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ZEISS JENA BIOCOTAR LENSES

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SPECIAL FEATURES OF SIGMA XQ LENSES

SYSTEM FOCUSING

Sigma offers telephoto lenses that have built in macro focusing. And there are five to choose from. Sigma has a 300mm lens that focuses down to one quarter life-size and a 100mm lens which focuses to life-size (1:1). All close focusing is done with no attachments of any kind, and of course meter coupling and automatic diaphragm operation are retained. Sigma wide-angles focus so close that one has to be careful not to cast the lens' shadow on the subject when using the minimum focusing distance. Imagine the perspective. There are also four Sigma zoom lenses to choose from which have macro focusing systems.

SCALEMATIC SYSTEM

Sigma telephoto lenses are also Scalematic. The lenses are equipped with a scale that automatically measures the dimensions of the object you are photographing as you focus the lens. In action photography you can preset the size of the

object to be photographed enabling you to capture the action-filled moment while other photographers fumble with their focusing rings.

ADDITIONAL F-STOP

All Sigma lenses stop down to F22. Not only are Sigma lenses a stop faster than most equivalent focal lengths of other makes, but they also stop down a full stop more than the majority of available lenses. The added F-stop helps you in three ways. Firstly, by stopping down to F22 you can obtain greater depth of field. Secondly, the additional F-stop will give you greater control in bright light situations such as beach or snow scenes, and it will prove valuable when using fast film such as Tri-X. Lastly, the smaller F-stop will allow you to use a slower shutter speed to capture special effects such as the movement of a milling crowd, or the streaking headlights of automobiles at dusk.

FILTERMATIC

Both the Sigma 16mm Fish-eye and 24mm ultrawide-angle lenses have yellow, orange, blue, and skylight filters built-in. The 24mm is the world's first (non-fish-eye) wide-angle lens with built-in filters.

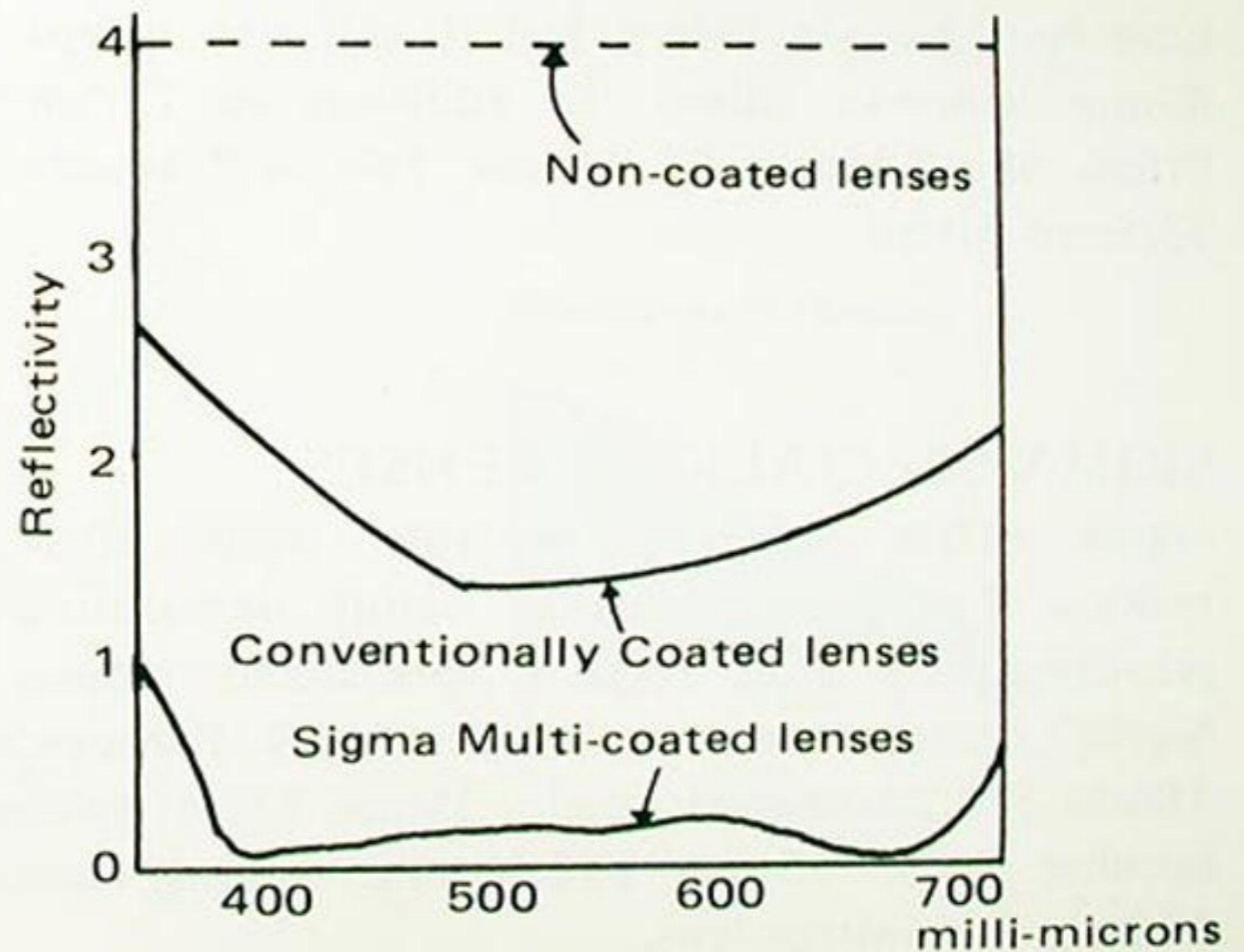
MULTI-COATING

Modern space technology has lead to the development of multi-coating techniques to cut down drastically on the percentage of reflection normally encountered on optical surfaces.

The word "MULTI-COATED" engraved on the front of the lens barrel is your guarantee of receiving Sigma multi-coated lenses.

Normally the volume of light passing through a glass and air area is reduced by 4% because of reflection. Modern conventionally coated lenses can reduce the reflection ratio by as much as 70% so that only 1.5% of the light transmission is lost for each lens surface exposed to air. However, since modern optics employ many elements in

each lens, the 1.5% transmission loss is of considerable importance. Sigma's modern multi-coating techniques shrink actual light transmission loss to a mere 0.2% thereby producing crisp, ghost-free pictures even under the most adverse conditions.



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DUAL FILTER SYSTEM

In addition to accepting 62mm screw-in filters, the 35mm F/2.8, 135mm F/2.8, and 200mm F/4 accept 52mm screw-in filters. The 55mm F/2.8 accepts both 62mm and 55mm filters and the 100mm F/2.8 accepts 62mm and 40.5mm filters. Furthermore, not only does the 24mm F/2.8 lens have four built-in filters, but it will also accept 62mm screw-in filters. In addition to 77mm filters, the 500mm F8 Mirror Tele will accept 33.5mm filters.

SIGMA SPECIALIZED LENSES

Sigma offers lenses unavailable from other makers. For professional or highly demanding photographers that require specialized lenses, Sigma manufactures a 16mm F/2.8 fish-eye, 18mm F/3.2 ultrawide-angle, 35mm F/2.8 guide number lens, 55mm F/2.8 macro lens, and 500mm F/4 mirror lens.

FAST LENSES

Sigma produces fast general purpose lenses such as the 24, 28, and 135mm F/2.8 lenses. For photo specialists, Sigma offers the ultra-fast, 135mm F/1.8, 200mm F/2.8, 300mm F/4 and 500mm F/4 lenses.

SIGMA QUALITY

Although Sigma has distinguished itself as an innovative lens maker producing lenses embellished with a host of features, Sigma's primary concern is with quality. Thus, excellent optical performance, rugged design, and smoothly operating controls are characteristics of Sigma quality. Sigma is the world's only independent lens maker with a complete line of lenses from fish-eye to ultratele. The number of patents currently held by Sigma is ample evidence of Sigma's superior research and development. Sigma has long abandoned the old technique of trying to produce sharp lenses only by employing lens re-

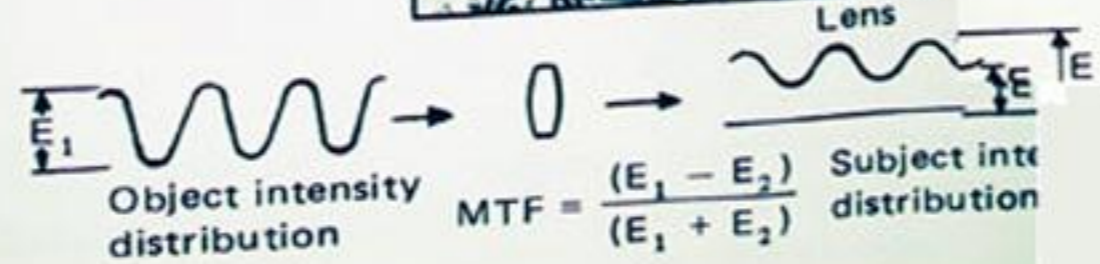
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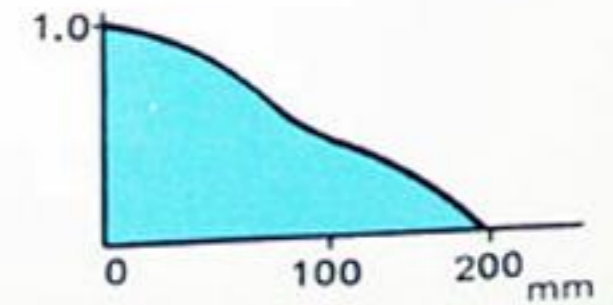
solution tests. By applying the very latest technology we are able to produce optically impeccable lenses. Sigma utilizes the modulation transfer function (also called optical transfer function) method which allows us to produce lenses which faithfully reproduce the subject; making a musical analogy, Sigma lenses are Hi Fidelity lenses. They are extremely sharp and distortion free, capable of living up to the most

exacting demands of professional photographers and discriminating amateurs. Because Sigma lenses use new types of special glass material, small bubbles may sometimes be seen inside lens elements. However these small bubbles, have absolutely no adverse effect on the optical performance of the lens.

Resolution test



Response function



SPECIFICATIONS OF SIGMA LENSES

Lens	Lens construction		Angle of view	Diaphragm
	Elements	Groups		
16mm F/2.8	11	8	180°	YS auto
18mm F/3.2	12	10	100°	YS auto
24mm F/2.8	10	8	84°	YS auto
28mm F/2.8	7	6	74°	YS auto
35mm F/2.8	6	5	62°	YS auto
55mm F/2.8	7	5	43°	YS auto
100mm F/2.8	7	5	24°	YS auto
135mm F/1.8	6	4	18°	YS auto
135mm F/2.8	4	4	18°	YS auto
200mm F/2.8	6	5	12°	YS auto
200mm F/4	5	5	12°	YS auto
300mm F/4	6	5	8°	YS auto
400mm F/5.6	4	4	6°	YS auto
500mm F/4	5	5	5°	ND Filter
500mm F/8	5	5	5°	ND Filter
39-80mm F/3.5	12	10	56-30°	YS auto
70-230mm F/4.5	13	10	34-10°	YS auto
80-200mm F/3.5	14	12	30-12°	YS auto
120-300mm F/5.6	14	11	20-8°	YS auto
TELEMAX 2X	4	4		YS auto
TELEMAC VARIO	5	5		

Minimum Focusing Distance	Reproduction ratio	Filter size	Dimensions Length Diameter	Weight
15cm		Built-in	72mm x 76mm	350g
17cm		72mm	69mm x 75mm	333g
20cm		Built-in • 62mm	57mm x 73mm	270g
30cm		62mm	59mm x 65mm	278g
50cm		52mm • 62mm	80mm x 70mm	420g
25cm	1 : 1/3	55mm • 62mm	80mm x 70mm	420g
90cm (33cm)*	1 : 1	40.5mm • 62mm	116mm x 72mm	640g
2m		77mm	95mm x 80mm	765g
2m (60cm)*	1 : 1/3	52mm • 62mm	96mm x 73mm	450g
2.5m (90cm)*	1 : 1/3	72mm	157mm x 75mm	1,130g
3m (87cm)*	1 : 1/3	52mm • 62mm	97mm x 73mm	500g
4.5m (1.7m)*	1 : 1/4	77mm	168mm x 80mm	835g
6.5m		72mm	300mm x 80mm	900g
15m		37.5mm	218mm x 150mm	300g
4m		33.5mm • 77mm	220mm x 77mm	1,100g
2m (26cm)*	1 : 1/3.5	62mm	84mm x 71mm	500g
2m (52cm)*	1 : 1/4	62mm	183mm x 70mm	914g
1.8m (40cm)*	1 : 1/2	62mm • 67mm	175mm x 75mm	1,010g
1.9m (50cm)*	1 : 1/3	62mm • 67mm	213mm x 75mm	1,235g
	1 : 1/2		32mm x 60mm	130g
	1.2 : 1		65mm x 58mm	240g

* Closest Focusing Distance in the macro mode.

SIGMA XQ SPECIAL FEATURE INSTRUCTIONS

SYSTEM FOCUSING

After a Sigma System Focusing lens is focused to its closest focusing point, take your hand off the focusing ring and place it on the front edge of the lens barrel, and you will find that you can turn it in the same manner as the focusing ring, enabling you to extend the focusing range into the realm of macro photography. We call this unique patented focusing system, Sigma SYSTEM FOCUSING. Refocusing the main focusing ring to infinity will automatically return the system focusing ring to its recessed position.

Five Sigma telephoto lenses employ this patented system, making them the most versatile telephotos in the world. The 135mm F/2.8, 200mm F/2.8, and 200mm F/4 focus down to 1/3 life-size, and the 300mm F/4 focuses down to 1/4 life-size, of course, diaphragm automation and meter coupling are fully retained. Optical performance remains excellent down to 1/3 life-size, and because the front lens component is moved instead of adding an extension to the rear of the

lens, there is no effective loss of the F number; exposure remains constant from infinity to 1/3 life-size.

The 100mm F/2.8 MICRO-MACRO lens is the only lens in the Sigma telephoto group that will focus all the way down to 1:1 (life-size) via SYSTEM FOCUSING. Although optical quality remains excellent up to 1/3 life-size, the image deteriorates as you go beyond that point. For high quality life-size reproductions use the MICRO-MACRO lens mounted on extension tubes and focus with the main focusing ring instead of using the SYSTEM FOCUSING.

However there may be times when you are without your extension tube or there is not sufficient time to attach one to the camera before the subject vanishes from view, on such an occasion you will be glad that your lens can immediately be used for extreme close-up photography without attachments of any kind.

