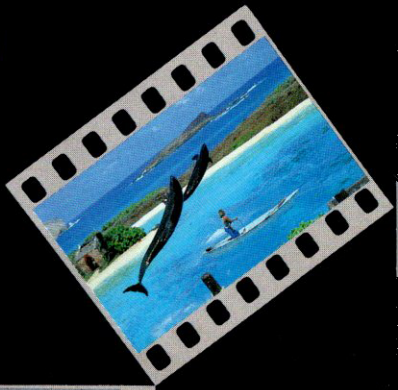
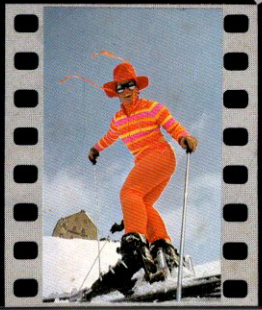
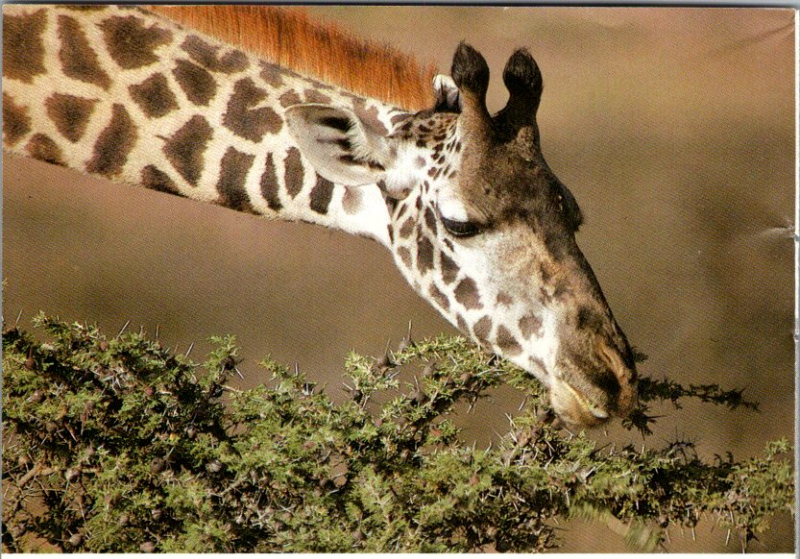
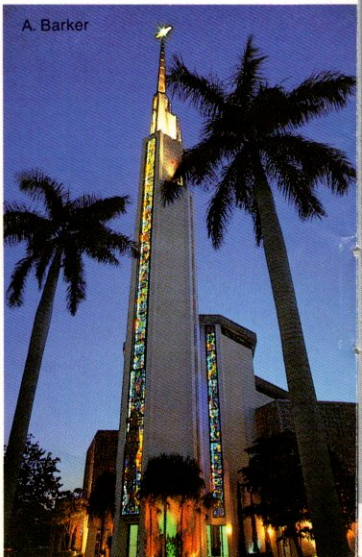
Nikon EM PHOTO GUIDE





Nikon




A. Barker

WELCOME . . . to the growing family of Nikon users. Your Nikon EM is the cornerstone of a new camera system designed especially for creative photography.

Not only is the EM small and light enough to carry almost anywhere, but it provides an image in the viewfinder which is virtually identical to the one recorded on film. Thus, you always know what you're getting regardless of the lens or accessory attached.

And when you combine these features with automatic exposure and a host of useful accessories, you have a camera which is almost unbeatable for its responsiveness in capturing any type of subject.

So, go ahead and express yourself with the Nikon EM. And keep this booklet handy. As your knowledge of photography grows, so will your enjoyment.

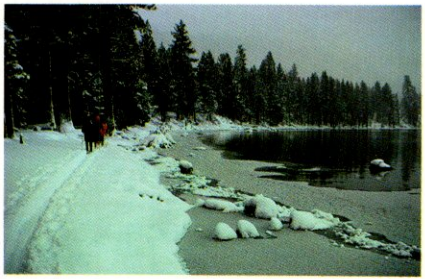
LIGHT . . . is the basic ingredient of photography. In addition to imparting a feeling of roundness to objects, it establishes the mood of the scene.

The old adage that says you should take a person's picture with your back to the sun is not only old, but it really doesn't apply to an adjustable camera, like the EM. If your back is to the sun and the subject is facing the camera, then the model must be facing directly into the sun. The usual result is an uncomplimentary shot of a squinting subject.

But, turn that same subject around, so that *his or her* back is toward the sun, and you have the makings of a nice portrait. Now, the face is in the shade (eliminating the squinting), and the hair is backlit (creating pleasant highlights). Just be careful not to allow the sun to strike the lens directly.

For correct exposure, simply press the EM's exposure compensation button while releasing the shutter. Automatically the shutter speed is reduced by 2 steps to overcome the brightness of the background. By not using the compensation button, you can produce silhouettes—a good technique to use when shooting sunsets with figures in the foreground.

