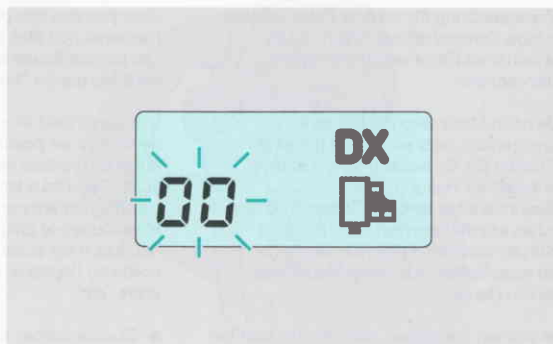


After the last frame is exposed, the camera will stop winding the film and the upper and lower digits of the exposure counter in the display panel will start to blink alternately.

1 With the main switch on, turn the film rewind lever in the direction of the arrow while pressing in the rewind lock release button. The film will start to rewind itself. While the film is rewinding, the counter decreases as the rewinding goes. As soon as rewinding is completed, the motor will stop and the counter will return to "00".

- If the rewinding operation has started, be sure to remove your finger from the rewind lever. The rewind lever will automatically return to its original position.



2 After making sure the motor has stopped and the exposure counter has returned to "00," open the camera back and unload the film in subdued light.

- To rewind the film in the middle of a roll, follow the foregoing steps 1 and 2.
- Be sure to unload the film after it has been rewound. After the film has been rewound, the camera will not operate unless the camera back is once opened.

Focusing the Lens

This camera can be focused the lens automatically (AF = autofocus) or manually (MF = manual focusing).

There are two auto focusing methods: "SAF" (single autofocus) and "CAF" (continuous autofocus).

You can improve your photography by selecting the focusing mode suited for the subject.

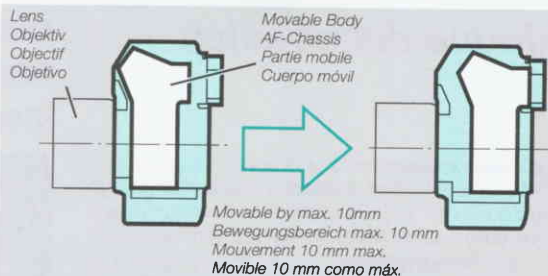
Fokussierung

Diese Kamera erlaubt die automatische (AF = Autofokus) oder manuelle (MF = manuelle Fokussierung) Scharfeinstellung.

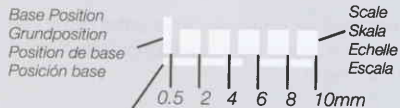
Die automatische Fokussierung erfolgt mit Einzelfokussierung "SAF" oder kontinuierlicher Fokussierung "CAF".

Sie können je nach Motiv die optimale Funktionsweise wählen.

Principle of the automatic back focusing system (ABF) and AF functions



Back Focusing Scale Display
Anzeige der Fokussierpositionsskala
Affichage d'échelle Back Focusing
Indicación de la escala de enfoque posterior



Underside Bar
unterer Balken
Barre inférieure
Barra inferior

Moving Amount of Movable Body
Grad der Verschiebung des AF-Chassis
Degré de déplacement de partie mobile
Valor de desplazamiento del cuerpo móvil

Base Position of Movable Body (MF)
Grundposition des AF-Chassis
Position de base de partie mobile (MF)
Posición base del cuerpo móvil (MF)

Max. Movement Position of Movable Body (MACRO)
Max. Verschiebungsposition des AF-Chassis (MACRO)
Déplacement max. de partie mobile (MACRO)
Posición de movimiento máx. del cuerpo móvil (MACRO)

<1. Principle of the ABF System and Back Focusing Scale>

This camera is an autofocus camera that allows you to take pictures by using Carl Zeiss lenses for conventional Contax SLRs.

When the camera is operated on autofocus, the movable

body will move backward to do focusing as shown in the illustration. The camera will focus automatically on the shorter distance side than the position where the distance ring is set. The moving amount of the movable body at that time will be displayed on the back focusing scale in the viewfinder as shown in the illustration. The maximum moving amount of the movable body is 10mm.

<2. Shooting Ranges with the ABF System>

Shooting on auto focus is done with the lens' distance ring set to " ∞ ". The shooting ranges on autofocus are shown in the column "A" on the following table.

If the lens' distance ring is set to a point nearer than " ∞ ", the lens will focus on auto focus on the nearer distance side than the set distance.

If the lens' distance ring is set to the minimum focusing distance, the shooting ranges on autofocus are shown in the column "B" on the table. You can take pictures on autofocus at a shorter distance than the minimum focusing distance of the lens itself.

<2. Aufnahmebereiche mit dem ABF-System>

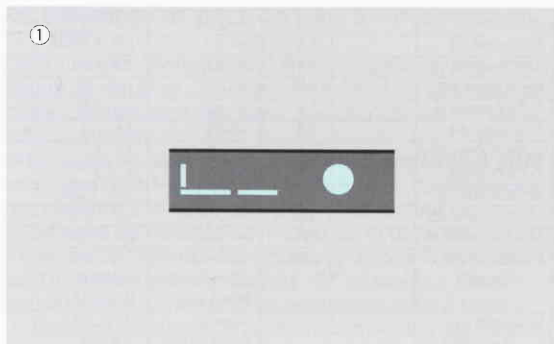
Wenn Sie mit Autofokus fotografieren wollen, stellen Sie den Entfernungsrings am Objektiv auf ∞ . Die möglichen Aufnahmeentfernungen mit Autofokus finden Sie in Spalte "A" der folgenden Tabelle.

Wird mit dem Entfernungsrings ein kleinerer Wert als ∞ gewählt, so fokussiert das Objektiv automatisch auf eine kürzere Entfernung als am Entfernungsrings eingestellt. Wenn Sie den Entfernungsrings am Objektiv auf die kürzeste Entfernung einstellen, können Sie mit Autofokus in den in Spalte "B" der Tabelle angegebenen Entfernungsbereichen fotografieren, d.h. auch mit kürzeren Entfernungen als bei manueller Fokussierung des Objektivs.

Lens designation Objektiv	Float type Objektiv mit "Floating Elements"	Lens' minimum focusing distance Kürzeste manuelle Entfernungseinstellung des Objektivs (m)	A	B
			AF shooting ranges with lens' distance ring set to ∞ AF-Aufnahmefernungen mit Entfernungsrings auf ∞ (m)	AF shooting ranges with lens' distance ring set to minimum focusing distance AF-Aufnahmefernungen mit Entfernungsrings auf kürzester Entfernung (m)
F-D16mmF2.8		0.3	∞-0.13	0.3-0.13
D15mmF3.5	○	0.16	∞-0.15	0.16-0.15
D18mmF4	○	0.3	∞-0.13	0.3-0.13
D21mmF2.8	○	0.22	∞-0.18	0.22-0.16
D25mmF2.8		0.25	∞-0.17	0.25-0.15
D28mmF2	○	0.24	∞-0.2	0.24-0.17
D28mmF2.8		0.25	∞-0.18	0.25-0.16
D35mmF1.4	○	0.3	∞-0.25	0.3-0.2
D35mmF2.8		0.4	∞-0.23	0.4-0.2
PC-D35mmF2.8	○	0.3	∞-0.26	0.3-0.21
T45mmF2.8		0.6	∞-0.32	0.6-0.26
P50mmF1.4		0.45	∞-0.38	0.45-0.27
P50mmF1.7		0.6	∞-0.38	0.6-0.3
P85mmF1.2	○	1.0	∞-0.85	1.0-0.6
P85mmF1.4		1.0	∞-0.9	1.0-0.6
S85mmF2.8		1.0	∞-0.96	1.0-0.6
P100mmF2		1.0	∞-1.2	1.0-0.65
S100mmF3.5		1.0	∞-1.3	1.0-0.7
P135mmF2		1.5	∞-2.1	1.5-1.0