All lenses with System Focusing have color coded diaphragm rings. The 100mm F/2.8 diaphragm

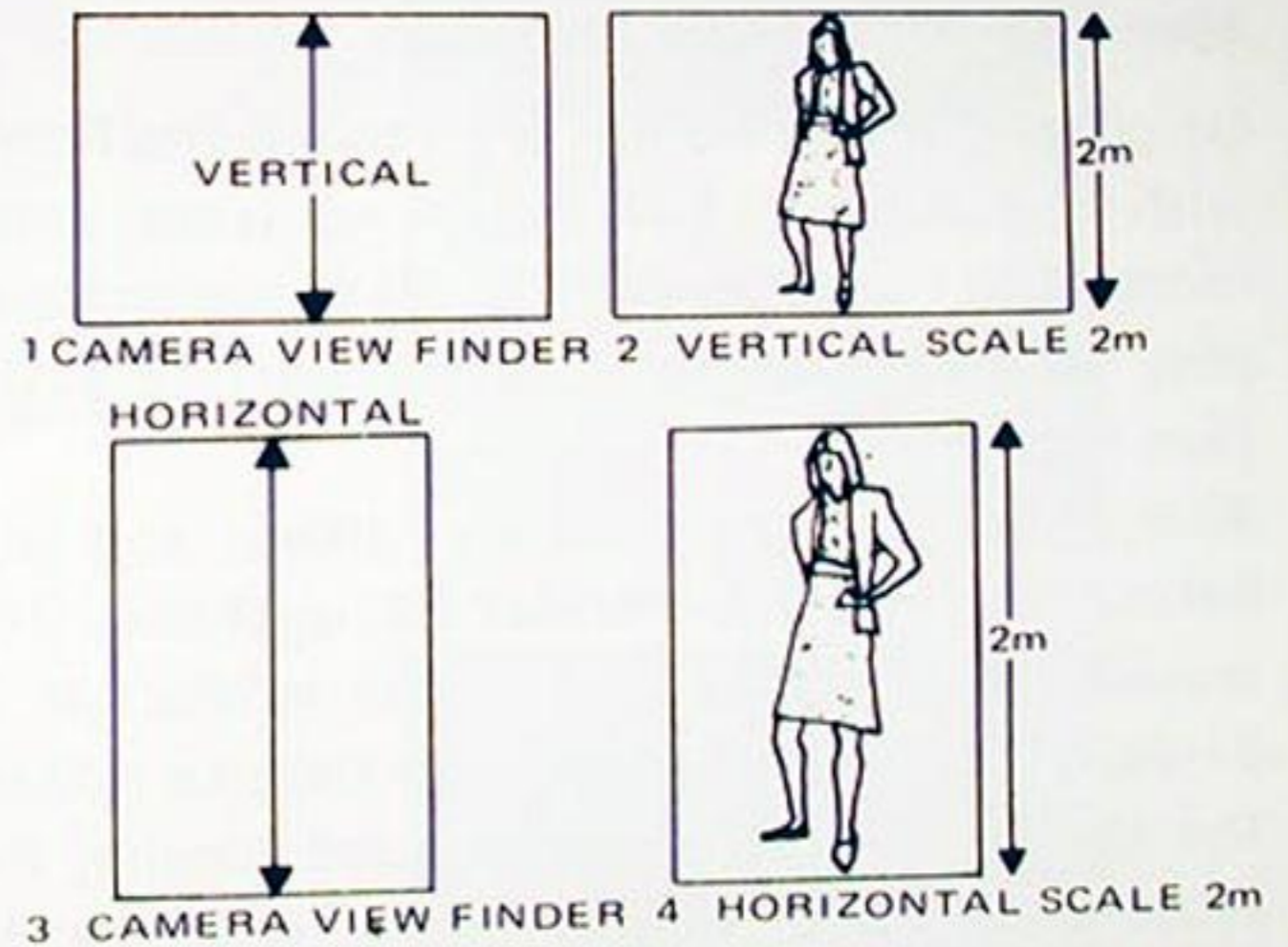
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ring has the F-stop numbers painted in white, green, blue, and orange to indicate the desirable F-stops to be used for optimum results when using System Focusing. Thus, if the System Focusing ring is set to 1/4 life-size it will be found that the 1/4 life-size mark engraved on the System Focusing ring is painted in green, indicating that for optimum results, to counter the shallow depth of field met with when working so close to the subject, the diaphragm should be stopped down to at least F/5.6 (painted in green). Similarly, when working at 1/3 life-size, the lens should be stopped down to at least F/8 or F/11. At 1/2 life-size stopping the lens down to F/16 or F/22 is desirable. When using System Focusing there may be a small focus shift; consequently, to ensure accurate focus it is advisable to focus the lens after first stopping it down.

For optimum results when using the 135mm F/2.8, 200mm F/4, 200mm F/2.8, and 300mm F/4 lenses in the macro mode, use those F stops color-coded in green.

THE SCALEMATIC SYSTEM

Because of the difficulty of focusing moving subjects with a telephoto lens, Sigma has developed the Scalematic System which enables the photographer to prefocus his lens so that all he has to do is aim at the approaching subject, wait until it is almost in focus, and then shoot.



HOW TO USE THE SYSTEM

1. Estimate approximate size of the subject approaching the camera. If it is two meters, for example, align the 2m mark on the scale with the red dot in the center of the lens barrel.
2. When using the vertical dimensions of your camera's view finder align subject size on the vertical scale; when using the horizontal dimensions of your view finder, align subject size on the horizontal scale. (See Figs. 1-4)
3. Of course, if you do not wish to fill the frame with the subject but desire to leave some room above and beneath it, align subject size plus added space on the appropriate scale. (See Figs. 5 & 6)
4. Aim at subject approaching camera and just before it comes into perfect focus, shoot. The reason for shooting before the subject is in perfect focus is that it requires time to release the shutter. Therefore with good timing, the subject will be at the peak of focus just at the moment the shutter is released.

HOW TO MEASURE OBJECTS THE SCALEMATIC WAY

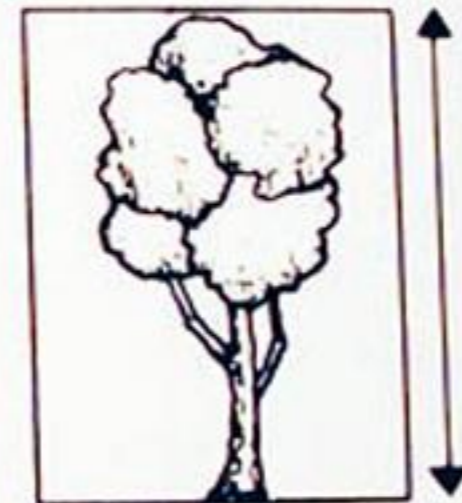
Look through the view finder and focus subject so that it completely fills the frame, then merely read the dimension off the correct scale. (See Figs. 7-9)



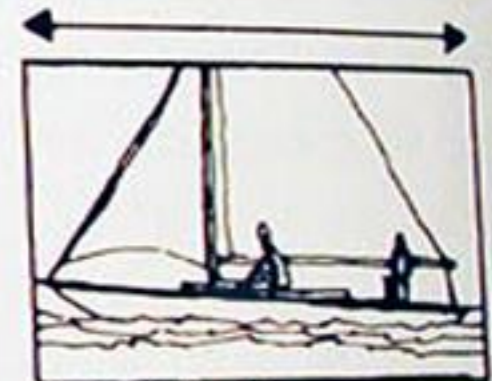
5 VERT. 3m



6 HOR. 3m



7 HOR. 10m



8 HOR. 11m



9 VERT. 15m

THE FILTERMATIC SYSTEM

The Sigma 16mm F/2.8 Fish-eye lens, as well as the 24mm F/2.8 have four built-in filters: orange, yellow, blue color conversion and skylight (O-56, Y-48, LB-180, L-1A). Not only can you use the yellow and orange filters for greater contrast in black and white photography, but you can use them creatively in color work as well.

You can add warmth to a gloomy day, liven up a sunset, or add sparkle to a wheat field. The possibilities are limited only by your imagination. Similarly, besides using the blue filter for shooting daylight color film in tungsten light, you can also use it creatively with color film to change dusk into evening, for example. Or to emphasize the color of the ocean or sky. As well as emphasizing the mist with black and white film. These four filters are specially designed so that their densities are weak enough to permit their use with color film, and yet strong enough to use with black and white film as well.



LB-180



O-56



Y-48



L-1A

CHOOSING YOUR SIGMA LENS

I WIDE-ANGLE LENSES

A) THE 35mm LENS

If you were to go on a photographic assignment and were allowed to take only one camera and one lens, what lens would you choose? The choice of most professionals would be the 35mm lens, for experience has proved it to be the most versatile.

When photographing someone it is important to include part of the surroundings to help express the individual's personality. The 62° coverage of a 35mm lens makes this task an easy one. Furthermore, the 35mm wide-angle lens allows the photographer to get close enough to the subject to prevent the intrusion of passer-bys, automobiles, telephone poles, and the like. Additionally, when photographing indoors only a wide-angle lens can cover an ample amount of the interior. Since a good part of our lives is spent at home and in the office it is only natural to want to take photographs indoors. And since indoor photography is usually synonymous with flash

photography, Sigma has produced the world's first wide-angle G.N. (guide number) lens. It enables you to automatically obtain the correct flash exposure everytime, regardless of the type of flash you use: F.P. bulbs, M bulbs, flash cubes, or any type of flash unit. All you do is set the flash guide number on the lens and the correct F stop is automatically chosen as you focus the lens.

B) THE 28mm LENS

Well suited for the photographer who does a great deal of interior work where the extra coverage (74°) is helpful. It is also useful for those interested in architecture as buildings can be easily photographed with this wider optic. The 28mm focal length besides being a favorite with those who must constantly work in cramped quarters, has also grown very popular among many photo enthusiasts because it is the bridge that spans the world of wide-angle (35mm) and ultrawide-angle (24mm or less) lenses. That is, like the 35mm lens the 28mm focal length is extremely versatile, and like the ultrawide-angle lenses it allows the photographer to exaggerate perspective thereby creating startling effects.

II ULTRAWIDE-ANGLE LENSES

Part of the joy that accompanies the art of photography stems from transforming the world of reality into a make-believe world of fantasy. When we record the world accurately we are similar to scientists documenting facts, but when we transform the familiar into the unfamiliar, the real into the unreal, we are participating in the act of creation.

The Sigma ultrawide-angle lenses will help expand the creative tools of the photographer. The Fish-eye will bend straight lines, the 18mm with its 100° field of view and close focusing capabilities offers fantastic perspective, and the 24mm not only covers a full 84° , but its four built in filters assist in creative color and black and white photography.

A) The FISH-EYE is designed for those requiring maximum coverage; it offers a 180° field of view diagonally, a field of view so large that the photographer must exercise care lest he include his elbow or leg in the picture.

You have to look through the camera finder before you realize what exciting perspective a

fish-eye lens is capable of creating. Tilt the lens upward and the horizon curves making you feel like an astronaut viewing the earth from a spaceship. Stand in the corner of a room and the lens will encompass not only the entire interior, but the four walls, ceiling and floor.

For additional versatility the Fish-Eye has four built-in filters, close focusing capability, and a circle image adapter which allows the photographer to take a circular photograph with a field of view of 100° in all directions.

B) THE 18mm LENS The sweeping 100° field of view that the Sigma 18mm lens offers, easily engulfs skyscrapers, encompasses mountains, or swallows up interiors. As this is a true wide angle lens and not a fish-eye lens, straight lines will appear straight even at the edges when the camera is held perpendicular to the subject and the ground.

Besides being an ideal tool for capturing panoramic scenes, it is also a favorite among creative photographers as it offers breathless perspective and unlimited depth of field.

G) THE 24mm LENS The 24mm is another ultra-wide-angle lens having a field of view of 84° . In comparison to the 18mm lens it is $1/4$ stop faster (F2.8 vs F3.2), has four built in filters, and accepts 62mm screw in filters as well.

III TELEPHOTO LENSES

A) 100mm F2.8 The ability of the 100mm F2.8 to focus down to 1:1 without attachments of any kind makes it a popular lens for those interested in close-up photography. Its focal length is also ideal for portraiture.

B) 135mm F2.8 Strong points are its compactness, light weight, close focusing ability (focuses to $1/3$ life-size), its 2.7 magnification (compared to a 50mm standard lens) making it useful for sports. Additionally this lens, as all the Sigma telephotos, employs the Scalematic System to simplify prefocusing, a valuable tool for sport and action photographers. Also in its favor is its ability to accept two different filter sizes (62mm and 52mm).

C) 200mm F4 In addition to bearing all the advantages of the 135mm F2.8, this lens offers greater magnification (4x). The "compression effect" is stronger than that found in the 135mm, making the 200mm useful for creative effects.

D) 135mm F1.8 Despite its wide aperture, this is a very compact lens. Its 2.7 magnification and the bright image created by the F1.8 maximum aperture as well as shallow depth of field make focusing this lens child's play. When this lens is used wide open, highly dramatic effects can be created, as the background can be made to "melt" away.

E) 200mm F2.8 Shares advantages of the 135mm F1.8 lens in that focusing is extremely easy, the background can be made to "melt" away, and its wide aperture makes it suitable for available light photography. Additional attractive features are its greater magnification (4x) and its ability to focus down to $1/3$ life-size.

IV ULTRATELEPHOTO LENSES

A) 300mm F4 Considering this lens' focal length and its 6x magnification, the Sigma 300mm F4 is extremely compact and lightweight. For maximum versatility the 300mm lens is Scalematic and close focusing (1/4 lifesize). Additional plus factors are its large maximum aperture for focusing ease, available light photography, and "melting" away the background, the "compression effect" is pronounced rendering highly interesting and dramatic effects.

B) 500mm F8 An ultratelephoto for sport enthusiasts, wild animal lovers, and creative photographers. Since this is a mirror lens, it is both compact and lightweight. Creative effects are easily produced by exploiting the powerful "compression effect" and doughnut-shaped out of focus highlights which are typical of mirror lenses. The relatively shallow depth of field and 10x magnification also assist in creating pictures loaded with impact.

C) 500mm F4 The fastest lens of this focal

length, designed for specialists. For additional versatility the Sigma 500mm F4 can be converted to a 500mm F5.6.

V THE 55mm MACRO LENS

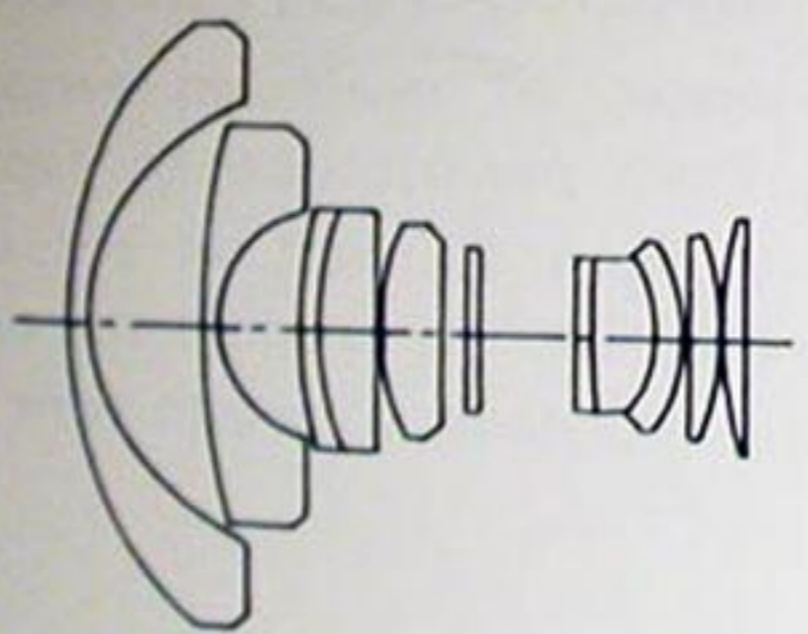
As this is a true macro lens and not merely a lens having close-up focusing capabilities, it produces scalpel sharp close-ups. For ease of handling, it goes down to 1/2 life-size without attachments of any kind. The Sigma 55mm macro lens is a fast F2.8 optic with a luxury seven element design enabling it to match or surpass other lenses of similar focal length whether focused at infinity or 1/2 life-size; thus, it makes an ideal "standard" lens.

VI SIGMA MACRO-SYSTEM ZOOMS

All-purpose lenses of optimum versatility. As zoom lenses, they permit one to rapidly crop right in the camera as well as the option of changing perspective in order to create the perfect picture. No need to waste time changing lenses.



Focusing ring
Filter turret
Diaphragm (aperture) ring



The Sigma 16mm F2.8 is not a true fish-eye lens that creates a circular image of 180° in all directions, as such a lens has only limited applications such as in meteorology. But it is the type of fish-eye lens popular with professional and advanced photographers often referred to as a "semi-fish-eye lens". That is, the full frame is utilized with the diagonal covering 180°, horizontal 150°, and vertical 100°. The Sigma Fish-Eye has a maximum aperture of F2.8 for ease of focusing. However, because of the extraordinary depth of field inherent in fish-eye lenses you may want to set the focusing ring to the hyperfocal distance thereby freeing you from the need to focus at all. When the focusing ring is set to 1 meter (the hyperfocal distance for F8), for example, everything from infinity to 50cm is sharp; thus, there is no need to focus at most times. Even when used wide open (F2.8), when set at the hyperfocal distance, everything from approximately five feet to infinity will be in focus — this is more depth of field

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than you would receive with your 55mm standard lens stopped down to F32.

The Sigma Fish-Eye lens focuses to 15 cm (6 in.) from the film plane, or approximately 5 cm (2 in.) from the front element of the lens enabling the photographer to create a world of fantasy.

When the lens is held absolutely perpendicular to the ground and the object being photographed, distortion will be minimized creating an ultra-wide-angle lens effect. The degree of distortion can be controlled by varying the angle of the lens and the distance from the subject.

The built-on lens hood allows the photographer to place the fish-eye lens against a window without fear of scratching the front element surface, and the circular image adapter which fits over the lens hood offers the opportunity of creating circular pictures with a field of view of 100° in all directions. For added control under a variety of conditions, the Sigma Fish-Eye lens comes with four built-in filters.

