NEW LEITZ

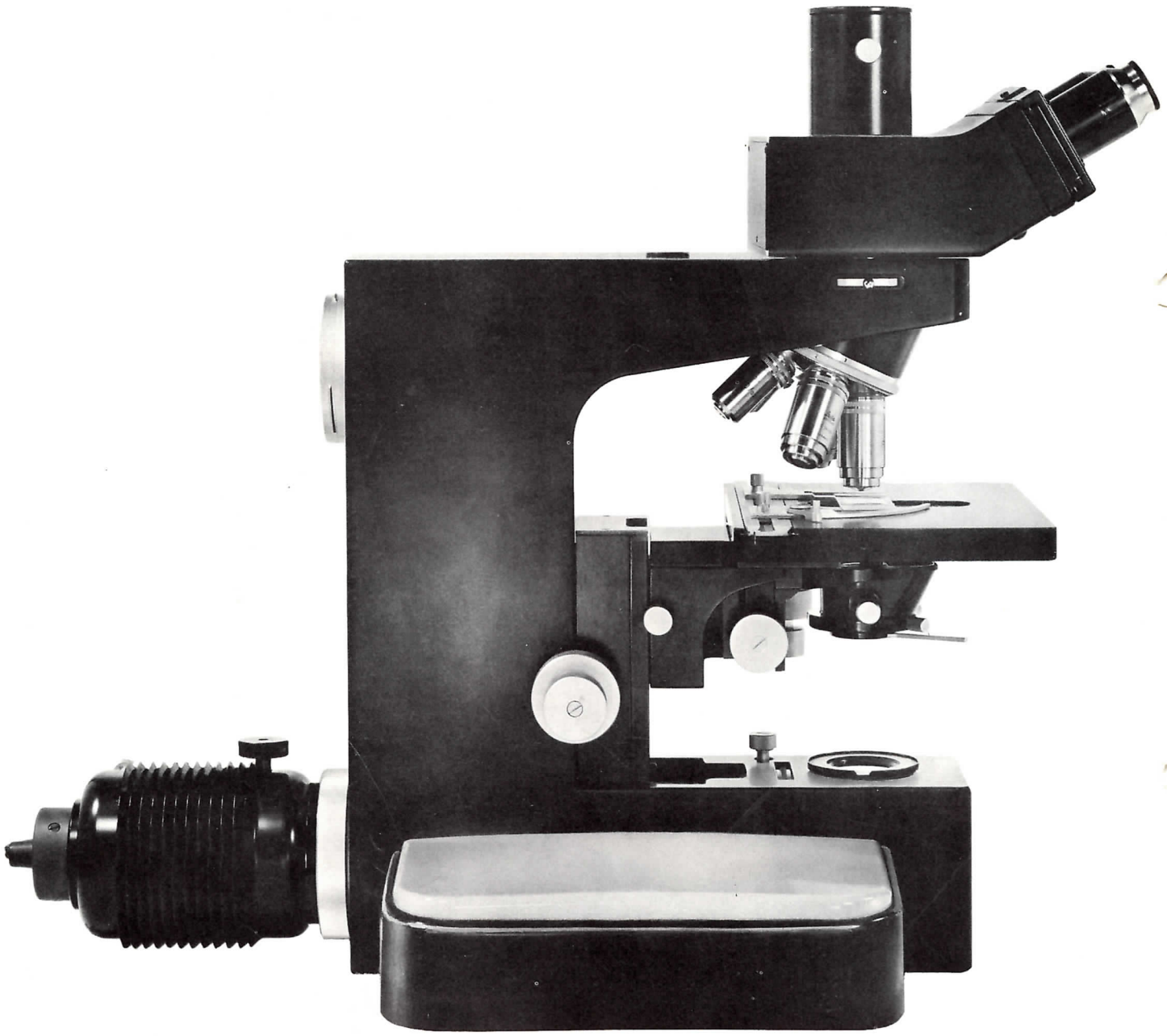
ORTHOPLAN

PLANO EXTRA LARGE* FIELD RESEARCH MICROSCOPE

*UP TO 2½ TIMES THE IMAGE AREA OF CONVENTIONAL WIDE FIELD INSTRUMENTS

LEITZ PLANO-LARGE-FIELD RESEARCH MICROSCOPE

ORTHOPLAN



The ORTHOPLAN is a new member of the family of Leitz Research Microscopes. It is the first instrument designed for a field of view of 28mm; it shows more than twice the field area of a conventional microscope with widefield eyepieces.

