



DE2600 MT Zoom Inspection Microscope

User's Guide

Overview:

Manufactured by Domaille Engineering, LLC the DE2600 MT Zoom Inspection Microscope is designed to provide a quick view of the entire MT end face and also zoom into each individual fiber. The DE2600 is an ideal tool for production area as well as laboratory inspection.

Features:

- Adjustable ring light illumination & blue LED co-axial illumination
- High Resolution CCD Video
- Receptacles for UPC, APC and Multi-Fiber Connectors

Initial Setup

After unpacking the DE2600 microscope and accessories, set up can be quickly achieved through a few simple connections. There are two main components to the microscope system, the microscope and monitor (or computer using a frame grabber).

The DE2600 operates from a 24 volt DC output power adapter, with switching transformer to accept AC voltage 90-240 volt, 50-60Hz for domestic or international use. This unit is used to power both the camera and the illumination of the microscope.

Currently we provide two different monitors types, in several different sizes. These monitors are high resolution monitors specifically chosen to provide the best solution for inspecting connector end-faces. We do not recommend any of the lower priced security type monitors as the resolution and image quality are not sufficient. A computer may also be used to capture images, contact Domaille Engineering for more information on digital camera options or video frame grabbers.

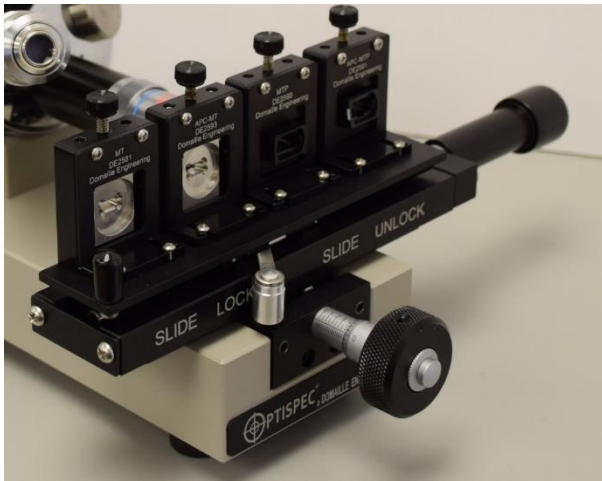
Operation

Initiate Power

Press "On/Off" button located on left side of DE2600.



Focusing



The Focus Adjustment Knob is conveniently located next to the stage. Turning the knob adjusts the contrast of the image with precision and control.

Clockwise = Focuses the Stage In

Counter-clockwise = Focuses the Stage Out

Lighting

Clockwise = Increases Illumination

Counter-Clockwise = Decreases Illumination

The illumination can be controlled using the Ring light intensity knob (yellow).

Note: The Ring light automatically turns on when Low (black) magnification lens is in position.

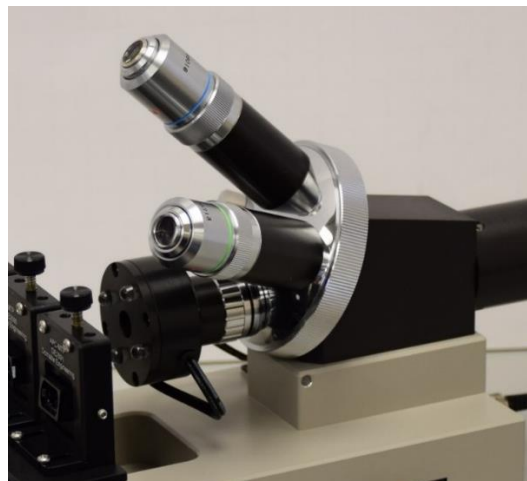
Co-axial intensity (blue) knob allows operator to control brightness when using Medium (green) objective or High (blue) magnification objective.

The Co-axial dimmer button is used to inspect the dark fiber cladding and highly reflective metal or ceramic ferrules.



Changing Magnifications

Each standard DE2600 model is equipped with three objective lenses: 5x, 10x, and a 20x. Mounted to a typical microscope turret or nosepiece allowing the operator to quickly change magnifications when inspecting connectors. Optional 3.3x and 40x objectives are also available.



DE2600 Stage Adjustments

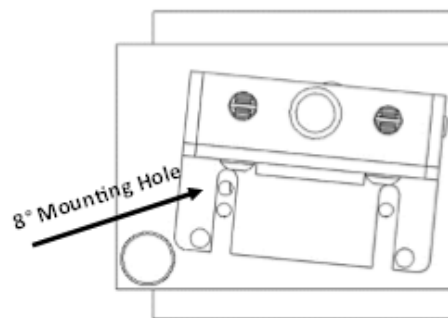
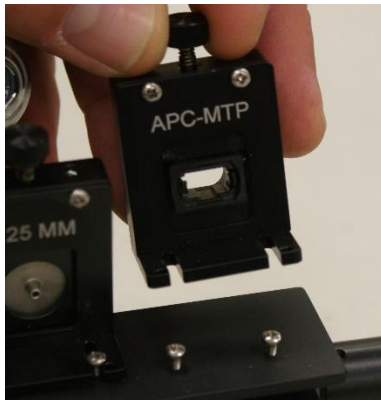
Centering on the DE2600 can be accomplished along 2 axis. The lever in the front of the stage acts as a lock, flipping the lever to the right hand side of the scope unlock the stage while flipping it to the left locks the stage.

