



YMER 3

OPERATORS GUIDE

The Ymer-3 has been developed as a cooperation between Hedén Group AB in Sweden and PLC Electronics Solutions in Canada. The system is built around the same basic idea as our legendary motors. User-friendly and robust have been our mindset throughout the development. Functions like lens mapping, LenSaver™ manual calibration, manual override, for safe use on any lens with or without end stops and the quickest manual calibration system on the market.

Features include:

- Lens mapping with pre marked scale rings for focus
- LenSaver™ (patent pending) manual calibration
- Automatic calibration
- 3 channel Receiver
- Remote trigger
- Robust radio with a line of sight range of up to 500 m (1640 feet)
- Industry-leading wireless control allowing for the fastest response of any long-range follow focus system on the market
- Control knob with adjustable resistance for smooth individual operation
- Adjustable Zoom speed
- Lens limits and Macro functions at the press of a button
- 5 threaded mounting points for attachments, two 1/4 inch, one 3/8 inch and two M4
- Transmitter powered by standard Sony NP-FM500H compatible battery

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Important information

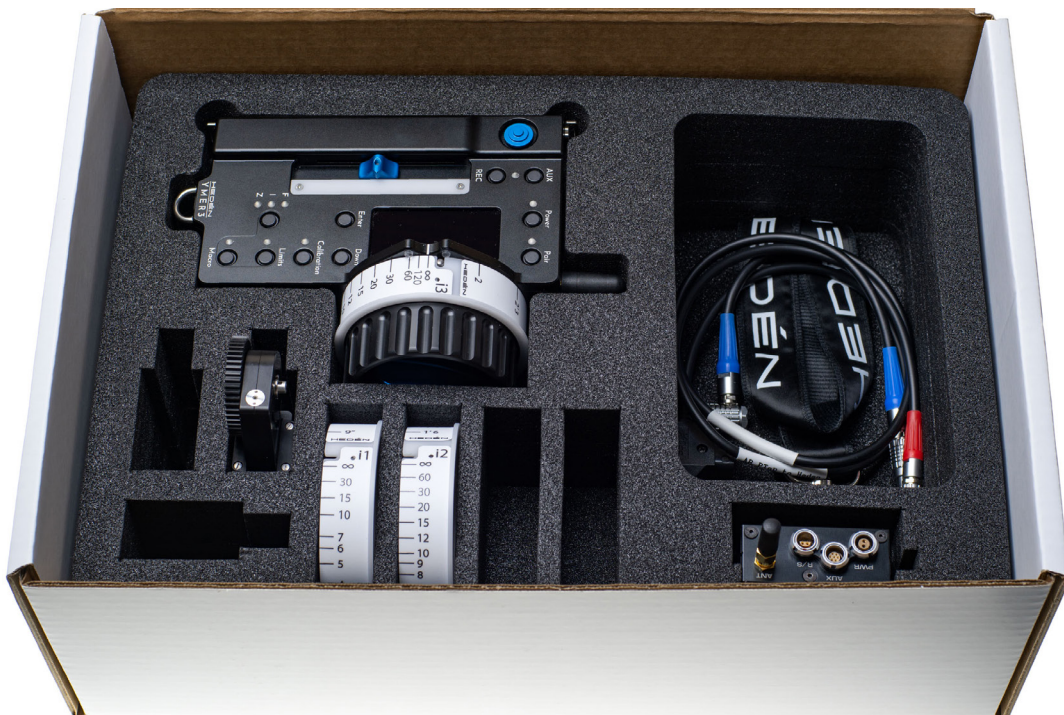
Hedén Ymer 3 radio module is fully compliant with European CE, United States FCC and GITEKI Japanese stan-



