MAY91 Fiber Microscope Probe Manual

Please read the user guide carefully before operating MAY91 Fiber Microscope Probe and take care for the follow points.

Alert:

● Any improper disassembling may cause the electric shock and damage on the personal safety. Please do not unpack any units without authorization unless the approval and guidance from related official personnel.

● Please do not look directly to the fiber end face which gets the laser signal delivery. Any damage caused will be out of duty to the product.

● Please note any product changes will subject to the company policies without notification.

Contents

Overview:

MAY91 Fiber Microscope Probe provides network personnel with high performance fiber inspection solutions. The whole set includes a digital probe MAY91 (standard accessory), and Windows tablet (optional accessory) with the capability to analyse/report/inspect/record/file the data of fiber end face from assorted connectors.

Specifically, MAY91 probe can not only detect ferrule end of patch cord, but also the fiber end face mounted into the bulkhead adapters with PC/APC end. Connectors even installed at the bottom of patch panels or inside hardware devices can be also easily accessed and inspected without any removal or disassembling of equipment with specific or customized tips.

Compared with the traditional probe, its unique one-way focus control in the MAY91 probe greatly simplifies the work. No matter left or right hand, forward or reverse operation, it can instantly have the end face inspected and image displayed, save more time for efficiency.

The windows tablet is a pre-install analyse software which have pass/fail function under IEC/IPC standards, the tablet can be carried along the wrist whenever and wherever for the greatest convenience of image data review and file. New functions like notification sounds, standard output connector etc., are added on for the upgrade while traditional features are hold unchanged as capture/record/store etc., to further handy the operation.

Application:
- End face inspection in patch cord / bulkhead-mounted equipment / module transceiver etc.
- End face inspection of assorted connectors PC/APC, MPO/MTP/MTRJ etc.
- End face inspection of connectors at different angles for the bottom of patch panels or hard-to-access places.
- Work with PC/OTDR or some other smart devices for recording or analyzing etc.

Features:
- One-way focus control for instant detection, have image in seconds.
- 35 assorted tips available to test or customize.
- 95% tips interchangeability in-between probes.
- 95% Image centralization on screen.
- Precise resolution (<1μm), no shadow or dark edge around screen.
- High definition image and video, no noise or flash.
- Strong performance under stress operation.

Specification:

Magnification/Resolution	400× / 0.75μm (Based on benchmark 8 Inch monitor)
Field of View	0.31mm×0.25mm
Tips Connection	Cone contact
Focus way / Range	One-way / <3mm
Output　Type	USB
Light Source/ Life time	Coaxial blue LED / 100,000 hrs above
Size/Weight（mm/kg）	180*41*36mm / 0.164kg
Image Sensor	1/3 Inch CMOS
Temperature	-20~50℃
Humidity	Maximum to 90% relative humidity, no condenses

Magnification:

MAY91 Probe initially enlarges the fiber end face through optical amplification. Due to the complicated and precise structure, the magnification is decided firstly by the multiple of objective inside the probe, and varies afterwards with its corresponding output monitor. In other words, display is the ultimate factor responsible for the magnification. The bigger the size of display, the larger of magnification a whole set microscope hold.

General size of monitors we offer include two types of 2.5 and 8 inch for handheld on-site inspection, 10.4 inch for bench-top labs or factory inspection, or wifi one for laptop inspection.

The table below indicates different magnification with respect to corresponding display.

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Size	2.7	3.5	8	10.4
Enlarged Diameter (mm)	21.0	24.0	51.0	362.5
Magnification	168	192	408	500

Note:
- All the image size are based on fiber end face with diameter of 125um and measured directly;
- The magnification is derived from actual image size divided by diameter length of 125um.

Field of View:
The field for ferrule detected can reach up to 0.31*0.25mm, which includes the end face

with 125um diameter in central and 300um area around. More fields can be viewed when adjusting the probe slightly.

