INNOVATIVE MICROSCOPES
Providing High Quality & Economical Microscope Solutions

OPERATION MANUAL
SKU# DRS S8

1. Introduction

Thank you for purchasing the DRS Digital Microscope. Your microscope is a precision optical instrument, made of the highest quality materials to ensure durability and long life.
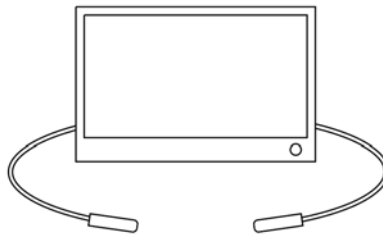
Before attempting to use your microscope, please read through the instructions and reference the diagrams below.

The DRS S8 Digital microscope provides viewing from 7x to 15x using the built-in software and touchscreen display. The microscope is shipped with the latest firmware.
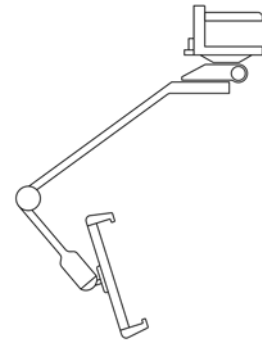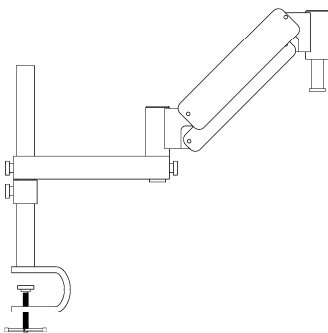
IN THE BOX

DRS S8 Microscope (1)

Display (1)

Display Mounting Arm (1)
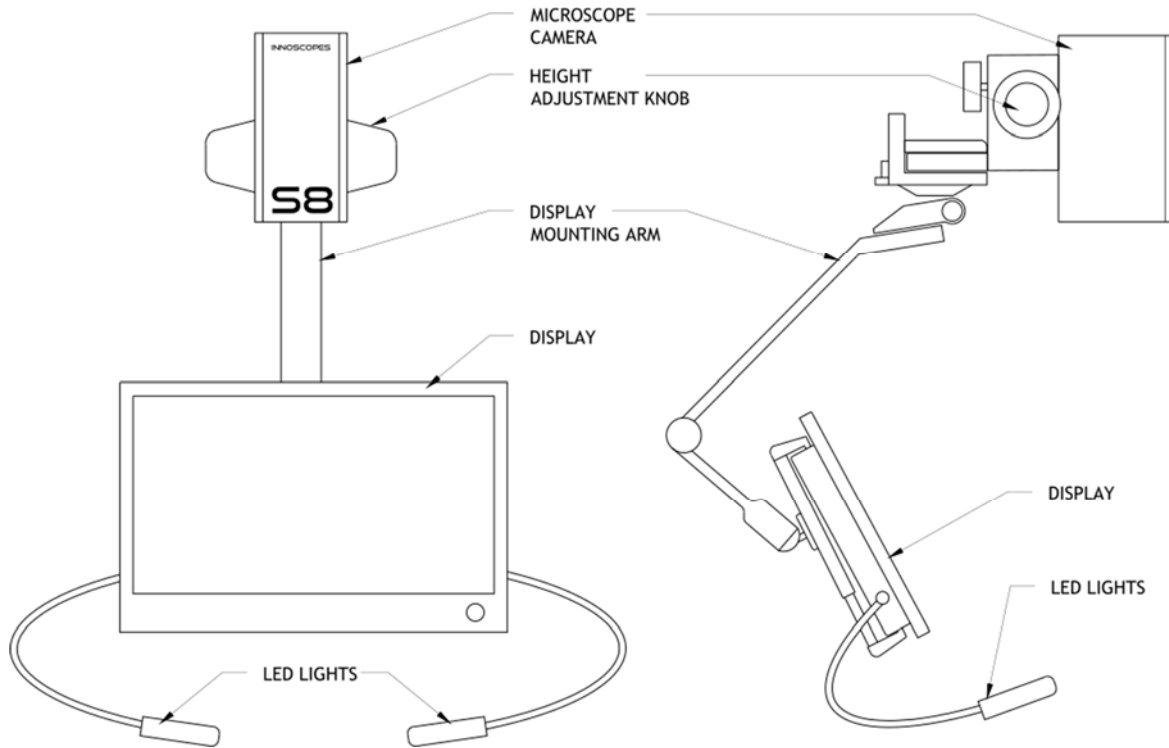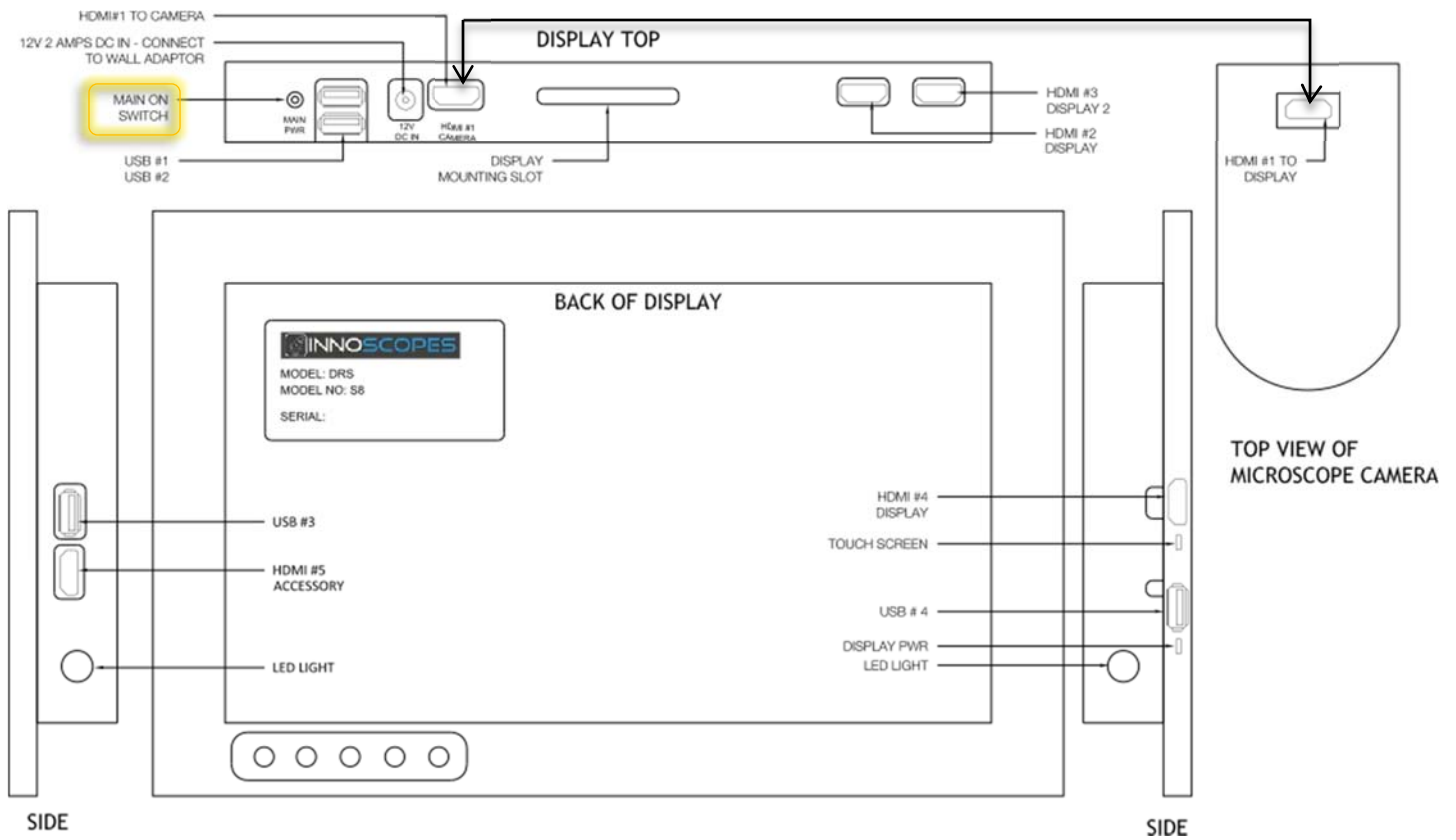