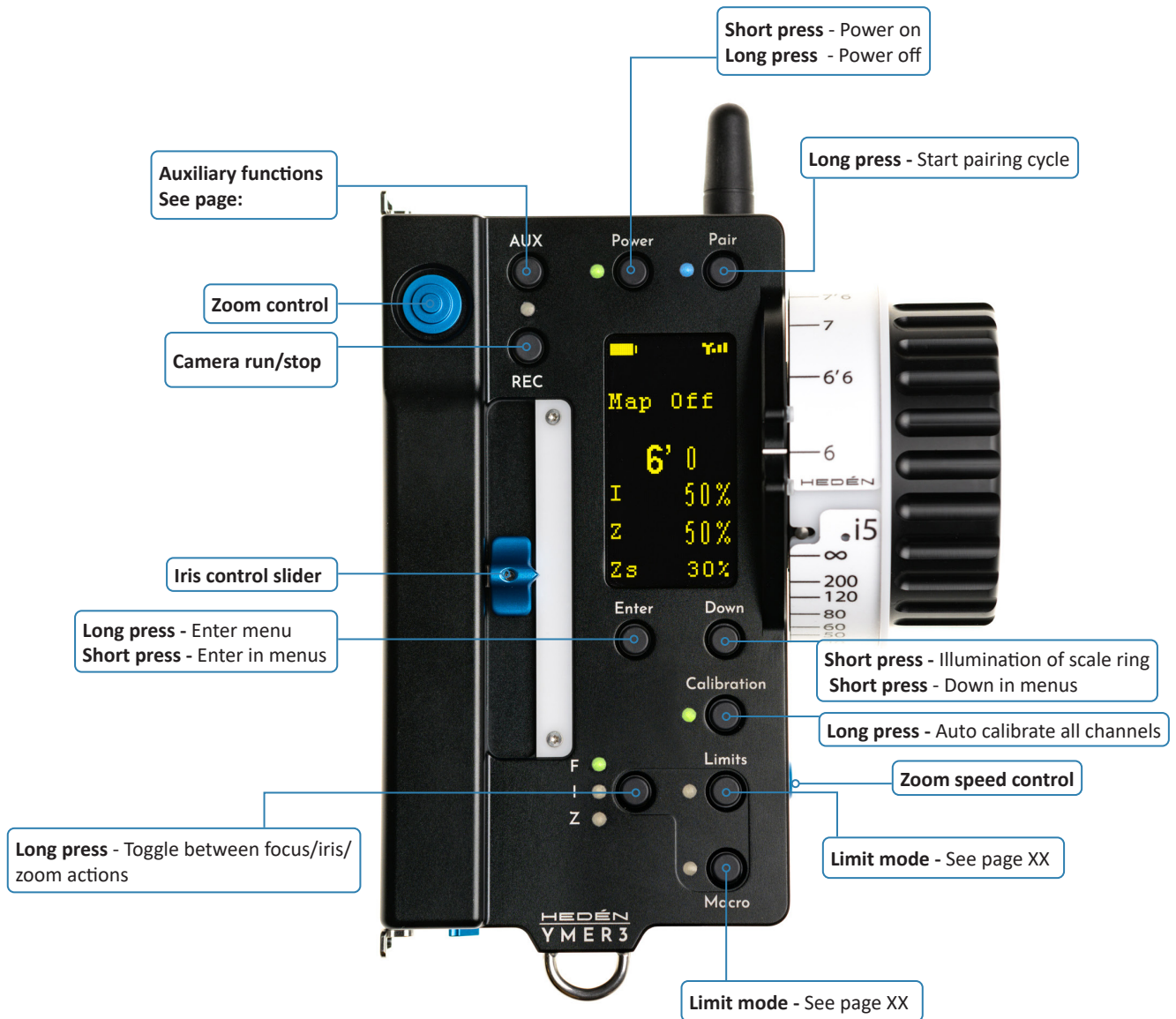
- Avoid using Ymer system near water or in rainy conditions. Water intrusion may lead to permanent damage.
- The Ymer transmitter control knob is sensitive to impacts. Impacts may cause damage to the internal potentiometer.
- All electronics is sensitive to over voltage and ESD, only connect and disconnect the motor when the receiver is not powered up.
- Make sure all cables are original Hedén cables and inspect for damage before use. Using faulty cables may cause serious damage to internal electronics.
- We recommend using genuine Sony NP-FM500H batteries in the handset for longest run time.
- The included foam insert will fit straight into a Pelican/Peli 1450 case.

