

QUICK CARD

PON Fiber Inspection with the OLP-87

This Quick Card outlines how to use the P5000i Fiber Inspection Microscope to inspect fiber end faces commonly found in GPON, XGSPON, and NG-PON2 deployments.

- ▶ SmartClass Fiber OLP-87 Wavelength Selective Power Meter
- ▶ P5000i Fiber Microscope
- ▶ Bulkhead and Patch Cord Inspection Tips matching the fiber under test
- ▶ Fiber optic cleaning tool



Figure 1: Equipment Requirements

CONNECT TIP TO P5000i

Inspection Tips are attached to the front of the P5000i by threading the collar of the tip onto the probe:

- ▶ ¹ The Corning Evolve PushLok tip (FBPT-CEV-A6), OptiTap Bulkhead tip (FBPT-COD-L), and OptiTip tip (FBPT-COD-MTA) **connect directly** to the probe.
- ▶ ² The SC-APC Patchcord tip (FBPT-U25A) and SC-APC Bulkhead tip (FBPT-SC-APC) connect to the **Barrel Assembly** (FBPT-BAP1) by loosening and tightening the Retaining Nut on the Barrel Assembly.



Figure 2: P5000i, Barrel Assembly and Tips

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SETTING UP THE P5000i



Figure 3: P5000i, Side view

1. Insert the P5000i **USB Connector** into the **USB Port** on the side of the OLP-87.
2. Press the **Home** button.
3. Tap the **Probe** icon.
4. Press the **Menu** button.
5. Tap the **Profile** soft key and select the profile.
6. Press the **Menu** button.
7. Tap the **Tip** soft key and select the tip.



Figure 4: OLP-87, Front View

Note: If the Tip Selection is not shown, connect the OLP-87 to a PC with FiberChekPRO™ software using a USB to MicroUSB cable, and move the appropriate tip setting onto the OLP. For more information, consult the FiberChekPRO user manual. To download FiberChekPRO to your PC, visit <http://fcpro.updatemyunit.net/>.

Connection Type		Tip	Profile Selection	Tip Selection
SC-APC	Bulkhead ²		SM APC (IEC-61300-3-35 Ed. 2.0)	Standard Tips (with BAP1)
	Patch Cord ²		SM APC (IEC-61300-3-35 Ed. 2.0)	Standard Tips (with BAP1)
Corning OptiTap	Bulkhead ¹		SM APC (IEC-61300-3-35 Ed. 2.0)	FBPT-COD-L
	Patch Cord ²		SM APC (IEC-61300-3-35 Ed. 2.0)	Standard Tips (with BAP1)
Corning OptiTip	Bulkhead ¹		Ribbon, SM APC (IEC-61300-3-35 Ed. 2.0)	Ribbon Tips
	Patch Cord ¹		Ribbon, SM APC (IEC-61300-3-35 Ed. 2.0)	Ribbon Tips
Corning PushLok	Bulkhead ¹		SM APC (IEC-61300-3-35 Ed. 2.0)	FBPT-CEV-A6
	Patch Cord ²		SM APC (IEC-61300-3-35 Ed. 2.0)	Standard Tips (with BAP1)

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INSPECT THE BULKHEAD

1. Insert the **Bulkhead inspection** tip into the Bulkhead.
 - ▶ For SC-APC and PushLok Bulkheads, align the keys on the inspection tip and the bulkhead connector.
 - ▶ For OptiTap Bulkheads, align the arc and flat pin in the inspection tip to the matching insertions inside the OptiTap receptacle adapter.
 - ▶ For OptiTip Patch Cord Inspection, slide the patch cord adapter onto the main tip assembly. Rotate wheel to view and test each fiber.
2. Press the **Home** button to display the Home screen.
3. Tap the **Probe** icon.
4. Adjust the **Focus Control** wheel of the P5000i microscope to focus the optical fiber. The left vertical bar on the screen indicates the level of focus adjustment. The higher the level, the better the focus. The screen will display a line in the focus bar where the optimal focus lies for that image. Focus the image until the bar is as close to the line as possible.
5. There are 2 ways to run the inspection test:
 - ▶ Press the **Test** button on the P5000i.
 - ▶ Press the **Menu** button and tap the **Test** soft key on the OLP-87.
6. A green screen indicates a **PASS** result. A red screen indicates a **FAIL** result.
7. Tap the **Back** button on the OLP-87 to return to the Live fiber view.
8. If the test failed, clean the fiber end-face and re-run the inspection test. Repeat until it passes.



Figure 5: SC APC Bulkhead



Figure 6: PushLok Bulkhead



Figure 7: OptiTap Bulkhead



Figure 8: OptiTip Bulkhead



Figure 9: Pass/Fail Analysis

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INSPECT PATCH CORD

1. Insert the Patch Cord into the Inspection tip:
 - For **SC-APC Patch Cord** inspection through an SC-SC Optical Coupler, insert the Patch Cord into the SC APC optical coupler. The Patch Cord, coupler, and tip are all keyed and the keys must be aligned.
 - For Corning **OptiTap**, **PushLok**, and **SC-APC Patch Cord** Inspection without an Optical Coupler, insert the Patch Cord into the 2.5mm APC Patch Cord inspection tip. Rotate fiber and align the connector key to the notch on inspection tip for proper alignment.
 - For **OptiTip Patch Cord** Inspection, slide the bulkhead adapter onto the main tip assembly. Rotate wheel to view and test each fiber.



Figure 10: SC APC Patch Cord and Coupler

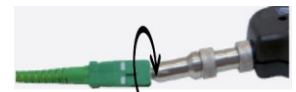


Figure 11: SC APC Patch Cord



Figure 12: OptiTap Patch Cord



Figure 13: OptiTip Patch Cord

2. Press the **Home** button to display the Home screen.
3. Tap the **Probe** icon.
4. Adjust the **Focus Control** wheel of the P5000i microscope to focus the optical fiber.
5. There are 2 ways to run the inspection test:
 - ▶ Press the **Test** button on the P5000i.
 - ▶ Press the **Menu** button and tap the **Test** soft key on the OLP-87.
6. A green screen indicates a **PASS** result. A red screen indicates a **FAIL** result.
7. Tap the **Back** button on the OLP-87 to return to the Live fiber view.
8. If the test failed, clean the fiber end-face and re-run the inspection test. Repeat until it passes.



Figure 14: Pass/Fail Analysis