

SONY®

Installation Manual
SDT-5000 Series

Ver.1.30

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DDS Tape Drive

Sony Corporation

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Note : SDT-5000 Series
SDT-5000 / 5010 / 5100 / 5110 / 5200 / 5210

Introduction

Product Features

	SDT-5000 (With Data Compression)
Data Capacity	8 GB to 16 GB (Approx)
Transfer Rate (sustained)	732 to 1464 KB/SEC (Approx)

- Supported Format: DDS-2 and DDS
- High Burst Transfer Rate- 3MB/sec Asynchronous
5MB/sec Synchronous
- Large 1MB Buffer
- 3 1/2" Form Factor
- Embedded SCSI Interface
- Supports Variable or Fixed Record Length
- Supports SCSI-2 Sequential Access Command Set.
- Read After Write (RAW)
- Frame Rewrite Function
- Three Levels of Error Correction Code (ECC)
- Quick Search (200 times normal Read/Write speed)
- Random Read
- N-Group Write Option
- Dual Partition Option
- Supports SCSI Disconnection/Arbitration

Precautions

Installation

Avoid placing the drive in a location subject to:

- high humidity
- high temperature
- mechanical vibration
- direct sunlight

Operation

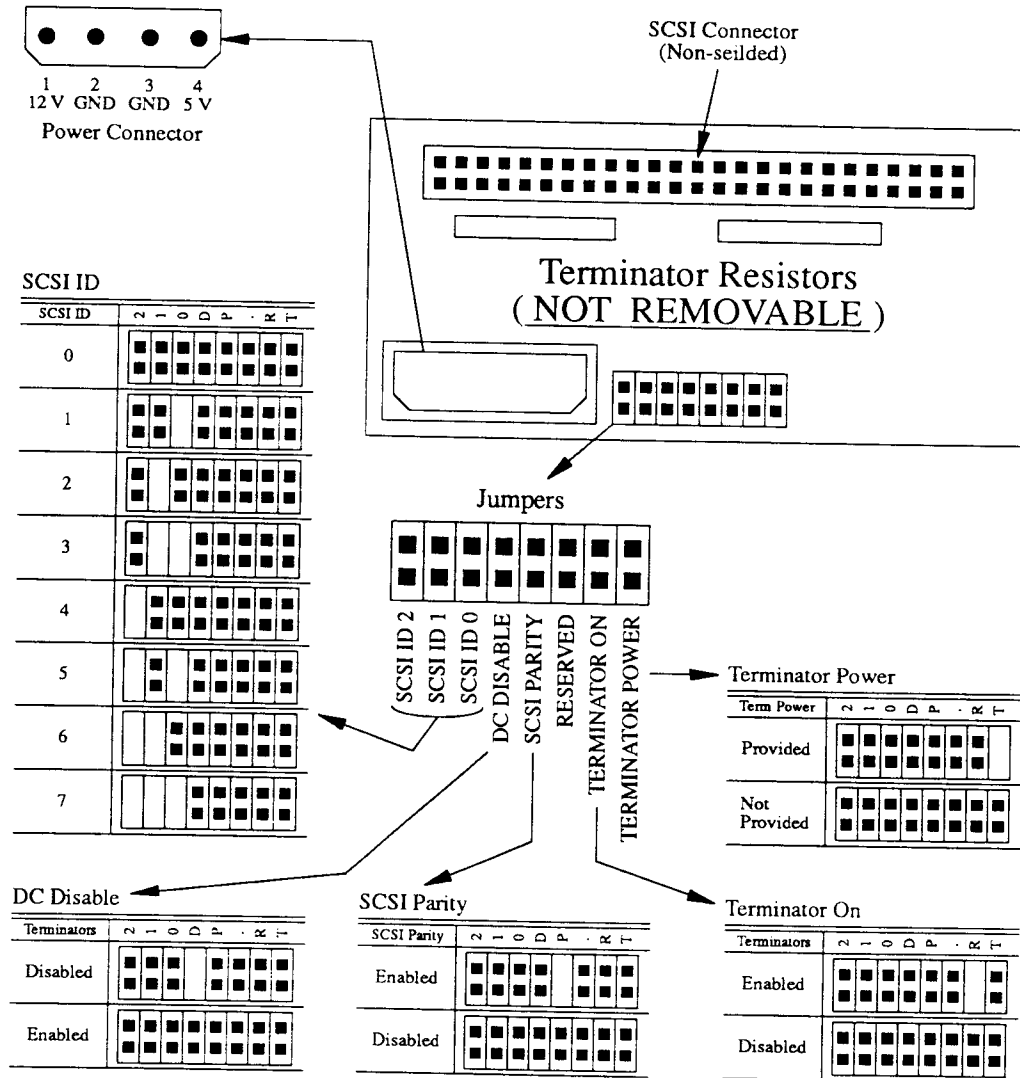
- * Do not move the drive while it is operating. Doing so may cause a malfunction to occur.
- * Avoid exposing the drive to sudden changes in temperature. This may cause condensation to collect inside the drive. If the ambient temperature should suddenly rise while the drive is turned on, wait at least one hour before turning off the drive. If you attempt to operate the drive immediately after a sudden increase in temperature, a malfunction may occur during reading.
- * Do not turn off the drive while the tape is in the drive.

