TAGOTECH.-Instructions on programming the AF/IS emulator Chip

Thank you for purchasing our new revolutionary AF/IS emulator chip for Olympus!

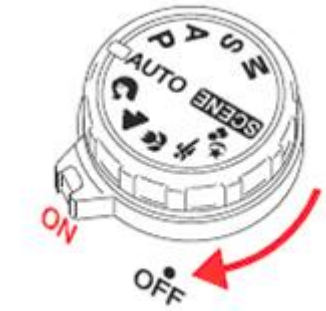
Summary of programmable parameters:
1) Aperture value
2) Focal Length
3) Calibration for front and back focus
4) Insert additional lens information
5) Time delay option into entering progam mode

This instructions organized into 5 main parts, namely:
(A) Pre-requisite setting
(B) Entering into progamming mode
(C) Changing the aperture value
(D) Changing the focal length
(E) Changing other parameters

Part (A) and (B) are mandatory in order to program the chip. Part (C), (D) & (E) are details of changing each of the parameter. It is recommended to read part (C) or (D) before proceeding to part (E).

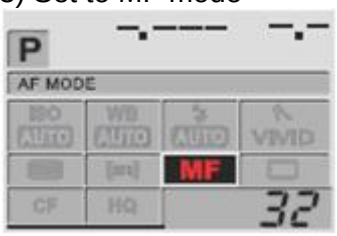
(A) Pre-requisite settings

1) Switch on the camera



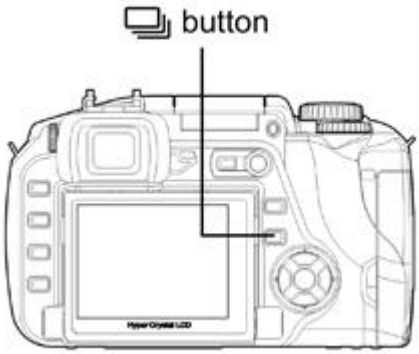
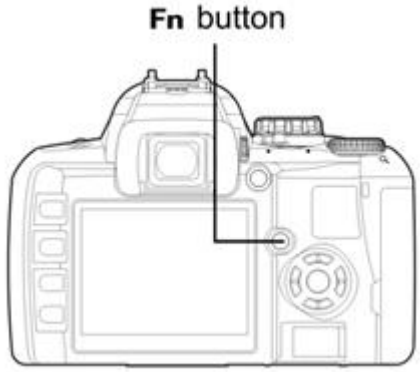
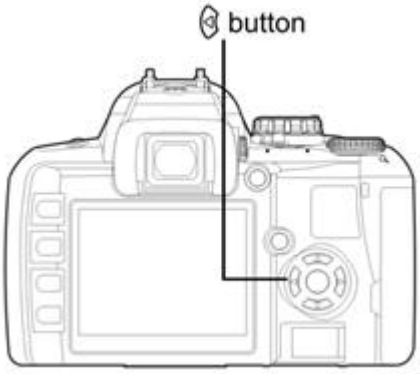
2) Set the mode to A

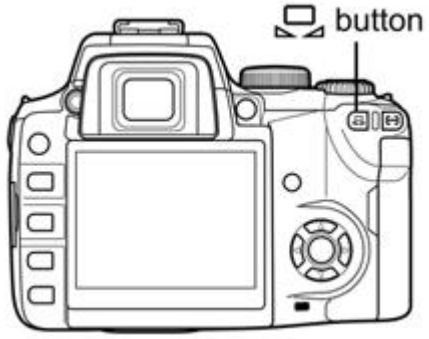
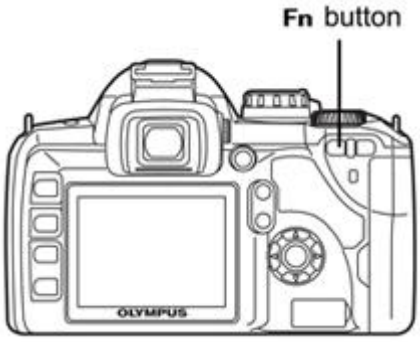
3) Set to MF mode



4) Set EV STEP (exposure value step) to 1/3 EV

5) Set the Fn function button to PREVIEW mode (Depth of Field preview). Different Olympus camera has a different Fn (or Function) button position. Below is the location of their position. Please check your camera user manual to locate the Fn (or Function) button. Also ensure the Fn (or Function) button is assigned to dept of field "preview", this is usually the factory default setting.

	In Olympus E-300 OK button can be customized to perform PREVIEW function.
	In Olympus E-330 there is a special button for customizing the PREVIEW function
	In Olympus E-400 a round Fn button is located near the controller.
	In Olympus E-410 and E-420 "<" button (left arrow) functions as Fn button.

