DEVELOPMENT STANDARD

COMMAND DESCRIPTOR BLOCK (CDB) INTERFACE FOR FLOPPY TAPE

(See important notices on following page)

Important Notices

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1. PURPOSE AND SCOPE

The purpose of this specification is to provide a common command set for reading and/or writing floppy tapes on the SCSI or ATAPI interface. Two typical implementations include (1) TR-3 read on a TR-4 drive or (2) development of a QIC-3020 drive on the SCSI or ATAPI interface.

2. REFERENCE DOCUMENTS

ANSI X3T9.2/948D	AT Attachment Interface with Extensions (ATA-2)
ANSI X3.131	SCSI
QIC-157	ATA Packet Interface (ATAPI) for Streaming Tape.
QIC-80	Flexible Disk Controller Compatible Recording Format for Information Interchange.
QIC-3020	Serial Recorded Magnetic Tape Minicartridge for Information Interchange.

3. CDB INTERFACE

The command descriptor blocks (CDB's) shown are formatted for SCSI Devices. When used on the ATAPI interface, the CDB's need to be zero padded to 12 bytes in length.

3.1 Command Summary

Command	Op-Code	Comments
Erase	19h	Calibrate Length, AC Erase, Write Bursts, Format Tracks.
Inquiry	12h	Retrieve Device information
Load/Unload	1Bh	Seek to Load Point / Retension.
Locate	2Bh	Seek to Block / Rewind.
Mode Select	15h	Set Device / medium parameters
Mode Sense	1Ah	Retrieve Device / medium parameters
Read	08h	Read Data.
Request Sense	03h	Returns error information.
Test Unit Ready	00h	Check for cartridge ready.
Write	0Ah	Write Data.
Write Filemark	10h	Buffer flush.

3.2 Reserved Fields

Unless otherwise stated, all reserved and unsupported fields will not be verified when the drive accepts a command. It is expected that these values will be filled with 00's for future compatibility.

3.3 Commands

3.3.1 ERASE Command

The ERASE command performs formatting phases on all or part of the medium.

Byte Bit	7	6	5	4	3	2	1	0
0	19h							
1	Reserved							Long
2	Reserved							
3	Reserved							
4	Reserved							
5	Reserved							

The area of medium formatted is based on a starting track and number of tracks. The starting track is established using the Locate command. The medium must be positioned to the start of a track before issuing Erase. The number of tracks to format is specified in the Tape Parameters mode page.

If the **Long** bit is set to 1, the drive will write reference bursts to the medium and the drive may optionally choose to perform an AC erase pass of the media before writing the reference bursts.

If SEGTRK in the Tape Parameters mode page is set to 0, this command will calibrate the tape length. If SEGTRK is non-zero, SEGTRK segments per track will be formatted. Except for format-write mode, each tape segment of each track will be written with the format fill byte specified in the Tape Parameters mode page.

Complete format:
1. Load to reset tape parameters.
2. Mode Sense/Select Tape Parameters Page, selecting appropriate density, fill byte, and other properties.
3. Erase with Long=1 to format the media*.
4. Mode Sense Tape Parameters Page to retrieve segments per track.
5. Mode Select Tape Parameters Page; enabling reduced margin mode.
6. Read all blocks to identify marginal blocks.
7. Mode Select tape parameters page; disabling reduced margin mode.
8. Write header segments; selecting Tape Parameters mode page WDAM bit if header markouts are necessary.

* Step by step formatting can be optionally performed as follows:
   Calibrate Tape length: set SEGTRK=0, TRKS=0 and issue Erase with Long=0. After the command completes, SEGTRK can be read from the Mode Tape Parameters page.
   Write Reference Bursts: issue Erase with Long=1, SEGTRK>0, TRKS=0.
   Format Track Range: Locate to first track, set TRKS to number of tracks to format, issue Erase with Long=0.

