Introduction

Product Features

- High Burst Transfer Rate:
  5MB/Sec Asynchronous, 10MB/Sec Synchronous
  SDT-10000 (14MB/sec Asynchronous, 40MB/sec Synchronous)
- Large 1 MB Buffer (SDT-9000 has 2MB; SDT-10000 has 10MB)
- 3.5" Standard Height, 5.25" Half Height Form Factors
- Embedded SCSI Interface (Ultra Wide for SDT-10000)
- Supports Variable or Fixed Record Length
- Supports SCSI-2 Sequential-Access Devices Command Set
- Read After Write (RAW)
- Frame Rewrite Function
- Three Levels of Error Correction Code (ECC)
- Quick Search (100 times normal Read/Write speed, 200 times with –9000)
- Random Read
- N-Group Write Option
- Dual Partition Option
- SCSI Disconnection/Arbitration

SDT Tape Device (with data compression)

<table>
<thead>
<tr>
<th></th>
<th>SDT-7000</th>
<th>SDT-7200</th>
<th>SDT-9000</th>
<th>SDT-10000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Capacity</td>
<td>4 - 8** GB</td>
<td>4* GB</td>
<td>12 - 24** GB</td>
<td>20 - 40** GB</td>
</tr>
<tr>
<td>Transfer Rate (sustained)</td>
<td>0.78 - 1.55** MB/sec.</td>
<td>0.78* MB/sec.</td>
<td>1.2 - 2.4** MB/sec.</td>
<td>2.4 - 4.8** MB/sec.</td>
</tr>
<tr>
<td>Supported Formats</td>
<td>DDS, DDS-2, DDS-DC, DCLZ</td>
<td>DDS, DDS-2, DDS-3, DDS-DC, DCLZ</td>
<td>DDS, DDS-2, DDS-3, DDS-4, DDS-DC, DCLZ</td>
<td></td>
</tr>
</tbody>
</table>

*without compression  ** assuming 2:1 compression ratio
Precautions

Installation

SCSI Connection/Setting the SCSI ID/Option Switches for SDT-7000/7200/9000

Avoid placing the drive in a location subject to:
- high humidity
- high temperature
- excessive dust
- mechanical vibration
- direct sunlight

Operation

- Do not move drive during operation, it may cause a malfunction.
- Avoid exposing drive to sudden changes from low to high temperature. Doing so may cause condensation to collect inside the drive. Should the ambient temperature suddenly rise while the drive is on, wait at least one hour before switching it off. Operating the drive immediately after a cause a malfunction.
- Do not switch the unit off with a tape in the drive.

Transportation

- Keep original packing material for future shipment of the drive.
- Remove any tape(s) before transport and repack drive as mentioned above.

Note:
This manual provides complete, step-by-step instructions for tape drive installation. Please read carefully and thoroughly before attempting installation and save it for future reference.
SCSI Connection/Setting the SCSI ID for SDT-10000

Option Switches (DIP Switch) for SDT-10000

Terminator Power

<table>
<thead>
<tr>
<th>Terminator Power</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>Not provided</td>
</tr>
<tr>
<td>ON</td>
<td>Provided</td>
</tr>
</tbody>
</table>

DC Control-1  DC Control-2  Definition

<table>
<thead>
<tr>
<th>DC Control-1</th>
<th>DC Control-2</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>OFF</td>
<td>Compression disabled at power-on. The host is allowed to control compression.</td>
</tr>
<tr>
<td>OFF</td>
<td>ON</td>
<td>Compression disabled at power-on. The host is not allowed to control compression.</td>
</tr>
<tr>
<td>ON</td>
<td>OFF</td>
<td>Compression enabled at power-on. The host is allowed to control compression.</td>
</tr>
<tr>
<td>ON</td>
<td>ON</td>
<td>Compression enabled at power-on. The host is not allowed to control compression.</td>
</tr>
</tbody>
</table>
Changing Form Factor

If you want to change from HH 5.25” to 3.5”:

1. Remove side rails
   Remove four screws (a, b, c, d) securing the side rails (L, R) and then remove the side rails (L, R).

2. Remove 5.25” HH front panel
   1. Push and unlock C and D at C’ and D’.
   2. Pull the lower part of front panel forward.

3. Install 3.5” front panel
   1. Push and open lid.
   2. Holding the lid open with your finger, push the front panel to catch the chassis at A, B, C and D.
   Note: Part E must locate on the pin.

If you want to change a 5.25” HH front panel to a different colour 5.25” HH front panel:

1. Remove side rails
   Remove four screws (a, b, c, d) securing the side rails (L, R) and then remove the side rails (L, R).

Side Rail (L)

Side Rail (R)
2 Remove 5.25" HH front panel
   1. Push and unlock C and D at C' and D'.
   2. Pull the lower part of front panel forward.

3 Install 5.25" front panel
   1. Push and open lid.
   2. Holding the lid open with your finger, push the front panel to catch the chassis at A, B, C and D.

Note: Part E must locate on the pin.

4 Install side rails with screws
   1. Put A into the hole A to catch the side rail (L)
   2. Turn screw a first, and b next
   3. Put B into the hole B to catch the side rail (R)
   4. Turn screw c first, and d next

Note: Use the mounting screws removed in the A-1. Other screws may damage the drive mechanism.

2 If you want to change from 3.5" to 5.25" HH front panel:

1 Remove 3.5" front panel
   1. Push and unlock C and D at C' and D'.
   2. Pull the lower part of front panel forward.
2 **Install 5.25" front panel**
   1. Push and open lid.
   2. Holding the lid open with your finger, push the front panel to catch the chassis at A, B, C and D.

