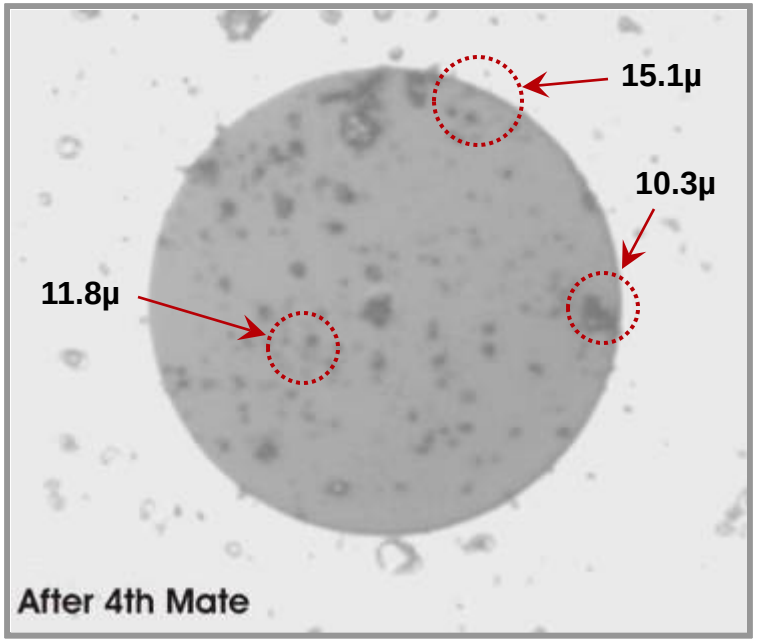
JDSU

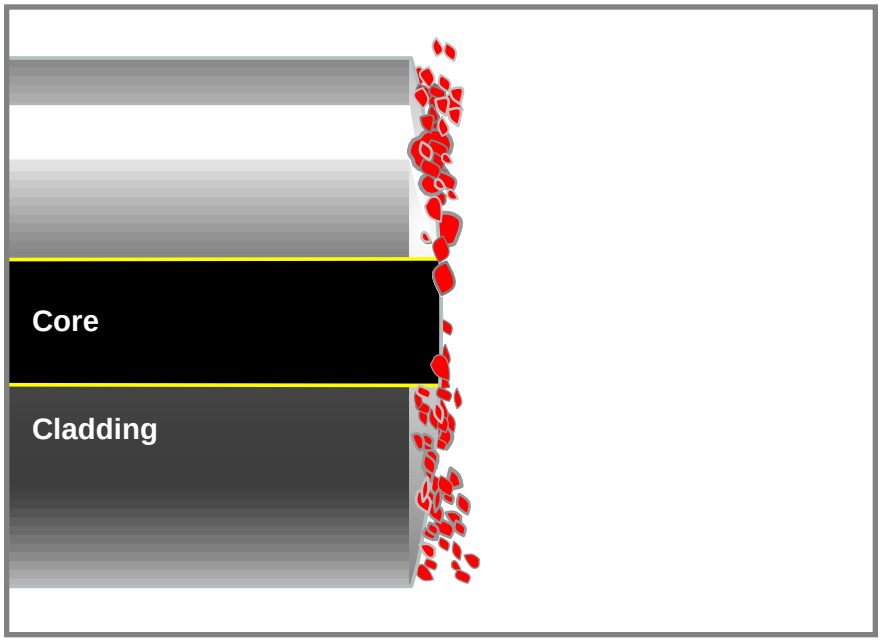
You know us because you depend on our technology every day.

