



YMER-1

OPERATORS GUIDE

The Hedén Ymer wireless follow focus system is built around the same basic idea as our legendary motors. User-friendly and robust have been our mindset throughout development. New functions like the LenSaver™ manual calibration, manual override and adjustable torque gives it a diversity and usability we are proud of.

Able to run a wireless focus motor and an optional wired motor with control through LANC, for safe use on any lens with or without end stops and the quickest manual calibration system on the market.

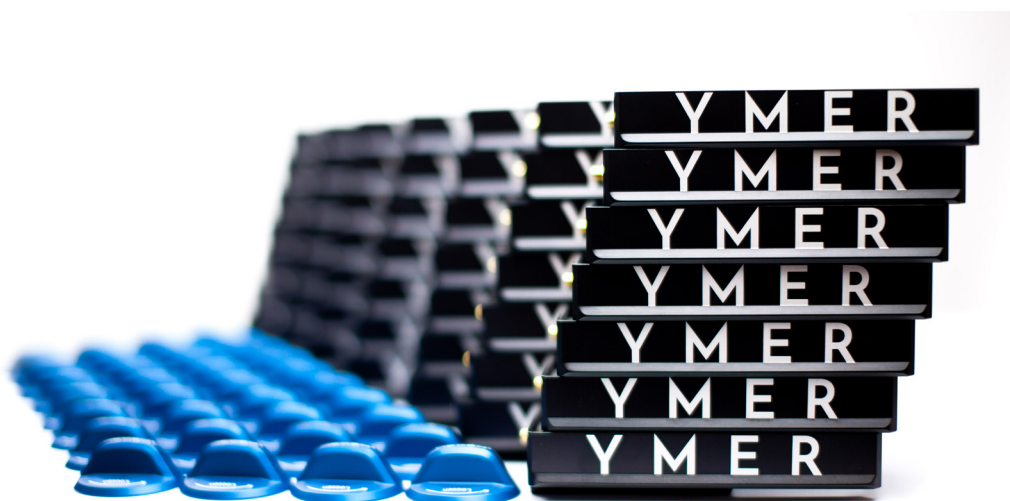
Features include:

- LenSaver™ (patent pending) manual calibration
- Automatic calibration
- 1+1 Receiver with one channel for wireless Focus control and one channel for a wired LANC controller for Iris/Zoom
- Adjustable torque
- 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, absolutely lag free
- Control knob with adjustable resistance for smooth individual operation
- Adjustable Iris/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

We hope you will enjoy Ymer and thank you for trusting your team at Hedén, Sweden.

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Important information

Hedén Ymer radio module is fully compliant with European CE, United States FCC and GITEKI Japanese standards.



- 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 1400 case.

