EX1101

T10 Working Drafts

This page includes links to the current T10 working draft documents. **There are no approved, official standards here.** In accordance with the INCITS Organization, Policies and Procedures, once a working draft is sent to INCITS for final approval, the link is deactivated for guest access. At this point, guests need to purchase the approved standard, for a reasonable fee, using this link.

Your payment ensures that you receive the actual standard with all the final changes and your payment supports the standards process. In most cases, the link to the final T10 committee working draft revision for a project is retained here for T10 Member access only. The drafts are used by T10 Committee members for reference. In case of any conflict, the published ANSI standard or technical report prevails.

Disclaimer: While it is intended that the documents listed here are at the latest committee revision level, there may be some delays in posting drafts here. Also, draft documents are not completed standards. The T10 Technical Committee may modify these documents as a result of its development activities. Any use of information contained in these documents is at your own risk.

T10 documents are available in Portable Data Format (.PDF) format. You will need an Adobe Acrobat(tm) Reader to view these files:



Downloading and installing the free Acrobat Reader will make web openings of Acrobat files automatic.

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Small Computer System Interface

Note that the original third-generation SCSI standards used the name SCSI-3 to distinguish them from SCSI-2. Subsequent SCSI standards have dropped the '-3' from their names because it was cumbersome. So, when the SCSI-3 Architecture Model (SAM) was revised, it became the SCSI Architecture Model - 2 (SAM-2). While the individual components of the SCSI family continue to evolve, there is no SCSI-4 project envisioned.

SCSI Architecture (SAM)

SCSI Architecture Model - 2 (SAM-2)
{Date: 2002/09/11, Rev: 24, Status: Published, BSR Number: INCITS 366}
PDF File: sam2r24.pdf (913781 bytes)
SAM-2 describes the second generation of the SCSI Architecture Model.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 366-2003.

SCSI Architecture Model - 4 (SAM-4)
{Date: 2008/05/08, Rev: 14, Status: Published, BSR Number: INCITS 447}
PDF File: sam4r14.pdf (1261479 bytes)
SAM-4 describes the fourth generation of the SCSI Architecture Model.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, INCITS 447-2008.

SCSI Architecture Model - 5 (SAM-5)
{Date: 2015/07/22, Rev: 21, Status: Published, BSR Number: INCITS 515}
PDF File: sam5r21.pdf (1782764 bytes)
SAM-5 describes the fifth generation of the SCSI Architecture Model.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 515-2017.

SCSI Architecture Model - 6 (SAM-6)
{Date: 2021/05/29, Rev: 08, Status: Published, BSR Number: INCITS 546}
PDF File: sam6r08.pdf (1378653 bytes)
SAM-6 describes the sixth generation of the SCSI Architecture Model.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 546-2022.

Command Standards

Primary Commands (SPC)

SCSI Primary Commands - 2 (SPC-2)
{Date: 2001/07/18, Rev: 20, Status: Published, BSR Number: INCITS 351}
PDF File: spc2r20.pdf (5572469 bytes)

SPC-2 contains the second-generation definition of the basic commands for all SCSI devices. SPC-2 is used in conjuction with one of the below standards for the specific device type. In 2006, the ANSI SPC-2 standard was replaced with ISO/IEC 14776-452:2005, which is available through ANSI.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 351-2001.

SCSI Primary Commands - 3 (SPC-3)
{Date: 2005/05/04, Rev: 23, Status: Published, BSR Number: INCITS 408}
PDF File: spc3r23.pdf (3044469 bytes)
SPC-3 contains the third-generation definition of the basic commands for all SCSI devices. SPC-3 is used in conjunction with one of the below standards for the specific device type.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 408-2005.

SCSI Primary Commands - 4 (SPC-4)
{Date: 2014/05/17, Rev: 37, Status: Published, BSR Number: INCITS 513}
PDF File: spc4r37.pdf (4269360 bytes)
SPC-4 contains the fourth-generation definition of the basic commands for all SCSI devices. SPC-4 is used in conjunction with a standard for the specific device type.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 513-2015.

SCSI Primary Commands - 5 (SPC-5)
{Date: 2019/04/19, Rev: 22, Status: Published, BSR Number: INCITS 502}
PDF File: spc5r22.pdf (19736385 bytes)
SPC-5 contains the fifth-generation definition of the basic commands for all SCSI devices. SPC-5 is used in conjunction with a standard for the specific device type. Transfers the security feature section of SPC-4 into a new, separate T10 standard.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 502-2020.

SCSI Primary Commands - 6 (SPC-6)
{Date: 2024/05/12, Rev: 13, Status: Publication, BSR Number: INCITS 566}
PDF File: spc6r13.pdf (3805768 bytes)
SPC-6 contains the sixth-generation definition of the basic commands for all SCSI devices. SPC-6 is used in conjunction with a standard for the specific device type.

SCSI Primary Commands - 7 (SPC-7)
{Date: 2025/05/10, Rev: 04, Status: Development, BSR Number: INCITS 586}
PDF File: spc7r04.pdf (5781877 bytes)
SPC-7 contains the sixth-generation definition of the basic commands for all SCSI devices. SPC-7 is used in conjunction with a standard for the specific device type.

Security Features for SCSI Commands (SFSC)
{Date: 2015/09/25, Rev: 02, Status: Published, BSR Number: INCITS 501}
PDF File: sfscr02.pdf (716819 bytes)
SFSC is a new SCSI standard designed to accommodate all security features for SCSI commands and remove the equivalent information from SPC-5. It follows the command security features documented in SPC-4.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 501-2016.

Block Commands (SBC)

SCSI-3 Block Commands (SBC)
{Date: 1997/11/13, Rev: 08c, Status: Published, BSR Number: INCITS 306}
PDF File: sbc-r08c.pdf (796576 bytes)
SBC describes the command sets for block-oriented direct-access devices such as magnetic disk drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 306-1998 [R2003].

SCSI Block Commands - 2 (SBC-2)
{Date: 2004/11/13, Rev: 16, Status: Published, BSR Number: INCITS 405}
PDF File: sbc2r16.pdf (1170146 bytes)
SBC-2 describes the second-generation command sets for block-oriented direct-access devices such as magnetic disk drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 405-2005.

