14

Changing Lenses

To remove a standard lens :

1. Set the distance scale at **infinity.**
2. Depress the spring catch (figure 14) with the left thumb.
3. Turn the lens barrel clockwise with the right hand until the red dot on the barrel meets the red dot on the camera body.

To mount a standard lens :

1. Set the distance scale at **infinity ;**
2. Line up the red dot on the lens barrel and the red dot on the camera body.
3. Turn the lens counter-clockwise until the lens clicks into position.

To mount wide angle and telephoto lenses :

1. Set the distance scales of both camera and lens at **infinity.**

Depth of Field

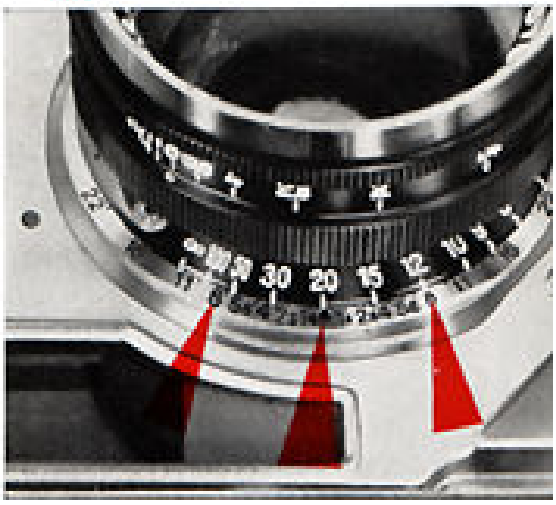
Depth of Field is the range of distances between the nearest and the farthest limits of a subject within which acceptable image sharpness is attained. The sharpest image is at the point at which the lens is focused.

Depth of Field varies with the lens opening (f-number) and with the distance. The larger the f-number used, the greater the Depth of Field; in reverse, the smaller the f-number, the smaller the Depth of Field.

Depth of Field also increases with the distance from camera to subject. In the Nikon camera, there is a depth of field scale engraved directly on the camera itself, eliminating the need to use separate tables.

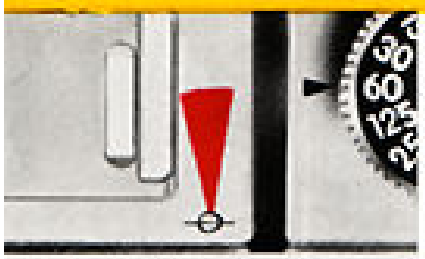
For Example :

12



Set the 20 foot marking on the distance scale to the index dot (figure 12). You will note that each f-number is indicated on the scale, once to the right and once to the left of the index dot. When you are taking a picture with an f : 8 opening, the distance indicated by the number "8" on either side of the index dot will be 12 feet and about 50 feet. This means that a picture taken at f : 8, with a lens focused at 20 feet, will show a range of acceptable sharpness between 12 and 50 feet. The sharpest point will be at the 20 foot distance.

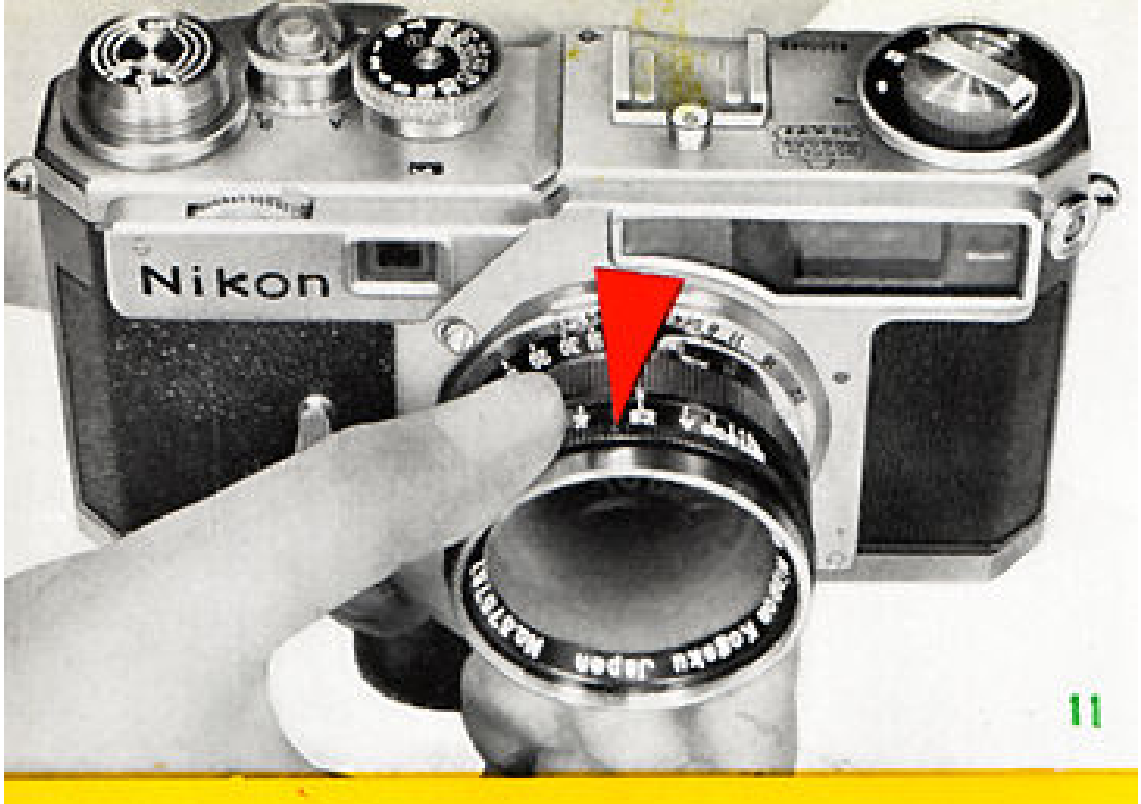
Film Plane Indicator



13

The marking ⊖ to be found (figure 13) near the accessory shoe of the camera indicates the exact position of the film. It is used when photographing extreme close-ups.

Measurements from camera to subject should be taken from this point.



11

Lens Aperture Settings

To set the lens opening (expressed as an f-number), turn the diaphragm ring so that the desired f-number is opposite the dot on the milled ring of the lens barrel (figure 11).

F-number markings on standard Nikkor lenses are arranged so that each consecutive marking, starting at the widest opening, halves the speed of the lens. Shutter speeds on the Nikon camera are similarly arranged. As a result, once a correct exposure has been determined, any combination of correct lens stops and shutter speeds can be easily selected. For example, if the correct exposure for a given setting is a f : 1.4 lens opening at 1/1000 th of a second shutter speed, f : 2 opening at 1/500 th of a second speed will give the same exposure on the film ; and so on for the rest of the table. The following table may be of some assistance in visualizing the relation between f-numbers and shutter speeds, as explained above.

f-number	1. 4	2	2. 8	4	5. 6	8	11	16
Exposure time (Shutter speed) in ratio	1	1	1	1	1	1	1	1
	1000	500	250	125	60	30	15	8

Self-Timer

The calibrated, built-in Self-Timer allows you to trip the shutter in approximately 3, 6 or 10 seconds, or any intermediate time delay. It can be set before or after winding the shutter.

10

To wind the Self-Timer, push the lever down (see figure 10). To start the timer, depress the release button beneath the lever. When the predetermined time delay has elapsed, the shutter is automatically released.

Setting the lever near the nearest dot will give approximately a 3 second delay; the next dot, approximately a 6 second delay; and setting the lever to the third dot gives approximately a 10 second delay.

The Nikon Self-Timer is also an ingenious aid for hand-held exposure at slow shutter speed. Wind the shutter. Set the Self-Timer for 3 seconds. Press the release button, and then use the delay to steady the camera with both hands.

Note that the Self-Timer should **not** be used for B or T setting. If released at T, the shutter will remain open unless closed by moving the Speed Selector Dial off the "T" setting.

If you decide not to use the Self-Timer after it has been wound, take the picture at the speed you want, using the shutter button. Now depress the release button of the Self-Timer and let it "run off".

9

Shutter Settings

All 13 click-stop shutter speed settings are on a single selector dial (figure 9), which can be set before or after the shutter is wound. Speeds are: 1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/500, 1/1000, B and T.

