

# INSTRUCTIONS

# AHBS3

RESEARCH PHOTOMICROGRAPHIC  
MICROSCOPE SYSTEM

AUTOMATIC VERSION

**VANOX**

TECHNICAL SHEET NO. 1

**OLYMPUS®**



AX5713

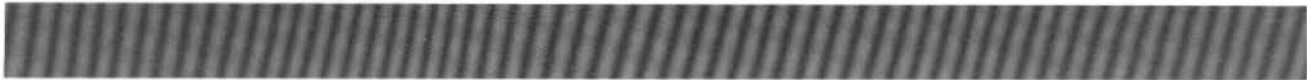
# TROUBLESHOOTING GUIDE

If you are unable to obtain 100% performance from your microscope, please consult the table below for troubleshooting.

## Observation

Symptom	Possible Problem	Remedy
<b>1. Optical System</b>		
a) With the light source switched ON, the field of view is dark.	Condenser is lowered too much.	Adjust condenser height.
	Light path selector knob is engaged at the "TV/DO" position.	Push to the "BF" position.
	Bulb is burned out.	Replace the bulb.
b) Field of view is cut off at the periphery or illuminated unevenly.	Nosepiece is not clicked into place.	Be sure to click it into place.
	Nosepiece is not mounted correctly.	Insert nosepiece dovetail all the way into the microscope stand, and lock.
	Condenser is not centered.	Center the condenser using the condenser centering knobs.
	Field iris diaphragm is stopped down excessively.	Open diaphragm to proper diameter.
	Filter is stopped midway.	Click it into position.
	Aperture iris diaphragm is not centered.	Center it correctly.
c) Dust or dirt is visible in the field of view.	Dust has accumulated on the condenser top surface.	Clean thoroughly.
	Dust or dirt has accumulated on the specimen slide.	
	Dust or dirt has accumulated on the eyepiece.	
d) Excessive image contrast	Condenser is lowered too much.	Adjust condenser height.
	Aperture iris diaphragm is stopped down excessively.	Open the diaphragm to proper diameter.
e) Brightness cannot be adjusted.	ND filter is locked.	Release the lock using the Allen® wrench.

Symptom	Possible Problem	Remedy
f) Resolution problems: <ul style="list-style-type: none"> <li>Image is not sharp.</li> <li>Insufficient contrast</li> <li>Image details lack definition.</li> </ul>	LB series objectives are not used.	Use Olympus LB series objectives.
	Nosepiece is not mounted correctly.	Insert the nosepiece dovetail all the way into the microscope stand, and lock.
	Objective is not correctly engaged into light path.	Click the nosepiece into place.
	Objective correction collar is not adjusted on high-magnification dry objective.	Rotate the correction collar slowly, keeping the specimen in focus, until optimum resolution is obtained.
	Dust has accumulated on the objective front lens.	Clean the front lens.
	Immersion oil is used without immersion objective.	Use immersion oil and reapply oil.
	Bubbles in immersion oil	Remove bubbles.
	Immersion oil designated by Olympus is not used.	Use Olympus immersion oil.
	Specimen slide.	Clean.
	Condenser	
g) Field of view or image is partially out of focus.	Nosepiece is not correctly mounted.	Insert the nosepiece dovetail all the way into the microscope stand, and lock.
	Objective is not correctly engaged into light path.	Click the nosepiece into place.
	Specimen is not correctly positioned on the stage.	Place the specimen slide correctly on the stage and secure with specimen holder.
	Stage is not correctly mounted.	Attach the stage to the stage bracket and clamp with the centering screws.
h) Image moves when focusing.	Nosepiece is not mounted correctly.	Insert the nosepiece dovetail all the way into the microscope and lock.
	Objective is not engaged into light path correctly.	Click the nosepiece into place.
	Condenser is not centered correctly.	Center correctly.
<b>2. Electrical System</b>		
a) Lamp goes on and off.	Bulb filament is about to burn out.	Replace the bulb.
	Loose electrical connections.	Check and tighten all connections.
b) Bulb burns out frequently.	Incorrect bulb is used.	Use correct bulb (Olympus 12V 100V HAL-L).

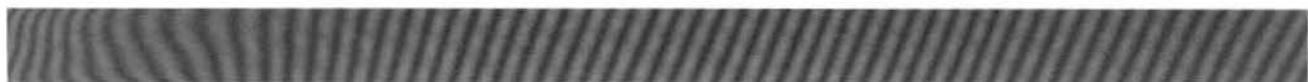


Symptom	Possible Problem	Remedy
<b>3. Focus</b>		
a) Response is slow when initially entering the objective data for auto focus.	100%-light-to-camera knob is pulled out.	Push it in all the way.
	LBD filter is not engaged.	Push it in all the way.
	A filter other than LBD is engaged.	Pull it out.
	Field iris diaphragm is considerably off center (when 10X objective is in use.)	Center correctly.
	Specimen remains in the field of view.	Remove.
	Light path is blocked by an obstacle.	Remove the obstacle.
	Reticle glass is engaged.	Disengage.
b) DATA SET buttons are inoperative.	Light source is switched off.	Press the low voltage selector button "PHOTO".
	Light path selection is in progress.	Set the data after the process is completed.
	Nosepiece is not engaged correctly.	Click into place.
c) AF button is inoperative.	Light source is switched off.	Press the low voltage selector button "PHOTO".
	Nosepiece is not engaged correctly.	Click into place.
	60X or higher power objective is engaged.	Replace with 40X or lower power objective.
	Light path selection is in progress.	Press the button after the process is complete.
d) Image is out of focus.	AF button is pressed when AF operation is in progress.	Press the button once again when the action stops midway.
	Specimen is placed on the stage upside down.	Place the specimen correctly.
	Dirty specimen.	Clean.
	100%-light-camera knob is pulled out.	Push it in all the way.
	LBD filter is pulled out.	Push it in.
	A filter other than LBD is engaged.	Pull it out.
	Field iris diaphragm is considerably off center.	Center correctly.
	Light path is blocked by an obstacle.	Remove the obstacle.
	Reticle is engaged.	Disengage.
Specimen conditions do not match auto focus.	Focus manually.	