SCSI Block Commands - 3 (SBC-3)
{Date: 2013/11/11, Rev: 36, Status: Published, BSR Number: INCITS 514}
PDF File: sbc3r36.pdf (2853983 bytes)
SBC-3 describes the third-generation command sets for block-oriented direct-access devices such as magnetic disk drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 514-2014.

SCSI Block Commands - 4 (SBC-4)
{Date: 2020/09/15, Rev: 22, Status: Published, BSR Number: INCITS 506}
PDF File: sbc4r22.pdf (5103904 bytes)
SBC-4 describes the fourth-generation command sets for block-oriented direct-access devices such as magnetic disk drives and Solid-State Devices.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 506-2021.

SCSI Block Commands - 5 (SBC-5)
{Date: 2024/09/11, Rev: 08, Status: Publication, BSR Number: INCITS 571}
PDF File: sbc5r08.pdf (5182648 bytes)
SBC-5 describes the fifth-generation command sets for block-oriented direct-access devices such as magnetic disk drives and Solid-State Devices.

SCSI Block Commands - 6 (SBC-6)
{Date: n/a, Rev: n/a, Status: Development, BSR Number: INCITS 587}
PDF File: sorry.pdf
SBC-6 describes the sixth-generation command sets for block-oriented direct-access devices such as magnetic disk drives and Solid-State Devices.

Zoned Block Commands (ZBC)

Zoned Block Commands (ZBC)
{Date: 2016/01/30, Rev: 05, Status: Published, BSR Number: INCITS 536}
PDF File: zbc-r05.pdf (387982 bytes)
Storage devices are embracing fundamental changes in technology. The ZBC standard incorporates the requirements for devices that require writing to occur at specific locations on their media. These devices allow random reading of data that is already written.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 536-2017.

ZBC Amendment 1
{Date: 2018/03/14, Rev: 00, Status: Published, BSR Number: INCITS 536 AM1}
PDF File: ZBC-A100.pdf (77406 bytes)
Included File: ZBC-A100.docx (88950 bytes)
This project recommends the development of an amendment to INCITS 536-2016, Zoned Block Commands (ZBC). The scope of this project includes corrections and clarifications, including resolution of conflicting additional sense code information.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 536 AM1-2019.

Zoned Block Commands - 2 (ZBC-2)
{Date: 2022/05/06, Rev: 13, Status: Published, BSR Number: INCITS 550-2023}
PDF File: zbc2r13.pdf (788436 bytes)
Storage devices are embracing fundamental changes in technology. New devices based on this technology allow random reading of data that is already written, while requiring writing to occur at specific locations on their media.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 550-2023.

Zoned Block Commands - 3 (ZBC-3)
{Date: 2024/11/27, Rev: 04, Status: Development, BSR Number: INCITS 579}
PDF File: zbc3r04.pdf (751193 bytes)

Reduced Block Commands (RBC)

Reduced Block Commands (RBC)
{Date: 1999/08/18, Rev: 10a, Status: Published, BSR Number: INCITS 330}
PDF File: rbc-r10a.pdf (247065 bytes)
The Reduced Block Commands (RBC) will provided a simplified command set for block devices.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 330-2000 [R2006].

Reduced Block Commands (RBC) Amendment 1
{Date: 2003/05/05, Rev: 01, Status: Published, BSR Number: INCITS 330/AM1}
PDF File: rbc-a101.pdf (14772 bytes)
RBC Amendment 1 corrects a few defects in the RBC Standard (INCITS.330:2000).

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 330-2000/AM1-2003.

Stream Commands (SSC)

SCSI-3 Stream Commands (SSC)
{Date: 2000/01/01, Rev: 22, Status: Published, BSR Number: INCITS 335}
PDF File: ssc-r22.pdf (483320 bytes)
SSC describes the command sets for stream-oriented sequential-access devices such as magnetic tape drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 335-2000 [R2006].

SCSI Stream Commands - 2 (SSC-2)
{Date: 2003/07/09, Rev: 09, Status: Published, BSR Number: INCITS 380}
PDF File: ssc2r09.pdf (787156 bytes)
SSC-2 describes the second-generation command sets for stream-oriented sequential-access devices such as magnetic tape drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 380-2003.

SCSI Stream Commands - 3 (SSC-3)
{Date: 2009/09/15, Rev: 05, Status: Published, BSR Number: INCITS 467}
PDF File: ssc3r05.pdf (3168144 bytes)
SSC-3 describes the third-generation command sets for stream-oriented sequential-access devices such as magnetic tape drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 467-2011.

SCSI Stream Commands - 4 (SSC-4)
{Date: 2013/03/13, Rev: 03, Status: Published, BSR Number: INCITS 516}
PDF File: ssc4r03.pdf (4190128 bytes)
SSC-4 describes the fourth-generation command sets for stream-oriented sequential-access devices such as magnetic tape drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 516-2013.

SCSI Stream Commands - 5 (SSC-5)
{Date: 2021/08/05, Rev: 06, Status: Published, BSR Number: INCITS 503}
PDF File: ssc5r06.pdf (3621210 bytes)
SSC-5 describes the fifth-generation command sets for stream-oriented sequential-access devices such as magnetic tape drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 503-2022.

SCSI Stream Commands - 5 AM1 (SSC-5/AM1)
{Date: 2024/07/16, Rev: 03, Status: Publication, BSR Number: INCITS 503 AM1}
PDF File: ssc5a1r03.pdf (129370 bytes)
The following items should be considered for inclusion in SSC-5-AM1: • New log parameters • Corrections and clarifications to SSC-5 • Other capabilities that may fit within the scope of this project.

Medium Changer Commands (SMC)

SCSI-3 Media Changer Commands (SMC)
{Date: 1998/03/04, Rev: 10a, Status: Published, BSR Number: INCITS 314}
PDF File: smc-r10a.pdf (245827 bytes)
SMC describes the SCSI-3 command set for medium Changers (a.k.a., jukeboxes).

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 314-1998 [R2003].

SCSI Media Changer Commands - 2 (SMC-2)
{Date: 2003/11/18, Rev: 07, Status: Published, BSR Number: INCITS 382}
PDF File: smc2r07.pdf (281185 bytes)
SMC-2 is the second-generation command set for Media Changers (a.k.a., jukeboxes).

