

# **ACS-2 Resolve APM/EPC Conflict Regarding Standby Power Conditions**

**Feb. 24, 2010**

**Revision 1**

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**Document Status**

| <b>Revision History</b> |               |                                                     |
|-------------------------|---------------|-----------------------------------------------------|
| <b>Rev</b>              | <b>Date</b>   | <b>Description</b>                                  |
| 0                       | Feb. 3, 2010  | 1) Initial Revision                                 |
| 1                       | Feb. 24, 2010 | 1) Incorporate changes approved at the Feb. Plenary |

## 1 Introduction

Refer to this T13 reflector discussion of this topic that occurred during February 2010.

(sent by Curtis Stevens, Feb. 1, 2010):

“ACS-2 EPC feature set current has the following wording:”

“The Extended Power Conditions and the Advanced Power Management features are mutually exclusive of each other. All EPC subcommands shall return command aborted if APM is enabled. The SET FEATURES Enable/Disable APM subcommands shall abort if IDENTIFY DEVICE word 120 bit 1 is set to one.”

Problem is that Word 120 bit 7 is only set to one if the Idle timers are counting. The Standby timers are specifically excluded from word 120 bit 7. This makes the feature sets not mutually exclusive.

“If bit 7 of word 120 is set to one, then the Idle\_a Timer, Idle\_b Timer or Idle\_c Timer is enabled. If none of these EPC timers are enable, then word 120 bit 7 shall be cleared to zero (see 7.50.21). This bit is valid if word 119 bit 7 is set to one.”

In other words, The Standby\_y timer can be counting and the drive is also supposed to process APM commands by this definition.”

“I think the intention is that APM commands are not accepted if any counter is counting.”

## 2 Scope

ACS-2 before letter ballot comment resolution is complete

## 3 Overview

This proposal also includes the proposed changes to resolve editors note 5 in ACS-2 revision 2 (with letter ballot comments).

### 3.1 Changes to Clause 7

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Editor's Note 1: [\[Change the description of bit 7 in IDENTIFY DEVICE word 120, Table 30](#)

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|     |   |   |   |                                                                                                                                                   |
|-----|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 120 | M |   |   | Commands and feature sets supported or enabled (Continued from words 85..87)<br>(see )                                                            |
|     |   |   | F | 15 Shall be cleared to zero                                                                                                                       |
|     |   |   | F | 14 Shall be set to one                                                                                                                            |
|     |   |   |   | 13:8 Reserved                                                                                                                                     |
|     |   |   |   | 7 1 = <del>At least one Extended Power Conditions Idle timer is enabled</del><br><a href="#">Extended Power Conditions feature set is enabled</a> |
|     | O | B | V | 6 1 = Extended Status Reporting feature set is enabled                                                                                            |
|     |   | B | V | 5 1 = The Free-fall Control feature set is enabled                                                                                                |
|     |   | B | F | 4 1 = The DOWNLOAD MICROCODE command with mode 3 is supported                                                                                     |
|     |   | B | F | 3 1 = The READ LOG DMA EXT and WRITE LOG DMA EXT commands are supported                                                                           |
|     |   | B | F | 2 1 = The WRITE UNCORRECTABLE EXT command is supported                                                                                            |
|     |   | B | V | 1 1 = The Write-Read-Verify feature set is enabled                                                                                                |
|     |   |   |   | 0 Reserved for DDT                                                                                                                                |

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Editor's Note 2: [Modify the IDENTIFY DEVICE data \(ACS-2 section= 7.18.7.41\) as noted below.](#)

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**Words 85..87, 120: Commands and feature sets supported or enabled**

~~If bit 7 of word 120 is set to one, then the Idle\_a Timer, Idle\_b Timer or Idle\_c Timer is enabled. If none of these EPC timers are enabled or if the Extended Power Conditions feature set is not supported, then word 120 bit 7 shall be cleared to zero (see 7.50.21).~~ [If any Extended Power Conditions subcommand \(see xxx\) has been processed without error since the last power cycle, then bit 7 of word 120 shall be set to one. If no Extended Power Conditions subcommand has been processed without error since the last power cycle, then bit 7 of word 120 shall be cleared to zero. This bit is valid if word 119 bit 7 is set to one.](#)