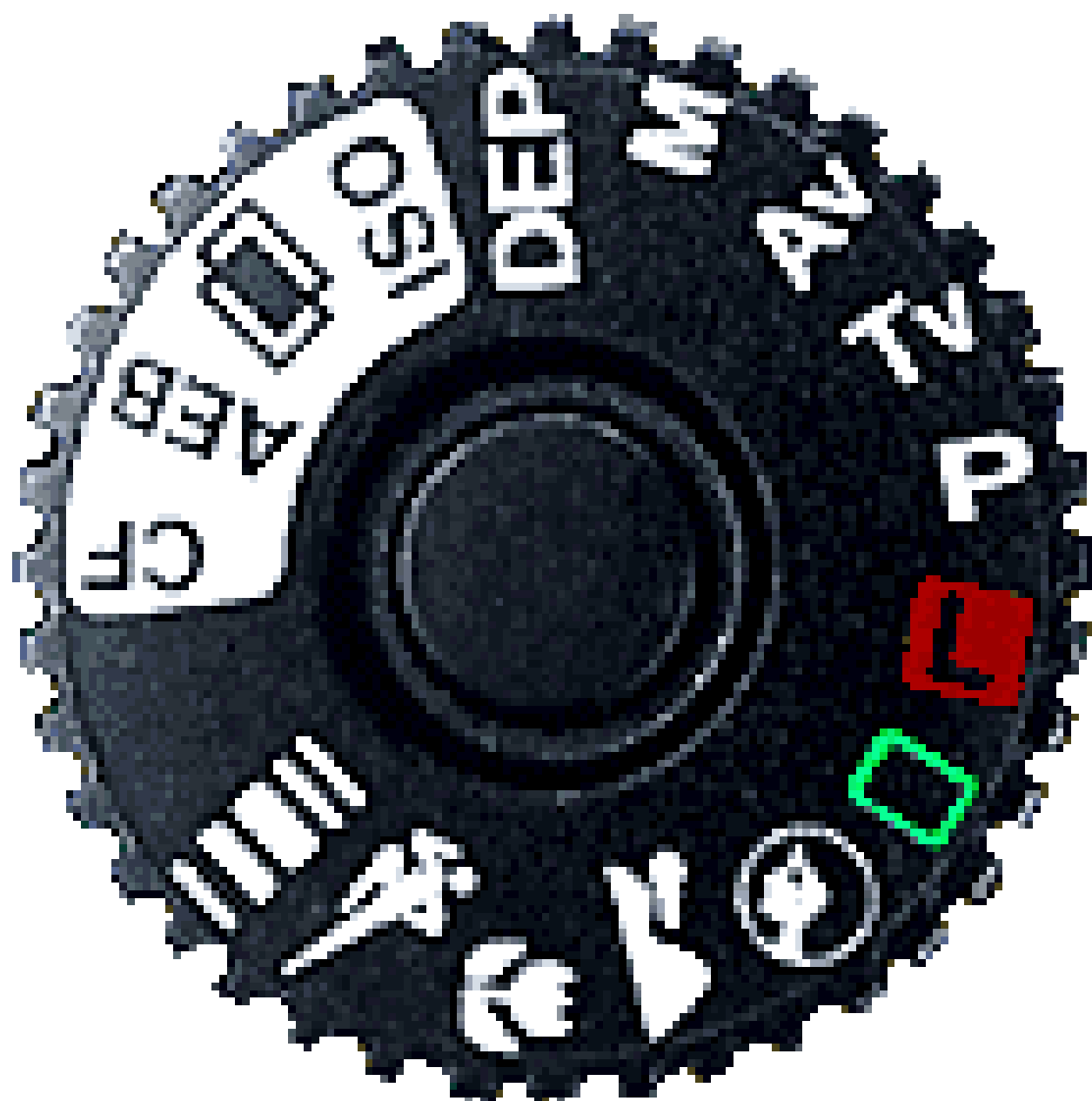




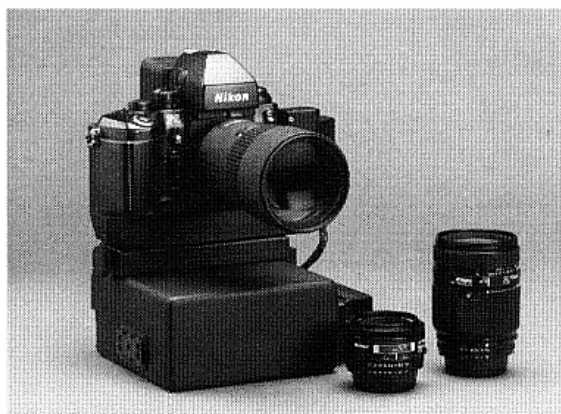
[illegible]

If the people at Nikon seemed a little spacey last September, they had good reason. Once again, Nikon joined a team of US astronauts on the latest mission of the space shuttle Discovery.

Actually, two Nikon F4s models made the six-day journey into outer space. One F4s underwent minimal conversion for use in an Electronic Still Camera (ESC) system to digitally transmit photos taken in space back to earth in mere seconds. The other, a commercial F4s using conventional 35mm film, was modified slightly for operation in weightlessness.

The ESC system produced monochrome images that were viewed and enhanced in space using a modified laptop computer, then transmitted to the ground via a digital down-link system.

The conventional F4s documented the activities within the Discovery capsule itself, a kind of "Six Days in the Lives of the Astronauts."



Nikon's cameranaut: the F4s

Far out — Nikon goes flying with NASA again

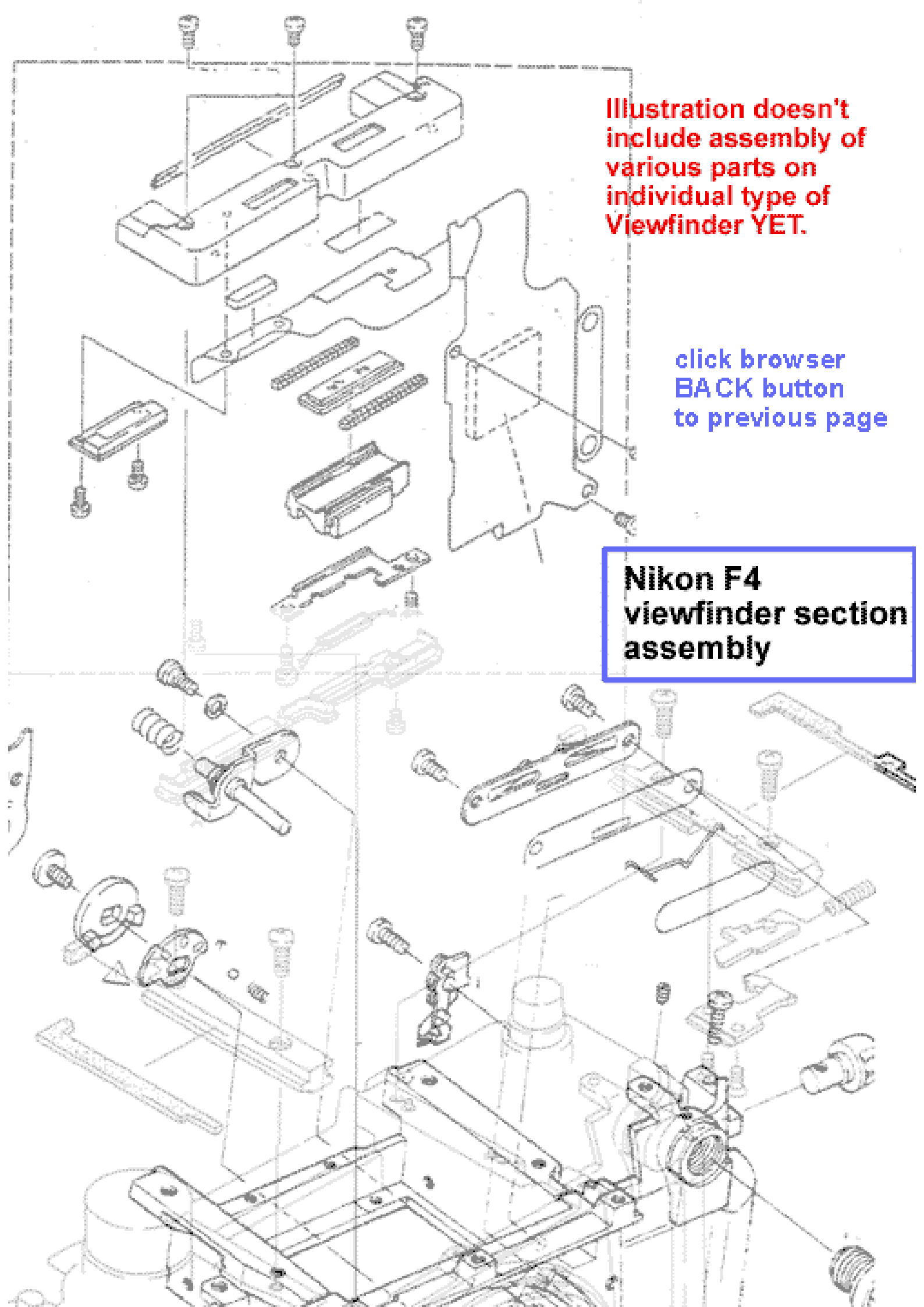
A few accessories went along for the trip: several AF Nikkor lenses, the Nikon MF-23 Multi-Control Camera back and the SB-24 Speedlight. They enabled a wide range of extra performance features, including Intervalometer operation, Auto-Exposure bracketing, very long time exposures, and Focus Priority.

