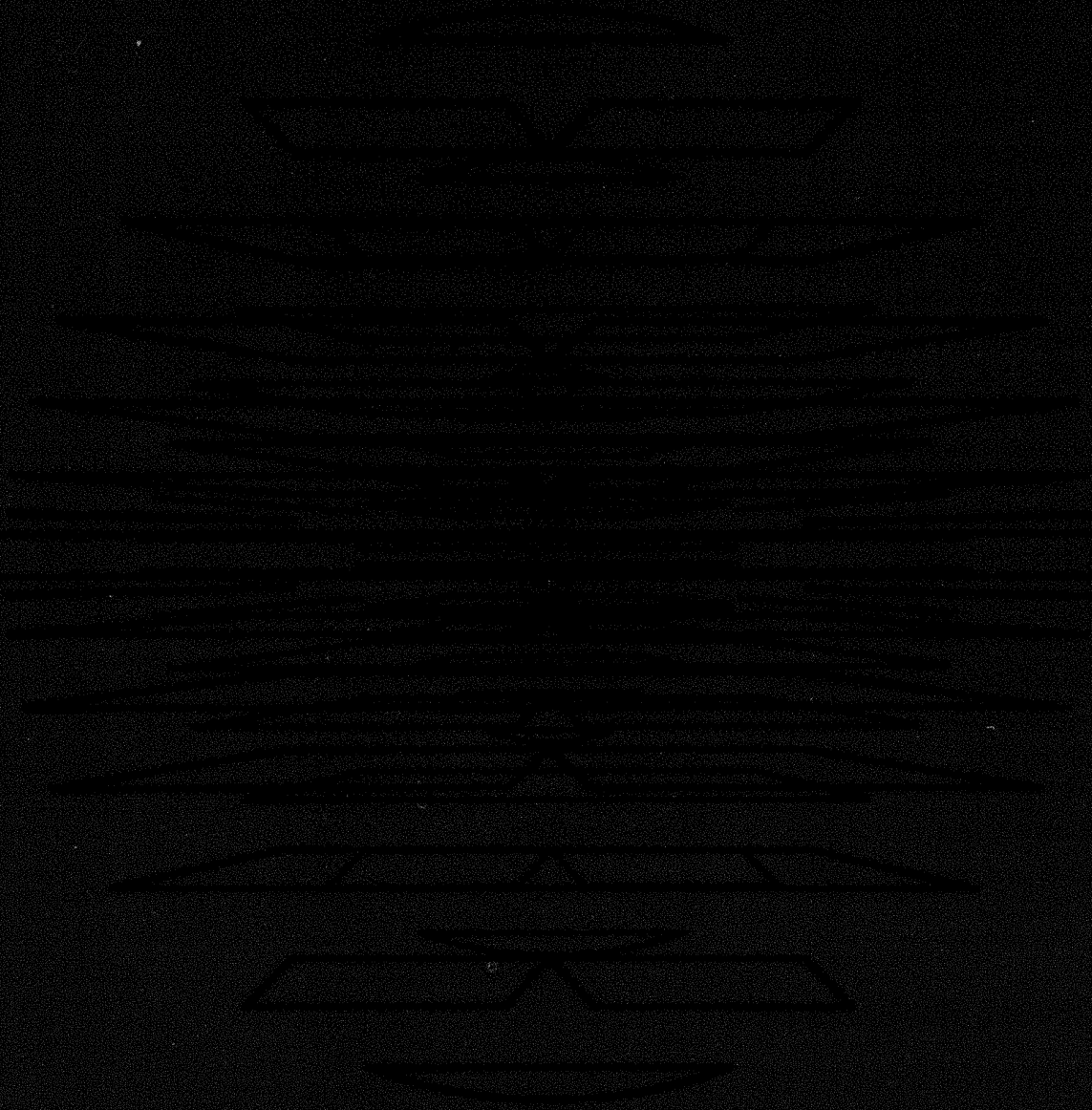


Operating Manual



General Specifications

Performance

Recording Density 12,000 bpi

Recording Method MFM

Data Transfer Rates

Instantaneous Rates

Streaming (50/75) 150/225 Kbyte/sec

Start/Stop 150 Kbyte/sec

Maximum User Transfer Rate

Record Size	8 Kbyte	16 Kbyte
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50 IPS Start/Stop	24 Kbyte/sec	40 Kbyte/sec
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75 IPS Streaming*	120 Kbyte/sec	140 Kbyte/sec
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*Use of the /MAXCAP switch is recommended with the DUMP_II and LABEL utilities.

