Quick Guide

ZEISS TWAIN for Axiocam 202/208

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Original Manual

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Table of Contents

1 General Information 4

1.1 Intended Use 4
1.2 Contact 4

2 Operation Requirements 5

2.1 Hardware 5
2.2 Software 5
2.3 Camera Connection Scheme 6

3 Software Description 7

3.1 General User Interface 7
3.2 Basic Camera Settings 8
3.3 Advanced Settings 10
3.3.1 Image Settings 10
3.3.2 Image Enhancement 11
3.4 Image Location 12
3.4.1 Send Images to TWAIN 12
3.4.2 Save in Shared Folder 13

4 Commissioning and First Operating Steps 14

4.1 Installing the TWAIN Plugin 14
4.2 Installing the TWACKER Demo Application 15
4.3 Starting the TWAIN Plugin with TWACKER 16

1 General Information

This manual is part of the TWAIN plugin for Axiocam 208 color / 202 mono.

1.1 Intended Use

The TWAIN plugin for Axiocam 208 color / 202 mono is a standardized software interface to call up and control basic camera functions via a TWAIN-compatible non-ZEISS app.

1.2 Contact

If you have any questions or problems, please contact your local ZEISS Sales & Servicepartner or one of the following addresses:

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You can find a ZEISS Sales & Servicepartner in your area under https://www.zeiss.de/mikroskopie/website/forms/sales-and-service-contacts.html.

2 Operation Requirements

2.1 Hardware

Component	Requirements
Microscope	The TWAIN plugin can be operated with any microscope the Axiocam 208 color / 202 mono can be connected to.
PC	The TWAIN plugin does not impose any further hardware requirements on the PC than does the TWAIN-compatible app it is integrated to.
Monitor	A display monitor resolution of 1920x1080 is recommended.

2.2 Software

Component	Requirements
Camera	Firmware version 1.3.6 or higher must be installed on the Axiocam 208 color / 202 mono. Note that the latest firmware version can be downloaded from www.zeiss.de/mikroskopie/downloads. Consult the Axiocam 208 color / 202 mono Instruction Manual on how to update the firmware.
PC	▪ The PC's operating system must be Microsoft Windows® 7 (32 bit or 64 bit) or higher. ▪ The application the TWAIN plugin is integrated to must support the image data exchange according to the TWAIN standard.

2.3 Camera Connection Scheme

- The camera is connected to the PC for data transfer via its USB interface.
- The camera is connected to the microscope or to the mains for power supply via its Micro-D interface.

Info

If the camera is connected to a coded microscope (e.g. Axioscope 5) via its Micro-D interface, the microscope's scaling information can automatically be stored with the image and displayed within it.

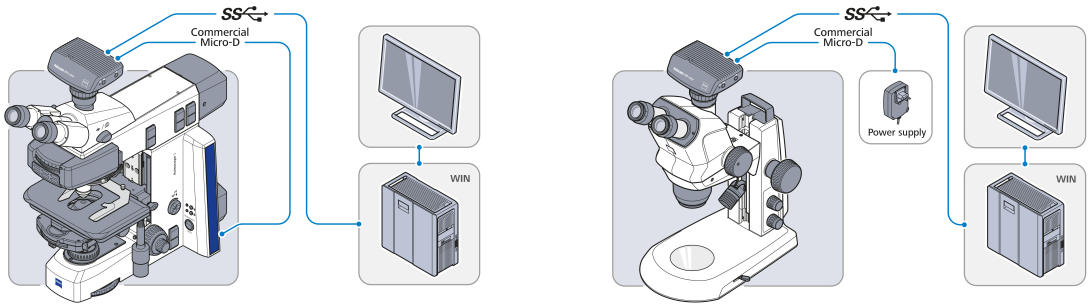


Fig. 1: Camera connection to encoded microscope (left) or any other microscope (right)