Transportation

- * Keep the original packing materials to facilitate transportation of the drive.
- * Always remove the tape before moving the drive. After removing the drive from the computer, repack the drive into its original packaging.

Installation

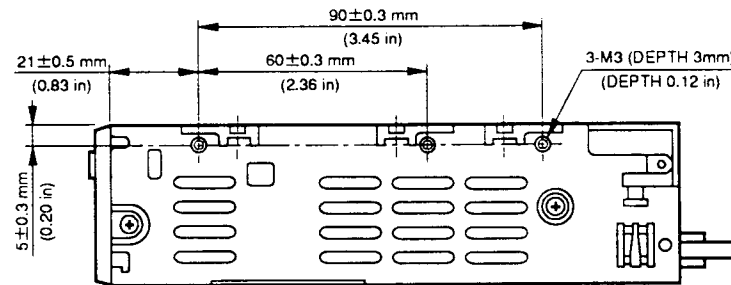
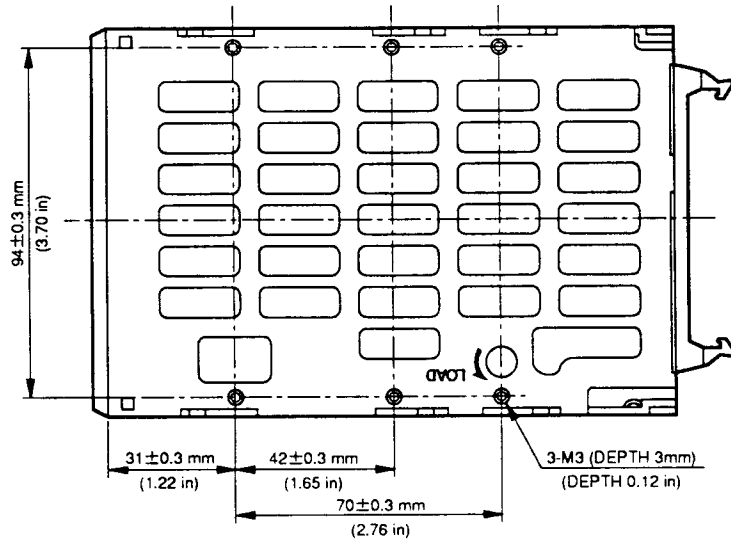
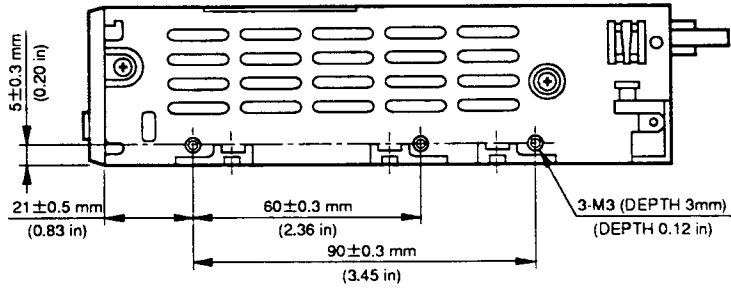
SCSI Connection/Setting the SCSI ID/Option Switches



