

**To** : T10 Technical Committee  
**From** : Brian Day, LSI Logic Corporation  
**Date** : May 17, 2001  
**Subject** : P\_CRCA Streaming Clarifications

---

The current wording from SPI-4, revision 4 from section 14.3.4:

During write streaming the sequence of SPI data stream information units shall end with any change to the C/D, I/O, or MSG signals on a SPI data stream information unit boundary. If during write streaming SPI data stream information units an initiator detects a REQ transition after transmitting the last iuCRC for a SPI data stream information unit that initiator shall transmit the next SPI data stream information unit

During read streaming the sequence of SPI data stream information units shall end when the P\_CRCA signal is asserted before the end of the current SPI data stream information unit boundary. If during the last SPI data stream information unit the P\_CRCA signal was not asserted and initiator detects a REQ transition after receiving the last iuCRC for a SPI data stream information unit that initiator shall receive the next SPI data stream information unit. If during the last SPI data stream information unit the P\_CRCA signal was asserted and initiator detects a REQ transition after receiving the last iuCRC for a SPI data stream information unit that initiator shall logically disconnect from the current I\_T\_L\_Q nexus.

We propose the following changes and additions to clarify the target requirements on P\_CRCA usage (shown as underlined and italicized):

During write streaming the sequence of SPI data stream information units shall end with any change to the C/D, I/O, or MSG signals on a SPI data stream information unit boundary. If during write streaming SPI data stream information units an initiator detects a REQ transition after transmitting the last iuCRC for a SPI data stream information unit that initiator shall transmit the next SPI data stream information unit. *If write flow control is enabled, the target should assert the P\_CRCA to indicate when the current SPI data stream information unit is the last SPI data stream information unit of the current write stream (see 8.2), although the target is not required to do so in all circumstances.*

*During read streaming the target shall end a sequence of SPI data stream information units by performing one of the following:*

- a) preferably, assert the P\_CRCA signal before the end of the current SPI data stream information unit boundary (see 8.2).*
- b) change the C/D, I/O, or MSG signals on a SPI data stream information unit boundary.*
- c) generate a BUS FREE phase on a SPI data stream information unit boundary.*

*During read streaming* if during the last SPI data stream information unit the P\_CRCA signal was not asserted and *an* initiator detects a REQ transition after receiving the last iuCRC for a SPI data stream information unit that initiator shall receive the next SPI data stream information unit. If during the last SPI data stream information unit the P\_CRCA signal was asserted and *an* initiator detects a REQ transition after receiving the last iuCRC for a SPI data stream information unit that initiator shall logically disconnect from the current I\_T\_L\_Q nexus.