3 Software Description

3.1 General User Interface

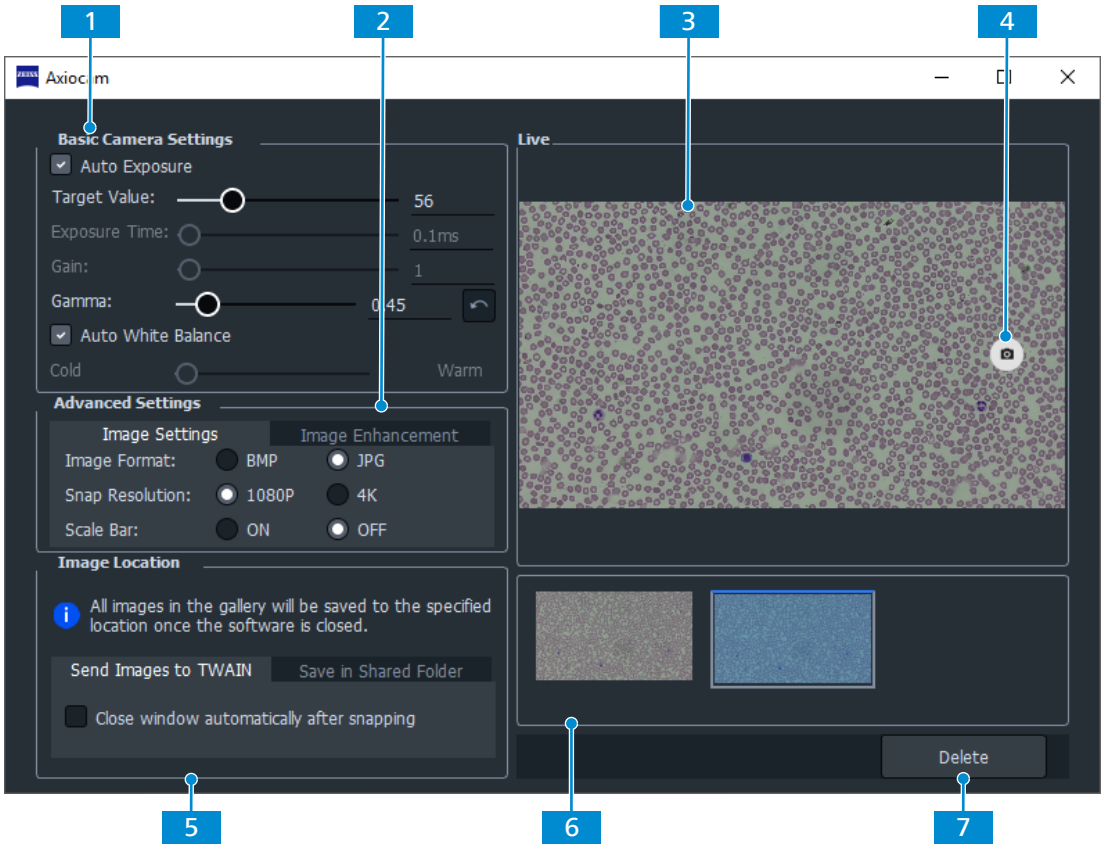


Fig. 2: TWAIN plugin, basic elements

No.	Name	Description
1	**Basic Camera Settings** section	*Controls for adjusting basic imaging parameters [▸ 8]*
2	**Advanced Settings** section	*Controls for adjusting advanced imaging parameters [▸ 10]*
3	**Live** section	Live image of the camera field of view
4	**Snap** button	Snaps a single image.
5	**Image Location** section	*Controls for adjusting the image storing location [▸ 12]*
6	**Thumbnail** section	Gallery of up to 10 temporarily stored images
7	**Delete** button	Deletes the selected thumbnail image.

