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SFF Committee

SFF-8131 Specification for

**30x40mm Drive form factor**

Rev 1.9 March 8, 2006

Secretariat: SFF Committee

Abstract: This specification defines the dimensions for 30x40mm form factor magnetic disk drives.

This document provides a common specification for systems manufacturers, system integrators, and suppliers of magnetic disk drives. This is an internal working document of the SFF Committee, an industry ad hoc group.

This specification is made available for public review, and written comments are solicited from readers. Comments received by the members will be considered for inclusion in future revisions of this specification.

Support: This specification is supported by the identified member companies of the SFF Committee.

POINTS OF CONTACT:

Dan Colegrove  
Technical Editor  
Hitachi Global Storage Technologies  
2903 Carmelo Dr  
Henderson NV 89052

702-614-6119  
702-614-7955Fx  
[daniel.colegrove@hitachigst.com](mailto:daniel.colegrove@hitachigst.com)

I. Dal Allan  
Chairman SFF Committee  
14426 Black Walnut Court  
Saratoga  
CA 95070

408-867-6630  
408-867-2115Fx  
[endlcom@acm.org](mailto:endlcom@acm.org)

**EXPRESSION OF SUPPORT BY MANUFACTURERS**

The following member companies of the SFF Committee voted in favor of this industry specification.

EMC  
ENDL  
FCI  
Foxconn  
Hitachi GST  
Molex  
Seagate  
Sun Microsystems  
Tyco AMP

The following member companies of the SFF Committee voted to abstain on this industry specification.

Amphenol  
Cornice  
FCI  
Fujitsu Compnts  
Hewlett Packard  
LSI Logic  
Maxtor  
Toshiba America  
Vitesse Semi

**Foreword**

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 which are leaders across the industry.

When 2 1/2" diameter disk drives were introduced, there was no commonality on external dimensions e.g. physical size, mounting locations, connector type, connector location, between vendors.

The first use of these disk drives was in specific applications such as laptop portable computers and system integrators worked individually with vendors to develop the packaging. The result was wide diversity, and incompatibility.

The problems faced by integrators, device suppliers, and component suppliers led to the formation of the SFF Committee as an industry ad hoc group to address the marketing and engineering considerations of the emerging new technology.

During the development of the form factor definitions, other activities were suggested because participants in the SFF Committee faced more problems than the physical form factors of disk drives. In November 1992, the charter was expanded to address any issues of general interest and concern to the storage industry. The SFF Committee became a forum for resolving industry issues that are either not addressed by the standards process or need an immediate solution.

Those companies which have agreed to support a specification are identified in the first pages of each SFF Specification. Industry consensus is not an essential requirement to publish an SFF Specification because it is recognized that in an emerging product area, there is room for more than one approach. By making the documentation on competing proposals available, an integrator can examine the alternatives available and select the product that is felt to be most suitable.

SFF Committee meetings are held during T10 weeks (see [www.t10.org](http://www.t10.org)), and Specific Subject Working Groups are held at the convenience of the participants. Material presented at SFF Committee meetings becomes public domain, and there are no restrictions on the open mailing of material presented at committee meetings.

Most of the specifications developed by the SFF Committee have either been incorporated into standards or adopted as standards by EIA (Electronic Industries Association), ANSI (American National Standards Institute) and IEC (International Electrotechnical Commission).

If you are interested in participating or wish to follow the activities of the SFF Committee, the signup for membership and/or documentation can be found at:

[www.sffcommittee.com/ie/join.html](http://www.sffcommittee.com/ie/join.html)

The complete list of SFF Specifications which have been completed or are currently being worked on by the SFF Committee can be found at:

<ftp://ftp.seagate.com/sff/SFF-8000.TXT>

If you wish to know more about the SFF Committee, the principles which guide the activities can be found at:

<ftp://ftp.seagate.com/sff/SFF-8032.TXT>

Suggestions for improvement of this specification will be welcome. They should be sent to the SFF Committee, 14426 Black Walnut Ct, Saratoga, CA 95070.