The famous *plano* objectives which Leitz pioneered a number of years ago can now be fully appreciated both with respect to the flatness of their field as well as with respect to the unusually large image size. The quality of the microscope image is superb.

The ORTHOPLAN stand is dimensioned larger than any other Leitz Research Microscope. It has facilities for transmitted as well as reflected light, or both illuminations combined.

The observation tube is trinocular and self compensating with respect to the

interpupillary distance and tube length correction. A larger body was necessary with bigger prisms and optical elements so as to accommodate a wider bundle of light rays and consequently large diameter (GW) eyepieces. 80% of the light is permitted to pass through the monocular portion of the tube for photomicrography, the rest is reflected into the inclined eyepieces for visual observation. A switch near the prism deflector allows *all* the light to be directed into the observation tube when desired.

A filter slider is conveniently arranged above the objective carrier to introduce at will any desired polarizing or absorption filters for specialized applications, such as fluorescence microscopy, etc.

The mechanical stage accommodates slides up to 2 x 3 inches and has the well known Leitz coaxial drive positioned below the stage surface for convenient operation.

The "mechanical heart" of the ORTHOPLAN Microscope is a dual coarse and fine adjustment on ball bearings with a displacement accuracy in the vertical direction of 0.001mm. Backlash and lubrication requirements have been completely eliminated.

The condensers are our new series 600; the field diaphragm is permanently built into the base of the stand, so that Koehler Illumination is possible with all types of condensers, brightfield, phase contrast, etc.

The modern stand incorporates quick-change bayonet mounts for the convenient adaptation of the light sources for transmitted and reflected light. A precentered low voltage bulb 12 V., 60 W., with high aperture condenser is used. Its intensity can be regulated and is sufficient for visual observation as well as photomicrography. More intense light sources for motion picture work, microprojection or other special research projects are easily adaptable.

Photomicrographic accessories for 35mm, 4"x 5" or Polaroid are provided for and easily connected to either the microscopic tube or to the arm of the stand.

The ORTHOPLAN Consists of:

Functional stand in modern form, unitized construction, with built into the base shock absorbers. The wide arch of the arm permits interchangeable use of many differing object stages and allows for full vertical excursions for observations in transmitted or reflected light. Hand rests serve to support the observer's arms during prolonged observations. Quick-change bayonet mounts for the reception of light sources for transmitted and reflected light.

Built-in field diaphragm and swing-out collector lens for Koehler Illumination. Dual coarse and fine focusing mechanism with graduations (1 interval = 0.001mm). Carrier with dovetail fittings for mechanical stages and substages. Dovetail for the reception of the objective carrier.

Precision slider with click-stops for the introduction of absorption or correction filters.

Precision 360° bayonet interchange-fitting with push button release for the reception of microscope tubes.

Flexible plastic dust cover and shipping container.

Combination, inclined binocular observation and straight monocular photographic tube "FSA" accepting large diameter GW eyepieces. Automatic compensation for the adjustment of interpupillary distance. Prisms on slider can be switched in and out to direct the light at a ratio of 80% to the camera and 20% to the binocular tube. A second prism position directs 100% of the light into the binocular tube, for observation.

Large mechanical stage with scales and verniers, 150 x 210mm low set operating knobs on one axis traversing an area 75 x 50mm.

Dovetail carrier for the interchange of condensers with rack and pinion for the adjustment in height of the condenser.

Swing-out condenser with aperture diaphragm and interchangeable, achromatic top element N.A. 0.90, #602.

Quintuple revolving objective nosepiece on carrier with 1x tube lens.

Built-in, precentered illuminating system 12 volts, 60 watts with conversion filter CB 12, diffusion disc and green filter; Including one spare bulb.