	In Olympus E-500 a One-touch WB button is used.
	In Olympus E-510 and E-520 there is a special Fn button. Please read the instruction manual for your camera attentively. It is stated very clearly on how to customize these buttons.
	In Olympus E-1 and E-3 the PREVIEW function is performed by a standard button near the lens. It doesn't have to be customized.

In Panasonic DMC-L10 there is no such function as depth of field preview. Therefore in order to activate program mode you have to take one long exposure in M mode. For command and data input you have to shoot with a short exposure in automatic exposure mode (A mode). After the chip performs the command, instead of displaying aperture sign "-.-" the camera will offer to reboot. In this case you will not need the lens reset function.

You can also do the same with Olympus cameras, that is instead of pressing the PREVIEW button you can make shots.

(B) Entering into programming mode

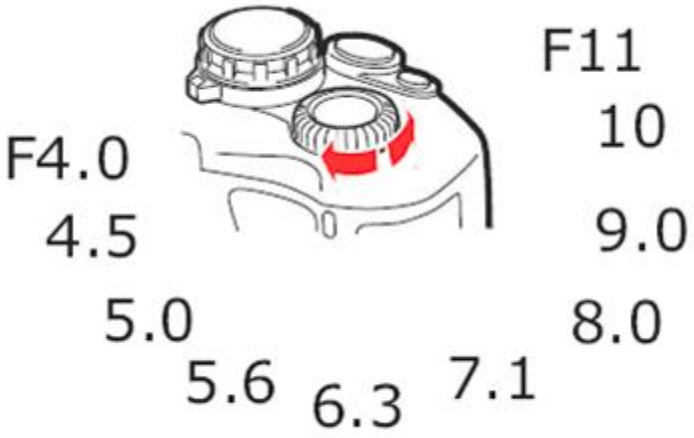
1) Depress & release the lens release button

2) Within 2.5 seconds, quickly depress and hold the Fn button (or "preview button")

3) After 10 seconds, the camera will display aperture sign "-.-". Release the Fn button (or "preview button")
You will be able to change the default of 10 seconds to longer or shorter time delay. Refer to 'Part E (3)' for details.

4) Depress & release the lens release button

5) Turn the control dial, the aperture should change from 4.0 to 11. This shows that you've successfully enter into the programming mode.



(C) Changing the Aperture Value

The allowable aperture value range from F1.0 to F9.9, with each step of 0.1
Warning! Do not set it below F1.0 (i.e. F0.0 to F0.9), otherwise the chip will not be able to enter programming mode again (however AF confirm /IS still function). Should this happen, you'll need to return to the factory to reset the chip.

1) Enter into programming mode

2) Assign Command - change the aperture to F4.0 by turning the control dial. Depress Fn button once. (or "preview button")

3) Assign the desired 2 digit aperture value. The 2 digit is associated to camera aperture value as shown in the table below.

Aperture	4.0	4.5	5.0	5.6	6.3	7.1	8.0	9.0	10	11
Associated digit	0	1	2	3	4	5	6	7	8	9

For example, if you wish to change the aperture value of the chip to F5.6.
a) turn the control dial until you see 7.1, depress Fn (or "preview button") - this represents '5'
b) turn the control until you see 8.0, depress Fn (or "preview button") - this represents '6'

4) If the command (step 2) and two digits (step 3) are entered correctly, the aperture sign "-.-" will be display. Press the lens reset button and your camera will now display the new aperture value.

Note: If aperture is set from F1.0 to F1.9, it will influence the camera exposure metering (i.e. reduce exposure)

(D) Changing the Focal Length

In order to achieve maximum effectiveness of IS (should your camera supports IS), it is important to set the focal length of the chip to the focal length of the lens.
The allowable focal length is from 1mm to 65535mm, with each step of 1mm

1) Enter into programming mode

2) Assign Command - set the aperture to F5.6 by turning the control dial. Depress Fn button once. (or "preview button")

3) Assign the desired 5 digit focal length. The 5 digit is associated to the camera aperture value as shown in the table below. If the focal length consists of less than 5 digit, substitute it with '0'. i.e. enter 00250 for 250mm

Aperture	4.0	4.5	5.0	5.6	6.3	7.1	8.0	9.0	10	11
Associated digit	0	1	2	3	4	5	6	7	8	9

For example, if you wish to change the focal length of the chip to 250mm.
a) turn the control dial until you see 4.0, depress Fn (or "preview button") - this represents '0'
b) depress Fn (or "preview button") 1 more time - this represent '0'
c) turn the control dial until you see 5.0, depress Fn (or "preview button") - this represents '2'
d) turn the control until you see 7.1, depress Fn (or "preview button") - this represents '5'
e) turn the control until you see 4.0, depress Fn (or "preview button") - this represents '0'

4) If the command (step 2) and five digits (step 3) are entered correctly, the aperture sign "-.-" will be display. Press the lens reset button and your chip is now saved with the new focal length.