As Richard LoPinto, Division Manager for Marketing, Nikon Photo Group, Nikon Inc., commented, "Nikon cameras have flown on every NASA manned space mission since Apollo 15, and we look forward to many more years of NASA's continued use of the Nikon system."

**Illustration doesn't
include assembly of
various parts on
individual type of
Viewfinder YET.**

[click browser
BACK button
to previous page](#)

**Nikon F4
viewfinder section
assembly**





#0 Selecting Custom Settings

- 0-A:** Custom settings A
- 0-B:** Custom settings B

You can specify the setting combinations you want for A and for B; this makes it easy to switch from one setting combination to another.

#1 Continuous Servo AF

- 1-0:** Release-priority
- 1-1:** Focus-priority

Change from release-priority to focus-priority

#2 Single Servo AF

- 2-0:** Focus-priority
- 2-1:** Release-priority

Change from focus-priority to release-priority

#3 Bracketing order

- 3-0:** Metered value, below metered value, above metered value
- 3-1:** Below metered value, metered value, above metered value

Change the order to under the metered value, the metered value and over the metered value

#4 Autofocus activated when shutter release button is lightly pressed

- 4-0:** Activated
- 4-1:** Disabled

Delete shutter release button's AF activation function

#5 AE Lock

- 5-0:** Exposure value
- 5-1:** Shutter speed and aperture value

Lock shutter speed and aperture for AE lock function

#6 Direction of command dial rotation

- 6-0:** Default
- 6-1:** Opposite

Change from left-to-right to right-to-left when increasing values

#7 AE lock when shutter release button is lightly pressed

- 7-0:** Disabled
- 7-1:** Activated

Lock exposure when the shutter release button is lightly pressed

#8 Automatic film advance to frame #1

- 8-0:** Disabled
- 8-1:** Enabled (when power is on)

The film automatically advances to the first frame when you close the camera back

#9 Film advance speed in CH

- 9-0:** Default (8 fps)
- 9-1:** Change setting
- CH8:** 8 fps **CH6:** 6 fps

Change from 8 frames per second to 6 fps

#10 Film advance speed in CL

- 10-0:** Default (3 fps)
- 10-1:** Change setting
- CL5:** 5 fps **CL4:** 4 fps
- CL3:** 3 fps

Change from 3 fps to 5 fps or 4 fps

#11 Alert LED in long time exposure

- 11-0:** Does not blink
- 11-1:** Blinks

Make Alert LED blink during long time exposure.

#12 Auto film stop

- 12-0:** Disabled (film advances until the end of the roll)
- 12-1:** Change setting
- E35:** Frame 35 **E36:** Frame 36
- E--:** Disabled

Stop film advance at frame 35 or 36.

#13 Multiple Exposure

- 13-0:** Cancelled after release
- 13-1:** Still on after release

Continue Multiple Exposure after the second shot.

#14 Centre-Weighted Metering

- 14-0:** Default (75% concentration in 12mm dia. area)
- 14-1:** Change setting
- 8:** 8mm dia. **12:** 12mm dia.
- 15:** 15mm dia. **20:** 20mm dia.
- A:** Average **PC:** Custom (by PC)

Change 12mm-dia. area to 8, 15, 20mm, average metering or customise the diameter (i.e., by using the computer link).

#15 Time delay for auto meter-switch-off

- 15-0:** Default (16 sec.)
- 15-1:** Change setting
- 4:** 4 sec. **8:** 8 sec.
- 16:** 16 sec. **32:** 32 sec.

Change from 16 to 4, 8, or 32 seconds

#16 Self-timer duration

- 16-0:** Default (10 sec.)
- 16-1:** Change setting
- 2 to 60:** 2 to 60 sec.

Choose from 2 to 60 seconds

#17 Bracketing in manual exposure mode

- 17-0:** Default (shifts shutter speed)
- 17-1:** Change setting
- 1A:** Shutter speed/aperture combination
- 10A:** Shutter speed
- 0 1A:** Aperture
- 00A:** Flash output level

Change the shifting factor in the Manual Exposure mode from shutter speed to choice of shutter speed/aperture combination, aperture or flash output level

#18 Focusing screen compensation

- 18-0:** No compensation
- 18-1:** Change setting
- 2.0 to 2.0:** -2 to +2 in 0.5 EV steps

Change the EV level of the focusing screen from -2.0 to +2.0 in 0.5 EV steps. See specific focusing screen instruction manual for required compensation value.

#19 Prolonged shutter speed

- 19-0:** Disabled
- 19-1:** Enabled

Choose from 40 seconds to 30 minutes duration

#20 Top TTL flash sync speed

- 20-0:** Default (1/250 sec.)
- 20-1:** Change setting
- 300:** 1/300 sec. **250:** 1/250 sec.
- 200:** 1/200 sec. **160:** 1/160 sec.
- 125:** 1/125 sec. **100:** 1/100 sec.
- 80:** 1/80 sec. **60:** 1/60 sec.

To set top TTL flash sync speed. 1/300 sec.* can be selected only in the Shutter-Priority Auto or Manual exposure modes.

*The shutter speed is controlled to 1/250 in the Programmed Auto or Aperture-Priority Auto exposure modes.

#21 AE-L/AF-L button

- 21-0:** Default (simultaneous lock)
- 21-1:** Change setting
- AE L:** AE lock
- AF L:** AF lock
- L-L:** Simultaneous lock

Change to AE lock only or AF lock only

#22 Aperture setting via Sub-Command Dial

- 22-0:** Enabled
- 22-1:** Disabled

The only way to set aperture is to rotate the lens aperture ring.

#23 ► or ◀ focus indicator

- 23-0:** Displayed
- 23-1:** Not displayed

Don't show the display of ► and ◀ (focused at rear or in front of the subject) in the viewfinder during the Autofocus mode.

#24 Auto Exposure/Flash Exposure Bracketing

- 24-0:** Default (Auto Exposure/Flash Exposure Bracketing)
- 24-1:** Change setting
- 0 1E:** Auto Exposure (ambient exposure) Bracketing
- 10E:** Flash Exposure Bracketing
- 1 1E:** Auto Exposure/Flash Exposure Bracketing

When you want only Auto Exposure Bracketing or Flash Exposure Bracketing.