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 382-2004.

SCSI Media Changer Commands - 3 (SMC-3)
{Date: 2012/01/11, Rev: 16, Status: Published, BSR Number: INCITS 484}
PDF File: smc3r16.pdf (1439761 bytes)
SMC-3 is the third-generation command set for Media Changers (a.k.a., jukeboxes).

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 484-2023.

Multi-Media Commands (MMC)

Multi-Media Commands - 2 (MMC-2)
{Date: 1999/08/30, Rev: 11a, Status: Published, BSR Number: INCITS 333}
PDF File: mmc2r11a.pdf (1622536 bytes)
MMC-2 describes the second-generation command set for multi-media devices. It includes initial support for DVD...primarily DVD-ROM. It also has updated support for CD-R/-RW. The recording information for DVD is minimal.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 333-2000.

MultiMedia Command Set - 3 (MMC-3)
{Date: 2001/11/09, Rev: 10g, Status: Published, BSR Number: INCITS 360}
PDF File: mmc3r10g.pdf (2351214 bytes)
MMC-3 describes the third-generation command set for multi-media devices. It includes more support for DVD. It also includes -RAM, -R, -RW, and +RW and it introduced CD-MRW and DDCD.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 360-2002.

MultiMedia Command Set - 4 (MMC-4)
{Date: 2005/05/04, Rev: 05a, Status: Published, BSR Number: INCITS 401}
PDF File: mmc4r05a.pdf (3502318 bytes)
MMC-4 describes the fourth-generation command set for multi-media devices. It has the next major inclusion of support for DVD: +R, +MRW and was rewritten to update the standard according to field behaviour.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 401-2005.

MultiMedia Command Set - 5 (MMC-5)
{Date: 2006/10/24, Rev: 04, Status: Published, BSR Number: INCITS 430}
PDF File: mmc5r04.pdf (4262533 bytes)
MMC-5 describes the fifth-generation command set for multi-media devices. It includes the final additions to DVD ...particularly +R double layer. It has initial descriptions and support for all BD media types: ROM, R, and RE.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, INCITS 430-2007.

MultiMedia Command Set - 6 (MMC-6)
{Date: 2009/12/11, Rev: 02g, Status: Published, BSR Number: INCITS 468}
PDF File: mmc6r02g.pdf (4577888 bytes)
MMC-6 describes the sixth-generation command set for multi-media devices.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 468-2010.

MultiMedia Command Set - 6 Amendment # 1 (MMC-6 AM1)
{Date: 2012/01/05, Rev: 01, Status: Published, BSR Number: INCITS 468-2010/AM 1}
PDF File: MMC6A101.pdf (65190 bytes)
The MMC-6 Amendment # 1 is intended to correct defects in MMC-6 (ANSI INCITS 468-2010) that were identified in T10/11-441r0.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 468-2010/AM 1-2012.

Controller Commands (SCC)

SCSI Controller Commands-2 (SCC-2)
{Date: 1997/09/12, Rev: 04, Status: Published, BSR Number: INCITS 318}
PDF File: scc2r04.pdf (936283 bytes)
SCC-2 describes the second generation command set for RAID devices.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 318-1998 [R2003].

Enclosure Services Commands (SES)

SCSI Enclosure Services (SES)
{Date: 1998/01/30, Rev: 08b, Status: Published, BSR Number: INCITS 305}
PDF File: ses-r08b.pdf (1081607 bytes)
SES describes the SCSI-3 command set for device enclosures.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 305-1998 [R2003].

SCSI Enclosure Services (SES) - Amendment 1
{Date: 2000/07/12, Rev: 01, Status: Published, BSR Number: INCITS 305/AM1}
PDF File: ses-a101.pdf (10885 bytes)
SES Amendment 1 corrects a few defects in the SES Standard (NCITS.305:1998).

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 305-1998/AM1-2000 [R2003].

SCSI Enclosure Services - 2 (SES-2)
{Date: 2008/05/12, Rev: 20, Status: Published, BSR Number: INCITS 448}
PDF File: ses2r20.pdf (820008 bytes)
SES-2 describes the second-generation command set for device enclosures.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, INCITS 448-2008.

SCSI Enclosure Services - 3 (SES-3)
{Date: 2016/11/18, Rev: 14, Status: Published, BSR Number: INCITS 518}
PDF File: ses3r14.pdf (852631 bytes)
SES-3 describes the third-generation command set for SCSI device enclosures.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 518-2018.

SCSI Enclosure Services - 4 (SES-4)
{Date: 2020/05/06, Rev: 05, Status: Published, BSR Number: INCITS 555}

PDF File: ses4r05.pdf (1253072 bytes)
SES-4 describes the forth-generation command set for SCSI device enclosures.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 555-2021.

Object-Based Storage Devices Commands (OSD)

Object-Based Storage Device Commands (OSD)
{Date: 2004/07/30, Rev: 10, Status: Published, BSR Number: INCITS 400}
PDF File: osd-r10.pdf (1296556 bytes)
The Object-Based Storage Device Commands (OSD) defines a command set that stores data objects instead of blocks of data. The purpose of this abstraction is to assign to the storage device more responsibility for managing the location of the data.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 400-2004.

Object-Based Storage Devices - 2 (OSD-2)
{Date: 2009/01/16, Rev: 05a, Status: Published, BSR Number: INCITS 458}
PDF File: osd2r05a.pdf (2455111 bytes)
The Object-Based Storage Device Commands - 2 (OSD-2) defines the second-generation command set for devices that store data as objects instead of blocks of data. The purpose of this abstraction is to assign to the storage device more responsibility for managing the location of the data.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 458-2011.

Automation/Drive Interface Commands (ADC)

Automation/Drive Interface - Commands (ADC)
{Date: 2004/09/14, Rev: 07, Status: Published, BSR Number: INCITS 403}
PDF File: adc-r07.pdf (451191 bytes)
Media changer (automation) devices use a private communication link for monitoring and controlling the removable medium devices (drives) installed in them. The proposed Automation/Drive Interface - Commands (ADC) standard specifies commands issued by automation devices to the drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 403-2005.

