

SFF Committee
SFF-8212
Specification for
2.5" Form Factor Drive with 50-pin Connector

Standardized as EIA-720-A 2007/02 at Rev 1.2 dated July 27, 1995

This specification was submitted as a project to the Electronic Industries Alliance by being incorporated into SFF-8200, and was Expired at that time.

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

Revised as EIA-720-B 2016/01 at Rev 1.4 dated August 30, 2014

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 electronic form.
SFF specifications are available at <ftp://ftp.seagate.com/sff>

SFF Committee
SFF-8212
Specification for
2.5" Form Factor Drive with 50-pin Connector

Rev 1.4

August 30 2014

Secretariat: SFF Committee

Abstract: This specification defines the 50-pin ATA connector mounting position on 2.5" 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 specification 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
AMP
Cirrus Logic
Conner Peripherals
ENDL
Hewlett Packard
Honda Connector
IBM
Integral Peripherals
Madison Cable
Maxtor
Methode
Quantum
Robinson Nugent
Seagate
Sigmax

The following member companies of the SFF Committee voted to forward this industry specification to an accredited standards body.

IBM
Integral Peripherals
Methode

Update History

Rev 1.3 (February 10, 2014)

- Rev 1.2 July 1995 contents incorporated in current template.

Rev 1.4 (August 30, 2014)

- Editorial changes for consistency between specifications in revised EIA-720.

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 of SFF-8212	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
3.1 Mounting Considerations	8
3.2 Physical Location of Connector	8

FIGURES

Figure 3-1 50-Pin Connector on 2.5" Disk Drive	9
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TABLES

Table 3-1 50-pin Connector Location	8
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SFF Committee --

2.5" Form Factor Drive with 50-pin Connector

1. Scope of SFF-8212

This specification defines the dimensions and tolerances for location of the 50-pin ATA connector on SFF-8201 compliant 2.5" form factor drives.

1.1 Application Environment

The environment for the 2.5" 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
- X3.131R-1994 SCSI-2 Small Computer System Interface
- X3T9.2/0855 SPI (SCSI-3 Parallel Interface)
- X3.221-199x ATA (AT Attachment)
- X3T10/0948 ATA-2 (ATA Extensions)

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 (if inches are supplied, they are for guidance only).

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

3.1 Mounting Considerations

This specification defines the dimensions of a disk drive to be inserted into a cavity in a portable computer. The dimensions and tolerances are intended to be an aid for system designers as well as disk drive designers.

The connector configuration permits the same drive to be used in a cabled application. Drives designed for use in cabled applications need not conform to all the dimensions and tolerances specified in this document e.g. if the connector was mounted in a vertical orientation it could require the PCB to be longer (thereby increasing the overall length of the drive).

3.2 Physical Location of Connector

The table contains the dimensions represented in the figure, which defines the location of the 50-pin connector on 2.5" disk drives.

TABLE 3-1 50-PIN CONNECTOR LOCATION

Dimension		Millimeters	Inches
A 7		31.17	1.227
A 8		1.00	0.039
A 9		3.99	0.157
A10		10.14	0.399
A11		2.00	0.079
A12		2.00	0.079
A13		0.50	0.020
A14		0.05	0.002
A15		0.75	0.030
A16		0.10	0.004
A17		0.50	0.020
A18		0.05	0.002
A19		0.50	0.020
A20		0.10	0.004
A21		3.86	0.152
A22		0.20	0.008
A34	Min	1.00	0.039
A35	Max	8.00	0.315
A36	Min	60.20	2.370
A39	Min	1.25	0.049
A40	Min	0.25	0.010
A54		10.24	0.403

- Notes: a) X, Y and Z Datums are as defined by SFF-8201.
 b) A15 and A19 control the location of the connector as a whole.
 c) A16 and A20 control the location of the pins within the connector.

