

User manual ZiF-100 Lens controller



Index:

Box content of ZiF-100 Lens controller #0100-0000:	3
General directions	4
Changing the connection cable	5
Setup of the controller	6
Basic operation	7
Zoom limitations	9
Focus & Iris jump	10
Zoom-focus link.....	11
Available accessories	14
Appendix I	15

Box content of ZiF-100 Lens controller #0100-0000:

- 1 Lens controller
- 1 Clamper
- Transport case
- This manual

General directions

The Z/F lenscontrollers are meant for controlling all three parameters (zoom, iris and focus) of a lens in an Electronic newsgathering (ENG) / Electronic Field Production (EFP) environment. The three parameters can be controlled at a maximum of two at a time. This means that either zoom and iris or zoom and focus can be controlled.

The Z/F-100 is compatible with most B4 mount (broadcast) lenses. This means that it can be used directly on Canon, Fujinon and Angenieux lenses.

Each lens manufacturer / lens setup requires a different connection cable though. The cables for the various lens manufacturers can be recognized by a coloured tag on the cable. A cable with a red ring is meant for Canon, green is for Fujinon and black is for Angenieux.

The functionality's of the Z/F depend on the type of lens applied. The focus-controller only works on lenses with a built-in focus motor (Canon A-type or Fujinon RD-type lenses). Of course it will work with Canon FPM or Fujinon FSP-modules as well.

For iris-control the optional IB-100 iris-box is required and is applicable on every lens that allows iris-control by the camera.

For information on the available cables for various lenses see the following table, our brochure or check www.vocas.com

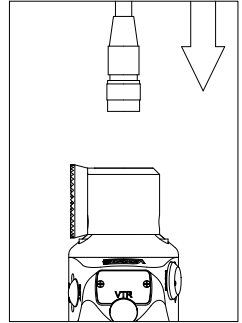
Remote connector \ Lens manufacturer	12 Pin	20 Pin	Y-cable
Canon	0100-0301-01	0100-0308-01	0100-0302
Fujinon	0100-0303-01	Not relevant	0100-0304
Angenieux	0100-0305-01	Not relevant	0100-0306

Changing the connection cable

Compatibility with all lens manufacturers is available by changing the connection cable. As this connection cable can only be connected in one way this is straightforward.

Put the female connector of the connection cable in the front of the ZF-100 until you hear a little “click”.

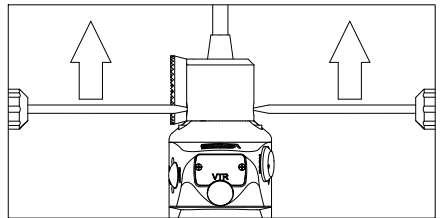
Confirm that the cable is correctly mounted by giving it a gentle pull.



If a Y-cable is required, this Y-cable should be connected at the lens-side of the standard cable.

Releasing the connection cable is done by aligning the mount of the ZF-100.

Rotate the mount until you see two small holes on either side of the mount. Push a little screwdriver in both these holes until they touch the connector inside and make a movement forwards (as shown in the picture).



Setup of the controller

Because of the compatibility with all major lens manufacturers and the ability to configure the Z/F to your needs, there is a built-in setup menu.

Pushing the SET- and EZ-focus key simultaneously during powering on the camera will enter this setup-menu. The following items will be shown in the display with a 1 second interval when you entered the setup-menu.

Message	Applies to	Meaning
CAN *	Lens brand & function of the focus-demand	Canon focus setup
F/A		Fujinon/Angenieux focus setup
PRO		Fujinon PRO lens setup
IRIS		Iris control (with optional /B-100)
ZOOM		The focus/iris demand is switched off, required to use the Z/F on a Fujinon Digipower lens
W T *	Zoom direction	Left is towards WIDE
T W		Left is towards TELE
I M *	Focus direction	Left is towards INFINITY
M I		Left is towards MOD
M ON	Memory	Memorize zoom-limitations during power off
M OF *		Don't memorize zoom-limitations during power off
x.xx	SW version	Software version
TEST	Test	Test for MOD and INF. of the lens

The items indicated with a * are the standard settings of the controller

If the standard setup is not convenient for you then you have to reconfigure the Z/F.

To do so, you need to enter the setup menu as mentioned above. Releasing the SET- or EZ-focus key at the required setting will activate this setting. The selected setting will remain to be shown in the display. After turning the power off and on again it will become active.

Only one setup item can be changed at the time. If you want to do multiple changes you have to do the configuration for all the items separately!

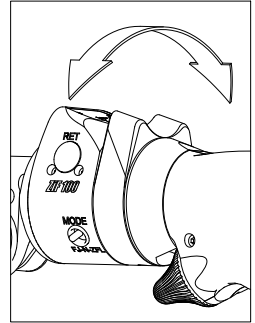
Basic operation

Besides the normal zoom & focus or zoom & iris function, the Z/F has a function called “Focus-jump” and a function called “Zoom-Focus link”.

