

Carl Zeiss
Sports Optics

Victory



PhotoScope 85 T* FL

Instructions for use



We make it visible.

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I. General Information

■ Contact

Congratulations on your having the new PhotoScope 85 T* FL, which will provide you with fascinating visual experiences and simultaneously impressive digital pictures.

As with all Carl Zeiss products, the PhotoScope 85 T* FL is characterised by outstanding optical performance, precise workmanship and long service life.

Carefully read through the following operating instructions, so that you get optimal use of your PhotoScope 85 T* FL and it will be your reliable companion for many years.

Practice, precise settings and photographic knowledge are also very helpful.

Our customer service is available for you
from Monday to Friday from 8:00 am until 6:00 pm (CET).

Tel.: +49 (0) 64 41 - 4 67 61 (German/English)

Fax: +49 (0) 64 41 - 4 83 69

eMail: info.sportsoptics@zeiss.de

- Please note that the controls, components, menu options, etc. of your product can differ slightly from those shown in these operating instructions.
- The SD logo is a trademark.
- Other printed names, companies and product designations in the operating instructions are trademarks or registered trademarks of the corresponding companies.

■ Care and storage

The PhotoScope does not require special care. Do not wipe coarse dirt particles (e.g. sand) off from the lenses or the monitor, but rather blow off or remove with a hair brush.

Finger prints can attack the surface after a while. The simplest method of cleaning this type of optical surface is to breathe on it and softly rub with a clean optical cleaning cloth.

Condensation/fogging can form on the monitor and outer lenses with strong temperature fluctuations. Clean this with a soft, dry cloth.

Dry storage and good ventilation, especially in the tropics, help to prevent a possible mould film on the optics.

The Cordura case included in the scope of delivery or the carrying case available as an accessory are suitable primarily for safe storage and transportation (order no. 1678-578).

■ Scope of supply

- PhotoScope 85 T* FL
- Cordura case (order no. 1742-776)
- Remote control (order no. 0506-346) with carrying strap and 2 AAA 1.5 V Micro (LR 03) batteries
- 1 GB SD card
- 1 rechargeable battery BP 511 (7.4 V/1400 mAh) (order no. 0500-637)
- Fast recharger (order no. 0504-821)
- Power plug with world plug set for connection to the charger or the PhotoScope
- Eyepiece cap (order no. 528100-0034)
- Lens cap (order no. 0505-836)
- USB cable (order no. 0476-546)
- Instructions and warranty card

■ Safety instructions

- **Caution:** Never look into the sun or into laser light sources with the PhotoScope. This can lead to serious injury to the eyes.
- Do not leave the product for a long time in the sun without protective cap or not in a case. The lens and eyepiece can function as a burning glass and damage the interior components.
- To reduce the danger of a fire, an electric shock or annoying interferences, only use the accessories authorised by Carl Zeiss and the original plug-in power supply unit, order no. 0504-821 (12 V DC/800 mA with 5.5 mm barrel connector), as well as the rechargeable batteries and battery types mentioned in the instructions.
- Do not leave the device in rain or moisture with mains operation. Operating with the plug-in power supply unit is only permissible in closed buildings.
- You should only operate the device with the plug-in power supply unit if the nominal voltage of the plug-in power supply unit matches the local mains voltage. Check the nominal voltage of the device and make sure you use the correct power plug.
- In emergencies (e.g. if the housing, controls or power line are damaged by penetration of liquid or foreign bodies), turn the device off immediately, unplug the power plug, remove the rechargeable battery and contact your retail store or our Hotline.
- Incorrect placement of the batteries or rechargeable batteries poses a risk of explosion.
- Handle all batteries, rechargeable and normal, according to the manufacturer's instructions. They should not be thrown into a fire, heated, disassembled or broken. Do not use faulty batteries. Normal batteries must never be recharged.
- Never open or disassemble the PhotoScope or the recharger or the batteries (risk of electric shock, burning, acid).
- Never immerse the device in water.
- Do not force the monitor open and do not turn it beyond the permissible settings. Do not press hard on the monitor. This can result in uneven colors on the monitor or malfunctions.

■ Disposal of batteries, normal and rechargeable

Batteries do not belong in domestic waste!

Please use a recycling facility in your area to dispose of used batteries.

As a user you are obliged to return used batteries.



User information for disposal of electrical and electronic devices (private households)

This symbol on products and/or accompanying documents means that used electrical and electronic products should not be mixed with common domestic waste.

Take these products for proper treatment, reclamation and recycling to the appropriate collection sites where they will be accepted without cost.

In some countries it may be possible to turn in these products when buying a similar new product at your local dealer. Proper disposal of this product protects the environment and prevents possible damaging effects to humans and the surroundings, which could occur with improper handling of waste. More detailed information on the collection centre near you is available from your municipal government. In conformance with national laws, fines can be levied for improper disposal of this type of waste.

For business customers in the European Union

Please contact your dealer or supplier if you want to dispose of electrical and electronic devices. They will have further information available for you.

Information for disposal in other countries outside the European Union

This symbol only applies in the European Union. Please contact your municipal government or your dealer if you want to dispose of this product and want to know the possibilities of disposal.

Description of the Components

Fig. 1: PhotoScope 85 T* FL

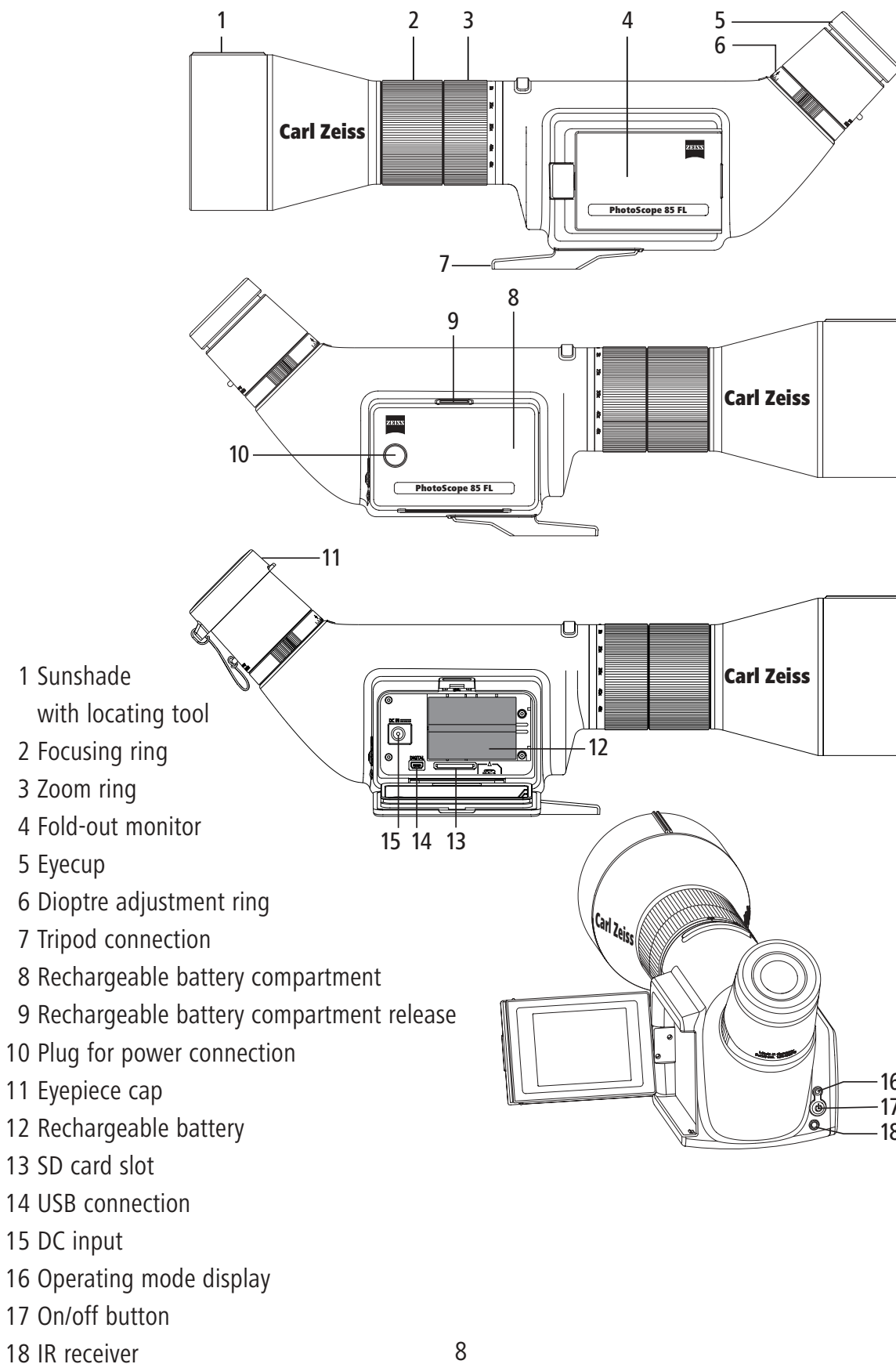
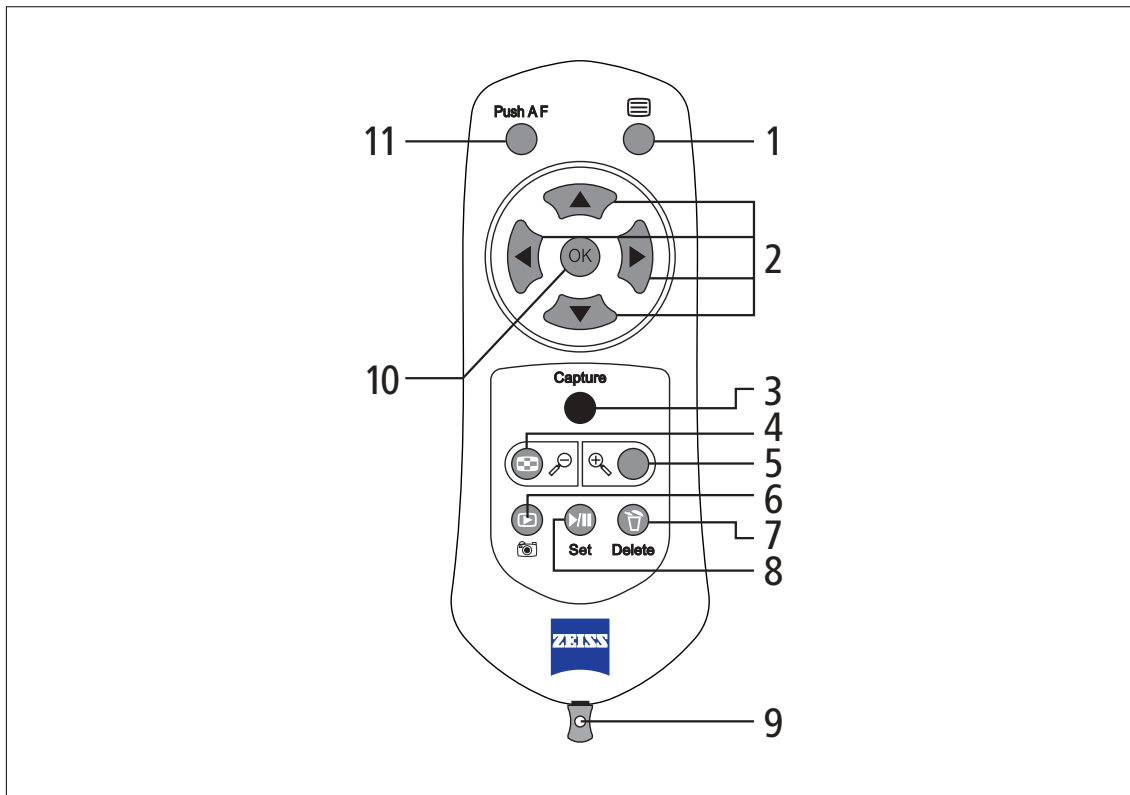
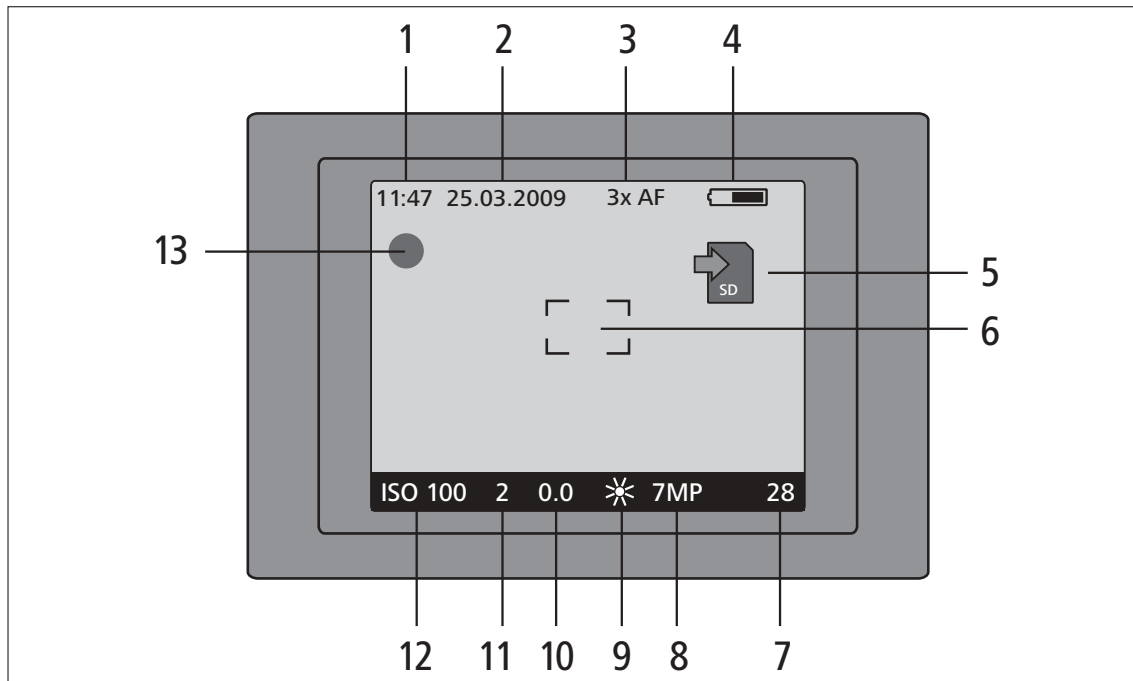


