

INTERNATIONAL STANDARD

Information technology – AT attachment with packet interface-7 –
Part 1: Register delivered command set, logical register set (ATA/ATAPI-7 V1)
(standards.iteh.ai)

ISO/IEC 24739-1:2009

<https://standards.iteh.ai/catalog/standards/sist/9f2efd10-cb77-4d01-a7c3-e3733a497f85/iso-iec-24739-1-2009>



THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2009 ISO/IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester.

If you have any questions about ISO/IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

- Catalogue of IEC publications: www.iec.ch/searchpub

The IEC on-line Catalogue enables you to search by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, withdrawn and replaced publications.

- IEC Just Published: www.iec.ch/online_news/justpub

Stay up to date on all new IEC publications. Just Published details twice a month all new publications released. Available on-line and also by email.

- Electropedia: www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 20 000 terms and definitions in English and French, with equivalent terms in additional languages. Also known as the International Electrotechnical Vocabulary online.

- Customer Service Centre: www.iec.ch/webstore/custserv

If you wish to give us your feedback on this publication or need further assistance, please visit the Customer Service Centre FAQ or contact us:

Email: csc@iec.ch
Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00



ISO/IEC 24739-1

Edition 1.0 2009-09

INTERNATIONAL STANDARD

Information technology – AT attachment with packet interface-7 –
Part 1: Register delivered command set, logical register set (ATA/ATAPI-7 V1)

<https://standards.iteh.ai/catalog/standards/sist/9f2efd10-cb77-4d01-a7c3-e3733a497f85/iso-iec-24739-1-2009>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE

XC

ICS 35.200

ISBN 2-8318-1061-2

CONTENTS

FOREWORD.....	7
INTRODUCTION.....	9
1 Scope.....	11
2 Normative references	12
3 Definitions, abbreviations and conventions	13
3.1 Definitions and abbreviations	13
3.2 Abbreviations	21
3.3 Conventions	22
4 General operational requirements.....	28
4.1 Command delivery.....	28
4.2 Register delivered data transfer command sector addressing	28
4.3 General feature set	29
4.4 PACKET Command feature set	31
4.5 Power Management feature set.....	32
4.6 Advanced Power Management feature set.....	35
4.7 Security Mode feature set.....	35
4.8 SMART (self-monitoring, analysis and reporting technology) feature set.....	42
4.9 Host Protected Area feature set.....	43
4.10 CompactFlash™ Association (CFA) feature set.....	47
4.11 Removable Media Status Notification and Removable Media feature sets	48
4.12 Power-Up in Standby feature set.....	50
4.13 Automatic Acoustic Management (AAM) feature set	50
4.14 48-bit Address feature set	51
4.15 Device Configuration Overlay feature set	53
4.16 Media Card Pass Through Command feature set.....	56
4.17 Streaming feature set.....	57
4.18 General Purpose Logging feature set	59
4.19 Overlapped feature set.....	59
4.20 Queued feature set.....	60
4.21 Long physical sector feature set for non-packet devices	61
4.22 Long logical Sector feature set for non-packet devices	62
4.23 Devices implementing the Long Physical Sector Feature Set and the Long Logical Feature Sector Set	65
5 I/O register descriptions	65
5.1 Overview	65
5.2 Alternate Status register	65
5.3 Command register.....	66
5.4 Data port.....	66
5.5 Data register	67
5.6 Device register	67
5.7 Device control register	68
5.8 Error register.....	69
5.9 Features register.....	69
5.10 LBA High/Byte Count High register.....	70