YMER Kit Components

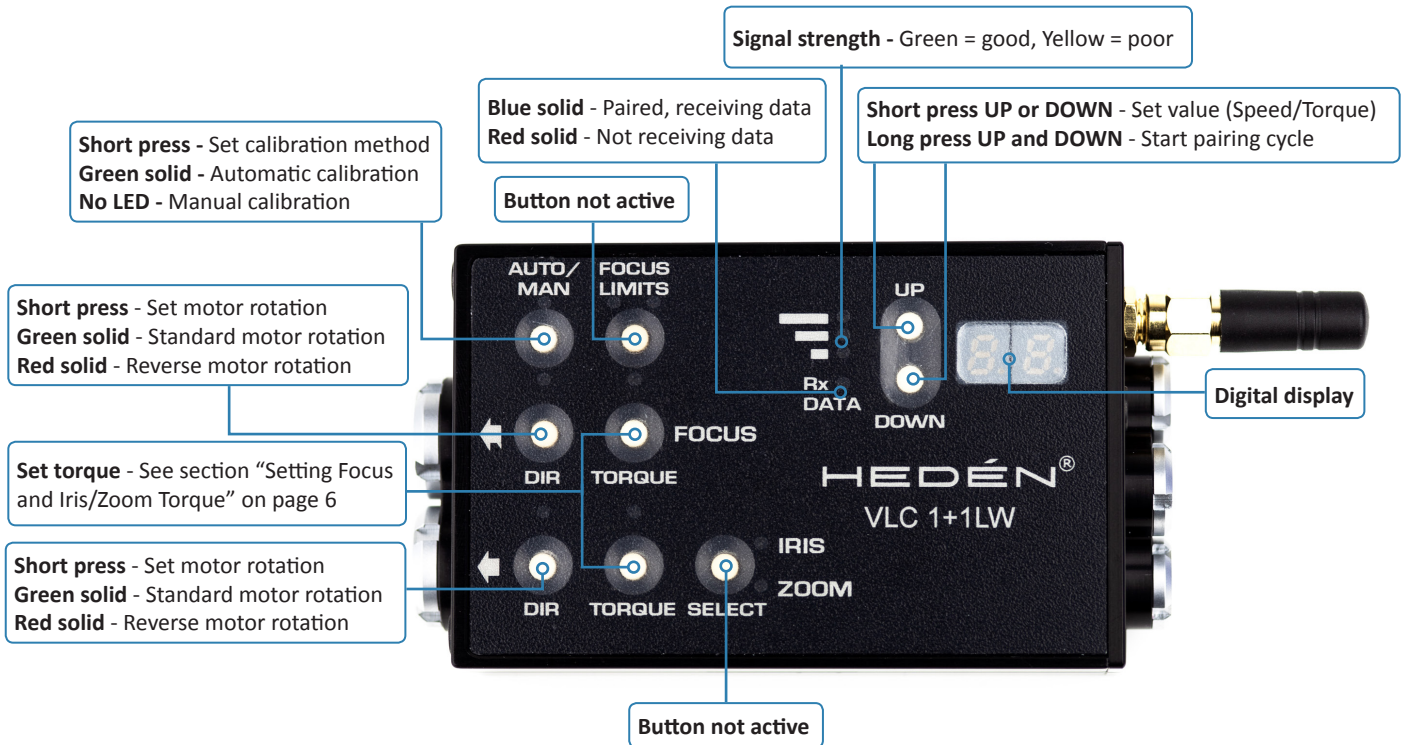
YmerTransmitterUnit.....	1x
Ymer Receiver Unit.....	1x
HÉDEN motor (Extra motor is optional).....	1x
Rod mount 19mm w. 15 mm insert.....	1x
0.8 pitch gear (complete gear set is optional).....	1x
Motor cable.....	1x
Receiver power cable.....	1x
HÉDEN neck strap.....	1x
Scale ring.....	1x
Receiver Bracket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



LED and Button Layout - Transmitter



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

-Iris/Zoom Speed Selection

The maximum speed of the Iris/Zoom channel motor, if one is used, can be adjusted by pressing the UP/DOWN buttons on the top right-hand side of the receiver. The values represent a linear increase in speed from 1-100. When a value is chosen (It is set to 20 at delivery), wait 5 seconds until the displayed numbers stop blinking, and the selection will be retained in memory even if the power is turned off. The speed of the focus motor is not adjustable as the speed is directly affected by the speed at which the handset control knob is turned.

-Setting Focus and Iris/Zoom Torque

To set the torque of either motor, select a value by pressing the UP/DOWN buttons on the top right-hand side of the receiver and then long-pressing the torque button for the corresponding motor channel for 2 seconds. The system is delivered with the value set to 30. The LED above each torque button will change color to indicate selected value: 0-33 = Green, 34-66 = Yellow, 67-100 = Red. The values represent a linear increase in torque from 1-100. The selection will be retained in memory even if the power is turned off.

If the LED is constantly on it indicates that the motor is engaged. A slow blinking indicates that the motor power is turned off to conserve energy. The motor/lens can now be manually overridden. See "Manual Override" on page 9.

WARNING! We recommend setting a low torque value where the motor still calibrates and/or operates the lens properly. This will reduce wear on both motors and lens.

-Setting Motor Direction for Focus and Iris/Zoom Motors

The motor travel direction for both Focus and Iris/Zoom motors can be changed by pressing the DIR button on the left-hand side of the receiver or by using the Dir function on the transmitter. See section "Dir" on page 10.

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.

The Iris/Zoom motor will remain in the same position but will now travel in the opposite direction. The LED above each DIR button will change color between red and green to indicate the selection. Your selection will be retained in memory even if the power is turned off.

-Selecting Calibration Method

Pressing the AUTO/MAN button in the upper left corner on the receiver will switch between automatic calibration and Hedén's unique manual calibration method. See section "LenSaver™ Manual Calibration" on page 8

A green LED above the AUTO/MAN button indicates that automatic calibration is selected. If the LED is turned off it indicates that manual calibration is selected. The corresponding LED will also light up on the hand unit if turned on and paired with the receiver.

