Nikon F

the complete system approach to 35mm photography

the Nikon F

is so closely identified with the professional user, it has come to be known as 'the camera man's camera'. Yet, in a larger sense, the Nikon F is for every man moved by the urge to express himself creatively, who has found fulfillment through photography. And it is especially for the man to whom fine equipment is in itself a source of gratification with the knowledge that its quality goes hand-in-hand with the inevitable quality he will enjoy in the results.

Automatic ease! Speed! Hushed precision! These are your very first impressions as you put the Nikon F through its paces. Your fingers take to it as if you had used one all your life.

As you sight through the finder, you're greeted by a bright, clear image of the scene. Focusing is fast, easy, positive. You compose and shoot.

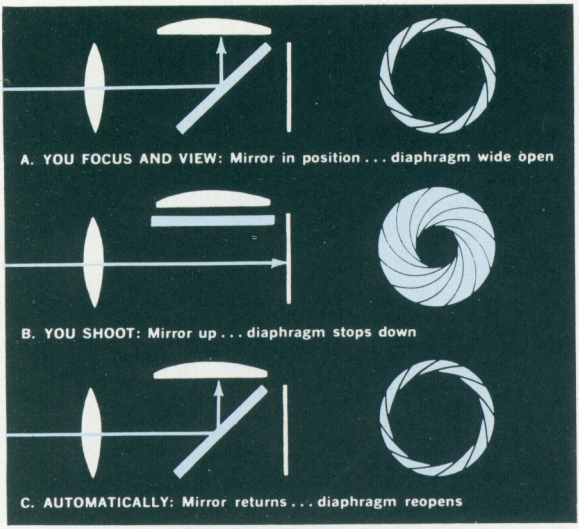
In that instant of exposure, the Nikon F automatically takes over. The lens stops down; the mirror flips up, and the shutter curtain flashes across the film plane. Then, instantly—automatically—the diaphragm reopens, and the mirror snaps back to viewing position.

Except for an almost imperceptible flutter in the finder, and the almost inaudible 'click' of the shutter, you would hardly know the exposure had been made. The image is still visible, still bright and clear, as before.

As you get to know your Nikon more intimately, you find yourself working with even greater ease and confidence. You proceed from picture to picture with astonishing speed. You focus, frame, shoot–focus, frame, shoot–the camera responds smoothly, efficiently, automatically.

INSTANT-REOPEN DIAPHRAGM

The lens is always wide open for focusing and viewing. But, at the instant the shutter is released, the diaphragm automatically closes down to selected 'taking' aperture, and then, instantly, automatically reopens. The design of the Nikon diaphragm is such that even if preset between aperture markings, the automatic action will not disturb the setting. And when interchanging lenses, no attention need be paid to whether the shutter had or had not been previously wound.



INSTANT-RETURN MIRROR

Whisper-quiet, lightning fast, the mirror flips up for the exposure and then instantly springs back to precise focusing-viewing position. The image never seems to disappear. The action is positive and complete even with the camera held and used upside down.

The mirror action of the Nikon F is so effectively damped, that there is virtually no shock of impact transmitted to the camera body, and virtually no residual vibration to deteriorate image sharpness.

INSTANT-ACTION PREVIEWER

As you press the previewer button, the diaphragm stops down so you can see the depth-of-field at 'taking' aperture. Or you can select the 'taking' aperture on the basis of desired depth-of-field. Release the button, and the diaphragm reopens instantly. The action is entirely independent of the shutter release mechanism, and cannot cause accidental exposure.

other distinctive features offered by the Nikon F

1. **HIGH-SPEED FILM REWIND CRANK**
folds down flush when not in use.

2. **ONE STANDARD TERMINAL FOR FLASHBULBS AND ELECTRONIC FLASH**
does not interfere with viewing and other operations. Also has terminal for cordless flash.

3. **SINGLE-STROKE FILM ADVANCE LEVER**
also winds shutter — prevents double exposures.

4. **NON-SPINNING SHUTTER SPEED DIAL**
does not rotate while shutter is wound or released. Speeds: 1 sec. to 1/1000th, T and B.

5. **EXPOSURE COUNTER**
automatically resets to "0". Film Load Reminder for 20 or 36 exposures.

6. **CALIBRATED, DUAL PURPOSE SELF TIMER**
pre-sets from 3 to 10 seconds. An ingenious aid for hand-held exposures at slow speeds.

7. **COMPENSATING FLASH SYNCH CONTROL**
compensates for flashbulb peak characteristics at all speeds to 1/1000th — electronic flash at 1/60th.

8. **INTERCHANGEABLE VIEWFINDER**
eye-level penta-prism finder provides full size image of the entire field even when wearing glasses. Interchanges with accessory waist-level finder and Photomic prism/meter systems.

9. **COMPLETELY REMOVABLE BACK**
for faster loading, easier cleaning. Interchanges with electric motor drive.

10. **BALL-BEARING FOCAL PLANE SHUTTER**
thermally compensated to assure accurate, uniform speeds—even under temperature extremes.

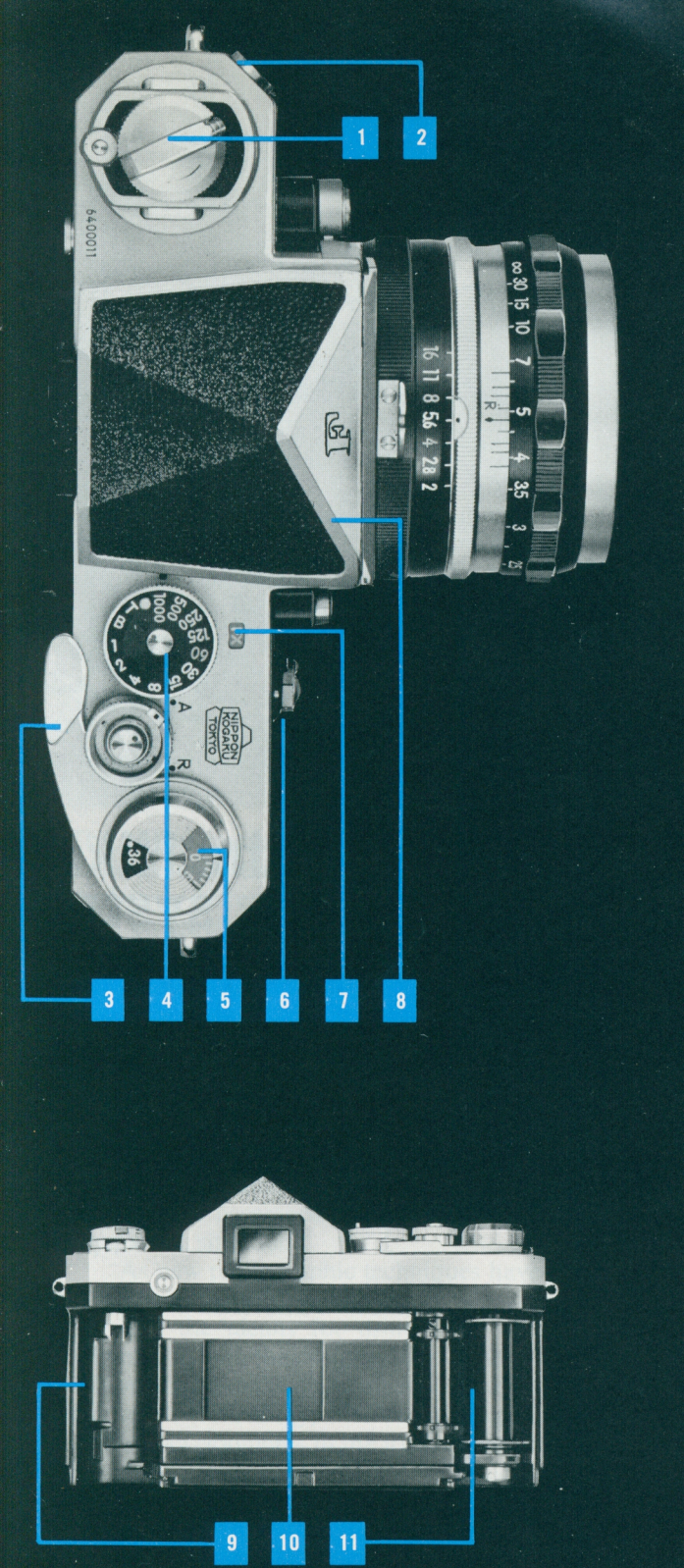
11. **FIXED TAKE-UP SPOOL**
precisely aligned to insure even film draw — speeds film loading.