Articulating Arm (1)

Calibration Slide (1)

AC adapter (1)

2. PARTS


Wiring Diagram (Pre-installed)

SPECIFICATIONS

Category	Specifications
SKU	DRS S8
LCD Monitor	12.5" capacitive touchscreen, 1920 pixels, 1080P, 16:9 ratio 16.7 million colors, Brightness (cd/m2) 300+, Response time 5 ms
Zoom Presets 15x	7x, 10x, 12x, 15x
Illuminator	16 Inch gooseneck 5000k LED lamp, 8 LEDs per wand
Image Capture Resolution	1920 x 1080
Working Distance 15x	16 Inch
AC adapter	US Plug 110V
Dimensions	356 x 224 x 9 mm (14" x 9" x 3/8")
Weight	4 lbs. or 1.82 kg
SAFETY	
	The socket-outlet shall be installed near the equipment accessible.
	Do not look directly into LED Dome Light while lights are on.
	Do not look directly into the Laser light
	Disconnect main power wall adapter when servicing the microscope.

## 3. SETUP

CAUTION
Pinch Point
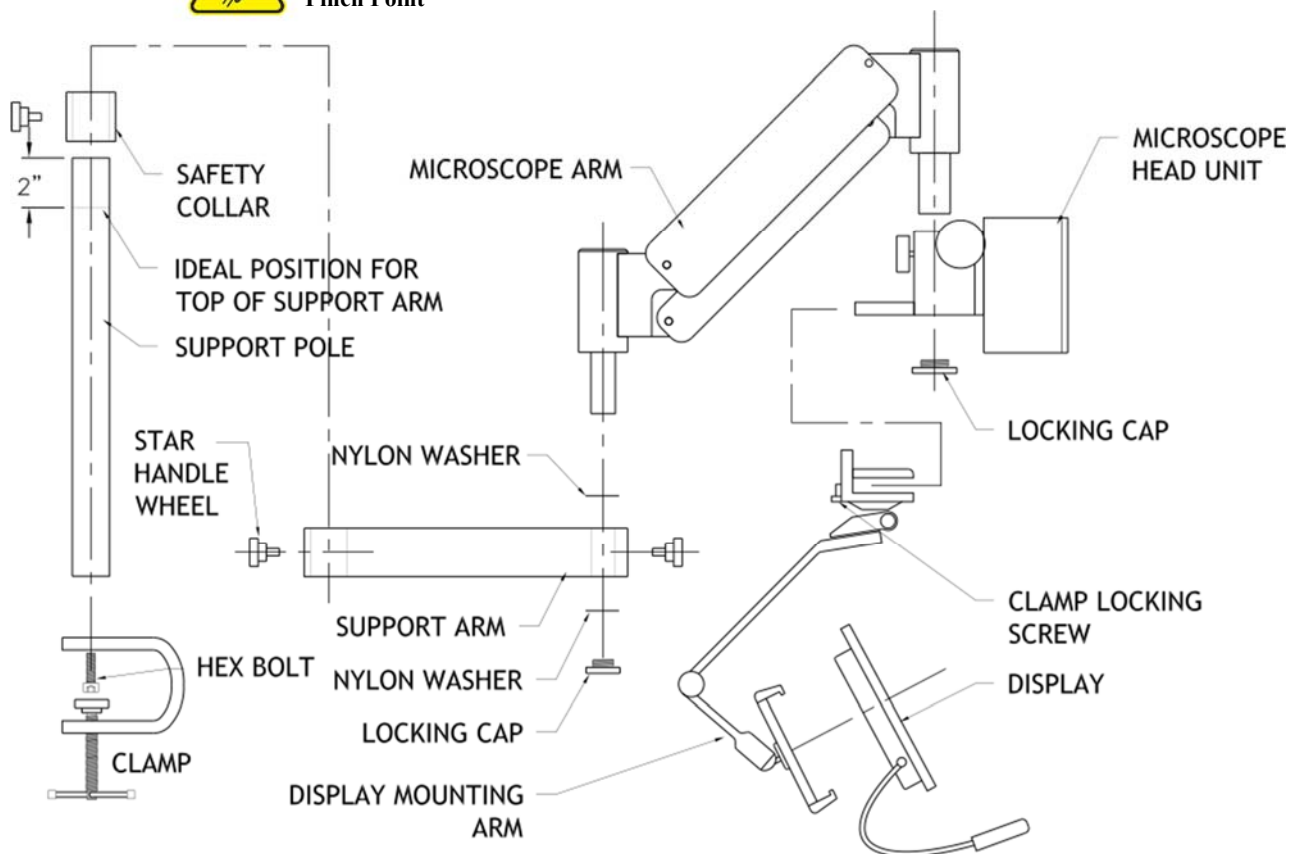
Power on

Connect AC adapter to wall outlet (see dashed arrow).