Automation/Drive Interface - Commands - 2 (ADC-2)
{Date: 2007/07/10, Rev: 08, Status: Published, BSR Number: INCITS 441}
PDF File: adc2r08.pdf (763443 bytes)
Media changer (automation) devices use a private communication link for monitoring and controlling the removable medium devices (drives) installed in them. The proposed Automation/Drive Interface - Commands - 2 (ADC-2) standard specifies commands issued by automation devices to the drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 441-2008.

Automation/Drive Interface - Commands - 3 (ADC-3)
{Date: 2012/01/23, Rev: 05a, Status: Published, BSR Number: INCITS 497}
PDF File: adc3r05a.pdf (1129424 bytes)
Media changer (automation) devices use a private communication link for monitoring and controlling the removable medium devices (drives) installed in them. The proposed Automation/Drive Interface - Commands - 3 (ADC-3) standard specifies commands issued by automation devices to the drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 497-2012.

Automation/Drive Interface - Commands - 4 (ADC-4)
{Date: 2023/01/26, Rev: 05, Status: Published, BSR Number: INCITS 541-2023}
PDF File: adc4r05.pdf (2930655 bytes)
Media changer (automation) devices use a private communication link for monitoring and controlling the removable medium devices (drives) installed in them. The proposed Automation/Drive Interface - Commands - 4 (ADC-4) standard specifies fourth-generation commands issued by automation devices to the drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 541-2023.

Protocols and Physical Layers

Parallel SCSI

SCSI Parallel Interface - 2 (SPI-2)
{Date: 1998/04/13, Rev: 20b, Status: Published, BSR Number: INCITS 302}
PDF File: spi2r20b.pdf (3336930 bytes)
(a.k.a., Ultra2 SCSI)
The SPI-2 draft standard is the second generation definition of the SCSI-3 Physical Layer. SPI-2 is a superset of SPI. It contains all pertinent features from SCSI-2, SPI, and Fast-20 plus the new features of Fast-40 and Low Voltage Differential (LVD). The technical content of SIP is also included. Thus SPI-2 is a complete definition of the parallel SCSI physical and protocol layers.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 302-1998 [R2003].

SCSI Parallel Interface - 5 (SPI-5)
{Date: 2003/01/16, Rev: 06, Status: Published, BSR Number: INCITS 367}
PDF File: spi5r06.pdf (3997875 bytes)
(a.k.a., Ultra640 SCSI)
The SPI-5 draft standard is the fifth-generation definition of the SCSI-3 Physical Layer.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 367-2003.

SCSI Passive Interconnect Performance (PIP)
{Date: 2002/12/20, Rev: 04, Status: Published, BSR Number: INCITS 368}
PDF File: pip-r04.pdf (1013415 bytes)
The SCSI Passive Interconnect Performance Standard (PIP) is a collection of requirements on methodologies to be used to measure the performance of passive SCSI interconnect components such as cable assemblies and backplanes.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 368-2003.

SCSI Signal Modeling - 2 (SSM-2)
{Date: 2003/01/09, Rev: 05a, Status: Published, BSR Number: INCITS 369}
PDF File: ssm2r05a.pdf (1222698 bytes)
SSM-2 is a collection of requirements and methodologies to be used to simulate SCSI signals.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 369-2003.

Technical Reports related to the SCSI Parallel Interface:

SCSI Enhanced Parallel Interface (EPI) Technical Report
{Date: 1998/09/16, Rev: 16, Status: Published, BSR Number: INCITS TR-23}
PDF File: epi-r16.pdf (824556 bytes)
Defines enhancements such as expanders for use with parallel SCSI.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved technical report, ANSI INCITS TR-23-1998.

SCSI Domain Validation (SDV)
{Date: 2001/11/06, Rev: 08b, Status: Published, BSR Number: INCITS TR-28}
PDF File: sdv-r08b.pdf (83161 bytes)
SDV is an NCITS Technical Report describing testing techniques to validate the communication capability of the SCSI physical layer.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved technical report, ANSI INCITS TR-28-2002.

Serial Attached SCSI (SAS)

Serial Attached SCSI - 1.1 (SAS-1.1)
{Date: 2005/09/21, Rev: 10, Status: Published, BSR Number: INCITS 417}
PDF File: sas1r10.pdf (5637775 bytes)
The Serial Attached SCSI - 1.1 (SAS-1.1) draft standard is a follow-on standard to SAS. It is an incremental enhancement to SAS adding features such as transport layer retries and fixes any bugs discovered after SAS is approved. It does not include a higher link rate.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 417-2006.

Serial Attached SCSI - 2 (SAS-2)
{Date: 2009/04/18, Rev: 16, Status: Published, BSR Number: INCITS 457}
PDF File: sas2r16.pdf (7404699 bytes)
Included File: sas2r16.zip (3467363 bytes)
The Serial Attached SCSI - 2 (SAS-2) draft standard is the second generation of SAS, which adds an option for a 6 Gb/sec link speed. It is based upon SAS-1.1. It continues to document both a physical Layer that is compatible with Serial ATA and protocols for transporting SCSI commands to SAS devices and for transporting ATA commands to SATA devices.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 457-2010.

Beginning with SAS-2.1, the protocol layer is separated into its own standard, called the SAS Protocol Layer (SPL). SAS-2.1 only documents the physical layer. Follow-on standards are called: SPL-2, SPL-3, etc.

Serial Attached SCSI - 2.1 (SAS-2.1)
{Date: 2010/12/09, Rev: 07, Status: Published, BSR Number: INCITS 478}
PDF File: sas21-r07.pdf (3918704 bytes)
Included File: sas21-r07.zip (3595391 bytes)
The Serial Attached SCSI - 2.1 (SAS-2.1) draft standard defines a number of incremental enhancements to the SAS-2 standard, including active cables, additional connectors, and power management. Beginning with SAS-2.1, the protocol layer is split out into a separate standard, SAS Protocol Layer, (SPL).

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 478-2011.

Serial Attached SCSI - 2.1 (SAS-2.1) Amendment #1
{Date: 2013/07/01, Rev: 00, Status: Published, BSR Number: INCITS 478/AM1}
PDF File: SAS21-A100.pdf (24814 bytes)
Included File: SAS21-A100.zip (3606563 bytes)
SAS-2.1 Amendment # 1 is intended to correct a defect in SAS-2.1 (ANSI INCITS 478-2011) that inadvertently omitted a ZIP file that was intended to be included with the standard.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 478/AM1-2014.