The dial turns a full 360° in either direction and can be set from fastest to slowest speed without obstruction.

Numbers on the Speed Selector Dial represent the actual shutter speed. For example, 125 on the dial represents 1/125 second.

Bulb Exposure: When the dial is set at "B", it will remain open for as long as the shutter release button is held depressed.

Time Exposure: When the shutter button is once pressed at "T" exposure, the shutter will remain open even if pressure is removed. To close the shutter, turn the dial right or left until the B or 1000 mark passes the index.

For greater convenience when using flash, the dial is color coded to coincide with the color coding of the Synch Control (see "Flash Synchronization" p. 20 for details).

color, appears (figure 7c). This indicates the exact field of view for 105mm lenses.

When the Selector is set at "13.5" (engraved on the dial in red) a bright red frame appears (figure 7d). This innermost frame indicates the exact field of view for the 135mm lens.

You will notice that as the Lens Field Selector is moved from 5 to 13.5 an additional field-of-view is introduced at each setting. The smallest frame line is always the proper one to use. You will find that the additional frame lines for each successive setting serve to direct the eye through the finder to the subject.

Also, note that the viewing image is life-size and parallax compensation is automatic and continuous as you focus.

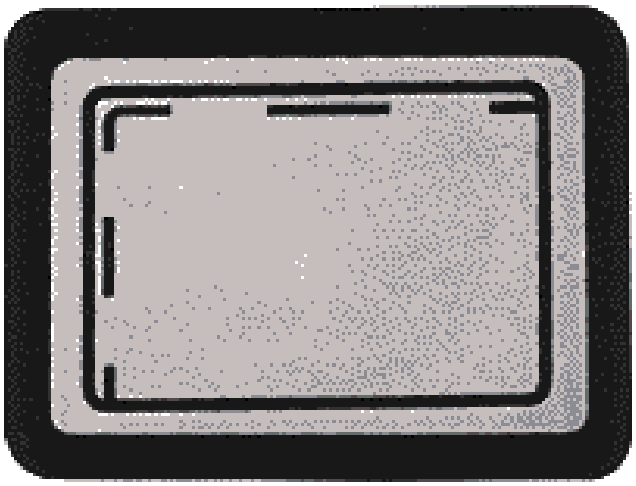
Lens Previewer: Another unique advantage of the Universal Viewfinder System is that it permits you to "read a scene" and select the focal length lens best suited to achieve desired framing of the subject.

Without removing the lens from the camera you can observe the effects which would be obtained with other focal length lenses—and make direct comparisons.

Set the Lens Field Selector at 13.5 and compare the field of view for 50, 85, 105, and 135mm lenses simultaneously.

With color transparencies, where cropping is not possible, this method for precise, full-frame composing is most desirable.

Composing with Wide Angle Lenses



8

The left hand section of the eyepiece (figure 8) is the viewfinder for 28mm and 35mm lenses. The full frame indicates the viewing field for 28mm lenses; the inner, solid black frame is for 35mm lenses. The dotted line inside the 35mm frame indicates parallax compensation for the 35mm lens, and should be used as the frame line when viewing a subject closer than 4 feet. No parallax compensation is required for 28mm lenses because of the extreme wide angle of coverage.


Nikon
AF-2


Nikon
MC-30


for AF-2


NIKON


Filters

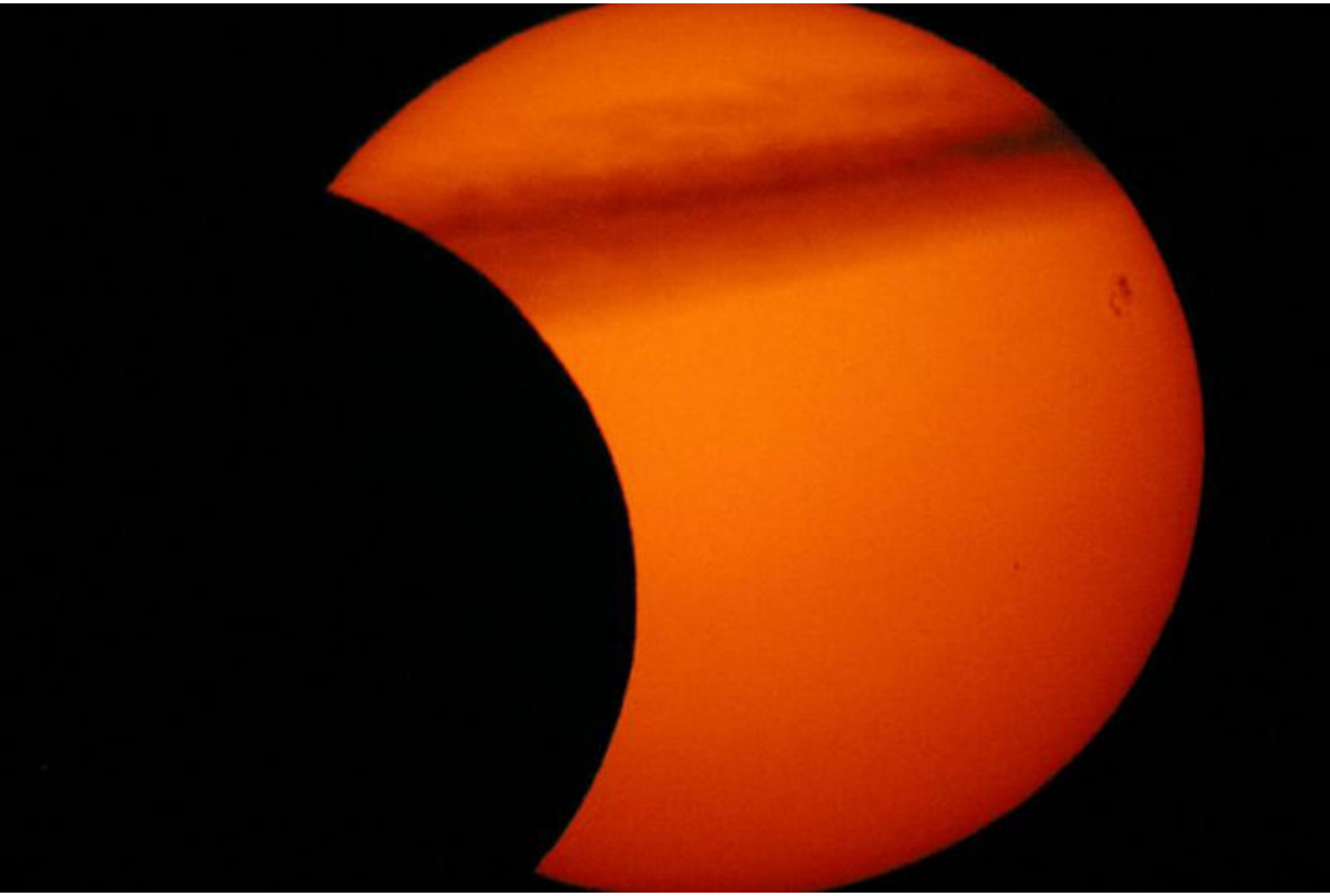

Nikon


NIPPON
KOGAKU
TOKYO


Nikon
NIKKOR
AF


Nikon


BACKSCATTER




PRO
NX-5


Nikon
F5
60mm
AF NIKKOR
f2.8 D


NIKONOS

Lens	Focusing		Exposure mode				Metering system		
	AF	Electronic Range-finder	P mode	S mode	A mode	M mode	Colour Matrix	Centre-Weighted	Spot
AF-S, AF-I & D-type AF Nikkors	✓	✓	✓	✓	✓[1]	✓[1]	✓[2]	✓[3]	✓[4]
AF-I Teleconverters[5]	✓[6]	✓[6]	✓	✓	✓[1]	✓[1]	✓[2]	✓[3]	✓[4]
Non-D-type AF Nikkors	✓	✓	✓	✓	✓[1]	✓[1]	✓	✓[3]	✓[4]
AI-P-type Nikkors	—	✓[7]	✓	✓	✓[1]	✓[1]	✓	✓[3]	✓[4]
AI-type Nikkors	—	✓[7]	—	—	✓	✓	—	✓	✓
AI-modified Nikkors[8]	—	✓[7]	—	—	✓	✓	—	✓	✓
Medical-Nikkor	—	✓	—	—	—	✓[9]	—	✓[10]	✓[10]
Reflex-Nikkors	—	—	—	—	✓[11]	✓[11]	—	✓	✓
PC-Nikkors	—	✓[12]	—	—	✓[13]	✓	—	✓[12]	✓[12]
AI-type Teleconverters	—	✓[6]	—	—	✓	✓	—	✓[14]	✓[14]
Bellows Focusing Attachment PB-6	—	✓[6]	—	—	✓	✓	—	✓[14]	✓[14]