S135mmF2.8		1.6	∞-2.1	1.6-1.1
S180mmF2.8	○	1.4	∞-3.6	1.4-1.2
Apos200mmF2		1.8	∞-6.0	1.8-1.5
T-T200mmF3.5		1.8	∞-4.5	1.8-1.5
T-T200mmF4		1.5	∞-4.5	1.5-1.4
T-Apo300mmF2.8	○	3.5	∞-10	3.5-3
T-T300mmF4		3.5	∞-10	3.5-3
M-P60mmF2.8		0.24	∞-0.51	0.24-0.24
M-P60mmF2.8C		0.27	∞-0.51	0.27-0.25
M-P100mmF2.8	○	0.41	∞-1.3	0.41-0.4
V-S28mmF3.3		0.6	28:∞-0.3	0.6-0.25
-85mmF4			50:∞-0.45	0.6-0.3
			85:∞-0.9	0.6-0.45
V-S35mm		0.7	35:∞-0.3	0.7-0.25
-70mmF3.4			70:∞-0.55	0.7-0.4
V-S35mmF3.3		1.3	35:∞-0.3	1.3-0.3
-135mmF4.5			70:∞-0.65	1.3-0.55
			135:∞-2.0	1.3-0.95
V-S40		1.2	40:∞-0.35	1.2-0.35
-80mmF3.5			80:∞-0.8	1.2-0.65
V-S70mm		1.8	70:∞-0.8	1.8-0.7
-210mmF3.5			120:∞-1.8	1.8-1.1
			210:∞-4.7	1.8-1.5
V-S80mm		1.0	80:∞-0.9	1.0-0.7
-200mmF4			140:∞-2.5	1.0-0.9
			200:∞-4.5	1.0-0.95
V-S100mmF4.5		1.5	100:∞-1.5	1.5-0.9
-300mmF5.6			200:∞-5.0	1.5-1.3
			300:∞-10	1.5-1.45

The numbers in green show the shortest distances in the macro mode.
Bei den grünen Ziffern handelt es sich um die kürzeste Entfernung bei Makro-Fotografie.

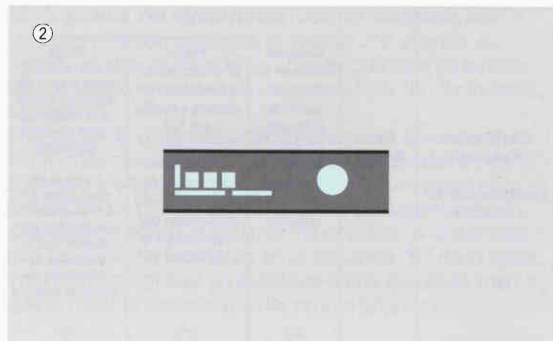


■ Lenses that Need Attention on Autofocus

1. Float Type Lenses

① Float type lenses with focal lengths 35mm or less:

Set the lens' distance ring to "∞" and shoot within the range of ∞ - 3m. If the distance ring is set to the shorter-distance side, shoot within the base position range on the display in the viewfinder. Though you can shoot even at a nearer distance than that, the image quality on picture edges will be reduced.



② Float type lenses with focal lengths 85mm or more:

Set the lens' distance ring to "∞" and shoot within the range of ∞ - 5m. If the distance ring is set to the shorter-distance side, shoot within the range in which the number of positions that turn on on the back focusing scale in the viewfinder display is as small as possible. To maintain the image performance of the lens, it is recommended to shoot within the 3 positions that turn on.

① VS28-85

[28mm side]
[28mm-Stellung]
[côté 28 mm]
[Lado de 28 mm]

[near 50mm]
[in der Nähe von 50mm]
[près 50 mm]
[Cerca de 50 mm]

[85mm side]
[85mm-Stellung]
[côté 85 mm]
[Lado de 85 mm]



Base position range
Grundpositionsbereich
Plage position de base
Escala de posición base

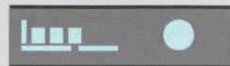
Within 1 scale position
innerhalb eines Punktes
A 1 position d'échelle
Dentro 1 posición de la
escala

Within 2 scale position
innerhalb von 2 Punkten
A 2 positions d'échelle
Dentro de 2 posiciones de
la escala

2. Zoom Lenses

① **VS28 ~ 85:** Set the lens' distance ring to " ∞ " and shoot within the range of $\infty - 3m$. If the distance ring is set to the shorter-distance side, shoot within the range in which the positions on the back focusing scale on the viewfinder display that turn on are as shown in the above illustration.

② Other zoom lenses sonstige Zoomobjektive Autres objectifs zoom Otros objetivos zoom



Within 3 scale position
innerhalb von 3 Punkten
A 3 positions d'échelle
Dentro de 3 posiciones de la escala



② **Other zoom lenses:** Shoot within 3 positions on the back focusing scale that turn on.

Zoom lenses must be focused on autofocus after the zooming operation is completed. The subject will come out of focus, if you zoom after focusing.

- It is also possible to shoot in the conditions other than described above, but it is recommended to shoot at an aperture as small as possible to prevent the image performance in picture edges from being reduced.

<3. Relation of the Focusing Button Function Dial (F-Dial) and Focusing Modes>

When switching the F-Dial, you can focus in different focusing modes as follows:

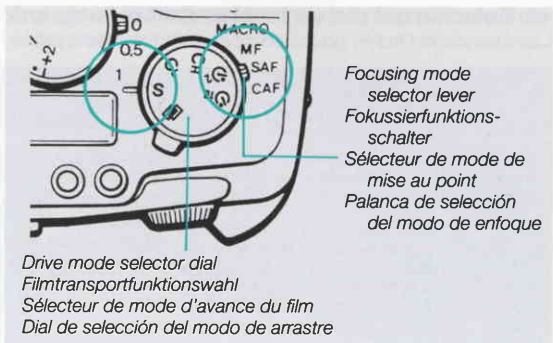
Focusing modes F-Dial	SAF (Single Autofocus)	CAF (Continuous Autofocus) *Provided with Moving Subject Prediction Capability	MF (Manual Focusing)	MACRO (Macro Photography)
 <p>AF AFL</p> <p>AFL</p>	<p>The autofocus operates when the shutter release is depressed halfway and, once the lens is focused on the subject, the focus is locked at that position. If the shutter release cannot be depressed because it is impossible to focus on it, the shutter can be tripped by pressing the F-Button.</p>	<p>The camera continues to focus while the shutter release is depressed halfway.</p> <p>The focus is locked by pressing the F-Button.</p>	<p>Focusing is done by turning the lens' distance ring. The autofocus will not operate.</p>	<p>This mode is used only for manual focusing.</p>
 <p>AF AFL</p> <p>AF</p>	<p>The autofocus operates with the F-Button. (It does not operate with the shutter release.) Once the lens is focused on your subject, the focus is locked at that position. If you remove your finger from the F-Button, the movable body stops at that position. It is recommended to use this mode when you use the focus lock many times or you want to lock the focus continuously.</p>	<p>The camera continues the focusing operation when the F-Button is pressed. (The autofocus does not operate with the shutter release.) If you remove your finger from it, the movable body stops at that position. It is recommended to use this mode when you use the focus lock many times or you want to lock the focus continuously.</p>	<p>Focusing is done by turning the lens' distance ring. If you keep on pressing the F-Button, the autofocus operates and, once it is focused on your subject, the focus is locked at that position. If you remove your finger from it, the autofocus is released and the movable body returns to the base position. It is recommended to use this mode when you operate mainly on manual focus and use sometimes the autofocus.</p>	<p>Focusing is done by turning the lens' distance ring. The autofocus does not operate.</p>

Moving Object Prediction Capability: When the subject is approaching or moving away at approximately the same speed, this camera is capable of focusing the lens by controlling the position of the movable body in order to obtain correct focusing at the moment just before the shutter trips.

