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

SFF Committee

SFF-8132 Specification for

35 Pin Parallel ATA Connector in the 30x40mm Form Factor

Rev 1.3 July 29, 2005

Secretariat: SFF Committee

Abstract: This specification defines the connector position and cable for the 35 Pin ATA/ATAPI Parallel connector on 30x40mm form factor disk drives.

This document provides a common specification for systems manufacturers, system integrators, and suppliers of magnetic disk drives. This is an internal working document 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.

TBD

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

TBD

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

TBD

To save space for SFF Specifications being reviewed, the information on the principles of the SFF Committee and how to join has not been printed.

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:

<ftp://ftp.seagate.com/sff/SFF-8026>

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>

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>

Suggestions for improvement of this specification will be welcome. They should be sent to the SFF Committee, 14426 Black Walnut Ct, Saratoga, CA 95070.

SFF Committee --

35 Pin Parallel ATA Connector in the 30x40mm Form Factor

1. Scope

The 813x suite of specifications defines the configuration characteristics associated with 30x40mm disk drives.

The purpose of the 813x suite is to define the external characteristics of drives such that products from different vendors may be used in the same mounting configurations. The set of specifications provide external dimensions, connectors, connector placement, and interface pinouts to assist manufacturers in the systems integration of small form factor disk drives.

- SFF-8131 defines the dimensions of 30x40mm disk drives.

1.1 Description of Clauses

Clause 1 contains the Scope and Purpose.

Clause 2 contains Referenced and Related Standards and SFF Specifications.

Clause 3 begins the specification

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 interface standards are relevant to many SFF Specifications.

- T13/D1321 ATA-5 ATA/ATAPI-5
- T13/D1410 ATA-6 ATA/ATAPI-6

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>.

2.3 Sources

Those who join the SFF Committee as an Observer or Member receive electronic copies of the minutes and SFF specifications (<ftp://ftp.seagate.com/sff/SFF-8026>).

Copies of ANSI standards may be purchased from the InterNational Committee for Information Technology Standards (www.techstreet.com/incitsgate.tmpl).

Copies of SFF, ASC T10 (SCSI), T11 (Fibre Channel) and T13 (ATA/SATA) standards and standards still in development are available on the HPE version of CD_Access (www.merchantamerica.com/endl/index.php?ba=view_category&category=5655).

3. Introduction

This document describes a the 35 pin parallel ATA interface connector position and cable for the 30x40mm disk drive form factor.

4. Physical Configuration

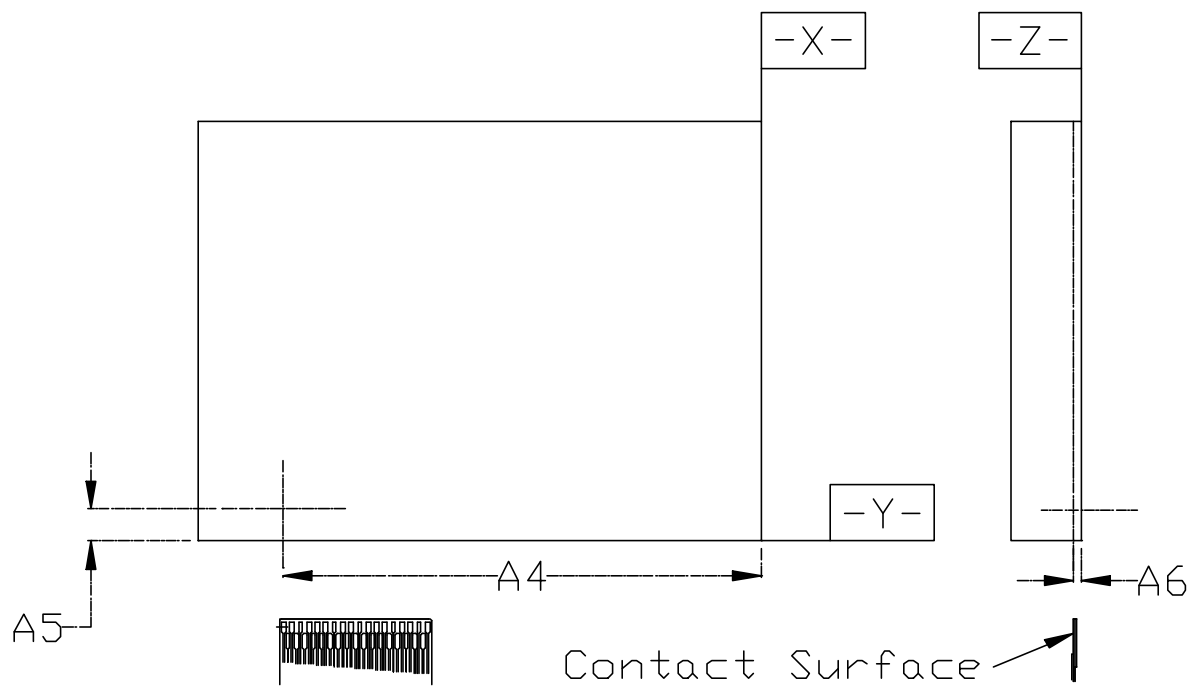


Figure 1: Pin 1 location in 30x40mm Form Factor

Table 1: Pin 1 Location in 30x40mm Form Factor

Dimension	Millimeter	Tolerance	Notes
A4	33.90	± 0.40	Pin 1 Center From X Datum
A5	2.32	± 0.40	Pin 1 Center From Y Datum
A6	0.60	± 0.50	Pin 1 Center From Z Datum