SFF Committee --

### **30x40mm drive form factor**

#### **1. Scope**

The 813x suite of specifications defines the configuration characteristics associated with 30x40mm disk drives.

The purpose of the 813x suite is to define the external characteristics of drives such that products from different vendors may be used in the same mounting configurations. The set of specifications provide external dimensions, connectors, connector placement, and interface pinouts to assist manufacturers in the systems integration of small form factor disk drives.

- SFF-8131 defines the dimensions of 30x40mm disk drives.
- SFF-8132 defines the connector location and cable dimensions for 35 pin parallel ATA 30x40mm disk drives.
- SFF-8133 defines the connector location for CE-ATA 30x40mm disk drives.

In an effort to broaden the applications for storage devices, an ad hoc industry group of companies representing system integrators, peripheral suppliers, and component suppliers decided to address the issues involved.

The SFF Committee was formed in August, 1990 and the first working document was introduced in January, 1991.

#### **1.1 Description of Clauses**

Clause 1 contains the Scope and Purpose.

Clause 2 contains Referenced and Related Standards and SFF Specifications.

Clause 3 begins the specification

#### **2. References**

The SFF Committee activities support the requirements of the storage industry, and it is involved with several standards.

##### **2.1 Industry Documents**

The following (see <http://www.ce-ata.org/specifications.asp>) is relevant to this Specification.

- CE-ATA Embedded Cable and Connector Specification

##### **2.2 SFF Specifications**

There are several projects active within the SFF Committee. The complete list of specifications which have been completed or are still being worked on are listed in the specification at <ftp://ftp.seagate.com/sff/SFF-8000.TXT>

##### **2.3 Sources**

Those who join the SFF Committee as an Observer or Member receive electronic copies of the minutes and SFF specifications (<http://www.sffcommittee.com/ie/join.html>).

Copies of ANSI standards may be purchased from the InterNational Committee for Information Technology Standards (<http://tinyurl.com/c4psg>).

Copies of SFF, T10 (SCSI), T11 (Fibre Channel) and T13 (ATA) standards and standards still in development are available on the HPE version of CD\_Access (<http://tinyurl.com/85fts>).