Serial Attached SCSI - 3 (SAS-3)
{Date: 2013/11/07, Rev: 06, Status: Published, BSR Number: INCITS 519}
PDF File: sas3r06.pdf (6076909 bytes)
Included File: sas3r06.zip (54313207 bytes)
The Serial Attached SCSI - 3 (SAS-3) draft standard defines the 12 Gigabits per second data link rate, maintaining compatibility with the 3 Gbps and 6 Gbps SAS link rates. It also maintains SATA 3.0 compatibility.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 519-2014.

Serial Attached SCSI - 4 (SAS-4)
{Date: 2018/03/28, Rev: 10b, Status: Published, BSR Number: INCITS 534}
PDF File: sas4r10b.pdf (6154480 bytes)
Included File: sas4r10b.zip (136508124 bytes)
The Serial Attached SCSI - 4 (SAS-4) draft standard will double the SAS-3 data rate, maintaining compatibility with the 6 Gbps and 12 Gbps SAS link rates. It also will adopt a more efficient signal encoding.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 534-2019.

Serial Attached SCSI - 4.1 (SAS-4.1)
{Date: 2022/03/24, Rev: 04, Status: Published, BSR Number: INCITS 567-2023}
PDF File: sas41-r04.pdf (6358051 bytes)
Included File: sas41-r04.zip (136508124 bytes)
The Serial Attached SCSI - 4.1 (SAS-4.1) draft standard defines a number of incremental enhancements to the SAS-4 standard.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 567-2023.

Serial Attached SCSI - 5 (SAS-5)
{Date: 2024/12/28, Rev: 02, Status: Development, BSR Number: INCITS 561}
PDF File: sas5r02.pdf (8055932 bytes)
Included File: sas5r02.zip (136508124 bytes)
The Serial Attached SCSI - 5 (SAS-5) draft standard will double the SAS-4 data rate, maintaining compatibility with the 12 Gbps and 24 Gbps SAS link rates.

SAS Protocol Layer - 2 (SPL-2)
{Date: 2012/05/10, Rev: 05, Status: Published, BSR Number: INCITS 505}
PDF File: spl2r05.pdf (9024006 bytes)
The SAS Protocol Layer - 2 (SPL-2) is the second-generation SAS protocol layer standard. It adds backchannel speed negotiation protocol.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 505-2013.

SAS Protocol Layer - 3 (SPL-3)
{Date: 2014/05/13, Rev: 07, Status: Published, BSR Number: INCITS 492}
PDF File: spl3r07.pdf (9639125 bytes)
The SAS Protocol Layer - 3 (SPL-3) is the third-generation SAS protocol layer standard. It adds enhancements to the SAS protocol.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 492-2015.

SAS Protocol Layer - 4 (SPL-4)
{Date: 2017/10/26, Rev: 13, Status: Published, BSR Number: INCITS 538}
PDF File: spl4r13.pdf (11858667 bytes)
The SAS Protocol Layer - 4 (SPL-4) is the fourth-generation SAS protocol layer standard. It supports more efficient signal encoding and the higher data rates proposed for SAS-4 plus it adds enhancements to the SAS protocol.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 538-2018.

SAS Protocol Layer - 5 (SPL-5)
{Date: 2022/05/06, Rev: 15, Status: Published, BSR Number: INCITS 554-2023}
PDF File: spl5r15.pdf (10801571 bytes)
The SAS Protocol Layer - 5 (SPL-5) is the fifth-generation SAS protocol layer standard. It supports enhancements for the SAS-4 physical layer.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 554-2023.

Fibre Channel

Fibre Channel Protocol (FCP)
{Date: 1995/12/04, Rev: 12, Status: Published, BSR Number: INCITS 269}
PDF File: fcp-r12.pdf (347937 bytes)
FCP defines the protocol to be used to transport SCSI commands over the T11 Fibre Channel interface.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 269-1996 [R2006].

SCSI Fibre Channel Protocol - 2 (FCP-2)
{Date: 2002/10/23, Rev: 08, Status: Published, BSR Number: INCITS 350}
PDF File: fcp2r08.pdf (986832 bytes)
FCP-2 defines the second generation Fibre Channel Protocol to be used to transport SCSI commands over the T11 Fibre Channel interface.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 350-2003.

Fibre Channel Protocol - 4 (FCP-4)
{Date: 2011/01/03, Rev: 02b, Status: Published, BSR Number: INCITS 481}
PDF File: fcp4r02b.pdf (1439701 bytes)
FCP-4 defines the fourth generation Fibre Channel Protocol to be used to transport SCSI commands over the T11 Fibre Channel interface.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 481-2011.

Fourth generation Fibre Channel Protocol (FCP-4) Amendment 1
{Date: n/a, Rev: n/a, Status: Published, BSR Number: INCITS 481 AM1}

PDF File: sorry.pdf
This project recommends the development of an amendment to INCITS 481-2011, Fibre Channel Protocol for SCSI, fourth generation to allow for specifying extensions to be used by the T11 project INCITS 540, FC-NVMe.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 481 AM1-2018.

Fibre Channel Protocol for SCSI, Fifth Version (FCP-5)
{Date: 2022/02/10, Rev: 04, Status: Published, BSR Number: INCITS 563}
PDF File: fcp5r04.pdf (2521660 bytes)

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 563-2023.

High Performance Serial Bus (IEEE 1394)

Serial Bus Protocol 2 (SBP-2)
{Date: 1998/05/19, Rev: 04, Status: Published, BSR Number: INCITS 325}
PDF File: sbp2r04.pdf (405715 bytes)
SBP-2 defines a protocol to transport generic command sets over the IEEE 1394 interface. This project now includes the information that was in the STS project.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 325-1998 [R2003].

Serial Bus Protocol 3 (SBP-3)
{Date: 2003/09/16, Rev: 05, Status: Published, BSR Number: INCITS 375}
PDF File: sbp3r05.pdf (578191 bytes)
SBP-3 defines a protocol to transport generic command sets over the IEEE 1394 interface. This is the third-generation of the Serial Bus protocol.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 375-2004.

