SFF Committee

SFF-8302

Specification for

3.5" Form Factor Cabled Connector Locations

Standardized as EIA-740 1999/07 at Rev 1.1 dated June 4 1995

This specification was submitted as a project to the Electronic Industries Alliance by being incorporated into SFF-8300, and was Expired at that time.

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

Revised as EIA-740-A 2016/01 at Rev 1.2 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 hard copy or electronic form.
SFF specifications are available at ftp://ftp.seagate.com/sff

SFF Committee

SFF-8302

Specification for

3.5" Form Factor Cabled Connector Locations

Rev 1.3 August 30 2014

Secretariat: SFF Committee

Abstract: This specification defines the cabled connector locations 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
AMP
Cirrus Logic
Conner Peripherals
ENDL
Hewlett Packard
Honda Connector
IBM
Madison Cable
Maxtor
Methode
Quantum
Robinson Nugent
Seagate
Sigmax

Update History

Rev 1.2 (December 21, 2013)
- Rev 1.1 June 1995 contents incorporated in current template.

Rev 1.3 (August 30, 2014)
- Editorial changes for consistency between specifications in revised EIA-740.

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.

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SFF Committee --

3.5" Form Factor Cabled Connector Locations

1. Scope

This specification defines the connector locations on 3.5" magnetic disk drives for the attachment of cables.

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

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.tmpl).

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 Discrete Connectors

The connectors may be located anywhere at the rear of the drive, as per the orientation illustrated in Figure 5-1 which is established to simplify cabling for the integrator.

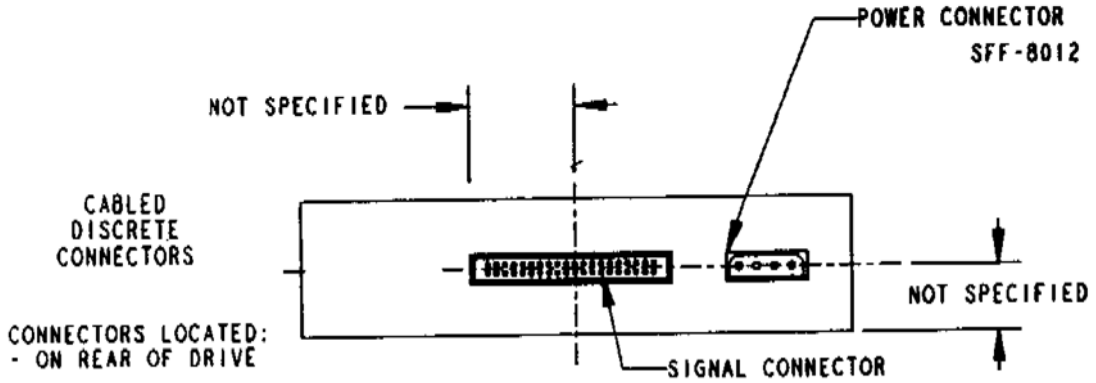

FIGURE 3-1 DISCRETE CONNECTOR ORIENTATION

3.2 Unitized Connectors

The packaging of two or more different types of connectors in a single shell can assist in reducing the manufacturing cost of disk drives, and may be mounted as illustrated in Figure 5-2. Unitized connectors may or may not have similar pitch or contact styles e.g. see SFF-8009 Unitized Connector for Cabled Drives.