COMPATIBLE LENSES

AF Nikkors

AF 20-35mm f/2.8D IF
AF 24-50mm f/3.3-4.5D
AF 28-70mm f/3.5-4.5D
AF 35-80mm f/4-5.6D
AF 28-85mm f/3.5-4.5
AF 35-70mm f/2.8D
AF 35-80mm f/4-5.6D
AF 35-135mm f/3.5-4.5D IF
AF 35-135mm f/3.5-4.5
AF 70-210mm f/4-5.6D
AF 75-300mm f/4.5-5.6
AF 80-200mm f/2.8D ED
AF 80-200mm f/4.5-5.6D
AF 18mm f/2.8D
AF 20mm f/2.8D
AF 24mm f/2.8D
AF 28mm f/1.4D
AF 28mm f/2.8D
AF 35mm f/2D
AF 50mm f/1.4D
AF 50mm f/1.8
AF 85mm f/1.4D IF
AF 85mm f/1.8D

AF 100mm f/2.8D IF-ED
AF 105mm f/2.8 IF-ED
AF-I 300mm f/2.8D IF-ED
AF-S 300mm f/2.8D IF-ED
AF 300mm f/4 IF-ED
AF-I 400mm f/2.8D IF-ED
AF 500mm f/4D IF-ED
AF-S 500mm f/4D IF-ED
AF-I 600mm f/4D IF-ED
AF-S 600mm f/4D IF-ED
AF Fisheye 16mm f/2.8D
AF 16mm-80mm f/2.8D
AF 16mm-35mm f/2.8D
AF 16mm-200mm f/3.5-5.6D IF-ED
AF DC 105mm f/2D
AF DC 135mm f/2D

