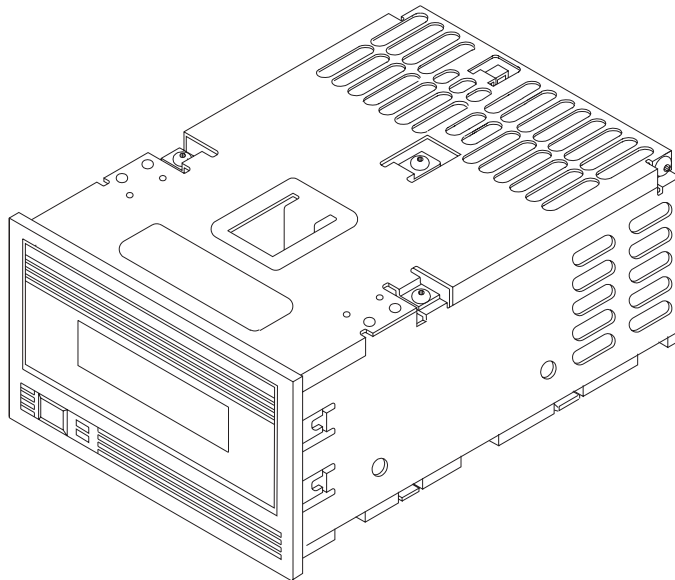


Figure 1-5 EXB-8500 8mm Cartridge Tape Subsystem

The EXB-8200, EXB-8200SX, EXB-8500, and EXB-8500c are integrated tape drives/controllers that use helical-scan technology to provide extremely high data storage capacities on 8mm data cartridges. A single data cartridge can store up to 2.5 GBytes when recorded on the EXB-8200 or EXB-8200SX, up to 5.0 GBytes when recorded on the EXB-8500, and up to 10.0 GBytes when recorded on the EXB-8500c (assuming an average data compression ratio of 2:1). The CTSs are available in both single-ended and differential SCSI configurations.

## EXATAPE Data Cartridges

EXATAPE™ media is specifically controlled for use in a data storage environment and offer extended durability, long-term archivability, and greater reliability. In addition, exclusive use of EXATAPE media with EXABYTE 8mm tape storage systems has been shown to prolong head and tape life. EXATAPE media meets specifications that are the most stringent in the industry.

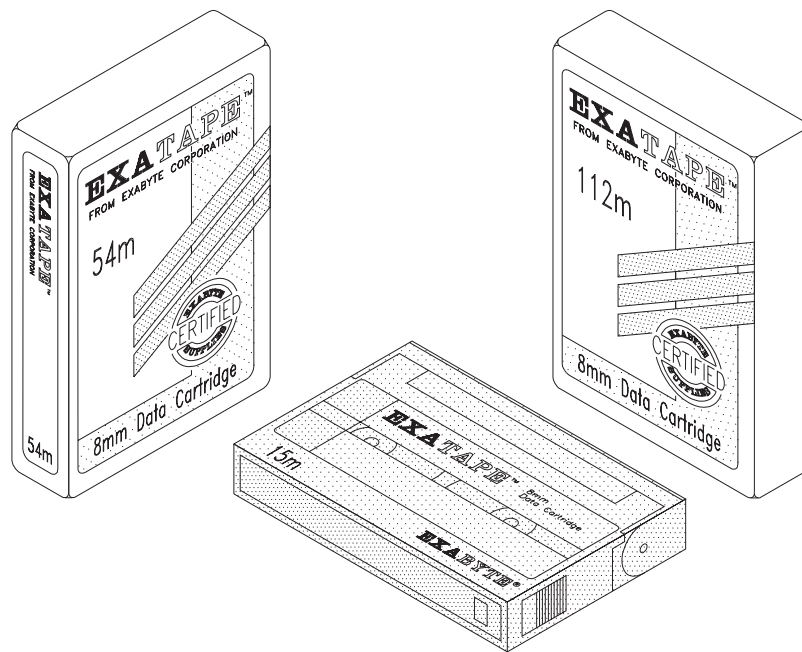


Figure 1-6 EXATAPE Data Cartridges

EXATAPE data cartridges are available in the following three lengths:

- EXATAPE 15m
- EXATAPE 54m
- EXATAPE 112m

**Important**

EXABYTE strongly recommends that you use EXATAPE data-grade metal-particle media in the CTS. Do not attempt to use “Hi-8” metal-particle or any type of metal-evaporative tape. These tapes will be ejected automatically by the CTS.

## **EXABYTE 8mm Cleaning Cartridge**

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Designed to clean the CTS, the EXABYTE 8mm Cleaning Cartridge contains a shed-free fabric tape that traps and removes debris from the CTS’s heads and tape path. By using this cleaning cartridge on a regular basis, you will help the CTS maintain data integrity and improve reliability.

Using the cleaning cartridge is easy. You simply insert the cartridge into the CTS and the cleaning process is performed automatically.

**Important**

The EXABYTE 8mm Cleaning Cartridge (or EXABYTE-approved cleaning cartridge) is the only authorized method for cleaning the CTS. Other 8mm cleaning kits can leave minute fragments from the cleaning tapes in the CTS’s tape path or on the heads. If you use any other type of cleaning material, your CTS warranty is void.

Figure 1-7 shows the EXABYTE 8mm Cleaning Cartridges, which come in two types: either 3 cleaning passes per cartridge or 12 passes per cartridge.



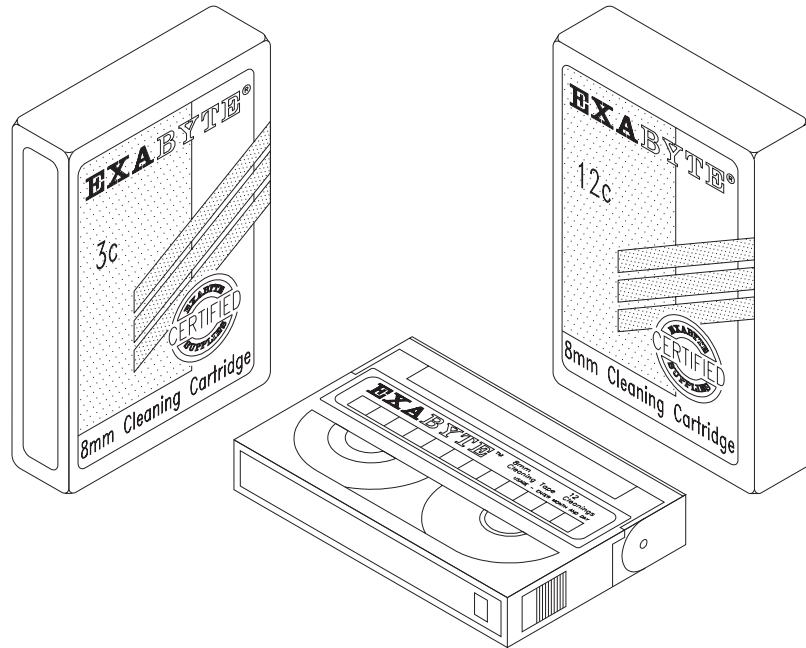


Figure 1-7 EXABYTE 8mm Cleaning Cartridges

**Notes:**

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# 2

## Functional Performance

This chapter describes the following:

- Reliability specifications such as the mean time between failure (MTBF) and mean time to repair (MTTR)
- Power specifications including information about the power supply, AC power characteristics, the power connector, power switch, power filter, and power consumption
- Environmental specifications such as air flow, shock and vibration, and acoustic noise

# Reliability Specifications

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This section describes the reliability specifications for the Tabletop CTS.

