

Quick Card

P5000i Fiber Microscope PON Fiber Inspection with the Optimeter

This quick card describes how to use the VIAVI P5000i Fiber Inspection Microscope to inspect simplex SC-APC and OptiTap fiber end faces. Inspect & clean (if necessary) both sides of every connection being used (bulkhead connectors and patch cables) prior to connection. Unclean fiber connectors may result in inaccurate results and damaged network equipment.

Equipment Requirements:

- Optimeter Optical Fiber Meter
- P5000i Fiber Inspection Microscope
- SC-APC Bulkhead Inspection Tip (FBPT-SC-APC)
- 2.5mm APC Patch Cable tip or (FBPT-U25MA) or SC-APC Optical Coupler
- OptiTap Bulkhead Inspection Tip (FBPT-COD-L)
- Fiber optic cleaning tools



Figure 1: P-5000i Fiber Inspection Microscope

Setting Up the P-5000i:

1. Install Tip:

- For SC-APC Bulkhead Inspection, connect the **SC-APC Bulkhead Inspection Tip** to the P5000i Fiber Inspection Microscope by loosening and tightening the **Retaining Nut** on the P5000i Fiber Probe Barrel Assembly.
- For SC-APC Patch Cable or OptiTap Drop Cable Inspection, connect the **2.5mm APC Patch Cable Inspection Tip** to the P5000i Fiber Inspection Microscope by loosening and tightening the **Retaining Nut** on the P5000i Fiber Probe Barrel Assembly.
- For OptiTap Bulkhead Inspection, remove the entire **Barrel Assembly** from the Probe, and connect the **OptiTap Bulkhead Inspection Tip** directly to the P5000i Fiber Inspection Microscope base.



Figure 2: SC-APC Inspection Tips and Application



Figure 3: SC-APC Optical Coupler



Figure 4: OptiTap Bulkhead Inspection Tip and Application

2. Connect the P5000i **USB Connector** to a **USB port** on the top of the Optimeter.



Figure 5: Optimeter Top View

Setting up the Optimeter:

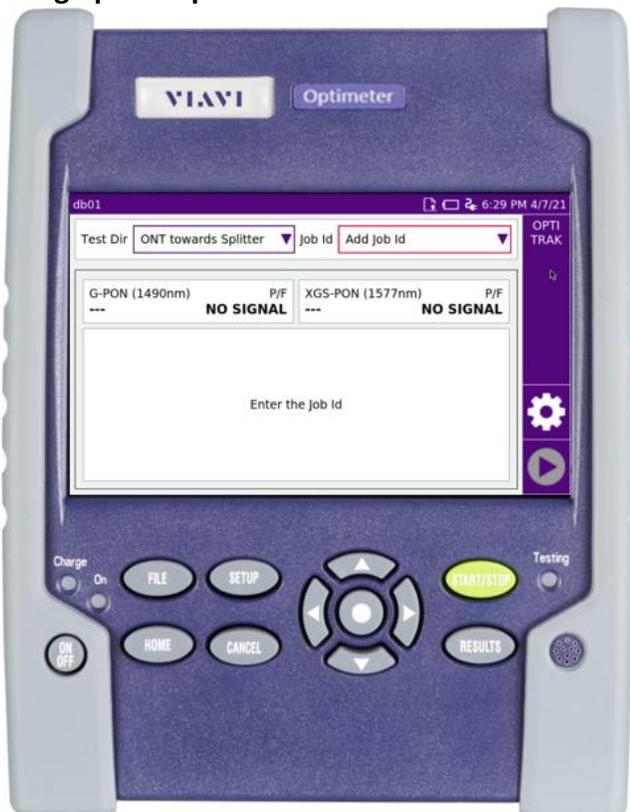


Figure 6: Optimeter Front View

1. Press the **ON/OFF** button to turn on the Optimeter.
2. Press the **HOME** button to display the Home screen.



3. Tap the **MICROSCOPE** icon to launch the Fiber Microscope.



4. Press the **Setup** button.
5. Tap the **Analysis** soft key.
6. Set **Profile** to **SM APC (IEC-61300-3-35)**.
7. Tap the **Top Menu** soft key.
8. Set **Tip** as follows:
 - For SC-APC Bulkhead Inspection, SC-APC Patch Cable Inspection, or OptiTap Drop Cable Inspection, select **Standard Tips (with BAP1)**
 - For OptiTap Bulkhead Inspection, select **Simplex Long Reach (-L) Tips**.