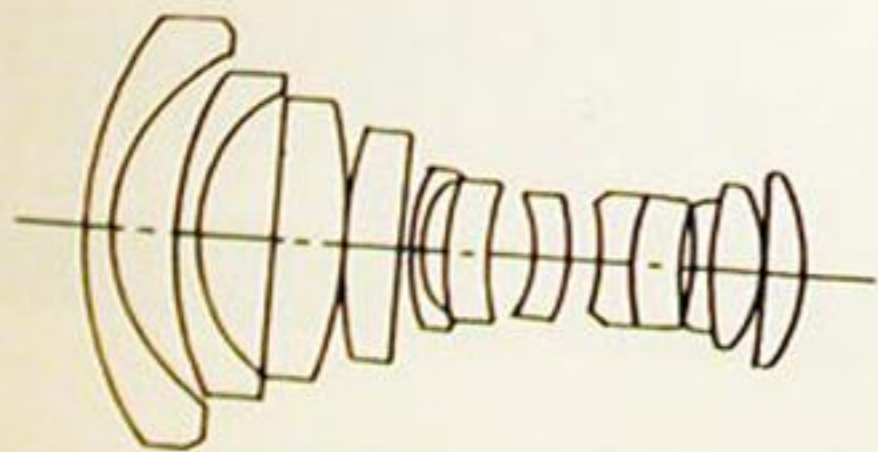


YIGMA 18mm F/3.2 ULTRAWIDE-ANGLE LENS



Focusing ring

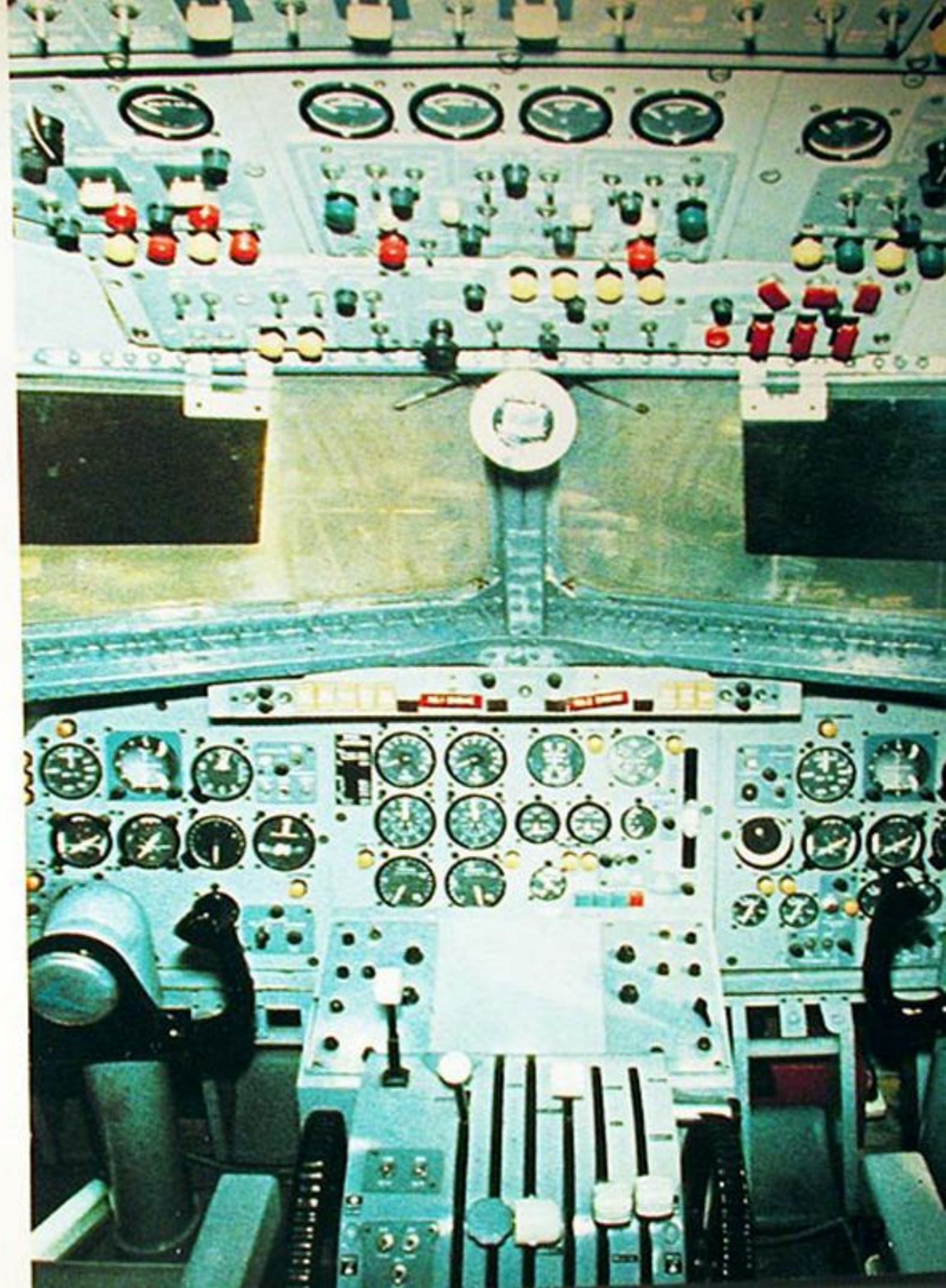
Diaphragm (aperture) ring



The Sigma 18mm lens is an ultrawide-angle lens with a 100° panoramic field of view covering 8x the area covered by a normal lens, 4x that of a 35mm lens, and 2.5x that of a 28mm lens. Considering the focal length, 18mm, the lens is a fast F3.2, a mere quarter of a stop slower than F2.8. Since it is of retrofocus design, there is no need to lock the mirror up when using this lens. It focuses down to 17cm (6 3/4 in.) from the film plane, or 7cm (2 3/4 in.) from the front lens element. At F22, with the lens set at the hyperfocal distance, everything from approximately 30cm (12 in.) to infinity is in focus. Although this lens is large enough to make handling easy, it is of lightweight design, tipping the scales at only 287 grams. It has a complex optical design of 12 elements in ten groups for optimum contrast, minimum distortion, evenness of light transmission, and maximum resolution. The Sigma 18mm ultrawide-angle lens is ideally suited for photographing interiors, architecture, skyscrapers, bridges, city skylines, panoramic

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scenes, and moreover it is a useful tool for creating startling, dynamic photographs. People can be made to appear towering over skyscrapers; hands looming into the foreground can be made to appear larger than their owner. These and countless other striking effects are easily created with this remarkable lens. If you already have a 24mm lens, the 18mm will make an excellent companion as there is considerable difference between the two focal lengths, the 18mm Sigma encompassing much more.



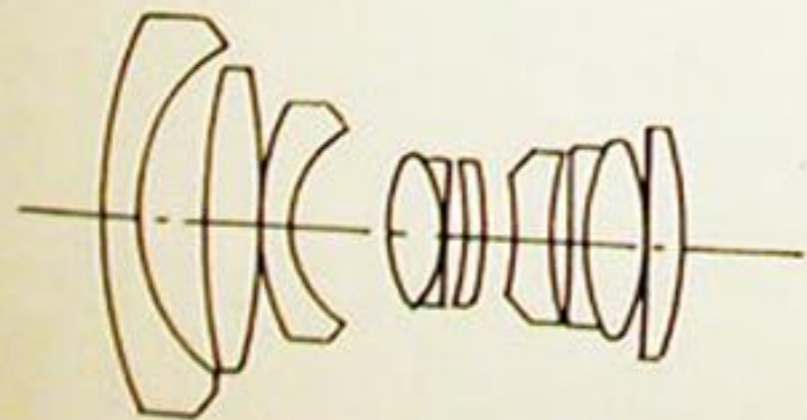
SIGMA 24mm F/2.8 ULTRAWIDE-ANGLE LENS



Focusing ring

Filter turret

Diaphragm (aperture) ring



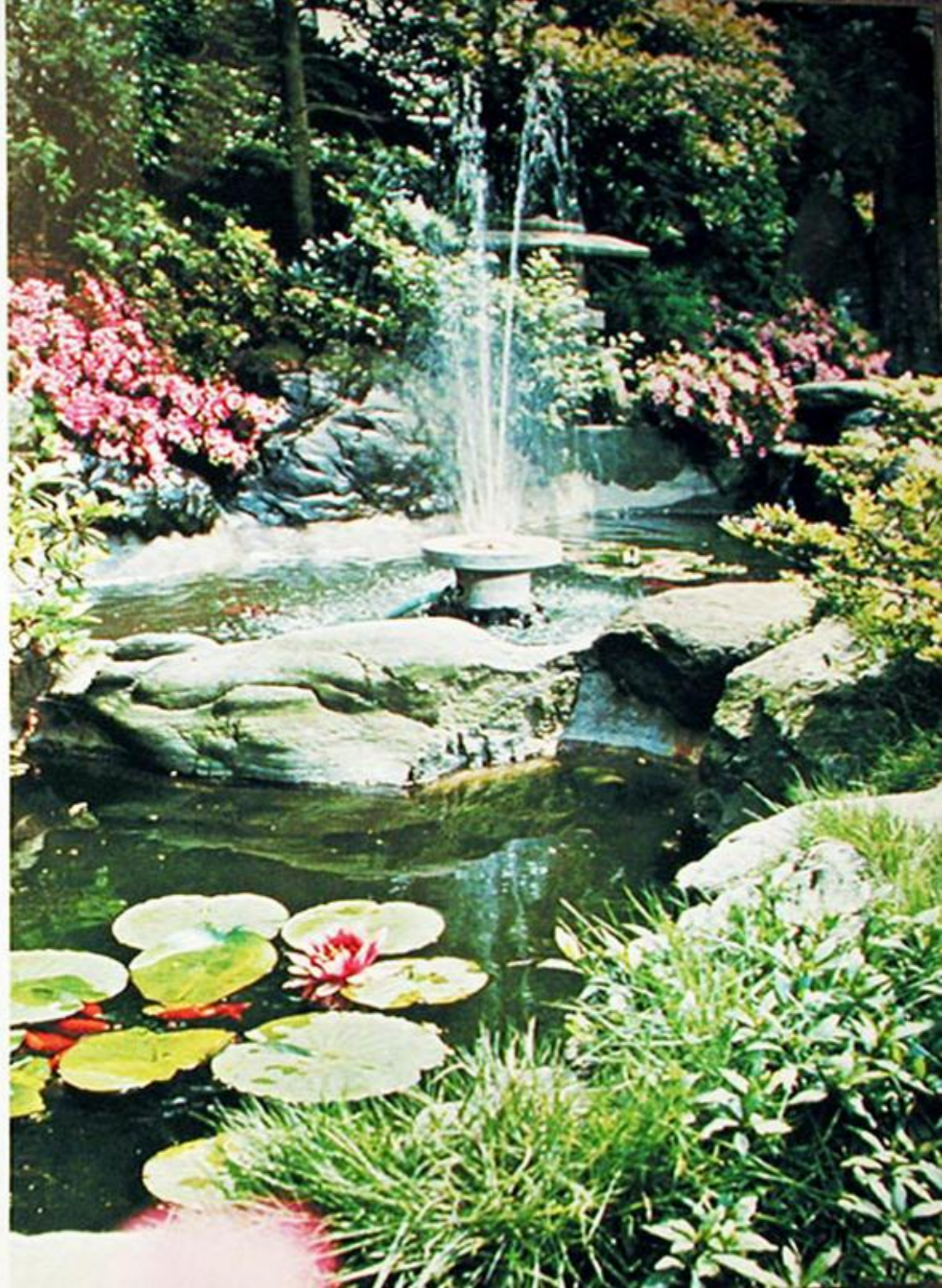
An ultrawide-angle optic having a field of view of 84° , the Sigma 24mm has a maximum aperture of F2.8 offering a bright image for easy focusing and making available light photography possible. Its minimum focusing distance is 20cm (8 in.) from the film plane, or 10cm (4 in.) from the front lens element.

With the lens set at the hyperfocal distance at F22 everything from 40cm (16 in.) to infinity is in focus.

Many amateur photographers obtain inferior wide-angle photographs because they forget to bring the appropriate filter along, have no room to carry one, or perhaps the expense of a large filter discourages them from purchasing one. Whatever the cause, you will not share this problem if you own the Sigma Fish-Eye or 24mm Filtermatic lenses because they both have the same four filters (skylight, orange, yellow, and blue) built in. A filter can instantly be dialed into place and its effect checked. The 24mm

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Filtermatic lens is also front threaded to accept 62mm screw-in filters, making it possible to use other filters in combination with those built in. Although the 24mm's angle of view is not as sweeping as the 18mm, it is still, nevertheless, an extreme wide-angle lens proving to be very effective for landscapes, interiors, and creating dramatic images. It is not only a high resolving lens, but has impeccable color balance with no discernible color distortion even at the edges, wide open.

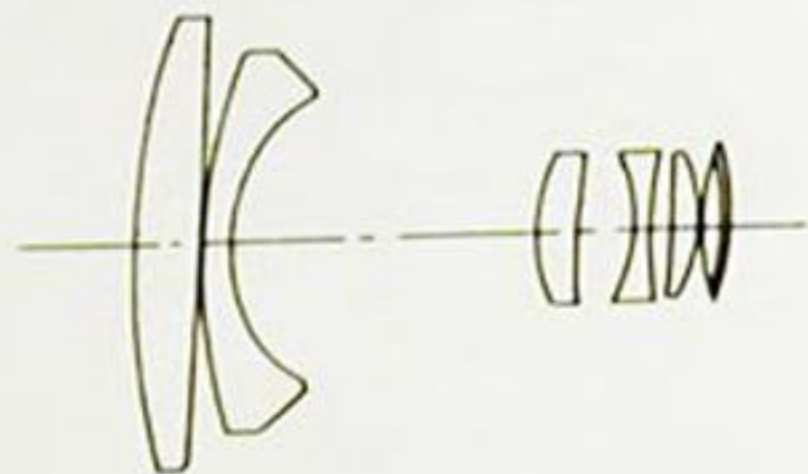


y. yang square
SIGMA 28mm F/2.8 WIDE-ANGLE LENS



Focusing ring

Diaphragm (aperture) ring



The Sigma 28mm wide-angle lens has been specially designed to answer the needs of photo enthusiasts, amateurs and pros alike; it has a wide aperture of F2.8 for focusing ease and available light photography. Despite its large, easy to handle controls, the 28mm lens weighs less than 280 grams, or less than most standard lenses. It has a relatively wide angle of view of 75° and focuses to a close 30cm (12 in.) from the film plane (about 23cm, or 9 in. from the front element).

You will find this lens ideal for scenics, architecture, large groups, and photojournalism. And of course its depth of field is impressive too. At F22, when set at the hyperfocal distance, everything from approximately 63.5cm (25 in.) in front of the lens to infinity is in focus.

And like the 35mm, exaggerated perspective is not as apparent as in the extreme and ultrawide-angle lenses. The 28mm lens, therefore, can be used as an all purpose wide-angle

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lens. Its sharpness, high contrast, and speed enhance its ability to function as an all purpose wide-angle.

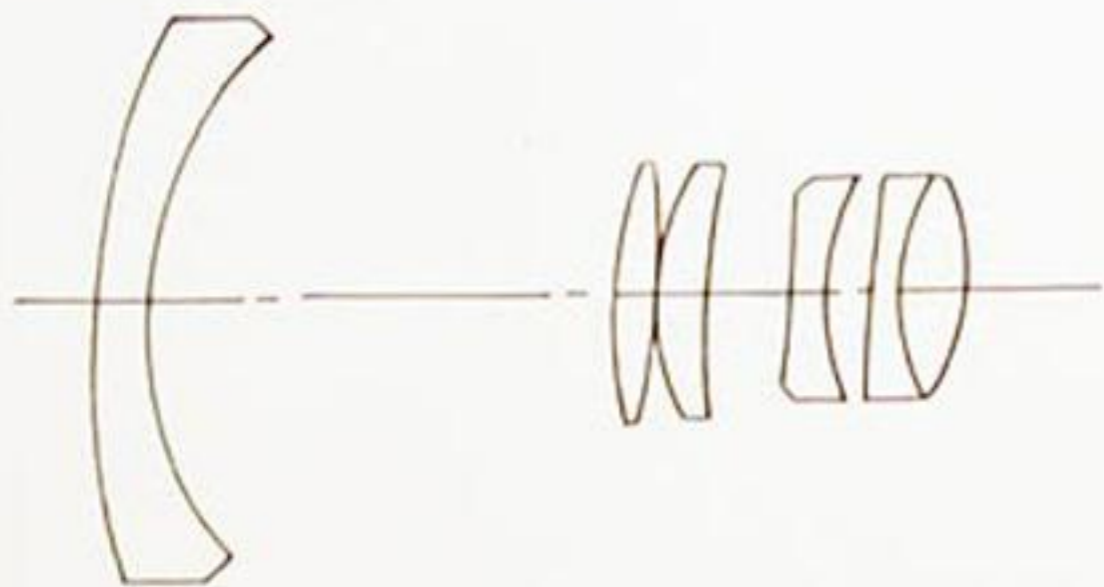


Sigma 35mm F/2.8 FLASH AUTO G.N. LENS



Focusing ring
GN button

Diaphragm (aperture) ring



The world's first 35mm guide number lens. The ideal companion for your electronic flash unit, whether auto or manual. A guide number lens is useful for owners of automatic flash units because it allows one to use the flash unit automatically when it is set in the manual position. This is an advantage as it generally allows you to use a much smaller F-stop. Using an auto flash unit in conjunction with the Sigma 35mm G.N. lens gives maximum versatility since one can set the flash unit in the manual position and automatically obtain the correct aperture, which is small, or set the flash unit on auto disconnecting the G.N. lever on the lens and using a large aperture. It's nice to have a choice.

