CZOOM II

USER GUIDE

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Technical specifications are
subject to change without notice!

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Introduction: Using the User's Manual

Note: Notes are used to indicate important user information with regard to the respective section of this user guide.

Warning: Warnings are used to indicate important user information with regard to the respective section of this user guide; they also point out potential setup errors or risks of damage.

czoom II, *camin*, etc: In this user guide all cmotion components are italicized. A list of these components is also given at the back of this user guide.

Cables

In this user guide cables are referred to as in the following example: (FI 12p, LE 7p). Cables are referred to in reference to their connectors. cmotion cable connectors are manufactured by W. W. Fischer, Lemo or Hirose, which will be referred to as FI, LE and HI respectively. Cable identification starts with the connector connected to the cmotion unit; separated by a comma, the connector connected to non-cmotion units follows. With each connector, its number of pins is specified. The cable RSM-1 (Fi 12p, LE 7p), for instance, is the cmotion Scorpio motor cable. The FI 12p connector is connected to the *camin* and the LE 7p connector is connected to the Scorpio motor.
Cables may also be referred to by their commonly used names, e.g. CBUS (FI 7p, FI 7p) and RS (FI 3p, FI 3p) cables, or the cable for the CBUS interface and the cable for the RS interface, respectively.

Table of contents

1 SAFETY WARNINGS 1
2 COMPONENT DESCRIPTION 5
2.1 Overview 5
2.2 Detailed Component Description 6
3 CZOOM II SET UP 9
3.1 The *czoom II* in stand-alone operation 9
3.1.1 Attaching the *czoom II* via *cfast-czoom* 9
3.1.2 Attaching the *czoom II* to the pan bar joint 10
3.1.3 Operating the *czoom II* 10
3.2 The *czoom II* used with the camin 13
3.2.1 Attaching the *czoom II* 13
3.2.2 Operating the czoom II 13
3.2.3 Accessory: The *cstrap* 15
4 SYSTEM OPERATION 16
4.1 Motor calibration 16
4.2 Zooming 17
4.3 Setting the zoom speed 17
4.4 Set motor direction 18
4.5 Setting motor limits 19
4.6 ZAP – Zoom as Fast as Possible 18
4.7 Camera run 19
4.8 MEMORY und RECALL 21
4.8.1 Function GOTO 22
4.8.2 Function HOLD 22
4.8.3 Function TOGGLE 22
4.9 Replacing the marker strip 23
5 THE DISPLAY AND ITS FUNCTIONS 24
5.1 Menu control and functions 24
5.1.1 MOTOR menu item 25
5.1.2 RECALL menu item 25
5.1.3 DISPLAY menu item 27
5.2 Position bar and position value 27
5.3 Status information and warnings 29
5.3.1 Radio module status 29
5.3.2 ZOOM SPEED status 30
5.3.3 Status Battery 31
5.3.4 Warnings and error messages 32

A ATTACHMENT 33
A.1 Software update 33
A.2 Compatibility 33

1 SAFETY WARNINGS

Warnings

Notice:
Danger of operational error!
Danger of injury!
Damage to equipment possible!

General Safety Guidelines:

- Do not put your fingers near the motors while motors are moving!
- In order to ensure optimal performance, read this user guide.
- Only users already familiar with the equipment should carry out assembly and initial operation.
- Make sure all components (*czoom II*, lens motors, etc.) are securely mounted.
- Remove batteries from components before transporting them or putting them in storage.
- All necessary repairs should be carried out by authorized service centers only.
- Use original cmotion replacement parts only.
- When using in wet weather, routine safety precautions for handling electrical equipment in wet weather should be observed.
- Do not remove any screws that are secured with paint.
- Do not remove the warranty seal.

Important

If you have questions or want to order parts, please have the component's model and serial number ready.

2 COMPONENT DESCRIPTION

2.1 Overview

Fig. 2. 1

czoom II *(*Fig. 2. 1*)*

The *czoom II* provides all operational functions necessary to control a zoom motor. It comes with an integrated display which shows the current motor position as well as other relevant status information. The *czoom II* can be attached to the pan bar and offers direct control of both zoom motor and camera.

Fig. 2. 2

czoom II-ext *(*Fig. 2. 2*)*

The *czoom II-ext* provides a built-in radio-remote module, an internal antenna and a battery receptacle. This extension enables you to use the *czoom II* in wireless mode together with a *camin* or *camin mono*. A *czoom II* with a radio-remote module has a „wireless extension" label on its rear side.

