

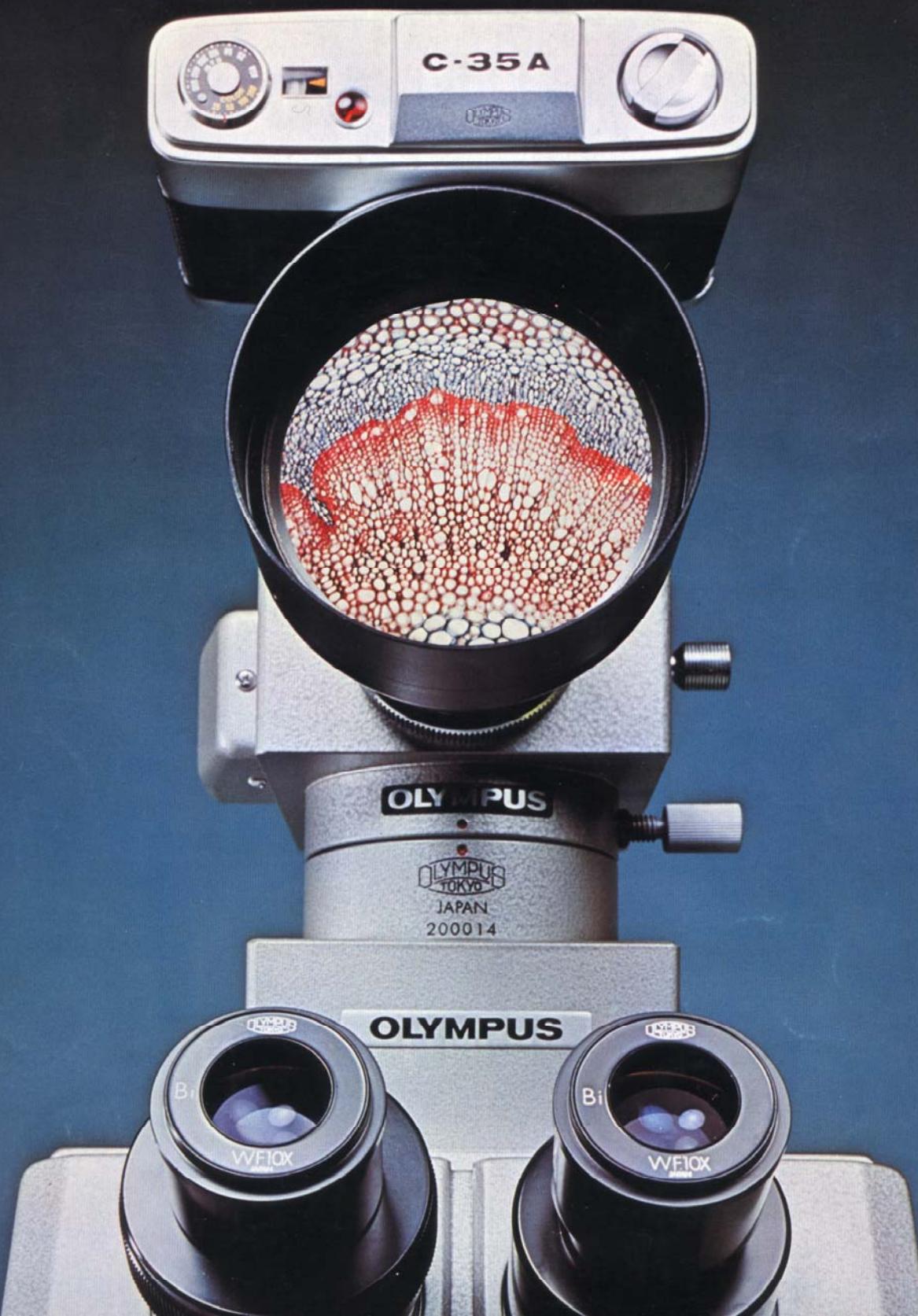


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OLYMPUS PHOTOMICROGRAPHIC SYSTEM CAMERA

PM-10

MODEL



Depending on the scientist's preference or requirements in routine or research photomicrography, the Olympus Photomicrographic System Camera PM-10 combines the features and advantages of many separate conventional attachment cameras, ranging from the 35mm camera back to 4"×5" Polaroid® film holder. The PM-10 system consists of two basic units - a fully automatic version "PM-10-A" and a popular manual version "PM-10-M". The modular design concept of the system camera permits easy interchangeability of many accessories.

