

Australian Standard[®]

**Data storage and transfer media—
Storage, transportation and
maintenance of magnetic media for
use in data processing and
information storage**

Part 1: Exchangeable disks

[BSI title: Storage, transportation and maintenance of magnetic media for use in data processing and information storage, Part 1: Exchangeable disks]

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Australian Information Industries Association
CSIRO Institute of Information and Communication Technologies
Data media manufacturers
Interface Developers
La Trobe University

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PREFACE

This Standard was prepared by the Standards Australia Committee on Information Systems Equipment. It is identical with and has been reproduced from British Standards Institution's Standard BS 4783: Part 1: 1988, *Storage, transportation and maintenance of magnetic media for use in data processing and information storage, Part 1: Exchangeable disks*.

For the purpose of this Australian Standard, the text of the BSI Standard should be modified as follows:

Terminology: Replace 'BS 4783' with 'AS 3636' wherever it appears.

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Data storage and transfer media — Storage, transportation and maintenance of magnetic media for use in data processing and information storage

Part 1: Exchangeable disks

1 Scope

This Part of BS 4783 provides recommendations on the care and maintenance of exchangeable disks.

It includes recommendations for storage, handling, transportation, inspection, cleaning, maintenance and fault identification.

2 Definitions

For the purposes of this Part of BS 4783, the following definitions apply.

2.1 alternative tracks. Spare tracks specifically reserved for the relocation of data originally destined for data tracks which are subsequently found to be defective (flagged).

2.2 axial runout (vertical runout). A measure of the flatness of each disk platter surface defining the variation of the surface from its nominal position.

2.3 correctable error. An error that can be corrected by the error correcting code (ECC).

NOTE. See 2.13.

2.4 cosmetic blemishes. A blemish usually resulting from the manufacturing process, e.g. machining marks (from grinding or lapping), or slight variations in the oxide coating.

NOTE. Cosmetic blemishes do not necessarily affect operational performance.

2.5 coverset. An outer protective cover of a disk pack.

2.6 cylinder. On the data surfaces, the set of data tracks having the same data track identification.

2.7 disk. A disk pack, storage module or disk cartridge.

2.8 disk cartridge. An exchangeable platter assembly enclosed in a plastic protective container.

NOTE. There are two basic types, referred to as front-loading or top-loading according to the method of inserting the cartridge into the drive.

2.9 disk drive. A complete disk mounting device comprising spindle, motor, read/write head(s) with associated controls.

2.10 disk pack. A removable assembly of platters within a protective coverset.

2.11 disk surface. One side of a coated platter.

2.12 drive spindle lockshaft. An assembly in the disk drive providing the mechanical interface with the disk pack spindle lock.

2.13 error correcting code (ECC). A data checking method capable of detecting and correcting single bursts of errors.

2.14 error free. Containing no uncorrectable or correctable errors.

2.15 extreme environment. Environmental conditions outside the limits referred to in this standard.
NOTE. See 5.1.

2.16 flag free. Containing no uncorrectable errors but possibly containing a certain number of correctable errors.

2.17 flawed or flagged track. A track in which an uncorrectable error exists.

2.18 formatting. The prerecording of the control areas on the disk.

2.19 head crash. A fault condition occurring when a head comes into contact with the magnetic recording surface(s) of a disk platter, causing damage.

2.20 head to disk interference (HDI). Contact between the disk drive magnetic head assembly and the surface of the disk.

NOTE. HDI does not necessarily produce data errors or a head crash.

2.21 high technology disks. Disks incorporating a head tracking servo system.

2.22 horizontal runout (HRO). A measure of the concentricity of each disk platter.

2.23 initialization. The preparation of a disk for use.
NOTE. Initialization may involve labelling (identifying) tracks, volumes or sectors.

2.24 library. A storage area for media and associated equipment.

2.25 lockscrew assembly (LSA) (spindle lock). A metallic assembly in a disk that is screwed into the lockshaft on the disk drive.

2.26 low technology disks. Disks without a head tracking servo system.

2.27 permanent (uncorrectable) error. An error that cannot be corrected by the error correcting code.

2.28 platter (plate). A flat, circular plate made from aluminium coated with a magnetizable surface layer on which data can be stored by magnetic recording.

2.29 rebuilt disk, as new. A disk constructed from parts which, although not necessarily new, have been individually inspected and tested to verify the compliance with the specification for new parts.

2.30 recording surface. A disk substrate coated with magnetic recording medium.

2.31 refurbished disk (repaired disk). A disk in which any damaged parts of the assembly have been replaced and then tested to verify compliance with the specification for a new disk.

2.32 sector. That part of a track on a platter of a predetermined angular displacement.

2.33 sector disk. A notched disk used by the drive electronics to monitor speed and position.