



CE-ATA Technical Errata

Errata ID	Protocol 006
Affected Spec Ver.	Protocol 1.0
Corrected Spec Ver.	

Submission info

Name	Company	Date
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Description of the specification technical flaw (add space as needed)

The CE-ATA 1.0 protocol specification did not intend to require that drives handle reception of MMC commands other than GO_IDLE_STATE (CMD0) and STOP_TRANSMISSION (CMD12) while transferring data for a previously issued RW_MULTIPLE_REGISTER (CMD60) or RW_MULTIPLE_BLOCK (CMD61) command. Due to an unforeseen interaction between the MMC layer command and data state machines, this was inadvertently implied as a requirement.

The handling of MMC Busy when there is no data transfer with the device is not clear in the specification. The MMC Data layer state machine implies that MMC Busy is asserted due to the device's ability to receive data, ignoring that a device may assert MMC Busy during a non-data MMC command. For example, when a STOP_TRANSMISSION (CMD12) is received, the device may assert MMC Busy while it flushes data to the media.

The erratum clarifies that the device response to MMC commands other than CMD0 and CMD12 while transferring data for a previous CMD60 or CMD61 is not defined by this specification and results in indeterminate behavior. The errata also clarifies the handling of MMC Busy for MMC commands that do not include a data transfer.

Description of the correction

The DC_Idle state in section 2.4.2.1 shall be modified as shown:

DC4: DC_Idle ¹		Wait for MMC command from host.	
	1. MMC command received	→	DC_CmdChkCrc
	2. MMC command not received	→	DC_Idle
	NOTE: 1. Reception of any MMC command other than STOP_TRANSMISSION (CMD12) or GO_IDLE_STATE (CMD0) when the MMC Data layer state machine is not in DD_Idle will result in indeterminate behavior.		

The DD_Idle state in section 2.4.2.2 shall be modified as shown:

DD1: DD_Idle	Wait for MMC Command layer instruction.		
1. MMC Command layer has indicated MMC Busy may be asserted and device desires to assert MMC Busy ATA layer is not ready to receive data	→	DD_AssertBsy	
2. MMC Command layer has indicated data may be transferred	→	DD_XferType	
3. MMC Command layer has not provided any instruction or device does not desire to assert MMC Busy ATA layer is ready to receive data	→	DD_Idle	

The DD_AssertBsy state in section 2.4.2.2 shall be modified as shown:

DD2: DD_AssertBsy	Assert MMC Busy on DAT0.		
1. Device does not desire to assert MMC Busy and MMC Command layer has not indicated data may be transferred ATA layer is ready to receive data	→	DD_Idle	
2. Device does not desire to assert MMC Busy and MMC Command layer has indicated data may be transferred	→	DD_XferType	
3. Device desires to assert MMC Busy ATA layer is not ready to receive data	→	DD_AssertBsy	

Disposition log

05/24/2005	Erratum captured
05/25/2005	Updates for MMC Busy handling based on 05/25 call input. Simplified the changes.
07/27/2005	Erratum ratified

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