Tab. 1: TWAIN plugin, basic elements

3.2 Basic Camera Settings

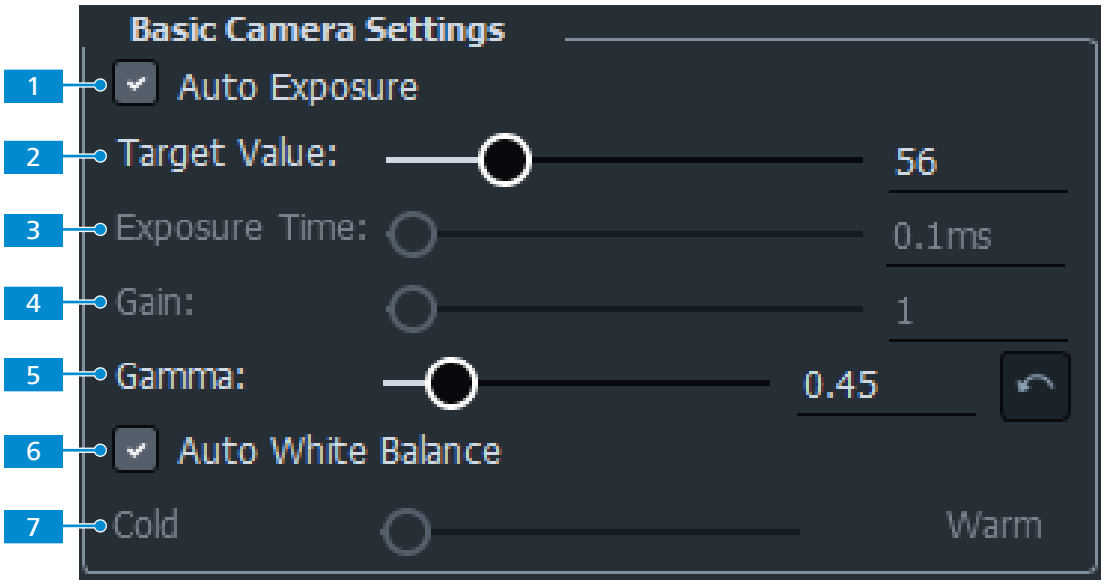


*Fig. 3: **Basic Camera Settings** section*

No.	Name	Description
1	**Auto Exposure** check-box	▪ **Auto Exposure mode** (checked): Ensures consistent brightness of the image by continuously calculating the correct exposure time based on the current light intensity. ▪ **Manual Exposure mode** (unchecked): Allows you to manually re-adjust the exposure time, e.g. when the Auto Exposure mode doesn't deliver appropriate results.
2	**Target Value** controls	In Auto Exposure mode: Allows you to adjust the light intensity using the slider or the input field.
3	**Exposure Time** controls	In Manual Exposure mode: Allows you to adjust the exposure time using the slider or the input field.
4	**Gain** controls	In Manual Exposure mode: Allows you to adjust the gain value using the slider or the input field.
5	**Gamma** controls	▪ Allows you to adjust the gamma value using the slider or the input field. ▪ Allows you to reset the gamma to the default value using the button. Note that the default gamma value for Axiocam 208 color is 0.45, the default gamma value for Axiocam 202 mono is 1.2.

No.	Name	Description
6	**Auto White Balance** button (for Axiocam 208 color)	▪ **Auto White Balance mode** (checked): Ensures a consistent color temperature of the image by continuously calculating the white balance. ▪ **Manual White Balance mode** (unchecked): Allows you to manually adjust the color temperature, e.g. when the Auto White Balance mode doesn't deliver appropriate results. Note that a proper functioning of the Auto White Balance mode requires enough empty area in the field of view.
7	**Color Temperature** slider (for Axiocam 208 color)	In Manual White Balance mode: Allows you to adjust the color temperature using the slider.