AF-L
AF-L

AF-ON

AF Button 1

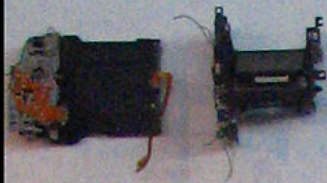
AF-ON

AF Button 2

Focus Area Selector

AF start Button

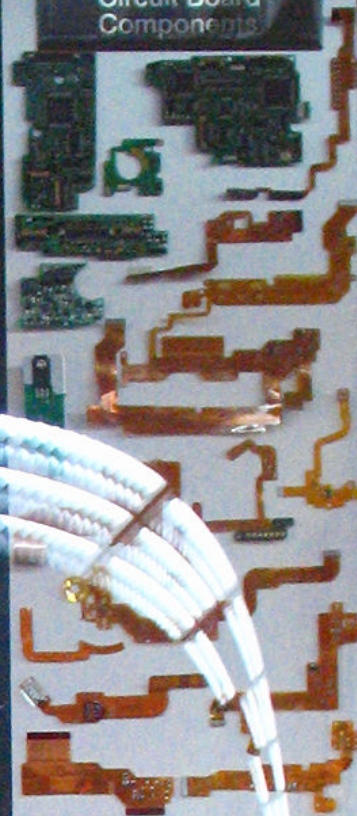
Mirror Box and Shutter Components



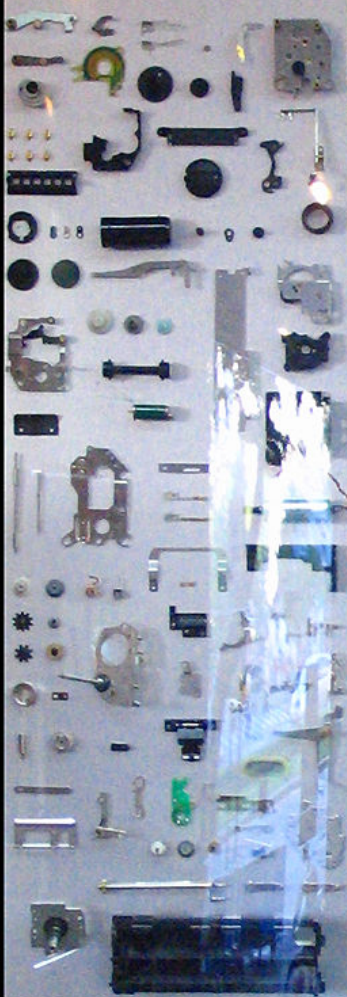
Finder Components



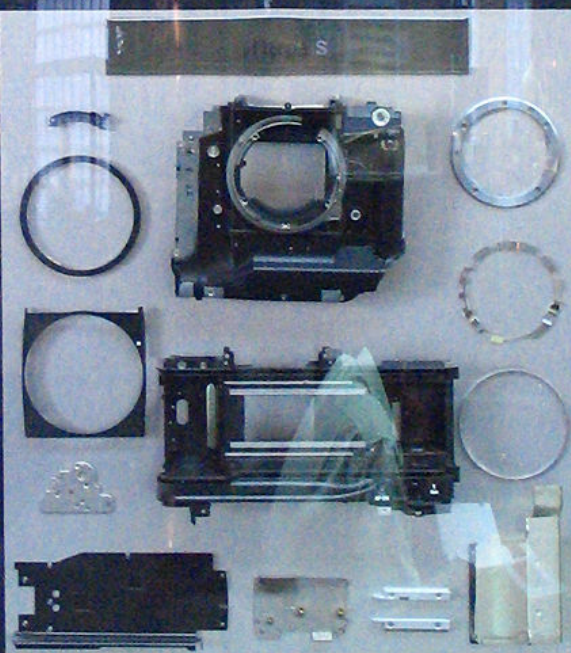
Circuit Board Components



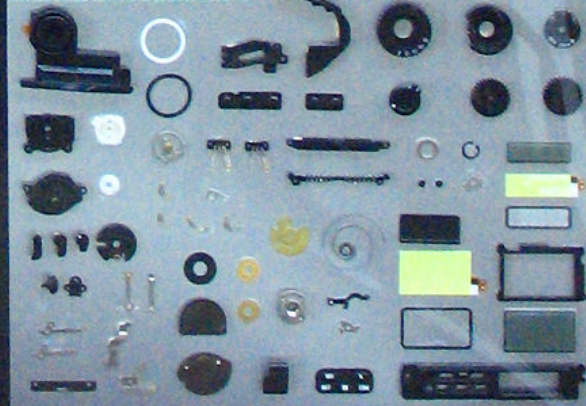
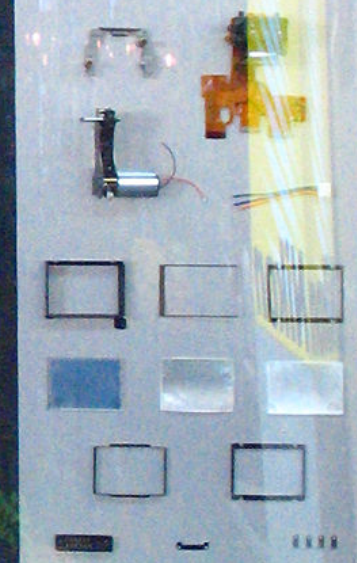
Film Charge Transport Components



Nikon F5



Focusing Screen Components









Focusing Screen Selector Chart

Lens	Screen	EC-B	B/E	A/L	J	C	G1	G2	G3	G4	U	
Non-CPU Nikkor lens	Fisheye	6mm f/2.8	○	○	○	○	●	○	○			
		8mm f/2.8	○	○	○	○	●	○	○			
		16mm f/2.8	○	○	○	○		○	○			
	Wideangle	13mm f/5.6	○	○	○	○			○			
		15mm f/3.5	○	○	○	○			○			
		18mm f/3.5	○-0.5	○-0.5	○-0.5	○-0.5			○			
		20mm f/2.8	○	○	○	○			○			
		24mm f/2	○-0.5	○-0.5	○-0.5	○-0.5			○			
		24mm f/2.8	○	○	○	○			○			
		28mm f/2	○	○	○	○			○			
		28mm f/2.8	○	○	○	○			○			
		35mm f/1.4	○-0.5	○-0.5	○-0.5	○-0.5			○-0.5	○-0.5		
		35mm f/2	○	○	○	○			○			
	Normal	50mm f/1.2	○-0.5	○-0.5	○-0.5	○-0.5			○-0.5	○-0.5		
		50mm f/1.4	○	○	○	○			○			
		85mm f/1.4	○-0.5	○-0.5	○-0.5	○-0.5		○-0.5	○-0.5			
	Telephoto	85mm f/2	○	○	○	○			○			
		105mm f/1.8	○	○	○	○			○			
		105mm f/2.5	○	○	○	○			○			
		135mm f/2	○	○	○	○			○			
		135mm f/2.8	○	○	○	○			○			
		135mm f/3.5	○	○	○	○			○			
		ED 180mm f/2.8	○	○	○	○	○		○			
		ED 200mm f/2 IF	○	○	○	○	○		○			
		200mm f/4	○	○	○	○	○		○			
		ED 300mm f/2.8 IF(New)	○	○	○	○	○		○			
		ED 300mm f/4.5 IF	○	○	○	○	○	○	○			
		ED 400mm f/2.8 IF	○	○	○	○	○		○			
		ED 400mm f/3.5 IF	○	○	○	○	○	○	○			
		ED 400mm f/5.6 IF	○	○	○	○	○	○	○			
		ED 600mm f/4 IF(New)	○	○	○	○	○	○	○			
		ED 600mm f/5.6 IF	○	○	○	○	○	○	○			
		ED 800mm f/5.6 IF	○	○	○	○	○	○	○			
	Zoom	28-85mm f/3.5-4.5	○	○	○	○			○			
		35-70mm f/3.3-4.5	○	○	○	○			○			
		35-105mm f/3.5-4.5	○	○	○	○			○			
		35-135mm f/3.5-4.5	○	○	○	○			○			
		35-200mm f/3.5-4.5	○	○	○	○			○			
		ED 50-300mm f/4.5	○	○	○	○			○			
		80-200mm f/4	○	○	○	○			○			
100-300mm f/5.6		○	○	○	○			○				
ED 180-600mm f/8		○	○	○	○	○		○				
P C		28mm f/3.5	○	○	○	○			○			
	35mm f/2.8(New)	○	○	○	○			○				
Noct	58mm f/1.2	○-0.5	○-0.5	○-0.5	○-0.5			○-0.5	○-0.5			
	55mm f/2.8	○	○	○	○			○				
Micro	105mm f/2.8	○	○	○	○			○				
	200mm f/4 IF	○	○	○	○	○		○				
Medical	120mm f/4 IF	○	○	○	○	○		○				
U V	105mm f/4.5	○	○	○	○	○		○				
Reflex	500mm f/8(New)	○	○	○	○	○		○				
	1000mm f/11	○	○	○	○	○		○				
CPU Nikkor lens	A F	Fisheye 16mm f/2.8D	○	○	○	○		○	○			
		18mm f/2.8D	○	○	○	○			○			
		*20mm f/2.8D	○	○	○	○		○	○			
		*24mm f/2.8D	○	○	○	○			○			
		28mm f/1.4D	○	○	○	○			○			
		*28mm f/2.8D	○	○	○	○			○			
		35mm f/2D	○	○	○	○			○			
		50mm f/1.4D	○	○	○	○			○			
		50mm f/1.8(New)	○	○	○	○		○	○			
		85mm f/1.4D	○	○	○	○			○			
		*85mm f/1.8D	○	○	○	○			○			
		*Micro 60mm f/2.8D	○	○	○	○			○			
		*Micro 105mm f/2.8D	○	○	○	○			○			
		Micro ED 200mm f/4D	○	○	○	○	○			○		
		DC 105mm f/2D	○	○	○	○				○		
		DC 135mm f/2D	○	○	○	○				○		
		*ED 180mm f/2.8D IF	○	○	○	○	○			○		
		ED 300mm f/2.8 IF(New)	○	○	○	○	○			○		
		ED 300mm f/4 IF	○	○	○	○	○			○		
		20-35mm f/2.8D IF(New)	○	○	○	○				○		
		24-50mm f/3.3-4.5D	○	○	○	○				○		
		24-120mm f/3.5-5.6D IF	○	○	○	○						
		28-70mm f/3.5-4.5D	○	○	○	○				○		
		28-80mm f/3.5-5.6D	○	○	○	○						
		28-85mm f/3.5-4.5(New)	○	○	○	○				○		
		28-200mm f/3.5-5.6D IF	○	○	○	○						
		35-70mm f/2.8D	○	○	○	○				○		
		35-80mm f/4-5.6D(New)	○	○	○	○						
		35-80mm f/4-5.6D	○	○	○	○						
		*35-105mm f/3.5-4.5D IF	○	○	○	○					○	
	35-135mm f/3.5-4.5(New)	○	○	○	○					○		
	Micro ED 70-180mm f/4.5-5.6D	○	○	○	○	○				○		
	70-210mm f/4.5-5.6D	○	○	○	○					○		
	70-300mm f/4-5.6D	○	○	○	○							
	75-300mm f/4.5-5.6	○	○	○	○					○		
	*ED 80-200mm f/2.8D(New)	○	○	○	○					○		
	AF-I	80-200mm f/4.5-5.6D	○	○	○	○						
		ED 300mm f/2.8D IF	○	○	○	○	○			○		
		ED 400mm f/2.8D IF	○	○	○	○	○			○		
		ED 500mm f/4D IF	○	○	○	○	○			○		
ED 600mm f/4D IF		○	○	○	○	○			○			
AF-S	ED 300mm f/2.8D IF	○	○	○	○	○			○			
	ED 400mm f/2.8D IF	○	○	○	○	○			○			
	ED 500mm f/4D IF	○	○	○	○	○			○			
Ai-P	ED 600mm f/4D IF	○	○	○	○	○			○			
	ED 500mm f/4P IF	○	○	○	○	○			○			

() = f/stop compensation

[illegible]

Lens Compatibility Chart

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 — Incompatible

- | | | |
|---|--|--|
| <p>1 Aperture can be selected via Sub-Command Dial.</p> <p>2 3D Colour Matrix Metering is selected.</p> <p>3 Size of the sensing area can be changed by Custom Setting #14.</p> <p>4 Metering area corresponds to the selected focus area.</p> <p>5 Compatible with AF-S and AF-I Nikkor lenses only.</p> | <p>6 With maximum effective aperture of f/5.6 or faster.</p> <p>7 With maximum aperture of f/5.6 or faster.</p> <p>8 AI-modification is not available in some areas.</p> <p>9 With shutter speed set to 1/125 sec. or slower.</p> <p>10 By stop-down metering.</p> | <p>11 Aperture cannot be selected.</p> <p>12 Without shift.</p> <p>13 Exposure determined by presetting lens aperture. Exposure must also be determined before shifting; use AE-L/AF-L button before shifting.</p> <p>14 Exposure compensation necessary depending on the lens in use.</p> |
|---|--|--|

