P5000i Microscope

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QUICK CARD

PON Fiber Inspection with the Optimeter

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.

EQUIPMENT REQUIREMENTS

► Optimeter optical fiber meter

► E10Glove2 Enhanced hands-free softcase with neck strap for permanent fiber launch cable connection (recommended)

► P5000i Fiber Microscope

► Bulkhead and Patch Cord Inspection Tips matching the fiber under test

► Fiber optic cleaning tool

Figure 1: Equipment Requirements

CONNECT THE P5000i TO THE OPTIMETER

1. If your Optimeter includes a glove as pictured in figure 1, insert the P5000i USB Connector and cable into the glove's top-hat through hole.

2. Insert the P5000i **USB Connector** into a **USB Port** on the top of the Optimeter.

Note: The P5000i can be stored in the back pocket of the glove when not in use. A bungee **cord lock** holds the pocket closed.

➢ **Damage can occur if excessive horizontal force is applied to the P5000i cable**

➢ Loosen the cord lock before removing the probe, to avoid cord damage.

➢ Use the cable strain relief near the probe body, and lift the probe from the pocket vertically,
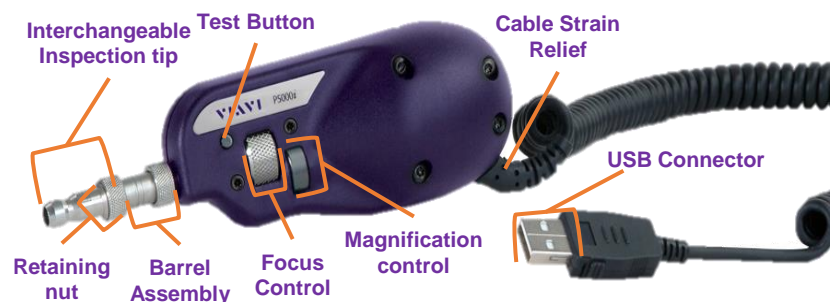

Figure 2: Optimeter

Figure 3: P5000i

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https://www.viavisolutions.com/en-us/products/fiber-inspection-cleaning

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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 body.

► [2] The SC-APC Patch cord 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. The Barrel assembly is keyed and connects to the probe body.

FBPT-CEV-A6
FBPT-COD-L
FBPT-COD-MTA
FBPT-BAP1   FBPT-U25A
FBPT-BAP1   FBPT-SC-APC

Figure 4: P5000i, Barrel Assembly and Tips

SETTING UP THE OPTIMETER

1. Press the Power button to start the Optimeter.

2. If the Optimeter boots into the Home screen, tap the OPTITRAK Icon to display the OPTITRAK screen.

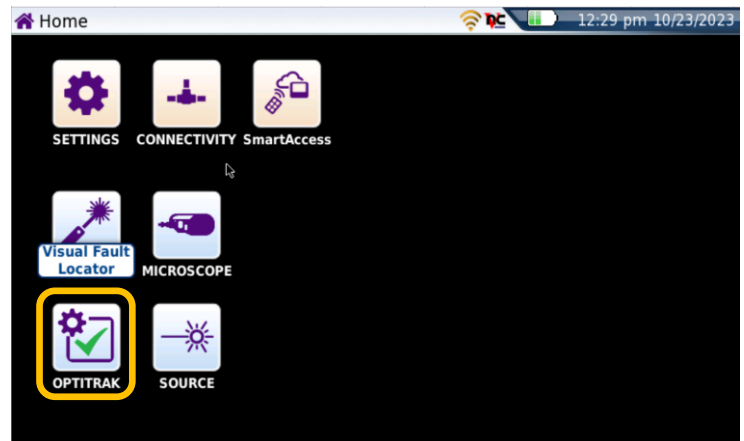3. Enter the Job Id in the Job Id text box at the top of the screen.
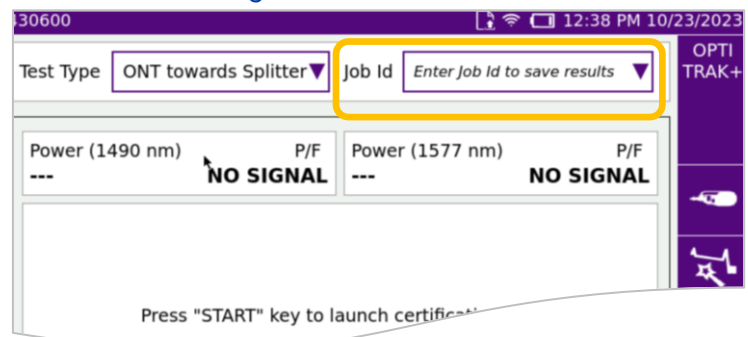
Figure 5: Home Screen