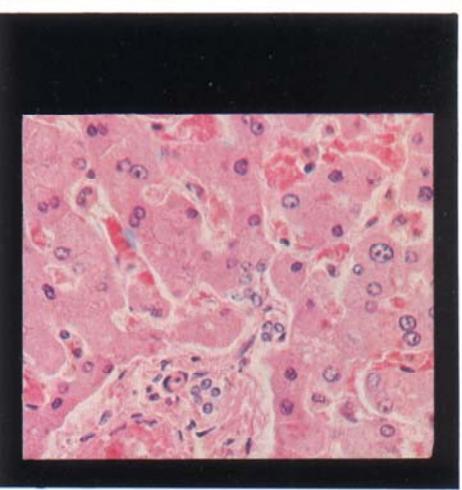
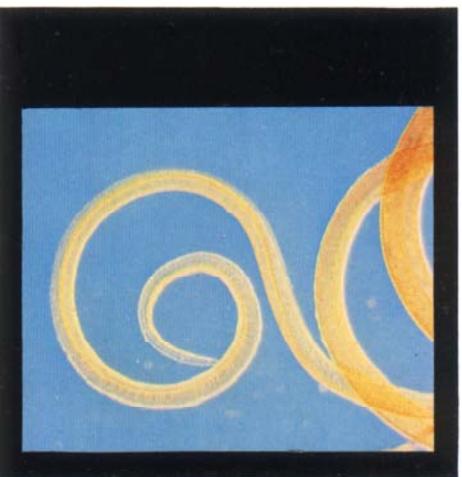
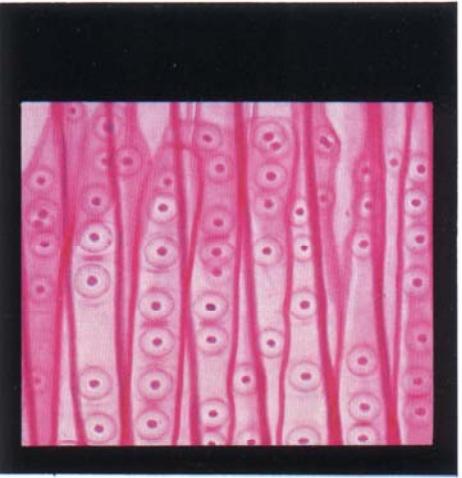
When these modular accessories are attached to the automatic or manual photomicrographic body in accordance with your requirements, sharply focused pictures on standard 35mm film, 3½"×4¼" or 4"×5" size films can easily be obtained. A choice of several focusing telescopes facilitates correct focusing at any desired magnification.

Special camera adapters are available for several single reflex cameras.

The versatility of the PM-10 can be obtained in an economical way, because all components, standard or optional, are reasonably priced. The selection of optional accessories is entirely up to your specifications. You can equip the camera system strictly in accordance with your budget and add more accessories at a later time.

The fully automatic photomicrographic unit incorporates an automatic exposure control device for exposures from 1/100 second to 32 minutes, with automatic compensation for reciprocity failure over a wide range of exposure times, and automatic film advance by a built-in motor.

The newly designed photo eyepieces "FK" are exceptionally well suited for the PM-10 system. Each of them is computed to correct all aberrations at the image magnifications of your choice.



● PM-10-A

Automatically determines correct exposure time and advances film after each exposure. The built-in CdS meter reads light directly through the photographic eyepiece tube and selects correct exposure between 1/100 second and 32 minutes for black-and-white or color films of any speed from 6 to 3200 ASA, automatically compensating for reciprocity failure.

1. Electric shutter release button

The electric shutter release button is integrated to completely eliminate shutter vibration.