3.3.2 INQUIRY Command

The INQUIRY command requests that information regarding the Device type be sent to the Host.

Byte Bit	7	6	5	4	3	2	1	0
0	12h							
1	Reserved							
2	Reserved							
3	Reserved							
4	Allocation Length							
5	Reserved							

The **Allocation Length** Field specifies the maximum number of bytes that the Host computer has allocated for returned data. An **Allocation Length** of zero indicates that no data shall be transferred. This condition shall not be considered as an error. The Device shall terminate the data transfer when **Allocation Length** bytes have been transferred or when all available data have been transferred to the Host, whichever is less.

The following table defines the information returned.

Byte	Description	Value	Meaning
0	Peripheral Device Type	1Fh	Unassigned
1	Removable Media Bit (RMB)	80h	Removable
2	ISO/ECMA/ANSI Version	02h	SCSI II
3	Response Data Format	02h	This Format
4	Additional Length	32.	36 total bytes
5-7	Reserved	00h	
8-15	Vendor ID (8 ASCII characters)	ASCII	Space padded vendor identification.
16-31	Product ID (16 ASCII characters)	ASCII	Space padded model number.
32-35	Product Revision (4 ASCII characters)	ASCII	Space padded firmware version.

3.3.3 LOAD/UNLOAD Command

The LOAD UNLOAD command requests that the Device enable or disable further media access operations. This command may also be used to request a retension function. Prior to performing the load or unload operation, the Device shall ensure that all buffered data, and filemarks have been transferred to the medium.

Byte Bit	7	6	5	4	3	2	1	0
0	1Bh							
1	Reserved							
2	Reserved							
3	Reserved							
4	Reserved						Reten	Load
5	Reserved							

Load will be accepted any time a medium is present in the drive. The drive will reset all tape parameter mode settings based on the cartridge and recording format detected. The medium will be positioned at BOT on track 0 following this command.

The **Reten** option initiates a retension of the tape without loading or unloading the media.

If the **Load** bit is set to zero, the Device will eject the medium if the drive has an eject mechanism, otherwise this bit is ignored.

3.3.4 LOCATE Command

The LOCATE command causes the Device to position to the specified block address. Upon completion, the logical position shall be before the specified location. Prior to performing the locate operation, the Device shall ensure that all buffered data, and filemarks have been transferred to the medium.

Byte Bit	7	6	5	4	3	2	1	0
0	2Bh							
1	Reserved					ER	Reserved	
2	Reserved							
3	(MSB)							
4	Block Number							
5								
6								(LSB)
7	Reserved							
8	Reserved							
9	Reserved							

The **Block Number** specifies the location to position to and ranges from 0 through N-1 where N = BSEG * SEGTRK * TRKS. The values for these parameters are reported in the Mode Tape Parameters page.

Setting the **ER** bit to 1 places the drive into single block error recovery mode for the next read command. The subsequent read must be a read for a single block. In this mode, the drive will perform appropriate recovery mechanisms possibly including off track retries to recover the block.

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3.3.5 MODE SELECT Command

The MODE SELECT command provides a means to specify medium or Device parameters. MODE SENSE should be issued prior to MODE SELECT to determine page lengths and preserve parameters which are not desired to be changed.

Byte Bit	7	6	5	4	3	2	1	0
0	15h							
1	Reserved							
2	Reserved							
3	Reserved							
4	Parameter List Length							
5	Reserved							

The **Parameter List Length** is used to specify the number of bytes to be sent to the Device. A **Parameter List Length** of zero indicates that no data shall be transferred. This condition shall not be considered an error.

See the MODE SENSE command for a description of the mode pages and header format of the Parameter List.

3.3.6 MODE SENSE Command

The MODE SENSE command provides a means for a Device to report parameters. It is a complementary command to the MODE SELECT command.

