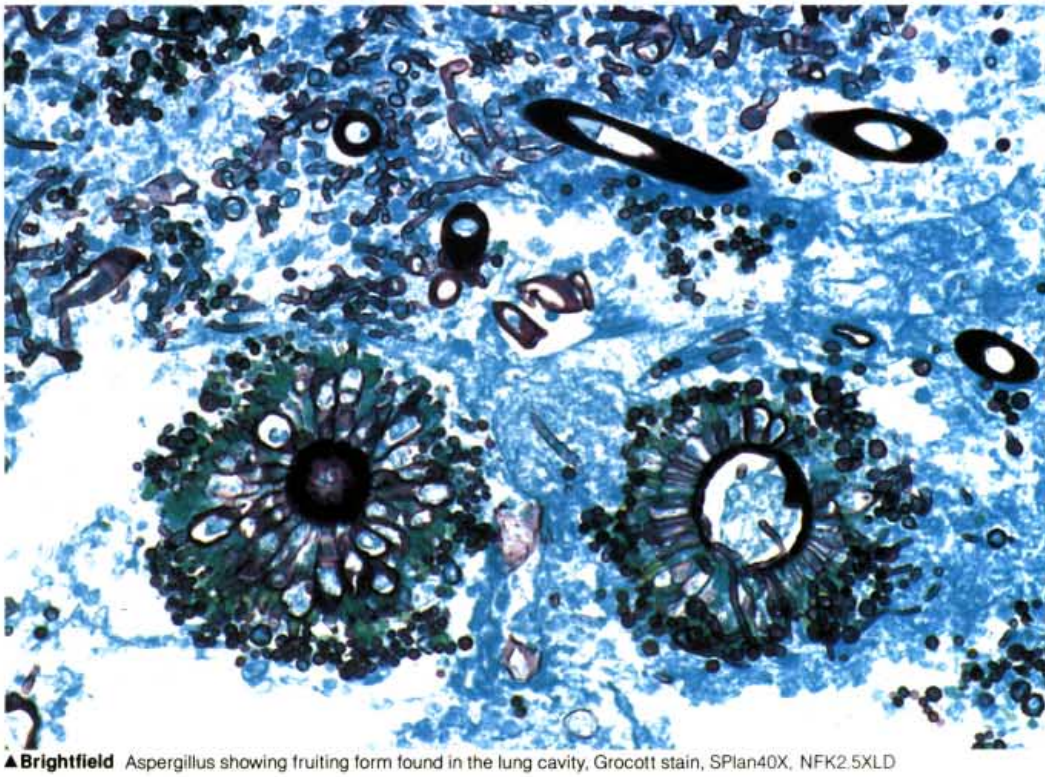
# OLYMPUS®

## PHOTOMICROGRAPHIC SYSTEMS

# Simple, Efficient Operation For Higher-Quality Photomicrography

*Olympus offers a wide array of photomicrographic systems, ranging from sophisticated, top-of-the-line models that yield superb photomicrographs with all photomicrographic techniques and under every photographic condition, to the easy-to-operate models that are highly cost effective. Modular component design allows these Olympus Photomicrographic Systems to be used for a variety of film sizes and emulsions, in combination with all models of Olympus microscopes. Thus, Olympus Photomicrographic Systems can cope with a wide diversity of photomicrographic needs. Olympus Photomicrographic Systems simplify the intricate and complex photomicrographic tasks that normally require professional techniques and experience, to a point where easy and faultless operation is possible by anyone.*



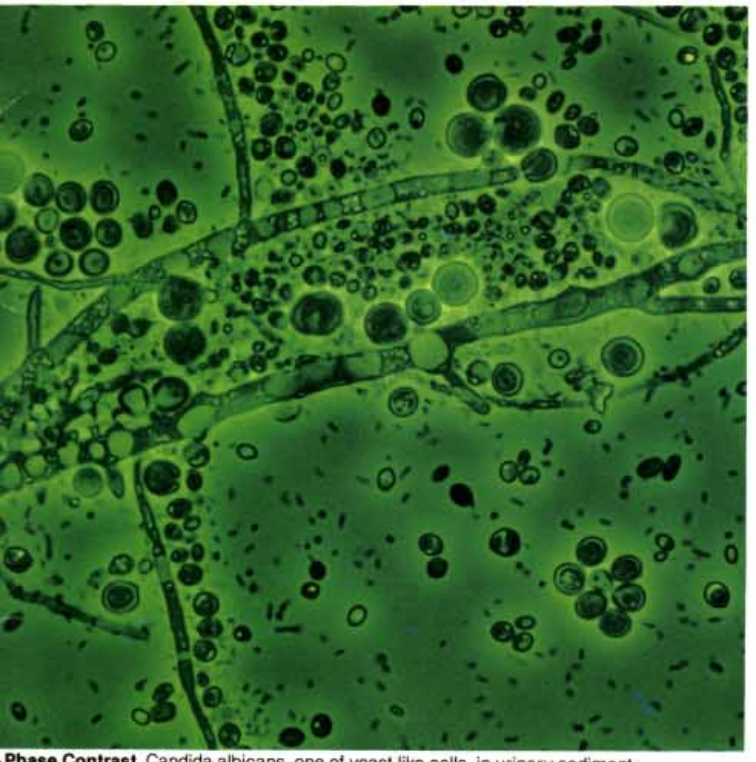
▲**Brightfield** Aspergillus showing fruiting form found in the lung cavity, Grocott stain, SPlan40X, NFK2.5XLD

▲**Brightfield** The human ovarium, H•E Stain, SPlan40X, NFK2.5XLD

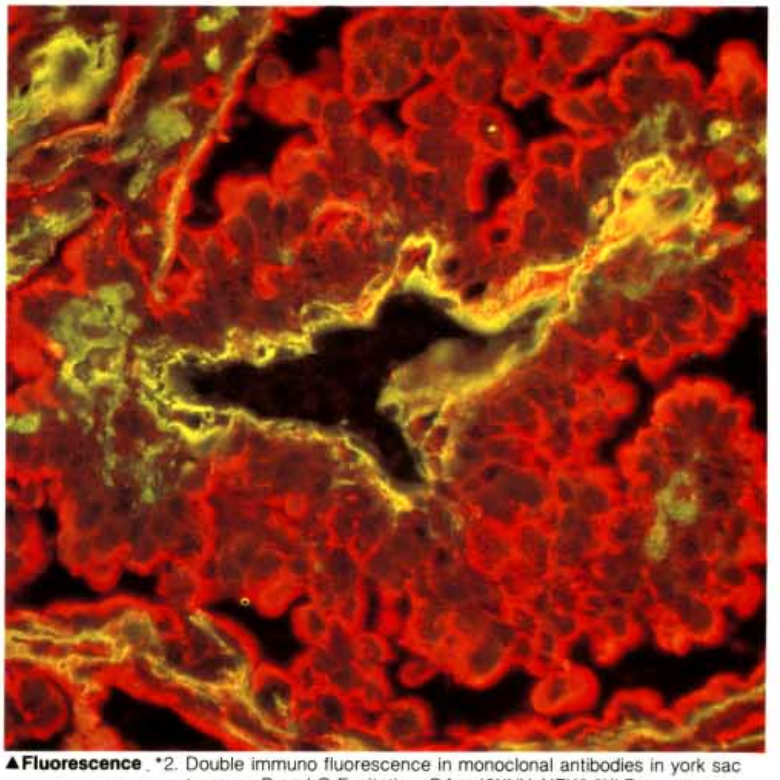
*1. Courtesy of Dr. Shinji Kamimura, Department of Biology, College of Arts and Sciences, University of Tokyo

*2. Courtesy of Dr. Junichi Hata and Dr. Junichiro Fujimoto, Department of Phathology, National Children's Medical Reseach Center