TRIPOD SOCKET IN BODY CASTING
eliminates unnecessary strain on camera back. Centered for better balance.

MIRROR LOCK-UP
secures mirror in 'up' position for deep set extreme wide angle lenses, such as Fisheye Nikkor and 21mm Nikkor, and for other special applications.

FAST SHUTTER CURTAIN ACTION
increases stop-action effectiveness, minimizes elongation distortion.

INTERCHANGEABLE VIEWFINDER SCREEN
provides complete flexibility for any application and accommodates any personal preference.
See page 13 for details.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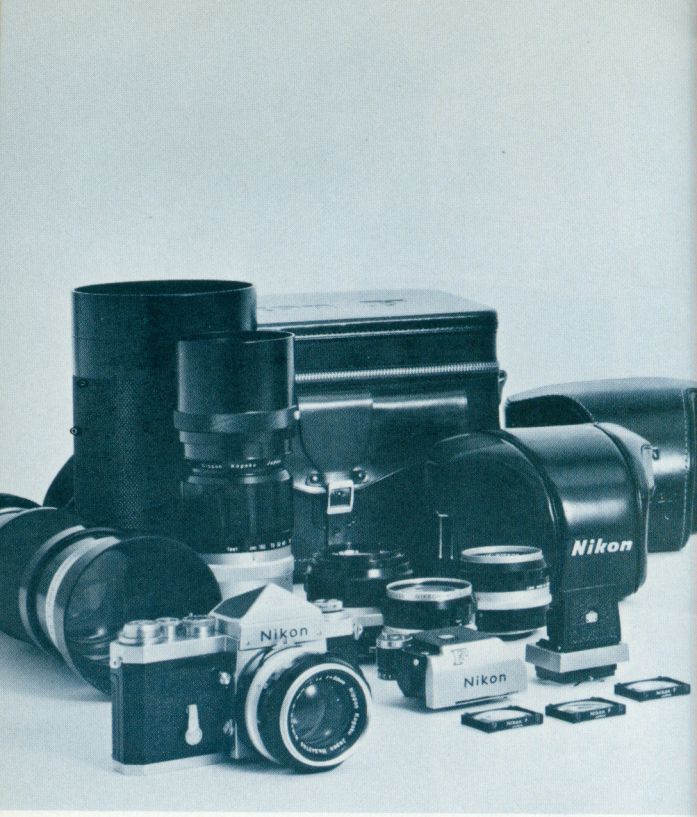
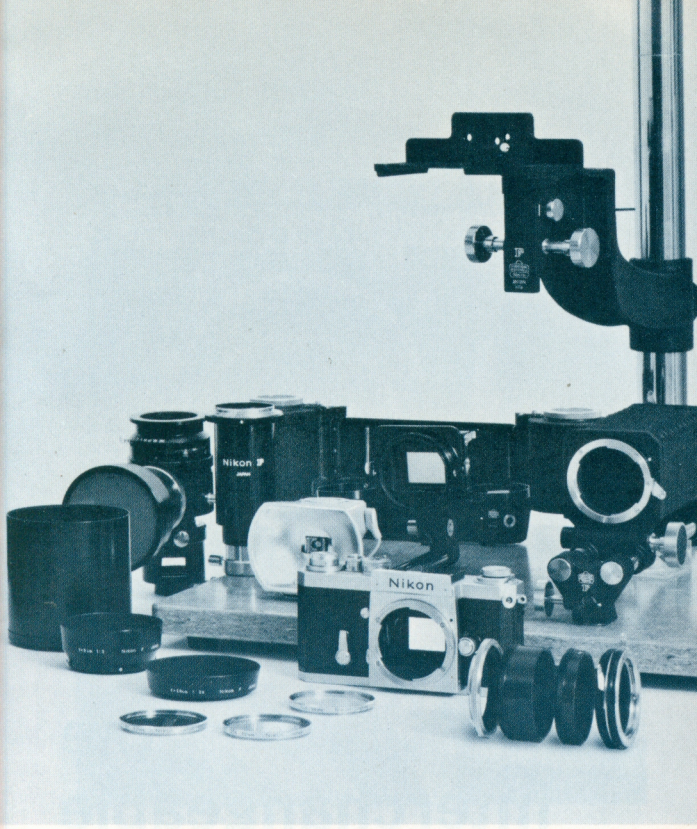


the Nikon system



The Nikon owner's photographic horizon extends as far as the flight of his imagination. His camera is his entry to the Nikon system, the most comprehensive in 35mm photography. It provides the means for mastering every conceivable type of subject, from the infinitesimal world of micro-organisms to the infinite expanse of the universe.

The secret behind this unequalled versatility of the Nikon F lies in the interchangeability of its components. Not only the Nikkor lens, but also the finder, viewing screen and camera back are easily interchangeable with a multitude of precision accessories to meet the needs of any picture situation.

As new photographic techniques have been developed, Nikon designers and engineers have provided the means for using them with the Nikon F. In fact, the design of this camera seems to have anticipated every major advance in single lens reflex technology, accommodating all subsequent developments in the form of easy-to-use accessories. This forward-looking, basic design, constantly rejuvenated by continuing Nikon research, is your assurance that your Nikon F will never be obsolete.

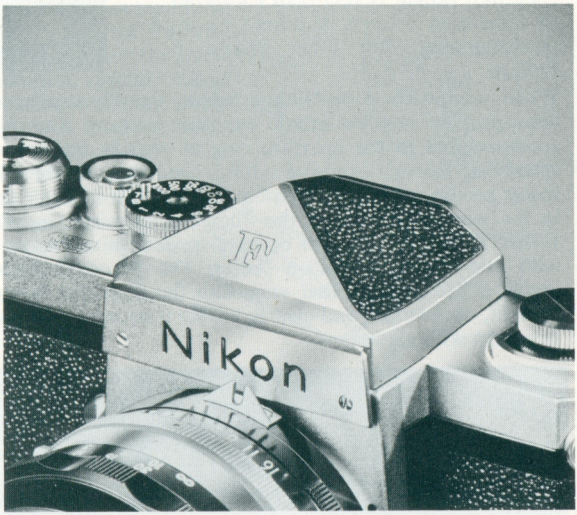
the interchangeable finder system

The Nikon F is acknowledged to be the only 35mm reflex with a precisely accurate finder system. It frames the subject *exactly* as it will be framed on the film, showing 100% of the actual picture area. There is no guesswork as to marginal coverage. Being able to compose with such complete confidence is particularly valuable when shooting color slides, because they cannot be cropped.

