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# Mamiya 645

Mamiya

**AEプリズムファインダー**

**[FE401]**

**AE Prism Finder**

**Viseur Prisme AE**

**AE Prismensucher**

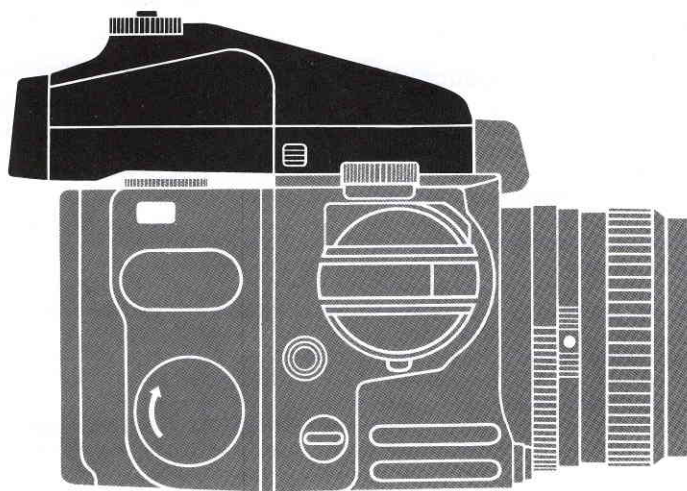
**プリズムファインダー**

**[FP401]**

**Prism Finder**

**Viseur Prisme Simple**

**Prismensucher**



日本語

使用説明書

English

Instructions

Deutsch

Bedienungsanleitung

Français

Mode d'emploi

## English Specifications

**Viewfinder** : Both the Prism Finder FP401 and AE Prism Finder FE401  
• Feature roof prisms and an unreversed, laterally correct image. Image magnification is 0.79X (with 80mm f/2.8N standard lens) with a built-in 2.5X magnifier.

[ The following specifications apply to the AE Prism Finder FE401.]

**Metering System** : There are three metering modes — Average (AV), Spot (SP) and Auto-shift (AUTO A-S).

**Aperture Range** : EV1 (f/2.8, 4 sec.) to EV19 (f/22, 1/1000 sec.) with f/2.8 standard lens.

**Shutter Speed Range** : Auto: 8 sec. ~ 1/1000 (1/6 intervals)  
Manual : 4 sec. ~ 1/1000 (full stop intervals)

**Exposure compensation** : ±3 stops with click stops at 1/3 stop intervals.

**Viewfinder LED display** : In the metered automatic mode, flashing LEDs indicate full f/stop shutter speeds, while, for intermediate exposure times two shutter speeds will simultaneously illuminate and flash. Overexposure will be indicated by flashing LEDs which spell out "OVER" while underexposure will be indicated by "LT". In the metered manual mode, preselected shutter speeds will illuminate flashing LEDs, while the correct shutter speed will blink slower. This display will illuminate for only 10 seconds and will then automatically stop to conserve battery power. When batteries are low, LEDs will flash a warning.

**AE Lock** : When the shutter speed dial on the camera is set to the AEL position, the exposure reading is stored in the AE Prism Finder.

**Power Supply** : Battery in the camera body.

## Attaching and Removing the Finder

### Attaching

Insert the two Attaching Latches on the front of the finder into the mounting holes on the front of the camera body, as illustrated. Then, depress the finder until the back of the finder clicks into place and firmly locks.

### Removing

Push the Finder Lock Release Button while pushing down on the button on the opposite side. The finder then can be removed from the camera body.

## Using AE Prism Finder FE401

### [1] AE Photography

1. To switch to the AE mode, align "A" on the Shutter Speed Dial on the camera body with the index. (Fig. 1)
2. Make sure that you have properly set the speed of the film which you have loaded, on the ISO Dial of your roll film holder. (Fig. 2)
3. Before metering, make sure that the lens A-M Lever is set at "A". When set at

"M", correct exposure cannot be obtained. Also make sure that the Exposure Meter Coupler engages properly with the Aperture Ring coupling Pin. If they are not engaged properly, correct exposures cannot be obtained. (Fig. 3)

4. For Average Metering set the Metering Mode Selector to "AV", for Spot Metering set to "SP" and/or for AV-SP Auto-shift Metering set to "AUTO A-S". (Fig. 4)

★ When "AV" is used, exposure is measured over the entire picture frame and averaged, while at "SP" only the central area is measured. When "AUTO A-S" is selected, average or spot metering will be automatically selected according to the lighting condition, thus ensuring accurate exposures.