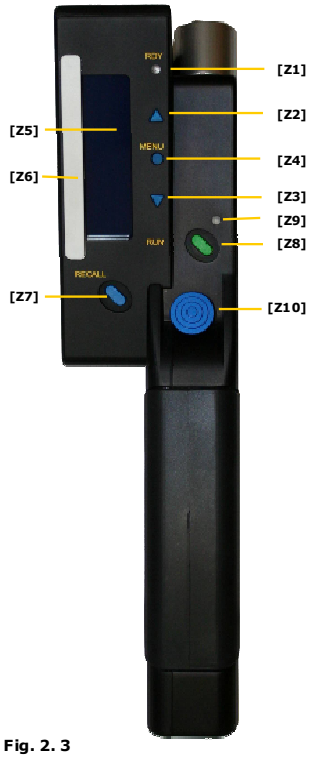


Fig. 2. 3

2.2 Detailed Component Description

Z1	RDY LED	Off	*czoom II* has no power
		Green	System is ready
		Red/ Green blinking	No motor connected
		Red	Error has occurred (e.g. another unit is in control of the motor. System is not ready)
Z2/ Z3	UP / DOWN button	• Zoom Speed selection • Menu selection	
Z4	MENU button	Access menu	
Z5	Display	Shows motor position and status information	
Z6	Marker strip	Replaceable marker strip for marking motor positions	
Z7	RECALL button	Stored motor positions can be retreived	
Z8	RUN button	Starts / stops a camera	
Z9	RUN LED	Off	• No RUN signal received from camera or • Camera is in standby mode
		Green	Camera is running
		Red	• Camera error or • Camera is running up/down
Z10	Zoom control joystick	Force-sensitive joystick for controlling the zoom motor	

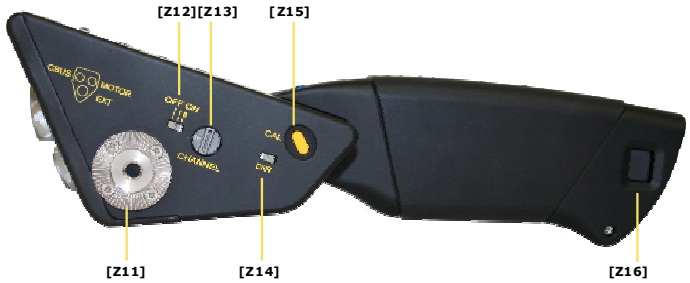


Fig. 2. 4

Z11	Rosette	Rosette for attaching the *cfast-czoom*
Z12	ON/OFF switch	*czoom II* power switch I: normal mode II: boost mode
Z13	Channel selector	Selector knob for radio transmission Depending on where the device is used, you have to select the channel accordingly: Set |1| – |7| in Europe, USA and Canada Set |8| – |9| in Europe, USA, Canada, Japan and Australia Set |0| to switch off the transceiver, or to use in hand-wired mode.
Z14	DIR switch	Sliding switch for toggling the rotational direction of the motor
Z15	CAL button	• Button to start motor calibration (press for at least one second) or • can be used together with LENS button for single motor calibration
Z16	Battery Release Button	While holding the *czoom II* vertically, press the release button to enable the battery to glide out of its receptacle.

Fig. 2. 5

Z17	ZAP button	While performing zoom control, the ZAP button moves the motor as fast as possible (Zoom As Fast as Possible)
Z18	LENS button	• Assigns a segment of the zoom lens scale to the force-sensitive zoom control joystick **or** • can be used together with the CAL button for single zoom motor calibration
Z17 + Z18	MEMO	Motor position is stored, when ZAP button and LENS button are pressed simultaneously

Fig. 2. 7

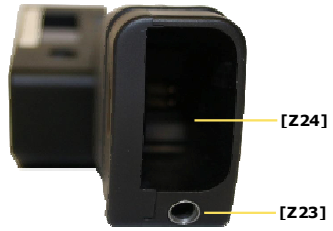


Fig. 2. 6

Z19	CBUS connector	*cmotion* intra-system interface
Z20	Zoom motor connector	Connector for digital servo motors for zoom
Z21	EXT connector	Connector for camera communication, synchronizations, power supply and ENG lenses.
Z22	Pan bar adapter	Adapter for Oppenheimer Articulation
Z23	*cstrap* adapter	punch hole for the *cstrap* (carry strap)
Z24	Battery receptacle	slot for the battery

3 CZOOM II SET UP

Fig. 3. 1

The *czoom II* (see Fig. 3. 1) provides all operational functions necessary to control a zoom motor. It comes with an integrated display which shows the current motor position as well as other relevant information.

The *czoom II* can be used in two different ways:

- As stand-alone device with a connected zoom motor.
- With the *camin* or *camin mono* (via a wireless module or CBUS cable connection).

3.1 The *czoom II* in stand-alone operation

In stand-alone operation, the *czoom II* has a zoom motor attached. In this mode of operation the *czoom II* is usually attached to the pan bar.
The *czoom II* can be mounted to the pan bar in the following ways:

- With the *cfast-czoom*, which is screwed on via the rosette disc.
- Directly screwed *to* a pan bar joint, e.g. by Oppenheimer

.

3.1.1 Attaching the *czoom II* via *cfast-czoom*

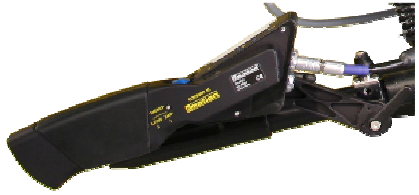


Fig. 3. 2

For practical zoom control, the *czoom II* can be attached to the pan bar with the *cfast-czoom* (see Fig. 3. 2). The *cfast-czoom* is composed of an arm, two rosettes and a *cfastener.* It can be attached to any rod 15-28 mm, e.g. the pan bar. Via *cfast-czoom* it is also possible to adjust the angle between *czoom II* and pan bar and thus achieve optimum user comfort.