AI-P-type Nikkors

360mm f/4 IF-ED
1200-1700mm f/5.6-8 P IF-ED

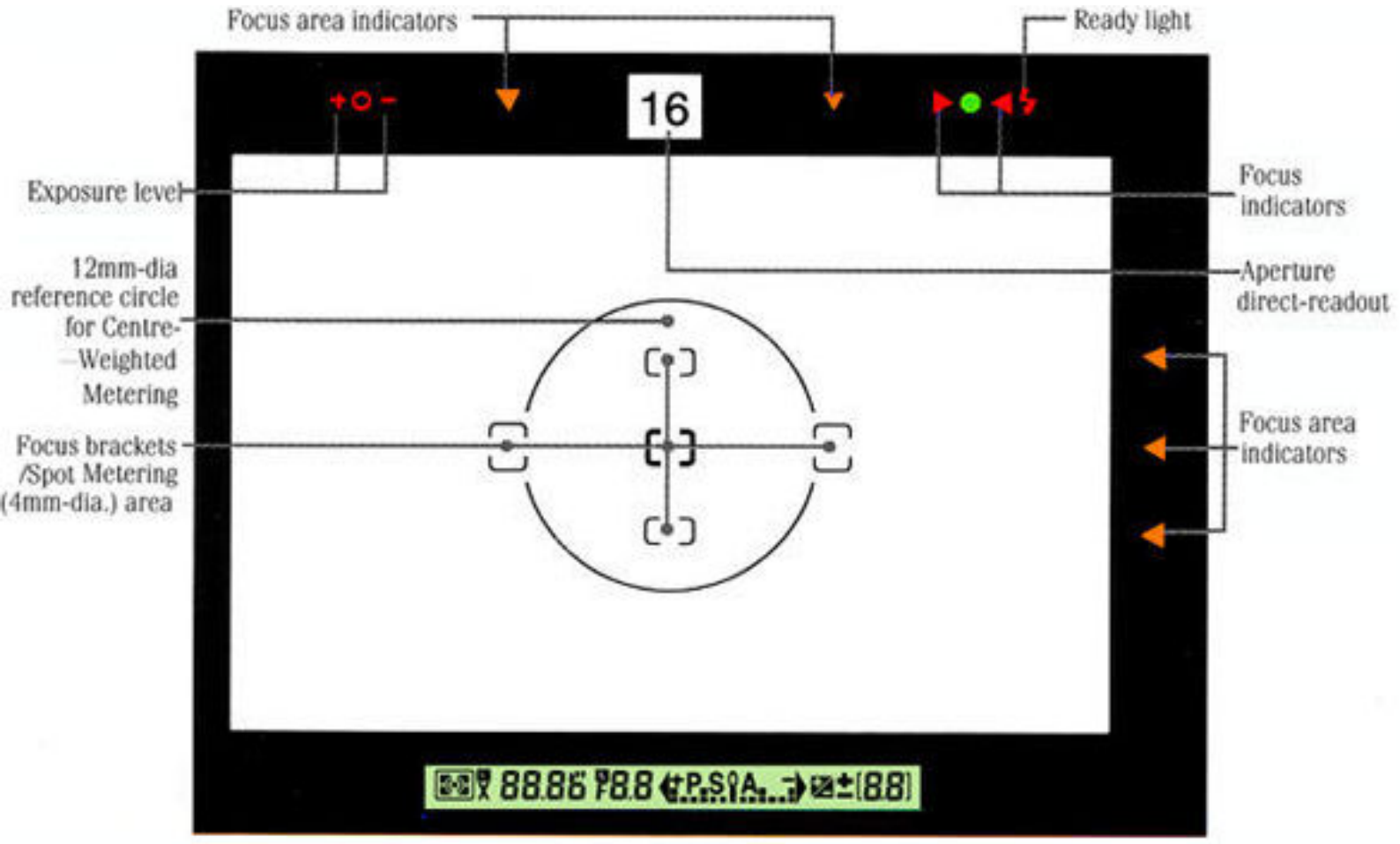
G- and AM-type Nikkors

28-85mm f/3.5-4.5
35-70mm f/3.5-4.5
35-105mm f/3.5-4.5
35-135mm f/3.5-4.5

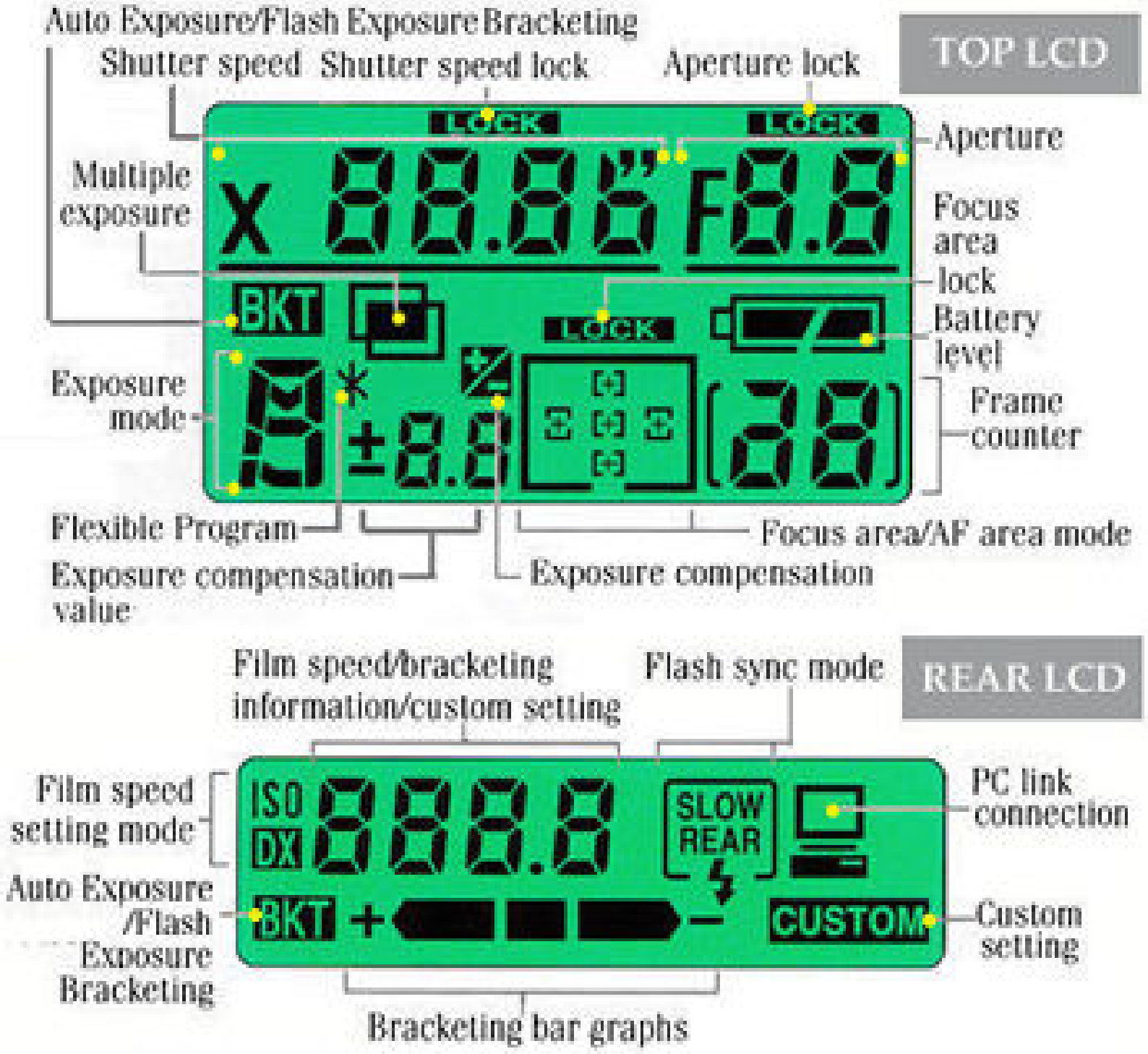
35-200mm f/3.5-4.5
80-200mm f/4
70-300mm f/4.5-5.6D
100-300mm f/5.6
180-400mm f/4 ED
13mm f/5.6
15mm f/3.5
16mm f/2.8
20mm f/2.8
24mm f/2
24mm f/2.8
28mm f/2
28mm f/2.8
35mm f/1.4
45mm f/2
50mm f/1.2
50mm f/1.4
50mm f/1.8
85mm f/1.4
105mm f/1.8
105mm f/2.8
135mm f/2
135mm f/2.8
180mm f/2.8 ED

200mm f/2 IF-ED
200mm f/2.8 IF-ED
300mm f/4.5 IF-ED
400mm f/2.8 IF-ED
400mm f/3.5 IF-ED
400mm f/4.5 IF-ED
600mm f/4 IF-ED
600mm f/5.6 IF-ED
800mm f/5.6 IF-ED
Fisheye 6mm f/2.8
Fisheye 8mm f/2.8
Fisheye 16mm f/2.8
Reflex 500mm f/8
Reflex 1000mm f/11
Reflex 2000mm f/11
PC 28mm f/3.5
PC 35mm f/2.8
Medical 120mm f/4 IF


Nikon
F5
85 mm
AF NIKKOR
1:1.8 D



MOre detail illustration is available at MAIN REference MAP Section


TOP LCD
Auto Exposure/Flash Exposure Bracketing
Shutter speed
Shutter speed lock
Aperture lock
Aperture
Multiple exposure
Focus area lock
Battery level
Exposure mode
Frame counter
Flexible Program
Exposure compensation value
Exposure compensation
Focus area/AF area mode
REAR LCD
Film speed/bracketing information/custom setting
Flash sync mode
Film speed setting mode
PC link connection
Auto Exposure /Flash Exposure Bracketing
Custom setting
Bracketing bar graphs


22
1"
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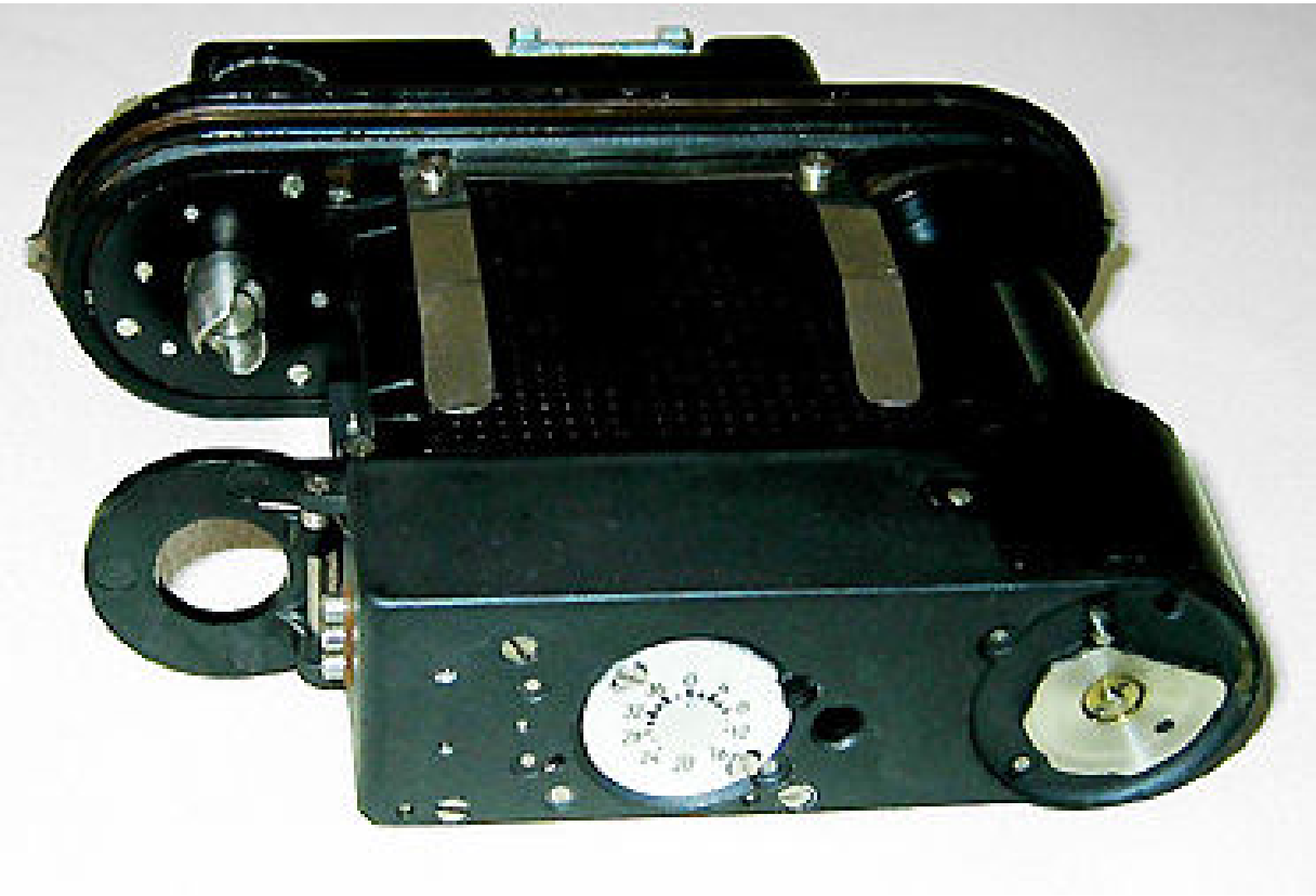
Nikon MF-28
INTERVAL
LONG EXP
FCS PRIOR
AUTO BKT
AF-ON


Minolta
auto




Nikon


Nikon
© Chuon-Szen Ong


PS-6
Slide
Copying
Adapter
PB-6 Bellow Unit
PB-6M
Macro
Copy
Stand
PK-11A PK-12 PK-13 Extension Tubes
PB-6E Bellow Extension


22
100 F4
S
[15]


