CAUTION

• Follow the safety precautions in Chapter 1 in order to avoid personal injury and damage to property when using this system. This manual describes the correct handling method of the system and provides instructions that should be followed to avoid accidents. Read this manual carefully before using this software.

• After reading this manual, store it in a location where you can refer to it at any time.
1. SAFETY PRECAUTIONS

1-1 CLASSIFICATION OF WARNINGS

We have classified the warning symbols that appear in this instruction manual and on the system as follows for your convenience. Make sure that you fully understand them and follow the instructions they contain.

<table>
<thead>
<tr>
<th>WARNING</th>
<th>Improper handling of the system without observing these warnings could lead to serious injury to the user and even death.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAUTION</td>
<td>Improper handling of the system without observing these cautions could lead to personal injury to the user or damage to property.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Note</strong></td>
<td>This symbol indicates a note to help you get the best performance from the system. Read the contents of the note carefully to ensure correct and safe use. Failure to observe one of these notes might impair the performance of the system.</td>
</tr>
<tr>
<td><strong>Exclamation Point</strong></td>
<td>This symbol indicates a cautionary item that should be followed when handling the system. Read the contents carefully to ensure correct and safe use.</td>
</tr>
<tr>
<td><strong>Stop</strong></td>
<td>This symbol indicates an action that is forbidden. Read and follow the instructions carefully.</td>
</tr>
<tr>
<td><strong>Blue Circle</strong></td>
<td>This symbol indicates a compulsory action or instruction. Read and follow the instructions carefully.</td>
</tr>
</tbody>
</table>

1-2 HARDWARE SAFETY PRECAUTIONS

- Read the chapter 1 SAFETY PRECAUTIONS carefully and be sure to obey them.
2. INTRODUCTION

Please read this manual carefully before using the NDP.view 2 software.

2-1 SYSTEM REQUIREMENTS

The recommendation system requirements for this software are as follows.

<table>
<thead>
<tr>
<th>Windows</th>
<th>Mac OS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS</td>
<td>OS X v10.11, macOS v10.12-13</td>
</tr>
<tr>
<td>CPU</td>
<td>Intel Multicore Processors</td>
</tr>
<tr>
<td>Memory</td>
<td>2 GB or more</td>
</tr>
<tr>
<td>Available HDD space</td>
<td>100 MB or more</td>
</tr>
<tr>
<td>VGA</td>
<td>OpenGL 2.0 support</td>
</tr>
<tr>
<td>Screen Resolution</td>
<td>XGA (1024×768) or higher</td>
</tr>
</tbody>
</table>

Note

• This software may not work satisfactorily on some computers. This software may fail to operate due to the operating system or system requirements. Please read the clause of "System requirements".

• In the software, a character of "µ" is not indicated. So, in the software window, a character of "u" is used instead of "µ". For example, um is used instead of µm.

2-2 TRADEMARKS

Windows 7, Windows 8.1 and Windows 10 are the registered trademarks of Microsoft Corporation in the United States and other countries. Mac OS is the registered trademarks of Apple Inc. in the United States and other countries. Other brand names are the trademarks or registered trademarks of each company.
3. CHECK THE CONTENTS OF PACKAGE

When you open the package, check that the following items are included before use. If the contents are incorrect, insufficient, or damaged in any way please contact Hamamatsu subsidiary or your local distributor before using this software.

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDP.view 2 Install Disc (CD-ROM)</td>
<td>1</td>
</tr>
<tr>
<td>NDP.view 2 Before Use</td>
<td>1</td>
</tr>
</tbody>
</table>
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   1-2  HARDWARE SAFETY PRECAUTIONS .............................................................................. 1  

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4. OVERVIEW

NDP.view 2 is a dedicated viewer for displaying digital slide files (NDPi files, NDPis files, vms files and vmu files) that have been created on the Hamamatsu NanoZoomer system. The NDP.view 2 software lets you open a digital slide file so you can navigate around the specimen as well as view the specimen at different magnifications.
5. INSTALL AND UNINSTALL

Please install as follows when you use the software to open a digital slide that is stored on your computer or local storage media.

- This software may not work satisfactorily on some computers. This software may fail to operate due to the operating system or system requirements. Please read the clause of “System requirements” well and use it in the right system requirements.

5-1 INSTALL AND UNINSTALL TO WINDOWS COMPUTER

Install and uninstall NDP.view 2 to Windows computer.

- When you are using Mac OS, please refer 5-2 INSTALL AND UNINSTALL TO Mac OS system.

5-1-1 INSTALL

(1) Insert the Install CD to computer.

(2) The first thing you will need to do is navigate to the NDP.view 2 Setup.exe file and double left click on it.

(3) Once you have clicked on the setup.exe, NDP.view 2 Setup Wizard will start.
(4) When the Setup Wizard (Image 3) is started, click on the Install button.

![Image 3](image_url)

**Note**
- NDP.view 2 software is installed in "C:/Program Files/Hamamatsu/NDP.view 2".

![Image 4](image_url)
(5) When the installation is finished the dialog below will display. (Image 5) Click on the “Run NDP.view 2” for starting NDP.view 2 or the “Close” to complete the install.
5-1-2 UNINSTALL

To remove the software go into your add and remove program section of the Control Panel in your operating system.

**Note**

- The screen of your control panel may differ depending on what operating system you are using. If more information is needed on uninstalling software please see your relevant operating system manual.

(1) The control panel window in Windows is shown below.

![Image 6](image6.png)

(2) Click the “Programs and Features” icon and the window will appear. (Image 7)

Scroll down until you find the NDP.view 2 software listed and then left mouse click on it so that it becomes highlighted as shown below. Once highlighted click on the remove icon and you will be asked are you sure you want to remove this software, click yes and the uninstall program will start removing the NDP.view 2 software from your computer.

