

**FAST • PRECISE • AFFORDABLE**

**3D CAMERA FOR MICROSCOPY**

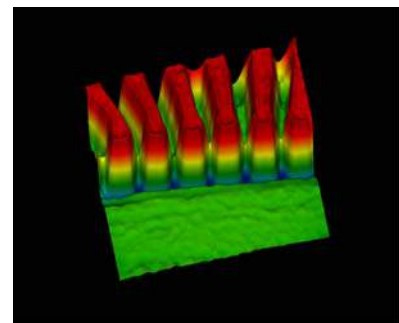
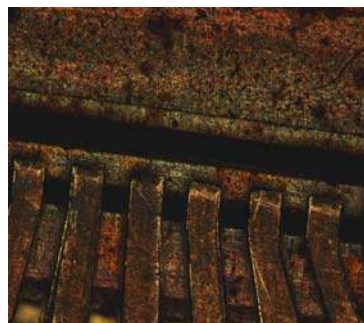
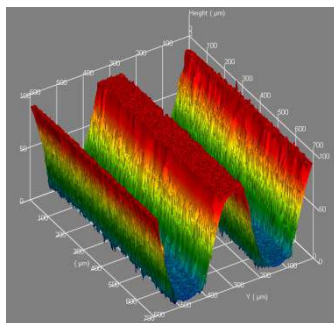
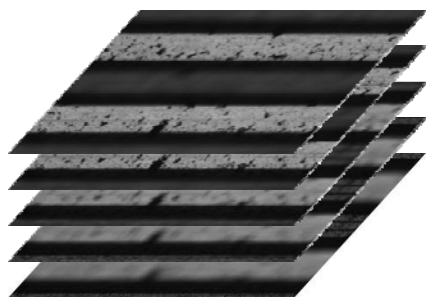
- 3D Surface Analysis
- Form & Roughness Measurement
- Automatic Depth Composition
- Z Depth Measurement

