

## **VS300 Series Quick Reference Guide**

The VS 300 is a complete video microscope system in a handheld and directly viewed package. The VS 300 view safe microscope removes concerns for eye safety while inspecting optical fiber connectors. The design of this video microscope eliminates the optical path to the eye by utilizing a miniature camera and a state-of-the-art microdisplay that achieves unparalleled clarity and resolution.

Magnification of the VS 300 inspection scope is equivalent to 400X (23-degree field of view comparable to an 8" monitor viewed at a distance of 20") and provides 600X when images are displayed on a 12" monitor connected to the VS 300. The VS 300 video microscope uses thread-on adapter caps and has an energy saving automatic shutoff.

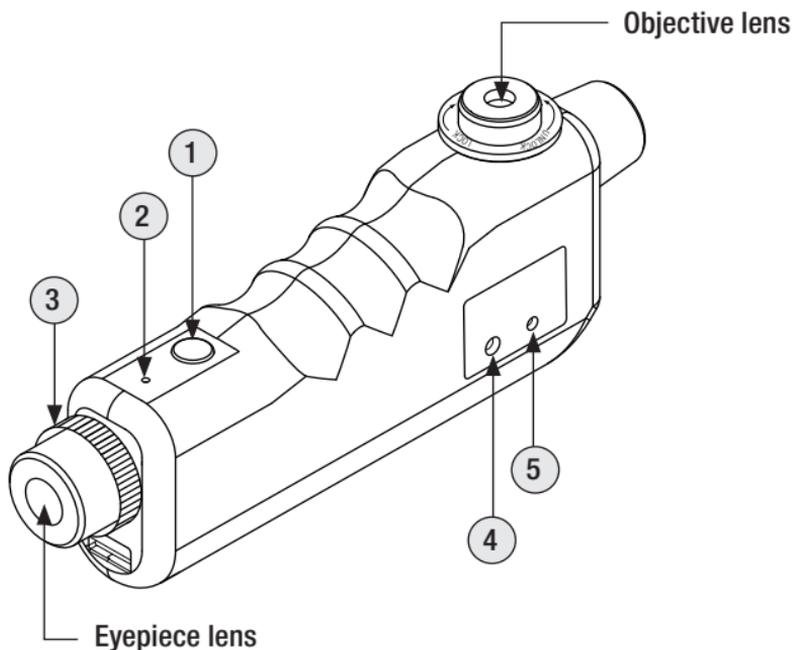
The VS 300 is supplied with a 2.5mm Universal adapter cap and neck strap. For greatest inspection flexibility additional adapter cap styles are available from Noyes. For a list of available adapter caps contact Noyes, or visit our web at **[www.AFLtele.com/go/Noyes](http://www.AFLtele.com/go/Noyes)**.

Optical ports and connector end faces must be kept free from dirt or other contaminants to ensure accurate measurements and operation. For cleaning connector end faces on test jumpers and in fiber frames or adapters, use optical quality cleaning fluid such as AFL FCC2 connector cleaning fluid and AFL CCT molded cleaning tips. For cleaning the lenses and adapter caps, use lint-free optical cleaning wipes such as AFL FiberWipes and optical quality cleaning fluid such as AFL FCC2 connector cleaning fluid (or IPA - reagent grade isopropyl alcohol 99% or better).

Visit our web at **[www.AFLtele.com/go/Clean](http://www.AFLtele.com/go/Clean)** for more information.