Components:

Handle Body the handle houses CMOS camera, ray apparatus structure, optical routine system, coaxial lamp-house, focus control, video output and power supply system etc. USB through either explicit or embedded devices.

The inner structure of handle body is compact and complex that a fever may be caused for a long time work. This isn't the mechanical defect but an normal phenomena. Any action in disassembling of the probe without authorization will lose the service of troubleshooting.
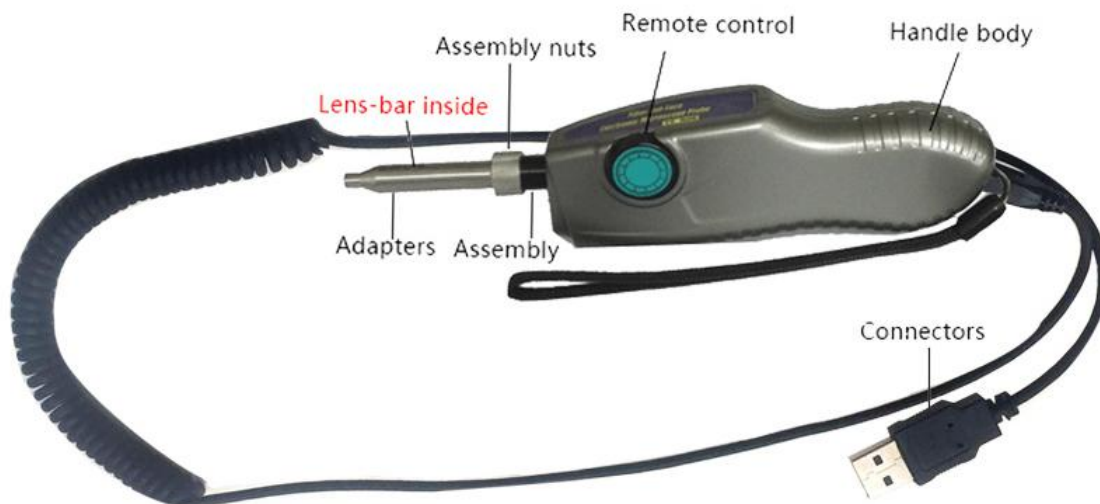
1) Handle: also named as probe, all the optical routines are concentrated inside the handle, responsible for the fiber imaging.
2) Focus control: control for definition adjust of the image.
3) Assembly nut: lock the tips to keep alignment with the probe.
4) Assembly: central kits to imaging alignment.
5) Lens-bar: central kits to tips usage and imaging.
6) Cable: wire with USB output to connect the terminal, PC/Tablet/OTDR etc.

Tips Selection:

Wide ranges of adapter tips are available to reach assorted connectors inspection, from common use of 2.5PC-M, LC-PC-F, SC-PC-F, FC-PC-F to specific ones as E2000-PC-F, MPO-APC-F, LEMO-PC-F etc., or angle tips for bulkhead connector, patch cord of PC/APC et., hard-to-access testing points.
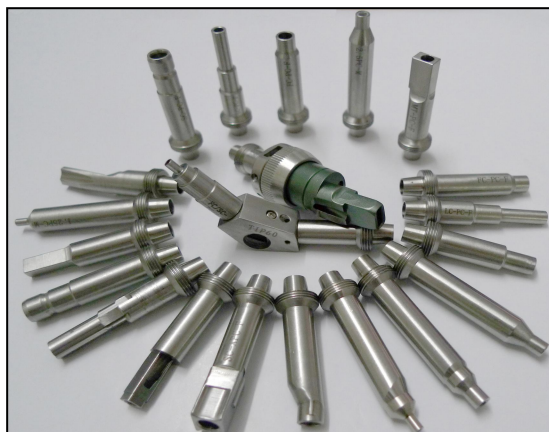
Tips Appendix: optional tips can be ordered individually to augment the existing standard tips

Tips Installation and Switch:

Screw the nuts

Types of adapters

Adapters installation

Installation: Choose an appropriate tip with regard to the connector inspection. Loose the nut and put the tip in the front of probe along with the lens-bar. Screw the nut and lock the tip.

