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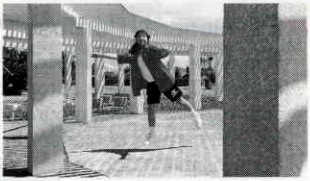
back to my “Orphancameras” manuals /flash and light meter site

Only one “donation” needed per manual, not per multiple section of a manual !
The large manuals are split only for easy download size.

P: Auto-Multi Program



The camera automatically controls your exposure to achieve the correct exposure in any shooting situation. For more complex shooting, use Flexible Program (page 49) or exposure compensation (page 51).
For available mode combinations, see page 68.

1 Set the exposure mode dial to P.

2 Confirm focus indicator ● and shoot.

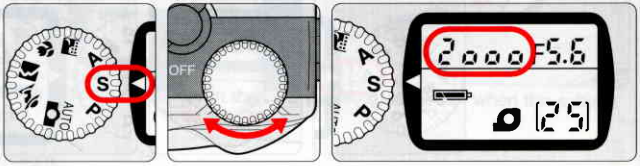
- Flexible Program, in which the combination of shutter speed and aperture can be shifted while maintaining the correct exposure, can be used in Auto-Multi Program. (P. 49.)
- When the subject is too dark or bright, one of the following warning indications will appear in the LCD panel or viewfinder:
  - H I: Use ND filter.
  - Lo: Use Speedlight.

S: Shutter-Priority Auto

Enables you to manually set the desired shutter speed (30-1/2000 sec.); the camera automatically selects the proper aperture to provide the correct exposure. With higher shutter speeds, you can freeze the motion of a fast-moving subject; with slower speeds, you can create a motion effect.

For available mode combinations, see page 68.

1 Set the exposure mode dial to S and set the shutter speed (30-1/2000 sec.) with the Command Dial.



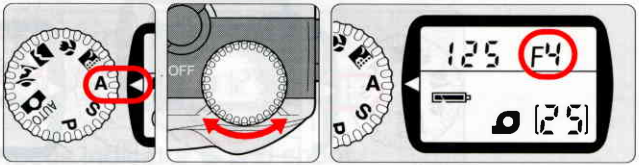
2 Confirm focus indicator ● and shoot.

- When the subject is too dark or bright, one of the following warning indications will appear in the LCD panel or viewfinder:
  - H i: Select higher shutter speed. If the warning indication persists, use an ND filter.
  - Lo: Select a slower shutter speed. If the warning indication persists, use the Speedlight.
- Only **S** mode can be used with a non-CPU lens and the shutter speed and aperture can only be set manually. With a non-CPU lens, the exposure meter cannot be activated. F-- appears in place of the aperture indication in the LCD panel and viewfinder; set/confirm aperture using the lens' aperture ring.
- Select Long Time Exposure (Time or Bulb) by setting the shutter speed indication to bulb (blinking). For details on Long Time Exposure, see pages 50, 61.

A: Aperture-Priority Auto

Enables you to manually set the desired aperture. The camera automatically selects a suitable shutter speed to give you the correct exposure. By varying the aperture, and thus controlling the depth of field, you can make the background and foreground sharper, or blur the background. In flash photography, varying the aperture changes the flash shooting distance.
For available mode combinations, see page 68.

1 Set the exposure mode dial to **A**, then set the aperture using the Command Dial.



2 Confirm focus indicator ● in the viewfinder and shoot.

- When the subject is too dark or too bright, one of the following warnings will appear in the LCD panel or viewfinder:
  - H: Select a smaller aperture (larger f-number). If the warning indication persists, use an ND filter.
  - Lo: Select a larger aperture (smaller f-number). If the warning indication persists, use the Speedlight.
- To set aperture in Long Time Exposure (Time or Bulb), set the exposure mode dial to **A**. For details, see pages 50, 61.

Vari-Program

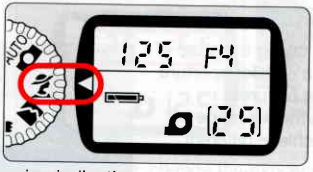
Vari-Program

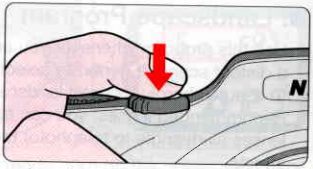
Vari-Program gives you the option to choose from four different programs designed for specific picture-taking situations.

For available mode combinations, see page 68.

Shooting with Vari-Program

Set the exposure mode dial to the desired Vari-Program, confirm that focus indicator ● appears in the viewfinder, and shoot.





- The following warning indications appear in the LCD panel or viewfinder when the subject is too dark or bright:
  - Hi: Use ND filter.
  - Lo: Use Speedlight.

NOTE: Vari-Program

- The camera automatically selects a slower shutter speed in certain situations (in programs other than Portrait Program). Use a tripod to avoid camera shake.

Vari-Program selection

: Portrait Program

Use this program whenever you are taking pictures of people. It uses a relatively large aperture (smaller f-number) and shallow depth of field to create a blurred background which accentuates your main subject.
Recommended AF Nikkor lenses: 85mm to 200mm telephoto lenses with large maximum apertures.

: Landscape Program

Use this program whenever you are taking a picture of a distant scene. It generally selects a smaller aperture to assure sharply focused landscape pictures.
Recommended lenses: you can use the full range of lenses (wideangle to telephoto) to achieve different effects.

: Close-Up Program

Use this program when you are taking pictures up close. It uses a larger aperture (smaller f-number) and a shallow depth of field to create a blurred background that accentuates your main subject.
Recommended AF Nikkor lenses: AF Micro-Nikkor lenses.

: Night Scene Program

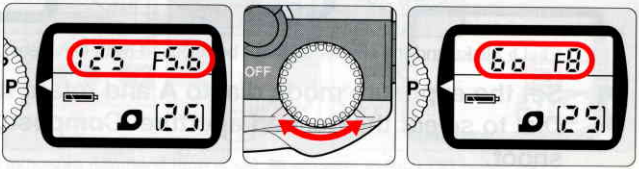
Use this program in the evening or at night. It allows you to capture the beauty of nighttime scenes.
You can also use it with the flash when you want to include portraits in nightscene composition.
Recommended lenses: you can use the full range of lenses (wideangle to telephoto) to achieve different effects.

Flexible Program/Exposure Metering System

■ Flexible Program

In Auto-Multi Program or in Vari-Program, by rotating the Command Dial you can change the combination of shutter speed and aperture while maintaining a correct exposure. With this function, you can shoot in Auto-Multi Program or Vari-Program as though shooting in Shutter-Priority Auto or Aperture-Priority Auto.

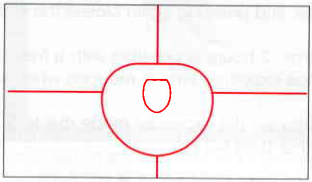
Set the exposure mode dial to P, , , or , and rotate the Command Dial to select the desired shutter speed/aperture combination. Compose, confirm focus indicator ● and shoot.