Fig. 2: Remote control



1 Menu	For calling up various menus
2 Scroll buttons	For moving within the menus and moving the FOCUS ASSIST field of view
3 Picture	Press until pressure point: Exposure and focus setting (if FOCUS ASSIST is active); Push completely down: Take picture
4 Zoom minus	For reducing size of monitor image
5 Zoom plus	For enlarging size of monitor image
6 Playback	To look at saved pictures
7 Delete	For deleting a picture
8 Slideshow/Set	For starting and stopping the slideshow or video and to change between the menu bar and the FOCUS ASSIST field of view
9 Eyelet	For fastening the carrying strap
10 OK	For confirmation of the selected value
11 Push AF	To activate the FOCUS ASSIST function for the following image

Fig. 3: Picture-monitor image with status lines



1	Time
2	Date
3	Bracketing setting (only if selected)
4	Battery status
5	SD card access display
6	Focus Assist measuring field/measuring field for spot metering
7	Display of still available pictures
8	Image size
9	White compensation
10	Exposure correction
11	Shutter/flashing indicators: risk of motion or underexposure
12	ISO setting
13	Focus Assist confirmation (blue)/video recording (red)

For long exposure times the time display blinks as a warning of blurring due to camera shake.

In the picture mode the values of the lower status lines can be directly selected, depending on the selected exposure program, using the LEFT/RIGHT scroll buttons. They appear in blue text. The values can be changed using the UP/DOWN scroll buttons. The effects on the picture can be seen directly on the monitor image.

II. Short Guide

■ Preparation

Charge the enclosed rechargeable battery BP 511 with the recharger. Open the rechargeable battery compartment by pressing on the releasing button (**Fig. 1/9**) and insert the rechargeable battery.

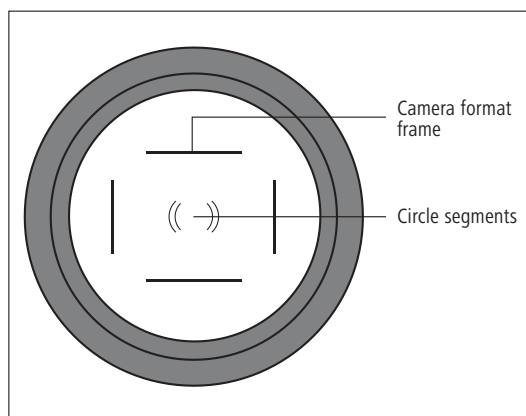
Push the SD card into the card slot (**Fig. 1/13**) with the label pointing upward, until you hear a click.

Place the two enclosed LR 03 (Micro AAA) batteries in the remote control. Make sure the polarity is correct, corresponding to the symbols on the battery compartment. If you use glasses, turn the eyecups (**Fig. 1/5**) completely in; without glasses turn the eyecup out.

■ View through the eyepiece

Look through the eyepiece and set the circular segments in the viewing field by turning the dioptre compensation (**Fig. 1/6**) in so that the image is absolutely sharp.

Setting the circle segments carefully, so they are sharp, is the prerequisite for good photographs. Therefore, take some time and look through the eyepiece in a relaxed manner.



It is helpful to first set the visible image blurred, so that you can completely focus on the circle segments. Turn on the camera with the on/off button (**Fig. 1/17**) and fold out the monitor.

Set or change the desired menu language with the remote control:

MENU > SETTINGS/EINSTELLUNGEN > LANGUAGE/SPRACHE

If you do not understand the language on the display, you can change to English at any time by pressing on the SET button (**Fig. 2/8**) for approx. 4 seconds.

Set the date and time:

MENU > SETTINGS > DATE/TIME

You return to live image mode by (repeated) pressing on the MENU button.
Make sure that the remote control is always pointed in the direction of the IR receiver (**Fig. 1/18**) on the PhotoScope. Otherwise the remote control cannot transfer signals to the PhotoScope.

■ Picture

For fast and simple photography, select the **AUTO** program using the SCROLL buttons (**Fig. 2/2**) in the menu **1**.

Now align the PhotoScope on the desired object and carefully focus the image using the focusing (**Fig. 1/2**) on the spotting scope. Use the zoom ring (**Fig. 1/3**) to change the image window. You will see a live preview of the image on the screen at the same time.

Light coming through the eyepiece can lead to undesirable reflections on the image. In this situation place the cap on the eyepiece.

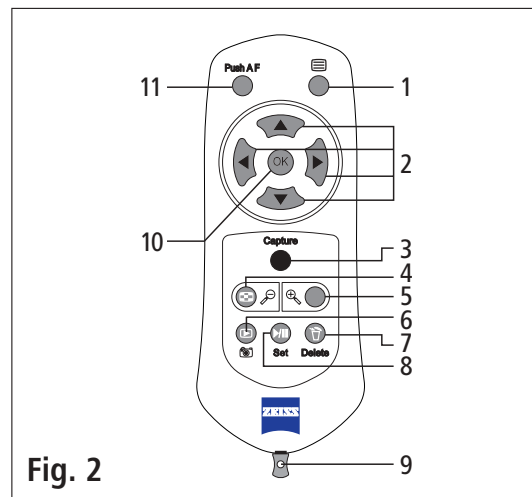


Fig. 2

Press the CAPTURE button (**Fig. 2/3**) on the remote control to take a picture.

The camera default settings ensure good picture quality in most conditions. However, it is recommended that you also read through the detailed instructions for use on the enclosed CD-ROM, so that you can set the available options in the individual menus.

■ Playback

Press the PLAYBACK button (**Fig. 2/6**) to display the picture taken on the monitor. With the SCROLL buttons (**Fig. 2/2**) you can page back and forth through several saved pictures. The ZOOM PLUS (**Fig. 2/5**) and ZOOM MINUS buttons (**Fig. 2/4**) are used for zooming in and out. Return to the live image mode by pressing the PLAYBACK button (**Fig. 2/6**) again.

III. Detailed Instructions

Preparation

■ Charging the batteries

Battery BP 511 is discharged on delivery of the unit. Before use, charge the battery using the enclosed charger. So that the charger can be used in almost any country, the delivery package contains various exchangeable mains plugs. Fit the appropriate plug and ensure the correct mains voltage (110 V to 220 V).

The charger has the following status indicators:

Constant green light:	Ready to use, but no battery inserted
Constant red light:	Battery charging
Flashing green:	Inserted battery is charged

Place the battery in the charger, ensuring that it is the correct way around. Then connect the charger to the socket. After charging, the mains plug must be disconnected from the socket. Charge the batteries at an ambient temperature of around 10°C to 35°C.

Note:

The battery does not charge in the PhotoScope when the mains plug unit is connected.

If the operating time is severely decreased even when the battery is charged correctly, it is likely that the battery life of the battery has expired. In this case, use a new battery of type BP 511. Use only high quality batteries with a minimum capacity of 1400 mAh.

A fully charged battery with a capacity of 1400 mAh will take around 400 images in approx. 4 hours with the monitor constantly switched on. The exact number of images that can be captured is highly dependent on the usage conditions.

Ensure that the screen is never switched on for longer than necessary. Using the SWITCH OFF and POWER SAVE functions will significantly extend the useful life of the battery.

The remaining battery power is shown on the top right of the screen when the PhotoScope is switched on. If the display flashes red, charge or change the battery immediately.

Preparation

■ Inserting/removing the batteries

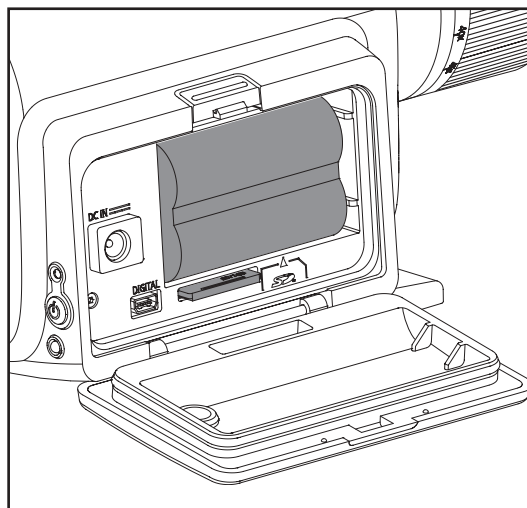
Press the compartment release button (**Fig. 1/9**) to open the rain and dust-proof battery compartment. When inserted, the battery contacts must point to the left.

Insert the battery on the right side of the battery compartment then push it to the left, in the direction of the arrow (on the battery) until it clicks into place.

Insert the two enclosed batteries of type LR 03 (Micro AAA) into the remote control.

Ensure the correct polarity for each, according to the symbols in the battery compartment. The enclosed carry cord can be fixed to the eyelet on the bottom end of the remote control.

Remove the batteries if the PhotoScope is to remain unused for an extended period.



Note:

The date and time settings are retained when the batteries are changed. However, if the battery is removed for an extended period, the time setting is deleted. In this case, reset the date and time.

■ Mains operation

The mains unit of the battery charger also allows the PhotoScope to be operated directly from the mains. To do this, connect the mains unit to the DC input (**Fig. 1/15**) on the PhotoScope, which is located under the battery compartment cover.

The DC input plug can also be connected from outside with the battery compartment cover closed. To do this, carefully press out the round seal plug (**Fig. 1/10**) in the battery compartment from inside.

After using the mains unit, the seal plug must be replaced in the battery compartment cover. Only then is protection against dust and damp guaranteed.

Preparation

■ Inserting/removing the SD card

The battery compartment contains the slot (**Fig. 1/13**) for the SD card.

With the PhotoScope switched off, push the SD card into the slot until you feel it click into place. The label must face upwards.

Ensure that the card is always pushed in until it clicks into place.

No photographs can be taken without the SD card inserted or with an unsuitable SD card.

If the card access indicator (**Fig. 3/5**) on the monitor is illuminated, images are saved, read or deleted. The following actions are not to be carried out at this time:

- Switching off the PhotoScope
- Removing the battery or the card
- Shaking or knocking the PhotoScope

However, you can take the next picture whilst the card access indicator is illuminated.

The SD memory card has a write protection lock which is able to prevent overwriting and formatting. If the lock is closed, it is not possible to write to the card.