Switch: Loose the nut firstly to remove the tip and switch with an alternative one.

Please note:
- Try to avoid the friction incurred to the lens-bar for badly damage on imaging.
- Loose the nut completely if the tip is attached too tightly.
- Screw the nut completely to lock the tip.
- Lens-bar may be contaminated after a long-time work, use the cotton or swap to clean the surface as below.

Lens-bar   Assembly nut

Free Software on PC Installation:
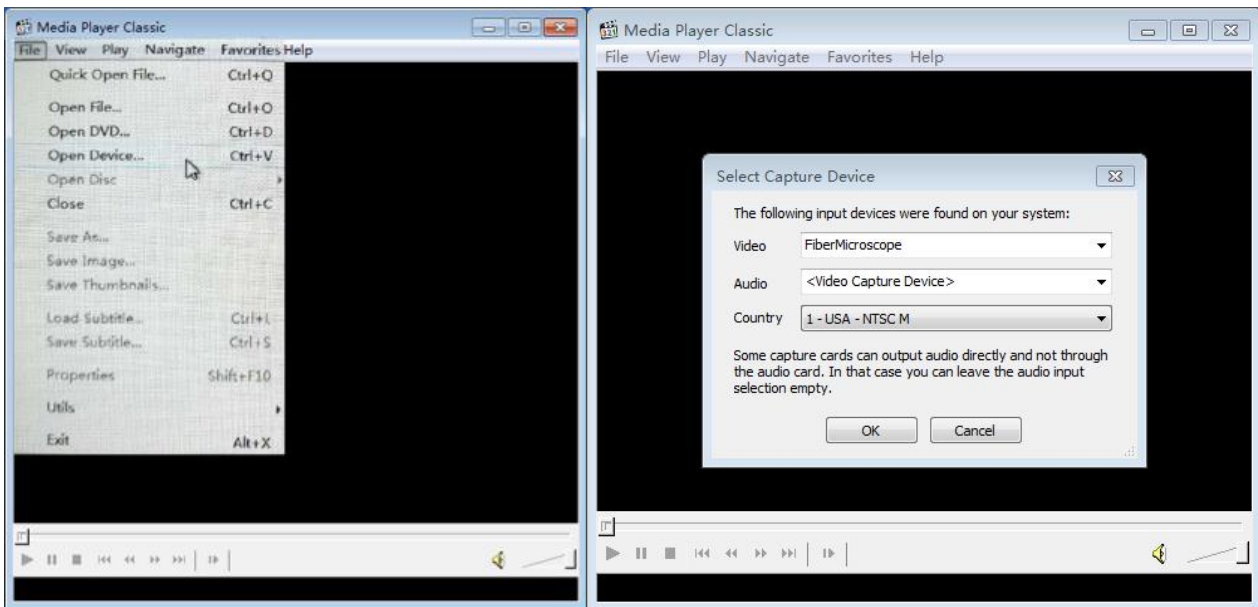
Step 1. Connect MAY91 probe to PC display and install the adapter tip that needs to be tested.

Step 2. Once the blue light turns on, it means the MAY91 probe regular works.

Step 3. Double-click "mplayerc.exe", if you want to collect images or dynamic documents, click "File" – Open File (Ctrl+V).

Step 4. Choose "FiberMicroscope" as video option. No need to change audio option.

Step 5. Click "OK" to complete the installation. You can observe the status of the inspection.