Read/Write Access Time

50 IPS 60 – 100 ms

75 IPS 150 – 300 ms

Positioning Time

Read 150 – 300 ms

Write 150 – 300 ms

IBG Length .7 inch streaming
4.5 inch start/stop

Tape Speed 50 or 75 ips

Capacity (formatted)

Record Size	8 Kbyte	16 Kbyte
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Start/Stop	62 Mbyte	88 Mbyte
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Streaming	115 Mbyte	130 Mbyte
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Load Time 60 sec (typical)

Unload Time

Maximum 65 sec

Minimum 15 sec

Operating Environment

Ambient Temperature 5 to 44° C

**Relative Humidity
(noncondensing)** 20% to 80%

Altitude 0 to 10,000 ft

Shock 2 g @ 20 ms

Vibration .25 g

Cartridge Tape Drive Model 6352 Operator's Guide

WARNING: This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

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Rev. 02, March 1989

Preface

How to Use this Operator's Guide

This guide is intended for both new and experienced tape drive users. It explains how to use and maintain the Data General Model 6352 Cartridge Tape Drive. The computer uses the Model 6352 Cartridge Tape Drive for recording and retrieving information from tape cartridges. These tapes, if properly cared for, provide relatively permanent storage for the digital information used by the computer.

The guide is organized to be used selectively, as follows:

- For an overview of the Model 6352 Cartridge Tape Drive, read Chapter 1, Introduction.
- To learn how to operate the drive, read Chapter 2.
- For information on care and handling of your tape drive, read Chapter 3.

If you have comments about this guide, please use the prepaid Remarks Form provided. We want to know what you liked and disliked about the guide.

Ordering Additional Manuals

The documentation for the particular devices in your system configuration should have been included in your shipment. If not, or if you want to order additional manuals, contact Data General's Technical Information and Publications Service (TIPS) at:

Data General Corporation
4400 Computer Drive
Westboro, MA 01581-9973
Attn: Educational Services, MS G214
(617) 870-1600

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Chapter 1

Introduction

The computer uses the Model 6352 Cartridge Tape Drive for recording and retrieving information from magnetic tape cartridges. The Cartridge Tape Drive gives you a compact, low-cost method of providing backup, software/data distribution, and other traditional tape functions.

This drive is mounted vertically or horizontally, according to the orientation of your subsystem. The illustrations in this manual show both vertical and horizontal mounts.

Here are a few of the features of the Model 6352:

- Large storage capacity
- High transfer rate, two-channel read/write head
- Read-after-write data integrity
- Software compatibility with 9-track tape utilities
- Full system support, bootstrapping (on selected CPUs)
- Compactness
- Easy operation
- Serpentine, parallel read/write tracks
- Streaming mode at 75/50 ips
- Start/Stop mode at 50 ips
- Up to 32 KB records (up to 16 KB records for compatibility with all CPUs)
- Automatic error recovery
- Error correction by error-correcting code (ECC)

Chapter 2

Operating the Model 6352

This chapter covers the routine operation of the Model 6352, including information on tape drive indicators and instructions for write-protecting, inserting, loading, unloading, and removing tapes.

The Model 6352 uses a special tape cartridge (DG Model No. 10253) that contains 600 feet of 1/2-inch magnetic tape. You should use Data General tape cartridges only. Data General does not assume responsibility for the reliability or efficiency of tape cartridges purchased from other vendors.