YMER 3 Kit Components

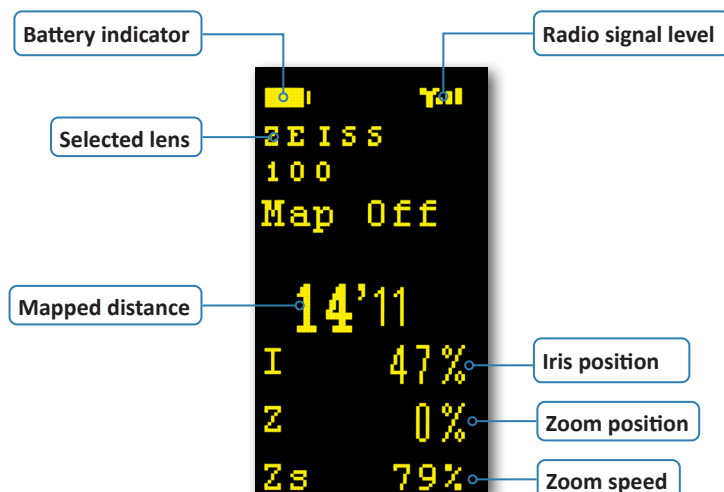
YmerTransmitterUnit.....	1x
Ymer Receiver Unit.....	1x
HÉDEN motor (Extra motors is optional).....	1x
Rod mount 19mm w. 15 mm insert.....	1x
0.8 pitch gear (complete gear set is optional).....	1x
Motor cable.....	1x
Receiver power cable.....	1x
HÉDEN neck strap.....	1x
Scale ring.....	1x
Receiver Bracket w. 1/4 inch screw.....	1x