A cloudy day, on the other hand, is also good for creating "moody" shots of almost any subject. When the light is diffused, colors come out more vivid and shadows are softer. The only precaution you must take here is not to include a lot of sky in the shot—it comes out bald white.



An overcast sky creates "moody" diffused lighting for this snowscape.

You can get just the right exposure for a backlit portrait by using the exposure compensation button.

By not using the compensation button, you'll produce striking silhouettes when shooting into the sun.

APERTURE . . . is the hole formed by the diaphragm blades inside the lens and controls the amount of light striking the film. Since the EM is an aperture-priority automatic exposure camera, you set the aperture first, then the camera adjusts its own shutter speed to give you the right exposure.

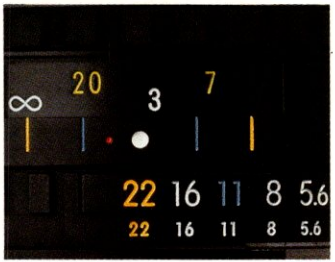
In addition to controlling the light, the aperture also determines the depth of field the final photograph will have. When you look through the viewfinder, the image you see is with the lens diaphragm wide open. Therefore, the depth of field, or zone of sharpness in front of and behind the subject on which you have focused, will appear very shallow. Although you cannot visually preview the depth of field in your EM, you can get an idea from the photographs what happens. Please study these pictures carefully for creative control of depth of field.

Actually, the most precise way to determine the depth of field at any particular f/stop is to use the color-coded depth-of-field scale engraved on your lens. For instance, at f/22 the number on the aperture ring is orange. If you focus at approx. 15 feet (4.5m), you'll notice that the pair of orange lines indicate that everything from infinity to 6 feet (2m) will be in sharp focus.

Because depth of field is closely related to focus, please refer to pages 19—21 for more information.

Tips on Depth of Field

- To produce shallow depth of field, use a wide aperture (f/1.8~f/4) and focus on a subject close to the lens. Also, use a telephoto lens whenever possible.
- For deep depth of field, use a small aperture (f/11~f/22) and focus on medium distance subjects. If you have a choice, use a wideangle lens.

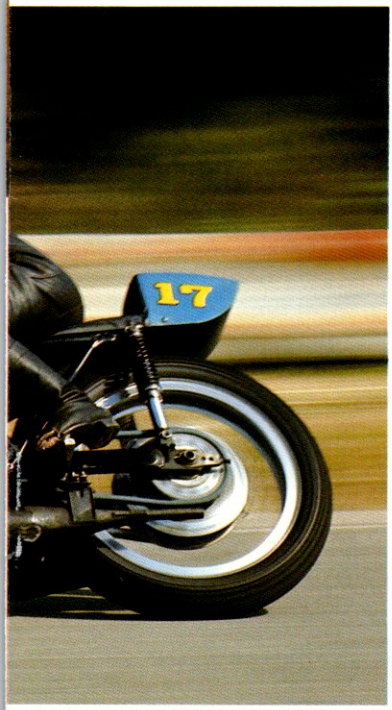


With the 50mm lens wide open at f/1.8, the subject stands out against a blurred background.

When the lens is stopped all the way down to f/22, more parts of the scene are rendered sharply.

SHUTTER SPEED . . . is the length of time the shutter remains open to expose the film to light.
To select a shutter speed with the EM on "Auto," simply turn the aperture ring until the needle inside the finder points to the one you want. A built-in warning "beep" signals when the shutter speed is above 1/1000 sec. (outside the camera's range) or below approx. 1/30 sec. (too slow to hand-hold for sharp results). The photographer who can successfully hand-hold a camera at speeds below 1/30 sec. is rare. So, to prevent a blurred picture caused by camera shake, use a tripod.

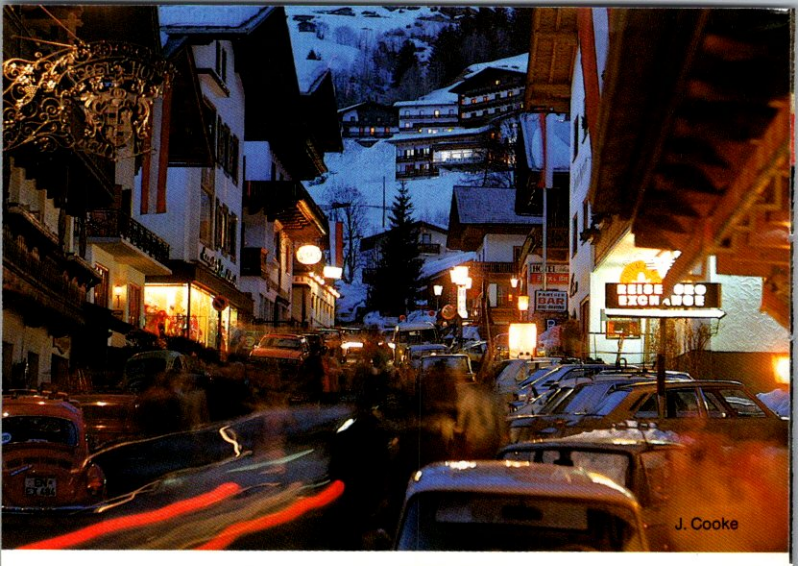
The shutter speed not only operates in conjunction with the aperture to control the exposure, but it determines the feeling of motion which the final photograph will have. A "still" photograph is just that—it doesn't move. However, there are three basic techniques you can use to impart the feeling of action to your pictures. They are: 1) panning; 2) subject motion blur; and 3) stop action.