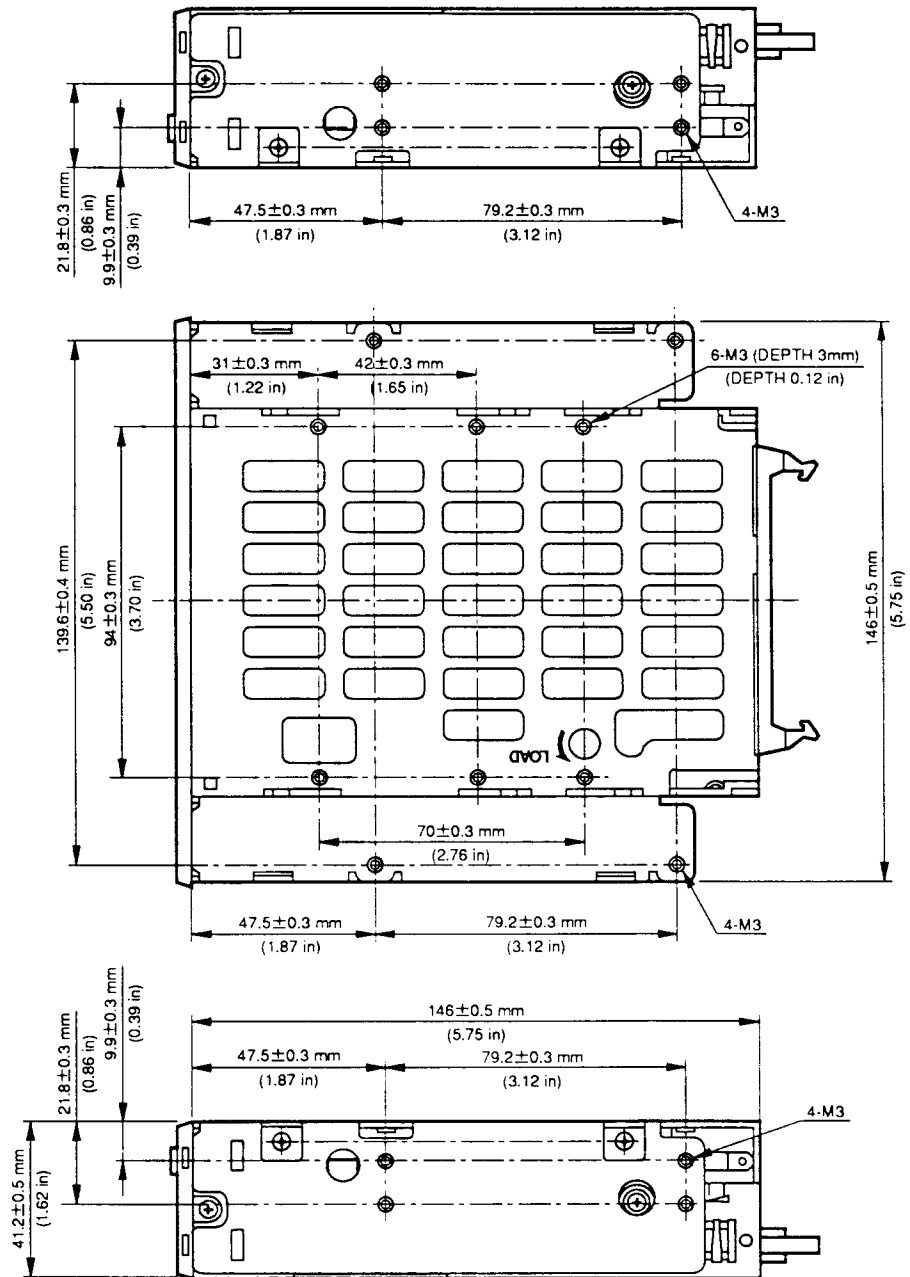
Note : = CLOSED Jumper installed
 = OPEN Jumper not installed

