

Stereo 1 – Olympus SZX12

Quick-start Guide

Location: Room 2.136

(Updated: 31/8/2021)

Acquisition Software:

DP Controller



DP Manager



Be mindful of what you are doing at ALL times: The microscope and the lenses are delicate and very expensive and should be treated with care.

Sample Cleaning and Preparation:

- Make sure your sample container, (i.e. your petri dish), is scrupulously clean and dry before placing it on the microscope
- Use a sample container of an appropriate size to your sample – a 1cm or smaller embryo can be contained in a 35mm petri dish, this will help minimise potential spills and also assist in manipulating your sample for locating and imaging
- Do not overfill your containers, the microscope must be kept dry so please avoid any chance of your sample liquid overflowing from your container

Start-up Procedure

- Check the microscope is clean before you start doing anything else
- Set the zoom wheel to the lowest setting (7x)
- Check that the eyepieces are a comfortable distance apart
- If you will be doing reflected light imaging, make sure that the plastic stage insert is in place and that the black or white side is facing up (as per your needs)
- If you will be using transmitted light, (or oblique illumination), ensure that the glass stage insert is in place and that it is clean and free from dirt
- Ensure that the clear plastic cover is in place over the stage (yes, you **MUST** use this)
- Push the eyepiece/camera rod all the way in to send light to the eyepieces
- Log in to the computer – use your IMB username and password and log into the AD domain
- Follow the instructions that pop up in the windows script host dialog box and click OK to close the dialog box
- Place your sample on the stage below the objective

Saving Your Data

Save your Data to C:\UserData and create yourself a folder if it doesn't already exist. **DO NOT** save directly to the network, only transfer your files at the end of your session.

Connecting to Network attached Storage

- o Data you acquire on this device should be backed up to a server for future retrieval and use.
- o The IMB has access to a number of servers both internally managed, as well as UQ-wide resources, think carefully where you would like to store your data.
- o Internal IMB Server address which will be UNAVAILABLE by end of 2020, include:
 - o **IMB Share**
 - Backed up
 - Group shared server
 - \imbshare.imb.uq.edu.au
 - o **IMB Transfers**
 - Not backed up
 - Deleted every 7 days
 - \transfers.imb.uq.edu.au
 - o **Objective Server**
 - Microscopy only
 - Not backed up
 - \objective.imb.uq.edu.au
- o UQ-wide resources:
 - o **UQ RDM**
 - Project based shared drive
 - Can be cached locally (\data.imb.uq.edu.au)
 - For more information see rdm.uq.edu.au
 - Note this uses UQ-SSO credentials (type `uq\username`)

Light Path Settings

- Turn on the light source that you intend to use:
 - o For reflected light you can choose between two light sources
 - The ring light offers a more even and “soft” illumination; this is mounted directly around the objective
 - The dual head fibre optic light produces directional lighting and can help accentuate the shape of your sample and is adjustable via the goose-neck adaptors
 - Both lamp houses are located behind the microscope
 - o For brightfield or oblique (or darkfield) illumination, turn the lamp on in the base of the microscope itself
- To set up the brightfield imaging:
 - o Ensure the LBD filter rod on the right-hand side of the microscope is pushed in and the brightness control knob at the rear of the right-hand side is set to produce a neutral light
 - o Adjust the brightness of the light using the Neutral Density (ND) filters on the right-hand side of the microscope
 - o Turn the switch at the front of the right-hand side of the microscope to the rear position
 - o Push the rod on the front of the microscope all the way in and turn it fully clockwise
- If you wish to use oblique or darkfield illumination:
 - o Adjust the width of the aperture by turning the end of the rod on the front of the microscope stand
 - o Adjust the position of the aperture by drawing the rod in and out
 - o Adjust the angle of illumination using the switch on the front of the right-hand side of the microscope base
- Carefully bring your sample into focus and adjust the magnifying power of the microscope using the zoom wheel

Image Capture

- Pull the eyepiece/camera rod all the way out to send light to the camera
- Start **DP Manager** software
- Go to Menu > Image Capture > AutoSave Options – check to be sure that your images will not be saved to someone else’s folder, set up your own auto-save settings
- Start **DP Controller** Software and press the **Preview** button
- Select an image size of 1360 x 1024 which is fine for documentation and publication, select a larger size if you wish to use an image for a poster
- Make sure the **Sensitivity** is set to ISO 200

- Set the **Exposure** to Auto for brightfield or SFL-Auto for fluorescence, if you want more control over exposure you can set exposure to manual and control the exposure time with the slider on the left of the capture menu
- If you want a scale bar select the objective you will be using from the drop-down menu
- Go to the colour tab and use the tool there to set white balance
- The **Scale** tab has tools to set the appearance of the scale bar – burn scale in image box must be ticked to save the scale bar in your image
- Bring the image into focus on the screen
- Click the **Capture** button to capture and image
- Save the image by going to Menu > File > Save in the DP Manager – Save your files to a local folder and transfer then to the Network storage at the end of the session

Shut Down Procedure

- Clean up any spills in the working area, this an OH&S issue which all user must comply with
- Turn off all lamps, close the DP Manager and Controller software
- Log out of the computer

System Hardware Summary

Microscope Stand: Olympus SZX12 Stereo Microscope

Camera: Olympus DP70 CCD Camera