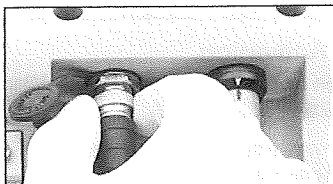


Image Capture and Recording

If single images or video streams need to be saved, then an SD memory card is required to be inserted into the card holder.

- ❗ **NOTE:** We recommend class 10 SDHC memory cards to ensure a quick and easy documentation.
- ❗ **NOTE:** Make certain the SD Card is inserted with the label facing toward the back of the monitor and gold strips facing toward the front of the monitor.

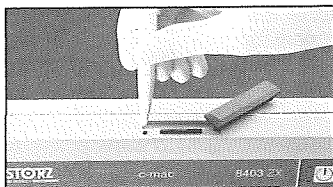


Charging

Insert the plug from the power supply into the connection socket of the monitor. Connect the power supply to the main socket.

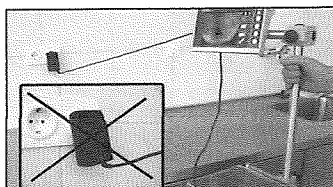
- ❗ **NOTE:** The C-MAC® video laryngoscope can be powered either using main electricity or the integrated battery. Connect the power cord if the battery symbol on the front of the monitor turns red. The battery charges automatically as soon as the monitor is connected to the power supply. This will be displayed by the lighting up of the orange colored LED.

The C-MAC® can be used during charging.

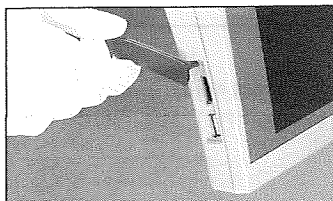


If a system error occurs (unit no longer reacts, although connections and power supply attached), a system reset has to be implemented. This means rebooting the system.

A reset of the system may be accomplished in two ways 1) Depress and hold the power button for 20 seconds or 2) Insert the straight end of a paper clip into the round opening next to the SD card holder and carefully press downward to activate the reset button. Once either reset is completed the monitor must be switched on.



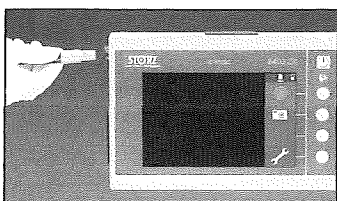
- ❗ **CAUTION:** Damage to the power cable: Only remove the plug from the plug socket by holding the plug housing. Do not pull the cable!



Use of the HDMI output

The device features a port for an external monitor. A HDMI cable can be used to send the video signal to an external monitor.

- ❗ **NOTE:** The C-MAC® Monitor must be powered off before connecting to an external monitor. Once the monitors are connected, power on the C-MAC® monitor to display image.
- ❗ **NOTE:** The connected monitor must support a resolution of 1024 × 768 or 1280 × 720.

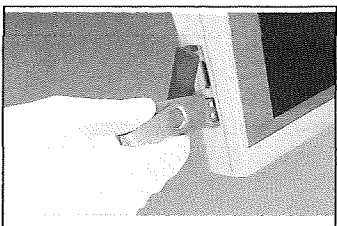


Secondary camera

The connection ⑧ for the second CMOS video unit is located on the top left-hand side of the housing.

NOTE: All CMOS videoscopes from KARL STORZ can be connected to both connections (see overview table on page 3 of the instruction manual 96076008D). Video units from other manufacturers cannot be connected.

NOTE: If two cameras are connected, the user must select in the menu the camera for which the images are to be displayed.



Use of the USB port

The USB port serves exclusively to transfer data from the SD memory card to the USB stick. Only USB-compatible storage media may be connected.

NOTE: Before use with the Monitor 8403 ZX, USB sticks must be formatted on the PC with FAT (standard) and may only have one partition.

NOTE: In the case of large video files or with multiple recordings, a lot of time may be required for the data transfer.

NOTE: A USB stick with a large storage capacity can delay the storage of images.

NOTE: The video stream can only be viewed on a PC if an MPEG-4 codec is installed on the PC.

Energy management

The charge state of the battery is displayed on the monitor by the charge indicator in the menu bar.

The symbols mean:



Battery empty



25%: Approx. 30 minutes of operating time



50%: Approx. 1 hour of operating time



75%: Approx. 1.5 hours of operating time



100%: Approx. 2 hours of operating time



Battery is being charged



Battery must be replaced
(Maximum battery capacity is less than 50%
of the original maximum capacity)

For further detailed references on the setup, maintenance and reprocessing of the C-MAC® monitor and the CMOS video unit please refer to the instruction manual which is available for download at www.karlstorz.com.

For Technical Support please contact our service department (technicalsupport@karlstorz.de)

For KARL STORZ Technical Services in North America, call 1-800-421-0837

Level 1



Video recording:

Starts the recording of a video stream if a SD memory card has been inserted into the slot.



Freeze without single image capture:

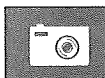
The screen is frozen.

NOTE: The freeze function is ended by pressing a control key.



Stop video recording:

Stops the recording of a video stream.