Mounting Holes

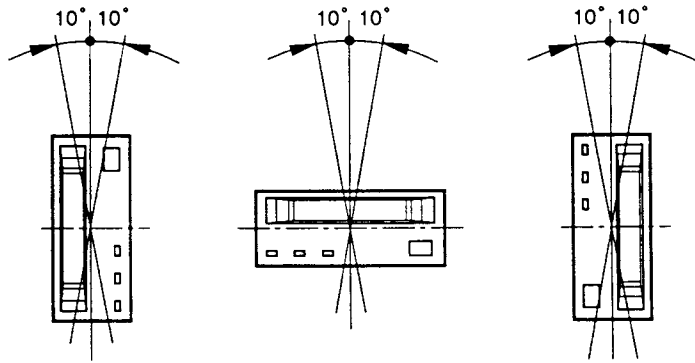
3.5" Type (SDT-5000/5100/5200)



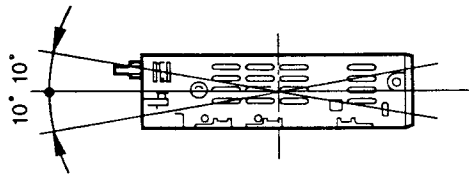
5.25" Type (SDT-5010/5110/5210)



Orientation













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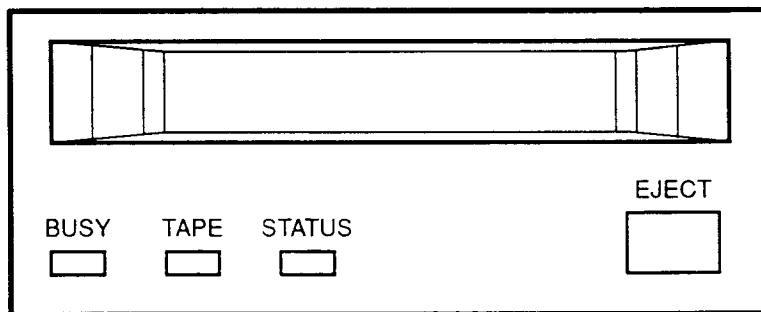


Operation

LED Indication Definition

LED	Function	Definition	Content of LED			LED Indication
			BUSY	TAPE	STATUS	
	Off	Not Active	Not Busy	Unloaded		off
	On	Active	SCSI Active	Loaded	Write Protected	on
	Flashing-1	Drive Active	Drive Active	Loading/ Unloading	Cleaning Tape at EOM	 0.25 sec on / 0.5 sec off
	Flashing-2	Warning	Humidity	Error Rate Warning	Cleaning Request	 3.5 sec on / 0.5 sec off
	Flash Code 1	Field Replaceable Unit (FRU)	Waiting for Reset	Waiting for Eject	Drive Mechanism Failure	 1 pulse (0.25 sec on)
	Flash Code 2	Field Replaceable Unit (FRU)			Drive Circuitry Failure	 2 pulses (0.25 sec on)

Front Panel



LED Indication for Drive Status

LED			State		
BUSY	TAPE	STATUS	Activity	Cartridge	Other
			None	None	None
			SCSI	None	None
			Drive	Loading/Unloading	None
			Drive	Loading/Unloading	Write Protected
			None	Loaded	None
			SCSI	Loaded	None
			SCSI/Drive	Loaded	None
Independent			*	Loaded	Write Protected
			None	Loaded	Cleaning Tape at EOM
Independent		Independent	*	Loaded	Error Rate Warning
	Independent	Independent	*	*	Humidity Warning
*	*		*	*	Cleaning Request
*	*		*	*	Drive Mechanism Failure
*	*		*	*	Drive Circuitry Failure
	*	*	*	*	Waiting for Reset
*		*	*	*	Waiting for Eject
*	*	*	*	*	Front Panel Test

* : Not defined.

Drive Operation

Loading A Tape

The operator inserts a cassette into the slot on the front panel with the arrow on the cassette pointing towards the drive. As the cassette is inserted, the drive takes it and automatically loads it into drive mechanism.