**Note:** These reliability specifications for the Tabletop CTS apply only when the Tabletop CTS is operated in accordance with the specifications listed in this document.

## Mean Time Between Failures

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The Tabletop CTS can achieve a mean time between failures (MTBF) of 40,000 hours at a 10% duty cycle. This MTBF value is the same as the MTBF value for the enclosed CTS. For more information about the calculations and conditions for MTBF, refer to the product specification for your CTS.

## Mean Time to Repair

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If the Tabletop CTS is treated as a field replaceable unit (FRU), the mean time to repair the Tabletop CTS is less than 15 minutes.

# Power Specifications

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This section describes the power specifications for the Tabletop CTS, including the following:

- Power supply specifications
- AC power characteristics
- Power consumption
- Power connector and power cord specifications
- AC power filter specifications
- Fuse specifications

## Power Supply

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The Tabletop CTS uses an internal switching power supply. You do not need to change any input settings. The power supply automatically adjusts for changes in voltage and frequency within the specified range. Table 2-1 contains the general specifications for the Tabletop CTS power supply.

**Table 2-1** General power supply specifications

Specification	Requirement
Type	30 – 40 watts switching
Efficiency	60% minimum
Input voltage	120 to 240 VAC @ 1 Amp maximum (no user selection required over the voltage range)
Frequency	50 to 60 Hz $\pm$ 5% (no user selection required over the frequency range)
Switching frequency	100 KHz
Power dissipation	22.3 watts average

## AC Power Characteristics

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The Tabletop CTS continues to operate when the AC power experiences intermittent operations, voltage surges, and voltage spikes. Table 2-2 shows the AC power characteristics acceptable to the Tabletop CTS.

Table 2-2 AC power characteristics

<b>Intermittent Operation</b>	100% line dropout for 1/2 cycle at nominal line voltage. 50% line reduction for 1 1/2 cycles at nominal line voltage. 20% line reduction for 2 1/2 cycles at nominal line voltage.
<b>Line discontinuities</b> <b>Voltage surges</b>	500 volts at nominal line voltage. Pulse Width: 100 ns Rise Time: 5 ns Repetition Rate: 1 Hz Common and differential mode, positive and negative polarity.
<b>Voltage spikes</b>	1 to 5 KV at nominal line voltage. Pulse Width: 1 μs Rise Time: 25 ns Repetition Rate: 1 Hz Common and differential mode, positive and negative polarity.

## Power Consumption

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The power consumption of the Tabletop CTS varies depending on the function being performed, as described in Table 2-3.

**Table 2-3** Power consumption for the Tabletop CTS

Condition	Average AC Power (watts)	Average AC Volts (volts)	Average AC Current (amps)
Tabletop CTS power up	23.6	116.3	0.32
CTS writing data	22.5	116.5	0.32
CTS reading data	21.5	116.6	0.31
CTS loading tape	23.6	116.5	0.32
CTS unloading tape	23.4	116.4	0.32
CTS idle	19.7	115.8	0.28

## Power Connector and Power Cord

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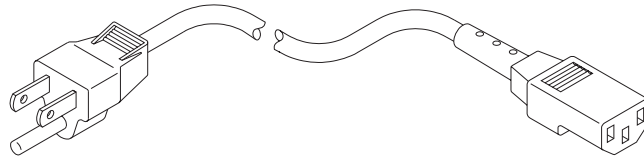
The AC power connector is a standard IEC type CEE-22 male connector. The Tabletop CTS includes a 120 VAC three-conductor power cord for use in the United States and Canada. The Tabletop CTS can operate on a range of voltages: including 100, 115, 120, 200, and 240 VAC, with a frequency of 50 or 60 Hz, without manual intervention.

You must supply power cords for other input voltages or when using the Tabletop CTS outside of the United States and Canada. The following sections describe the 120 VAC and 220 VAC cords for use in the United States and Canada and the International 220 VAC.

### 120 VAC Power Cord for the United States and Canada

The three-conductor, 18 AWG or SVT type AC power cord for 120 volt use in the United States and Canada shipped with the Tabletop CTS has a molded NEMA 5-15P male connector on one end and a molded IEC type CEE-22 female connector on the other end. The power cord is UL Listed and CSA Certified.

Figure 2-1 shows a 120 VAC power cord for the United States and Canada.



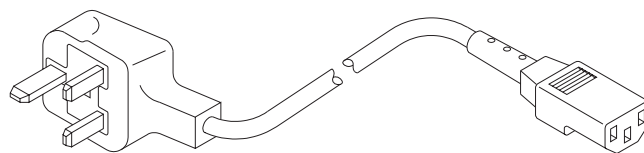
**Figure 2-1** 120 VAC power cord for the United States and Canada

### **International 220 VAC Power Cord**

An international 220 VAC power cord for the Tabletop CTS must meet the following requirements:

- The power cord must have an attachment plug of the proper type, rating, and safety approval for the intended country.
- The power cord must have an IEC type CEE-22 female connector on one end.
- The cordage must be adequately rated and harmonized to CENELEC publication HD-21.

Figure 2-2 shows an international 220 VAC power cord for the United Kingdom.



**Figure 2-2** 220 VAC international power cord for the United Kingdom



## 220 VAC Power Cord for the United States and Canada

A 220 VAC power for the Tabletop CTS must meet the following requirements:

- The power cord must have a NEMA 6-15P male connector on one end.
- The power cord must have an IEC type CEE-22 female connector on the other end.
- The cordage used must be an SVT or SJT type, three conductor, 18 AWG minimum.
- The power cord must comply with local electrical code.

## AC Power Filter

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The power entry module includes an AC line filter to minimize conduction of any interference signals to the AC line.

## Fuse

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The Tabletop CTS includes a fuse drawer and two fuses (one spare). The fuse drawer is a shock safe, snap-in type for ease of fuse replacement. The fuse is a “slow blow,” type AGC non-time delay,  $\frac{1}{4} \times 1\frac{1}{4}$  inch, rated at 1.0 amp, 250 volts (Bussman part number AGC-1 or equivalent).