Panning. If you move (or pan) the camera to keep the moving subject in the same position in the viewfinder, the subject will come out sharp against a background of streaks.

The best shutter speed to use depends on the speed of the subject. For sports car races, where the cars reach 180 mph (290 kph) on the straight stretches, 1/500 sec. works well. But for more everyday subjects (horse races, kids on bikes), 1/8~1/60 sec. are appropriate.

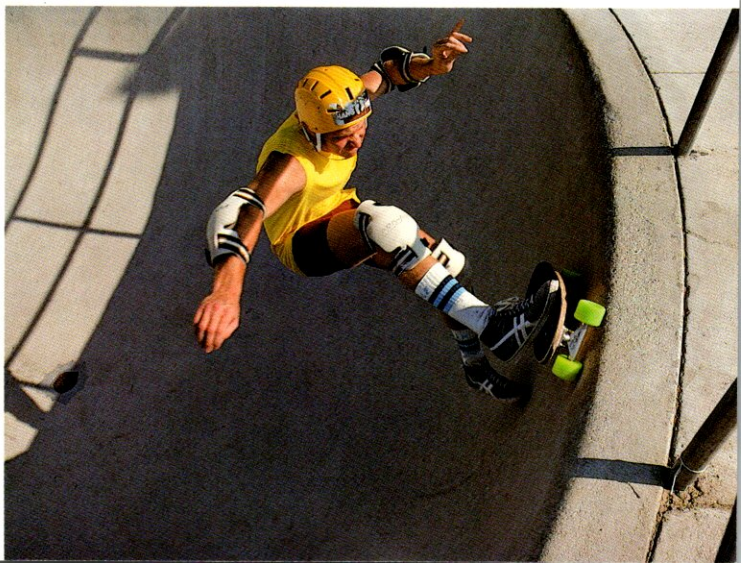
However, don't be afraid to use speeds all the way down to one second when panning. The results are unpredictable and often surprising. What usually happens is both the subject and background turn out blurred.


J. Cooke


Shorty Wilcox

Subject Motion Blur. Mount your EM on a tripod, set it to "B," and use a cable release. Suitable night subjects include fireworks, stars in a clear sky, crowded highways, airports, and train stations. Exposures ranging from 2 seconds up to 3 or 4 hours can be used. By using a tripod and cable release, the overall scene will be sharp, but any parts which move during the exposure come out as streaks of light.
Or, for daylight situations, such as a child riding a bicycle or swinging, you can hold the camera steady at shutter speeds of 1/60 or 1/30 sec. The background will be rendered sharp with slight blur in the moving subject.

Stop Action: At shutter speeds from 1/125~1/1000 sec., all but the fastest action can be stopped. When shooting, try to catch the action at its peak (e.g. a pole-vaulter just clearing the bar, or a child blowing out the candles on his birthday cake).



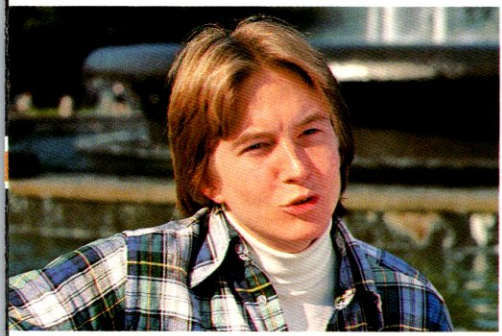
COMPOSITION . . . is what gives substance to your photographs. Before you even raise the camera to eye level, ask yourself what you want to take a picture of. This is such a simple question that it eludes most people.

For example, you see a man playing a guitar in the park with a fountain behind him. Do you want to include the fountain in the background? Or, would you like to photograph just his face? And what about his hands picking the guitar strings? Actually all three shots might be good.

Once you've decided on the subject matter, the second question you must ask yourself is: Have I filled up the frame with the

An overall shot sets the scene.