From the Lab to the Field…

Using the Right Optical Test Tool for the Job

Illustration of Particle Migration





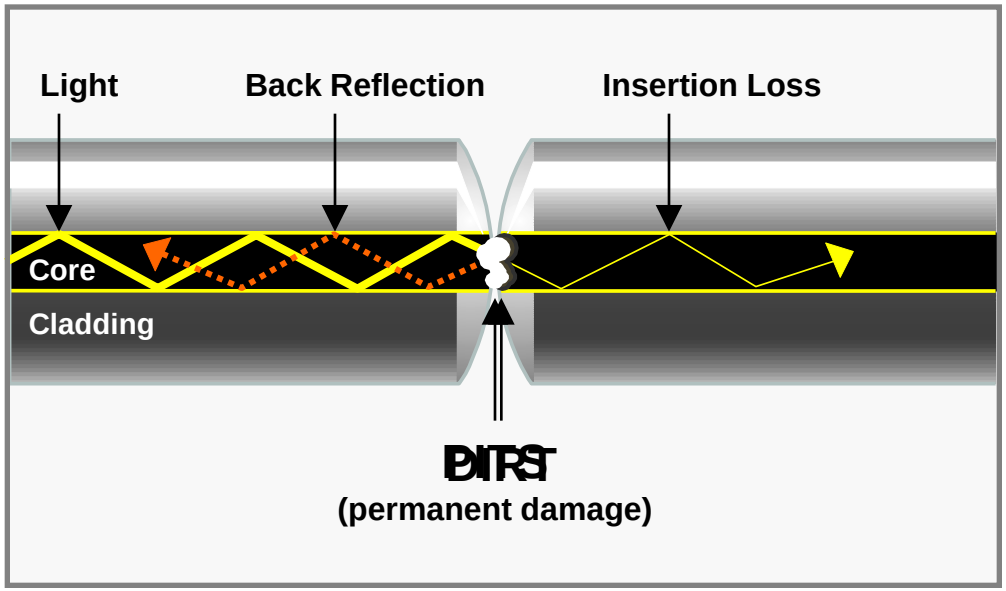
Actual fiber end face images of particle migration

- Each time the connectors are mated, particles around the core are displaced, causing them to migrate and spread across the fiber surface.
- Particles larger than 5µ usually explode and multiply upon mating.
- Large particles can create barriers (“air gaps”) that prevent physical contact.
- Particles less than 5µ tend to embed into the fiber surface, creating pits and chips.

Dirt Damages Fiber!

Mating dirty connectors embeds the debris into the fiber.

Mating force of 2.2 lb over 200um diameter gives 45,000 psi.



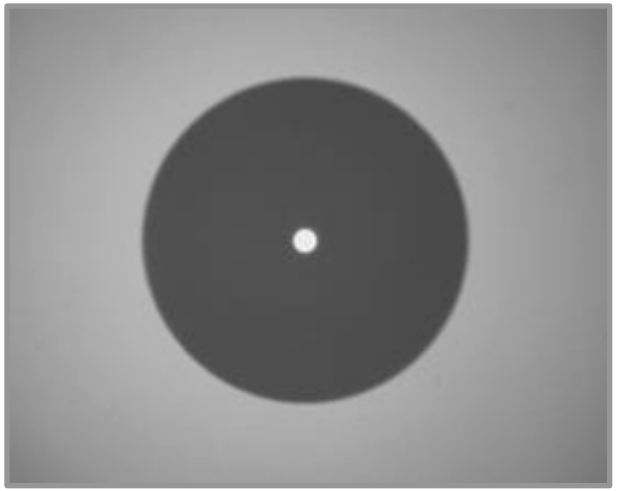
- Once embedded debris is removed, **pits and chips remain in the fiber.**
- These pits can also prevent transmission of light, causing **back reflection, insertion loss and damage** to other network components.

Most connectors are not inspected until the problem is detected… AFTER permanent damage has already occurred.

