P-5000i Fiber Microscope
PON Fiber Inspection with the HST-3000

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:
- HST-3000
- 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)
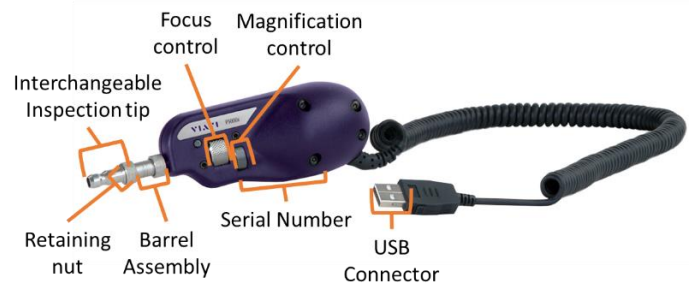- Fiber optic cleaning tools

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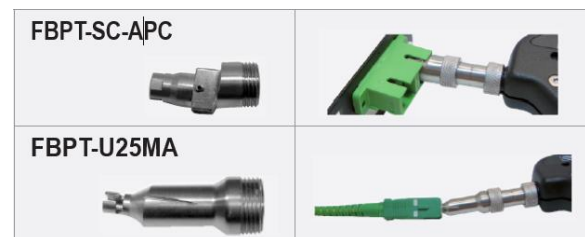
2. Connect the P5000i **USB Connector** to a **USB port** on the top of the test set.

Figure 1: P-5000i Fiber Inspection Microscope

Figure 2: SC-APC Inspection Tips and Application

Figure 3: SC-APC Optical Coupler

Figure 4: OptiTap Bulkhead Inspection Tip and Application

Figure 5: HST-3000 Top View

Setting up the HST-3000:

Figure 6: HST-3000 Front View

1. Press the **Power button** to turn on the HST-3000.
2. Press the right arrow key ⬨ until the highlighted function key shows **SCOPE**
3. Select **1 – Fiber Microscope** to display the P-5000i Fiber Microscope screen.

4. Press the **Configure** key to display Fiber Microscope Settings
5. Select **1 – Profile** to edit Profile settings
6. Select **2 – SM APC (IEC Table 4)**

7. Press the **Cancel** key twice to return to the **Fiber Microscope Settings** screen.
8. Select **2 – Tip** to edit Tip settings
   - For SC-APC Bulkhead Inspection, SC-APC Patch Cable Inspection, or OptiTap Drop Cable Inspection, select **1 – Standard Tips (with BAP1)**
   - For OptiTap Bulkhead Inspection, select **2 – Long Reach Tips.**
9. Press the **Home** key twice to return to the Fiber Microscope screen.
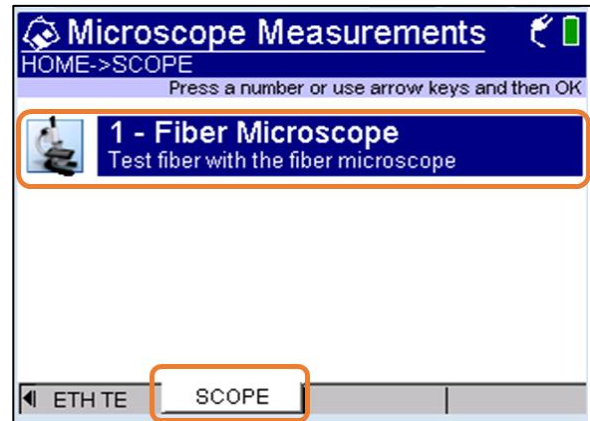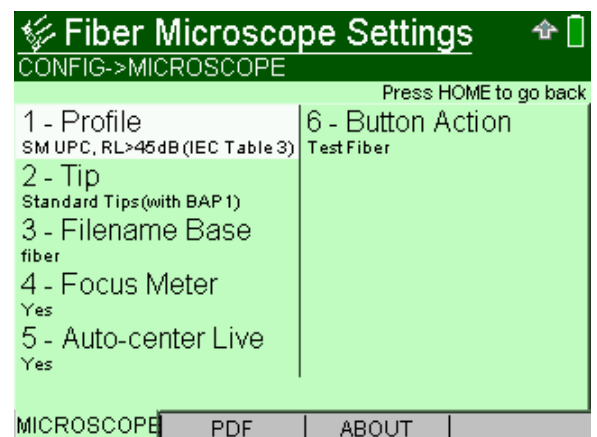