Byte Bit	7	6	5	4	3	2	1	0
0	1Ah							
1	Reserved				1	Reserved		
2	Reserved		Page Code					
3	Reserved							
4	Allocation Length							
5	Reserved							

The **Allocation Length** Field specifies the maximum number of bytes that the Host computer has allocated for returned data. An **Allocation Length** of zero indicates that no data shall be transferred. This condition shall not be considered as an error. The Device shall terminate the data transfer when **Allocation Length** bytes have been transferred or when all available data have been transferred to the Host, whichever is less.

The **Page Code** indicates the information page to report. A Page Code of zero indicates that only the Mode Parameter Header is to be transferred. The following **Page Codes** are supported for Mode Select and Mode Sense commands.

Page Code	Description
2Ah	Capabilities and Mechanical Status Page
2Bh	Tape Parameters Page

3.3.6.1 Mode Parameter Header

Table 3-1 Mode Parameter Header

Bit Byte	7	6	5	4	3	2	1	0
0	Mode Data Length							
1	Medium Type							
2	WP	Reserved						
3	Reserved							
4	Reserved							
5	Reserved							
6	Reserved							
7	Reserved							
8	Reserved							
9	Reserved							
10	Reserved							
11	Reserved							

When using the MODE SENSE command, the **Mode Data Length** field specifies the length in bytes of the following data that is available to be transferred. The **Mode Data Length** does not include itself. When using the MODE SELECT command, this field is reserved.

For the MODE SENSE command, a write protect (**WP**) bit of zero indicates the medium is write enabled. A **WP** bit of one indicates that the medium is write protected. For the MODE SELECT command, this field is reserved.

Table 3-2 Medium Type Assignments

Medium Type	Cartridge
00h	Unknown
10h	1/4", 550 Oe
1Fh	8mm, 550 Oe
93h	1/4", 900 Oe
86h	8mm, 900 Oe

3.3.6.2 Mode Capabilities and Mechanical Status Page

Table 3-3 Capabilities and Mechanical Status Page

Bit / Byte	7	6	5	4	3	2	1	0
0	Reserved			Page Code (2Ah)				
1	Page Length (12h)							
2	Reserved							
3	Reserved							
4	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	FTM	RO
5	Reserved	Reserved	Reserved	Reserved	EFMT	Reserved	Reserved	Reserved
6	Reserved	Reserved	Reserved	Reserved	EJECT	Reserved	LOCKED	LOCK
7	SLOWB	Reserved	Reserved	Reserved	Reserved	BLK1024	Reserved	Reserved
8	(MSB)	Maximum Speed Supported (in KBps)						
9								(LSB)
10	Reserved							
11								
12	(MSB)	Continuous Transfer Limit (in blocks)						
13								(LSB)
14	(MSB)	Current Speed Selected (in KBps)						
15								(LSB)
16	(MSB)	Buffer Size (in 512 bytes)						
17								(LSB)
18-19	Reserved							

If the **FTM** bit is set, the Device is operating in floppy tape mode using the command set described in this specification. If this bit is clear, the device is operating in streaming tape mode (QIC-157).

If the **RO** bit is set, the Device is operating in a read only mode.

If the **EFMT** bit is set, the Device supports ERASE command initiated formatting. This bit should be set to 1 in floppy tape mode if the drive is capable of formatting floppy tapes.

If the **EJECT** bit is set, the Device can mechanically unload the volume with the LOAD/UNLOAD command.

If the **LOCKED** bit is set, the volume is locked.

If the **LOCK** bit is set, the Device supports locking the volume using the ALLOW/PREVENT MEDIUM REMOVAL commands.

If the **SLOWB** bit is set, the Device restricts the byte count for PIO transfers for slow buffer memory. This bit should be set to zero on the SCSI interface.

If the **BLK1024** bit is set, the Device supports 1024 byte block sizes. This bit should be set to 1 in floppy tape mode. A block is equivalent to a sector.