![Image 7](image7.png)
5-2 INSTALL AND UNINSTALL TO MAC OS SYSTEM

Install and uninstall NDP.view 2 to Mac OS system.

Note

• When you are using Windows PC, please refer 5-1 INSTALL AND UNINSTALL TO Windows computer.

5-2-1 INSTALL

(1) Insert the Install CD to the computer.

(2) The first thing you will need to do is navigate to the NDP.view 2.x.x.dmg file and double left click on it.

(3) Once you have mounted setup image, following window will display. Drug NDP.view 2 icon and drop to "Applications" folder.

Note

• NDP.view 2 software is installed in "/Applications".
(4) NDP.view 2 will be added in "Applications"

5-2-2 UNINSTALL

NDP.view 2 software is uninstalled in the following procedures.

(1) Open "Applications" in Finder.

(2) Remove "NDP.view 2" from "Applications".
6. STARTING UP AND EXIT

6-1 STARTING UP NDP.VIEW 2

Windows
(1) A double click of an icon created on the desktop will start up NDP.view 2.

![NDP.view 2 Icon](image1)

**Note**
- When the icon is not created on the desktop, select "all program" -> "NDP.view 2" -> "NDP.view 2" from the start menu of Windows.

(2) A following screen will be first displayed, when NDP.view 2 starts.

![NDP View 2 Screen](image2)

**Note**
- Click □ icon at the upper-right of the screen to display in a full-screen mode or in a windowed mode.
- To minimize the screen, click _ at the upper-right of the screen.
Mac OS

(1) A click NDP.view 2 in "Applications" will start up NDP.view 2.

(2) A following screen will be first displayed, when NDP.view 2 starts.

Note

- Click full-screen or windowed button at the upper-left of the screen to switch the display size.

Note

- To minimize the screen, click minimize button at the upper-left of the screen.
6-2 EXIT NDP.VIEW 2

Choose “Exit” from the main menu that placed at upper left or Clicking “x” button at the upper right (at the upper left for Mac OS) or the “Alt” + “F4” key of a keyboard to exit from NDP.view 2.
7. OPERATION AND FUNCTIONS

Note

• The contents in 7. Operation and Functions are written for Window. For Mac OS, as long as there is no special statement, please transpose a "right click" to a "sub button" and transpose the "Alt" key to the "Option" key.

7-1 IMAGE DISPLAY

7-1-1 MAIN DISPLAY

(1) NDP.view 2 icon
Clicking this icon will open the main window (Refer to 7-1-3).

(2) Tab (Tab area)
Choosing tabs will change the slide images.

Click icon next to the tab to open the new tab.

Click "x" button at the upper right in the tab or the "Esc" key of a keyboard to close the tab.
(3) **Browse window**

Choosing “Browse” from the main menu that placed at upper left or the "O" key of a keyboard will display the browser window. You can chose and open the slide data.

![Image 18](image18.png)

**Note**

- Please refer to section "7-1-2 Browse Window" for these details.

(4) **Map window**

A map window can be displayed in the lower right of the screen.
Show or hide the overview map using the 'M' key.
Left click on the map to jump directly to the selected position at the current magnification, hold the left button down and move to quickly pan around the image.
Drag a box using the right mouse button to view the selected area immediately.
Right click on the overview map to choose the desired display size for the map.

**Note**

- Please refer to section "7-3-9 Map Window" when change the size of the map.
7-1-2 BROWSE WINDOW

The slide data can be displayed as thumbnail images. The home screen is displayed at the first start. On the home screen, the configuration of the drive and the recently displayed image, favorites are displayed. You can return to the home screen by clicking the "Home" button.

(1) Tool buttons
Tool buttons in browse window.

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🏡</td>
<td>Go to Home directory.</td>
</tr>
<tr>
<td>←</td>
<td>Back to previous directory.</td>
</tr>
<tr>
<td>→</td>
<td>Forward to next directory.</td>
</tr>
<tr>
<td>🔄</td>
<td>Reload images in the folder.</td>
</tr>
<tr>
<td>↑</td>
<td>Go to upper directory.</td>
</tr>
<tr>
<td>🌟</td>
<td>Add or delete a folder with favorites.</td>
</tr>
<tr>
<td>🕵️‍♂️</td>
<td>Change the thumbnail types.</td>
</tr>
<tr>
<td>✅</td>
<td>Sort by the selected column.</td>
</tr>
<tr>
<td>⬆️ &amp; ⬇️</td>
<td>Switch in ascending and descending.</td>
</tr>
<tr>
<td>🌐</td>
<td>Open the address window.</td>
</tr>
<tr>
<td>📁</td>
<td>Open the file browser of OS system.</td>
</tr>
</tbody>
</table>

(2) Local Drive
List the local drives.

(3) Favorites
Show folders registered as favorites.
(4) Recent Images
Show recent images.

(5) Slide data
The slide data can be displayed as thumbnail images.

Note
- The slide data in the folder are displayed as thumbnail images. Therefore, images can be checked before opening the files.

■ Access to NDP.serve

(1) Clicking the "button will be displayed the input window of file address.

(2) Input the address of NDP.serve and click the “OK” button.

(3) Input the username and the password.

(4) When “sign in” is successful the folder in a server is displayed on file browser.
### Add a folder to favorites

You can add to favorites the often accessed folder. Also you can add the folder on a server.

1. Open the folder you want to add and click the icon. When you add the folder to favorites, the icon changes to .

2. The folder you added to favorites will appear on "Home".
You can show the network on home page.

(1) Open the setting window.

(2) Select “Show Network on Home Page” in “Browser”.

Note

- Please refer to section “7-4 Settings” for these details.
7-1-3 MAIN WINDOW

Main window include following menu.