Tape Drive Indicators

The tape drive indicators are LEDs located on the LOAD and UNLOAD buttons of your tape drive, beside or below the insertion slot. This is what the indicators mean:

LOAD	UNLOAD	Meaning
Off	Off	One of the following: <ul style="list-style-type: none">● No cartridge is in the drive.● The drive has no power.
Blinking	Off	One of the following: <ul style="list-style-type: none">● The drive is in the process of loading a tape.● A cartridge is in the drive and is being read from or written to the computer.
Glowing Steadily	Off	The tape is loaded; the drive is ready for operations.

LOAD	UNLOAD	Meaning
Off	Blinking	The drive is in the process of unloading a tape. This happens automatically during power-up if a tape is in the drive.
Off	Glowing Steadily	The tape in the drive is unloaded.
Blinking	Blinking	Fault Condition. The drive is functioning abnormally. Remove the tape from the drive, then contact your Data General Service Operations Center, or call 1-800-DG-HELPS. Outside the U.S., contact your nearest Data General sales representative.

NOTE: *If performance time is slow or erratic, your drive probably needs cleaning, or the cartridge tape may be worn or damaged.*

Tapes

Write-Protecting a Tape

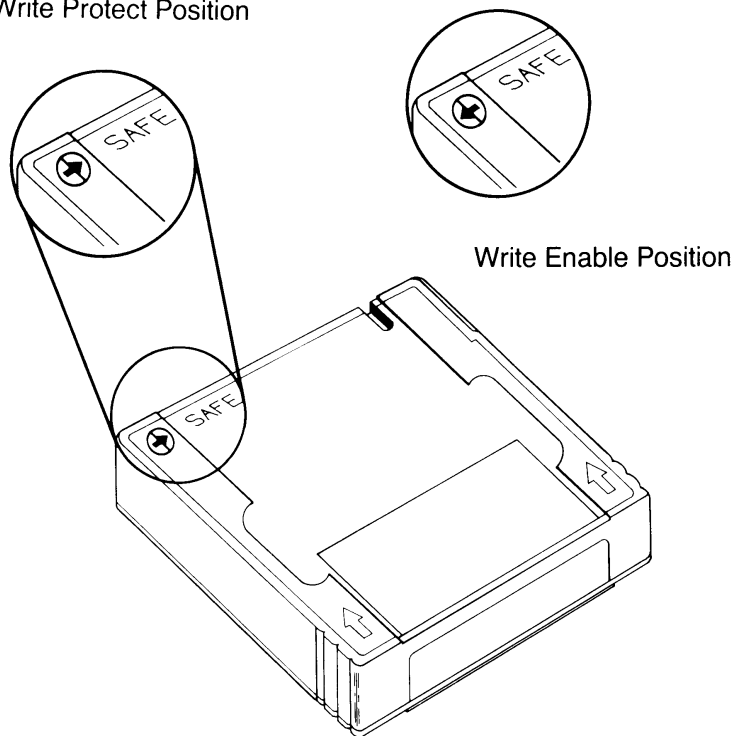
The computer can read from or write to the tape cartridge. "Reading" means transferring information from the tape. "Writing" means transferring information to the tape.

When the computer reads the information on a tape, the information remains intact. However, when the computer writes information onto a tape, it simultaneously erases the original contents of the tape.

To make the information on a tape safe from accidental overwriting:

1. Insert the end of a paper clip into the groove in the write-enable mechanism.
2. Turn the mechanism until the arrow points to SAFE, as shown in the figure below. The mechanism latches into place when it is in the correct position.

Write Protect Position



Pointing the arrow toward **SAFE** write-protects the tape. You cannot write on a write-protected tape, but you can read from it.

If you want to write new information on a write-protected tape, do this:

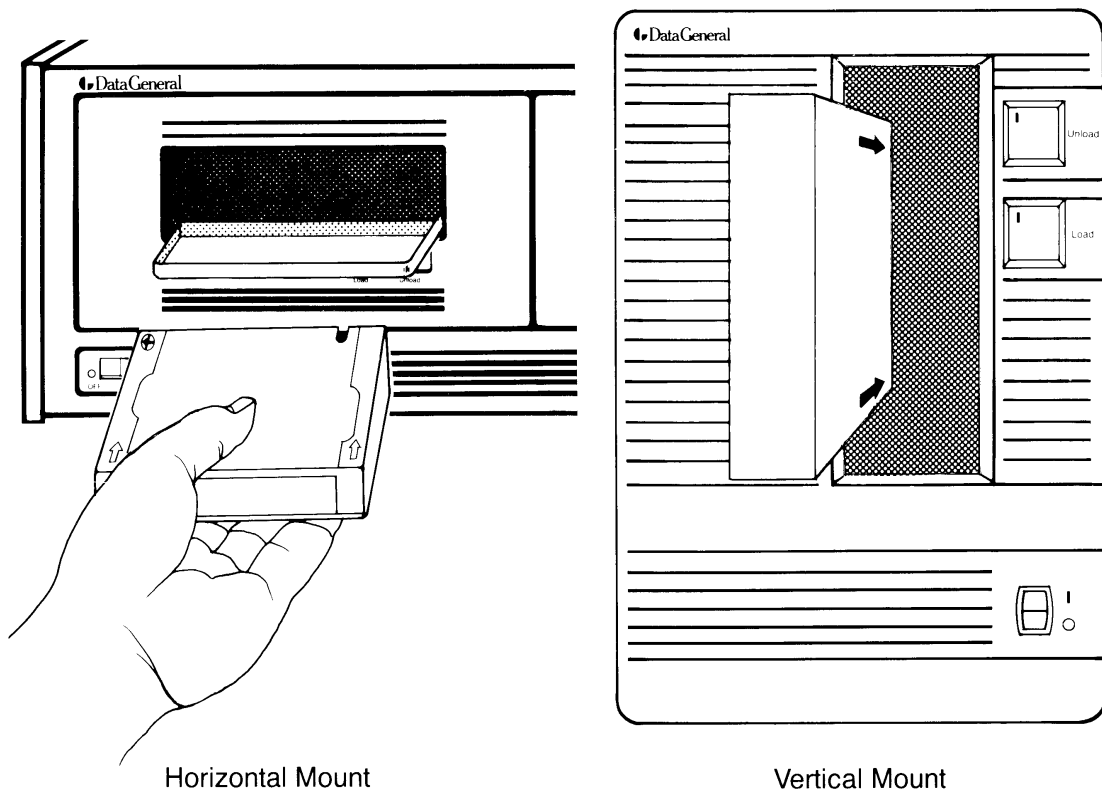
1. Insert the end of a paper clip into the groove in the write-enable mechanism.
2. Turn the mechanism in either direction until the arrow points 180 degrees away from **SAFE**. The switch locks into place when it is in the correct position.

Pointing the arrow away from **SAFE** write-enables the tape. That means you can both read and write on it.

Inserting a Tape

Use this procedure to insert a tape cartridge into the tape drive:

1. Check to see that both the **LOAD** and the **UNLOAD** indicators are off.
2. Push the **UNLOAD** button once to open the door and expose the insertion slot.

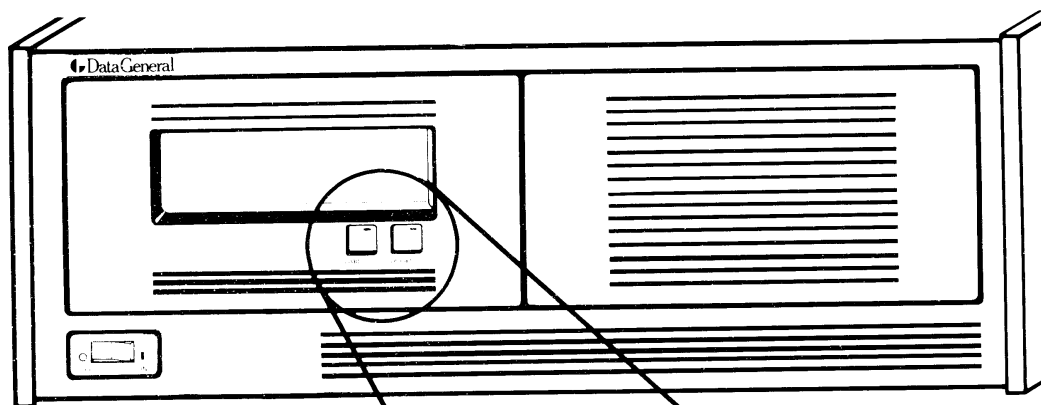


3. Insert the tape cartridge in the insertion slot, as shown above. Arrows on the label side of the tape cartridge point towards the edge that goes in first. Make sure the side of the cartridge with the round gear hole in its middle is facing in the direction of the LOAD and UNLOAD indicators. Push the tape cartridge firmly until it clicks into place.
4. Close the door of the tape drive. The UNLOAD indicator will blink for about 5 seconds.

