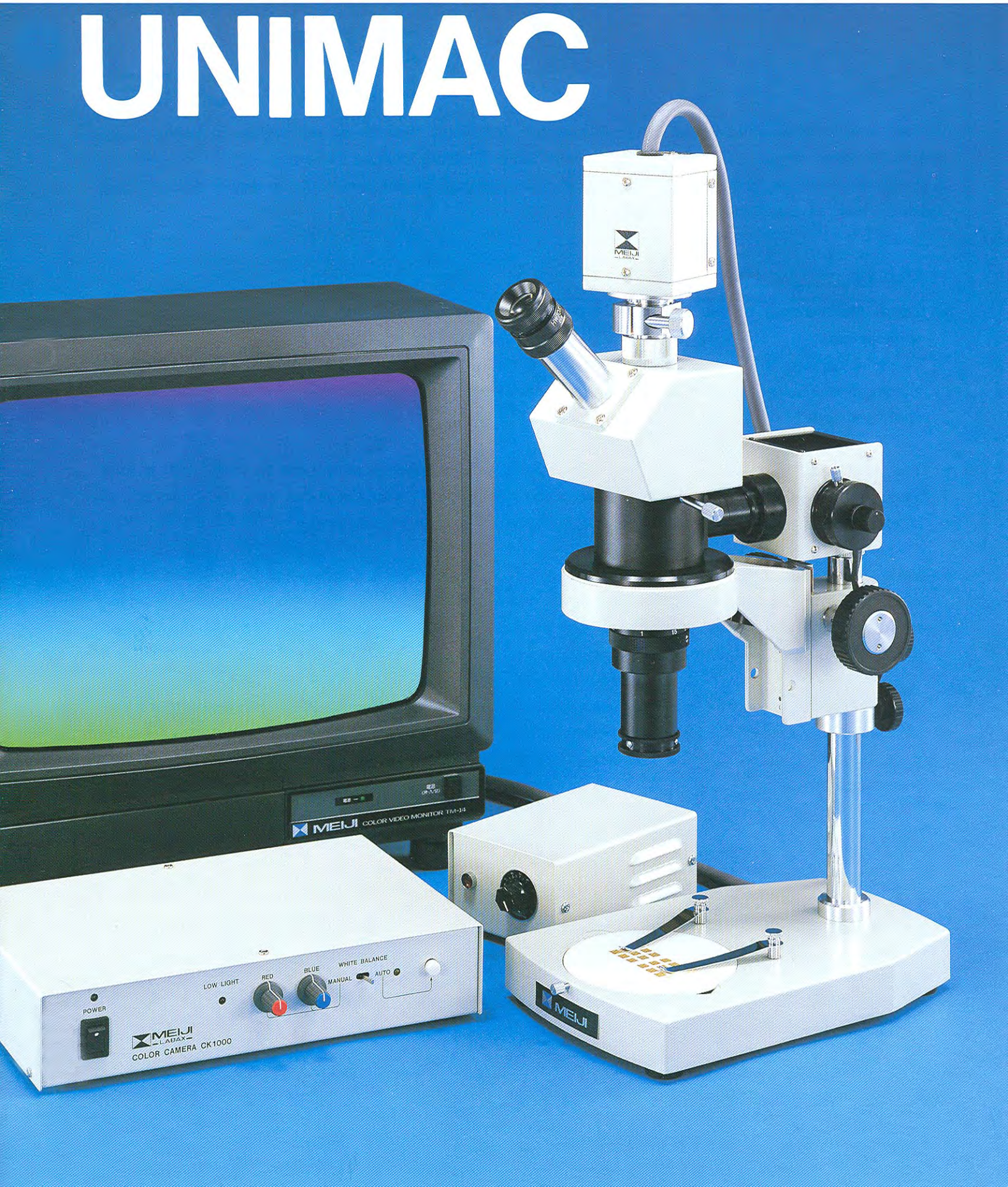
MEIJI TECHNO

ZOOM MACROSCOPE

UNIMAC



MEIJI TECHNO UNIMAC ZOOM MACROSCOPE

At last, a fully Modular Universal Zoom Macroscope that lends itself to all applications including Closed Circuit Television display. Photomicrography with 35mm SLR and Polaroid Cameras.
A visual magnification range from 3.5X to 135X (with optional lenses) shows the exceptional clarity and depth of field of the Meiji Techno Unimac.