Use only formatted SD cards with the SD logo. SD memory cards that have previously been used in other units must be formatted in the PhotoScope before photographs can be saved to them.

The number of images that can be stored on one SD card is dependent on resolution, card size, and quality/file format. At the maximum PhotoScope resolution (7 MPx), it is possible to save approximately the following number of images on a 1 GB card:

- DNG + JPG: 60
- DNG: 70
- JPG (high quality): 300

Preparation

■ Observation with and without glasses

When observing without glasses, use the PhotoScope with the eyecup (**Fig. 1/5**) extended. To do this, twist the eyecup (**Fig. 1/5**) upwards by turning to the left.

When observing with glasses twist the eyecup right down. Intermediate stages are also available for individual adjustment.

■ Diopter compensation and image definition

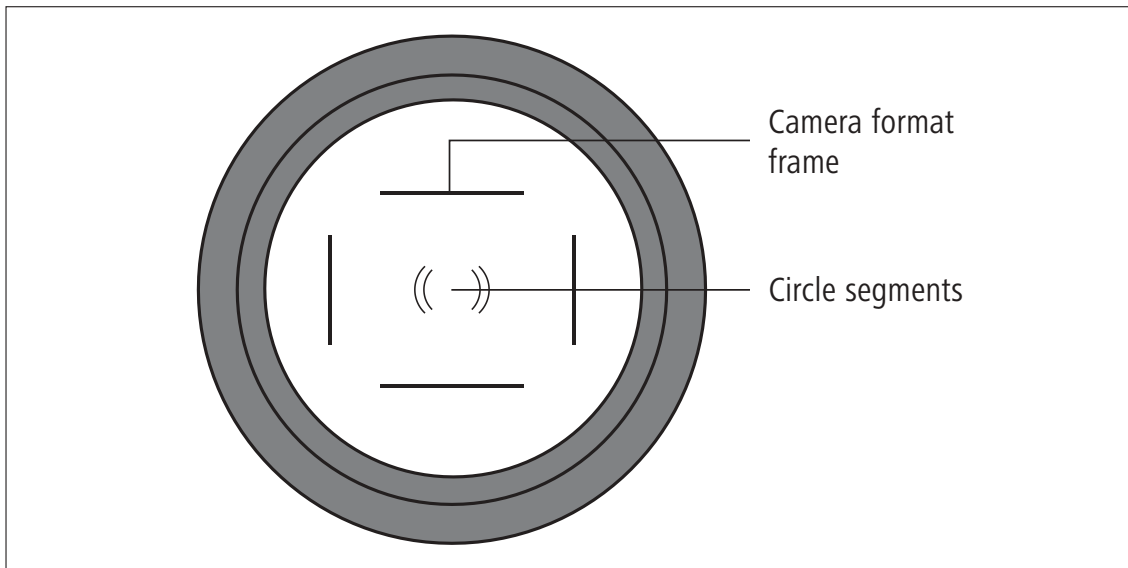
Fine segments of a double circle are arranged around the centre of the field of view. The sharpness of these sectors appears greater or less depending on the adjustment of the diopter compensation.

By turning the diopter compensation (**Fig. 1/6**), adjust these markings so they appear absolutely in focus. Take a few seconds to do this and take a relaxed look through the eyepiece. To check the correct diopter setting, select a subject and use the focusing ring (**Fig. 1/2**) to focus on it. To check the definition, use the monitor rather than the eyepiece. For precise adjustment, use the ZOOM PLUS button (**Fig. 2/5**) on the remote control. Nearby vertical lines e.g. window frames are ideal. Now look through the eyepiece and check the image definition here too. If the subject appears out of focus, correct the diopter compensation on the eyepiece until the definition effect is correct.

After diopter compensation, the image on the monitor, the image in the eyepiece and the circle segments should all appear in focus at the same time.

The diopter compensation requires adjusting only once. Before each use, read off the set diopter value on the scale (**Fig. 1/6**) and check that the value has not been adjusted accidentally. Readjustment is required only if someone else has used the unit or if the set value is no longer correct for you. New diopter compensation is also required when changing from observation with glasses to observation without glasses or vice versa.

Preparation



The circle segments must appear absolutely in focus.
The format frame shows the border of the area captured.

■ Switching on the camera

To switch on the camera, hold the ON/OFF button (**Fig. 1/17**) depressed for a minimum of 0.3 seconds. All other camera settings are then executed via the remote control.

■ Remote control

Ensure that the remote control is always pointed towards the IR receiver (**Fig. 1/18**) on the PhotoScope. If this is not the case, the remote control will be unable to transmit a signal to the PhotoScope.

Preparation

■ Monitor

The foldout OLED monitor is located on the left hand side of the PhotoScope. Fold out the monitor by 90° then turn the monitor to the appropriate position. The monitor can be turned up to 90° from the vertical position.

Note:

If the PhotoScope is very cold when switched on, the image on the monitor will initially appear slightly darker. Normal brightness is recovered after a short period.

■ Tripod

The use of a good tripod is essential in order to minimise shaking. Zeiss provides tripods that have been optimised specifically for use with the PhotoScope. Tripod adapter plates with 1/4" and 3/8" connecting threads may be used on the PhotoScope. Unscrew the 1/4" thread insert when using 3/8" adapter plates.

■ Extendable sunshade

The extendable sunshade keeps disruptive sunlight off of the lens which can result in reflections and stray light. The locating tool (**Fig. 1/1**) on the aperture facilitates easier object sighting.

Menu settings

■ Introduction

To open the camera settings, press the MENU button on the remote control. The menu structure appears in the form in which it was last left.

Use the SCROLL buttons (**Fig. 2/2**) to select the desired menu item and activate it with the OK button (**Fig. 2/10**). This method can be used to activate any available settings or to return to a menu level.

The screen now displays the selected menu item in white text on a blue background.

Settings that cannot be selected are skipped when scrolling and shown in grey.

Click again on the MENU button (**Fig. 2/1**) to leave the menu settings and return to the live image.

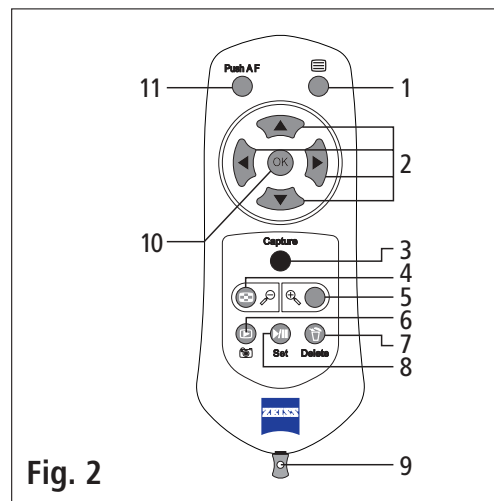





Fig. 2

Six different menus are available:

 1	To set capture parameters
 2	To set capture parameters
IMG	To set the camera software for image optimisation
LCD	To set the display parameters or the monitor
	To set basic defaults e.g. date or language
SD	To set the storage parameters e.g. image number of formatting

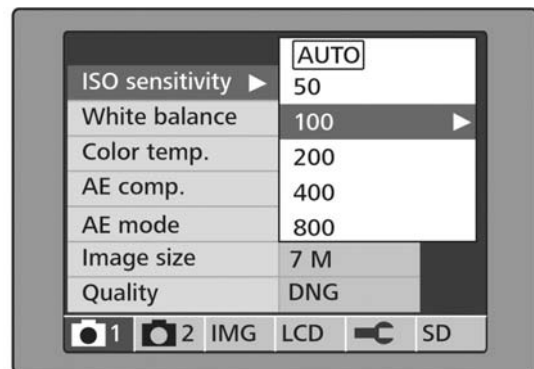
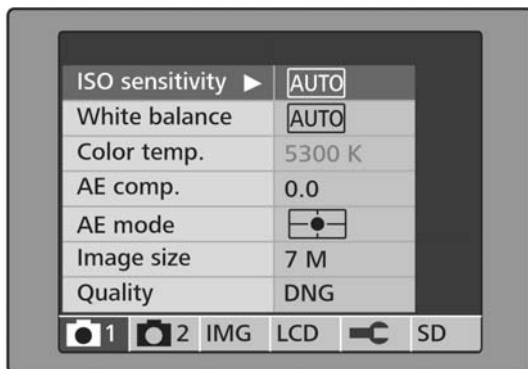
Menu settings

Menu  1

■ ISO SENSITIVITY

Use the ISO SENSITIVITY option to change the light sensitivity of the CCD sensor.

In addition to **AUTO**, there are 5 further levels that can be selected manually (ISO 50/100/200/400/800). The best image quality will be achieved with levels ISO 50 and ISO 100. What is known as image noise increases with higher ISO values.

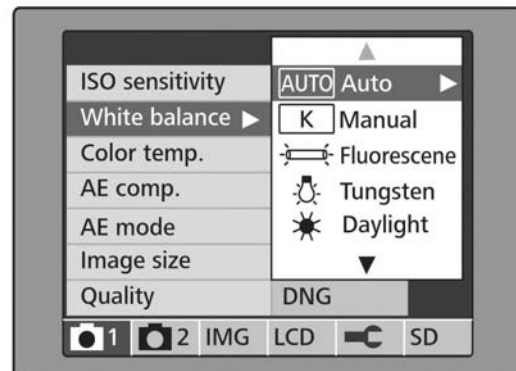
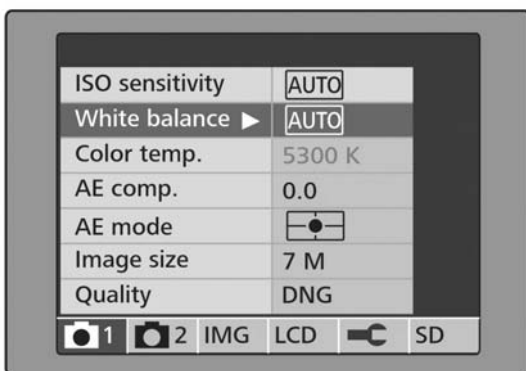


Menu settings

■ WHITE BALANCE

With the WHITE BALANCE option, the PhotoScope can be adjusted to various light situations so neutral color rendition of the digital image is guaranteed.

Choose from the following settings:



AUTO	Automatic adjustment of the white balance
MANUAL	For targeted manual adjustment of the color temperature. Exact selection of the color temperature in the range from 3500 to 7500 Kelvin is carried out in the COLOR TEMPERATURE Menu.
FLUORESCENE	For indoor shots with light predominantly from fluorescent tubes
TUNGSTEN	For indoor shots with light predominantly from incandescent bulbs
DAYLIGHT	For outdoor shots in average daylight
SHADOW	For outdoor shots in shadowy lighting conditions
CLOUD	For outdoor shots with a clouded sky
O. SUN	For outdoor shots in the sunshine. Automatic fine-tuning of the color temperature
O. CLOUD	For outdoor shots with a clouded sky. Automatic fine-tuning of the color temperature

Tip:

In the case of subjects with color dominances, using the **AUTO** setting may result in undesired variations in color temperature.

A fixed setting, e.g. to DAYLIGHT or SHADOW is therefore preferable.

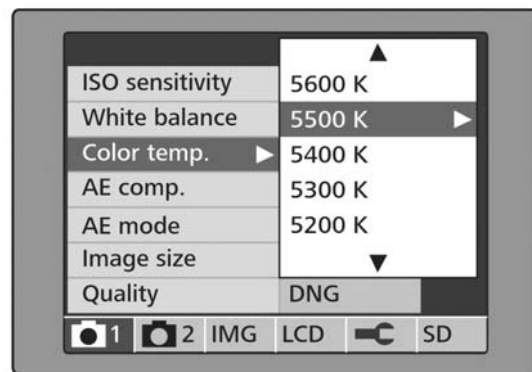
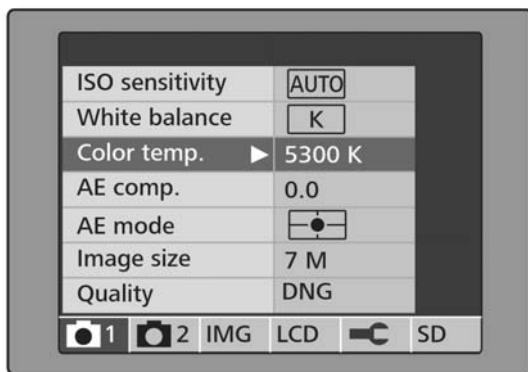
Menu settings

■ COLOR TEMPERATURE

The color temperature can be adjusted only if the MANUAL setting is selected in the WHITE BALANCE menu. The color temperature can be selected as desired, in increments of 100 Kelvin between 3500 Kelvin and 7500 Kelvin.