Whether you use flash units or flash bulbs, whether you use flash indoors or out, you'll enjoy always getting perfect exposures automatically with this high quality optic.

To increase its versatility further, the 35mm lens will accept both 52mm and 62mm screw-in

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filters, and guide numbers are given in both meters and feet.

The Sigma 35mm G.N. lens has large easy to handle controls and yet is the lightest member of the Sigma family, weighing only 217 grams. It has a minimum aperture of F32 to make auto flash operation possible even at as close a distance as 50 centimeters. Even when using this lens without a flash you will find the minimum F-stop of F32 useful because of the vast depth of field it offers.

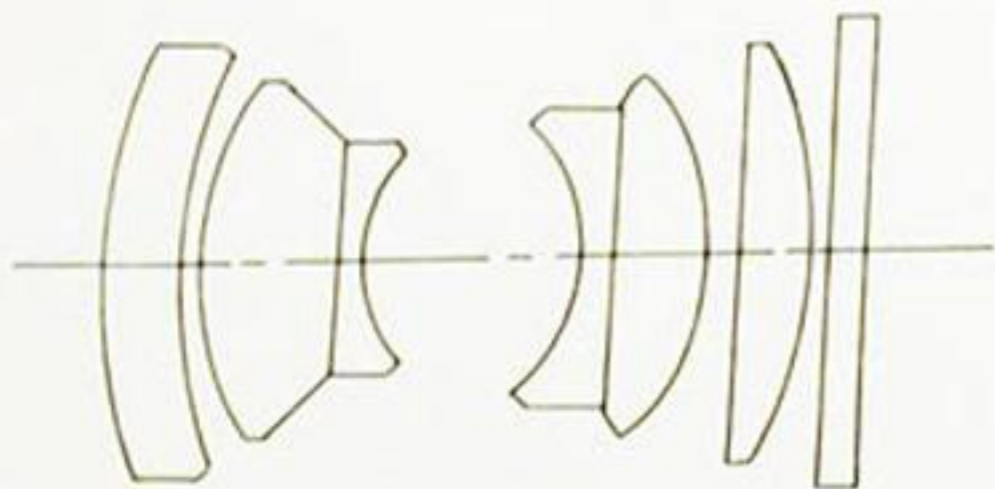


Y. Yano Square SIGMA 55mm F/2.8 MACRO LENS



Focusing ring

Diaphragm (aperture) ring

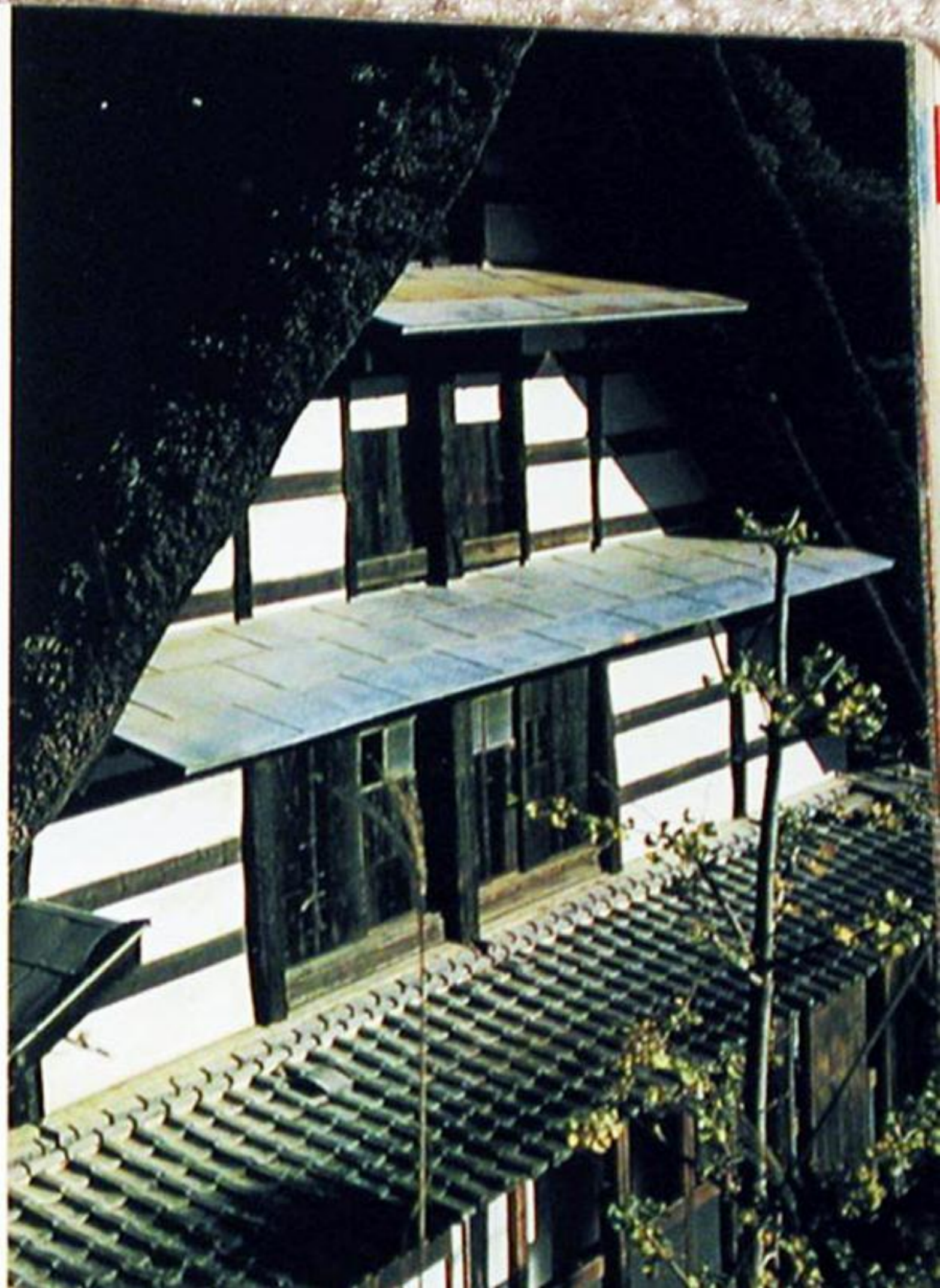


The Sigma 55mm macro lens invites you to get close to nature. If you are considering a macro lens and your camera manufacturer doesn't offer one, you'll be interested in the Sigma macro lens. Even if one is available, you'll be interested in Sigma's because it is the world's only multi-coated, F2.8, fully automatic, macro lens. This multi-coated macro lens produces ghost-free, high contrast color slides with maximum color saturation. Added to the above is high resolution, the combination producing breathtaking slides. The Sigma 55mm macro lens is of excellent optical design, made in the Gauss type, with seven elements in five groups, ensuring optical performance equalling or surpassing any other lens, macro or otherwise, of equivalent focal length.

Its wide aperture eliminates the problem of focusing, so often associated with macro lenses. And one can focus from infinity to one half life-size without attachments. The macro lens can be combined with the Sigma 2X rear lens

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converter, creating startling close-ups of nature. When the lens group is detached from the converter it becomes an automatic extension tube allowing you to capture high resolution life-size images; of course, meter coupling is retained. Since the front lens element is considerably recessed there is no need for a lens hood. However, the use of a lens hood is recommended when using filters. Needless to say, the Sigma 55mm macro lens will also double as your normal lens, providing you with a valuable all-purpose lens.



SIGMA 100mm F/2.8 MICRO MACRO LENS

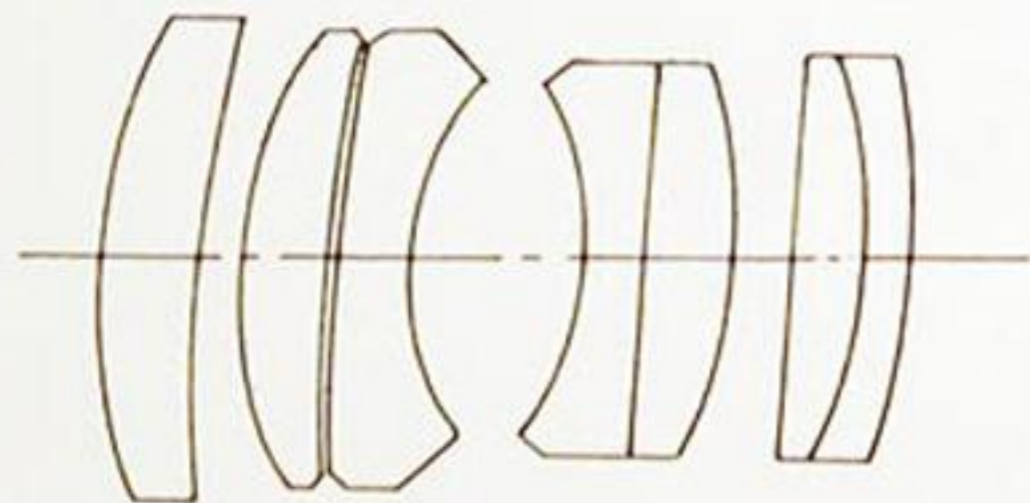


Built-in hood (removable)

System-focusing ring

Main focusing ring

Diaphragm (aperture) ring



This is an extremely versatile optic serving as a copy lens, macro lens, action telephoto lens, and portrait lens.

Copy lens: This high quality copy lens exhibits extreme flatness of field. When the lens, for example, is focused at 1.2 meters or 4 feet (1/10 life-size reproduction ratio) and stopped down to between F5.6 and F11, it is capable of resolving 150 lines per millimeter in the center, and 100 lines per millimeter at the edges.

Macro lens: The 100mm F2.8 lens will focus down to 1:1 (life-size) via the built in System Focusing mechanism; of course no attachments of any kind are required, and automatic diaphragm operation as well as meter coupling are retained. For critical work where optimum sharpness must be retained, the 100mm F2.8 lens can be used mounted on extension tubes. When the lens group is detached from a Sigma rear lens converter it becomes an automatic extension tube, complete with meter coupling, and will

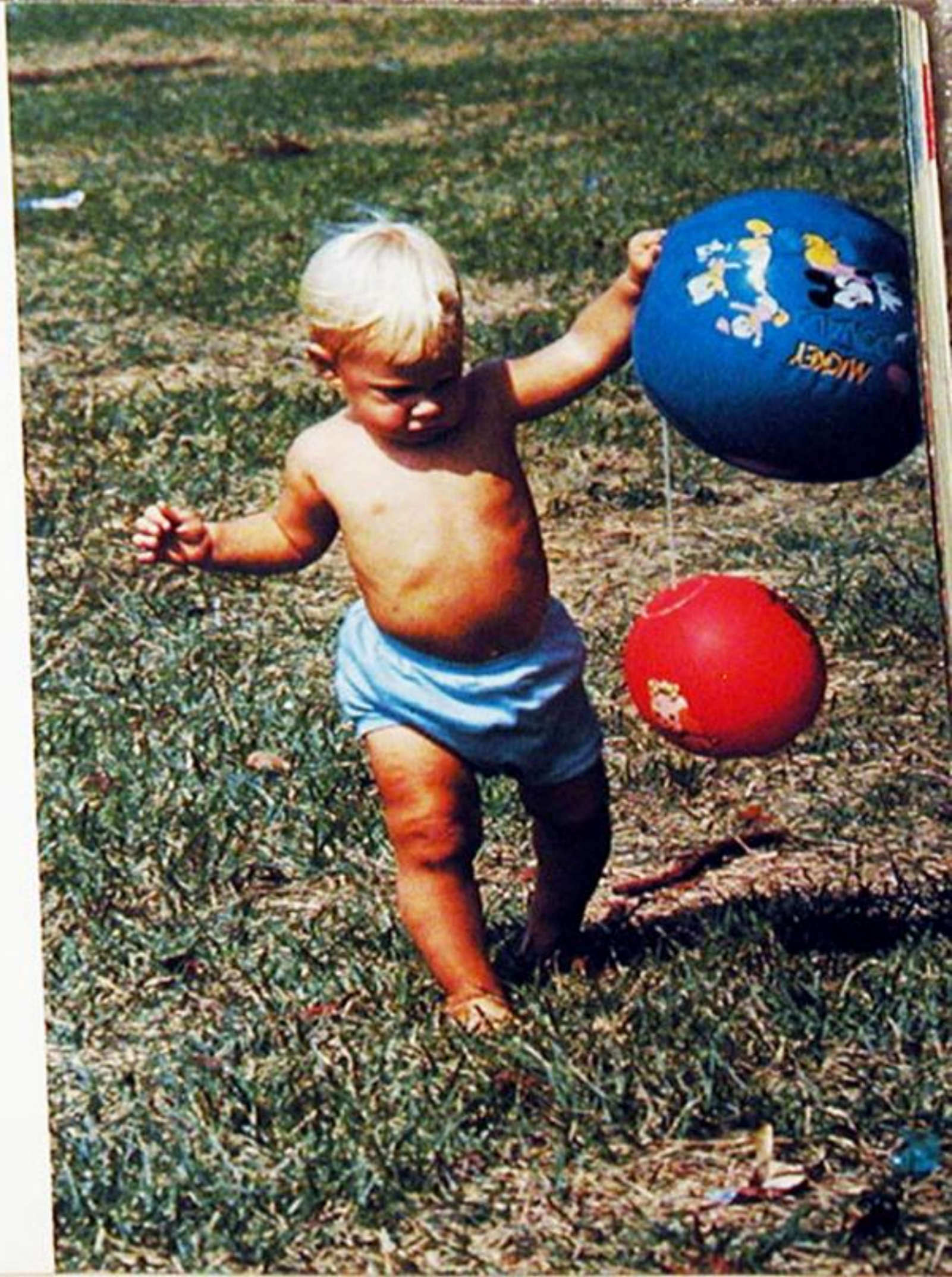
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thus be found valuable for use with the 100mm lens.

The built-on Scalematic System makes this lens useful for the action or sports photographer, while its 100mm focal length is also ideal for portraiture.

Because the front lens element is considerably recessed, use of a lens hood is not generally required, use of a lens hood is recommended when 62mm filters are being utilized in order to maintain optimum contrast and exploit the inherent sharpness of the 100mm F2.8 lens to the fullest.

To use 40.5mm filters, merely unscrew the built-in lens hood, and after screwing 40.5mm filter into base of hood, replace hood.

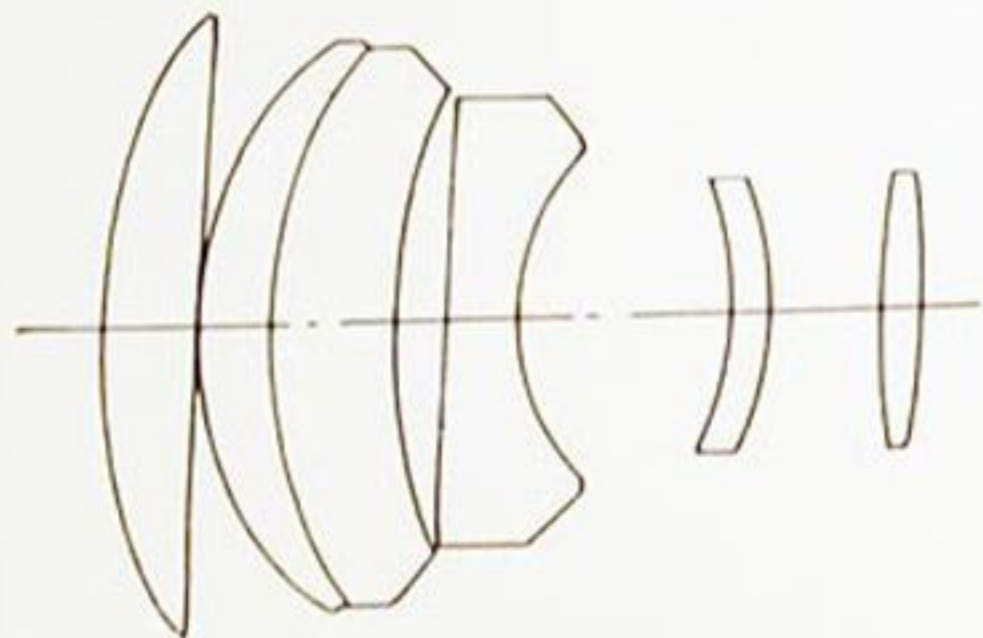


SIGMA 135mm F/1.8 TELEPHOTO LENS



Focusing ring

Diaphragm (aperture) ring



The fastest 135mm lens available today having a maximum aperture of F1.8 and equalling the speed of many standard lenses. It has been multicoated so that flare will not diminish its resolving power or lessen its high contrast. An ideal lens for available light photography as well as the stage and sport arenas where flash photography is forbidden.

