

This document reflects a merger of the tape and disk Additional Sense Codes. It was generated solely to resolve conflicts between the two code assignments, not as a proposal for addition to SCSI-2.

The two columns marked T and D indicate assignment by the tape and disk working groups respectively.

An 'x' in a column indicates that the device type reports errors utilizing the assigned meaning and coding. If a 'c' appears in a column, it indicates that there is a conflict in coding and/or meanings. In the disk table, there were ambiguous sense keys assigned to some additional sense codes. One of these sense keys was chosen to match tape assignment or to indicate best fit.

Revised 5/7/87 by R. H. Schultz, Unisys

#### Sense Key NO SENSE (0h)

Sense Key NO SENSE (0h)					
-----					
Byte #	12	13	T	D	Description
-----					
00	00	x	x		No additional sense information
00	01				File mark detected
00	02				End of medium detected
00	03				End of data detected
00	04				Beginning of tape detected
0A	00	x			Error log overflow
0C	00	x			Log Data at Demount (End of Volume)

#### Sense Key RECOVERED ERROR (1h)

Sense Key RECOVERED ERROR (1h)					
-----					
Byte #	12	13	T	D	Description
-----					
0D	00	x			Recovered write error
0D	01				Recovered write data with retries
0D	02				Write with correction
0E	00	x			Recovered Interface Error
0E	01				Recovered SCSI error
0E	02				Recovered Internal Error
17	00	s			Recovered read error
17	01				Recovered read data with read retries
17	02				Recovered read data with positive head offset.
17	03				Recovered read data with negative head offset.
17	04				Recovered read data with ECC correction
17	05				Recovered Buffer Parity Error
17		s			Recovered Read data w/target's Read retries (not w/ECC)
18		x			Recovered Read data w/target's ECC corr.(not w/retries)
1E		x			Recovered ID with target's ECC correction
37		x			Rounded Parameter

#### Sense Key NOT READY (2h)

Sense Key NOT READY (2h)					
-----					
Byte #	12	13	T	D	Description
-----					
04	00	x	x		Drive not ready (Off Line)
04	01				Volume Not Ready
04	02				Volume Not Installed
05	00	x	x		Drive not selected

#### Sense Key MEDIUM ERROR (3h)

Sense Key MEDIUM ERROR (3h)					
-----					
Byte #	12	13	T	D	Description
-----					
11	00	x	x		Unrecovered read error
11	01				Read retries exhausted
11	02				Error too long to correct
11	03				Incomplete Block Read
11	04				Undetected ECC error
11	05				Miscorrected error
11	06				No filemark found
12			x		No Address Mark found in ID field
13			x		No Address Mark found in Data field
14	00	x	x		No record found [are 14 & 15 really the same?]
15	00	x			Locate error
16			x		Data Synchronization Mark error
19			x		Defect List error
1C			x		Primary Defect List not found
1F	00	x			Unrecovered write error
1F	01				Write Retries exhausted - Block
1F	02				Write Retries exhausted - Filemark
1F	03				Write Retries exhausted - Density Burst
1F	04				Write append position error
1F	05				Write append timer position error
23	00	x			Error during SPACE command
30	00	s			Cannot read tape with unidentified format
30	01				Incompatible format
30	02				Cleaning cartridge installed
30			s		Incompatible Cartridge
31			x		Medium Format corrupted
32			x		No Defect Spare Location Available
33	00	x			Tape length error
36	00	x			No gap found
38	00	x			Block sequence error
3A	00	x			Reposition error
3B	00	x			Tape position error
3B	01				Tape position error at BOT
3B	02				Tape position error at EOT