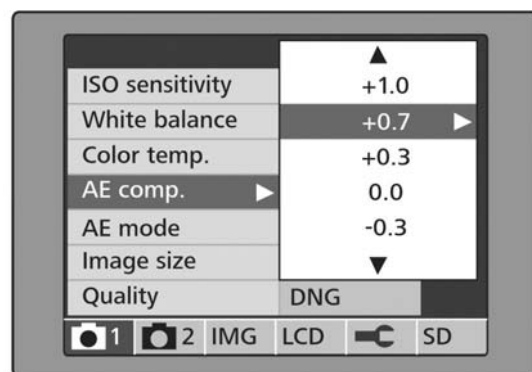
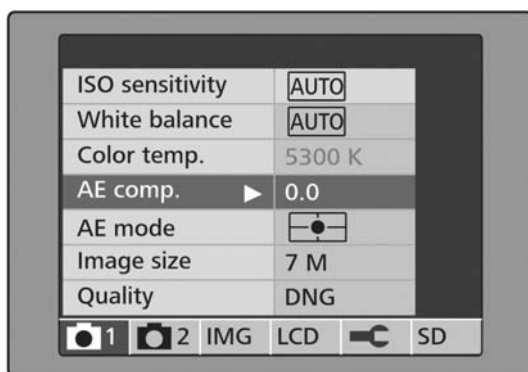
3500 Kelvin are equivalent to a very red light (evening sun).

7500 Kelvin are equivalent to a very blue light (haze).



■ AE COMPENSATION

The exposure compensation (AE COMPENSATION) allows targeted over and underexposure.



Tip:

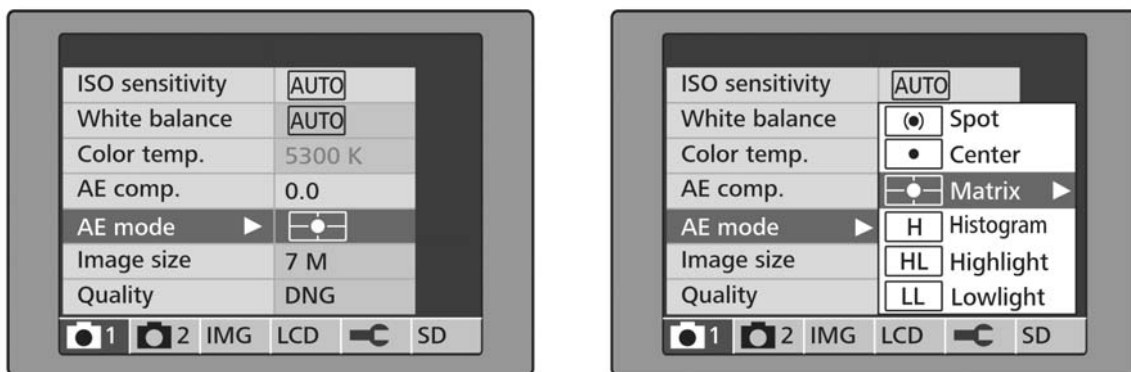
With high contrasts, underexposure prevents the loss of detail in bright image areas. For predominantly dark subjects, targeted overexposure prevents the loss of detail in dark image areas.

The lighting compensation can be selected as desired, in increments of 0.3 EV (exposure values) between -2.0 and $+2.0$ EV.

Menu settings

■ AE MODE

Set the light metering method, i.e. how light metering is carried out in the image subject, in AE MODE. The light metering method cannot be independently selected if the **AUTO** program is selected.



Choose from the following settings:

SPOT	Spot metering for subjects in which specifically only the movable measuring field is taken into account for the measurement.
CENTER	Centrally accentuated integral measurement for subjects of which the exposure is predominantly derived from the centre of the image.
MATRIX	Matrix metering for subjects in which the entire subject is analysed for light metering.
HISTOGRAM	Provides an analysis of the brightness distribution and avoids overexposed areas in the image.
HIGHLIGHT	Variant of spot metering: the image subject is exposed in the area of the measuring field such that it is shown as the brightest image value (peak light). This is ideal if the section that is important to the image is very bright.
LOWLIGHT	Variant of spot metering: the image subject is exposed in the area of the measuring field such that it is shown as the darkest image value (shadow). This is ideal if the section that is important to the image is very dark.

Tip:

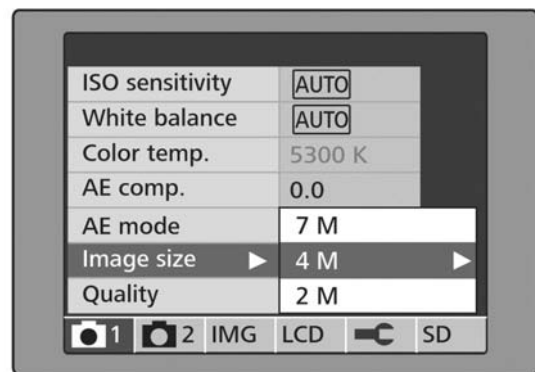
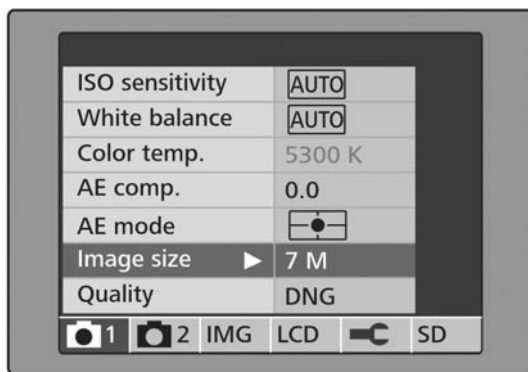
As a basic setting, centrally accentuated integral measurement produces very good results in most cases.

Menu settings

■ IMAGE SIZE

The maximum PhotoScope image size is 7 Megapixels (M). For certain applications such as e-mail, it may be useful to reduce the image size. In order to minimise loss of quality, reduce the image size only if the files are still too large with the setting JPG Low.

3 image sizes are available: 7 M, 4 M and 2 M.



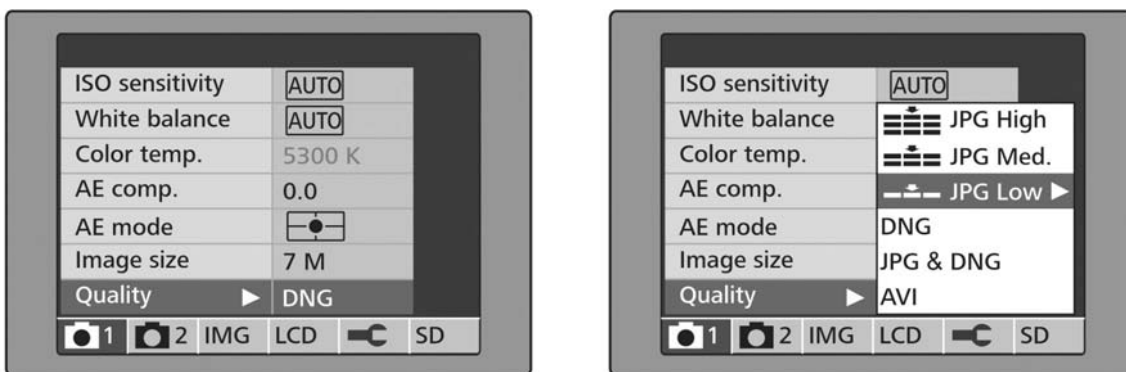
Tip:

If there is enough space on the memory card, it is advantageous to take photographs at 7 M. This provides the picture in full resolution. Depending on the intended purpose, the image size can be reduced using your PC at a later stage.

Menu settings

■ QUALITY

JPG images (image files ending .jpg) are always saved compressed. The level of compression can be determined using the QUALITY setting. High image quality means low compression = low data loss. However, this results in larger file sizes.



Choose from the following settings:

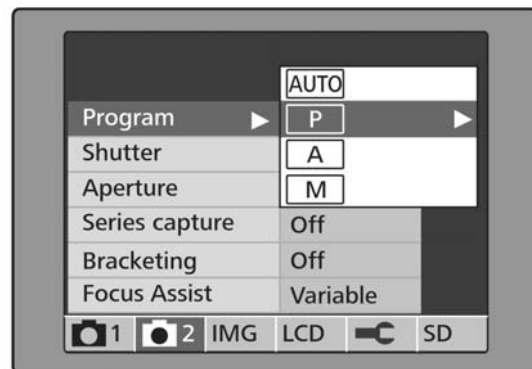
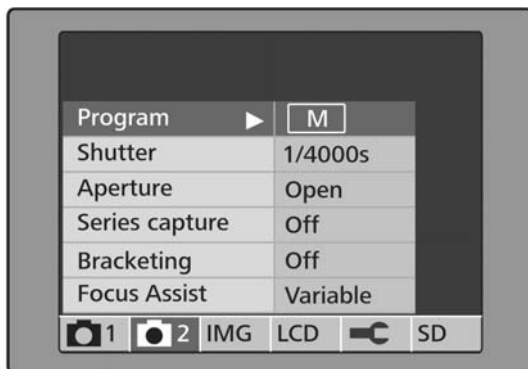
JPG High	Recommended selection for almost all applications. Saving in JPG format with a low compression rate produces very high quality exposures and file sizes of approx. 2.5 MB.
JPG Med.	Good compromise if limited disk space is available. Saving in JPG format with an average compression rate produces good exposures with average file sizes.
JPG Low	If minimal file sizes are required, e.g. for sending the images as email, saving in JPG format with a high compression rate produces small file sizes.
DNG	If maximum post-processing options are vital, it is recommended to save the "raw data". DNG is a "digital negative format", the features of which include an extended dynamic range. In the very bright and very dark parts of the image, details are still recorded, which can be made visible in the subsequent editing of the image. The file size is approx. 13 MB.
JPG & DNG	Combination of JPG High and DNG. Ideal if maximum flexibility and immediate availability of JPG data are required. Considerably longer carrier storage times than the other settings.
AVI	This selection activates QVGA video mode.

Menu settings

Menu  2

PROGRAM

The PROGRAM setting enables selection between various automatic and one manual mode, with a free choice of shutter speed and aperture.



The following settings are available:

AUTO Fully automated camera program with permanent factory defaults (cf. below), ideal for beginners.



P Program exposure: The shutter, ISO setting (for ISO AUTO) and aperture are selected automatically depending on the metered brightness.

A Aperture priority: The aperture is fixed, the time and ISO setting are established automatically (for ISO AUTO). There are 3 aperture stops available.

M Manual setting: The time and aperture can be selected as desired. The ISO AUTO setting is unavailable.

Menu settings

With the fully automated **AUTO** program, the following settings are fixed:

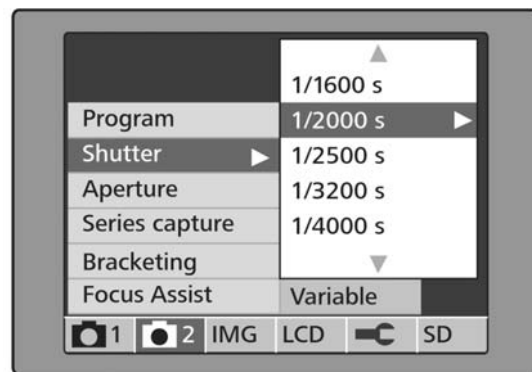
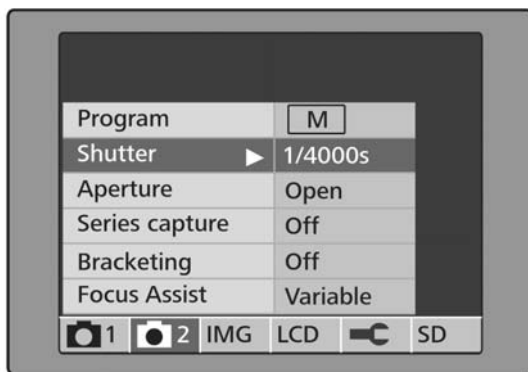
In Menu		ISO SENSITIVITY	AUTO
		WHITE BALANCE	AUTO
		AE COMPENSATION	0.0 EV
		AE MODE	CENTER
		IMAGE SIZE	SELECTABLE
		QUALITY	SELECTABLE
<hr/>			
In Menu		SHUTTER	AUTO
		APERTURE	AUTO
		SERIES CAPTURE	SELECTABLE
		BRACKETING	OFF
		FOCUS ASSIST	CENTER
<hr/>			
In Menu	IMG	TIME STAMP	SELECTABLE
		ANTI HAZE	OFF
		NOISE REDUCTION	STANDARD
		SHARPNESS	STANDARD
		CONTRAST	STANDARD
		COLOR	STANDARD

Menu settings

■ SHUTTER

The SHUTTER setting allows selection of the shutter from 30 seconds to 1/4000 second as desired. With setting B (BULB), the shutter is opened by the first and closed by the next press of the release button.