In addition, the finder and viewing screen of the Nikon F are both interchangeable. There are four finders to choose from: Standard Prism, Waist-Level, or either of two Prism/Meter systems—Photomic T, providing thru-the-lens exposure control, or direct-reading Photomic D. You can interchange these finders at will, in a matter of moments, to suit your convenience or preference, or to satisfy some need. You can sight with camera above your head, upside down, at right angle to the subject, or from below. Whatever viewing method a situation may call for, there is always a way with the Nikon F.

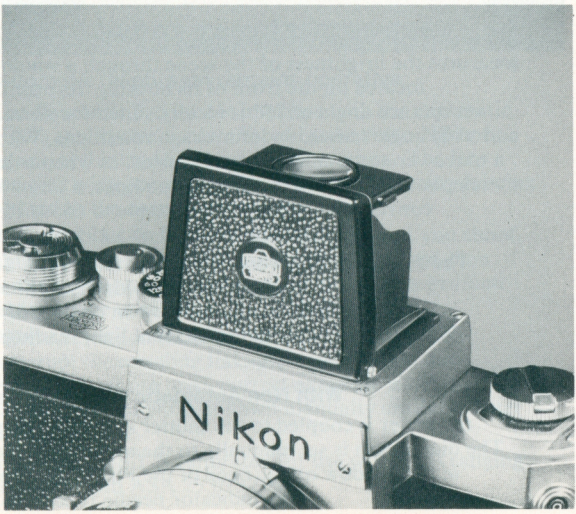
THE STANDARD PRISM FINDER

houses an optically precise roof prism and magnifier eyepiece. It is used at eyelevel, and shows the entire field of the focusing-viewing screen, even with glasses. The image is bright, erect and unreversed, and almost life size with the standard 50mm lens.



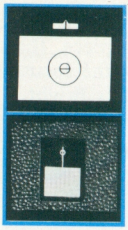
THE WAIST-LEVEL FINDER

is especially useful in macro photography and copying, or wherever other-than-eyelevel-viewing is desired. It may be used with the camera overhead or at a low position, or for viewing at right angles to the subject. It is equipped with a self-erecting hood and folding magnifier, and is supplied with case.

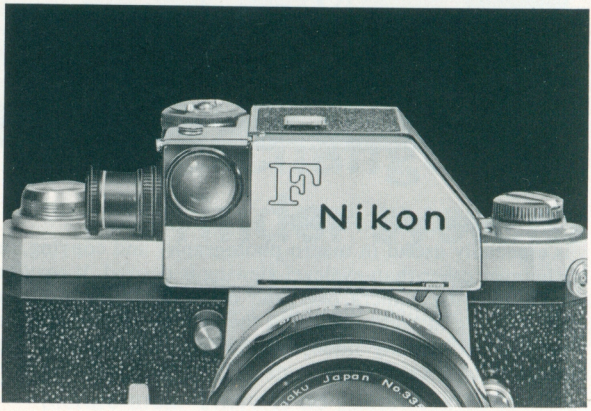


THE PHOTOMIC METER/PRISM FINDER SYSTEMS

add to the Nikon F the convenience of built-in exposure control combined with roof prism finder in a single housing. There are two Photomic systems: the direct-reading Photomic D and the thru-the-lens Photomic T. Both use sensitive cadmium sulfide (CdS) cells energized by a mercury battery. And both are interchangeable with other Nikon F finders.



When used with Auto-Nikkor lenses, the Photomic systems provide semi-automatic exposure control. They are cross-coupled to the aperture ring as well as the shutter speed dial. Correct exposure settings are indicated when the meter needle centers. It is visible in the finder (fig. A) and in the window on top of the Photomic housing (fig. B). Either Photomic also can be used to determine exposure with non-automatic Nikkor lenses. The Photomic finder image is the same as that seen with the Standard Prism: upright, unreversed, and clearly visible from corner to corner, even with glasses.



THE DIRECT-READING PHOTOMIC D SYSTEM

measures the brightness of the scene through a window located on the front of its housing. Its normal acceptance angle of 75° is ideally suited for normal and wide angle lenses, under average conditions. When a narrower acceptance angle is desired, as when using telephoto lenses or taking 'spot' readings, a screw-in converter tube reduces the angle to about 15°, approximately the field of a 135mm lens.

The Photomic D covers film speeds from ASA 10 to 1600. It can be preset to compensate filter factors up to 4X. A screw-in opaline disc is supplied for taking incident light readings.

With Non-Automatic Nikkor Lenses

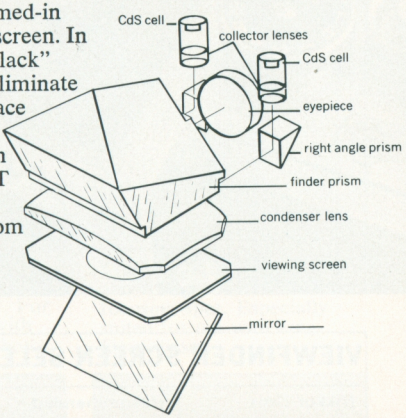
the meter is coupled to the shutter speed dial only. The diaphragm is set manually to the aperture shown in the window on the back of the Photomic when the indicator needle is centered.

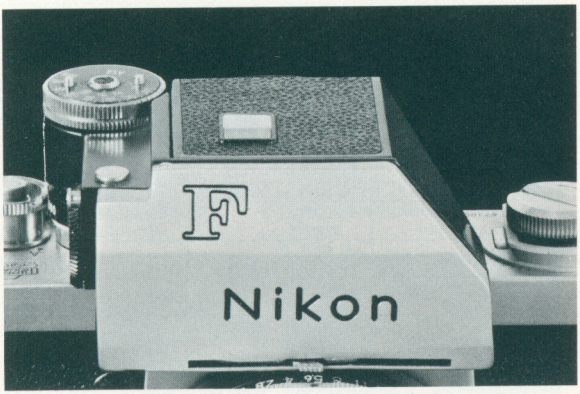
THE THRU-THE-LENS PHOTOMIC T SYSTEM

provides "thru-the-Nikkor" exposure control. Its use with the Nikon F and Nikkor lenses gives as much assurance of picture quality as of exposure accuracy.

The Photomic T measures subject brightness directly from the viewing screen. Two CdS cells are used, located behind the finder prism, one on either side of the eyepiece.

Each cell, mounted behind a double-lens optical system, "sees" only the framed-in picture area on the screen. In addition, special "black" coating is used to eliminate spurious, glass-surface reflections. Every precaution has been taken in Photomic T design to prevent extraneous light from reaching the cells and upsetting measurement accuracy.





Automatic diaphragm remains operative

The Photomic T does not interfere with the automatic diaphragm convenience offered by the Auto-Nikkor lenses, and introduces no extra operations. The lens remains wide open, even while the aperture ring is being rotated to the correct exposure setting.

At that point, the meter needle centers, and you shoot. Only then does the diaphragm stop down, and then instantly reopen. You enjoy the comfort of a brilliant finder image at all times.