The **Maximum Speed Supported** field indicates the actual maximum data that the Device supports. This value is returned as 1000 bytes per second that the data is transferred between the Host and the Device. See **Current Speed Selected** for details.

The **Continuous Transfer Limit** field indicates the number of blocks that can be transferred without delay due to a buffer limitation. This value should be set to BSEG (see Mode Tape Parameters page).

The **Current Speed Selected** field indicates the actual data rate that the Device is currently using this value is return as 1000 bytes per second that the data is transferred between the Host and the Device. The speed reflects the medium burst transfer rate rather than a sustained transfer rate. The Automatic speed in the below table indicates the drive can choose any speed that is optimum and may adjust the speed automatically during read/write operations to maximize streaming. The following values are defined:

Speed	Media Burst Data Rate
0	Automatic
62	500 kilobits per second
125	1 megabit per second
250	2 megabits per second
500	4 megabits per second

The **Buffer Size** is an estimate in 512 byte increments of the read and write buffer size.

3.3.6.3 Mode Tape Parameters Page

Table 3-4 Tape Parameters Page

Bit Byte	7	6	5	4	3	2	1	0
0	Reserved			Page Code (2Bh)				
1	Page Length (0Eh)							
2	Density (Kbpi)							
3	Reserved							
4	Format Fill Byte							
5	BSEG							
6	(MSB)			SEGTRK				
7								(LSB)
8	(MSB)			TRKS				
9								(LSB)
10	MAXSECT							
11	MAXCYL							
12	MAXHD							
13	Reserved							
14	Reserved							
15	WDAM		RM		FW		Reserved	

The **Density** is the recorded density detected by the drive in thousands of bits per inch (Kbpi). This value may be changed to effect the behavior of Erase.

Kbpi	Density
0	Unknown
10	QIC-40
15	QIC-80
22	QIC-3010
44	QIC-3020

The **Format Fill Byte** indicates the byte pattern the drive will use with the Erase command.

BSEG (Blocks per Segment)**, SEGTRK** (Segments per Track) and **TRKS** (Tracks per Tape) are set by the drive after Load to values determined from the cartridge and recording format detected. For variable length tapes, **SEGTRK** will need overridden based on information recorded on tape. The number of bytes per block is reported in the Capabilities and Mechanical Status Mode Page. A block is equivalent to a sector.

MAXSECT (Maximum Floppy Sector), **MAXCYL** (Maximum Floppy Cylinder), and **MAXHD** (Maximum Floppy Head) are initially set to 0 by the drive after the Load command. These values must be set according to the tape format specifications before read or write operations can take place.

Specifying **WDAM** (Write Deleted Address Mark) causes the Write command to write blocks with Deleted Address Marks which may be used to mark out header segments.

When **RM** (reduced margin) is set to 1, Read commands will identify defective blocks after formatting the medium. The drive sets this value to 0 as the result of a Load command.

The **FW** bit set to 1 indicates the drive is in format-write mode. In this mode, the drive does not require preformatted tapes.

3.3.7 READ Command

The READ command requests that the Device transfer one or more block(s) of data to the Host beginning with the current block. The READ command is also used to start a read ahead operation.

Byte Bit	7	6	5	4	3	2	1	0
0	08h							
1	Reserved							1
2	Reserved							
3	Reserved							
4	Transfer Length							
5	Reserved							

The **Transfer Length** specifies the number of blocks to be transferred. A **Transfer Length** of 0 initiates a read-ahead into the Device's internal buffer; no data shall be transferred to the host.

If Reduced Margin is enabled (see Mode Tape Parameters page), the read will be performed with reduced margin enabled for determining bad blocks after a format.

If an unreadable block is encountered, a check condition shall occur with sense key MEDIUM ERROR. The information field of Request Sense will indicate the number of blocks not transferred from the medium not including the block in error.

3.3.8 REQUEST SENSE Command

The REQUEST SENSE command requests that the Device transfer sense data to the Host.