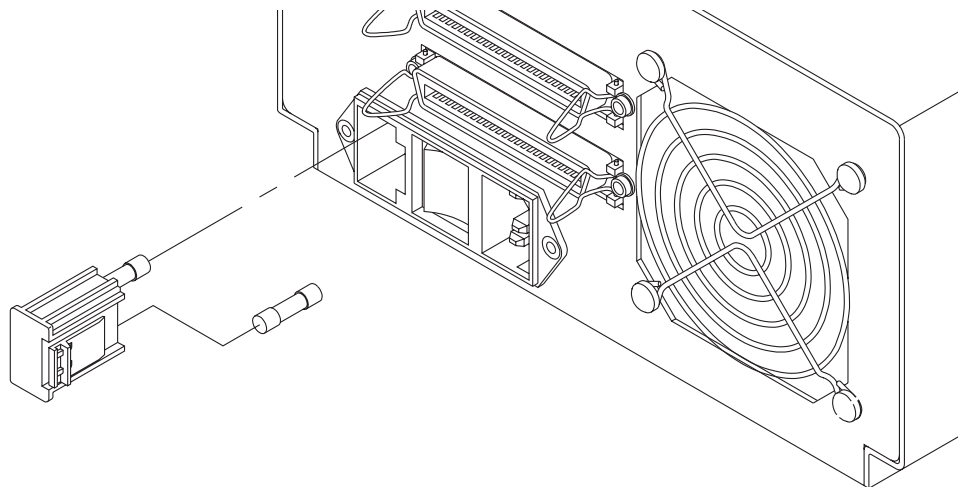


Figure 2-3 Fuse in the back of the Tabletop CTS

# Environmental Specifications

This section describes the environmental specifications for the Tabletop CTS, including information about the operating environment, air flow requirements, particulate contamination, shock and vibration, and acoustic noise.

Table 2-4 lists the general environmental specifications for the Tabletop CTS.

Table 2-4 Environmental specifications for the Tabletop CTS

Specification	Operating <sup>a</sup>	Storage <sup>b</sup> or not operating <sup>c</sup>	Transportation <sup>d</sup>
<b>Ambient Temperature Range</b>	+5° C to +40° C (+41° F to +104° F)	–40° C to +60° C (–40° F to +140° F)	–40° C to +60° C (–40° F to +140° F)
<b>Temperature Variation<sup>e</sup></b>	1° C per minute; max 10° C per hour	1° C per minute; max 20° C per hour	1° C per minute; max 20° C per hour
	2° F per minute; max 18° F per hour	2° F per minute; max 36° F per hour	2° F per minute; max 36° F per hour
<b>Relative Humidity<sup>e</sup></b>	20% to 80% Non-condensing	10% to 90% Non-condensing	10% to 90% Non-condensing
<b>Wet Bulb</b>	26° C (79° F) max	29° C (84° F) max	29° C (84° F) max
<b>Altitude</b>	–304.8 m to +3,048 m (–1,000 ft to +10,000 ft)	–304.8 m to +3,048 m (–1,000 ft to +10,000 ft)	–304.8 m to +12,192 m (–1,000 ft to +40,000 ft)

<sup>a</sup> Temperature measurements are taken on the integral CTS. All operating measurements include a standard EXATAPE data cartridge and assume that the Tabletop CTS is installed in accordance with the instructions in the installation guide.

<sup>b</sup> The Tabletop CTS has not been unpacked, and data cartridges are not packed with the Tabletop CTS. The Tabletop CTS's packaging is designed to protect the device from condensation caused by extreme temperature variations. **When the device is moved from a cold storage environment to a warm operating environment, it must acclimate in its packaging for at least 12 hours before opening to prevent serious condensation damage from occurring.**

<sup>c</sup> The Tabletop CTS has been unpacked but is not operating, and a data cartridge is not inserted.

<sup>d</sup> The Tabletop CTS has not been unpacked, the transportation period does not exceed 72 hours, and a data cartridge is not packed with the Tabletop CTS.

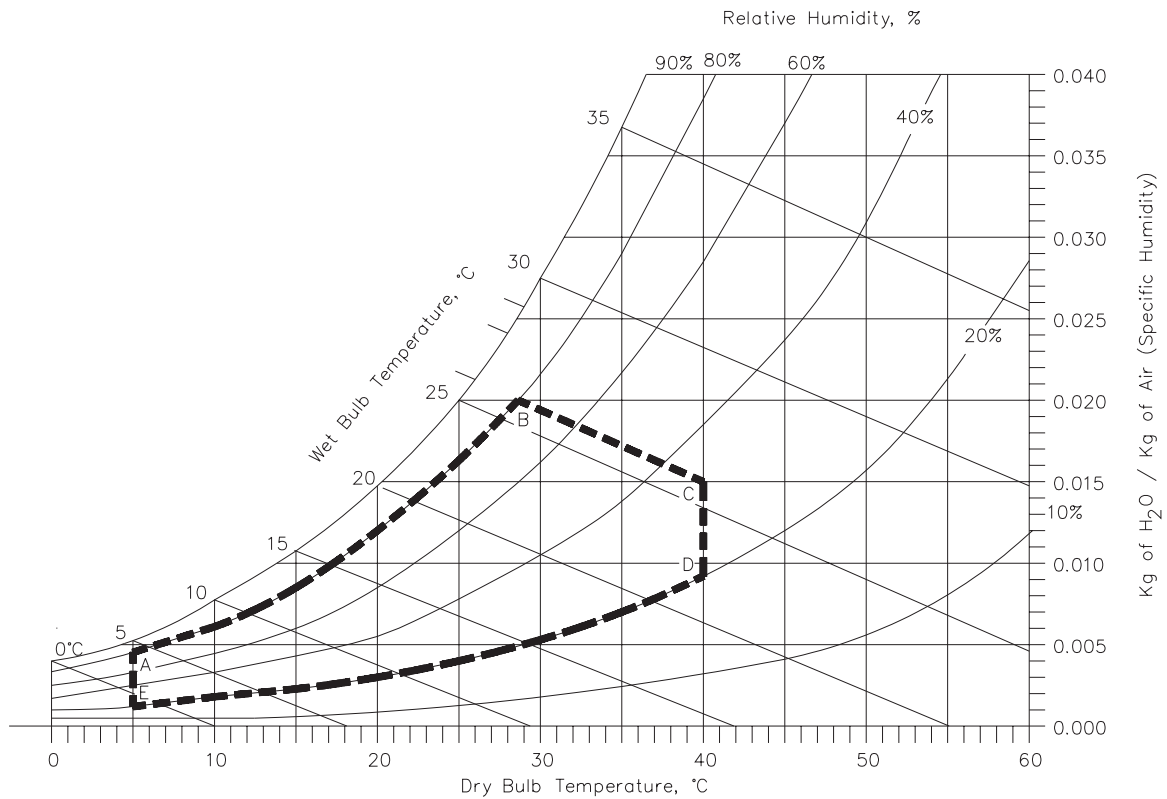
<sup>e</sup> The data cartridge's temperature and humidity must be allowed to stabilize in the specified ambient environment for 12 hours.

## Operating Environment

The psychrometric chart shown in Figure 2-4 shows the operating temperature and humidity ranges for the Tabletop CTS. The dotted line represents the operating environment. Table 2-5 defines the temperature and humidity points shown in Figure 2-4.

**Table 2-5** Temperature and humidity points for the psychrometric chart

Point	Temperature	Humidity
A	5° C	80%
B	29° C	80%
C	40° C	34%
D	40° C	20%
E	5° C	20%



**Figure 2-4** Temperature and humidity limits for the Tabletop CTS

## Particulate Contamination Limits

The ambient operating environment should not exceed the particulate counts shown in Table 2-6.

