Digital Microscope
DSX1000
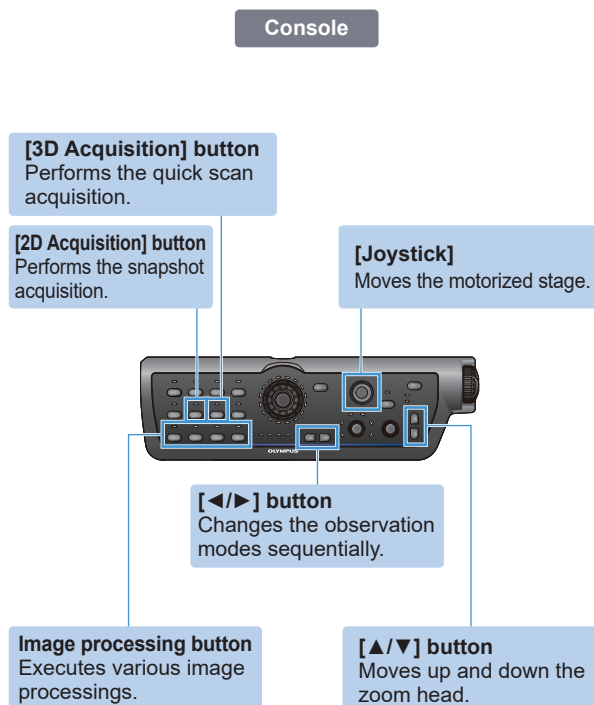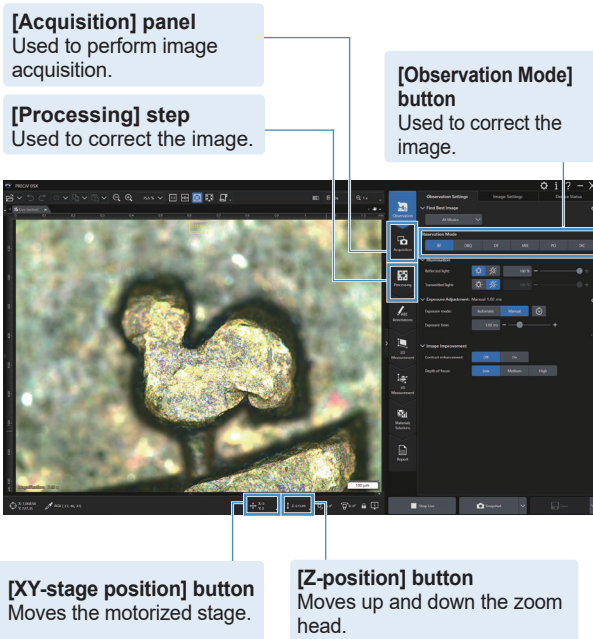
Basic

Quick Reference Guide

Contents

(1) Introduction

(2) Preparation for observation

(3) Selection of observation modes

(4) Image processing method

(5) Image acquisition

(6) Saving acquired images

AX9342 04

Operating procedure

Reference information

Basic

1

Introduction

User interface

[Acquisition] panel
Used to perform image acquisition.

[Processing] step
Used to correct the image.

[Observation Mode] button
Used to correct the image.

[XY-stage position] button
Moves the motorized stage.

[Z-position] button
Moves up and down the zoom head.

[3D Acquisition] button
Performs the quick scan acquisition.

[2D Acquisition] button
Performs the snapshot acquisition.

[Joystick]
Moves the motorized stage.

[◄/►] button
Changes the observation modes sequentially.

Image processing button
Executes various image processings.

[▲/▼] button
Moves up and down the zoom head.

Basic

2

Preparation for observation

Selection of observation modes

Image processing method

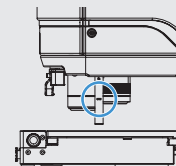Image acquisition

Saving acquired images

Preparation for observation

Sample set

1. Start the system (in a state of bright-field observation).

2. Set a sample on the stage.

3. Move the zoom head to bring the sample into focus.

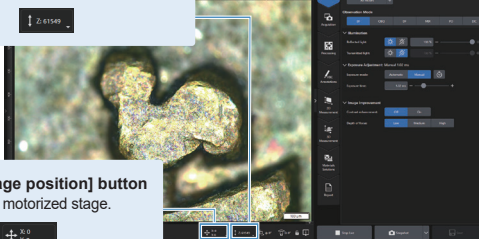4. Move the stage back/forth and left/right to place the position desired to be observed on the center.