Loading and Unloading a Tape

After you have inserted a tape cartridge into the drive, you need to load it before the computer can write to or read from it.

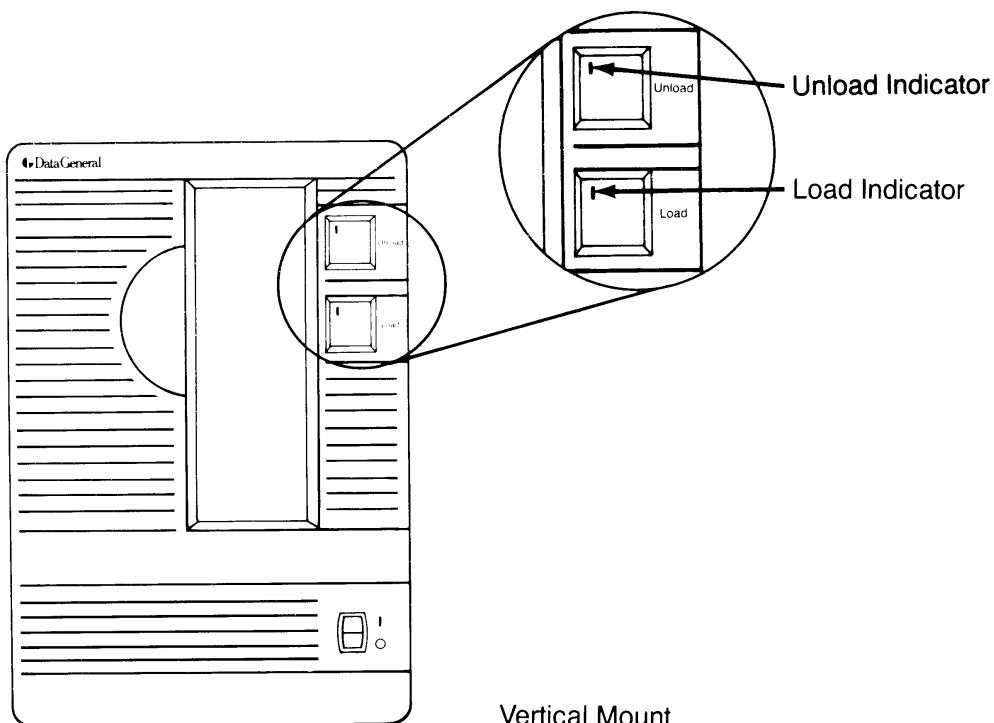
You can tell whether or not a tape is loaded by looking at the LOAD and UNLOAD indicators. If the LOAD indicator is glowing, the tape is loaded and ready for operations. If the UNLOAD indicator is glowing, the tape is not loaded.



Load Indicator

Unload Indicator

Horizontal Mount



Vertical Mount

NOTE: During the load and unload processes (when either of the indicators is blinking), it is normal for the drive to make various whirring and clicking noises.

To load a tape, push the LOAD button once.

Loading takes about 65 seconds to complete. You know the tape is loaded when the LOAD indicator stops blinking and glows steadily.

To unload a tape, push the UNLOAD button once.

Unloading takes about 65 seconds to complete. You know the tape is unloaded when the UNLOAD indicator stops blinking and glows steadily.

Removing a Tape from the Drive

You can remove a tape *only* if the tape has been unloaded (the UNLOAD indicator is glowing steadily). The tape door will not open while the tape is loaded.