Connect the HDMI cable supply with the display mounting arm to Camera head unit and to the HDMI #1 on the top of the display unit.

Press the POWER button on the top of the Display unit.
Allow 60 secs for operating system to boot up.

Your microscope is ready to use after splash screen Closes.
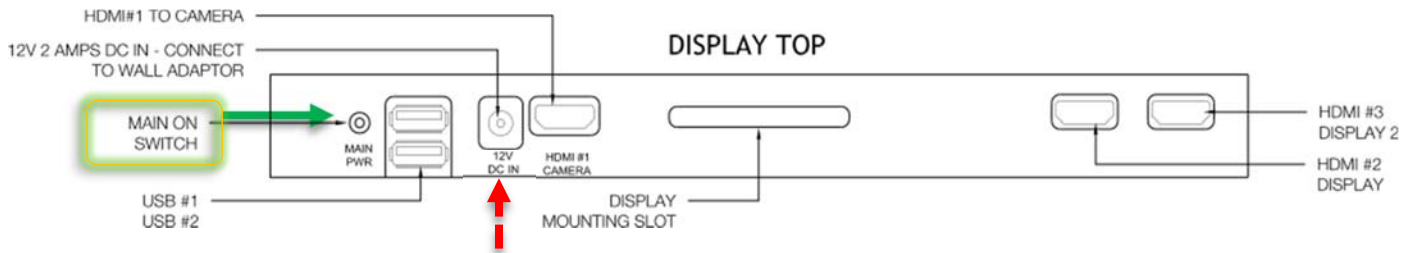
Power off

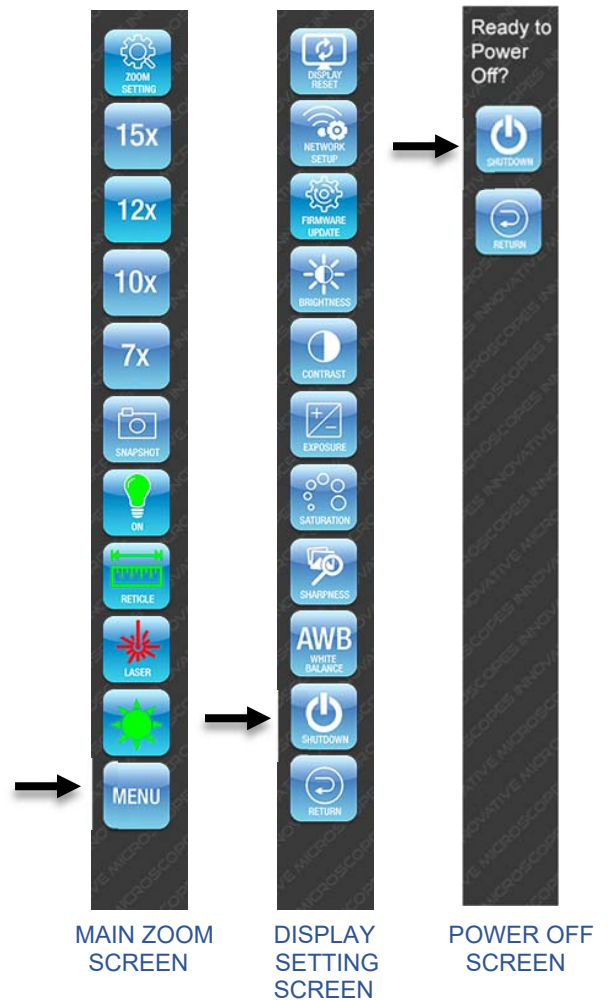To POWER down use the on-screen menu.

*Note: Recommend shutting off microscope at the end of each day.

Display Settings

Brightness, contrast, exposure, saturation and **sharpness** should be adjusted to desire settings based on object being viewed.


 Display Reset – Resets all display settings to factory default

MAIN ZOOM
SCREEN

DISPLAY
SETTING
SCREEN

POWER OFF
SCREEN

Focus Adjustment

1. Toggle the laser icon to ON
2. Togle the reticle icon ON
3. Turn the height adjustment Knob (clockwise) to the fully down position.
4. Adjust the articulating arm until the laser is centered on the reticle (see image).
5. SELECT the "lightbulb" icon to turn lights on 100%
6. SELECT the "AWB" icon and the system will adjust white balance setting.
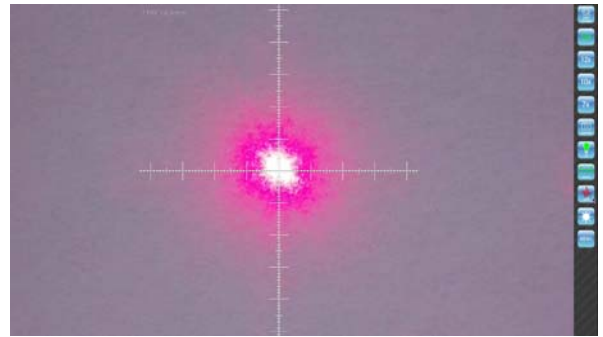
Sun Icon – For inspection increase exposure by 10%
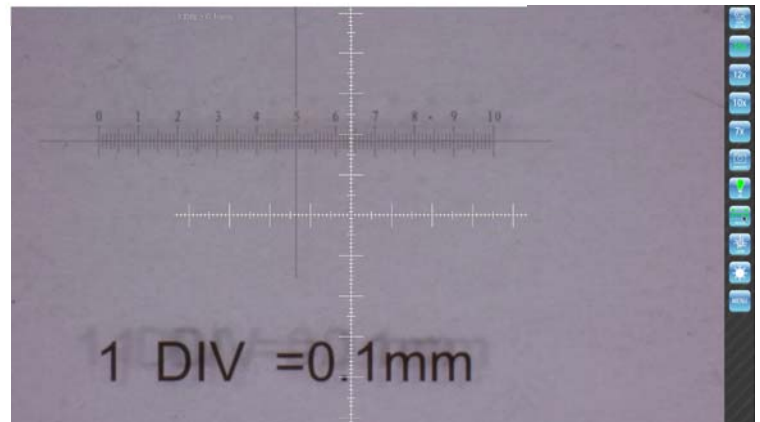
*Notes:
   1. If the microscope has been moved to a new location, it is recommended the auto white balance be reconfigured.

