

## Assignments for Trusted Computing Group

**To:** T13 Technical committee  
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### Revision History:

- 0: Initial revision
- 1: Provided names for the commands
- 2: Removed requirement for PIO, indicated that data format will be documented in a T10 document.

## 1 Introduction

The purpose of this proposal is to reserve some interface resources for use and definition by the Trusted Computing Group (TCG).

## 2 Proposal

I propose that the T13 editor mark as 'reserved for the Trusted Computing Group (TCG)':

- two (2) opcodes that are currently 'reserved'

T13 has previously satisfied similar requests by the Compact Flash Association and the Serial ATA Working Group.

## 2.1 Command Descriptions

### 2.1.1 TRUSTED SEND

#### 2.1.1.1 Command code

TBD1

#### 2.1.1.2 Feature set

- Optional for devices not implementing the PACKET Command feature set.
- Use prohibited for devices implementing the PACKET Command feature set.

#### 2.1.1.3 Protocol

DMA OUT

#### 2.1.1.4 Inputs

Register		7	6	5	4	3	2	1	0
Features	Current	Reserved							
	Previous	Reserved							
Sector Count	Current	Reserved							
	Previous	Reserved							
LBA Low	Current	Reserved							
	Previous	Reserved							
LBA Mid	Current	Reserved							
	Previous	Reserved							
LBA High	Current	Reserved							
	Previous	Reserved							
Device		obs	na	obs	DEV	Reserved			
Command		TBD1							
NOTE – The value indicated as Current is the value most recently written to the register. The value indicated as Previous is the value that was in the register before the most recent write to the register.									

Device -

DEV shall specify the selected device.

**2.1.1.5 Normal outputs**

Register		7	6	5	4	3	2	1	0
Error	Current	Reserved							
Sector Count	HOB = 0	Reserved							
	HOB = 1	Reserved							
LBA Low	HOB = 0	Reserved							
	HOB = 1	Reserved							
LBA Mid	HOB = 0	Reserved							
	HOB = 1	Reserved							
LBA High	HOB = 0	Reserved							
	HOB = 1	Reserved							
Device		obs	na	obs	DEV	Reserved			
Status		BSY	DRDY	DF	na	DRQ	na	na	ERR
NOTE – HOB = 0 indicates the value read by the host when the HOB bit of the Device Control register is cleared to zero. HOB = 1 Indicates the value read by the host when the HOB bit of the Device Control register is set to one.									

Device register –  
DEV shall indicate the selected device.

Status register –  
BSY shall be cleared to zero.  
DRDY shall be set to one.  
DF (Device Fault) shall be cleared to zero.  
DRQ shall be cleared to zero.  
ERR shall be cleared to zero.

**2.1.1.6 Error outputs**

An unrecoverable error encountered during the execution of this command results in the termination of the command. The error may be in physical transmission, or if invalid parameters are supplied to the device. The amount of data transferred is indeterminate.

Register		7	6	5	4	3	2	1	0
Error		ICRC	na	na	na	na	ABRT	na	na
Sector Count	HOB = 0	Reserved							
	HOB = 1	Reserved							
LBA Low	HOB = 0	Reserved							
	HOB = 1	Reserved							
LBA Mid	HOB = 0	Reserved							
	HOB = 1	Reserved							
LBA High	HOB = 0	Reserved							
	HOB = 1	Reserved							
Device		obs	na	obs	DEV	Reserved			
Status		BSY	DRDY	DF	na	DRQ	na	na	ERR
NOTE – HOB = 0 indicates the value read by the host when the HOB bit of the Device Control register is cleared to zero. HOB = 1 Indicates the value read by the host when the HOB bit of the Device Control register is set to one.									

**Error register -**

ABRT shall be set to one if this command or any input parameter is not supported or if an error, including an ICRC error, has occurred during an Ultra DMA data transfer.  
ICRC shall be set to one if an interface CRC error has occurred during an Ultra DMA data transfer.

**Device register -**

DEV shall indicate the selected device.

**Status register -**

BSY shall be cleared to zero indicating command completion.  
DRDY shall be set to one.  
DF (Device Fault) shall be set to one if a device fault has occurred.  
DRQ shall be cleared to zero.  
ERR shall be set to one if an Error register bit is set to one.