Note: The arm of the *cfast-czoom* has two rosettes. One rosette is attached to the *cfastener,* the other is attached to the *czoom II.* The rosette attached to the *cfastener* can be switched from one side of the arm to the other, so that the *cfastener* can be attached to the inside or outside of the *czoom II.*. (see Fig. 3. 3*)*

Fig. 3. 3

1. Attach the *czoom II* to the *cfast-czoom* using the rosettes. Secure tightly with the tightening lever.
2. Attach the *cfastener* to the pan bar (or any other rod 15-28 mm). Secure tightly with the tightening lever.

Note: The angle between *czoom II* and pan bar can be adjusted very easily. Loose the tensioning screw, so that the rosettes can be rotated in opposite directions, than adjust as desired.

Fig. 3. 4

3.1.2 Attaching the *czoom II* to the pan bar joint

The czoom II can be directly mounted to a pan bar joint (articulation), e.g. by Oppenheimer.
In this case, the Oppenheimer Articulation is attached to the pan bar. The joint is directly screwed to the pan bar adapter of the *czoom II. (See* Fig. 3. 4*)*

Note: It is possible that the pan bar adapter of the *czoom II* is screwed off.

3.1.3 Operating the *czoom II*

When operated in stand-alone mode, the *czoom II* is usually powered by a camera; yet it can also be powered independently by an inserted battery.

Note: The operating time of the battery inserted into the *czoom II* will strongly depend on the frequency of motor activity; it usually covers 2-4 hours.

1. Use the camera cable to connect the *czoom II* with the camera.

   Note: In the attachment (Appendix A.2) of this user guide you find a list of supported cameras and the cables required for their use.

2. Connect lens motors to the *czoom II.* The following motors can be connected to the *czoom II*:

   - **ARRI CLM-1:** connect with RLM-2 (FI 7 p, FI 5p) cable to CBUS connector (blue).

Fig. 3. 5

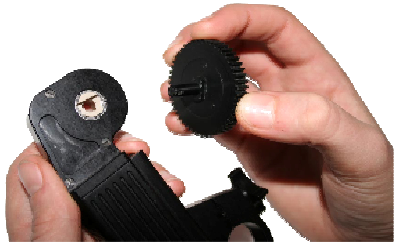


Fig. 3. 6

Note: With the RLM-2 cable, cable lengths over 50 metres are possible.

- **ARRI CLM-2:** connect directly with the integrations cable (FI 12p) to the zoom motor connectors (green).
- **Denz:** connect directly with the integrations cable (FI 12p) to the zoom motor connectors (green).
- **Hedén M26VE:** connect with the RHM-x (FI 12p, LE 7p) cable to the zoom motor connectors (green).

Note: You can connect a 10m cable with Hedén M26VE (cable RHM-4).

Note: When using the Hedén motors (see Fig. 3. 5), the gear rings can be easily exchanged according to teeth size (see Fig. 3. 6). They can also be placed on either side of the motor.

i. Push on the small rod exiting the opposite side of the gear ring mount.

ii. Choose the gear ring with your desired teeth size.

iii. Choose the side on which you would like the gear ring to be placed.

iv. Place gear ring rod into the hole located on the gear ring mount.

v. Gently push gear ring while slowly turning it, until the rod pops into the hole.

vi. Push rod completely into the hole until it clicks.

The height of the rod attachment ring can also be adjusted; this helps to assure that the motor actually reaches the lens gear ring.

- **Preston:** connect with RPM -1 (FI 12p, LE 7p) cable to the zoom motor connectors (green).
- **Scorpio:** connect with RSM-1 (FI 12p, LE 7p) cable to the zoom motor connectors (green).

Warning: Make sure that cables do not get in the way of equipment during operation or camera handling (movement).

- **ENG lenses:** ENG lenses can be directly connected to the *czoom II* via a 16p EXT plug. In this case, the *czoom II* cannot be powered by the ENG lens interface. For a list of available cables, see the attachment (Appendix A.2).

3. Switch *czoom II* ON [Z12].

   The *czoom II* comes with a two-level ON switch.

   - Switch setting ON I: In this setting, the connected motor is powered by supply voltage.
   - Switch setting ON II: In this setting, the *czoom II* operates in boost mode. Voltage supply for any connected motor is provided by a boost module. The motor runs with higher speed. As long as the zoom control joystick is operated steadily, the motor will continue to move at a constant speed – independent of actual supply voltage.

   Note: Depending on the supply voltage, the *czoom II* in boost mode (ON = II) has a higher power requirement. Not all cameras are capable of providing the required power supply. For these cameras, a separate supply for the *czoom II* is necessary (e.g. a battery).
   Typical values with a motor are as follows:

supply voltage	ON=I	ON = II
24V	0.5A	0.6A
12V	0.5A	1.1A

4. Check READY LED [Z1] and status control on the display.

RDY LED	Off	*czoom II* has no power
	Green	System is ready
	Red/ Green Blinking	No motor connected
	Red	Error has occurred (check status information on the display) System is not ready
Display	CAL REQ	Motor has to be calibrated
	MOT	• No motor connected to the *czoom II* or • Motor was not initialized correctly (defective cable?)