Nikon

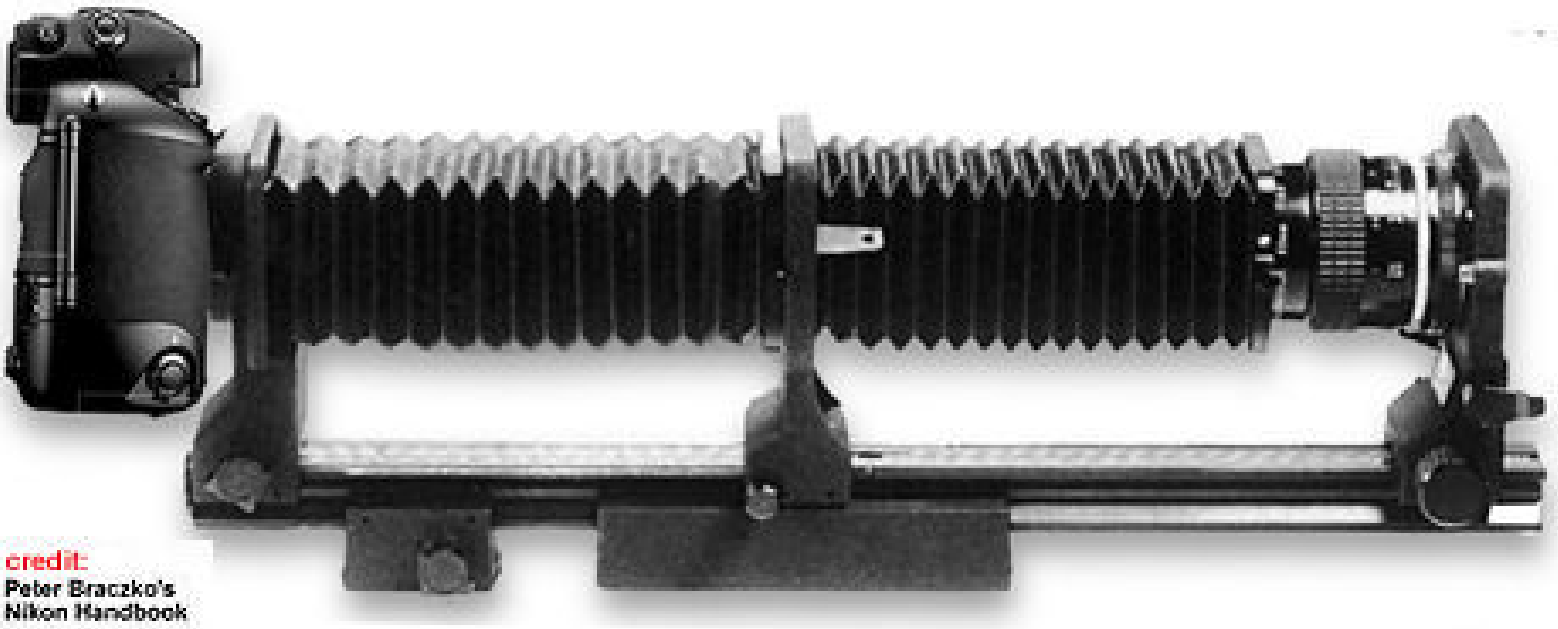
Repro-Copy Outfit PF-4

A rock-sturdy reproduction copy stand that permits to make photographic copies of photos, illustrations, technical drawings or diagrams indoor.

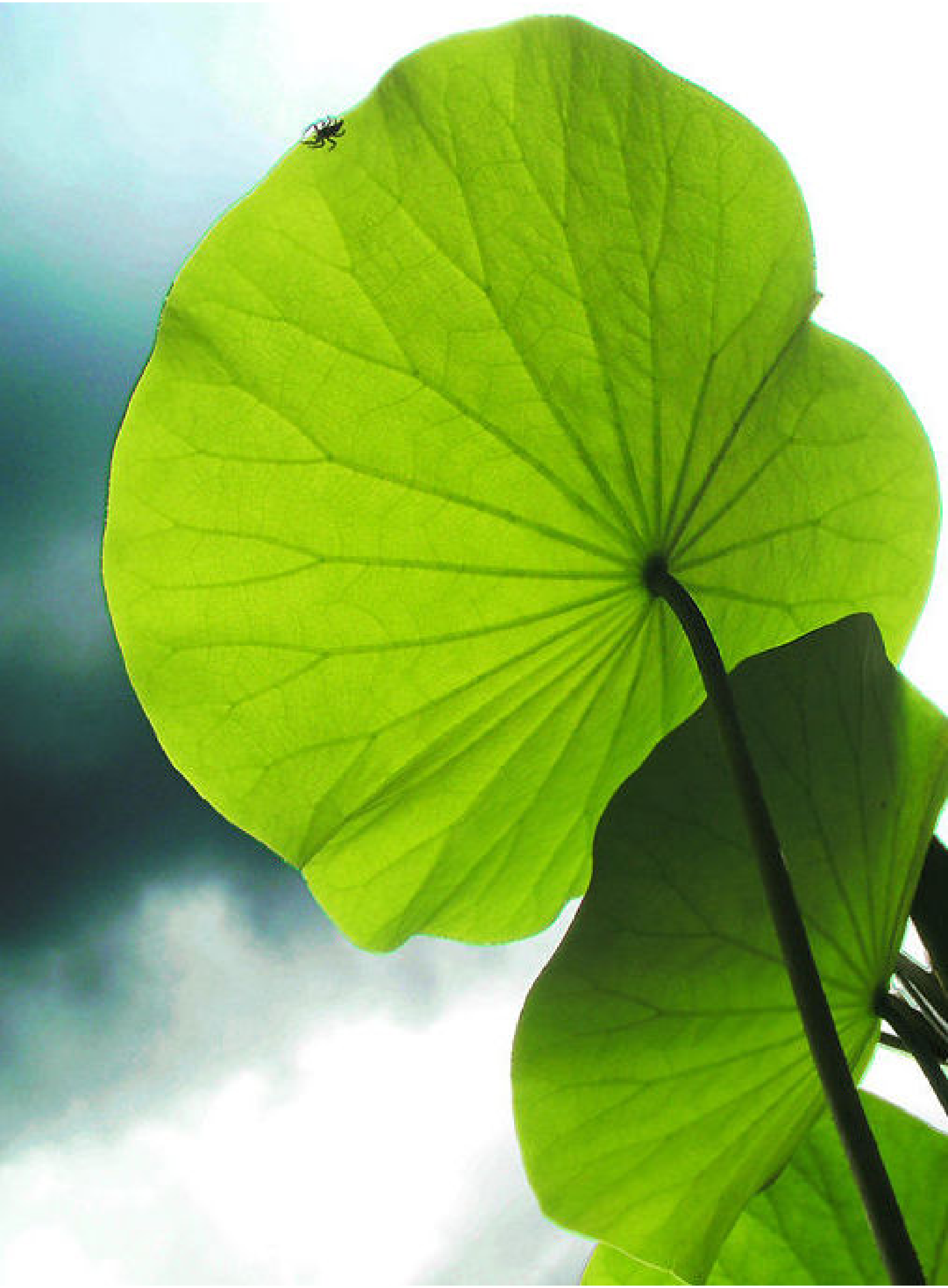

Nikon
PC MICRO NIKKOR 85mm 1:2.8 D

Nikon SB-29s Speedlight

Medical-NIKKOR 120mm (M=1/1)
0.5X-1X
Nikon



credit:
Peter Braczko's
Nikon Handbook




II
NIKONOS


Nikon


Nikon
F5


Rear control panel
Film speed button
Flash Sync mode button
Custom Setting, Menu button
Auto Exposure/ Flash Exposure Bracketing button
Shutter speed/ aperture/focus axis lock button
Film advance mode Selector lock release
Camera back lock release
Interchangeable focusing screen
Power/LCD panel illumination switch
Multiple exposure button
Shutter release button
Power switch lock release
Viewfinder Locking Nuts
Film rewind crank
Film rewind knob
Film Advance mode /self-timer selector
Alert LED
Film plane indicator
Top LCD panel