![Main window menu](image24)

<table>
<thead>
<tr>
<th>Menu</th>
<th>Details</th>
<th>Reference section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Browse</td>
<td>Open the browse window.</td>
<td>7-1-2</td>
</tr>
<tr>
<td>Settings</td>
<td>Open the settings window.</td>
<td>7-4</td>
</tr>
<tr>
<td>Image Controls</td>
<td>Open the image controls window.</td>
<td>7-4-10</td>
</tr>
<tr>
<td>Image Info</td>
<td>Show the current slide information.</td>
<td>7-4-11</td>
</tr>
<tr>
<td>Slide Image</td>
<td>Show the glass slide image.</td>
<td>7-3-11</td>
</tr>
<tr>
<td>Annotations</td>
<td>Open the annotation list.</td>
<td>7-3-8</td>
</tr>
<tr>
<td>Help</td>
<td>Show help.</td>
<td>7-3-16</td>
</tr>
<tr>
<td>About</td>
<td>Show the information of Version and License.</td>
<td></td>
</tr>
<tr>
<td>Export View</td>
<td>Export the current screen to the image file.</td>
<td>7-3-12</td>
</tr>
<tr>
<td>Copy to Clipboard</td>
<td>Copy the current screen to clipboard.</td>
<td>7-3-14</td>
</tr>
<tr>
<td>Take Screenshot</td>
<td>Take screenshot with tool windows.</td>
<td>7-3-15</td>
</tr>
<tr>
<td>New Window</td>
<td>Open new windows.</td>
<td>7-3-7</td>
</tr>
<tr>
<td>Exit</td>
<td>Exit NDP.view 2.</td>
<td>6-2</td>
</tr>
</tbody>
</table>

Click anywhere else on the screen or 📌 icon to close the Main window.
7-1-4 TOOLBAR

The following icons are shown on a toolbar.

(1) Annotation, Custom Annotation

(2) Windows

<table>
<thead>
<tr>
<th>Menu</th>
<th>Details</th>
<th>Reference section</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Open the browse window.</td>
<td>7-1-2</td>
</tr>
<tr>
<td></td>
<td>Open the settings window.</td>
<td>7-4</td>
</tr>
<tr>
<td></td>
<td>Open the image controls window.</td>
<td>7-4-10</td>
</tr>
<tr>
<td></td>
<td>Show the current slide information.</td>
<td>7-4-11</td>
</tr>
<tr>
<td></td>
<td>Show the glass slide image.</td>
<td>7-3-11</td>
</tr>
<tr>
<td></td>
<td>Open the annotation list.</td>
<td>7-3-8</td>
</tr>
</tbody>
</table>
(3) **Show/Hide**

<table>
<thead>
<tr>
<th>Menu</th>
<th>Details</th>
<th>Reference section</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Show/Hide Annotation.</td>
<td>7-3-8</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Show/Hide Map Image.</td>
<td>7-3-9</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Show/Hide Scale bar.</td>
<td>7-3-10</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Show/Hide Widget.</td>
<td>-</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Show/Hide Title Tag.</td>
<td>-</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Show/Hide Label Tag.</td>
<td>-</td>
</tr>
</tbody>
</table>

**Note**
- The icons displayed on the toolbar can be changed in the setting menu.

### 7-1-5 **TOOL WINDOWS**

The tool windows can be moved the position, changed the size and closed. The windows size and position are saved automatically, when software closes.

- **Move position**: Drugging the upper bar of the window can change the window position. (1)
- **Change size**: Drugging the right-bottom of the window can change the window size. (2) (Window without the mark will not be able to change the size.)
- **Close window**: Clicking “x” button at the upper right will close the window. (3)
7-2 OPEN A DIGITAL SLIDE FILES

7-2-1 OPEN THE SLIDE DATA

A slide is opened by the following methods.

- Click the thumbnail image of the slide data. (Image 30)
- Choose the method to open the slide data from open menu which displayed by right-click on the thumbnail image. (Image 31)

- Drag and drop the slide data from a browser window. (Image 32)

- Drop on the upper Tab area, and you can display the slide data on the New Tab.
- Drop on the square shape, and you can display the slide data on multi window.

Note

• Please refer to section “7-3-6 SPLIT SCREEN IMAGES” for these details.

A Slide image will be displayed, when open the slide data.
7-2-2 PREVIEW DISPLAY ON TAB

When you move the mouse over the tab on which the slide file is opened, a preview image will display.

7-2-3 SWITCHING SLIDE FILES

Pressing the "Tab" key on the keyboard while the slide file is opened switches to the next image in the folder. Also, "Shift" + "Tab" key will switch to the previous image.
7-2-4  CLOSE THE SLIDE DATA

Clicking “x” button at the upper right or tab will close the slide images.
7-3 THE DIGITAL SLIDE OPERATION

You can navigate around a digital scan in more than one way by using the keys as well as the mouse.

Note

• Please refer each chapter or "7-5 Operation List" for these details.

7-3-1 MOVEMENT

You can move the slide image to the place where you intend to display on the screen.

7-3-1-1 Moving the slide image

Holding down the left mouse button and dragging as depicted below.

Image 36

“↑, ↓, ←, →” keys will move the specimen a single field in the relevant key direction.

Note

• Moving direction when pressing the arrow keys, it is possible to change by the settings. Also, it is possible to change the moving distance. Please refer to section "7-4-3-5 CHANGE SCROLL DIRECTION FOR ARROW KEYS" for this details

7-3-1-2 Jump to a specific area

You can center and expand a specific area of interest by placing the mouse pointer on the relevant area and left double clicking.

Image 37
7-3-1-3  Moving the slide image by mouse middle button

Click "Middle Button" to display "keyboard_image" on the screen. You can move the slide by moving the mouse.

![Image 38](image_url)

Clicking the mouse middle button again releases it.

7-3-1-4  Joystick operation

You can move a slide by operating joystick widget.

![Image 39](image_url)

7-3-2  EXPANSION AND REDUCTION

Expansion and reduction the slide images.
The images can be magnified up to 8 times of the source magnification.