As a safety feature it is not possible to change calibration method using only the hand unit. Your selection will be retained in memory even if the power is turned off.

-Resetting Calibration

Pressing the blue CAL button on the left side panel on the receiver will perform a soft reset of the unit and perform a recalibration of both motor channels. If the unit is set to automatic calibration the motors will recalibrate as soon as the CAL button is pressed. If the unit is set to manual calibration the Iris/Zoom motor will perform an automatic calibration and the Focus motor will stand by to receive input by manual Calibration. See section "LenSaver™ Manual Calibration" on page 8

Re-calibration will erase previous calibration and previously set Macro span. See section "Macro" on page 9 All other selections will be retained in memory.

-Resetting the Receiver to Factory Settings

Resetting the receiver will restore all settings to factory defaults.

To perform the reset, turn the AUTO/MAN function to the AUTO setting (see section "-Selecting Calibration Method" on page 7) and turn the system off. Press and hold the CAL button while powering the system back up and keep the CAL button pressed down until the flashing F.r on the display turns solid. Once F.r has turned solid, release the CAL button and the receiver will be reset to factory settings.

Pairing

The Hedén Ymer 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 UP and DOWN buttons simultaneously for approximately 3 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. In both cases the AUTO/MAN setting on the receiver needs to be set on AUTO (green LED).

-On the Receiver

Pressing the blue CAL button on the left side panel on the receiver will perform a soft reset of the unit and perform a recalibration of both motor channels that will start immediately when the CAL button is pressed (if the AUTO/MAN setting is set on AUTO). The connected motors will now move in one direction until they find the lens end stop (or the resistance gets higher than the set torque value can overcome). 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.

If the full span of the lens is not covered or the motor struggles to move consistently it might be necessary to increase the torque value on the affected motor channel and re-do the calibration process.

-On the Transmitter

In order to start the automatic calibration cycle using the transmitter, make sure the unit is set for automatic calibration. On the transmitter this is indicated by the Auto/Man LED in the lower-left corner where a solid green light shows the active setting. As a safety feature the setting can only be switched from the receiver by pressing the AUTO/MAN button.

Only the Focus channel will be calibrated from the transmitter. The calibration is initiated by long pressing the Cal 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.

If the full span of the lens is not covered or the motor struggles to move consistently it might be necessary to increase the torque value on the channel and re-do the calibration process.

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 delicate end stops, like most SLR lenses. 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 transmitter, and the AUTO/MAN setting on the receiver needs to be set to MAN. This is indicated by the solid green Man LED on the transmitter and that the LED on the receiver is off.

Long press the Cal button on the transmitter for 2 seconds until the unit gives a slight vibration and the green Man LED starts blinking. On the receiver the AUTO/MAN 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. Press the Cal button once to set the most extreme positions the motor/lens has been at as end stops. The Man LED on the transmitter turns solid green and the AUTO/MAN LED on the receiver turns off and the display goes back to a number while the motor turns into position. The system is now ready to use.

If the motor struggles to move consistently it might be necessary to increase the torque value on the channel.

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. This is indicated by a blinking LED above the channels torque button. The lens can now be freely moved without the motor resisting or getting out of calibration. If the control knob on the Ymer transmitter or connected AUX controller 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.

Focus Limits

By short pressing the Limits button on the transmitter you can place a vibration marker on a designated point along the motors path. When the motor reaches the designated point a single vibration pulse in the transmitter will be activated to let the operator know they have reached the marker.

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.

To use the Macro function the system needs to be paired and calibrated. The Macro function can only be activated from the transmitter.

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 right-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.

The function can be activated from the transmitter by long pressing the Dir button or by long pressing the DIR button on the receiver. This 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.

LED

The LED function can be used to alter the light intensity of the LED's on the transmitter.

To enter the function, press and hold the LED button on the transmitter. After 3 seconds the transmitter gives of a single vibration pulse and is ready to be adjusted. Keep pressing the LED button while turning the control knob to adjust the light intensity. When the button is released the current setting will be saved.

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.



Trouble Shooting

- Q.** My motor will not calibrate the full span of the lens
- A1.** Try adjusting the torque level of the motor
 - A2.** Make sure the lens is not right at the lens end stop
 - A3.** Try using LenSaver™ manual calibration
 - A4.** 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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