Table 2-6 Maximum particulate counts for Tabletop CTS operation

Particle Size (microns)	Number of Particles $\geq$ Particle Size (per cubic meter)	Number of Particles $\geq$ Particle Size (per cubic foot)
0.1	$8.8 \times 10^7$	$2.5 \times 10^6$
0.5	$3.5 \times 10^7$	$1.0 \times 10^6$
5.0	$2.5 \times 10^5$	$7.0 \times 10^3$

Figure 2-5 shows the particulate contamination profile of a typical office compared to the specifications for the Tabletop CTS. Individual office area contamination profiles vary.

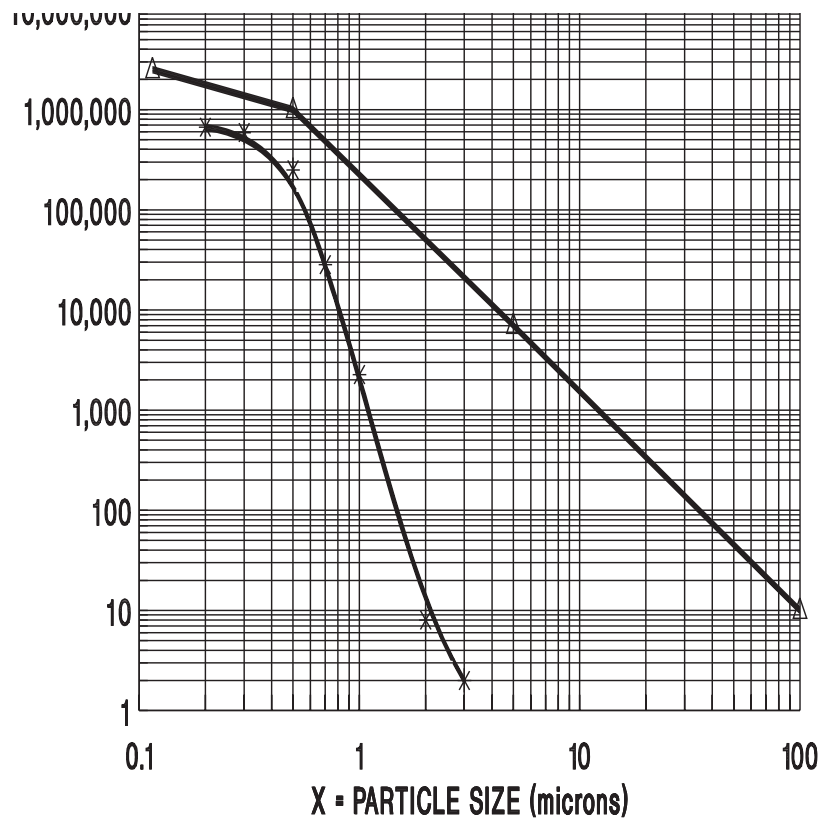


Figure 2-5 Particulate contamination specifications vs. typical office

## Air Flow Requirements

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A cooling fan controls air flow through the Tabletop CTS. Air flows from the front of the Tabletop CTS to the rear.

## Shock and Vibration

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Table 2-7 contains the shock specifications for the Tabletop CTS. The operating shock levels indicate the amount of shock that the Tabletop CTS can withstand while reading and writing data. The shock pulses are half-sine waves applied to each of the three orthogonal axes of the Tabletop CTS.

Table 2-7 Shock specifications for the Tabletop CTS

Operating	Storage <sup>a</sup> or Not Operating <sup>b</sup>	Transportation <sup>a</sup>
3 g for 5 ms <sup>c</sup>	45 g at a velocity change of 167 inch/sec <sup>d</sup>	NSTA Project 1A

<sup>a</sup> The Tabletop CTS has not been unpacked.

<sup>b</sup> The Tabletop CTS has been unpacked, but has not been powered on.

<sup>c</sup> A minimum of 20 shock pulses were applied to each of the three orthogonal axes. The shock pulses were half-sine waves and were applied at a rate not exceeding one shock per second.

<sup>d</sup> A minimum of three trapezoidal shock pulses of 45 g were applied to each of the Tabletop CTSs six sides at a velocity change of 167 inches per second (equivalent packaged drop height equals 36 inches).

Table 2-8 contains the vibration specifications for the Tabletop CTS. The operating vibration levels indicate the amount of vibration that the Tabletop CTS can withstand while reading and writing data.

Table 2-8 Vibration specifications for the Tabletop CTS

<b>Random vibration<sup>a</sup> applied during operation</b>	
5 - 350 Hz	PSD = 0.0002 g <sup>2</sup> /Hz
350 - 500 Hz	Slope = -6 dB/Oct
500 Hz	PSD = 0.0001 g <sup>2</sup> /Hz
<b>Random vibration<sup>b</sup> applied during non-operation<sup>c</sup> and storage<sup>d</sup></b>	
5 - 100 Hz	PSD = 0.020 g <sup>2</sup> /Hz
100 - 137 Hz	Slope = -6 dB/Oct
137 - 350 Hz	PSD = 0.0107 g <sup>2</sup> /Hz
350 - 500 Hz	Slope = -6 dB/Oct
500 Hz	PSD = 0.0052 g <sup>2</sup> /Hz
<b>Transportation<sup>d</sup></b>	
NSTA Project 1A	

<sup>a</sup>A 0.30 g RMS random vibration spectrum is applied to each of three orthogonal axes for a minimum of 20 minutes per axis.

<sup>b</sup>A 1.5 g RMS random vibration spectrum is applied to each of three orthogonal axes for a minimum of 20 minutes per axis.

<sup>c</sup>The Tabletop CTS has been unpacked, but has not been powered on.

<sup>d</sup>The Tabletop CTS has not been unpacked.

## Acoustic Noise

---

In a 5 Hz to 12.5 Hz frequency range, the overall, averaged A-weighted sound power levels (decibels) for the Tabletop CTS do not exceed the upper limits specified in Table 2-9.

Table 2-9 Acoustic noise limits

<b>Operating Mode</b>	<b>LWA (average A-weighted sound power level)</b>
<b>Power On</b>	40 dba
<b>Fully Operational</b> (operating in streaming mode for a read or write operation)	45 dba

## Notes

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# 3

## Safety and Regulatory Agency Compliance

This chapter describes the following:

- Safety agency standards
- Electrostatic discharge (ESD) limits
- Electromagnetic compatibility (EMC)
- Radiated interference susceptibility

## Safety Agency Standards

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When purchased from EXABYTE Corporation, the Tabletop CTS with a CTS installed is certified as a component by the following domestic and international product safety standards.

- UL Standard 478, 4th Edition, Electronic Data Processing
- CAN/CSA Standard C22.2 No. 220, Safety of Information Technology Equipment
- IEC 950/EN60950, Safety of Information Technology Equipment including Electrical Business Equipment (TUV)

## Electrostatic Discharge (ESD)

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When properly installed with shielded cables and adequate grounding of the SCSI bus and input AC power, the Tabletop CTS can withstand the following discharges:

- Up to 10,000 volts applied during normal use without affecting the permanent read error rate or requiring your intervention.
- Up to 15,000 volts applied during normal use with no permanent damage to the Tabletop CTS. However, you may have to reset the Tabletop CTS at this level of discharge.

