

T10/06-288r5 SAS-2 SMP ZONE ACTIVATE function.

To: T10 Technical Committee
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Subject: 06-288r5 SAS-2 SMP ZONE ACTIVATE function

Revision Information

- Revision 0: First draft.
- Revision 1: Revisions to align with zone management client lock, load, activate and unlock procedure discussed and Denver face to face.
- Revision 2: Added usage for CONFIGURING bit and function result information.
- Revision 3: Removed time-out references as these belong in the time-out proposal (06-326). Moved Broadcast operation to the Zone Lock Release function. (06-289)
- Revision 4: Revised function name and moved description to the model definition (06-358)
- **Revision 5: Name changed to SMP ZONE ACTIVATE.**

Referenced Document

sas2r05a Serial Attached SCSI – 2 (SAS-2) revision 5a
06-201r5 SAS-2 SMP Configure phy zone (Tim Symons, PMC-Sierra)
06-202r6 SAS-2 SMP Configure zone permission (Tim Symons, PMC-Sierra)
06-203r5 SAS-2 SMP REPORT ZONE PERMISSION (Tim Symons, PMC-Sierra)
06-286r4 SAS-2 SMP ZONE LOCK (Tim Symons, PMC-Sierra).
06-288r5 SAS-2 SMP ZONE ACTIVATE function (Tim Symons, PMC-Sierra)
06-289r4 SAS-2 SMP ZONE UNLOCK (Tim Symons, PMC-Sierra)

Overview

The active zone manager uses the SMP ZONE ACTIVATE function to make the zoning expander shadow register values active.

[Suggested addition to SAS-2 existing text (included in black), new additional text (included in blue) and changes between revisions shown in red]

10.4.3.1 SMP function request frame format

Table 196 – SMP functions (FUNCTION field)

Code	SMP function	Description	Reference
87h	ZONE ACTIVATE	The zoning expander device makes the shadow register data operational.	10.4.3.xx

Editors Note: Suggestion: 85h-8Fh could be assigned to zoning functions:

- 85h: ZONE BROADCAST (already defined)
- 86h: SMP ZONE LOCK
- 87h: SMP ZONE ACTIVATE
- 88h: SMP ZONE UNLOCK
- 89h: Reserved for zoning SMP functions
- 8Ah: CONFIGURE PHY ZONE
- 8Bh: CONFIGURE ZONE PERMISSION
- 8Ch – 8Fh: Reserved for zoning SMP functions

10.4.3.2 SMP function response frame format

Table 198 – FUNCTION RESULT field

Code	Name	SMP function(s)	Description
21h	ZONE LOCK VIOLATION	... ZONE ACTIVATE.	A zoning expander device that is zone locked, receives an SMP zone locked request function from a source that is not the active zone management client, or when the zoning expander device is not locked.

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Table xx - Function result priority per SMP Function

SMP Function (per table 197)	SMP Function Result Priority
...	...
ZONE ACTIVATE	1) INVALID REQUEST FRAME LENGTH 2) ZONE LOCK VIOLATION 3) SMP FUNCTION FAILED 4) SMP FUNCTION ACCEPTED
...	...

...

 Start of new definitions. Changes between revisions are shown in red

10.4.3.xx ZONE ACTIVATE function

All zoning expander devices and all zone management application clients shall support this function. When SMP zone configuration functions have successfully competed, the active zone manager sends a ZONE ACTIVATE request to all locked zoning expander devices. When a zoning expander device receives a ZONE ACTIVATE request from the active zone manager, the shadow zone registers shall be made active.

If a zoning expander device receives a ZONE ACTIVATE request that is not originated from the active zone manager or when the zoning expander device is not locked then the response FUNCTION RESULT field should be ZONE LOCK VIOLATION.

The ZONE ACTIVATE request format is defined in Table 1.

Table 1 – ZONE ACTIVATE request

Byte\Bit	7	6	5	4	3	2	1	0	
0	SMP FRAME TYPE (40h)								
1	FUNCTION (84h)								
2	Reserved								
3	REQUEST LENGTH (00)								
4	(MSB)	CRC						(LSB)	
7									

The SMP FRAME TYPE field shall be set to 40h.

The FUNCTION field shall be set to 84h.

The REQUEST LENGTH field shall be set to (00).

The CRC field is defined in 10.4.3.1.

The ZONE ACTIVATE response format is defined in Table 2.

Table 2 – ZONE ACTIVATE response

Byte\Bit	7	6	5	4	3	2	1	0	
0	SMP FRAME TYPE (41h)								
1	FUNCTION (84h)								
2	FUNCTION RESULT								
3	RESPONSE LENGTH (00h)								
4	(MSB)	CRC						(LSB)	
7									

The SMP FRAME TYPE field shall be set to 41h.

The FUNCTION field shall be set to 84h.

The FUNCTION RESULT field is defined in 10.4.3.2

The RESPONSE LENGTH field shall be set to 00h.

The CRC field is defined in 10.4.3.1.