2. Automatic film advance

After each exposure, the film is advanced automatically by one frame by means of a built-in motor. A pilot light is on during film transport. A warning light (red light) indicates that the entire roll of film is exposed.

3. Data Imprinting 35mm Camera Backs Model C-35A

The Model C-35A can easily be attached on the PM-10-A exposure body. Once in place, the back facilitates imprinting information such as numbers, alphabets, etc. into the picture simultaneously with shutter release.

4. Very fine regulation of ASA sensitivity

Usually photomicrography is performed under different conditions compared with normal photography, because of a wide range of illumination problems encountered in photomicrography. The PM-10-A solved these problems by furnishing a fine regulation device for ASA speeds which permits fine adjustment of the ASA film speeds in 4 increments.

5. Color temperature regulation

The PM-10-A incorporates a unique color temperature metering and regulating (CTR) system to balance the color temperature of the light source with the color temperature of the film.

6. The modular system permits rapid interchange of 35mm, $3\frac{1}{4}'' \times 4\frac{1}{4}''$ and $4'' \times 5''$ film sizes.

7. Interchangeable focusing telescopes and focusing magnifiers

Several interchangeable focusing accessories are provided. They include the screen viewer, focusing telescope, turret mask focusing telescope, low power magnifier, etc. for both micrographs and macrographs.

● PM-10-M

This is a manual photomicrographic equipment. The bayonet mount permits convenient and rapid interchange of camera backs for black-and-white and color work. The shutter release button is integrated to eliminate shutter vibration completely. The optical path selector control can be adjusted to transmit all light to the observation eyepieces for light level observation of dim specimens (polarized light, fluorescent light, etc.). A light measuring port is provided to accept the Photomicrographic Exposure Meter Model EMM-VI to obtain exact exposure time, if desired.

1. The two camera backs provided are interchangeable even when they are loaded, because the films are completely protected from accidental light leaks when changing backs, by a light excluding shutter built into the camera backs.

2. These two camera backs are the Model C-35 provided with data imprinting facilities which enable the user to imprint information such as numbers, alphabets, etc. into the picture simultaneously with shutter release.

3. Light path selection

A three position light path selector knob can be set to pass all the light into the observation eyepieces, all the light into the photo tube for photography, or 80% of the light to the camera and 20% to the observation eyepieces for simultaneous viewing and photography. The Olympus Photomicrographic Exposure Meter Model EMM-VI can easily be attached for quick determination of accurate exposure times.

4. A wide choice of large format camera attachments, $3\frac{1}{4}'' \times 4\frac{1}{4}''$ Polaroid Film Holder and $4'' \times 5''$ Film Holders assure photomicrographs of excellent resolution and contrast for instant study, contact printing or color slides, etc.

5. Interchangeable focusing telescopes and focusing magnifiers.

Several interchangeable focusing accessories are provided. They include the screen viewer, focusing telescope, turret mask focusing telescope, low power magnifier, etc. for both sharply-focused micrographs and macrographs.



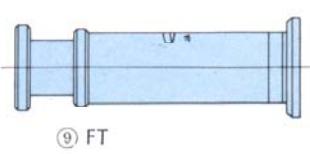
● System Chart of Modular Camera Units

- | | | |
|---|--|--|
| 1 4"×5" Intermediate Adapter (for 4"×5" Polaroid film back, Graphic film holder, Graphic film pack holder, Graphic sheet film holder) (PM-C4×5) | 4 35mm Camera Back with Automatic Film Advance (C-35A) | 7 Adapter for 35mm Camera Back with Automatic Film Advance (PM-D35A) |
| 2 3½"×4¼" Polaroid Back (PM-CP) | 5 Adapter with Relay Lens for Large Format Backs (PM-DL) | 8 Control Unit for Fully Automatic 35mm Camera Back (PM-CBA) |
| 3 35mm Camera Back with Manual Film Advance (C-35) | 6 Adapter for 35mm Camera Back with Manual Film Advance (PM-D35) | 9 Focusing Magnifier (FT) |
| | | 10 Focusing Telescope (PM-VS) |
| | | 11 Manual Exposure Body (PM-PBM) |

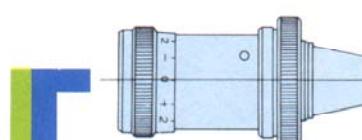
19 PM-10 Photographic Stand (PM-PSS)
This stand is specially designed to support the PM-10 system for large format Photomicrography.