Unloading A Tape

The cassette can be removed from the SDT-5000 either in response to a SCSI Unload Command, or by pressing the eject button. The operator uses the eject button to initiate the unload sequence. The mechanism winds the tape to BOM, unthreads it, and ejects the cassette from the slot.

Write-protecting A Tape

Cassettes can be write-protected by sliding the tab on the back of the cassette open. In this state, data can be read from the tape but not written to it.

Using A Cleaning Tape

The SDT-5000 has a built-in head cleaner designed to last for the life of the drive. In addition, a cleaning tape should be used periodically to clean the entire tape path. The drive will automatically request that the user perform a cleaning operation. The need for a cleaning is determined by the length of time that the drum has been rotating since the last cleaning was performed. The drive will request a cleaning operation every 24 hours of drum rotation.

Emergency Tape Removal Procedure

1. Remove the drive from the chassis or enclosure to allow access to the bottom and left side of the drive.
2. Remove the drive's top cover.
3. Locate the small opening in the bottom of the drive and insert the tip of a small screwdriver so that the Loading/Threading motor shaft can be rotated.
4. Rotate the motor shaft clockwise to bring the threading mechanism back to the initial position.
5. Before continuing the manual eject procedure, tape slack must be removed in order to prevent tape damage. Repeatedly press the ratchet mechanism located on the left side of the drive to tighten the tape.
6. After tape slack has been removed, continue to turn the motor shaft clockwise until the tape is lifted out of the drive mechanism and is ejected.
7. Return the drive to the service station for repair.

Interface Implementation

Supported SCSI Messages

Abort	Linked Command Complete
Bus Device Reset	Linked Command Complete (with Flag)
Command Complete	Message Parity Error
Disconnect	Message Reject
Extended Message	No Operation
-Synchronous Data Transfer Request	Restore Pointers
Identify (w/&w/o Disconnect)	Save Data Pointer
Initiator Detected Error	

Supported SCSI Commands

Erase	Receive Diagnostic Results
Extended Diagnostic	Recover Buffered Data
Inquiry	Release Unit
Load/Unload	Request Sense
Locate	Reserve Unit
Log Select	Rewind
Log Sense	Seek Block
Mode Select (6)	Send Diagnostic
Mode Sense (6)	Space
Prevent Allow Medium Removal	Test Unit Ready
Read	Verify
Read Block Limits	Write
Read Buffer	Write Buffer
Read Log	Write Filemarks
Read Position	

Specification

Product Specifications

Dimensions

Height	41.2 mm	1 5/8 in
Width	101.6 mm	4 in
	146.0 mm	5.75 in
Depth	146.0 mm	5.75 in

Temperature and Humidity Range

Operating	5 °C to 40 °C, 35% RH 26 °C, 20% to 80% RH
Transportation	60 °C 80% 48H (Packaging)
Non-Operating	-40 to 70 °C

Altitude

Operating	0 to 7000 feet
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Acoustic Noise

(A) curve weight

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

Note : The sound-meter on (A) scale is located 1m in front of the center of the drive front panel.

Vibration

Operating	Swept Sine 3 to 500 Hz *0.25 G Peak 1 Octave/min.
Non-Operating	Swept Sine 3 to 500 Hz *0.5 G Peak 1 Octave/min. 3 axes, 3 directions

Shock

Operating	Half Sine Performance 5 G Peak 3 ms 3 axes, 2 directions *Interval 10 seconds
Non-Operating	Half Sine 90 G Peak 3 ms (30 G Peak 11 ms) 3 axes, 2 directions

Power Requirements

Voltage	Max Ripple	Current	
		Typical	Maximum
5V +/- 5%	100 mVp-p	0.8 A	1.65 A
12 V +/- 5%	100 mVp-p	0.2 A	0.55 A

Suspended Particulate

Operating	Less than 150 microgram/m ³ Based Sampling period 24 hours
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EMI

Radiated	FTZ/FCC class B, VCCI-2 (Equivalent)
Conducted	FTZ/FCC class B, VCCI-2 (Equivalent)
ESD	Discharge Voltage < 15 kV: No operation failure < 20 kV: No drive damage

Air-cooling Requirement

Temperature on the top panel	< 45 °C
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No air-cooling inside the drive required.