Tab. 2: Basic Camera Settings section, control elements

3.3 Advanced Settings

3.3.1 Image Settings

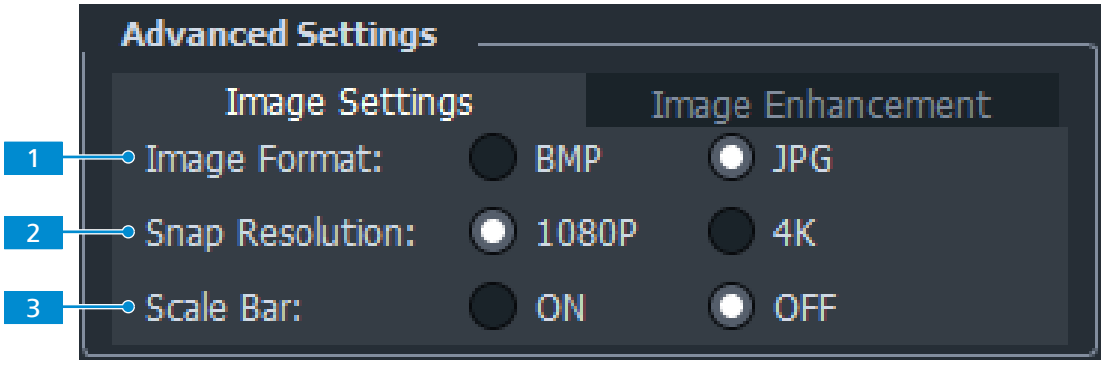


*Fig. 4: **Advanced Settings** section, **Image Settings** tab*

No.	Name	Description
1	**Image Format** control	Sets the file format of captured images. ▪ BMP ▪ JPG
2	**Snap Resolution** control	Sets the resolution of captured images. ▪ 1080P ▪ 4K
3	**Scale Bar** control	Activates/deactivates the display of a scale bar in the live image and the captured image. Note that the display of the scale bar requires the camera's being connected to a coded microscope (e.g. Axioscope 5) via its Micro-D interface.

Tab. 3: Advanced Settings section, Image Settings tab, control elements

3.3.2 Image Enhancement

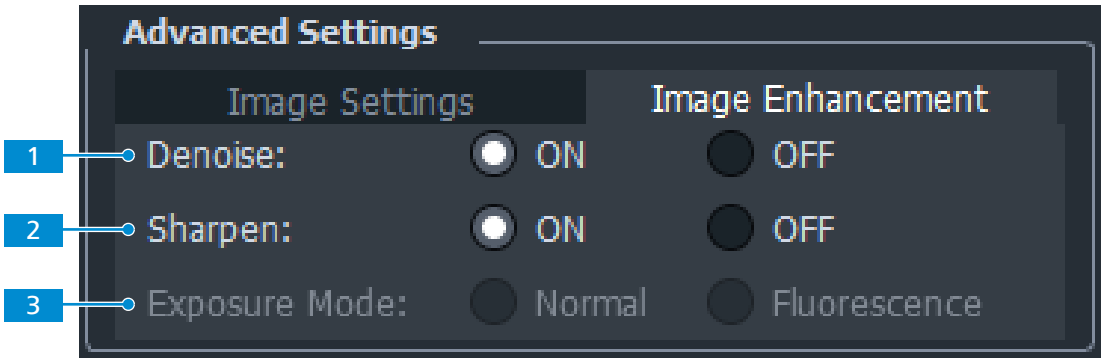


*Fig. 5: **Advanced Settings** section, **Image Enhancement** tab*

No.	Name	Description
1	**Denoise** control	Activates/deactivates the automatic noise reduction.
2	**Sharpen** control	Activates/deactivates the automatic sharpening of details.
3	**Exposure Mode** control (for Axiocam 208 color)	Sets the imaging mode. ▪ Normal/bright-field ▪ Fluorescence

Tab. 4: Advanced Settings section, Image Enhancement tab, control elements

3.4 Image Location

3.4.1 Send Images to TWAIN

When the tab is selected, the acquired images are sent to the basic application via TWAIN interface.