Where extension tubes or bellows are used which interrupt the coupling linkage, or where non-auto Nikkor lenses are used, correct exposure is obtained by stopping the diaphragm down manually until the meter needle centers.

The Photomic T is calibrated for use with films ranging in speed from ASA 25 to 3200.

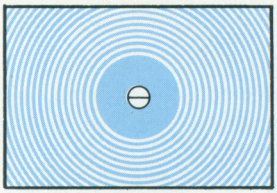
VIEWFINDER SCREEN SELECTOR CHART

Nikkor Lens	Recommended	Suitable
28mm f3.5	A, B, E, F, G-1, H-1	
35mm f2	A, B, D, E, F, G-1, G-2, H-1, H-2	
35mm f2.8	A, B, E, F, G-1, H-1, H-2	
35mm f3.5 PC	B, E, F	A
50mm f1.4	A, B, E, F, G-2, H-2	
50mm f2	A, B, E, F, G-1, G-2, H-1, H-2	
55mm f1.2	A, B, D, E, F, G-2	H-1, H-2
55mm f3.5 Micro-Nikkor	B, E, F, H-2	A, G-2, H-1
85mm f1.8	A, B, E, F, G-1, G-2, H-1, H-2	
105mm f2.5	A, B, E, F, G-2, H-1, H-2	
105mm f4	A, B, E, F, H-2	
135mm f2.8	A, B, D, E, F, G-2, G-3, H-2, H-3	
135mm f3.5	A, B, E, F, G-2, H-2	C, D
135mm f4 Short Mount	B, E, F, H-3	A
180mm f2.5	A, B, E, F, G-2, G-3, H-2, H-3	C, D, G-4
200mm f4	A, B, E, F, G-2, H-2	C, D
200mm f5.6 Medical	B, E, F, H-2	A
250mm f4	A, B, E, F, G-3, H-3	C, D, G-4, H-2, H-4
300mm f4.5	A, B, E, F, G-3, H-3	C, D, H-2, H-4
350mm f4.5	A, B, E, F, G-3, H-3	C, D, G-4, H-2, H-4
400mm f4.5	A, B, E, F, G-4, H-4	C, D, G-3, H-3
500mm f5	B, E, F, G-4, H-4	A, C, D, G-3, H-3
500mm f5 Reflex	B, E, F	A, C, D, H-2, H-4
600mm f5.6	B, D, E, F, G-4, H-4	A, C, G-3, H-3
800mm f8	B, D, E, F, G-4, H-4	A, C, G-3, H-3
1000mm f6.3 Reflex	B, D, E, G-4	A, C, F, H-4
1000mm f11 Reflex	B, D, E	F
1200mm f11	B, D, E, G-4, H-4	A, C, F
43– 86mm Zoom	A, B, E, F,	H-2
50–300mm Zoom	B, E, F	A, G-3, H-3
85–250mm Zoom	A, B, E, F, G-3, H-3	H-4
200–600mm Zoom	B, D, E, F, G-4, H-4	A, C, G-3, H-3

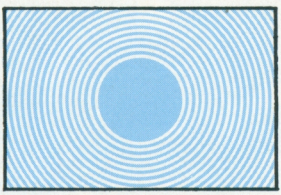
The choice of one screen among the several marked "recommended" or "suitable" for any one lens is a matter of personal preference.

INTERCHANGEABLE VIEWFINDER SCREENS

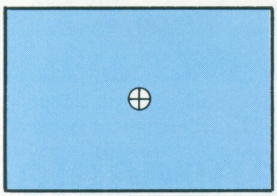
The Nikon F user doesn't have to adapt to the limitations of any one screen. He has a freedom of choice through which he can satisfy any need. He can select on the basis of personal preference, comfort or convenience, or because he finds one better suited for certain lenses or picture situations. There are fourteen different screens available for the Nikon F. Each has its own characteristic pattern. And each offers some advantage in some specific application. The chart on the facing page can serve as a useful guide.



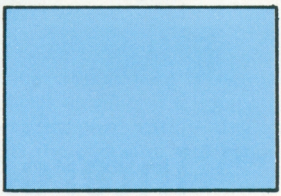
Type A Matte Fresnel field, fine-ground matte spot, and split-prism rangefinder. For general photography with lenses to medium telephoto.



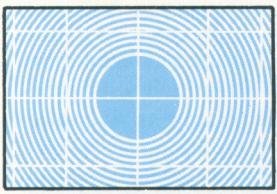
Type B Matte Fresnel field and fine-ground matte focusing spot. Especially suited for use with long-focus lenses.



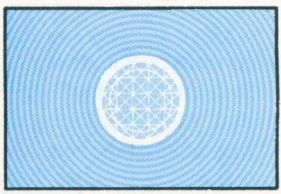
Type C Fine-ground matte field with clear spot and cross-hair reticle. For photomicrography and similar special applications.



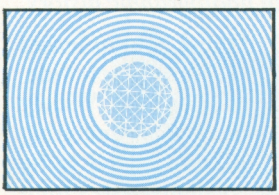
Type D Overall, fine-ground matte field. For specialized copy photography, and for use with high-magnification lenses.



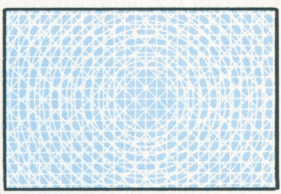
Type E Matte Fresnel field and fine-ground matte focusing spot with etched vertical and horizontal lines. For architectural photography.



Type F Matte Fresnel field with large, extra-bright microprism focusing spot. Excellent for general photography with all lenses, in any light.



Type G series Clear Fresnel field with extra-bright microprism focusing spot. Available in 4 models.



Type H series Clear Fresnel field with microprism focusing pattern over entire screen area. Available in 4 models.

interchangeable Nikkor lenses

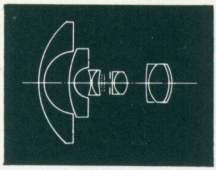
No name, over the past 15 years, has been more frequently or more closely identified with progress and development in photographic optics than that of Nikon.

Whichever criterion you apply — variety, quality, versatility, inventive originality — this inevitable fact stands out: *the current complement of interchangeable Nikkor lenses for the Nikon F is without equal in photographic history.*

There are more than 30 of these Nikkor lenses for the Nikon F, ranging from 8mm super-wide wide angle to 1200mm super telephoto. Widely acclaimed by the most critical, discriminating users, they are universally acknowledged to be the finest lenses ever made available for 35mm photography. Some of them are so significantly unique in concept, in design and in application that special descriptions are warranted.

FISHEYE-NIKKOR 8mm F8

A unique optical achievement, this lens is said to have a picture angle of 180°. But, actually it 'sees' a full hemisphere — everything in front, above, below and all around it, and reproduces a circular composition on the film. Despite its extreme angle, it is remarkably sharp, and highly corrected for color.



The Fisheye-Nikkor aids in many scientific applications and in special-effects photography. Six filters are built into the lens, on a rotating turret: UV haze, medium yellow, deep yellow, orange, red and green. The lens is also supplied with an optical, centering finder.