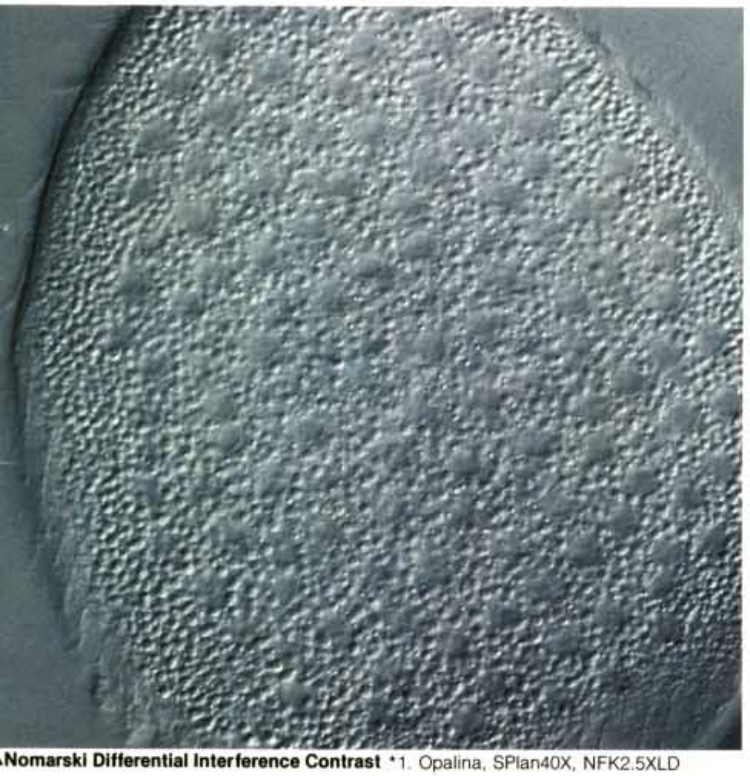
*3. Courtesy of Mr. Johbu Itoh, Cell Biology Research Laboratory, School of Medicine, Tokai University



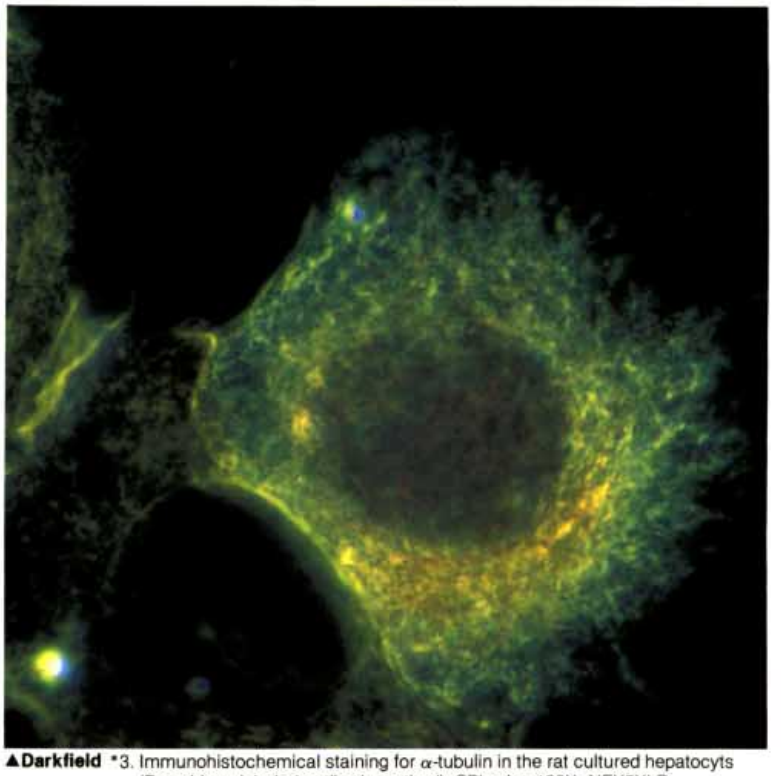
▲**Phase Contrast** Candida albicans, one of yeast-like cells, in urinary sediment, PCSPlan40XNH, NFK3.3XLD



▲**Fluorescence** *2. Double immuno fluorescence in monoclonal antibodies in york sac tummor, B and G Excitation, DApo40XUV, NFK3.3XLD



▲**Nomarski Differential Interference Contrast** *1. Opalina, SPlan40X, NFK2.5XLD



▲**Darkfield** *3. Immunohistochemical staining for $\alpha$-tubulin in the rat cultured hepatocyts (Peroxidase-labeled antibody method), SPlanApo100X, NFK5XLD

# Automatic Photomicrographic Systems PM-10ADS, PM-10AD

**Advanced Systems Allow Superb Photomicrography — Easily and under Any Photographic Conditions**

The Models PM-10ADS and PM-10AD feature a built-in microcomputer control that automates much of the complex operational techniques that depend on the skill and experience of the operator in conventional systems. Other state-of-the-art features include a Silicon Blue Cell (SBC) photo sensor with improved sensitivity and a real-time light measuring system. The typical reciprocity failure characteristics inherent in various types of film are stored in the microcomputer, enabling these systems to correct for sensitivity losses during long exposures. In addition, exposure adjustments can be made to match the sample's brightness distribution, resulting in highly accurate automatic exposure control, regardless of any changes in photographic conditions. Other diverse functions include panoramic photomicrography with an Auto Exposure (AE) lock, multiple exposure photomicrography, 16mm cine camera compatibility, and simple, precise color temperature measurement.

PM-10ADS + BHS

PM-10ADS Specifications

| | | |
|---|---|---|
| ISO setting | | 3 — 4,000 (35mm), 25 — 25,600 (large format) |
| Exposure adjustment range | | 0.25× — 4× in increments of 1/3 stops |
| Reciprocity failure correction | | Stored in the microcomputer, 8 channel dial settings |
| Automatic exposure lock | | Estimated or previous actual exposure time can be locked |
| LED display | | Indicates estimated exposure time, time remaining to complete exposure, and actual exposure time. Recall of the previous actual exposure time is possible |
| Over-or underexposure warning | | Safety light and beeper |
| Measuring area (on 35mm film frame) | | 1% spot measurement / 30% average measurement |
| Light path selection | CVE mode | Camera 64%, focusing telescope 16%, exposure meter 20% |
| | CE mode | Camera 80%, exposure meter 20% |
| | VCT mode | Focusing telescope 80%, color temperature module 20% |
| 35mm camera back | | Automatic film advance, film counter, built-in light excluding shutter. Accepts OM System Recordata Backs |
| 3-1/4″ × 4-1/4″ Polaroid back | | Film recommended; Type 669 (color, ISO 80), Type 667 (B & W, ISO 3000) |
| 4″ × 5″ intermediate adapter | | Accepts 4″ × 5″ sheet film holders or film packs (commercially available) |

PM-10AD+SZH

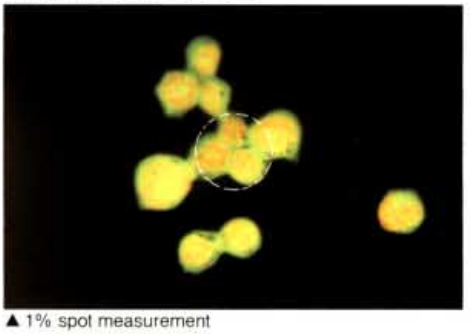
PM-10AD Specifications

| | | |
|---|---|---|
| ISO setting | | 1.5 — 25,600 (35mm), 6 — 25,600 (large format) |
| Exposure adjustment range | | 0.25× — 4× in increments of 1/3 stops |
| Reciprocity failure correction | | Stored in the microcomputer, 8 channel dial settings |
| Automatic exposure lock | | Estimated or previous actual exposure time can be locked |
| LED display | | Indicates estimated exposure time, time remaining to complete exposure, and actual exposure time. Recall of the previous actual exposure time is possible |
| Over-or underexposure warning | | Safety light and beeper |
| Measuring area (on 35mm film frame) | | 60% average measurement |
| Light path selection | CVE mode | Camera 64%, focusing telescope 16%, exposure meter 20% |
| | CE mode | Camera 80%, exposure meter 20% |
| | VCT mode | Focusing telescope 80%, color temperature module 20% |
| 35mm camera back | | Automatic film advance, film counter, built-in light excluding shutter. Accepts OM System Recordata Backs |
| 3-1/4″ × 4-1/4″ Polaroid back | | Film recommended; Type 669 (color, ISO 80), Type 667 (B & W, ISO 3000) |
| 4″ × 5″ intermediate adapter | | Accepts 4″ × 5″ sheet film holders or film packs (commercially available) |

**PM-10ADS**

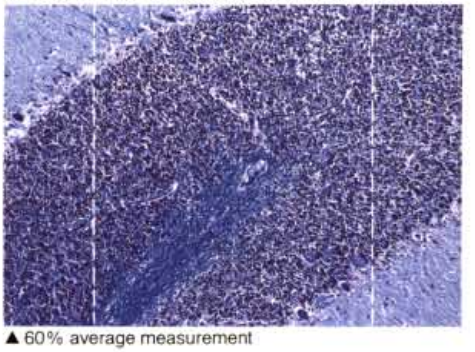
Measuring area selection, varying between spot measurement (1% of a 35mm film frame) and average measurement (30% of a 35mm film frame) adjusted by a knob on the side panel of the automatic exposure body. The built-in spot measurement capability provides optimum exposure easily, even under widely varying lighting conditions, as is often experienced when fluorescence or darkfield techniques are used.