4. Using Reticle Function

1. Calibration
2. Select the highest magnification
3. Use the provided calibration slide
4. Adjust the height adjustment knob to line up Reticle with calibration slide.
5. Once calibrated to the highest magnification, all magnifications are calibrated

   *Notes:
      1. If the position of the camera has been moved, calibration must be performed again.

Calibration slide and reticle out of alignment

1 DIV =0.1mm

Calibration slide and reticle in alignment

5. ZOOM SELECTION

1. Zoom presets 7x, 10x, 12x and 15x
2. Select the desired zoom magnification
3. Active selection is marked by Green text.

6. LIGHT CONTROLS

1. SELECT the "light bulb" icon to toggle light control on and off.

MAIN ZOOM
SCREEN

7.CAPTURING IMAGES

1. Make sure your DRS S8 is powered ON.
2. A USB thumb drive is inserted into USB #1 (see Pg. 3 for location).
3. Select Snapshot Icon.
4. Select Snapshot Icon on second screen to capture.
5. The screen will display the captured image along with annotation tools at top.
6. The image could now be saved or be discarded.
7. If image is discarded, the screen will return to the snapshot screen

   *Notes:
      1. If reticle is turned on during picture capture, reticle will be captured.

MAIN ZOOM SCREEN   SNAPSHOT SCREEN

CAPTURED IMAGE SCREEN
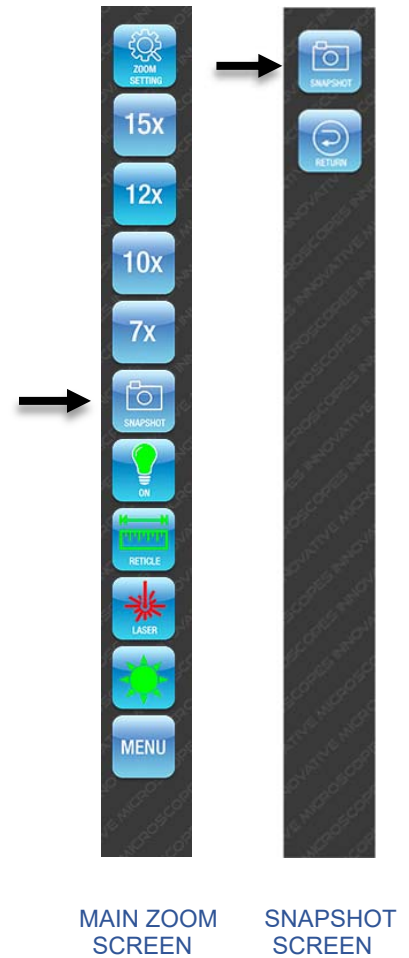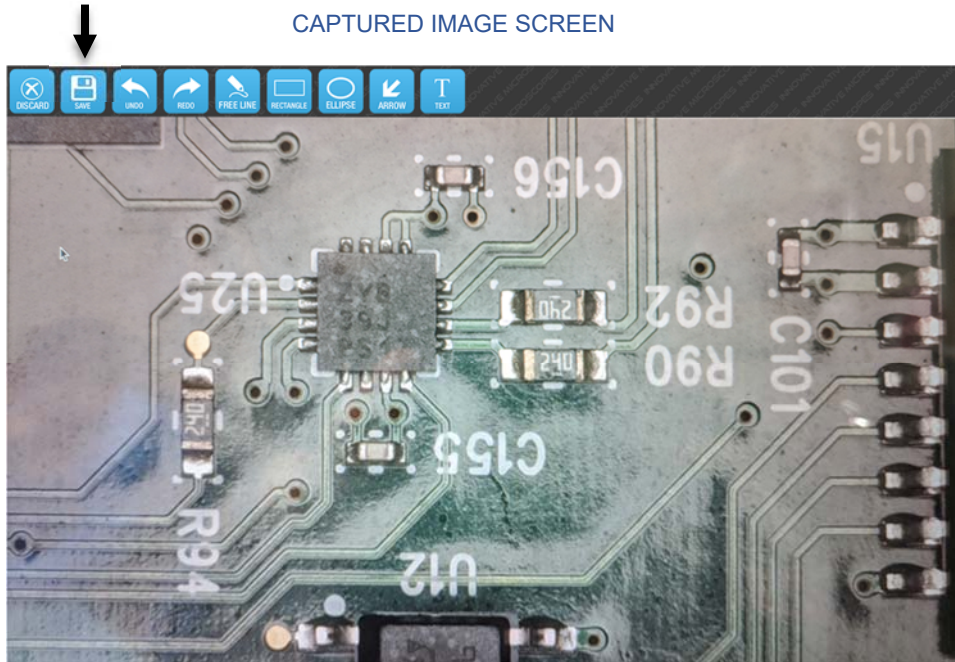
8. Provide a file name to save or select return to annotation editor.
9. There're two options to save; USB thumb drive or network folder (see WiFi setup Pg 10).