FEATURES

- Zoom Macroscopes of the compound type are being used in more and more research and industrial applications.
  These instruments are uniquely capable where low magnification ranges and extraordinary depth of field are required. These characteristics make them most useful in the examination of whole devices and the study and control of mini-manufacturing processes.

- The MEIJI TECHNO version of the Zoom Macroscope offers important advantages to the user. It is fully modular in concept and in construction. A universal range of the techniques can be quickly applied and all modes of observation – visual, photographic and television can be employed.

- Basic Zoom Macroscope magnification range goes from 0.7X to 4.5X, but this can be modified and extended by the four optional auxiliary lenses. In addition to ordinary illumination, true coaxial illumination is available and this is a special feature of the MEIJI TECHNO instrument. A large field metallurgical illuminator gives coaxial illuminated images.

- Also offered for use with this is a 1/4 wave plate in rotatable mount which permits inspections in polarized light. This is especially useful when examining "overlay" circuits – in one orientation of the 1/4 wave plate, one of the circuits can be observed – and another overlaid circuit will be visible when the 1/4 wave plate is rotated 90°.

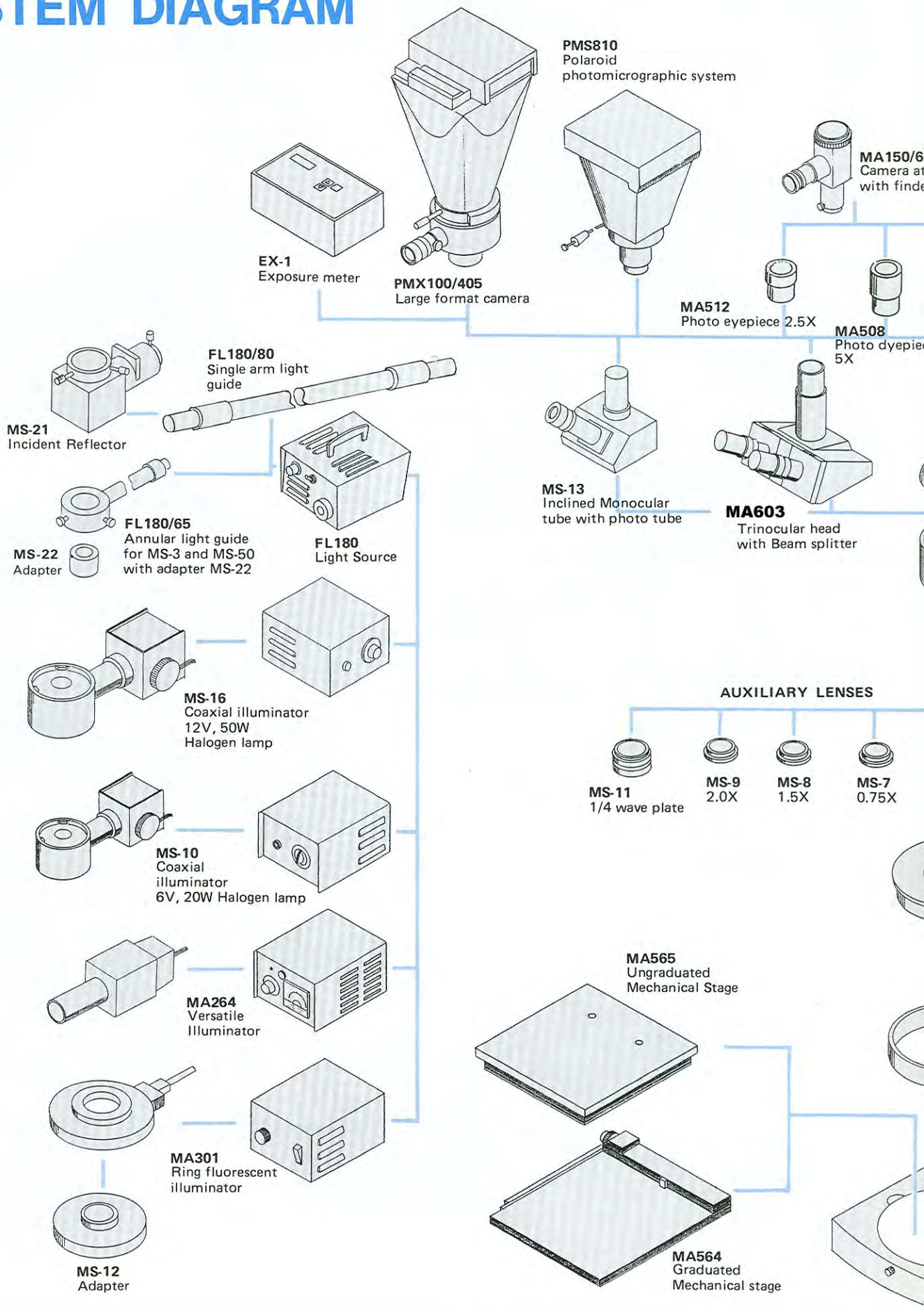
OPTICAL DATA

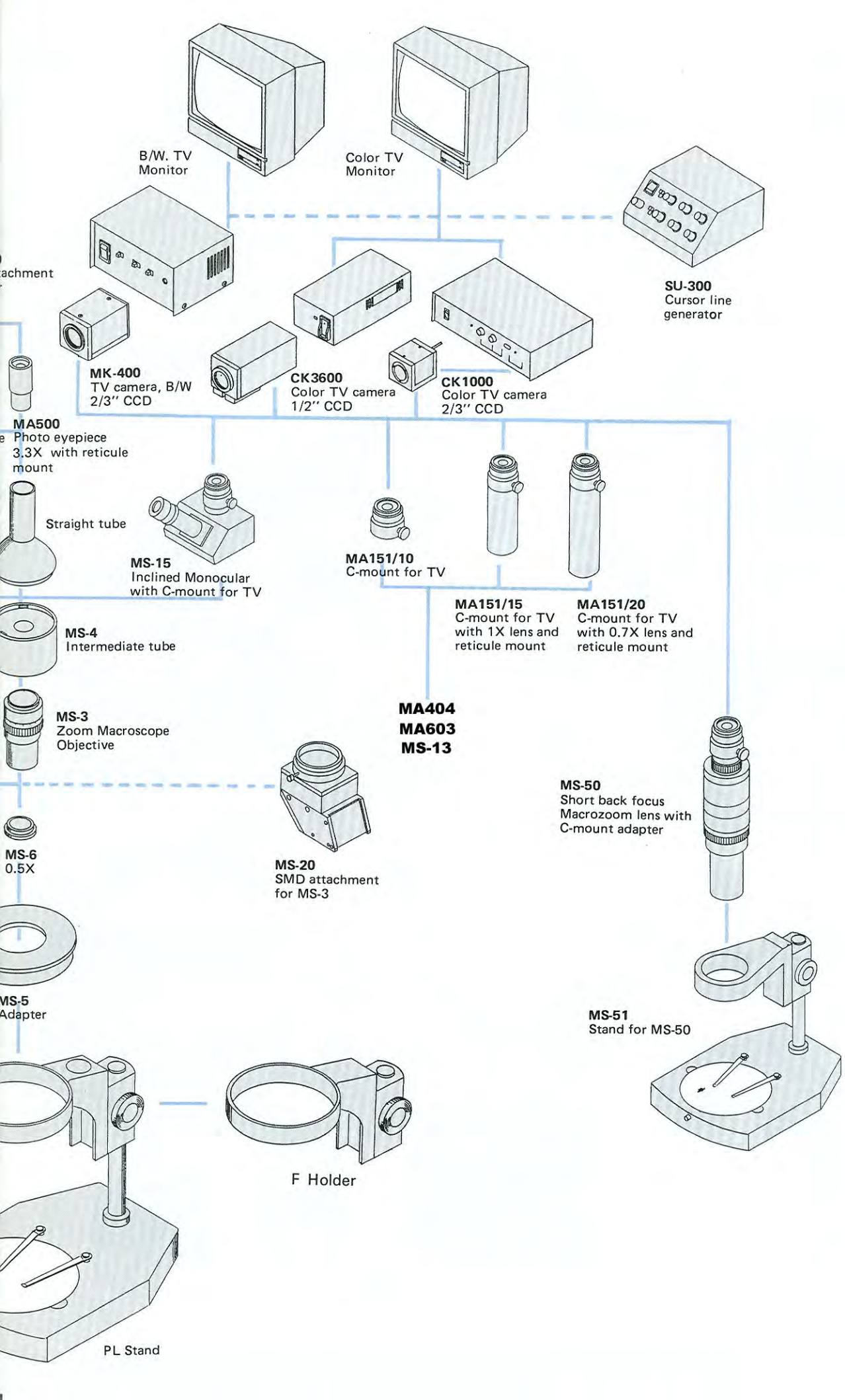
Objective (Zoom)	Auxiliary Lens	Magnification w/HWF10X eyepiece	Field of View (mm)	Working Distance (mm)	Magnification on 14" TV Monitor screen using 2/3" CCD TV Camera
0.7X – 4.5X		7X – 45X	25.7 – 4.0	95	22.62X – 145.47X
	0.5X	3.5X – 22.5X	51.4 – 8.0	183	8.16X – 72.73X
	0.75X	5.25X – 33.75X	34.2 – 5.3	110	16.97X – 109.10X
	1.5X	10.5X – 67.5X	17.1 – 2.6	44	33.94X – 218.20X
	2.0X	14X – 90X	12.8 – 2.0	29	45.25X – 290.94X

