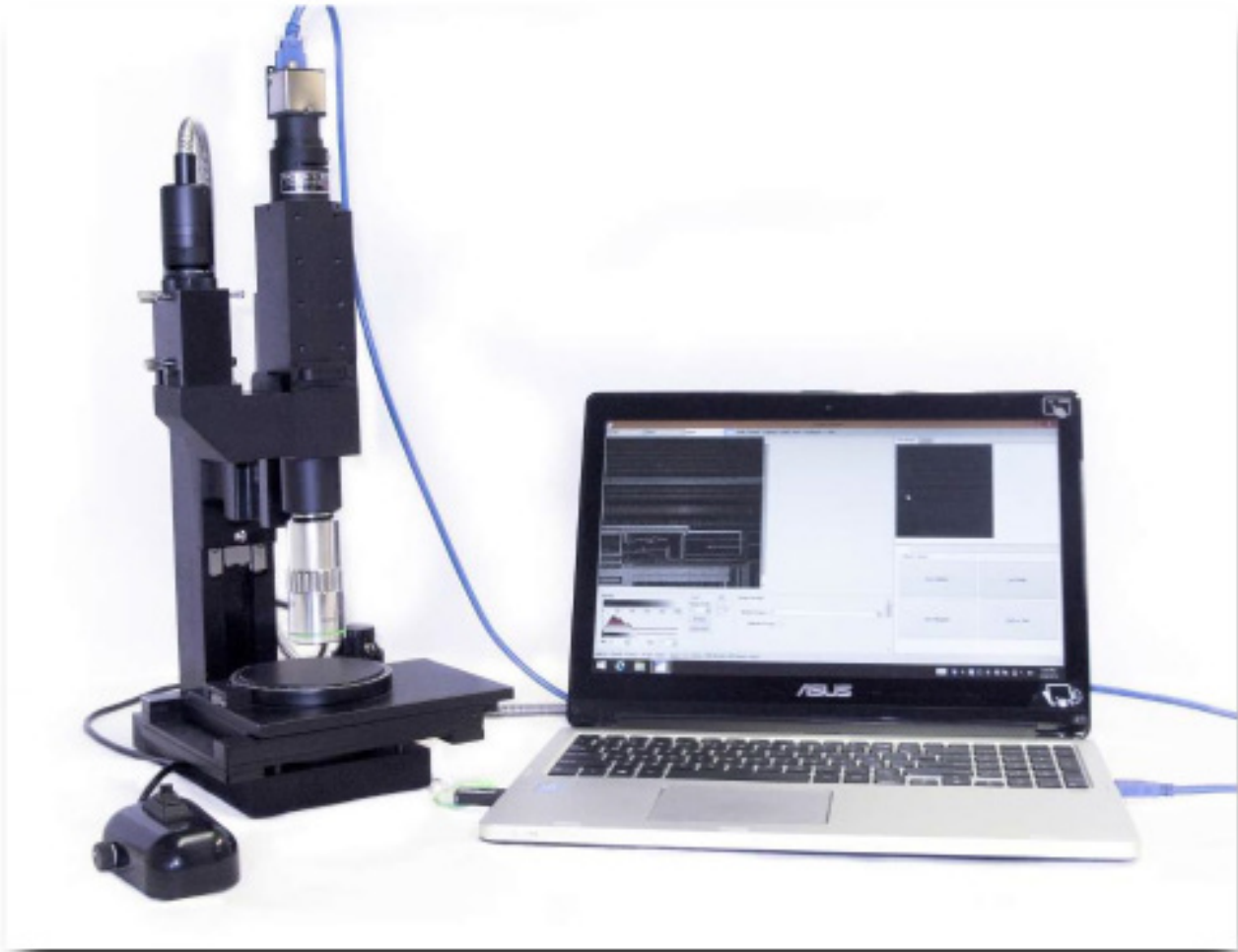


Model IR-2200

# SEIWA Infrared Microscope System



IR-2200 Microscope System enable the user to inspect sub-surface images including MEMS device, 3D stacks, incoming wafers, photovoltaic, and wafer level CSP's with an astonishing level of precision, while offering many capabilities and flexibility not available with traditional microscopes.

# Model IR-2200

The IR-2200 system integrates the infrared table top microscope system with software and 4.1 Megapixel USB-3.0 NIR Camera. This system provides all necessary features for high precision measurements, image capture, verification and inspection of materials transparent to the near infrared (NIR) / Shortwave Infrared (SWIR) wavelengths.