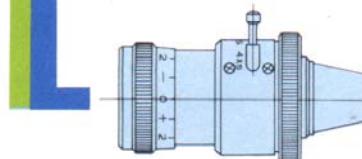
20 35mm Camera Back with data imprinting facilities



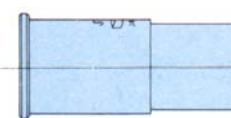
⑨ FT



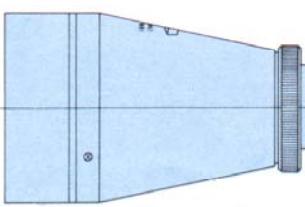
⑩ PM-VS



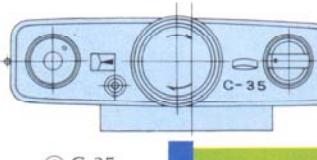
⑪ PM-VTM



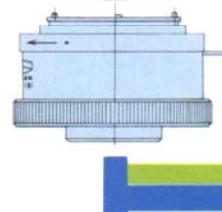
⑫ 5× LP



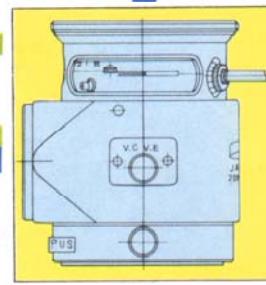
⑬ PM-VSC



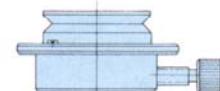
④ C-35



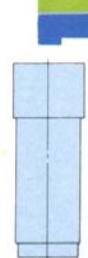
⑤ PM-D35



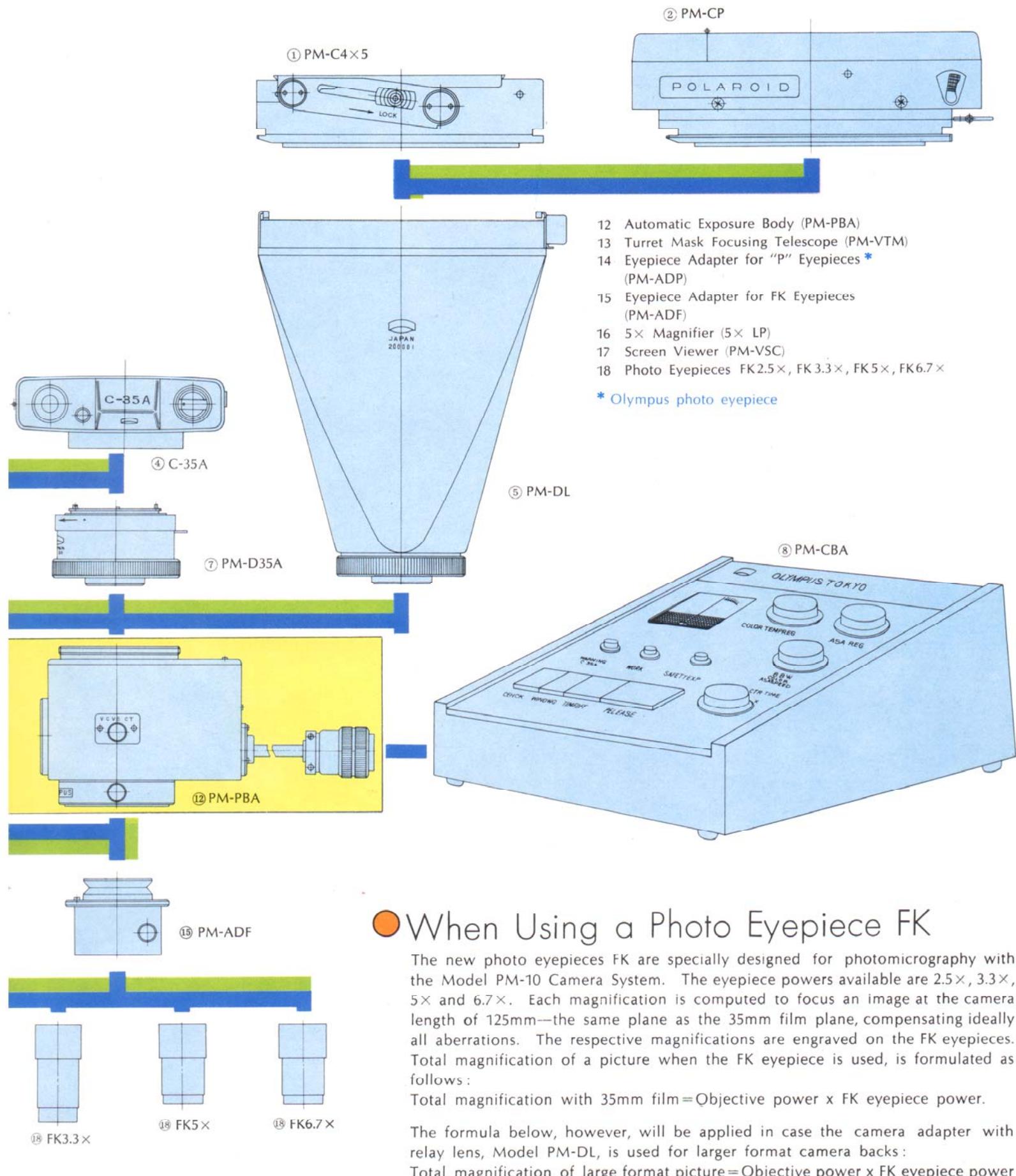
⑥ PM-PBM



⑦ PM-ADP



⑧ FK2.5×



When Using a Photo Eyepiece FK

The new photo eyepieces FK are specially designed for photomicrography with the Model PM-10 Camera System. The eyepiece powers available are 2.5×, 3.3×, 5× and 6.7×. Each magnification is computed to focus an image at the camera length of 125mm—the same plane as the 35mm film plane, compensating ideally all aberrations. The respective magnifications are engraved on the FK eyepieces. Total magnification of a picture when the FK eyepiece is used, is formulated as follows:

Total magnification with 35mm film = Objective power × FK eyepiece power.

The formula below, however, will be applied in case the camera adapter with relay lens, Model PM-DL, is used for larger format camera backs:

Total magnification of large format picture = Objective power × FK eyepiece power × 3.

● PM-10-35A

*Main Features of
PM-10-A Are
Automatic Systems
and Various
Magnifications at the
Film Plane.
Three Combinations of
Photomicrographic
Equipment Are
Available According
to Your Own
Requirements.*

