

1.0 General Product Description

The family of CSX centralized splitter cabinets is well suited to various FTTP and PON network applications. The cabinet is an environmentally secure enclosure for splitting and redistributing, as well as cross connecting, optical power from feeder fibers to distribution fibers. The feeder and distribution connector fields are attached to cable stub(s) so that cabinets can be placed in the field with reduced installation time. The connector fields contain low loss, GR-326 rated, SC/APC or UPC connectors. They also provide the benefits of a subscriber interconnect facility and a test access location for the cable plant.

2.0 Reference Documents

CSX Cabinet Installation Instructions
 CSX Cabinet Accessory Instructions
 CSX Cabinet Field Recommendations

3.0 Caution and Warnings

DANGER: Laser radiation is invisible and can damage the eye. Never look directly at the connector end face or into a bulkhead receptacle.

Dust caps and dust covers MUST be left in place on all non-terminated bulkhead receptacles and on the end of every un-used connector.

Always ensure, before making any connection that the connector end face polishes match the cabinet connectors. This can be determined by the color of the strain relief boot, connector housing, and the bulkhead receptacle (i.e. Green = APC, Blue = UPC. Connector endface damage may result from mating Blue UPC connectors to Green APC connectors.)

Tyco Electronics strongly recommends that all corporate and OSHA safety procedures be observed when working with this product.

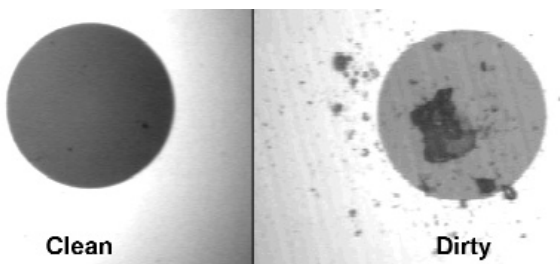


Figure 1: Examples of clean and dirty connector end faces as viewed with an inspection scope.

4.0 Tools, Supplies and Equipment

Several suppliers offer products that perform optical performance inspection and cabinet verification testing. Evaluate the different products to determine which best fit personal preferences and are most economical to use. The basic equipment needed to test optical performance in the field includes:

OTDR – With a laser module designed for metro/access or FTTx applications.

Connector Inspection Scope – With SC/APC adapter, 200x & 400x mag. A magnification of at least 200x is recommended singlemode connectors.

Connector cleaning supplies

Launch lead jumper - ~200 ft minimum to allow the OTDR to recover from the initial dead zone event.

Visual Fault Locator – Visible red light source for detecting fiber breaks and macro-bends.

Tyco Electronics offers and recommends the following products to aid in properly testing CSX Cabinets:

Tyco Electronics

Part Number	Description
-------------	-------------

KQ892Y-000	Test reel and jumper kit, <i>composed of:</i>
67657K-000	200 ft launch lead jumper with SC/APC connectors on both ends, and
8N2695-000	32 ft hybrid jumper with a SC/APC and a SC/UPC connector.
4M4495-000	Pen type adapter ferrule cleaner
4M457Z-000	Pen style visual fault locator

5.0 Cabinet Testing Recommendations

5.1 Connector Cleaning

Remove only the protective cap of the port of interest. This will reduce contamination of connectors by airborne dirt. When removing the protective caps, be sure to place them where they will not get contaminated.

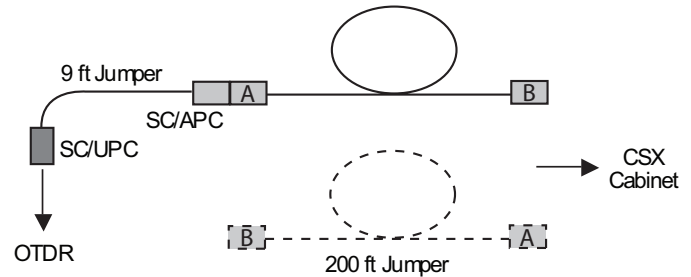
Before making any connection to the cabinet, both connectors should be cleaned. Use the pen type adapter ferrule cleaner for cleaning cabinet connectors without removing them from the adapter.

With the inspection scope, inspect connector end face after cleaning to confirm that any dirt was removed. See Figure 1. Replace all dust caps after cleaning.

5.2 Optical Performance Testing

Inspect the connector of the launch lead with the inspection scope to ensure it is free of pits, scratches, and contaminants. Replace if necessary or clean as instructed as in Section 5.1.

To ensure accurate readings of insertion and return losses, it is important that the test lead connectors are of low loss quality. Tyco Electronics recommends the use of combination launch lead jumpers [listed in Section 4.0] when testing with an OTDR. The jumper combination consists of a 200 ft jumper with low loss SC/APC connectors on both ends and a 9 ft jumper with a SC/APC connector on one end and a SC/UPC connector on the other. This jumper combination will maximize the useful life of the launch lead when testing CSX connector fields. Assemble the jumpers as illustrated. Once the useful life of the first connector [B] is finished, the launch lead can be reversed and the second connector [A] can be used.



Connect the OTDR launch lead jumper to the port and take a measurement. Reference the OTDR's operation instructions for properly optimizing the equipment's launch settings.

5.3 Fiber Path Inspection

If excess attenuation has been identified within the cabinet, a visual fault locator can be used to find the cause of attenuation along the optical path. When possible, use the same OTDR launch lead jumper. Visible light will be injected into the fiber and will escape out of the fiber at locations where the fiber is severely bent, pinched, or broken. Starting at the bulkhead receptacle, follow the fiber path all the way down the cable.

6.0 Summary

This introduction highlights some recommendations to assist when testing a CSX cabinet in an optical network. The most common problems found in the field relate to dirty or damaged connectors. Keeping connectors clean is a vital step to preventing connector damage, obtaining accurate test results and reducing testing time. The following list of "Do's and Don'ts" are useful reminders to help with CSX field testing:

Do

- Keep all connectors clean**
- Inspect for dirt before making any connection**
- Keep connectors and bulkhead receptacle protected from dirt with dust caps**
- Use proper optical cleaning supplies and techniques**
- Become familiar with testing equipment and its features**

Don't

- Look directly at the connector end face or into a bulkhead receptacle*
- Mix connector types [i.e. APC to UPC]*
- Use damaged connectors when testing*

7.0 Customer Information and Assistance

For product assistance or questions, please contact your local Tyco Electronics Sales associate or the Tyco Electronics Telecom Outside Plant Customer Service Center at 1-800-233-7635.

Tyco Electronics Corporation

8000 Purfoy Road
Fuquay-Varina, NC 27526-3000
Tel.: 919-557-8900
Fax: 919-557-8498
www.us.telecomsp.com

CSX, TE logo and Tyco Electronics are trademarks.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, Tyco Electronics makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. Tyco Electronics' obligations shall only be as set forth in Tyco Electronics' Standard Terms and Conditions of Sale for this product and in no case will Tyco Electronics be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of Tyco Electronics products should make their own evaluation to determine the suitability of each such product for the specific application.