81180	**Leitz Research Microscope Orthoplan as described above**	**$2,290.00**

OPTICAL EQUIPMENT

PLAVS	**Achromatic plano objective, Pl 4x/0.10, focal length 41.5mm, free working distance 15mm**	**$ 99.00**
PLABY	**Achromatic plano objective, Pl 10x/0.25, focal length 17.9mm, free working distance 7.5mm**	**126.00**
PLAWT	**Achromatic plano objective, Pl 25x/0.50, focal length 7.6 mm, free working distance 0.9 mm, with spring loaded mount**	**171.00**
PLASP	**Fluorite plano objective, Pl 40x/0.65, focal length 4.63mm, free working distance 0.58mm, with spring loaded mount**	**195.00**
PLARN	**Apochromatic plano oil immersion objective, Pl Oil 100x1.32, focal length 2.43mm, free working distance 0.27mm, with spring loaded mount**	**421.00**
PETOV	**Periplanatic large field eyepieces, 30mm Φ, paired GW 10x, with adjustable eyelens, field of view 24mm**	**126.00**

ELECTRICAL EQUIPMENT

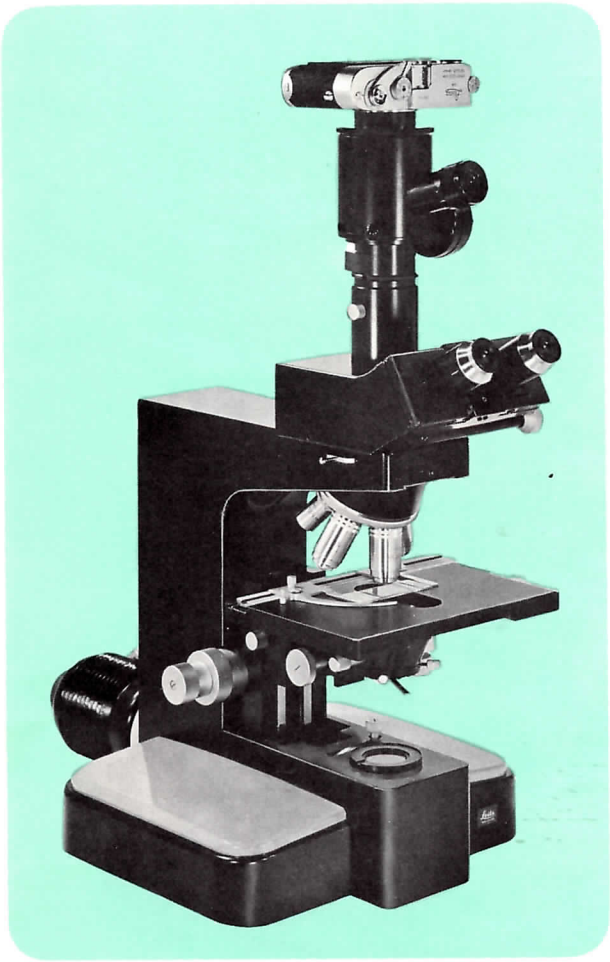
REWOB	**Regulating transformer with ammeter 12 volts, 5 amps for connection to 110/120 volts, 60 cycles A.C.**	**93.00**
	Orthoplan equipped: for transmitted light with plano objectives	**$3,521.00**

OPTIONAL EQUIPMENT

OHCAT	**Interchangeable, aplanatic condenser top element N.A. 1.25, #003**	**$ 96.00**
PETES	**Periplanatic large field eyepieces, 30mm Φ, paired GW 6.3x, with adjustable eyelens, field of view 28mm**	**116.00**
PIMUB	**Periplanatic large field eyepieces, 30mm Φ, paired GG 8xM, with adjustable eyelens, field of view 24mm**	**128.00**