3.2 The *czoom II* used with the camin

The *czoom II* can be used together with the *camin* or *camin mono* in **wireless mode**, in which case it will control the *camin* zoom motor.

Note: The *czoom II* can only be used in wireless mode if it has been delivered with the option *czoom II-ext*. In this case, the *czoom II* has a „wireless extension" label attached.

Note: For radio operation no external antenna is necessary. The *czoom II* comes with an internal antenna.

Fig. 3. 7

The *czoom II* can also be operated in **hard-wired mode**. Connect the *czoom II* and the *camin* with the CBUS cable (FI 7p, FI 7p). As soon as the CBUS cable is connected, the system's wireless mode will turn off automatically. In hard-wired mode the *czoom II* does not have to have a battery inserted, since it is powered by the CBUS cable (see Fig. 3. 7).

Note: Make sure to follow the setup guidelines for the *camin* or *camin mono*. For further information see the user guide "Lens & Camera Control System".

3.2.1 Attaching the *czoom II*

In this operational mode the *czoom II* can also be attached to the pan bar or another bar, yet in most cases will be held by the user.

3.2.2 Operating the czoom II

1. Insert a battery. Press until it snaps in with an audible click.

   Note: If you use the *czoom II* hard-wired mode no battery is necessary.

Note: The battery has an average operating time of approx. 12 hours.

Removing an empty battery:

i. Hold the *czoom II* with your hand, so that the opening of the battery receptacle faces downwards.

ii. Press the release button [Z16] with your index finger. Move your hand with the *czoom II* slightly downwards, then stop the movement. The battery will slide out into your hand.

2. Preset the same radio channel as selected on the camin.
   The radio channel is preselected with the help of the 10-level rotary switch [Z15] next to the ON switch. In channel 0 the radio module is turned off. In this case, the *czoom II* can be operated in cable mode.

CHANNEL	Region
0	OFF
1	Europe/USA/Canada
2	Europe/USA/Canada
3	Europe/USA/Canada
4	Europe/USA/Canada
5	Europe/USA/Canada
6	Europe/USA/Canada
7	Europe/USA/Canada
8	Europe/USA/Canada/Japan/Australia
9	Europe/USA/Canada/Japan/Australia

3. Switch the *czoom II* ON [Z12].

   Der *czoom II* comes with a two-level ON switch. When used with the *camin*, the *czoom II* should be switched on via switch position ON I.

4. Check READY LED [Z1] and status control on the display.

RDY LED	Off	*czoom II* has no power
	Green	System is ready
	Red	Error has occurred (Check status information on the display) System is not ready
Display	OUT OF RANGE	*czoom II* is out of range for the *camin* radio module
	CAMIN OFF	*camin* was turned off during operation
	CAL REQ	Motor has to be calibrated
	MOT	• No motor is connected to the *camin* or • Motor has not been initialized correctly (defective cable?)
	RF CHANNEL BUSY	A zoom motor is attached to both the *camin* and *czoom II*, and both devices are turned on via the same radio channel.

Fig. 3. 8

3.2.3 Accessory: The *cstrap*

The *cstrap* is a universally applicable carry strap. When the *czoom II* is attached to the *cstrap,* the *czoom II* can twist freely. The *cstrap* is fixed into the hole of the *cstrap* adapter [Z23], which is situated below the opening for the battery. Press until it snaps in with an audible „click" sound (see Fig. 3. 8).

Note: Check after attaching whether the *cstrap* has properly caught with the adapter.

To loosen the *cstrap*, press the loosening button on the *cstrap* with your thumb. Use the index finger and ring finger to pull the *cstrap* from the hole. (see Fig. 3. 9)

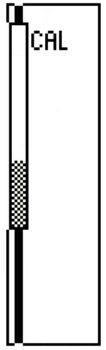
Fig. 3. 9

4 SYSTEM OPERATION

For working with the system, the *czoom II* has to be assembled as described in chapter 3 „*czoom II* Setup".

4.1 Motor calibration

Irrespective of the zoom motor being directly connected to the *czoom II* or the *camin*, motor **must** be calibrated each time a lens is attached, each time a motor is attached and in case the lens motor has been moved/adjusted manually.



The blinking message CAL REQ on the display indicates that motor calibration is required.

Simultaneous calibration of all connected motors

Normally, the *czoom II* controls only the zoom motor (stand-alone operation)
If there are several motors in the system (e.g. a focus motor and a zoom motor are both connected to the *camin*), all motors are usually calibrated simultanously.

1. Push the yellow CAL button [Z15] located at the side of the *czoom II* for one second.

Single motor calibration

If there are several motors in the system (e.g. a focus motor is also connected to the *camin*), it is possible to calibrate the motors individually.

1. Push and hold the CAL button [Z15].
2. While holding the CAL button, push the LENS button [Z18] of the *czoom II* to calibrate the zoom motor only.

On the display, a calibration process is indicated by the status information CAL in the position window.

Note: If the camera is running, the motor cannot be calibrated.