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 28-80mm f/3.5-5.6D
AF 28-85mm f/3.5-4.5
AF 35-70mm f/2.8D
AF 35-80mm f/4-5.6D
AF 35-105mm 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 180mm f/2.8D IF-ED
AF 300mm 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-I 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 Micro 60mm f/2.8D
AF Micro 105mm f/2.8D
AF Micro 200mm f/4D IF-ED
AF DC 105mm f/2D
AF DC 135mm f/2D
AI-P-type Nikkors
500mm f/4 P IF-ED
1200-1700mm f/5.6-8 P IF-ED
AI- and AI-S-type Nikkors
28-85mm f/3.5-4.5
35-70mm f/3.3-4.5
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
50-300mm f/4.5 ED
100-300mm f/5.6
180-600mm f/8 ED
13mm f/5.6
15mm f/3.5
18mm f/3.5
20mm f/2.8
24mm f/2
24mm f/2.8
28mm f/2
28mm f/2.8
35mm f/1.4
35mm f/2
50mm f/1.2
50mm f/1.4
50mm f/1.8
85mm f/1.4
105mm f/1.8
105mm f/2.5
135mm f/2
135mm f/2.8
180mm f/2.8 ED

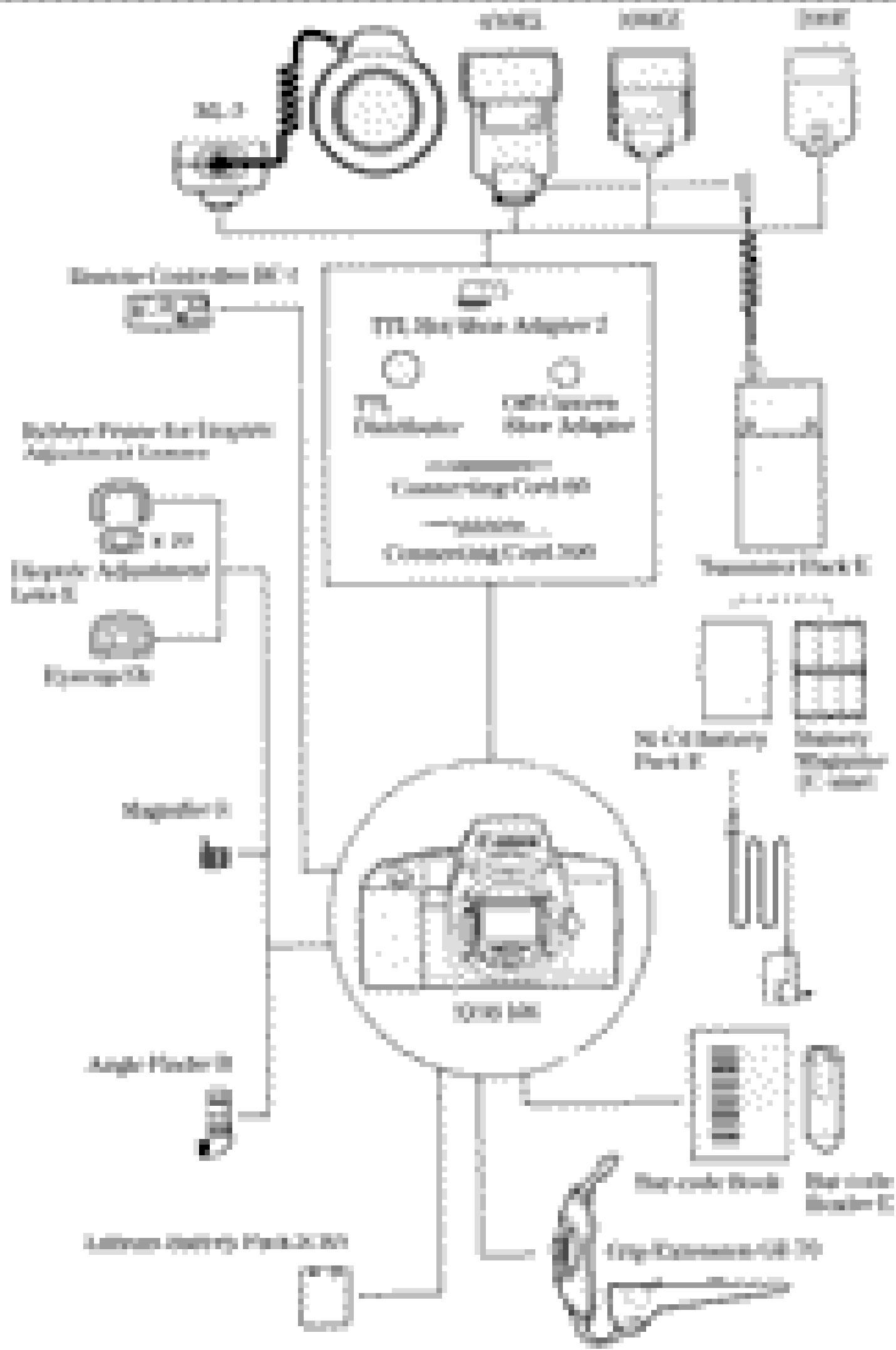
200mm f/2 IF-ED
300mm f/2.8 IF-ED
300mm f/4.5 IF-ED
400mm f/2.8 IF-ED
400mm f/3.5 IF-ED
400mm f/5.6 IF-ED
600mm f/4 IF-ED
600mm f/5.6 IF-ED
800mm f/5.6 IF-ED
Fisheye 6mm f/2.8
Fisheye 8mm f/2.8
Fisheye 16mm f/2.8
Noct 58mm f/1.2
Micro 55mm f/2.8
Micro 105mm f/2.8
Micro 200mm f/4 IF
UV 105mm f/4.5
Other Nikkors
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

Canon EOS 100

The quiet autofocus

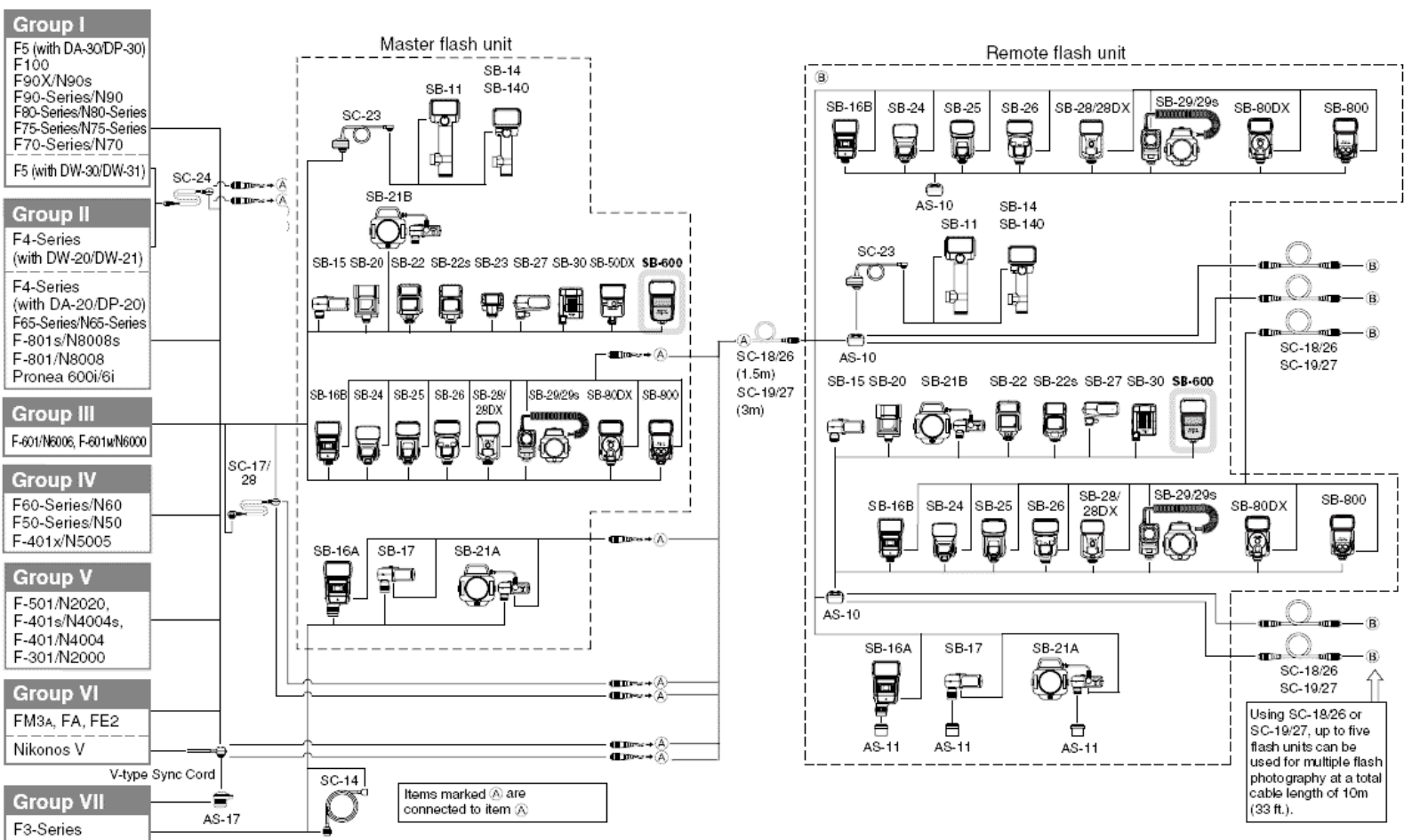






[illegible]