9. Tap the **Top Menu** soft key.



10. Press the **Results** button

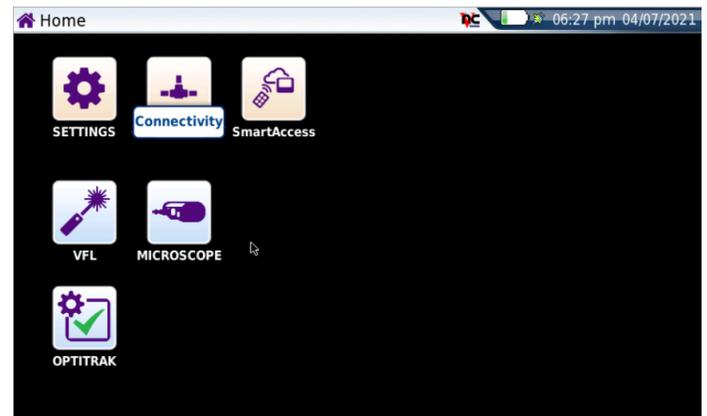


Figure 7: Home Screen



Figure 8: Microscope Results Screen

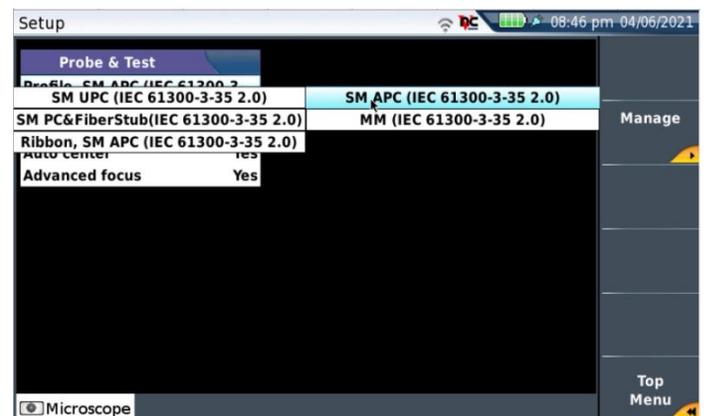


Figure 9: Microscope Setup, Profile

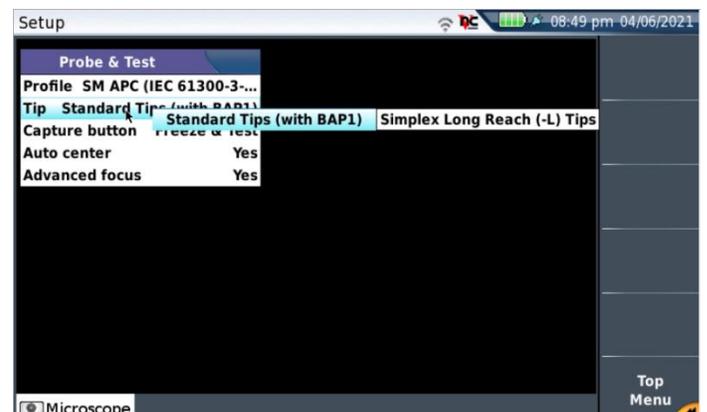


Figure 10: Microscope Setup, Tip

Inspect Bulkhead Connector:

1. For SC-APC Bulkhead Inspection, insert the P5000i **SC APC Bulkhead inspection** tip into the SC APC Bulkhead. Note: The tip and bulkhead connector are both keyed. The keys must be aligned.
2. For OptiTap Bulkhead Inspection, insert the P5000i **OptiTap Bulkhead inspection** tip into the OptiTap Bulkhead.
Note: Align the arc and flat “male” pin geometry of the inspection tip to the matching “female” counterpart insertions inside the OptiTap receptacle adapter and insert to secure.
3. Focus the live fiber image on the screen using the P5000i’s **Focus Control** knob. If dirty, clean the connector and reinspect.
4. If it appears clean, press the **Test** soft key.
5. If the test fails, clean the fiber end-face and re-run the inspection test. Repeat until it passes.
6. When the test passes the results for all zones will be shown in green.