5. After selecting the aperture, depress the Shutter Release Button half way and LEDs will illuminate in the viewfinder, indicating either the metering mode "AV" or "SP" and the correct shutter speed for the preselected aperture.

★ If during AE photography, two shutter speeds illuminate simultaneously in the

viewfinder the shutter will make an exposure at an intermediate speed.

For example, when speeds 1/60 and 1/125 sec. illuminate simultaneously, the shutter will expose at a speed between 1/60 and 1/125 sec.

In the manual mode, intermediate speeds are indicated as correct values.

## [2] Manual Photography

1. Set the Shutter Speed Dial to a position other "AE" or "AEL". (Fig. 5)

When pressing the Shutter Release Button half way, the correct shutter speed for a preselected aperture will blink in the viewfinder (when two speeds blink, an intermediate speed is selected), and the shutter speed set on the body will illuminate.

2. In order to obtain a correct exposure, adjust the lens Aperture Ring or turn the Shutter Speed Dial until there is only one shutter speed illuminating in the viewfinder.

★ Please note: 10 seconds after activation, the LEDs will go out. If they do so

during metering, press the Shutter Release Button half way again.

## [3] AEL (AE Lock) Photography

The AEL position is very useful when making selective exposure measurements of important subject areas which are not in the center. Although AEL can be used with any metering mode, it is most effective with spot metering.

1. Set the Shutter Speed Dial on the camera body to the AEL position. (Fig. 6)

2. While looking through the viewfinder, center the most important part of the subject in the center circle while keeping the Shutter Release Button depressed half way. In this state, the exposure reading is memorized. After adjusting for composition as desired, release the shutter.

## [4] Exposure Compensation Dial

While pressing the Lock Release Button in the center of the exposure compensation dial, turn the dial to select the desired compensation value. Within  $\pm 3$  EV the dial stops at 1/3 clickstop intervals. Turning the dial in the "+" direction increases exposure

(OVER), while turning it in the "-" direction decreases exposure (UNDER). The Exposure Compensation Dial can be used not merely for exposure compensation under special shooting conditions, but also for special lighting techniques. (high key, low key, etc.) (fig 7)

★ When the AE Prism Finder is used with 300mm f/5.6N lens at AV mode, be sure to compensate the exposure  $-2/3$  EV by rotating the Exposure Compensation Dial. If the exposure is not compensated, a correct metering value cannot be obtained.

## [5] Mirror Lock-up Photography When Using AE Prism Finder

In the AE position "A", mirror lock-up photography in the automatic mode is not possible. So during mirror lock-up operations, be sure to photograph in the manual mode.

● However, it is possible in the AE Lock (AEL) position. While pressing down on the Shutter Release Button half way, raise the Mirror Lock-up Lever and then release the shutter. If, at this time, you leave your finger on the button for even an instant, exposure will immediately lengthen. So, be careful when taking photographs in that mode.

## Diopter Correction Lenses (fig 8)

The viewfinder system is adjusted for average eyesight. It is therefore recommended that far-sighted or near-sighted individuals, not wearing eye glasses, use a diopter correction lens.

Six types of diopter correction lenses are available, offering  $\pm 3$  diopter correction.

To attach diopter lenses, place the top of the lens into the top of the eye-cup frame and snap it into place. To remove, pull the bottom out.

The two Prism Finders are optically and mechanically identical. Their precision roof prisms render a bright, unreversed and laterally correct image. Both also have an Eye-piece Closure, to prevent light entering, when the camera is remotely operated.

### **Special Features of the AE Prism Finder FE401**

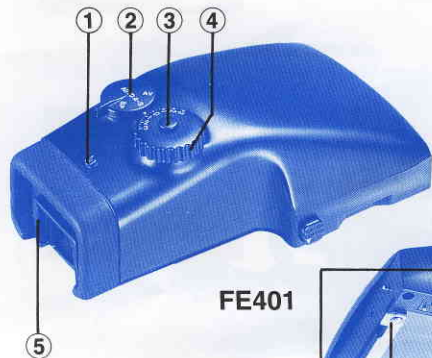
"AE" stands for Automatic Exposure. The precision electronics built into this finder offers:

1. Three automatic exposure modes. Spot, Average and Auto-shift. In the latter mode the meter will change automatically from Spot to Average, or vice-versa, depending on subject matter.
2. When setting the shutter speed manually, the finder will display the correct exposure for only 10 sec. in order to save battery power.
3. In order to provide most accurate exposure data, intermediate exposure times are also shown.