Calculation of Magn. on the TV Screen:

$$\text{Objective power } (\times \text{ Auxiliary lens power}) \times \frac{\text{Diagonal length of TV screen (mm) in use}}{\text{Diagonal length of CCD of TV camera (mm) in use}} = \text{Magnification on the TV screen}$$

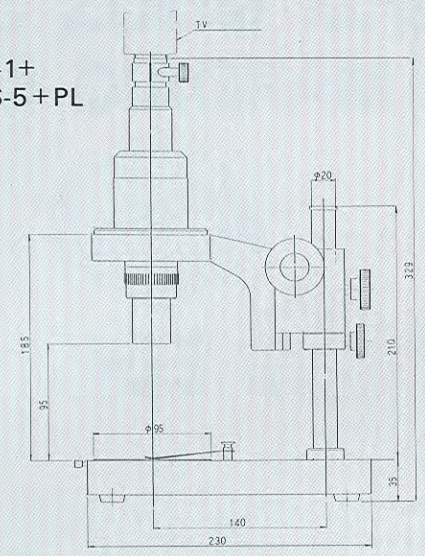
UNIMAC ZOOM MACROSCOPE SYSTEM DIAGRAM



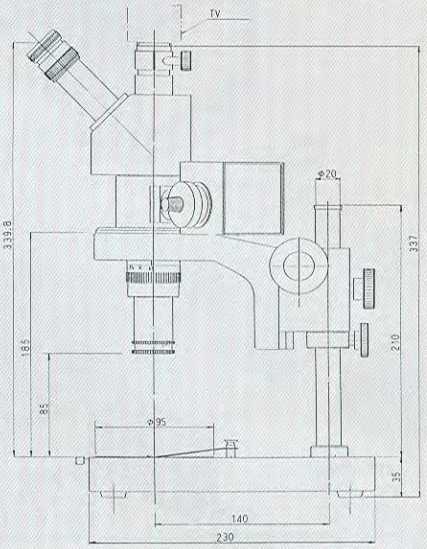

B/W. TV Monitor
Color TV Monitor
SU-300
Cursor line generator
achment
MK-400
TV camera, B/W
2/3" CCD
CK3600
Color TV camera
1/2" CCD
CK1000
Color TV camera
2/3" CCD
MA500
Photo eyepiece
3.3X with reticule
mount
Straight tube
MS-15
Inclined Monocular
with C-mount for TV
MA151/10
C-mount for TV
MA151/15
C-mount for TV
with 1X lens and
reticule mount
MA151/20
C-mount for TV
with 0.7X lens and
reticule mount
MS-4
Intermediate tube
MS-3
Zoom Macroscope
Objective
MA404
MA603
MS-13
MS-50
Short back focus
Macrozoom lens with
C-mount adapter
MS-6
0.5X
MS-20
SMD attachment
for MS-3
MS-5
Adapter
MS-51
Stand for MS-50
F Holder
PL Stand