8. ANNOTATION EDITOR

The annotation editor is accessible by pressing the snapshot icon.
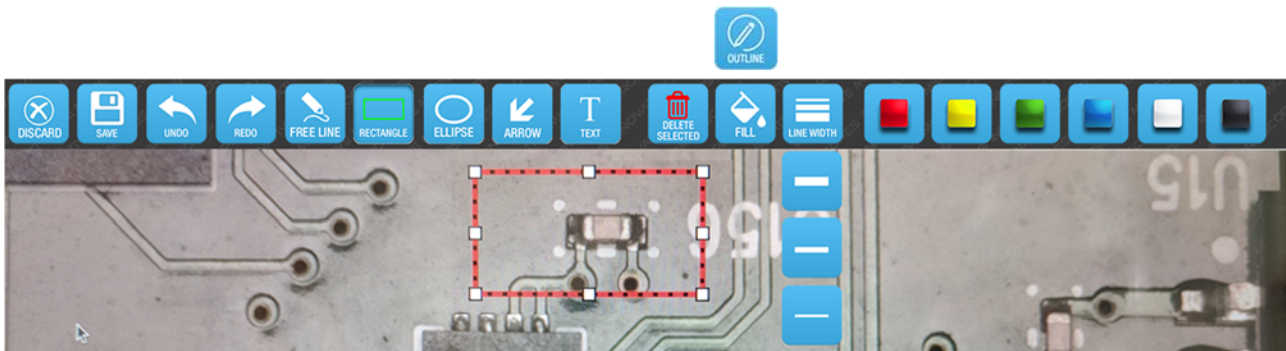
Icon Description
1. DISCARD: discard the captured image and return to the snapshot menu
2. SAVE: save captured image with a file name
3. UNDO: undo previous edit
4. REDO: redo last edit
5. FREE LINE: draw a free hand line segment
6. RECTANGLE: draw a scalable rectangle
7. ELLIPSE: draw a scalable ellipse
8. ARROW: draw an arrow
9. TEXT: text annotation
10. DELETE SELECTED: delete the selected annotation
11. LINE WIDTH: three selectable line widths for FREE LINE, RECTANGLE, ELLIPSE and ARROW annotation
12. COLOR: color palette for FREE LINE, RECTANGLE, ELLIPSE, ARROW and TEXT annotation
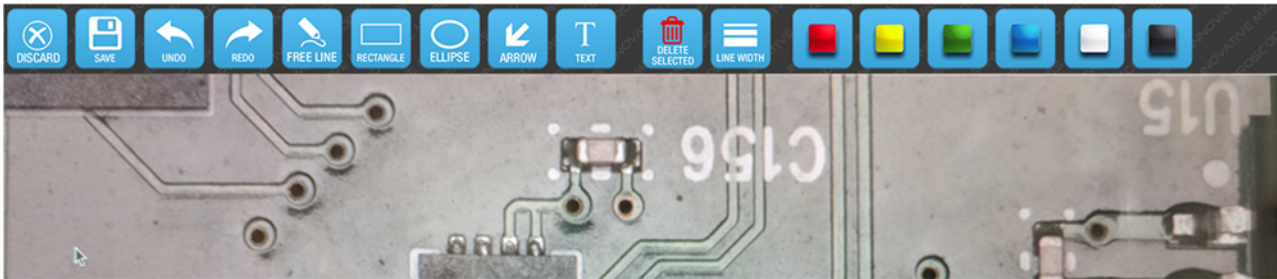
FREE LINE selected menu. There are options to select line weights and color.
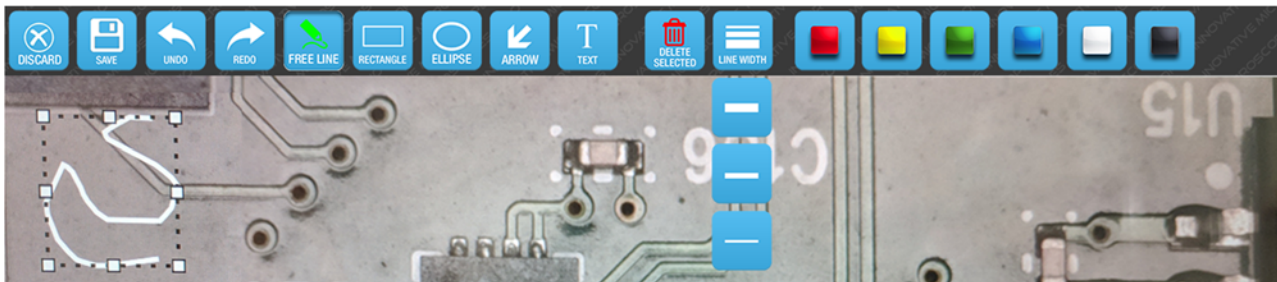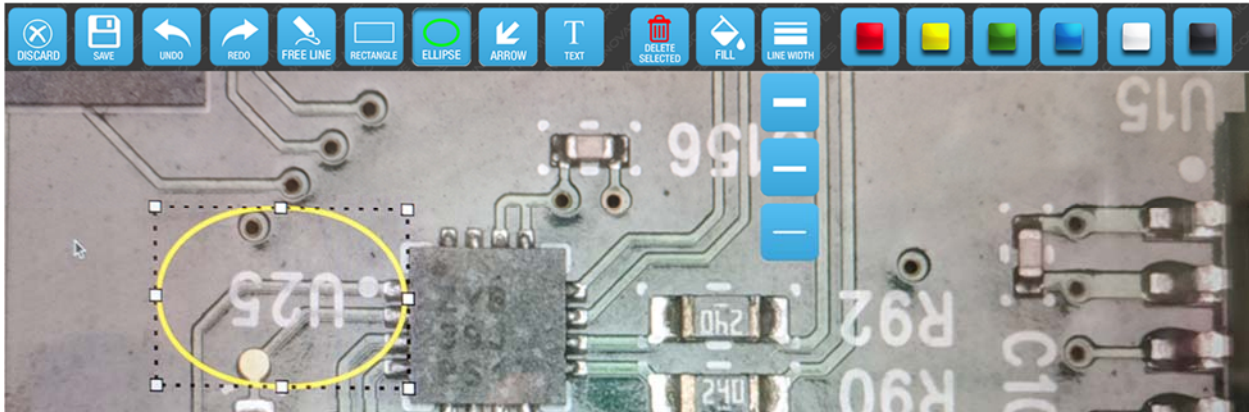
RECTANGLE selected menu. There are options to fill the rectangle and or select the desired line weights with preset color background. Alternately pressing the OUTLINE icon revert back to an outline rectangle.
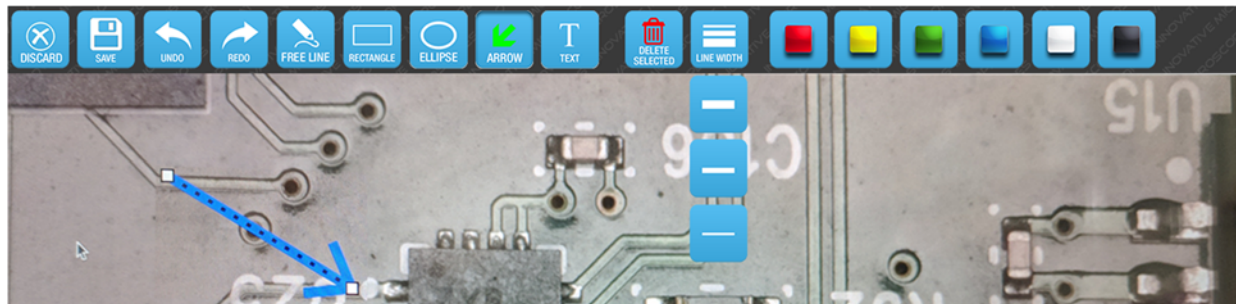
ELLIPSE selected menu. There are options to fill the ellipse and or select the desired line weights with preset color background.