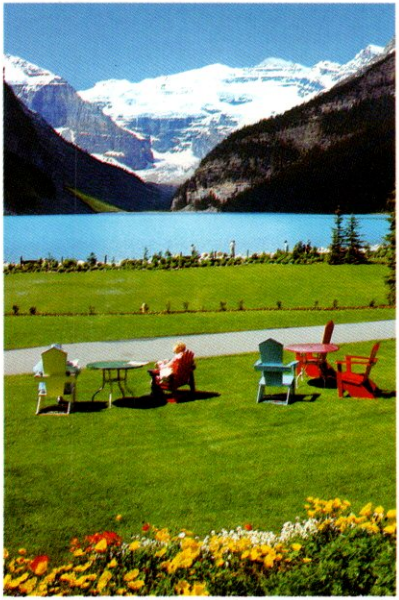
subject? Again a deceptively simple question, but one worth asking.
Because the 35mm frame is a rather long rectangle, you should try to fit it to the subject. For vertical subjects (tall buildings, standing people, even faces), it makes sense to turn the camera vertically. While most landscapes call for a horizontal format, it's a good idea to include foreground objects (tree branches, rocks, people) to give the scene a feeling of depth.
And finally, don't be afraid to move in close to your subject. In this way, you can exclude all extraneous elements. Because in photography, a clear image is usually one with more impact.



Only the face is portrayed to capture the mood of the man in the park.

The focus is on the guitar, creating a dramatic and interesting pattern.

Horizontal framing emphasizes the expansiveness of the scene, while a vertical format of the same landscape shows its immense depth from near to far.



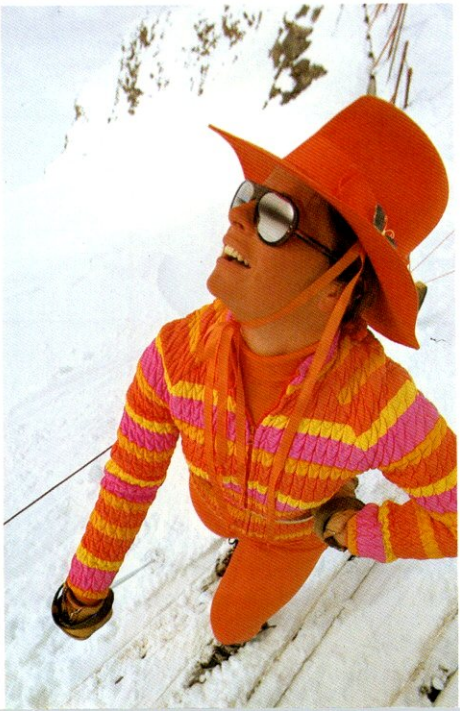
The horizon is placed in the lower portion of the frame to emphasize the sky. Generally, this imparts a feeling of stability to the scene.

High placement of the horizon makes the water more important. The photo may lack impact unless there are interesting objects in the foreground.

CAMERA ANGLE . . . refers to the orientation of the camera when the picture is taken.

The mistake that many photographers make is that they shoot every picture at eye level. Even though we usually view the world this way, it's not always the best angle for picture-taking. Remember that we see selectively. Our mind discards those things which we don't want to see. But the camera simply records what's in front of it.

So, before you press the shutter release button, look carefully at the scene you have just composed. Try moving around the subject (if possible) to find the most interesting angle. Sometimes, you'll be surprised that the first view of the subject was not the "best."

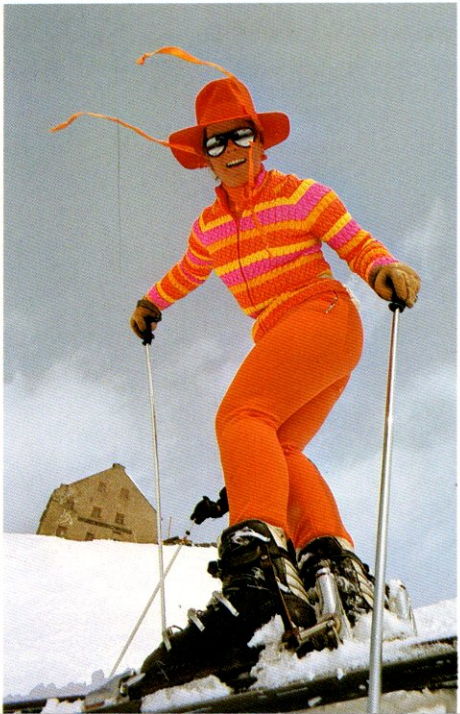


This photo was shot from a high angle to stress the model's face while making the body seem shorter.

Also, pay special attention to the background. Are there any distracting elements (such as the proverbial telephone pole growing out of the subject's head) to dilute the impact of the photo? If so, you should change your camera angle by moving sideways or up or down to simplify the scene. Just a slight shift to the right or left usually does the trick.

However, for a really difficult background, try shooting from a low vantage point to isolate the subject against the sky. Alternatively, if you can find something to stand on (or take along your own stepladder as many professionals do), you can clean up the background by totally eliminating it.

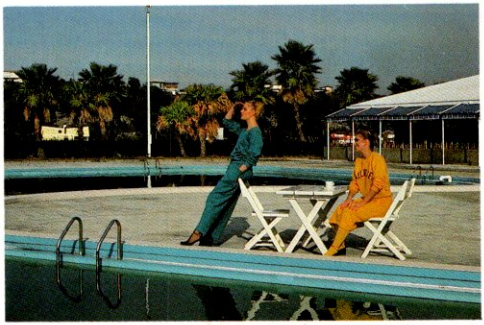
A final point to remember: When photographing children, lower the camera to *their* eye level. It makes them look more natural.

