

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

SFF Committee

SFF 9630 Specification for

Serial Attachment 12 Gb/s 4X Unshielded Connector Pinouts

Rev 0.1 November 27, 2012

Secretariat: SFF Committee

Abstract: This specification is a guide to the pinout usage of the SFF-8630 four lane, high speed (up to 12 Gb/s per lane) multifunction plug and receptacle connector that is designed for use as a connector system supporting SAS-3 devices.

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.

POINTS OF CONTACT:

Dan Gorenc
TE Connectivity
3101 Fulling Mill Rd
Middletown PA 17057

717-986-3518
daniel_dot_gorenc_at_te_dot_com

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

408-867-6630
endlcom_at_acm_dot_org

Change History

Revision 0.1
- First draft

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.tl0.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 sign up 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

Serial Attachment 12 Gb/s 4X Unshielded Connector Pinouts	5
1. Scope	5
2. References	5
2.1 SFF Specifications	5
2.2 Sources	5
2.3 Conventions	5
3. General Description	6
4. Connector Usage Models	6

SFF Committee --

Serial Attachment 12 Gb/s 4X Unshielded Connector Pinouts**1. Scope**

This specification defines pinouts used with the SFF-8630 Serial Attachment 12 Gb/s 4X Unshielded Connector.

2. References**2.1 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>

2.2 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>).

2.3 Conventions

The dimensioning conventions are described in ANSI-Y14.5M, Geometric Dimensioning and Tolerancing. All dimensions are in millimeters.

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

When a new SFF connector specification is developed there may be more than one industry interface planning to make use of it. Groups working on interfaces being developed under non-disclosure are unable to compare and discuss anticipated usage.

Pinouts are discussed during connector development and initial definitions assigned to ensure that the connector meets the needs of the interested interfaces.

This specification is a guide to the anticipated pinout usage of the interfaces under development.

4. Connector Usage Models

The pinouts defined in SFF-8639 Multifunction 12 Gb/s 6X Unshielded Connector Pinouts cover the connector systems defined in SFF-8482, SFF-8630, and SFF-8680.

This specification defines a system that may be used to implement the following:

- Single port SATA (as defined by Serial ATA revision 3.1)
- Dual port SAS (as defined by SFF-8482 and SFF-8680)
- Multi-link SAS (as defined by SFF-8630)

The connector system defines a total of 43 contacts.

The receptacle may implement all of the defined contacts while the plug may implement only the contacts required by the use case supported on a particular device. This allows for multiple device types supporting different use cases to be inserted into the SFF-8630 receptacle.

The connector system may be utilized for use cases not defined in this specification.

Table 4-1 and Table 4-2 of the SFF-9639 specification define the signal utilization.

WARNING: The definitive reference for signals are the using interfaces. Readers should be aware that the tables may not be correct after the interfaces have been defined and distributed for public use.