Useful operation

* Pulling out the Focus assist bar helps you to roughly find the focus point.

Software

3. **[Z-position] button**
Moves up and down the zoom head.

Z: 61549

4. **[XY-stage position] button**
Moves the motorized stage.

X: 0
Y: 0

Console

3. **[▲/▼] button**
Moves up and down the zoom head.

4. **[Joystick]**
Moves the motorized stage.

* For "Up/Down movement of zoom head", "Back/Forth and Left/Right movement of stage", and "Usage of Focus assist bar", please refer to the online help.

Basic

3

Selection of observation modes

Select the best image

1. Activate the [Observation] step and click on the [Observation Settings] tab.

2. Click the [All Modes] button from the [Best image screen] group.

3. Select the desired image on the best image screen.

4. Click the [Apply] button.

Software

1. **[Observation Settings] tab**

Observation Settings

2. **[ALL MODES] button**

All Modes

3. **Best image screen**
Select the desired image on the best image screen.

4. **[Apply] button**

✓ Apply
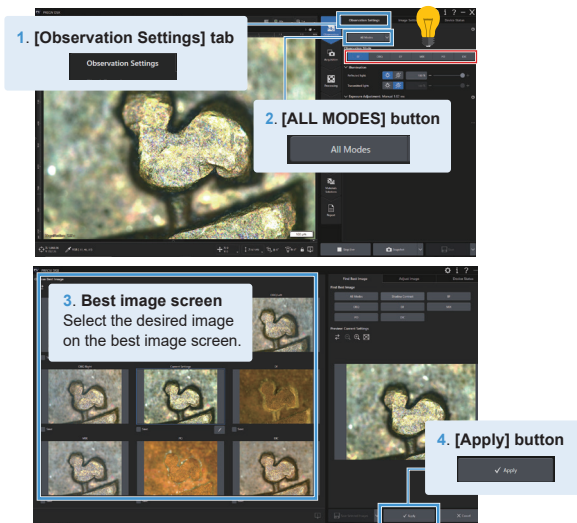
Console

Useful operation

* Direct observation mode is also available.

[◀/▶] button
Changes the observation modes sequentially.

Observation mode
B.F | OBQ | D.F | MIX | P.O | DIC

Light / Camera
Light

[Observation mode] button
Changes to the appropriate observation mode.

Image processing method

Live image processing is available

[Increasing the Contrast] [Increasing the Depth of focus]
1. Activate the [Observation] step and click on the [Observation Settings] tab.
2. Select the required settings in the [Contrast enhancement] field or [Depth of focus] field in the [Image Improvement] group.

[Enhance Texture / Remove Halation]
1. Activate the [Observation] step and click on the [Observation Settings] tab.
2. Click the [LiveHDR] button in the [Image Enhancement] group.
3. Select the [Enhance Texture]or [Remove Halation] in the [Options] field.

Software

1. [Observation Settings] tab

Observation Settings

2. [Contrast enhancement] field or [Depth of focus] field

| Off | On |
| Low | Medium | High |

1. [Image Settings] tab

Image Settings

2. [LiveHDR] button

LiveHDR

3. [Enhance Texture] or [Remove Halation] button
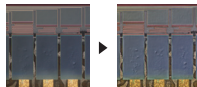
Enhance Texture | Remove Halation

Console

Image processing button
Executes various image processings.
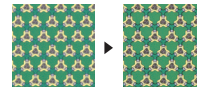When the image processing is enabled, the corresponding LED lights up.

Texture enhancement
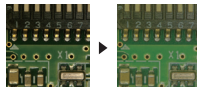Enhances the uneven state.
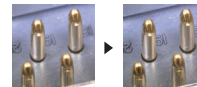
Contrast UP
Enhances the contrast.