Although slides taken with 85mm and 100mm lenses are sometimes difficult to distinguish from those taken with a 50mm lens, this is not so with a 135mm lens as the compression of the foreground and background begins to exert itself. The photographer can utilize this effect creatively.

The wide aperture of this lens enables the photographer to perform miracles. For example, have a model lean against a tree on a city block and take the picture with the lens wide open. The depth of field is so shallow when the photographer is a couple of meters from the subject that the background will completely

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disappear, creating the impression that the model is in a park and not on a city street. Want to freeze sports action? It's easy to shoot at 1/1000 or 1/2000 of a second when you are using an F1.8 lens. And of course the 135mm F1.8 is Scalematic too.

The extremely shallow depth of field, when wide open, and the lens' brightness, as well as its 2.7x magnification make focusing this lens easy.

The six element, four group deluxe design of this Sigma lens makes it the optical equal of slower F2.8's or F3.5's.



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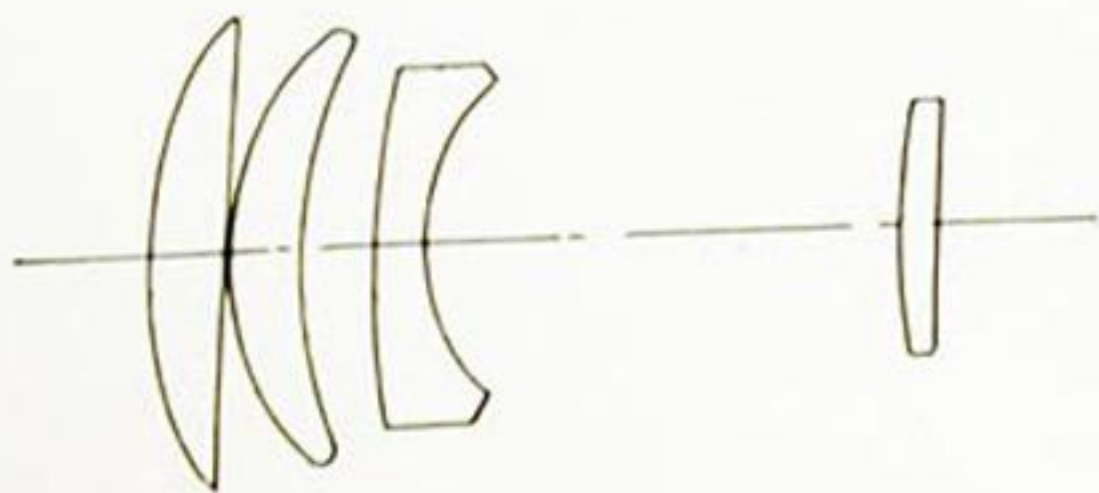
SIGMA 135mm F/2.8 TELEPHOTO LENS



System-focusing ring

Main focusing ring

Diaphragm (aperture) ring



The world's most feature-laden 135mm telephoto lens, the Sigma 135mm F2.8, is not only made well, but exhibits outstanding optical characteristics as well.

Among its many features are some of the following.

Compact. The 135mm F2.8 measures a mere 86 millimeters in length and its 450 gram weight is barely noticeable when held in the photographer's hand.

Scalematic. A feature that only Sigma lenses enjoy.

Dual Filter Mount. Your choice of filter sizes, 52mm or 62mm.

System Focusing. The 135mm F2.8 focuses down to 60cm from the film plane to record close-ups to 1/3 life-size.

Multi-coated. All Sigma lenses (other than the 500mm mirror lenses) are multi-coated to protect their intrinsic sharpness from the image-deteriorating effects of flare.

Efficient Lens Hood. Sigma does not cut corners

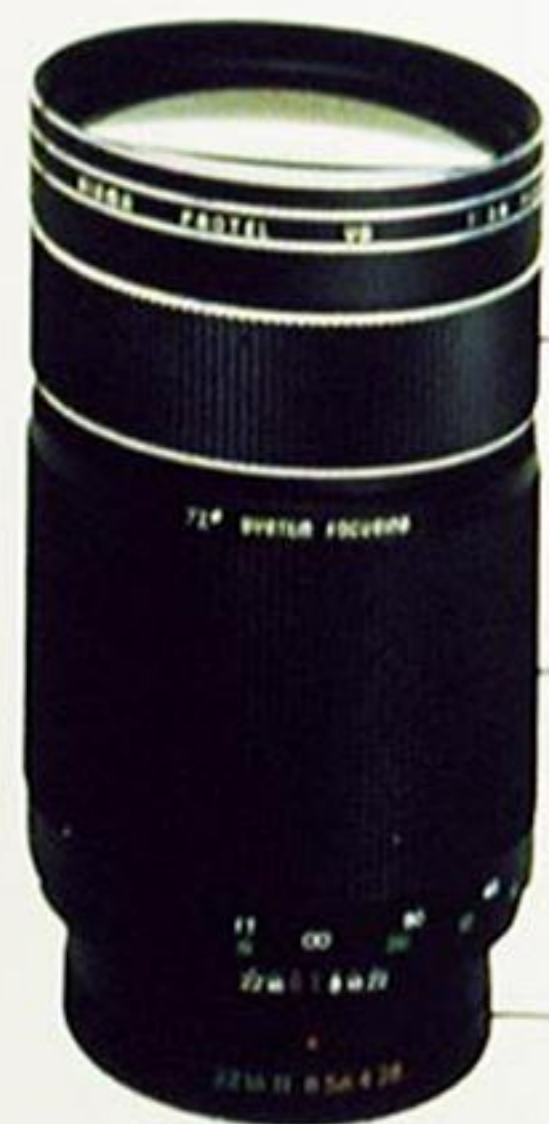
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by savings due to small, inefficient lens hoods. On the contrary, Sigma's costly lens hood is the deepest hood accompanying 135mm or 200mm lenses today. The Sigma deep lens hoods work as a team with multi-coating to produce crisp, sparkling images loaded with impact.

Large Focusing Grip. A large diamond-studded focusing grip makes it easier for the photographer to concentrate on the picture and completely eliminates fumbling.



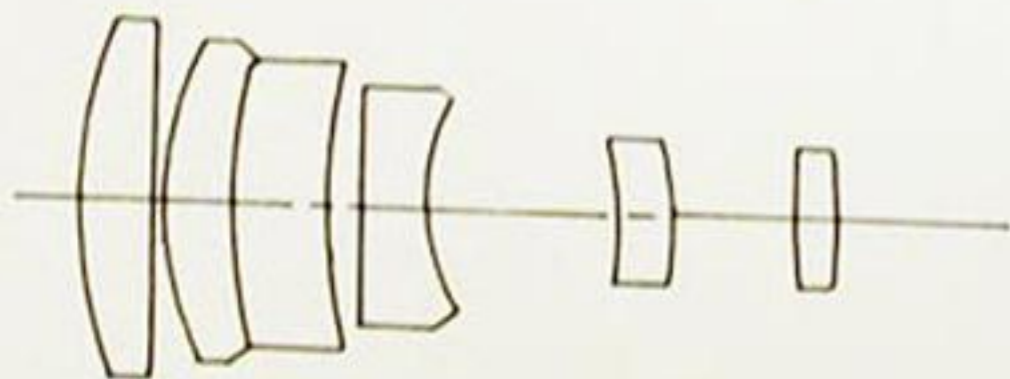
SIGMA 200mm F/2.8 TELEPHOTO LENS



System-focusing ring

Main focusing ring

Diaphragm (aperture) ring



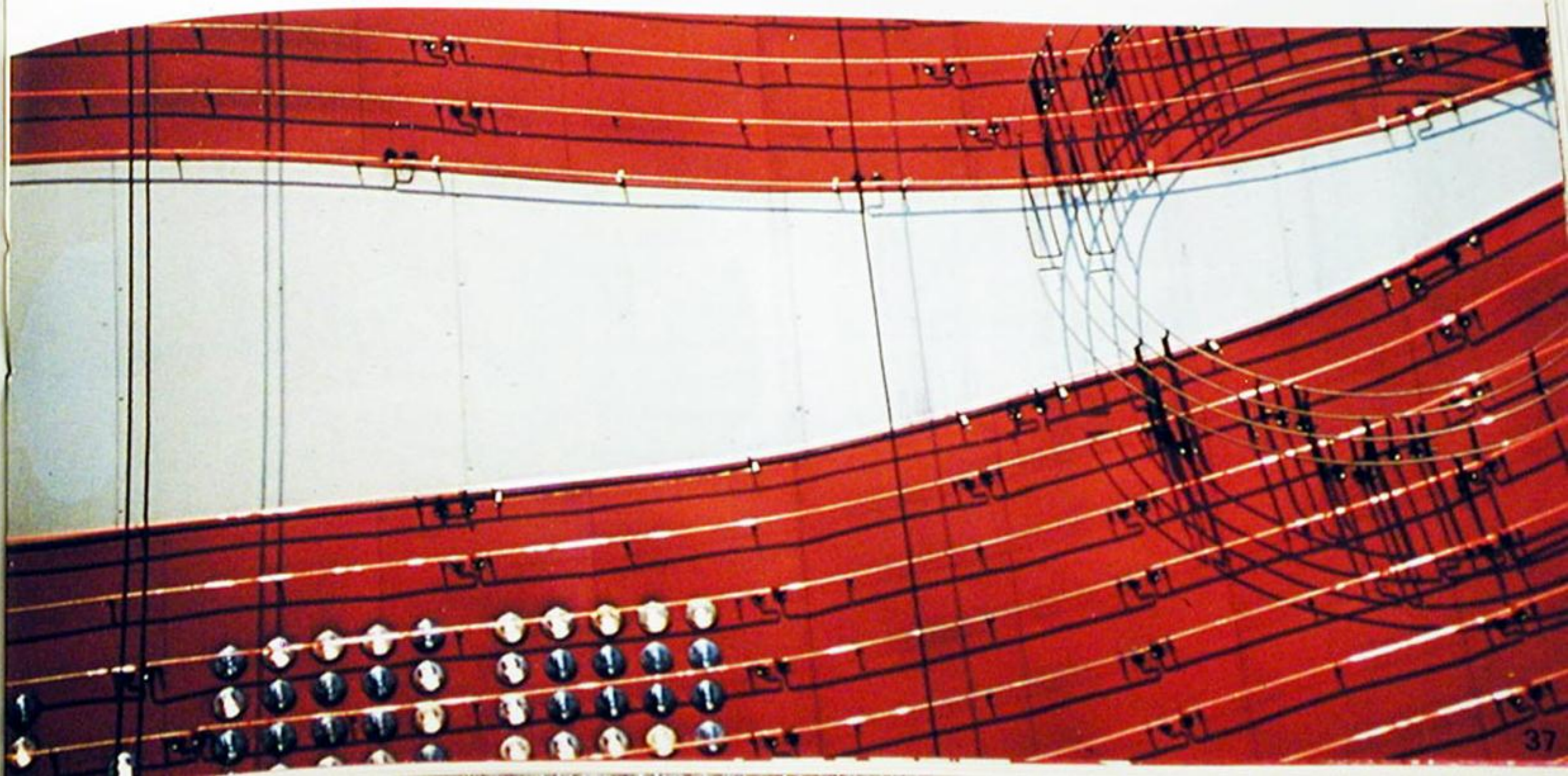
Sigma was the first to popularize 200mm lenses of F2.8 aperture, and other manufacturers are now following Sigma's lead. No doubt in the near future, photographers will have a choice of several fine 200mm F2.8 lenses to choose from. Only the Sigma 200mm F2.8, however, has built-in macro focusing capabilities. The Sigma 200mm F2.8 lens focuses continuously from infinity to an ultra close 87cm from the film plane to produce exciting close-ups of up to 1/3 life-size without the need of cumbersome attachments.

The high resolution Sigma 200mm F2.8 lens is multi-coated and comes with a deluxe lens hood of optimum efficiency to guarantee photographs which will meet the stringent demands of professional photographers. The Scalematic System is another Sigma plus.

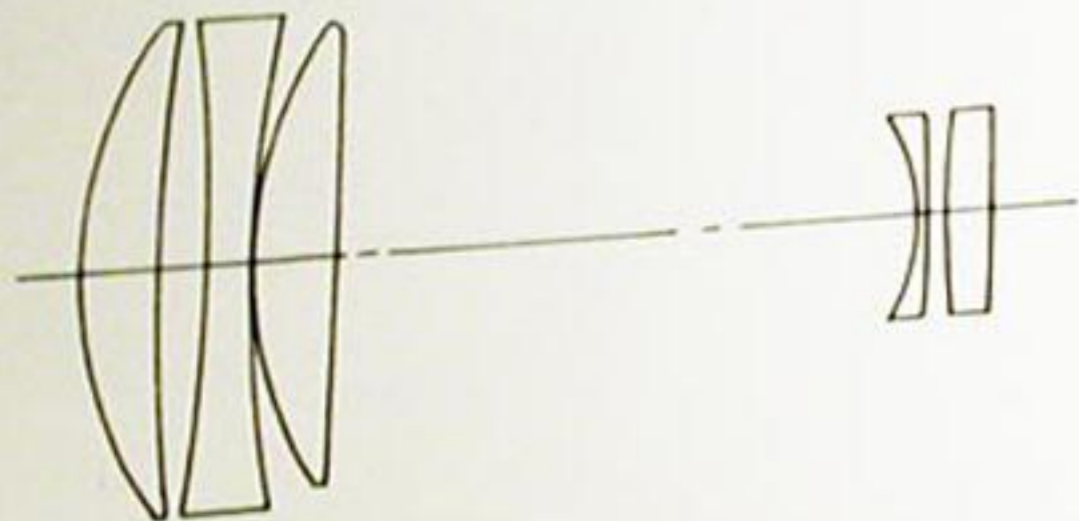
The wide aperture of F2.8 produces a bright image for easy focusing, aids in available light photography, allows the photographer to "melt"

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away the background for striking effects, and makes it possible to shoot at high shutter speeds.



SIGMA 200mm F/4 TELEPHOTO LENS

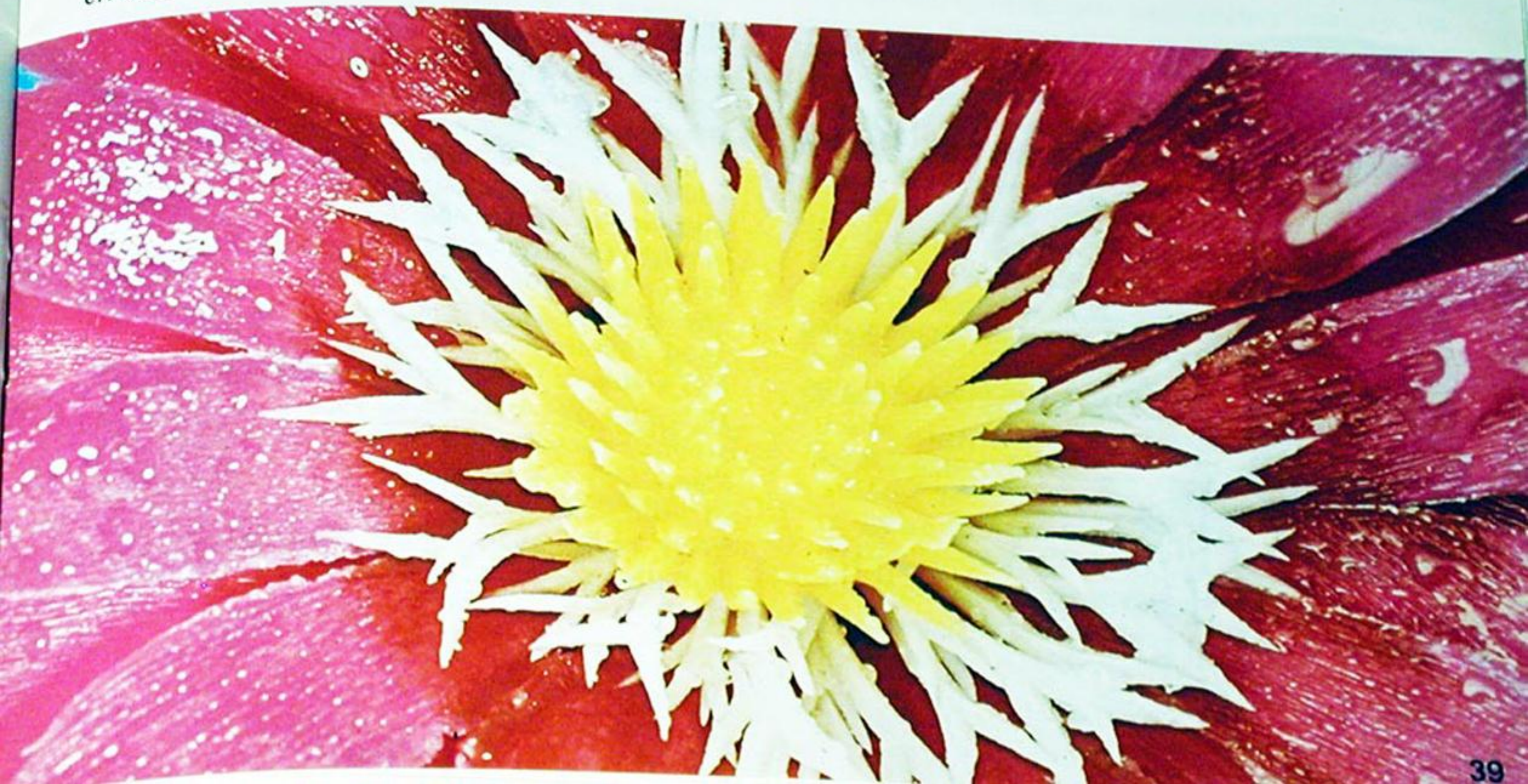


Although the dimensions of the Sigma 200mm F4 are by necessity greater than those of the 135mm F2.8, the lens, nevertheless, is a mere 97mm in length and weighs but 50 grams more than the 135mm F2.8. Besides sharing the feature of compactness with the 135mm F2.8, the 200mm F4 has all other features in common: Scalematic System, Dual Filter Mount, System Focusing (also to 1/3 life-size), Multi-coating, Efficient Lens Hood, and an even larger focusing grip. Though the 200mm F4 lens is a full stop slower than the 135mm F2.8, it still is, nonetheless, relatively fast for its focal length. Moreover it is a full stop faster than most other compact 200mm lenses. The 200mm F4 lens is highly suitable for sport, glamor, wild life, and candid photography.