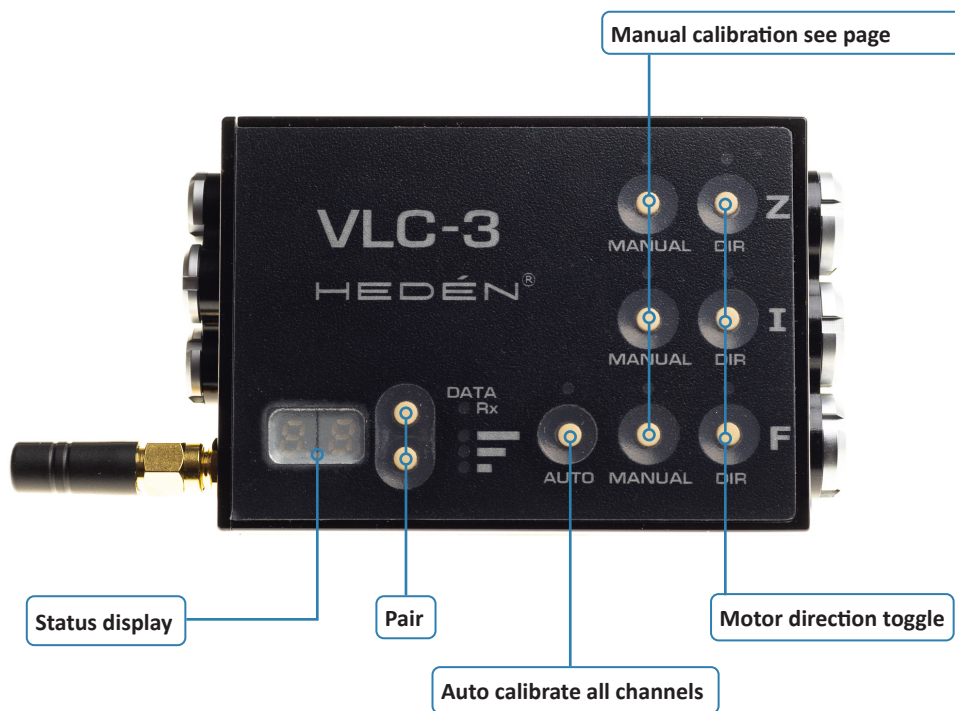
Button Layout - Transmitter



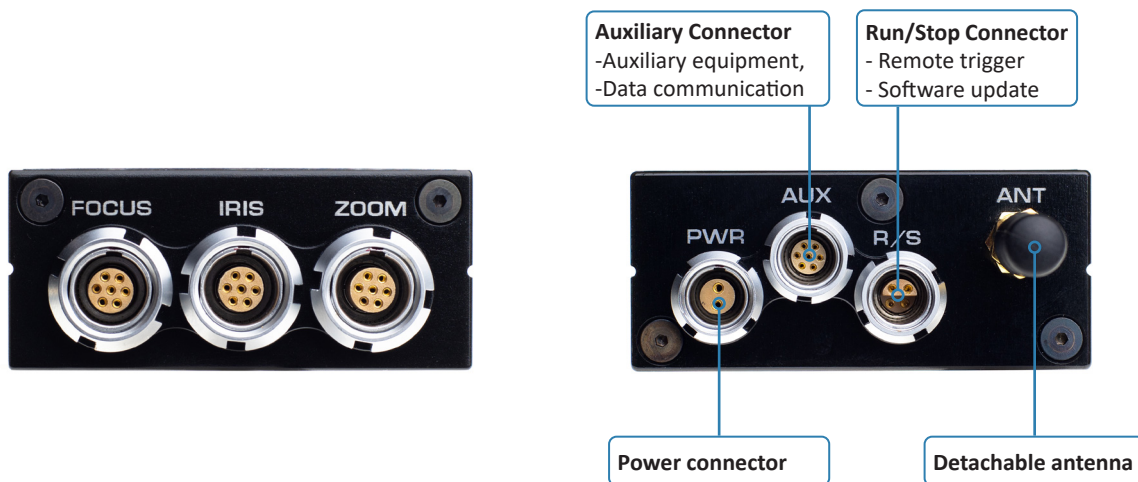
Main menu Layout



LED and Button Layout - Receiver



Side view, left and right side



Installing the Receiver

Mount the Receiver bracket on an appropriate surface using the supplied ¼ inch screw or other preferred method. The receiver can then be mounted in the bracket by placing it in with the lower edge first and then pressing the receiver in place while lifting the release tab slightly. The receiver will snap in place when the mounting bracket is set in a centered position. This is the recommended configuration as the receiver will be more secure, but the receiver can also be mounted in an off-center position if needed. To release the receiver, press the release tab while pulling the receiver at a slight forwards angle.

Connect the motor cable(s), Run/Stop cable (if desired), AUX cable (if desired) and power cable. Note the correct connector orientation.

WARNING! Do not connect the power cable to an active power source until all other cables and equipment are installed in order to protect them from over voltage and ESD.

The chosen power source needs to be able to source 3 Amps or the motor performance will suffer. The receiver can use a power source anywhere between 10-30 volts (DC) and will accept both standard and reverse polarity power cables, although we recommend only using original Hedén power cables.

Receiver setup

-Setting Motor Direction

The motor travel direction for all motors can be changed by pressing the DIR buttons on the receiver.

On the receiver, pressing the DIR button controlling the Focus motor will cause the motor, if calibrated to a lens, to shift on the lens to the corresponding position in the opposite travel direction and then to be moving in the opposite direction compared to the default setting.

-Resetting the Receiver to Factory Settings

Resetting the receiver will restore all settings to factory defaults.