Figure 5: OPTITRAK Screen

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SETTING UP THE P5000i

1. Tap the Microscope Soft Key ⬒ on the left side of the screen.

2. Tap the **Setup** soft key ⚙ .

3. Configure **Tip Setting** and **Profile** per the table below. Note: If the Tip Selection is not shown, connect the P5000i to a PC or laptop and move the appropriate tip setting onto the P5000i with FiberChekPRO™ software. For more information, consult the FiberChekPRO user manual.
To download FiberChekPRO to your PC, visit http://fcpro.updatemyunit.net/.
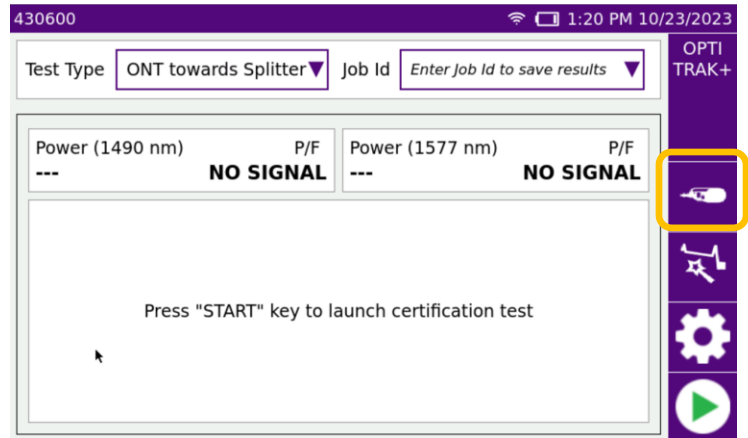
4. Press the **Back** soft key ⬅ to return to the inspection screen.

Figure 5: OPTITRAK Screen
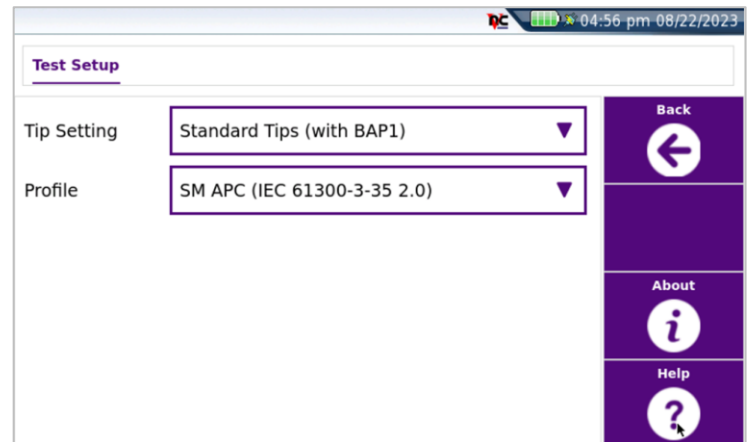
Figure 6: Test Setup

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)

Table 1: Profile and Tip Settings

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INSPECT THE BULKHEAD

1. Set up the P5000i as described on pages 1 thru 3.

2. 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.

3. Adjust the **Focus Control** wheel of the P5000i microscope to focus the optical fiber. The top 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 close to the line.