Camera group	Camera	TTL mode	Current TTL mode display	Exposure mode	Metering system	Lens
III	F-601/ N6006			P/S/A/M		CPU lens (except for G-type)*1
				P/S/A/M		CPU lens (except for G-type)*1
				A/M		Non-CPU lens*1
				P/S/A/M		CPU lens (except for G-type)*2
				A/M		Non-CPU lens*2
	*1: Only appears on the SB-600's LCD panel. Matrix Balanced Fill-Flash or Center-Weighted Fill-Flash/Spot Fill-Flash is selected when appears on the camera's LCD panel. *2: Center-Weighted Metering is automatically set when the exposure mode is set to M.					
	F-601M/ N6000			P/S		CPU lens*1
				P/S		CPU lens*1
				A/M		Non-CPU lens*1
				P/S		CPU lens
				A/M		Non-CPU lens
	*1: Only appears on the SB-600's LCD panel. Matrix Balanced Fill-Flash or Center-Weighted Fill-Flash/Spot Fill-Flash is selected when appears on the camera's LCD panel.					
IV	F60-Series/N60		*1	P/S/A		CPU lens
	F50-Series/N50 F-401x/N5005		*2	M		CPU/non-CPU lens
V	F-501/N2020		*3	P		CPU*4/non-CPU lens*5
	F-301/N2000			A/M		CPU*4/non-CPU lens
	*1: Matrix Balanced Fill-Flash is set. *2: Center-Weighted Fill-Flash/Spot Fill-Flash is set. *3: Programmed TTL Auto Flash is set. *4: G-type Nikkor lenses cannot be used. Nikkor lenses for F3AF usable. *5: AI-S, AI, Series E lenses only usable.					
	F-401s/N4004s F-401/N4004		*2	P/S		CPU lens
				A/M		CPU lens*1
				M		Non-CPU lens
	*1: Center-Weighted Metering is automatically set when the exposure mode is set to M. *2: Programmed TTL Auto Flash is set.					
VI	FM3A			A/M		CPU (except G-type)/non-CPU lens
	FA			P/A/M		CPU (except G-type)/non-CPU lens*1
	FE2			A/M		CPU (except G-type)/non-CPU lens*1
	Nikonos V			A/M		CPU (except G-type)/non-CPU lens*1/*2
	F3-Series			A/M		CPU (except G-type)/non-CPU lens*3
	*1: Standard TTL Flash is not possible if the shutter speed is set to M250 or B (bulb) for the FA, FE2, and M90 for the Nikonos V cameras. *2: An optional sync cord for land use is required. *3: Optional TTL Unit Coupler AS-17 is required.					



Comparison of the Field of View

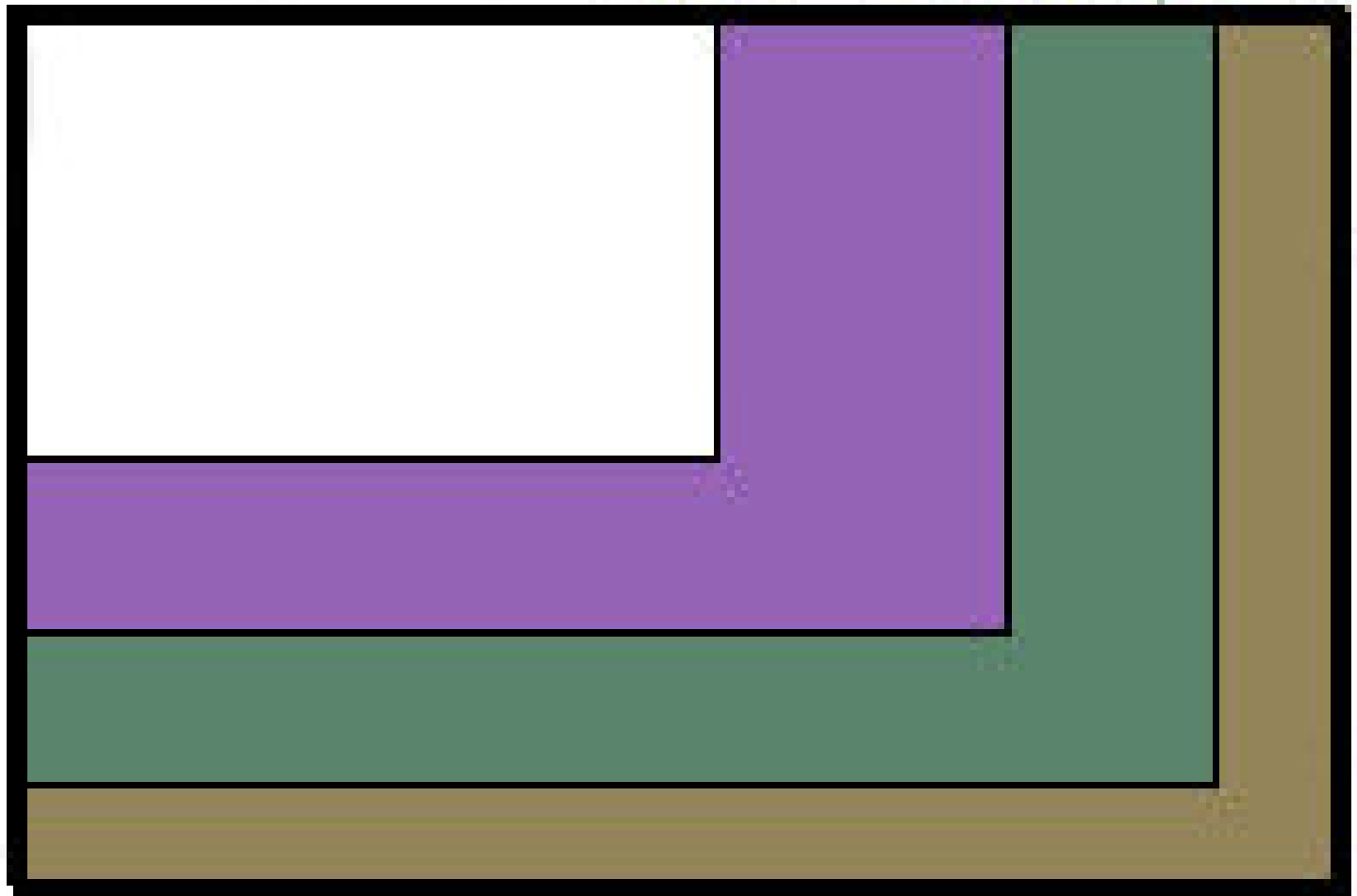
Wide-angle lenses VS standard lens

50mm

35mm

28mm

24mm



[illegible]

Camera Group	Camera	TTL mode	Current TTL mode display	Exposure mode	Metering system	Lens
III	F-601/ N6006			P/S/A/M		CPU lens (except for G-type)*1
				P/S/A/M		CPU lens (except for G-type)*1
				A/M		Non-CPU lens*1
				P/S/A/M		CPU lens (except for G-type)*2
				A/M		Non-CPU lens*2
	*1: Only appears on the SB-800's LCD panel. Matrix Balanced Fill-Flash or Center-Weighted Fill-Flash/Spot Fill-Flash is selected when appears on the camera's LCD panel. *2: Center-Weighted Metering is automatically set when the exposure mode is set to M.					
	F-601M/ N6000			P/S		CPU lens*1
				P/S		CPU lens*1
				A/M		Non-CPU lens*1
				P/S		CPU lens
				A/M		Non-CPU lens
IV	*1: Only appears on the SB-800's LCD panel. Matrix Balanced Fill-Flash or Center-Weighted Fill-Flash/Spot Fill-Flash is selected when appears on the camera's LCD panel.					
	F60-Series/N60		*1	P/S/A		CPU lens
	F50-Series/N50 F-401x/N5005		*2	M		CPU/non-CPU lens
V	F-501/N2020		*3	P		CPU*4/non-CPU lens*5
	F-301/N2000			A/M		CPU*4/non-CPU lens
	*1: Matrix Balanced Fill-Flash is set. *2: Center-Weighted Fill-Flash/Spot Fill-Flash is set. *3: Programmed TTL Auto Flash is set. *4: G-type Nikkor lenses cannot be used. Nikkor lenses for F3AF usable. *5: AI-S, AI, Series E lenses only usable.					
	F-401s/N4004s		*2	P/S		CPU lens
	F-401/N4004			A/M		CPU lens*1
				M		Non-CPU lens
	*1: Center-Weighted Metering is automatically set when the exposure mode is set to M. *2: Programmed TTL Auto Flash is set.					
VI	FM3A			A/M		CPU (except G-type)/non-CPU lens
	FA			P/A/M		CPU (except G-type)/non-CPU lens*1
	FE2			A/M		CPU (except G-type)/non-CPU lens*1
	FG			P/A/M		CPU (except G-type)/non-CPU lens*1
	Nikonos V			A/M		CPU (except G-type)/non-CPU lens*1/2
	F3-Series			A/M		CPU (except G-type)/non-CPU lens*3
	*1: Standard TTL Flash is not possible if the shutter speed is set to M250 or B (bulb) for the FA, FE2, and M90 for the FG and Nikonos V cameras. *2: An optional sync cord for land use is required. *3: Optional TTL Unit Coupler AS-17 is required.					