Anti-halation
Curbs various reflections.

Depth of focus UP
Deepens the focusable distance.
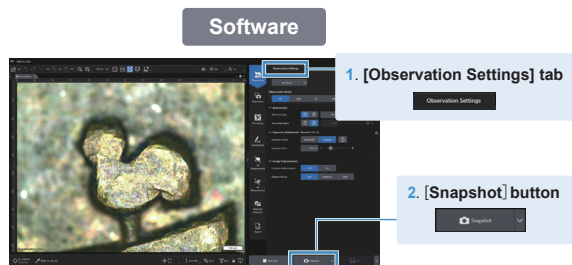
Useful operation

3D Measurement

* Clicking the [Accessory] tab - [Live measurement] button enables you to perform the measurement during the live operation. For details, please refer to the online help.

Image acquisition

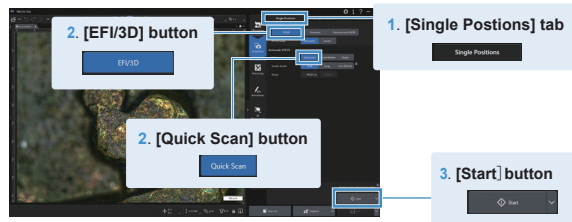## 2D Acquisition and 3D Acquisition can be easily conducted

2D Acquisition

1. Activate the [Acquisition] step and click on the [Observation Settings] tab.
2. Click the [Snapshot] button.
  A new document is created and displayed in the document group.

Software

Console

1. [Observation Settings] tab

Observation Settings

2. [Snapshot] button

Snapshot

[2D Acquisition] button
Performs the snapshot acquisition.

3D Acquisition

1. Activate the [Acquisition] step and click on the [Single Postions] tab.
2. Click the [EFI/3D] button in the [Acquisition Mode] field, and click the [Quick Scan] button in the [Mode] field.
3. Click the [Start] button.
  A new document is created and displayed in the document group.

2. [EFI/3D] button

EFI/3D

1. [Single Postions] tab

Single Positions

2. [Quick Scan] button

Quick Scan

3. [Start] button

Start

[3D Acquisition] button
Performs the quick scan acquisition.

Basic

6

Preparation for
observation

Selection of
observation modes

Image processing
method

Image acquisition

Saving acquired
images

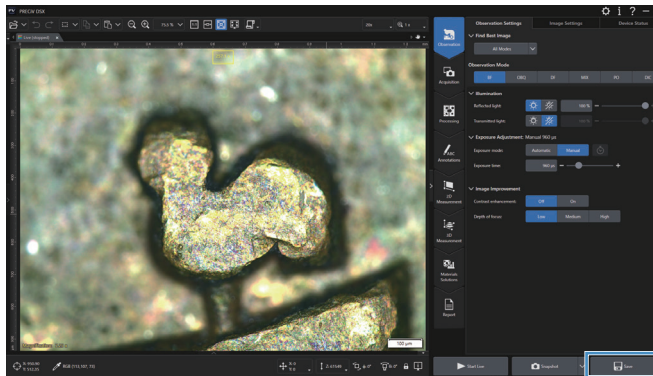# Saving acquired images

Saving the image data

1. Click the [Save] button.
2. The image is saved.

   Assigns default names when acquiring images.

   You can change this name in the [Document Name]dialog box.

   See [Acquisition Settings] > [Document Name] dialog box.

Software

1. **[Save] button**

**Useful
operation**

● Desire to designate the name of a
file desired to be automatically saved

**Advanced settings > Image
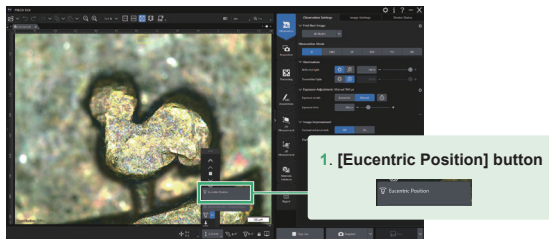acquisition > [Auto save]**

Digital Microscope
DSX1000

Advanced

Quick Reference Guide

Contents

Introduction

Operating procedure

Reference information

Advanced

1

Operation of tilt observation

Operation of Rotatable stage

Replacement of objective and option unit

List of objectives and corresponded observation modes

Objectives and attachment management

Items often referred in the Instruction Manual

Configuration of the Instruction Manual

Operation of tilt observation

1. Click the [Z-position] button in the status bar, then click the [Eucentric Position] button.
   Or press the [Tilt Position] button on the console.