**Note**

- The magnification which acquired the images can be checked in the information window (see the 7-4-12 clause). The maximum magnification can be changed by setting. (see the 7-4-3-1 clause).

Pressing the "space bar" or "0" key at any time will take you back to the overview image.
7-3-2-1 Expansion and reduction by mouse's wheel

Zooming in and out of a scan can be done by using the mouse's wheel.

<table>
<thead>
<tr>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Expansion direction by the mouse wheel manipulation can be changed by settings. Please refer to section &quot;7-4-3-7 CHANGE MOUSE WHEEL DIRECTION&quot; for this details</td>
</tr>
</tbody>
</table>

Image 40

7-3-2-2 Expansion and reduction with focus widget

<table>
<thead>
<tr>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lens menu and shortcut key are different depend on the scan mode when you take the image.</td>
</tr>
</tbody>
</table>

The magnification can also be changed with the “Lens Widget”. You can specify the magnification by choosing arbitrary magnifications from “Lens Menu”. Click “Hide Lens Widget” in the Lens Menu to hide a lens widget.

Image 41

Manipulate with keyboard.

<table>
<thead>
<tr>
<th>Keys</th>
<th>Magnifications</th>
<th>Keys</th>
<th>Magnifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>Expansion</td>
<td>—</td>
<td>Reduction</td>
</tr>
<tr>
<td>0</td>
<td>Map view</td>
<td>5</td>
<td>20x</td>
</tr>
<tr>
<td>1</td>
<td>1.25x</td>
<td>6</td>
<td>40x</td>
</tr>
<tr>
<td>2</td>
<td>2.5x</td>
<td>7</td>
<td>80x</td>
</tr>
<tr>
<td>3</td>
<td>5x</td>
<td>8</td>
<td>160x</td>
</tr>
<tr>
<td>4</td>
<td>10x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

HAMAMATSU
7-3-2-3 Expansion of a specific area

Holding down the right mouse button and then dragging the mouse will select an area of interest. As you let go of the right mouse button the image you selected will zoom to fill the screen.

![Image 42]

7-3-3 CHANGE IN FOCUS PLANE

View the slide images with multi focal plane.

**Note**

- The operation of focus is limited to the slide data acquired for Z stack when scanning.

7-3-3-1 Moving the focal plane

The focus position can be changed by rolling the mouse wheel while holding down the “Ctrl” key or you can use the “Page up” and “Page down” key.

![Image 43]
7-3-3-2 Moving the focal plane with focus widget

The current focus position displayed at "Focus Widget".
The focus plane can also be changed with the "Focus Widget".

7-3-4 INDICATION CHANGE OF THE IMEAGE

Switch the image view. You can rotate, flip and bird view images. You can switch each image view with the keyboard operation or with the icon on the widget.

7-3-4-1 Rotate operation

Use the R key to rotate the image each 90 degrees. You can manually rotate the image by holding the “Ctrl” key (“Option” key for Mac OS) down and pressing the “←” or “→” key. Or the view widget at the upper right of a screen can operate the rotation.

Note

- Image rotation direction can be changed by settings.
  Please refer to section "7-4-3 Navigation" for this details.
7-3-4-2 Inversion operation

To switch normal image and mirror image press “Alt”+ “M” key. Or the Mirror widget at the upper right of a screen can switch mirror image.
To switch normal image and frip image press “Alt”+ “F” key.

7-3-4-3 Bird’s eye view

Bird’s eye view allows you to view images in a way of Bird’s Eye view.

\[\text{Note}\]
\begin{itemize}
  \item Return to normal view when clicking the map image.
\end{itemize}

To toggle between normal viewing and the bird’s eye view press the “W” key.
To return to normal view mode, press the “W” key again. Or the Bird’s eye view widget at the upper right of a screen can switch the bird’s eye view.

Image 47
7-3-5  HISTORY

Move to back and forward screen.

7-3-5-1  Back
Click a left arrow at history widgets.
When you click a left arrow while pushing "Ctrl" key, it skip move animations.

![History widget](image)

**Note**
- You can operate while the icon is colored.

7-3-5-2  Forward
Click a right arrow at history widgets.
When you click a right arrow while pushing "Ctrl" key, it skip move animations.

**Note**
- You can operate while the icon is colored.
7-3-6 SPLIT SCREEN IMAGES

Can be displayed the same tab the two or more slide data. You can also synchronize the split screen images.

7-3-6-1 Display multi slide data concurrently

When you intend to display two or more slides concurrently, check the slide images which you want to display from the file browser.

(1) Select two or more slide images.
Check at the upper left of the each image to select it.

(2) Display multi slides concurrently.
Select “Open” from the menu shown by right-click.

Also, drugging and dropping the slide data from the file browser window to the square shape will display multi slide data concurrently.

The data are placed in any place.
In NDP.view 2 Plus, the case view and split display options are displayed in the advanced settings. For details, refer to the NDP.view 2 Plus Instruction manual.

In NDP.view 2 Plus, if you drop multiple images on the square, it will open as case view. For details, refer to the NDP.view 2 Plus Instruction manual.

You can also split the screen and open the image by dragging the file from the file browser and dropping it on the square.

The data surrounded in a red frame is activating for operation.
Introducing the another method for multi display below;

(3) Display the split menu.
Right click on the current tab's title will open a split menu.

The data are placed in any place. A maximum 12 slides (4 x 3) can be displayed on one monitor.

(4) Choose the desired layout from the split menu.

Image 57 shows the screen which selected 2 images (vertical) from the split menu. One image is opened. Dragging and dropping the slide data from the browser window to the right area will open second image.
7-3-6-2  **Synchronize**

Right click on the active tab title at the top of the screen and choose “synchronize”. All the images on the current tab will move together. Pressing “Shift”+ "S" key performs the same function.