5.11	LBA Low register	70
5.12	LBA Mid/Byte Count Low register	71
5.13	Sector Count/Interrupt Reason register	71
5.14	Status register	71
5.15	Signature and persistence	74
5.16	Single device configurations	75
6	Command descriptions	76
6.1	Overview	76
6.2	CFA ERASE SECTORS	78
6.3	CFA REQUEST EXTENDED ERROR CODE	79
6.4	CFA TRANSLATE SECTOR	82
6.5	CFA WRITE MULTIPLE WITHOUT ERASE	84
6.6	CFA WRITE SECTORS WITHOUT ERASE	86
6.7	CHECK MEDIA CARD TYPE	88
6.8	CHECK POWER MODE	90
6.9	CONFIGURE STREAM	91
6.10	DEVICE CONFIGURATION	94
6.11	DEVICE RESET	108
6.12	DOWNLOAD MICROCODE	109
6.13	EXECUTE DEVICE DIAGNOSTIC	111
6.14	FLUSH CACHE	113
6.15	FLUSH CACHE EXT	115
6.16	GET MEDIA STATUS	118
6.17	IDENTIFY DEVICE	119
6.18	IDENTIFY PACKET DEVICE	144
6.19	IDLE	158
6.20	IDLE IMMEDIATE	160
6.21	MEDIA EJECT	163
6.22	MEDIA LOCK	164
6.23	MEDIA UNLOCK	166
6.24	NOP	168
6.25	PACKET	169
6.26	READ BUFFER	175
6.27	READ DMA	176
6.28	READ DMA EXT	178
6.29	READ DMA QUEUED	181
6.30	READ DMA QUEUED EXT	185
6.31	READ LOG EXT	191
6.32	READ MULTIPLE	204
6.33	READ MULTIPLE EXT	207
6.34	READ NATIVE MAX ADDRESS	210
6.35	READ NATIVE MAX ADDRESS EXT	211
6.36	READ SECTOR(S)	213
6.37	READ SECTOR(S) EXT	216
6.38	READ STREAM DMA EXT	218
6.39	READ STREAM EXT	223
6.40	READ VERIFY SECTOR(S)	227
6.41	READ VERIFY SECTOR(S) EXT	229
6.42	SECURITY DISABLE PASSWORD	232

6.43	SECURITY ERASE PREPARE	233
6.44	SECURITY ERASE UNIT.....	235
6.45	SECURITY FREEZE LOCK	237
6.46	SECURITY SET PASSWORD.....	239
6.47	SECURITY UNLOCK.....	241
6.48	SERVICE	243
6.49	SET FEATURES.....	244
6.50	SET MAX	251
6.51	SET MAX ADDRESS EXT	259
6.52	SET MULTIPLE MODE.....	262
6.53	SLEEP	264
6.54	SMART	266
6.55	STANDBY	297
6.56	STANDBY IMMEDIATE	299
6.57	WRITE BUFFER.....	300
6.58	WRITE DMA.....	302
6.59	WRITE DMA EXT	304
6.60	WRITE DMA FUA EXT	308
6.61	WRITE DMA QUEUED	311
6.62	WRITE DMA QUEUED EXT.....	315
6.63	WRITE DMA QUEUED FUA EXT.....	320
6.64	WRITE LOG EXT.....	326
6.65	WRITE MULTIPLE.....	329
6.66	WRITE MULTIPLE EXT	331
6.67	WRITE MULTIPLE FUA EXT.....	334
6.68	WRITE SECTOR(S).....	338
6.69	WRITE SECTOR(S) EXT	340
6.70	WRITE STREAM DMA EXT	342
6.71	WRITE STREAM EXT.....	346
7	Parallel interface physical and electrical requirements (see ISO/IEC 24739-2)	351
8	Parallel interface signal assignments and descriptions (see ISO/IEC 24739-2).....	351
9	Parallel interface general operating requirements of the physical, data link, and transport layers (see ISO/IEC 24739-2).....	351
10	Parallel interface register addressing (see ISO/IEC 24739-2)	351
11	Parallel interface transport Protocols (see ISO/IEC 24739-2).....	351
12	Parallel interface timing (see ISO/IEC 24739-2).....	351
13	Serial interface overview (see ISO/IEC 24739-).....	351
14	Serial interface physical layer (see ISO/IEC 24739-3)	351
15	Serial interface link layer (see ISO/IEC 24739-3).....	351
16	Serial interface transport layer (see ISO/IEC 24739-3)	351
17	Serial interface device command layer (see ISO/IEC 24739-3).....	351
18	Host command layer (see ISO/IEC 24739-3)	351
19	Serial interface host adapter register interface (see ISO/IEC 24739-3)	351
20	Serial interface error handling (see ISO/IEC 24739-3)	351
	Annex A (informative) Command Set summary	352
	Annex B (informative) Design and programming considerations for large physical sector devices	359