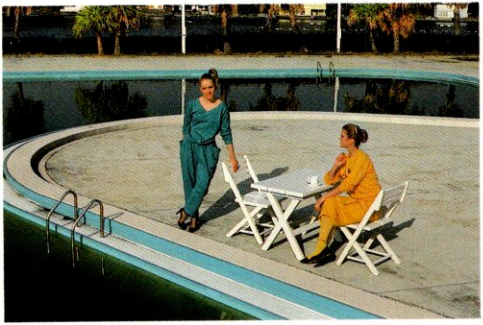


A low angle photo makes the skis and boots stand out with the model appearing taller than she actually is. This technique is frequently used to show height.

ANGLE (Continued)

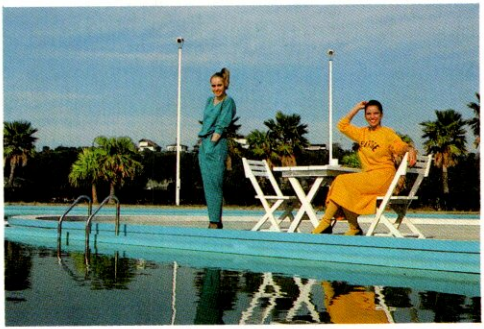
This eye-level shot of the models loses its impact because of a confusing background.





A high angle shot from the pool's diving board simplifies the background.

The models really stand out against the sky when the camera is positioned at a low level.



FOCUS . . . helps to establish the center of interest in a photograph.

Human vision, being what it is, naturally seeks out the parts of a picture which are in sharp focus. If the depth of field is very shallow, you can easily lead the viewer's eye to a particular portion of the scene which you think important.

For head-and-shoulder portraits, focus on the eyes. If it's a three-quarter view (face turned slightly to the left or right), focus on the eye closest to the camera. When using a telephoto lens and a wide aperture for minimum depth of field, you can really draw attention to the face.

When overall sharpness is desired, on the other hand, as in landscapes containing interesting foreground objects, focus approximately one-third into the scene. By using a small aperture and a wideangle lens, you can create a striking impression of three-dimensionality with all parts of the scene in sharp focus.

Engraved on the focusing ring are feet and meter distances. You can use these to prefocus the lens for fast-breaking events, or when taking candids of "shy" subjects. Instead of raising the camera to eye level and broadcasting your intentions, you can estimate the distance and preset it on the distance ring. If you use a small aperture, the depth of field will usually cover slight errors you might make in focusing by this method.

With a wide aperture, you can use selective focus to direct the viewer's eye to important parts of the picture.

You can create a stunning portrait by focusing on the eye nearest the camera.

Overall sharpness of this alpine scene is created by focusing on the trees at the front edge of the lake and using a small aperture.

By prefocusing your normal lens to approximately 15 ft. (4.5 m), you are ready to capture those memorable slices of life which rarely repeat themselves.

TIMING . . . is probably the single most important factor which distinguishes a great photograph from one that is merely good.

If you think about it, we experience life as a flow of movement and constant change. We literally watch a person's face change expressions, or see a football player lunge forward to catch a pass.

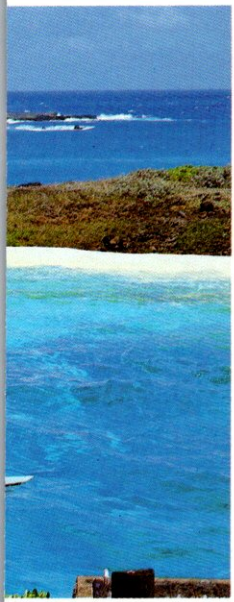
But, the image that the still camera produces is a "slice of life." With the click of the shutter, your EM permanently freezes a very small part of the full spectrum of what we perceive. At 1/1000 sec., the camera sees things in the blink of an eye. So, you have to be extremely careful which instant you record, because one image must represent it all.

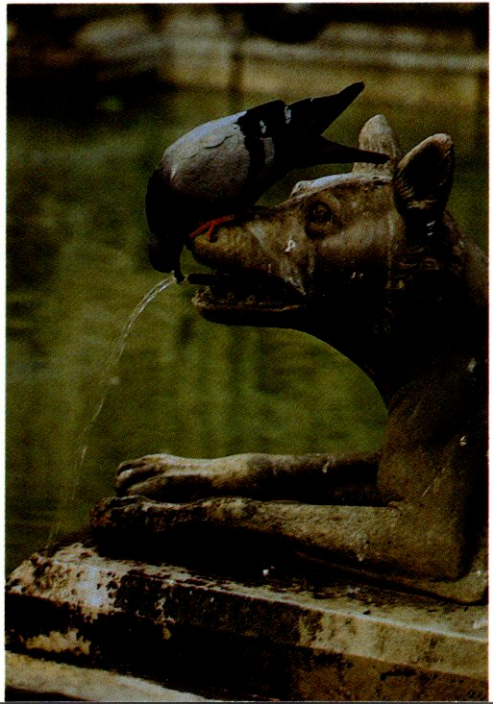
You have to be "quick on the draw" to capture exciting shots like these. Keep your camera ready and your eyes open.