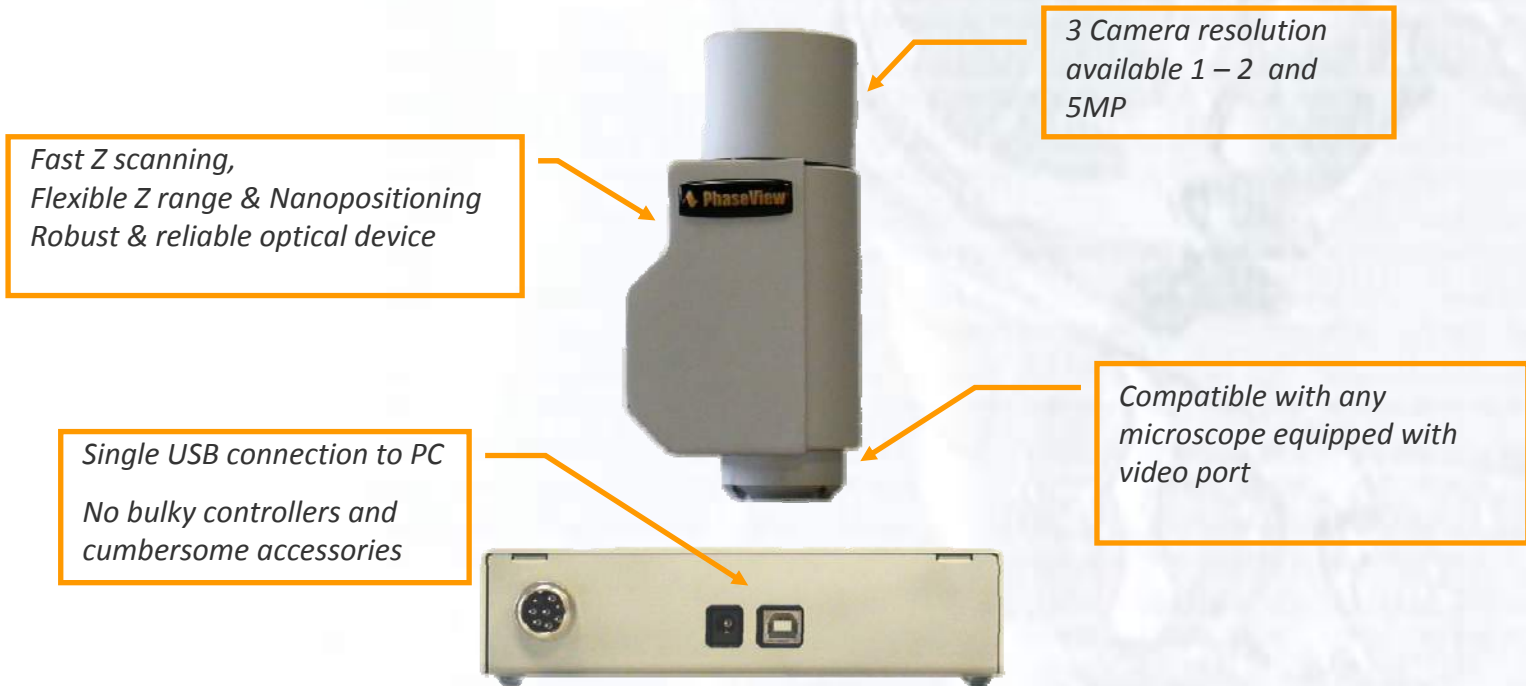


*Compatible With Compound Microscopes & Stereo-Microscopes*

*Industrial Quality Control & Material Microscopy*

***Metal Paint Electronics Coatings Ceramic Polymers Semiconductor Materials Gemology Museum Forensics***





### ***Use Video Port To Add 3D Imaging Capabilities***

*No objective or stage movement  
Sample space kept totally free  
No sample perturbation & vibrations*

*No motorization : maintenance free  
No microscope adaptation required  
Do not alter standard camera use*