**Note:** No errors or damage occur when you insert a cartridge charged between 2,000 and 20,000 volts into the Tabletop CTS.

## Electromagnetic Compatibility (EMC)

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When properly installed with shielded cables, and adequate grounding of the SCSI bus and the input power, the Tabletop CTS meets the following standards for electromagnetic compatibility:

- FCC Rules, Part 15, Class B Computing Devices
- Canadian Department of Communications, Radio Interference Regulation, Digital Apparatus, Class B
- VDE Vfg 1046/1984, Class B
- CISPR Publication 22, Class A

## Radiated Interference Susceptibility

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When properly installed with shielded cables, and adequate grounding of the SCSI bus and the input power, the Tabletop CTS meets the standard for susceptibility to severe levels of electromagnetic radiation as specified in IEC 801-3, Severity Level 2 (3 v/meter).

**Notes:**

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# 4

## Interface Specifications

This section describes the interface specifications for the Tabletop CTS, including information about SCSI features, SCSI cable requirements, SCSI bus termination, and SCSI commands and messages.

## Operation in the SCSI Environment

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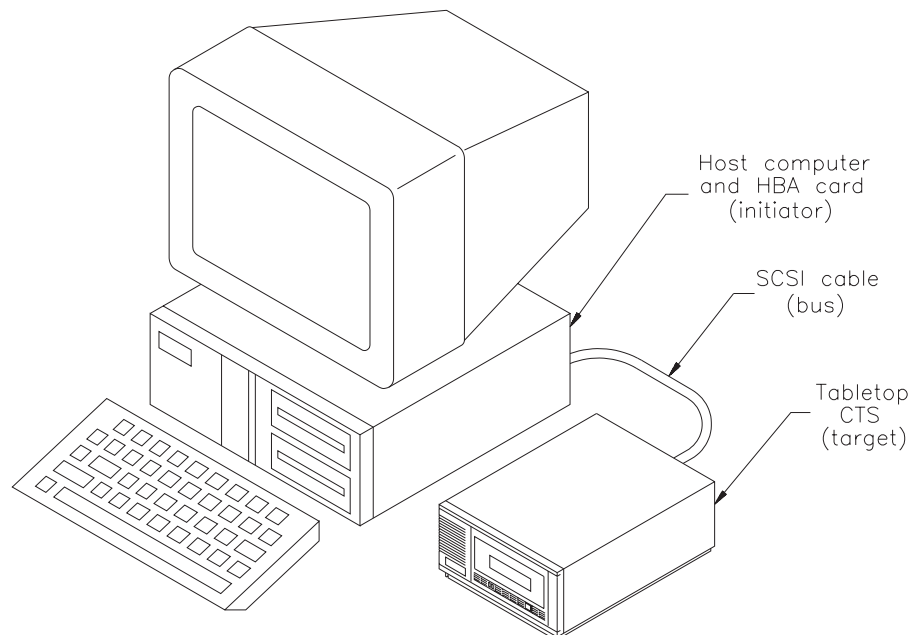
The Small Computer System Interface (SCSI) is a standard specification that acts as a translation system between a host computer and the Tabletop CTS. The Tabletop CTS uses this translation system to receive commands for performing backup functions and to report its status.

The physical components of the SCSI system consist of the following:

- **Host computer** (any type, such as a mainframe or PC)
- **Host bus adapter (HBA) card**, which is installed in the host computer and is used as a hardware interface between the computer and the SCSI cable
- **SCSI cable**, a cable with one end connected to the adapter card and the other end connected to the Tabletop CTS

**Note:** You must provide your own host computer, host bus adapter card, and SCSI cable.

Figure 4-1 shows a simple, physical connection between the host computer and the Tabletop CTS.



**Figure 4-1** Physical connection in the SCSI environment

## Initiator, Bus, and Target

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In the SCSI environment, the HBA card installed in the computer acts as the *initiator*, the SCSI cable acts as the *bus*, and the Tabletop CTS acts as the *target*. In the SCSI system, the *initiator* is the device that initiates the commands, while the *target* is the device that receives the commands. The *bus* is the link that provides a pathway for passing the commands (or signals) from the initiator to the target and from the target to the initiator.

## SCSI ID

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The SCSI ID is a number that enables the initiator to distinguish between devices on the SCSI bus. All devices on the SCSI bus must have a unique ID.

The CTS can be assigned a number from 0 to 7. Its default address setting is 0.

## Single-Ended or Differential SCSI

---

The Tabletop CTS supports either single-ended or differential SCSI configurations. In a single-ended SCSI configuration, one line is used to transmit a bus signal between the initiator and the target. In a differential configuration, two lines are used to transmit a signal.

### Important

When attached to the same SCSI bus, all devices—including the host system and Tabletop CTS—must have the same SCSI configuration (that is, either single-ended or differential).

# SCSI Cable Requirements

The Tabletop CTS does not include a SCSI cable. Table 4-1 lists the recommended specifications for SCSI cables for the Tabletop CTS.

## CAUTION

You must use a shielded SCSI cable to comply with FCC and VDE rules and to avoid damage to other equipment on the SCSI bus.

**Table 4-1** Recommended general specifications for the SCSI cable

Cable Feature	Specification
Standard construction	50 conductors (25 twisted pairs with drain wire and shield)
Primary conductors	Insulated per UL Style 1589
Gauge	#28 AWG minimum stranded (7/34) annealed
Insulation	Polypropylene (80°C) 0.010 inch nominal
Shielding	80% minimum tinned copper braid over aluminum/mylar foil
Outer jacket	Insulated per UL Style 2919
Voltage rating	30 VAC
Impedance	100 Ohms $\pm 10\%$ @ 1.5 MHz.
Grounding	Case-to-case grounding
Connector	50-pin male ribbon cable connector; AMP No. 554953-1