- To cancel the Flexible Program, change the exposure mode, turn off the power switch, or use the built-in Speedlight (page 63).

■ Matrix Metering/3D Matrix Metering

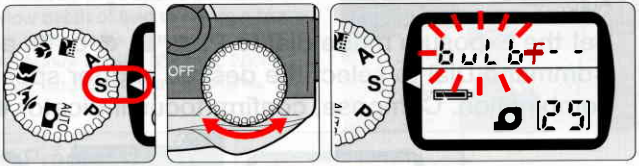
Matrix Metering provides correct exposure control using a six-segment Matrix Sensor. With IX-Nikkor or D-type AF Nikkor lenses, 3D Matrix Metering automatically activates to use scene brightness, scene contrast and subject distance information to ensure even more accurate exposure control.



Long Time Exposure (Bulb)

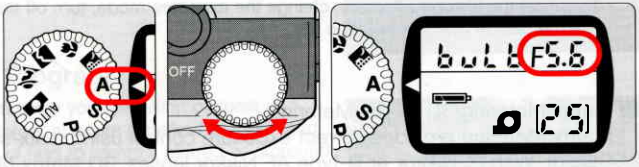
■ This function is useful for shooting nighttime scenes or stars, which require extended exposure of more than 30 sec. (Use of a tripod is recommended.)

1 Set the exposure mode dial to **S** and rotate the Command Dial to select bulb.



- bulb blinks and the shutter cannnot be released (with CPU lens).

2 Set the exposure mode dial to **A** and rotate the Command Dial to select the desired aperture. Compose, focus and shoot.

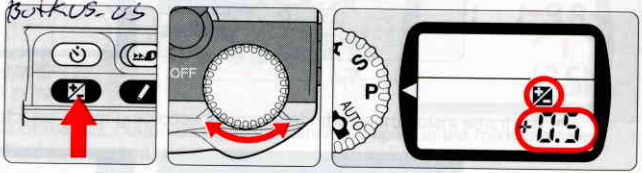


- The shutter will be open as long as the shutter release button is kept pressed. (Bulb exposure)
- When the optional remote control unit (page 60) is used, pressing the shutter release button once opens the shutter and pressing again closes the shutter (Time exposure).
- Continuous exposure of approx. 2 hours is possible with a fresh set of lithium batteries. Note that continuous exposure time is reduced when shooting in low temperatures.
- To cancel Long Time Exposure, set the exposure mode dial to **S** and select a shutter speed faster than 30 sec. (other than bulb).

Exposure Compensation

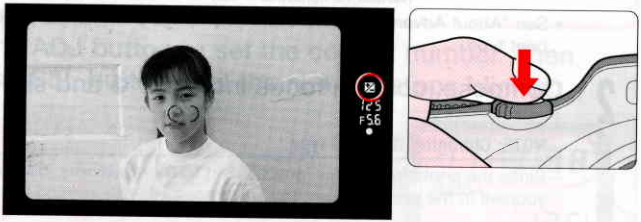
■ To modify exposure control (i.e. from the ISO standard), use the exposure compensation function. This can be useful when the subject has pronounced contrast or when proper exposure is difficult to determine. You can modify exposure control from –2EV to +2EV in 1/2 steps (except in AUTO mode).

1 Compensate exposure by rotating the Command Dial while pressing the ⊠ button until the desired compensation value appears.



- When the exposure compensation is set, ⊠ appears in the LCD panel and viewfinder. The compensation value can be checked by pressing the ⊠ button. In flash photography, the flash output level is also compensated.
- Normally, you should compensate exposure to the + side when the background is brighter than your main subject, or to the – side when the background is darker.

2 Compose picture, confirm focus indicator ● and shoot.

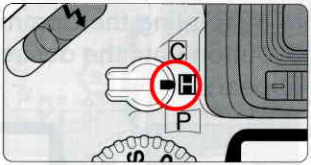


- To cancel exposure compensation in **P**, **S** or **A** exposure mode, rotate the Command Dial while pressing the ⊠ button to reset the compensation value to 0. To cancel exposure compensation in any of the Vari-Programs, select another exposure mode. Turning the camera off does not cancel the exposure compensation function.

Print Type

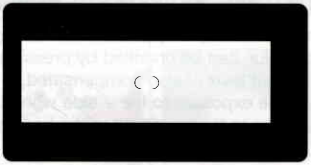
■ You can select any one of three print types—wide-vision (H, aspect ratio of 9:16), panorama (P, aspect ratio of 1:3) or classic (C, aspect ratio of 2:3)—at any time.

1 Set the desired print type by turning the print type lever.



H Wide-vision type
(vertical vs. horizontal = 9:16)

- The frame inside the viewfinder changes according to the selected print type.



P Panorama type
(vertical vs. horizontal = 1:3)

C Classic type
(vertical vs. horizontal = 2:3)

- See "About Advanced Photo System" on page 8 for sample photographs of each print type.

2 Compose, confirm focus indicator ● and shoot.

NOTE: Changing the print type

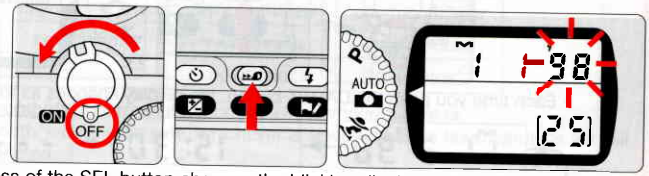
Since the print type lever is located next to the viewfinder, be careful not to poke yourself in the eye with your finger or fingernail while turning the lever.

Setting/Imprinting Date/Time

■ You can imprint the following data information on your picture (in any exposure mode): Year/Month/Day, Hour/Minute (24-hour clock), Month/Day/Year or Day/Month/Year.

Adjusting date and time

1 Turn the power switch off and press the SEL button to select the item to be adjusted.

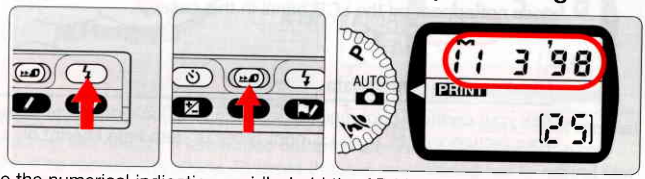


• Each press of the SEL button changes the blinking display in the following order: year, month, day, hour, and minute.

Changing batteries and data imprinting function

The batteries that power the camera also supply power to the date/time display. When changing batteries, previously set date/time remains in the camera's memory for about five minutes without the batteries. If the camera is left without batteries for more than five minutes, you must reset the date/time. (If the camera is left without batteries for more than five minutes, the date/time display is reset to 0000 00.)

