

T10/05-241r1 SAT - Read-Write Error Recovery mode page

To: T10 Technical Committee
From: Wayne Bellamy (wayne.bellamy@HP.com), Hewlett-Packard
Date: July 8, 2005
Subject: T10/05-241r1 SAT- Read-Write Error Recovery mode page

Revision History

Revision 0 (June 14, 2005) first revision

Revision 1 (July 01, 2005) second revision

Changes as follows: (per June 20, 2005 SAT W.G. – Please note that a time restraint limited the review process. As such, this is a limited edit of the proposal based on the review.)

- 1) Add a “Changeable” column to the table.
- 2) Change “PS” bit to “U” and remove descriptive text.
- 3) Remove all strikeouts per W.G. member.
- 4) PAGE LENGTH field to “(See SBC-2)”
- 5) AWRE – Change to “(See SBC-2)” and not changeable.
- 6) ARRE – Change to “0b” and not changeable.
- 7) TB – Change to “U” and remove descriptive text.
- 8) RC – Change to “0b” and “(See SBC-2)” and not changeable.
- 9) From EER up to READ RETRY COUNT – Change to “0b” or “0h” and not changeable.
- 10) WRITE RETRY COUNT – Change to “U” and delete descriptive text.
- 11) RECOVERY TIME LIMIT – Change to “This field is ignored and set to 00h”.

Related Documents

(T10) sat-r04 – SCSI to ATA Translation (SAT), Revision 4

(T10) sbc-2r16 – SCSI Block Commands - 2, Revision 16

(T13) ata7v1r4b – AT Attachment with Packet Interface -7 Volume1, Revision 4b

Overview

1. The Read-Write Error Recovery mode page is useful for providing notice to the SCSI application client that not much can be done to control error recovery with ATA end devices.
2. Complexity of the emulation is estimated to be “minimal”.

Suggested Changes

10.1.4 Read-Write Error Recovery mode page

The Read-Write Error Recovery mode page specifies the error recovery parameters the device server shall use during any command that performs a read or write operation to the medium. (See SBC-2.)

[Note to the Editor and W.G.: The following table is duplicated (2 tables) with a column added for “changeable”. One table should be chosen for use and the other deleted.]

Table 2 — Read-Write Error Recovery mode page fields

Field	SATType	Description or reference
PS	U	
PAGE CODE	I	Set to a value of 01h. This field value is specific to the Read-Write Error Recovery mode page.
PAGE LENGTH	I	(See SBC-2)
AWRE	U	(See SBC-2)
ARRE	E	Set to a value of 0b. Not changeable.
TB	U	
RC	E	Set to a value of 0b. Not changeable. (See SBC-2)
EER	E	Set to a value of 0b. Not changeable. (See SBC-2)
PER	E	Set to a value of 0b. Not changeable. (See SBC-2)
DTE	E	Set to a value of 0b. Not changeable. (See SBC-2)
DCR	E	Set to a value of 0b. Not changeable. (See SBC-2)
READ RETRY COUNT	E	Set to a value of 0h. Not changeable. (See SBC-2)
WRITE RETRY COUNT	U	
RECOVERY TIME LIMIT	E	This field is ignored and set to 00h.

Bit or field values that are not supported shall cause the SATL to return a CHECK CONDITION status with sense key set to ILLEGAL REQUEST and additional sense code set to INVALID FIELD IN PARAMETER LIST.

[Note to the Editor and W.G.: The following table is a duplicate of the previous table with a column added for “changeable”. One table should be chosen for use and the other deleted.]

Table 3 — Read-Write Error Recovery mode page fields

Field	Changeable	SATType	Description or reference
PS	NO	U	
PAGE CODE	NO	I	Set to a value of 01h. This field value is specific to the Read-Write Error Recovery mode page.
PAGE LENGTH	NO	I	(See SBC-2)
AWRE	NO	U	(See SBC-2)
ARRE	NO	E	Set to a value of 0b.
TB	NO	U	
RC	NO	E	Set to a value of 0b. (See SBC-2)
EER	NO	E	Set to a value of 0b. (See SBC-2)
PER	NO	E	Set to a value of 0b. (See SBC-2)

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DTE	NO	E	Set to a value of 0b. (See SBC-2)
DCR	NO	E	Set to a value of 0b. (See SBC-2)
READ RETRY COUNT	NO	E	Set to a value of 0b. (See SBC-2)
WRITE RETRY COUNT	NO	U	
RECOVERY TIME LIMIT	NO	E	This field is ignored and set to 00h.

Bit or field values that are not supported shall cause the SATL to return a CHECK CONDITION status with sense key set to ILLEGAL REQUEST and additional sense code set to INVALID FIELD IN PARAMETER LIST.

[Note to the Editor and W.G.: The following table is another presentation of the previous table with personal preferences for the field values (not a “hard line” just another perspective.)]

Table 4 — Read-Write Error Recovery mode page fields

Field	Changeable	SATType	Description or reference
PS	YES	U	
PAGE CODE	NO	I	Set to a value of 01h. This field value is specific to the Read-Write Error Recovery mode page.
PAGE LENGTH	NO	I	(See SBC-2)
AWRE	YES	U	
ARRE	YES	U	
TB	YES	U	
RC	NO	E	Set to a value of 0b. A value of 1b is not supported.
EER	YES	U	
PER	YES	U	
DTE	NO	E	Set to a value of 0b. A value of 1b is not supported.
DCR	NO	E	Set to a value of 0b. A value of 1b is not supported.
READ RETRY COUNT	YES	U	
WRITE RETRY COUNT	YES	U	
RECOVERY TIME LIMIT	YES	U	

Bit or field values that are not supported shall cause the SATL to return a CHECK CONDITION status with sense key set to ILLEGAL REQUEST and additional sense code set to INVALID FIELD IN PARAMETER LIST.