▲ 30% average measurement


▲ 1% spot measurement

**PM-10AD**

The PM-10AD features a 60% average light measurement; its other functions are essentially identical to those of the PM-10ADS.


▲ 60% average measurement

# Sophisticated Photomicrographic Systems Incorporate All Necessary Functions

**① 35mm Camera Back with Automatic Film Advance**

The motorized film advance eliminates the need for manual winding, while preventing double exposure. OM System Recordata Backs can be mounted on the camera back.

**② Light-Excluding Shutter**

When the 35mm camera back is detached, this shutter automatically closes, thus preventing the film from being exposed to ambient light.

**③ S.B.C. Photo Sensor**

An extremely stable Silicon Blue Cell (SBC) boasts improved response and sensitivity, permitting accurate measurement even at low light levels or with rapid changes in illumination intensity.

**④ Contactless Electromagnetic Shutter**

Vibration-free design prevents unwanted shutter movement from being transmitted to the photomicrographic image plane, especially significant during high-magnification photomicrography.

**⑤ Three-Position Color Coded Ligh Path Selector**

Depending on specimen brightness and operator selection, the following three positions of the light path selector prisms are possible.

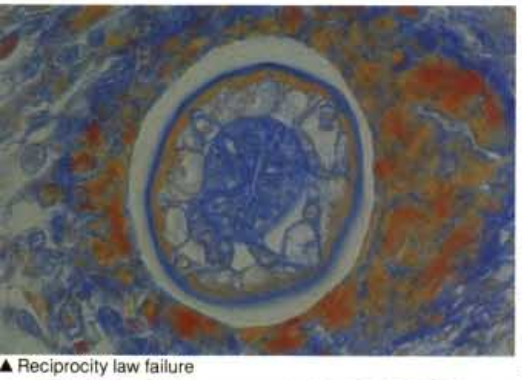
- CE mode (white)
  Camera: 80%, exposure meter: 20%
- CVE mode (green)
  Camera: 64%, Focusing telescope: 16%, Exposure meter: 20%
- VCT mode (yellow)
  Focusing telescope: 80%, Color temperature module: 20%

**⑥ One-Touch Measuring Area Selector (PM-10ADS Only)**

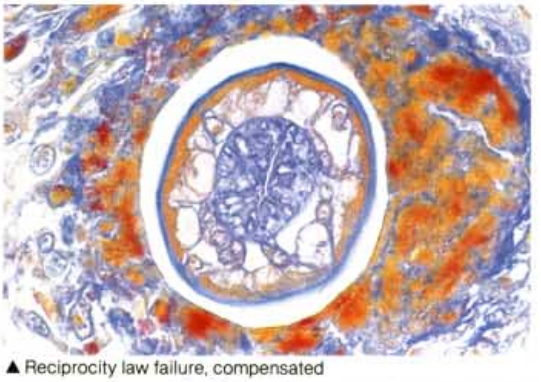
Yellow (out): 1% spot measurement
Green (in): 30% average measurement

**⑦ Automatic Correction of Reciprocity Failure Characteristics**

During long-term exposure, any type of film can experience exposure difficulty due to inherent reciprocity failure characteristics. The PM-10ADS and PM-10AD store every popular film's reciprocity failure characteristics to ensure automatic exposure adjustment. Simply set the Reciprocity Correction Dial to match the film being used.



▲ Reciprocity law failure



▲ Reciprocity law failure, compensated

▲ Panoramic photography

▲ Multiple exposure photography

**⑧ LED Digital Display**
The PM-10ADS and PM-10AD digitally display the estimated exposure time, time remaining to complete the exposure, and the actual exposure time. Other digital displays include exposure compensation according to sample's brightness distribution, correction of the film's reciprocity failure characteristics, ISO settings, and film size.

**⑨ Real-Time Measuring System**
In addition to an LED display that digitally indicates estimated film exposure time, the PM-10ADS and PM-10AD units automatically correct the exposure time while measuring light intensity on a real-time basis. This eliminates the effects of variable photographic conditions and results in optimum exposure.

**⑩ AE Lock (Auto Exposure Lock)**
Another advantage of the built-in microcomputer is the AE lock capability which stores and locks the exposure time. This feature is especially useful when performing panoramic photomicrography with uniform background tone. This capability also permits framing as desired during spot measurement. If the specimen being measured is not in the center of the field, first move the specimen to the center, engage the AE lock, and then return the specimen to its original position before taking the photomicrograph.

**⑪ Multiple Exposure 35mm Photomicrography (PM-10ADS only)**
As many exposures as desired can be made on one frame, a feature especially convenient for recording the behavior of microorganisms, or for photomicrography of double-stained fluorescent specimens.

**⑫ Exposure Correction**
To obtain highest quality, perfectly exposed photomicrographs, exposure adjustments can be made depending on the characteristics of the specimen, by changing the effective film speed from 0.25 times to 4 times the nominal value, in 1/3 stop increments.

**⑬ Recall of Previous Exposure Time**
Pressing the Time Recall Button allows you to recall the previous frame's exposure time. This feature provides extra convenience when recording and classifying data.

## *Accessories for PM-10ADS/ PM-10AD systems*

**PM-IV Time Lapse Control Unit**
Using the PM-IV in conjunction with the PM-CBAD automatic exposure control unit makes fully automatic time-lapse photography possible. In addition to time-lapse photography with a 35mm camera, time lapse filming with a 16mm cine camera can be achieved by means of the PM-MD motor drive unit. The "on-off" switch of microscope light source can be synchronized for time lapse photography, protecting live cells from light-induced damage. The PM-IV is essential for the photomicrographic study of tissue culture and cell material.

Specifications

| | |
|---|---|
| Time interval | 1 sec. — 99.9 hours |
| Timer | Quartz oscillation, accurate to ±1 second/day |
| LED Display | Time elapsed and number of frames taken during photomicrography |
| Frame Selection | 1 — 9,999 frames |

**PM-MD Motor Drive Unit**
The PM-MD is designed to drive a Bolex 16mm cine camera. Used together with a PM-IV time-lapse control unit, fully automatic time-lapse photography is possible. Applicable Bolex cameras include the H-16RX (with serial numbers 210601 and higher), H-16J, and H-16M (with serial numbers 214401 and higher).

**Accessories for 250 Film — 250 Film Back 1, 250 Film Magazine, PM-250AD Motor-driven Gear Adapter for 250 Film Back 1**
Attaching this equipment to a 35mm camera back allows continuous photomicrography of up to 250 frames.

16mm time lapse cinemicrographic system +IMT-2

Accessories for 250 film

PM-DL-W + PM-C4X5-W

PM-DL-W + PM-CP-W

PM-VSB

PM-FS

**PM-DL-W Adapter for Large-Format Backs**
Using the PM-DL-W adapter, a variety of large-format cameras can be employed in combination with the PM-10 Series photomicrographic system.