Software

1. [Eucentric Position] button

Console

1. [Tilt Position] button

2. Adjust the focus with the Focusing knob

* Aligning the upper surface of the sample to the horizontal line helps you to roughly adjust the focusing.
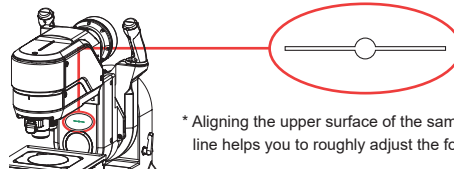
3. Rotate the Tilting lock lever to release the tilting lock.

4. Tilt the head holding the Rotation-release knob on the head arm.

5. Stop the head at an arbitrary position and release your hand from Rotation-release knob.

4. Rotation-release knob

3. Tilting lock lever

2. Focusing knob

9

Introduction

Operating procedure

Reference information

Advanced

2

Operation of tilt observation

Operation of Rotatable stage

Replacement of objective and option unit

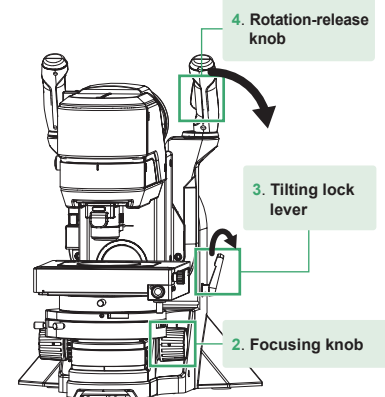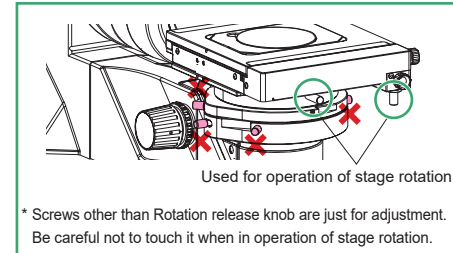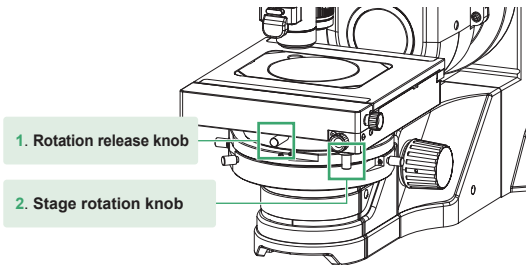List of objectives and corresponded observation modes

Objectives and attachment management

Items often referred in the Instruction Manual

Configuration of the Instruction Manual

Operation of Rotatable stage

* This function is only for rotatable motorized stage.

1. Loosen the Rotation release knob.

2. Rotate the stage holding the Stage rotation knob.

1. **Rotation release knob**

2. **Stage rotation knob**

Used for operation of stage rotation

* Screws other than Rotation release knob are just for adjustment.
  Be careful not to touch it when in operation of stage rotation.

Software

ConsoleControl
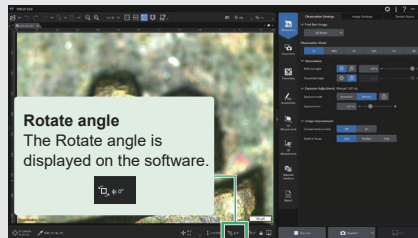
Rotate angle
The Rotate angle is displayed on the software.

* With the stage rotated, you can move the stage
  back/forth and left/right with joystick.