Fig. 4. 1

4.2 Zooming

With the blue zoom control joystick [Z10] the zoom motor can be controlled directly at the lens. To move the zoom motor, put pressure on the zoom control joystick to move it into the direction you wish to move the motor. The more pressure you put on the joystick the faster the motor will move. (see Fig. 4. 1)

Note: The zoom control joystick is sensitive to pressure. The motor speed depends on the amount of pressure you are putting on the joystick, yet the button does not physically move.

4.3 Setting the zoom speed

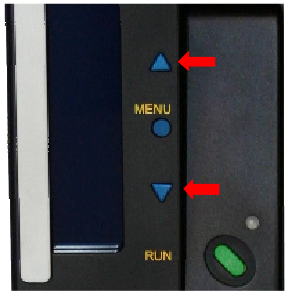


Fig. 4. 2

The speed of the zoom motor can be preselected via zoom speed. If you press the UP [Z2] and DOWN [Z3] buttons (see Fig. 4. 2), the speed is gradually adjusted from 0 to 99. The longer the buttons are pressed, the faster the adjustment is carried out.

The zoom speed presets the maximum speed of the zoom motor in case that maximum pressure is put on the zoom control button. If the zoom speed is set to 1, maximum pressure on the zoom control joystick will yield a slower motor speed then if the zoom speed were set to 99 and maximum pressure is put on the zoom control button.
If "speed = 0" is selected, the motor does not move, even if you press the ZAP button

Note: The motor speed depends on both the motor itself and the power supply. The *czoom II* can be switched on in two settings. In setting ON II the motor voltage is boosted. The motor can move faster in setting ON II. If the zoom motor is attached to the *camin*, you can also boost the voltage there.

4.4 ZAP – Zoom as Fast as Possible

Fig. 4. 3

Irrespective of the value the motor speed has been set to with zoom speed, the motor can still be moved with the fastest possible speed by pressing the ZAP button (Zoom as Fast as Possible) [Z17].
The ZAP button is located at the rear side of the *czoom II*. (see Fig. 4. 3)

1. With your index finger, hold down the ZAP button located at the rear side of the *czoom* unit. On the display, "SPEED" changes to "ZAP".
2. By using your thumb, put maximum pressure on the zoom control joystick in the direction you wish the motor to move.
3. While still holding the ZAP button, move to the desired zoom position.

4.5 Set motor direction

Fig. 4. 4

The motor direction of the zoom motor can be changed via the DIR switch situated on the side of the *czoom II*. (see Fig. 4. 3)

1. Slide the DIR switch to change the motor direction. You can change the motor direction again by simply sliding the switch back.

Note: If a CLM-1 motor is connected, the motor direction can only be changed on the CLM-1 motor itself.

Note: If the *czoom II* works with the *camin*, and the zoom motor is attached to the *camin*, the motor direction can be changed on both the *czoom II* and the *camin*.

4.6 Setting motor limits

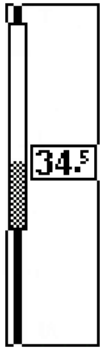
Fig. 4. 5

Motor limits are set to control a limited range of the scale only. Set limits remain as programmed until they are erased by the user. They also remain as programmed when the *czoom II* is turned off.

Limits are set as follows:

1. By using the zoom control joystick, move the motor to one of the two desired limits, and stop.
2. Push AND hold down the zoom LENS button [Z18] (see Fig. 4. 5).
   The position indicator on the display shows that the limits are being set.
3. While still holding down the LENS Button, move the motor to the other desired limit, and stop.
4. Release the LENS Button.

   From now on the motor will move exclusively within these set limits.



The position bar on the display shows the set limits.

To erase limits:

1. Press the LENS Button.

4.7 Camera run

The camera is started via the green RUN button situated above the zoom control button.

1. To start/stop the camera, push the RUN button [Z8].

   On the RUN LED [Z9], the camera status is displayed as follows:

RUN LED	Off	• No RUN signal received from camera **or** • Camera in standby mode
	Green	Camera running
	Red	Camera error **or** camera is running up/ down

Note: You cannot start the camera while motors are being calibrated.

Note: For information on which cameras can be started and which cables are therefore required please refer to Appendix A of this user guide.

Note: If the *camin* is in the radio circuit, camera run is initiated via *camin* only. In this case, the cable connecting with the camera has to be attached to the *camin*.

RUN toggle mode

If a camera does not provide an output for camera run (video cameras) or this feedback channel in the cable is not used, the camera status will not be displayed. In this case, to still have some control whether the camera is running or in standby mode, the *czoom II* can be started in RUN toggle mode.

1. The *czoom II* is turned off.
2. Press and hold the RUN button during power up (switch is moving from OFF to ON =I or II).

   The *czoom II* is now in RUN toggle mode.
3. To start/stop the camera, push the RUN button.

   Each time you press the RUN button, the RUN LED switches between ON and OFF, irrespective of the camera being in standby mode or running.

   The RUN toggle mode is deactivated as soon as the *czoom II* is turned off.

4.8 MEMORY und RECALL

Fig. 4. 6

By pressing the ZAP [Z16] and LENS [Z17] button simultaneously, the current motor position can be stored. (see Fig. 4. 6)

This function is called MEMORY. A stored motor position is indicated by a marker on the position bar of the display. By pressing the RECALL button [Z7], a motor can be automatically moved to any previously stored motor position.