ARROW selected menu. There are options to fill the arrow and or select the desired line weights with preset color background

TEXT ANNOTATION BOX menu. There are options to select the desired text size and color. The text box background fill is also available.
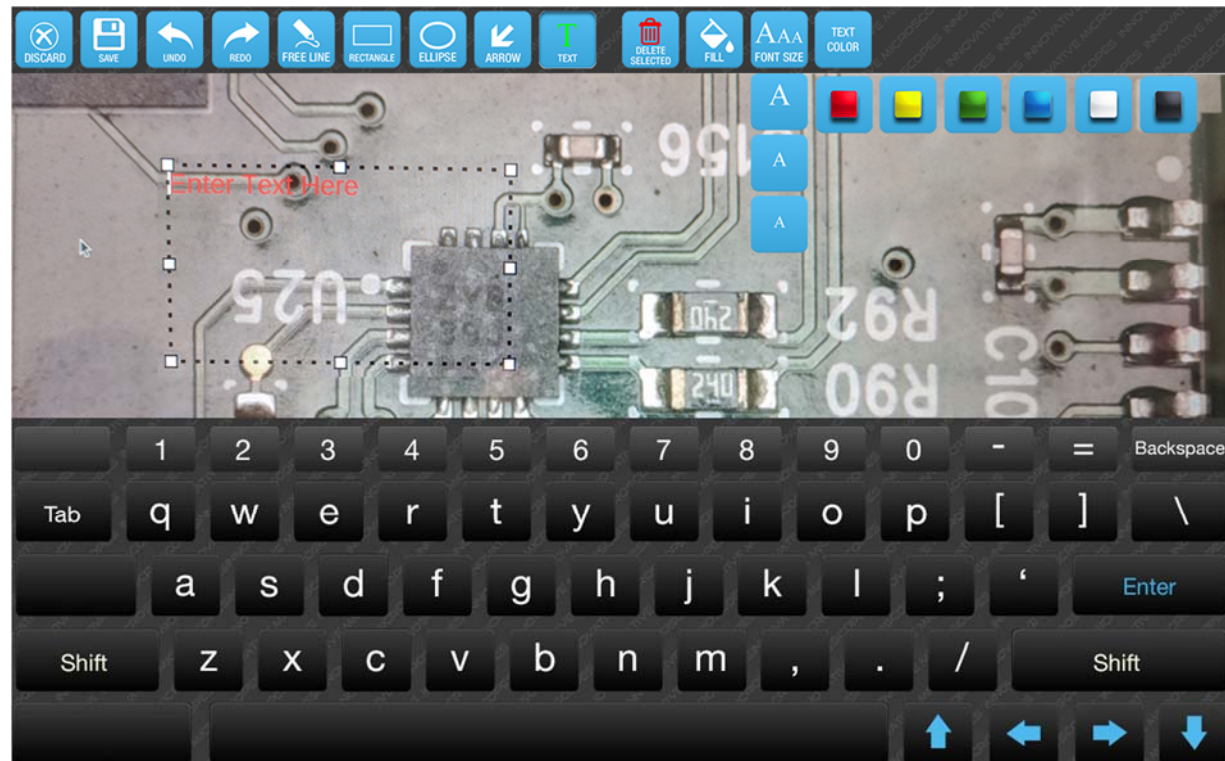
9.NETWORK ETHERNET & WiFi SETUP
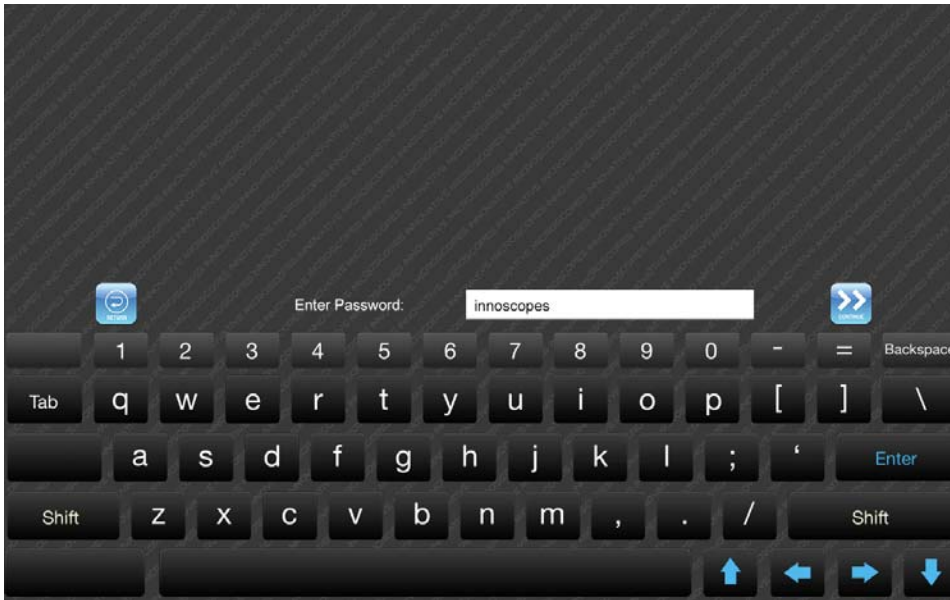
"System ships in Airplane Mode"

Before Continuing contact company IT Administrator. Have the following info ready:
1. Company WiFi name
2. Company WiFi Password
3. Shared network folder path i.e \\PC-Name\DMS7
4. Windows server PC Username and Password.

The network setup screen is accessible by pressing the MENU icon and NETWORK SETUP icon.

1. For Ethernet cable setup see page 12.
2. Network setup require admin password (Default "**innoscopes**").
3. To change Admin password see Page 12.
4. Input the password and select the CONTINUE icon.

NETWORK ADMIN PASSWORD SCREEN

5. The Network setup menu will appear.
6. Select WIFI SETUP button.
7. Next the wifi setup screen will display current status of wifi connection "WIFI ENABLE" or "WIFI DISABLE". The active status is display in green text.
8. SELECT "WIFI ENABLE".
9. SELECT "Continue" to confirm and to reboot the system.
10. The system will reboot (60 Sec).