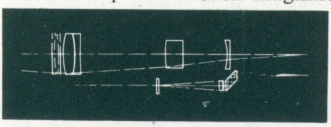
MEDICAL AUTO-NIKKOR 200mm f5.6

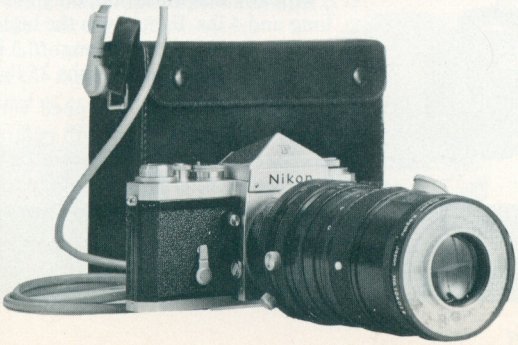
Equally typical of Nikon ingenuity and resourcefulness, this unusual lens reduces lab photography problems to routine simplicity. It provides a virtually automatic approach to close up work.

Instead of conventional focusing, the lens provides for 11 settings based on reproduction ratios from 1/15th actual size to 3X magnification. The camera is then used at the distance from the subject at which the image is sharp in the finder. The magnification setting also 'programs' the aperture at which the exposure will occur. The working distances, depending on reproduction ratio, range from 11 feet to 2¾ inches.

The lens incorporates its own light sources: 4 small incandescent bulbs to illuminate the picture area for viewing ease, and a shutter-synchronized, electronic ring-light flash which gives uniform, shadowless light for the exposure. Battery and AC power-packs are supplied together with a compartment case for the camera and lens, auxiliary lenses and power pack.

The diaphragm automatically stops down to correct aperture, automatically compensating for the exposure increase required at each magnification. The lens also embodies facilities for identifying the film as to frame number or magnification ratio.





PC-NIKKOR 35MM f3.5

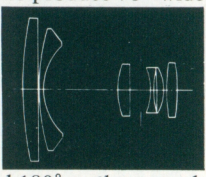
An unusual lens, ingeniously designed, the PC-Nikkor provides 35mm photography with controls never before possible, except with large cameras equipped with rising, falling and shifting lens standards.

For example, in photographing a building, the camera is often tilted to include the upper structure. This tilting causes the vertical lines to converge and the building to appear to be leaning back. With large view cameras, the camera back is kept parallel to the building. The upper portion is included by raising the lens.

In the PC Nikkor, a micrometer lead-screw control permits moving the optics off-center by as much as 11mm. The effect is the same as is produced on a view camera having a 3-inch rise and equipped with a 9½-inch lens.

The entire lens mount rotates so that the correction can be applied in any direction — horizontally, vertically or diagonally. There are 12 click-stop positions at 30° intervals.

The PC-Nikkor can also be used to produce 76° 'wide screen' pictures, in either the vertical or horizontal, retaining the original dimension in the other plane (similar to the effect of an anamorphic lens). First, one picture is taken with the lens shifted full 11mm. Then, the lens is rotated 180°, and a second, separate picture is taken. The two pictures, when joined, produce a panoramic shot with uniform perspective.



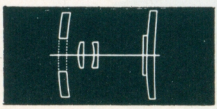
Use of the Type E viewing screen is recommended with the PC-Nikkor. Its etched pattern of horizontal and vertical lines helps align the image more precisely and easily.

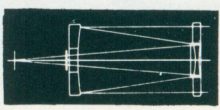
REFLEX-NIKKOR LENSES

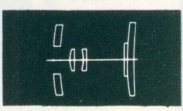
These remarkable mirror-lens systems are based on design principles used in large astronomical telescopes. In conventional refractor lenses,the light follows a single path and direction. In mirror-lens systems the light doubles back, thus travelling the same distance in less space. This leads to surprising compactness and reduced weight.

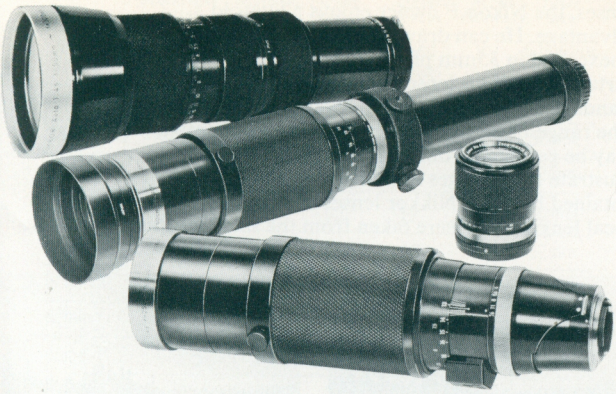
Thus, the Reflex-Nikkor 500mm f5, giving 10x magnification, is only 7¾″ long and weighs just 3½ lbs., and the 1000mm f11, with 20x magnification, only 8½″ long and 4 lbs. light. Even the high-speed Reflex Nikkor 1000mm f6.3 is only 18″ long and weighs 25 lbs.

The Reflex-Nikkors are not equipped with diaphragms but are provided with neutral density filters for cutting down exposure light. Color correction filters are also supplied.





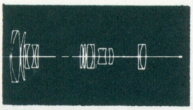


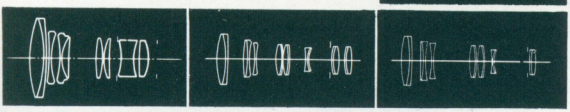


AUTO-NIKKOR ZOOM LENSES

These remarkable lenses provide all the advantages of lens interchangeability without the need to change lenses. With one lens and from one shooting position, you can command a wide range of picture angles and magnifications. Without moving camera or subject, you can enlarge or diminish image size for exactly the effect desired. And because the focal length transitions are smooth and fast, you can 'follow-zoom' moving action to maintain constant image size in sequence pictures. Once in sharp focus at one focal length, your Nikkor-Zoom is in sharp focus at all focal lengths. All have automatic, instant-reopen diaphragms.

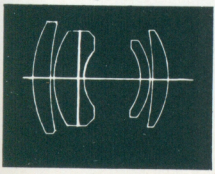
The four Auto-Nikkor Zoom lenses cover from medium wide angle to 12-power telephoto: 43 to 86mm f3.5; 50 to 300mm f4.5; 85 to 250mm f4; and 200 to 600mm f9.5. The latter two are supplied with auxiliary close-up lenses for focusing to as close as 7½ feet.



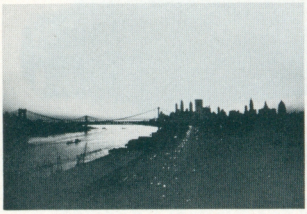


MICRO AUTO-NIKKOR 55mm f3.5

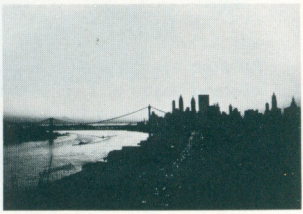
The resolving power of this unusual lens is almost incredible. As suitable for normal photography as for extreme closeups, the dual-helical system in which this lens is mounted, gives it an uninterrupted focusing range from infinity to 1:2 reproduction ratio. A coupling tube supplied with the lens further extends this to 1:1. The automatic diaphragm action remains operative throughout the entire range, also automatically compensating for the exposure increase required at each magnification all the way to 1:1.