2 Press the ADJ button to set the correct number. Then press the SEL button until the number stops blinking.

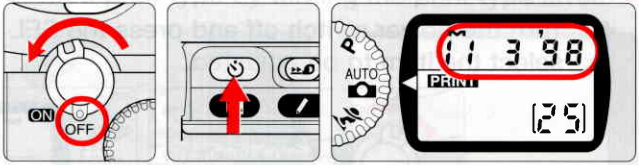


• To change the numerical indication rapidly, hold the ADJ button down. The years are numbered in order from 98 to 29. To complete the adjustment, press the SEL button so the minute number stops blinking and date display appears.

Setting/Imprinting Date/Time—continued

Taking pictures with imprinted date/time

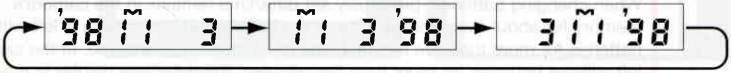
1 Turn the power switch off and push the DATE/T button to select available imprinting displays.



- Each time you push the DATE/T button, the display changes as follows:

Date (month/day/year in this case) | Time (hour/minute) | No imprint

- When the DATE/T button is kept pressed for more than two sec. with a date display, the display changes as follows:



Year/month/day | Month/day/year | Day/month/year

- The data displayed on the LCD is front/backprinted on the picture and PRINT (data recording) appears on the LCD panel.
- Date/time is always backprinted even when - - - - - - (no imprint) is selected. PRINT does not appear on the LCD panel in this case.

Location of imprinted data

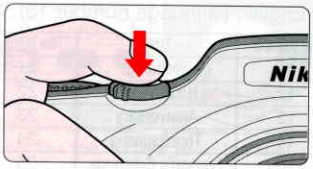
Ask your certified photofinisher regarding the location of the date/time imprint on your picture with H, P and C print types or date/time imprint on a color slide film.

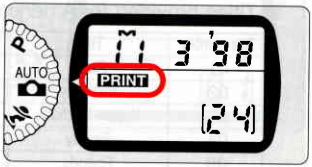
Available types of date/time data:

LCD panel	Imprinted data	
	Front	Back
year/month/day	year/month/day	year/month/day
month/day/year	month/day/year	month/day/year
day/month/year	day/month/year	day/month/year
hour/minute	hour/minute	hour/minute
- - - - - -	no imprint	date/time*

* Year/month/day/hour/minute, month/day/year/hour/minute or day/month/year/hour/minute, whichever is selected before hour/minute is set will be imprinted.

2 Turn the power switch on, then fully depress the shutter release button to take a picture. The selected date/time will be imprinted on the print.





- Data, such as date/time or title, is magnetically recorded on the data disk of the film cartridge during film rewind. If exhausted batteries are used at low temperatures, data may not be recorded properly. To avoid this, we recommend not to rewind film at low temperatures or make sure the battery power is sufficient before film rewind.

Setting/Imprinting Language/Title

■ The PRONEA S offers imprinting of any of 30 titles on back of the prints in up to 12 languages.
Language number 12 is set at the factory.

■ Languages provided

Language No.	Language	Language No.	Language	Language No.	Language
01	Danish	05	Italian	10	Spanish
02	Finnish	06	Japanese	11	Swedish
03	French	08	Norwegian	12	British English
04	German	09	Portuguese	13	American English

* Language number 07 cannot be set.

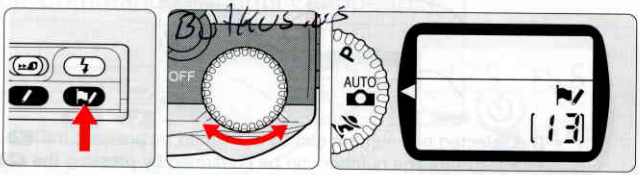
■ Titles provided for British English (language number 12)

Title number	Title	Title number	Title	Title number	Title
01	Honeymoon	11	Trip	21	Reunion
02	Wedding	12	I Love You	22	Father's Day
03	Hanukkah	13	Thank You	23	Mother's Day
04	Graduation	14	Season's Greetings	24	Baptism
05	Family	15	Happy Birthday	25	St. Valentine's Day
06	Party	16	Congratulations	26	Good Friday
07	Holiday	17	Merry Christmas	27	Easter Monday
08	Anniversary of Marriage	18	Festival	28	Happy Easter
09	Friends	19	First Day of School	29	St. George's Day
10	School Event	20	Happy New Year	30	May Day Holiday

■ Titles provided for American English (language number 13)

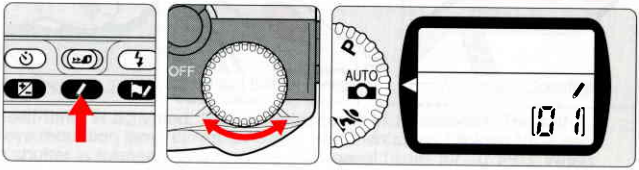
Title number	Title	Title number	Title	Title number	Title
01	Party	11	Wedding	21	New Year's
02	Birthday	12	Honeymoon	22	Happy New Year
03	Happy Birthday	13	Anniversary	23	Happy Holiday
04	Family	14	Thanksgiving	24	Father's Day
05	Friends	15	Season's Greetings	25	Mother's Day
06	Graduation	16	Rosh Hashanah	26	Independence Day
07	Thank You	17	Hanukkah	27	Valentine's Day
08	Congratulations	18	Easter	28	Victoria Day
09	Trip	19	Christmas	29	Canada Day
10	Vacation	20	Merry Christmas	30	Halloween

1 Turn the power switch on. Press the data recording language button and rotate the Command Dial to select the language to be recorded.



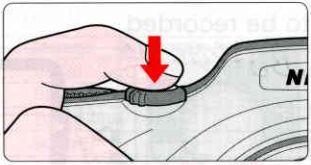
- The language and title can be changed from frame to frame. Language number 12 (British English) and title number -- (no title) are set at the factory.
- See the accompanying "List of Imprinted User Titles" for the titles in other languages.
- Note that data printing service is available only at certified photofinishers. When ordering prints, ask if they can handle data printing.

2 Rotate the Command Dial while pressing the data recording title button to select the title number to be recorded.



- To cancel, set the title number to -- (no title).

3 Fully depress the shutter release button to take a picture. The selected title in the selected language will be imprinted on the print.



- The selected title number can be confirmed by pressing the ◀ button, and the selected language number can be confirmed by pressing the ▶ button.
- Data, such as date/time or title, is magnetically recorded on the data disk of the film cartridge during film rewind. If exhausted batteries are used at low temperatures, data may not be recorded properly. To avoid this, we recommend not to rewind film at low temperatures or make sure the battery power is sufficient before film rewind.