Annex C Device determination of cable type (informative) (see ISO/IEC 24739-2)	361
Annex D Signal integrity and UDMA guide (informative) (see ISO/IEC 24739-2)	361
Annex E Register selection address summary (informative) (see ISO/IEC 24739-2).....	361
Annex F Sample code for CRC and scrambling (informative) (see ISO/IEC 24739-3).....	361
Annex G FIS type field value selection (informative) (see ISO/IEC 24739-3).....	361
Annex H Physical layer implementation examples (informative) (see ISO/IEC 24739-3).....	361
Annex I Command processing Example (informative) (see ISO/IEC 24739-3)	361
Bibliography.....	362
Figure 1 – ATA document relationships.....	11
Figure 2 – State diagram convention.....	24
Figure 3 – Byte, word and DWORD relationships	28
Figure 4 – Power management state diagram	33
Figure 5 – Security mode state diagram.....	37
Figure 6 – SET MAX security state diagram	46
Figure 7 – Device configuration overlay state diagram	54
Figure 8 – Long Logical and long Physical Sector Example.....	62
Figure 9 – Selective self-test test span example	277
Figure B.1 – Unaligned Write Example.....	360
Table 1 – PACKET delivered command sets	12
Table 2 – Byte order	26
Table 3 – Byte order	27
Table 4 – Security mode command actions	40
Table 5 – 48-bit addresses	52
Table 6 – 28-bit addresses	52
Table 7 – Media Card type references	56
Table 8 – Long logical sector function.....	63
Table 9 – I/O registers	65
Table 10 – Extended error codes	81
Table 11 – CFA TRANSLATE SECTOR Information.....	83
Table 12 – Device Configuration Overlay Features register values.....	94
Table 13 – Device Configuration Identify data structure	100
Table 14 – Device Configuration Overlay data structure.....	105
Table 16 – IDENTIFY DEVICE data	122
Table 17 - Minor version number	135
Table 18 – IDENTIFY PACKET DEVICE data.....	146
Table 19 – Automatic Standby timer periods	158
Table 20 – Log address definition	192
Table 21 – General Purpose Log Directory	194
Table 22 – Extended Comprehensive SMART error log.....	195
Table 23 – Extended Error log data structure.....	196
Table 24 – Command data structure	197

Table 25 – Error data structure	198
Table 26 – State field values.....	198
Table 27 – Extended Self-test log data structure.....	199
Table 28 – Extended Self-test log descriptor entry.....	200
Table 29 – Read Stream Error log.....	201
Table 30 – Error Log Entry.....	201
Table 31 – Write Stream Error log.....	202
Table 32 – Streaming Performance Parameters log	203
Table 33 – Sector Time Array Entry (Linearly Interpolated)	203
Table 34 – Position Array Entry (Linearly Interpolated)	203
Table 35 – Access Time Array Entry (Linearly Interpolated)	203
Table 36 – Delayed LBA log.....	204
Table 37 – Security password content.....	233
Table 38 – SECURITY ERASE UNIT password.....	237
Table 39 – SECURITY SET PASSWORD data content.....	241
Table 40 – Identifier and security level bit interaction.....	241
Table 41 – SET FEATURES register definitions	246
Table 42 – Transfer mode values.....	247
Table 43 – Advanced power management levels.....	248
Table 44 – Automatic acoustic management levels.....	249
Table 45 – SET MAX Features register values.....	251
Table 46 – SET MAX SET PASSWORD data content.....	255
Table 47 – SMART Feature register values.....	267
Table 48 – SMART EXECUTE OFF-LINE IMMEDIATE LBA Low register values	275
Table 49 – Device SMART data structure	280
Table 50 – Off-line data collection status byte values.....	281
Table 51 – Self-test execution status values	281
Table 52 – Log address definition	284
Table 53 – SMART Log Directory.....	286
Table 54 – SMART summary error log sector.....	286
Table 55 – Error log data structure	287
Table 56 – Command data structure	288
Table 57 – Error data structure	288
Table 58 – State field values.....	289
Table 59 – Comprehensive error log	290
Table 60 – Self-test log data structure	291
Table 61 – Self-test log descriptor entry.....	291
Table 62 – Selective self-test log	292
Table 63 – Selective self-test feature flags	293
Table A.1 – Command matrix.....	352
Table A.2 – Command codes (sorted by command code).....	353
Table A.3 – Command codes (sorted by command)	356

ITeH STANDARD PREVIEW
(standards.iteh.ai)
ISO/IEC 24739-1:2009
<https://standards.iteh.ai/catalog/standards/sist/92e1d10-cb77-4d01-a7c3-c93949925/iso-iec-24739-1-2009>

INFORMATION TECHNOLOGY – AT ATTACHMENT WITH PACKET INTERFACE-7 –

Part 1: Register delivered command set, logical register set (ATA/ATAPI-7 V1)