Byte Bit	7	6	5	4	3	2	1	0
0	03h							
1	Reserved							
2	Reserved							
3	Reserved							
4	Allocation Length (20)							
5	Reserved							

Whenever an error is reported, the Host should issue a REQUEST SENSE command to receive the sense data describing what caused the error condition. If the Host issues some other command, the sense data is lost.

The **Allocation Length** Field specifies the maximum number of bytes that the Host computer has allocated for returned data. An **Allocation Length** of zero indicates that no data shall be transferred. This condition shall not be considered as an error. The Device shall terminate the data transfer when **Allocation Length** bytes have been transferred or when all available data have been transferred to the Host, whichever is less.

The information returned is formatted as follows:

Byte Bit	7	6	5	4	3	2	1	0
0	Valid	Error Code (70h or 71h for deferred errors)						
1	Reserved							
2	Reserved				Sense Key			
3	(MSB)							
4	Information							
5								
6								(LSB)
7	Additional Sense Length (2)							
8	Command Specific Information (Optional)							
9								
10								
11								
12	Additional Sense Code (ASC)							
13	Additional Sense Code Qualifier (ASCQ)							
14	Field Replaceable Unit identification (FRU)							
15	Sense Key Specific							
16								
17								
18	Reserved							
19	Reserved							

A **Valid** bit of zero indicates that the **Information** field is not as defined in this Specification. A **Valid** bit of one indicates the **Information** field contains valid information as defined in this Specification. Devices shall implement the **Valid** bit.

Error Code 70h indicates that the "Check Condition" status returned is the result of an error or exception condition on the I/O process that returned the "Check Condition" status. This includes errors generated during execution of the command by the actual execution process. It also includes errors not related to any command that are first observed during execution of a command. Examples of this latter type of error include a servo-mechanism, off-track errors, and power-up test errors.

Error code 71h (deferred error) indicates that the "Check Condition" status returned is the result of an error or exception condition that occurred during execution of a previous command for which "Good" status has already been returned. Such commands are associated with use of the Immediate bit, with some forms of caching, and with multiple command buffering. Devices that implement these features are required to implement deferred error reporting. The deferred error may be indicated by returning "Check Condition" status to the Host as described below. The subsequent execution of a REQUEST SENSE command shall return the deferred error sense information. If an I/O Command terminates with "Check Condition" status and the subsequent sense data returns a deferred error, that I/O command shall **not** have been executed. If a deferred error can be recovered with no external system intervention, a deferred error indication shall not be set. Deferred errors may indicate that an operation was unsuccessful long after the command performing the data transfer returned "Good" status. If data that cannot be replicated or recovered from other sources is being stored using buffered write operations, synchronization commands should be performed before the critical data is destroyed in the Host. This is necessary to be sure that recovery actions can be taken if deferred errors do occur in the storing of the data.

The **Sense Key**, **Additional Sense Code** and **Additional Sense Code Qualifier** provide a hierarchy of information. The intention of the hierarchy is to provide a top-down approach for the Host to determine information relating to the error and exception conditions. The **Sense Key** provides generic categories in which error and exception conditions can be reported and is defined in Table 3-5. The Host would typically use the Sense Key for high-level error recovery procedures. **Additional Sense Code** provides further detail describing the **Sense Key**. A list of **Additional Sense Codes** is defined in Table 3-7. **Additional Sense Code Qualifier** adds further detail to the **Additional Sense Code**. The **Additional Sense Code** and **Additional Sense Code Qualifier** can be used by the Host where sophisticated error recovery procedures require detailed information describing the error and exception conditions.

The content of the **Information** field is command-specific and is defined within the appropriate section for the command of interest. Devices shall implement the **Information** field. Unless specified otherwise, when the **Valid** bit is one, this field contains the difference between the number of blocks requested by the command or

commands and the actual number of blocks and filemarks transferred to or from the medium, the residue.