7-3-6-3  **Desynchronize**

To cancel the synchronization right click on the active tab again and choose the “Desynchronize” option. Pressing “Shift”+ "S" key performs the same function.
7-3-7  MULTI WINDOW

Can be displayed the two or more slide data in each window. You can also synchronize the images.

7-3-7-1  Display two or more slide data in each window

Open a new window to display a slide image.

(1) Open a new window.

Choose “New Window” from the main menu or press “Ctrl + N” key to open a new window.

(2) Display two or more slide data in each window.

Display each image in each window as described in “7-2-1 Open the Slide data”.

Image 57

Image 58
7-3-7-2 Synchronize

On multi window mode, the image displayed in each window can be synchronized by selecting “Synchronise All” from the main menu.

7-3-7-3 Desynchronize

To cancel the synchronization choose “Desynchronise All” from the main menu.
Annotations can be drawn on an image and saved alongside it.

Right clicking on the slide image will open the annotation menu.

(1) To add a new annotation right click on the image and choose the desired annotation type.

(2) Next move the mouse to the desired start position and press the left button, hold the button down and move to the end position then release the button. On Pin annotation, a description ends when you click.

(3) Draw annotation with specified size.
   Click on “Specify Size”, Image 62 will display. Select the type of annotation from Ruler, Rectangle and circle and enter arbitrary value. Click "OK" to create the annotation of the specified size.

(4) When the button is release a dialog box will appear allowing you to give the annotation a title and description, you can also set the desired color, whether or not
the title is displayed on the image and whether or not measurements are displayed (if applicable).

(5) The annotations are listed on the screen.

The annotation list can be switched between show and hide by pressing "L" key.

(6) When the mouse is over an annotation the annotation is highlighted, highlight the desired annotation and click the right mouse button to bring up the edit menu.
Goto | Go to the position that the annotation was created.
---|---
Edit | Change the contents of the annotation.
Move | Move the annotation to desired point
Save | Save the annotation. The saved annotation can be opened from the annotation menu.
Cut | Cut the annotation and copy it to clipboard
Copy | Copy the annotation to clipboard
Delete | Delete the annotation.

(7) To paste copied annotation anywhere on the slide image choose the “Paste Annotation” option from the annotation menu or “Ctrl + V” key.

(8) The saved annotation can be opened from “Saved Annotation” in the annotation menu. Choose the annotation and click on the image.

To finish addition of the saved annotation, right-click on the image or press the “Esc” key.
(9) To temporarily show or hide all annotation, choose the appropriate option from the annotation menu or press the “A” key.

Image 68

(10) To delete all annotation permanently in one go choose the “Delete All Annotations” option from the image context menu.

(11) To export all annotation, choose the appropriate option from the annotation menu or press the “Alt + E” key.

(12) Select file format and save all annotation. You can select the field with csv format.

Image 69
7-3-9  MAP WINDOW

Left click on the map to jump directly to the selected position at the current magnification, hold the left button down and move to quickly pan around the image. Drag a box using the right mouse button to view the selected area immediately.

7-3-9-1  Change the map image size

(1) Display the map menu.
   Right clicking on the on the overview map will open the map menu.

(2) Select the display size of the map image from the menu (Small, Medium, and Large)

7-3-9-2  Show Track Map

(1) Display the map menu.
(2) Selecting “Enable Tracking” will display the track map and start the tracking.

(3) Selecting “Show Track Map”, “Hide Track Map” will switch the track map display.
(4) Selecting “Reset Track Map” will reset the track map.

7-3-9-3  Show or hide the overview map

Right click on the on the overview map to choose the hide map. Show or hide the overview map using the 'M' key.
7-3-10 SCALE BAR

A scale bar can be shown to indicate the physical size of the current field of view image

(1) Show or hide the scale bar using the “B” key.

When the image magnification is changed, the length and the value of a scale bar will be changed automatically.

(2) To hide the scale, press the “B” key on your keyboard again.

(3) To change the type of scale, press the “Ctrl” + “B” key on your keyboard.

Note

- The scale bar type can be changed by settings. Please refer to section “7-4-5 SCALE BAR SETTING” for this details.
7-3-11 GLASS SLIDE IMAGE

Displays the overview image of the entire slide that was scanned.

(1) Open the slide data.

(2) Open the Slide Image window.
   Choosing “Slide Image” from the main menu that placed at upper left or the "G" key of
   a keyboard will display the slide Image.

(3) The entire image of a glass slide will be displayed.

A blue frame indicates the area of the scan image.

Note

• In the image which scan with a skip lane function, the skipped part is included in a
  blue frame.
7-3-12 EXPORT VIEW

Export the current screen to the image file.

(1) Open the Export View Window.
Choosing “Export View” from the main menu that placed at upper left or the “E” key of a keyboard will display the Export Image Window.

(2) Set file name.
Set the file format and file name and save the image file to selected folder.
7-3-13 EXPORT IMAGE

Export the current screen to the image file.

(1) **Open the Export Image Window.**

Choosing “Export Image” from the annotation menu that opened by right-click or the “Ctrl” + “E” key of a keyboard will display the Export Image Window.

![Export Image Window](Image 78)

(2) **Select resolution.**

Set the file format and file name and save the image file to selected folder.

![Export Image Dialog](Image 79)

(3) **Set file name.**

Set the file format and file name and save the image file to selected folder.
7-3-14 COPY IMAGES

Copy the current screen to clipboard.

Choosing “Copy to Clipboard” from the main menu that placed at upper left or a notation menu that opened by right-click or the "C" key or “Ctrl + C” key of a keyboard will copy the current screen to clipboard.

7-3-15 TAKE SCREENSHOT

Take screenshot with tool windows.

Choosing “Take Screenshot” from the main menu that placed at upper left or the "Print Screen" key (“Command”+“Shift”+“3” with Mac OS) of a keyboard will take the screenshot to clipboard.
7-3-16 HELP

Help menu shows the directions for NDP.view 2.