**PM-C4X5-W 4″ × 5″ Intermediate Adapter**
The PM-C4 × 5-W facilitates attachment of commercially available 4″ × 5″ sheet film holders or film packs.

**PM-CP-W 3-1/4″ × 4-1/4″ Polaroid Back**
With a 3-1/4″ × 4-1/4″ (95 × 73mm) frame size, the PM-CP-W is designed for use with Polaroid 668 color film and 667 monochrome film.

**PM-VSB Bright Frame Viewfinder**
Mounting the PM-VSB onto the automatic exposure body illuminates both the reticle line and the film format frame in the focusing telescope, thus facilitating focusing, spot measurement and framing, even when using a fluorescence microscope or darkfield illumination. Frame color can be switched between yellow and red, with adjustable brightness.

**PM-CTR Color Temperature Module**
(Standard Equipment except for PM-10AD-1)
The PM-CTR permits accurate measurement of color temperature, even at low levels of illumination. Color temperature adjustment, essential for good color photography, is thus facilitated by light source adjustment and the use of appropriate color conversion filters. The color temperature measurement range is from 2,500°K to 10,000°K.

**Recordata Back 2 and Recordata Back 4 Data Imprinting Backs**
By replacing the back of a 35mm camera body with a data imprinting back, data may be imprinted on the film surface.

**PM-FS Foot Switch**
As an alternative to finger pressure on the release button of the exposure control unit, the PM-FS permits foot-controlled, remote shutter operation.

*"Polaroid" is a trademark registered by the Polaroid Corporation, Cambridge, Mass, U.S.A.*

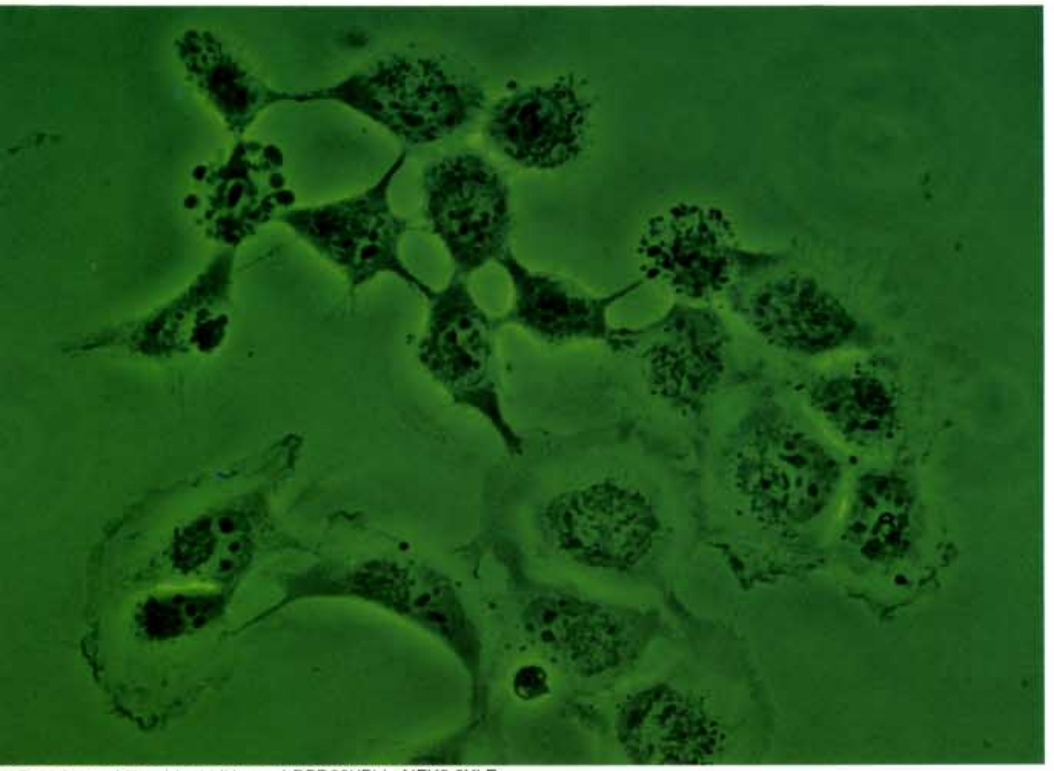
# Semi-Automatic Exposure Photomicrographic System PM-10AK

**Semi-Automatic Photomicrography with an Economical and Compact System**
The PM-10AK Semi-Automatic Exposure Photomicrographic System features 30% average measurement, with a selection of automatic film advance camera bodies. In addition, simplified control of a wide range of operations is possible by means of the buttons on the exposure control unit, and the exposure body side panel, where operation controls are clustered. Moreover, the PM-10AK compact exposure control unit is conveniently designed to occupy a minimum of desk space. Employing a combination of the Silicon Blue Cell (SBC) photo sensor and a real-time measuring system, the PM-10AK is able to measure exposure time with high precision. The PM-10AK's additional features include a 4-step estimated exposure time indicator plus an LED over- or underexposure warning with shutter locking function. Together, these features effectively prevent incorrect exposure adjustments. The newly-developed automatic shutter and the shutter release control on the control unit assure vibration-free operation.

PM-10AK+CK2

PM-10AK Specifications

| | | |
|---|---|---|
| Automatic exposure range | | 1/125sec. — over 4min. (35mm, ISO 100, exposure adjustment "1") |
| ISO setting | | 6 — 6,400 (35mm), 50 — 50,000 (large format) |
| Exposure adjustment range | | 0.5× — 4× in increments of 1/3 stops |
| LED display | | Estimated exposure time indicated in 4 ranges; 1/125sec. — 0.1sec., 0.1sec. — 1sec., 1sec. — 10sec., over 10 sec./Shutter operating mode/FILM END |
| Over-or underexposure warning | | Provided by flashing LEDs |
| Measuring area (on 35mm film frame) | | 30% average measurement |
| Distribution of light amounts | | Focusing telescope 20%, exposure meter 16%, camera 64% |
| 35mm camera back | with automatic film advance | Film counter, built-in light excluding shutter. Accepts OM System Recordata Backs |
| | with manual film advance | Film counter, built-in light excluding shutter. Accepts OM System Recordata Backs and a write-on plastic data strip |
| 3-1/4" × 4-1/4" Polaroid back | | Film recommended; Type 669 (color, ISO 80), Type 667 (B & W, ISO 3000) |
| 4" × 5" intermediate adapter | | Accepts 4" × 5" sheet film holders or film packs (commercially available) |



▲Transformed fibro blasts (Human) PCD20XPLL, NFK3.3XLD

**LED Displays**
Estimated exposure time is indicated in 4-step increments. Over- or underexposure, end of film, and shutter operating mode are also indicated by LED displays.

**Control Cluster on the Exposure Body**
A simple turn of the dial allows selection of settings for 35mm or large-format cameras, and of ISO film speeds. Exposure adjustment can be made by changing effective film speed from 0.5× to 4× the nominal value, in 1/3 stop increments.

**Vibration-Free Automatic Shutter**
Especially during high-magnification photomicrography, this shutter mechanism helps produce clearer pictures by eliminating unintentional camera movement caused by shutter vibration.

**Separate Control Unit**
For vibration-free operation, the camera shutter can be automatically activated from the separate control unit. Designed for comfortable hand-held use from almost any location, this compact unit includes a simple manual exposure over-ride among its capabilities.

**A Wide Selection of Camera Backs**
The PM-10AK accepts either an automatic film advance 35mm camera back or a manual film advance 35mm camera back, a 4″ × 5″ intermediate adapter, and 3-1/4″ × 4-1/4″ Polaroid back. The 35mm camera backs incorporate a light-excluding shutter that closes automatically when the camera back is detached to prevent light from leaking onto the film. For photo documentation, a convenient Recordata Back can be mounted on the PM-10AK (35mm camera back only).

**4″ × 5″ sheet film holder is not available through Olympus.*

**Standard Focusing Magnifier**
Attaching the focusing magnifier to the focusing telescope simplifies the difficult task of focusing in low power photography.