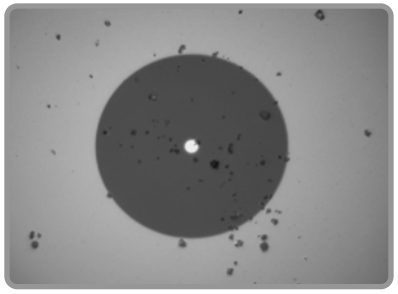
Types of Contamination

A fiber end face **should be free of any contamination or defects,** as shown below:

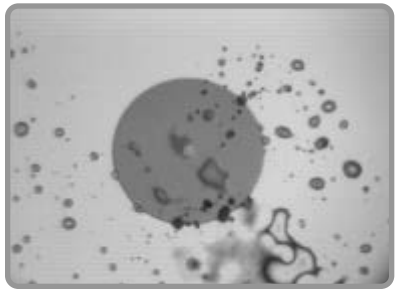
SINGLEMODE FIBER



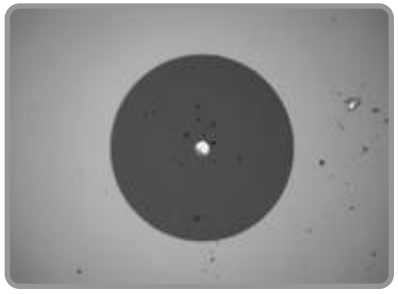
Common types of contamination and defects include the following:



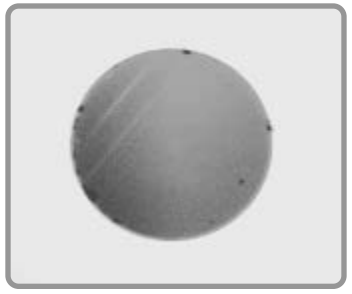
Dirt



Oil



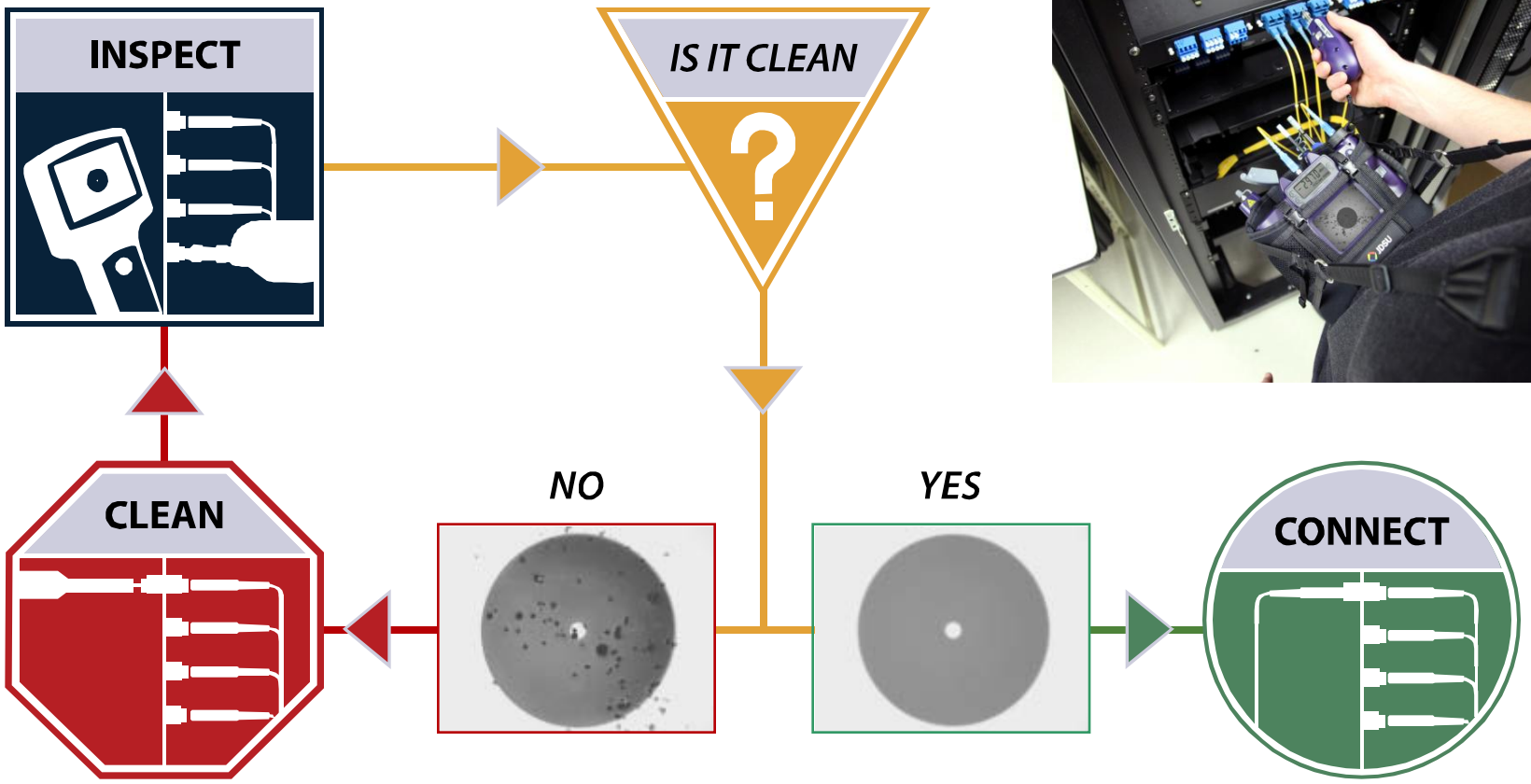
Pits & Chips



Scratches

Inspect Before You Connect

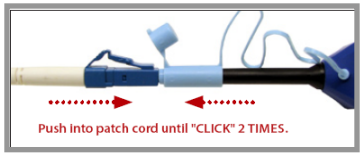
Follow this simple **“INSPECT BEFORE YOU CONNECT”** process to ensure fiber end faces are clean prior to mating connectors.



Fiber Inspection Tools

- **Analog Probes and Displays**
- **Digital Probes with Pass/Fail analysis to IEC standards**
- **Eyeball scopes**
- **Integrated Power Meter or Patch Cord viewer**

Cleaning Tools & Accessories



- IBC™ Cleaning Tools
  - Cleans both bulkheads and patch cords
  - Easy pushing motion initiated cleaning
  - 2.5mm and LC versions
  - 500+ cleanings per unit

- Reel Cleaners
  - Ideal for patch cord cleaning
  - 400+ cleanings per unit

- FCC2 Solvent and Wipes
  - Removes stubborn particles that are bonded to connectors.
  - Used for Wet-to-dry fiber cleaning
  - Safe for travel and shipping
  - Non-flamable
  - 400+ cleanings per canister

Portable Optical Power Meter

- Industry's first auto-zeroing function provides outstanding accuracy with no manual zeroing necessary. The OLP-55 offers the highest accuracy on the market.
- Auto-lambda function provides automatic wavelength detection to speed up testing and avoid instrument setting failures.
- TWINtest and new TRIPLEtest allows for simultaneous testing at multiple wavelengths.
- Reflection trap reduces multiple reflections between adapter and photo diode for increased accuracy (adapter BN 2014/00.xx).
- FTTx ready
- Visual fault locator option at 635 nm
  - Economical option for fiber tracing, routing, and continuity checking
  - Universal push-pull adapter 2.5 mm (1.25 mm adapter optional)
- Host USB data storage option
  - Unlimited result storage capacity via USB memory sticks
  - Easy and quick data transfer of stored measurement results

Portable Light Source

- Laser source with up to four wavelengths offers flexibility in singlemode and multimode applications.
- Output level adjustment ensures correct power for individual applications.
- Communication with JDSU power meters for auto-lambda, TWINtest, and TRIPLEtest functions.
- High output level stability due to built-in optical isolator and optical power control.
- FTTx ready
- Visual fault locator option at 635 nm
  - Economical option for fiber tracing, routing, and continuity checking
  - Universal push-pull adapter 2.5 mm (1.25 mm adapter optional)

Handheld Optical Attenuator

- Attenuation range 2 – 60 dB
- Absolute and relative attenuation setting
- FTTx ready
- Automatic stabilization of the output power even if the launched input fluctuates (level controller mode)
- Direct setting of the output power (level controller mode)
- Up and down arrow key to precise and fast manual setting
- Remote controllable via USB

Pocket Sized Tools

Light Source

Power Meter

Visual Fault Locator

- VFLs provide a visible red light source useful for identifying fiber locations, detecting faults due to bending or poor connections, and to confirming continuity.