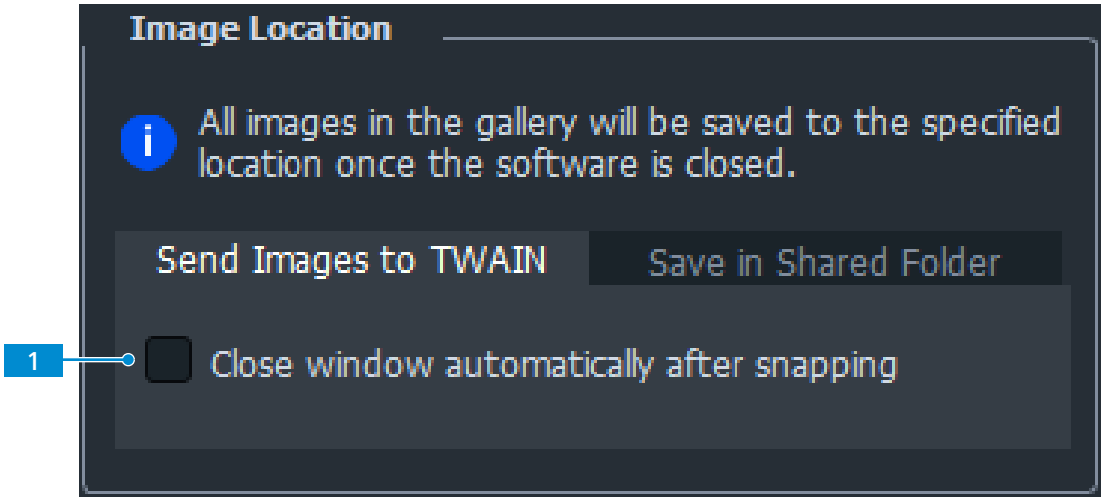


*Fig. 6: **Image Location** section, **Send Images to TWAIN** tab*

No.	Name	Description
1	**Close window automatically after snapping** checkbox	Activates/deactivates the automatic closing of the plugin's user interface after each image capturing.

Tab. 5: Image Location section, Send Images to TWAIN tab, control elements

3.4.2 Save in Shared Folder

When the tab is selected, the acquired images are stored to the specified folder.

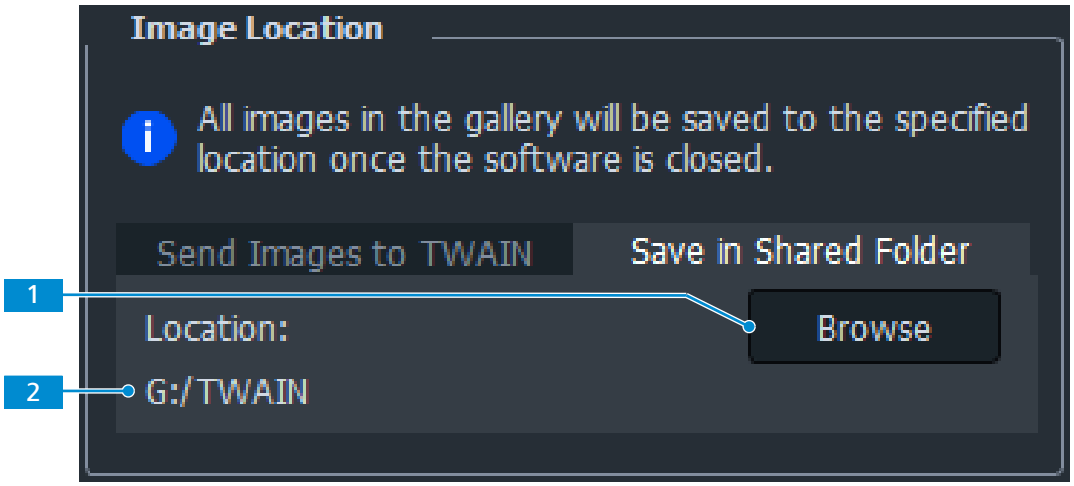


*Fig. 7: **Image Location** section, **Save in Shared Folder** tab*

No.	Name	Description
1	**Browse** button	Opens a file explorer window to select the desired target folder.
2	**Target Folder** display	Displays the currently selected target folder to store images.

