

SFF Committee
SFF-8337
Specification for
3.5" Form Factor Drive w/SCA-2 Connector

Standardized as EIA-740 1999/07 at Rev 1.2 dated July 27 1995

This specification was one of several consolidated in the SFF-8300 Suite of 3.5" Form Factor Drives which was submitted as a project to the Electronic Industries Alliance, and was Expired at that time.

EIA standards can be purchased from <http://global.ihs.com/>

Subsequent to adoption by EIA, this specification has been revised

The editor had cause to generate a new revision, the details of which are reflected in the Update History on the 'Expression of Support by Manufacturers' page.

Until these changes have been adopted by the EIA, this specification represents the latest information.

SFF specifications are available at <http://www.snia.org/sff/specifications>
or <ftp://ftp.seagate.com/sff>

This specification was developed by the SFF Committee prior to it becoming the SFF TA (Technology Affiliate) TWG (Technical Working Group) of SNIA (Storage Networking Industry Association).

The information below should be used instead of the equivalent herein.

POINTS OF CONTACT:

Chairman SFF TA TWG
Email: SFF-Chair@snia.org

If you are interested in participating in the activities of the SFF TWG, the membership application can be found at:

<http://www.snia.org/sff/join>

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

<http://www.snia.org/sff/specifications/SFF-8000.TXT>

The operations which complement the SNIA's TWG Policies & Procedures to guide the SFF TWG can be found at:

<http://www.snia.org/sff/specifications/SFF-8032.PDF>

Suggestions for improvement of this specification will be welcome, they should be submitted to:

<http://www.snia.org/feedback>

SFF Committee documentation may be purchased in hard copy or electronic form.
SFF specifications are available at <ftp://ftp.seagate.com/sff>

SFF Committee

SFF-8337

Specification for

3.5" Form Factor Drive w/SCA-2 Connector

Rev 1.5 October 31, 2015

Secretariat: SFF Committee

Abstract: This specification defines the location of Fibre Channel SCA-2 connectors on 3.5" magnetic disk drives.

This specification provides a common reference for systems manufacturers, system integrators, and suppliers. This is an internal working specification 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 document is supported by the identified member companies of the SFF Committee.

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EXPRESSION OF SUPPORT BY MANUFACTURERS

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

3M
Adaptec
Cirrus Logic
Conner Peripherals
ENDL
Foxconn
Hewlett Packard
Hewlett Packard
Honda Connector
IBM
Luxshare-ICT
Madison Cable
Maxtor
Methode
Robinson Nugent
Seagate
Sigmax
TE Connectivity
Unisys

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

Amphenol
Avago
Broadcom
EMC
FCI
Finisar
Fujitsu Technology GMBH
Lumentum
Sumitomo

Update History

Rev 1.3 (December 21 2013)

- Rev 1.2 July 1995 contents incorporated in current template.
- References to SCSI were removed because SFF-8046 80-pin SCA-2 Connector for SCSI Disk Drives has Expired since SFF-8337 was first Published.

Rev 1.4 (August 30, 2014)

- Editorial changes to clarify that inches is the controlling dimension.
- Editorial changes for consistency between specs in revised EIA-740.

Rev 1.5 (October 31, 2015): errors found during EIA ballot review

- Corrected pin count of Fibre Channel connector in 3
- Deleted first A2 dimension in Table 3-1

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), 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

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.

TABLE OF CONTENTS

1. Scope	7
1.1 Application Environment	7
2. References	7
2.1 Industry Documents	7
2.2 SFF Specifications	7
2.3 Sources	7
2.4 Conventions	7
3. General Description	8

FIGURES

Figure 3-1 SCA-2 Connector Location	9
Figure 3-2 Connector Clearance Zones	10

TABLES

Table 3-1 SCA-2 Connector Location	8
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SFF Committee --

3.5" Form Factor Drive w/SCA-2 Connector

1. Scope

This specification defines the connector locations for Fibre Channel 3.5" magnetic disk drives.

1.1 Application Environment

The environment for the 35" Drive Form Factor 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.

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 standards are relevant to many SFF Specifications.

- ASME Y14.5M Dimensioning and Tolerancing
- SFF-8451 SCA-2 2 Gb/s 2X Unshielded Connector
- SFF-8454 SCA-2 8 Gb/s 2X Unshielded Connector

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://www.techstreet.com/incitsgate.tmp1>).

2.4 Conventions

The dimensioning conventions are described in ASME-Y14.5M, Geometric Dimensioning and Tolerancing. All dimensions are in millimeters, which are the controlling dimensional units, unless specifically stated otherwise.