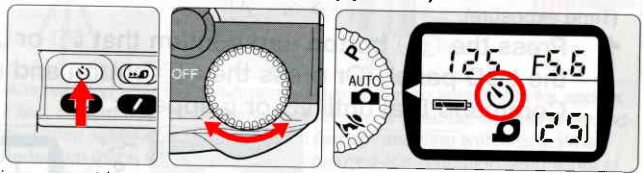
NOTE: Canceling language and title numbers

The selected language and title numbers remain unless - - (no title) or another number is selected. Note that turning the power switch off or changing the batteries does not cancel the numbers.

Self-Timer Operation

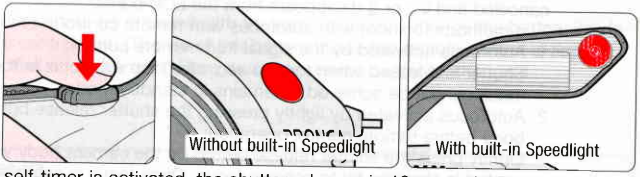
■ You can use the self-timer when you want to be in the photograph. Use a tripod or place the camera on a stable surface before using the self-timer.

1 **Press the ⏲ (self-timer) button and confirm that ⏲ appears on the LCD panel. (Or press the ⏲ button and rotate the Command Dial until ⏲ appears.)**



- The self-timer cannot be operated unless the camera's shutter can be released (i.e. when subject cannot be in focus with autofocus). (Be sure to check for warning indications.)
- Cover the eyepiece with the supplied eyepiece cap (page 62) or your hand before pressing the shutter release button in order to prevent interference from stray light and achieve the correct exposure.
- Do not stand in front of the lens when setting the self-timer in the autofocus mode.

2 **Compose the picture, focus and fully depress the shutter release button.**

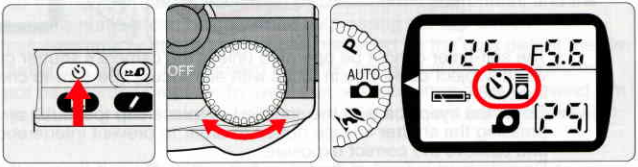


- When the self-timer is activated, the shutter releases in 10 seconds. The self-timer/red-eye reduction lamp blinks for 8 sec. and then stops blinking for 2 sec. before the shutter is released (and ⏲ in the LCD panel blinks for 10 sec.). When Red-Eye Reduction (page 63) is set, the self-timer/red-eye reduction lamp lights at the same output level as the normal Red-Eye Reduction function before the shutter releases.
- To cancel the self-timer before self-timer operation, press the ⏲ button again or rotate the Command Dial while pressing the ⏲ button so ⏲ and 🔒 disappear from the LCD panel. To cancel the self-timer during self-timer operation, turn the power switch off or press the ⏲ button again.
- When bulb is set, shutter speed is automatically controlled to 1/30 sec.

Remote Control Operation/Time Exposure (optional)

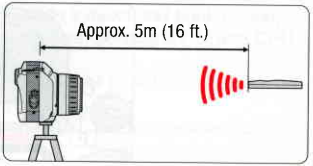
■ Use the optional remote control to release the camera's shutter from a distance. As with self-timer operation, the remote control can also be used when you want to be in the photograph, or it can be used simply as a cable release. Use a tripod or place the camera on a stable surface before using the remote control. When the camera is set to Long Time Exposure (Bulb), pressing the remote control unit's shutter release button opens and closes the camera's shutter (Time exposure).

1 Press the ⏲ button and confirm that 📡⏲ or 📡 appears on the LCD panel. (Or press the ⏲ button and rotate the Command Dial until 📡⏲ or 📡 appears.)



- You can select to release the shutter either two sec. after (📡⏲) or immediately (📡) after the shutter release button on the remote control unit is pressed.
- Once remote control operation is set, the camera remains ready to receive a signal from the remote control unit for 60 sec. After 60 sec., the remote control mode is canceled and 📡⏲ or 📡 disappears from the LCD panel.
- Two methods to shoot with autofocus with remote control:
  1. Autofocus activated by the signal from remote control:
     Shutter is released when (or two sec. after) the subject is in focus. However, when focus cannot be achieved, it remains in standby mode.
  2. Autofocus activated by lightly pressing the shutter release button on the camera body before remote control operation:
     Lightly press the shutter release button on the camera body while the remote control is standing by to achieve focus. Once focus is achieved, focus is locked (even though the finger is removed from the shutter release button). Shutter is released when (or two sec. after) the shutter release signal is received from the remote control unit.
- The remote control cannot be operated unless the camera's shutter can be released (i.e. when subject cannot be in focus with autofocus).
- Cover the eyepiece with the supplied eyepiece cap (page 62) or your hand before pressing the shutter release button in order to prevent interference from stray light and to achieve the correct exposure.
- After the shutter is released, the camera remains ready to receive a signal from the remote control unit for 20 sec.

2 Point the remote control unit toward the camera and press the shutter release button.



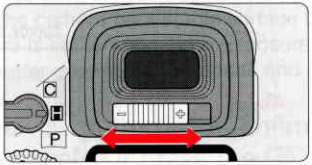
- The shutter is released after the self-timer/red-eye reduction lamp lights for approx. 2 sec. in 2 sec. delay mode. When immediate release is selected, the self-timer/red-eye reduction lamp lights after shutter release (except shooting with flash). When Red-Eye Reduction (page 63) is set, the self-timer/red-eye reduction lamp lights at the same output level as the normal Red-Eye Reduction function before the shutter releases and the flash fires when the shutter is released.
- To cancel the remote control before remote control operation, press the ⏲ button again or rotate the Command Dial while pressing the ⏲ button so 📳⏲ or 📳 disappears from the LCD panel. To cancel during remote control operation, turn the power switch off or press the ⏲ button again.
- The shooting distance for remote control operation is within 5m (16 ft.) directly in front of the camera. To shoot beyond the shooting distance of the remote control, use the self-timer (page 59). Remote control operation cannot be performed when the subject has extreme backlighting.
- If the shutter cannot be released with the remote control, change the battery inside the remote control unit. (The life of the battery inside the remote control is approx. 10 years.) Visit an authorized Nikon dealer or service center to change it.

Time exposure

When the camera is set to Long Time Exposure (Bulb) (page 50), the camera performs Time exposure with remote control operation. Press the remote control unit's shutter release button to open the camera's shutter and press the shutter release button again to close the shutter. As with Bulb exposure, this function is useful for shooting nighttime scenes or stars. (Use of a tripod is recommended.) Self-timer/red-eye reduction lamp lights slightly once every 2 sec. during Time exposure.

Diopter Adjustment/Eyepiece Cap

■ The finder diopter enables near- or far-sighted photographers to adjust the eyepiece diopter to suit their vision.