4. There are 2 ways to run the inspection test:

    ▶ Press the **Test** button on the P5000i.

    ▶ Tap the **Test** soft key on the Optimeter.

5. A green checkmark indicates a **PASS** result. A red **X** indicates a **FAIL** result.

6. Tap the **Live** soft key on the Optimeter to return to the Live fiber view.

7. If the test failed, clean the fiber end-face and re-run the inspection test. Repeat until it passes.

Figure 6: SC APC Bulkhead

Figure 7: PushLok Bulkhead

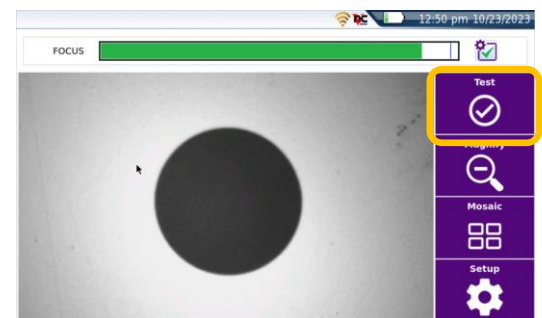*Figure 8: OptiTap Bulkhead*
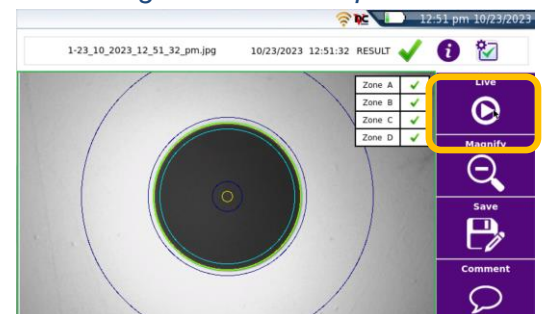
Figure 9: OptiTip Bulkhead

Figure 10: Live Inspection

Figure 11: 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.
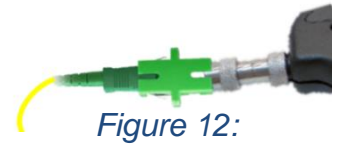

Figure 12: SC APC Patch Cord and Coupler

Figure 13: SC APC Patch Cord

Figure 14: OptiTap Patch Cord

Figure 15: OptiTip Patch Cord

2. Set up the P5000i as described on pages 1 thru 3.

3. Press the **Back** soft key to return to the inspection screen.

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.
   ► Tap the **Test** soft key on the Optimeter.

6. A green checkmark indicates a **PASS** result. A red **X** indicates a **FAIL** result.

7. Tap the **Live** soft key on the Optimeter 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.
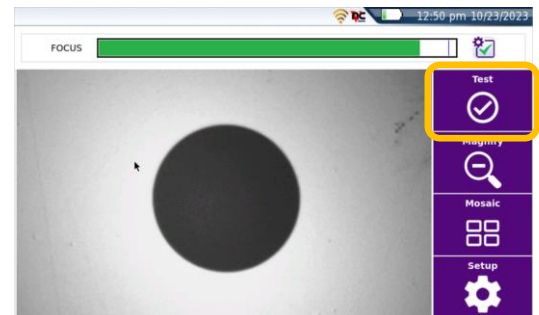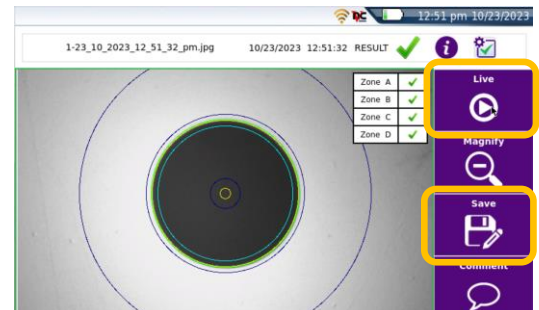

Figure 16: Live Inspection

Figure 17: Pass/Fail Analysis

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