   **Note:** Part E must locate on the pin.

3 **Install side rails with screws**
   1. Put A into the hole A to catch the side rail (L).
   2. Turn screw a first, and b next.
   3. Put B into the hole B to catch the side rail (R).
   4. Turn screw c first, and d next.

   **Note:** Use the mounting screws removed in A-1. Other screws may damage the drive mechanism.

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**Operation**

### Location of 3 LED’s

The drive’s front panel has 3 LED’s (BUSY, TAPE, and Status) and an eject button.
## Drive Operation

### Loading a Cassette

Insert a cassette into front panel slot with cassette’s arrow pointing toward the drive. Drive’s auto-load mechanism will draw cassette into unit.

### Unloading a Cassette

Cassettes may be removed either in response to a SCSI command or by pressing the eject button. The latter causes a tape to go to BOM, the drive unthreads it, and ejects the cassette.

### Write Protecting a Cassette

Sliding the tab on the back of a cassette write protects it. In this state, date may be read, but may not be written. (See below.)

### Using a Cleaning Tape

The included head cleaner tape is designed to last the life of the drive. A cleaning tape should be used periodically to clean entire tape path. Drive will automatically request this cleaning operation. Drum rotation hours determine frequency of required head cleaning, normally each 24 hours.

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### LED Indication for Drive Status

<table>
<thead>
<tr>
<th>LED</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSY</td>
<td>TAPE</td>
</tr>
<tr>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>SCSI</td>
<td>None</td>
</tr>
<tr>
<td>Drive Loading/Unloading</td>
<td>None</td>
</tr>
<tr>
<td>Drive Loading/Unloading</td>
<td>Write Protected</td>
</tr>
<tr>
<td>None</td>
<td>Loaded</td>
</tr>
<tr>
<td>SCSI</td>
<td>Loaded</td>
</tr>
<tr>
<td>SCSI/Drive</td>
<td>Loaded</td>
</tr>
</tbody>
</table>

* : Not defined.

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**Using your fingernail, push the switch in the direction of the arrow to avoid accidental overwriting or erasure of data.**

**Return the switch to its original position to re-enable writing.**
Emergency Cassette Removal Procedure
If a tape becomes stuck inside the drive it may be removed manually.

1. Remove drive from its enclosure to gain access to the bottom left side of drive.
2. Remove drive’s top cover to monitor degree of tape slack during the process.
   Note:
   Never touch anything inside the drive! It may cause a malfunction.
3. Rotate Loading/Threading motor clockwise with a small Phillips („+“) by placing it into the plastic screw head on the rear of drive (see figure). This will enable movement back to the threading mechanism’s initial position.
   Note:
   To avoid drive damage, do not turn screw past its mechanical limit.
   To avoid tape damage, take up slack with ratchet on left side of drive.
4. Continue this procedure until tape is lifted from drive mechanism and ejected.
5. Return drive to an authorized service station for repair.

Interface Implementation

Supported SCSI Messages
- Abort
- Bus Device Reset
- Command Complete
- Disconnect
- Extended Message
- Synchronous Data Transfer Request
- Identify (w/ & w/o Disconnect)
- Initiator Detected Error
- Message Parity Error
- Message reject
- No Operation
- Restore Pointers
- Save Data Pointer

Supported SCSI Commands
- Erase
- Inquiry
- Load/unload
- Locate
- Log Select
- Log Sense
- Mode Select (6)
- Mode Sense (6)
- Prevent Allow Medium Removal
- Read
- Read Block Limits
- Read Buffer
- Read Position
- Receive Diagnostic Results
- Release Unit
- Request Block Address
- Request Sense
- Reserve Unit
- Rewind
- Seek Block
- Send Diagnostic
- Space
- Test Unit Ready
- Verify
- Write
- Write Buffer
- Write Filemarks
Specifications

**Dimensions**

<table>
<thead>
<tr>
<th>Height</th>
<th>Width</th>
<th>Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5” Standard Height</td>
<td>101.6mm (4.0 in)</td>
<td>146.0mm (5.75 in)</td>
</tr>
<tr>
<td>5.25” Half Height</td>
<td>146.0mm (5.75 in)</td>
<td>146.0mm (5.75 in)</td>
</tr>
</tbody>
</table>

**Acoustic Noise**

- **Streaming Write/Read**: 35db (A)
- **Insert/Eject**: 60db (A)

**Temperature and Humidity Range**

- **Temperature**
  - Operating: 5°C to 40°C (ΔT< 10°C/h)
  - Non-Operating (mech): -40°C to 70°C (ΔT< 20°C/h)
  - Non-Operating (tape): -40°C to 45°C (ΔT< 20°C/h)
- **Humidity**
  - Operating: 20 to 80% RH, non-condensing
    - Maximum wet bulb temperature = 26°C
  - Non-Operating (mech): 5 to 95% RH (ΔRH< 30%/h)
  - Non-Operating (tape): 20 to 80% RH (ΔRH< 30%/h)

**Power Requirements**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Max ripple</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>5V +/-5%</td>
<td>100mVp-p</td>
<td>1.0 A</td>
</tr>
<tr>
<td>12V +/-10%</td>
<td>100mVp-p</td>
<td>0.21 A</td>
</tr>
</tbody>
</table>

**Suspended Particulate**

- Operating: Less than 150 microgram/m³

**EMI**

- Radiated: FTZ/FCC class B, VCCI-2 (Equivalent)
- Conducted: FTZ/FCC class B, VCCI-2 (Equivalent)

**ESD Discharge**

- < 15 kV: No operation failure
- < 20 kV: No drive damage

**Air-cooling Requirement**

- Surrounding temperature: < 40°C
- Clean air flow is recommended to minimise the possibility of data loss.