**2.1.1.7 Prerequisites**

DRDY set to one. For DMA mode transfers, the host shall initialize the DMA channel.

**2.1.1.8 Description**

The data format shall be documented in a (yet unnamed) T10 document.

**2.1.2 TRUSTED RECEIVE**

**2.1.2.1 Command code**

TBD2

**2.1.2.2 Feature set**

- Optional for devices not implementing the PACKET Command feature set.
- Use prohibited for devices implementing the PACKET Command feature set.

**2.1.2.3 Protocol**

DMA IN.

**2.1.2.4 Inputs**

Register		7	6	5	4	3	2	1	0
Features	Current	Reserved							
	Previous	Reserved							
Sector Count	Current	Reserved							
	Previous	Reserved							
LBA Low	Current	Reserved							
	Previous	Reserved							
LBA Mid	Current	Reserved							
	Previous	Reserved							
LBA High	Current	Reserved							
	Previous	Reserved							
Device		obs	na	obs	DEV	Reserved			
Command		TBD2							
NOTE – The value indicated as Current is the value most recently written to the register. The value indicated as Previous is the value that was in the register before the most recent write to the register.									

Device -

DEV shall specify the selected device.

**2.1.2.5 Normal outputs**

When the transfer of data has occurred without error, the register content shall be as shown below.

Register		7	6	5	4	3	2	1	0
Error	Current	Reserved							
LBA Low	HOB = 0	Reserved							
	HOB = 1	Reserved							
LBA Mid	HOB = 0	Reserved							
	HOB = 1	Reserved							
LBA High	HOB = 0	Reserved							
	HOB = 1	Reserved							
Device		obs	na	obs	DEV	Reserved			
Status		BSY	DRDY	DF	na	DRQ	na	na	ERR
NOTE – HOB = 0 indicates the value read by the host when the HOB bit of the Device Control register is cleared to zero. HOB = 1 Indicates the value read by the host when the HOB bit of the Device Control register is set to one.									

Device register -  
DEV shall indicate the selected device.

Status register -  
BSY shall be cleared to zero.  
DRDY shall be set to one.  
DF (Device Fault) shall be cleared to zero.  
DRQ shall be cleared to zero.  
ERR shall be cleared to zero.

**2.1.2.6 Error outputs**

An unrecoverable error encountered during the execution of this command results in the termination of the command. The error may be in physical transmission, or if invalid parameters are supplied to the device. The amount of data transferred is indeterminate.

Register		7	6	5	4	3	2	1	0
Error		ICRC	na	na	na	na	ABRT	na	na
Sector Count	HOB = 0				Reserved				
	HOB = 1				Reserved				
LBA Low	HOB = 0				Reserved				
	HOB = 1				Reserved				
LBA Mid	HOB = 0				Reserved				
	HOB = 1				Reserved				
LBA High	HOB = 0				Reserved				
	HOB = 1				Reserved				
Device	obs	na	obs	DEV	Reserved				
Status	BSY	DRDY	DF	na	DRQ	na	na	ERR	
NOTE – HOB = 0 indicates the value read by the host when the HOB bit of the Device Control register is cleared to zero. HOB = 1 Indicates the value read by the host when the HOB bit of the Device Control register is set to one.									

Error register -  
ICRC shall be set to one if an interface CRC error has occurred during an Ultra DMA data transfer.  
ABRT shall be set to one if this command or any input parameter is not supported or if an error, including an ICRC error, has occurred during an Ultra DMA data transfer.

Device register -  
DEV shall indicate the selected device.

Status register -  
BSY shall be cleared to zero indicating command completion.  
DRDY shall be set to one.  
DF (Device Fault) shall be set to one if a device fault has occurred.  
DRQ shall be cleared to zero.  
ERR shall be set to one if an Error register bit is set to one.

**2.1.2.7 Prerequisites**

DRDY set to one. For DMA mode transfers, the host shall initialize the DMA channel.

**2.1.2.8 Description**

The data format shall be documented in a (yet unnamed) T10 document.