SCSI RDMA Protocol (SRP)

NOTE: This project was previously called the SCSI VI Protocol (SVP).

SCSI RDMA Protocol (SRP)
{Date: 2002/07/03, Rev: 16a, Status: Published, BSR Number: INCITS 365}
PDF File: srp-r16a.pdf (831986 bytes)
SRP defines a SCSI protocol mapping onto the InfiniBand (tm) Architecture and/or functionally similar cluster protocols.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 365-2002.

SCSI RDMA Protocol - 2 (SRP-2)
{Date: 2019/05/07, Rev: 06, Status: Published, BSR Number: INCITS 551}
PDF File: srp2r06.pdf (1612785 bytes)
Remote Direct Memory Access (RDMA) is a feature of some transport protocols like Virtual Interface (VI) and InfiniBand™. SRP and SRP-2 allow devices to directly access memory in other devices on a fabric. VI has been mapped to Fibre Channel and other fabrics.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 551-2020.

Serial Storage Architecture (SSA)

SSA SCSI-3 Protocol (SSA-S3P)
{Date: 1997/04/01, Rev: 05b, Status: Published, BSR Number: INCITS 309}
PDF File: s3p-r05b.pdf (359851 bytes)
This protocol is used to transport SCSI-3 commands over SSA.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 309-1997 [R2002].

SSA Transport Layer 2 (SSA-TL2)
{Date: 1997/04/01, Rev: 05b, Status: Published, BSR Number: INCITS 308}
PDF File: tl2-r05b.pdf (741925 bytes)
This protocol is for use with SSA-PH1 and SSA-PH2. It replaces SSA-TL1, which only dealt with SSA-PH1.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 308-1997 [R2002].

SSA Physical Layer 2 (SSA-PH2)
{Date: 1997/04/01, Rev: 05b, Status: Published, BSR Number: INCITS 307}
PDF File: ph2-r05b.pdf (1333805 bytes)
This draft standard defines the SSA 40 MByte/Sec physical interface.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 307-1997 [R2002].

Automation/Drive Interface (ADI)

Automation/Drive Interface - Transport Protocol (ADT)
{Date: 2004/11/18, Rev: 14, Status: Published, BSR Number: INCITS 406}
PDF File: adt-r14.pdf (1018702 bytes)
Media changer (automation) devices use a private communication link for monitoring and controlling the removable medium devices (drives) installed in them. The proposed Automation/Drive Interface - Transport Protocol (ADT) standard specifies a protocol for transporting commands, data, and status between automation devices and the drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 406-2005.

Automation/Drive Interface - Transport Protocol - 2 (ADT-2)
{Date: 2010/06/22, Rev: 09, Status: Published, BSR Number: INCITS 472}
PDF File: adt2r09.pdf (1472842 bytes)
Media changer (automation) devices use a private communication link for monitoring and controlling the removable medium devices (drives) installed in them. The proposed Automation/Drive Interface - Transport Protocol -2 (ADT-2) standard specifies a protocol for transporting commands, data, and status between automation devices and the drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 472-2011.

Automation/Drive Interface - Transport Protocol - 3 (ADT-3)
{Date: 2021/10/22, Rev: 03, Status: Published, BSR Number: INCITS 542-2022}
PDF File: adt3r03.pdf (1750743 bytes)
Media changer (automation) devices use a private communication link for monitoring and controlling the removable medium devices (drives) installed in them. The proposed Automation/Drive Interface - Transport Protocol -3 (ADT-3) standard specifies a third-generation protocol for transporting commands, data, and status between automation devices and the drives.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 542-2022.

USB Attached SCSI (UAS)

USB Attached SCSI (UAS)
{Date: 2010/03/09, Rev: 04, Status: Published, BSR Number: INCITS 471}
PDF File: uas-r04.pdf (412435 bytes)
The USB Attached SCSI (UAS) draft standard is a USB transport protocol to carry SCSI command sets over USB in a SAM-4 compliant manner, including queuing and autosense. It does not interfere with the USB Mass Storage (MSC) bulk-only transport.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 471-2010.

USB Attached SCSI - 3 (UAS-3)
{Date: 2020/11/07, Rev: 05, Status: Published, BSR Number: INCITS 572}
PDF File: uas3r05.pdf (495585 bytes)
Picking up where the closed UAS-2 project left off, the USB Attached SCSI - 3 (UAS-3) draft standard is the next-generation USB transport protocol to carry SCSI command sets over USB in a SAM-6 compliant manner. Among other things, USB-3 adds the ability to switch data transfers from one command to another before the current command is complete.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 572-2021-2022.

SCSI Over PCIe® Architecture (SOP)

NOTE: PCIe® is a registered trademark of the PCI-SIG in the U.S. and other countries.

SCSI over PCIe(r) architecture (SOP)
{Date: 2013/11/07, Rev: 05, Status: Published, BSR Number: INCITS 489}
PDF File: sop-r05.pdf (2097413 bytes)
SCSI over PCIe® architecture (SOP) defines the upper portion of a SCSI transport protocol for the PCIe architecture (see http://www.pcisig.com).

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 489-2014.

PCIe(r) architecture Queuing Interface (PQI)
{Date: 2013/09/20, Rev: 07, Status: Published, BSR Number: INCITS 490}
PDF File: pqi-r07.pdf (2213648 bytes)
PCIe® architecture Queuing Interface (PQI) defines a device register set and an associated queuing transport interface for the PCIe architecture (see http://www.pcisig.com).

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 490-2014.

PCIe(r) architecture Queuing Interface - 2 (PQI-2)
{Date: 2016/03/03, Rev: 01b, Status: Published, BSR Number: INCITS 507}
PDF File: pqi2r01b.pdf (1102299 bytes)
PCIe® architecture Queuing Interface - 2 (PQI-2) defines the second-generation of a device register set and an associated queuing transport interface for the PCIe architecture (see http://www.pcisig.com).

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 507-2016.

SCSI / ATA Translation (SAT)

SCSI / ATA Translation (SAT)
{Date: 2006/09/13, Rev: 09, Status: Published, BSR Number: INCITS 431}
PDF File: sat-r09.pdf (1721382 bytes)
SCSI / ATA Translation is a software translation layer that maps ATA devices to make them appear to be corresponding SCSI devices.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 431-2007.