C13

C12

B8

B6

B5

B7

B10

A3

A1

A0

A2

A4

B9

B6

B5

B7

B11

C14

C15



Canon EOS 5

EOS 5



A camera in complete harmony
with your creative ideas



PowerShot
Canon

EOS 5

ADVANCED SERIES





Nikon



H 1000-250

M3 125

M2 60

M1 60

L 30

FRAME

SHUTTER















Canon

EOS
REBEL
S

EOS
REBEL



English Edition
INSTRUCTIONS **E**

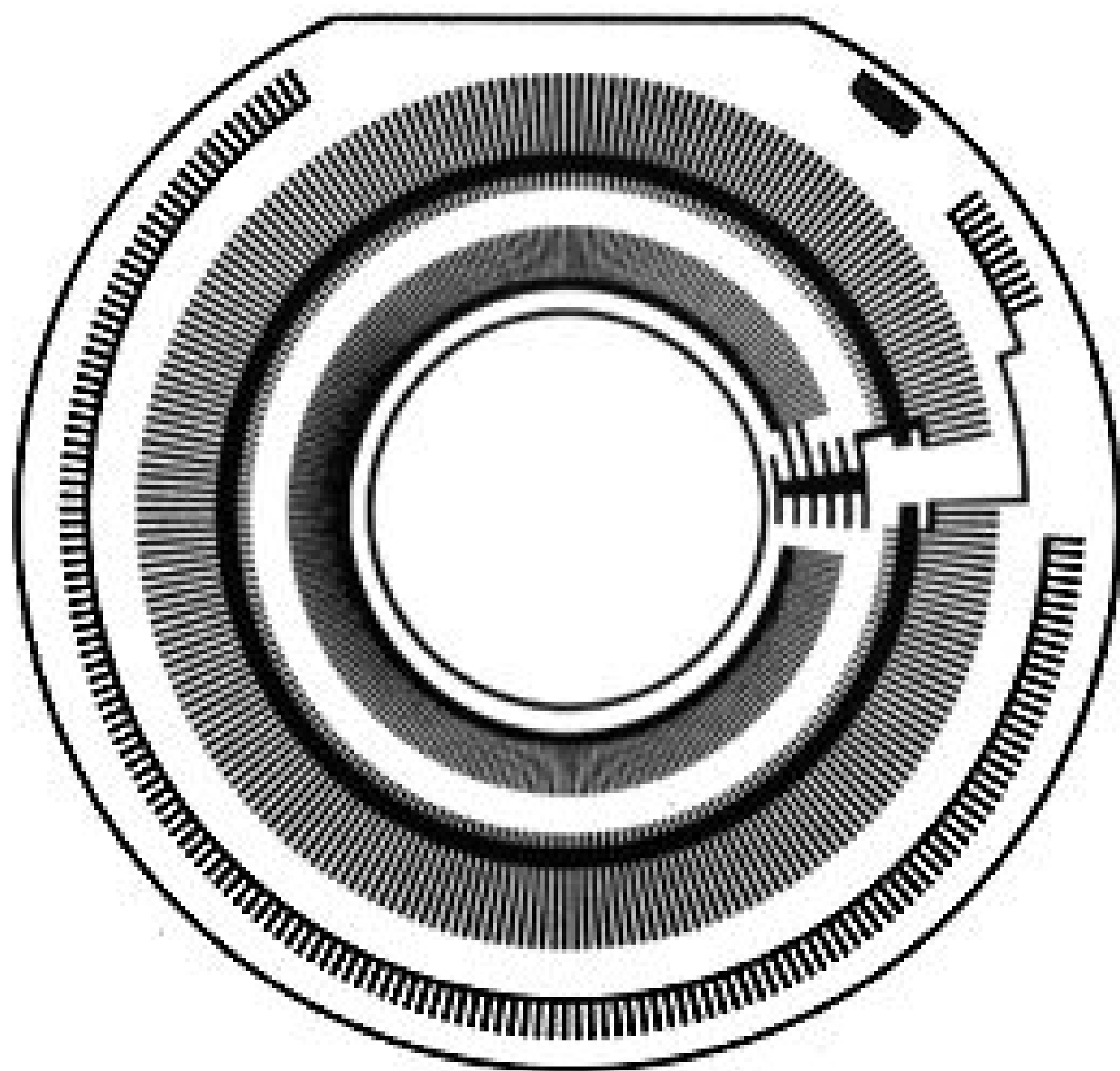










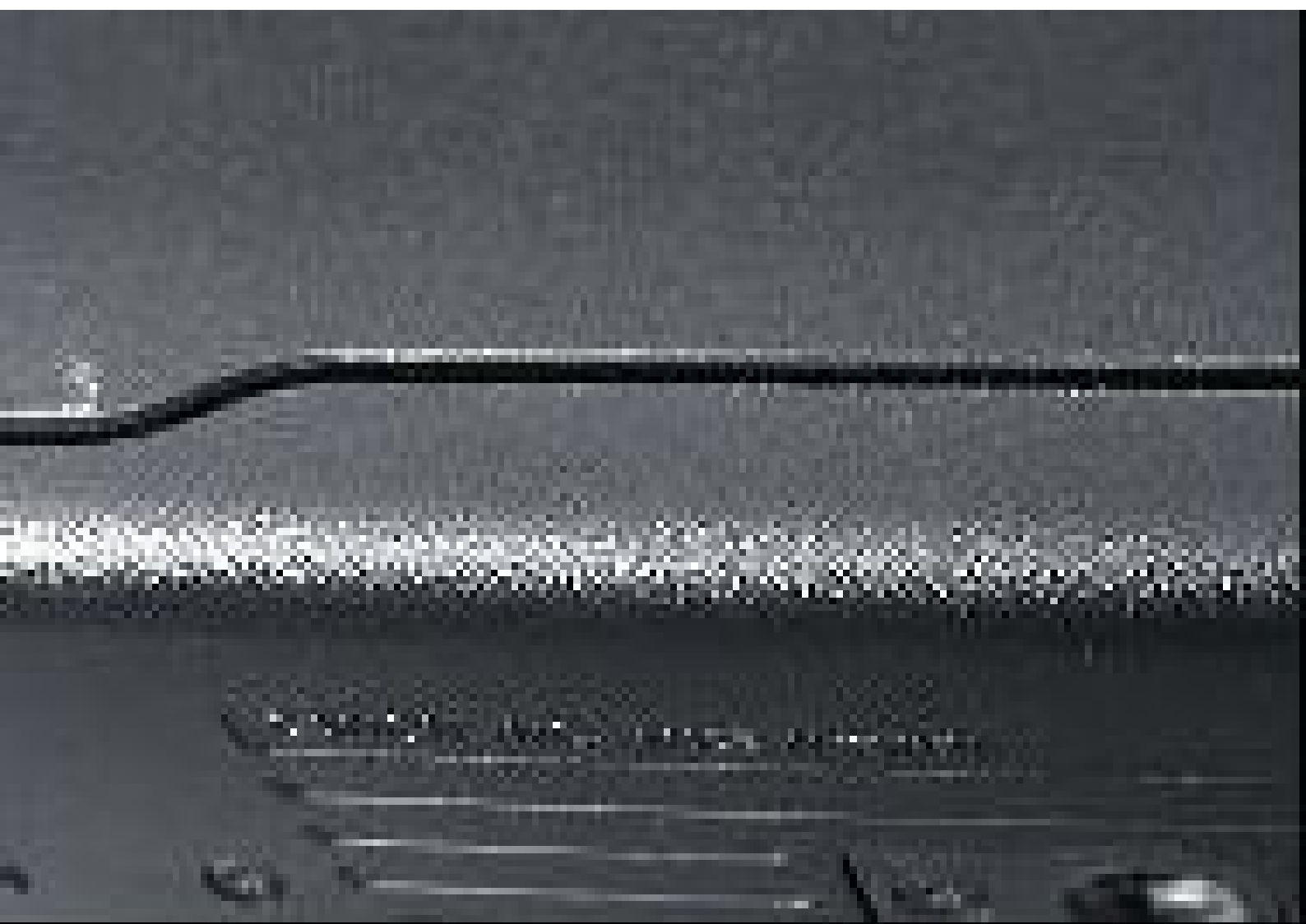
















EOS 10



EOS 1000S



EOS 100

Canon

EOS **REBEL** II / **REBEL** S II



E

English Edition

INSTRUCTIONS



Titanium Shutter Curtains

The XK shutter curtains are constructed of titanium, a special metal that can be rolled to amazing thinness. Titanium curtains resist the damaging effects of adverse climates and consequently maintain reliability even under conditions of extreme cold, heat and humidity.

Film Advance Lever

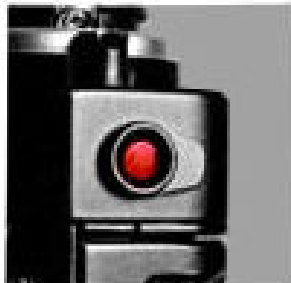
For improved handling, the film advance lever rotates smoothly on precision bearings. Comfortably cushioned, the lever swings out 20° before engagement. Several short strokes or a single 110° stroke advances the film and cocks the shutter.



Batteries and Battery Checker

Only three volts are derived from a pair of tiny silver-oxide batteries. These batteries are generally superior to other types and can be used at lower temperatures. A battery checker switch with signal light is located on the left side of the camera body.

