

TEAC®

SD-340

NOV 13 1990

3 1/2 Inch Hard Disk Drive

- Remarkable Data-Storage Capacity of 43MB Formatted
- 3 1/2" Drive and a Height of Only 1" (including embedded controller)
- The Auto-Shipping Lock Function Protects the Media
- Fast 23msec Access Time
- High-Speed Data Transfer



1" Height, 43MB Data-Storage Capacity

Only 1" high including an embedded controller, the SD-340 is slim, compact and lightweight, with a full formatted capacity of 43Mbytes.

Its built-in auto-shipping lock protects the data against vibration and shock so effectively that it can safely withstand impacts of up to 70G in the non-operational condition. The drive is

designed to be perfectly at home in a lap-top computer. The use of TEAC custom chips in the drive circuits is only one of the many ways in which reliability and cost performance have been significantly enhanced. The useful range of applications is significantly expanded by combining the MT-2ST/N series of 3 1/2" form-factor cassette streamers.

1 Inch Height 3 1/2 Inch Hard Disk Drive SD-340

43MB Storage Capacity—Now a Reality

The SD-340 drive has a remarkable data-storage capacity of 43.01Mbytes (formatted). This is ample to meet current demand for personal computer and lap-top external storage devices with ever-larger storage capacities.

3 1/2" Drive and a Height of Only 1", Including Embedded Controller

To meet current needs for more compact computer peripherals, the 3 1/2" SD-340 offers all the benefits of a slim design at a height of only 1" including an embedded controller. This achieves further size reductions for personal computers and lap-tops.

Auto-Shipping Lock Function

The auto-shipping lock is designed to protect the media against the risks of damage due to vibrations and shock in transport. When the power is off, the head carriage is locked automatically at the shipping zone, within the inside limit of the work zone, to protect the all-important stored data.

Fast 23msec Access Time

The average access time is only 23msec.

High-Speed Data Transfer

Data transfer is achieved at a fast speed of 8.0Mbytes/sec (buffer-to-disk transfer).

Embedded SCSI, PC/AT Controller

Smooth and simple system integration of the SD-340 is ensured by provision of the SCSI level 2 interface (ANSI standard X3.131-1986) or a PC/AT controller. These are the most popular hard-disk drive interfaces.

High-Performance Drive Mechanism

This is an extremely durable, maintenance-free motor, with a performance capability of over MTBF 30,000POH. Designed for low-seek-noise performance, with an average noise level of less than 45dBa (0.5m max.).

Remarkably Improved CSS Durability

Thanks to the highly reliable CSS (Contact Start/Stop) characteristics, the SD-340 can achieve durability standards in excess of 100,000 start/stop operations.

Electronic Circuits of Outstanding Reliability

The SD-340's electronic circuits contain a variety of newly developed TEAC custom LSIs and chips. The corresponding reduction in the number of parts achieves dramatic improvements in reliability and cost performance efficiency.

Universal Installation Orientation

The head assembly uses a rotary actuator that provides circular arc head motion about the support point. This keeps the drive well-balanced and allows it to be installed in any physical orientation.

Built-in Self-Diagnostic Functions

When the power is switched on, the SD-340 will automatically perform a self-check sequence to check the program ROM, buffer RAM, and the register in the interface controller.

Automatic Replacement Processing for Error Correction

Error sectors are automatically replaced during formatting.

SPECIFICATIONS

Recording Capacity (Formatted):

Per drive: 43.01Mbytes
Per track: 20.48Kbytes
Per block: 512 bytes (fixed)

Data Block:

Per drive: 84,000
Per track: 40 (fixed)

Interface: SCSI (ANSI Standard X3.131-1986) or PC/AT

Number of Disks:1

Number of Surfaces:2

Number of Heads:2

Number of Cylinders:1,050

Number of Tracks:2,100

Track Density:1,500tpi

Innermost Track Recording Density:32,155bpi

Innermost Track Magnetic Flux Transition

Density: 21,437frpi

Recording Method:2-7 RLL code

Access Time (including settling time):

Track to Track: 10msec
Average: 23msec
Maximum: 50msec

Disk Rotational Speed: 2,358rpm $\pm 0.5\%$

Average Rotational Latency: 12.7msec.