Dimension

MA-151/10+MS-1+
MS-3+MS-4+MS-5+PL



MS-15+MS-10+
MS-3+MS-5+
MS-11+PL



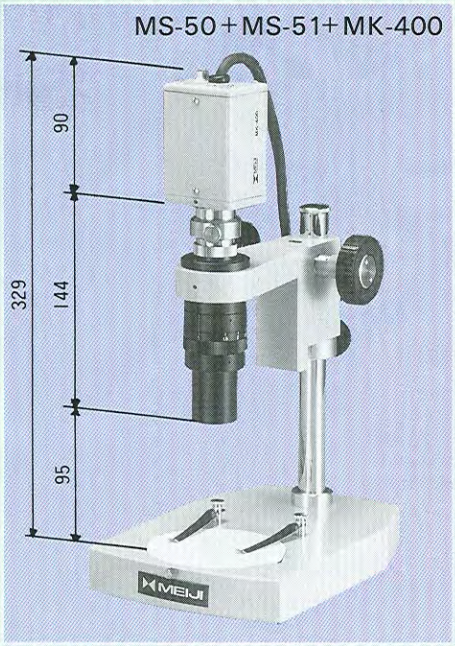
MODELS

MA-151/10+**MA404**+MS-3
+MS-4+MS-5+PL

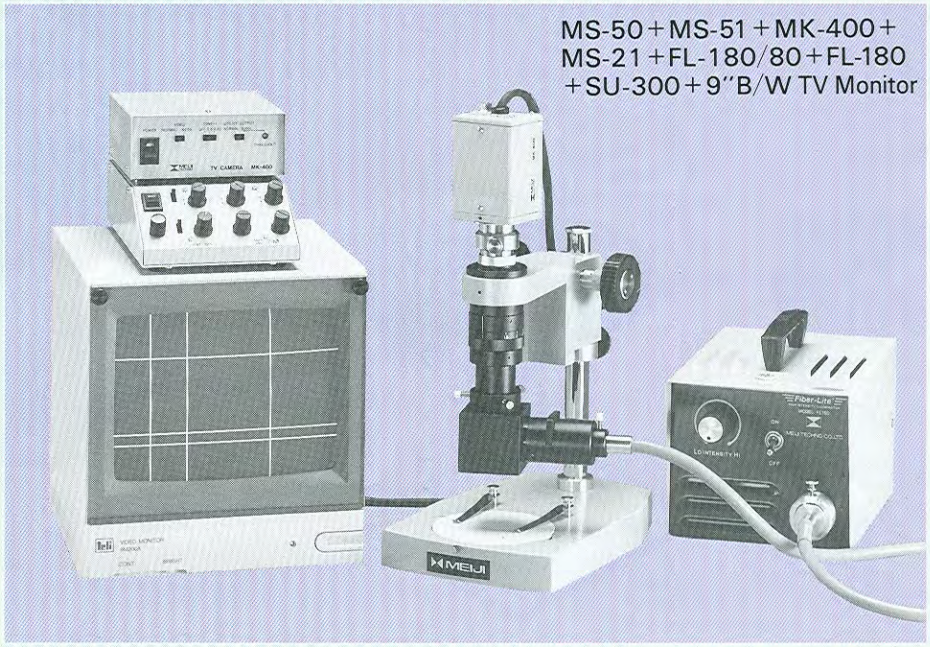
MS-15+MS-3+MS-4
+MS-5+PL

MA-151/10+**MA603**+MA-406+
MA-413C+MS-3+MS-5
+MS-10+MS-11+PL

MS-50+MS-51+MK-400



MS-50+MS-51+MK-400+
MS-21+FL-180/80+FL-180
+SU-300+9"B/W TV Monitor



CAT. NO.	DESCRIPTION
MA404	Straight tube for photomicrography or CCTV camera
MA603	Trinocular head with vertical tube for photomicrography or CCTV camera
MS-3	Zoom Macroscope Objective 0.7X to 4.5X
MS-4	Intermediate tube
MS-5	Adapter for Stand or Holder
MS-6	Auxiliary lens 0.5X
MS-7	Auxiliary lens 0.75X
MS-8	Auxiliary lens 1.5X
MS-9	Auxiliary lens 2.0X
MS-10/100	Coaxial Illuminator, 6V 200W Halogen lamp, with variable transformer for 117V
MS-10/200	Coaxial Illuminator, 6V 20W Halogen lamp, with variable transformer for 220V – 240V
MS-11	1/4 wave plate in rotatable mount
MS-12	Adapter for ring fluorescent illuminator for 117V
MS-13	Inclined Monocular tube with photo tube, (including HWF-10X Focusing eyepiece)
MS-15	Inclined Monocular tube with C-mount for TV camera (including HWF-10X Focusing eyepiece)
MS-16	Coaxial illuminator 12V, 50W Halogen lamp with variable transformer 117V
MS-16/200	Coaxial illuminator 12V, 50W Halogen lamp with variable transformer 220/240V
MS-20	SMD attachment for MS-3 macrozoom lens
MS-21	Incident Reflector for use with FL180/80
	Single arm fiber light guide-flexible w/ adapter
MS-22	Adapter for use with FL180/65 Annular light guide
MS-50	Short back focus Macrozoom lens 0.7X to 4.5X with C-mount for TV camera
MS-51	Stand and focus block for MS-50 Macrozoom lens
FL180	Light Source for fiber light guide