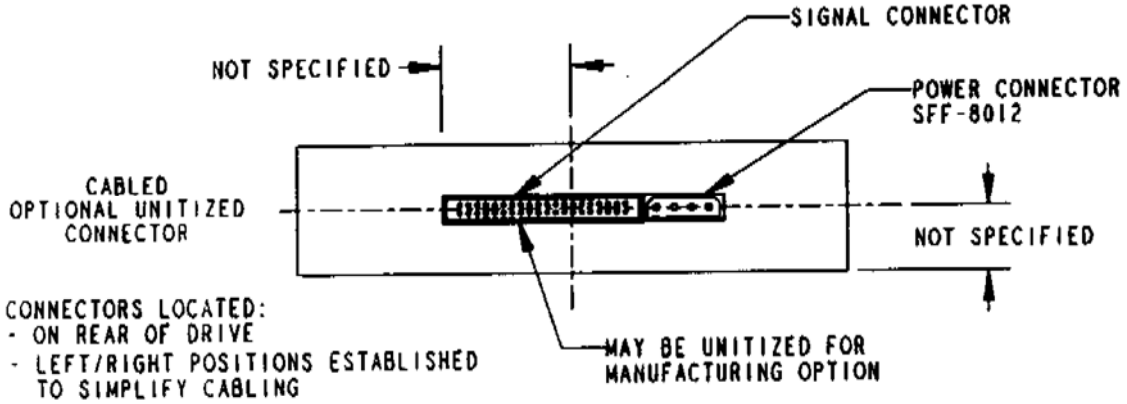

FIGURE 3-2 UNITIZED CONNECTOR ORIENTATION

3.3 Upgradable Unitized Connector

If an OEM wishes to use multiple drive types in a cabinet, there may be tight restrictions placed on the vendor as to where the connector can be located at the rear of the drive. Unitized Connectors of the type illustrated in Figure 5-3 may vary in spacing between the connector sections. SFF Specifications for the Single Connector Attach and Serial Unitized Connectors are designed to be superior alternatives to achieve the same objective.

The Unitized Connector has to be manufactured in a fixed position relative to the form factor to assure user upgradability. Support for interchangeable drives using a Unitized Connector as illustrated in Figure 5-3 is a Vendor Unique option.

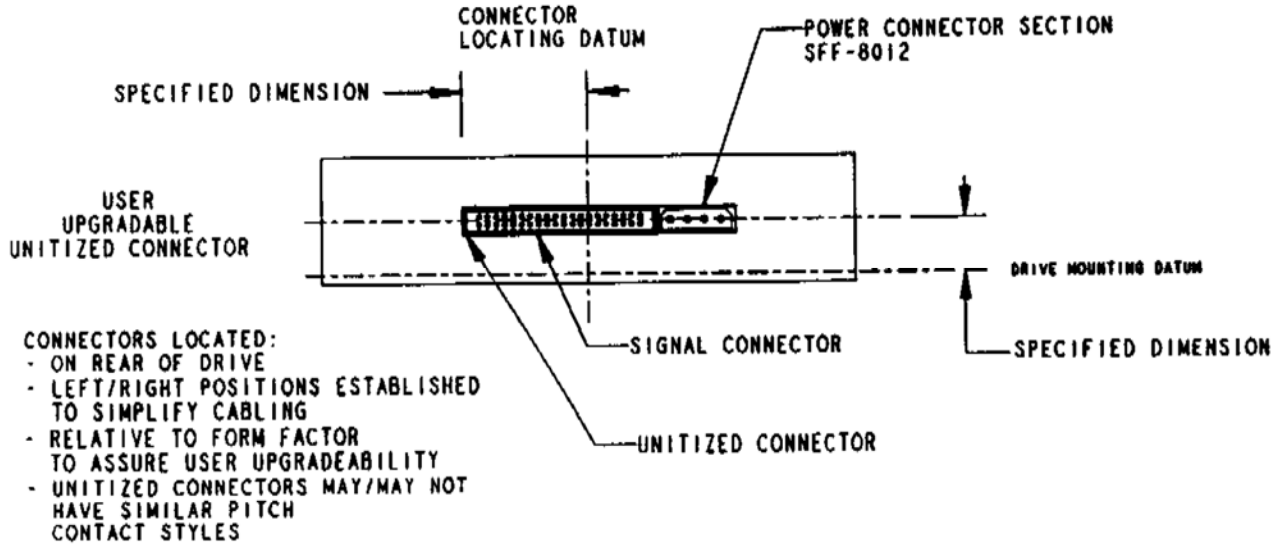

FIGURE 3-3 UPGRADABLE UNITIZED CONNECTOR ORIENTATION