

**Proposed  
Draft**

**Serial ATA  
International Organization**

**Version 2  
March 5, 2007**

---

**Serial ATA Revision 2.6 ECN # 004  
Title : ATA Log & Subcode reservations**

This is an internal working document of the Serial ATA International Organization. As such, this is not a completed standard and has not been approved. The Serial ATA International Organization may modify the contents at any time. This document is made available for review and comment only.

Permission is granted to the Promoters, Contributors and Adopters of the Serial ATA International Organization to reproduce this document for the purposes of evolving the technical content for internal use only without further permission provided this notice is included. All other rights are reserved and may be covered by one or more Non Disclosure Agreements including the Serial ATA International Organization participant agreements. Any commercial or for-profit replication or republication is prohibited. Copyright © 2000-2007 Serial ATA International Organization. All rights reserved.

This Draft Specification is NOT the final version of the Specification and is subject to change without notice. A modified, final version of this Specification ("Final Specification") when approved by the Promoters will be made available for download at this Web Site: <http://www.serialata.org>.

THIS DRAFT SPECIFICATION IS PROVIDED "AS IS" WITH NO WARRANTIES WHATSOEVER, INCLUDING ANY WARRANTY OF MERCHANTABILITY, NON-INFRINGEMENT, FITNESS FOR ANY PARTICULAR PURPOSE OR ANY WARRANTY OTHERWISE ARISING OUT OF ANY PROPOSAL, SPECIFICATION, OR SAMPLE. Except for the right to download for internal review, no license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted or intended hereunder.

THE PROMOTERS DISCLAIM ALL LIABILITY, INCLUDING LIABILITY FOR INFRINGEMENT OF ANY PROPRIETARY RIGHTS, RELATING TO USE OF INFORMATION IN THIS DRAFT SPECIFICATION. THE PROMOTERS DO NOT WARRANT OR REPRESENT THAT SUCH USE WILL NOT INFRINGE SUCH RIGHTS.

THIS DOCUMENT IS AN INTERMEDIATE DRAFT FOR COMMENT ONLY AND IS SUBJECT TO CHANGE WITHOUT NOTICE.

\* Other brands and names are the property of their respective owners.

Copyright © 2005-2007 Serial ATA International Organization. All rights reserved.

## Author Information

Author Name	Company	Email address
Brian Dees	Intel Corporation	Brian.m.dees@intel.com

## Workgroup Chair Information

Workgroup (Phy, Digital, etc...)	Chairperson Name	Email address
Digital	Brian Dees	Brian.m.dees@intel.com

## Document History

Version	Date	Comments
0	02/21/2007	Initial release.
1	02/26/2007	Editorial change to sec 2.2.1 moving Log 00h address into ATA-6 referred area.
2	03/05/2007	Editorial change highlighting that all "Reserved" areas are reserved for SATA.

## **1 Introduction**

There are specific SET FEATURES subcode ranges as well as general purpose log pages reserved specifically for Serial ATA. The current specification does not call out the complete list of reserved values for the interface, and this ECN intends to clarify the totality of the ranges available for Serial ATA definition. For those values which are not currently assigned to specific definition, those will be marked as Reserved for consistency.

## 2 Technical Specification Changes

### 2.1 SET FEATURES

[**Editor's Note:** The changes marked in red (and underlined/strikethrough) will be incorporated in section 13.2.4]

Devices are informed of host capabilities and have optional features enabled/disabled through the SET FEATURES command defined in the ATA/ATAPI-6 standard. Serial ATA features are controlled using a new features value as defined in Figure 182.

Features Value	Description
10h	Enable use of Serial ATA feature
90h	Disable use of Serial ATA feature

**Figure 182 – Features enable/disable values**

The Sector Count register contains the specific Serial ATA feature to enable or disable. The specific Serial ATA features in which SET FEATURES is applicable are defined ~~as defined~~ in Figure 183.

Sector Count Value	Description
01h	Non-zero buffer offset in DMA Setup FIS
02h	DMA Setup FIS Auto-Activate optimization
03h	Device-initiated interface power state transitions
04h	Guaranteed In-Order Data Delivery
05h	Asynchronous Notification
06h	Software Settings Preservation
07h-FFh	Reserved for future Serial ATA definition

**Figure 183 – Feature identification values**

## 2.2 READ LOG EXT Log Directory

[**Editor's Note:** The changes marked in **red** (and underlined/strikethrough) will be incorporated in section 13.2.5]

Devices supporting READ LOG EXT log page 10h reflect this support in the General Purpose Log Directory page (log page 00h) by having the value 1 at offset 20h and the value 0 at offset 21h of that log page to indicate existence of a log page at address 10h of 1-page in length.

Devices supporting READ LOG EXT log page 11h reflect this support in the General Purpose Log Directory page (log page 00h) by having the value 1 at offset 22h and the value 0 at offset 23h of that log page to indicate existence of a log page at address 11h of 1-page in length.

Byte	Value
0 - 1Fh	As defined in the ATA/ATAPI-6 standard
20h	1 if Native Command Queuing is supported, 0 if Native Command Queuing is not supported
21h	0
22h	1 if Phy Event Counters are supported 0 if Phy Event Counters are not supported
23h	0
24h-35h	Reserved for future Serial ATA definition
36h-1FFh	As defined in the ATA/ATAPI-6 standard

**Figure XXX – General Purpose Log Directory page values for Serial ATA**

### 2.2.1 READ LOG EXT Log Page Address Definition

The READ LOG EXT log page addresses assigned for Serial ATA are defined in Figure YYY.

Log Address	Description
00h-0Fh	As defined in the ATA/ATAPI-6 standard
10h	Native Command Queuing log page
11h	Phy Event Counters log page
12h-17h	Reserved for future Serial ATA definition
18h-FFh	As defined in the ATA/ATAPI-6 standard

**Figure YYY – READ LOG EXT Log Page Addresses for Serial ATA**