The **Additional Sense Length** field indicates the number of additional sense bytes to follow. If the allocation length of the Command Packet is too small to transfer all of the additional sense bytes, the **Additional Sense Length** is not adjusted to reflect the truncation.

The **Command-Specific Information** field contains information that depends on the command that was executed. Further meaning for this field is defined within the command description.

Non-zero values in the **Field Replaceable Unit Code** field are used to define a Device-specific mechanism or unit that has failed. A value of zero in this field shall indicate that no specific mechanism or unit has been identified to have failed or that the data is not available. The **Field Replaceable Unit Code** field is optional. The format of this information is not specified by this Specification.

Table 3-6 Sense Key Descriptions

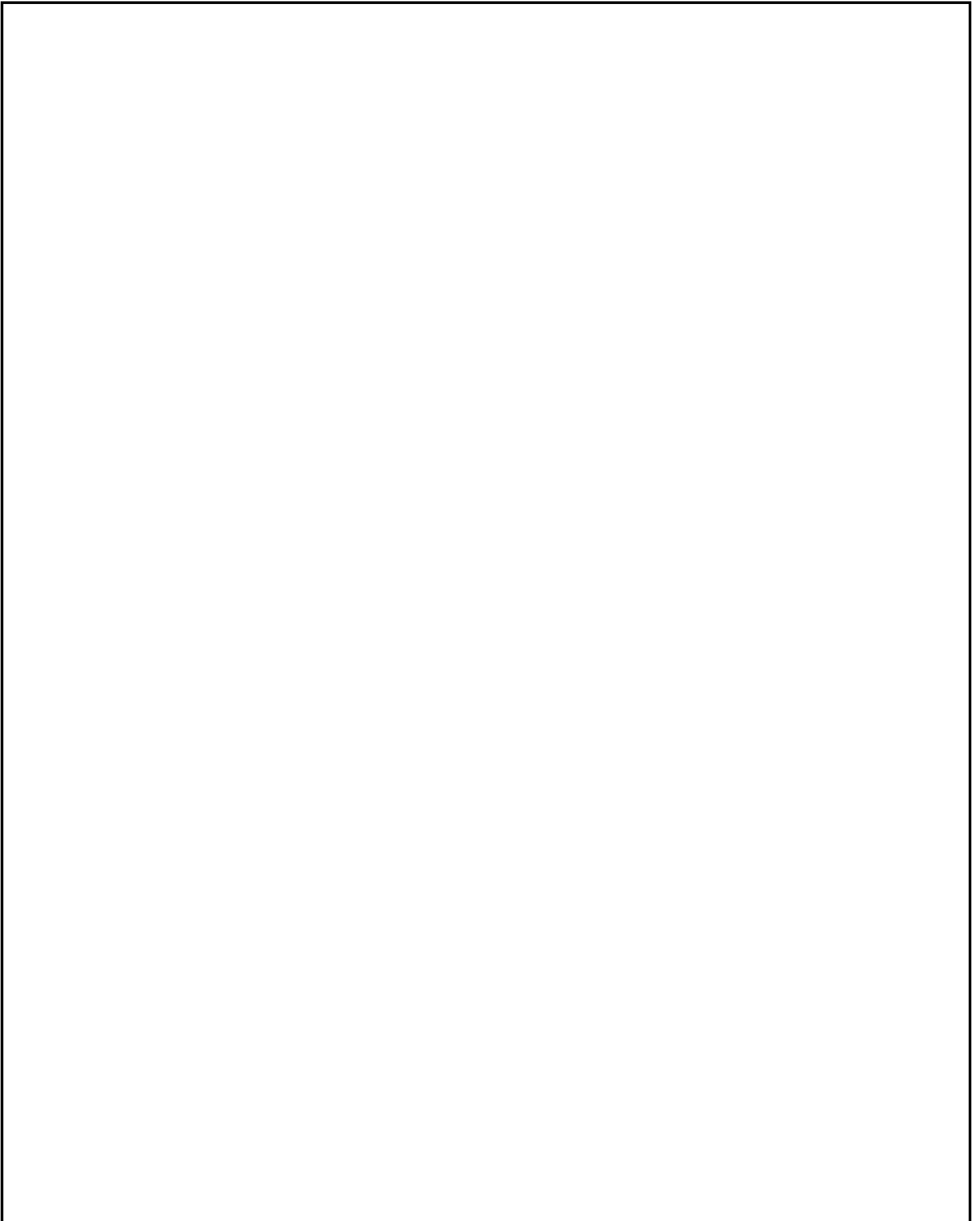| Sense key	Description
0h	NO SENSE. Indicates that there is no specific Sense Key information to be reported. This would be the case for a successful command.
1h	RECOVERED ERROR. Indicates that the last command completed successfully with some recovery action performed by the Device. Details may be determinable by examining the additional sense bytes and the Information field. When multiple recovered errors occur during one command, the choice of which error to report (first, last, most severe, etc.) is Device specific.