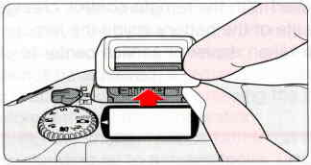


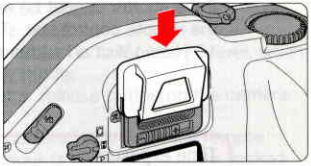
- Slide the diopter adjustment lever while looking through the viewfinder until the focus brackets in the viewfinder appear sharp. The adjustable range of the finder diopter is –1.5 DP. to +0.5 DP. Nine optional eyepiece correction lenses provide viewfinder diopter of –5.0 to +3.0 DP.

NOTE: Using the diopter adjustment lever

Since the diopter adjustment lever is located next to the viewfinder, be careful not to poke yourself in the eye with your finger or fingernail while sliding the lever.

■ Attaching the eyepiece cap or optional eyepiece correction lens





- To attach an eyepiece cap or optional eyepiece correction lens, remove the rubber eyecup and slide down the eyepiece cap or eyepiece correction lens. When reattaching the rubber eyecup, make sure to attach it in the correct direction.

Built-in Speedlight and Matrix Balanced Fill-Flash

This camera is equipped with a built-in Speedlight that provides an angle of coverage for a 24mm lens with a guide number of 16 (ISO200, m) or 52 (ISO200, ft.).
Matrix Balanced Fill-Flash ensures proper exposure of the main subject and background, and provides adequate flash output to enable natural-looking flash photography (with CPU lens).
In addition to shooting in dim light, the flash can be used in daylight to reduce shadows on the main subject or to put catchlights in your subject's eyes.

- When using a non-CPU lens, standard TTL flash is the only flash mode available. To ensure optimum performance, use only CPU lenses.

Flash sync mode

Five flash sync modes—Normal Sync, Red-Eye Reduction, Slow Sync and Red-Eye Reduction with Slow Sync, and Flash Cancel—are available with this camera.

ϟ◉: Red-Eye Reduction

In order to reduce the red-eye effect in photos of people or animals, the Red-Eye Reduction lamp lights for approx. 1 sec. before the flash fires.

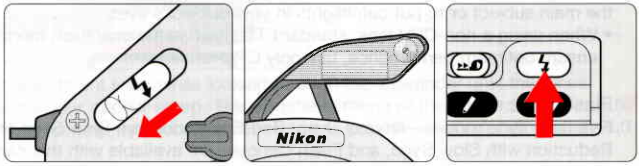
ϟSLOW: Slow Sync

Normally, the camera's shutter speed is automatically set between 1/60 to 1/125 sec. with flash photography. However, for shooting nighttime scenes, Slow Sync uses a slower shutter speed to bring out background details using all of the available light.

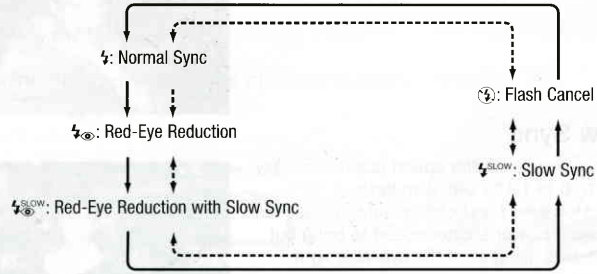
- Red-Eye Reduction and Slow Sync can be set simultaneously by selecting ϟSLOW◉. See page 64.
- Selectable flash sync modes depend on the exposure mode selected. See page 68 for the available combinations of flash sync modes and exposure modes.

Using the built-in Speedlight

1 **Release the built-in Speedlight by sliding the Speedlight lock-release lever, and set the flash sync mode by pressing the ⚡ button.**



- The Speedlight starts to charge when it is released and ⚡ appears in the viewfinder when Speedlight is fully charged (when the camera's meter is on).
- Pressing the ⚡ button changes the flash sync mode as follows (— line): Rotating the Command Dial while pressing the ⚡ button changes the mode as follows (- - - line):



- ⚡ (normal sync) disappears from the LCD panel when Normal Sync is set and the ⚡ button is released.
- When the Night Scene Program is set, Slow Sync flash is automatically selected. (Page 68.)
- Press down gently on the Speedlight to retract.
- Flash Cancel can only be set when the built-in Speedlight is released. (Retracting the built-in Speedlight cancels the Flash Cancel.)

NOTE: Flash Sync Modes

- When Red-Eye Reduction or Red-Eye Reduction with Slow Sync is set, the Red-Eye Reduction lamp lights for approx. 1 sec. before the flash fires. Do not move the camera or let the subject move until the shutter is released.
- With some lenses, light from the Red-Eye Reduction lamp may not reach the subject's eyes. In some cases, the red-eye effect may not be reduced effectively due to the location of the main subject.
- With Slow Sync and Red-Eye Reduction with Slow Sync, keep the camera steady to prevent picture blur since the shutter speed is slow. Use of a tripod is recommended.

2 Set the exposure mode and confirm the shutter speed and aperture.

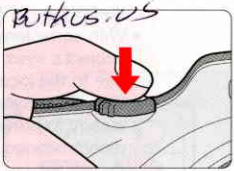
- Available shutter speed and aperture in each exposure mode:

Exposure mode	Available shutter speed	Available aperture	Page
General-Purpose Program Auto-Multi Program Vari-Program	Automatically set	Automatically set	43 44 47
Shutter-Priority Auto	1/125-30 sec.*1	Automatically set	45
Aperture-Priority Auto	Automatically set	Desired setting*2	46

*1 *The shutter speed shifts automatically to 1/125 sec. when the shutter speed is faster than 1/125 sec. and the flash is fired.*

*2 *The flash shooting distance range depends on the ISO film speed of the film in use and the aperture selected. In Aperture-Priority Auto exposure mode, set the aperture according to the flash shooting distance range table on page 67.*

3 Confirm that ϟ appears in the viewfinder and make sure the subject is within the flash shooting distance range (page 67).



- ϟ in the viewfinder blinks approx. 3 sec. after full flash output. This may indicate that underexposure has occurred. Check the focus distance, aperture or flash shooting distance range and shoot again.
- When the subject is dimly lit, the AF-Assist Illuminator automatically emits (page 40) to guide autofocus.

Usable lenses with built-in Speedlight

24mm (1m or longer shooting distance), 28mm to 300mm (0.6m/2 ft. or longer shooting distance) CPU lenses can be used with the built-in Speedlight.