Battery failure is unlikely. Yet should it occur, there is a mechanism built into the XK which permits you to continue shooting at 1/100 of a second without battery power. "B" setting is also nonelectronic.



XK HIGHPOINTS

Multiple Exposures

Merely depressing the film advance release permits the shutter to be cocked without moving the film forward to the next frame. The film remains motionless, holding its position exactly, regardless of how many exposures are made.

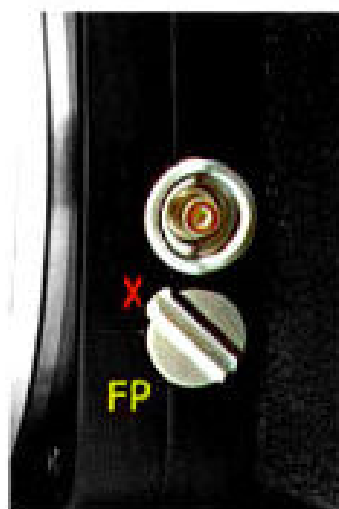
X-Synchronizations

By positioning the shutter speed dial at "X", the shutter synchronizes with electronic flash units at a very rapid 1/100 of a second. This speed is non-electronic and does not require battery power.

There is only one receptacle cord connection. For X or FP synchronization, a switch is provided.

Cordless Contacts

For cordless flash units, a "Hot Shoe" contact is incorporated into the XK. Minolta's flash mount accessory holder provides the direct connection for flash synchronization.



Oversize Quick Return Mirror

The XK's reflex mirror is sufficiently large to avoid image cutoff even when extreme telephoto and close-up lenses are used. An independent mirror lock-up switch is also provided. This switch doubles as a depth-of-field preview button.

THE OPTIMUM XK

The advantages of electronic timing are far-reaching, and you will discover them in situations where handling speed and exposure accuracy are of the essence. This is when the XK is at its nimble best, and this is when you'll appreciate it most.

Displayed inside the finder are shutter speed scale, the aperture at which the lens is set, and appropriate indi-

cators. Also visible is the Light-Emitting-Diode exposure warning signal which pulsates when exposure conditions fall below the meter's lower operating limits. The finder is unusually bright from corner to corner, and presents a complete, clear view of the subject area. Even most eyeglass wearers will be able to examine the entire field of view without averting their eyes.

8



2000
1000
500
250
125
60
30
15
8
4
2
1
B
X



For photographic effect, a thumb controlled Auto Exposure Override Control may be engaged. It varies settings when intentional under- or over-exposure is desired.

In addition to completely automatic operation, the Auto Electro Finder also allows you to set exposure by using the conventional match-needle. These speeds, too, are electronically controlled for exact timing.

A unique system is used to actuate the Auto Electro Finder's exposure control systems. Called Auto-Senswitch, the strip on the XK body responds to the touch of your hand, switching on the finder as soon you grasp the camera. An auxiliary switch, located on the finder, is used when the camera is not held.



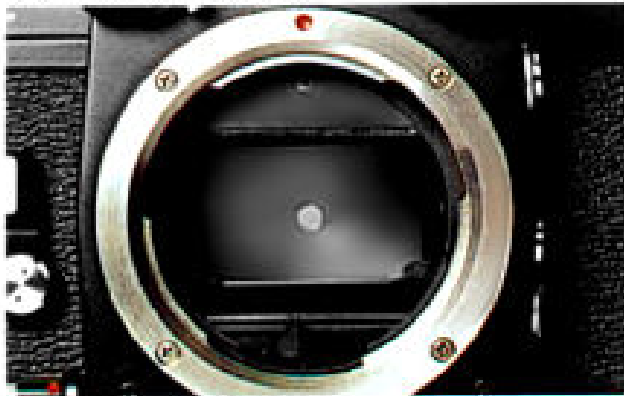
The XK's automatic electronic exposure system is contained in the Auto Electro Finder. This is where the built-in Contrast Light Compensator meter with light sensitive CdS cells is located. Light is measured through-the-lens at full aperture.

Also built into this finder is the circuitry necessary to electronically time and release the shutter for stepless speeds from 4 seconds to an incredible 1/2000 of a second. Meter sensitivity ranges from EV1 to EV17. Special circuits calculate the influence of other critical factors and combine these with CLC light measurement. This exposure information is held in the finder's electronic IC memory. During the actual instant of exposure, the memory releases the precise current required, timing shutter electronically. The entire process takes place in a fraction of a millisecond allowing pinpoint correctness and continual change of exposure inputs, right up to the instant the mirror snaps up and the exposure is made.



Minolta SLR Bayonet Lens Mount

To guarantee a lasting precision fit, lenses seat against a stainless steel flange. Mounting is accomplished by inserting and twisting the lens 54° in a single, smooth-flowing motion. No other adjustments are required.



XK Standard Lenses

For the XK, you have three, newly-designed standard Rokkor-X Lenses to select from. Each has a waffle pattern focusing grip for easy handling, while shooting.

The most demanding photographer will probably choose the 58mm F1.2. The most popular normal lens is the 50mm Rokkor-X with a maximum aperture of F1.4. An alternative to this would be the 50mm F1.7. Regardless of which basic lens you may prefer, all are made with same commitment to exceptional optics and all have Minolta's exclusive Achromatic Coating.



INTERCHANGEABLE XK FINDERS

1. Plain Finder

The meter-less Plain Finder displays both shutter speed and lens F stop. It presents a clear, unobstructed view of the entire subject area for quick, accurate focusing and composition.

2. High-Magnification Finder

The entire field of view is magnified 6.20 times with this finder which is particularly suitable whenever extremely critical, fine focusing is necessary. The High-Magnification Finder has a built-in dioptic adjustment for individual eyesight.

3. Waist Level Finder

This finder is especially useful for candid photography and in situations which call for right-angle viewing. The folding hood opens for viewing and a magnifier flips into position for fine focusing.



INTERCHANGEABLE FOCUSING SCREENS

For use with the XK, Minolta offers nine different focusing screens. This choice satisfies varying personal preferences for general photography in addition to offering solutions to more difficult focusing tasks. Ultra-bright screens, for example, can be selected when using long telephoto lenses.

The standard screen normally supplied with XK finders permits quick and accurate split-image focusing.



ROKKOR-X LENSES: 16 TO 1600 MILLIMETERS

All 25 Rokkor-X Lenses are pure Minolta from beginning to end.

All the glass that goes into each Rokkor-X is made from a highly classified Minolta formula. And all Rokkor-X are treated with Minolta's exclusive Achromatic Coating.

The complete collection of Rokkor-X Lenses provides the accomplished photographer with an impressive number of alternative viewpoints.

For maximum aperture viewing, automatic diaphragm operation is featured on 22 meter coupling lenses.

Of seven wideangle lenses, the 16mm fisheye Rokkor-X is fast at F2.8 and does not vignette your subject. There is a bellows Rokkor-X and two Macros. Two Rokkor-X Zooms have smooth, one-hand Zooming and focusing. And of the ten remaining telephoto lenses, two are of the relatively compact mirror-reflex configuration—the 800mm and 1600mm Rokkor-X's.

Extending total, unhampered creative control, the Rokkor-X range of lenses is comprehensive and complete.



THE MINOLTA XK SYSTEM

The XK has more than 150 accessories to back it up.

In the close-up category Minolta offers two bellows attachments. The Auto Bellows I allows automatic diaphragm operation. Both accept a macro stand plus a slide and strip-film copier. Also available are meter coupled extension tubes, various viewing and focusing aids, a microscope adapter, copy stand, and all manner of close-up equipment.

Close-up photography with the XK is now easier than ever as the camera automatically produces precise electronic exposure.

Versatility and automation are the standout features of two Minolta electronic flash units, the Auto-Electroflash 450 and 200.

Both units automatically adjust flash duration according to all conditions as needed. Special thyristor circuits regulate power to emit the lowest possible charge necessary for the flash burst required. Often this can result in a shorter recycling time and longer battery life. And both have an adjustment allowing you to use a variety of lens aperture—from F2.8 to F11 or from F4 to F11.

The powerful bracket-mount unit has a guide number of 45 at ASA 100. The compact flash is cordless and attaches to the XK via a "hot shoe" adapter. This unit has a guide number of 20.

Still more accessories are available from Minolta. There's a full complement of Minolta filters for example. And such items as a panorama head and cable release. In fact, the extent of the Minolta XK System is virtually as great as your own imagination.



SPECIFICATIONS

Type: Interchangeable-finder-type 35mm single-lens-reflex with electronic focal-plane shutter; Auto Electro Finder equipped as optimum form

Standard Lenses: MC Rokkor-X 50mm F1.7, 50mm F1.4, or 58mm F1.2; Full-aperture metering with Minolta SLR bayonet mount

Shutter: Electronically controlled; titanium curtains with electronic speeds from 16 to 1/2000 sec. in steps or from 4 to 1/2000 sec. stepless. Mechanical speed at X (1/100) and "B", two 1.5v silver-oxide batteries as power source

Viewfinder: Interchangeable type, together with 9 interchangeable focusing screens, with split-image (Type P) as standard

Film Advance: Lever type, with 110° winding angle after 20° unengaged; multiple exposures possible; locks in case of battery failure

Self-Timer: From 6 to 10 sec.

