

FiberConnect

Bare Fiber Adapter



Anritsu

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Document Revision History

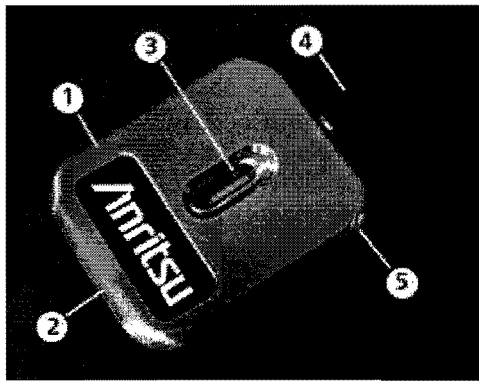
Revision	Date
A	July 2006
B	April 2012

Introduction

FiberConnect bare fiber adapters provide an efficient method of coupling unterminated optical fiber to test instrumentation. The resulting connection, facilitated by the use of index matching oil, is similar to that of a connectorized fiber.

The FiberConnect bare fiber adapter consists of a precision glass ferrule permanently aligned to a connectorized cable assembly. The ferrule end of the cable assembly is protected by a stainless steel housing (see Figure 1). Optical fiber to be tested is stripped, cleaved, and cleaned. A drop of index matching oil is placed in the slot on the top of the FiberConnect housing. The prepared fiber is then inserted into the fiber input port until its cleaved face meets the permanently mounted fiber of the FiberConnect cable assembly.

To provide added stability, the FiberConnect housing can be attached to a smooth surface using either the magnetic mounting or the suction cup base.



1. FiberConnect Housing
2. Fiber Input Port
3. Slot
4. Cable Assembly Boot
5. Set Screw

Figure 1: FiberConnect Bare Fiber Adapter

Product Safety



Bare fiber ends and fiber fragments are a medical hazard. Do not touch bare fiber ends.

Secure loose fiber fragments to an adhesive strip to prevent scattering. Dispose of fiber fragments in such a manner as to prevent them being scattered or coming into human contact.

Follow local disposal regulations.



Laser radiation can be an eye and/or skin hazard. Avoid looking into the end of any fiber. Know the laser classification of the fiber optic systems and test instruments used with the FiberConnect bare fiber adapter. Once the FiberConnect unit is connected to a system or test instrument, treat the unit with the laser safety precautions required by that system or test instrument.



This product conforms to the General Product Safety Directive 92/59/EEC.

Operation

Attach the connectorized end of the FiberConnect cable assembly to the desired test equipment (clean mating connectors prior to use), and then follow the steps for "Fiber Preparation" and "Inserting Fiber into the FiberConnect Unit."

Fiber Preparation

Proper fiber preparation is important to ensure optimal performance of the FiberConnect unit. While uncleaved (broken) fiber can be used in the FiberConnect unit, cleaved fiber is recommended for optimal results.

NOTE: Uncleaved fiber adds approximately 1 dB of additional loss compared to a cleaved fiber.

1. Before inserting any fiber into the FiberConnect unit, strip and remove the buffer material for a length of approximately 25mm (1 inch). Use the fiber stripping gauge in Figure 2 for reference. Strip the fiber down to the 125 μ m cladding.

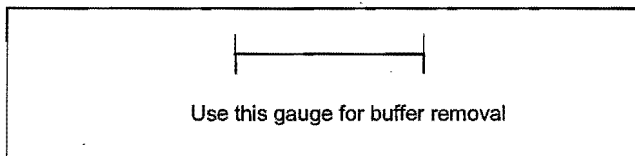


Figure 2: Fiber Stripping Gauge

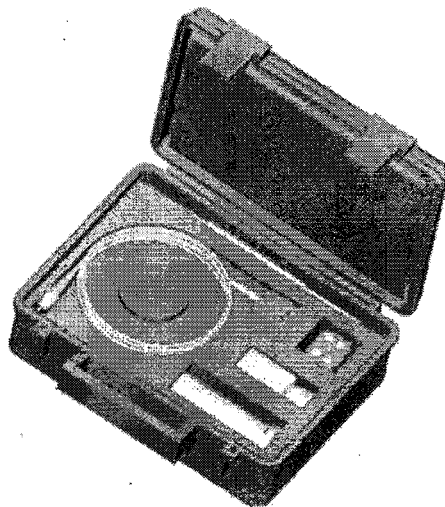
2. Clean the stripped fiber with alcohol to remove any buffer residue.

Inserting Fiber into the FiberConnect Unit

1. Place one drop of the index matching oil in the slot on the top of the FiberConnect housing. One drop of oil is sufficient for multiple insertions.
Replenish oil only as needed.
2. Gently insert the prepared fiber into the fiber input port until resistance is felt (approximately 20mm).

Maintenance

The index matching oil can cause a buildup of dust and other matter in the FiberConnect unit. Additionally, broken fiber may need to be cleared from the ferrule.



1. FiberConnect Unit w/ Cable Assembly
2. Accessory Pouch
3. Spare Cable Assembly
4. Cleaning Tool
5. FiberConnect Base
6. Index Matching Oil
7. Maintenance Kit

Figure 3: FiberConnect Package

Cleaning the FiberConnect Unit

WARNING: To avoid damage to the eye from glass fragments and fluids, always wear protective eyewear.

Cleaning is accomplished via the slot on the top of the FiberConnect unit. The most effective method for cleaning requires compressed (canned) air and 99% isopropyl alcohol. In many instances, canned air can be used alone.