- Vignetting occurs at the edges of the frame resulting in underexposure with the following AF zoom lenses, which have limitations in usable focal length or shooting distance:

Lens	Limitations
24-50mm f/3.3-4.5	24mm focal length cannot be used.
24-120mm f/3.5-5.6	24mm focal length cannot be used. 50mm focal length at 1.5m (4.9 ft.) or longer shooting distance or 120mm at 0.8m (2.6 ft.) or longer.
28-70mm f/3.5-4.5	28mm focal length at 1m (3.3 ft.) or longer shooting distance
28-80mm f/3.5-5.6	28mm focal length at 1.2m (3.9 ft.) or longer shooting distance
28-85mm f/3.5-4.5	28mm and 35mm focal length cannot be used
28-200mm f/3.5-5.6	28mm and 35mm focal length cannot be used
35-70mm f/2.8	35mm focal length cannot be used
35-135 f/3.5-4.5	35mm focal length at 2m (6.6 ft.) or longer shooting distance
70-180mm f/4.5-5.6	70mm focal length at 3m or longer shooting distance, or 100mm at 1m (3.3 ft.) or longer.
80-200mm f/2.8	80mm focal length cannot be used

- Do not set the zoom lens to Macro in wideangle and always remove the lens hood when using the built-in Speedlight.
- Following lenses with focal length shorter than 300mm cannot be used:
  AF-S 300mm f/2.8D, AF-I 300mm f/2.8D, AF 28mm f/1.4, AF Zoom 20-35mm f/2.8D
- Use of lens other than AF Nikkor is not recommended.
- Focal length and picture angle of the IX240 film differ from those of the 135 format film (page 36).

Flash shooting distance range

The flash shooting distance changes according to the film speed in use and aperture setting.

ISO Film Speed	25	50	100	200	400	800	Flash shooting distance range (m/ft.)
Guide number (m/ft.)	5.5/18	7.8/26	11/36	15.6/51	22/72	31/102	
Aperture	—	—	1.4	2	2.8	4	1.4-7.9/4.6-26
	—	1.4	2	2.8	4	5.6	1-5.5/3.3-18
	1.4	2	2.8	4	5.6	8	0.7-3.9/2.3-13
	2	2.8	4	5.6	8	11	0.6-2.8/2.0-9.2
	2.8	4	5.6	8	11	16	0.6-2/2.0-6.6
	4	5.6	8	11	16	22	0.6-1.4/2.0-4.6
	5.6	8	11	16	22	32	0.6-1/2.0-3.3
	8	11	16	22	32	—	0.6-0.7/2.0-2.3

- The flash shooting distance range can also be calculated by dividing the guide number by the aperture value selected.
  Example: when f/2.8 is selected with ISO 200 film using this camera's built-in Speedlight, the maximum flash shooting distance is:

$$\frac{15.6}{2.8} = \text{approx. } 5.5\text{m or } \frac{51}{2.8} = \text{approx. } 18\text{ ft.}$$

Wireless Slave Flash Controller SU-4

Optional Speedlights can be fired simultaneously with the built-in Speedlight using the Wireless Slave Flash Controller SU-4. See page 70 for accessories.

Available Mode Combinations

■ The following chart lists available modes when an IX-Nikkor or AF Nikkor is attached.

Exposure mode	AF mode*	AF-Assist Illuminator	Flexible Program	Exposure compensation	Metering system	Normal sync	Red-Eye Reduction	Red-Eye Reduction with Slow Sync	Slow Sync	Flash Cancel
AUTO	Auto-Servo AF	○	—	—	Matrix	◎	○	—	—	—
P	Auto-Servo AF	○	○	○	Matrix	○	○	○	○	○
S	Auto-Servo AF	○	—	○	Matrix	○	○	—	—	○
A	Auto-Servo AF	○	—	○	Matrix	○	○	○	○	○
	Auto-Servo AF	○	○	○	Matrix	◎	○	—	—	○
	Auto-Servo AF	—	○	○	Matrix	◎	○	—	—	○
	Auto-Servo AF	○	○	○	Matrix	◎	○	—	—	○
	Auto-Servo AF	○	○	○	Matrix	—	—	○	◎	○

○ : Can be set.
◎ : Automatically selected when the exposure mode is set. (Can be changed to another flash sync mode.)
— : Cannot be set.

* *AF mode does not switch to Continuous Servo AF when AF-Assist Illuminator emits, Red-Eye Reduction lamp lights up, or during self-timer or remote control operation.*

- A non-CPU lens can be used only when the exposure mode is set to **S** (Shutter-Priority Auto) and the shutter speed and the aperture can only be set manually. With a non-CPU lens, the exposure meter cannot be activated. `F--` appears in place of the aperture indication in the LCD panel and viewfinder; set/confirm the aperture using the lens' aperture ring. In **S** mode, Long Time Exposure (Bulb or Time) can be performed.
- With the built-in Speedlight, each flash sync mode is controlled with the Matrix Balanced Fill-Flash (page 63); however, Standard TTL Flash performs with non-CPU lenses.

MISCELLANEOUS

The Nikon PRONEA S is a high-performance, precision instrument, designed to give you superior pictures. You'll want to take good care of your camera to ensure the best performance. Take time to review this section thoroughly, as doing so will add to your picture-taking pleasure.

We've also included information about optional accessories and a detailed section with technical specifications. Please read them carefully.

Optional Accessories

Soft Case

Two camera cases are available for this camera.
- CS-27: Camera body fits inside case with IX30-60mm f/4-5.6 lens attached.
- CS-28: Camera body fits inside case with IX60-180mm f/4.5-5.6 lens attached.

Power Pack MB-11

When Power Pack MB-11 is attached to the bottom of the PRONEA S, four AA-type alkaline-manganese or lithium batteries can be used to power the PRONEA S. AA-type batteries are widely available compared to CR2 batteries, and lithium batteries enable you to shoot more rolls of film and yield stable performance in lower temperatures.

IX-Nikkor/AF Nikkor Lens

IX-Nikkor 30-60mm f/4-5.6, 60-180mm f/4.5-5.6, 20-60mm f/3.5-5.6, 24-70mm f/3.5-5.6 and 60-180mm f/4-5.6 lenses are available exclusively for Nikon PRONEA cameras. Also, various AF Nikkor lenses, from 16mm fisheye to 600mm telephoto, are available. Most AF Nikkor lenses can be used with this camera.

Filters

Nikon offers a range of filters including the NC filter for lens protection, and the Circular Polarizing Filter C-PL for special effects.

Wireless Slave Flash Controller SU-4

TTL multi-flash, where an optional Speedlight is fired simultaneously with the built-in Speedlight, is possible with the Wireless Slave Flash Controller SU-4.

Bracket SK-7

Bracket SK-7 enables you to attach a TTL Speedlight unit connected to Wireless Slave Flash Controller SU-4 next to the PRONEA S.

Camera Care

WARNING

Do not use

Do NOT ever use organic solvents like thinner or benzene.
They are flammable and hazardous to your health, and can cause damage to the camera.

• Cleaning camera body

Use a blower brush to remove dirt and dust from the camera body, and clean the body with a soft, clean cloth. After using the camera near sea water, wipe the camera body with a soft, clean cloth slightly moistened with pure water to remove salt, and then dry it with a dry cloth.

• Cleaning mirror and lens

Use a blower brush to remove dirt and dust from the mirror or lens. To remove fingerprints or smudges, use a soft, clean cotton cloth or lens tissue moistened with ethanol (alcohol) or lens cleaner.