## Specifications

<b>Model</b>	IR-2200	<b>Illumination</b>	Koehler illumination
<b>Spectral sensitivity range</b>	400nm - 2000nm	<b>Turret</b>	4 nose manual turret
<b>Objective lens</b>	Selection from Seiwa M.Plan APO and PE IR Plan series	<b>Stand</b>	Coarse / fine Z focus
		<b>Stage</b>	Coarse manual XY stage. (Other option is available upon request)
		<b>Camera</b>	Cooled InGaAs camera (900nm-1700nm) Silicon based option for NIR application (740nm-1100nm)

## Seiwa M.Plan APO Series: Spectral sensitivity range from 400nm - 1100nm

Model	M.Plan APO	M.Plan APO	M.Plan APO	M.Plan APO
<b>Magnification</b>	2.5 X	5X	10X	20X
<b>Working Distance</b>	32.0mm	35.1mm	36.9mm	22.0mm
<b>Focal Distance</b>	80.0mm	40mm	20mm	10mm
<b>NA</b>	0.06	0.15	0.25	0.4
<b>Resolution</b>	4.6 $\mu$ m	1.7 $\mu$ m	1.2 $\mu$ m	0.8 $\mu$ m
<b>Focal Depth</b>	76.4 $\mu$ m	10.7 $\mu$ m	4.4 $\mu$ m	2.2 $\mu$ m
<b>Wavelength</b>	0.4-1.1 $\mu$ m	0.4-1.1 $\mu$ m	0.4-1.1 $\mu$ m	0.4-1.1 $\mu$ m

\*the resolution is calculated as a theoretical resolution based on NA of wavelength 550nm

## Seiwa PE IR Plan Series : Spectral Sensitivity range from 900nm - 2000nm

Model	PEIR1X	PEIR2.5X	PEIR10X	PEIR20X	PEIR50X	PEIR100X	PEIR20X 2000HR	PEIR50X 2000HR
<b>Magnification</b>	1.0 X	2.5 X	10 X	20 X	50 X	100	20 X	50 X
<b>Working Distance</b>	12mm	28.0mm	30.7mm	12mm	10mm	10mm	10mm	10mm
<b>Focal Distance</b>	200mm	80mm	20mm	10mm	4mm	2mm	10mm	4mm
<b>NA</b>	0.03	0.1	0.27	0.5	0.6	0.75	0.6	0.71
<b>Resolution</b>	18.4 $\mu$ m	0.3 $\mu$ m	2.5 $\mu$ m	1.1 $\mu$ m	0.9 $\mu$ m	0.7 $\mu$ m	1.5 $\mu$ m	1.2 $\mu$ m
<b>Focal Depth</b>	611 $\mu$ m	55 $\mu$ m	7.5 $\mu$ m	2.2 $\mu$ m	1.5 $\mu$ m	0.9 $\mu$ m	2.15 $\mu$ m	1.58 $\mu$ m
<b>Wavelength</b>	0.8-1.6 $\mu$ m	0.45-1.6 $\mu$ m	0.48-1.6 $\mu$ m	0.8-1.6 $\mu$ m	0.9-1.6 $\mu$ m	0.9-1.6 $\mu$ m	1-2 $\mu$ m	1-2 $\mu$ m

\*The resolution is calculated as a theoretical resolution based on NA of wavelength 1100nm

\*PEIR2000HR lens theoretical resolution based on NA of wavelength of 1550nm

## DataSheet SWIR Camera Series

The IK1523 camera is a highly sensitive infrared camera (SWIR, NIR). The sensitivity interval reaches from 900 nm to 1700 nm.

A sophisticated, thermal optimized housing allows sensor operation without active cooling. The optional available M42 or F - mount to C - mount adapter extends the number of lenses which can be used with this camera. Via standard USB2.0 interface can be controlled by each PC or notebook.



Model	IK1513	IK1523
<b>Sensor Size</b>	3/4" InGaAs matrix sensor, progressive scan	1/3" InGaAs matrix sensor, progressive scan
<b>Resolution</b>	320 (H) x 256 (V) pixels	640 (H) x 512 (V) pixels
<b>Pixel Size</b>	30 $\mu$ m x 30 $\mu$ m	25 $\mu$ m x 25 $\mu$ m
<b>Spectral Range</b>	0.9 $\mu$ m to 1.7 $\mu$ m	0.9 $\mu$ m to 1.7 $\mu$ m
<b>Active Sensor Size</b>	9.6mm (H) x 7.68mm (V)	16mm (H) x 12.8mm (V)
<b>A/D Resolution</b>	14 bit	14 bit
<b>Frame Rate</b>	110 fps	30 fps
<b>Exposure Time</b>	35 $\mu$ s to 1 s	67 $\mu$ s to 1 s

NOTE: for more information and specifications, please view our cameras catalogue



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