

Manual

BRESSER MikroCam PRO HDMI Item.-No. 5914180



- 1) AC adapter socket
- 2) On/Off Button
- 3) Status-LED
- 4) SD Card Slot
- 5) HDMI-port
- 6) USB-port

Setup of the camera

Connect the AC adapter with the camera (1) and plug it into the wall socket. The Status-LED (3) lights up red.

Plug the USB cable from the mouse into the camera (6).

Put a SD card into the slot (4). Make sure the SD card is put in correctly and is fully plugged in (it clicks into place).

Without the mouse, the camera is in Auto mode. You are not able to change parameters (e.g. exposure time).

Without SD card, you will get an HDMI live image, but no images or videos can be saved.

Connecting the camera to a microscope

The BRESSER MikroCam PRO HDMI has a C-Mount adapter thread. This makes it compatible to many different microscopes and adapters.

BRESSER offers two different adapters:

- C-Mount MikroCam Adapter (Art.-Nr. 5942101), fits all BRESSER microscopes of the "Science" range, including the "BioScience" model.
- reduction lens 0.5x variable (Art.-Nr. 5914005), fits all microscopes with 23,3mm eyepiece diameter or 23,2mm camera tubes.

The C-Mount MikroCam Adapter is threaded into the camera and is placed into the "Science" microscope camera tube socket. It is secured with a locking screw.

The reduction lens 0.5x variable is threaded into the camera. It is put directly into the eyepiece tube or camera tube. The silver ring is turned to adjust focus or change the field of view.

NOTE:

The BRESSER MikroCam PRO HDMI will show a smaller field of view than is visible in 10x eyepieces.

Connect the camera to a TV screen or Monitor

The BRESSER MikroCam PRO HDMI can be connected directly to a TV screen or computer monitor with HDMI inlet. To connect it, plug the supplied HDMI cable into the socket (5) of the camera and into the respective socket of your TV or computer monitor. Some monitors may have only a DVI socket, which can also be used with a HDMI/DVI adapter, but this adapter is not included with the camera.

To receive the live picture, it might be necessary to select the HDMI port on your TV or monitor. Consult the respective manual on how to do this.

Start the camera by pressing the ON/OFF-button (2). The Status-LED (3) lights up in blue. It takes a few seconds for the camera to start. After startup, you should see a live image on the screen.

If the live image is not sharp, use the focus knob on your microscope to adjust it.

Control the camera with the mouse

If the mouse is connected to the camera, you can activate the on screen display by moving the mouse pointer to the left or downmost edge of the monitor. The camera control panel will show.

Camera Control Panel (left side of the screen)

All control sliders highlighted in blue can be adjusted with the mouse. To change a value, click and hold the mouse pointer on the slider while moving it to the desired position, then release the mouse button.

Snap: To acquire an image, click this button. A SD card must be inserted in the camera.

Record: To start saing a video, click the record button. To stop recording, click again. A SD card must be inserted in the camera.

Auto Exposure: When this function is activated, exposure time and amplification (Gain) is set automatically from the camera.

Exposure Target: When the function "Auto Exposure" is activated, you can adjust the image brightness with the "Exposure Target" slider. All other functions stay in auto mode.

When deactivating the function „Auto Exposure“, you can fully adjust the following parameters:

Exposure (ms): Exposure time can be set in milliseconds (ms). Values from 1-999 can be set.

Gain: The parameter can be set between 0 and 63. Higher values mean higher amplification of the image signal which gives a brighter picture, but image noise will also increase.

NOTE:

In "Auto Exposure"-Mode the camera will try to maintain a frame rate of 30 fps (frames persecond). In low light conditions the noise will significantly increase. When deactivating the „Auto Exposure“ mode, you can reduce the amplification (Gain) and use longer exposure times. (Exposure). This will decrease noise, but will also lead to lower frame rates.

White balance

R: Red Channel

G: Green channel (fixed level in manual mode)

B: Blue channel

Global Auto WB: This type of white balance will consider the full image for a global white balance. It might not work for uniformly colored samples.

Manual WB: In this mode, you can adjust red and blue values relatively to the green channel to manually set the white balance.

ROI WB (preset): a rectangle will appear on the screen. This image area will be taken into account for the white balance. To move the rectangle, drag it with the mouse to the desired position (a part of the sample with no color, or an empty part of the slide works best).

The following parameters are first adjusted automatically. To adjust the values to your liking, click and drag the sliders to the desired value, then release.

Sharpness: Adjust the image sharpness: (a high value will not necessarily give better results)

Denoise: Activate the internal noise reduction: With low light conditions, this function can be used to reduce noise in the final image.

Saturation: Adjust saturation to enhance or reduce color levels in your image or video.

Gamma: Adjust the gamma values to match the optimal parameters for a natural brightness of the pictures.

Contrast: Adjust image contrast: (a high value will not necessarily give better results)

Power Frequency (HZ)

This function will reduce flickering which might result from the built in light frequency of from your power grid.

DC: continuous current

50: 50 Hz alternating current

60: 60 Hz alternating current

Default

Click this button to completely reset all values to factory default. The image will be built up from scratch and the camera will be in auto mode. This is especially helpful when a good image cannot be restored after manual changes have been made to the image parameters.

Additional control panel (bottom part of the screen)

Zoom In: Use a 10x digital zoom to zoom into the picture (the resolution will stay the same).

Zoom Out: Zoom out of the image to a full screen view (1x).

Horizontal Mirror: Flip the image horizontally

Vertical Mirror: Flip the image vertically

Compare Picture: Compare a previously recorded image with the live image.

Return: back to live view

Previous Page: Switch to an earlier image

Next Page: Switch to a later image

Division Cancel: Switch from the image comparison (recorded image / live image) back to the normal live image.

Freeze: This function will freeze the image from the live view on the screen. Click the button again to return to normal mode. This function will not save the picture!

Cross Curve: Will show a crosshair in the center of the screen. Click again to toggle red/green and on/off.

Browser: Shows the pictures that have been saved previously to the SD card.

Return: back to live view

Previous Page: shows earlier images

Next Page: shows later images

Delete: deletes images from the card



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