

### DESCRIPTION

PCB inspection Autofocus Microscope is a series of electric controlled continuous zoom and autofocus **ALL-IN-ONE** digital inspection microscope with a large field of view. It is integrated with 4K Ultra HDMI camera integrated image processing capture software, measuring tools with an onscreen magnification display, Electric Controlled Continuous Zoom Auto-focus internal software-controlled optics , integrated LED lighting, and a mounting adapter.

It includes 4K image quality with no image delay .The perfect solution for those wishing to digitize and simplify their inspection process. Measure anything using the onboard field-of-view measuring tools,,Export your measurement data and images with measured objects!



**ACUCAL PCB Inspection Autofocus Microscope is a heavy-duty, highly-flexible microscope designed for industrial applications.** This model is especially popular in the Quality Check, repair and engraving industries thanks to its ease-of-use and reliability. With its wide zoom range and stand, this model will become an indispensable instrument in any workshop or lab. It can be widely used in industrial inspection, medical observation, teaching and scientific research, automation system, and other fields.

Ergonomically designed allowing for less operator fatigue and improved production efficiency. Simple, Fast, High-Quality Inspection. Ideal for repair, rework, assembly and quality control in any manufacturing industry.

### FEATURES

- 5 groups 16 elements with 0.028~0.56X, 20X zoom ratio, supports auto and manual focus
- 192mm standard working distance with 150~195mm depth of field.
- At standard working distance, the large field of view 200mm\*112.5mm at low magnification, helping users to quickly locate the target object, the small field of view 10mm\*5.6mm at higher magnification, helping users to observe microscopically
- Sony 1/2.8" 4K Starvis CMOS with high signal-to-noise ratio
- 4K HDMI/USB/ETH/WiFi multiple video outputs
- 4K/1080P auto switching according to monitor resolution
- SD card/USB flash drive for captured image and video storage, support local preview and playback
- Built-in mouse control software Image View, all functions can be realized with USB mouse
- Embedded mouse Camera Control Panel, Measurement Toolbar, Synthesis Control Toolbar, AF Control Panel
- Head suction LED ring light, the brightness is directly controlled.
- Onscreen Magnification Display

### INTERFACE & BUTTON FUNCTIONS

Interface	Function Description
USB Mouse	Connect USB mouse for easy operation with embedded software.
USB	1. Connect USB flash drive to save pictures and videos. 2. Connect 5G WLAN (IEEE 802.11n) module to transfer video wirelessly in real time
USB2.0 (for PC)	Connect computer with USB connection to transfer Photo/video in real time.
HDMI ( for Monitor without need of PC)	Comply with HDMI2.0 standard. 4K/1080P format video output and supporting automatic switch between 4K and 1080P format according to the connected monitors.
GE/LAN (Ethernet)	Gigabit Ethernet port to connect router and switch to transfer content.
SD	Comply with SDIO3.0 standard and SD card could be inserted for video and images saving.
DC12V	Power adapter connection (12V/1A).
ON/OFF	Power switch.
LED	LED status indicator.

### SPECIFICATION

**Digital Imaging:** This ALL IN ONE microscope has live-view ULTRA HDMI camera. It's designed for live-view & Image Capturing –Video Recording capabilities, making it ideal for Quality Check and repair industries where on-screen monitoring is a necessity, and recording is must. It offers 4K Ultra HDMI & 1080pixel live-viewing over HDMI with super-smooth 30fps frame-rate. The included USB mouse allows you to control the camera through its easy-to-use interface. SD Card Storage facility to store the captured images and view on PC.

- **Image Sensor:** 1/2.8" Single Plate type SONY Color CMOS (5.57 mm × 3.13 mm),
- **Frame Rate & Resolutions:** 30@3840\*2160(HDMI, USB, NETWORK) **ULTRA HD**  
30@1920\*1080(HDMI, USB, NETWORK) **FULL HD**
- **Pixel Size:** 1.45 μm x 1.45 μm
- **G Sensitivity/ Dark Signal :** 300mv/0.13 with 1/30s
- **Scan Mode:** Progressive Scan
- **Operating Temperature :** 0° C to + 50° C
- **Operating Humidity:** 30%-80%, Non-condensing
- **Exposure Time:** 0.04 ms to 1000ms
- **Auto Exposure:**Automatic / Manual (1ms to 100 ms)
- **White Balance:**Automatic / Manual
- **Shutter:** Electronic Rolling
- **A/D Converter (bit depth) :** 10 bits & **Binning :** 1x1

#### Observation Head/ Lens Module :

- **Working Distance(mm) :** 156~195
- **Field of View :** Maximum 200 x 112.5 mm (@1X)  
Minimum 10 x 5.6 mm (@20X)

**Mechanical Body (Stand) :** The multi-pivoting, double-arm stand provides a stable, flexible support system, ideal for hands-on work. Use of a drop-down column allows the head to be positioned at virtually any angle. The heavy, steel base ensures the stability of the microscope, even when laden with attachments.