## Sense Key HARDWARE ERROR (4h)

Byte #	12	13	T	D	Description
01			x		No Index/Sector signal
02			x		No Seek Complete
03	00	x	x		Write Fault
03	01				No write current
06			x		No Track Zero found
07	00	x	x		Multiple drives selected
08	00	x	x		Logical unit communication failure
09			x		Track Following error
0B	00	x			Time-out error
0B	01				Read time-out error
0B	02				Drive communication time-out
10			x		ID CRC or ECC error
15			x		Seek Positioning error
1B	00	x	x		Synchronous transfer error
40	00	s			Diagnostic failure
40	01				RAM failure
40	02				ECC diagnostic failure
40	03				Checksum error
40		s			RAM failure
41			x		Data Path diagnostic failure
42	00	x	x		Power on failure
44	00	x	x		Internal controller error
44	01				Buffer Parity/ECC Error
45	00	x	x		Select/Reselect failure
46	00	x	x		Unsuccessful soft RESET
51	00	x			Erase fault
52	00	x			Cartridge fault
52	01				Failure to unload tape into cartridge
55	00	x			Drive reported error
56	00	x			Failure to sense BOT

## Sense Key ILLEGAL REQUEST (5h)

Byte #	12	13	T	D	Description
1A	00	x	x		Parameter overrun
20			x		Invalid Command Operation Code
21			x		Illegal Logical Block Address. Address greater than the LBA returned by the READ CAPACITY data with PMI bit not set in CDB.
22			x		Illegal function for device type
24			x		Illegal field in CDB
25	00	x	x		Invalid LUN
26	00	x	x		Invalid field in Parameter List
26	01				Requested density not available
26	02				Fixed Block Length not in valid range
26	03				Not at BOT
26	04				Requested speed not available
26	05				Requested speed not enabled

26	06				Requested density not enabled
28	00	x			Copy cannot execute since host cannot disconnect
2C	00	x			Command sequence error
34	00	x			Invalid CDB
34	01				Invalid command operation code
34	02				Illegal function for device type
34	03				Non-zero bit/field set (What does this mean?)
34	04				Reserved bit/field used
34	05				Invalid Logical Block address
34	06				Illegal value in CDB field
34	07				Fixed bit is set while in variable block mode
34	08				Fixed bit is not set while in fixed block mode
34	09				Diagnostic self test not supported
34	0A				Variable Block length error
34	0B				Requested block length not in valid range
34	0C				Unsupported function
39		x			Save Parameters Not Supported
3C		x			Link/Flag bit not supported

## Sense Key UNIT ATTENTION (6h)

Byte #	12	13	T	D	Description
2B	00	x	x		Not Ready to Ready Transition (Medium changed)
29	00	x	x		Power on, reset or BUS DEVICE RESET occurred
2A	00	x	x		Mode select parameters changed

## Sense Key DATA PROTECT (7h)

Byte #	12	13	T	D	Description
27	00	x	x		Write protected
2D	00	x			Overwrite error

## Sense Key BLANK CHECK (8h)

Byte #	12	13	T	D	Description
2E	00	x			Tape Void Detected
2F	00	x			Void at BOT
35	00	x			Logical End of Data

## Sense Key COPY ABORTED (Ah)

Byte #	12	13	T	D	Description
60	00	x			Status error from second party on COPY command

Key ABORTED COMMAND (Bh)

Byte #				Description
12	13	T	D	
43	00	x	x	Unsuccessful Message Retry
43	01			MESSAGE REJECT
43	02			INITIATOR DETECTED ERROR
43	03			MESSAGE PARITY ERROR
47	00	x	x	Interface Parity error
4B	00	x	x	Initiator detected error
49	00	x	x	Message out error
49	01			Inappropriate message
49	02			Illegal message
4A	00	x		Command phase error [Exact what is meant by this?]
4B	00	x		Data error
4B	01			Overrun
4B	02			Underrun

Sense Key EQUAL (Ch)

Byte #				Description
12	13	T	D	
70	00	x		SEARCH successful

Sense Key VOLUME OVERFLOW (Dh)

Byte #				Description
12	13	T	D	
62	00	x		Overflow error
63	00	x		Insufficient capacity [Duplicate of 62 00 ?]

Sense Key MISCOMPARE (Eh)

Byte #				Description
12	13	T	D	
1D	00	x	x	Compare Error (Verify)

Unused codes

3D 3E 3F 4C 4D 4E 4F 50 53 54 57 58 59 5A 5B 5C 5D 5E 5F 61 62 63 64  
 65 66 67 68 69 6A 6B 6C 6D 6E 6F 71 72 73 74 75 76 77 78 79 7A 7B 7C 7D 7E 7F

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