Replacement of objective and option unit

Attachment and detachment of lens attachment

1. Insert the unit along the mounting portion and push it all the way until it clicks.

2. Press the Lens attachment replacement button and remove it.

2. **Lens attachment replacement button**
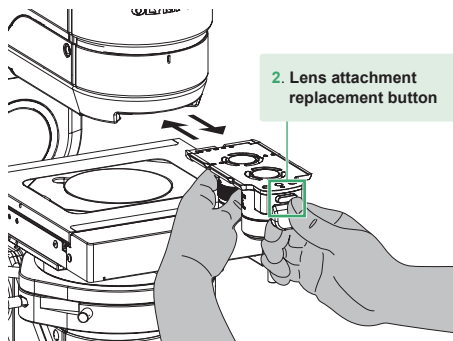
* Please be sure to hold the unit with both hands. Dropping the unit may result in injury.
* An objective lens used for the first time should be registered on the software.

Attachment and detachment of option unit (Diffused illumination adapter)

* This unit can be attached only to Super long working distance objective.

1. Align the groove of the objective lens to the projection of the adapter.

2. Turn the unit clockwise to be mounted until it clicks.

3. Push down the removal button and turn the unit counterclockwise to be removed.

Groove of objective lens

1

2

Projection

3. Removal button

Advanced

4

Operation of tilt observation

Operation of Rotatable stage

Replacement of objective and option unit

List of objectives and corresponded observation modes

Objectives and attachment management

Items often referred in the Instruction Manual

Configuration of the Instruction Manual
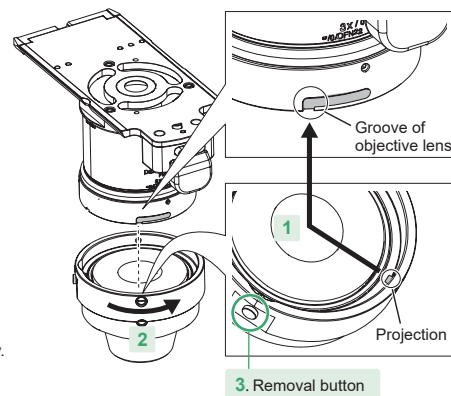
List of objectives and corresponded observation modes

Series name	Objective name	NA	W.D. (mm)	Actual field of view *1 (mm)	BF	BF Oblique	DF Ring	MIX	PO	DIC
Super long working distance objective lens series	DSX10-SXLOB1X	0.03	51.7	2.74 - 19.2	■	□*2	■	■	–	□*2
	DSX10-SXLOB3X	0.09	66.1	0.91 - 9.1	■	■	■	■	–	□*3
	DSX10-SXLOB10X	0.20	41.1	0.27 - 2.74	■	□*2	■	■	–	□*2
Long working distance objective lens series	DSX10-XLOB3X	0.09	30.0	0.91 - 9.1	■	■	■	■	–	□*2
	DSX10-XLOB10X	0.30	30.0	0.27 - 2.74	■	■	■	■	□*3	■
	DSX10-XLOB20X	0.40	20.0	0.14 - 1.37	■	■	■	■	□*3	■
	DSX10-XLOB40X	0.80	4.5	0.07 - 0.69	■	■	■	■	□*3	■
UIS2 Series	MPLFLN1.25X	0.04	3.5	2.19 - 17.1	■	□*2	–	–	–	–
	MPLFLN2.5X	0.08	10.7	1.1 - 10.2	■	□*2	–	–	–	–
	MPLFLN5XBDP	0.15	12.0	0.55 - 5.48	■	■	■	■	■	■
	MPLFLN10XBDP	0.25	6.5	0.27 - 2.74	■	■	■	■	■	■
	MPLFLN20XBDP	0.40	3.0	0.14 - 1.37	■	■	■	■	■	■
	MPLFLN50XBDP	0.75	1.0	0.05 - 0.55	■	■	■	■	■	■
	LMPLFLN10XBD	0.25	10.0	0.27 - 2.74	■	□*2	■	■	□*3	□*2
	LMPLFLN20XBD	0.40	12.0	0.14 - 1.37	■	□*2	■	■	□*3	□*2
	LMPLFLN50XBD	0.50	10.6	0.05 - 0.55	■	□*2	■	■	□*3	□*2
	MPLAPON50X	0.95	0.35	0.05 - 0.55	■	■	–	–	□*3	■