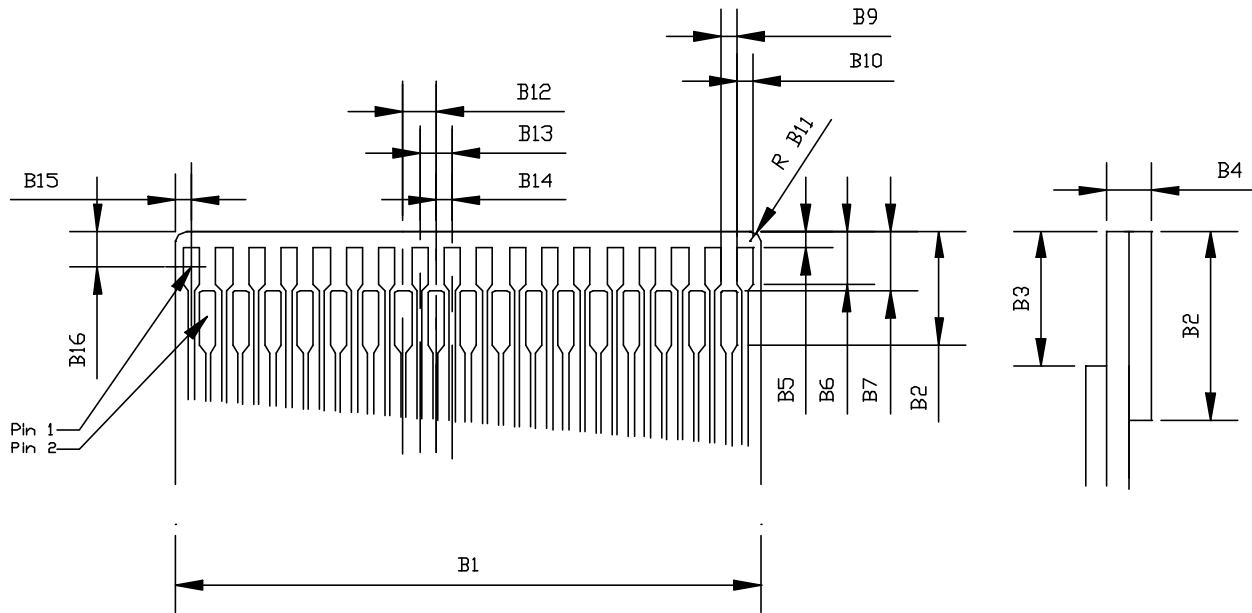


Figure 2: Cable End Detail

Table 2: Cable End Detail Dimensions

Dimension	Millimeter s	Tolerance	Notes
B1	10.80	± 0.050	Cable Width
B2	3.50	MIN	Cable Stiffner Width
B3	2.50	± 0.30	Pad Exposure
B4	0.20	± 0.03	Cable End Thickness
B5	0.30	± 0.10	Front Row Set Back
B6	1.00	± 0.10	Front Row Depth
B7	1.10	± 0.10	Rear Row Set Back
B8	2.10	± 0.10	Rear Row Depth
B9	0.30	+0.04 - 0.03	Rear Pad Width
B10	0.30	+0.04 - 0.03	Front Pad Width
B11	R0.20	MAX	Corner Radius
B12	0.60	± 0.02	Rear Row Pitch
B13	0.60	± 0.02	Front Row Pitch
B14	0.30	± 0.02	Front to Rear Row Offset
B15	0.30	± 0.07	Pin 1 Center From Side
B16	0.65	Ref	Pin 1 Center From Front

Table 3: ATA/ATAPI Signal Pin Out

Pin	Signal
1	GND
2	D10
3	D09
4	D02
5	D08
6	D01
7	PDiaq
8	D00
9	-DASP
10	A00
11	-REG
12	A01
13	-INPACK
14	A02
15	IORDY
16	-RESET
17	-CSEL
18	VCC
19	VCC
20	INTRQ
21	-IOWR
22	-IORD
23	-CS1
24	-CS0
25	D15
26	D07
27	D14
28	D06
29	D13
30	D05
31	D12
32	D04
33	D11
34	D03
35	GND

(See: 2.1 Industry Documents ATA/ATAPI-7)