

[INTRODUCTION]

This electronic flash unit has been specifically developed for close-up photography. The unit consists of a Ring Flash Head and a separate Power Pack unit. The Flash Head is attached to the front of the lens, and has a full-circle Xenon tube that gives even illumination for the smallest objects, thereby making it very easy to take professional-quality shadowless pictures. The power pack is mounted on the accessory-shoe of the camera.

The flash unit can ONLY be used with Nikon SLR cameras that have a TTL flash metering function. In such a system, the camera measures through the lens the brightness of the light reflected from the object illuminated by the flash, and automatically controls the amount of light emitted by the flash to provide the proper exposure. No adjustment of the exposure is needed even when an extension tube or bellows unit is used.

'Manual' exposure setting is not possible with this flash. Any manual adjustment of exposure can only be done through the exposure adjustment system of the camera.

[COMPATIBILITY WITH CAMERAS]

The flash unit can be used with the following Nikon SLR camera models:

Nikon FA, FE, FE2, NEW-FM2, F801, F501, F401, F301, FG and FG20.

[COMPATIBILITY WITH LENSES]

Only lenses suitable with a focal length exceeding 50mm should be used with this flash unit. Lenses with a shorter focal length may cause vignetting.

The flash unit can be attached to lenses with a filter size of between 52mm and 58mm.

The Flash Head has a male Series-VII filter threads, and a Series-VII to 52mm-58mm stepping ring (not supplied with the flash) is needed to have the Flash Head attached to the lens.

This flash unit can be used with fixed focal length AF NIKKOR lenses, and the auto-focus system functions correctly, but AF ZOOM NIKKOR lenses CANNOT be used with this flash unit, as the additional weight upsets their very sensitive focusing control.

[HOW TO USE THE RING FLASH UNIT]

BATTERY INSTALLATION:

The flash unit is powered by four penlight (AA) Alkaline batteries.

1) With the Power Switch (7) in the 'OFF' position, slide the lid downwards and swing it open as shown to fully open the battery chamber.

2) Insert four batteries, carefully following the '+' and '-' polarity guide inside the chamber. Then replace the lid.

PARTS

- | | |
|------------------------------|-----------------------------|
| 1) Battery Chamber Lid | 9) Test Button |
| 2) Contact for Hot-Shoe | 10) Ring Flash |
| 3) Locking Ring | 11) Focus Aid Lamps |
| 4) Connecting Cable Socket | 12) Connecting Cable |
| 5) Auto OK lamp (Power Pack) | 13) Series-VII Adater |
| 6) AC Adapter Jack | 14) Focus Aid Lamp Switch |
| 7) Power Switch | 15) Ready Lamp (Flash Head) |
| 8) Ready Lamp (Power Pack) | 16) Rotor Ring |

POWER PACK

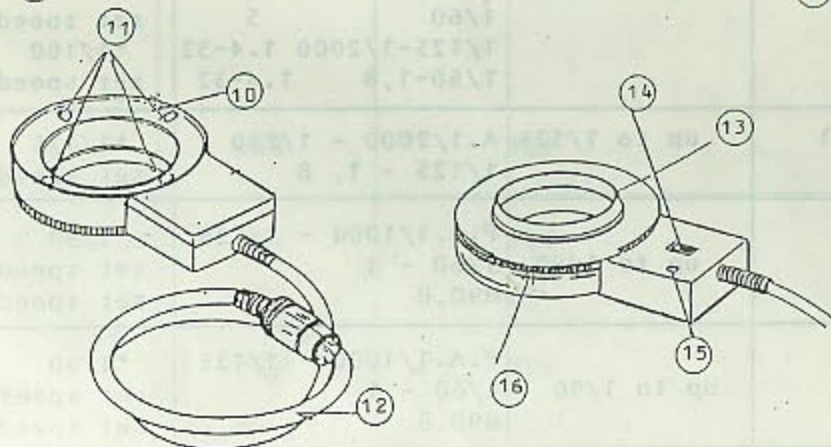
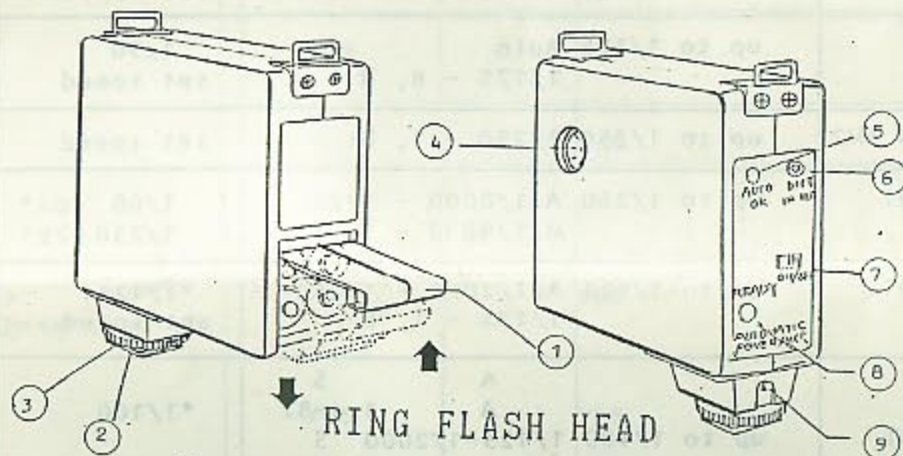