• Do not subject the camera or lens to strong vibration or shock

Do not drop the camera body and lens or allow them to hit a hard surface as this may damage the precision mechanisms.

• Avoid strong electric or magnetic fields

The camera may not function properly in strong electric or magnetic fields such as near a transmitter tower. Avoid using the camera in such locations.

• Store the camera in a cool, dry place

Store the camera in a cool, dry place to prevent mold and mildew.

- Keep it away from naphthalene or camphor (moth repellent), electrical appliances that generate magnetic fields, or excessively hot places such as inside a vehicle during the summer or near a heater.

• Avoid extreme temperature changes

An extreme temperature change can cause condensation inside the camera body. When taking the camera to a very hot place from a very cold place or vice versa, place it inside an airtight container such as a plastic bag and leave it inside a while to expose the camera gradually to the temperature change.

Bot KUS-US

• Remove the batteries and store the camera with a desiccant

If you do not intend to use the camera for a long time, remove the batteries to protect the camera from battery leakage.

- In a humid environment, store the camera inside a plastic bag with a desiccant to keep out dust, moisture and salt. Note, however, that storing leather cases in vinyl bags may cause the leather to deteriorate. Keep the batteries in a cool, dry place away from heat or humidity.
- Change the desiccant occasionally since it eventually loses its ability to absorb moisture effectively.
- Leaving the camera unused for a long period of time may cause mold to grow and result in malfunction. Turn the power on and release the shutter a few times once per month.
- To maintain the built-in Speedlight in peak condition, fire it a few times every month. This will enable you to use the flash for many years.

Nikon cannot be held responsible for any malfunction resulting from the use of the camera other than as specified in this manual.

Notes on Batteries

WARNING

Keep batteries out of the reach of children.
If batteries are accidentally swallowed, call a doctor immediately.

Do not leave

• Use two CR2 lithium batteries

Change the batteries well before the end of their life expectancy and prepare spare batteries before important picture-taking situations.

• Turn the camera power off when changing the batteries

Turn the camera power off before changing the batteries, and insert the batteries with ⊕ and ⊖ ends positioned correctly.

- When changing batteries, make sure to use batteries of the same brand and manufacturer.
- Stains on the battery poles may cause poor contact. Wipe the batteries well with a dry cloth before installing.

• Use fresh batteries at low temperatures

Battery power diminishes at extremely low temperatures, and the camera may not function properly with old batteries. Use a fresh set of batteries at low temperatures, keep spare batteries warm, and use them alternately.

- Film advance speed lowers and picture capacity decreases at low temperatures. However, battery power may be restored when the temperature returns to normal.

• Do not throw batteries into a fire or short circuit them

Do not throw batteries into a fire. Do not short, disassemble, heat or charge batteries.

Troubleshooting

LCD panel	Viewfinder	Causes	Remedy	Page
FEE blinks	FEE blinks	• Lens is not set to its minimum aperture.	• Set lens to minimum aperture.	19
appears	—	• Batteries are nearing exhaustion.	• Have fresh ones ready.	17
blinks	—	• Batteries are exhausted.	• Replace the batteries with new ones.	17
Err and blink	Err blinks	• Battery power is low or ambient temperature is low. When camera operation becomes too slow in low temperatures, all operation stops and warning indications appear.	• Turn the power off and replace the batteries with new ones. Then, turn the power on.	16
F-- blinks	F-- blinks	• Non-CPU lens is attached or lens is not attached.	• Attach CPU lens (including IX-Nikkor) correctly. (Or set the exposure mode to **S**.)	18
Err and blink and E appears	Err blinks	• Film is not correctly positioned or exposed film remains in the film cartridge chamber. • Magnetic noise is detected when a partially exposed film is loaded. • No data is detected or fully exposed data is detected when a partially exposed film is loaded. • Unusable (damaged) film is loaded.	• Reload the film or load new film. • Turn the power switch off and on, or reload the film. • Reload new film • Reload new film	20
blinks	—	• Exposed film remains in the film cartridge chamber. • Film is loaded without batteries (without battery power) and new batteries are loaded afterwards.	• Remove film cartridge. • Turn the power switch on and reload the film.	29 20

LCD panel	Viewfinder	Causes	Remedy	Page
Err and 📷 blink	—	• Battery power is low or temperature is too low to rewind film.	• Turn the power off and replace the batteries with new ones. Then turn the power on and rewind the film again.	16
Err and PRINT blink, or Err, PRINT and 📷 blink	Err blinks	• Malfunction detected during film rewind. • Film cartridge chamber cover is opened during film rewind. • Proper film rewind cannot be performed (low power voltage). • Number of exposures in the roll is different from the available number of exposures.	• Turn the power off and on again. If film rewind does not start again, turn the power off and replace the batteries with new ones. Then, turn the power on and rewind film again.	38
Err blinks	Err blinks	• Malfunction detected.	• Turn the power switch off and turn it on again.	17
—	▶◀ blinks	• Autofocus is not possible.	• Focus manually.	41
—	◀ appears	• Subject is too near.	• Move away from the subject and shoot again.	27
H! appears	H! appears	• Overexposure possible.	• In **S** mode, select a faster shutter speed. • In **A** mode, select a smaller aperture (larger f-number). • In other exposure modes, use an ND filter.	45 46 43, 44, 47
Lo appears	Lo appears	• Underexposure possible.	• In **S** mode, select a slower shutter speed. • In **A** mode, select a larger aperture (smaller f-number). • In other exposure modes, use the Speedlight.	45 46 43, 44, 47

Troubleshooting—continued

LCD panel	Viewfinder	Causes	Remedy	Page
bulb and F-- blink	bul and F-- blink	• Shutter speed is set to bulb in **S** mode.	• Cancel the bulb by selecting 30 sec. or faster shutter speed, or select **A** mode and set the aperture with the Command Dial to perform Long Time Exposure.	45, 50
—	ϟ blinks	• Speedlight recommended.	• Use the built-in Speedlight.	30
—	ϟ blinks for approx. 3 sec. after flash	• Flash has fired at full output and underexposure may have occurred.	• Shoot again after confirming focus distance, aperture or flash shooting distance range.	66
Shutter indication blinks	125 appears	• Shutter speed faster than 1/125 sec. is selected when the built-in Speedlight is used in **S** mode and the shutter speed is automatically controlled to 1/125 sec.	• Release the shutter as it is to take a picture with flash with shutter speed at 1/125 sec.	65

In certain cases, due to static electricity or improperly loaded batteries, the PRONEA S camera's microcomputer may turn the camera off. This can happen even with fresh, properly installed batteries. It may also keep the film from advancing properly. In each of these cases, to resume operation, simply turn the power off and on again, or remove and reinstall the batteries.