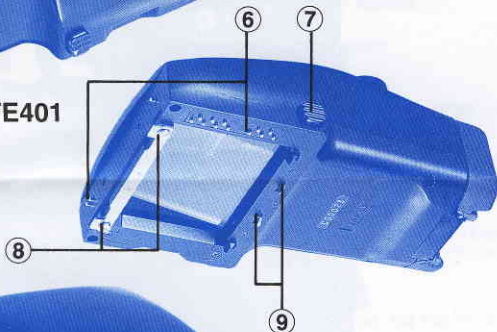
## Names of Parts

- ① Eye-piece Closure Lever
- ② Metering Mode Selector
- ③ Lock Release Button
- ④ Exposure Compensation Dial
- ⑤ Diopter Lens Mounting Frame
- ⑥ Gold Plated Contact Pins

- ⑦ Lock Release Button
- ⑧ Attaching Latches
- ⑨ Attaching Pins
- ⑩ Eye-cup
- ⑪ Eye-piece
- ⑫ Lock Button



**FE401**



**FP401**



## [6] Using the AE Prism Finder FE401 with Leaf Shutter lenses (A55mm N/L, A80mm N/L, A150mm N/L)

### Using with the Power Drive Grip WG401

#### 1. In the Focal Mode (F)

As with focal lenses, perform AE or manual photography. (The lens shutter speed is in the F position.)

#### 2. In the Leaf Shutter Mode

① Set the lens to the Leaf Shutter Mode and set the shutter speed on the camera body to any position other than "B" (Bulb); automatically the shutter speed will then be set to 1/8 sec.

② An LED will illuminate in the viewfinder, per AE metering to indicate a correct shutter speed.

★Please note: After pressing the Shutter Release Button half way, the correct shutter speed will remain in the memory for 10 sec.

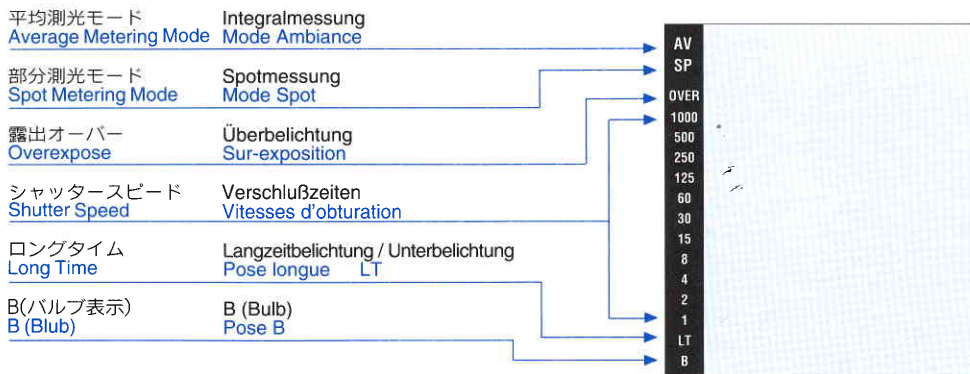
③ Turn the Shutter speed Ring on the lens and select the proper value.

④ See the instruction manual when using Leaf Shutter Lenses with the Film Advance Crank AC401 and Power Drive Grip N.



# ファインダー内表示 LED Display in the View-finder

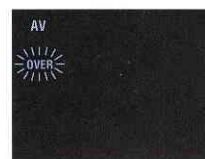
# Sucherinformationen Affichage du viseur



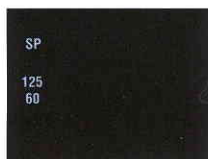
## AE撮影AEL撮影    Automatikbetrieb AE Photography    Mode automatique



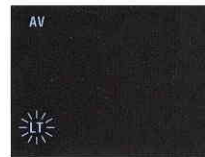
適正スピード 点灯  
Proper speed illuminates  
Korrekte Zeit leuchtet  
La bonne vitesse s'affiche



露出オーバー はやい点滅  
Overexposure Blinks Quickly  
Überbelichtung blinkt schnell  
La surexposition clignote rapidement



適正スピード 1/90秒  
ファインダー内に2つのシャッタースピードが点灯したとき、その中間でシャッターが切れます。  
Proper speed  
When two shutter speeds illuminate in the view-finder, an intermediate shutter speed will be selected as the proper speed.  
Korrekte Zeit  
Leuchten zwei Zeiten gleichzeitig, wird eine Zwischenzeit gewählt.  
La bonne exposition.  
Si 2 vitesses s'affichent, c'est la vitesse intermédiaire qui a été sélectionnée.