<4. Relation of the Drive Modes (S and CL/CH) and Focusing Modes (SAF and CAF)>

In each drive mode, you can operate on autofocus as follows:

	Focusing Mode "SAF"	Focusing Mode "CAF"
S (Single-frame shooting)	Focusing is done on autofocus (the shutter release is depressed halfway or the F-Button is pressed) and the focus is locked. Single-frame shooting.	Focusing is effected continuously while you are operating on autofocus (the shutter release is depressed halfway or the F-Button is pressed). Single-frame shooting. ● The lens may not focus when you take pictures with the Cable Switch L.
CL/CH (Continuous shooting)	Focusing is done on autofocus (the shutter release is depressed halfway or the F-Button is pressed) and the focus is locked. If you are shooting continuously, the focus is locked at the time of the first picture and, after that, pictures are taken continuously.	While the autofocus is operating (the shutter release is depressed halfway or the F-Button is pressed), focusing is effected continuously. If you are shooting in the continuous shooting mode, pictures are taken continuously by focusing on each frame from the next picture. ● If you are shooting with the Cable Switch L, priority is given to the shutter tripping opportunity on the first picture and, from the next picture on, pictures are taken continuously by focusing on each frame.



<4. Kombination von Transportarten (S, CL/CH) und Fokussierfunktionen (SAF, CAF)>

Unabhängig von der gewählten Filmtransportart können Sie den Autofokus wie folgt einstellen:

<4. Relations entre les modes d'avance du film (S et CL/CH) et les modes de mise au point (SAF et CAF)>

Avec chaque mode d'avance du film, vous pouvez utiliser l'autofocus comme suit :

<4. Relación de los modos de arrastre (S y CL/CH) y modos de enfoque (SAF y CAF)>

En cada modo de arrastre, Vd. puede fotografiar en autofocus de la siguiente manera:

<5. Others>

Cautions on autofocus

- When using a lens that has a maximum aperture of 5.6 or slower, or the working aperture is 5.6 or slower when using Mutar or other close-up accessories, focusing is not possible on autofocus. In such cases, focusing must be done manually.
- Auto focusing is not possible with Milotar 500mm F4.5, Milotar 1000mm F5.6, or N-Milotar.

AF supplementary light

If the subject is dark or its contrast is so low that it is difficult to focus, the camera automatically projects AF supplementary light on it to increase the precision of the autofocus unit.

The effective range of the AF supplementary light is approximately 5m.

<5. Sonstiges>

Hinweise zum Autofokus

- Wenn Sie Objektive mit einer Lichtstärke von f/5,6 oder weniger verwenden, oder die Arbeitsblende durch ein Mutar oder anderes Nahaufnahmezubehör f/5,6 oder weniger beträgt, funktioniert der Autofokus nicht. Fotografieren Sie mit manueller Fokussierung.
- Automatische Fokussierung ist nicht möglich mit den Spiegel-Objektiven Mirotar 500mm f/4,5, Mirotar 1000mm f/5,6 und N-Mirotar.

AF-Hilfslicht

Wenn das Motiv dunkel oder so kontrastarm ist, daß die Fokussierung nicht einwandfrei erfolgen kann, schaltet sich das AF-Hilfslicht automatisch ein, um die Präzision der Autofokuseinheit zu erhöhen.

Der wirksame Bereich des AF-Hilfslichts beträgt ca. 5 m.

Subjects which are not suited for auto focusing

In the following cases, the auto focusing system may not operate properly and the focusing impossible mark "► ◀" may blink in the viewfinder. In such cases, focus on another subject located at the same distance as the subject, lock the focus with the focus lock, then shoot. Otherwise, use the manual focusing.

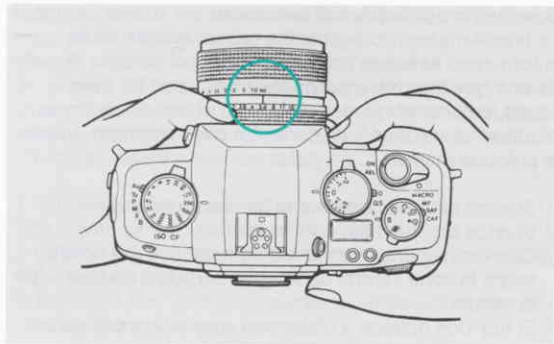
- ① Extremely bright or extremely dark subjects.
- ② Subjects with an extremely low contrast.
- ③ When there is a strong light source such as sunlight in the split-image spot or around.
- ④ There are two objects at extremely different distances inside the split-image spot.
- ⑤ Subjects with horizontal lines only or subjects with a repeated pattern of vertical lines.
- ⑥ When the quantity of light from the subject is extremely reduced with an ND filter or polarizing filter.

Ungeeignete Motive für den Autofokus

Der Autofokus funktioniert bei folgenden Motiven eventuell nicht. Das Symbol "Fokussierung nicht möglich" "► ◀" erscheint im Sucher. Suchen Sie sich in diesem Fall ein anderes Objekt in gleicher Entfernung und speichern Sie die Einstellung oder fokussieren Sie manuell.

- ① Extrem helles oder dunkles Motiv
- ② Extrem kontrastarmes Motiv
- ③ Bei einer starken Lichtquelle wie der Sonne in der Nähe des Schnittbild-Spots.
- ④ Wenn zwei Motivdetails in großer Entfernung zugleich vom Schnittbild-Spot erfaßt werden.
- ⑤ Wenn das Motiv nur waagerechte Linien oder ein gleichmäßiges Linien-muster aufweist.
- ⑥ Wenn durch Einsatz von Neutralgrau (ND)- oder Polarisationsfiltern die Lichtmenge zu stark reduziert wird.

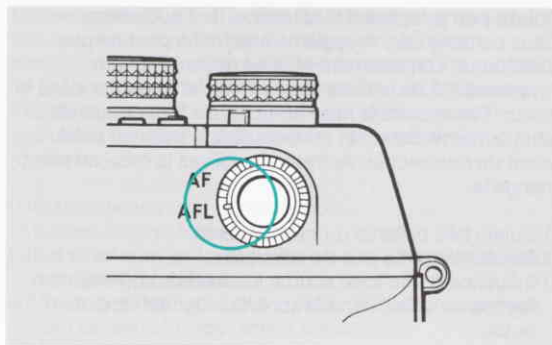
Autofocus Setting Depending on the Shooting Subject



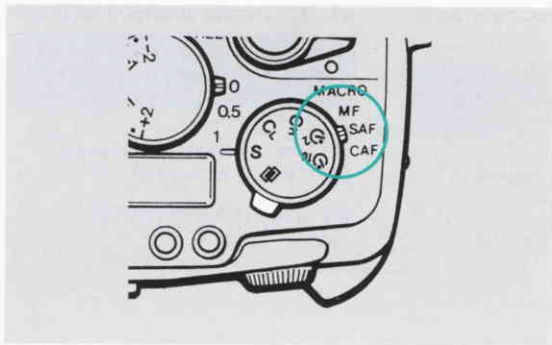
<1. Ordinary Autofocus Shooting>

The auto focusing range differs with the lens you are using.
For details, refer to page 75.

- 1 Turn the lens' distance ring and set it to "∞".



- 2 Set the F-Dial to "AFL".



3 Select the focusing mode.

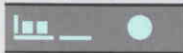
Focusing mode "SAF"

- ① Set the camera's focusing mode selector lever to "SAF".



- ② Aim the horizontal split-image spot at the subject you want to focus, and depress the shutter release halfway. Focusing is effected and, as soon as the subject is in correct focus, the correct-focus mark "●" inside the viewfinder turns on and the electronic "beep" sounds, locking the focus at that point.
- ③ Depress the shutter release all the way down to take your picture.

1 Sharp focus
Motiv scharf
Mise au point nette
Enfoque nítido



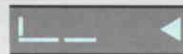
2 Focusing impossible
Fokussierung unmöglich
Mise au point impossible
Enfoque imposible



3 Rear focus: Turn the distance ring to the nearer-distance side.
Hintergrund scharf: Den Entfernungsring auf eine kürzere Entfernung einstellen.
Mise au point arrière: Réduire la distance en tournant la bague.
Enfoque posterior: Gire el anillo de distancias hacia el extremo de distancia más corta.