Handheld Optical Test Platforms

Handheld solution designed for portability

- One-Slot Handheld Modular Platform for dedicated Fiber Test Applications:
  - OTDR (singlemode, multimode or combined)
  - FiberComplete (OTDR, IL, ORL)
  - CWDM Analyzer
  - PON Power Meter
  - Analysis Inspection Probe

Widescreen multi-application solution

- Two-Slot Handheld Modular Platform for multi applications
- All-in-one FTTx platform
  - Fiber and Copper/xDSL Test Applications
  - Triple Play Services Testing
- Handle up to 2 fiber optics modules at the same time:
  - OTDR + COSA
  - OTDR + PON Power Meter
  - Analysis Inspection Probe

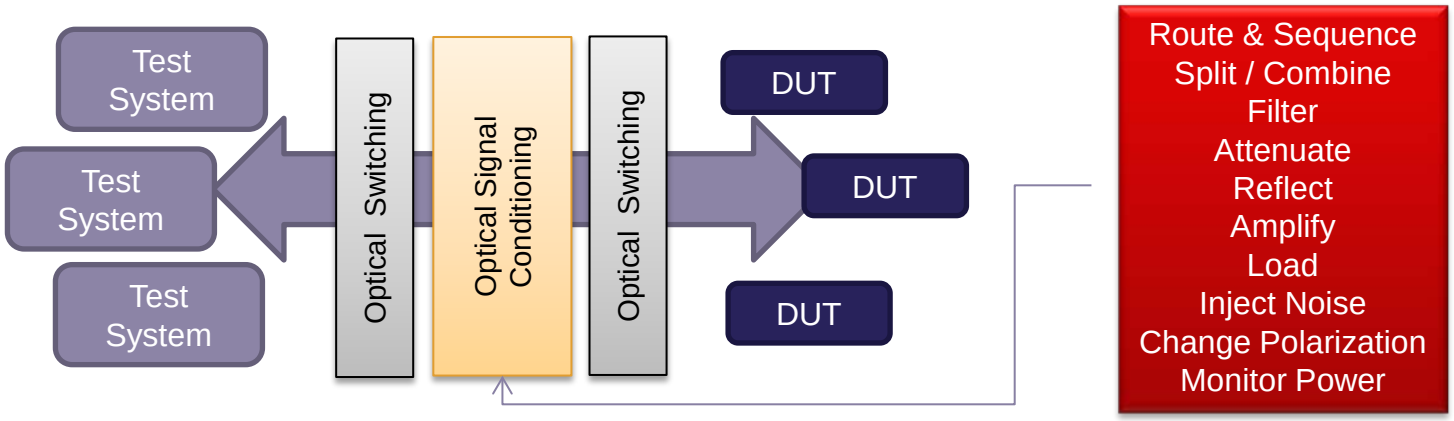
OTDR’s, OSA’s and Transmission Testing Units

Automated Photonic Tools

Get the **RIGHT TEST SIGNAL**
To the **RIGHT D.U.T.**
With the **RIGHT POWER**
With the **RIGHT QUALITY**
At the **RIGHT TIME**

…FAST

- Class of instrument which manages, conditions, tunes or routes the optical signal in an Automated Test Equipment environment
  - Deliver the right **signal**, at the right **power**, with the right **impairments** and the right **time** to the Device Under Test
- Decrease test time, reduce operator handling and increase capital utilization



Panel Mount or Remote Head

- **FLEXIBLE CONFIGURATION**:
  - Panel mount or remote head configuration
- **CHOICE OF DENSITY:**
  - Single, Dual or Quad channel configurations available
- **FAST:**
  - 250 kHz sampling rate for high speed applications
- **IMPROVED PERFORMANCE:**
  - Significant improvement in accuracy and linearity
- **PRICED TO SUIT APPLICATION NEEDS:**
  - 3 performance grades to choose from