This 35mm camera combination permits automatic exposure and automatic film advance. The electric shutter release button is integrated to eliminate shutter vibration completely.

When the FK photo eyepieces are used:

Total magnification=Objective power x FK eyepiece power.

When the P eyepieces are used:

Total magnification=Objective power x eyepiece power x about 0.5



● PM-10-L1A

This unit combines a 4"×5" holder with the automatic exposure, and electric shutter release button control system to provide the largest available Polaroid prints or conventional sheet films of the same size with a minimum of effort and time.

When the FK eyepieces are used :

Total magnification=Objective power x FK eyepiece power x 3

When the P eyepieces are used :

Total magnification=Objective power x eyepiece power x about 1.5



● PM-10-L2A

The 3½"×4¼" Polaroid Holder is combined with the automatic exposure and electric shutter release button control system to produce black and white or color prints within less than a minute for immediate study. High-speed ASA 3,200 black and white film permits short exposures of even the darkest living specimens. Takes Polaroid film packs.

The 3½"×4¼" Polaroid Back combined with the FK eyepiece renders a total magnification of 3× the product of objective power x FK eyepiece power.

With the P eyepieces :

Total magnification=Objective power x eyepiece power x about 1.5

*PM-10-M Is
a Manual Version of
PM-10.
Its Choice from
These Combinations
Is Up To
Your Need.*

● PM-10-35M

When the FK photo eyepieces are used:
Total magnification=Objective power x FK eyepiece
power.