Note: A stored position will be lost as soon the *czoom II* is turned off. Motor calibration will also delete a stored position.

Note: When using the Arri CLM-1 motor, no positions can be stored.

By pressing the RECALL button, the motor is moved to the stored motor position, i.e. the motor goes from the current position A to the stored position B. The speed used to move the motor from position A to position B is set via the RECALL SPEED menu.

While the RECALL function is performed, the zoom control button is locked. As long as the motor is moving, no further position parameters can be set. The RECALL function can also be performed with limits set. If a motor position is stored before a limit is set, the motor position can be situated beyond the limit range. When pressing the RECALL button, the motor will also move to the position beyond the limit range.
Yet in this case, pressing the zoom control will move the motor into the set limit range only; a movement away from the set limits is not possible.

According to the setting defined in the RECALL menu, the RECALL button can be used in three different ways:
- GOTO
- HOLD
- TOGGLE

For how to set functions, see chapter 5 THE DISPLAY AND ITS FUNCTIONS

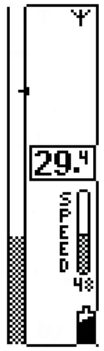
Note: By default, the *czoom II* is set to the function GOTO.

4.8.1 Function GOTO

The function GOTO moves the motor from current position A to stored position B. The motor stops and remains in position B. This is initiated by pressing the RECALL button shortly.

After having reached the stored position B, the zoom motor can be manually directed to another position. Press the RECALL button again to go back to the stored position.

If the *czoom II* is in the function mode RECALL GOTO, a motor position is stored as follows:



1. The desired position is targeted via the zoom control joystick.
2. By pressing the ZAP and LENS button simultaneously, the value is stored.
   The position indicator on the display shows a marker for the stored value.

Note: If you store another current motor position, the previously stored value will be overwritten.

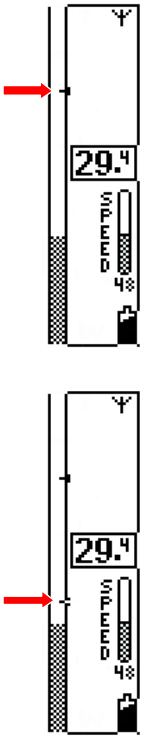
4.8.2 Function HOLD

In function mode HOLD the motor moves from current position A to stored position B as long as the RECALL button is pressed. If the RECALL button is released, the motor moves back to its initial position A.

In function mode HOLD the motor positions are stored as was described for function mode GOTO.

4.8.3 Function TOGGLE

In function mode TOGGLE, a short pressing of the RECALL button will move the motor between two stored values B and C. To use this function mode, two values have to be replaced by MEMORY:



1. With the help of the zoom control stick, move to the first motor position.
2. Store this value by simultaneously pressing the ZAP button and the LENS button.
   The position indicator on the display shows a marker for the stored value.
3. With the help of the zoom control joystick, target the second position.
4. If you press the ZAP button and the LENS button simultaneously, the second value is stored.
5. The position indicator on the display shows a marker for the stored value.

On the display, the motor position moved to from the current position is shown as a closed memory marker. The second marker is displayed as a concave marker. Moving to a stored position will thus change the graphic representation of markers.

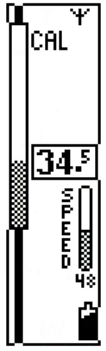
Note: If you subsequently store another current motor position, the second stored value (the concave marker) will be overwritten.

Fig. 4. 7

4.9 Replacing the marker strip

The *czoom II* comes with a replaceable marker strip. A magnet fixes the strip to the casing; it can be removed by a slight pulling movement. (see Fig. 4. 7)

5 THE DISPLAY AND ITS FUNCTIONS



The display is divided into two sections. The left section 1 is the position bar, which displays the following Current motor position, shown as a bar

- Memory marker
- Limits

The right section 2 shows the value for the motor position or the scale and the system status:

- Current position value from 0-100%
- Status indicator

5.1 Menu control and functions

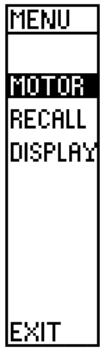
Fig. 4. 8

Menu control is performed with the following buttons:

- MENU (see Fig. 4. 8)
- UP & DOWN (see Fig. 4. 8)

By pressing the MENU button, you access the main menu interface. The following functions and subfunctions are available in the menus:

- Motor
  - Torque
- Recall
  - Function
  - Speed
- Display
  - Contrast
  - Brightness



The menu is shown in the following screenshot:

By pressing the UP & DOWN buttons, you can select individual menu items. A selected menu item is indicated by an inverted font. Pressing the MENU button confirms the selection. If more than one setting can be selected in a menu item, the font of the selected menu item starts to blink. By pressing UP & DOWN you can now define a setting. Pressing the MENU button will again confirm the setting.

Select the menu item EXIT to return to the main menu or exit the menu.

The following section describes all available menu items.

5.1.1 MOTOR menu item

The MOTOR menu item enables you to set a value for the maximum torque of the connected motor, irrespective of the *czoom II* being used in stand-alone mode or with the *camin*.