Specifications

Type of camera	Integral-motor autofocus, built-in Speedlight, electronically controlled focal plane shutter Advanced Photo System (IX240) single-lens reflex
Exposure modes	AUTO: General-Purpose Program **P**: Auto-Multi Program (Flexible Program possible) **S**: Shutter-Priority Auto **A**: Aperture-Priority Auto Vari-Program (: Portrait, : Landscape, : Close-Up, : Night Scene; Flexible Program possible)
Print type	Three print types are available: H, P and C
Picture format	16.7 x 30.2mm
Lens mount	Nikon F mount
Lens	Nikkor and Nikon lenses having Nikon F mount* * With limitations; see chart on p. 34.
Compatible film	IX240 cartridge film
Viewfinder	Fixed-eyelevel penta-Dach-mirror type (eyepoint: approx. 18 mm)
Focusing screen	Clear Matte Screen IV (with focus brackets), fixed
Viewfinder frame coverage/ Print frame coverage	Approx. 87% (50mm lens) Approx. 95%, with H, P and C print types
Finder magnification	Approx. 0.72X to 0.79X with 50mm lens set at infinity
Diopter adjustment	–1.5 DP. to +0.5 DP.
Viewfinder information	Focus indication (in-focus indication, front-focus, rear focus and AF impossible warning), FEE warning, Err warning, F- - warning, exposure value (shutter speed, aperture), exposure warning, exposure compensation, focus brackets, frames for H, P and C print types, flash ready-light (charged indication, full output warning), flash recommended
Autofocus	• TTL phase detection AF system with AF-Assist Illuminator (available with 22mm to 180mm lens, approx. 0.5 to 3m, approx. 0.5 to 2m without built-in Speedlight • Activated by lightly pressing the shutter release button • Detection range: EV 0 to EV 20 (at ISO 200, normal temperature)
Lens servo	**AF:** Auto-Servo AF: Camera automatically chooses Single Servo AF or Continuous Servo AF operation according to the subject status, i.e. stationary or moving (including directional information). • Single Servo AF: Once focused on a subject, focus is locked • Continuous Servo AF: The camera continuously focuses on a moving subject **M**: Manual

Specifications—continued

Focus lock	Focus is locked when the shutter release button is lightly pressed and subject is in focus in Single Servo AF
Exposure metering	Six-segment 3D Matrix: with IX-Nikkor, D-type AF Nikkor, AF-S Nikkor, AF-I Nikkor Six-segment Matrix: with non-D-type AF Nikkor (except AF lens for F3AF), AI-P Nikkor
Metering range	EV 2 to EV 21 at ISO 200, 50mm f/1.4 lens
Film speed setting	Automatically set with IX-system; film speed range: ISO 25 to 10000
Exposure meter	Activated by turning on power, lightly pressing shutter release button; stays on for 5 sec. after removing finger from button, or 2 sec. (or 5 sec. after flash use) after releasing shutter
Exposure compensation	±2 EV range, in 1/2 steps
Shutter	Electronically controlled vertical-travel focal-plane shutter
Shutter speeds	• In AUTO, **P**, **A**, , , , : 30 to 1/2000 sec. automatically set • In **S**: Bulb, 30 to 1/2000 sec., Time (with remote control operation)
Self-timer	Electronically controlled; timer duration: 10 sec.; can be canceled
Remote control	Infrared, activated by pressing the shutter release button; immediate release mode and 2 sec. delay mode; operating distance: approx. 5m directly in front of the camera; battery life: approx. 10 years; dimensions: approx. 60 x 27 x 10mm (W x H x D); weight: approx. 13g including battery
Sync contact (no external contact)	• Flash synchronization up to 1/125 sec. • Automatically set to 1/125 sec. when shutter speed is set from 1/2000 to 1/180 sec.
Built-in Speedlight	Activated by sliding Speedlight lock-release lever, guide number: 16/52 (at ISO 200, m/ft.); flash coverage: 24mm or longer lens; film speed range: ISO 25 to ISO 800
Flash control	Controlled by TTL Sensor • Matrix Balanced Fill-Flash: possible with CPU lens • Standard TTL: non-CPU lens
Flash sync mode	Normal, Red-Eye Reduction, Red-Eye Reduction with Slow Sync, Slow Sync, Flash Cancel
Flash recommended indication	Blinks in low brightness or when flash is recommended
Ready-light	• Flash fully charged: lights (minimum charging time: approx. 3-3.5 sec.) • Full output warning: blinks (approx. 3 sec. after flash)
Film loading	One-touch loading, film automatically advances to first unexposed frame when film cartridge chamber cover is closed

Film advance	Film automatically advances one frame when shutter is released (film rewinds automatically at the end of a film roll)
Frame counter	Digital display in LCD panel; countback type
Film rewind	Film automatically starts to rewind at the end of the film roll; rewind speed is approx. 20 sec. for 40-exposure film roll; mid-roll rewind possible; automatically advances to the frame immediately after the last exposed frame when partially exposed film is loaded
Data imprint function	• Built-in clock: 24-hour type with timing accuracy within ±90 seconds a month; leap year adjustment until 2029 • Date/time data, title: magnetically recorded • Data recorded (Front print): Year/Month/Day, Month/Day/Year, Day/Month/Year, Day/Hour/Minute and No Imprint (Backprint): Day/Hour/Minute, Year/Month/Day, Month/Day/Year and Day/Month/Year, or one of date with hour minute when No Imprint is selected 30 titles in 12 languages can be backprinted • Power: from the camera body, data remain in memory for approx. 5 minutes without batteries
LCD panel information	Shutter speed, aperture, date/time, flash sync mode, exposure compensation, frame counter/compensation value, FEE warning, Err warning, F-- warning, film cartridge, self-timer, battery power, data recording, language/title and remote control
Number of film rolls per set of fresh CR2 batteries	Without flash (With flash for half of all exposures) 40-exposure: approx. 30 (13) at 20°C (68°F), approx. 17 (7) at –10°C (14°F) 25-exposure: approx. 41 (19) at 20°C (68°F), approx. 20 (11) at –10°C (14°F) * *For autofocus operation using an IX-Nikkor 30-60mm f/4-5.6 lens, covering the full range from infinity (∞) to the closest distance and back to infinity (∞) with exposure meter activated for 5 sec. before each shot, with a shutter speed of 1/125 sec.*
Power source	Two CR2-type lithium batteries; four AA-type alkaline manganese or lithium batteries with Power Pack MB-11
Battery power confirmation	for sufficient power; indicates batteries are nearing exhaustion; blinking indicates batteries are exhausted; no indication/symbol appears when batteries are completely exhausted or improperly installed (with exposure meter on)
Tripod socket	1/4 inch diameter
Dimensions (WxHxD)	Approx. 116 x 87 x 57mm (4.6 x 3.4 x 2.2 in.)
Weight (without batteries)	Approx. 325g (11.5 oz.)

All specifications apply when fresh CR2-type batteries are used at normal temperature (20°C/68°F).

Specifications and design are subject to change without notice.

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