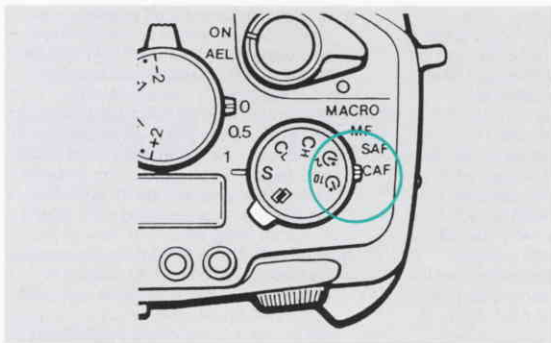


4 Front focus: Turn the distance ring to the farther-distance side.
Vordergrund scharf: Den Entfernungsring auf eine größere Entfernung einstellen.
Mise au point avant: Augmenter la distance en tournant la bague.
Enfoque anterior: Gire el anillo de distancias hacia el extremo de distancia más larga.



- If the back focusing scale and focus display turns on as shown in the figure [3] and [4], the subject is out of the autofocus range. In the case of [3], turn the distance ring toward "►" (nearer-distance side), and in the case of [4], turn it toward "◄" (farther-distance side). As soon as the subject is in sharp focus, the sharp-focus mark turns on and you are ready to take your picture.
- When the mark "► ◄" (Focusing impossible) blinks, you cannot trip the shutter because focusing is not possible. In this case, use the focus lock (see page 102) or focus manually by setting the focusing mode to "MF".

- When the subject is not within the horizontal split-image spot, use the focus lock (see page 102).
- When shooting continuously in the drive mode "CL, CH", the focus is locked at the time of the first picture. After that, pictures are taken continuously with the focus locked in this position.
- Even if the sharp-focus mark "●" does not turn on, you can trip the shutter by depressing the shutter release while pressing on the F-Button if you want to shoot in the shutter-tripping priority mode.

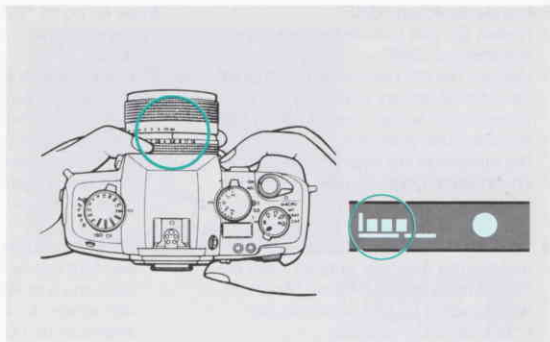
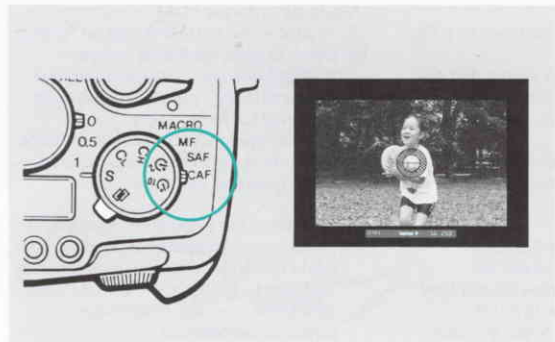


Focusing mode "CAF"

- ① Set the focusing mode to "CAF".
 - ② Aim the horizontal split-image spot at the subject you want to focus, and depress the shutter release halfway. Focusing is effected continuously while the shutter release is depressed halfway.
- When pressing the F-Button while the shutter release is depressed halfway, the focus is locked. At that time, the underside bar on the back focusing scale blinks.



- ③ Make sure the sharp-focus mark "●" is on and take your picture by depressing the shutter release all the way.
- The electronic sound does not sound even if the sharp-focus mark turns on.
 - When shooting in the drive mode "CL, CH", pictures are taken continuously while focusing is effected continuously.
 - The focusing may not follow continuously depending on the movement or change of the subject.



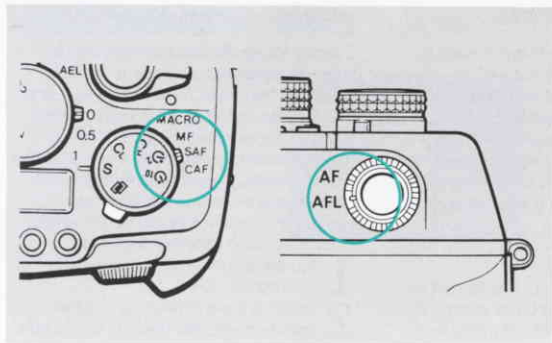
Convenient use of "CAF"

When shooting on autofocus with the distance ring set to " ∞ ", the AF shooting range is narrower when you take pictures with a telephoto lens. In this case, use "CAF" and shoot as described below. Thus, the AF shooting range can be moved, making it convenient for continuous shooting of playing children or sports scenes.

- 1 Set the camera's focusing mode to "CAF".
- 2 Aim the horizontal split-image spot in the viewfinder at the subjects you want to focus, and press the shutter release halfway.

- 3 Turn the distance ring and focus the lens beforehand so that the back focusing scale comes in the center of the underside bar. After that, focusing is effected on autofocus even if the subject moves back and forth.

- 4 Take your picture by depressing the shutter release all the way.
- When the distance of the subject is farther than the distance set with the lens' distance ring, the subject is beyond the working range of the autofocus. When you turn the distance ring to the farther-distance side and shift the AF working range, you can take pictures on autofocus.



Focus lock (with the F-Dial set to "AFL")

When taking pictures on autofocus and the subject you want to focus is not within the horizontal split-image spot depending on your composition, lock the focus in the following manner and shoot.

Focusing mode "SAF" (single autofocus)

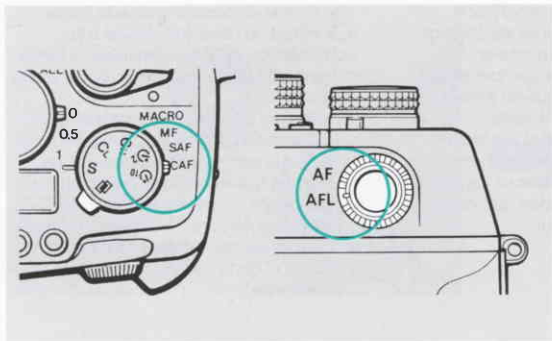
- 1 Set the focusing mode to "SAF" and the F-dial to "AFL".

- 2 Aim the horizontal split-image spot at the subject you want to focus, and depress the shutter release halfway. Focusing is effected and, as soon as the subject is in sharp focus, the sharp-focus mark "●" in the viewfinder turns on and the focus is locked.



3 With the shutter release depressed halfway, return to the composition you want and take your picture by depressing the shutter release all the way.

- While depressing on the shutter release halfway, the focus remains locked so that the point at which the lens is focused does not change even if you move the camera.
- The focus lock is cancelled when removing your finger from the shutter release.

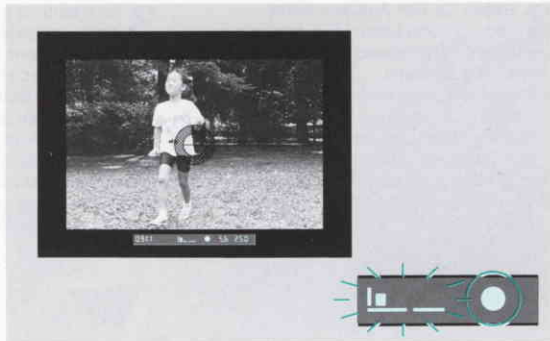


Focusing mode “CAF” (continuous autofocus)

1 Set the focusing mode to “CAF” and set the F-dial to “AFL”.

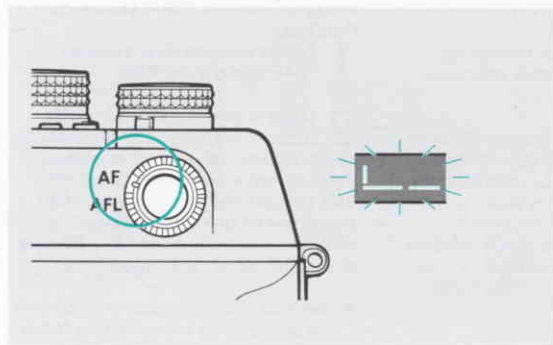
2 Aim the horizontal split-image spot at the subject you want to focus. Focusing is effected continuously while the shutter release is depressed halfway. Make sure the sharp-focus “●” mark is on and lock the focus by pressing the F-Button.

