

AmScope DM Series

DM150-W



Thank you for purchasing the **AmScope DM150-W Full HD Digital Compound Microscope**.

Please read this manual carefully before using this product to ensure correct and safe use.

- The content of this manual is subject to change without notice.
- The appearance of the product can differ from the models described in this manual.
- Some optional components described in this manual may not be included in your purchase.

This manual will provide information pertaining to the setup, operation, and maintenance of the DM150-W Digital compound microscope. Please familiarize yourself with the necessary precautions and procedures prior to operating this instrument. Certain features and specifications are subject to change.

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Handle with care

- This product is a high quality optical instrument. Delicate handling is required.
- Avoid subjecting it to sudden shocks and impacts.
- Impacts, even small ones, can affect the precision of the objective.

Handling the LED

Note: The LED illumination system is not designed to be user-serviced. Contact AmScope for any concerns or service requirements.

- Despite being energy-efficient, the LED illumination system emits heat. Avoid touching the field lens or lamp-housing.

Dirt on the lenses

- Dirt on or inside the optical components such as the digital display or objective lenses will negatively affect the image quality of your instrument.
- Always try to prevent your microscope from getting dirty by using the dust cover, avoid leaving fingerprints on the lenses and clean the outer surface of the lens regularly.
- Cleaning optical components is a delicate matter. Please read the cleaning instructions in this manual carefully.

Environment, storage and use

- This product is a precision instrument and it should be used in a proper environment for optimal use.
- Install your product indoors on a stable, vibration free and level surface.
- Do not place the product in direct sunlight.
- The ambient temperature should be between 5°C and 40°C (41°F and 104°F), and maximum humidity is 80% at 31°C, decreasing linearly to 50% at 40°C. This product in a hot, humid location may result in the formation of mold or condensation on lenses, impairing performance or causing malfunctions.
- Never use undue force when turning the knobs.
- Make sure that the microscope system can dissipate its heat.
- Keep the microscope approximately 15cm away from walls and obstructions.
- Never turn the microscope on when the dust cover is in place or when items are placed on the microscope.
- Keep away from flammable fluids, fabric etc.

Disconnect power

- Always disconnect your microscope from power before doing any maintenance, cleaning, assembling or replacing LEDs to prevent electric shocks.