The "compression effect", or compression of fore and background which is a characteristic of telephoto lenses, is not strongly noticeable in the 135mm focal length, but it is readily apparent in the 200mm focal length range and can

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therefore be exploited for creating dramatic effects.



SIGMA 300mm F/4 TELEPHOTO LENS



System-focusing ring

Main focusing ring

Diaphragm (aperture) ring



The Sigma 300mm F4 is a lens for the adventurous. It makes artists of men, photographers of amateurs. Its breathtaking six times magnification allows one to catch the lazily sinking sun, or salt-sprayed surfboard riders, or horses roaring into home stretch. The Sigma 300mm telephoto is a fast F4, so you are not limited. You can record those dimly lit scenes such as a flock of geese smoothly moving across an autumn twilight. You can also shoot at high enough a shutter speed to freeze their movement. When capturing moments such as those given above, there often is no time to use a tripod, so a good 300mm lens should be light. Sigma's is just 835 grams. It is the lightest available. It is also the only close focusing 300mm lens around, focusing down to a close 1.7 meters. Sigma lenses are designed to act as an extension of your imagination. They allow you to create freely rather than hamper your creativity with limitation.

SIGMA 400mm F/5.6 TELEPHOTO LENS



Built-on lens hood

Rotating tripod collar

Focusing ring

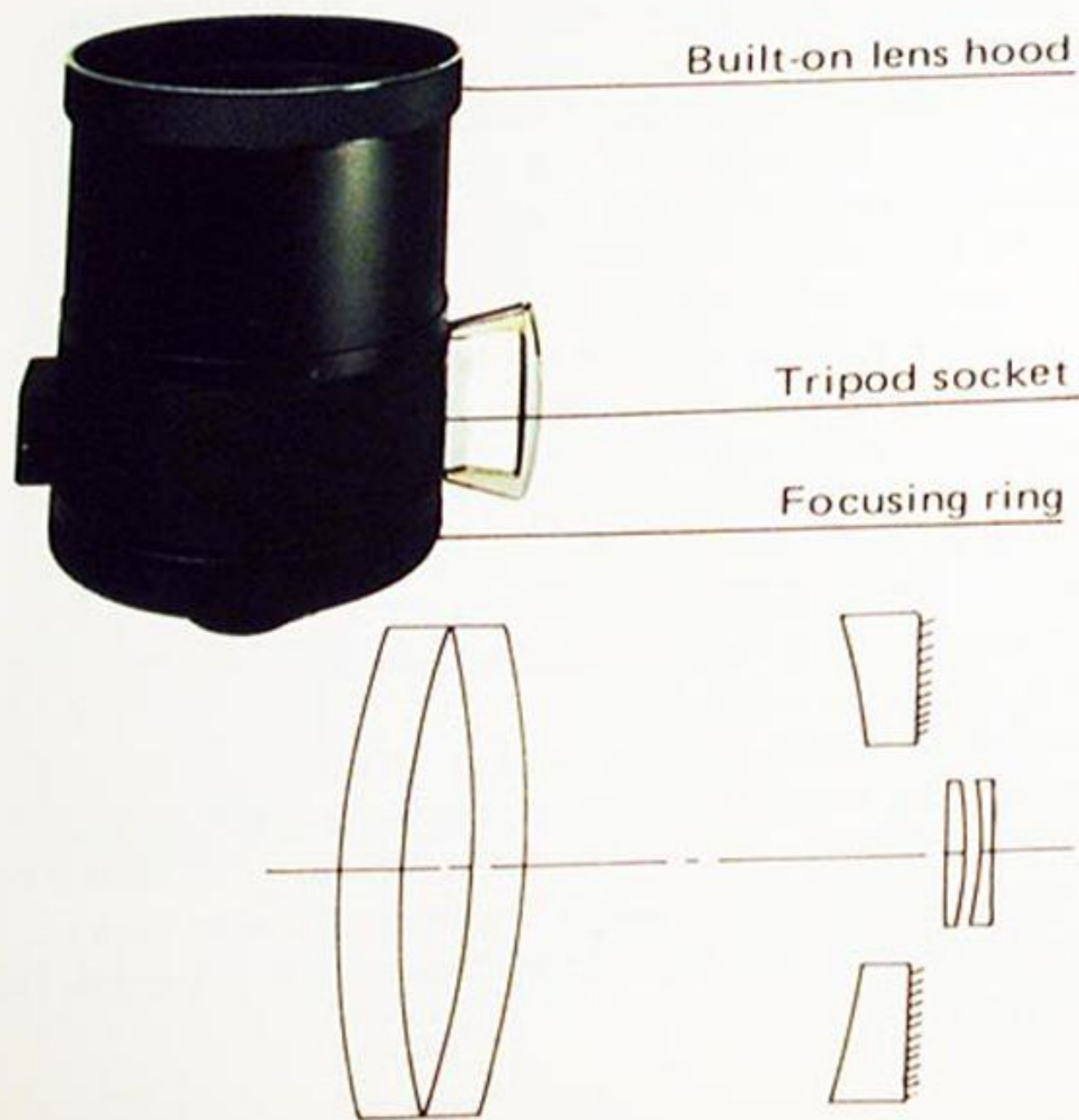
Diaphragm (aperture) ring



A highly versatile ultratele ideal for sports, wild life, candid photography and creative imagery. Its usefulness is enhanced by its light weight of 900g which makes it easy to hand hold. This high resolution optic is capable of meeting the most stringent demands of the professional photographer. However, for optimum results bear in mind the secret of successful telephotography is to use a sufficiently high shutter speed when handholding the lens. A good rule of thumb is to shoot at the shutter speed which most closely approximates the focal length being used whenever handholding a lens. Thus, when handholding the 400mm lens the minimum shutter speed used should be 1/500 sec. since it is the shutter speed which most closely matches the focal length (400mm).

Another secret of successful telephotography is to utilize contrast filters (yellow, orange, and red) while slightly under-exposing (about 1/2 stop) to add contrast when using black and white films; this is especially true when the lens is focused at infinity.

SIGMA 500mm F/4 MIRROR TELE



A professional ultratelephoto lens designed for sports photographers, animal enthusiasts, marine, solar, and other applications of telephotography. It is the world's fastest 500mm lens. Additionally, the lens comes with a unique lens cap. When the center portion of the lens cap is removed, the remainder of the cap acts as a diaphragm and the lens' maximum aperture is F5.6. When the cap is entirely removed it is an F4 lens. The lens has a secure tripod collar, robust handle to facilitate carrying, and attaches to the camera via a T mount. The rear of the lens is so designed as to enable the photographer to freely rotate the camera to the desired position and lock it there. In addition to practical applications of telephotography the Sigma 500mm F4 will simultaneously serve as a valuable creative tool as its limited depth of field, 10X magnification, strong compression effect, and doughnut-shaped out of focus highlights can be exploited to produce pictures that will capture the attention and imagination of your customers.

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SIGMA 500mm f/8 MIRROR TELE



Built-on lens hood

Focusing ring

Tripod socket

The Sigma 500mm F8 has been designed to satisfy the requirements of telephotography enthusiasts and is an excellent example of what Sigma represents. Our name "SIGMA", comes from Greek and is used in mathematics to indicate the "sum" or culmination; Sigma Lenses are the culmination of our experience, research and development, and quality control. These qualities are reflected in the 500mm mirror lens' capability of living up to professional standards of sharpness, contrast, and color balance. Not only is the Sigma 500mm F8 optically excellent, but is a trim 1,100 grams, making it handheld-able as well as portable. It has a large, smoothly moving focusing ring, built on lens hood, and a high quality finish.



SIGMA 39-80mm F/3.5 MACRO-SYSTEM ZOOM LENS



The Sigma 39-80mm F/3.5 is the most compact and lightweight short zoom lens with built in macro focusing, and covers moderate wide to tele focal lengths making it a universally appealing lens. To enjoy your Sigma 39-80mm F/3.5 to the fullest, read the following instructions carefully.

INSTRUCTIONS FOR USE

I Focusing

Because of the inherent depth of field at the short end of the zoom range, you may experience a little difficulty in focusing the lens when the Zoom Ring is set to the 39mm position; therefore, recommended procedure would be to first set the Zoom Ring to the 80mm position, where it is extremely easy to focus, and then zoom to the desired focal length. After focusing at the 80mm position, focus will remain constant as you zoom from 80mm to 39mm.

II Depth of Field Scales

Immediately above the Zoom Ring the depth of field scale for the wide-angle range (39mm) of the Macro-System Zoom is engraved in green (it is preceded by a "W" signifying "wide"). Above the



depth of field scale for the wide-angle range lies the telephoto range (30mm) depth of field scale which is engraved in orange and preceded by a "T" ("telephoto"). Use the wide angle range for maximum depth of field and the telephoto range for minimum depth of field.

III Using the Macro Range

Immediately below the Zoom Ring lies the Macro Focus Ring which is generally locked in the "normal" position. To unlock the Macro Focus Ring push down on the lock lever which is directly beneath the word "Macro" engraved in white on the Macro Focus Ring; push the Macro Focus Ring clockwise to shift to the macro range. The more the Macro Focus Ring is moved clockwise, the closer you will be able to approach your subject. Lying 180° opposite the lock lever there is another lever which merely serves as an aid in moving the Macro Focus Ring; it is not a lock lever. The following holds true for the macro range.

1. The macro range may be used at any focal-length (39–80mm).
2. The reproduction ratios engraved on the Macro Focus Ring apply when the Zoom Ring is set to the 39mm position.

3. Moving the Focusing Ring while in the macro range will have no appreciable effect. Focusing in the macro range can be accomplished in any of the following three ways.
 - a) Remaining stationary and turning the Macro Focus Ring back and forth until the subject comes into focus.
 - b) Remaining stationary and turning the Zoom Ring back and forth until the subject comes into focus.
 - c) Changing subject-to-camera distance (stepping forward or backward) until the subject comes into focus.Since you can use the macro range at any focal length, you are free to select the best camera-to-subject distance, or the most pleasing perspective.
4. Due to the extremely shallow depth of field encountered when doing macro photography it is desirable to stop the lens down as much as possible to produce very sharp results.
5. When the Macro Focus Ring is returned to the "normal" position, it will automatically lock in place.

Y. Yang Savana SIGMA 70-230mm F/4.5 MACRO-SYSTEM ZOOM



Built-on lens hood

Focusing ring

Depth of field scales

Zoom ring

Rotating tripod collar

Macro focus ring

Diaphragm (aperture) ring



Despite having a more than 3.2 zoom ratio, the Sigma 70-230mm F/4.5 Macro-System Zoom is very compact in design. Besides a built-on lens hood and freely rotating tripod collar, the lens has depth of field scales for the wide and telephoto positions.

INSTRUCTIONS FOR USE

1. When using your lens as a normal zoom lens, make sure that the Normal/Macro Focus Ring is locked in the "Normal" position.
2. To ensure maximum sharpness, it is best to focus the lens with the Zoom Ring set to the 230mm position first, and then to select the desired focal length. The reason for this is that since the 230mm focal length has the shallowest depth of field, it will be the easiest to focus.
3. To eliminate the problem of camera movement when handholding the lens, the minimum shutter speed used for the

Y. Yang Square

70-135mm range should be 1/125 sec., and 1/250 sec. should be used for the 180-230mm range. When using longer (slower) shutter speeds, mount the lens on a sturdy tripod.

MACRO-FOCUSING

1. When you wish to approach your subject closer than the minimum focusing distance allows (2 meters), unlock the Normal/Macro Focus Ring by pushing in on the Macro Focus Ring Lock Button and turning the Macro Focus Ring clockwise. You will then be able to move closer to your subject. This macro-focusing range will allow close-ups of up to 1/4 life-size and can be used with the Zoom Ring set at any focal length. Because of the extremely shallow depth-of-field encountered in macrophotography, be sure to sufficiently stop down the lens to guarantee acceptably sharp pictures (as much as possible use only

those F-stops painted in green on the diaphragm ring).

2. The Macro Focus Ring has click-stops at the 1/7 and 1/5 life-size positions and a lock at the 1/4 life-size position. To unlock the Macro Focus Ring from the 1/4 life-size position, simply push in on the Macro Focus Ring Lock Button and turn counterclockwise.

NOTE:

The reproduction ratios engraved on the Normal/Macro Focus Ring apply when the Zoom Ring is set to the 70mm position with the distance scale at infinity.

SIGMA 80-200mm F/3.5 MACRO-SYSTEM ZOOM



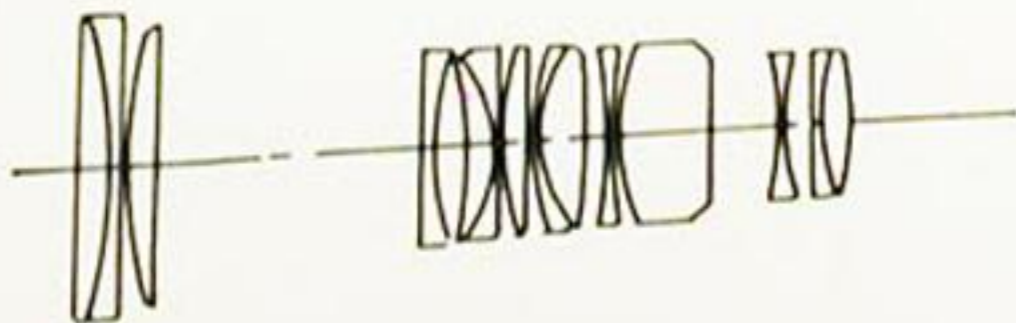
Built-on lens hood

Focusing ring

Zoom ring

Macro focus ring

Diaphragm (aperture) ring



The Sigma 80–200mm Macro-System Zoom lens, though compact, covers the most popular zoom range proving ideal for portraiture, wild life, sports, and candid photography. Close-up photography is also made possible by the built-in macro focusing system which allows close-ups of up to 1/2 life-size. Furthermore unlike other zooms, the lens can be used in the macro-mode at any focal length, allowing the photographer to choose the best working distance.