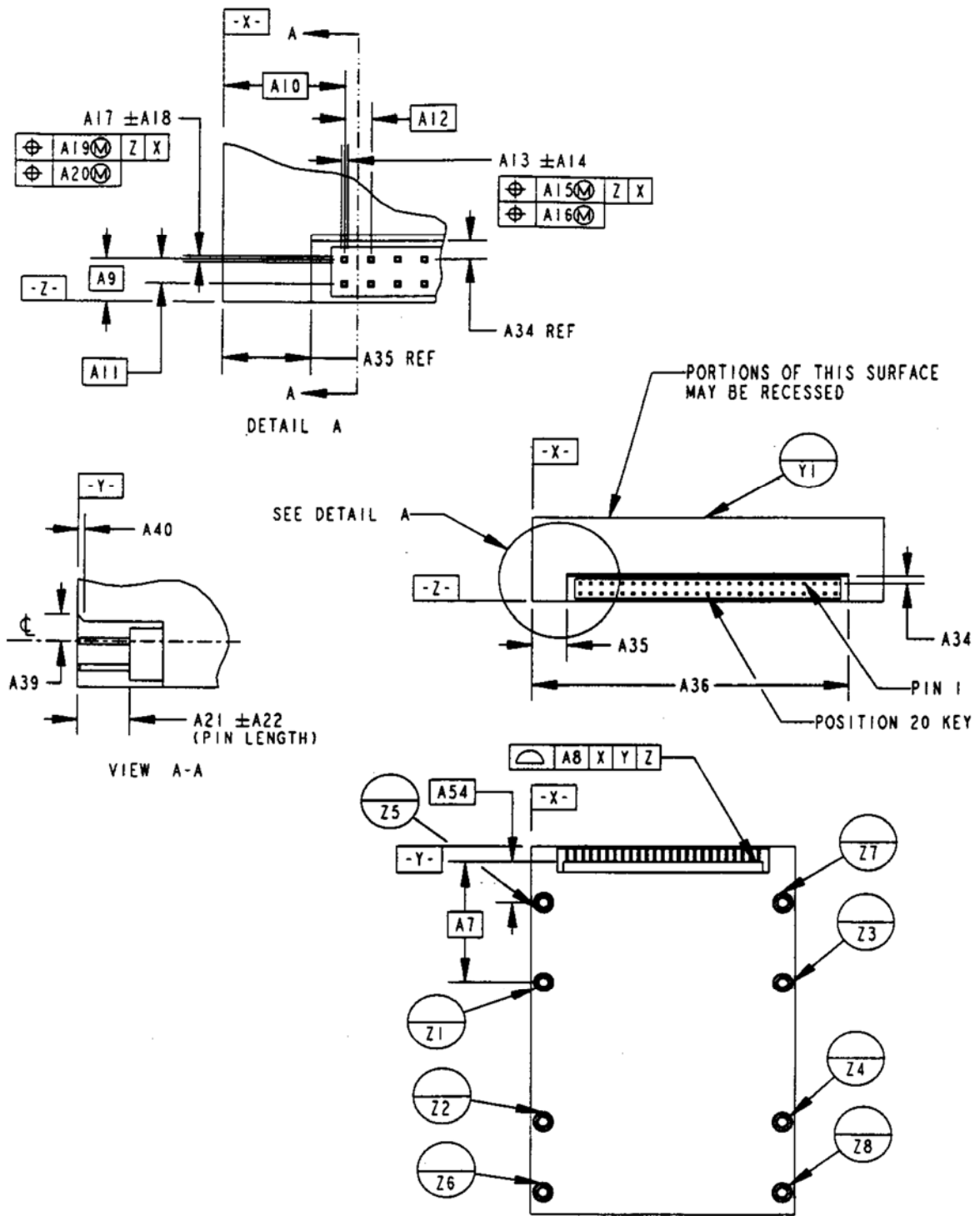


FIGURE 3-1 50-PIN CONNECTOR ON 2.5" DISK DRIVE