To perform the reset, turn the system off. Press and hold the AUTO button while powering the system back up and keep the AUTO button pressed down until the flashing F.r on the display turns solid. Once F.r has turned solid, release the AUTO button and the receiver will be reset to factory settings.

Pairing

The Hedén Ymer 3 system uses frequency-hopping spread spectrum radio signals and powerful antennas to communicate at a distance of up to 500 meters (approx. 547 yards) line of sight. Using a radio system with Low Emission significantly reduces interference by other 2.4Hz radio frequencies and the system will not be affected by WI-Fi devices. This makes the Hedén Ymer system very reliable and the risk of interference marginal.

In order to pair the Transmitter with the receiver both units need to be powered on. On the transmitter, long press the pair button for about 2 seconds until the unit gives of a slight vibration and the blue LED starts blinking.

On the receiver, long press both pair buttons simultaneously for approximately 2 seconds until the Rx DATA LED starts blinking blue. Both units are now in pairing mode.

Pairing usually takes about 10 seconds and successful pairing is indicated by the blue LED's on both units turning solid blue.

A solid red Rx DATA LED on the receiver indicates that the unit is not receiving data. Usually meaning not paired or out of range/contact. The LED's just above the Rx DATA LED signifies data strength, where one solid yellow signifies a poor signal and two green and one yellow signifies good signal strength.

Auto Calibration

Automatic motor calibration is commonly used for lenses with end stops. Automatic calibration can be started in two ways, either from the transmitter or from the receiver.

-On the Receiver

Pressing the AUTO button on the receiver will perform a soft reset of the unit and perform a recalibration of all motor channels. The connected motors will now move in one direction until they find the lens end stop. They will then change direction and repeat. When both ends are detected the motors will return to a point somewhere on the lens track. The system is now ready to use.

The calibration sequence is tuned to be gentle with the end stops of lenses, sometimes the calibration will not reach both end stop due to variation in lens friction. If this occurs, the easiest solution is to use the LenSaver manual calibration described further down on this page.

-On the Transmitter

Auto calibration is initiated by long pressing the Calibration button for 2 seconds until the unit gives a slight vibration and the green Auto LED starts blinking.

The Focus motor will now move in one direction until it finds the lens end stop (or the resistance gets higher than the set torque value can overcome). It will then change direction and repeat. When both ends are detected the Auto LED turns solid green and the motor will return to the set position determined by the position of the control knob on the hand unit. The system is now ready to use.

The calibration sequence is tuned to be gentle with the end stops of lenses, sometimes the calibration will not reach both end stop due to variation in lens friction. If this occurs, the easiest solution is to use the LenSaver manual calibration described further down on this page.

The lens calibration and current position is retained in memory up to 1 day after the system is powered down.

Removing the motor, initiating calibration or powering the system down for more than 1 day removes the current calibration and positional memory.

LenSaver™ Manual Calibration

The Hedén Ymer system features the unique LenSaver™ manual calibration method with unprecedented control over the calibration process. Manual calibration is especially helpful for lenses with no or fragile end stops. Manual calibration will prevent damage to sensitive equipment and is faster than automatic calibration in the hands of an experienced operator. The calibration method can also help overcoming problems with automatic calibration due to uneven or high resistance in old or worn lenses.

LenSaver™ Manual calibration can only be initiated from the receiver there is a separate MANUAL button per each channel. To manually calibrate any of the channels press the corresponding MANUAL button on the receiver, the green LED starts blinking and the display shows blinking digital segments.

The lens or motor can now be rotated by hand until it reaches the desired endpoints in both directions, without any further input. The system recognizes the extremes -i.e. the most clockwise and counter clockwise position, as ends. Leave the lens at least an inch from any end stop before proceeding. Press the MANUAL button once more to set the most extreme positions the motor/lens has been at as end stops. The LED indicator turns green and the display goes back to a number while the motor turns into position. The system is now ready to use.