To remove a tape from the drive, do this:

1. Push the UNLOAD button.
2. When the door opens, gently push down on the door until the cartridge ejects.
3. Grasp the exposed edge of the cartridge and carefully pull the cartridge out of the drive.
4. Close the door.
5. Store the tape as instructed in Chapter 3.

Chapter 3

Maintenance

This chapter describes the proper handling of tape cartridges and describes the care and cleaning of the tape drive.

CAUTION: *Immediately contact the nearest Data General Service Operations Center if either of the following conditions occurs:*

- Unusual sounds or odors come from the tape drive
- Both the LOAD and UNLOAD indicators blink at the same time and cannot be cleared by recycling the power switch

NOTE: *Check to be sure that NO TAPE is in the drive before you remove power, to prevent slowed rewind process.*

Handling Tapes

Observe the following precautions when handling tape cartridges:

- Do not open the cartridge cover, remove the hook, or turn the reel.
- Do not disassemble a cartridge or subject it to excessive vibration or shock.
- Do not place tape cartridges near magnets or magnetic-field producing equipment such as power supplies, printers, or terminals.
- Do not expose tape cartridges to temperatures above 37° C (98.6° F).

- Replace tape cartridges on which errors frequently occur. A magnetic tape that has been used a lot tends to generate more errors.
- Do not expose tape cartridges to direct sunlight.

When storing tape cartridges, follow these precautions:

- Every six months, rewrite the data on cartridges holding important data.
- Store tape cartridges in a clean, dry place. Optimum storage conditions are 65° F and 40% relative humidity.

Care and Cleaning

You should keep the area surrounding your tape drive clean and free of dust. If dirt or dust accumulates on the cabinet panel, turn the power off and wipe off the panel with a clean, dry cloth.

To clean the inside of the tape drive you will need to order a special cleaning cartridge from Data General (Model No. 10346). You can order the cartridge from DG/Direct at (617) 870-1400. Outside the U.S., contact your nearest Data General sales representative. You should use the cleaning tape about every eight hours, or after every 50 passes through the tape drive. You will need to use a fluid with the cleaning tape. The recommended solvent is:

2-Propanol (ISO-Propyl Alcohol 99.8%)

To clean the cartridge tape drive:

1. Make sure that current programs do not require the cartridge tape drive.
2. Unload and remove the cartridge previously in use.
3. Carefully open the cleaning cartridge door.
4. Apply 20 drops of the solvent onto the cleaning ribbon that is wrapped around the reel.
5. Immediately (before the solvent evaporates), insert the cleaning cartridge in the drive, pressing the cartridge firmly until you hear it lock into place.
6. Close the tape drive door.
7. Press the LOAD switch to begin the cleaning operation.

NOTE: *The whirring sounds coming from the drive during the cleaning process are a normal result of the cleaning operation.*

8. The cleaning tape automatically unloads when the cleaning cycle ends. Press UNLOAD to remove the cleaning tape.
9. After each cleaning, be sure to mark the cleaning tape in the space provided on the label. We recommend using the cleaning cartridge no more than 100 times.

For proper care of the cartridge tape drive, you should avoid the following:

- Dropping objects through the vents or openings--If a paper clip or similar object falls into the tape drive, it can cause electrical problems. If something drops into the unit, immediately turn the power off and contact the nearest Data General Service Operations Center. **Do not** try to retrieve the object.
- Spilling liquids on the cabinet--If you spill something on the equipment, immediately turn the power off and contact the nearest Data General Service Operations Center.
- Placing the unit in direct sunlight or near anything generating excessive heat.

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Nonoperating Environment

Ambient Temperature	0 to 50° C
Relative Humidity (noncondensing)	5% to 95%
Shock	3 g @ 20 ms
Vibration	.5 g

Power

Voltage	+5V 6.5A and +12V 3.5A
Power Dissipation	+5V 2.5A and +12V 3.5A
Heat Dissipation	
Operating	47 Kcal/hour
Standby	17 Kcal/hour

Weight	7.0 lb
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Reliability

Soft Read	1 in 10 ⁹
Hard Read	1 in 10 ¹⁰

Error Tolerance

Read after Write verification
Error detection/correction code