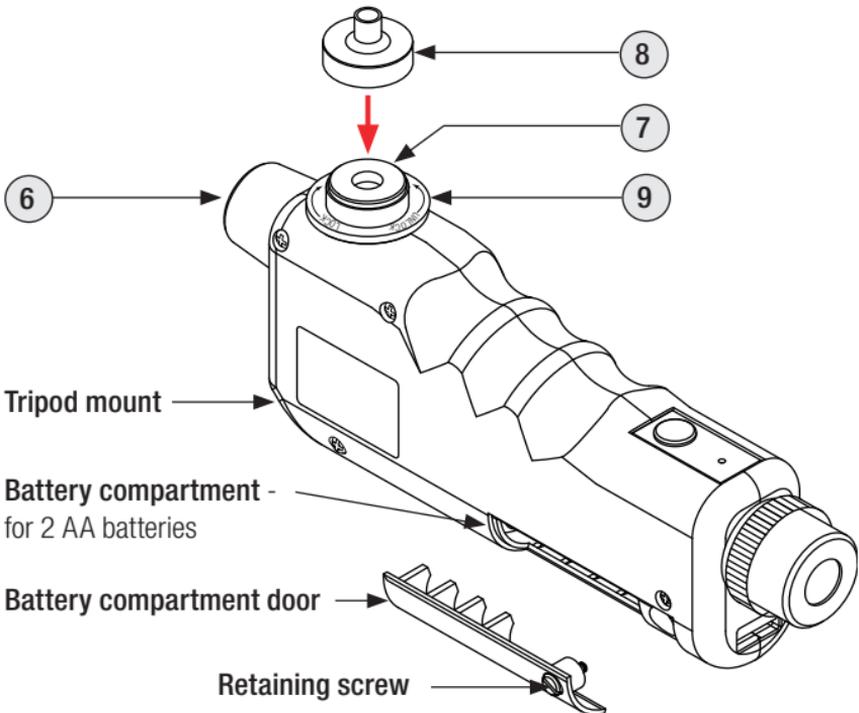
# VS 300 Features

#	Feature	Description
1	Power button	Pressing this button provides operation for approximately 100 seconds. To conserve battery life, an automatic shutoff will occur in 100 seconds.
2	Low battery indicator	When this indicator is on, two AA batteries require replacement.
3	Eyepiece with diopter adjust	Used to adjust the display focus to the user's eye.
4	AC adapter port	This is an interface for the AC power adapter, which provides continuous operation.
5	NTSC video out port	This port provides connection to an external video monitor or to a PC.



# VS 300 Features

#	Feature	Description
6	Focus knob	Used to focus fiber-end images on the camera.
7	Fiber optic inspection port (adapter cap mount)	This port (adapter cap mount) accepts Noyes thread-on adapter caps.
8	Adapter cap	VS 300 inspection port must be equipped with an adapter cap. Caps for different connector styles are available from Noyes.
9	Locking ring	Used for image centering or ferrule panning.



# Inspecting Connectors

## Adjusting Diopter

Prior to inspecting fiber optic connectors, you need to perform a diopter adjustment to provide proper viewing of the display for your vision. This is accomplished by observing the display with no fiber in the inspection port.

**Note:** This adjustment needs to be performed once unless your vision changes over time.

1. Turn on the VS 300 inspection scope.
2. Slowly turn the eyepiece clockwise/counterclockwise until edges of the display becomes clear, sharp lines and pixels become visible.

This adjustment provides optimum focus of the display for your vision.

## Inspecting Connectors

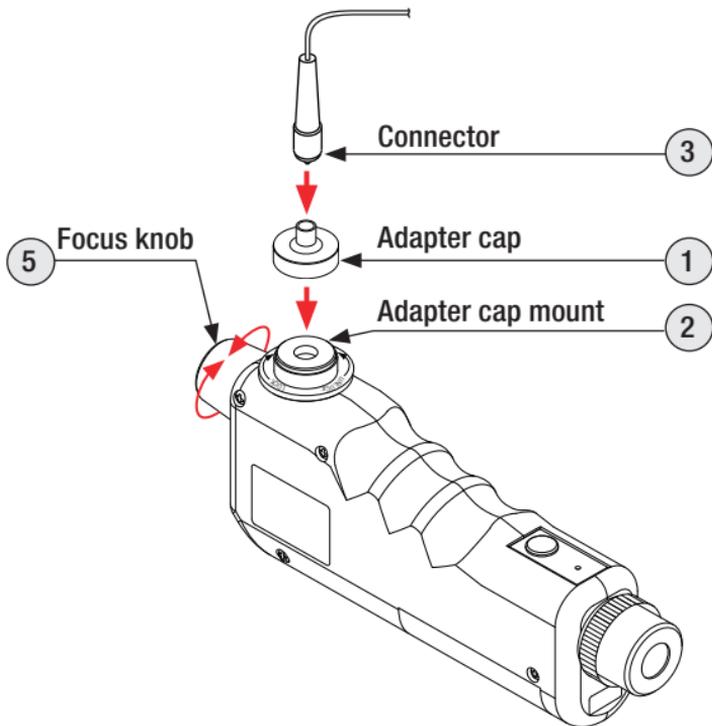
The VS 300 offers 3 methods of inspecting fiber optic connectors:

- Viewing fiber-end images on the VS 300 display by looking directly into the eyepiece. This method provides the 400X magnification (23-degree field of view comparable to an 8" monitor viewed at a distance of 20").
- Viewing fiber-end images on the external video monitor connected to the VS 300. This method provides the 600X magnification on a 12" monitor and requires a video cable and external video monitor.
- Transferring fiber-end images to a PC for viewing, saving, and printing. This method provides the 600X magnification on a 12" monitor and requires a video cable and computer that is equipped with an external or internal NTSC video digitizer.