These functions are available with the mode-switch at “FJ” (Focus-jump) and “ZFL” (Zoom-focus link) respectively.

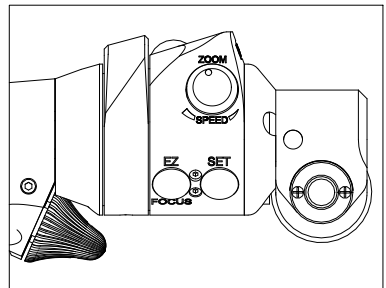
A description of these function can be found after *Focus & Iris jump* and *Zoom-focus link*. If these functions are not used the mode-switch should be set to “N”.

The zoom function is controlled by the thumb ring on the zoom-controller. The zoom-speed varies according to the rotation angle of this thumb ring.



The maximum zoom speed, which is obtained by completely turning the thumb ring of the zoom controller, is determined by the position of the zoom speed knob.

The maximum speed is available by turning the knob completely clockwise.
The minimum speed is available by turning the knob completely counter clockwise.



The zoom direction of the thumb ring is adjustable in the setup menu.

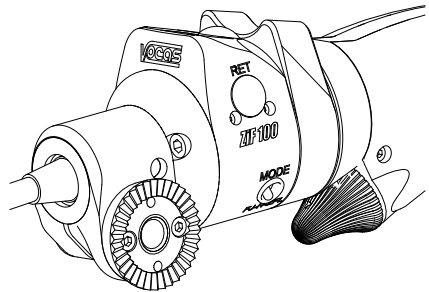
The EZ-focus knob makes it easier to check or adjust your focus. Pushing the EZ-focus once will move the zoom-position to TELE-end. Pushing it again will return the zoom to its original position.

During the first stage of the EZ-focus cycle (the zooming toward TELE-end) the display will shown “EZ”.

If the zoom-position is changed, either by hand or with the zoom-demand, the second stage of the EZ-focus cycle is disabled and the EZ-message will disappear.

The second stage (returning the zoom to its original position) is activated by pushing the EZ-focus again while the EZ-message is still displayed.

Focus and iris control is done with the focus-demand underneath the controller. The sensitivity of this knob (and therewith the speed of focus/iris) is displayed continuously during the “Normal mode” and is adjustable. The adjustable settings are High (Hi), Normal (Nr) and Low (Lo).



Switching between the knob it's three sensitivities is done by pushing the set-key. Each short push on the set-key will put the focus-sensitivity in the next mode.

For temporarily fine focusing it is possible to push the knob in the axial direction while turning it. This will decrease the sensitivity with a factor 10. Again, the focus/iris direction of the knob is adjustable in the setup menu.

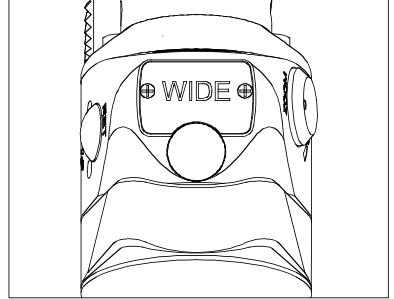
The lens controller has got one VTR (record/pause) and one RET (return) key. Pushing the VTR key once will put the camcorder in “record” mode. Pushing it the second time will put the camcorder in “pause” mode.

After pressing the RET switch, the camcorder will be put into return video mode. The last couple of seconds that are recorded will be shown in the viewfinder of the camcorder.

Zoom limitations

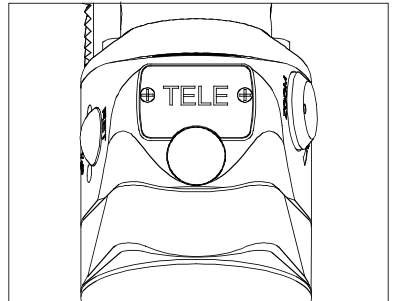
By using the zoom limits you effectively create your own wide- and/or telephoto -end on the applied lens.

Defining a zoom-limitation is easy. By using the thumb ring you can zoom to the position where you want to create a wide-limitation in the zoom range. Push the SET-key continually until “WIDE” appears in the display.

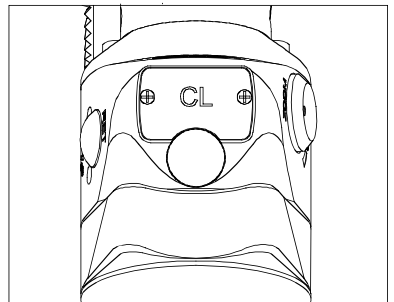


If you use the thumb ring you will notice that it is no longer possible to go below the created wide-limitation. To indicate that the limit is reached a red dot is shown in the upper right-hand corner of the display. Created limits can be temporarily overruled by the zoom-rocker on the lens.