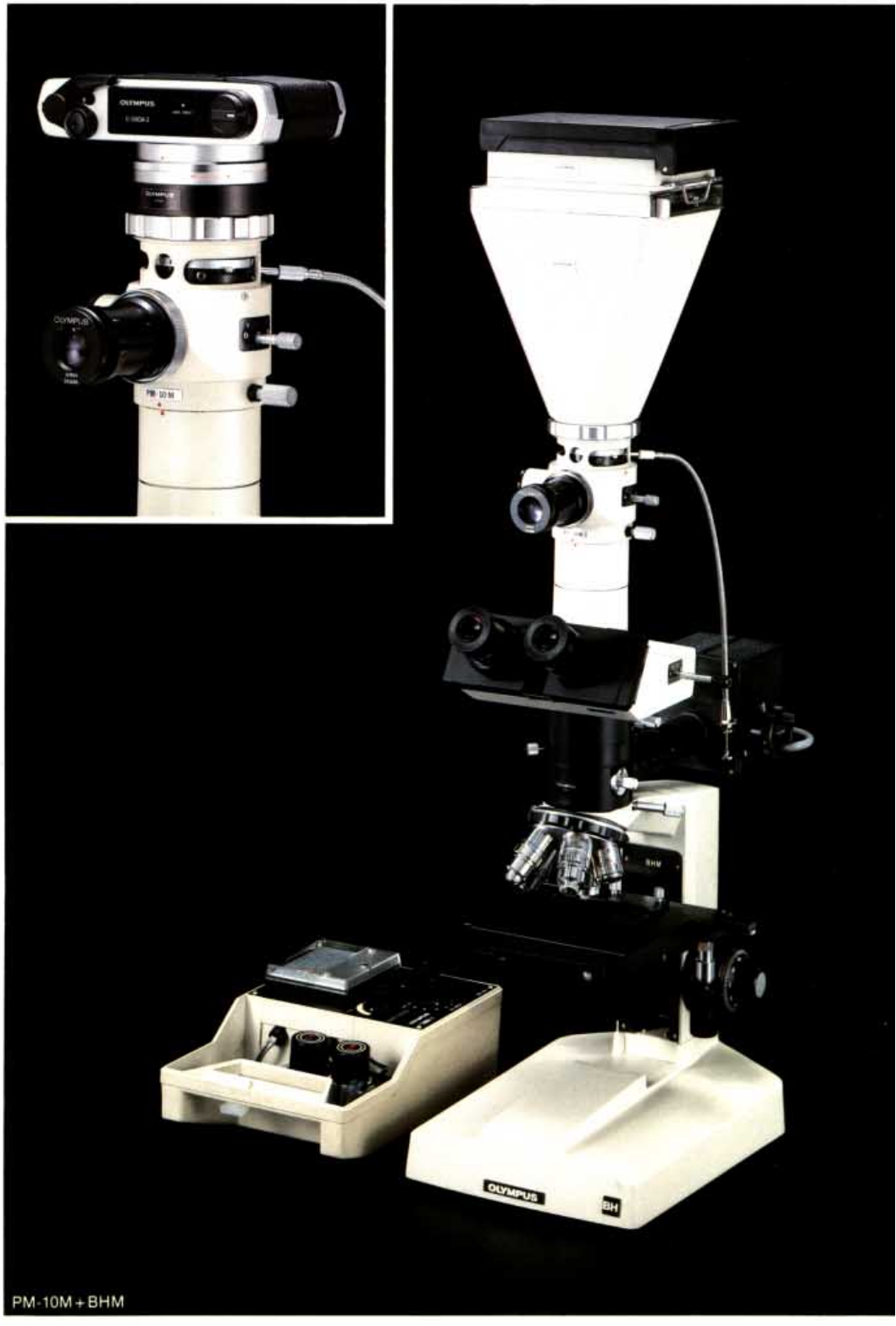
*"Polaroid" is a trademark registered by the Polaroid Corporation, Cambridge, Mass, U.S.A.*

# Manual Photomicrographic System PM-10M

**High-Performance Manual Photomicrographic System with the Versatility for Today's Diverse Research Applications**

Compact and easy to maneuver, the PM-10M's shutter incorporates a specially designed rubber cushion to dampen and prevent shutter vibration transmission. Attaching the EMM-7 photomicrographic exposure meter to the exposure body enables exposure and color temperature measurement to be performed easily and accurately. A three-way, color-coded optical path selector facilitates easy focusing as well as measurement of exposure and color temperature, even in the case of a dark specimen, thus ensuring optimum photomicrographic exposure frame after frame.

- The vibration-free shutter design ensures outstandingly sharp photomicrographs, even at high-magnifications.
  Shutter speeds: 1/250, 1/125, 1/60, 1/30, 1/15, 1/8, 1/4, 1/2, 1 sec., B
- The PM-10M accepts a 35mm camera back with manual film advance, 4″ × 5″ sheet film or 3-1/4″ × 4-1/4″ Polaroid films.
- The 3-way, color-coded optical path selector makes it possible to direct 100% of available light to the focusing telescope (for fluorescent and darkfield observation), 80% to the film and 20% to the focusing telescope (for photomicrography), or 100% to the exposure/photo meter (for measurement of exposure and color temperature).
- With the use of a Recordata Back or a write-on plastic data strip, data may be imprinted on the film surface.

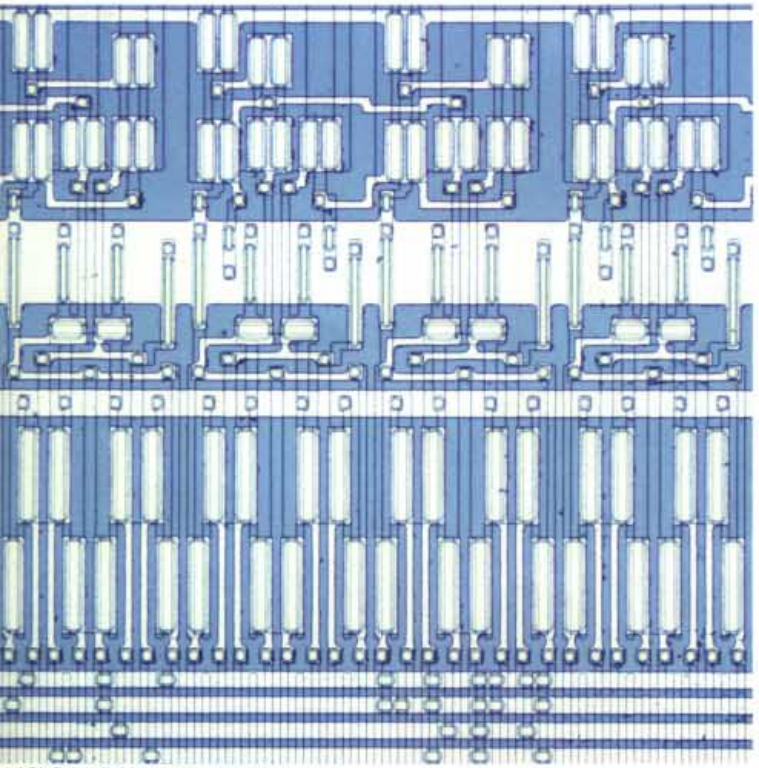



PM-10M + BHM

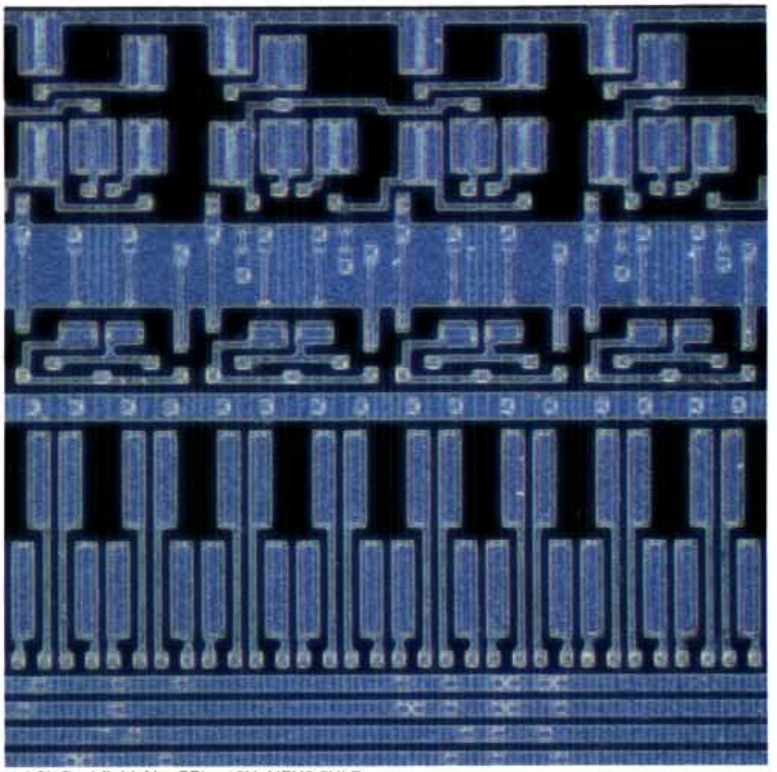
*"Polaroid" is a trademark registered by the Polaroid Corporation, Cambridge, Mass, U.S.A.*