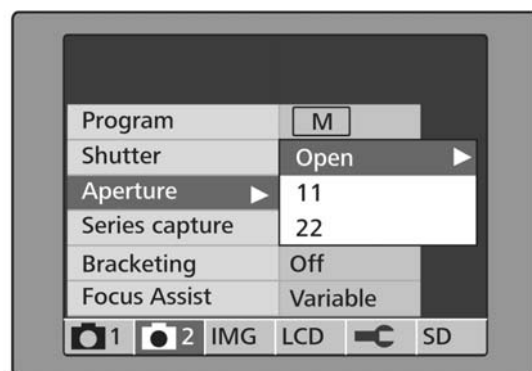
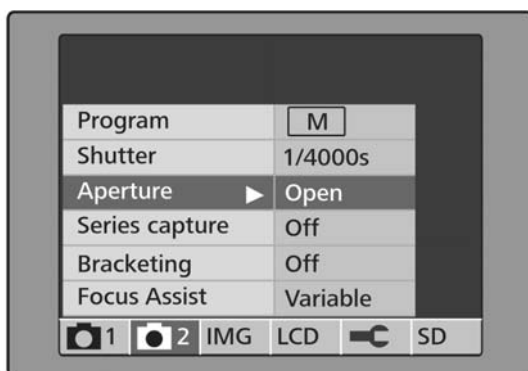
Free shutter selection is available only with manual setting M.



■ APERTURE

The aperture can be selected in three levels: 22, 11 and OPEN.

Aperture selection is available in program A (Aperture priority) and with manual setting M.



Menu settings

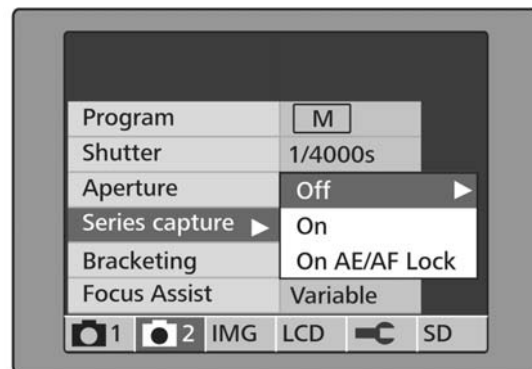
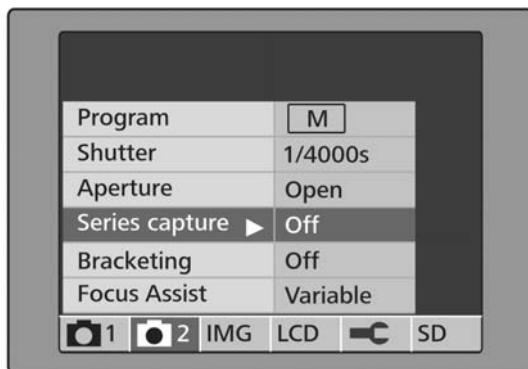
■ SERIES CAPTURE

With the SERIES CAPTURE function, up to 5 images can be taken in quick succession. If the SERIES CAPTURE function is activated, the camera continues to take pictures for as long as the release button is depressed. If ON is selected, the exposure during series capture is tracked between the individual shots. If ON AE/AF LOCK is selected, the exposure during series capture is not changed.

Note:

With shutter settings of less than $1/20$ second, a maximum of 2 – 3 images can be taken in quick succession. The subsequent exposures are then slower.

Factory default: OFF.



Menu settings

■ BRACKETING

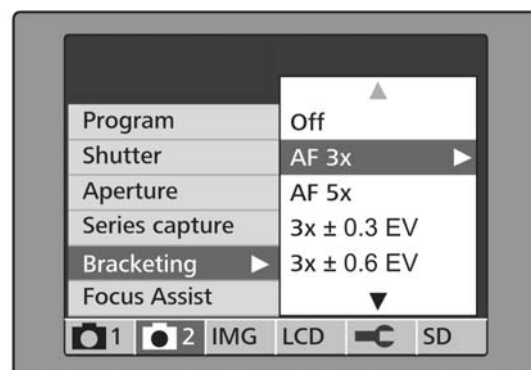
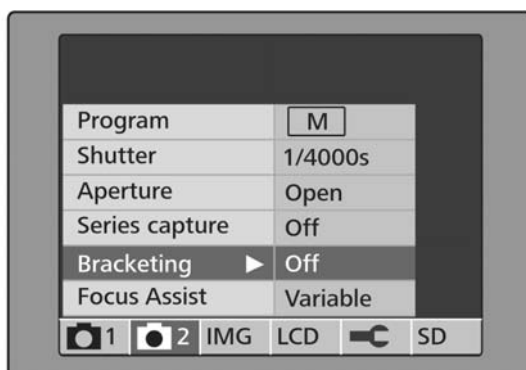
Use the BRACKETING function to take focus brackets and exposure brackets.

In settings 3 x AF and 5 x AF, focus brackets are taken with 3 or 5 images.

Exposure brackets are taken if the other settings are selected. The first digit specifies the number of exposures. The second digit specifies the interval between the exposure values.

Note:

With shutter settings of less than $1/20$ second, a maximum of 2 – 3 images can be taken in quick succession. The subsequent exposures are then slower.



Example: $5x \pm 1.0$ EV: 5 exposures are taken at intervals of 1.0 EV each,
i.e. -2.0 EV / -1.0 EV / 0 EV / $+1.0$ EV / $+2.0$ EV.

The bracketing is triggered automatically when the CAPTURE button is pressed once.

Factory default: OFF.

Menu settings

■ FOCUS ASSIST

With FOCUS ASSIST switched on, the image is refocused on release in order to correct slight manual focusing errors. This function serves not as a substitute but rather as an aid to manual focusing.



The location of the measuring field can be specified (CENTER or VARIABLE). To place the measuring field away from the centre, select the VARIABLE setting. After pressing the SET button (**Fig. 2/8**) on the remote control, use the SCROLL buttons to move the measuring field. The measuring field border frame is shown in blue. Press the SET button again to fix the measuring field and the frame color returns to red.

If FOCUS ASSIST is switched off, this function can be activated for the next exposure by means of the PUSH AF button on the remote control. FOCUS ASSIST focuses once when the button is pushed (blue spot appears on the monitor) and is deactivated again after capture. Hold the PUSH AF button depressed for longer to switch off the function with no subsequent capture. If FOCUS ASSIST is switched off, the frame (**Fig. 3/6**) is shown in grey.

Note:

Correction of the image definition by the FOCUS ASSIST function affects only the image captured or the image on the monitor. No change can be seen in the visual observation eyepiece.

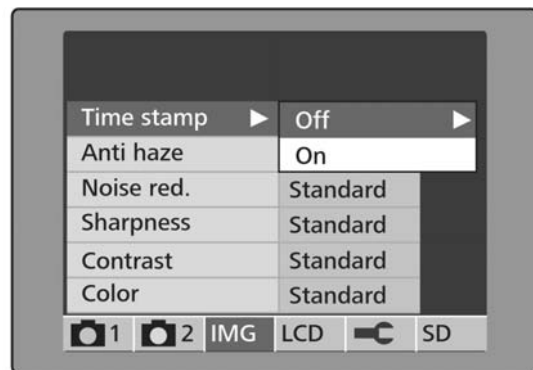
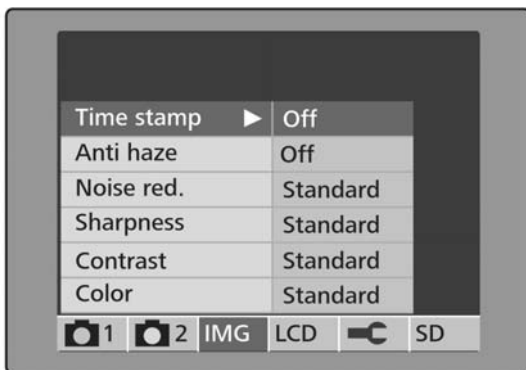
Menu settings

Menu **IMG**

■ TIME STAMP

The time stamp function can be used to print the exposure date and time on the image. The details are shown in the bottom right corner of the image.

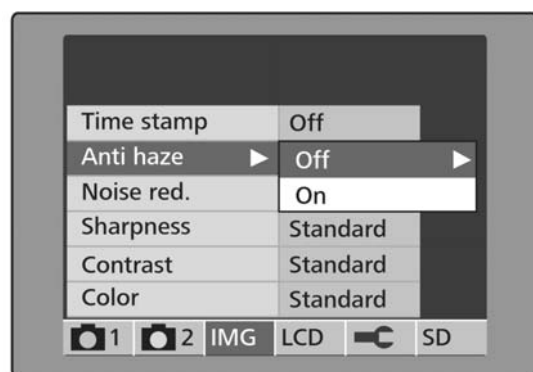
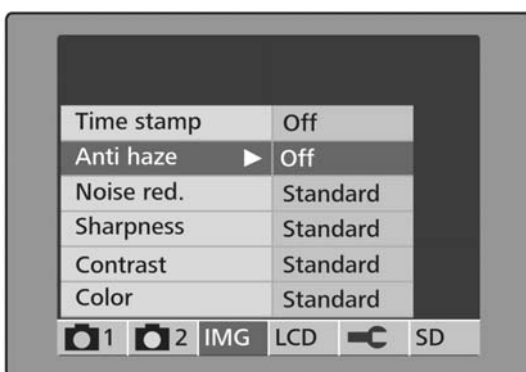
Factory default: OFF.



■ ANTI HAZE

The ANTI HAZE function switches on a filter which facilitates a significant improvement in the image in hazy or foggy conditions.

Factory default: OFF.

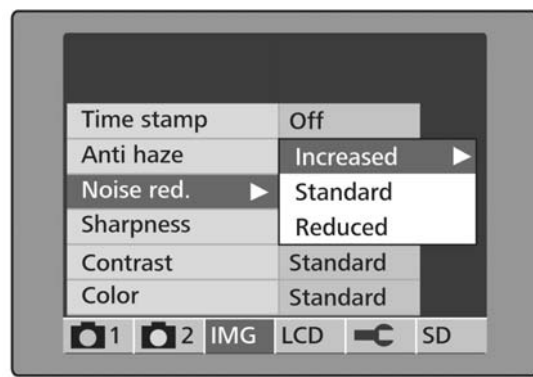
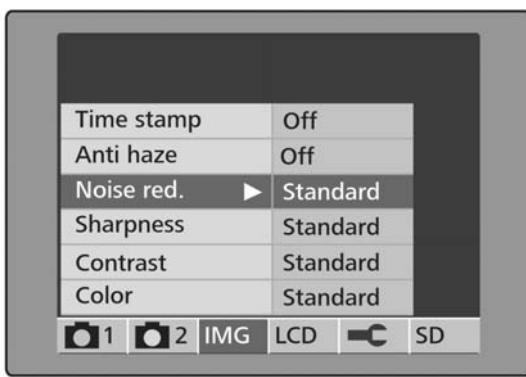


Menu settings

■ NOISE REDUCTION

This function switches on a noise reduction filter which significantly reduces image noise. However, this may also result in losses in the detail resolution.