Cleaning with alcohol:

1. Apply several drops of alcohol into the slot. The brush end of the cleaning tool (see Item 4 in Figure 3) may be used along with the alcohol to clean out the slot on top of the FiberConnect unit.
2. After most of the alcohol has evaporated or is otherwise removed, insert the nozzle of the canned air container into the rear of the slot. Two or three quick blasts of air should be sufficient to clean out the slot.

Cleaning without alcohol:

Insert the nozzle of the canned air container into the rear of the slot. Two or three quick blasts of air should be sufficient to clean out the slot.

Clearing broken fiber:

Use the tool end of the cleaning tool (see Figure 4) to extract broken fiber from the FiberConnect unit.

1. Hold the cleaning tool at 90° to the FiberConnect housing. Make sure that the flat surface of the cleaning tool is facing the fiber input port end of the slot.
2. Insert the cleaning tool in the slot at the end nearest to the cable assembly boot.

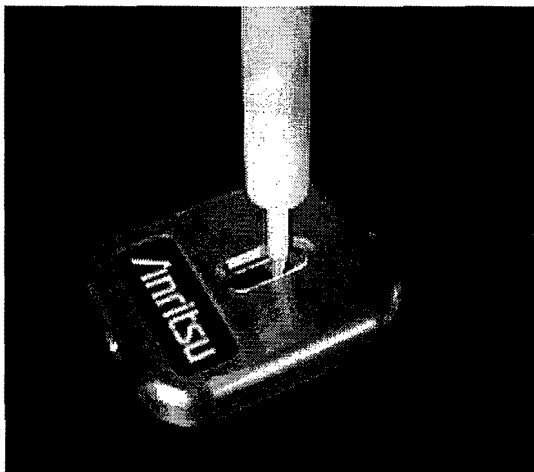


Figure 4: Clearing Broken Fiber with the Cleaning Tool

3. Press down lightly on the tool, and then push it toward the fiber input port end of the slot.

WARNING: Do not apply excessive pressure when using the cleaning tool; this may damage the ferrule.

4. Lift the cleaning tool out of the slot and repeat steps 1 through 3 up to three times to remove the broken fiber.

If fiber insertion fails after using the cleaning tool, proceed to steps 5 through 7 to ensure that the fiber input port is free of any fiber fragments.

5. Remove a piece of the wire and a round label from the maintenance kit (see Figure 3).
6. Place the label about 20mm from the end of the wire, and then fold the label in half around the wire to form a tab.

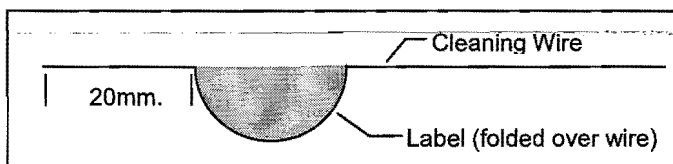


Figure 5: Preparing the Cleaning Wire for Use

7. Use the tab to grasp the wire between the thumb and index finger. Thread the wire from the back end of the slot through the hole in the ferrule, and then push the fiber fragment out through the fiber input port (see Figure 6).

WARNING: Never insert the cleaning wire through the fiber input port; this may damage the fiber face.



Changing the Cable Assembly

Change the cable assembly when a different connector type is needed or when all cleaning methods have failed to clear the ferrule of obstruction.

CAUTION: When changing multimode cable assemblies check the information printed on the cable assembly jacket to insure use of the proper size core diameter.

1. Use the allen wrench, included in the maintenance kit, to loosen the set screw that locks the cable assembly in place (see Figure 1).
2. Grip the cable assembly by the boot, and then gently slide the ferrule straight out of the Fiber-Connect housing.



Figure 7: Changing the Cable Assembly

3. Carefully slide the ferrule of the new cable assembly into the FiberConnect housing until it stops. Make sure that the open flat surface inside the ferrule is parallel to the slot in the FiberConnect housing, and then tighten the set screw to secure the cable assembly.
4. After changing the cable assembly, it may be necessary to clean the FiberConnect unit (see "Cleaning the FiberConnect Unit" on page 6 for details).

Warranty Information

The FiberConnect bare fiber adapter is covered by a 90-day limited warranty. Replacement or repair of FiberConnect units under warranty is at the discretion of Anritsu.

Technical Support, Services, and Repairs

Our Technical Support Center is at your service to answer technical questions and provide return authorization for service, repairs, or other returns.

Technical Support Center

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All returns require a Return Materials Authorization (RMA) number. If possible, return the unit in its original shipping materials. If the original shipping materials are not available, please contact the Technical Support Center for instructions.

Order Information

Order #	Description
FIBERCONNECT-1-XXX	Standard Singlemode FiberConnect
FIBERCONNECT-2-XXX	62.5µm Multimode FiberConnect
FIBERCONNECT-3-XXX	50µm Multimode FiberConnect
FBC-PIGTAIL-1-XXX	SMF28 FiberConnect Pigtailed <i>(package of 3 pigtailed)</i>
FBC-PIGTAIL-2-XXX	MM (50µm) FiberConnect Pigtailed <i>(package of 3 pigtailed)</i>
FBC-PIGTAIL-3-XXX	MM (62.5µm) FiberConnect Pigtailed <i>(package of 3 pigtailed)</i>
FBC-SUCTION	Replacement suction cup
FBC-OIL	Immersion liquid
FBC-MAINTENANCE	Maintenance Kit includes cleaning wire, tabs, wrench and nylon brush
FBC-35097	FiberConnect Operating Manual

XXX = Connector: UFC (FC/UPC)

USC (SC/UPC)

UST (ST/UPC)

AFC (FC/APC) - Singlemode units only

ASC (SC/APC) - Singlemode units only