- While the focus is locked, the underside bar of the back focusing scale in the viewfinder blinks.



3 While pressing on the F-Button, return to the composition you want and take your picture by depressing the shutter release all the way.

- While pressing on the F-Button, the focus remains locked so that the point at which the lens is focused does not change even if you move the camera.
- The focus locked is cancelled when removing your finger from the F-Button.



<2. If you want to operate the autofocus and shutter with different buttons>

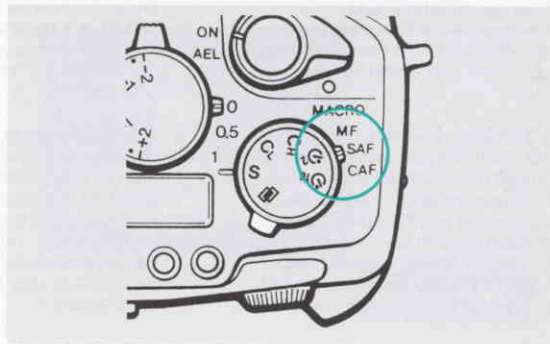
1 Set the F-Dial to "AF".
The underside bar on the back focusing scale will blink.

2 Set the focusing mode and take your picture as follows:

Focusing mode "SAF"

Use this mode if you want to take pictures of landscapes or still life securely with the Cable switch L.

Aim the horizontal split-image spot in the viewfinder at the subject and press the F-Button.

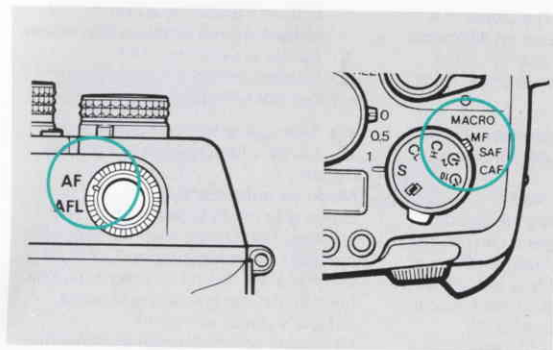


The camera will automatically focus the lens on the subject and, as soon as it is sharp focus, the focus will be locked so remove your finger from the F-Button. The movable body will stop at that position. Then, return to the composition you want and take your picture by pressing the button of the Cable Switch L.

Focusing mode "CAF"

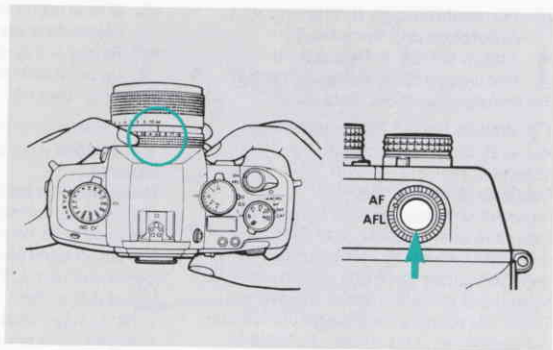
Use this mode when shooting a moving subject and focus the lens with the F-button and the shutter tripping with the shutter release securely.

- The camera will continue its focusing operation while you are pressing the F-Button. If you remove your finger from it, the movable body will stop at that position.



<3. When the autofocus is used as one-shot AF while operating mainly on manual focus>

- 1** Set the F-Dial to "AF".
- 2** Set the focusing mode selector lever to "MF".
The movable body is set at the base position.
- 3** Turn the lens' distance ring to focus and depress the shutter release all the way.



4 If you use "one-shot AF" while shooting on manual focusing, set the distance ring to " ∞ " and press the F-Button. Focusing is effected on "SAF" (single autofocus) while the button is pressed.

5 Trip the shutter while pressing on the F-Button.

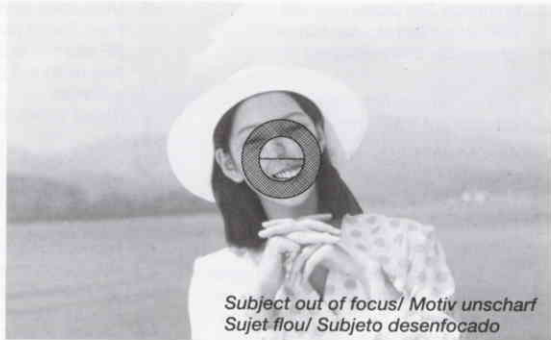
- Caution is required because the movable body returns to the base position and the focus shifts if you remove your finger from the F-Button. If you are shooting with the self-timer, the movable body returns to the base position after shooting with the self-timer.
- When operating the autofocus with the F-Button without changing the position of the distance ring while working on manual focus, the autofocus is activated at the shorter distance side than the position at which the distance ring is set.



Set the focusing mode selector lever to "MF". The movable body is set at the base position. Thus, you can focus the lens manually by turning its distance ring.

This camera is normally equipped with a focusing screen FW-1 (horizontal split-image/microprism type). Focusing can be done on a horizontal split-image spot in the center, on the microprism collar around it, and on the surrounding matte area.

* Interchangeable focusing screens are also available. For details, refer to page 232.



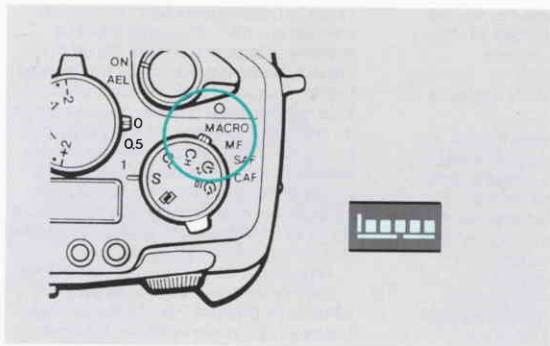
<Horizontal Split-image Spot>

While looking through the viewfinder, turn the distance ring until the upper and lower segments of the image coincide. When the subject is not focused on, the two segments will not coincide.

<Microprism Collar and Matte Screen>

Turn the distance ring until the image on the microprism collar or matte screen appears sharp. If the subject is not in sharp focus, the image on the microprism collar will appear grainy and that on the matte screen blurred.

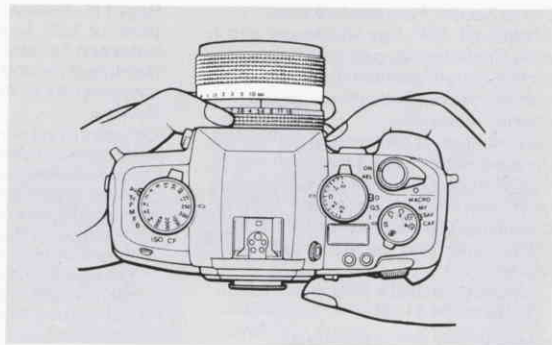
- When using a slow lens or taking close-ups with a high magnification, focusing may be difficult. In such cases, use the matte screen to focus.



When this mode is set, you can take pictures as if you mounted a 10mm extension ring so that you can get closer to the subject than the minimum focusing distance of the lens you are using. **Focusing is effected manually in the manual focus mode.**

If you are using a zoom lens, focus it after finishing the zooming operation.