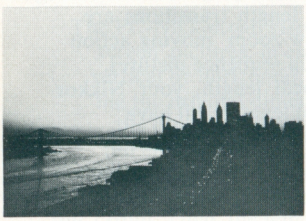
In choosing his personal complement of Nikkor lenses, the Nikon F owner enjoys a twofold advantage. He can draw upon a variety that is unexcelled in 35mm photography. And he can be certain that all his lenses exhibit the same high standard of picture quality in every application. The range of pictorial expression at his command may be gathered from these pictures. They illustrate the changes in image size and picture angle obtained by using Nikkor lenses of different focal lengths. All were taken from the same position.



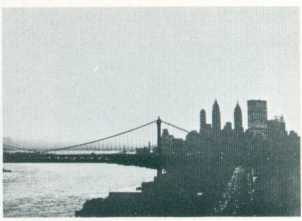
21mm



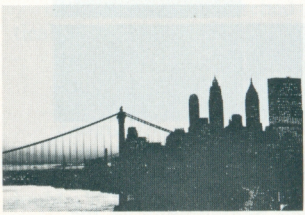
28mm



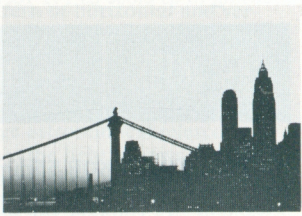
35mm



50mm



85mm



135mm

200mm

500mm

Lens	Diaphragm Action	Minimum Aperture	Picture Angle	Closest Focus	No. of Elements	Filter Size
8mm f8 Fisheye	Manual □	f22	180°	fixed focus	9	6 built-in filters
21mm f4	Manual	f16	92°	36″	8	52mm
28mm f3.5	Automatic*	f16	74°	24″	6	52mm
35mm f2.8	Automatic*	f16	62°	12″	7	52mm
35mm f2	Automatic*	f16	62°	12″	8	52mm
35mm f3.5PC	Pre-set	f32	62°	12″	6	52mm
50mm f2	Automatic*	f16	46°	24″	6	52mm
50mm f1.4	Automatic*	f16	46°	24″	7	52mm
55mm f1.2	Automatic*	f16	43°	24″	7	52mm
55mm f3.5 Micro	Automatic*	f32	43°	1:1	5	52mm
85mm f1.8	Automatic*	f22	28°30′	3½′	6	52mm
105mm f2.5	Automatic*	f22	23°20′	4′	5	52mm
105mm f4	Pre-set	f22	23°20′	33″	3	34.5mm
135mm f3.5	Automatic*	f22	18°	5′	4	52mm
135mm f2.8	Automatic*	f22	18°	5′	4	52mm
135mm f4	Pre-Set○	f22	18°	1:1	4	43mm
180mm f2.5	Pre-set†	f32	13°40′	7′	6	series 9
200mm f4	Automatic*	f22	12°20′	10′	4	52mm
200mm f5.6 Medical	Automatic	f45	12°20′	2¾″	4	—
250mm f4	Pre-set†	f32	10°	10′	4	series 9
300mm f4.5	Automatic*	f22	8°	13′	5	72mm
600mm f5.6	Automatic‡*	f22	4°	34′	5	122mm
800mm f8	Automatic‡*	f22	3°	60′	5	122mm
1200mm f11	Manual‡	f22	2°	135′	5	122mm
500mm f5 Reflex	Manual	f10	5°	50′	Mirror Lens System	39mm
1000mm f6.3 Reflex	Manual		2°30′	100′		built-in filters
1000mm f11 Reflex	Manual		2°30′	25′		34.5mm
43-86mm f3.5 Zoom	Automatic*	f22	58° to 28°	4′	9	52mm
50-300mm f4.5 Zoom	Automatic*	f22	46° to 8°	8½′	14	95mm
85-250mm f4 Zoom	Automatic*	f16	28°30′ to 10°	13′	15	series 9
200-600mm f9.5 Zoom	Automatic	f32	12°20′ to 4°	13′	13	series 9

□ requires use of Standard Prism or Waist-Level finder
*couples to exposure meter and Photomic systems.
†requires Rotating Adapter Coupler for use with Nikon F
° used only with bellows. Requires BR-1 adapter.
‡must be used with focusing mount adapter LNP199

All lenses are supplied with front caps. Telephoto lenses from 105mm up include lens hoods.

Nikkor lenses in 'F' mounts can be used on 16mm 'C' mount movie cameras by means of Nikon 'C' mount adapters.

E1 Nikkor 50mm f2.8 enlarging lens offers maximum resolving power and flatness of field for highest quality black and white and color printing.

close-up, macro, and micro photography

The boundless versatility of the Nikon F system is best demonstrated by the ease with which it lends itself to the requirements of photography in all its phases. There is hardly an application arising in science, industry, education, journalism, law enforcement, or in the art or hobby of photography, that isn't within the capabilities of this all-encompassing system . . . . . from the infinitesimal to the infinite!

Special equipment and accessories, designed with the same purposeful precision as the camera itself, provide the Nikon F with facilities for an almost limitless number of applications.

The *interchangeable viewfinder system* is fully described elsewhere in this booklet. Yet, it deserves special mention under this category. The freedom, convenience and flexibility this feature brings to these applications are unique with the Nikon F. The Nikon F user is not limited to any one type of finder or viewing screen. He can choose to suit the specific requirement, and draw upon and enjoy the peculiar advantages offered by each in meeting the need at hand.

LENSES FOR CLOSE-UP PHOTOGRAPHY

Every Nikkor lens for the Nikon F can be used with one or another of the close-up accessories. It should be borne in mind, however, that some lenses are better suited for close-up photography than others.

The normal 50mm Auto-Nikkor f2 lends itself to successful close-up work with any accessory. But, where high resolution is paramount, the Auto-Micro-Nikkor 55mm f3.5 will be found to surpass the most exacting requirements. This lens, as well as the unique Auto Medical Nikkor 200mm f5.6, are described on pages 15 and 16 of this booklet.

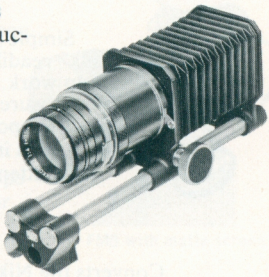
NIKKOR 135mm f4.0 LENS IN SHORT MOUNT

This lens is designed for use with the Bellows Attachment and BR-1 adapter Its focusing range extends from infinity to 1:1 magnification ratio. It covers an 18° angle of view, and its pre-set diaphragm offers stops from f4.0 to f22.

BELLOWS FOCUSING ATTACHMENT

This is the most flexible single accessory for close-up and macro-photography with the Nikon F. It accepts all Nikon F lenses. With the 50mm f2 lens reproduction ratios range from 1:1 (life size) to 3.5X magnification.

Using the bellows attachment with the 135mm f4.0 Short Mount Nikkor lens (plus B-F adapter) provides a continuous focusing range from 1:1 reproduction to infinity. The bellows attachment has its own tripod socket. It can be used on any support, or with a Repro-Copy Outfit. Rotating camera mount permits both horizontal and vertical format.

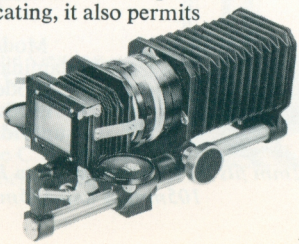


BR-2 MACRO RING

Permits any lens with 52mm front thread to be mounted on Bellows Attachment in reverse position. Provides optimum optical performance of lens at reproduction ratios greater than 1:1.