INSTRUCTIONS FOR USE

1. When using your lens as a normal zoom lens first ascertain that the Normal/Macro Focus Ring is locked in the normal position.
2. To ensure maximum sharpness it would be best to focus on your subject with the zoom ring set to 200mm, and then to select the desired focal length after focusing. The reason for this is that the 200mm focal length has the shallowest depth of field in the

Y. Yong Square
80-200mm zoom range and consequently will be the easiest to focus.

3. To eliminate the problem of camera movement when handholding the lens, the minimum shutter speed in the 80-150mm zoom range should be 1/125 sec., and 1/250 sec. should be used when utilizing the 200mm position.
4. When using slower shutter speeds mount the camera on a sturdy tripod.
5. When you wish to approach your subject closer than the closest focusing distance allows (1.2 m or 6.5 ft.) unlock the Normal/Macro Focus Ring by pulling it down toward the diaphragm and slowly turn it to the right (clockwise) and approach your subject until it is in focus. This close up focusing, or macro range, will allow close-ups of up to one half life-size. The macro range can be used with the Zoom Ring set at any focal length. Because of the extremely shallow depth of field encountered in macro-photography, be sure to sufficiently stop the lens down to guarantee acceptably sharp

pictures (when using the macro range use only those F-stops painted in green).

6. When in the macro range, you can increase the subject to camera distance by changing the Zoom Ring to a longer focal length (example, changing 105mm to 150mm) and then stepping back until the subject comes into focus. Conversely speaking, you can get closer to the subject by changing the Zoom Ring to a shorter focal length and approaching the subject until it comes into focus.
7. The image size in the macro range can be varied without changing the subject to camera distance by changing the Zoom Ring to a shorter focal length for a smaller image and then focusing with the Normal/Macro Focus Ring. For a larger image change zoom ring to a longer focal length and focus with the Normal/Macro Focus Ring.

NOTE: The reproduction ratios engraved on the Normal/Macro Focus Ring apply when the zoom ring is set to 80mm.

The Sigma 120-300mm F5.6 Macro-System Zoom lens is as compact as it is versatile. You will find it useful for portraiture, glamour, wild life, sports and candid photography. To enjoy this lens to the fullest, please read the following instructions carefully.

I Focusing

The most accurate method of focusing with zoom lenses is to first focus with the Zoom Ring set to the maximum telephoto position (in this case 300mm) and then, after focusing, to zoom to the desired focal length. The reason for this is that the shallower depth of field encountered at the maximum telephoto position makes accurate focusing easier. In action photography, there often is not enough time to follow the above procedure; in such cases it is perfectly acceptable to first focus (irrespective of the position of the Zoom Ring) and then shoot.



- Built-on lens hood
- Focusing ring
- Depth of field scales
- Zoom ring
- Rotating tripod collar
- Macro focus ring
- Diaphragm (aperture) ring

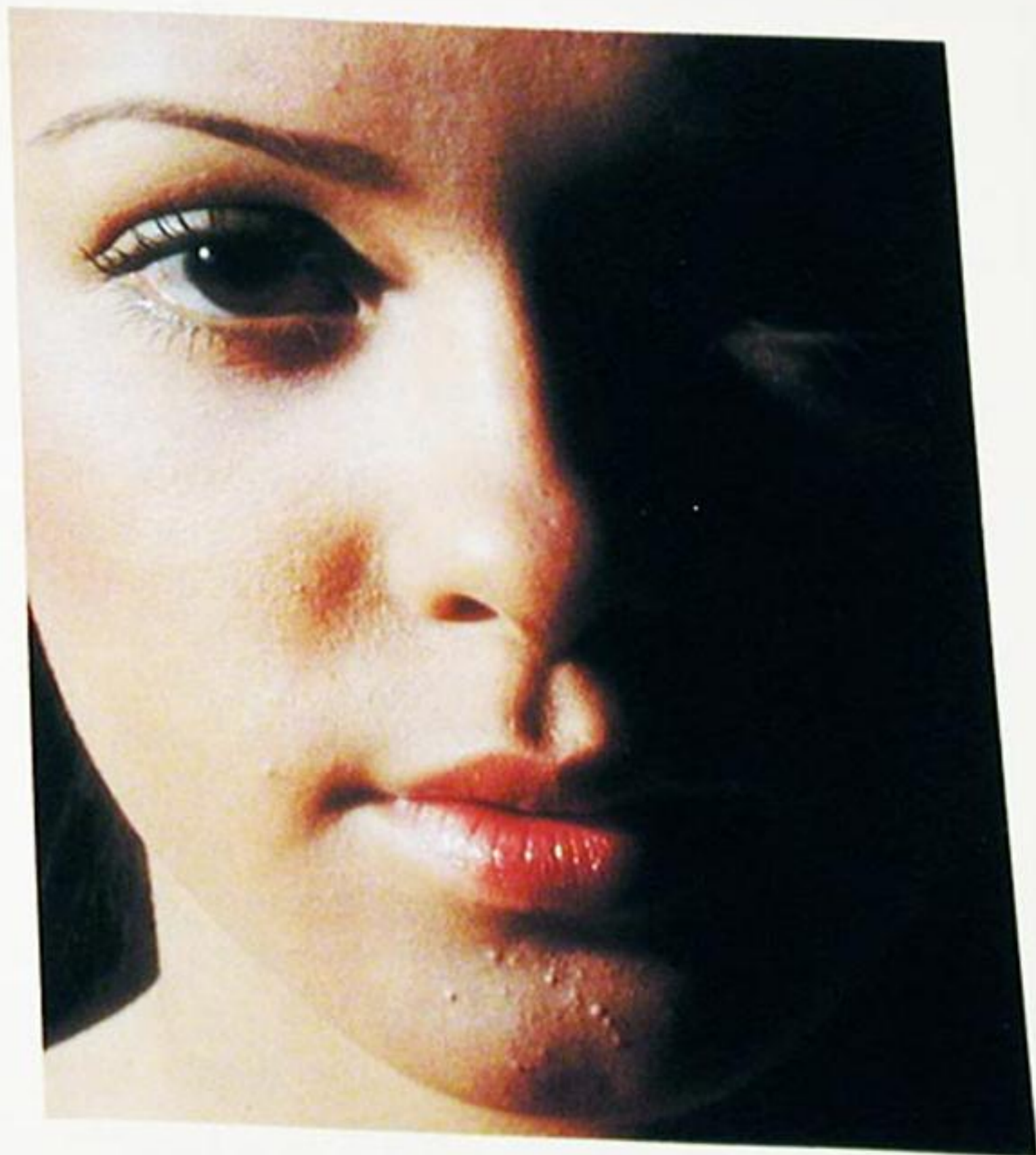


II Choice of Shutter Speed

The apparent sharpness of a photographic subject depends upon accurate focus, depth of field, and choice of shutter speed. A good rule-of-thumb is to use the shutter speed which most closely corresponds to the focal length being used as the minimum (longest) shutter speed for handheld shooting. Thus, when the Zoom Ring is set to the 120mm position, the minimum shutter speed for handheld shooting should be 1/125 sec; for anything longer, such as 1/60 or 1/30 sec., use a tripod for optimum sharpness. At the 300mm position, 1/250 sec. is recommended as the minimum shutter speed for handheld shooting.

III Mounting to a Tripod

Securely grasp the camera/lens combination and mount it snugly to a tripod via the built-on Tripod Collar. After the lens is mounted, loosen the silver knurled screw on the lens' tripod collar and rotate the camera and lens to the desired



position; next, lock the lens into position by tightening the silver knurled screw.

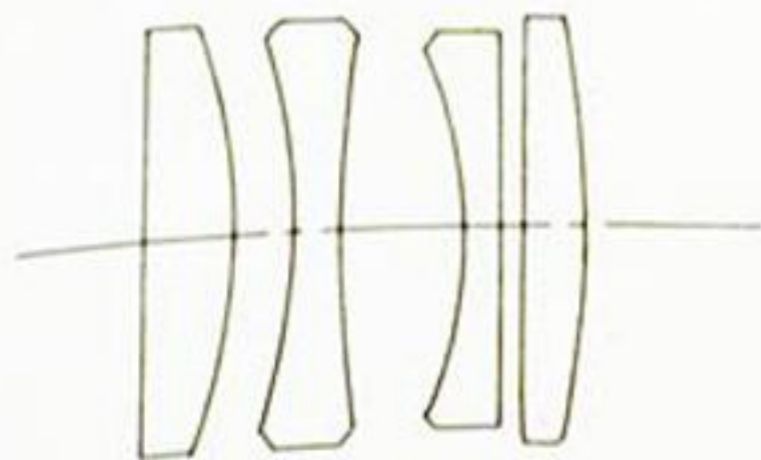
IV Macro Focusing

When desiring to approach the subject closer than the minimum focusing distance (1.9m) allows, use the Macro Focus Ring which is found just below the Tripod Collar and above the Diaphragm Ring. Pulling down on the Macro Focus Ring and turning it clockwise will allow one to get closer to the subject. The Macro Focusing range may be used at any focal length. Maximum magnification is obtained by setting the Zoom Ring to the 120mm position. The magnification ratio in the macro range, when the Zoom Ring is set to the 120mm position, is engraved on the Macro Focus Ring; maximum magnification is 1/3 life-size. Because of the shallow depth of field inherent in macro photography it is recommended that you use the F-stops painted in green on the Diaphragm Ring (F16 and F22) for optimum results.

V Depth of Field Scales

Between the Focusing Ring and Zoom Ring lie the Depth of Field Scales. The lower scale, painted in green, is the scale applicable for the "wide" range (120mm) and the scale above it, painted in yellow, is for the telephoto range (300mm).

Y. Yang Square SIGMA REAR LENS CONVERTERS: TELEMAC



Sigma makes a variety of general purpose rear lens converters of high quality which allow you to receive optimum quality from your Sigma lens-plus-converter combination. While Sigma acknowledges that there are also excellent converters of other makes, it wishes to suggest, why take chances? Converters are not that expensive to begin with, so it is best to play safe and select a Sigma quality converter for your lenses.

Because of its patented design the Sigma 2X rear lens converter, Telemac, is instantly convertible, changing from a rear lens converter to an extension tube. In both applications automatic diaphragm operation and meter coupling are fully retained. You will find the 2X Telemac to be the ideal companion for your Sigma MACRO lens. Unscrewing the lens group will enable you to remove the lens group from your 2X Telemac, transforming it to an automatic extension tube with meter coupling. When the lens group is removed please place the lens caps provided on

Y. Yang Square

both ends of the group to protect it from dust and fingerprints.

For best results when using your Telemac as a 2X converter, use it in combination with a high quality lens, such as a Sigma MACRO or Telephoto lens. For maximum definition, stop the lens down to F8 or more, and for handheld shooting, be sure to use a shutter speed which most closely matches the combined focal length. For example, a 135mm + 2X Telemac combination equals 270mm, therefore use a shutter speed of at least 1/250 second. For slower shutter speeds, mount the camera on a sturdy tripod.

If your camera's micro-prism blackens out, focus on the mat section of your ground glass. At times mirror cut off is visible, that is in cameras with a short mirror the upper portion of the ground glass will grow dark; however as this does not affect the picture being taken in any way, there is no need for concern.

When using the Telemac as an automatic extension tube it will necessary to increase the exposure. Of course, for cameras with built in meters no exposure computation if required. However when using a hand meter please use the following formula.

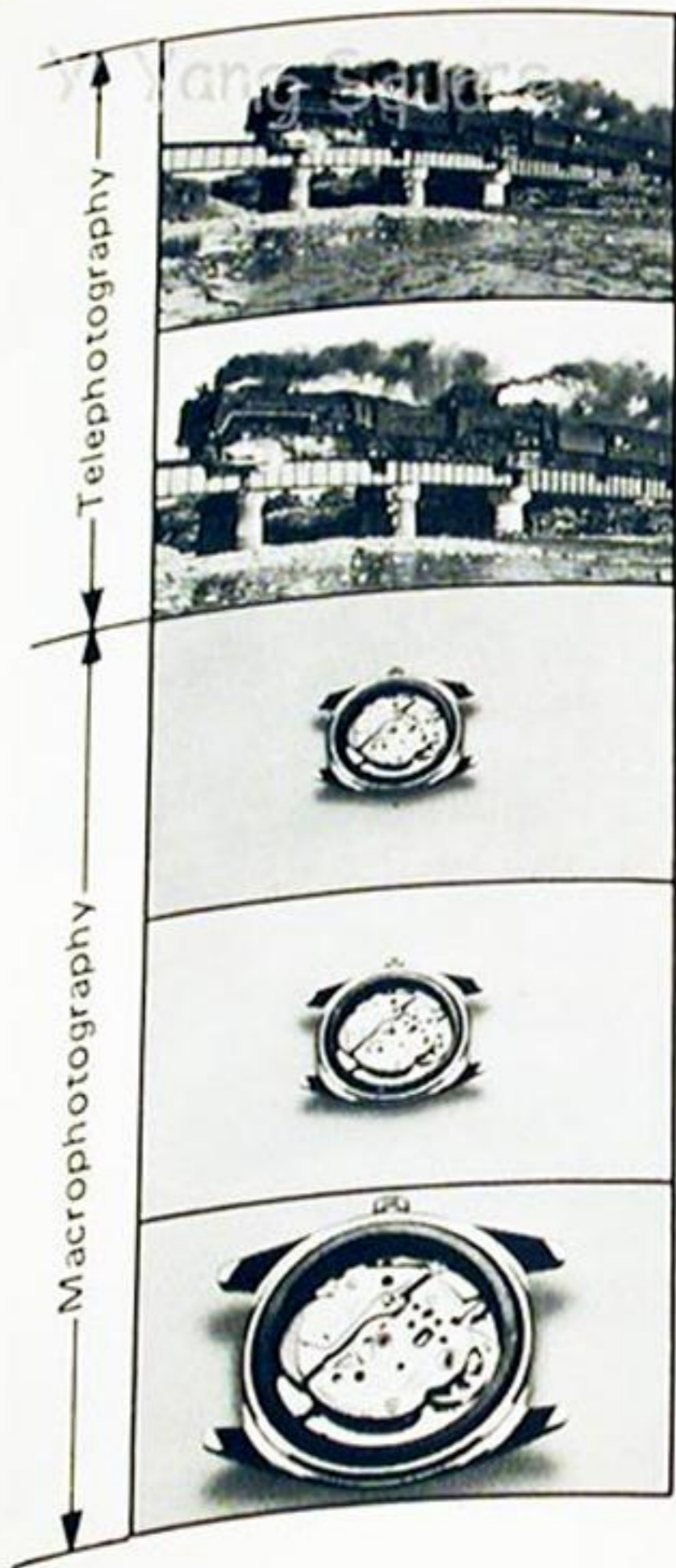
$$EF = IF \times \frac{F + EX}{F}$$

EF : The effective F number

IF : Indicated F number

EX: The extension of the tube which is 25

F : Focal length of lens



Example: If you have your 50mm lens mounted on the extension tube and set the lens diaphragm to F8, what is the effective F stop, or its true value?