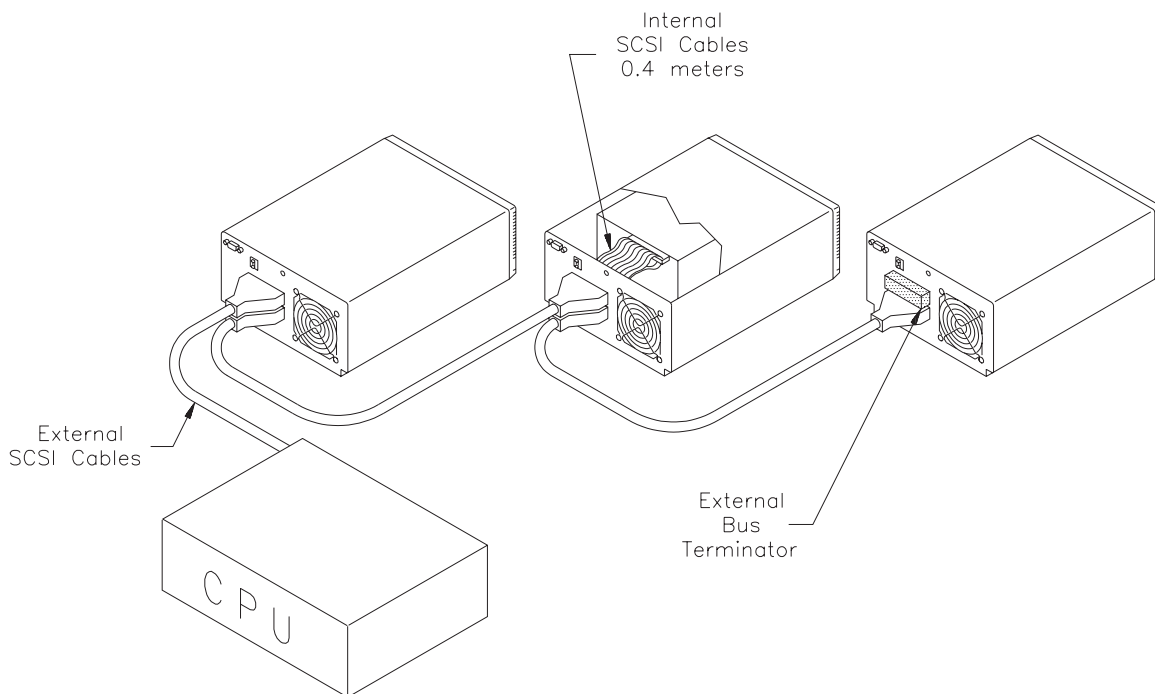


## Cable Length

The maximum length of the SCSI cable depends on whether you are using a differential or single-ended SCSI configuration, as follows:

- Differential: maximum bus length = 25 meters (82 feet)
- Single-ended: maximum bus length = 6 meters (19.7 feet)

As Figure 4-2 shows, each Tabletop CTS attached to the SCSI bus uses 0.4 meters (1.31 feet) of the total allowable bus length internally.



**Figure 4-2** Length of SCSI cable used internally by the Tabletop CTS

Use the following steps to determine the allowable distance (in meters) between devices on the bus:

1. Measure the length (in meters) of all external SCSI cable connecting each device.
2. Add these lengths together.
3. Multiply 0.4 meters times the number of Tabletop CTSs.

4. Add the product from step 3 to the total cable length from step 2.

If this is a single-ended configuration, the amount should not exceed 6 meters. If this is a differential configuration, it should not exceed 25 meters.

You can also use the following formula to determine the allowable distance (in meters) between devices on the bus:

$$\text{Total Length} = L_1 + L_2 + \dots + L_n + 0.4n$$

$L$  = Length in meters between devices on the bus

$n$  = Number of devices on the bus

## SCSI Bus Termination

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The Tabletop CTS does not include internal SCSI bus terminators. If the Tabletop CTS is the last device on the SCSI bus, attach an external terminator to either one of the SCSI connectors. Use one of the following external terminators:

- Single-ended external terminator (EXABYTE part number 002201), Methode Electronics, Inc. dataMate® DM800-09-0
- Differential external terminator (EXABYTE part number 002202), Methode Electronics, Inc. dataMate DM800-08-0

# SCSI Protocol

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This section describes the SCSI protocol for communication between SCSI devices. This protocol includes the following:

- Bus phases
- Message system

## Bus Phases

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Bus phases control communication on the SCSI bus, such as the direction and type of information on the data lines. The possible bus phases include:

- Bus Free
- Arbitration
- Selection
- Reselection
- Transfer, which includes four subsets: Message (In or Out), Command Out, Data (In or Out), and Status In

Each of these phases is determined by a combination of bus signals.

Table 4-2 describes each of the phases.

**Table 4-2** Bus phases and information transfer phases

Phase	Description
Bus Free	The Bus Free phase specifies that no device is using the bus.
Arbitration	The Arbitration phase allows devices to compete for access on the bus. Without this option, only a single initiator/single target configuration could be used.
Selection	The Selection phase allows an initiator to select the target for communication.
Reselection	The Reselection phase allows the target to reconnect to the host after it disconnects.
Message In/ Message Out	The Message phases help manage the physical path between the initiators and targets. In the Message Out phase, the initiator sends a message to the target. In the Message In phase, the target sends a message to the initiator.
Command Out	In the Command Out phase, the initiator sends commands to the target. Commands contain information about what actions the target should perform.
Data In/Data Out	In the Data In phase, the target transfers data to the initiator. In the Data Out phase, the initiator transfers data to the target.
Status In	In the Status In phase, the target returns a status byte to the initiator after every command operation. The status byte indicates the results of the command's execution.

## SCSI Message System

The message system allows communication between an initiator and the Tabletop CTS for physical path management. These messages include management of error detection, data transfer retries, and the data path. Table 4-3 lists the SCSI messages supported by the Tabletop CTS.

**Table 4-3** SCSI messages supported by the Tabletop CTS

Message	Hex Value	Description	Direction	
			In (CTS to Initiator)	Out (Initiator to CTS)
Command Complete	00h	The Tabletop CTS informs the initiator that the execution of the command was completed and that it sent a valid status byte to the initiator.	✓	
Extended Message (Synchronous Data Transfer Request)	01h	<b>EXB-8500/EXB-8500c only.</b> The Tabletop CTS and the initiator agree upon synchronous data transfer.	✓	✓
Save Data Pointers	02h	The Tabletop CTS informs the initiator that it received a block of data.	✓	
Restore Pointers	03h	The Tabletop CTS informs the initiator that it did not properly receive a block of data and that the data needs to be transferred again.	✓	
Disconnect	04h	The Tabletop CTS informs the initiator that it plans to disconnect from the SCSI bus and that a reconnect will be required later.	✓	
Initiator Detected Error	05h	The initiator informs the Tabletop CTS that an error occurred. The Tabletop CTS can retry the operation.		✓
Abort	06h	The initiator is clearing the present and any pending operations for that initiator. When the Tabletop CTS accepts this message, it releases the bus into the Bus Free phase.		✓
Message Reject	07h	Either the initiator or the Tabletop CTS is indicating that the last message received was inappropriate or not implemented.	✓	✓

## 4 Interface Specifications

Message	Hex Value	Description	Direction	
			In (CTS to Initiator)	Out (Initiator to CTS)
No Operation	08h	The initiator informs the Tabletop CTS that it does not have a valid message to send in response to the Tabletop CTS's request for a message.		✓
Message Parity Error	09h	The initiator informs the Tabletop CTS that one or more bytes in the last message it received had a parity error.		✓
Bus Device Reset	0Ch	The initiator instructs the Tabletop CTS to reset all of its current I/O operations for all initiators. The Tabletop CTS releases the SCSI bus into the Bus Free phase, with no operations pending for any initiator.		✓
Identify	80h or C0h	This message is used to establish a physical path connection between the initiator and the target for a particular LUN (logical unit number).	✓	✓

# SCSI Command Set

The SCSI command set supported by the Tabletop CTS depends on the type of CTS installed. The EXB-8200 and EXB-8200SX support SCSI-1 commands only. The EXB-8500 and EXB-8500c support SCSI-2 commands. Table 4-4 describes each of the SCSI commands.