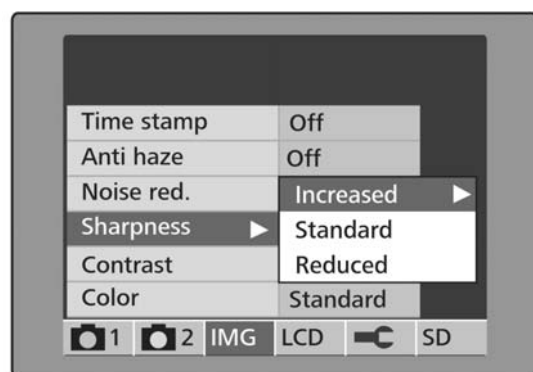
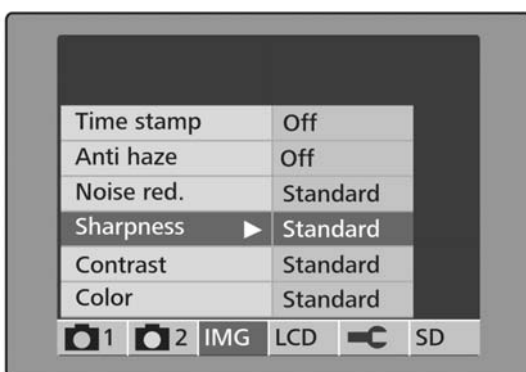
Factory default: STANDARD.



■ SHARPNESS

The SHARPNESS function switches on a sharpness filter which refocuses the exposures. If the sharpness is too strong, this may result in interference structures (artefacts).

Factory default: STANDARD.

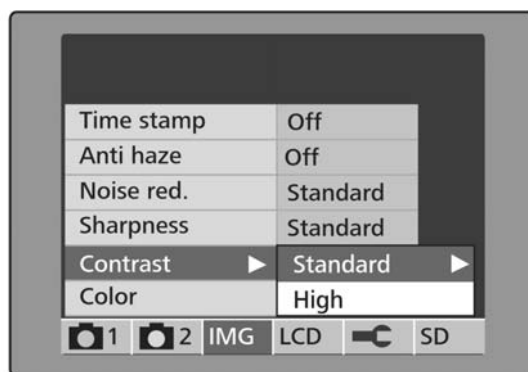
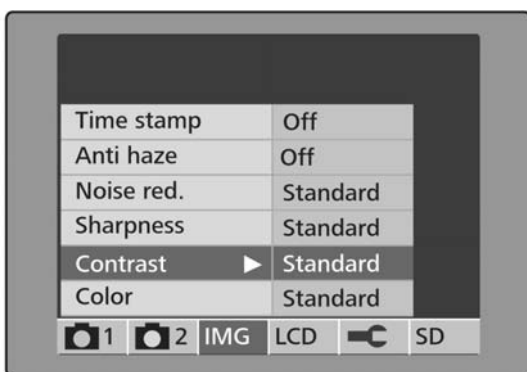


Menu settings

■ CONTRAST

Use the CONTRAST function to adjust the contrast rendition to the subject. For subjects with a high contrast range, select the HIGH setting. This increases the contrast range that can be shown.

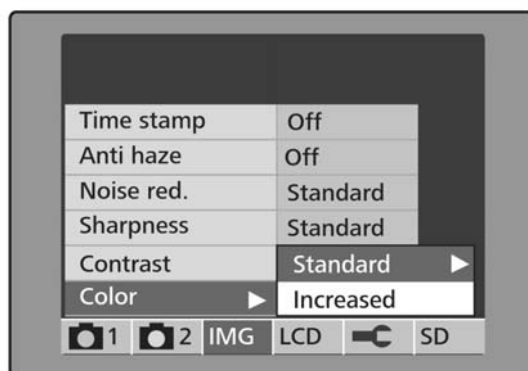
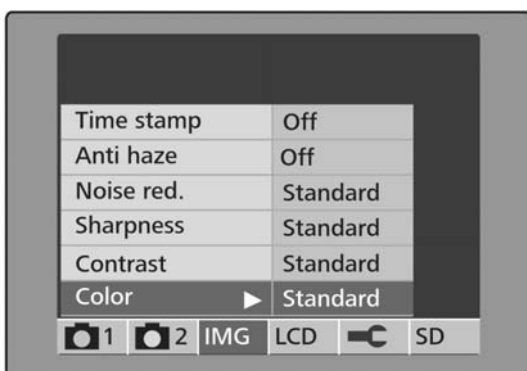
Factory default: STANDARD.



■ COLOR

Use the COLOR function to increase color saturation.

Factory default: STANDARD.



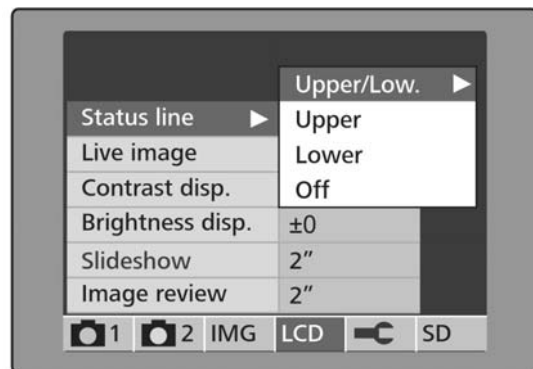
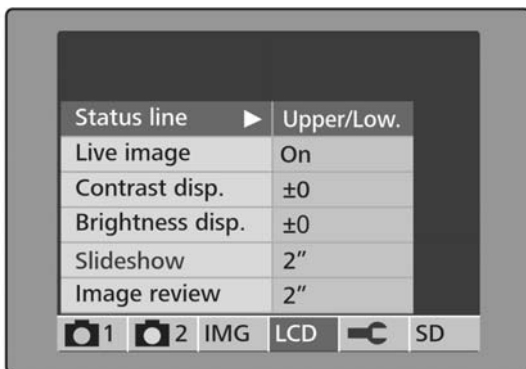
Menu settings

Menu LCD

■ STATUS LINE

Use the STATUS LINE function to determine whether or not status information is displayed on the monitor. The top status line shows the date, time, battery charge status and series capture functions. The bottom status line shows the quick accesses to important camera settings.

Factory default: UPPER/LOW.



■ LIVE IMAGE

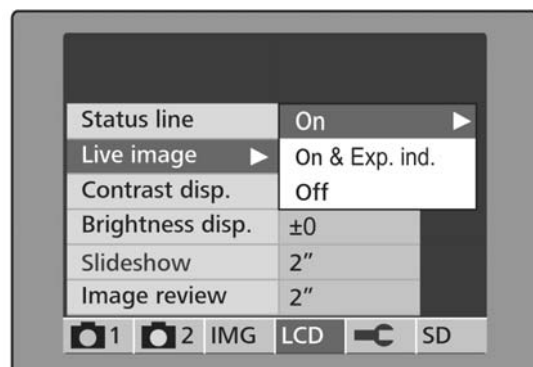
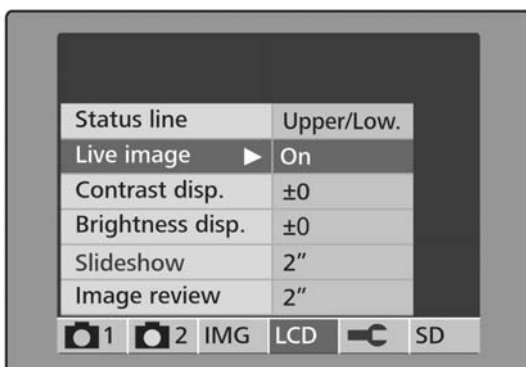
Use the LIVE IMAGE function to switch the live image on or off.

It is advantageous to have this setting OFF if the light generated by the display is disruptive.

The menu settings still remain visible if the live image is switched off.

With the ON & EXPOSURE DISPLAY setting, the overexposed areas are shown on the live image by a flashing black and white light.

Factory default: ON.

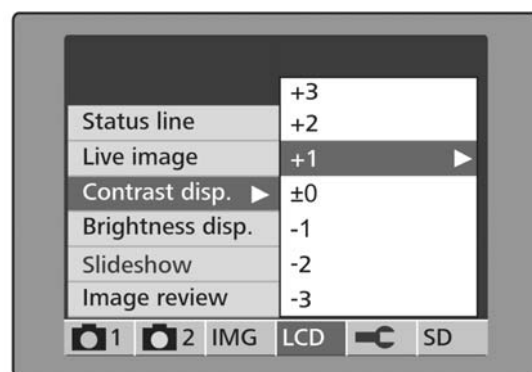
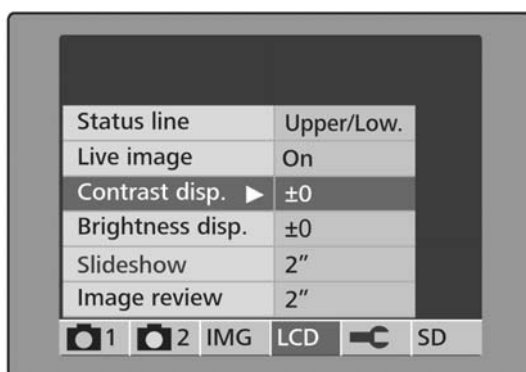


Menu settings

■ CONTRAST DISPLAY

Use this function to set the monitor contrast.

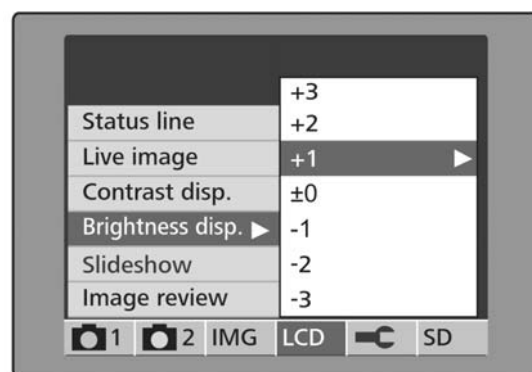
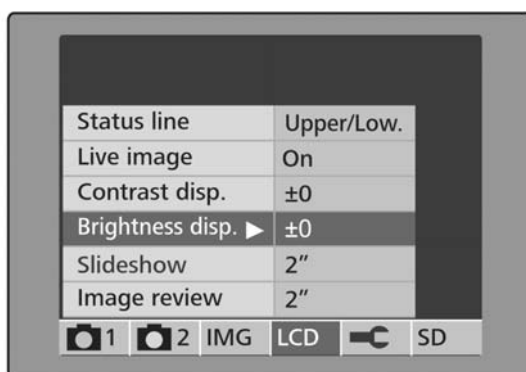
Factory default: ± 0 .



■ BRIGHTNESS DISPLAY

Use this function to adjust the brightness of the monitor.

Factory default: ± 0 .



Note:

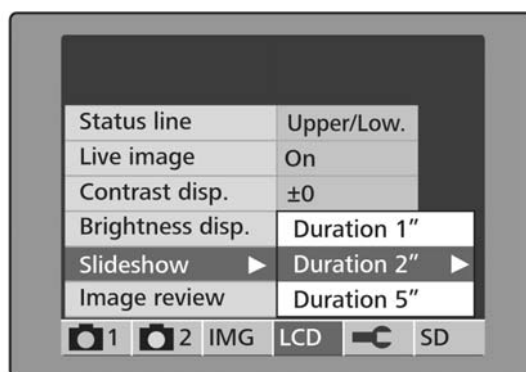
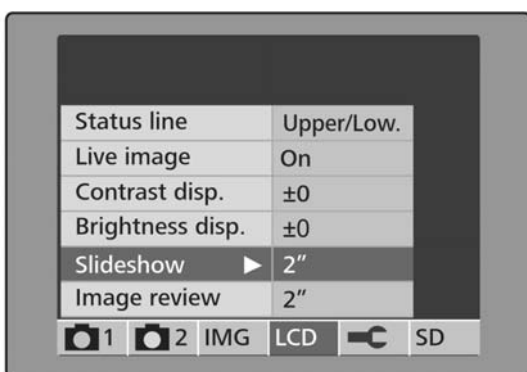
For the duration of the display, the image appears in the last rendering selected for image playback. In this regard, see also the chapter on image playback and image control.

Menu settings

■ SLIDESHOW

Use the SLIDESHOW function to set the duration for which captured images are displayed in the automatic sequence. The display time per image can be selected as 1, 2 or 5 seconds. To start the slideshow, press the SLIDESHOW/SET button in image playback mode. Press the button again to stop the slideshow.

