

Draft

T13/e05108r0
ANSI INCITS 397-2005
(erratum)

American National Standard

for Information Technology –

AT Attachment with Packet Interface Extensions 7 (ATA/ATAPI-7)

Corrected:

Secretariat: Information Technology Industry Council

Page 1 of X_u pages

Page 65 of INCITS 397-2005 ATA/ATAPI-7 Volume 1 clause 5.15.3 states that one of the signatures reserved for Serial ATA working groups is used for devices implementing the packet feature set and the other is for devices not implementing the packet feature set. This is incorrect. There is no relationship between the signatures and support for the packet feature set.

In this erratum, pages 65-66 are reprinted with corrections.

7.5 Signature and persistence

7.5.1 Signature for devices not implementing the PACKET command feature set

A device not implementing the PACKET command feature set shall place the signature in the Command Block registers listed below for power-on reset, hardware reset, software reset, and the EXECUTE DEVICE DIAGNOSTIC command.

If the device does not implement the PACKET command feature set, the signature shall be:

Sector Count	01h
LBA Low	01h
LBA Mid	00h
LBA High	00h
Device	00h

(editors note: Does this paragraph belong under 7.5.2? next section)

A device implementing the PACKET command feature set shall place the signature in the Command Block registers listed below for power-on reset, hardware reset, software reset, the EXECUTE DEVICE DIAGNOSTIC command, and the DEVICE RESET command. The DEVICE RESET command shall not change the value of the DEV bit when writing the signature into the Device register for a device implementing the PACKET command feature set. If the device implements the PACKET command feature set, the signature is also written in the registers for the IDENTIFY DEVICE and READ SECTOR(S) commands.

7.5.2 Signature for devices implementing the PACKET command feature set

If the device implements the PACKET command feature set, the signature shall be:

Interrupt Reason	01h
LBA Low	01h
Byte Count Low	14h
Byte Count High	EBh
Device	000x0000b where x equals 0 except when responding to a DEVICE RESET, IDENTIFY DEVICE, or READ SECTOR(S) command. For a DEVICE RESET, IDENTIFY DEVICE, or READ SECTOR(S) command the value of x is not changed from that existing when the command is written to the Command register.

If the PACKET command feature set is implemented by a device, then the signature values written by the device in the Command Block registers following power-on reset, hardware reset, software reset, or the DEVICE RESET command shall not be changed by the device until the device receives a command that sets DRDY to one. Writes by the host to the Command Block registers that contain the signature values shall overwrite the signature values and invalidate the signature.

7.5.3 Reserved Signatures for Serial ATA Working Groups

The following signatures are Reserved. The use of this signature is not defined by this standard.

Signature 3Ch: For a device not implementing the PACKET command feature set:

Sector Count	01h
LBA Low	01h
LBA Mid	3Ch
LBA High	C3h
Device	00h

~~For a device implementing the PACKET command feature set, Signature 69h:~~

Interrupt Reason	01h
LBA Low	01h
Byte Count Low	69h
Byte Count High	96h

~~Device 000x0000b where x equals 0 except when responding to a DEVICE RESET, IDENTIFY DEVICE, or READ SECTOR(S) command. For a DEVICE RESET, IDENTIFY DEVICE, or READ SECTOR(S) command the value of x is not changed from that existing when the command is written to the Command register.~~

7.6 Single device configurations

7.6.1 Device 0 only configurations

In a single device configuration where Device 0 is the only device and the host selects Device 1, Device 0 shall respond as follows:

- 1) A write to the Device Control register shall complete as if Device 0 was the selected device;
- 2) A write to a Command Block register, other than the Command register, shall complete as if Device 0 was selected;
- 3) A write to the Command register shall be ignored, except for EXECUTE DEVICE DIAGNOSTIC;
- 4) If the device does not implement the PACKET Command feature set, a read of the Control Block or Command Block registers, other than the Status or Alternate Status registers, shall complete as if Device 0 was selected. A read of the Status or Alternate status register shall return the value 00h.;
- 5) If the device implements the PACKET Command feature set, a read of the Control Block or Command Block registers shall return the value 00h.

NOTE – Even though Device 1 is not present, the register content may appear valid for Device 1. Further means may be necessary to determine the existence of Device 1 (e.g., issuing a command).

7.6.2 Device 1 only configurations

Host support of Device 1 only configurations is host specific.

In a single device configuration where Device 1 is the only device and the host selects Device 0, Device 1 shall respond to accesses of the Command Block and Control Block registers in the same way it would if Device 0 was present. This is because Device 1 cannot determine if Device 0 is, or is not, present.

Host implementation of read and write operations to the Command and Control Block registers of non-existent Device 0 are host specific.

NOTE – The remainder of this subclause is a recommendation for hosts. The host implementor should be aware of the following when supporting Device 1 only onfigurations:

- 1) Following a hardware reset or software reset, the following steps may be used to reselect Device 1:
 - a) Write to the Device register with DEV bit set to one;
 - b) Using one or more of the Command Block registers that may be both written and read, such as the Sector Count or LBA Low, write a data pattern other than 00h or FFh to the register(s);
 - c) Read the register(s) written in step (b). If the data read is the same as the data written, proceed to step (e);
 - d) Repeat steps (a) to (c) until the data matches in step (c) or until 31 s has past. After 31 s the host may assume that Device 1 is not functioning properly;