Symptom	Possible Problem	Remedy
<b>4. Binocular Tube</b>		
a) Incomplete binocular vision	Interpupillary distance is not correctly adjusted.	Adjust correctly.
	Diopter adjustment is incomplete.	Complete adjustment.
	Right and left eyepieces do not match.	Use the same eyepieces.
	The operator is not familiar with parallel optical axis.	Try to look at the entire field of view before looking at the image. It may help if you look far away before focusing on the image.
<b>5. Stage</b>		
a) Image goes out of focus when the stage is touched.	Stage is not securely clamped.	Clamp the stage tightly.
b) Specimen stops midway during east-west transverse.	Specimen is not correctly positioned on the stage.	Position the specimen correctly.
c) Image goes out of the field of view when stage is rotated.	Stage is not centered.	Center the stage correctly, using stage centering knobs.

Photomicrography

Symptom	Possible Problem	Remedy
<b>1. Preparation</b>		
a) With the power switched ON, no LED on the panel lights up.	Loose electrical connections.	Check and tighten all connections.
	Short circuit.	Contact Olympus service center for repair.
	Fuse is burned out.	Replace the fuse.
	The light path is not selected for photomicrography.	Select for photomicrography.
b) Estimated exposure time is not displayed immediately.	With extremely dark objects, it takes about 2 sec. before estimated exposure time is displayed.	Normal
c) 35 mm film does not advance when the film advance (TIME OFF/WINDING) button is pressed.	Camera back selector button "L" (large format camera back) is pressed.	Press "35L" or "35R" button.
	Multiple exposure (NO WINDING) is engaged.	Disengage.
<b>2. Operation</b>		
a) 35 mm film does not advance.	Camera back selector button "L" is pressed.	Press "35" or "35L" button.
	Multiple exposure (NO WINDING) is engaged.	Disengage.
b) Estimated exposure time is not displayed immediately.	MANUAL button is pressed.	Disengage.
	The light path is not selected for photomicrography.	Select for photomicrography.
	AF LOCK button is pressed.	Press again to unlock.
c) Indicated remaining exposure time does not count down.	No exposure time counts down below 0.5 sec.	Normal
d) Repeated indication of remaining exposure time.	Remaining exposure time increases due to specimen fading, etc.	Normal
e) Warning beeper sounds.	Frame counter (FRAME) blinks and film end warning beep sounds.	Detach the camera back and press the TIME OFF/WINDING button. The warning beep will stop in 3 sec.
	Due to underexposure, SAFETY light flashes and warning beep sounds continuously (3 sec.).	The specimen is too dark. If it is impossible to increase light intensity, press the MANUAL button for manual exposure.
	Due to overexposure, SAFETY light flashes and warning beep sounds intermittently (3 sec.).	The specimen is too bright. Reduce light intensity with the intensity control button.



Symptom	Possible Problem	Remedy
<b>3. Results</b>		
a) Photomicrograph is not sharp.	Dirty objective front lens	Clean.
	Poor focusing	Complete focusing so that both the double cross lines and specimen image can be seen clearly at the same time.
	Aperture iris diaphragm is not opened properly.	Open properly.
	High power dry objectives are used for uncovered smear specimens.	Use no-cover objectives.
b) No contrast or insufficient resolution	A proper contrast filter is not used in B&W photography.	Choose an appropriate filter.
	Aperture iris diaphragm is not properly adjusted.	Adjust correctly (usually 2/3 – 3/4 open).
	Field iris diaphragm is not properly adjusted.	Adjust correctly (usually until the diaphragm disappears from view).
	Specimen lacks contrast.	Stop down aperture iris diaphragm to 2/3 – 3/4 open.
c) Poor color reproduction	Contrast filter for B&W film is used for color film.	Remove filter.
	RECIPRO button is set incorrectly.	Check initially entered film data.
	CC filter designated for the film is not used.	Use the designated filter.
d) Under or overexposure	Exposure adjustment button is not correctly set to match the overall density of the specimen.	Set it correctly according to the specimen density.
	RECIPRO button is set incorrectly.	Check initially entered film data.
	Incorrect film speed setting	Reset correctly.
e) Film is not exposed.	Film was not correctly loaded or advanced.	Check the film loading instructions again and load correctly.
	The light excluding slide was not pulled out when using a large format camera back.	Pull the light excluding slide out completely.
f) Image is partially cut off at the periphery.	Field iris diaphragm is stopped down excessively.	Do not stop down to an area smaller than the format reticle.
g) No data is imprinted (with Olympus Recordata Back in use).	Synchro-cord is not connected.	Connect the Recordata Back and microscope with synchro-cord.
	Recordata Back is switched OFF.	Switch ON.
	Batteries built in Recordata Back are exhausted.	Replace.
h) Irregular film advance, overlapping or skipping frames.	Film leader is inserted too far into the take-up spool, thus protruding from the opposite slit.	Re-read the film loading instructions and load the film correctly so that the film end does not protrude from the opposite side of the slit.



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The design of the product is under constant review and whilst every effort is made to keep this manual up to date, the right is reserved to change specifications and equipment at any time without prior notice.