As a photographer, you must develop your sense of timing to the point where you can anticipate actions, expressions, lighting. One way to do this is to observe life. Study people's faces; learn the rules of the sport you want to shoot. The more knowledge you have, the better off you are.

Also, you must use your camera often. "Practice makes perfect" could not be any truer when applied to photography. Carry your camera with you wherever you go. Load it with fast film and shoot, shoot, shoot.

And the use of a motor drive is very helpful, too.

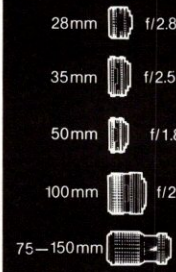


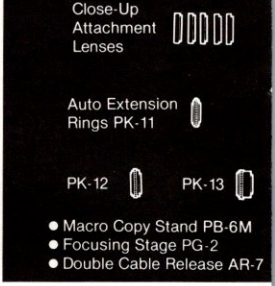


YOUR NIKON EM . . . has a system all its own. To complement the small size and weight of your camera, Nikon has designed a set of ultra-compact Series E lenses—the 50mm f/1.8 normal, 28mm f/2.8 and 35mm f/2.5 wideangles, 100mm f/2.8 telephoto and 75—150mm f/3.5 zoom. Add to this

Nikon EM

Nikon Series E Lenses

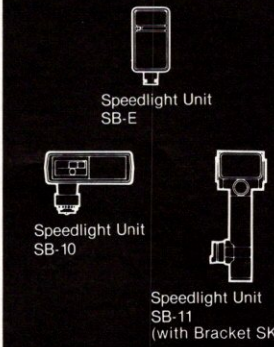




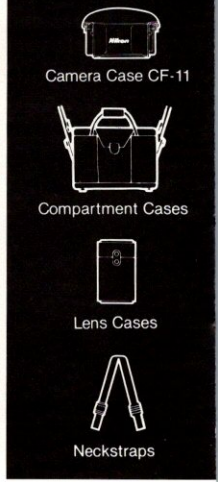
- Macro Copy Stand PB-6M
- Focusing Stage PG-2
- Double Cable Release AR-7

Motor Drive MD-E

Flash Equipment



- Wide-Flash Adapter SW-2 for SB-10
- Battery Holder MS-2 for SB-10
- Wide Adapter SW-3 for SB-11
- Sensor Unit SU-2
- Extension Cord SC-13 for SU-2

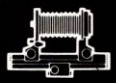


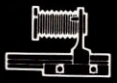
a tiny motor drive and companion speedlight, plus small but indispensable accessories like filters, hoods, and cases, and you have the EM System. In addition, most other Nikkor lenses and close-up accessories can be used.

Close-Up Equipment


Auto Extension Ring PN-11


Extension Ring Set K


Bellows Focusing Attachment PB-6

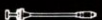

Extension Bellows PB-6E


Slide Copying Adapter PS-6


Repro-Copy Outfit PF-4

- Table Clamp PC-3
- Gray Card
- Macro Adapter Ring BR-2
- Macro Adapter Ring BR-3
- Auto Adapter Ring BR-4

Other Accessories


Cable Release AR-3


Panorama Head AP-2


Rubber Eyecup*


Eyepiece Adapter


Eyepiece Correction Lens*

- Eyepiece Magnifier DG-2*
- Filters
- Gelatine Filter Holders
- Lens Hoods for Nikkor Lenses
- Lens Hood HR-4 for 35mm and 50mm Series E Lenses
- Lens Hood HR-5 for 100mm Series E Lens
- Lens Hood HR-6 for 28mm Series E Lens
- Lens Hood HN-21 for 75—150mm Zoom Series E Lens
- Camera Body Cap
- Lens Caps
- Microscope Adapter Tube Model 2
- Pistol Grip Model 2
- Cable Release AR-6 for Pistol Grip

*Should be used with Eyepiece Adapter

Nikkor Lenses

- Ai 6/2.8 Fisheye
- Ai 8/2.8 Fisheye
- Ai 13/5.6
- Ai 15/3.5
- Ai 16/2.8 Fisheye
- Ai 18/4
- Ai 20/3.5
- Ai 24/2
- Ai 24/2.8
- Ai 28/2
- Ai 28/2.8
- Ai 28/3.5
- Ai 35/1.4
- Ai 35/2
- Ai 35/2.8
- Ai 50/1.2
- Ai 50/1.4
- Ai 50/1.8
- Ai 55/2.8 Micro
- Ai 58/1.2 Noct
- Ai 85/2
- Ai 105/2.5
- Ai 105/4 Micro
- Ai 135/2
- Ai 135/2.8
- Ai 135/3.5
- Ai 180/2.8
- Ai 200/4
- Ai 200/4 Micro IF
- Ai 300/2.8 IF-ED
- Ai 300/4.5 IF-ED
- Ai 300/4.5
- Ai 400/3.5 IF-ED
- Ai 400/5.6 IF-ED
- Ai 600/5.6 IF-ED
- Ai 800/8 IF-ED
- Ai 1200/11 IF-ED
- 500/8 Reflex
- Ai 25—50/4 Zoom
- Ai 35—70/3.5 Zoom
- Ai 43—86/3.5 Zoom
- Ai 80—200/4.5 Zoom
- Ai 50—300/4.5 ED-Zoom
- Ai TC-14 Teleconverter
- Ai TC-200 Teleconverter
- Ai TC-300 Teleconverter