露出アンダー はやい点滅  
Underexposure Blinks Quickly  
Unterbelichtung blinkt schnell  
La sous exposition clignote rapidement

## AEL撮影    Meßwertspeicherung AEL Photography    Mode mémorisation



ロックスピード 点灯  
Locked speed illuminates  
Gespeicherte Zeit leuchtet  
La vitesse mémorisée s'affiche.



バルブ撮影 (B) 点灯    適正スピード 点滅  
Bulb (B) photography illuminates    Proper speed blinks  
B-Aufnahmen leuchtet    korrekte Zeit blinkt  
Pose B s'affiche  
La vitesse déterminée par la cellule clignote.

## マニュアル撮影    Manualbetrieb Manual Photography    Mode semi-automatique



セットスピード 点灯    適正スピード 点滅



La vitesse mémorisée s'affiche.

## マニュアル撮影

Manual Photography

## Manualbetrieb

Mode semi-automatique



セツトスピード 点灯 適正スピード 点滅

Set speed illuminates Proper speed blinks

Eingestellte Zeit leuchtet korrekte Zeit blinkt

La vitesse pré-sélectionnée s'affiche.

La vitesse déterminée par la cellule clignote.



セツトスピード 点灯 適正スピード 1/45秒

シャッタースピードダイヤルが、絞りリングを回して、適正シャッタースピードに合致させると点灯が1つになりシャッターを押せます。

Set speed illuminates Proper speed 1/45 sec.

Adjust the Lens Aperture Ring or turn the Shutter Speed Dial until there is only one shutter speed which is illuminated — now the shutter can be released.

Eingestellte Zeit leuchtet Korrekte Zeit 1/45s.

Drehen Sie den Blendenring oder das Verschlusszeitenrad, bis nur noch eine Verschlusszeiten-LED leuchtet.

La vitesse pré-sélectionnée s'affiche.

La bonne vitesse est de 1/45 sec. Ajuster la bague des diaphragmes ou celle des vitesses jusqu'à ce qu'il n'y ait qu'une vitesse de visible, puis déclencher.

## 長時間撮影

Long Time Photography

## Langzeitbelichtung

Pose longue



LT (ロングタイム) 点灯 (測光範囲内)

1秒より遅いシャッタースピードのときにLTが点灯します。マニュアルではセツトしたシャッタースピード2秒か4秒のいずれかでシャッターが切れます。オートでは1秒〜8秒までのいずれかの適正秒時でシャッターが切れます。

LT (Long time) illuminates

In the manual mode the shutter operates at the speed selected by the shutter speed dial. In AE mode the shutter is set automatically to give correct exposure at speeds between 8 and 1sec.

LT leuchtet

Im Manualbetrieb arbeitet der Verschluss mit der am Zeitenrad eingestellten Verschlusszeit.

Im Automatikbetrieb wird die korrekte Verschlusszeit im Bereich von 8 bis 1s automatisch eingestellt.

LT (Pose Longue) s'affiche.

En mode Semi-Auto, la vitesse de synchronisation est celle affichée sur le cadran. En mode AE-Auto, elle est automatiquement sélectionnée et donne la bonne exposition de 8 à 1 de seconde.



バルブ撮影 (B) 点灯 適正スピード 点滅

Bulb (B)

photography illuminates

Proper speed blinks

B-Aufnahmen leuchtet korrekte Zeit blinkt

Pose B s'affiche

La vitesse déterminée par la cellule clignote.



引きふた挿入 ゆっくり点滅 シャッターセツト未完了

● AE、マニュアルとも表示モード点滅

The Dark Slide inserted

Shutter not cocked

Blinks Slowly

● All modes blink in both AE and Manual modes

Eingelegter Schieber

Nicht gespannter Verschluss

blinkt langsam

● Alle Anzeigen blinken sowohl im Automatik-als auch Manualbetrieb

Le volet n'est pas ôté

L'obturateur clignote (lent)

● Tous les modes clignotent

## バッテリー容量低下

Battery Low



ゆっくり点滅

Erschöpfte Batterie

blinkt langsam

Blinks Slowly

Pile faible Clignotement lent

● AEモードのとき 適正表示値点滅

● Proper value blinks in the AE mode

● Korrekte Zeit blinkt im Automatikbetrieb

● en mode automatique

● マニュアルのとき 設定表示値点滅

● Preset value blinks in the manual mode

● Eingestellte Zeit blinkt im Manualbetrieb

● en mode semi-automatique



- Since TTL metering is employed, exposure correction is unnecessary even when lens accessories, such as filters, auto extension tubes, bellows and macro lens, which usually require exposure correction, are used.
- Extraneous light coming into the viewfinder through the eye-piece will affect metering. So be sure to snugly hold your eye on the eye-cup to prevent any extraneous light from entering. When shooting without the viewfinder, as in the case of the Self-timer or remote control mode, close the Eye-piece Shutter to eliminate all extraneous light.
- When the Self-timer is used with the finder in the "A" position, the exposure will be determined an instant before the shutter goes off.