▲ Silver brazing filter metal. Brazing structure. MSPlan20X, NFK2.5XLD

▲ High purity vanadium with grain-boundaries, Nomarski DIC, MSPlanApo50X, NFK2.5XLD



▲ LSI, Brightfield, MSPlan10X, NFK2.5XLD



▲ LSI, Darkfield, NeoSPlan10X, NFK2.5XLD

# 35mm Manual Photomicrographic Camera PM-6-8, BH2-PM-6-8

**Light and Compact 35mm Camera for Easy, Vibration-Free Operation**

The PM-6-8 and BH2-PM-6-8 cameras incorporate a special rubber cushion for smooth shutter operation without vibration. The EMM-7-2 exposure meter permits simple and dependable determination of exposure time and color temperature. The optical path splitting method employed is the same as with the PM-10M, and the PM-6-8 and BH2-PM-6-8's compact design allow them to be mounted even on small microscopes.

- With the use of a Recordata Back or a write-on plastic data strip, data may be imprinted on the film surface.
- Shutter speeds: 1/250, 1/125, 1/60, 1/30, 1/15, 1/8, 1/4, 1/2, 1 sec., B.
- The BH2-PM-6-8 comes standard with adapters for the BH2-TR30 Trinocular Tube. In other respects its specifications are identical to those of the PM-6-8.

PM-6-8+HSC

PM-6-8+VE

# Standard Outfits of Olympus Photomicrographic System

Standard Outfits of the PM-10ADS and PM-10AD

| Module | | PM10 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | -35ADS-2 | -L1ADS-2 | -L2ADS-2 | -35AD-1 | -L1AD-1 | -L2AD-1 | -35AD-2 | -L1AD-2 | -L2AD-2 | -16mmCine |
| Automatic Exposure Body | PM-PBSP | ○ | ○ | ○ | | | | | | | |
| | PM-PBS | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Automatic Exposure Control Unit | PM-CBSP | ○ | ○ | ○ | | | | | | | |
| | PM-CBAD | | | | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Power Cord (for Automatic Exposure Control Unit) | UYCP | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Adapter for 35mm Camera Back with Automatic Film Advance | PM-D35A | ○ | | | ○ | | | ○ | | | |
| Adapter for Large Format Film Back | PM-DL-W | | ○ | ○ | | ○ | ○ | | ○ | ○ | |
| 35mm Camera Back with Automatic Film Advance | C-35AD-4 | ○ | | | ○ | | | ○ | | | |
| 4″ × 5″ Intermediate Adapter | PM-C4X5-W | | ○ | | | ○ | | | ○ | | |
| 3-1/4″ × 4-1/4″ Polaroid Back | PM-CP-W | | | ○ | | | ○ | | | ○ | |
| Focusing Telescope | PM-VSP | ○ | ○ | ○ | | | | | | | |
| | PM-VS | | | | | | | | | | ○ |
| Turrent Mask Focusing Telescope | PM-VTM | | | | | | | ○ | ○ | ○ | |
| Focusing Magnifier | PM-FT-36 | ○ | ○ | ○ | | | | ○ | ○ | ○ | ○ |
| Adapter for FK Photo Eyepiece | PM-ADF | | | | | | | ○ | ○ | ○ | ○ |
| Adapter for P Photo Eyepiece | PM-ADP | | | | | | | ○ | ○ | ○ | |
| Color Temperature Module | PM-CTR | ○ | ○ | ○ | | | | ○ | ○ | ○ | ○ |
| Filter Set (Consisting of 45LBD2N, 45LBT-N, 43ND6-W45 and 43ND25-W45) | PM-FIL-C | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Time Lapse Control Unit (Including connecting cable UYKK13) | PM-IV | | | | | | | | | | ○ |
| Power Cord (for PM-IV) | UYCP | | | | | | | | | | ○ |
| Power Cord (to connect PM-IV and microscope stand) | UYCP11 | | | | | | | | | | ○ |
| Motor Drive Unit for 16mm Cine Camera (including connecting cable UYKK14) | PM-MD | | | | | | | | | | ○ |
| Cine Adapter | PM-D0.4X | | | | | | | | | | ○ |

Standard Outfits of the PM-10AK

| Module | | PM10AK | | | |
|---|---|---|---|---|---|
| | | -1 | -2 | -L1 | -L2 |
| Automatic Exposure Body with Connecting Cord | PM-PBK | ○ | ○ | ○ | ○ |
| Automatic Exposure Control Unit | PM-CBK | ○ | ○ | ○ | ○ |
| Power Cord | UYCP | ○ | ○ | ○ | ○ |
| 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-35AD-4 | ○ | | | |
| 35mm Camera Back with Manual Film Advance | C-35DA-2 | | ○ | | |
| Adapter for Large Format Film Back | PM-DL-W | | | ○ | ○ |
| 4″ × 5″ Intermediate Adapter | PM-C4 × 5-W | | | ○ | |
| 3-1/4″ × 4-1/4″ Polaroid Back | PM-CP-W | | | | ○ |
| Adapter for FK Photo Eyepiece | PM-ADF | ○ | ○ | ○ | ○ |
| Focusing Telescope | PM-VS | ○ | ○ | ○ | ○ |
| Focusing Magnifier | PM-FT-36 | ○ | ○ | ○ | ○ |
| Filter | 45G-533 | ○ | ○ | ○ | ○ |

Standard Outfits of the PM-10M

| Module | | PM10 | | |
|---|---|---|---|---|
| | | -35M | -L1M | -L2M |
| Manual Exposure Body (including cable release SR-2) | PM-PBM-W | ○ | ○ | ○ |
| Adapter for 35mm Camera Back with Manual Film Advance | PM-D35 | ○ | | |
| Adapter for Large Format Film Back | PM-DL-W | | ○ | ○ |
| 35mm Camera Back with Manual Film Advance | C-35DA-2 | ○ | | |
| 4″ × 5″ Intermediate Adapter | PM-C4 × 5-W | | ○ | |
| 3-1/4″ × 4-1/4″ Polaroid Back | PM-CP-W | | | ○ |
| Focusing Telescope | PM-VS | ○ | ○ | ○ |
| Focusing Magnifier | PM-FT-36 | ○ | ○ | ○ |
| Adapter for FK Photo Eyepiece | PM-ADF | ○ | ○ | ○ |
| Adapter for P Photo Eyepiece | PM-ADP | ○ | ○ | ○ |