Choosing “Help” from the main menu that placed at upper left or the “F1” key of a keyboard will open the help window.
7-4 SETTINGS

7-4-1 GENERAL

In General, you can set for window layout.

1. Open the setting window.
2. Click “General” and change setting any actions.

![General Settings](Image 85)

7-4-1-1 Auto-Hide Tabs

In the full screen mode, you can hide tabs automatically. Check “Auto-Hide Tabs (Full Screen)” to switch the settings.

7-4-1-2 Cover Windows Taskbar in Full Screen

In the full screen mode, you can hide windows taskbar automatically. Check “Cover Windows Taskbar in Full Screen” to switch the settings.

7-4-1-3 Interface Scaling

The size of the interface of an icon and the menu can be changed. When you can use the high-resolution monitor, you can change the interface size.
7-4-2 START-UP SETTING

The start-up settings are available by selecting the settings.

1. Open the setting window.

2. Click “Start-up” and change setting any actions.

3. Checking “Start Tracking” can be starting the tracking at start-up NDP.view 2.

4. Checking “Show Track Map” can be showing the track map at start-up NDP.view 2.

5. Checking “Rotate Image 180°” can be rotating image 180° at start-up NDP.view 2.

7-4-3 NAVIGATION

Navigation can change the settings related to slide actions.

1. Open the setting window.

2. Click “Navigation” and change setting any actions.
7-4-3-1 MAXIMUM MAGNIFICATION SETTING

You can change the maximum magnification by sliding the scale bar of “Max Digital Zoom” from None to 8x gradually.

None: The original resolution of the image.
2x, 4x, 8x: These are to be the maximum magnification of the image.

7-4-3-2 INERTIA SETTING

Change the inertia level of the slide viewing by sliding the scale bar.

Sliding the scale bar of “Inertia” can change the level of inertia to Disabled, Heavy, Normal, Light, Weightless.

7-4-3-3 MOVE FIXED DISTANCE WITH ARROWS KEY

Checking on “Move Fixed Distance with Arrow Keys” can be moving slide image by fixed distance.

(1) Check on “Move Fixed Distance with Arrows Key” from “Navigation” menu.

(2) Slide scale bar with mouse to set fixed distance which moves by enter any “arrows” key. (window size=100%)  

7-4-3-4 Mousewheel Steps Through Lenses

You can zoom the image step by step when with the mouse wheel.

Checking on “Mousewheel Steps Through Lenses” can be zoom slide image step by step.

7-4-3-5 CHANGE SCROLL DIRECTION FOR ARROW KEYS

Checking “Invert Arrow keys” can be changing scroll direction which moves by any “arrows” key.
7-4-3-6  CHANGE ROTATION DIRECTION

Checking “Invert Rotation” can be changing rotation direction which rotates by the “R” key or “Ctrl” key ("Option" key with Mac OS) and any “arrows” key.

7-4-3-7  CHANGE MOUSE WHEEL DIRECTION

Checking “Invert Mousewheel” can be changing the expand directions which expand by the mouse wheel.

7-4-4  BROWSER SETTING

The browser can be set by selecting the settings.

(1)  Open the setting window.

(2)  Click “Browser” and change setting any actions.

![Setting Window]

Image 89
(3) Checking “Load Last Location on Startup” can be load the folder for the last slide on startup.

(4) Checking “Show Network on Home Page” can be showing the network PC on Home.

Note

• Show Network may take a while depending on the PC condition.

(5) Checking “Close After Clicking Image” can be close the browser after clicking slide image.

(6) Checking “Open Containing Folder Automatically” can be automatically update the file browser when launching the software from the slide file or drag and drop the slide onto the screen.

(7) Select a thumbnail type from Default, Macro or Label.

<table>
<thead>
<tr>
<th>Default</th>
<th>Show Sample images</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macro</td>
<td>Show Glass slide images</td>
</tr>
<tr>
<td>Label</td>
<td>Show Label images</td>
</tr>
</tbody>
</table>

7-4-4-2 THUMBNAIL AND METADATA CACHE

Checking can be use the cache and Increase display speed of file browser. To clear the cache, click “Clear Cache”

7-4-4-3 IMAGE FORMATS

Sets the image format to display in the file browser.

Note

• In NDP.view 2 Plus, you can open the slide image with the third party slide format (svs, scn, mrxs, czi). For details, refer to the NDP.view 2 Plus Instruction manual.
7-4-5  SCALE BAR SETTING

The scale bar can be displayed and changed by selecting the settings.

1. Open the setting window.

2. Click “Scalebar” and change setting any actions.

(3) Checking “Show Scalebar” can be displayed the scale bar.

(4) Choose scale bar type from “Scalebar style”.

(5) Choose minimum scale bar Length.

7-4-6  WIDGET SETTING

Widgets can be set by selecting the settings.

1. Open the setting window.

2. Click “Widgets” and change setting any actions.
① Checking “Show Widgets” can be showing all widgets.
② Checking “Magnification” can be showing “Lens widget”.
③ Checking “History” can be showing “History widget”.
④ Checking “Focus” can be showing “Focus widget”.
⑤ Checking “Joystick” can be showing “Joystick widget”.
⑥ Checking “View” can be showing “View widget”.
⑦ Checking “Grid Cells” can be showing “Grid Cells widget”.
⑧ You can switch the display style for the Title tag.
⑨ You can switch the display style for the Label tag.

Note

Each widget located top-right and Title and Label widget located at top-left on the screen.

7-4-7 TOOLBAR SETTING

Tools on the toolbar can be set by selecting the settings.
(1) Open the setting window.
(2) Click “Toolbar” and change setting any actions.
① Checking “Show” can be showing toolbar.
② Checking “Auto-Hide” can be set the display style to auto-hide.
③ Checking “Annotation” can be showing “Annotation”.
④ Checking “Custom Annotation” can be showing “Custom Annotation”.
⑤ Checking “Windows” can be showing “Windows”.
⑥ Checking “Show/Hide” can be showing “Show/Hide”.
⑦ Checking “Actions” can be showing “Actions”.
⑧ Checking “Lens” can be showing “Lens”.
⑨ Checking “Focus” can be showing “Focus”.