MAIN ZOOM SCREEN

DISPLAY SETTING SCREEN
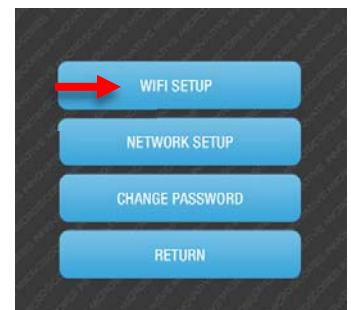
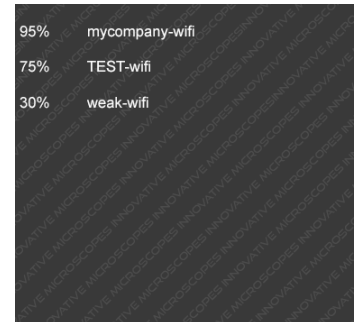NETWORK SETUP MENU

11. After the system reboot, proceed to the network setup screen again. Select WIFI configuration button.
12. Select the company wifi network from the available list.

AVAILABLE NETWORK SCREEN

NETWORK SETUP MENU

8. Enter the wifi password provided by your company IT administrator.
9. Wait for the WIFI to establish a connection.

WIFI CONNECTION SCREEN
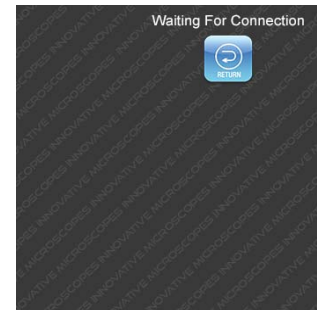
10. The screen will denote successful connection to WiFi. If connection was not establish, press the RETURN icon and try inputting a new WiFi password.
11. The connection status menu will show the name and strength of the established WiFi connection.

SUCCESSFUL CONNECTION

CONNECTION STATUS MENU

Mapping the shared folder on the DRS S8
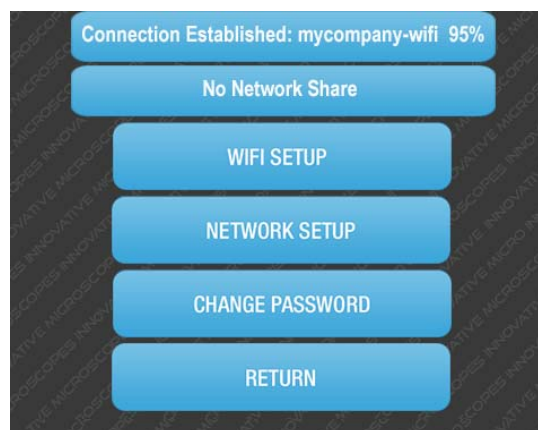
1. To Map the shared folder on the PC. Press the MENU icon on the DRS S8, then the NETWORK SETUP icon. Enter Admin password
2. The NETWORK SETUP MENU will appear.
3. Press the NETWORK SETUP icon.

NETWORK SETUP MENU

4. Enter the share network path address previously made on the Server/ PC (**\\PC-Name\DRS8**).
5. Press CONTINUE icon.

6. Provide the Server/ PC Windows **Username**.
7. Press CONTINUE icon.

Mapping shared folder continue

8. Enter the Server/ PC Windows **Password.** Contact your company IT administrator if the shared folder is on your company server.
9. Press CONTINUE icon.

10. The screen will confirm the network share connection.
11. Press CONTINUE icon.
12. The screen Network setup is now complete.
13. Press Return Icon.
14. The network setup menu will list the connected share folder and username.
15. Press RETURN icon.
16. The DRS S8 is now set to save onto the network folder over WiFi.
17. The DRS S8 will store in memory the WiFi settings and Network share folder.

NETWORK SETUP MENU
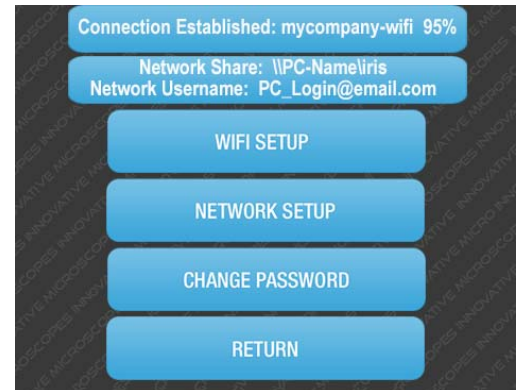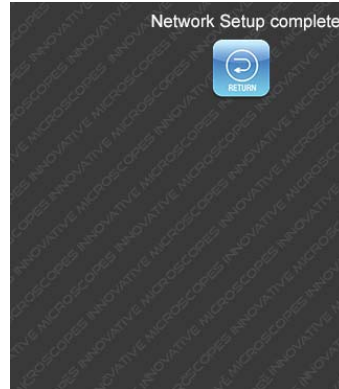
Ethernet cable setup

1. An Ethernet Adapter USB 2.0 to 10/100 Network RJ45 Lan Wired Adapter is required (Not included).
2. Connect the Ethernet adapter to the USB port (see diagram).
3. Connect the Network RJ45 to the Ethernet adapter.
4. Proceed to page 13: Mapping the shared folder on the DRS S8.

Ethernet adapter to USB (Not Included)
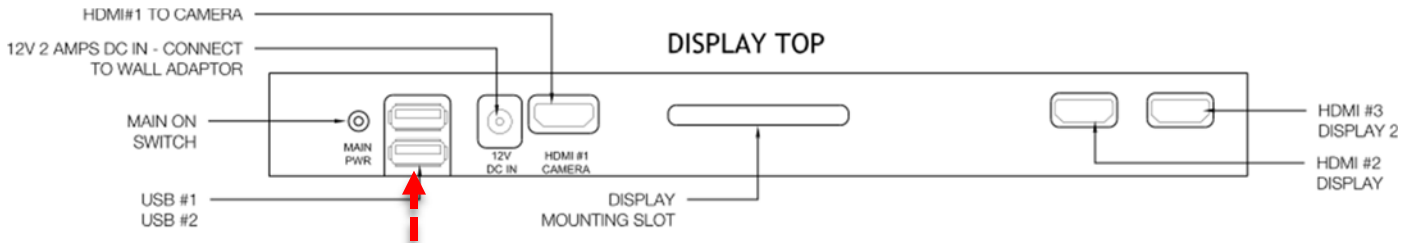
Ethernet adapter connected to USB port (Not Included)

CONNECTION STATUS MENU

Changing the DRS S8 Admin Password

1. Network setup admin password (Default "**innoscopes**").
2. Click the CHANGE PASSWORD icon.
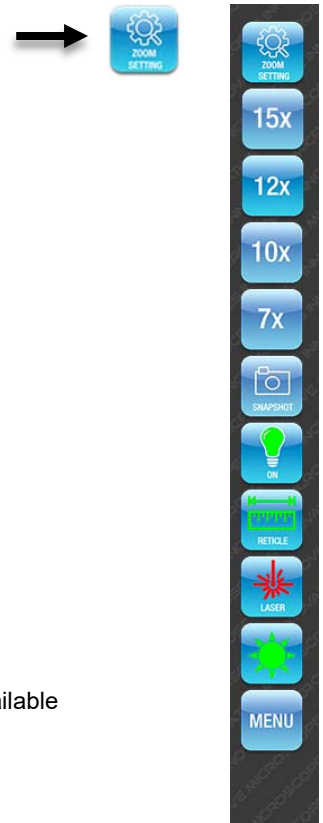3. Enter the new password.
4. Click CONTINUE icon.