Manual Override

The Hedén Ymer system features a manual override function that can be used to take manual control over the lens when the motor is idling. 5 seconds after the last input the power to the motor is cut off to preserve energy and the manual override function can be used. The lens can now be freely moved without the motor resisting or getting out of calibration. If any of the controls on the transmitter is moved the corresponding motor is reactivated and goes back to the position decided by the controller.

All settings like calibration, limits and macro are not affected by using this function.

Limits

Limits lets you set 2 limits in the knob range and move the motor only between these points. Turning the control knob beyond the assigned points will activate the transmitters vibrator. To enter this mode move to desired start position then short press limit button. Move to desired second position and press button again. To exit mode press button a third time.

Macro

The Macro function is used to give the operator extra fine control over motor operation allowing smooth incremental movements with extreme precision. By limiting the span of motor travel between two markers and still utilizing the full travel range in the control knob the operator can achieve very fine control and simplified macro movements.

Use the transmitter control knob to move the motor to the first desired limit and press the Macro button once. The Macro LED on the transmitter and the LED's by the FOCUS/LIMITS button on the receiver will start blinking to indicate that the first macro marker has been set. Move the motor to the second position and press the Macro button again. This sets the second position and the motor moves to its new position within the span defined by the position of the control knob. The Macro LED on the transmitter and the LED's by the FOCUS/LIMITS button on the receiver turns solid green to indicate that the system is in Macro mode.

To turn the Macro function off, press the Macro button one more time. The Macro LED on the transmitter and the LED's by the FOCUS/LIMITS button on the receiver will turn off to indicate that the system is no longer in Macro mode. The motor will now move to a point within the full calibrated range determined by the position of the control knob.

REC

This section will cover the basics of setting up the Ymer system for remote trigger and will not go into detail regarding cables. Hedén offers a range of different cables for use on different camera systems. There are variations on how to set the system up depending on what camera and cables you are using.

The Hedén Ymer system uses contact closure to remotely trigger the camera. This solution is compatible with most cameras. For solutions regarding Schmitt triggering used by RED camera systems, more information can be found at <https://heden.se/support/red-run-stop/>

Information about Run/Stop functions, cables and more can be found at www.heden.se and in our newsletters.

To set the system up for remote triggering a cable needs to be connected from the RUN/S connector on the left-hand side panel on the receiver to the appropriate connector on your camera system.

WARNING! Do not connect this cable when the receiver is powered.

Refer to separate instructions from the camera manufacturer as to where to connect cables and how to set the camera up for remote triggering.

Make sure the Hedén Ymer system is powered and paired and that all necessary parameters dictated by the camera manufacturer is met. A single press of the REC button will trigger the Run/Stop function. The LED above the REC button will turn solid red to indicate that the function is active. To inactivate the function, press the REC button one more time. The LED above the REC button will now turn off.

Dir

The motors default direction of travel can be altered by using the Dir function. This will change what direction the motor moves in relation to the control knob.

Pressing the DIR button on the receiver will cause the motor to move to the corresponding opposite position dictated by the position of the control knob and then be moving in the opposite direction compared to the default setting.

On the receiver the current selection is marked by either a solid green or red DIR button LED.

Updating Software

Go to www.heden.se/support/downloads to download the Ymer software update program with full instructions on how to update software on the Ymer follow focus system.



Lens Mapping

This section covers the lens mapping function of Hedén Ymer-3.

Ymer-3 have lens mapping function on the focus channel, the unit have four different storage positions for storing lens data internally. The focus mapping function eliminates the need to manually mark separate rings for each lens.

To map a lens to the scale ring, select one of the pre-marked scale rings, the lens mapping function matches the focus distance of a lens to a pre-marked lens ring.

The lens mapping is made by selecting a pre-marked scale ring and then by matching up to 20 marks on the lens with the corresponding marks on the pre-marked ring. It's possible to use less than 20 marks, but in general more marks will give a better results. The mapping is done by moving the motor to a mark on the lens, then pressing the AUX button and moving the scale ring to the corresponding mark, the process is described in more detail below.