Figure 7: Microscope Screen
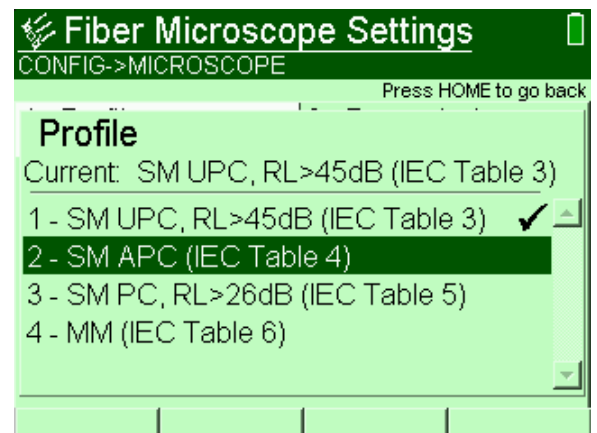

Figure 8: Fiber Microscope Settings
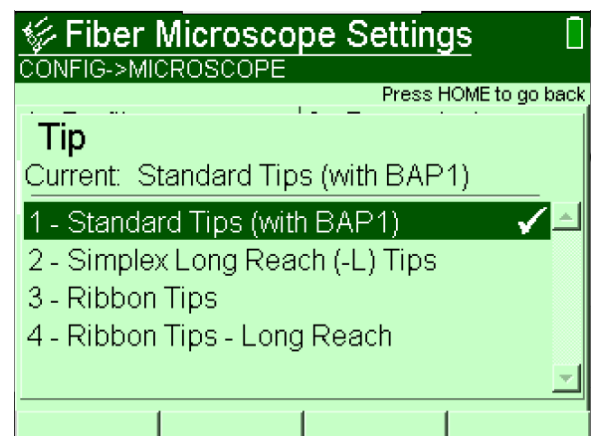

Figure 9: Profile Selections

Figure 10: Tip Settings

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 11: 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 12: 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.
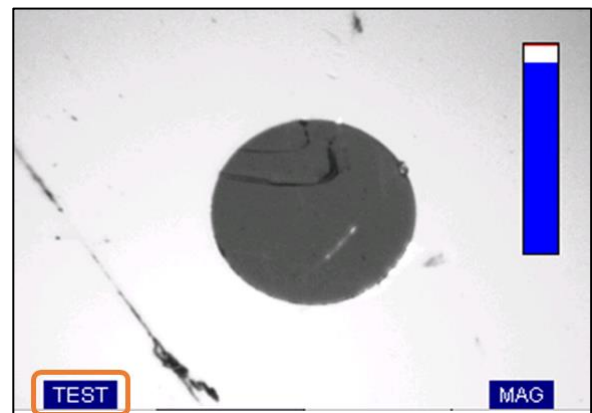
Figure 13: Live Fiber Image

4. If it appears clean, press the **TEST** function 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 display will be highlighted in green.

Figure 14: Passing Test

7. Press the **ZONES** function key to verify all three zones are green and pass.
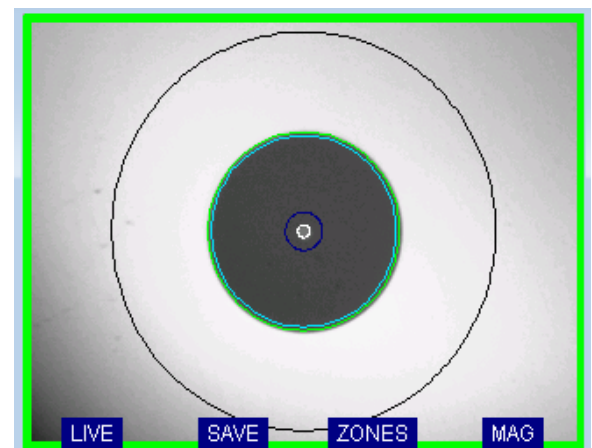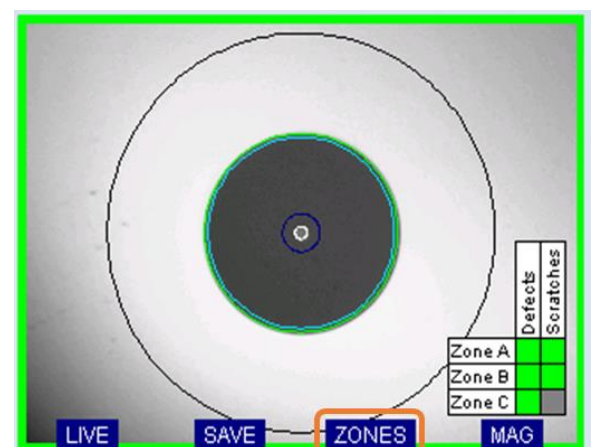

Figure 15: Zones

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.

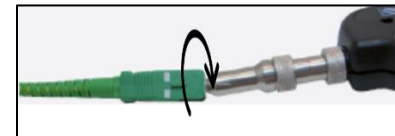*Figure 16: SC APC Patch Cable and Coupler*

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.

Figure 17: SC APC Patch Cable

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.

Figure 18: OptiTap Drop Cable

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** function key.

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

Figure 19: Live Fiber Image

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

5. Press the **ZONES** function key to verify all three zones are green and pass. You are now ready to connect to the fiber under test.
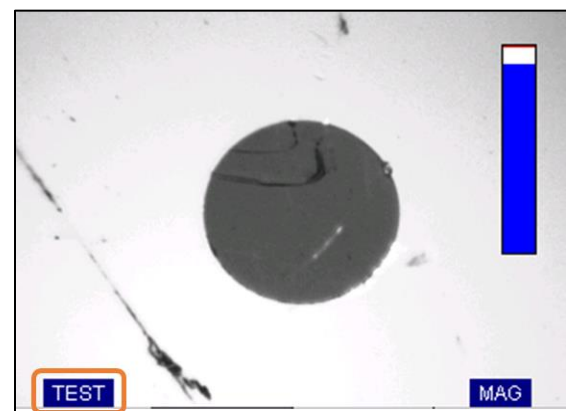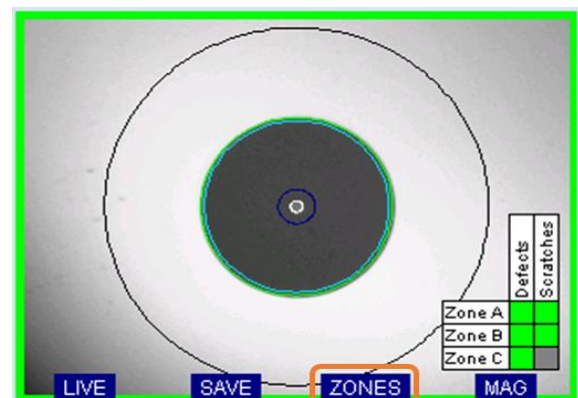

Figure 20: Passing Test