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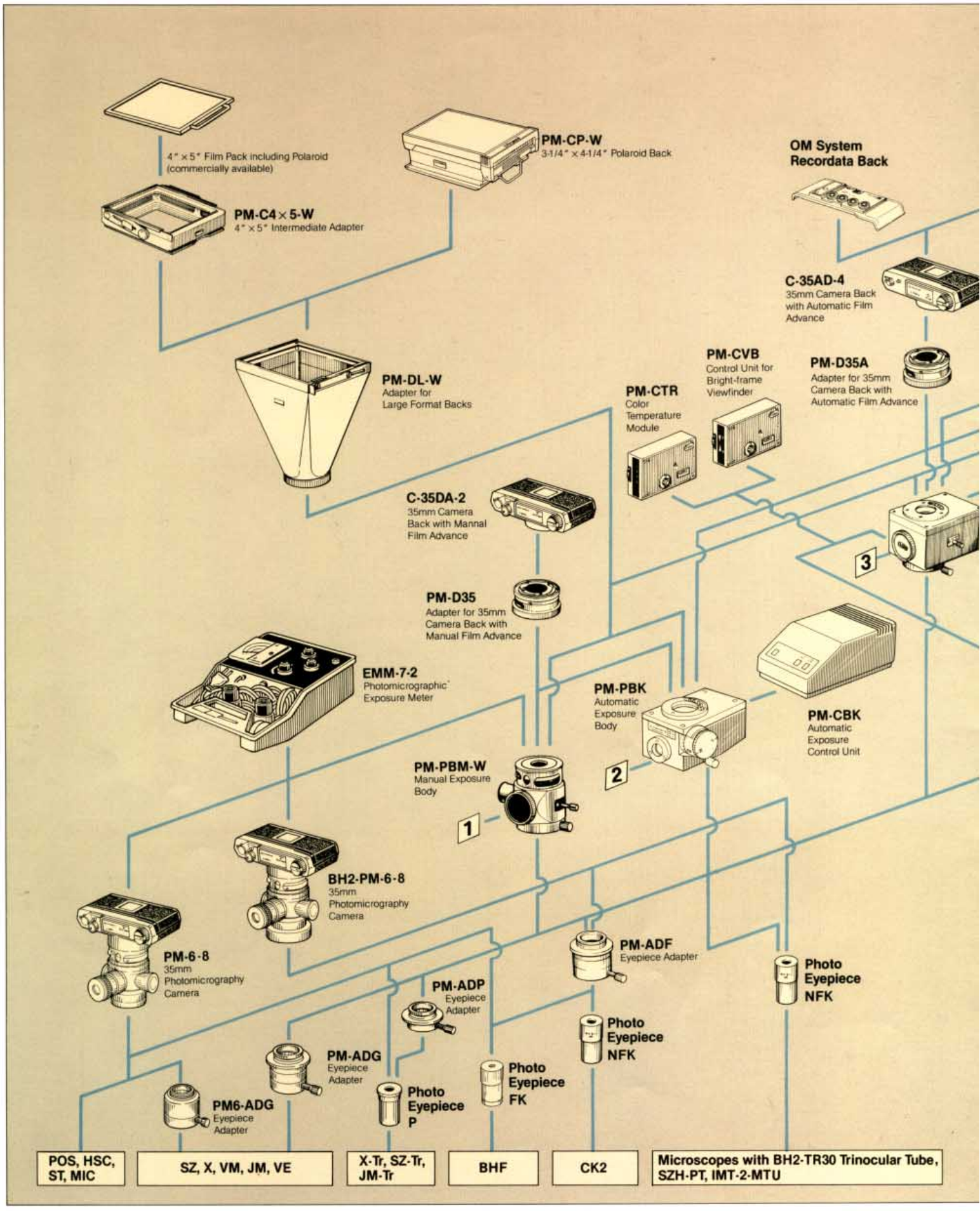
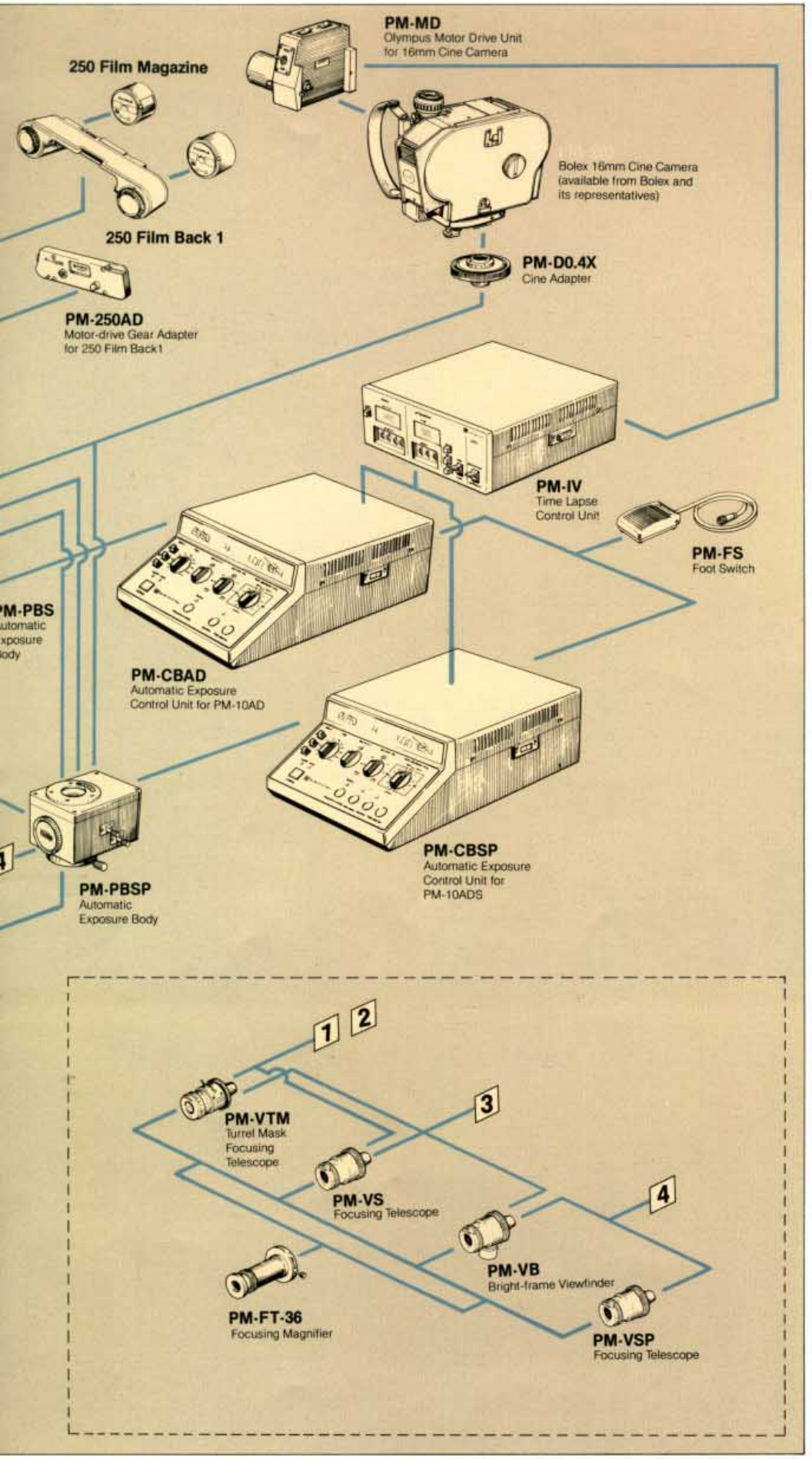
# Diagram of the Photomicrographic Systems









# *Accessories for Olympus Photomicrographic Systems*

**EMM-7-2 Photomicrographic Exposure Meter**

The EMM-7-2's CdS photo sensor, attached to the light measuring port of the PM-10M or the PM-6-8 and BH2-PM-6-8 manual cameras, permits highly-precise measurements of exposure time and color temperature.

- Photometric range:
  High: 1/250 — 1/2 sec. (35mm)
  1/30 — 4 sec. (Large-format)
  Low: 1/2 — 32 sec. (35mm)
  4 — 128 sec. (Large-format)
- ISO film speed range:
  6, 16, 25, 32, 50, 80, 100, 160, 200, 400 (3,000)
- The EMM-7-2 standard outfit include LB-45 and LBD color temperature compensating filters.

**PM-ADF Eyepiece Adapter for the "FK" Eyepiece**

Allows mounting the PM-10 Series Photomicrographic System onto microscopes which are equipped with either BH-TR30 or BH-TR45 trinocular tubes.