YOUR NORMAL LENS . . . is perfectly suited for a wide variety of photographic situations, including family snapshots, candids of strangers, scenics, parades, travel and flash photography, backpacking, and full-length portraits. Since the angle of coverage of a 50mm lens approximates that of the human eye, your pictures will come out looking natural or "normal."

And because its maximum aperture is a bright f/1.8, you can use it for "available light" shooting indoors with a fast film.

Your normal lens also accepts various close-up accessories for photographing small subjects, like stamps, coins, magazine illustrations, still-lifes, or flowers.

A TELEPHOTO OR ZOOM LENS . . . is great for shooting distant landscapes, portraits, stage shows, animals at the zoo, and sports because it magnifies the scene and makes it seem closer.

The longer-than-normal focal lengths of both the 100mm telephoto and the 75—150mm zoom allow you to fill up the frame with the subject, yet still keep your distance. At 3-1/2 to 7 feet, you can capture a person's face without making him feel uneasy or "camera shy." Also, with inherently less depth of field at each f/stop, it's easy to blur out a distracting background by focusing on the subject and then using a wide aperture.

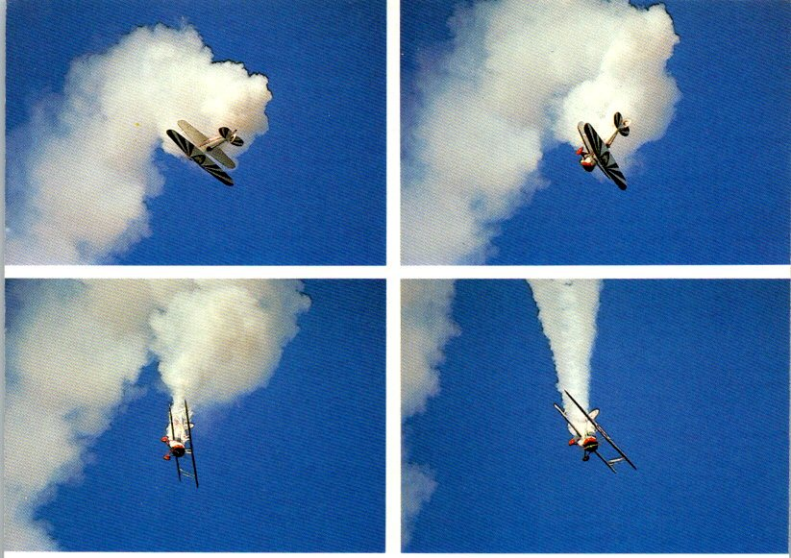
An added advantage of the 75—150mm zoom is that you can change focal lengths rapidly without having to change lenses, making it easy to keep up with fast sports action.

A WIDEANGLE LENS . . . literally "sees" more of the scene and is therefore indispensable for shooting really big subjects.

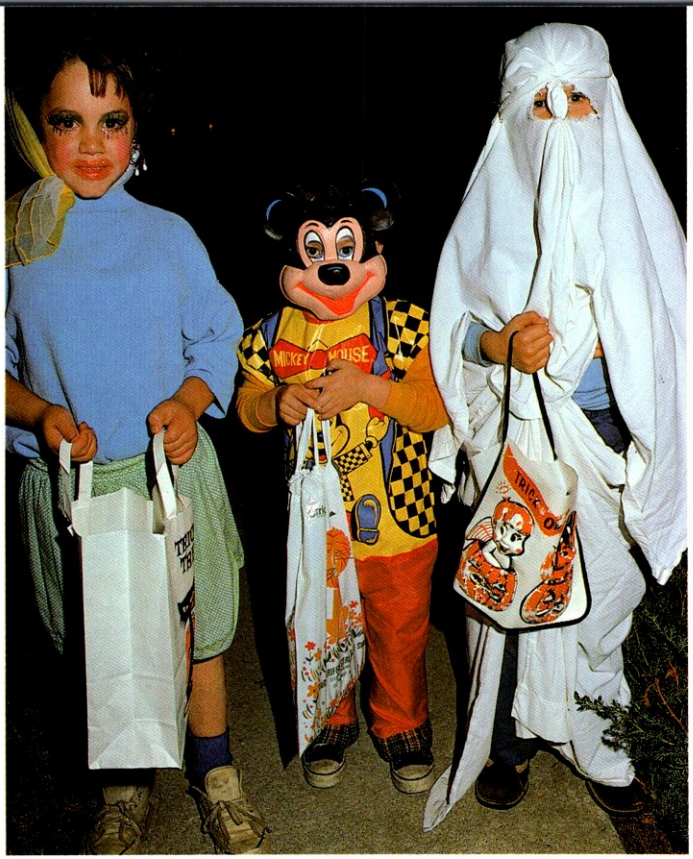
Taking in an expansive 74°, the 28mm is ideal for architectural and interior situations where there is not enough room to move back, while the 35mm is the lens to use for indoor snapshots, because its 62° angle of view matches the coverage of most electronic flash units.