FOREWORD

- 1) ISO (International Organization for Standardization) and IEC (International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards. Their preparation is entrusted to technical committees; any ISO and IEC member body interested in the subject dealt with may participate in this preparatory work. International governmental and non-governmental organizations liaising with ISO and IEC also participate in this preparation.
- 2) In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.
- 3) The formal decisions or agreements of IEC and ISO on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC and ISO member bodies.
- 4) IEC, ISO and ISO/IEC publications have the form of recommendations for international use and are accepted by IEC and ISO member bodies in that sense. While all reasonable efforts are made to ensure that the technical content of IEC, ISO and ISO/IEC publications is accurate, IEC or ISO cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 5) In order to promote international uniformity, IEC and ISO member bodies undertake to apply IEC, ISO and ISO/IEC publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any ISO/IEC publication and the corresponding national or regional publication should be clearly indicated in the latter.
- 6) ISO and IEC provide no marking procedure to indicate their approval and cannot be rendered responsible for any equipment declared to be in conformity with an ISO/IEC publication.
- 7) All users should ensure that they have the latest edition of this publication.
- 8) No liability shall attach to IEC or ISO or its directors, employees, servants or agents including individual experts and members of their technical committees and IEC or ISO member bodies for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication of, use of, or reliance upon, this ISO/IEC publication or any other IEC, ISO or ISO/IEC publications.
- 9) Attention is drawn to the normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 10) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

International Standard ISO/IEC 24739-1 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

The list of all currently available parts of the ISO/IEC 24739 series, under the general title *Information technology – AT attachment with packet interface-7*, can be found on the IEC web site.

This International Standard has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the second title page.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

ISO/IEC 24739-1 is to be used in conjunction with ISO/IEC 24739-2 and ISO/IEC 24739-3.

The contents of the corrigendum of September 2013 have been included in this copy.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO/IEC 24739-1:2009

<https://standards.iteh.ai/catalog/standards/sist/9f2efd10-cb77-4d01-a7c3-e3733a497f85/iso-iec-24739-1-2009>

INTRODUCTION

ISO/IEC 24739 defines the AT attachment with packet interface (ATAPI). The standard includes the command set and two transport protocols to support parallel and serial physical interconnects. ISO/IEC 24739 is partitioned into three parts:

- Part 1: Register delivered command set, logical register set (ATA/ATAPI-7 V1)
- Part 2: Parallel transport protocols and physical interconnect (ATA/ATAPI-7 V2)
- Part 3: Serial transport protocols and physical interconnect (ATA/ATAPI-7 V3)

ISO/IEC 24739 is partitioned in this way to separate the command set (Part 1) for ease of reference and maintenance. The command set is the same for both the parallel transport (Part 2) and the serial transport (Part 3).

Parts 1 and Part 2 were substantially derived from the prior version of this standard (ATA/ATAPI-6, ANSI INCITS 361-2002). Part 3 is new material defining the serial transport of the ATA/ATAPI interface.

All three parts have a clause that includes introductory material, a common glossary and an index to the major clauses of the other two parts. After Clause 3 in each of the parts, the material is part specific. Within each part, references are made to other parts, given with the full reference of the publication and major clause number, e.g. ISO/IEC 24739-3, Clause 4.

In order to implement the standard for a parallel transport, it is necessary to comply with both ISO/IEC 24739-1 and ISO/IEC 24739-2. In order to implement the serial transport, it is necessary to comply with both ISO/IEC 24739-1 and ISO/IEC 24739-3. It should be recognized, however, that the serial transport as described in ISO/IEC 24739-3 relies heavily on logical interconnect and protocol concepts and requirements described in ISO/IEC 24739-2. These concepts are called "parallel emulation" in ISO/IEC 24739-3. In some cases, references are made to the parallel implementation of ATA, which refers to the parallel transport (ISO/IEC 24739-2). The reader is strongly advised to consult all three parts when implementing the serial transport.

This International Standard (ISO/IEC 24739-1) contains the command feature sets for ATA. It defines structures used by the parallel implementation of ATA and the serial implementation of ATA. The command descriptions are in alphabetical order, with a cross-reference by command codes in Annex A.

The ISO/IEC 24739 series of standards consists of the following parts and clauses:

Part 1

- Clause 1 describes the scope.
- Clause 2 provides normative references for the entire standard.
- Clause 3 provides definitions, abbreviations and conventions used within the entire standard.
- Clause 4 describes the general operating requirements of the command layer.
- Clause 5 describes the I/O registers.
- Clause 6 contains descriptions of the commands.
- Clauses 7 through 12 point to the material in ISO/IEC 24739-2.
- Clauses 13 through 19 point to material in ISO/IEC 24739-3.

Part 2

Clause 1 describes the scope.

Clause 2 provides normative references for the entire standard.