1 When the focusing mode selector lever is set to "MACRO", the movable body will be set at the maximum moving position (movement of 10mm from the base position) and the back focus scale in the viewfinder will be displayed as shown in the illustration.



2 Turn the distance ring to focus.

- Regarding the minimum focusing distance in the macro mode, refer to page 75.
- With float type lenses, shoot at an aperture as small as possible to prevent the image performance around picture edges from being reduced.
- With macro lenses, it is impossible to shoot at a nearer distance even if the macro mode is set, because the lens extension is great.

Camera Functions and Applied Techniques

■ Selecting the Exposure Mode

You can choose the following exposure modes depending on your shooting object and application.

Av: Aperture-priority Auto Exposure

When choosing your desired aperture, the camera will automatically select the shutter speed suited for it to provide correct exposure. This mode is useful for taking pictures by utilizing the lens depth of field.

Tv: Shutter-speed-priority Auto Exposure (with MM type lenses only)

When choosing your desired shutter speed, the camera will automatically select the aperture suited for it to provide correct exposure. This mode is useful for taking fast moving objects.

P: Programmed Auto Exposure (with MM type lenses only)

In this mode, the camera will automatically select the optimum combination of aperture and shutter speed on a preset program in accordance with the brightness of the object.

Because it is not necessary to set exposure, you can concentrate on composing your picture and choosing the best shooting moment.

M: Manual Exposure

In this mode, you can choose the aperture and shutter speed as desired. Intentional over-or underexposure is also easy.

X: Flash Photography

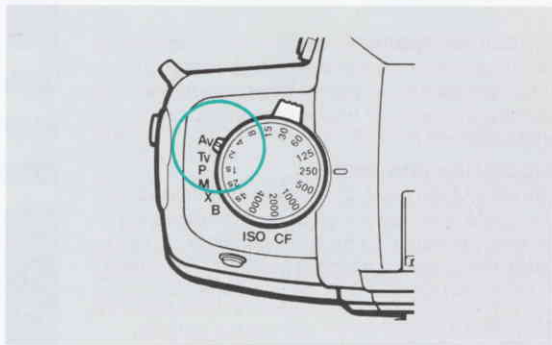
This mode is set when you use an ordinary flash unit having only X-contact but no dedicated flash linked contact. For more detail, refer to "Flash Photography Using Other than TLA Flash Unit" on page 174.

B: Bulb Exposure

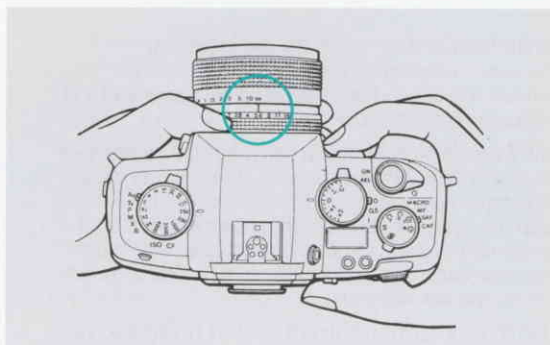
This mode can be used for taking night scenes or pictures of the sky at night which require long exposure.

- If an AE lens is mounted on the camera, you cannot take pictures in the "Tv" or "P" mode. Even if it has been set at the "Tv" or "P" mode, it will nevertheless operate in the "Av" mode.
- If no lens is mounted on the camera, the exposure mode will automatically switch to the "Av" mode even if it has been set at the "Tv" or "P" mode.

Aperture-priority Auto Exposure [Av]

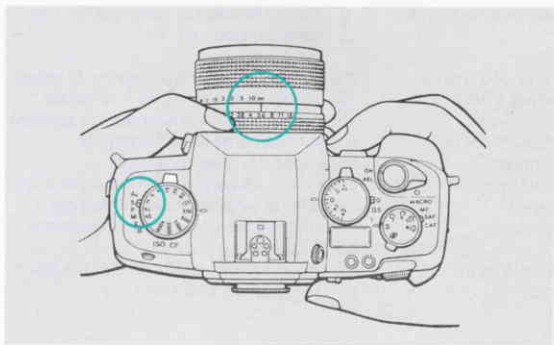


1 Set the exposure mode selector lever to “Av.”



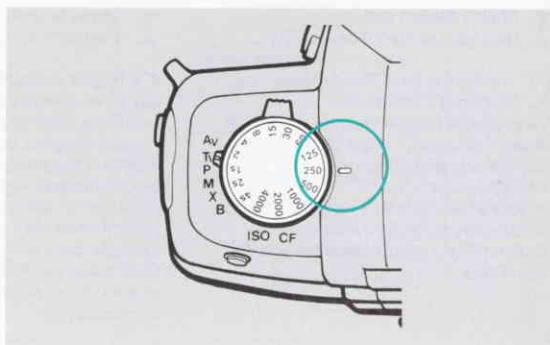
2 Set the aperture and shoot.
When setting the aperture with the lens' aperture ring, the camera will automatically set the shutter speed suited for it.
In the viewfinder, the aperture you have set and the shutter speed automatically set by the camera will turn on.
It does not matter where the shutter speed dial is set.

Shutter-speed-priority Auto Exposure [Tv] (with MM type lenses only)



- 1 Set the lens aperture to the minimum aperture (green) and set the exposure mode selector lever to "Tv."

The minimum aperture on the aperture ring of MM type lenses is marked in green to show you that you should set the lens to it in the programmed auto exposure and shutter-speed-priority auto exposure modes.

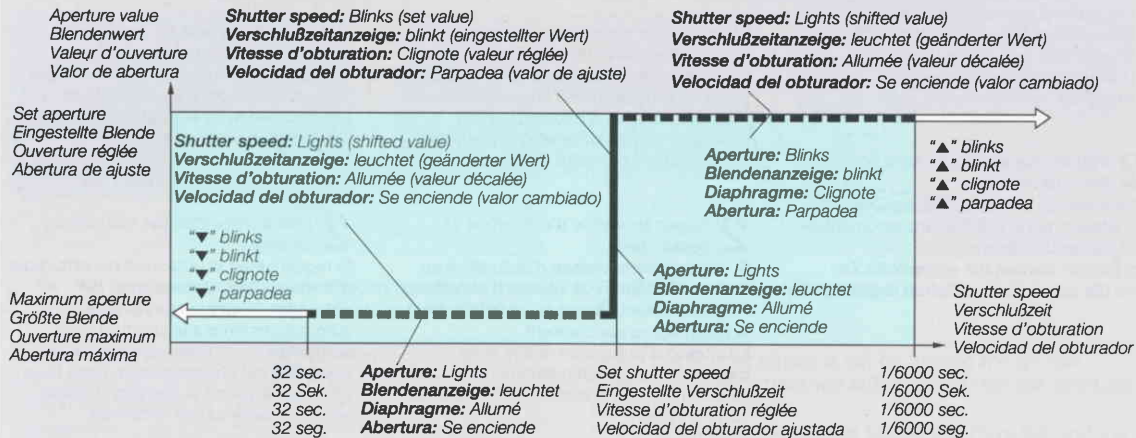


- 2 Set the shutter speed and shoot.

When the shutter speed is set by turning the shutter speed dial, the camera will automatically set the aperture suited for it.

In the viewfinder, the shutter speed you have set and the aperture automatically set by the camera will turn on.

Shutter speed shift and warning in the shutter-speed-priority auto exposure mode:
Änderung der Verschlusszeit und Warnung bei Belichtungsautomatik mit Verschlusszeitenvorwahl:
Décalage de vitesse d'obturation et avertissement dans le mode d'exposition automatique à priorité à la vitesse:
Cambio de velocidad del obturador y advertencia en el modo de exposición automática con prioridad de velocidad del obturador:



— : Shows the controllable range with the set shutter speed.
 : Zeigt den mit der eingestellten Verschlusszeit steuerbaren Bereich.
 : Indique la plage contrôlable avec la vitesse d'obturation réglée.
 : Muestra el margen controlable con la velocidad del obturador ajustada.

