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EIA-720-B

EIA SPECIFICATION

**Specification for Small Form
Factor 63.5 millimeters
(2.5 inches) Disk Drives**

EIA-720-B
(Revision of EIA-720-A)

August 2016



Electronic Components Industry Association

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(From Standards Proposal No. 5343-A, formulated under the cognizance of the CE-2.0 Committee on EIA National Connector and Socket Standards.)

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Foreword

This Specification is from EIA Standards Proposal No. 5343, formulated under the cognizance of EIA CE-2.0, Committee on Connector and Socket Standards. This project was conducted in liaison with the SFF Committee as representing the disk drive industry. Utilization of this Standard is intended to eliminate misunderstandings or confusion between a manufacturer and user with respect to product performance and testing requirements for this as well as other possible applications.

The development work on this specification was done by the SFF Committee, an industry group. The membership of the committee since its formation in August 1990 has included a mix of companies that are leaders across the industry.

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Specification for Small Form Factor 63.5 millimeters (2.5 inches) Disk Drives

(From EIA Standards Proposal No. 5343-A, formulated under the cognizance of the EIA CE-2.0 Committee on National Connector and Socket Standards, and previously published in EIA-720-A.)

1. Introduction

1.1 Scope

This specification defines the dimensions and connector locations of 63.5 millimeters (2.5 inches) small form factor disk drives.

The purpose of this specification is to define the external characteristics of small form factor disk drives so that products from different vendors may be used in the same mounting configurations.

This specification establishes the requirements for external dimensions, connectors, connector placement, and mounting holes to assist manufacturers in the systems integration of small form factor disk drives.

1.2 Applicable documents

The following documents form a part of this specification to the extent indicated herein. In the event of conflict between this specification and the referenced documents, this specification shall take precedence.

1.2.1 EIA specification

- EIA-700A0AE Detail Specification for Trapezoidal Connectors with Nonremovable Ribbon Cable Contacts on 1.27 mm Pitch Double Row Used with Single Connector Attachments (SCA2)

1.2.2 Industry document

- ASME Y14.5 Dimensioning and Tolerancing
- SFF-8201 Specification for 2.5 inch Form Factor Drive Dimensions
- SFF-8212 Specification for 2.5 inch Form Factor Drive with 50-pin Connector

1.2.3 SFF specifications

- SFF-8222 Specification for 2.5 inch Form Factor Drive with SCA-2 Connector
- SFF-8223 Specification for 2.5 inch Form Factor Drive with Serial Attached Connector
- SFF-8248 Specification for 2.5inch Form Factor w/Combo Connector including USB Micro-B Receptacle
- SFF-8252 Specification for 2.5 inch Form Factor Drive with SFF-8784 Connector

2 General

2.1 Application environment

The application environment for small form factor disks is any computer, cabinet, or enclosure connecting to one or more drives in a restricted packaging environment. The purpose of this specification is to provide information that will assist vendors to design products that can fit the same packaging envelope. Small form factor disks are widely used where low power and small size are important configuration parameters.

2.2 Patent rights and conformance

The user's attention is called to the possibility that compliance with this standard may require use of an invention covered by patent rights. (See NOTE under NOTICE inside the front cover regarding patent disclosure requirements.)

2.3 Definitions

2.3.1 Optional

This term describes features that are not required by the specification. However, if any feature defined by the specification is implemented, it shall be done in the same way as defined by the specification. Describing a feature as optional in the text is done to assist the reader.

2.3.2 Vendor specific

This term is used to describe bits, bytes, fields, pins, signals, code values and features that are not described in this specification and may be used in a way that varies between vendors.

3 Interface requirements

3.1 Power and grounding

3.1.1 Power

The drive receives DC power through the same connector that contains the signal lines if it is a direct mount to a receptacle on a board. Certain supported Interface Standards require DC power to be delivered through the same connector that contains the signal lines.

3.1.2 Grounding

Provision for tying the DC logic ground and the chassis ground together or for separating these two grounds is vendor specific.

3.2 I/O signals connectors

3.2.1 The I/O signals connectors are suited to different applications. The defined configurations are:

- A 50-pin low density connector for Parallel ATA and Parallel SCSI
- An SCA-2 connector for Parallel SCSI
- An SCA-2 connector for Fibre Channel Arbitrated Loop
- A unitized connector for Serial Attached SCSI
- A unitized connector for Serial ATA
- A combination connector including a USB Micro-B receptacle
- A unitized 0.8mm Card Edge Drive Connector for serial applications

3.2.2 See the respective industry interface standard for pin assignments and application information.

4 Physical configurations

This content is based on SFF-8201 (63.5 millimeters (2.5 inches) drive form factor dimensions).

4.1 Physical dimensions

4.1.1 Any physical measurements shall be performed at $20\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$. The drive shall not be exposed to any conditions (transit temperatures, shock, etc.) beyond the manufacturer's specified limits before measurement.

4.1.2 The dimensioning conventions are described in ASME Y14.5. Dimensions are supplied in both millimeters and inches. Unless stated otherwise, millimeters are the controlling dimensional units.