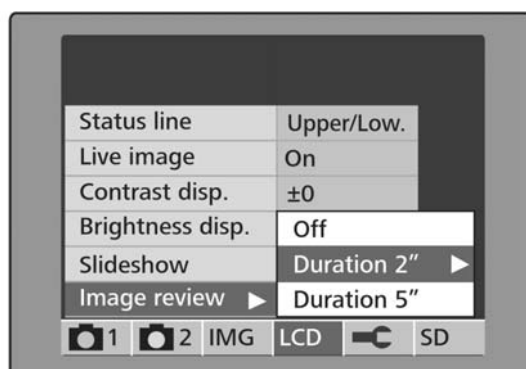
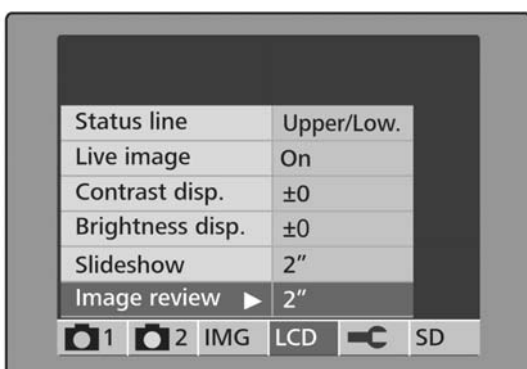
Factory default: 2 seconds.



■ IMAGE REVIEW

Use the IMAGE REVIEW function to set the duration for which the captured image is displayed immediately after exposure. The display duration can be selected as either 2 or 5 seconds. The image review can also be switched off.

Factory default: 2 seconds.



Note:

For the duration of the display, the image appears in the last rendering selected for image playback. In this regard, see also the chapter on image playback and image control.

Menu settings

Menu 

■ AUTO POWER OFF

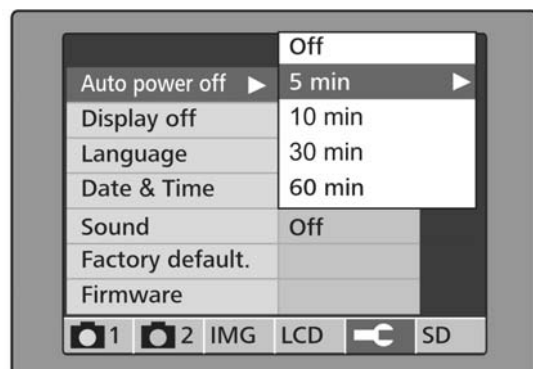
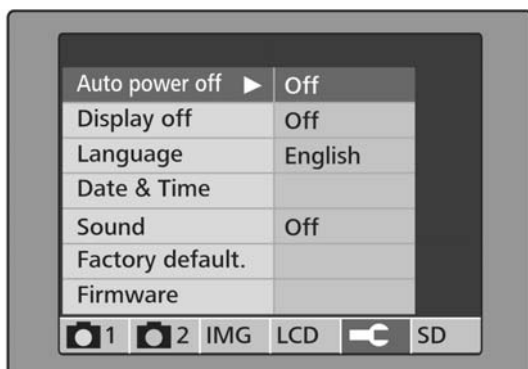
Use the AUTO POWER OFF function to set a time after which the PhotoScope completely switches off automatically.

The time is measured from the last press of a button on the remote control.

The time can be set at 5, 10, 30 or 60 minutes.

The power save function can also be switched off.

Factory default: OFF.



Menu settings

■ DISPLAY OFF

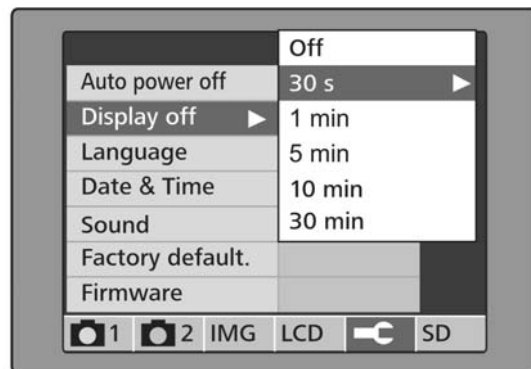
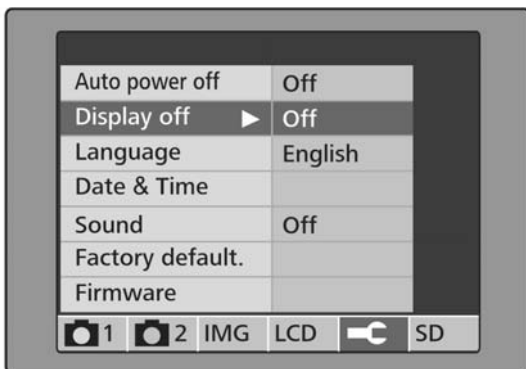
The DISPLAY OFF function significantly reduces the power consumption of the PhotoScope. After the set time has elapsed, the PhotoScope switches off the live image.

The time is measured from the last press of a button on the remote control. Press any button on the remote control to switch the display back on.

The time before which the DISPLAY OFF function is activated can be selected between 30 seconds and 30 minutes. The function can also be switched off.

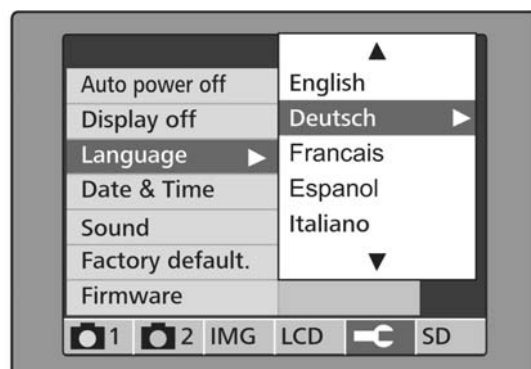
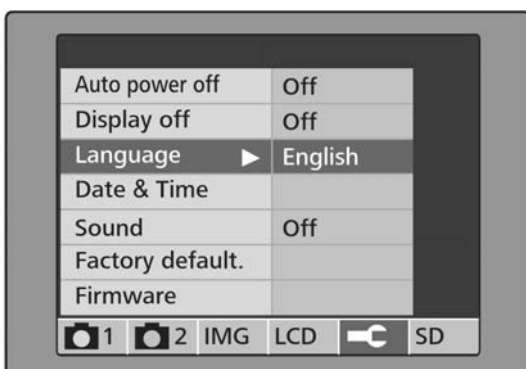
Factory default: OFF.

The CAPTURE button can still be used to capture images when the display is switched off.



■ LANGUAGE

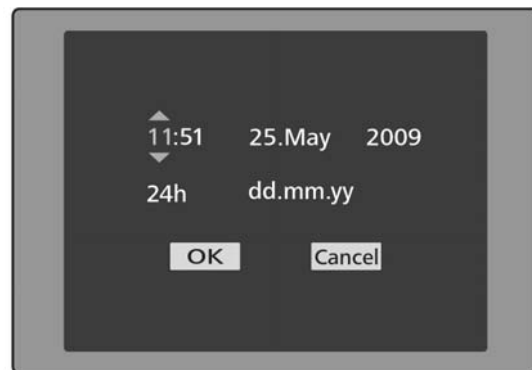
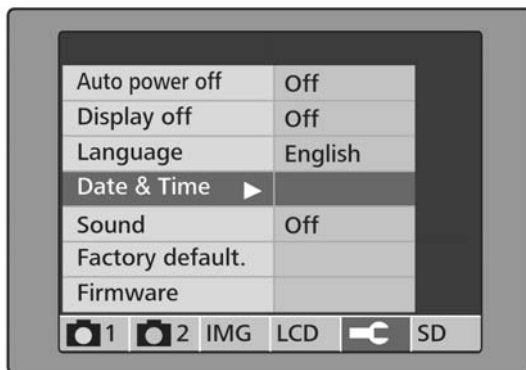
Use the LANGUAGE function to set the menu language. Should you accidentally select a completely unknown language, hold the PAUSE/PLAY button depressed for 4 seconds to switch to English.



Menu settings

■ DATE & TIME

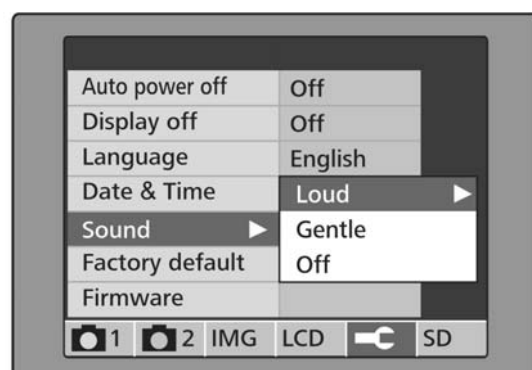
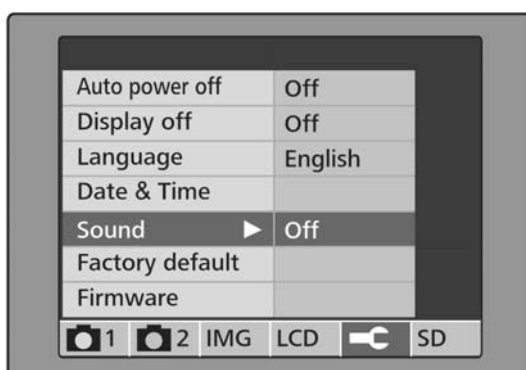
Use the DATE & TIME function to change the date and time settings saved in the system. Use the SCROLL UP and SCROLL DOWN buttons to change the settings and the SCROLL RIGHT and SCROLL LEFT buttons to move to the next parameter. With the SCROLL RIGHT button, move forward to OK and confirm by pressing the OK button. The changes will not be saved if the menu is left during setting.



■ SOUND

Use this function to determine whether a beep signal should be emitted to indicate the completion of focusing with Focus Assist and for capture. The options are OFF, GENTLE and LOUD.

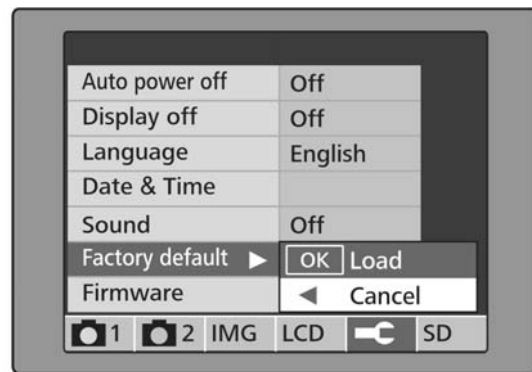
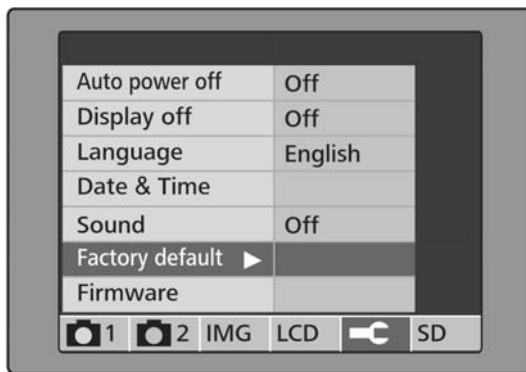
Factory default: OFF.



Menu settings

■ FACTORY DEFAULTS

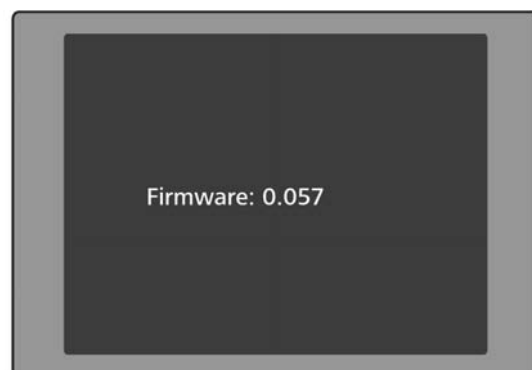
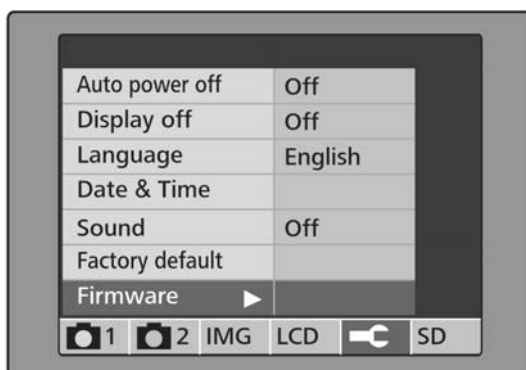
Use the FACTORY DEFAULTS function to activate the factory defaults for all camera settings. This may be useful if the settings have been adjusted and a return to defined basic settings is desired.