— : Shows the controllable range with the shifted shutter speed.
 : Zeigt den mit der geänderten Verschlusszeit steuerbaren Bereich.
 : Indique la plage contrôlable avec la vitesse d'obturation décalée.
 : Muestra el margen controlable con la velocidad del obturador cambiada.

— : Shows the range out of control (warning area)
 : Zeigt den Bereich, der nicht gesteuert werden kann (Warnbereich).
 : Indique la plage non contrôlable (zone d'avertissement).
 : Muestra el margen fuera de control (área de advertencia).

In the "Tv" mode, the shutter speed you have selected cannot provide correct exposure because the aperture suited for it is beyond the lens' aperture range, the camera will automatically shift the shutter speed to always provide correct exposure. The shifted shutter speed will then be displayed. The controllable range of shutter speeds on automatic setting is from 32 to 1/6000 seconds.

- When the correct shutter speed is faster than that you have selected, the aperture will blink. Make sure the lens is set at its minimum aperture.
- When an MM type lens is set to an aperture that is not its minimum aperture, the camera will automatically choose an appropriate aperture between the maximum aperture and the aperture being set.

Automatischer "Override": Im "Tv"-Modus kann es vorkommen, daß der Blendenbereich des Objektivs für eine passende Blende zur gewählten Zeit nicht ausreicht. Dann verändert die Kamera die Zeit automatisch so weit, wie es für die korrekte Belichtung nötig ist. Diese Zeit wird dann angezeigt.

Der Zeitenbereich umfaßt 1/6000s bis 32s.

- Wenn die richtige Zeit kürzer als die eingestellte ist, blinkt die Blendenanzeige. Kontrollieren Sie, ob die kleinste Blende eingestellt ist.
- Wenn ein MM-Objektiv auf eine andere als die kleinste Blende eingestellt ist, wählt die Kamera automatisch eine passende Blende zwischen der eingestellten und der größten Blende.

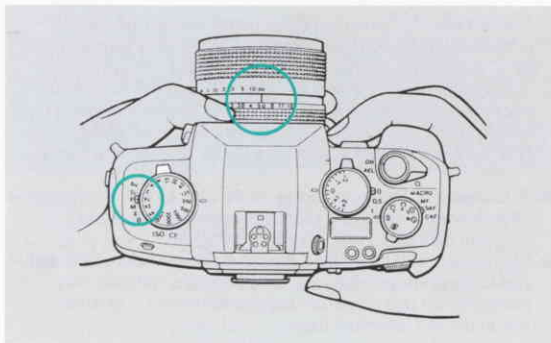
Dans le mode "Tv", la vitesse d'obturation que vous avez sélectionnée ne peut assurer une exposition correcte car le diaphragme qui lui convient est au-delà de la gamme d'ouverture de l'objectif, l'appareil décalera automatiquement la vitesse d'obturation pour toujours assurer une exposition correcte. La vitesse d'obturation décalée sera alors indiquée. La plage contrôlable des vitesses d'obturation sur réglage automatique est de 32 à 1/6000 secondes.

- Si la vitesse d'obturation correcte est plus rapide que la vitesse sélectionnée, l'ouverture clignotera. Assurez-vous que l'objectif est réglé à son ouverture minimum.
- Si un objectif du type MM est réglé à une ouverture qui n'est pas son ouverture minimum, l'appareil sélectionnera automatiquement une ouverture appropriée entre l'ouverture maximum et l'ouverture réglée.

En el modo "Tv", la velocidad del obturador que usted haya seleccionado no puede establecer exposición correcta, debido a que la abertura más apropiada está más allá del margen de abertura del objetivo.

La cámara cambiará automáticamente la velocidad del obturador para que siempre obre una exposición correcta. La velocidad del obturador cambiada aparecerá visualizada El margen controlable de las velocidades del obturador en el ajuste automático es de 32 a 1/6000 segundos.

- Si la velocidad del obturador correcta es más rápida que la que usted haya seleccionado, la abertura parpadeará en el display. En tal caso, asegúrese de que el objetivo está ajustado a la abertura mínima.
- Si se ajusta un objetivo tipo MM a una abertura que no sea la abertura mínima, la máquina escogerá automáticamente una abertura apropiada entre la abertura máxima y la que se haya elegido.



1 Set the lens to its minimum aperture (in green) and set the exposure mode selector lever to "P".

2 Compose your picture and shoot.

The camera will automatically select the optimum combination of aperture and shutter speed to suit your subject, and the selected aperture and shutter speed will be displayed in the viewfinder.

Program Control Diagram (with F1.4 lens, ISO 100)
Belichtungsprogramm (mit f/1,4-Objektiv und ISO 100)
Diagramme de contrôle de programme
 (avec l'objectif F1.4, ISO 100)

Diagrama de Control de la Exposición Automática Programada
 (Con respecto a un objetivo de F1,4, sensibilidad ISO 100 y
 abertura F16)



Shutter Speed (sec.)
 Verschlusszeit (Sek.)
 Vitesse d'obturation (sec.)
 Velocidad del obturador (seg.)

<Programmed Auto Exposure Control Diagram>

Combination of aperture and shutter speed which can be set in the programmed auto exposure mode are shown in the diagram.

- The control range will be narrower if the lens is not set to its minimum aperture.



Overexposure/Überbelichtung
Surexposition/Sobreeposición



Underexposure/Unterbelichtung
Sous-exposition/Subexposición

Precautions on Auto Exposure ("Av", "Tv", "P")

<Over/Underexposure Warning in Auto Exposure>

Overexposure warning

When the exposure mark "▲" blinks, it means overexposure.

Because the subject is too bright, readjust the aperture so that the "▲" mark turns off. It is also possible to reduce the light intensity with an optional ND filter.

Underexposure warning

If "▼" blinks, it means underexposure. Because the subject is too dark, use an additional light to brighten up the subject or change the aperture so that "▼" disappears.

Also, a dedicated flash until will let you take correctly exposed pictures.

- Even when an over- or underexposure warning appears you can take pictures by depressing the shutter release.

<Cautions on Use of Accessories>

When using a lens with its maximum aperture slower than F5.6 or an accessory with which the lens' automatic diaphragm does not operate (Auto Bellows PC, Microscope Adapter, Extension Tube 7.5mm, Reverse Ring, etc.), be careful about the following things:

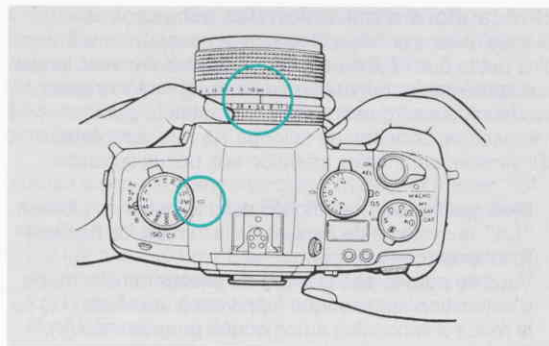
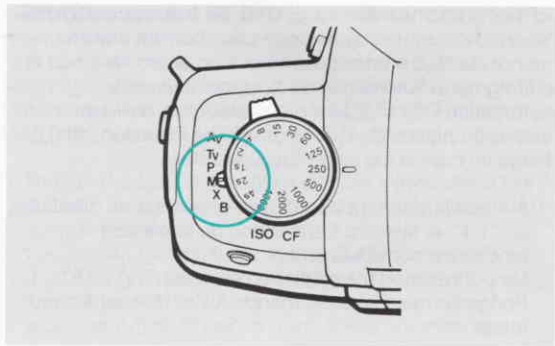
- ① Though the aperture displayed in the viewfinder is fixed at "1.4", the camera's light metering system will operate properly.
- ② You cannot take pictures in the shutter-speed-priority (Tv) or programmed auto exposure (P) mode. Choose the aperture-priority auto exposure (Av) or manual exposure (M) mode when using these accessories.