Data Transfer Rate:

Buffer to Disk: 8.0 Mbytes/sec.
Buffer to Initiator: 4.0 Mbytes/sec. (PC/AT)
2.0 Mbytes/sec. (SCSI)

Start Time:

At Power ON: 5 sec. (typical), 7 sec. (max.)
Start Command Executed:
3 sec. (typical), 5 sec. (max.)

Stop Time:

At Power OFF: 10 sec. (typical), 15 sec. (max.)
Stop Command Executed:
6 sec. (typical), 10 sec. (max.)

Data Buffer:

4,096 bytes (PC/AT)

28,672 bytes (SCSI)

MTBF:

30,000 POH or more
(subject to typical usage)

MTTR:

10 minutes (typical)

Error Rate:

1 or less per 10^{12} bits
(Irrecoverable read error)

Safety Standards: UL, CSA, TÜV

CSS: 100,000 start/stop operations or more

Ambient Temperature:

Operating: 5–50°C (41–122°F)

Non-Operating: –40–60°C (–40–140°F)

Temperature Gradient:

Operating: 20°C/hour or less (non-condensing)

Non-Operating: 30°C/hour or less (non-condensing)

Relative Humidity:

Operating: 8–80% (non-condensing)

(Maximum wet-bulb temperature: 29°C (84°F))

Non-Operating: 8–80% (non-condensing)

(Maximum wet-bulb temperature: 29°C (84°F))

Shock

Operating: 5G or less
(half-sine pulse, 11msec)

Non-Operating: 70G or less
(half-sine pulse, 11msec)

Vibration

Operating: 1.0G or less

5–500Hz, sweep time 1 OCT/min

Non-Operating: 2G or less

5–500Hz, sweep time 1 OCT/min

Power Requirements:

12V DC $\pm 5\%$

Permissible ripple: 100mVp-p
(including spike noise)

5V DC $\pm 5\%$

Permissible ripple: 100mVp-p
(including spike noise)

Power Consumption:

At starting: 11.9 W (typical)

Average value at seek: 5.1 W (typical)

Average value at read/write: 4.4 W (typical)

At idle: 4.2 W (typical)

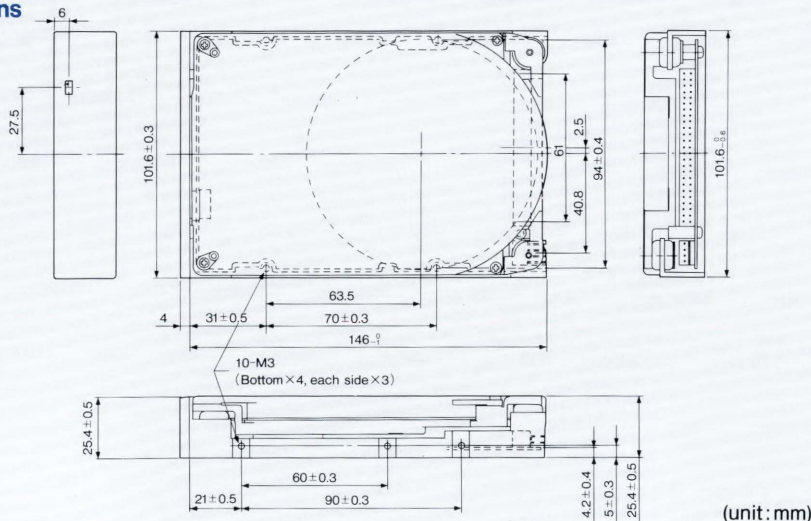
At stand-by: 0.35 W (typical)

At sleep: 0.20 W (typical, PC/AT)

Dimensions (W×H×D): 101.6×25.4×146(mm)

Weight: 520g (typical)

Dimensions



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Features and specifications are subject to change without notice.

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