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

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

3. General Description

This specification defines the location of the interface connectors of 40-pin SCA-2 (Single Connector Attach) for Fibre Channel 3.5" disk drives.

This specification defines a drive which can be directly inserted into the backplane of a cabinet, without the need for a cable and provides information necessary to assist manufacturers in the systems integration of small form factor disk drives. This specification allows only one location for the interface connector on the drive.

Provision exists in the SCA-2 connector for improved mating via guides which incorporate provision for mating ground prior to mating any other signals.

Table 3-1 defines the dimensions associated with the positioning of the connector on the drive as illustrated in Figure 3-1.

TABLE 3-1 SCA-2 CONNECTOR LOCATION

Dimension	Inches	Millimeter s
A 1	4.000	101.60
A 2	1.618	41.10
A 3	0.040	1.02
A 4	0.015	0.38
A 5	0.276	7.00
A 6	0.040	1.02
A 7	0.181	4.60
A 8	1.625	41.28
A 9	0.015	0.38
A10	0.020	0.50

1. Inch is the controlling dimensional unit.
2. No feature shall protrude more than 0.020" (0.50mm) beyond the face of the connector

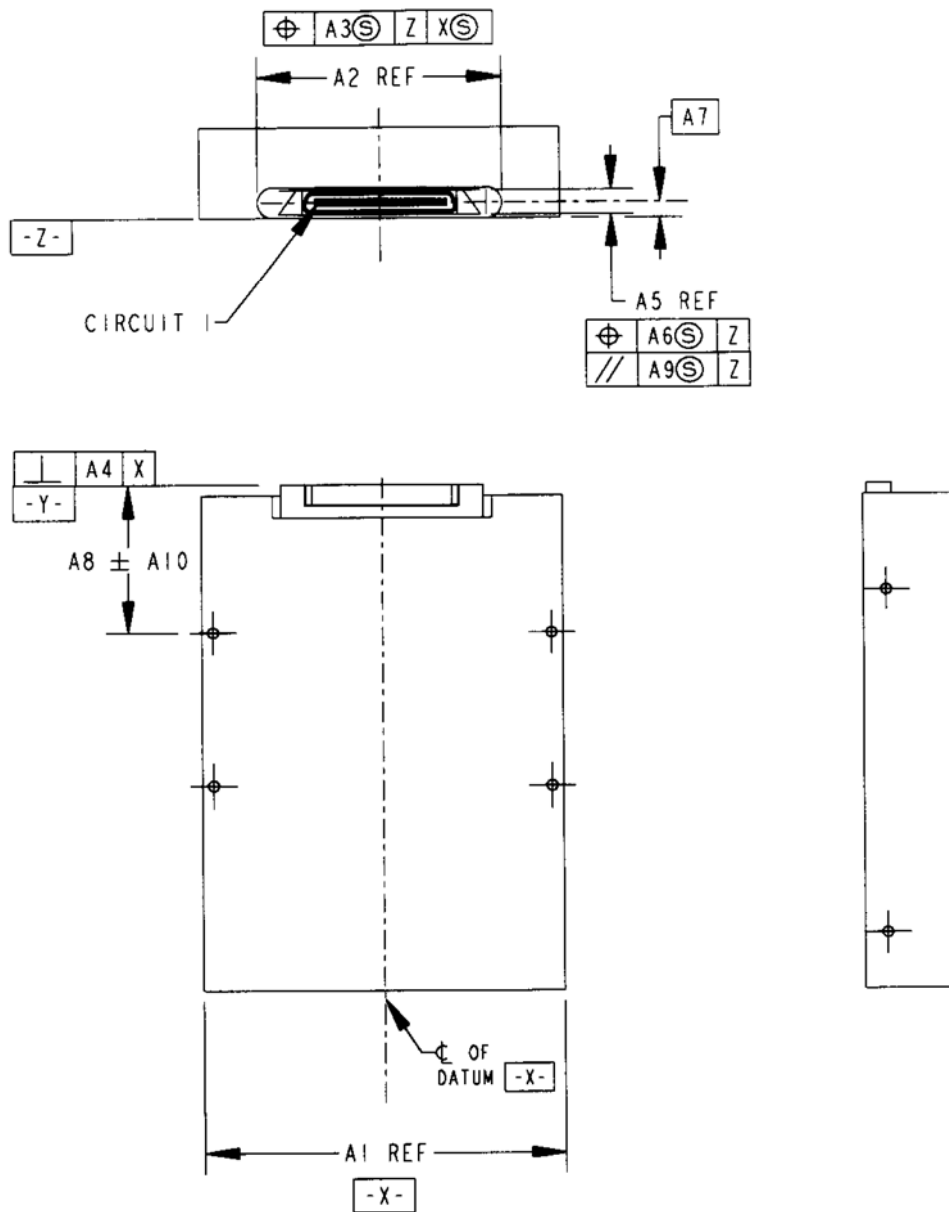
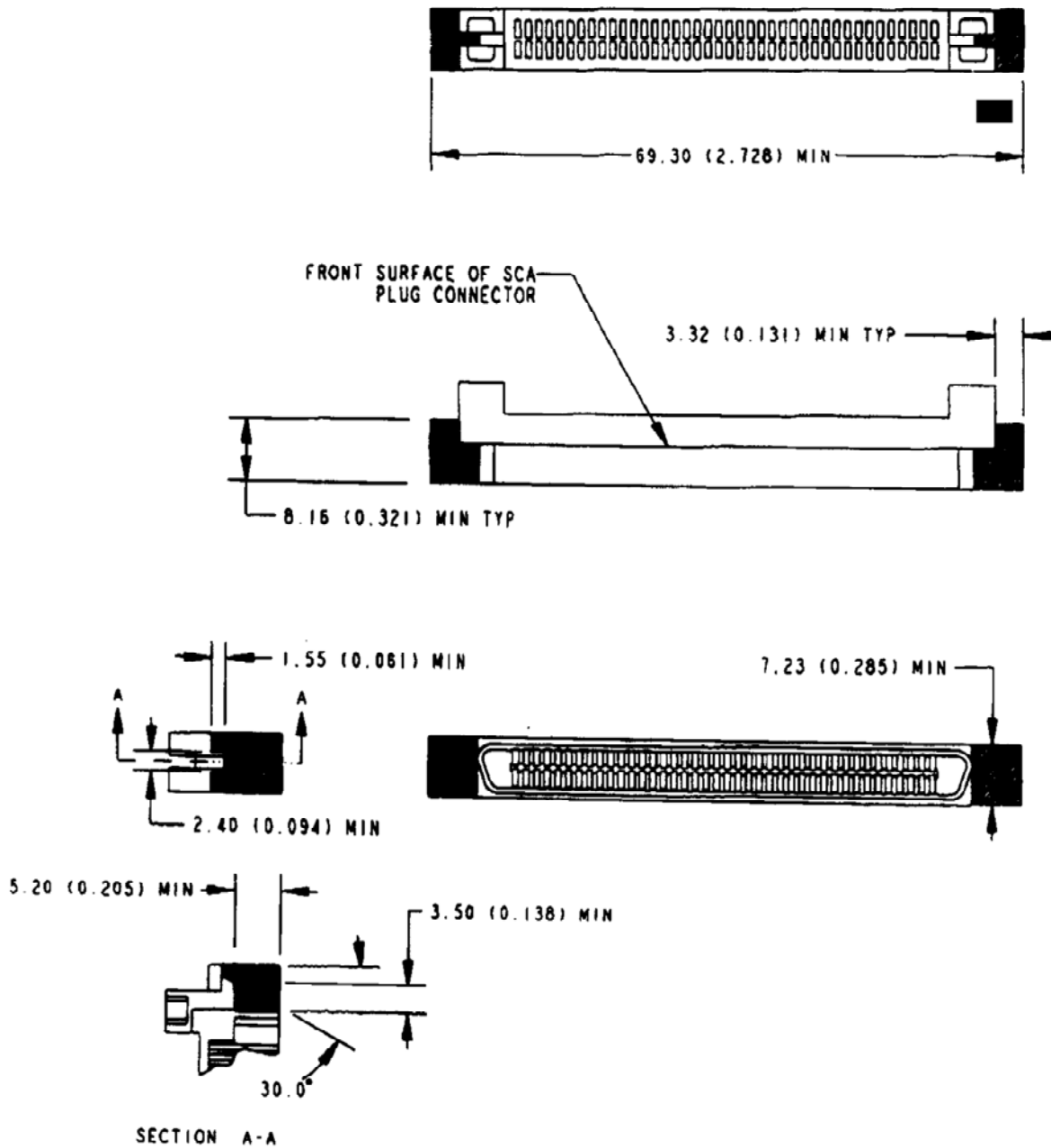


FIGURE 3-1 SCA-2 CONNECTOR LOCATION



1. CROSS HATCH DEPICTS CLEARANCE ZONE

The clearance zones defined are independent of the connector size.

FIGURE 3-2 CONNECTOR CLEARANCE ZONES