When the P eyepieces are used:
Total magnification=Objective power x eyepiece
power x about 0.5

The Photomicrographic Exposure Meter Model EMM-
VI is available for easier determination of correct ex-
posure and color temperature.



● PM-10-L1M

This 4"×5" Holder combination accepts any 4"×5" camera back.

When the FK eyepieces are used:

Total magnification=Objective power x FK eyepiece
x 3

When the P eyepieces are used:

Total magnification=Objective power x eyepiece
power x about 1.5

The Photomicrographic Exposure Meter Model EMM-VI can be used for correct determination of exposure and color temperature.



● PM-10-L2M

The 3½"×4½" Polaroid Back combined with the FK eyepiece renders a total magnification of 3× the product of objective power x FK eyepiece power.

With the P eyepieces:

Total magnification=Objective power x eyepiece
power x about 1.5

The Photomicrographic Exposure Meter Model EMM-VI is also usable.



Universal Research Microscope Model VANOX Combined with PM-10-A

The PM-10 is uniquely qualified to be used with the Universal Research Microscope Model VANOX for routine and advanced photomicrography under vari-

ous illumination systems.

It needs no connecting adapter nor focusing telescope for use with the VANOX.



Photomicrograph



1. Green mold

Objective : 40×, Eyepiece
Shutter speed : 1/5 sec.
Film speed : ASA 64

2. Human blood

Objective : 40×, Eyepiece
Shutter speed : 1/2 sec.
Film speed : ASA 64

3. Biotite-granite

Objective : 10×, Eyepiece
Shutter speed : 5 sec.
Film speed : ASA 100

4. Dead eggs of pine acridine-orange)*

Objective : 40×, Eyepiece
Exciting filter : BG 3 and
Barrier filter : FY 4 (Iwai)
Shutter speed : 45 sec.

Film speed : ASA 100

5. Cardiac muscle

Objective : 10×, Eyepiece
Shutter speed : 1/10 sec.
Film speed : ASA 64

Combinations of PM-10 Components

	PM-10-	35A	L1A	L2A	35M	L1M	L2M
Automatic Exposure Body	PM-PBA	●	●	●			
Manual Exposure Body	PM-PBM				●	●	●
Adapter for 35mm Camera Back with Automatic Film Advance	PM-D35A	●					
Adapter for 35mm Camera Back with Manual Film Advance	PM-D35				●		
35mm Camera Back with Automatic Film Advance	C-35A	●					
35mm Camera Back with Manual Film Advance	C-35				●		
Control Unit for Fully Automatic 35mm Camera Back	PM-CBA	●	●	●			
Eyepiece Adapter for FK Eyepieces	PM-ADF	●	●	●	●	●	●
Eyepiece Adapter for "P" Eyepieces	PM-ADP	●	●	●	●	●	●
Adapter with Relay Lens for Large Format Back	PM-DL		●	●		●	●
3½"×4¼" Polaroid Back	PM-CP			●			●
4"×5" Intermediate Adapter (for 4"×5" Polaroid film back, Graphmatic film holder, Graphic film pack holder, Graphic sheet film holder)	PM-C4×5		●			●	
Turret Mask Focusing Telescope	PM-VTM	●	●	●			
Focusing Telescope	PM-VS				●	●	●
Focusing Magnifier	FT	●	●	●	●	●	●
Screen Viewer	PM-VSC						
5× Magnifier	5×LP						
Photo Eyepieces							
FK 2.5×							
FK 3.3×							
FK 5×							
FK 6.7×							
Color Temperature Compensation Filters		LB 45	●	●	●		
		43LBD-W45	●	●	●		
Neutral Density Filters		ND 6	●	●	●		
		ND 12	●	●	●		
		ND 50	●	●	●		
Orthochromatic Filters Green Yellow		G-533					
		Y-48					
PM-10 Photographic Stand		PM-PSS					



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As we are continually improving and developing our products, the equipment supplied may not agree in all details with the descriptions and/or illustrations shown in this catalog.

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