For the torque, the following settings are available:
- LIGHT – the motor turns with minimum torque
- WEAK
- MIDDLE
- STRONG – the motor turns with maximum torque

Note: If the torque is too light, there is a risk of the motor not reaching the lens limit. It is therefore recommended to check during calibration whether the motor torque is sufficiently strong.

Note: The Arri CLM-1 motor torque as well as the torque of ENG Lenses cannot be adjusted.

Note: The default setting of the motor torque is MIDDLE .

Press the MENU button to go back to the main menu.

5.1.2 RECALL menu item

The RECALL menu item defines the function of the RECALL button. With RECALL you can move motors to stored motor positions as is described below. To store

motor positions, press the LENS and ZAP buttons simultaneously.

The following settings can be made:

- FUNCTION
  With FUNCTION you define the function of the RECALL button. The following settings are available:
  - TOGGLE
    If you press the RECALL button, the motor moves between the two stored positions B and C.
  - GOTO
    If you press the RECALL button, the motor moves from current position A to stored position B. The motor stops in position B.
  - HOLD
    As long as the RECALL button is pressed, the motor moves from current position A to stored position B. When the RECALL button is released, the motor moves back to its intitial position A.
- SPEED
  With SPEED you define the speed the motor uses to move from current position A to stored position B.
  - ACTUAL
    With this setting selected the motor moves with the zoom speed currently set on the display.
  - BAR
    With this setting you can preselect a speed from a five-level range (warum nicht 99??).

    Note: The ACTUAL speed setting is not implemented in the current software revision.
- EXIT
  With EXIT you exit the submenu DISPLAY and go back to the main menu.

Note: By default, the *czoom II* is set to GOTO and ACTUAL (speed).

Note: For ENG lenses and the ARRI CLM-1 motor there is no RECALL function available.

5.1.3 DISPLAY menu item

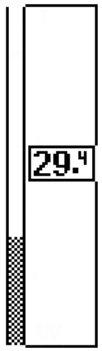
The DISPLAY menu item enables you to set the contrast and brightness.

- CONTR
  The contrast can preselected from a 6-level scale.
- BRIGHT
  The brightness can be preselected from a 6-level scale.
- EXIT
  With EXIT, you exit the submenu DISPLAY and go back to the main menu.

Note: The values van be adjusted via UP & DOWN, whereby the font of the menu item to be selected has to blink.

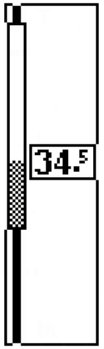
Note: At the time of delivery, the *czoom II* is set to maximum contrast and maximum brightness.

5.2 Position bar and position value

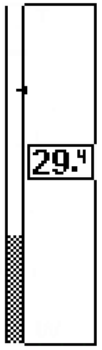


The position bar indicates the current motor position.

Next to the position bar the current position value is displayed; the value ranges from 0% to 100%. In certain situations the value will be replaced by a status information, e.g. by „MOT“, if no motor was found in the system.

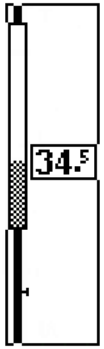


The limits are displayed as shown in the picture. If limits have been set, motors will only move between the bars marked as bold.



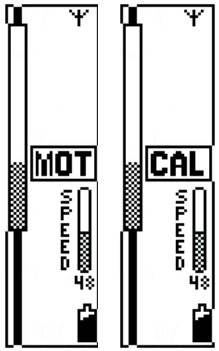
If a motor position has been stored via MEMORY (you have to press the ZAP button and LENS button simultaneously), a marker on the position bar is shown.

In the RECALL TOGGLE function mode, a second motor position can be stored. This position will then be indicated by a concave marker.



It is possible to store a motor position and to set limits at the same time. The stored position can be situated beyond the set limit range. Via RECALL, the motor can be moved to the position beyond the limit range.

5.3 Status information and warnings

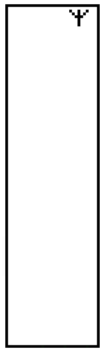


The status indicator provides the following information:

- RF
- OUT OF RANGE
- RF CHANNEL BUSY
- CAMIN OFF
- Zoom SPEED
- ZAP (Zoom as Fast as Possible)
- BAT
- CAL REQuest
- MOTor
- Akku

The picture to the left shows possible status informations and warnings.

5.3.1 Radio module status



The antenna icon indicates that the radio module is initialized.

In the following cases no antenna icon can be displayed:

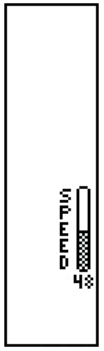
- The radio module is not correctly initialized.
  If the radio module is not correctly initialized, this will also be indicated by the RDY LED blinking red.

Fig. 4. 9

- No radio module is available.
  The *czoom II* can also be delivered without a radio module. In this case, the casing does not show a „wireless extension" label. (see Fig. 4. 9)

Note: The *czoom II* does not come with an external antenna. Therefore it is not possible to see from outside whether there is an antenna or radio module available.

5.3.2 ZOOM SPEED status

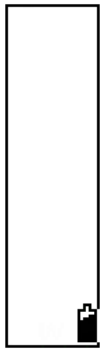


The current ZOOM SPEED of the motor is indicated by the vertical bar below the position indicator.