Single image capture:

Saves the current image on the screen to the SD memory card. The value displayed in brackets indicates how many images can still be stored (15.9k = 15900 images).



Change the camera unit:

Press the softkey to change between two connected camera units.



Freeze with single image capture:

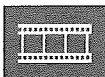
The screen is frozen and, at the same time, the current image on the screen is saved to the SD memory card.



Next level:

Activates the second level function keys.

Level 2 - Video



Video selection menu:

Plays back and/or deletes recorded video streams on the SD memory card which has been inserted into the slot.

Level 2A is activated by pressing the softkey.



Scroll down through list



Scroll up through list



Play:

Plays back the selected video stream.

Level 2b



Delete:

Pressing the button for an extended period deletes the video. After deletion, the list of video recordings is shown.



Pause:

The video is paused on pressing the softkey. The pause symbol changes into the play symbol.



Play:

Continues to play back the selected video stream. Level 2B is activated at the same time by pressing the softkey.



Stop:

Stops playback and activates the list of recordings (Video selection menu).



Level 1:

Back to Level 1

Level 2 - Images



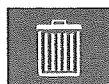
Image selection menu

Viewing recorded images:

Allows viewing and deletion of recorded single images on the SD memory card which has been inserted into the slot. Level 2A is activated at the same time by pressing the softkey.



Scroll down through list



Delete:

Pressing the key for an extended period deletes the image.



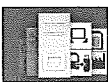
Scroll up through list



Level 1:

Back to Level 1.

Menu navigation (all levels)



Menu wheel:

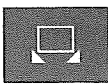
Activates the function keys for the next level. You can move through several levels by repeatedly pressing the menu wheel.



Level 1:

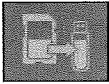
Back to Level 1.

Level 3

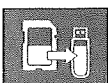


White balance:

Enables the user to carry out a manual white balance.



The button is deactivated during this time.



Data transfer:

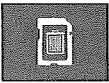
Enables the user to carry out a manual data transfer from the SD memory card to the USB stick.

Level 4



Reset:

Allows all settings to be reset to the factory settings.



Delete content of the SD memory card

All the contents of the SD memory card are deleted by pressing the softkey for an extended period (approx. 2 seconds). Deletion may take a few seconds and is indicated by the non-active symbols.

Level 5



Brightness control:

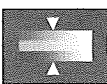
After pressing the softkey, the +/- keys appear on the monitor, with which the image brightness can be adjusted. The brightness value is shown as a percentage and is saved for this camera.



Contrast control:

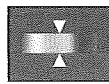
After pressing the softkey, the +/- keys appear on the monitor, with which the contrast can be adjusted. The contrast value is shown as a percentage and is saved for this camera.

Level 6



Color saturation:

After pressing the softkey, the +/- keys appear on the monitor, with which the color saturation of the monitor screen can be adjusted. The color saturation value is shown as a percentage and is saved for this camera.



Hue:

After pressing the softkey, the +/- keys appear on the monitor, with which the hue can be adjusted. The hue value is shown as a percentage and is saved for this camera.

Level 7



Entry of date:

Allows the date to be entered and corrected (format: DD/MM/YYYY). After pressing the softkey, enter the day using the +/- keys and confirm by pressing the arrow key.

Following this, the month and year are entered in the same way. After confirming the year, press the arrow key again in order to exit the +/- key level.



Time:

Allows the time to be entered and corrected. After pressing the softkey, enter the hours using the +/- keys and confirm by pressing the arrow key.

Following this, the minutes are entered in the same way.

After confirming the minutes, press the arrow key again in order to exit the +/- key level.

Level 8

About the C-MAC® videoscope:

Displays the version number of the installed firmware version and the version number of the connected videoscope. If no videoscope is connected, N.C (not connected) appears.



Software update:

If an SD memory card with new software is inserted, the software update can be initiated using this function. If no software is available on the SD memory card, the symbol is shown in gray.

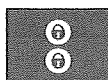
Level 9



Image rotation:

Rotates the image on the screen by 180°. The setting is saved for this camera.

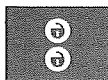
NOTE: This function is only activated if the camera connected supports this function.



Key lock:

Allows the camera keys to be locked. The symbol changes (locks open) upon activation.

Pressing again serves to unlock the keys. The setting is saved for this camera.



Level 10



Freeze function:

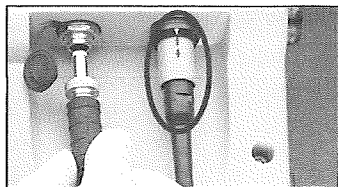
Pressing the 'Freeze function' function key (active camera symbol in the top right-hand corner) changes the 'Single image capture' function (Level 1) to the Freeze function. When the 'Single image capture' function is activated, the screen is frozen and, at the same time, an image is saved. The setting is saved for this camera.



In order to deactivate the Freeze function, press the function key (active camera symbol in the bottom left-hand corner) again..

NOTE: This function is only activated if the camera connected supports this function.

Disassembly



Removing the CMOS Video unit

Unplug the CMOS video unit. Pull the plug of the CMOS video unit out of the black connector on the monitor.

CAUTION: Do not pull on the cable. Always grasp the plug to remove the cable.