7-4-8  ADVANCED SETTING

The advanced setting can be set by selecting the settings.
(1) Open the setting window.
(2) Click “Advanced” and change setting any actions.

7-4-8-1 No Tiles to Load Concurrently

Set for the concurrent tile of the lading images.
The response speed of display will be improved by lower threads. Otherwise, it is usually set on “4”.

7-4-8-2 Texture Cache Size

Set for the texture cache size.
7-4-9 SCREENS

You can save the current window layout. Clicking "Save Layout" saves the current window position at the end of software. The window will be displayed at the same position at next startup.

7-4-10 LANGUAGE SETTING

The language can be changed by selecting the settings.

1. Open the setting window.

2. Clicking "Language" and choosing the language displayed.

(3) Restart NDP.view 2

Note

- In order to change language, it is necessary to restart NDP.view 2.
7-4-11 IMAGE CONTROLS

The slide image can customize the appearance of the image by changing the image controls.

(1) Open the Image Controls window
Choosing “Image Controls” from the main menu that placed at upper left or the “I” key of a keyboard will display the Image Control window.

(2) Settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gamma Correction</td>
<td>Change the gamma correction.</td>
</tr>
<tr>
<td>Brightness &amp; Contrast</td>
<td>Change the brightness.</td>
</tr>
<tr>
<td></td>
<td>Change the contrast.</td>
</tr>
<tr>
<td>Color Balance</td>
<td>Change the color Balance.</td>
</tr>
<tr>
<td>Sharpen Filter</td>
<td>Apply sharpen filter</td>
</tr>
<tr>
<td>Reset All</td>
<td>Reset the image settings to default.</td>
</tr>
<tr>
<td>Set Linear</td>
<td>Set the image setting to linear mode.</td>
</tr>
</tbody>
</table>

Image 95

Image 96
In case of ndpis format image, you can select the viewing image.

Check boxes of staining method with which you want to display the image. When you check two or more, the images will be displayed as merged image.

Note

- Clicking "x" button at the upper right will close the window.
- Dragging the upper bar of the window can change the window position.
- The windows position are saved automatically, when software closes.

• When using NDP.view 2 Plus, you can select the viewing image from the images which have been set in the Extension of the File Format menu. Please refer to Instruction Manual of NDP.view 2 Plus for the details.
7-4-12 IMAGE INFORMATION

Image information shows the details information of the current slide.

(1) Open the slide data.

(2) Open the Image Information window.
Choosing "Image Info" from the main menu that placed at upper left or the "F" key of a keyboard will display the Image information.

- Clicking "x" button at the upper right will close the window.
- Dragging the right-bottom of the window can change the window size.
- Dragging the upper bar of the window can change the window position.
- The windows size and position are saved automatically, when software closes.
# 7-5 OPERATION LIST

## 7-5-1 OPERATION LIST FOR WINDOWS

<table>
<thead>
<tr>
<th></th>
<th>Mouse</th>
<th>Keyboard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Help</td>
<td>Main menu &gt; Help</td>
<td>[F1]</td>
</tr>
<tr>
<td>Open Slide</td>
<td>Main menu &gt; Browse</td>
<td>[O]</td>
</tr>
<tr>
<td>Exit Slide</td>
<td>Tab area &gt; X</td>
<td>[Ctrl]+[W]</td>
</tr>
<tr>
<td></td>
<td>Right-Click in the tab area</td>
<td>[ESC]</td>
</tr>
<tr>
<td></td>
<td>&gt; Close</td>
<td></td>
</tr>
<tr>
<td>Exit Software</td>
<td>Upper-right of the screen &gt; X</td>
<td>[Alt] + [F4]</td>
</tr>
<tr>
<td></td>
<td>Main menu &gt; Exit</td>
<td></td>
</tr>
<tr>
<td>Tool widget *1</td>
<td></td>
<td>[T]</td>
</tr>
<tr>
<td></td>
<td>Left-Drug</td>
<td></td>
</tr>
<tr>
<td>Move Slide</td>
<td>Left-Click (in Map image)</td>
<td>[←], [→], [↑], [↓]</td>
</tr>
<tr>
<td></td>
<td>Joy stick widget</td>
<td></td>
</tr>
<tr>
<td>Magnification</td>
<td>Mouse wheel</td>
<td>[+] , [−], [1]~[8] *2</td>
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<tr>
<td></td>
<td>Right-Drug (allow in Map image)</td>
<td>1.25x</td>
</tr>
<tr>
<td></td>
<td>Double-Click</td>
<td>2.5x</td>
</tr>
<tr>
<td></td>
<td>Lens widget</td>
<td>5x</td>
</tr>
<tr>
<td></td>
<td>[4] = 10x</td>
<td>10x</td>
</tr>
<tr>
<td></td>
<td>[8] = 160x</td>
<td></td>
</tr>
<tr>
<td>Focus Plane</td>
<td>[Ctrl] + Mouse wheel</td>
<td>[Page Up],[Page Down]</td>
</tr>
<tr>
<td>Rotation</td>
<td>View widget</td>
<td>[R] each 90 degree</td>
</tr>
<tr>
<td></td>
<td>[Ctrl]+ [←], [→]</td>
<td></td>
</tr>
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<td>Mirror Image</td>
<td>Mirror widget</td>
<td>[Alt] + [M]</td>
</tr>
<tr>
<td>Flip Image</td>
<td></td>
<td>[Alt] + [F]</td>
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<tr>
<td>Reset Image</td>
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<td>[Space] . [0]</td>
</tr>
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<td>Split Screen</td>
<td>Right-Click in the tab area</td>
<td></td>
</tr>
<tr>
<td>Synchronize</td>
<td>Split menu &gt; Synchronize</td>
<td>[Shift]+ [S]</td>
</tr>
<tr>
<td>Mouse</td>
<td>Keyboard</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>Desynchronize</td>
<td>[Sift]+ [S]</td>
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</tr>
<tr>
<td>Close window</td>
<td>[Esc]</td>
<td></td>
</tr>
<tr>
<td>Multi Window</td>
<td>[Ctrl]+ [N]</td>
<td></td>
</tr>
<tr>
<td>Synchronize all</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desynchronize all</td>
<td></td>
<td></td>
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<tr>
<td>Show/Hide Annotation</td>
<td>[A]</td>
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<td>Show/Hide Annotation list</td>
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<tr>
<td>Add Annotation</td>
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<tr>
<td>Go to Annotation</td>
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<td></td>
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<tr>
<td>Edit Annotation</td>
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<td>Move Annotation</td>
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<td>Paste Annotation</td>
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<tr>
<td>Export Annotations</td>
<td>[Alt] + [E]</td>
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<tr>
<td>Enable Tracking</td>
<td></td>
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<tr>
<td>Show Track Map</td>
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<td></td>
</tr>
<tr>
<td>Reset Track Map</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bird’s Eye View</td>
<td>[W]</td>
<td></td>
</tr>
<tr>
<td>Map Image</td>
<td>[M]</td>
<td></td>
</tr>
<tr>
<td>Scale Bar</td>
<td>[B]</td>
<td></td>
</tr>
<tr>
<td>Change Scale Bar types</td>
<td>[Ctrl] + [B]</td>
<td></td>
</tr>
<tr>
<td>Mouse</td>
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</tr>
<tr>
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<td>Open the previous slide</td>
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</tbody>
</table>