Figure 11: SC APC Bulkhead



Figure 12: OptiTap Bulkhead



Figure 13: Live Fiber Image



Figure 14: Failing Test

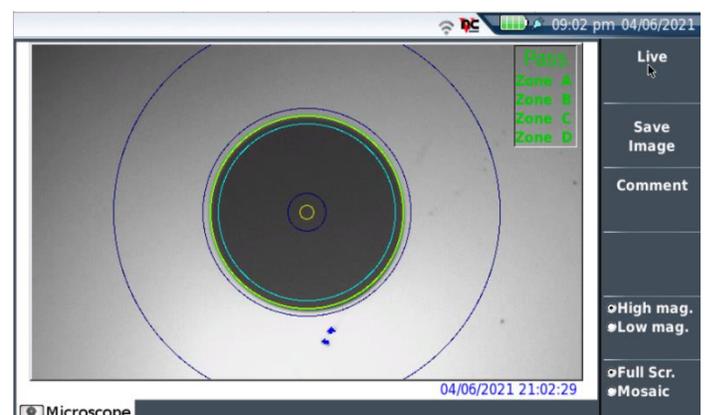


Figure 15: Passing Test

Inspect Patch Cable:

For **SC-APC Patch Cable Inspection** through an SC-SC Optical Coupler,

- Insert the patch cable into the SC APC optical coupler. Note: The patch cable and coupler are both keyed. The keys must be aligned.
- Insert the SC APC Bulkhead inspection tip into the SC APC Optical Coupler. Note: The tip is also keyed. The keys must be aligned.

For **SC-APC Patch Cable Inspection** without an SC-SC Optical Coupler,

- Insert the patch cable into the 2.5mm APC Patch Cable inspection tip.
- Rotate fiber and align the connector key to the notch on inspection tip for proper alignment.

For **OptiTap Drop Cable Inspection**,

- Insert the drop cable into the 2.5mm APC Patch Cable inspection tip.
- Rotate fiber and align the connector key to the notch on inspection tip for proper alignment.

Run Test:

1. Focus the live fiber image on the screen using the P5000i's **Focus Control** knob. If dirty, clean the connector and reinspect.
2. If it appears clean, press the **Test** soft key.
3. If the test fails, clean the fiber end-face and re-run the inspection test. Repeat until it passes.
4. When the test passes the results for all zones will be shown in green.

You are now ready to connect to the fiber under test.



Figure 16: SC APC Patch Cable and Coupler

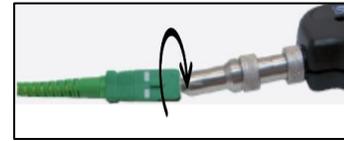


Figure 17: SC APC Patch Cable

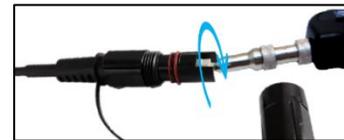


Figure 18: OptiTap Drop Cable



Figure 19: Live Fiber Image

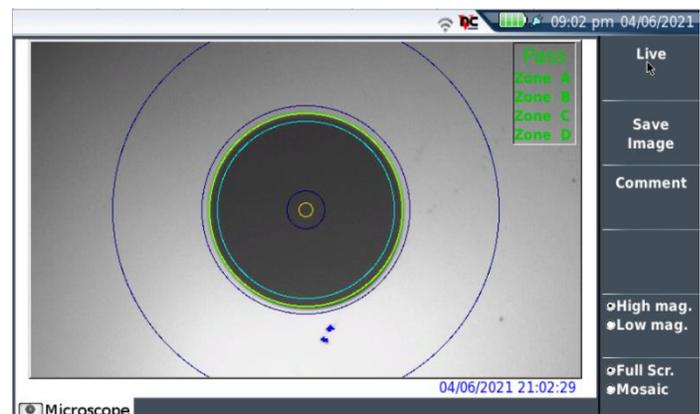


Figure 20: Passing Test