SCSI / ATA Translation - 2 (SAT-2)
{Date: 2009/09/16, Rev: 09, Status: Published, BSR Number: INCITS 465}
PDF File: sat2r09.pdf (1278616 bytes)
SCSI / ATA Translation - 2 is the second-generation software translation layer that maps ATA devices to make them appear to be corresponding SCSI devices.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 465-2010.

SCSI / ATA Translation - 3 (SAT-3)
{Date: 2014/09/15, Rev: 07, Status: Published, BSR Number: INCITS 517}
PDF File: sat3r07.pdf (1504102 bytes)
SCSI / ATA Translation - 3 is the third-generation software translation layer that maps ATA devices to make them appear to be corresponding SCSI devices.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 517-2015.

SCSI / ATA Translation - 4 (SAT-4)
{Date: 2016/09/23, Rev: 06, Status: Published, BSR Number: INCITS 491}
PDF File: sat4r06.pdf (2681734 bytes)
SCSI / ATA Translation - 4 is the fourth-generation software translation layer that maps ATA devices to make them appear to be corresponding SCSI devices.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 491-2018.

SCSI / ATA Translation - 5 (SAT-5)
{Date: 2023/01/31, Rev: 10, Status: Published, BSR Number: INCITS 557}
PDF File: sat5r10.pdf (2359789 bytes)
This standard defines the protocol requirements of the SCSI / ATA Translation Layer (SATL) to allow conforming SCSI / ATA translating components to interoperate with ATA devices, SCSI transports, and SCSI application layers. The SATL covers a range of implementations that use ATA devices to emulate the behavior of SCSI devices as viewed by the SCSI application layer. The primary focus of this standard is to define SCSI / ATA Translation for an ATA device

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 557-2024.

SCSI / ATA Translation - 6 (SAT-6)
{Date: 2024/10/18, Rev: 02, Status: Development, BSR Number: INCITS 578}
PDF File: sat6r02.pdf (3361051 bytes)

Small Computer System Interface - 2 (SCSI-2)

Small Computer System Interface - 2 (SCSI-2)
{Date: 1993/09/07, Rev: 10L, Status: Published, BSR Number: INCITS 131}
PDF File: s2-r10L.pdf (6394357 bytes)
SCSI-2 defines the second generation of the Small Computer System Interface.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 131-1994[R2004].

SCSI Technical Information Bulletin #1 (Logging Operations)
{Date: 1995/01/26, Rev: e, Status: Published, BSR Number: }
PDF File: s2t1rE.pdf (313838 bytes)
SCSI-2 Technical Information Bulletin about Logging Operations.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved technical information bulletin through Global Engineering Documents (800-854-7179 or +1-303-792-2181). Ask for Global SCSI-2 Technical Information Bulletin #1 to purchase this document.

SCSI Technical Information Bulletin #2 (Partition Mgmt)
{Date: 1995/01/26, Rev: e, Status: Published, BSR Number: }
PDF File: s2t2rE.pdf (231513 bytes)
SCSI-2 Technical Information Bulletin about Tape Partition Management.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved technical information bulletin through Global Engineering Documents (800-854-7179 or +1-303-792-2181). Ask for Global SCSI-2 Technical Information Bulletin #2 to purchase this document.

SCSI-2 Common Access Method Transport and SCSI Interface Module
{Date: 1995/05/20, Rev: 12b, Status: Published, BSR Number: INCITS 232}
PDF File: cam-r12b.pdf (848835 bytes)
Software layering standard for use with SCSI-2.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 232-1996 [R2006].

SSA SCSI-2 Standards

The first generation SSA standards (S2P, TL1, and PH1) were designed to use the SCSI-2 commands.

SSA SCSI-2 Protocol (SSA-S2P)
{Date: 1996/07/22, Rev: 07b, Status: Published, BSR Number: INCITS 294}
PDF File: s2p-r07b.pdf (468478 bytes)
This protocol is used to transport SCSI-2 commands over SSA.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 294-1996 [R2006].

SSA Transport Layer 1 (SSA-TL1)
{Date: 1996/07/22, Rev: 10b, Status: Published, BSR Number: INCITS 295}
PDF File: tl1-r10b.pdf (1255593 bytes)
This protocol is for use only with SSA-PH1.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 295-1996 [R2006].

SSA Physical Layer 1 (SSA-PH1)
{Date: 1996/07/22, Rev: 09c, Status: Published, BSR Number: INCITS 293}
PDF File: ph1-r09c.pdf (1605673 bytes)
This draft standard defines the SSA 20 MByte/Sec physical interface.

The above document is a final T10 committee working draft. Only T10 members are permitted to access this document. Other people may purchase the approved standard, ANSI INCITS 293-1996 [R2006].

Withdrawn Standards and Technical Reports

T10 is under an obligation to periodically review its standards and technical reports to determine whether on they should be revised, reaffirmed, or withdrawn as ANSI standards or techical reports. Below is a list the T10 standards and technical reports that have been withdrawn.

Please note that these documents are no longer ANSI standards or technical reports. Information about them is being provided for historical interest but these former standards should not be used for new designs. Guests must contact the INCITS Secretariat for availability information. T10 members may find some of these documents on the T10 members Projects page.

Interfaces between flexible disk cartridges and their host controllers
{Status: Withdrawn; Project: 0052-M; Designation: ANSI/ISO 9315:1989[1994]}
This ANSI standard (X3.80) was replaced by the international version of the standard (ANSI/ISO 9315-1989[1994]). Eventually the international version was withdrawn.

Storage Module Interfaces (SMD-E)
{Status: Withdrawn; Project: 0053-M; Designation: ANSI INCITS 91M-1987 [R2002]}
Obsolete standard

Small Computer System Interface (SCSI)
{Status: Replaced; Project: 0375-D; Designation: X3.131:1986}
This was the original SCSI standard (X3.131-1986). It was superseded (replaced) by SCSI-2 in 1994.

Device Level Interface for Streaming Cartridge and Cassette Tape Drives
{Status: Withdrawn; Project: 0378-M; Designation: X3.146:1986[R1992]}
Obsolete standard

Enhanced Small Device Interface (ESDI)
{Status: Withdrawn; Project: 0587-M; Designation: X3.170:1990[1994]/X3.170a:1991[1994]}
This disk drive interface standard was originally published as X3.170-1990. In 1991, an amendment was approved and the combined documents were identified as X3.170:1990/X3.170a-1991. In 1994, ESDI was reaffirmed as X3.170-1990[1994]/X3.170a-1991[1994]. This standard was withdrawn in April 1999.