If you want to create a limitation in the telephoto direction of the lens, zoom to the position where you want to create the tele-limitation and push the SET-key continually until “TELE” appears in the display.



The limits can be cleared by pushing the SET-key continually until “CL” (Clear) appears in the display. After releasing the SET-key the limits are cleared. Switching the camcorder off will also clear the limits.



Please note that when a zoom-limit is reached with the maximum zoom speed some overshoot might occur. This is due to the reaction speed of the lens.

Focus & Iris jump

Using this function makes it possible to toggle between two focus- or iris-points. The user can define both these points. The speed that is used for this jump is also user adjustable. Underneath the process is described for a focus-jump, the process for the iris-jump is the same though.

To make this function available you have to set the mode-switch to "FJ", what stands for focus-jump.

The message "P1" will be shown in the display. This message represents the first of two points where the focus should toggle between.

To setup the focus-jump, use the following procedure.

- Use the focus-knob to adjust the required point of focus.
- Push the set-key once, the message "P2" will be shown in the display
- Use the focus-knob again to adjust the second point of focus
- Push the set-key again, and this focus-point is also memorized.

After setting up the display will show "J->1". This means that with the next set-keystroke the focus will move to the first focus-point that is adjusted.

When this point is arrived, the message "J->2" is displayed, what means that with the next keystroke the focus will toward the second focus-point. Arriving here will display "J->1" again.

The speed of shifting between the two focus-points is user-adjustable in two ways. The maximum speed is set by pushing the set-key (only after both the focus-points are set) until the display shows "MAX". Releasing the Set-key now will execute the jump in the highest speed the lens allows.

You can also adjust the jump-speed yourself. This is done by pushing the set-key until "ADJ" is shown in the display. Releasing the key will make the focus

bounce between MOD and infinity. During this bouncing you can rotate the focus-demand to adjust the required jump-speed. Pushing the set-key will memorize this speed and the following focus-jump will be performed with this speed.

The speed you adjusted will be memorized. The next time you would like to use it again, just hold the set-key until "OWN" appears in the display and your own speed will be reinstalled.

Clearing both the focus points is possible by pressing the set-key until "CL" (Clear) is shown in the display.

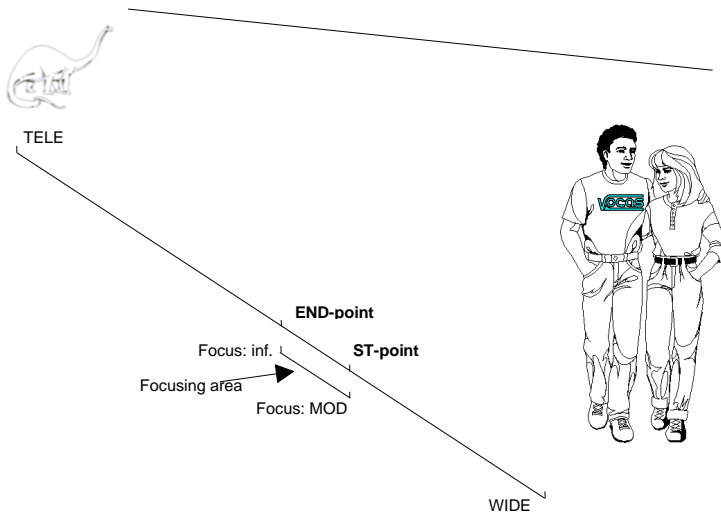
If the focus-knob is used during the performance of the jump, the jump will be discontinued. This enables you to interact with the scene. But pressing the set-key again will execute the next jump.

Zoom-focus link

This is the most comprehensive function of the ZF-100. As in its name this function links the focus to the zoom. The kind (speed, distance, direction etc) of the link is completely user definable. Underneath is, for a better understanding of the function, an example given.

Take in mind the following situation; you have a couple of people on the foreground and a dinosaur in the background. On the next page a picture of this situation is given.

The zoom position of the lens is in a wide position and the couple is in focus. The idea is to make a zoom movement toward the dinosaur to get a screen-filling dinosaur, this is the easy part. More difficult is getting not only a screen-filling dinosaur but get it in focus as well. This is hard to handle, especially when you want the focus to move during the zoom-movement to end up with a focused dinosaur.



Starting underneath the couple and ending underneath the dinosaur a schematic zoom and focus axis have been drawn. These represent the positions of the zoom and focus.

As written beside the axis, at the couple the zoom is at it's wide-end and the focus is at MOD. For a screen-filling dinosaur we need the zoom at it's tele-end and the focus at infinity.

So during zooming from the wide-end to the tele-end the focus has to be changed as well. We decide that this focus-movement is done between the ST-and END-point in the picture.