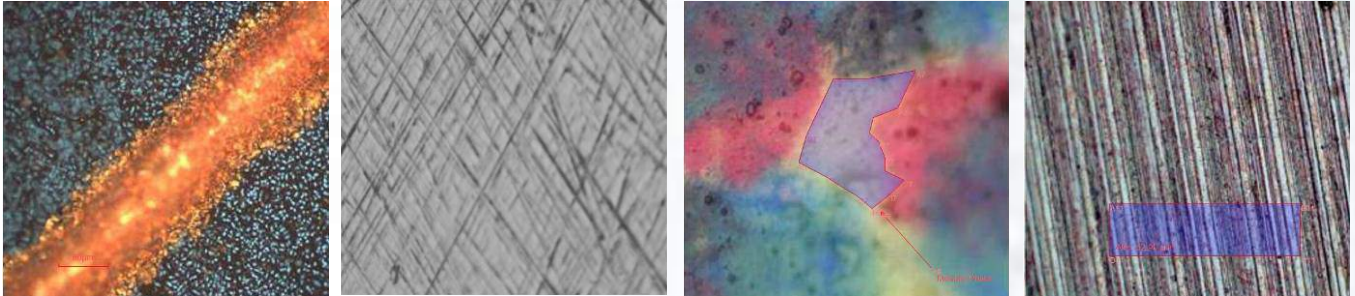
***ZeeCam on Upright Microscope***



***ZeeCam on Stereo Microscope***

### High Resolution Digital Microscope Camera

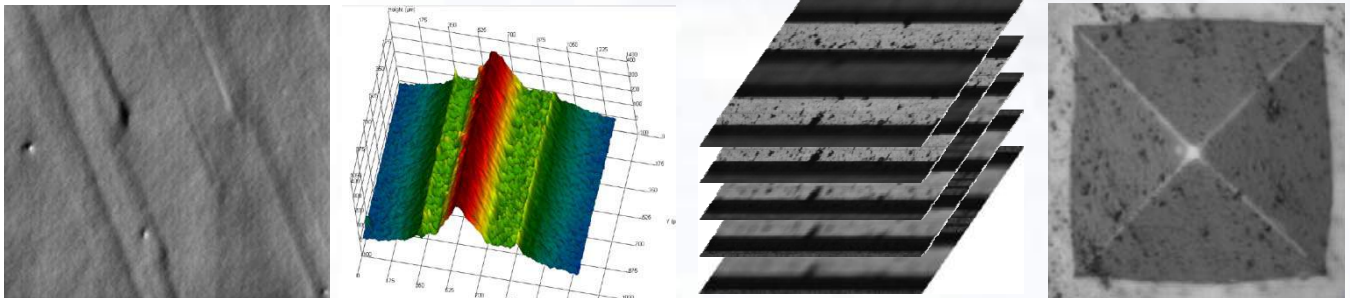
Megapixel CCD • 2D Measurements • Graphics Overlay • Report



ZeeCam provides sharp & crisp digital images in real time, featuring all necessary tools for digital image documentation in high resolution.

### Multiple Imaging Capabilities

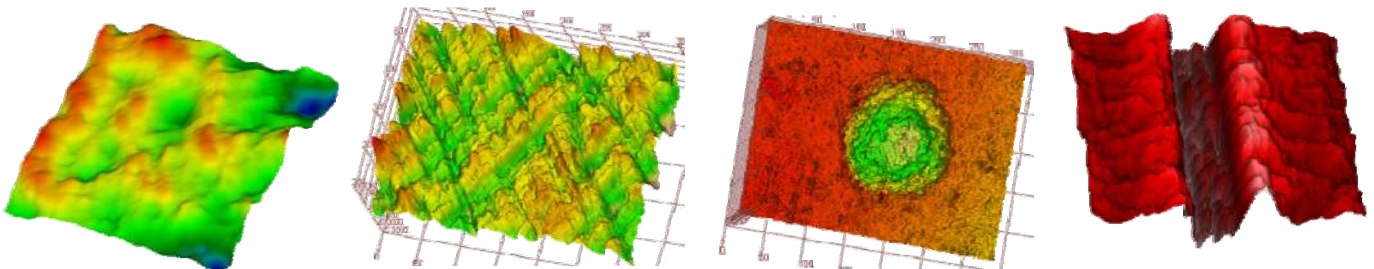
AutoFocus • Depth Measurement • Z-Stacking • Extended Depth of Field • 3D Reconstruction



Thanks to its integrated ZeeScan module, the 3D camera performs all critical tasks in material microscopy while using a standard upright or inverted microscope.

### 3D Surface Metrology

Surface Shape • Roughness • Waviness • Step Height



ZeeCam is the quickest and easiest way for precise surface topography measurements compared to complex, bulky and expensive systems.



## Software

- GetPhase® GUI software (included) is compatible with Windows 8, 7, XP & Vista. GetPhase® provides comprehensive tools from automatic acquisition to 2D / 3D image analysis, documentation and reports. An optional API / SDK includes ZeeScan acquisition controls, routines for Z-stack, 3D reconstruction, EDF, DIC, Phase, and 3D surface analysis.

### • Acquisition & Processing

- 2D / 3D Acquisition Wizard
- Auto Focus & Exposure
- Region-of-Interest
- Navigator
- Stitching
- Macro Recording

### • 2D/3D Display & Analysis

- BF, DF, Ph, DIC, 3D views
- Text & Graphics overlay
- 2D / 3D measurements
- Image fusion (EDF)
- Roughness ISO standards
- Step Height Measurements

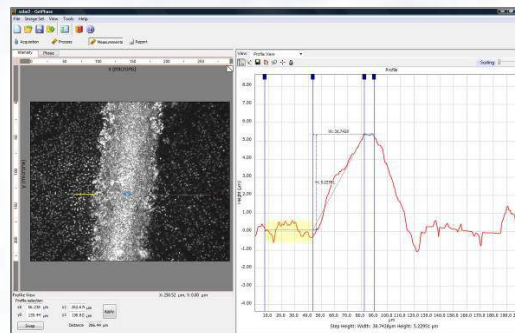
### • Image Data Export & Report

- Project Archiving
- 3D Data in Excel Format
- 3D Data for 3<sup>rd</sup> Party Software
- Report Editor
- HTML Compatible Presentation

## Powerful Imaging Tool

Z-stacking of high resolution images can be automatically achieved providing image fusion image (Extended depth of Field image, Z depth measurement or 3D reconstruction. In addition, GetPhase provides 2D measurements and image documentation tools.