Avoid wet conditions

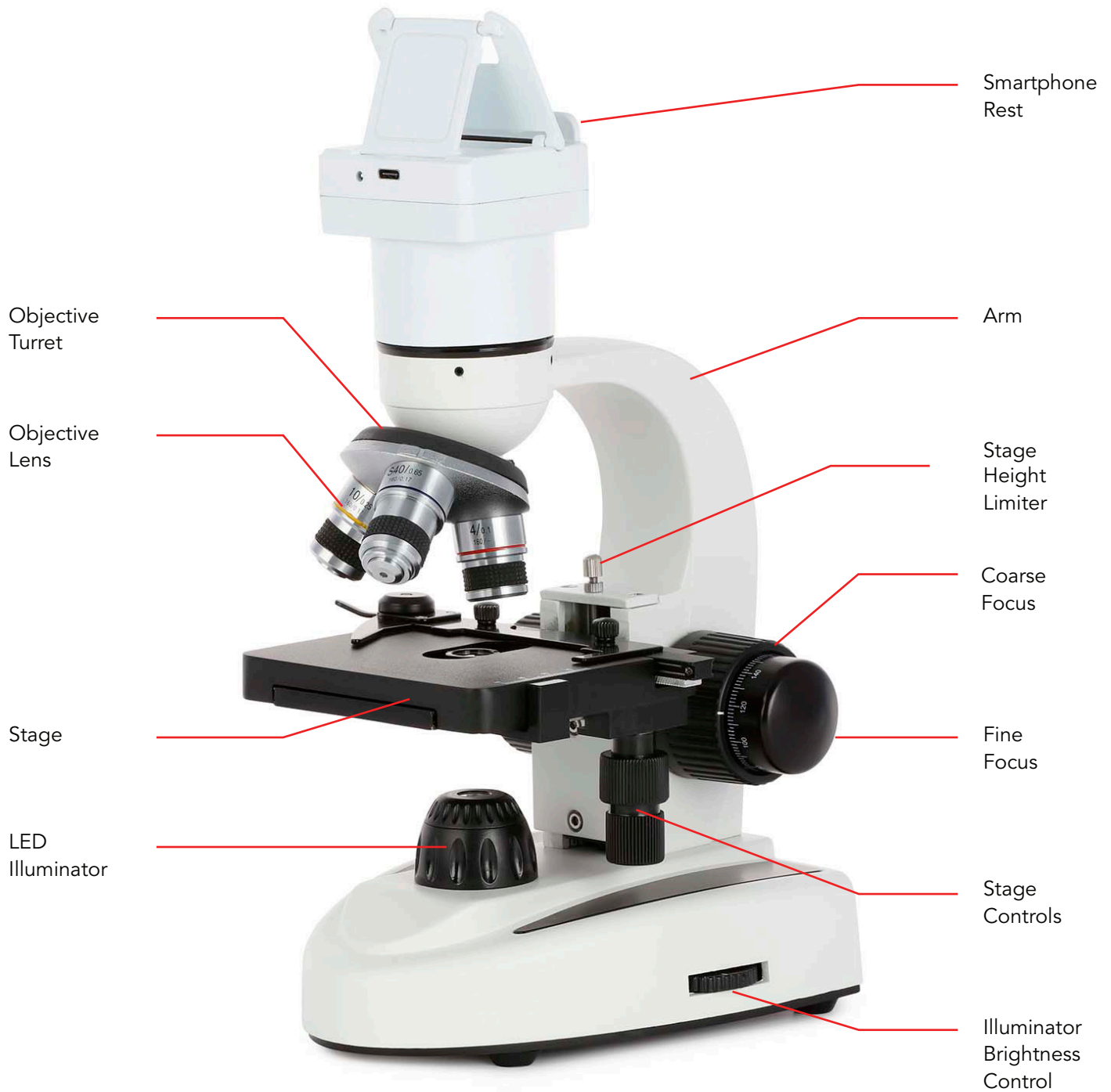
- Do not use in wet conditions. Exposing the electrical system to water or other fluids may result in damage to the instrument and personal injury.

Moving and assembling

- The AmScope microscope is a relatively heavy system. Consider this when moving and installing the system.
- Always lift the digital microscope by holding the handle/arm in combination with the base of the microscope.
- Never lift or move the microscope by its focusing knobs, stage, or head.

The DM150 Series microscope is designed to function with minimal maintenance, but certain components should be cleaned frequently to ensure ease of viewing. The microscope's illumination should be turned off when the microscope is not in use to prolong electrical component life.

The names of the several parts are indicated in the picture:



1.1 Out of the Box

The DM150-W Microscope comes completely assembled and almost ready to use right out of the box. Remove the inner packaging from within the box and position so that the packaging prevents the accessories from falling out when opened. Additional components in the packaging include a main power cable to power the digital microscope and a WiFi module power cable that will allow you to power the digital camera connect the microscope to the app on your mobile phone (see section 2.1).

Packing List:

- 1x DM150-W Microscope
- 1x Main Power Adapter
- 1x USB-C Power Cable
- 1x USB Power Adapter
- 1x Microscope Dust Cover



CAUTION: Never lift the microscope by the head. If the head is not properly seated, it can become separated, causing the body to fall, or otherwise damage the coupling mechanism. During transport, hold the microscope by the body in an upright position to prevent the head, eyepieces, or other parts from falling.

1.2 The Objective Lenses

The microscope is equipped with three objective lenses which are mounted to a rotating turret between the head and the specimen stage. Should the lenses be removed for transport, they are mounted and unmounted by rotating each lens clockwise or counter-clockwise respectively. The lenses are typically mounted in order from 4X to 40X, but can be interchanged as desired. This microscope is compatible with DIN-standard objective lenses, which allows aftermarket lenses to be used as needed. These lenses must comply with the following DIN* specifications:

- 20.32mm RMS mounting thread
- 160mm mechanical tube-length
- 45mm parfocal distance



***DIN** stands for Deutsches Institut für Normung which is a German standards organization. Microscopes and objective lenses which are DIN compliant will use the aforementioned specifications