**PM-ADG Eyepiece Adapter for the "G" Eyepiece**

Permits mounting the PM-10 onto the stereo microscopes equipped with a binocular observation tube.

**PM-ADP Eyepiece Adapter for the "P" Eyepiece**

Permits mounting the PM-10 onto the X-Tr, SZ-Tr and JM-Tr stereo microscopes.

**PM6-ADG Eyepiece Adapter for the "G" Eyepiece**

Allows mounting the PM-6-8 Photomicrographic Camera onto the stereo microscopes equipped with a binocular observation tube.

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# 35mm Photomacrographic Systems
# PMT-35TA, PMT-35RA

**Sharp Focusing for Close-Ups plus High-Quality Whole-Specimen Photography**

The addition of an optional Olympus OM series SLR camera body makes the PMT-35TA and PMT-35RA systems ideal for widefield photomacrography.

- Optional Olympus macrolenses may be used to photograph gross specimens and still capture minute section details.

Photomacrographic magnification:

Olympus Zuiko macro lens 20mm f2 — 0.45× to 3.3×
Olympus Zuiko macro lens 38mm f2.8 — 2.2× to 8.3×
Olympus Zuiko macro lens 80mm f4 — 4.8× to 16.6×

- An attachable mechanical shutter (PM-MS35) prevents vibration transmission from affecting performance at high magnification. Shutter speeds range from T, B and 1 sec. to 1/500 sec., and the shutter is equipped with M and X flash contacts.
- Used in conjunction with a microscope, sharply focused photomicrographs can be taken over a wide range of magnifications.

**PMT-35TA Transmitted Light Photomacrographic System**

This transmitted light photomacrographic system eliminates the need for manual positioning and light source centration and with its built-in auxiliary condenser provides uniform illumination at any magnification.

**PMT-35RA Reflected Light Photomacrographic System**

The PMT-35RA employs the reflected light illuminator PM-LSD-W to illuminate opaque specimens from a variety of angles.

PMT-35RA

PMT-35TA

## PMT-35A Standard Outfits

| Module | | PMT | |
|---|---|---|---|
| | | -35TA | -35RA |
| Photomacrographic outfits, consisting of: •Base and pillar (PM-PS35) •Auto bellows (PM-BD35A) •Mechanical shutter (PM-MS35) •Light excluding collar (PM-SDM-2) •Transmitted light illuminator (PM-DL95) •Auxiliary condenser (PM-MC38) •Bulb socket (LLS-B) •Stage clips, paired •Tungsten bulb 6V5ATP-1 (3 pcs.) •Accessory container (PMT-35TA-WB) •Dust cover (A031) | PMT-35TA-F | ○ | |
| Photomacrographic outfits, consisting of: •Base and pillar (PM-PS35) •Auto bellows (PM-BD35A) •Mechanical shutter (PM-MS35) •Light excluding collar (PM-SDM-2) •Accessory container (PMT-35TA-WB) •Dust cover (A031) | PMT-35RA-F | | ○ |
| Double cable release | DCR | ○ | ○ |
| Universal illuminator | PM-LSD-W | | ○ (2 pcs.) |
| Stage plate (clear) | SP-C | ○ | |
| Filter set for color film | PM-FIL-C | ○ | ○ |
| Filter set for black & white film | PM-FIL-4 | ○ | ○ |
| OM camera mount | PM-CAMS | ○ | ○ |
| Transformer | TGHM | ○ | ○ (2 pcs.) |
| Power cord | UYCP | ○ | ○ (2 pcs.) |

PM-LSD-W

PM-ELM

PM-LM

Varimagni Finder

PM-EA

## *Accessories for Olympus Photomacrographic Systems*

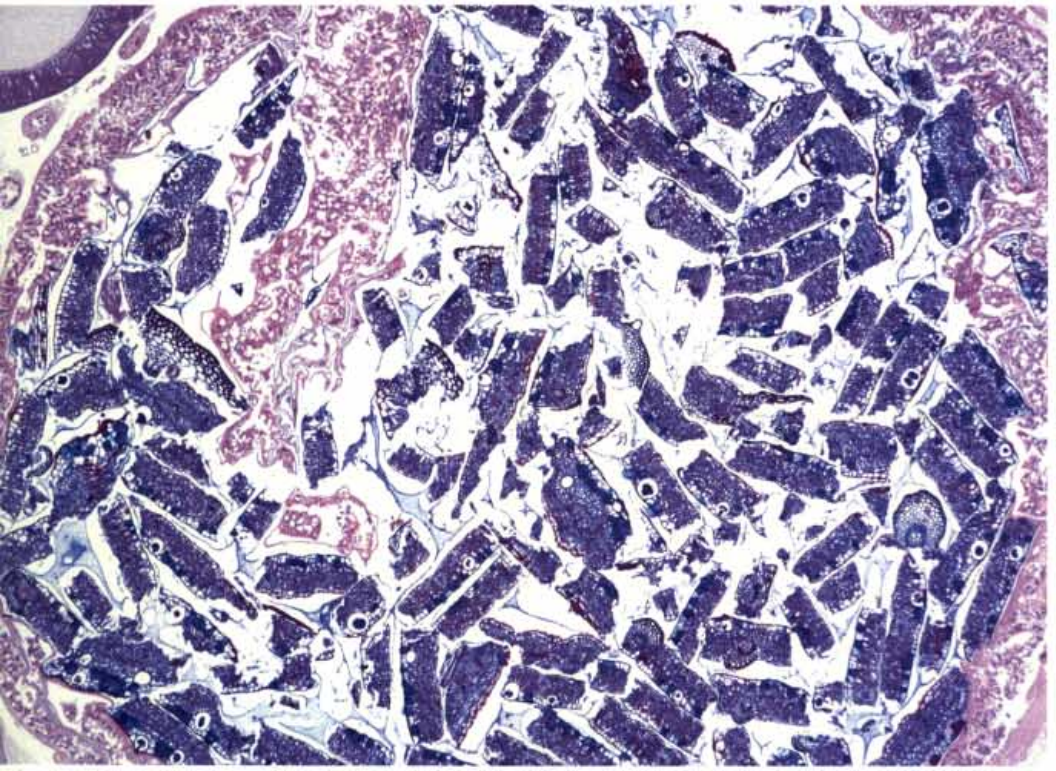
**PM-LSD-W Universal Illuminator**
The illuminator height can be varied from 10cm to 45cm, and free angle adjustment is possible. It employs a 6V 30W bulb, and accepts up to two 45mm dia. filters.

**PM-LM Lieberkühn Reflector**
By attaching the PM-LM to an f=20mm or an f=38mm lens, shadow-less illumination of three dimensional objects is possible.

**PM-ELM Vertical Illuminator**
Used in conjunction with the PM-LSD-W, the PM-ELM is ideal for illuminating objects with reflection characteristics similar to those of mirrors.

**Varimagni Finder**
Incorporating a 2-step magnification selector (1.2× and 2.5×) for observation, the Varimagni finder makes it easy to focus the camera from a comfortable sitting position.

**PM-EA Adapter for EMM-7-2**
The PM-EA is used in conjunction with the EMM-7-2 photomicrographic exposure meter to determine film surface exposure times.


▲ Sectional view of silkwarm's abdomen, Zuiko macro 38mm f2.8, 5X

*It takes a tremendous amount of skills to build a reputation as an innovator among industries as diverse as communications, medicine, information and science. Yet that's exactly what Olympus has accomplished since its inception in 1919. Our varied product list is filled with technological achievements and resounding successes. Not only in cameras, but also in a wide range of Microscopes. Fiberscopes. Microcassette recorders. Clinical analysis equipment. Video equipment. And more breakthroughs are on the way, particularly in the exciting new field of opto-electronics, which combines the resources of optics, electronics and precision engineering. At Olympus, we've earned our reputation with an unfailing commitment to heavy research and development. With an uncompromising dedication to quality, precision and accuracy. And with a stubborn unwillingness to follow the crowd. That's why we'll continue to lead the way with original products that surprise you, assist you, involve you, and fulfill you.*

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