(E) Changing other parameters

After some practice with part (c) and (d), you should now be familiar with how the programming works.
This section describe all other parameters which you can program the chip. The step are similar, i.e. assign command + assign data. The data assignment uses the same data table as in part (c) and (d).

Aperture	4.0	4.5	5.0	5.6	6.3	7.1	8.0	9.0	10	11
Associated digit	0	1	2	3	4	5	6	7	8	9

The various programmable functions are are as follows:

1) Calibration of front and back focus
Command F8.0 + 2 digits from 01 to 17 - correction of focus confirmation point or calibration function. You may move the focus point a little forward or backward, to manually calibrate the right focus for your lens. By default the chip is set to the center, i.e. 09.

2) Input of additional information about the lens
Command F10 + 1...32 characters - input of text information about the lens type. If you have several lenses of the same type, you may assign each of them so that you could differentiate the photos later. For example, "Zeiss Planar 50/1.4" or "Summicron R 50/1.4".

Text information is transferred to exif in the same way as aperture and focal length information, it can be read on your computer with specialized software. Some non-specialized software such as ACDSee cannot display text information about lens type, therefore you have to use specialized exif reading software, such as ExifTool.

Note that Olympus system restricts the length of these text. It ignores the lens type and doesn't transfer it to exif; the text will be displayed on the same place as the serial number of the lens. As a result, the length of the text can only contain up to 12 characters.

Panasonic DMC-L10 fully transfers lens information to exif, thus all 32 characters are stored.

While entering text in an Olympus camera, start with the tilde sign ("~"). The next 12 characters will be displayed like the serial number of the lens. Maximum text length is 12 characters + tilde sign at the beginning. You may enter 32 characters, but only 12 will be stored.

There is no such restriction in Panasonic cameras, you can enter 32 characters. You don't have to use the tilde sign.

To enter the text you have to use the numbers from 00 to 94 that represent each character. You will find them in the below Table. The characters are to be entered from left to right, from first to last. If you wish to enter less than 32 characters, finish the line by entering number 99. The line will be finished automatically after the 32nd character. Aperture sign "-.-" will be appear on the display. Press lens reset button and check the result.

Space	00	**0**	16	**@**	32	**P**	48	**`**	64	**p**	80
!	01	**1**	17	**A**	33	**Q**	49	**a**	65	**q**	81
"	02	**2**	18	**B**	34	**R**	50	**b**	66	**r**	82
#	03	**3**	19	**C**	35	**S**	51	**c**	67	**s**	83
$	04	**4**	20	**D**	36	**T**	52	**d**	68	**t**	84
%	05	**5**	21	**E**	37	**U**	53	**e**	69	**u**	85
&	06	**6**	22	**F**	38	**V**	54	**f**	70	**v**	86
'	07	**7**	23	**G**	39	**W**	55	**g**	71	**w**	87
(	08	**8**	24	**H**	40	**X**	56	**h**	72	**x**	88
)	09	**9**	25	**I**	41	**Y**	57	**i**	73	**y**	89
*****	10	**:**	26	**J**	42	**Z**	58	**j**	74	**z**	90
+	11	**;**	27	**K**	43	**[**	59	**k**	75	**{**	91
,	12	<	28	**L**	44	\	60	**l**	76	**|**	92
-	13	=	29	**M**	45	**]**	61	**m**	77	**}**	93
.	14	>	30	**N**	46	^	62	**n**	78	**~**	94
/	15	**?**	31	**O**	47	**_**	63	**o**	79	**End**	99

Characters and represening numbers.

TIP: Before entering the text write it out and assign each character to its representing number. Cross out the numbers one by one as you enter them. This will prevent mixing up the characters.

3) Time delay before entering the program mode

Command F11 + 2 digits - delay before entering into program mode. This is set at 10 seconds by default. You can change it to 01 to 99 seconds. A short delay helps activate the program mode quicker. A longer delay avoids the possibility of accidental activation.

Note that if the delay timing is set to 60 to 99 seconds, you will have to hold the preview button continuously for more than 1 minute to enter the program mode. The camera may enter the sleep mode during this time, so make sure that the sleep mode is to more than 2 minutes in your camera should you need to set the time delay of more than 60 seconds.