FL/180/65	Annular fiber light guide for MS-3 w/adapter
FL/180/80	Single arm fiber light guide for use with MS21 Incident Reflector
MA264/100	Versatile Illuminator with transformer for 117V
MA264/200	Versatile Illuminator with transformer for 220/240V
MA305/100	Ring fluorescent illuminator with starter for 110V
MA305/200	Ring fluorescent illuminator with starter for 220/230V
MA305/250	Ring fluorescent illuminator with starter for 240V
MA151/10	"C" mount for CCTV camera
MA151/15	C-mount adapter with 1.0X lens and reticule mount for TV camera
MA151/20	C-mount adapter with 0.7X lens and reticule mount for TV camera
M150/60	Camera attachment with finder for 35mm SLR photomicrography
MA512	Photo eyepiece 2.5X for 35mm SLR photomicrography
MA508	Photoeyepiece 5X for 35mm SLR photomicrography
MA500	Photo eyepiece 3.3X with reticule mount for 35mm SLR photomicrography
PMX100/405	Large format photomicrographic camera with #405 Polaroid 3¼" x 4¼" pack film holder
EX-1	Exposure meter for use with PMX100
PMS810	Polaroid photomicrographic system
MK400	TV Camera, B/W, 2/3" CCD, Resolution: 600 H lines (NTSC only)
CK3600	Color TV Camera, 1/2" CCD, Resolution: 420 H lines (NTSC only)
SU-300	Cursor line generator (NTSC only)
CK1000	Color TV Camera, 2/3" CCD
PL	P Stand with illuminator port
F	F Holder with focusing slide block
MA564	Graduated mechanical stage, 50mm x 75mm X-Y movement
MA565	Ungraduated mechanical stage, 100mm x 100mm X-Y movement
MA406	DIN HWF 10X eyepiece 10X, field No. 18 (ea)
MA407	DIN KHW10X eyepiece 10X, field No. 20 (ea)
MA408	DIN HWF15X eyepiece, field No. 12.2 (ea)
MA409	DIN HWF20X eyepiece, field No. 9 (ea)
MA413C	DIN Focusing 10X eyepiece with cross-line (ea)

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