Tab. 6: Image Location section, Save in Shared Folder tab, control elements

4 Commissioning and First Operating Steps

Info

You need administrator rights to install software on your laboratory PC. Consult your IT administrator for the installation of the software.

4.1 Installing the TWAIN Plugin

1. Go to www.zeiss.com/microscopy/int/downloads.
2. Select **Software Products** from the drop-down list.
3. Select **TWAIN** from the appearing second drop-down list.
   → A list of available downloads appears.
4. Click on the **TWAIN installation file** applicable for your operating system version.
   → The installation file is downloaded.
5. Open your **Downloads** folder and double-click on the **TWAIN installation file** (file extension **.exe**).
   → The installation wizard opens.
6. Follow the instructions of the wizard.
   → After the installation is finished, the camera driver installation wizard opens.
7. Follow the instructions of the wizard.
8. Consult the basic application's customer support for help with integrating the plugin into the application.

4.2 Installing the TWACKER Demo Application

To demonstrate the image acquisition with the TWAIN plugin you can use the **TWACKER** application. This demo application can also be downloaded from the ZEISS website.

Info

TWACKER is not mandatory for operating the TWAIN plugin. If your laboratory software supports the TWAIN standard, you don't need to install **TWACKER**.

1. Go to www.zeiss.com/microscopy/int/downloads.
2. Select **Software Products** from the drop-down list.
3. Select **TWAIN** from the appearing second drop-down list.
   → A list of available downloads appears.
4. Click on the **TWACKER installation file** applicable for your operating system version.
   → The installation file is downloaded.
5. Open your **Downloads** folder and double-click on the **TWACKER installation file** (file extension **.msi**).
   → The installation wizard opens.
6. Follow the instructions of the wizard.

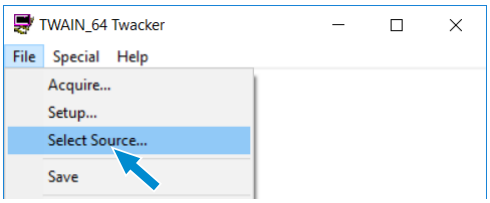
4.3 Starting the TWAIN Plugin with TWACKER

The **TWACKER** application can be used to demonstrate the calling and operating of the TWAIN plugin.

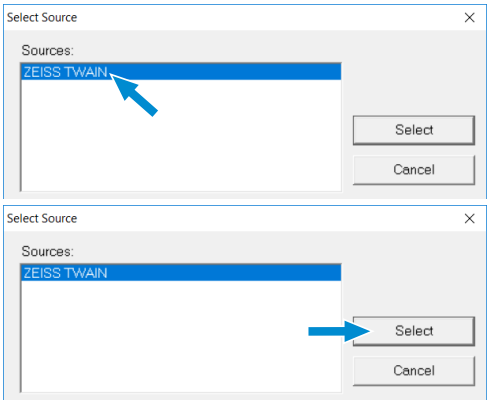
Prerequisite

- ✓ *The camera is properly connected. [▸ 6]*
- ✓ The TWAIN plugin and the **TWACKER** application are installed on the PC.

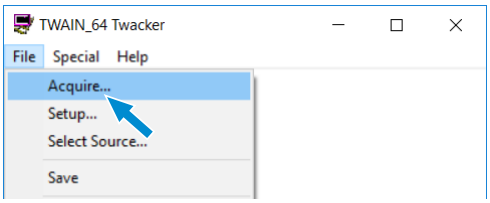
1. From the Windows® **Start** menu, select **Twack_64** or **Twack_32**, according to your operating system version.
   → The **TWACKER** application window opens.
2. From the application's **File** menu, select the **Select Source...** entry.



   → The **Select Source** window opens.
3. From the window's devices list, select **ZEISS TWAIN**.
4. Click the **Select** button.



5. From the application's **File** menu, select the **Acquire...** entry.



The TWAIN plugin user interface opens and is ready for operating the camera.

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