2h	NOT READY. Indicates that the Device cannot be accessed. Operator intervention may be required to correct this condition.
3h	MEDIUM ERROR. Indicates that the command terminated with a non-recovered error condition that was probably caused by a flaw in the medium or an error in the recorded data. This Sense Key may also be returned if the Device is unable to distinguish between a flaw in the medium and a specific hardware failure (Sense Key 4h).
4h	HARDWARE ERROR. Indicates that the Device detected a non-recoverable hardware failure (for example, controller failure, Device failure, parity error, etc.) while performing the command or during a self test.
5h	ILLEGAL REQUEST. Indicates that there was an illegal parameter in the Command Packet or in the additional parameters supplied as data for some commands. If the Device detects an invalid parameter in the Command Packet, then it shall terminate the command without altering the medium. If the Device detects an invalid parameter in the additional parameters supplied as data, then the Device may have already altered the medium.
6h	UNIT ATTENTION. Indicates that the removable medium may have been changed or the Device has been reset.
7h	DATA PROTECT. Indicates that a command that reads or writes the medium was attempted on a block that is protected from this operation. The read or write operation is not performed.
Bh	ABORTED COMMAND. Indicates that the Device has aborted the command. The Host may be able to recover by trying the command again. This error is reported for conditions such as an overrun etc.

