Comments and suggestions to SCSI-3 SSC

Paul Entzel, Conner Peripherals
(714) 966-2204
paul.entzel@conner.com

Status returned to Locate command

We need to specify the status when a Locate command positions the tape to a block that does not exist. Should a Locate to the block immediately following the last block in a partition return an error status? How about a Locate to block zero in an empty partition?

Density Codes

See separate proposal.

Add IBM ALDC compression algorithm identifiers to Table 30

The following compression algorithm identifiers should be added to Table 30:

Algorithm Ident.	Description
02h	Not assigned
03h	IBM ALDC Data Compression Algorithm with 512 byte buffer
04h	IBM ALDC Data Compression Algorithm with 1024 byte buffer
05h	IBM ALDC Data Compression Algorithm with 2048 byte buffer
06h - 0Fh	Not assigned

Medium Type field in Mode Sense Header

Why is the medium-type code in the mode parameter header reserved?

Report Density command

Why is it necessary to define a new command to report densities? Couldn't this be done with a Mode Sense page instead?

Logical Block Addressing

Are filemarks and Setmarks Logical Blocks? This should be clarified in the device model section 5.1.4. If they are not logical blocks, can they be accessed through a Locate command? How should they be handled by a Read Position command?

Add Tape Capacity Page to Log Sense

Several DAT and QIC drives use a Vendor Unique Log Sense page in almost the exact same way. ANSI should consider adding this page in order to complete its standardization.

Page 31, the Tape Capacity page, provides the maximum and total capacity of the 2 partitions. After a cartridge is loaded and initialize by the drive, the maximum capacity of each partition is made available based on tape length and number of tracks.

As commands cause the drive to move along the tape, the remaining capacity value for the current partition reduces proportionately. The remaining capacity for the inactive partition corresponds to the last block the tape

was positioned to while that partition was active. If the partition has never been accessed, the remaining capacity is the same value as the maximum capacity for that partition.

The Tape Capacity Page parameter codes are below.

Parameter Code	Length	Description
0001h	4	Remaining Capacity, partition 0 (KBytes)
0002h	4	Remaining Capacity, partition 1 (KBytes)
0003h	4	Maximum Capacity, partition 0 (KBytes)
0004h	4	Maximum Capacity, partition 1 (KBytes)

All capacities are estimates as to the maximum available user-data capacities. The actual capacity may be slightly less due to packing density and under-run conditions, or slightly more due to tape length tolerances. All values are in kilobytes and are sent MSB first.

Consider addition of Capabilities page to MODE SENSE.

The Software Subcommittee of QIC has decided to include the Capabilities and Mechanical Status Page originally defined in the CD-ROM command set to the tape command set for ATAPI interface drives. They are now considering also adding this page for SCSI drives. The definition of the page is included below.

Mode Capabilities and Mechanical Status Page

Table ? 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	SPREV	Reserved	Reserved	Reserved	Reserved	RO
5	Reserved	Reserved	QFA	Reserved	EFMT	Reserved	Reserved	Reserved
6	CMPRS	ECC	Reserved	Reserved	EJECT	PREVENT	LOCKED	LOCK
7	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
8	(MSB) Maximum Speed Supported (in KBps)							
9								(LSB)
10	Reserved							
11								
12	(MSB) Continuous Transfer Limit							
13								(LSB)
14	(MSB) Current Speed Selected							
15								(LSB)
16	(MSB) Buffer Size							
17								(LSB)
18-19	Reserved							

If the **SPREV** bit is set, the Devices supports SPACE in the reverse direction.

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

If the **QFA** bit is set, the Device supports the QFA two partition formats.

If the **EFMT** bit is set, the Device supports ERASE command initiated formatting.

If the **CMPRS** bit is set, the Device supports data compression.

If the **ECC** bit is set, the Device supports hardware error correction.

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

If the **PREVENT** bit is set, the Device defaults in the Prevent state after power up.

The **LOCKED** bit indicates the current state of the device:

0	The device is currently in the allow (Unlocked) state. Media may be inserted or removed.
1	The device is currently in the prevent (Locked) state. Media loaded in the device may not be removed via soft or hard eject.

If the **LOCK** bit is set, the Device is capable of actually locking the medium into the by using the ALLOW/PREVENT MEDIUM REMOVAL command. If bit zero is not set, this command is not capable of actually locking the medium into the drive.

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

The **Continuous Transfer Limit** field indicates the number of blocks for the current block size that can be transferred without delay due to a buffer limitation.

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