TABLE - SHUTTER SPEED/LENS APERTURE SETTINGS

Model	Synch. Shutter Speed	Shutter/Aperture Control Range	Power Pack (Switch On)		TTL Flash Metering	Ready Lamp in Camera (exposure meter 'ON')
			Actual Shutter Speed	Shutter Speed Indicated in Finder		
FA	up to 1/250	1/4000 - 1 (P.S.A.) 1/4000 - 1/500(M) 1/250 - 1 (M) M250, B(P.S.A.M.)	1/250 1/250 set speed set speed	250 M250 set speed -	YES NO	YES NO
FE2	up to 1/250	A.1/4000 - 1/500 1/250 - 8 M250, B	1/250 set speed set speed	- - -	YES NO	YES NO
FE	up to 1/125	Auto 1/125 - 8, B	1/90 set speed	- -	YES	YES
NEW FM2	up to 1/250	1/250 - 1, B	set speed	-	YES	YES
F801	up to 1/250	A.1/8000 - 1/60 M.1/8000 - 1/250	1/60 1/250	*60 *250	YES	YES
F501	up to 1/125	A.1/2000 - 1/250 1/125 - 1, B	*1/125 set speed	*125 set speed (excl.B)	YES	YES
F401	up to 1/100	A S A 1.4-32 1/125-1/2000 S 1/60 S 1/125-1/2000 1.4-32 1/60-1, B 1.4-32	*1/100 set speed *1/100 set speed		YES	YES
F301	up to 1/125	A.1/2000 - 1/250 1/125 - 1, B	*1/125 set speed	125 set speed(Excl.B)	YES	YES
FG	up to 1/90	P.A.1/1000 - 1/125 1/60 - 1 M90.B	*1/90 set speed set speed	90(60&125 LED ON) set speed	YES NO	YES NO
	up to 1/90	P.A.1/1000 - 1/125 1/60 - 1 M90.B	*1/90 set speed set speed	- - -	YES NO	YES NO

*Automatically return to normal setting when power switch is turned off.

ATTACHING FLASH UNIT TO CAMERA:

The power pack is mounted on the camera's hot shoe, and the Ring Flash Head is attached to the front of the lens.

1. Loosen the locking Ring (3), and slide the Hot-Shoe Contact(2) into the hot-shoe of the camera. Then tighten the Locking Ring(3) to securely fix the power pack to the camera.
2. Screw in a Series-VII/52mm-58mm stepping ring (not included) to a Series-VII Adapter (13). Then put the Flash Head to the front of the lens, screwing the stepping ring into the filter ring of the lens, with the Rotor Ring (16).
3. Insert the plug at the end of the Connecting Cable (12) into the Connecting Cable Socket (4) of the Power Pack.

SETTING SHUTTER SPEED AND LENS APERTURE:

The shutter speed and lens aperture have to be set so that the flash works properly. Use the table as a guide.