When the Self-timer is used with the finder in the "AEL" position, the exposure will be determined by light conditions an instant before the Self-timer was activated.

- The electric contacts located on the front and lower parts of the view-finder are very important for transmitting data used for AE metering. In order to ensure correct AE finder functioning, make sure that all contacts are kept clean. Before attaching the finder, always clean the surfaces of these contacts using a soft clean cloth.
- When the camera is not in use, turn the Shutter Release Selector to the Red Dot or "OFF" position. The Shutter Release Button will then be locked to prevent accidental release. Also be sure to turn the Operating Indicator on the Power Drive Grip WG401 to "OFF".

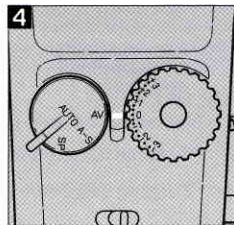
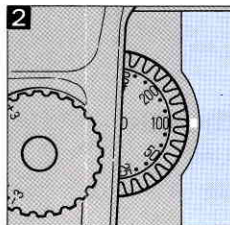
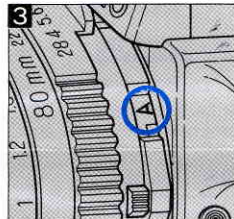
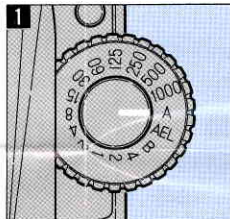
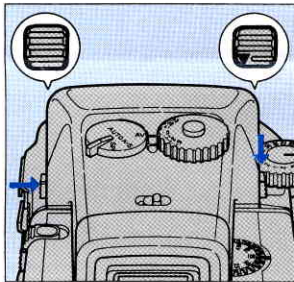
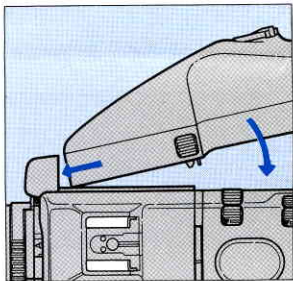
## Hints on Selecting the Metering Mode

**1.** Use the Average Metering Mode when you wish to silhouette a subject against back light.

**2.** If the Average Metering Mode is used for photographing a subject indoors by a bright window or a subject outdoors against a bright sky or snowscape, the bright background will unduly affect the meter reading, resulting in underexposure. Under these conditions, change the mode to Spot Metering which will eliminate adverse background influence and assure accurate exposures.

If the most important area of photo is not in the center of the composition, set the Shutter Speed Dial to the "AEL" (AE Lock) mode and lock the metering value in the center. Now you can select the desired metering mode. (See "AE" Lock)

**3.** In the Auto-shift Mode, if the area read by the spot meter is more than 1 1/2 stops darker than the area read by average metering, the Spot Metering Mode is automatically selected. When the area read by the spot meter is approximately the same value as, or brighter than, that by average metering, the Average Metering Mode is automatically selected. When the area read by the spot meter is 3/4 to 1 1/2 stops darker than that read by average metering, the AE Prism Finder automatically selects proper intermediate exposure value, offering the equivalent of a center-weighted reading. At this time, both "AV" and "SP" will illuminate in the viewfinder.



Wechseln der Sucher

AE撮影時の中間秒時 (☆中間秒時はファインダー内にはLED表示されません)

**Intermediate Speeds (Reference)** (No LED display in the view-finder)

**Zwischenzeiten (Referenz)** (Keine LED-Anzeige im Sucher)

**Vitesses intermédiaires** (pas d'affichage dans le viseur)

シャッタースピード Shutter Speed Verschlußzeit Vitesse d'exposition	中間秒時 Intermediate Speed Zwischenzeit Vitesse intermédiaire	シャッタースピード Shutter Speed Verschlußzeit Vitesse d'exposition	中間秒時 Intermediate Speed Zwischenzeit Vitesse intermédiaire
1/1000 sec (s)		1/30 sec	
	1/720 sec		1/22sec
1/500 sec		1/15 sec	
	1/360sec		1/11sec
1/250 sec		1/8 sec	
	1/180sec		1/5.6sec
1/125 sec		1/4 sec	
	1/90sec		1/2.8sec
1/60 sec		1/2 sec	
	1/45sec		1/1.4sec
1/30 sec		1 sec	