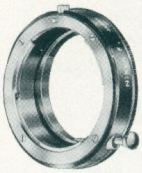
SLIDE COPYING ADAPTER

Provides a simple and accurate means for duplicating 35mm color or black-and-white transparencies. It is used in combination with the bellows attachment and accepts both mounted slides and strips. In addition to 1:1 duplicating, it also permits enlarging a section of a transparency to full 35mm format. For this purpose, the lens is attached in reverse, using the BR-3 adapter.



MODEL E2 EXTENSION TUBE

This convenient close-up device is inserted between camera body and lens, adding an extension of 14mm. It accepts any Nikkor lens from 28mm up, except the 135mm f4 and 180mm f2.5.

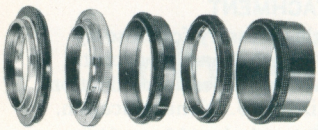


When used with Auto-Nikkors, the built-in plunger is depressed to open the lens to full aperture for viewing and focusing. Releasing the plunger stops the lens down to 'taking' aperture. The plunger accepts a standard cable release.

Two or three E2 tubes may be combined for greater magnification.

MODEL K EXTENSION TUBE SET

Consists of a set of 5 tubes which can be used individually or in any combination. For close-ups from 1:8.9 to 1:1. Tubes fit between camera body and lens; accept any Nikkor lens from 28mm through 135mm (except 135mm f4) also the 200mm, and 300mm lenses. Supplied with leather case.

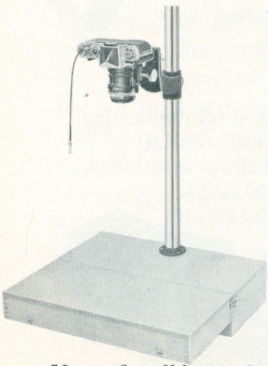


AUXILIARY CLOSE-UP LENSES

Simple meniscus lenses in 52mm screw-in mounts* readily adapt Nikon F for copying and close-up work. They require no compensation in exposure. Available in three progressively increasing powers: No. 0, 1 and 2. May also be used in combination, and in conjunction with extension tubes or bellows attachment.

REPRO-COPY OUTFIT

Converts the Nikon F into a completely integrated close-up system for reproducing flat copy or photographing objects and specimens of varying sizes and shapes. The outfit consists of a sturdy, 2-piece upright column, and a rigid sliding arm and bracket to which the camera and other accessories are secured.



May be used with Bellows Attachment, Extension Tubes, Close-Up Lenses, Microflex, or any of the other special accessories. The mounting bracket on the sliding arm swings 90° and can be locked in any position for photographing material mounted on a wall, as well as on the baseboard.

Model PFB is supplied with a laminated hardwood baseboard; Model PFC, with a laminated, hardwood carrying case which unfolds to serve as a baseboard.

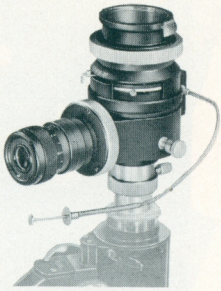
52mm fits all lenses from 21 to 135mm except 55mm f1.2, 105mm f4 and 135mm f4. Also fits 200mm f4.

PHOTOMICROGRAPHY ACCESSORIES

The broadening scope of modern scientific investigation has taken microscopy out of the realm of personal observation. The demands of classification and communication have made the faithfully recorded image an almost indispensable requirement.

The facility with which a camera system can serve this need becomes an important measure of its capabilities, and a major factor in its choice.

There are three available units which permit the Nikon F to be used to produce high quality photomicrographic prints or transparencies, in color or black-and-white. The choice among them depends entirely upon the nature of the work being done.

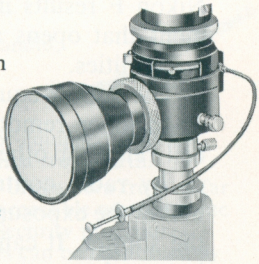


FMB with ocular eyepiece

MICROFLEX FMB

Embodies its own image-forming optics, shutter mechanism and viewing system. Reduces overall magnification by one-half. Supplied with a focusing telescope for high-power photomicrography, and an interchangeable ground-glass screen and 7X magnifier for low-power work. This screen also offers advantages in teaching and other group-viewing applications.

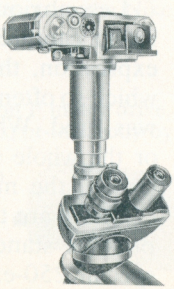
The FMB has an internal prism system which diverts the microscope image into the viewing telescope or onto the screen. The exposure is made with a conventional cable release which swings the prism out of the camera path, and trips the shutter. All of the light reaches the film. Shutter speeds range from 1 second to 1/300th plus "bulb" and "time" for prolonged exposures. There is also provision for synchronized flash.



FMB with matte screen

MICROFLEX EFM

A highly sophisticated unit equipped with built-in CdS light meter system for precise exposure control. *Detailed literature on request.*



MICROSCOPE ADAPTER

This attachment utilizes the viewing system and shutter of the Nikon F. It adapts the camera to any standard microscope. It is supplied with contrast filters, and a Type C viewfinder screen to replace the one being used in the camera.

automatic fire power

ELECTRIC MOTOR DRIVE

The simple addition of the motor drive to a Nikon F results in a unique, automatic instrument that opens a new vista of picture-taking possibilities.

The motor-equipped Nikon F can be fired in-hand or remotely by intervalometer, photocell relay, or other triggering device . . . wired or by radio control. The motor automatically makes the exposure, advances the film and winds the shutter. It can be preset to fire single shots, bursts of two or more, or through an entire film load—at rates up to 3 (and even 4) shots per second. The automatic mirror and diaphragm remain fully operative at up to 3 per second.

The value of the motor drive in news and sports photography, and in action sequences generally, is self-evident, as is its use in time-lapse study, motion analysis and surveillance.

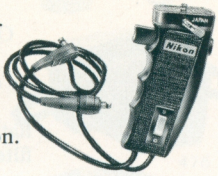
Less obvious, but no less important, is its facility to capture the elusive moment, the fleeting expression, the essence of the picture situation which so often arises the moment after the shutter was fired. Whether you're stalking one picture or the whole sequence, the unrelenting fire pattern of the motor is sure to bag your quarry.

There are two motor drives for the Nikon F: one for standard film cassettes, the other for special 250-exposure cartridge loads. Both are powered by 8 'C' batteries contained in a compact case with shoulder strap.

MOTOR DRIVE ACCESSORIES

PISTOL GRIP FOR MOTOR

Provides firm camera support for hand-held shooting—especially with long lenses. Hand-grip trigger operates motor electrically by means of built-in micro switch. Selector switch permits single and sequence shots. Accommodates coupling cable for manual operation. Grip fits tripod socket on camera or on long lenses; is supplied with motor connecting cords.

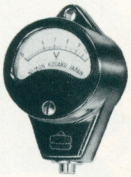


PISTOL GRIP

Provides convenient camera-lens support; permits trigger release operation. Requires connecting cable release between grip and camera shutter release. Attaches to tripod socket on camera or on long lenses.

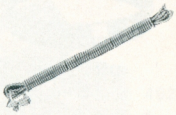
BATTERY TESTER

Miniature voltmeter instantly checks condition of motor drive batteries. Plugs into battery case and indicates voltage as well as the point when batteries should be replaced.