Via ZOOM SPEED, the speed of the zoom motor can be preselected. The motor movement itself is triggered by the zoom control joystick. The maximum ZOOM SPEED can be set directly with the UP & DOWN buttons.

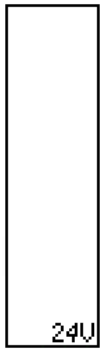
If the ZAP button (Zoom As fast as Possible) is pressed while the motor is moved with the zoom control button, the display will show the information „ZAP".

5.3.3 Status Battery



A battery icon in the right bottom corner informs about the battery voltage.

If the *czoom II* is in stand-alone mode, the battery icon informs about the charge state of the inserted battery. The icon indicates the charge state with the help of 4 levels. If the battery voltage drops below 6,5 V, a warning is given.



If the *czoom II* is connected to an external supply (e.g. a cable connected to a camera), the cable supply voltage instead of the battery icon is displayed. Depending on the cable length, the voltage displayed can slightly deviate from the actual value. If the voltage drops below 10V, a warning is shown on the display.

5.3.4 Warnings and error messages

The following warnings and error messages can be shown on the display:

Warning	RDY LED	Description
OUT OF RANGE	Red	*czoom II* is out of range for the *camin* radio module
CAMIN OFF	Green	*camin* was turned off during operation
CAL REQ	Green	Motor needs to be calibrated
MOT	Red	• No motor connected to the *czoom II* or • Motor was not initialized correctly (defective cable?)
RF CHANNEL BUSY	Red	A zoom motor is attached to both the *camin* and *czoom II*, and both devices are turned on via the same radio channel.
NO MOT CONTR	Green	No Motor is connected to the camin

A ATTACHMENT

A.1 Software update

If required, a software update for the *czoom II* can be executed on every PC via the serial RS232 update cable RPC-3. If the PC does not have a RS232 interface, an adapter USB to RS232 can be used. On the PC, the program cupdate is required. For detailed information about updating the unit see the cupdate userguide.

A.2 Compatibility

The following cameras can be connected to the *czoom II* for Run/Stop function:

Cameras (in alphabetic order)

*u.c.: under construction (our systems are upgraded regularly, please ask for current features)

CAMERA	Necessary cables
Aaton 35 III	RAR1 (C019-KE1) or RAI-1 (C019-KF1)
Aaton minima	RAR5 (C019-KE5)
Aaton XTR prod	RAR1 (C019-KE1) or RAI-1 (C019-KF1)
Arri 16SR3	RRS-3 (C019-K33)
Arri 16SR3HS	RRS-3 (C019-K33)
Arri 235	RRS-3 (C019-K33)
Arri 35 III	RCI-1 (C019-K21)
Arri 435	RRS-3 (C019-K33)
Arri 435 ADV	RRS-3 (C019-K33)
Arri 435 ES	RRS-3 (C019-K33)
Arri 535 A and A/B	RRS-3 (C019-K33)
Arri 535 B	RRS-3 (C019-K33)
Arri 765	RRS-3 (C019-K33)
Arri BL 4	RCI-1 (C019-K21)
Arri BL I-BLII, BL 4s	RCI-1 (C019-K21)
Arricam Lite	RRS-3 (C019-K33)
Arricam Studio	RRS-3 (C019-K33)
Video cameras prov. with a Hirose 12p	RVI-3 (C019-KC3)
Dalsa Origin	RRS-3 (C019-K33)

Moviecam Compact	u.c.
Moviecam SL	u.c.
Moviecam Superamerika	u.c.
Pananvision Millenium XL	RPI-1 (C019-KH1)
Panavision Platinum	RPI-1 (C019-KH1)
Panavision Gold	RPI-1 (C019-KH1)
Panavision Gold-II	RPI-1 (C019-KH1)
Panavision PFX-16 [16mm]	RPI-1 (C019-KH1)
Panavision Panastar II [high speed]	RPI-1 (C019-KH1)
Panavision Millennium	RPI-1 (C019-KH1)

Note:
By using the intermediate adapter AER-1 (Fi 16p – Fi 3p) the czoom II can also be operated with RS cables RRS-1 or RRS-8.

Motors

MOTOR	Necessary cables
Hedén M26VE	Hedén Motor Cable RHM-1 (C019-K51) straight Hedén Motor Cable RHM-2 (C019-K52) right angle Hedén Motor Cable RHM-4 (C019-K54) 10m
Preston DM1	Preston Motor Cable RPM-1 (C019-K51)
Preston DM2	Preston Motor Cable RPM-1 (C019-K51)
Scorpio digital motor 42V	Scorpio Motor Cable RSM-1 (C019-K61)
Denz DU-02	Cable attached to the motor. No extra cable necessary
Arri CLM-1	Arri CLM-1 motor cable RLM-1 (C019-K71)
Arri CLM-2	Cable attached to the motor. No extra cable necessary
Panavision RDM	Panavision Motor Cable RDM-1 (C019-KM1)
Canon ENG-Lens	u.c.
Angenieux ENG-Lens	u.c.
Fujinon ENG-Lens	u.c.

Note: Please see cmotion "cable guide" for detailed cable information.

A.3 Technical Data

Notes :