Quickly change bracket positions by unlocking the stage and sliding the stage left or right. After locking the stage, use the knob on the right to accurately move the stage along the x-axis up to 0.5 inch. Each bracket has its own individual z-axis adjustment.

Changing Adapters on the DE2600

Adapters on the DE2600 stage can quickly be changed out by loosening the two screws. When aligning the adapter use the lower powered 5x objective.

Individual adapters can be moved back and forth to align them with others. This is used to “parfocal” the adapters to one another. Being parfocal minimizes the amount of focusing required when switching connector styles.



Setting APC Adapters on the DE2600

Use the two end positions on the DE2600 stage for setting up 2.5mm or 1.25mm adapters. A third mounting hole is provided to angle the bracket at 8°. Insert the connector key up on the left hand position and key down on the right hand position.

As with setting up any bracket it may be easier to use the low (5x) powered objective first. The angle can then be checked by inserting a connector and making sure the light is centered.

Preventive Maintenance

Caution:



The following instructions should only be performed by qualified service personnel.

Warning:



If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.



There is NO SERVICEABLE EQUIPMENT inside the DE2600. All equipment requiring repair should be sent back to the manufacturer or an authorized dealer.

Note: The DE2600 microscopes is relatively low maintenance. Basic care and precaution in using the instrument is required. Depending on cleanliness of the general working area as well as the age of the equipment, we would suggest at least semi-annual service and maintenance.

General Cleaning

Harsh solvents are not recommended on a regular basis. Typical safe de-greaser solvents can be used to clean old grease or grime from mechanical parts. Lens cleaner offered at most photo/camera supply stores is safe to use on the optics of our microscopes. Lens cleaner can be used with a soft lens tissue/ cloth to remove any soil, fingerprints, etc. from the front of the objectives.

Cleaning objective lenses

Oils, dirt, and finger prints may reduce the resolving power of the objective lenses. To ensure maximum levels of performance of the DE2600, wipe the lens of the objectives with a lint-free tissue and lens cleaner. Ordinary lens cleaner, available at most photography supply stores works the best. Perform this procedure weekly or as needed, depending on the type of environment inspection is being held.

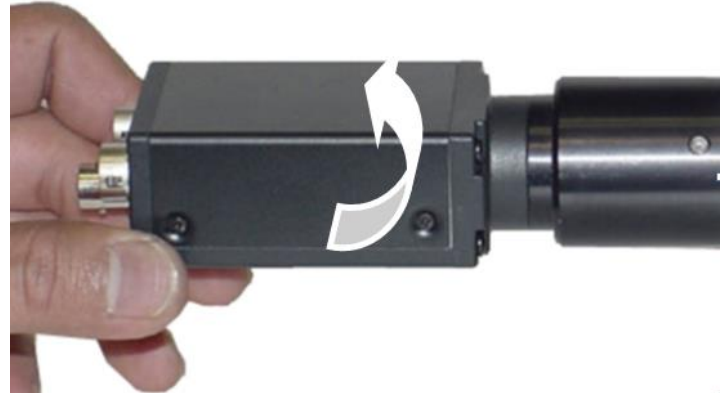


Cleaning the Camera

Use extreme caution when attempting to clean the camera. Any scratches, solvent, streaks or dirt left on the IR filter of the camera will show up in the field of view of the microscopes.

Before attempting to clean the IR filter on the camera, first confirm that the visible dirt on the monitor is actually on the camera. While viewing the suspected dirt on the video monitor, slowly rotate the camera on the microscope.

Due to the orientation of the camera if the dirt remains in the same spot and does not rotate with the camera, then it most likely is on the camera itself.



1. Carefully unscrew the camera from the camera mount.
2. Using clean, compressed air, blow across the surface of the IR filter.
3. Recheck the camera for dirt.
4. If the dirt is still there, use plastic tweezers, soft lens cloth and lens cleaner to carefully wipe the surface of the IR filter. Use a wiping spiral pattern from center of filter to edges to remove debris.
5. Re-check the camera for dirt.
6. Repeat this process until the camera is clean.



-Blow air across and not directly at the CCD chip of the camera.

-As a last resort, carefully try to wipe stubborn dirt from the IR filter in the front of the camera. Use Lens Cleaner and Lens Cloth obtainable from any retail camera store.