Clause 3 provides definitions, abbreviations and conventions used within the entire standard.

Clauses 4, 5 and 6 point to the material in ISO/IEC 24739-1.

Clause 7 contains the electrical and mechanical characteristics.

Clause 8 contains the signal descriptions.

Clause 9 describes the general operating requirements of the physical, data link and transport layers.

Clause 10 contains describes register addressing.

Clause 11 contains the transport protocols.

Clause 12 contains the interface timing diagrams.

Clauses 13 through 19 point to material in ISO/IEC 24739-3.

Part 3

Clause 1 describes the scope.

Clause 2 provides normative references for the entire standard.

Clause 3 provides definitions, abbreviations and conventions used within the entire standard.

Clauses 4, 5 and 6 point to the material in ISO/IEC 24739-1.

Clauses 7 through 12 point to the material in ISO/IEC 24739-2.

Clause 13 contains a general overview of the serial interface.

Clause 14 describes the serial physical layer.

Clause 15 describes the serial link layer.

Clause 16 describes the serial transport layer.

Clause 17 describes the device command layer protocol for the serial interface.

Clause 18 describes the host command layer protocol for the serial interface.

Clause 19 describes the serial interface host adapter register interface.

Clause 20 describes the serial interface error handling.

**INFORMATION TECHNOLOGY –
AT ATTACHMENT WITH PACKET INTERFACE-7 –**

**Part 1: Register delivered command set,
logical register set (ATA/ATAPI-7 V1)**

1 Scope

This part of ISO/IEC 24739 specifies the AT Attachment Interface between host systems and storage devices. It provides a common attachment interface for systems manufacturers, system integrators, software suppliers and suppliers of intelligent storage devices.

ISO/IEC 24739-1 defines the register delivered commands used by devices implementing the standard. ISO/IEC 24739-2 defines the connectors and cables for physical interconnection between host and storage device, the electrical and logical characteristics of the interconnecting signals and the protocols for the transporting of commands, data and status over the interface for the parallel interface. ISO/IEC 24739-3 defines the connectors and cables for physical interconnection between host and storage device, the electrical and logical characteristics of the interconnecting signals and the protocols for the transporting of commands, data and status over the interface for the serial interface. Figure 1 shows the relationship of these documents. For devices implementing the PACKET command feature set, additional command layer standards are listed in Table 1 and described in Clause 2.

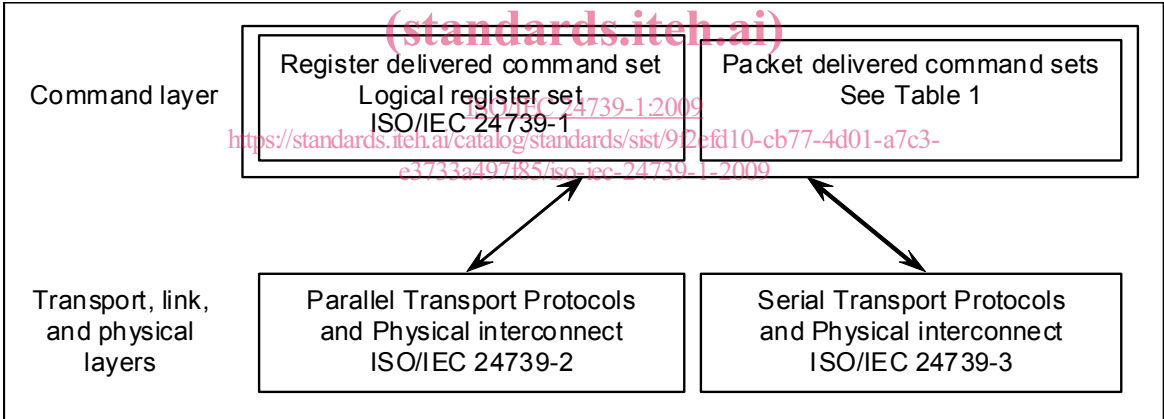


Figure 1 – ATA document relationships

Table 1 – PACKET delivered command sets

Standard
SCSI Primary Commands (SPC)
ISO/IEC 14776-452, SCSI Primary Commands 2 (SPC-2)
ISO/IEC 14776-453, SCSI Primary Commands-3 (SPC-3)
ISO/IEC 14776-322, SCSI Block Commands (SBC-2)
ISO/IEC 14776-331, SCSI Stream Commands (SSC)
Multimedia Commands (MMC)
ISO/IEC 14776-362, Multimedia Commands-2 (MMC-2)
ISO/IEC 14776-363, Multimedia Commands-3 (MMC-3)
ISO/IEC 14776-364: Multimedia Commands-4 (MMC-4)
ATAPI for Removable Media (SFF8070I)
ATA Packet Interface (ATAPI) for Streaming Tape QIC-157 revision D

This standard maintains compatibility with the AT Attachment with packet interface-6 standard (ATA/ATAPI-6), ANSI INCITS 361-2002, and while providing additional functions, is not intended to require changes to presently installed devices or existing software.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references only the edition cited applies. For undated references the latest edition (including any amendments) applies.

