TO: GAIR BROWN

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9504
Ser 9524/

Draft dated: 15 February 1996

From: Commander, Naval Surface Warfare Center, Carderock Division, Philadelphia Station, Philadelphia, PA 19112-5083
To: Commander, Naval Sea Systems Command (SEA 03K12)

Subj: FIBER OPTIC SYSTEMS DESIGN, INSTALLATION AND SUPPORT

Ref: (a) NSWCCD-SSES ltr 9504 9524/276 of 13 Oct 96
(b) Naval Ships Technical Manual Chapter 408 Fiber Optic Topology Maintenance and Repair

Encl: (1) Fiber Optic Test and Support Equipment Listing

1. Due to numerous inqueries from Program Offices and Logistics Managers the following information is provided.

2. MIL-STD-2052 is published and available for use for fiber optic systems design. MIL-STD-2052 details standard fiber optic link distortion and loss budgeting as well as fiber optic link reliability calculations. The fiber optic design point of contact is Gair Brown at the Naval Surface Warfare Center, Dahlgren Division (NSWC DD) (540-653-1579).

3. Qualified fiber optic items are available for the following components: optical fiber, fiber optic cable, fiber optic splices, heavy duty fiber optic connectors, and fiber optic interconnection boxes. Unqualified items may not be substituted for qualified items under any circumstances. Detailed listings of qualified vendors and products are available on the applicable Qualified Products List (QPL) and in reference (a). The fiber optic test and qualification point of contact is Eric Bluebond at the Naval Surface Warfare Center, Carderock Division, Ship Systems Engineering Station, Philadelphia Station (NSWCCD-SSES) (215-897-8510).

4. New construction fiber optic cable, interconnection box, connector and splice installation and checkout must be accomplished in accordance with MIL-STD-2042. Installation documentation (specifications and drawings) must specify installation in accordance with MIL-STD-2042 to guarantee proper installation. Fiber optic backfit documentation packages must reference either MIL-STD-2042 or Naval Sea Systems Command (NAVSEA) Standard Item 009-73. The fiber optic installation documentation control point of contact for MIL-STD-2042 is Gair Brown at the Naval Surface Warfare Center, Dahlgren Division

(NSWC DD) (540-653-1579).

5. Programs which use fiber optic data links within a system are responsible for supporting all items (including fiber optic cable, connectors, splices and interconnection boxes) within the system. No Naval Sea Systems Command (NAVSEA) Program Office is chartered or funded to provide logistics support for fiber optics technology in general. Support of this technology requires fiber optic training, fiber optic test and support equipment, fiber optic repair equipment, and fiber optic spares. Assistance in identifying and obtaining fiber optic test and support equipment and repair equipment may be obtained from NAVSEA 0415. The fiber optic general purpose electronic test equipment (GPETE) point of contact is Ralph Compton (703-602-2724 x507).

6. The Fleet Technical Support Center Atlantic (FTSCLANT) has been designated as the Fiber Optic Principle Support Agent (PSA). Personnel are available to answer questions and provide information on fiber optic technology, fiber optic specifications and standards, and fiber optic logistics support. The Fiber Optic PSA Point of Contact is Bill Martin (804-485-6149).

7. A fiber optic mainenance course has been established at the Fleet Training Center Norfolk and the Fleet Training Center San Diego. This is a stand alone course which currently does not have an associated Navy Enlisted Classification Code (NEC). The availability of trained fiber optic Navy maintenance personnel for a system can only be guaranteed by pipelining this fiber optic maintenance course into the system specific training. The course number for the fiber optic maintenance course is A6700063. Billets for this course can be obtained from the quota control office at either Fleet Training Center, Norfolk (804-444-2874) or Fleet Training Center, San Diego (619-556-7101).

8. Fiber optic fault isolation and repair is conducted as detailed in reference (b). The test, support and repair equipment listed in enclosure (1) is required to perform these actions. Fault isolation and maintenance of any fiber optic system requires the use of the basic fiber optic test equipment identified. Other support and repair items are required depending on the particular components used in the system as identified in attachment (1). The fiber optic repair point of contact is Gair Brown at the Naval Surface Warfare Center, Dahlgren Division (540-653-1579).

9. Fiber optic test, support and repair equipment requirements for each system must be identified to the Naval Weapons Station Earle for inclusion into the applicable ships' Special Purpose Electronic Test Equipment Requirements List (SPETERL). This list identifies the test equipment capabilities required for each

particular ship. Test equipment is not provided to the ship unless the requirement is known and documented in the SPETERL. The Naval Weapons Station Earle point of contact is Donna Morse (908-866-2734).

10. Copies of the most current fiber optic specifications and standards are availabie from the Naval Publications Center, (ATTN: NPODS), 5801 Tabor Avenue, Philadlephia, PA 19120-5099. New documents that are not yet available from Naval Publications and Forms Center may be obtained on an interim basis from NAVSEA Code 03J. Point of Contact is Charles Courchaine (703-602-7241 ext. 218).

11. General questions can be addressed to NSWCCD-SSES point of contact E. Bluebond. He can be reached at (215) 897-8510, Fax (215) 897-8509. NSWC DD second point of contact for general questions is G. Brown. He can be reached on (540) 653-1579, FAX (540) 653-8673.

By direction,
B. R. Marshall
Head, Digital Communications

Branch

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NAVSEA 03K312 (H. Lewis)
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NSWCCD-SSES 95,952,9524(2)

Recommended Parts List distribution: U, N

DOC:FOSupprt.LTR

Fiber Optic Test and Support Equipment Listing

General Purpose Electronic Test Equipment (GPETE) required for all fiber optic systems

SCAT 4954 - Optical Loss Test Set - NSN 7Z 6625 01 304 1739 - 2 ea.

SCAT 4318 - Mini-OTDR - NSN 7Z 6625 01 388 4989 - 1 ea.

SCAT 4319 - Optical Leak Detector - NSN 7Z 6030 01 414 8582 - 1 ea.

Tools and support items required for MIL-C-83522/16 (ST) connectors

SCAT 4535 - Toolkit, ST connector - DWG 6872811- 1 ea.

SCAT 4530 - MIL-C-83522/16 Test Cables - DWG 6877804 - 1 ea of item 6877804-01
- 2 ea of item 6877804-05

Tools and support items required for MIL-S-24623/4 (Rotary mechanical) splices

SCAT 4536 - Toolkit, Rotary Mechanical Splice - DWG 6872812 - 1 ea.

SCAT 4531 - MIL-S-24623/4 Test Cables - DWG 6877804 - 1 ea of item 6877804-02
- 2 ea of item 6877804-06

Tools and support items required for MIL-C-28876 (shell size 13) four fiber heavy duty connectors

SCAT 4537 - Toolkit, Heavy Duty Connector - DWG 6872813 - 1 ea.

SCAT 4532 - Shell Size 13 Test Cables - DWG 6877804 - 1 ea of item 6877804-03
- 1 ea of item 6877804-04
- 2 ea of item 6877804-07
- 2 ea of item 6877804-08

Attachment (1)

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