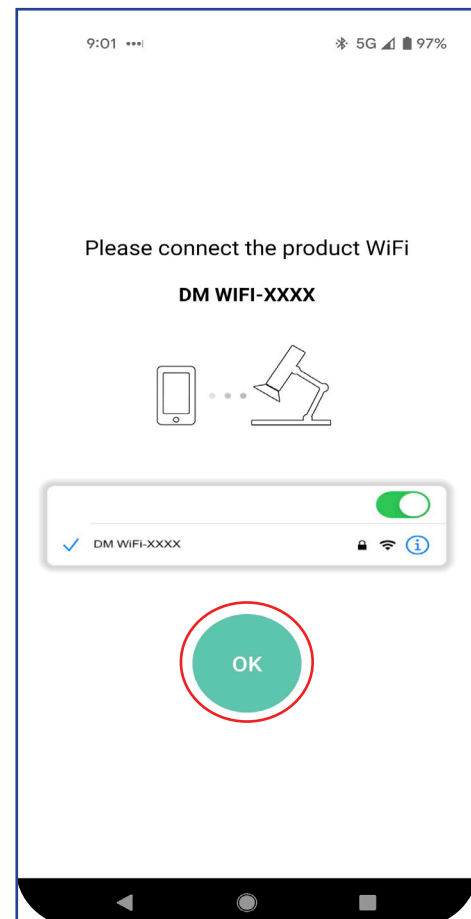
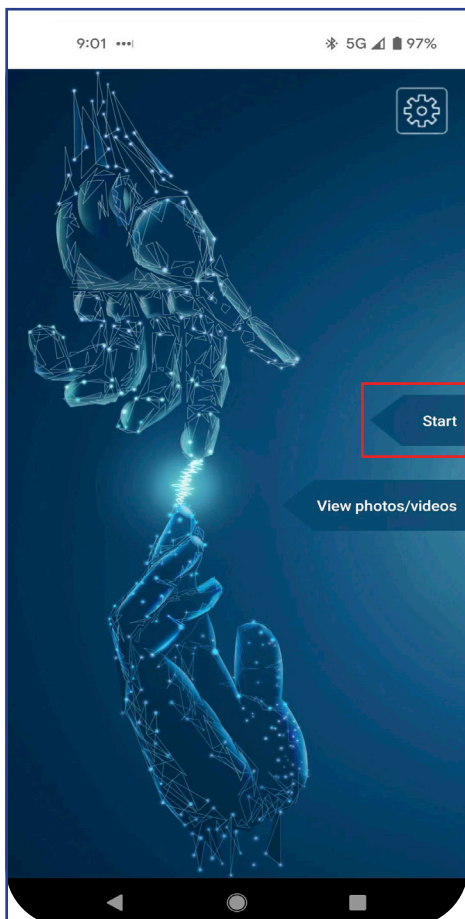


2.1 DM WiFi Software

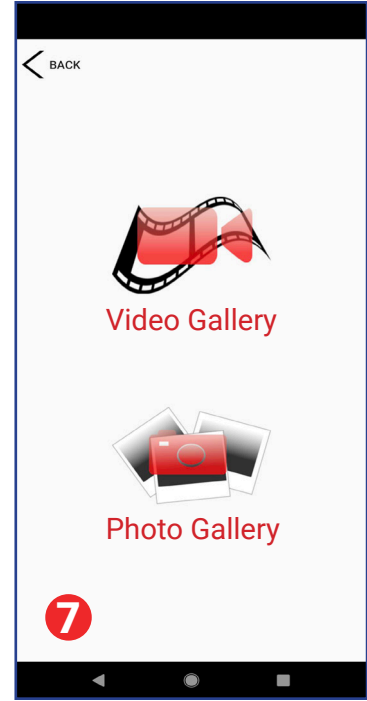
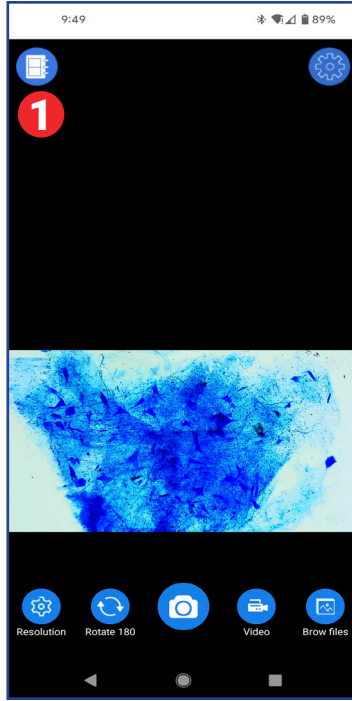
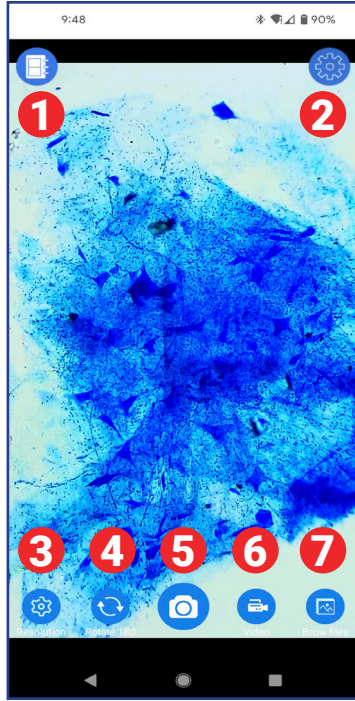
To access the software used to operate the DM150-W microscope, scan the QR code above using your smart device's camera and click on the link with your appropriate operating system to be redirected to the correct download location OR search "DM WiFi" in the App Store or Google Play Store. Both options will lead to the same download page.