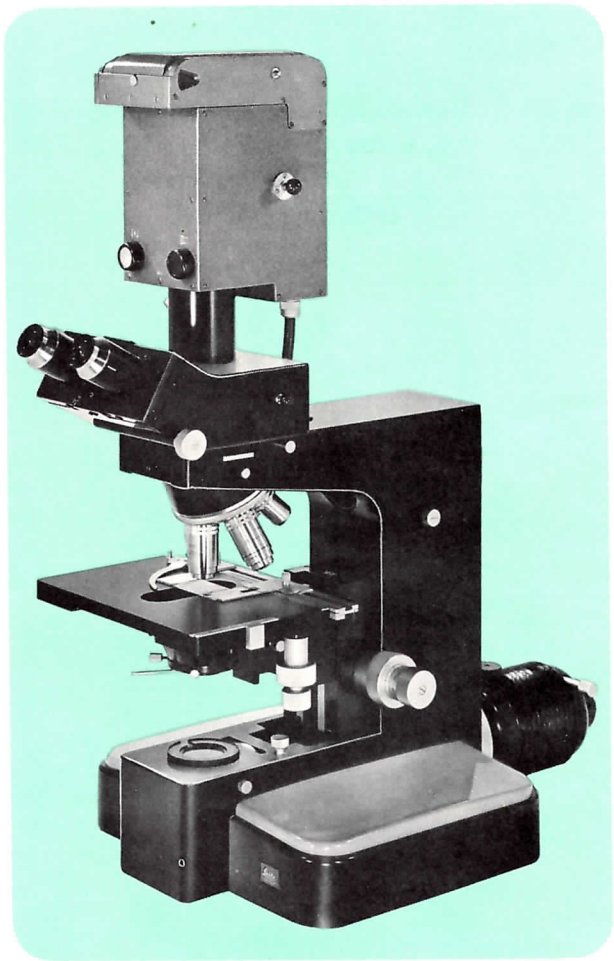
PHOTOMICROGRAPHIC EQUIPMENT

New Micro Camera Attachment With Exposure Meter



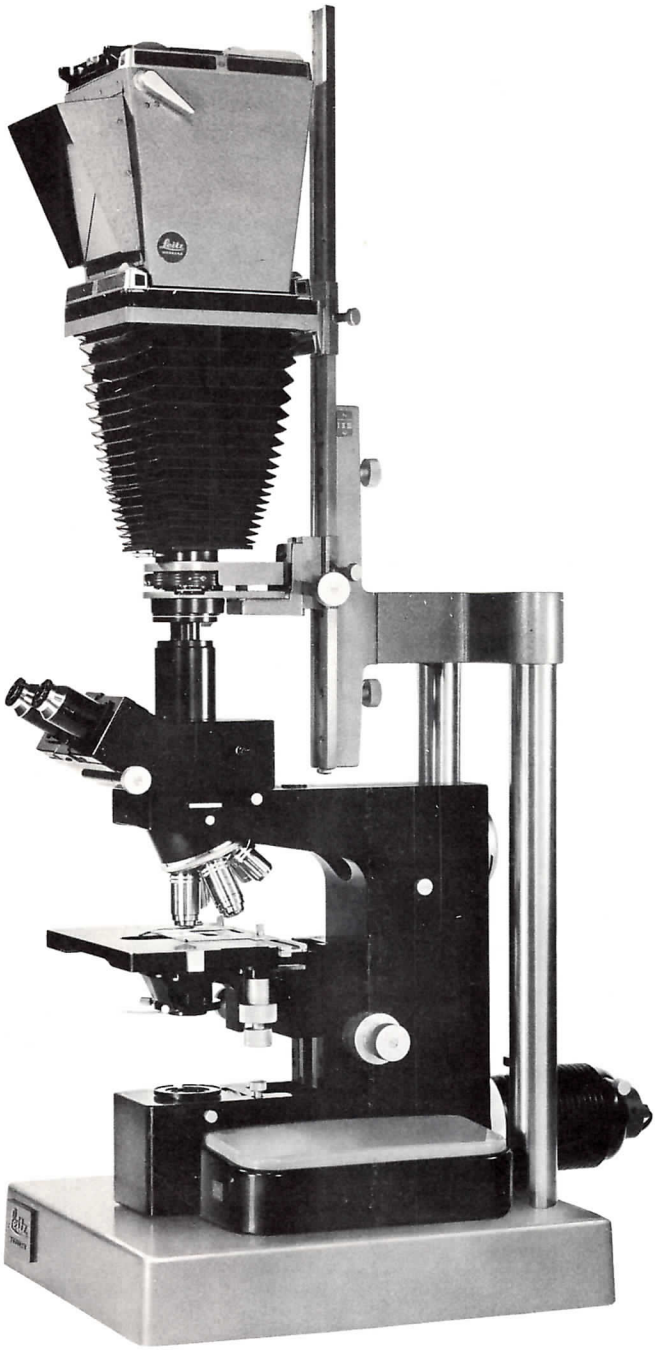
KAVAR	Photomicrographic attachment for series M, Leica® Camera bodies with bayonet mount. Camera mount set in anti-vibration device. Built-in focusing telescope with concentric focusing ring and markings circumscribing the image area of GF10x eyepiece, however not including eyepiece. Beam splitting device allowing 25% to enter the focusing telescope and 75% to the camera. Lateral tube with built-in lens, viewing angle of 30°, accepting the measuring eye of the Microsix-L Exposure Meter, permitting detail measurements and deflecting prism with swing-in lever. Tube clamp with eyepiece adapter for standard diameter (23.2mm) eyepieces	$ 226.00
PERIR	Periplanatic widefield eyepiece, single GF10x, field of view 18mm	33.00
10120	Leica M1 camera body with focal plane shutter with speeds from one second to 1/1000th, bayonet flange for attaching a micro attachment or Leica lens, but without lens, viewfinder or cassette	188.00
IFOZT	Cable release, 50cm length for bayonet mount Leica cameras	2.40
MITIX	Microsix-L Exposure Meter with a viewing angle 30° of measuring eye	157.00
	Photomicrographic attachment complete with photographic eyepiece, camera body, cable release and exposure meter as described above	$ 606.40
KAVUW	Photomicrographic attachment, like KAVAR, however with screw mount	$ 226.00
14075	Cable release for screw mount Leica cameras	$ 2.40

