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 Doc: X3T9.2/87- 71
 To: X3T9.2 SCSI-2 Working Group and X3T9.2 Committee Members
 From: Paul R. Nitzs
 Subj: Mode Select Error Recovery Parameter Combinations

Attached for your review is the proposed rewording of the Mode Select Error Recovery Parameter Combination table located on pages 8-25 and 8-26 in the SCSI-2 draft document X3T9.2/86-109 Rev 1. This proposal is being submitted in an attempt to more fully describe the possible combinations of the Mode Select error recover parameters.

Table 8-19: Mode Select Error Recovery Parameter Combinations

EER	PER	DTE	DCR	Description
0	0	0	0	The full number of retries (specified in the read or write retry count field) and Error Correction are attempted to recover the data (EER and DCR set to 0). No CHECK CONDITION is reported at the completion of the command for recoverable errors (PER set to 0). The command terminates with a CHECK CONDITION status before the transfer count is exhausted only if an unrecoverable error is detected. If an unrecoverable data error occurred, the data in the block with the unrecoverable error may or may not be transferred to the initiator depending on the setting of the transfer block (TB) bit.
0	0	0	1	Error Correction is disabled (DCR set to one) so only the full number of retries (specified in the read or write retry count field) are attempted to recover the data (EER set to 0). No CHECK CONDITION is reported at the completion of the command for recoverable errors (PER set to 0). The command terminates with a CHECK CONDITION status before the transfer count is exhausted only if an unrecoverable error is detected. If an unrecoverable data error occurred, the data in the block with the unrecoverable error may or may not be transferred to the initiator depending on the setting of the transfer block (TB) bit.
0	0	1	0	Invalid Mode (PER must be set to one if DTE is set to one). If this error recovery combination is sent by the Initiator the Target shall return a CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and the additional sense code set to INVALID FIELD IN PARAMETER LIST.
0	0	1	1	Invalid Mode (PER must be set to one if DTE is set to one). If this error recovery combination is sent by the Initiator the Target shall return a CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and the additional sense code set to INVALID FIELD IN PARAMETER LIST.
0	1	0	0	The full number of retries (specified in the read or write retry count field) and Error Correction are attempted to recover the data (EER and DCR set to 0). The command terminates with a CHECK CONDITION status before the transfer count is exhausted only if an unrecoverable error is detected. If an unrecoverable data error occurred, the data in the block with the unrecoverable error may or may not be transferred to the initiator depending on the setting of the transfer block (TB) bit. A CHECK CONDITION with a sense key of RECOVERED ERROR is reported at the completion of the command for any recoverable error that occurs (PER set to 1). The Information bytes in the sense data shall contain the logical block address of the last recovered error which occurred during the transfer.

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EER	PER	DTE	DCR	Description
0	1	0	1	Error Correction is disabled (DCR set to one) so only the full number of retries (specified in the read or write retry count field) are attempted to recover the data (EER set to 0). The command terminates with a CHECK CONDITION status before the transfer count is exhausted only if an unrecoverable error is detected. If an unrecoverable data error occurred, the data in the block with the unrecoverable error may or may not be transferred to the Initiator depending on the setting of the transfer block (TB) bit. A CHECK CONDITION with a sense key of RECOVERED ERROR is reported at the completion of the command for any recoverable error that occurs (PER set to 1). The information bytes in the sense data shall contain the logical block address of the last recovered error which occurred during the transfer.
0	1	1	0	The full number of retries (specified in the read or write retry count field) and Error Correction are attempted to recover the data (EER and DCR set to 0). The command terminates with a CHECK CONDITION status before the transfer count is exhausted if any error (recoverable or unrecoverable) is detected (DTE set to 1). The information bytes in the sense data shall contain the logical block address of the block in error. If an unrecoverable data error or a recoverable data error occurs the data in the block with the error may or may not be transferred to the Initiator depending on the setting of the transfer block (TB) bit.
0	1	1	1	Error Correction is disabled (DCR set to one) so only the full number of retries (specified in the read or write retry count field) are attempted to recover the data (EER set to 0). The command terminates with a CHECK CONDITION status before the transfer count is exhausted if any error (recoverable or unrecoverable) is detected (DTE set to 1). The information bytes in the sense data shall contain the logical block address of the block in error. If an unrecoverable data error or a recoverable data error occurs the data in the block with the error may or may not be transferred to the Initiator depending on the setting of the transfer block (TB) bit.
1	0	0	0	The fewest possible retries and Error Correction are attempted to recover the data (EER set to one and DCR set to 0). No CHECK CONDITION is reported at the completion of the command for recoverable errors (PER set to 0). The command terminates with a CHECK CONDITION status before the transfer count is exhausted only if an unrecoverable error is detected. If an unrecoverable data error occurred, the data in the block with the unrecoverable error may or may not be transferred to the Initiator depending on the setting of the transfer block (TB) bit.

EER	PER	DTE	DCR	Description
1	0	0	1	Invalid Mode (DCR must be set to zero if EER is set to one). If this error recovery combination is sent by the Initiator the Target shall return a CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and the additional sense code set to INVALID FIELD IN PARAMETER LIST.
1	0	1	0	Invalid Mode (PER must be set to one if DTE is set to one). If this error recovery combination is sent by the Initiator the Target shall return a CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and the additional sense code set to INVALID FIELD IN PARAMETER LIST.
1	0	1	1	Invalid Mode (PER must be set to one if DTE is set to one). If this error recovery combination is sent by the Initiator the Target shall return a CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and the additional sense code set to INVALID FIELD IN PARAMETER LIST.
1	1	0	0	The fewest possible retries and Error Correction are attempted to recover the data (EER set to one and DCR set to 0). The command terminates with a CHECK CONDITION status before the transfer count is exhausted only if an unrecoverable error is detected. If an unrecoverable data error occurred, the data in the block with the unrecoverable error may or may not be transferred to the Initiator depending on the setting of the transfer block (TB) bit. A CHECK CONDITION with a sense key of RECOVERED ERROR is reported at the completion of the command for any recoverable error that occurs (PER set to 1). The information bytes in the sense data shall contain the logical block address of the last recovered error which occurred during the transfer.
1	1	0	1	Invalid Mode (DCR must be set to zero if EER is set to one). If this error recovery combination is sent by the Initiator the Target shall return a CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and the additional sense code set to INVALID FIELD IN PARAMETER LIST.
1	1	1	0	The fewest possible retries and Error Correction are attempted to recover the data (EER set to one and DCR set to 0). The command terminates with a CHECK CONDITION status before the transfer count is exhausted if any error (recoverable or unrecoverable) is detected (DTE set to 1). The information bytes in the sense data shall contain the logical block address of the block in error. If an unrecoverable data error or a recoverable data error occurs the data in the block with the error may or may not be transferred to the Initiator depending on the setting of the transfer block (TB) bit.

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EER	PER	DTE	DCR	Description
1	1	1	1	Invalid Mode (DCR must be set to zero if EER is set to one). If this error recovery combination is sent by the Initiator the Target shall return a CHECK CONDITION status with the sense key set to ILLEGAL REQUEST and the additional sense code set to INVALID FIELD IN PARAMETER LIST.

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