30-FOOT MOTOR EXTENSION CORD

For remote operation of motor-equipped Nikon F in industrial, candid, wild-life photography, etc.



WIRELESS CONTROL

Permits you to operate your motor-equipped Nikon F, just as space satellites are controlled from earth.

Your 'fire' command is relayed to the camera from as far as 2 miles away. Dangerous or inaccessible areas become photographically approachable. Security procedures in plants and research laboratories can be reinforced by the unfailing dependability of radio controlled Nikon photography.

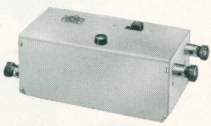
With the wireless control, 1 or 2 motor-driven Nikon F cameras can be operated, either individually or together.

INTERVALOMETER

An instrument that enables the Nikon F with motor drive to be fired at predetermined intervals, automatically. Time-lapse photography, as this technique is called, finds application in virtually every field of research and development. The Intervalometer connects to the Nikon motor drive via an accessory Relay Box.

RELAY BOX

Used for remote operation of the Nikon F motor drive. Can be triggered manually at relay box, or indirectly by intervalometer, or by remote switch wired to box, or by radio control. Also permits simultaneous operation of several motor-equipped cameras.



BULK FILM LOADER

Provides rapid loading of film into the 250 exposure magazine for Nikon motor. For darkroom loading. Stops automatically at any pre-selected film length.

Nikon F accessories

OPTICAL GLASS FILTERS

Optical quality is as indispensable in filters as in lenses. Only the finest optical glass is employed. Precision ground, polished to plano-parallel flatness and strain-free mounted, these filters are free from striation, stress, or other flaws which might deteriorate image quality. They are available in yellow, green, red, orange, 80B, 80C, 81A, 82A, 85, 85B, skylight and UV haze, also neutral density ND4X and ND8X in 52mm, screw-in mounts*, each with case. Other sizes are available at Nikon dealers.

POLARIZING FILTER

The polarizing filter screens out surface-reflected light without affecting color values. In rotating 52mm screw-in mount*, with leather case.

52mm ADAPTER RING

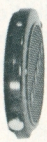
Screw-in design accepts standard Series 7 filters*.

PANORAMA HEAD

Mounts between camera and tripod, and accurately spaces series of exposures that will join as single panorama picture covering up to 360°. Click-stop positions for 35, 50 and 105mm lenses, and color-coded stop indicators for 28, 85 and 135mm lenses. Bubble level accessory available to insure that camera and Panorama Head are perfectly horizontal.

SNAP-ON LENS HOODS & FRONT LENS CAPS*

Special design combines the ease of "slip-ons" with the secure holding power of "screw-in" units. Lens hoods are calculated for each focal length to give maximum protection without danger of vignetting. Can be reversed on lens for compactness in carrying.



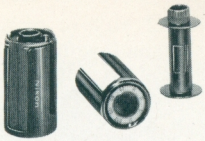
REAR LENS CAPS AND BODY CAPS

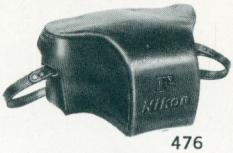
These are available to protect and keep lenses and camera body dust-free when handled or stored separately.

**52mm screw-in fits all lenses from 21 to 135mm except 55mm f1.2, 105mm f4 and 135mm f4. Also fits 200mm f4.*

FILM CASSETTES

All-metal, easy to load with standard bulk film. Cost is quickly defrayed by economy of bulk film. Can be loaded for fewer than 20 exposures. Cassettes are recommended for use with motor drive. Available in 36 and 250-exposure capacity, the latter for the 250-exposure motor drive only.





476

EVEREADY CAMERA CASES

Model 477 top-grain, brown cowhide, lined with velveteen. Accepts Nikon F Photomic or Nikon F with exposure meter. Supplied with shoulder strap.

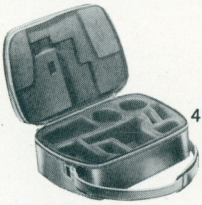
490

Model 478 Same as 477, but in black.

Model 476 Similar, to 477, but black, semi-soft leather.

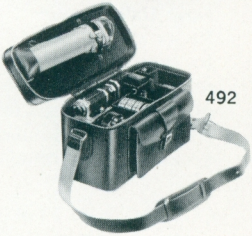
DELUXE COMPARTMENT CASES

Top-grain, cowhide, velveteen-lined cases with fitted compartments. Supplied with straps and non-slip shoulder pads.



491

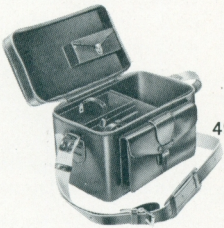
Model 490 For camera with normal size lens, meter, BC-5 flash unit, and accessories.



492

Model 491 For camera with normal size lens, three additional lenses, meter, and accessories.

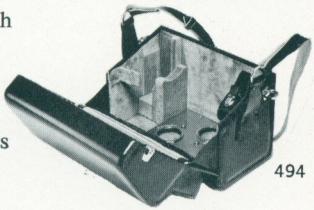
Model 492 For camera with normal size lens, one additional lens, meter, motor drive and battery case, and accessories. Equipped with outer pouch.



493

Model 493 For camera with normal size lens, two wide angle lenses and one telephoto, meter and booster, waist-level finder, filters, and accessories. Equipped with outer pouch.

Model 494 For camera with normal size lens, three additional lenses (held in self-locking sockets) and accessories. Opens away from wearer for easy access to contents. Has two outer pockets.



494

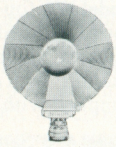
LENS CASES

Reinforced leather cases are available for most lenses. Rigid, transparent plastic cases are also available for 28, 35, 50, 105 and 135mm lenses.

ATTACHABLE EXPOSURE METER

Adds built-in exposure control to Nikon F with standard prism or waist-level finder. Couples to both shutter speed selector and diaphragm of Auto-Nikkor lenses. Automatically shifts from high to low sensitivity. Covers film speeds ASA 6 to 4000. Supplied with opaline screen for incident light readings. Accessory booster increases sensitivity 3.2 times for use in extremely dim light.

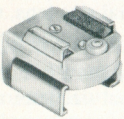
FLASH UNITS



Model BC-5 A compact, efficient BC unit with folding-fan reflector. Used with flash coupler, it makes direct contact with camera terminals eliminating need for connecting cord. Reflector tilts for bouncelight effects. Built-in exposure calculator and test bulb. Supplied with case.

Model BC-6 Powerful, ultra-compact BC unit. Accepts AG-1, M2 and M5 bulbs without adapter. Built-in tester for checking bulb, 'charge' and circuit, also built-in exposure calculator. With case.

Flash Unit Coupler



Required with BC-5 Flash Unit for cordless operation. Also required for use of Nikon F with other type compact flash units equipped with standard accessory shoe brackets.

CORRECTION EYEPIECE ATTACHMENTS

Ground to specific powers, these attachments enable wearers of glasses to focus and view without glasses. Slip over the eyepiece of the Nikon F standard prism finder or Photomic system.

Other Nikon literature available on request:
BINOCULARS • MICROSCOPES • INDUSTRIAL EQUIPMENT
and the following, detailed monographs:
PC NIKKOR • FISHEYE NIKKOR • AUTO MEDICAL NIKKOR
VIEWFINDER SCREENS • AUTO MICRO NIKKOR

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