Analysis software (Optional):
Analysis software is custormized for MAY91 probe. It works on windows PC or tablet. For more about the software operation, please see the user manual of analysis software.
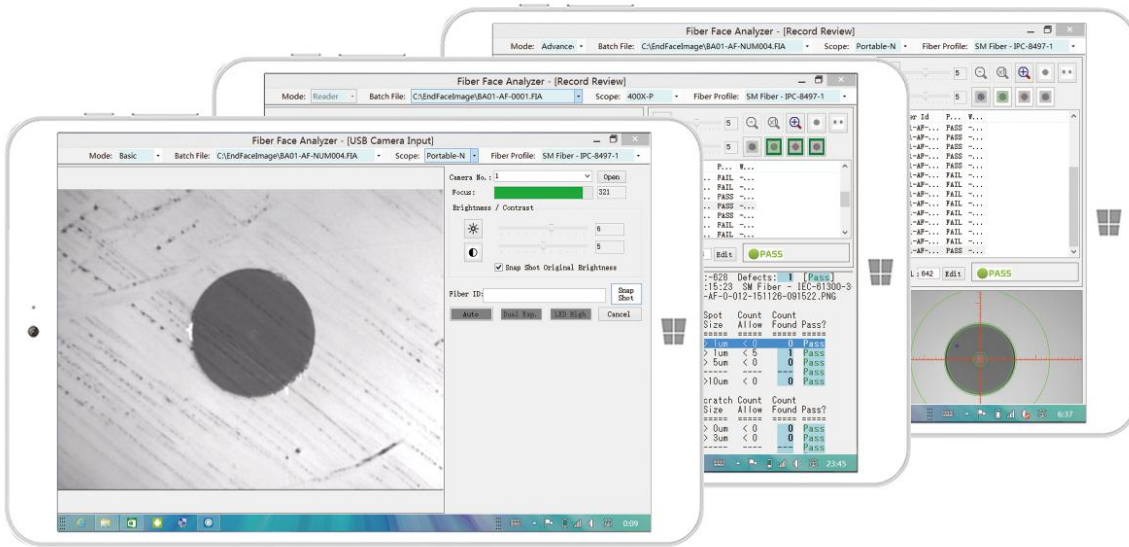
Analysis software is designed to have dusts, particles and scratches on fiber end face inspected, analyzed, edited and reported. It offers the customers a quantitative and accurate measurement of the fiber end face contamination on the computer.

The software simplifies the interface operation as well as supplements new functions of software, as examples of "EXCEL format output" and "Image analysis before and post comparison" new operation, aiming to improve the customer experience and practical operation. Meanwhile, the software keeps its original characteristics of precise and stable analysis functions, continuously offering the customer more effective and reliable way for fiber contamination evaluation.

Application of Analysis Software:
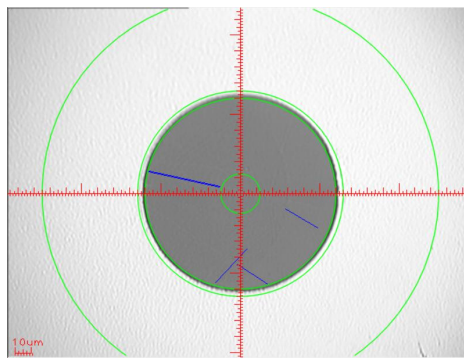
- Build up quantitative and objective fiber contamination measurement
- Quick and simple check, reliable and consistent test results to avoid subjective errors
- Product verification for laboratory research and fiber manufacturers
- Report record and archive for long-term maintenance

Functional Advantages of Analysis Software:

- Analysis support in simple & multiple-mode fibers, 0.3um precision, 98% consistency
- Quick check and analysis for no more than 2 seconds per end face
- IPC-8497-1/IEC-61300-3-35 etc. defined fiber profiles or customize for verification
- Analysis support in real-time inspection/video/image three channels
- Analysis support in 200/400 magnification for both bench and portable microscopes
- Documentation for fiber batch/testing companies/staffs etc. information
- PDF/Excel output report
- Image editable: Zoom in/out, Brightness contrast etc.