

October 28, 2002

To: T10 Technical Committee  
From: Timothy Hoglund (LSI Logic)  
Subject: SATA\_ERROR primitive definition

SAS currently specifies that expanders which are forwarding dwords to a SATA physical link shall replace an invalid dword or an ERROR primitive with a SATA\_ERROR primitive. The SATA\_ERROR primitive is defined as [ K28.3, K28.3, K28.3, K28.3 ] (reference: sas-r02b Table 45).

Some SATA devices may be confused when receiving a consecutive series of K characters and may attempt to re-determine dword boundaries indiscriminately (and potentially incorrectly). This proposal seeks to insure full interoperability with SATA devices while allowing for error propagation through the topology.

### **Proposal**

Change definition of SATA\_ERROR primitive:

from { K28.3, K28.3, K28.3, K28.3 }  
to { K28.7, D02.0, D01.4, D29.7 }

Notes:

1. This makes the SATA\_ERROR identical to the SAS ERROR primitive with the exception of which control character is used (K28.7 vs K28.5).
2. SATA devices interpret a K28.7-based primitive as a coding violation.