# Inspecting Connectors

## To Inspect Connectors:

1. Select an adapter cap that matches the connector to be inspected.
2. Mount the selected adapter cap on the VS 300 inspection port.
3. Insert the cable to be inspected in the adapter cap.
4. Turn on the VS 300 either by pressing the power button or by connecting an AC adapter.
5. Slowly adjust the focus knob to focus the fiber-end image on the camera.

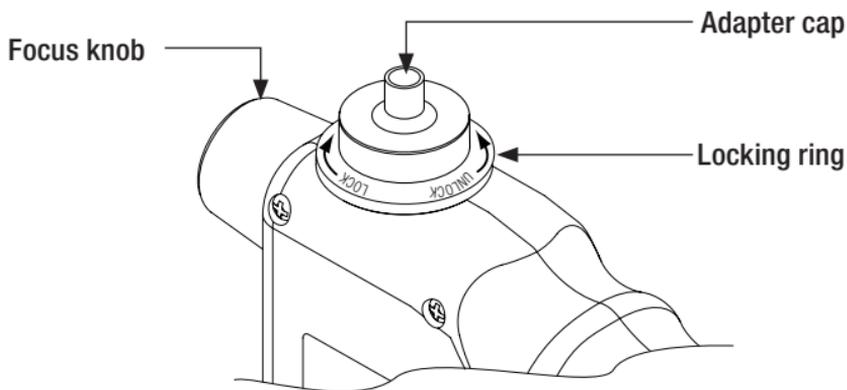


## Centering Images/Panning Ferrule

If the fiber-end image is not centered in the display, the adapter cap and adapter cap mount may be moved by hand to correct the problem.

1. Loosen the locking ring.
2. Apply left/right or front/back pressure on the adapter cap and the fiber-end image will move accordingly on the display (motion will be reversed when viewed on an external monitor).
3. When centering a fiber-end image or viewing ferrule is complete, tighten the locking ring.

**Note:** The VS 300 is a complex imaging system. Occasionally, an image may not appear after the instrument is powered up. To correct this problem, remove and reinstall the batteries.



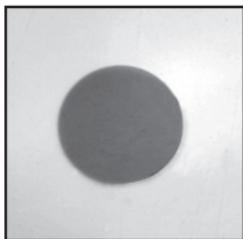
# Viewing Fiber Ends

## Transferring Images to a PC or Video Monitor

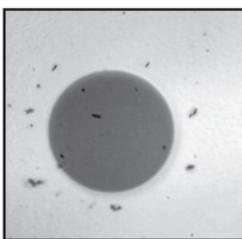
To inspect fiber optic connectors by viewing fiber-end images on the external video monitor or transfer images to a PC, perform the following steps:

1. Select the appropriate video cable.
2. Plug one end of the video cable into the video Out port on the VS 300.
3. Plug the other end into a video In port on the external video monitor or PC video capture device. Refer to the digitizer's manual for additional information on capturing, saving, and printing images.

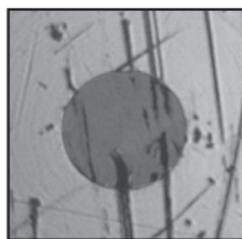
After focusing is complete, the magnified view will reveal the condition of the core and cladding. Below are the various examples of fiber ends ranging from excellent to very poor conditions.



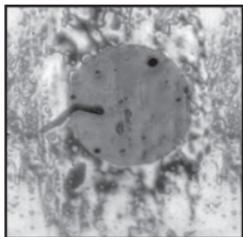
**Excellent condition**



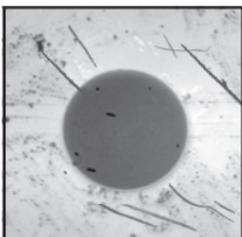
**Lint or dust**



**Severely scratched**



**Cleaning residue**



**Scratches and dirt**

## Safety Information

**WARNING!** Use only the specified AC adapter. Use of another type of AC adapter can damage the instrument and create the danger of fire and electrical shock.

**CAUTION!** To avoid serious eye injury, never look directly into the optical outputs of fiber optic network equipment, test equipment, patch cords, or test jumpers. Always assume that optical outputs are on.

**NOTICE!** The VS 300 inspection scope contains no user serviceable parts. Except for changing batteries and cleaning optical ports, these units must be returned to Noyes or authorized agents for repair and calibration.

**IMPORTANT!** Although the VS 300 inspection scope has been designed to operate in a wide range of environmental conditions, care should be taken when handling or storing any precision optical equipment such as the VS 300 inspection scope.

Please visit our web at [www.AFLtele.com/go/Noyes](http://www.AFLtele.com/go/Noyes) for updates and additional information.



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