## 2.4 Conventions

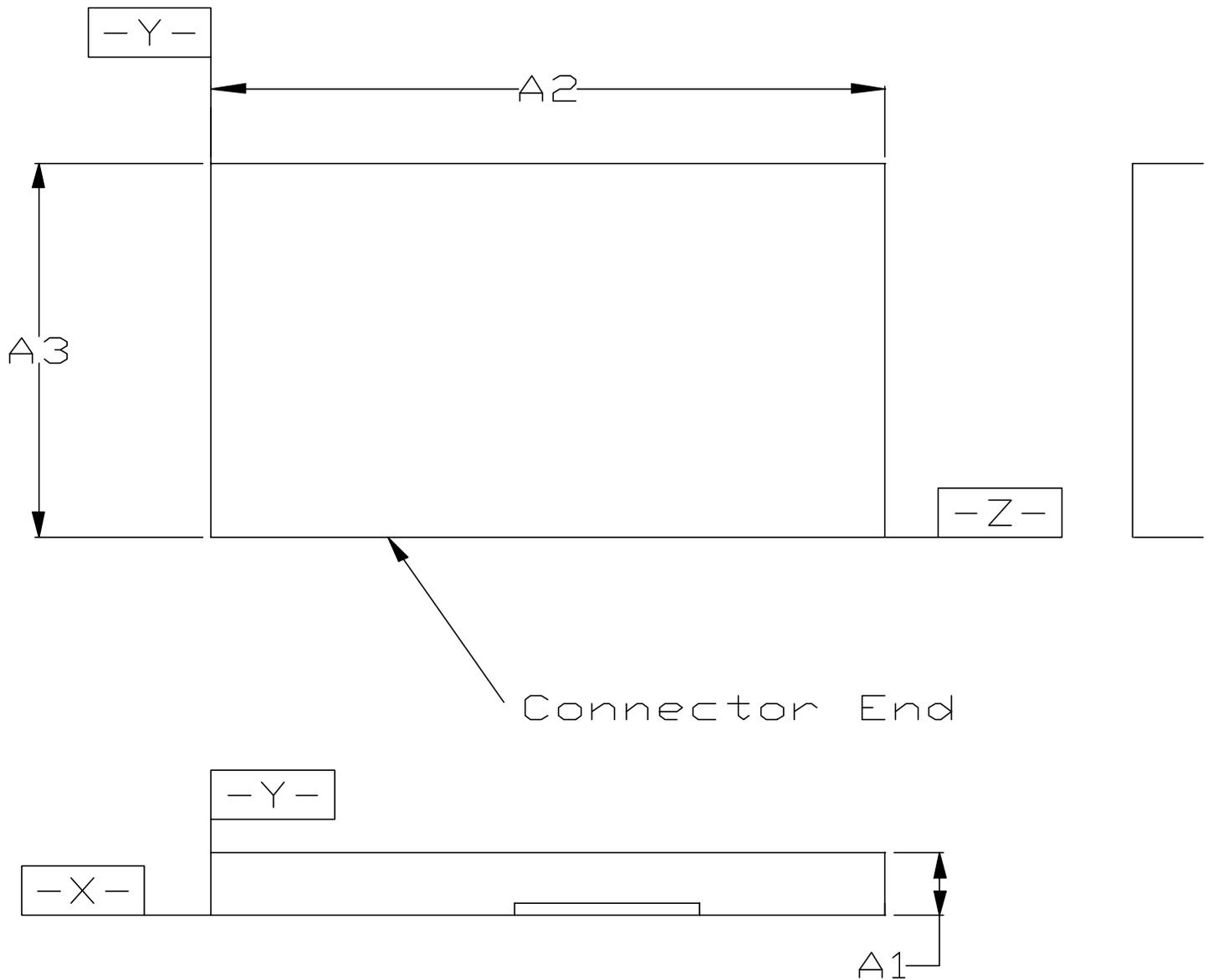
The American convention of numbering is used i.e., the thousands and higher multiples are separated by a comma and a period is used as the decimal point. This is equivalent to the ISO/IEC convention of a space and comma.