After mapping the lens, it will be matched to the pre-marked scale ring used.

-Select Lens

Ymer-3 has four internal positions to store mapped lenses, the lens selected is displayed on the home screen, select or change the data storage position to store the lens before mapping a new lens. The stored lens will be overwritten when mapping a new lens.

- The currently selected lens id displayed on the home screen
- Long press Enter key to open the Main Menu
- Select "Lens" to go into the lens selection menu, the data for the lens and lens ring in the currently selected lens position will be displayed.
- Press "Select" to select a different lens storage position (1-4)
- "Exit"

- Lens Map On/Off

To activate or de-activate the lens mapping

- Press enter to open Main Menu
- Select "Map On" To turn lens mapping on
- Select "Map Off" to turn lens mapping off
- "Exit" to return to home screen

- Map new lens

To map a new lens to a pre-marked scale ring, first select the lens and scale ring, You will start by mapping the infinity mark on the lens and then continue with other marks. You can map up to 20 marks on the lens, before you start, make a plan on which marks to map.

Before starting to map, select lens position to store the lens, if a lens is already stored in that position it will be overwritten, see section "Select Lens"

Mapping the lens:

- Press Enter to open the main menu, then go to "Map Len"
- In the MAP menu choose "MapLens" to start mapping a new lens
- Select lens ring according to the pre-marked ring chosen
- Select the first letter of the lens manufacturers name, note that selecting "None" will not store the lens
- Select the lens manufacturers name from the list
- Add focal length or other identifier, then select "Next"
- To map the lens, use the control knob to move the lens to the infinity mark on the lens
- Press and hold the AUX key on the transmitter and move the knob to the infinity mark on the scale ring, release AUX key
- Use the knob to move to the next marker on the lens
- Press and hold AUS button and move the scale ring to the corresponding position, release AUX key
- Repeat until you have mapped the wjole lens, you can see the marker counter.
- When ready or all marks are mapped, select "Save" wait until the screen say "Complete" and then select "Exit" and then "Exit" to get to the main screen.
- The main screen should now be updated with the lens manufacturer and focal length

- Delete Lens

Deletes the lens in the selected lens storage position, to change lens position, see Select Lens section

- Open Main Menu, select "Map Len"
- Select "DelLens, the lens to be deleted is whowed, select "Yes Del"
- "Exit"

- Delete all lens

Not activated at the moment

Trouble Shooting

Q. My motor will not calibrate the full span of the lens

- A1.** Make sure the lens is not right at the lens end stop
- A2.** Try using LenSaver™ manual calibration
- A3.** Try switching to a new gear. Play between gear and hub can cause problems with automatic calibration. Motor service might be required.

Q. Automatic calibration will not start

- A.** Make sure the system is set to automatic and not manual calibration. Switching between automatic and LenSaver™ manual calibration can only be done on the receiver.

Q. My macro markers are not exactly where I placed them

- A.** Try waiting about one second after each press of the button for the system to calculate the new parameters and correctly place the marker.

Q. I am experiencing connectivity or signal quality issues

- A1.** Make sure the antenna is not damaged.
- A2.** Try staying within line of sight. Solid structures can interfere with the signal.
- A3.** Try keeping the antenna on the receiver and transmitter upright

Q. My motor spins uncontrollably at power up/calibration

- A.** This is a sign of encoder malfunction. Make sure all cables are connected to the correct connector. Make sure the motor connector and pins are not damaged. Make sure the system is not powered up when switching or connecting cables or equipment. Service and/or repairs might be required.

Q. My transmitter/receiver won't pair

- A1.** Avoid waiting too long between starting the pairing sequence on the transmitter and receiver. Try starting the pairing on both units within a few seconds.
- A2.** Try keeping the transmitter and receiver at a minimum distance of 50 cm from each other during pairing.

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