Interpretation Number: 1-03/10

Topic: 10GBASE-T master-slave timing locking during start-up
Relevant Clause: Clause 55.3.4
Classification: Request for Interpretation

Interpretation Request

IEEE

IEEE Standards Interpretation Request

Requests for interpretations should only be submitted for seeking clarification of:

- − The meaning of portions of standards as they relate to specific applications; and/or
- − The exact nature of the contents of the standard.

If the interpretation request meets the above criteria, complete the following and send to the Manager, Governance.

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IEEE Std: 802.3-2008

Standard Title: 10GBASE-T

Topic: Master – Slave timing locking during start-up.

Clause 55.3.4

C55.3.4 describes training scrambler polynomials for the Master and the Slave. When the Slave is in loop timing mode the Slave training sequence will be frequency and phase locked to the Master training sequence. During start-up, there are 3 transient events (see Table 55-5, timing_lock_OK=0/1) where the Slave could temporarily lose the Master timing reference (55.4.2.5.14, page 496, last paragraph). After these transient events the Slave will reacquire

Master timing reference and set timing_lock_OK=1. My interpretation is that when the Slave has reacquired Master timing the Slave will re-lock to the Master training sequence with the same relative phase each time. Otherwise the Master receiver will have to search for the Slave training sequence every time. Moreover there is limited advantage of having a training sequence if the phase could be changed multiple times during start-up.

Please confirm my interpretation is correct: A looped timed Slave transmit training sequence should have a constant phase lock to Master training sequence whenever timing_lock_OK=1.

NOTE FOR RESPONDERS: Attach your response here. If you are responding to more than one interpretation request, please label your responses as "Interpretation Response #1," "Interpretation Response #2," etc.