Another benefit of a wideangle lens is that it has more depth of field at each aperture setting. This means that more parts of the scene, both near and far, will be in sharp focus in the final photograph. For festival or "news" events, try presetting the lens to a medium distance and using f/22. Then everything from just in front of you all the way out to infinity will be in focus.

One final piece of advice: Get close to the subject. Otherwise, it will appear small, and the impact of the picture will be weakened.



A MOTOR DRIVE . . . automatically advances the film after each shot much faster than you can do it manually. Thus you are always ready for the next picture and there is never a break in the continuity of shooting.
Just push the button and release. Or simply by holding the button in, you can take a whole sequence of photographs at two frames per second.
Using six AAA-batteries, the MD-E Motor Drive is so tiny that you hardly know it's there. It attaches to the bottom of the camera in seconds and provides its own handgrip for handling ease. A motor drive is not only well suited for capturing the "decisive moment" in sports, but can be used for virtually any subject.



A SPEEDLIGHT . . . is ideal for shooting in dim light. Because its burst of light goes off only at the instant of exposure, you can capture fleeting expressions or "freeze" fast action at parties. Just attach the SB-E Speedlight to your camera's hot-shoe, turn the unit on, set the correct aperture and fire away—a built-in ready-light in the finder lets you know when the flash unit is recharged and ready to go again.

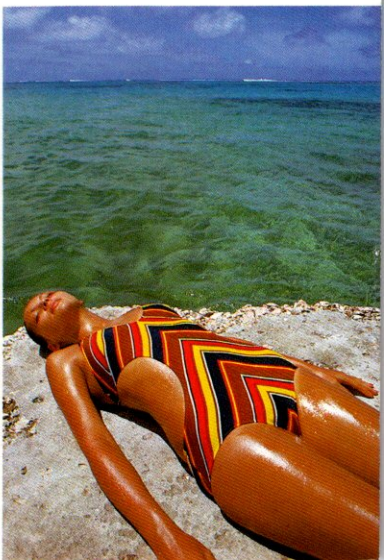
OTHER ACCESSORIES . . . from Nikon complement your EM perfectly.

Your normal 50mm lens focuses down to 2-1/4 feet (0.6m). However, that still isn't close enough to fill up the frame with small objects, like stamps, coins, or tiny blossoms.

So, if you want to enter the exciting field of close-up photography, there are numerous Nikon accessories which won't cost you a lot of money. Many photographers start out with close-up attachment lenses, because they are lightweight and screw into the front of a lens like filters. When greater magnifications are required, you can use one or more extension rings or a bellows unit.

In addition to close-up equipment, many other parts of the extensive Nikon System can be used. Please check the list on p. 25 for details.

OTHER LENSES . . . may be used with your EM.
In addition to the Nikon Series E lenses made especially for your camera, there are more than 40 Nikkor lenses which can be attached. They range from the 6mm f/2.8 Fisheye-Nikkor which has an angle of view of 220° and actually sees slightly behind itself to the super telephoto 1200mm IF-ED taking in a narrow picture angle of 2°. Included in this group are ultra-wideangles, zooms, and special-purpose lenses.
Take a look at the pictures on these pages, and you'll get an idea of the tremendous variety of images you can create with Nikkor lenses. In fact, any image in the mind's eye (and many that aren't) can be captured.



PICTURE ANGLE . . . is the angle of view taken in by a lens and is measured across the diagonal of the frame.
All of these photographs of a small village in Switzerland were taken from exactly the same position by the side of the road. The only thing that was changed was the lens attached to the camera. Starting with the 8mm fisheye, we can see an entire hemisphere (180°) in front of us. As the focal length of the lens increases, the picture angle decreases, so that we see progressively less of the

8mm

15mm

135mm

300mm

600mm

1200mm

scene. Finally, with a 1200mm super-telephoto lens, taking in a narrow 2°, we can make out the writing on the barn door (which is almost invisible even in the picture taken with a 50mm normal lens).

The 50mm shot is enlarged to give you an idea of what the street scene looks like with the naked eye. Although we can actually see a full 180° with our peripheral vision, the area in which we can discern sharp detail corresponds to that of a normal lens.

28mm

85mm

50mm

Specifications and designs
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Nikon

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