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**SFF-9629**

Reference Guide for

**Serial Attachment 4X Unshielded Connector Pinouts**

Rev 1.0

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Secretariat: SFF TA TWG

**Abstract:** This specification is a guide to the pinout usage of the SFF-8629 four lane, high speed 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 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.

The description of a connector in this specification does not assure that the specific component is actually available from connector suppliers. If such a connector is supplied it must comply with this specification to achieve interoperability between suppliers.

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### Intellectual Property

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- Results of IP Disclosures: <http://www.snia.org/sffdisclosures>
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### Change History

Revision 0.1 (November 27, 2012)

- First draft

Revision 0.2 (September 25, 2015)

- Changed number to match SFF-8629
- Removed speed from title

Revision 0.3 (October 11, 2015)

- Corrected references to relevant specifications
- Editorial updates to current template

Revision 1.0 (July 18, 2018)

- Upgraded to SNIA template
- Replaced "Reference Guide" with "Published" in header
- Added "Reference" watermark

## Foreword

The development work on this specification was done by the SNIA SFF TWG, an industry group. Since its formation as the SFF Committee in August 1990, the membership 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 SFF Committee provided a forum for system integrators and vendors to define the form factor of disk drives.

During their definition, other activities were suggested because participants in SFF faced more challenges than the form factors. 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.

In July 2016, the SFF Committee transitioned to SNIA (Storage Networking Industry Association), as a TA (Technology Affiliate) TWG (Technical Work Group).

Industry consensus is not a requirement to publish a 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 meets during the T10 (see [www.t10.org](http://www.t10.org)) and T11 (see [www.t11.org](http://www.t11.org)) weeks, and SSWGs (Specific Subject Working Groups) are held at the convenience of the participants.

Many of the specifications developed by SFF have either been incorporated into standards or adopted as standards by ANSI, EIA, JEDEC and SAE.

For those who wish to participate in the activities of the SFF TWG, the signup for membership 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 by the SFF Committee can be found at:

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

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

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

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REFERENCE

## 1. Scope

This specification defines pinouts used with the SFF-8629 Serial Attachment 4X Unshielded Connector.

### 1.1 Copyright

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Suggestions for revisions should be directed to <http://www.snia.org/feedback/>.

## 2. References

### 2.1 Sources

There are several projects active within the SFF TWG. The complete list of specifications which have been completed or are still being worked on is contained in the document SFF-8000 which can be found at <http://www.snia.org/sff/specifications>.

Copies of ANSI standards may be purchased from the InterNational Committee for Information Technology Standards (<http://www.techstreet.com/incitsgate.tmp1>).

## 2.2 Conventions

The dimensioning conventions are described in ANSI-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

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 6X Unshielded Connector Pinouts cover the connector systems defined in SFF-8482 and SFF-8629.

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)
- Multi-link SAS (as defined by SFF-8629)

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-8629 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.