NIKON
OFF
MODE

22
ISO 64
S

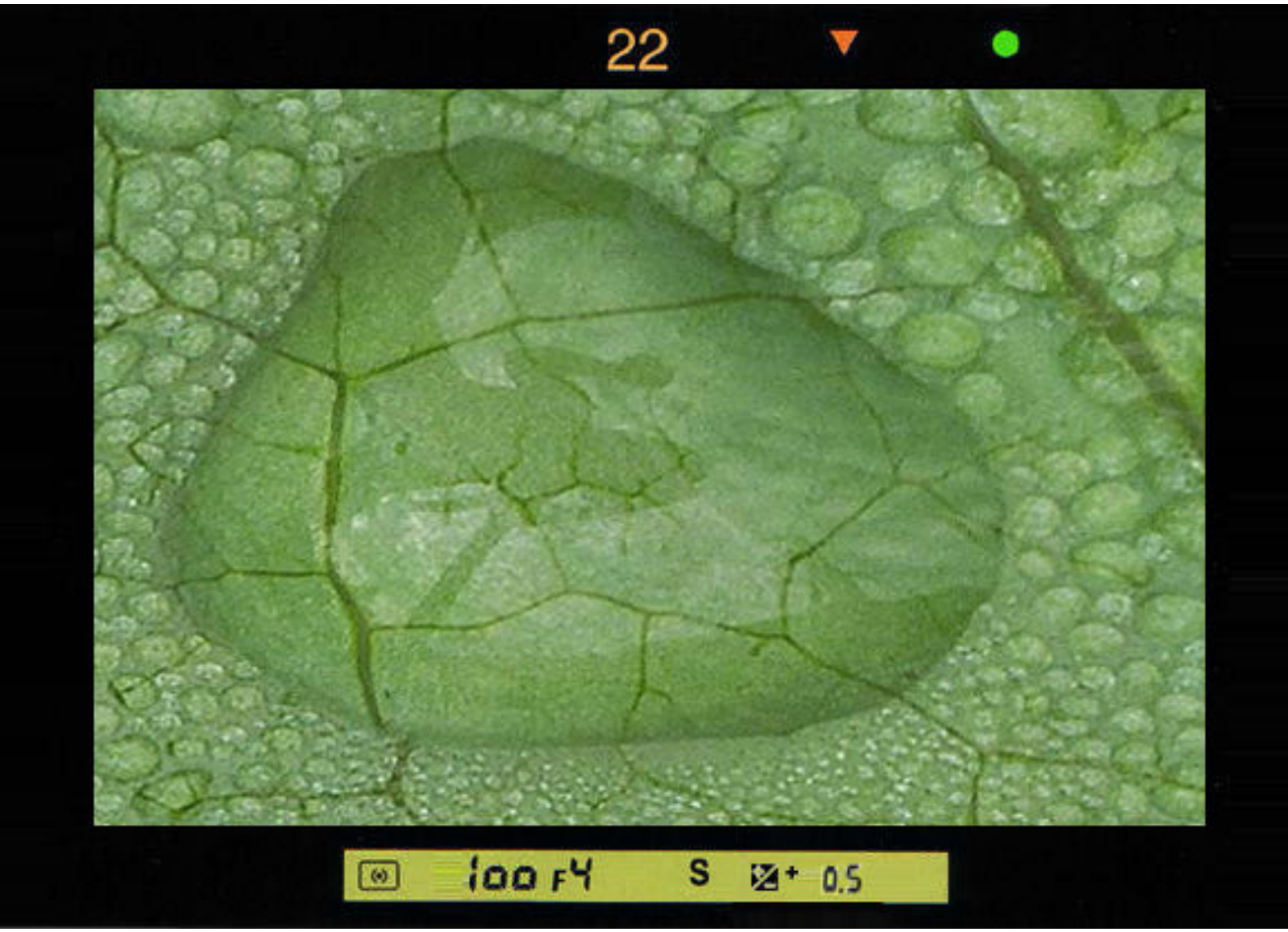
Nikon

Multi-Control Back

MF-28

INSTRUCTION MANUAL

CE


22
100 F4
S
+ 0.5

Nikon Filters

For Black and White Film

Filter Mount

Nikon filters are either in screw-in mount or in series type rated after American Standard Series System.
Screw-in filters are used with snap-on Nikon lens hoods and with snap-on Nikon caps. Series type filters should be used with screw mount Nikon lens hoods or their adapter ring inserts.

Size of Filter

Choose the filter of correct size for your Nikkor lens consulting the right-hand table, as satisfactory results may not always be ensured with other makes, e. g. unsuitable filter be liable to vignette the picture corners, scratch the lens surface, etc.

Filter		Nikkor Lenses in Nikon Mount
Series Type	Screw in Type	
VIII	—	25mm F : 4
VIII	43	28mm F : 3.5
—	43	35mm F : 1.8
VII	43	35mm F : 2.5
VII	43	35mm F : 3.5
—	62	50mm F : 1.1
VII	43	50mm F : 1.4
VI	40.5	50mm F : 2
VII	—	85mm F : 1.5
VII	48	85mm F : 2
VII	52	105mm F : 2.5
VII	43	135mm F : 3.5
IX	—	180mm F : 2.5
IX	—	250mm F : 4
110mm	—	500mm F : 5

Filter Factor

Correct filter factors also depend upon color of light and color sensitivity of film used, but the figures indicated here are accurate enough for normal purposes when using a standard medium speed panchromatic film.

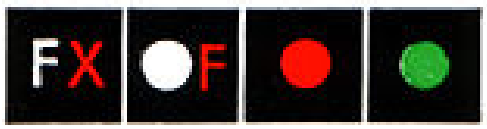
Color and Shade		Denomination engraved on the filter	Filter Factors	
			Daylight	Artificial Light (Tungsten)
Yellow	Light	Y43, Y44, Y45	1.5	1
	Medium	Y47, Y48, Y49	1.7	1.2
	Dark	Y51, Y52, Y53	2	1.5
Orange		O55, O56, O57	3	2.5
Red		R59, R60, R61	6	
Green	Light	X0	2	1.7
	Dark	X1		2
Ultra-Violet		L38, L39, L40	1	1
Neutral	ND4X	ND4X	4	
	ND8X	ND8X	8	

Flash Synchronization

The connecting cord of the Nikon BC-3 flash unit should be plugged into the synchro-socket (figure 24) on the Nikon camera. (This socket is also used for electronic flash.)

The Nikon BC-5 flash unit fits on the accessory shoe of the Nikon, making instantaneous connection with the flash terminal located in front of the shoe (figure 25), eliminating the need for connecting cord.

For positive synchronization, set the synchro-selector according to the bulb and shutter speed used. **Lift up** the toothed selector ring (around the shutter speed dial—figure 26), and turn it until the desired colored dots and/or figures, as shown on the following table, appear in the selector aperture (figure 26) adjacent to the dial, then drop the ring into place. By clockwise rotation of the selector ring the above markings come into view in the following sequence :



Nikon Eveready Case

43

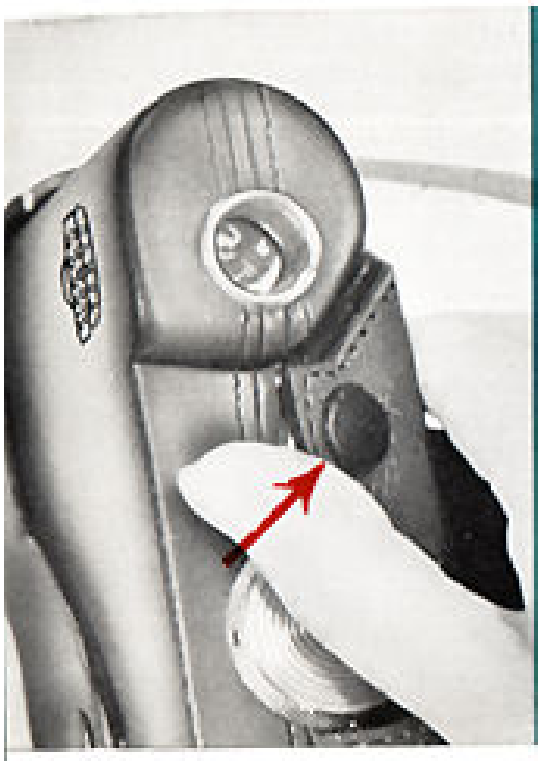
After putting the camera in the case (figure 43), fasten the locking screw nut found on the bottom.

