Quick Card

P5000i Fiber Microscope
PON Fiber Inspection with the ONX-580

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:

- ONX-580
- 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 side of the test set.

Figure 5: ONX-580 Side View

Setting up the ONX-580:

Figure 6: ONX-580 Front View

Figure 7: Fiber Tab

Figure 8: Fiber Scope Screen, Profiles

Figure 9: Tip Settings

1. Press the **Power button** to turn on the ONX-580.
2. Tap the **Fiber** tab to display icons.
3. Tap the **Fiber Scope** icon to display the Fiber Scope screen.
4. Press the **Profiles** function key.
5. Select **SM APC (IEC-61300-3-35)**
6. Press the **Options** function key.

   - 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.**
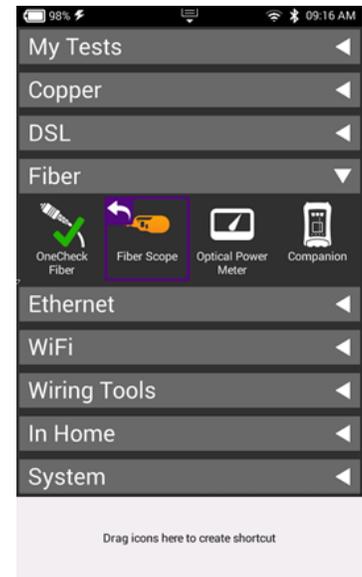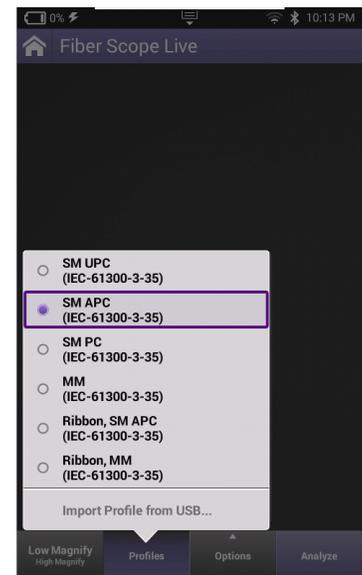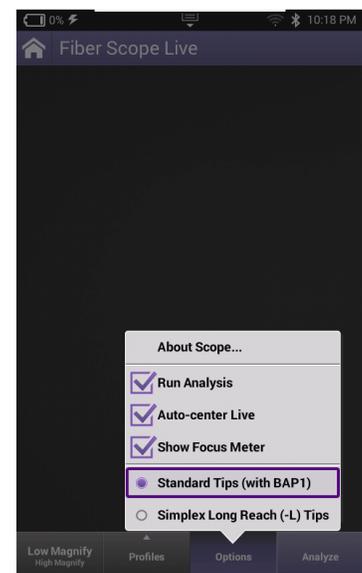
Inspect Bulkhead Connector:

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.

Figure 10: SC APC Bulkhead

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.

Figure 11: OptiTap Bulkhead

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 **Analyze** function key.

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

Figure 12: Live Fiber Image

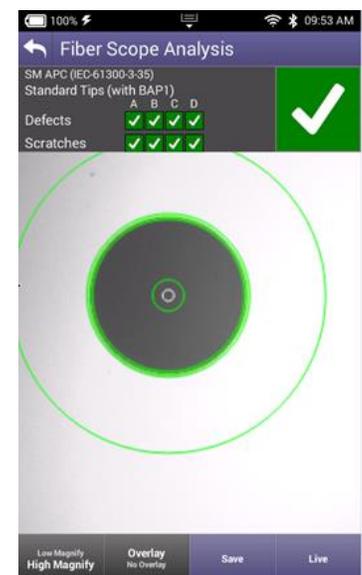6. When the test passes the display will be highlighted in green.

Figure 13: 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,
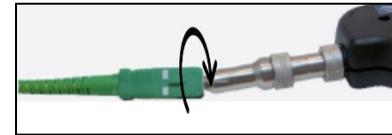
- Insert the patch cable into the 2.5mm APC Patch Cable inspection tip.
- Rotate fiber and align the connector key to the notch on inspection tip for proper alignment.

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 **Analyze** function key.

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

4. When the test passes the display will highlighted in green.

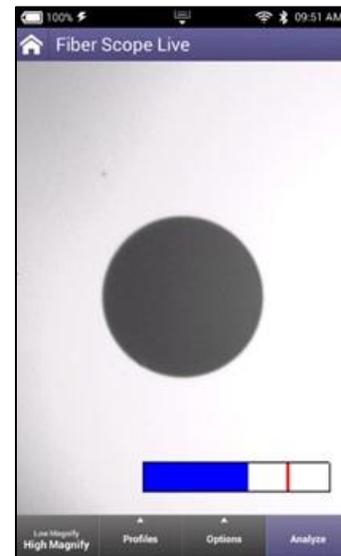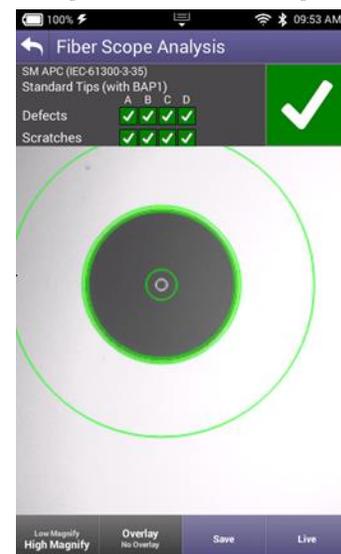You are now ready to connect to the fiber under test.

Figure 14: SC APC Patch Cable and Coupler

Figure 15: SC APC Patch Cable

Figure 16: OptiTap Drop Cable

Figure 17: Live Fiber Image

Figure 18: Passing Test