2.2 Connecting to the WiFi

Once the DM WiFi App is installed and opened, you will be brought to the home screen. Tap on Start. This will take you to the Connect Page. Tap on OK to be taken to your WiFi settings and look for the connection that begins with DM-WIFI- and is followed by four numbers. Connect and allow a moment for any prompts to pop up and allow them. Navigate back to the DM WiFi app as you will not be taken back automatically after you have connected. You can now begin viewing subjects from the microscope onto your smart device screen.



2.3 Navigating the APP



1	Minimize Specimen View
2	Settings Menu - Change Language, View Version Info
3	Change Video Resolution
4	Rotate Screen
5	Take a Picture
6	Record Video
7	Galleries

3.1: The Specimen Stage

The stage has an adjustable height limit. This is used to prevent the stage from being raised too high which could result in damaging the specimen or even the objective lenses. The adjustment screw is located on the body just behind the stage.

Rotate the objective turret until the 40X objective lens is in place. With a specimen mounted on the stage, slowly raise the stage using the coarse-focus knob until the specimen is a few millimeters from the lens. Use the fine focus knob to continue raising the stage until the specimen barely comes in contact with the lens. The 40X lens has a spring-loaded nose. If the nose begins to compress, the stage is too high. When the specimen is able to make contact with the lens without compressing the nose, this is the appropriate maximum height.

The height-adjustment screw should be tightened to set the stopping position. If the specimen was too far from the lens, and could not make contact, loosen the adjustment screw slightly, then continue to make fine focus adjustments until the specimen is high enough. Once the height is properly set, tighten the adjustment screw.

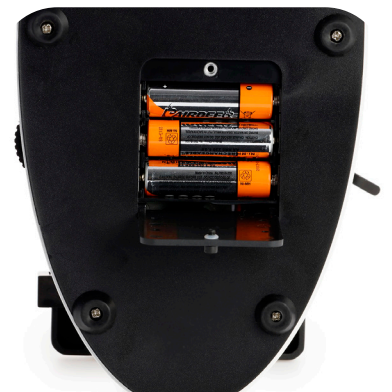


3.2: Power

The power switch should be set to the “off” (0) position. Attach the provided power cable, ensuring that the instrument is not exposed to any environmental dangers such as moisture or sources of excessive heat such as open flames. Set the power switch to the “on” (I) position to activate the built-in illumination.

The microscope can also be powered by three AAA batteries. Remove the bottom cover with a small philips head screwdriver and insert batteries in the correct orientation. Batteries are not included.

If using rechargeable AAA batteries, the microscope will recharge the batteries when plugged into an AC outlet using the included power adapter.



3.3: Mounting a specimen

This microscope is designed to view translucent specimens mounted primarily on 3" x 1" glass slides. A metal template with caliper is attached to the top of the stage. A prepared slide can be placed on the stage by pushing the caliper lever outward to open the caliper, then sliding the slide in place so the long edge is flush against the back edge of the template. Gently releasing the caliper will secure the slide in place.