This nut is also threaded so it can be attached to a tripod without removing the camera from the case.

The eveready case permits the use of camera by simply detaching its snap-on front only.

To detach the front (figure 44) use your thumb to pry up the snap-on either end. Do not try to remove the front by simply pulling.

To attach, reverse the above procedure. Do not press down on the snap-on buttons but slip the snaps on the bottom of the case into the sockets on the removable front, slantwise, and then, press down (figure 45).

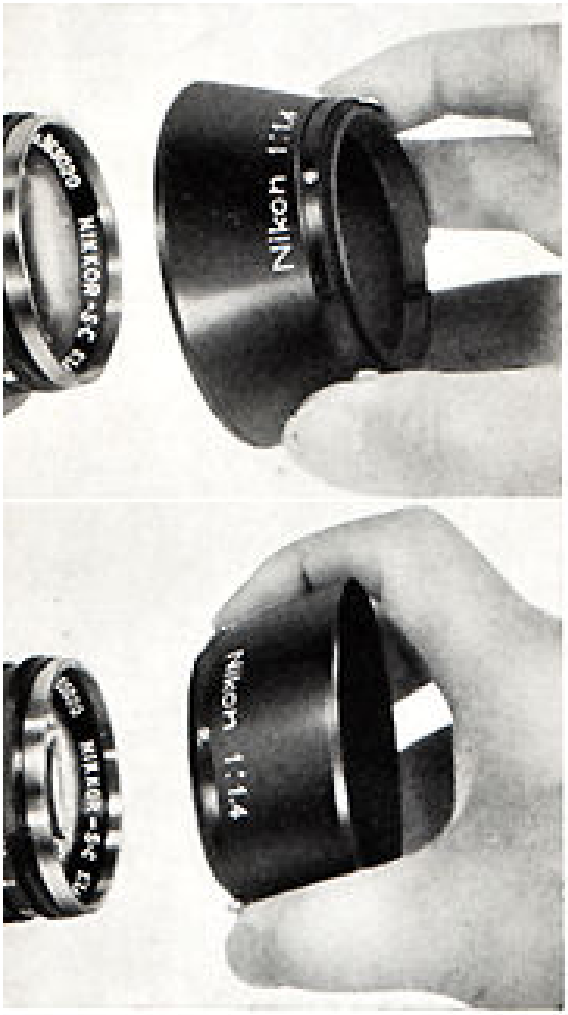


44

45

Lens Hood

A lens hood should be used even when the lens is not turned toward the light or where there is no stray light present. Two types of Nikon lens hoods are available :



The snap-on lens hood* fastens to interior lens thread by push-button action (figure 42). It can also be fitted directly over the screw-in filter (except for 35mm F : 1.8 lens) when the latter is used together with the hood.

The hood can also be attached to the lens in the reverse position (figure 41) for storage in the eve-ready leather case for Nikon camera.

The screw-on lens hood is supplied complete with adapter ring and ring insert. The series filter is held between the adapter ring and the lens hood. When the hood is not used, the filter can be held between the adapter ring and the ring insert.

When the hood only is to be used, a ring insert is not required.

* Not available for Nikkor 50mm F : 1.1 lens.

Long focus and telephoto Nikkor lenses are supplied with their own lens hoods.

selector of the camera has now been set at the correct exposure time, ready for photographing that scene.

On the other hand, if a particular shutter speed is set on the shutter speed selector of the camera, the suitable f-number can be read opposite the pointer of the exposure meter.

In bright light the hinged light-shield with a small slit should be lowered, and the white f-number scale used.

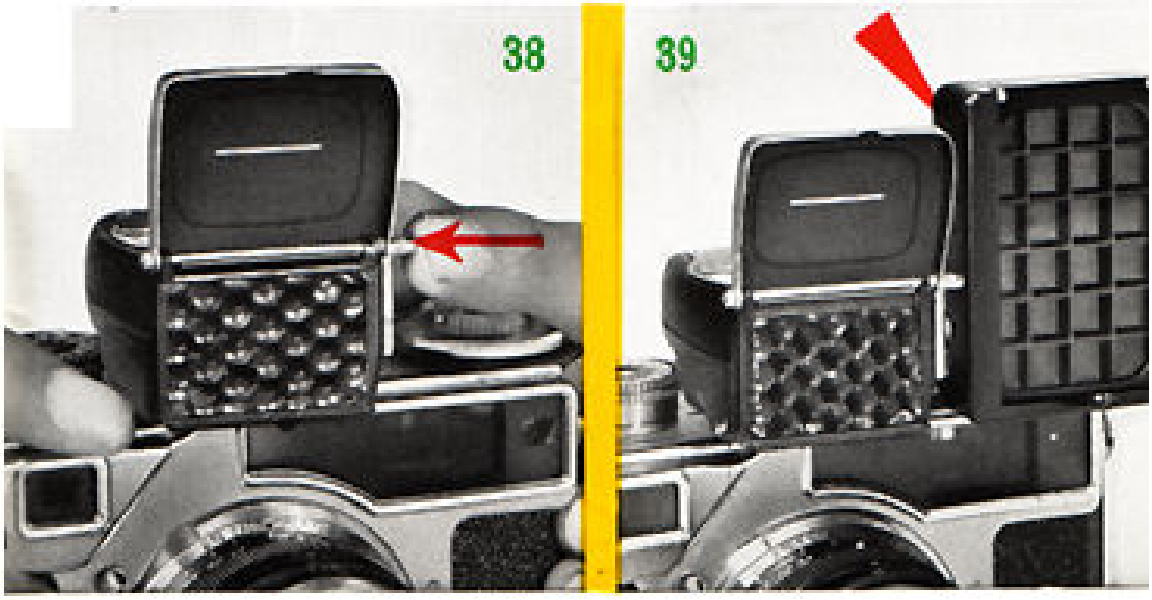
In dim light, the shield should be raised by depressing the button at the left end of the shield hinge (figure 38), and the f-number scale in red used.

In extremely dim light conditions, sensitivity of the exposure meter can be increased by inserting the booster (amplifier) cell (figure 39) into the clip on the side of the meter. In this case the red f-number scale is also used. However, resetting of the shutter speed selector must be done in the following way: Read the shutter speed figure opposite the supplementary index, which is indicated by a small square marking ⊞, and shift that figure to the principal index ▼ by turning the speed selector of the camera.

When the exposure time required is longer than one second the shutter speed selector will stop at B and the f-number on the meter should be set by turning the speed dial on the meter. Take the reading of the correct exposure time on this dial.

Now, release the shutter at the B setting for the time interval indicated.

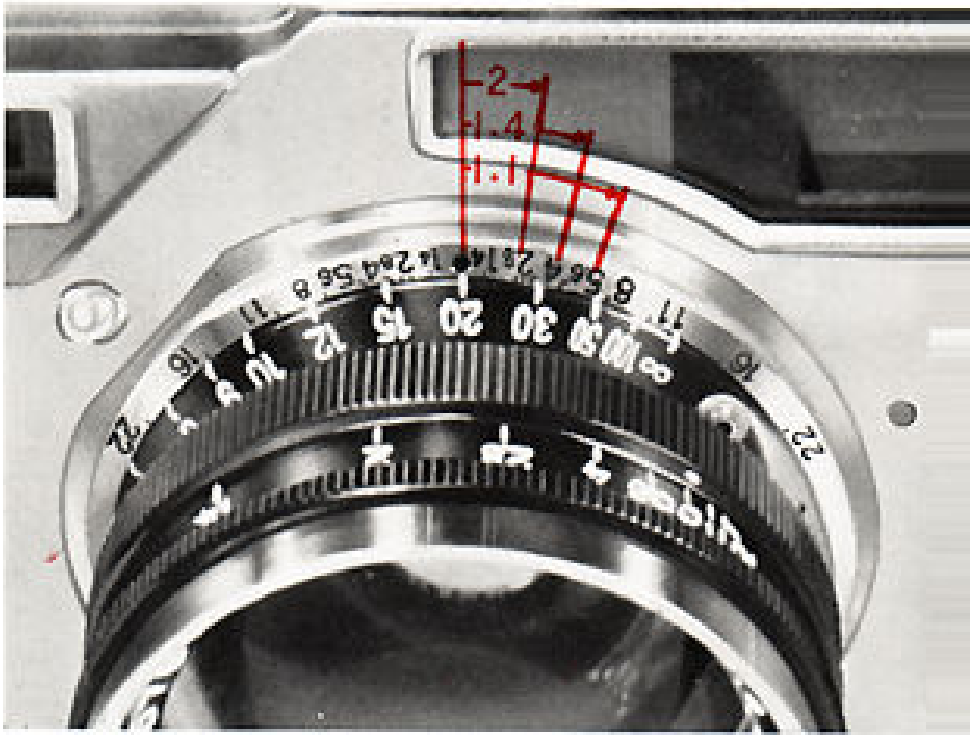
While the Nikon exposure meter has been designed primarily to measure reflected light it can be used for incident light readings. When used for incident light readings the opal plate(s) furnished should by inserted in front of the meter (and the booster).