- <https://standards.iteh.ai/catalog/standards/sist/02ef110-ch77-4d01-a7c3-3733a497f85/iso-iec-24739-1-2009>
- ISO/IEC 14776-321, *Information technology – Small computer system interface (SCSI) – Part 321: Block commands (SBC)* [ANSI INCITS 306-1998 (R2003)]
- ISO/IEC 14776-322, *Information technology – Small computer system interface (SCSI) – Part 322: Block commands-2 (SBC-2)* [T10/1417-D]
- ISO/IEC 14776-331, *Information technology – Small computer system interface (SCSI) – Part 331: Stream commands (SSC)* [ANSI INCITS 335-2000]
- ISO/IEC 14776-362, *Information technology – Small computer system interface (SCSI) – Part 362: Multimedia commands-2 (MMC-2)* [ANSI INCITS 333-2000]
- ISO/IEC 14776-363, *Information technology – Small computer system interface (SCSI) – Part 363: Multimedia commands-3 (MMC-3)* [ANSI INCITS 360-2002]
(under consideration)
- ISO/IEC 14776-364, *Information technology – Small computer system interface (SCSI) – Part 364: Multimedia commands-4 (MMC-4)* [T10/1545D]
(under consideration)
- ISO/IEC 14776-452, *Information technology – Small computer system interface (SCSI) – Part 452: Primary commands-2 (SPC-2)* [ANSI INCITS 351-2001]
- ISO/IEC 14776-453, *Information technology – Small computer system interface (SCSI) – Part 453: Primary commands-3 (SPC-3)* [T10/1416-D]
(under consideration)
- ISO/IEC 13213:1994, *Information technology – Microprocessor systems – Control and Status Register (CSR) Architecture for microprocessor buses*

ISO 7779:1999, *Acoustics – Measurement of airborne noise emitted by information technology and telecommunications equipment*

AT Attachment with Packet Interface Extension (ATA/ATAPI-4)[ANSI INCITS 317-1998] (R2003)

SCSI-3 Primary Commands (SPC) [ANSI INCITS 301-1997 (R2002)]

Multimedia Commands (MMC) [ANSI INCITS 304-1997 (R2002)]

Protected Area Run Time Interface Extensions (PARTIES) [ANSI INCITS 346-2001]

ATAPI for Rewritable Media (under development) [SFF8070i]

3 Definitions, abbreviations and conventions

3.1 Definitions and abbreviations

For the purposes of this standard, the following definitions apply.

3.1.1

ASCII Character

designates 8-bit value that is encoded using the ASCII character set

iTeh STANDARD PREVIEW

3.1.2

acoustics

measurement of airborne noise emitted by information technology and telecommunications equipment [see ISO 7779:1999(E)]

(standards.iteh.ai)

[ISO/IEC 24739-1:2009](https://standards.iteh.ai/catalog/standards/sist/92ef10-cb77-4d01-a7c3-e3733a497f85/iso-iec-24739-1-2009)

<https://standards.iteh.ai/catalog/standards/sist/92ef10-cb77-4d01-a7c3-e3733a497f85/iso-iec-24739-1-2009>

3.1.3

ATA (AT Attachment)

ATA defines the physical, electrical, transport and command protocols for the internal attachment of storage devices to host systems

3.1.4

ATA-1 device

device that complied with ANSI X3.221-1994, the AT Attachment interface for disk drives

NOTE ANSI X3.221-1994 has been withdrawn.

3.1.5

ATA-2 device

device that complied with ANSI X3.279-1996, the AT Attachment interface with extensions

NOTE ANSI X3.279-1996 has been withdrawn.

3.1.6

ATA-3 device

device that complies with ANSI INCITS 298-1997, the AT Attachment-3 Interface

NOTE ANSI INCITS 298-1997 has been withdrawn.

3.1.7

ATA/ATAPI-4 device

device that complies with ANSI INCITS 317-1998

NOTE For reference, see bibliography.