Fully Automatic, Exposure Pre-Determining, 35mm Camera Orthomat



ORMAF	Orthomat, automatic photomicrographic camera, with photomultiplier tube; electromagnetic, vibration-free, shutter; automatic motor driven, film advance; interchangeable film chamber for 35mm cassettes. Detail exposure measurement of 1% of field of view; as well as integral measurement of entire field. Electronic power control unit, for automatic exposures from 1/100th of a second to ½ hour or more, with film speed setting for color or black and white, capable of solving the most complicated photographic tasks	$2,450.00
ORWEP	Spare film for chamber for 36 exposures	68.00

Universal Photo-Micrographic Apparatus Aristophot For Films And Plates Up To 4″x5″, Including Polaroid



MADAH	Stand Aristophot consisting of large base plate with Mipolam pad, vertical camera carrier on twin-column with adjustable prismatic bar (63cm, 25″ long)	$ 195.00
MAJUS	Camera bellows, 4″x5″, extensible up to 60cm, with two double film holders Graflex #1284, ground glass screen and focusing magnifier	339.00
MAKEP	Mirror reflex housing, rotatable, with swing-out mirror for observing and focusing the image on the ground glass screen	231.00
ORHAL	Lower bellows carrier on rack and pinion carrier, vibration-free mounting, time and instantaneous shutter, with strobe contact and cable release; tape measure; upper light excluding collar and separate lower light excluding collar	113.00
MALER	Photomicrographic apparatus Aristophot, complete for 4″x5″	$ 878.00

OPTIONAL AND REPLACEMENT PARTS

MARAV	**Polaroid Land film holder #500 for 4″x5″, single sheet film fitting the camera bellow MAJUS**	**$ 49.95**
84197	**Double film holder 4″x5″ Graflex #1284 spare (as supplied with MAJUS)**	**4.95**
MITIX	**Microsix-L Exposure Meter with a viewing angle 30° of measuring eye**	**157.00**

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Effective: April 10, 1965
Catalog #51.2-D.2 7.5M

Printed in U.S.A.