As discussed before the shot starts at WIDE. Zooming toward the dinosaur we cross the ST-point at about a third of the zoom-axis. At this point the focus-movement will start as well. While zooming further toward the dinosaur we cross the END-point. At this point the required focus-point is reached and the focus-movement is stopped. Continuing the zoom-movement will bring the zoom position to its TELE-end position. Because the focus has been moved to its correct position during the zoom-movement, the screen will be filled with the focussed dinosaur.

To program the zoom-focus link, it's important to understand the meaning of the "ST" (Start) and END-point. At "ST" the focus starts to move and at "END" the focus stops its movement.

So both the Start- and the End-point on the focus- **and** zoom axis are directly related to each other.

Be advised that the Start and End-points on the zoom- and focus axis are only bound between WIDE and TELE respectively MOD and ∞ . But the location of the points is up to you.

To setup the Zoom-focus link, use the following procedure. After setting the mode-switch to ZFL;

- The message "ST" is shown in the display indicating that you are about to program the start-point.
- Zoom to the required zoom position and set its corresponding focus point by using the zoom- and focus demand.
- Push the set-key. In the display "END" is shown to indicate that the next point is the END-point
- Adjust the END-position of the zoom and set its corresponding focus-point.
- Push the set-key again, as an indication that the link is active, "ACT" will be shown in the display.

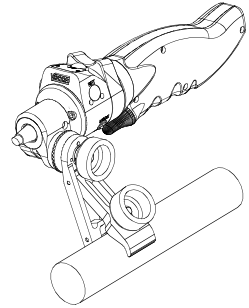
From this moment on the Z/F-100 will continually check either the zoom has reached the start-point as you adjusted in the first step. If so, from that point on the focus will move linear to the zoom towards the end-point you adjusted. The speed of this focus-movement is done in relation to the zoom-speed. So when you stop zooming the focus will stop as well.

After crossing the END-point the display will show "FIN" to indicate that the link has reached it's end.

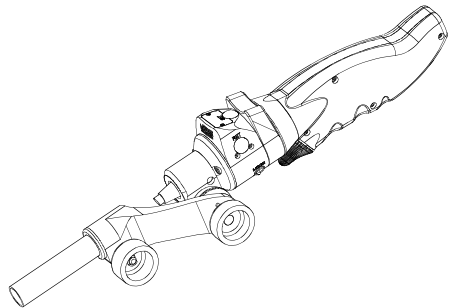
By pushing the set-key once the program will be repeated. By continually pushing the set-key, the "CL"-message will appear to indicate that the program is cleared.

Available accessories

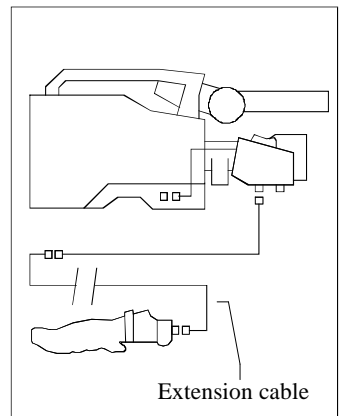
For mounting purposes there are two types of clampers available. The first is a universal-clamper. This clamper can be clamped on anything with a diameter between 15 and 32 mm.



Also available is a panbar-clamper for mounting the Z/F in line with the panbar of your tripod.



Extension cables are available for any length up to 25 meter. The extension cable is always used in combination with a connection cable. The extension cable is connected between the Z/F and the connection cable.



Appendix I

This page contains a short reference to all the messages available. The messages are presented in alphabetical order.

Message	Stands for
ACT	Zoom-focus link is active
ADJ	Adjust jump speed
CAN	Focus is configured for CANON lenses
CL	Clear program
END	End of zoom-focus link
F/A	Focus is configured for Fujinon/Angenieux lenses
FIN	Zoom-focus link finished
J->1	Next jump is jump to point 1
J->2	Next jump is jump to point 2
HI	High sensitivity focus
IRIS	Iris mode
I__M	Focus direction (Infinity to the left)
JUMP	Jump between adjusted focus-points
LO	Low sensitivity focus
M__I	Focus direction (MOD to the left)
M_OF	Zoom-limit memory off
M_ON	Zoom-limit memory on
NR	Normal sensitivity focus
OWN	Previous adjusted jump speed
PRO	ZiF is adjusted to work with Fujinon PRO lenses
P1	Point 1 of focus-jump
P2	Point 2 of focus-jump
ST	Start of zoom-focus link
T__W	Zoom direction (Tele to the left)
TELE	Zoom Tele-limit set
TEST	Test mode
W__T	Zoom direction (Wide to the left)
WIDE	Zoom Wide-limit set
ZOOM	Zoom only mode, required for Fujinon Digipower lenses