

**Proposed
Draft**

**Serial ATA
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Title: COMINIT after POR Timing

Proposed change, new functionality, or behavior to Serial ATA Revision 3.0

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Document History

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00	09/13/2010	Initial proposal drafts
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1 Introduction

On the SATA device design the COMINIT is used for the device to notify the host it is ready to connect to the SATA host. In the SATA 3.0 specification there are following cases for the device to transmit COMINIT signal:

- A. After device detect the COMRESET signal,
- B. After device POR (Power On Reset),
- C. For device to initiates a Asynchronous Signal Recovery to send an unsolicited COMINIT, and,
- D. For device to request a reset from the host by sending unsolicited COMINIT.

SATA 3.0 specification defines timings and conditions for the device to send the COMINIT. There are areas of description needed to be clarified. This proposal is to address the question listed in this next section; Summary of the problem.

2 Summary of the Problem

On the section 8.4.2 Device Phy Instillation State Machine of the SATA 3.0 specification it describe the device COMINIT state transitions. Table 52 defines the transmission of COMINIT by the device. Under the DP2: DR_COMINIT state the notes show:

1. COMINIT transmitted for a 6 burst duration
2. As indicated in section 13.1, device shall respond with a COMINIT signal within 10 ms of the negation of power-on reset or de-qualification of a received COMRESET signal.

On this second note device requires to response with a COMINIT signal within 10 ms of the negation of power-on reset. The negation of power-on reset is device dependent and vendor specific. The internal power-on reset on the device cannot be found on the external signal. The definition of 10 ms after the power-on reset cannot be observed on the SATA interface. Thus the response of COMINIT cannot be measured from outside.

3 Proposed Changes

The proposed change is to remove the requirement of the negation of power-on reset from the state diagram DP2: DR_COMINIT in Table 52:

Table 52 – State Diagram Device Phy Initialization State Machine

DP2: DR_COMINIT	Transmit COMINIT ^{1,2}		
1. Unconditional	→	DR_AwaitCOMWAKE	
NOTES: 1. COMINIT transmitted for a 6 burst duration 2. <i>As indicated in section 13.1, device shall respond with a COMINIT signal at the completion of the device power up sequence or within 10 ms of the de-qualification of a received COMRESET signal.</i>			