SCSI-3 Parallel Interface (SPI)
{Status: Withdrawn; Project: 0855-M; Designation: X3.253:1995}
SPI (X3.253:1995) documented the SCSI-3 physical layer, including cables, connectors, drivers, and receivers. This standard was withdrawn in January 2000 in favor of SPI-2.

SCSI-3 Parallel Interface Amendment (SPI AM1)
{Status: Withdrawn; Project: 0855-A1; Designation: X3.253/AM1:1998}
SPI Amendment 1 (X3.253/AM1:1998) fixed several errors and replaced the SCAM Annex. This Amendment was withdrawn in January 2000 in favor of SPI-2.

SCSI-3 Interlocked Protocol (SIP)
{Status: Withdrawn; Project: 0856-M; Designation: X3.292:1997}
SIP (X3.292:1997) defined the protocol used to transport SCSI commands over the SCSI-3 Parallel Interface (SPI). This standard was withdrawn in January 2000 in favor of SPI-2.

SCSI-3 Generic Packetized Protocol Technical Report (GPP)
{Status: Withdrawn; Project: 0991-TR; Designation: ANSI INCITS TR-16-1997}
The GPP Technical Report defined a protocol for transporting SCSI-3 commands over any packet interface. It was eventually withdrawn in favor of the interface-specific transport protocols.

Serial Bus Protocol (SBP)
{Status: Withdrawn; Project: 0992-D; Designation: X3.268:1997}
SBP (X3.268:1997) defined a protocol to transport generic command sets over the IEEE 1394 interface. It was almost immediately withdrawn in favor of SBP-2.

SCSI-3 Architecture Model (SAM)
{Status: Withdrawn; Project: 0994-M; Designation: ANSI INCITS 270-1996 [R2001]}
SAM contained a formal model that described the requirements to comply with the SCSI architecture. It was withdrawn in 2006 in favor of SAM-2.

SCSI-3 Primary Commands (SPC)
{Status: Withdrawn; Project: 0995-M; Designation: ANSI INCITS 301-1997 [R2002]}
SPC was the first of the SPC-n standards. It documented the the basic commands for all SCSI-3 devices. This standard was withdrawn in 2007 in favor of the later SPC-n standards.

SCSI-3 Controller Commands (SCC)
{Status: Withdrawn; Project: 1047-M; Designation: X3.276:1997}
SCC (X3.276:1997) described the first-generation command set for RAID devices. It was withdrawn in favor of SCC-2 in January 2000.

SCSI-3 Multimedia Commands (MMC)
{Status: Withdrawn; Project: 1048-M; Designation: ANSI INCITS 304-1997 [R2002]}
MMC described the command set for multi-media devices such as CD-ROMs based upon (but not necessarily compatible with) SCSI-2. It included initial support for CD-R and CD-RW writing. It was withdrawn in 2007.

SCSI-3 Fast-20 Parallel Interface (Fast-20)
{Status: Withdrawn; Project: 1071-M; Designation: X3.277:1996}
Fast-20 (X3.277:1996) defined the requirements for Fast-20 data transfers; it was used in conjunction with SPI. This standard was withdrawn in January 2000 in favor of SPI-2.

SCSI Parallel Interface - 3 (SPI-3)
{Status: Withdrawn; Project: 1302-M; Designation: ANSI INCITS 336-2000}
SPI-3 defined the third generation the SCSI-3 Physical Layer. It defined the packetized protocol and the Fast-80 transport speed (which was marketed as Ultra3 SCSI). This standard was withdrawn in January 2006 in favor of SPI-4, which was subsequently withdrawn in favor of SPI-5.

SCSI Parallel Interface - 4 (SPI-4)
{Status: Withdrawn; Project: 1365-D; Designation: ANSI INCITS 362-2002}
SPI-4 defined the fourth-generation the SCSI-3 Physical Layer, increasing the transport speed to Fast-160 (which was marketed as Ultra320). This standard was withdrawn in 2007 in favor of SPI-5.

SCSI Signal Modeling (SSM)
{Status: Withdrawn; Project: 1414-DT; Designation: ANSI INCITS TR-29-2002}
SSM was a Technical Report containing a collection of requirements on methodologies to be used to simulate SCSI signals. This Technical Report was withdrawn in 2007 in favor of the SSM-2 standard.

Fibre Channel Protocol - 3 (FCP-3)
{Status: Withdrawn/Replaced; Project: 1560-D; Designation: ANSI INCITS 416-2006}
FCP-3 defines the third generation Fibre Channel Protocol to be used to transport SCSI commands over the T11 Fibre Channel interface.

SCSI Architecture Model - 3 (SAM-3)
{Status: Withdrawn/Replaced; Project: 1561-D; Designation: ANSI INCITS 402-2005}
SAM-3 describes the third generation of the SCSI Architecture Model.

Serial Attached SCSI (SAS)
{Status: Withdrawn/Replaced; Project: 1562-D; Designation: ANSI INCITS 376-2003}
The Serial Attached SCSI (SAS) draft standard contains both a physical Layer that is compatible with Serial ATA and protocols for transporting SCSI commands to SAS devices and for transporting ATA commands to SATA devices.

SAS Protocol Layer (SPL)
{Status: Withdrawn/Replaced; Project: 2124-D; Designation: ANSI INCITS 476-2011}
The SAS Protocol Layer (SPL) standard documents the SAS protocol layer corresponding to the Serial Attached SCSI - 2.1 (SAS-2.1) and beyond. Prior to this standard, the protocol layer was included with the physical layer. This standard adds enhancements to reduce congestion in the SAS topology and to support interface power management.

SAS Protocol Layer (SPL) Amendment #1 (SPL AM1)
{Status: Withdrawn/Replaced; Project: 2124-M; Designation: ANSI INCITS 476/AM1-2012}
This project would amend SPL (ANSI INCITS 476-2011) to correct a defect identified in T10/11-014r0, SPL-Idle_Wait state fix

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