DEPARTMENT OF THE NAVY
NAVAL SURFACE WARFARE CENTER
DAHLGREN DIVISION
6149 WELSH ROAD, SUITE 203
DAHLGREN, VIRGINIA 22448-5130

IN REPLY REFER TO
3910
Ser W23/014
16 Jun 10

From: Commander, Dahlgren Division, Naval Surface Warfare Center
To: Department of the Navy, PEO IWS 1.0, Integrated Combat Systems (Mr. Kenneth Lewis PEO IWS1CS2), 1333 Isaac Hull Avenue SE, Washington Navy Yard, DC 20376-2101

Subj: POLICY TO INVOKE USE OF PATCH CORDS WITH 1000BASE-LX OVER MULTIMODE FIBER

Ref: (a) MIL-PRF-85045 - Cables, Fiber Optics, (Metric), General Specification For
(b) IEEE 802.3-2008 Section 3 - Part 3: Carrier Sense Multiple Access with Collision Detection Access Method and Physical Layer Specifications

1. Purpose. To implement the requirement to use patch cords with 1000BASE-LX over 62.5 micron multimode fiber. This policy addresses both high Differential Mode Delay (DMD) and low DMD fibers. This policy is to be used for both initial system design and for system modification/modernization.

2. High DMD Fibers. Multimode fiber optic cable, in accordance with reference (a), with date codes of 01/03 or older contain high DMD fiber requiring the use of single-mode fiber offset launch mode-conditioning patch cords. These patch cords, in accordance with reference (b), shall be used between the 1000BASE-LX transmitter output and the multimode fiber optic cable. These patch cords are necessary to reduce the launch power from the 1000BASE-LX transmitter to prevent over saturation of the receiver, and minimize the impacts of the high DMD fiber.

3. Low DMD Fibers. Multimode fiber optic cable, in accordance with reference (a), with date codes of 02/03 or newer contain low DMD fiber requiring the use of standard single mode patch cords or single-mode fiber offset launch mode-conditioning patch cords. These patch cords shall be used between the 1000BASE-LX transmitter output and the multimode fiber optic cable. When using single-mode fiber offset launch mode-conditioning patch cords, they shall be used in accordance (b). These patch cords are necessary to reduce the launch power from the 1000BASE-LX transmitter to prevent over saturation of the receiver.

4. Design Exceptions. System Designers and integrators that cannot implement these patch cords in the system design shall contact NSWCDD to discuss possible alternatives.

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5. Distribution statement. Distribution Statement A: Approved for Public Release, Distribution is Unlimited.

6. Addressees. This letter is intended for Government personnel and contractors involved in the design and installation of the fiber optic networks/communication systems. In addition, this letter is intended for inspectors and other entities involved with acceptance and acquisition. This letter is to be used by the Navy and other Government agencies/activities, parties in direct support of the Government agencies/activities to clarify intent of requirements specified.

7. Point of contact. Technical inquires and clarifications on this Navy letter are to be placed in writing and sent by e-mail to NSWCDD Warfare Systems Department at DLGR_NSWC_Foweb@navy.mil.

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By direction

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Blind Copy to:
W23 (Throm, Good, M. Brown, Cox, Castelo, Hott, Maxson, G. Brown, files)