Table 3-7 ASC and ASCQ Assignments

ASC	ASCQ	Description
00	00	NO ADDITIONAL SENSE INFORMATION
03	00	PERIPHERAL DEVICE WRITE FAULT
03	01	NO WRITE CURRENT
04	00	NOT READY, CAUSE NOT REPORTABLE
04	01	IN PROCESS OF BECOMING READY
04	02	NOT READY, INITIALIZING COMMAND REQUIRED
04	03	NOT READY, MANUAL INTERVENTION REQUIRED
09	00	TRACK FOLLOWING ERROR
11	00	UNRECOVERED READ ERROR
11	01	READ RETRIES EXHAUSTED
11	02	ERROR TOO LONG TO CORRECT (deleted address mark detected)
11	03	MULTIPLE READ ERRORS
11	09	NO GAP FOUND
11	0A	MISCORRECTED ERROR
14	00	RECORDED ENTITY NOT FOUND
14	01	RECORD NOT FOUND
14	04	BLOCK SEQUENCE ERROR
15	00	RANDOM POSITIONING ERROR
15	01	MECHANICAL POSITIONING ERROR
15	02	POSITIONING ERROR DETECTED BY READ OF MEDIUM
17	01	RECOVERED DATA WITH RETRIES
17	02	RECOVERED DATA WITH POSITIVE HEAD OFFSET
17	03	RECOVERED DATA WITH NEGATIVE HEAD OFFSET
1A	00	PARAMETER LIST LENGTH ERROR
20	00	INVALID COMMAND OPERATION CODE
21	00	LOGICAL BLOCK ADDRESS OUT OF RANGE
24	00	INVALID FIELD IN COMMAND PACKET check field pointer in sense data
25	00	LOGICAL UNIT NOT SUPPORTED
26	00	INVALID FIELD IN PARAMETER LIST check field pointer is sense data
26	01	PARAMETER NOT SUPPORTED check field pointer is sense data
26	02	PARAMETER VALUE INVALID check field pointer in sense data
27	00	WRITE PROTECTED
28	00	NOT READY TO READY TRANSITION medium may have changed
2D	00	OVERWRITE ERROR ON UPDATE IN PLACE
29	00	POWER ON, RESET, OR ATAPI SOFT RESET OCCURRED
30	00	INCOMPATIBLE MEDIUM INSTALLED
30	01	CANNOT READ MEDIUM - UNKNOWN FORMAT
30	02	CANNOT READ MEDIUM - INCOMPATIBLE FORMAT
30	03	CLEANING CARTRIDGE INSTALLED
31	00	MEDIUM FORMAT CORRUPTED
33	00	TAPE LENGTH ERROR
3A	00	MEDIUM NOT PRESENT
3B	00	SEQUENTIAL POSITIONING ERROR
3B	08	REPOSITION ERROR
40	NN	DIAGNOSTIC FAILURE ON COMPONENT NN (80H-FFH)
44	00	INTERNAL FAILURE
46	00	UNSUCCESSFUL SOFT RESET
4C	00	FAILED SELF-CONFIGURATION
4E	00	OVERLAPPED COMMANDS ATTEMPTED

50	00	WRITE APPEND ERROR
50	01	WRITE APPEND POSITION ERROR
51	00	ERASE FAILURE (FORMAT FAILURE)
52	00	CARTRIDGE FAULT
53	00	MEDIA LOAD/EJECT FAILED
53	01	UNLOAD TAPE FAILURE
53	02	MEDIUM REMOVAL PREVENTED
5A	00	OPERATOR REQUEST OR STATE CHANGE INPUT (UNSPECIFIED)
5A	01	OPERATOR MEDIUM REMOVAL REQUEST
80-FF	80-FF	Vendor Unique
ALL CODES NOT SHOWN ARE RESERVED.		

3.3.9 TEST UNIT READY Command

The TEST UNIT READY command provides a means to check if the Device is ready. This is not a request for a self-test. If the Device would accept an appropriate medium-access command without returning "Check Condition" status, this command shall return a "Good" status. If the Device cannot become operational or is in a state such that Host action is required to make the unit ready, the Device shall return "Check Condition" status with a Sense Key of NOT READY.

Byte Bit	7	6	5	4	3	2	1	0
0	00h							
1	Reserved							
2	Reserved							
3	Reserved							
4	Reserved							
5	Reserved							

This command will complete with no error if a tape is inserted and the drive is in an idle state.

3.3.10 WRITE Command

The WRITE command requests that the Device write the data that is transferred from the Host starting at the current position.

Bit Byte	7	6	5	4	3	2	1	0
0	0Ah							
1	Reserved							1
2	Reserved							
3	Reserved							
4	Transfer Length							
5	Reserved							

The **Transfer Length** specifies the number of fixed 1024 byte blocks to be transferred.. A **Transfer Length** of 0 indicates no data shall be transferred and is not considered an error.

If an unwriteable block is encountered, the drive shall report check condition with MEDIUM ERROR sense key. The Information field of Request Sense will indicate the number of blocks not transferred to the medium not including the block in error.

3.3.11 WRITE FILEMARK Command

The WRITE FILEMARK command commits unwritten data to the medium (buffer flush).

Bit Byte	7	6	5	4	3	2	1	0
0	Operation code (10h)							
1	Reserved							
2	Reserved							
3	Reserved							
4	Reserved							
5	Reserved							