NETWORK SETUP MENU

10.Zoom Lock Setting

This setting is used by Admin to lock out certain preset zoom levels.

1. To lock out preset zoom levels press the Zoom Setting Icon at the top of the menu bar.
2. A Password Dialog will appear. (Default "**innoscopes**").
3. Press the CONTINUE icon.

4. The ZOOM TOGGLE BOX allow user to enable/disable the preset zoom icon that will be available for use on the main screen.
5. Toggle the Zoom Icons to GREEN will enable and in WHITE to disable.
6. Press the RETURN button to proceed with the changes and return to the MAIN SCREEN.

Zoom Lock setting continue
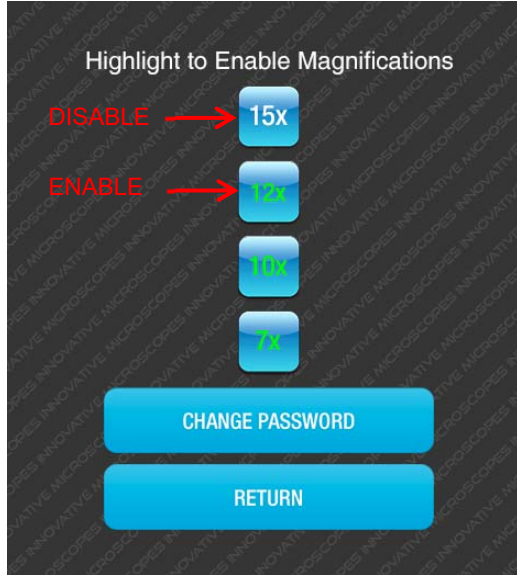
7. The preset 15x zoom icon is no longer available on the main menu screen.


11. Firmware Update

Innovative Microscopes may provide firmware updates in the future to address functional issues or add new features to the microscope. Any announcement of updates or changes to the software will be made by our technical support department and directly contacting the customer.

Below is the process to update the software after technical support have provided the firmware update file.

1. Copy the firmware file on to the thumb drive.
2. Insert the thumb drive into USB #1 (see wiring diagram Pg3.)
3. SELECT Menu
4. SELECT "Firmware Update icon"
5. SELECT "Firmware Update icon" on the second screen again to initiate.
6. After the system completes the update. It will confirm the update completion and version date.
7. SELECT continue icon to reboot for the new firmware to take effect.
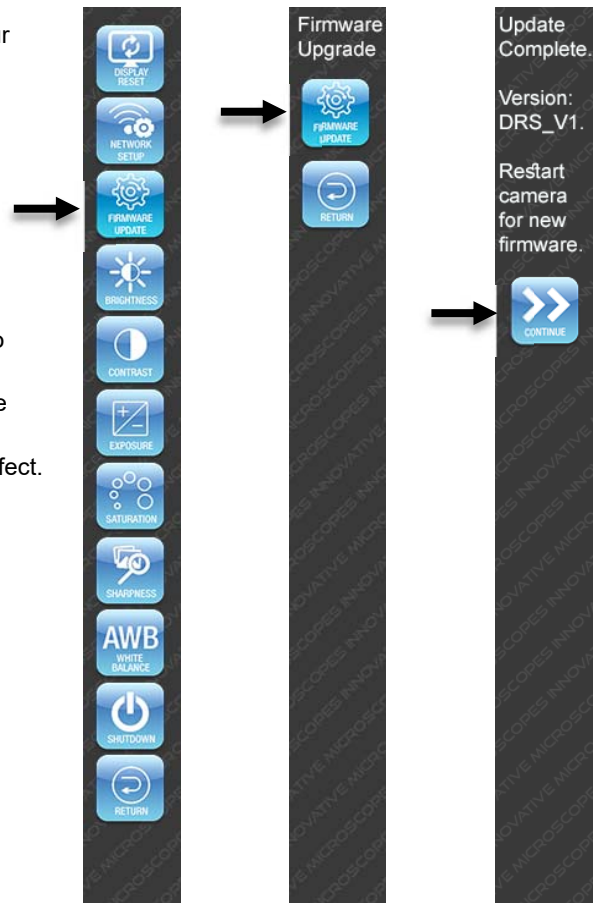
12. CARE AND MAINTENANCE

Your digital microscope is a precision optical instrument and should be treated with care at all times. Follow these care and suggestions and your microscope will need very little maintenance throughout its lifetime.

+ Store your microscope in a dry, clean place.

+ Never use your microscope where operation of such devices is restricted. Improper use creates the risk of serious accident.

+ do not try to access the internal components of your microscope or attempt to modify it in any way. Only authorized technicians should perform maintenance or repairs.

+ Keep your microscope away from water and other liquids. Never use it in the rain or snow. Moisture creates the danger of fire and electric shock.

+ To clean dust or smudges from the LCD screen or other optical component, first blow the dust off with air blower.

+ If the exterior surfaces of your microscope need cleaning, wipe with a moist cloth.

13. TROUBLESHOOTING

Problems	Solution
The unit does not turn on.	+ Wait 60 secs for the operating system to boot up
The screen is blank or unresponsive.	+ ensure that the power is on. + Wait 60 secs for the operating system to boot up + Verify that the object you want to magnify is positioned correctly under the lens. + check the monitor LED light is on + ensure the monitor power connector is secured to the microscope head unit (see pg. 3) + Unplug the power from wall outlet. Wait 5 secs and plug into the outlet. Press the power button
There are smudges or blemishes on the screen.	Clean the screen and lens carefully with a cloth.
USB error	Ensure a USB thumb drive has been inserted into the USB port

14. WARRANTY

Your DRS S8 Digital Microscope has a One year limited warranty. Please visit the Innovative Microscopes website for detailed information on all microscopes: WWW.INNOSCOPES.COM

INNOVATIVE MICROSCOPES