American:	ISO:
0.6	0,6
1,000	1 000
1,323,462.9	1 323 462,9

### 3. Introduction

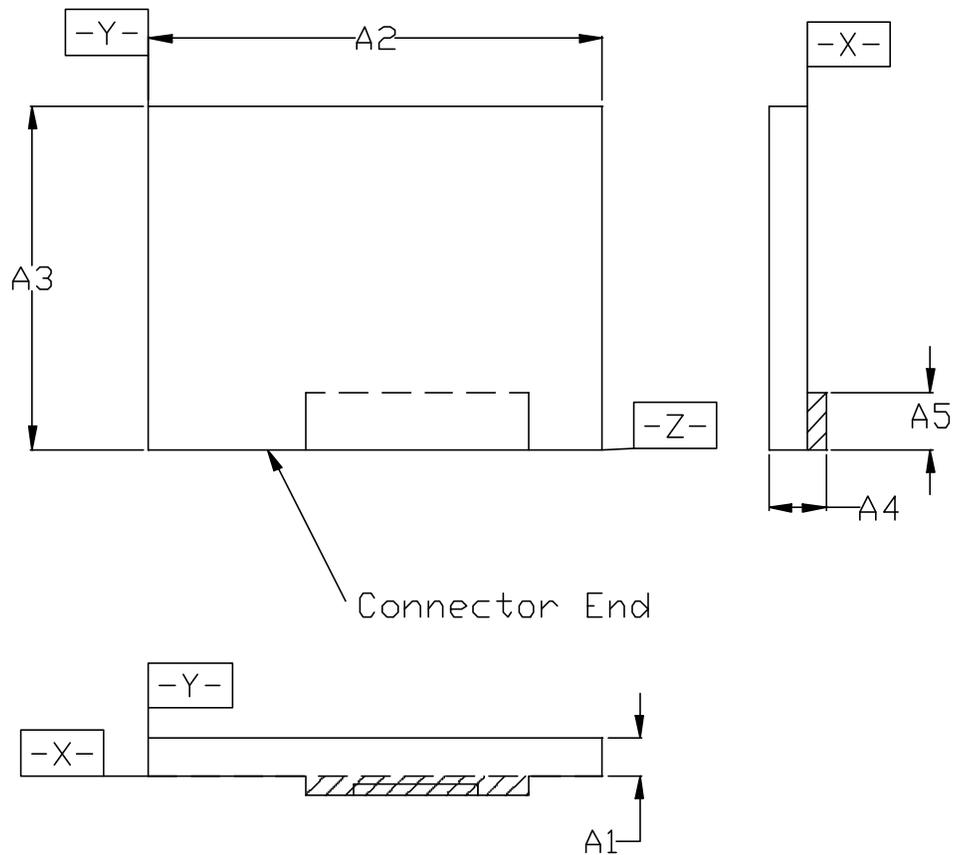
This document describes a 30mm x 40mm x 5mm nominal form factor for storage devices.

### 4. Physical Configuration



Note 1: Portions of All surfaces may recessed.

Figure 1: 30x40mm Form Factor Drawing



Note 1: Portions of All surfaces may be recessed.

Note 2: The connector area width is not specified. It may span the device or be reduced in width, as illustrated on the drawing.

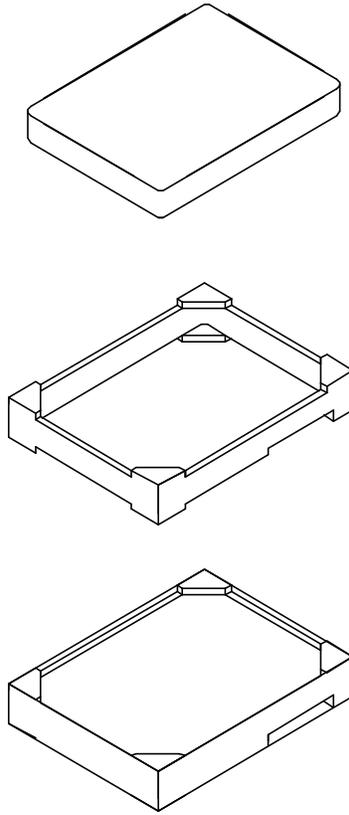
**Figure 2: 30x40mm <5mm Form Factor Drawing**

**Table 1: 30mm x 40mm Disk Drive Dimensions**

Dimension	Millimeters	Tolerance	Note
A1	<b>5.00</b>	+/-0.20	Height
A1	-	-	<5mm Height
A2	40.00	+0.20 -0.40	Width
A3	30.00	+0.20 -0.40	Length
A4	5.20	MAX	Connector Area Height
A5	5.20	MAX	Connector Area Depth

## 5. Mounting Considerations

Portions of all surfaces may be recessed. This specification describes the maximum volume of a 30x40mm device. The mounting method for 30x40mm devices may vary by manufacturer and by model. Refer to device manufacturer's specification for mounting and surface pressure limit considerations.



**Figure 3: Illustration of Elastomeric Mounting**

One method of mounting SFF-8131 compliant devices is to use an elastomeric (flexible rubber) mount. The device is inserted in the rubber mount. The assembly is then placed in an enclosure. Because SFF-8131 compliant devices may have recessed areas in any location the elastomeric mounts for devices from different manufacturers may be specific to the device and not interchangeable.