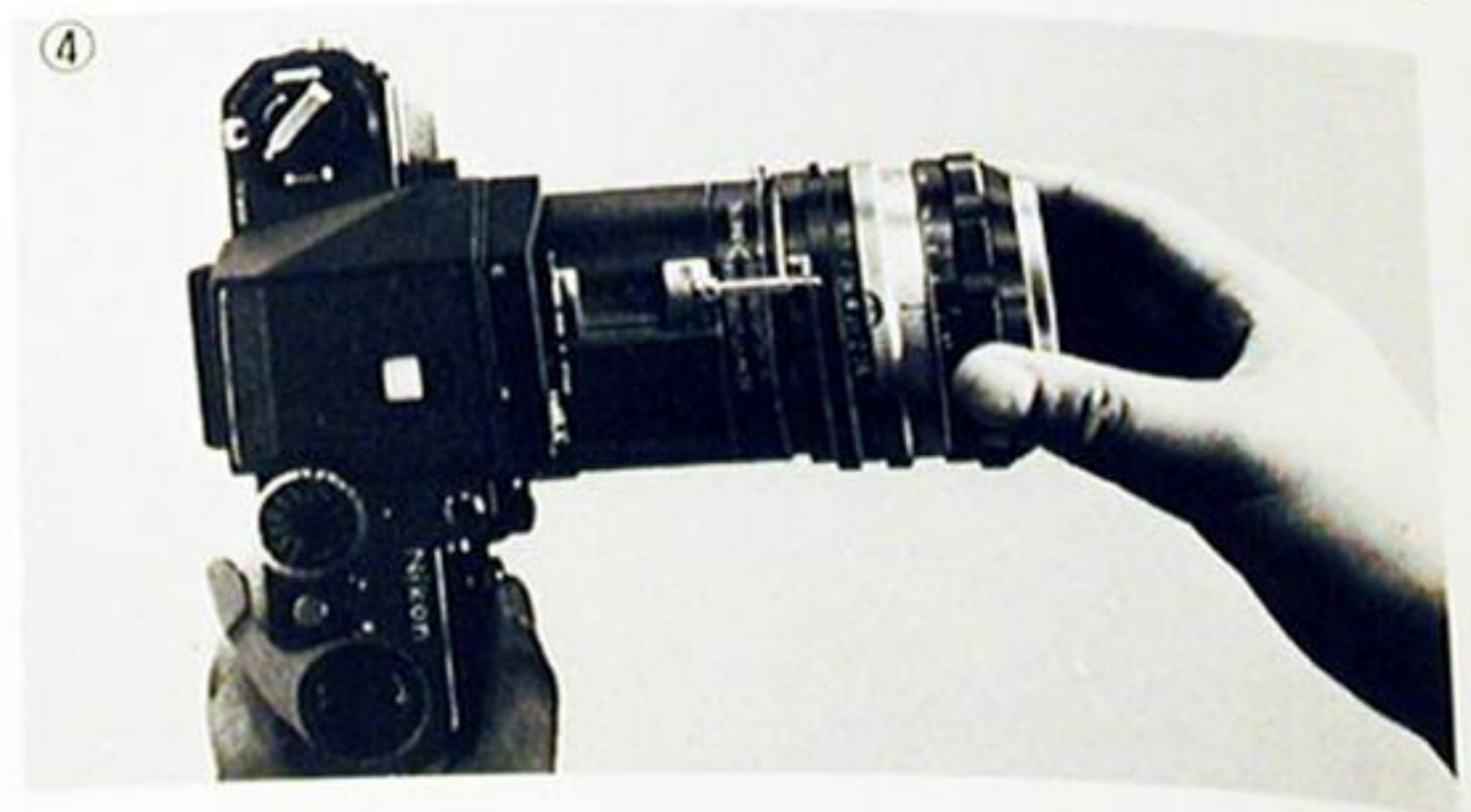
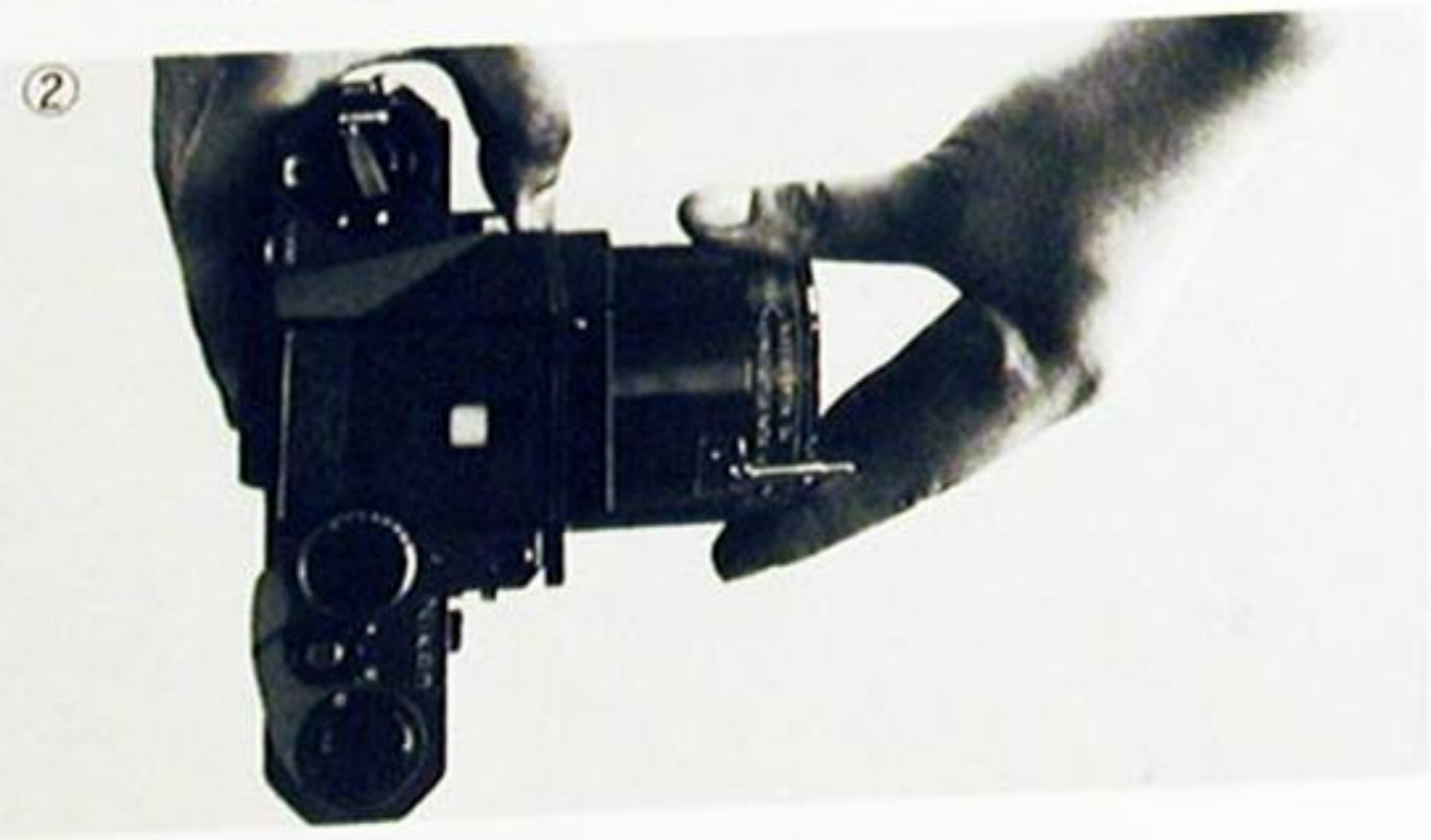
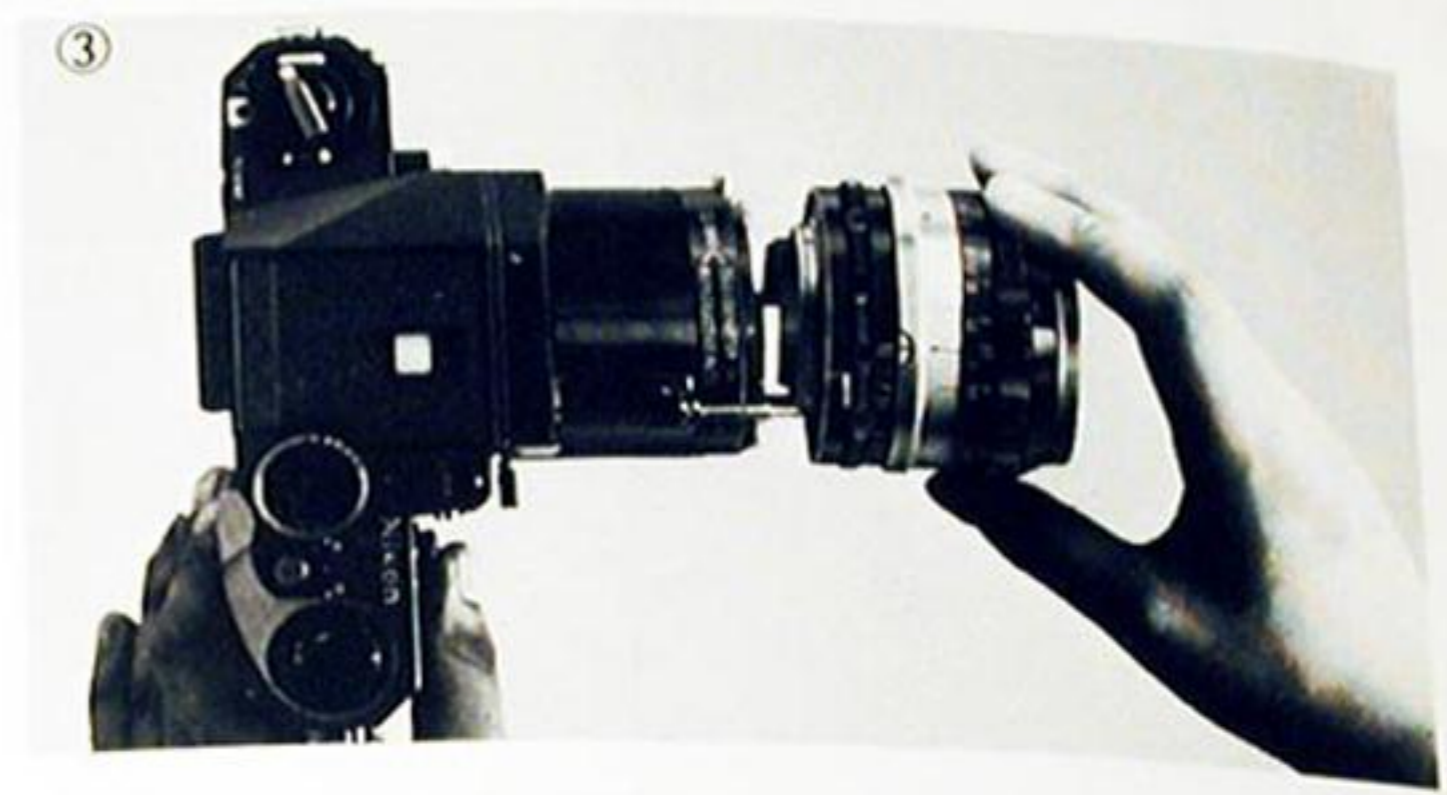
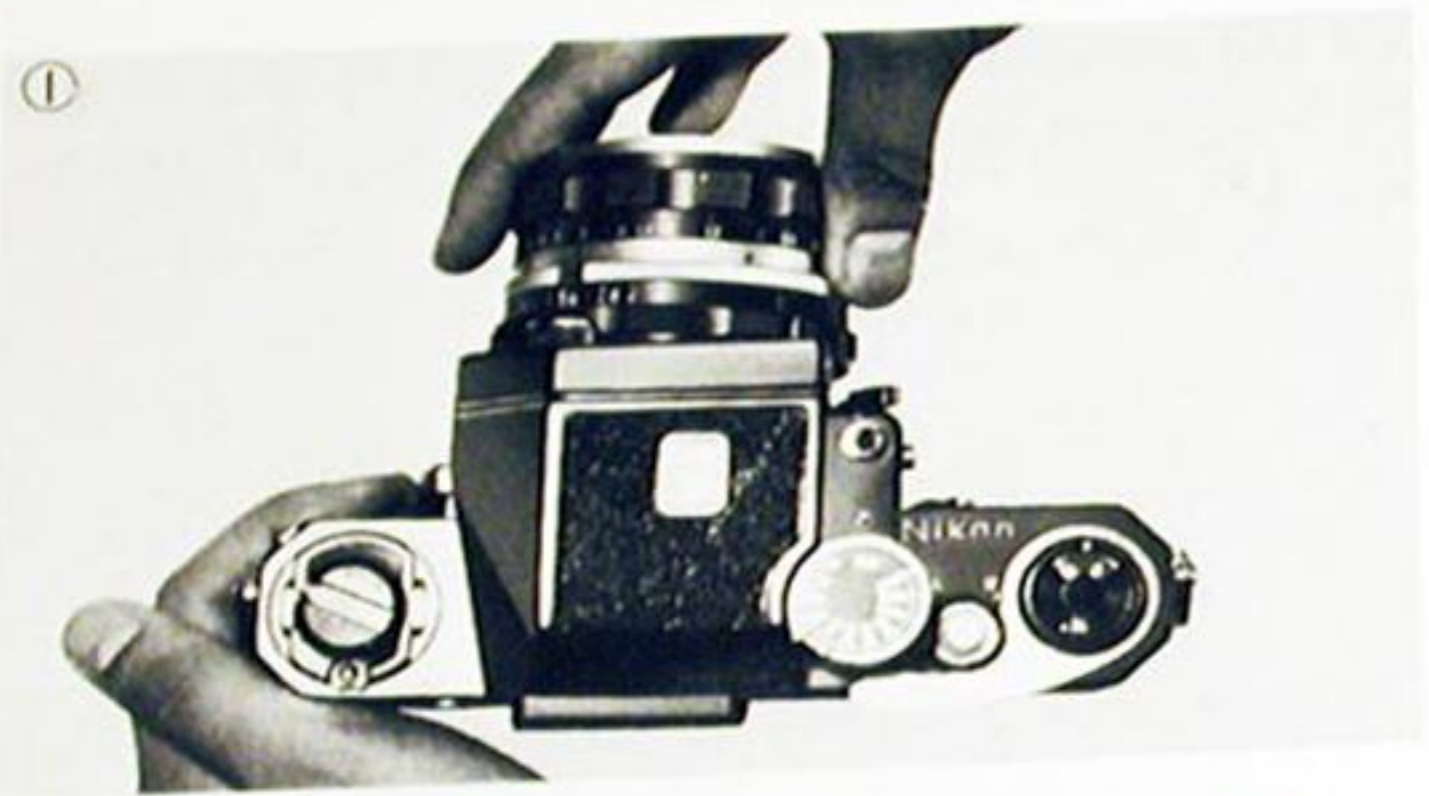
$$EF = 8 \times \frac{50 + 25}{50} = 12$$

That is, the effective F stop is approximately F11, so use a shutter speed one stop slower than that indicated by the hand meter.

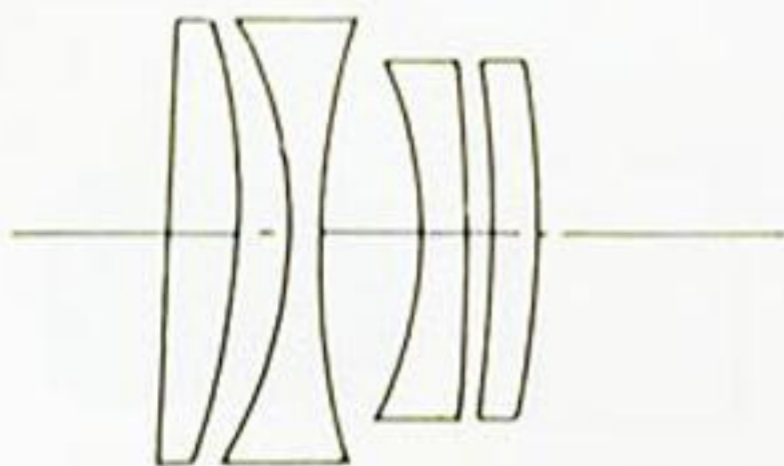
MOUNTING TELEMAT TO YOUR CAMERA

1. Remove lens from camera 2. Mount TELEMAT on camera

3 & 4 Mount lens on TELEMAT



Y. Yang Square SIGMA TELEMAC VARIO



The TELEMAC VARIO is another Sigma quality product and is available only in the Pentax/Praktica mount. This unique accessory can be combined with a lens and camera to provide nine different combinations for MACRO and TELEPHOTOGRAPHY.

As a rear lens converter it provides 2X, 2.5X, and 3X magnification. The TELEMAC VARIO also transforms into extension tubes providing both mechanical and optical types of close-up capabilities. Of course automatic diaphragm operation is retained.

To ensure optimum quality when using your TELEMAC VARIO as a lens converter use a sufficiently high shutter speed to eliminate the problem of camera shake. When you must use a slow shutter speed, attach the camera to a sturdy tripod.

Attach your TELEMAC VARIO only to high quality optics, such as your Sigma lenses, as a converter will magnify any defects in the master lens. Best results are obtainable after stopping the lens down to F8 or further.

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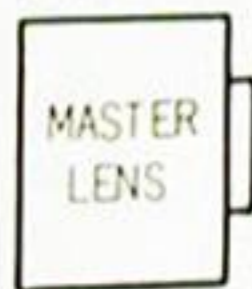


1 : 1



50 mm + 3 X

1) 2 X



(LENS)



2) 2.5 X



(LENS + 2.5X)



3) 3 X



(LENS + 2.5X + 3X)



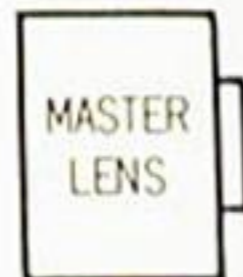
4)



(2.5X + 3X)



5)



(

1 : 1)



(2.5X + 3X + LENS)



Y. Yang **THE YS AUTO MOUNT**

The YS Auto Mount System is an interchangeable automatic lens mount system patented by Sigma. It has in fifteen years proven to be the most reliable interchangeable mount system available today. Besides its sturdy construction it is of the screw-on type and consequently can never grow wobbly. Another unique feature is that it is compatible with the T-mount system; thus, any Sigma YS Mount can be placed on a T-mount lens, or any T-Mount can be placed on a Sigma lens.

There are presently approximately 700 lenses available throughout the world that come in the YS Auto Mount system. Of course, YS Auto Mounts provide not only full diaphragm automation, but complete meter coupling regardless of whether it is of the stop-down, full-aperture, or EE type. When purchased separately, they come complete with instructions for mounting.

CHANGE IN ANGLE OF VIEW WITH SIGMA LENSES



16mm



18mm



24mm



100mm



135mm



200mm



28mm



35mm



55mm



300mm



500mm



1000mm

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