■ FIRMWARE

Use the FIRMWARE function to display all the firmware installed on the unit. If a new piece of firmware is available, it can be downloaded from www.zeiss.de/sportoptics and transferred to the SD card. Then plug the SD card into the PhotoScope and switch it on.

The further installation of the firmware is completed automatically.



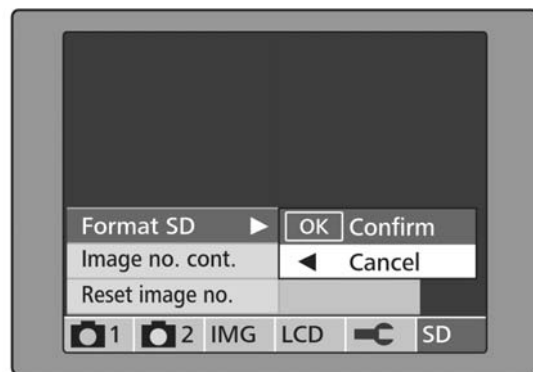
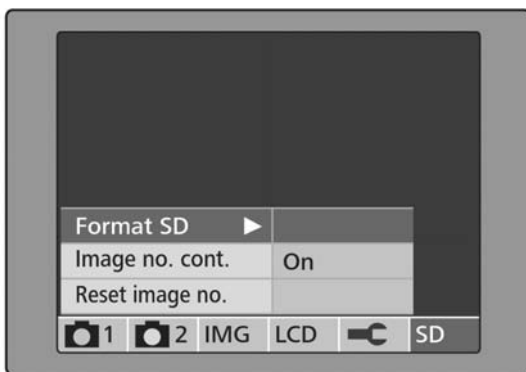
Menu settings

Menu **SD**

■ FORMAT SD

Use the FORMAT SD function to format the inserted SD card.

Please note that formatting will irretrievably erase all data on the SD card.

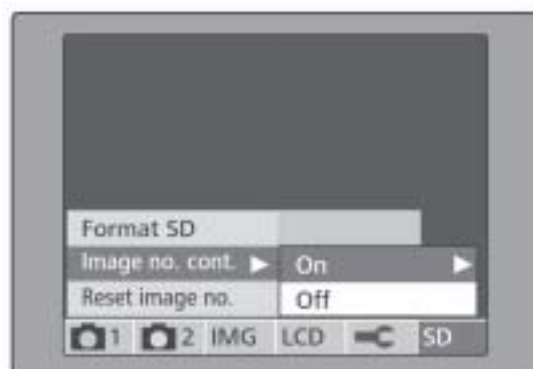
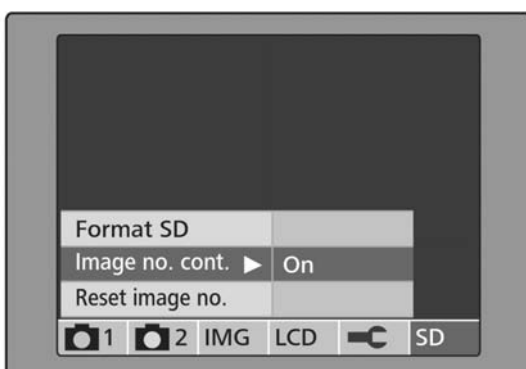


■ IMAGE NUMBER CONTINUOUSLY

Use the IMAGE NUMBER CONTINUOUSLY function to determine whether the image number continues to count up or whether it should restart the count when the card is changed.

Please note that files with the same file name will be created if this is set to OFF when the SD card is changed.

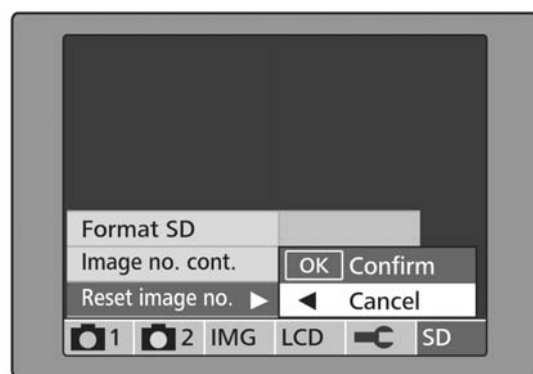
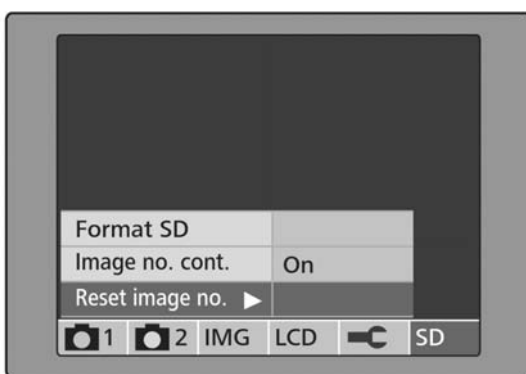
Factory setting: ON.



Menu settings

■ RESET IMAGE NUMBER

The RESET IMAGE NUMBER function sets the image number to the next highest complete ten thousand. E.g. if the RESET function is executed after capturing image Z1015612, the new image numbering starts at Z1020000.



Capture

To take quick and easy photographs select **AUTO** from menu **1**. Advanced users can specifically set all the camera parameters individually using the system settings in the various menus.

After correct diopter adjustment (cf. Preparation), point the PhotoScope towards the desired object and focus the images using the focus function (**Fig. 1/2**) on the spotting scope. Alternatively, of course, adjustment may be carried out directly on a sharp monitor image, for which an enlarged representation on the monitor image can be selected using the zoom plus button on the remote control.

If the FOCUS ASSIST function is activated, the camera will automatically compensate for slight focusing errors. Otherwise, press the PUSH AF button on the remote control once to activate automatic focusing for the next exposure. This is indicated by a blue spot (**Fig. 3/13**) on the top left of the monitor image. The image detail can be selected using the zoom ring (**Fig. 1/3**).

The rectangular markings in the viewfinder show the image detail captured. A live preview of the image is shown on the monitor at the same time (DISPLAY OFF not activated).

Important note:

A strong incidence of light through the eyepiece can result in undesired reflections on the image. Therefore, please place the protective cap over the eyepiece where possible or keep the head close behind the eyepiece during exposure.

Capture

■ Modify capture parameters

Use the SCROLL button (left and right) to select the camera settings directly on the bottom status indicator without going through the menu control. Each selected value then appears in blue text. Use the SCROLL button (up and down) to change the values or defaults. The effect on the image result is shown immediately on the monitor.

If the ON & EXPOSURE DISPLAY option is selected in the LCD – Live Image menu, the overexposed sections of the image flash.

Selection of the modifiable settings is dependent on the program selected.

In the fully automated **AUTO** program, almost no values can be manipulated.

■ CAPTURE button

Press the CAPTURE button (**Fig. 2/3**) on the remote control to capture the image or to start preset bracketing. To avoid blurring, do not touch the spotting scope on the tripod and stand everything on a firm base.

The CAPTURE button is a two-stage release key. Depress to the pressure point to execute light metering and the FOCUS ASSIST function (if activated), press the button down fully to start capture.

Playback and image control

Press the PLAYBACK button (**Fig. 2/6**) to display the captured image on the monitor. Use the SCROLL buttons (**Fig. 2/2**) to scroll forwards and backwards between several saved images. Press the PLAYBACK button (**Fig. 2/6**) again to return to live image mode.

The PLUS and MINUS buttons (**Fig. 2/4+5**) enlarge and reduce the images. Press the MINUS button several times to show 4 or 9 reduced images on the display at the same time.

In playback mode, the images can be shown in various renderings with the corresponding information. To select, use the UP/DOWN SCROLL buttons.

Standard rendering	The image is displayed with the following information: image number, date and time of exposure, file format (e.g. JPEG), image size (e.g. 3052 x 2284).
Rendering with image information	The image is displayed with the following information: format, quality, color, contrast, sharpness, noise, anti haze.
Rendering with capture information	The image is displayed with the following information: AE mode, shutter, aperture, exp. compensation, ISO, white balance, image size.
Rendering with histograms	Histograms are displayed for brightness and colors red, green and blue. This allows evaluation of the frequency distribution of the various brightness levels in the image.
Rendering with peak lights	This representation displays the captured image with all overexposed areas flashing.

Note:

If IMAGE REVIEW is selected, the captured image appears on the monitor for a pre-selected time after capture. The setting selected in playback mode (image information, capture information, histogram, peak light) is used for the IMAGE REVIEW after capture.

Playback and image control

■ Delete Image

In playback mode, the image displayed can be deleted by pressing the delete button **(Fig. 2/7)**. To cancel the delete process, press the PLAYBACK button **(Fig. 2/6)**.

■ Playback on PC

For further editing or saving, the images from the SD card may be transferred to PC.

To do this, connect the PhotoScope to the PC via the USB connection **(Fig. 1/14)** then switch on the PhotoScope. The images can now be transferred to the computer.

Alternatively, remove the SD card from the PhotoScope and connect it to the computer via a card reader.

Video recording

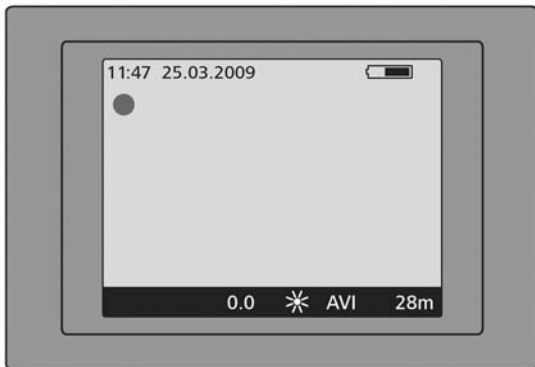
■ RECORDING

Under QUALITY in menu , select the AVI setting.
The camera then immediately switches to QVGA video mode.

Press the CAPTURE button (**Fig. 2/3**) to start recording. Press the CAPTURE button again to finish recording.

If recording is in progress, a red spot (**Fig. 3/13**) is shown on the display. In video mode, the exposure can be corrected and the WHITE BALANCE set using the status line.


The remaining run time is displayed in minutes on the bottom right of the status line.



■ PLAYBACK





Press the PLAYBACK button (**Fig. 2/6**) then the PLAY/PAUSE button (**Fig. 2/8**) to show the recorded video on the monitor.

■ END

Under QUALITY in menu , select a setting other than AVI to return to camera mode.

IV. Technical Data

Victory PhotoScope 85 T* FL

Zoom	15 – 45 x
Entrance pupil	Max. 85 mm
Field of view at 1000 m	80 – 27 m
Close focus	5 m
Focus setting	Manual and Focus Assist
Length	Approx. 438 mm
Weight	Approx. 2990 g
Image sensor	7 MPx CCD
Focal length (analogue 35 mm film)	600 – 1800 mm
Largest aperture (nominal)	2.4 at 15 x / 3.3 at 45 x
Aperture stops	Open, 11, 22
ISO sensitivity	ISO 50-800
Shutter times	B –1/4000 s
Programmes	   
Exposure	Spot, centre weighted, matrix, histogram, lights, shade
White balance	Auto, manual, daylight, fluorescent light, artificial light, shade, clouds, clouds and sun with semi-automatic
Bracketing	6 levels for exposure series, 2 levels for focus series
Image size	7 M, 4 M, 2 M
File format	JPEG, DNG, AVI
Video	QVGA with 14 f/s
Power supply	7.4 V lithium-ion rechargeable battery
Interfaces	USB 2.0, power supply
Memory medium	SD card
Order no.	52 81 00

“This product may be covered by one or more of the following
United States patents: US6542302, US6816310, US6906862”

Carl Zeiss
Sports Optics GmbH
Carl Zeiss Group
Gloelstrasse 3 – 5
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