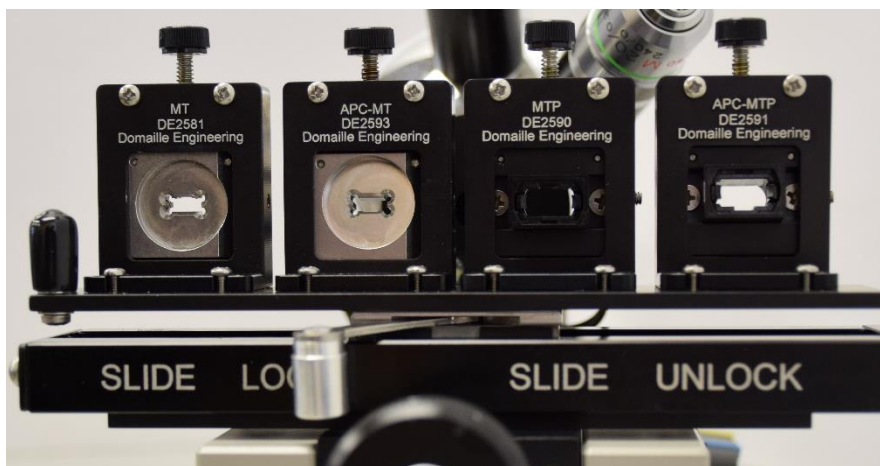
DE2600 Stage Maintenance

Periodically clean and lubricate the slide on the DE2600 to ensure reliable and accurate position of the test connectors.

1. Using a small Philips head screw driver, unscrew the two button head screws on the right side of the slide
2. Carefully slide the top of the stage assembly away from and off of the dovetail base.



3. Clean the dovetail and the slider using any common degreaser. Be sure to remove any debris such as connector caps that may have fallen into the slide.



4. Using a medium grease, lightly spread the grease over the dovetail and pads of the slider.
5. Re-fit the top half of the slide back on to its dovetail base and run it back and forth to further distribute the grease.
6. Replace the end of the slide.



Lubricating the focus micrometer

Occasional lubrication of the focus micrometer will ensure accurate and repeatable results.

1. Unscrew the focus knob and carefully remove the micrometer drum
2. Clean the micrometer drum with de-greaser

3. Lubricate the drum and threads with a light grease
4. Carefully replace the micrometer drum by screwing it back into the housing.



Determining actual magnification

The best method to calculate the exact “total” magnification used on the DE2600 is to measure the cladding on the video display. Take the measurement in millimeters and divide that amount by the 125 micron cladding. The result is the “total” optical and video magnification being used.

For example: taking a set of calipers, we measured the diameter of the ferrule viewed through DE2500 on a monitor to be approximately 53.49mm

Actual size on display/ cladding diameter in total magnification

$$53.49\text{mm} / .125\text{mm} = 427.92\text{X}$$



mm =

LIMITED WARRANTY

Domaille Engineering, LLC (“Domaille”) products are warranted by Domaille to be free from defects in workmanship and materials for a period of one-year from the original purchase date. This warranty covers defects in materials or workmanship only and does not include damage due to abuse, misuse, problems with electrical power, problems with compressed air supply, servicing not authorized by Domaille, failure to properly care for and maintain the products, or normal wear and tear. In addition, use of parts, components, or accessories not supplied or approved by Domaille will void this warranty.

Domaille’s sole liability arising from any use of its products and this warranty is limited to repair or, at Domaille's sole discretion, replacement of defective products or defective component parts thereof. To request warranty service, you must contact Domaille at 7100 Dresser Dr. N.E., Rochester, MN 55906, USA. If warranty service is required, Domaille will issue a Return Material Authorization Number (RMA#). You must ship the products back to Domaille in their original or equivalent packaging, pre-pay shipping charges, and insure the shipment or accept the risk of loss or damage during shipment. Along with your RMA # include your name, telephone number, return address, proof of original purchase date, and a description of the claimed defect. If the defect is covered by this limited warranty, Domaille will repair or replace (at its option) the product or the defective component part(s) and ship them freight prepaid to an address in the continental U.S. Shipments to locations outside of the U.S. that are not the original shipped to location will be made freight collect or will be shipped to the original shipped to location, at the discretion of Domaille.

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Company Information:

Domaille Engineering's mission is to provide our customer with the highest quality solution through the innovative use of technology that allows our customers to gain a competitive edge. Our core competencies in engineering and precision manufacturing provide OEM's and fiber optic customers effective and cost efficient solutions.

From our world renowned APM-HDC-5300 polishing machine to our patented MT EZ AbraSave® fixtures, Domaille Engineering equipment provides the highest yields and throughput in the fiber optic industry.

The Domaille APM-HDC-5300 interface allows user to program a soft ramp of pressure and speed. This feature along with accurate force, speed, and time enables customers to consistently meet the most demanding fiber optic polishing specifications.

Our patented AbraSave® fixture line utilizes Unique Path Technology which reduces polishing time and polishing film costs. The AbraSave® technology delivers the greatest consistent fiber protrusion for the best polishing results in the fiber optic industry.

Domaille Engineering proudly offers our OptiSpec® product line of fiber optic microscopes. Our OptiSpec® microscope line offers customers high quality production fiber optic inspection capabilities for both production and laboratory settings.

View all of our products, including the Universal Cure Oven and Air Cleanse System, at www.DomailleEngineering.com.