<Hinweise zum Gebrauch von Zubehör>

Wenn Sie ein Objektiv geringerer Lichtstärke als f/5,6 verwenden oder Zubehör ohne automatische Blendenmechanik (Auto-Balgen PC, Mikroskop-Adapter, Zwischenring 7,5 mm, Umkehring usw.), beachten Sie bitte folgendes:

- ① Auch wenn die Blendenanzeige im Sucher immer "1.4" anzeigt, funktioniert das Belichtungsmeßsystem der Kamera richtig.
- ② Sie können nicht mit Blenden (Tv)- oder Programm (P)-Automatik fotografieren. Benutzen Sie derartigem Zubehör Zeitautomatik (Av) oder manuelle Nachführmessung (M).

Manual Exposure [M]



1 Set the exposure mode selector lever to "M".

2 Set the shutter speed with the shutter speed dial and the aperture with the aperture ring and shoot.

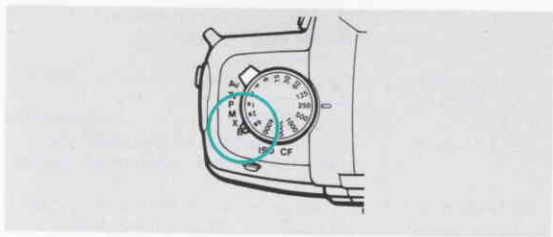
In the viewfinder, the shutter speed and aperture selected are indicated and the exposure mark lights.

"▲" : Overexposure

"◆" : Correct exposure

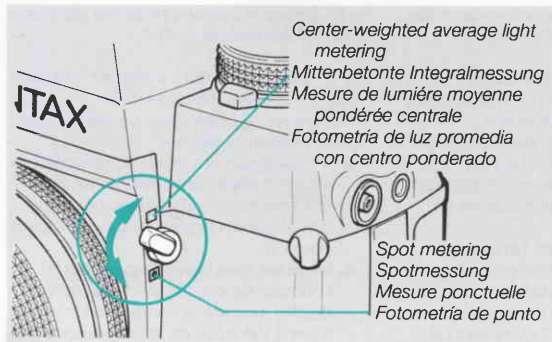
"▼" : Underexposure

Adjust the shutter speed dial or aperture ring so that the "◆" mark is displayed.

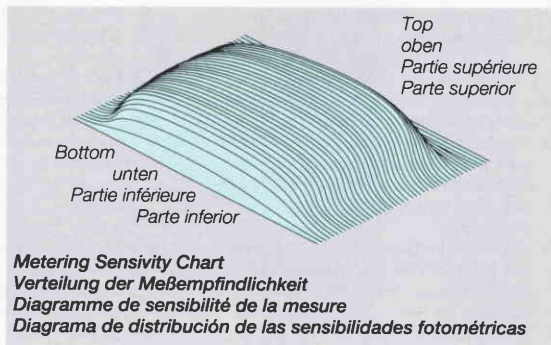


- 1 Set the exposure mode selector lever to "B".
 - 2 Set the aperture and shoot. As long as the shutter release is depressed, the shutter will remain open to expose the film.
- Mount the camera on a tripod or a stable base to prevent camera shake and trip the shutter with the Cable Switch L (optional accessory).
 - While the film is exposed in the bulb exposure mode, the exposure counter in the display panel will indicate the time that has passed during bulb exposure. It will count from "0'00" to "9'59" (9 minutes 59 seconds), then repeat the same cycle.
 - When in exposure, all the indicators in the viewfinder disappear.





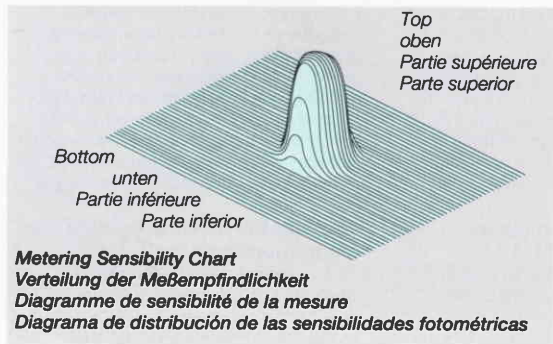
This camera provides two metering methods: center-weighted average light metering and spot metering. You can choose either method with the metering mode selector lever. Depending on your object and shooting conditions, select an appropriate method to get preciser effects which suit your purposes.



<Center-weighted Average Light Metering>“ [] ”

In this method, the camera measures the light intensity with emphasis on the subject in the center of the viewfinder and also takes the brightness in the surrounding area into account to determine the exposure value.

Because it accomodates fluctuations of light, it is suited for ordinary objects as well as for fast moving objects.



- Due to the spot metering characteristic of this camera, using the lens with a maximum exposure slower than F5.6 or the Mutar or close-up accessory (Auto Belows PC, Microscope Adapter, Auto Extension Tube, Reverse Ring, etc.) with actual exposure slower than F5.6 may cause metering error in spot metering. Use the center-weighted average light metering under the above condition.

<Spot Metering> “ [●] ”

In this method, the camera measures only the brightness of the subject in the center of the viewfinder (microprism area) to determine the exposure value. Its applicable area is within the outer circle in the center of the viewfinder. It is suited for backlighted subjects, stage scenes in which the main subject is spotlighted, or when there is an extreme difference in brightness between the subject and background.

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<Metering Range>

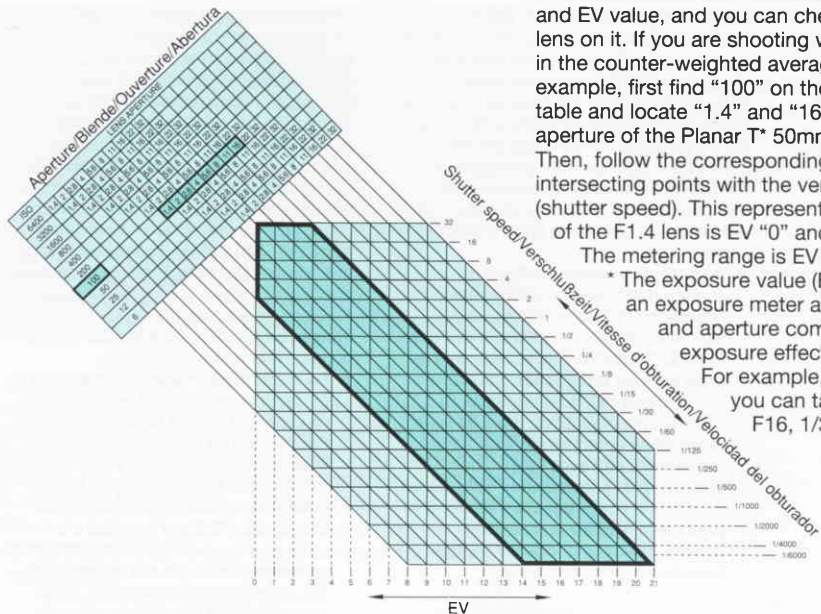
This chart shows the relationship of the aperture, shutter speed and EV value, and you can check the metering range of your lens on it. If you are shooting with an ISO 100 film and F1.4 lens in the counter-weighted average light metering mode, for example, first find "100" on the ISO column in the Lens Aperture table and locate "1.4" and "16" in this row (the minimum aperture of the Planar T* 50mm is F16).

Then, follow the corresponding oblique lines and find their intersecting points with the vertical line (EV) and horizontal line (shutter speed). This represents the limits of the metering range of the F1.4 lens is EV "0" and EV "21."

The metering range is EV 3-21 on spot metering.

* The exposure value (EV) shows the coupling range of an exposure meter and represents the shutter speed and aperture combinations that yield the same exposure effect in a given lightning condition.

For example, EV 13 in the chart shows that you can take the same exposure at both F16, 1/30 sec. and F8, 1/125 sec.



- The area marked by colored lines in table represents the range of shutter speeds from 32 to 1/6000 sec. In which the camera can measure exposure in the auto exposure modes.
- The range marked by thick lines represents the metering range with an F1.4 lens and ISO 100 film.