*1: Lens widget and Focus widget.
*2: Lens menu and shortcut key are different depend on the scan mode when you take the image.

**Note**
- Please refer each chapter for details.
### 7-5-2 OPERATION LIST FOR MAC OS

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<td>Open the next slide</td>
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<td>[Tab]</td>
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<td>Open the previous slide</td>
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<td>[Shift] + [Tab]</td>
</tr>
</tbody>
</table>

*1: Lens widget and Focus widget.  
*2: Lens menu and shortcut key are different depend on the scan mode when you take the image.

**Note**
- Please refer each chapter for details.
8. BROWSE IMAGES for NDP.serve3

8-1 BROWSING

You can browse the digital slide files that you have been given permission to view on NDP.serve3 by the following methods;

(1) Browse with NDP.view 2

The image can be seen in full-screen mode with NDP.view 2 software. It is necessary to install NDP.view 2 software in the PC.

*Note*

- Please refer to section “8-2 BROWSE WITH NDP.view 2 SOFTWARE” for this details

(2) Browse with Web Viewer

The image can be seen with Web Viewer in the browser. It is not necessary to install NDP.view 2 software in the PC.

*Note*

- Please refer to section “8-3 BROWSE WITH WEB VIEWER” for this details

When you access the images of NDP.serve3 for the first time, the following dialog box will appear on your screen. Choice either of the viewers and display the image.

Select Viewer

NDP.view 2    Web Viewer

☐ Remember my choice

NDP.view2 is available for Windows and Mac, download it: [here](#)

Image 100

*Note*

- The viewer is changeable. Please refer to NDP.serve3 manual for details.

*Note*

- When you browse the images on NDP. serve3, you may be restricted some part of operations because of no access permission. With respect to access permission, please contact your local NDP.serve3 administrator.
8-2 BROWSE WITH NDP.VIEW 2 SOFTWARE

The image can be seen in full-screen as well as NDP.view 2 software. It is necessary to install NDP.view 2 software in the PC.

Note

- If NDP.view 2 has already installed, no necessary to install again.

(1) Download NDP.view 2 software.
When you access to NDP.serve3, the following screen appears.

Selecting “NDP.view 2” will start the downloading of NDP.view 2 software.

The download site in HAMAMATSU home page will display depend on the settings of NDP.serve3. Download the software for your OS.

Note

- Please install according to the instructions of “5 INSTALL AND UNINSTALL”.

The browse operation is same as NDP.view 2 software.
8-3  BROWSE WITH WEB VIEWER

The image can be seen with Web Viewer in the browser. It is not necessary to install NDP.view 2 software in the PC.

- Web Viewer is not supported for the following functions.
  - If you need the following functions, please use NDP.view 2 software.
    - File browser operation
    - Inversion operation
    - Bird’s eye view
    - Multi Window
    - Annotation list
    - Copy, cut and paste annotation
    - Export images with resolution change
    - Copy to Clipboard
    - Track map

8-3-1  OPEN A DIGITAL SLIDE FILES

The slide file can be opened from “Browse” menu of NDP.serve3.

For closing the slide data, click at the upper left of a screen.
8-3-2 MAIN WINDOW

On the Web Viewer, the tool bar for menu window is displayed at the left of a screen.

Menu window are appeared by putting a mouse pointer on the tool bar.

To minimize the tool bar, click the pin mark at the upper right of the menu window.
8-3-3  DIGITAL SLIDE FILES OPERATION

The operation method of Web Viewer is same as NDP.view 2 except for some functions.

8-3-3-1  Rotate Operation

As with NDP.view 2, “R” key make the image rotate each 90 degrees. (The rotation direction is different from NDP.view 2.)

Enter a viewing angle in Rotation window displayed by selecting the “Rotation” from main menu or pressing “Alt”+“R” or “Ctrl”+“R” keys.

8-3-3-2  Export and copy

You can export the image only at current magnification by JPEG format.
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10. CONTACT INFORMATION

Manufacturer

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Local contact information worldwide can be found at:
www.hamamatsu.com

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  ● Pages of the manual are missing or in the wrong order.
  ● The manual is unclean.