Flash Sync: 1/100 sec. and longer for electronic flash; single terminal with X/FP switch

Auto Electro Finder: Through-the-lens full-aperture CLC metering with stop-down metering capability; aperture-priority-type automatic or match-needle or full-manual exposure control

Visible in Finder: F-number, shutter-speed, LED exposure warning signal; from EV1 to 17 measuring (e.g., 1 sec. at F1.4 to 1/2000 sec. at F8 with F1.2 Rokkor-X)

Over-all Dimensions: 109.5mm x 48mm x 147.5 mm (4 $\frac{3}{8}$ " x 1 $\frac{7}{8}$ " x 6")

Weight: 895g (31 $\frac{1}{2}$ oz.), without lens

(Specifications subject to change without notice.)



Canon EOS 8888







Canon EOS 5000

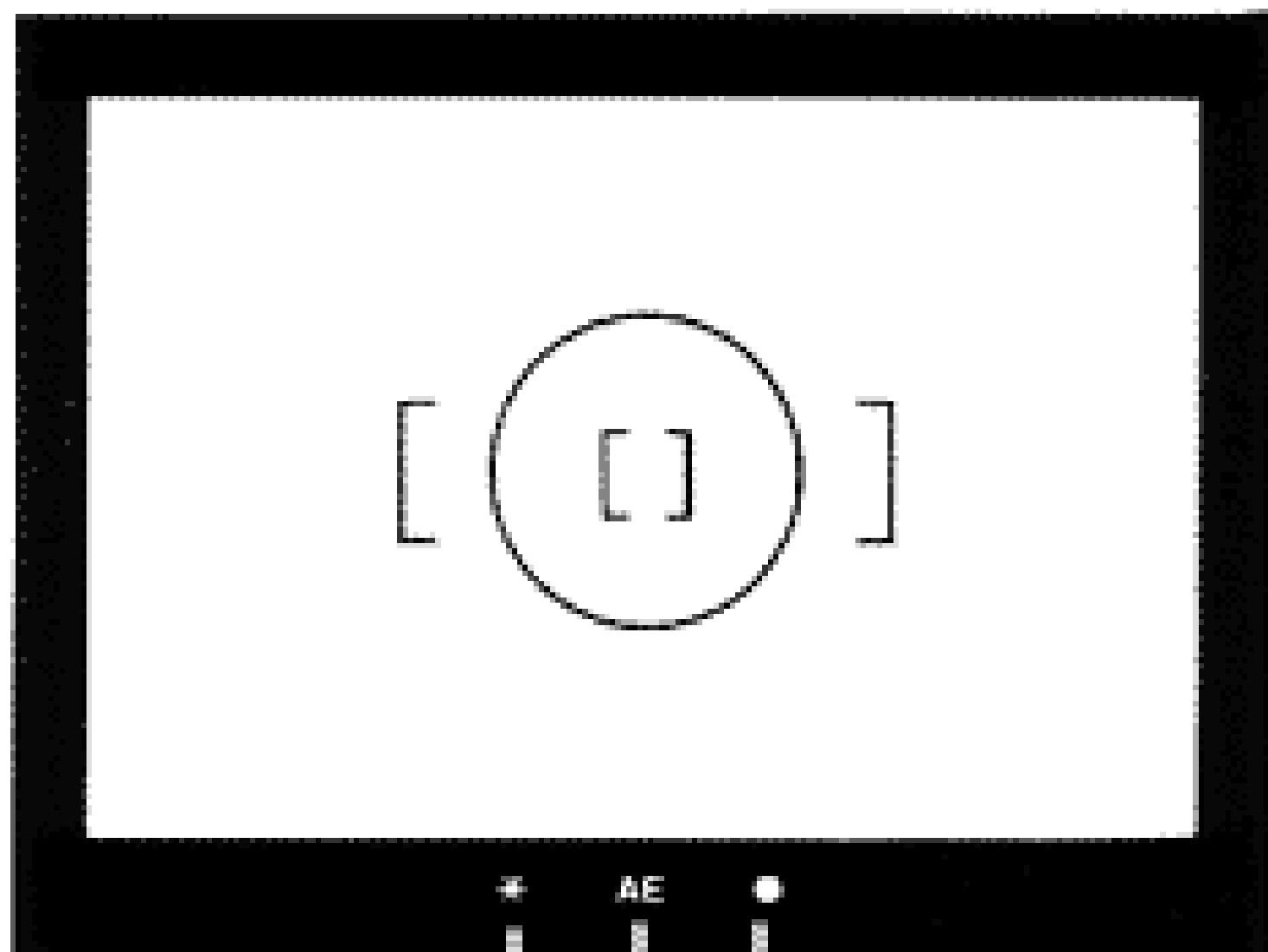


*Good photography
is easy with EOS*









Partial metering
AE lock indicator
(Center focusing)

in-focus
lamp

AE indicator

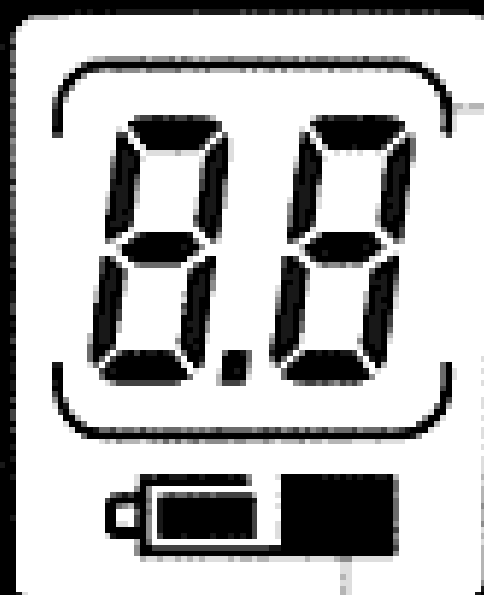
On: Correct exposure

Blinks: Incorrect exposure

Flash-use indicator







Frame counter
Self-timer display
(seconds remaining)
Aperture indicator

Battery symbol
Battery level indicator



























<http://www.FlagsExpress.com>







Credit: Joe <southtexasphoto@prodigy.net>

Credit: Joe <southtexasphoto@prodigy.net>





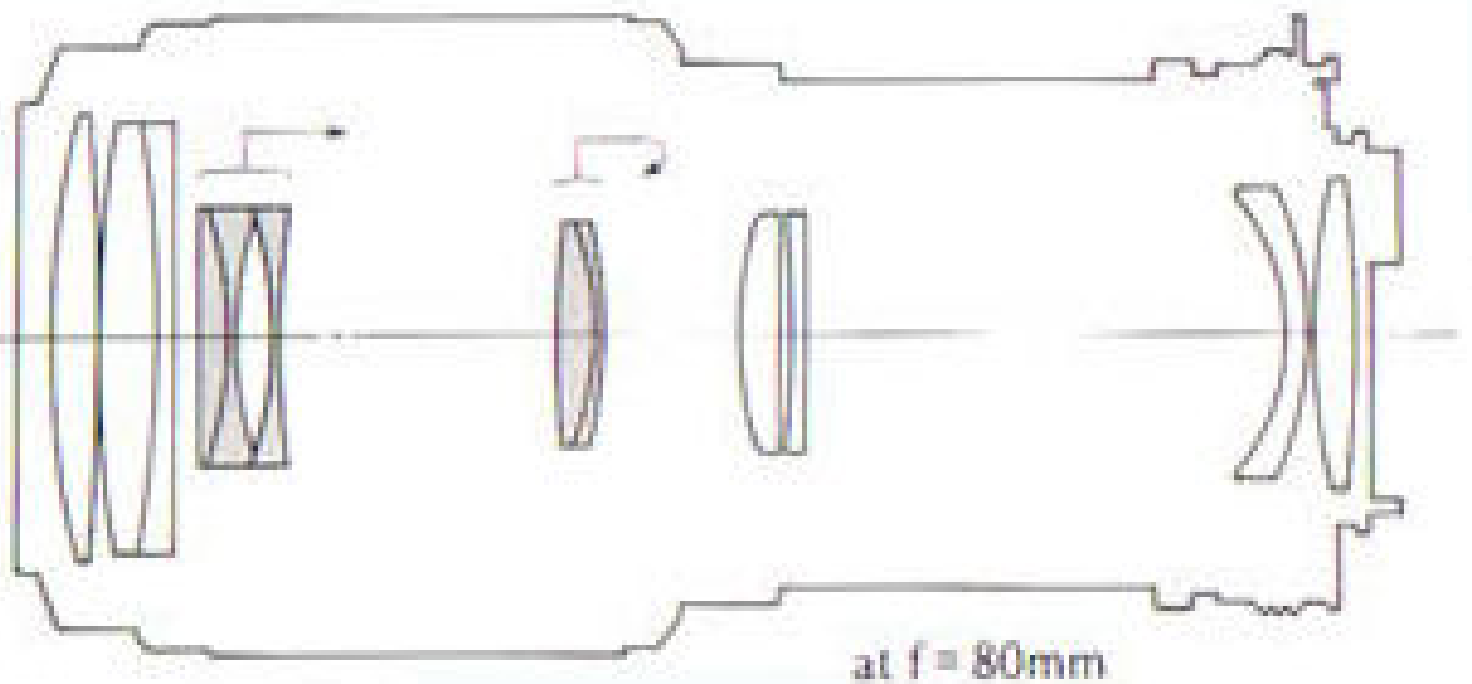
Credit: Mr. W.J. EichnerLynch
www.blackandwhitevisions.com







Zoom-Nikkor 80-200mm f/4.5







80-200 f/4.5

at $f = 80\text{mm}$

80-200 f/4.0 AI-S