LENS APERTURE SETTING:

Use of 'program flash' mode is NOT recommended, as they do not provide a suitably small F-stop to give the depth of field needed in close-up photography. Set the shutter dial at 'A', or set the shutter speed manually.

Recommended ranges of F.stops in relation to the distance from lens to the object are given in the table below:

Distance	0.1 - 0.5m	0.5 - 1.0m	1.0 - 1.5m	1.5 - 2.0m
ISO 25	F2.8 - 11	F1.4 - 5.6	- - F4	-----
50	4 - 16	2 - 8	1.4 - 5.6	-F2.8
100	5.6 - 22	2.8 - 11	1.8 - 8	1.4 - 5.6
200	8 - 32	4 - 16	2.8 - 11	2 - 8
400	11 -	5.6 - 22	4 - 16	2.8 - 11
800	16 -	8 - 32	5.6 - 22	4 - 16
1000	22 -	11 -	8 - 22	5.6 - 16
1600	32 -	16 -	11 - 22	8 - 16

For example, if the distance to object from the front end of the lens is in between 0.5 - 1.0m, using a ISO 100 film, set the aperture F2.8/F11.

NOTE: Use of smaller lens opening, i.e., larger F number is recommended for greater depth of field.

TAKING A PICTURE:

Turn on the Power Switch (7). There are two Ready Lamps(8)&(15), showing that the flash unit is charged and ready to fire. If only the one in the Power Pack lights up and the one in the Ring Flash Head does not, check that the cable is properly connected. Press the test button (9) to fire the flash to check if the connection is OK.

Then, focus and shoot.

The Auto OK lamp lights up for two seconds, showing that the TTL flash metering system of the camera worked properly and the amount of light was correct. If it failed to light up, the amount of light that reached to the sensor of the TTL metering system was not sufficient. In such a case, check the distance from the subject and also the camera settings.

NOTES: There are four small Focus Aid Lamps (11) located around the ring flash tube, which can be used to illuminate a dim object and assist in focusing. The Focus Aid Lamps are operated by the Focus Aid Lamp Switch(14). The lamps must be turned off when they are not in use.

The unit takes longer to recycle when the batteries have been used. If it takes over 30 seconds before the Ready Lamp comes on, replace the entire set of batteries with fresh ones.

With the Nikon FA, FE2, FE, F501, F401, F301, FG or FG20, the ready lamp in the finder of the camera also indicates that the flash is ready, if the camera exposure meter is switched on.

ADJUSTMENT OF EXPOSURE USING THE CAMERA CONTROLS:

In close-up photography the exposure is affected by the conditions of the object, particularly in its relation to the background, and the image may be over- or under-exposed even with TTL flash metering. It is strongly recommended that you bracket the exposures so that at least one will be correct. For example, if the object has a dark background which reflects little light, adjustment in the (-) direction is recommended. If the object has a light background reflecting a great deal of light, adjustment should be made to the (+) direction.

If the Models FA, FE2, F-501, F301 or FG are used with ISO 25 film, adjustment in the (+) direction is not possible. With ISO 400film (ISO 1000 film for the F501 and F301), adjustment in the (-) direction is not possible.

SPECIFICATIONS:

Type:	Separate type ring flash unit. (Power Pack & Flash Head)
Compatibility: with Cameras:	Dedicated to Nikon FA, FE, FE2, New FM-2, F-801, F-501, F-401, F-301, FG & FG-20
Exposure:	Controlled by flash metering system of the cameras.
Guide Number:	11(ISO100/m) 37(ISO100/ft)
Flash Duration:	1/800 sec. - 1/20,000 sec.
Number of Flashes:	approx. 100 - 800
Colour Temperature:	5,600°K (daylight)
Angle of Illumination:	approx 60° + (vertical and horizontal)
Mounting on lenses:	Series VII adapter (52/58mm filter size)
Power Source:	4 penlight(AA) alkaline batteries (AC adapter - optional)
Dimensions:	Power Pack - 80 x 38 x 130 mm Flash Head - 99 x 19 x 125 mm
Weight:	Power Pack 120 g Flash Head 120 g