Automated Sources, Signal Conditioning & Measurement Modules

Amplifiers

Attenuator

FP Lasers

Broadband Sources

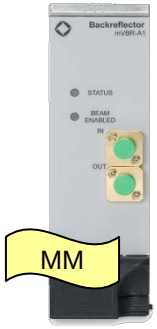
LED

Tunable Laser

Optical Power Meter

Tunable Filter

Backreflector

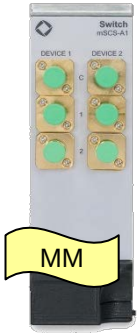


Polarization Controller

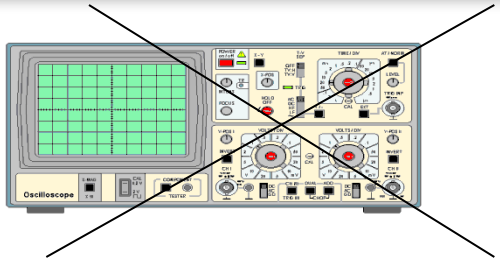
Passive Utility

Large Count Switch`

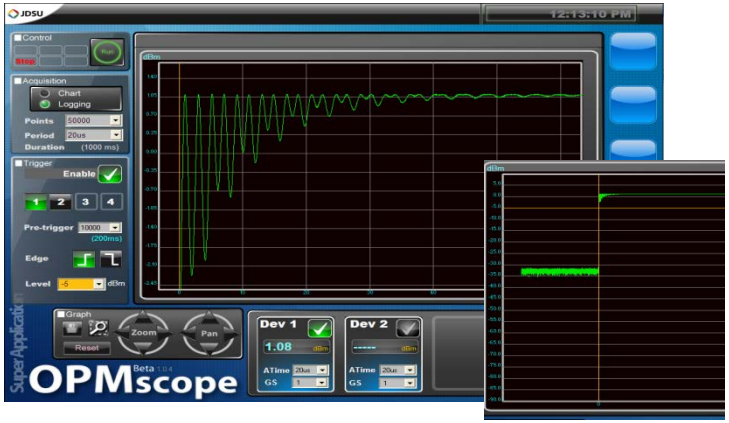
Small Count Switch

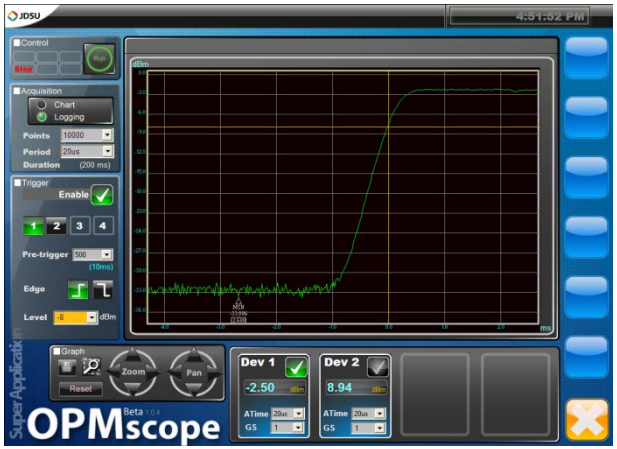


High Speed Optical Signal Measurements

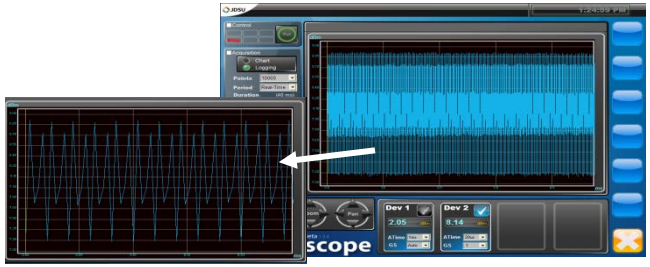


No more Digital Sampling Scopes & O-E converters: make high speed optical signal measurements in the optical domain using MOPM-B & OPMscope





Sample at 4µs in Realtime mode or with 20µs averaging applied to capture transients & sinusoids



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Thank You!