3.4: Illumination

Turn on the microscope's illumination by pressing the power switch to the "on" position. As magnification increases, more light will be necessary to view the specimen. Use the dial on the microscope's base to adjust the illuminator's brightness as needed. Avoid using the microscope for long durations with excessive brightness, as this can strain the eyes.



3.5: Locating the specimen, and focusing

With the specimen mounted on the stage, and the illuminator turned on, use the stage's X-Y control knobs under the right side of the stage to adjust the position of the specimen. The larger knob will move the specimen forward and backward, while the smaller knob will move the specimen left and right. Sliding the specimen towards the front of the microscope will result in the viewed image moving in the opposite direction. Use the knobs until the specimen appears to be centered under the objective lens. This will be the starting point.



3.5: Locating the specimen, and focusing

Observation should typically begin at the lowest magnification. This provides the broadest view of the specimen. Rotate the objective turret to set the lowest magnification lens in place.

The stage should be set to a low position when mounting the specimen. Gradually raise the stage using the coarse-focus knob. If you have already performed the height-limit adjustment, the specimen should come into focus near the maximum height. Once you begin to see shapes through the eyepieces, use the fine-focus knobs to adjust the focus until you can see details with clarity. Use the X-Y control knobs to reposition the specimen until the area of interest is in view. You can increase magnification as needed by rotating the objective turret. When doing so, it is advisable to watch the lens as it is set in place to ensure it will not collide with the specimen. Slight adjustments to focus should be made at each magnification, as well as the illuminator's brightness.

Objective Lens	4X
	10X
	40X
Sensor	CMOS
Pixels	2MP
Sensor Size	1/4"
Frame Rate	25-30 FPS
Compatibility	Android & iOS
Optical System	Finite conjugate
Head	Monocular
Objective Lenses	DIN standard
Objective Parfocal Distance	45mm
Objective Mounting Thread	RMS 20.32mm
Objective Turret	Triple nosepiece
Focusing System	Coaxial coarse and fine focus, upper limit-stop
Fine Focusing Precision	0.002mm
Stage Design	Double-layer with caliper
Stage Dimensions	95mm x 105mm
Transmitted Illumination	Variable-intensity 1W LED
Condenser	.65 Single lens
Sub-stage Condenser-holder	Rack and pinion

Magnification	Corrections	Numerical Aperture	Immersion Medium	Cover-glass Thickness
4X	achromatic	0.10	--	0.17mm
10X	achromatic	0.25	--	0.17mm
40X	achromatic	0.65	--	0.17mm

If you have a question concerning your AmScope Microscope, contact the AmScope Customer Service at:

Email: info@amscope.com

Telephone: 1-888-950-2888 (toll free) / 949-333-0001.

Fax: 949-271-4795

Customer Service Hours: 5:00 AM to 6:00 PM, Pacific Time,
Monday through Friday, excluding holidays.

In the unlikely event that your microscope requires returns or exchange, write or call the AmScope Customer Service first, before returning the microscope, provide a detailed description of the problem, as well as your name, address, and daytime telephone number. The great majority of service issues can be resolved by telephone, avoiding the return of the microscope. If factory service is required, you will be assigned a Return Merchandise Authorization (RMA) number prior to the return.

LIMITED WARRANTY

Every AmScope microscope is warranted by AmScope to be free of defects in materials and workmanship for **FIVE YEAR** from the date of original purchase in the U.S.A. and Canada. This warranty applies to the original purchaser only and is non-transferable.

This warranty is not valid in cases where the product has been abused or mishandled, where unauthorized repairs have been attempted or performed, or where depreciation of the product is due to normal wear and tear. AmScope specifically disclaims special, indirect, or consequential damages or lost profit which may result from a breach of this warranty. Any implied warranties which cannot be disclaimed are hereby limited to a term of one year from the date of original retail purchase. This warranty gives you specific rights. You may have other rights which vary from state to state. AmScope reserves the right to change product specifications or to discontinue products without notice.

ACCESSORIES AND SPARE PARTS

For current accessories and spares, please check out our website - www.amscope.com



Phone : 1-888-950-2888 (toll free) | Fax : 949-271-4795 | Email: info@amscope.com
Our Office Hours are Monday to Friday, from 5:00am to 6:00pm Pacific Time

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