Table 4-4 SCSI command set for the Tabletop CTS

Command	OP Code	Description
ERASE	19h	Causes the CTS to erase all tape from the current tape position to the physical end of tape.
FIND BLOCK	07h	<b>EXABYTE unique; EXB-8200SX only.</b> Causes the CTS to position the tape to the specified logical position. Used in conjunction with the SHOW BLOCK command.
INQUIRY	12h	Requests that information about the CTS parameters be sent to the initiator.
LOAD/UNLOAD	1Bh	Causes the CTS to load or unload the data cartridge.
LOCATE	2Bh	<b>EXB-8500/EXB-8500c only.</b> Allows you to position the tape at a specified logical block address. Used in conjunction with the READ POSITION command.
LOG SELECT	4Ch	<b>EXB-8500c only.</b> Allows you to manage the counters that the CTS maintains about its write and read error recovery operations.
LOG SENSE	4Dh	<b>EXB-8500c only.</b> Allows you to retrieve statistical information about the CTS's read and write error recovery operations.
MID-TAPE WAKE-UP	1Bh	<b>EXABYTE unique; EXB-8500/EXB-8500c only.</b> Provides a quick way to power the CTS off and on during data logging operations. (When this command is used, the tape is not rewound or unloaded and the power-on self-test can be shortened.)
MODE SELECT	15h	Allows you to specify medium, logical unit, and device parameters.
MODE SENSE	1Ah	Enables the CTS to report medium, logical unit, or device parameters.
PREVENT/ALLOW MEDIUM REMOVAL	1Eh	Allows or disallows the removal of the data cartridge.
READ	08h	Transfers one or more bytes or blocks of data from the tape.

Command	OP Code	Description
READ BLOCK LIMITS	05h	Requests that the CTS return data identifying the maximum and minimum logical block lengths.
READ BUFFER	3Ch	<b>EXB-8500/EXB-8500c only.</b> Copies the CTS's microcode across the SCSI bus to the initiator. Used in conjunction with the WRITE BUFFER command.
READ POSITION	34h	<b>EXB-8500/EXB-8500c only.</b> Reports the CTS's current logical position but does not cause tape motion to occur. Used in conjunction with the LOCATE command.
RECEIVE DIAGNOSTIC RESULTS	1Ch	Allows you to obtain the results of the tests requested by a previous SEND DIAGNOSTIC command or to obtain a trace of SCSI and servo command activity for the CTS.
RELEASE UNIT	17h	Releases a CTS from exclusive use, or if third-party reservations are in effect, from another SCSI device's use. Used with the RESERVE UNIT command.
REQUEST SENSE	03h	Requests that the CTS transfer sense data.
RESERVE UNIT	16h	Reserves the CTS for your exclusive use, or with third-party reservations, for another SCSI device's use. Used with the RELEASE UNIT command.
REWIND	01h	Causes the CTS to rewind the tape to the logical beginning of tape.
SEND DIAGNOSTICS	1Dh	Causes the CTS to perform certain self-diagnostic tests.
SHOW BLOCK	06h	<b>EXABYTE unique; EXB-8200SX only.</b> Causes the CTS to report the current position of the tape.
SPACE	11h	Enables the CTS to perform forward or backward searches.
TEST UNIT READY	00h	Allows you to determine if the CTS is ready to accept an appropriate medium access command.
VERIFY	13h	<b>EXB-8500/EXB-8500c only.</b> Enables the CTS to verify one or more logical blocks of data on the tape.
WRITE	0Ah	Transfers one or more bytes or blocks of data to the tape.
WRITE BUFFER	3Bh	<b>EXB-8500/EXB-8500c only.</b> Allows you to load new microcode from the SCSI bus into the CTS's control memories. Used in conjunction with the READ BUFFER command.
WRITE FILEMARKS	10h	Causes the CTS to write one or more filemarks to tape.



# 5

## Shipping and Installation

This chapter includes the packing and shipping specifications for the Tabletop CTS. It also describes the requirements for installing the Tabletop CTS.

# Shipping Requirements

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This section describes the shipping requirements for the Tabletop CTS, including information about the shipping carton and a list of the environmental conditions required for transporting the Tabletop CTS.

## Shipping Carton

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The Tabletop CTS is sealed in a static protection bag and is shipped with one unit per carton. The packing materials are unbleached, reusable, recyclable, and environmentally safe. The materials contain no chlorofluorocarbons (CFCs) or heavy metals.

## Packaging Specifications

The shipping carton passes the tests described in the National Safe Transit Association (NSTA) Project 1A for packaged products weighing less than 100 pounds. The shipping cartons and internal packing materials are designed so that an enclosed Tabletop CTS does not receive a shock greater than 45 g when the carton is dropped on any surface, corner, or edge from a height of 36 inches (91.4 cm).

## Dimensions and Weight

The shipping carton outside dimensions are 19.5 inches long  $\times$  16.5 inches wide  $\times$  12 inches high (49.5  $\times$  42  $\times$  30.5 cm).

A fully packed Tabletop CTS weighs 19 pounds (8.6 kg).

## Environmental Specifications for Transportation

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The environmental specifications listed in Table 5-1 must be met whenever the Tabletop CTS is transported.

Table 5-1 Environmental specifications for transporting the Tabletop CTS

Specification	Range
Temperature Range	-40° C to +60° C (-40° F to +140° F)
Temperature Variation	1° C per minute up to a maximum of 20° C per hour (2° F per minute up to a maximum of 36° F per hour)
Relative Humidity	10% to 90% non-condensing
Wet Bulb	26° C max (79° F max)
Altitude	-304.8 m to +12,192 m (-1,000 ft to +40,000 ft)

## Unpacking the Tabletop CTS

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Unpacking instructions for the Tabletop CTS are included in *Tabletop 8mm Cartridge Tape Subsystem Installation*.

### CAUTION

**If the current environment differs from the storage environment by 15° C or more, let the Tabletop CTS acclimate in its packaging to the current environment for at least 12 hours.**

The Tabletop CTS's packaging is designed to protect the CTS from potentially damaging condensation. If the Tabletop CTS has not acclimated in its packaging for at least 12 hours, serious damage can occur.

### Packing the Tabletop CTS

To pack the Tabletop CTS for shipment, place the Tabletop CTS in the static protection bag and assemble the packing materials as shown. Do not ship any other items in the package.