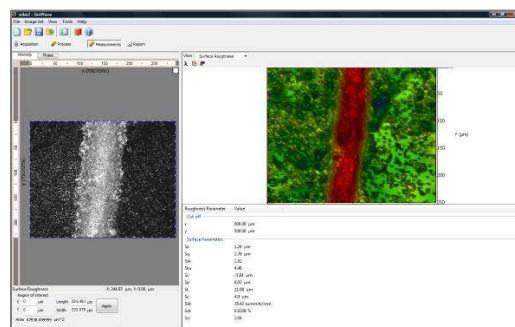
- **Reveals finest structure details without specialized optics**
- **On click Image documentation with multiple views**
- **Automatic image fusion (Extended Depth of Field)**
- **2D measurements & report**



## Fast & Accurate 3D Surface Metrology

ZeeScan with GetPhase performs 3D acquisition and analysis in a remarkable fast and easy way. Non contact optical surface profiling is highly repeatable.

- **3D surface analysis in micrometer and nanometer range**
- **Measurement capabilities from smooth to rough surfaces**
- **ISO Roughness and step heights measurements**
- **High throughput thanks to fast acquisition & processing time**





### Smart Hardware Architecture

No internal or external motorization, no additional accessories for the microscope are required, ZeeCam is connected to your PC using a single USB2 connection. Accurate calibration is achieved using an automated procedure and stored in an internal memory to prevent any losses.

Model	ZeeCam 100	ZeeCam 150	ZeeCam 200
Camera	½”CMOS 1280 x 1024 5.2µm square pixels 30fps@full resolution	1/1.8”CCD 1616 x 1216 4.40 square pixels 12fps@full resolution	½”CCD 2560 x 1920 2.20 square pixels 6fps@full resolution
Microscope interface	video Port – C-mount, recommended 1x c-mount coupler		
Dimensions & weight			
ZeeCam Head	155(H) 80(W) 56(D) mm 375 g		
Control unit	40(H) 158(W) 150(D) mm 150g		
Power supply	110/220V AC		
PC interface	USB 2.0		

### 3D Measurement Performance

Z range and resolution are objective and c-mount coupler magnification dependant. The table here under gives typical performance for standard objective magnification with 1X coupler. For any other magnification and /or c-mount coupler configuration, the following formulas can be applied:  $Z \text{ Range} = 16\text{mm} / (G_{\text{Obj}} * G_{\text{adapt}})^2$   $Z \text{ Resolution} = \text{Objective Depth Of Field} / 4$   
 $G_{\text{Obj}} = \text{Objective magnification}$   $G_{\text{adapt}} = \text{c-mount coupler magnification}$

Objective Mag / NA	Z Range (µm)	Z Resolution (µm)	
5X / 0.10	640	18.5	<i>Z accuracy: 1%</i>
10X / 0.25	160	3	<i>Z Repeatability: 0.35%</i>
20X / 0.45	40	1	<i>Max slope: 90°</i>
50X / 0.8	6.4	0.25	<i>XY Spatial resolution determined by camera resolution and objective magnification</i>

### Roughness Measurement

12 analysis parameters are provided in total, including the frequently-used Ra (Sa), Rq (Sq), Rz (Sz), parameters. Parameters conform to ISO 4287, 25178 DIN 4768

Measuring range: Ra, Rq: 0.01-500µm Measuring accuracy: ≤±10% Repeatability: ≤6%