Infra-Red Pictures

When infra-red picture is taken, the distance setting obtained by means of double image coincidence through the combined view-and range-finder has to be rectified before shooting. This is done by moving out the lens slightly, until the focused point on the distance scale comes to the position as indicated in the following table, according to the lens being used :

Standard 50mm lenses	F : 2	Up to 2.8	Scale line on the right-hand side (the lens toward you) of the depth of field scale of the camera (see below)
	F : 1.4	Up to 4	
	F : 1.1	Up to 5.6	
Interchangeable other lenses		Up to R marked red dots or lines on the lens barrels	



40

Here are shown (figure 40) by the arrows, for the focused point 20 feet (for example), the amounts and the direction to be revolved of the lenses 50mm F : 2, F : 1.4 and F : 1.1, when taking infra-red picture.


Nikon WC-34 JAPAN

Nikon
MC-34


Nikon
Nikon

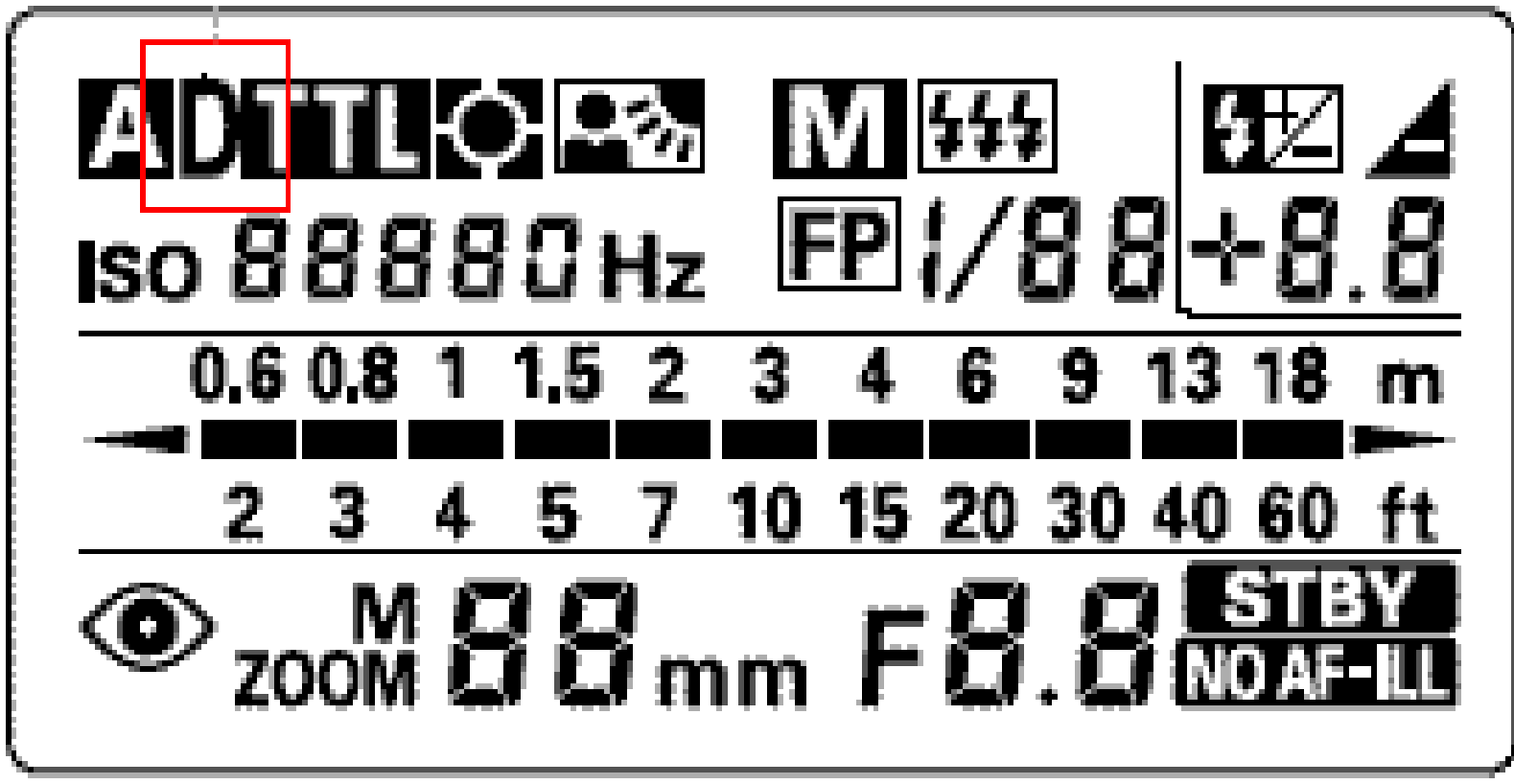
Nikkor lenses with a built-in CPU*	• D- or G-type Nikkor lenses • IX Nikkor lenses** • Non-D/G-type AF Nikkor lenses*** • AI-P-type Nikkor lenses
Nikkor lenses without a built-in CPU*	• AI-S-type or AI-type Nikkor lenses • Nikon Series E lenses • AI-modified Nikkor lenses and others


Nikon
SPEEDLIGHT SB-28

SB28DX													
	TTL 3D Multi-Sensor balanced fill-flash	TTL Multi-sensor balanced fill-flash	TTL Matrix balanced fill-flash	TTL	Auto Aperture	Non TTL Auto	Manual	FP high speed flash sync	Repeating flash	Rear Curtain Sync	Slow sync	Red eye reduction	AF-assist illuminator	Automatic power Zoom
F6	3D	✓		TTL	AA	A	M	FP	✓	REAR	SLOW	✓	AF	ZOOM
F5	3D	✓		TTL		A	M	FP	✓	REAR	SLOW		AF	ZOOM
F4			✓	TTL		A	M		✓				AF	ZOOM
F100/ F90x	3D	✓		TTL		A	M	FP	✓	REAR	SLOW	✓	AF	ZOOM
F80/F75/ F70	3D	✓		TTL		A	M		✓	REAR	SLOW	✓	AF	ZOOM
F65			✓	TTL		A	M		✓	REAR	SLOW	✓	AF	ZOOM
F60/F50			✓			A	M		✓				AF	
F55														
F3 series 4				TTL		A	M		✓					
FM2/ FM2n						A	M		✓					
FM3a				TTL		A	M		✓					
D1 series	3D	✓		TTL	AA	A	M	FP	✓	REAR	SLOW	✓	AF	ZOOM
D100	3D	✓		TTL	AA	A	M		✓	REAR	SLOW	✓	AF	ZOOM
D2H / D2X	3D	✓		TTL	AA	A	M	FP	✓	REAR	SLOW	✓	AF	ZOOM
D70						A	M		✓	REAR	SLOW			
COOLPIX 8800,8400						A	M		✓	REAR	SLOW			
COOLPIX 5000,5400 5700, 8700				TTL		A	M		✓	REAR 1	SLOW			
COOLPIX 4500/995/ 990/ 950 3				TTL		A	M		✓		SLOW			

Nikon
SB28DX
AF-TTL
Speedlight

Additional Flash Icon for Digital Camera

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