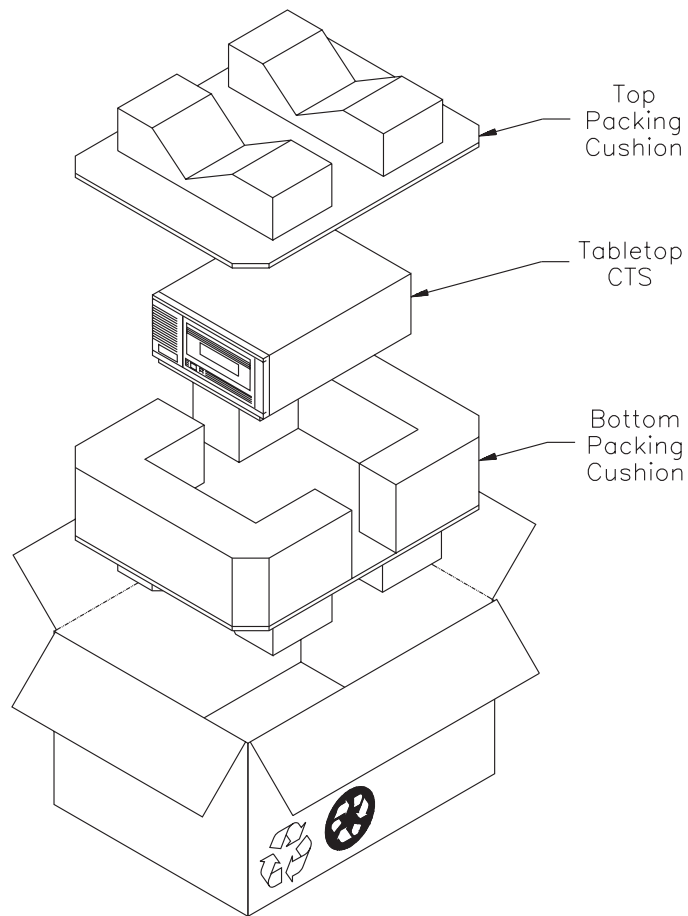


Figure 5-1 Packing the Tabletop CTS

# Installing the Tabletop CTS

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Installing the Tabletop CTS requires the following steps:

- Setting the SCSI ID
- Connecting external terminators, if termination is required
- Connecting SCSI cables to the external SCSI connectors
- Connecting the power cable to the Tabletop CTS

Complete installation instructions are provided in *Tabletop 8mm Cartridge Tape Subsystem Installation*.

**Notes:**

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# 6

## Maintenance

This chapter describes the preventive maintenance requirements for the Tabletop CTS, including cleaning the CTS and replacing the power cord and fuse.

## Cleaning the Tabletop CTS

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The CTS's heads and tape path should be cleaned every 30 tape motion hours with an EXABYTE or EXABYTE-approved 8mm cleaning cartridge. Depending on the environment, you may need to clean the CTS more often.

**Important**

Using cloth swabs, cotton swabs, or cleaning cartridges not approved by EXABYTE will void the warranty on the CTS.

For more information about the cleaning cartridge, refer to Chapter 1. For step-by-step instructions for cleaning the CTS, refer to *Tabletop 8mm Cartridge Tape Subsystem Installation*.

## Replacing Serviceable Parts

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You do not need to make adjustments or perform maintenance procedures on the Tabletop CTS. However, on occasion, you may need to replace the following parts:

- Power cord
- Fuse

All other service or repairs to the Tabletop CTS must be performed by EXABYTE Corporation or authorized service personnel.



# Glossary

- ANSI** American National Standards Institute.
- AWG** American Wire Gauge.
- b** Binary (base 2) numbering system.
- bit** Binary digit; the smallest unit of information in the binary system; a 0 or 1.
- bus** The SCSI cable that serves as a link for passing signals between the host computer and the Tabletop CTS.
- bus phase** The SCSI protocol for controlling communication on the SCSI bus, such as the direction and type of information on the data lines.
- byte** Eight bits or one character.
- C** Celsius (Centigrade).
- CEE** International Commission on Rules for the approval of Electrical Equipment.
- CENELEC** European Committee for Electrotechnical Standardization.
- CISPR** International Special Committee on Radio Interference.
- cm** Centimeter (0.3937 inches).
- connect** The establishment of communications between the initiator and the selected target.
- CSA** Canadian Standards Association.
- CTS** Cartridge Tape Subsystem, such as the EXB-8200 Cartridge Tape Subsystem.

- dB** Decibel.
- device** Initiators or targets connected to the SCSI bus.
- differential** A SCSI configuration using two signal lines to transmit a bus signal between devices. A differential configuration can have up to 25 meters (82 feet) of cable along the bus.
- disconnect** The termination of communications between the initiator and the target. During a disconnect, the target releases control of the SCSI bus, allowing the bus to become free.
- EXATAPE™** A data-grade, metal particle, 8mm data cartridge. EXABYTE recommends that you use EXATAPE data cartridges for all EXABYTE 8mm Cartridge Tape Subsystems.
- EXB-8200** The EXB-8200 8mm Cartridge Tape Subsystem. The EXB-8200 is a full-high cartridge tape subsystem that can store up to 2.5 gigabytes of data on a single 8mm data cartridge.
- EXB-8200SX** The EXB-8200SX 8mm Cartridge Tape Subsystem. The EXB-8200SX is very similar to the EXB-8200 but offers a high-speed search capability.
- EXB-8500** The EXB-8500 8mm Cartridge Tape Subsystem. The EXB-8500 is a full-high cartridge tape subsystem that can store up to 5.0 gigabytes of data on a single 8mm data cartridge.
- EXB-8500c** The EXB-8500c 8mm Cartridge Tape Subsystem. The EXB-8500c is very similar to the EXB-8500, but it can compress logical blocks of user data. Assuming an average ratio of 2:1, the EXB-8500c can store up to 10.0 gigabytes of data on a single EXATAPE 8mm data cartridge.
- F** Fahrenheit.
- FCC** Federal Communications Commission.
- g** Gravity.
- GByte** Gigabyte; 1,024 MBytes.
- h** Hexadecimal (base 16) numbering system.
- Hz** Hertz.

- ID** Identification.
- IEC** International Electrotechnical Commission.
- initiator** A host computer system that requests an operation to be performed by a target. Also referred to as the *host*.
- I/O** Input/output.
- KByte** Kilobyte; 1,024 bytes.
- KHz** Kilohertz.
- KV** Kilovolt.
- mA** Milliamp.
- m** Meter.
- MByte** Megabyte; 1,024 KBytes.
- MHz** Megahertz.
- mm** Millimeter (0.03937 inches).
- ms or msec** Millisecond.
- MTBF** Mean time between failures.
- MTTR** Mean time to repair.
- mV** Millivolt.
- mVpp** Millivolts peak to peak.
- NEMA** National Electrical Manufacturers Association.
- ns** Nanosecond.
- NSTA** National Safe Transit Association.
- POST** Power-on self-test. POST is the process that occurs when the Tabletop CTS performs its initial power-on diagnostics.
- reconnect** The function that occurs when the target arbitrates and reconnects to an initiator after a disconnect.
- SCSI** Small Computer System Interface.

- SCSI address** The octal representation of the unique address (0 to 7) assigned to a SCSI device. The SCSI address for the CTS is set using the remote connector on the back of the Tabletop CTS.
- SCSI ID** The bit significant representation of the SCSI address referring to one of the signal lines.
- single-ended** A SCSI configuration using a single signal line to transmit a bus signal between devices. A single-ended configuration can have up to 6 meters (19 feet 8 inches) of cable along the SCSI bus.
- target** A bus device that performs an operation requested by an initiator. The Tabletop CTS is a target.
- terminator** The terminating plug required at both ends of the SCSI bus. Terminators can be external or internal.
- TUV** Technischer Überwachungs-Verein.
- UL** Underwriters Laboratories.
- VAC** Volts AC.
- VDC** Volts DC.
- VDE** Verband Deutscher Elektrotechniker (German Association of Electrotechnical Engineers).
- μm** Micrometer (0.00003937 inches).
- μs or μsec** Microsecond.
- μV** Microvolt.

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