**Illumination System :** This package includes a LED ring-light for bright and cool illumination. This lightweight illuminator projects a smooth, encompassing field of light over objects, eliminating most shadows. Whether used as the sole light-source or in combination with additional illuminators, the ring-light produces a crucial light pattern for virtually any application. Energy-efficient and producing low heat.

LED	Power	Inner Dia.(mm)	Out Dia.(mm)
8 CREE xpes	3V/3A	50	76

### Standard Accessories

- Electric Controlled Continuous Zoom & Autofocus Digital Microscope
- Zoom Microscope Stand
- 1080 Pixel Screen
- LED Direct Ring Light

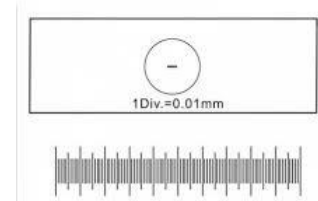
### OPTIONAL ACCESSORIES



Dual Gooseneck Illuminator

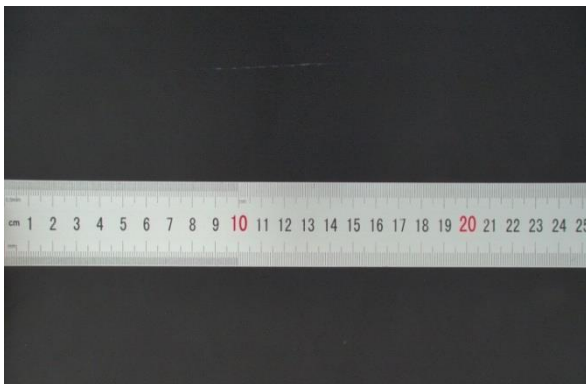


X- Y Movement Stage

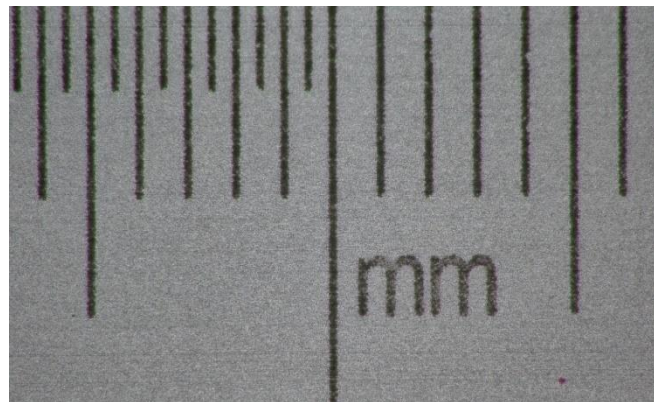


Calibration Slide

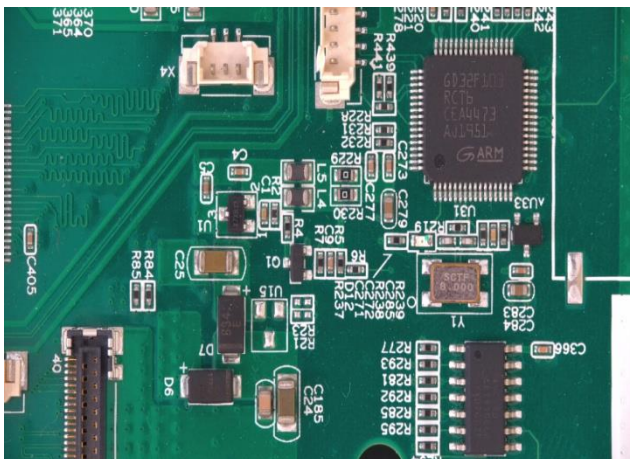
### IMAGES CAPTURED



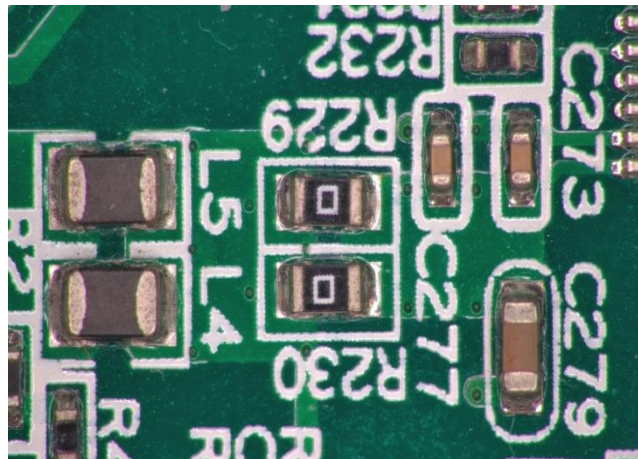
Ruler captured at 1X



Ruler captured at 10X

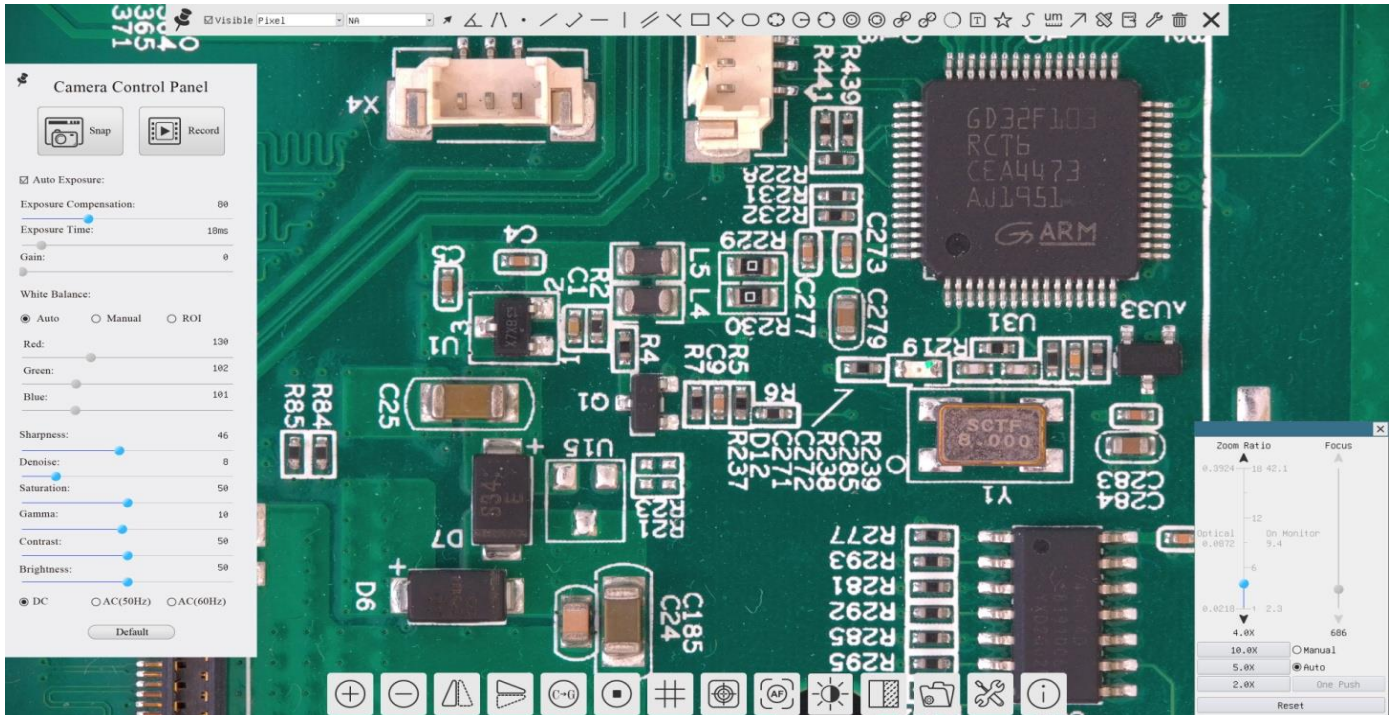


PCB captured at 4X



PCB captured at 20X

### PC INTERFACE VIA SOFTWARE



Front and Back View



Side and Front(with LED light) View