*1 At aspect ratio of standard 1:1 diagonal
*2 Blur or color unevenness may occur
*3 Polarization characteristic may have no effect

■: Applicable
□: Applicable with restrictions
–: Not applicable

Introduction

Operating procedure

Reference information

Advanced

5

Operation of tilt observation

Operation of Rotatable stage

Replacement of objective and option unit

List of objectives and corresponded observation modes

Objectives and attachment management

Items often referred in the Instruction Manual

Configuration of the Instruction Manual

Objectives and attachment management

For the management to check which purchased objective lens is mounted to which position of which attachment, please use the following table.

Objective name	Attachment number	Lens position	Note
☑ example	1 · 2	Front / Back	*uneven sample, DF observation*
☐ DSX10-SXLOB1X			
☐ DSX10-SXLOB3X			
☐ DSX10-SXLOB10X			
☐ DSX10-XLOB3X	1 · 2	Front / Back	
☐ DSX10-XLOB10X	1 · 2	Front / Back	
☐ DSX10-XLOB20X	1 · 2	Front / Back	
☐ DSX10-XLOB40X	1 · 2	Front / Back	
☐ MPLFLN1.25X	1 · 2 · 3	Front / Back	
☐ MPLFLN2.5X	1 · 2 · 3	Front / Back	
☐ MPLFLN5XBDP	1 · 2 · 3	Front / Back	
☐ MPLFLN10XBDP	1 · 2 · 3	Front / Back	
☐ MPLFLN20XBDP	1 · 2 · 3	Front / Back	
☐ MPLFLN50XBDP	1 · 2 · 3	Front / Back	
☐ LMPLFLN10XBD	1 · 2 · 3	Front / Back	
☐ LMPLFLN20XBD	1 · 2 · 3	Front / Back	
☐ LMPLFLN50XBD	1 · 2 · 3	Front / Back	
☐ MPLAPON50X	1 · 2 · 3	Front / Back	

Introduction

Operating procedure

Reference information

Advanced

6

Operation of tilt observation

Operation of Rotatable stage

Replacement of objective and option unit

List of objectives and corresponded observation modes

Objectives and attachment management

Items often referred in the Instruction Manual

Configuration of the Instruction Manual

Items often referred in the Instruction Manual

Items often referred in the Instruction Manual are picked up.
Please use the heading titles as a reference for your searching.

Item		Heading title	Item		Heading title
Precautions for transportation and installation	Hardware manual	"3.1 Transportation", "3.2 Installation"	Acquiring Extended Focal Image	Online help	"Acquisition > Acquiring EFI images""
Maximum loading capacity on stage	Hardware manual	"5.3 Loading capacity of stage"	Acquire wild-field mages	Online help	"Acquisition > panorama images"
Restrictions on combination	Hardware manual	"6. List of combinable units"	Acquiring images at multiple positions	Online help	"Acquisition > Acquiring images at multiple positions"
Cleaning and storage method	Hardware manual	"7. Maintenance and Storage"	Basic elements of User interface	Online help	"About the User interface"
Unit assembly method	Hardware manual	"8. Assembly"	Glossary and links	Online help	"Glossary"

As for items often used, please use the following table for your efficient searching.

Configuration of the Instruction Manual

Instruction Manual - Safety manual

Safety precautions
Please be sure to read this manual before use.

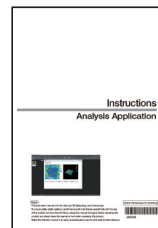## Instruction Manual - Hardware manual

Safety precautions
For the product specifications and assembly method, please be sure to read this manual before use.

Online help

Operational description
If you face any unclear points, including troubleshooting, please refer to this manual.

Instruction Manual- Analysis Application

Measuring and analyzing image data using PV-3DAA
Please refer to this manual if you have questions.

Installation Guide

Insertion

Description of cautions and initial setting
Please be sure to read this insertion when opening the product.