![ideal-tek logo]

TEK-SCOPE-PLUS & TEK-FLEX-XY
User Manual

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SYSTEM INFORMATION

The device is a standalone high definition optical inspection system.

The camera system has the following functions:

- Auto Focus On/Off
- Adjustable focus
- Digital Zoom ON/OFF
- Built-in LED lights (only TEK-SCOPE-PLUS)
- Device Ports: DisplayPort, micro USB, USB, Ethernet, Power
- Monitor Connectivity: the device can connect to any monitor with a DisplayPort or HDMI port (DP/DP cable included in the box; HDMI adapter not included)
- Connection to PC: Software connection via micro USB port using micro USB / USB cable
- Direct Image Storage: Images can be saved directly to a USB memory stick
- Measurement & drawing capabilities

When used with a computer you can install the included device Software and make measurement, drawing and much more.

ASSEMBLY

The device package includes the following items:
- Inspection system unit
- Remote control
- Power Supply
- Monitor Cable (DisplayPort-DisplayPort) - Computer cable (USB – USB mini)
- Software and manual on USB memory stick
- 3D lens
- XY rack (only TEK-FLEX-XY)

1. Use with a monitor:

Place the camera unit on the desired stable location.

Connect the monitor to the camera unit by the monitor cable.

Connect the power supply to a power outlet.

Connect the power supply to the camera unit with the DC cable.

Connect USB memory stick to save pictures (not videos).

Connect Ethernet cable to share the screen simultanously with other people.

You can now start the system by pressing the button on the top of the camera unit.

If needed, turn the LED lamp on/off by using the red button on the back of the unit (only TEK-SCOPE-PLUS).

2. Use with a PC:

Connect your computer with the USB cable (USB mini for the device, USB for computer).

Install the PC software. You can now start the device by pressing the button on the top of the camera unit and then open the installed software.

If needed, turn the LED lamp on/off by using the red button on the back of the unit (only TEK-SCOPE-PLUS).

USE WITH A MONITOR

Remote control

Use the remote control when the device is connected to the monitor.

Z+ Zoom in (+) ☼

Z- Zoom out (-) ☀

▸ Increase brightness

◂ Decrease brightness

Press **FUNC** shortly and autofocus will go off / on. When autofocus is off, ◂ & ▸ will adjust focus manually.

OK changes magnification to wide angle and shows an artificial white cross. Press **OK** again to exit and go back to previous magnification.

Press **MODE** to change between color and greyscale.

Press **MODE** for 5-8 seconds and the screen will be saved as image in the USB memory stick.

Press **FUNC** for 5-8 seconds and the menu will appear with more choices.

```
Settings

▸Lens                    +3
 Show Zoom               ON
 Show Brightness         2s
 Zoom Speed               3
 Screen Diagonal      27.2"
 Show Clock              ON
 Digital Zoom           OFF
 Aspect Ratio          16:9
 Adjust Date and Time    =>
 Show USB device         =>
 Exit

                      V1.00a
```
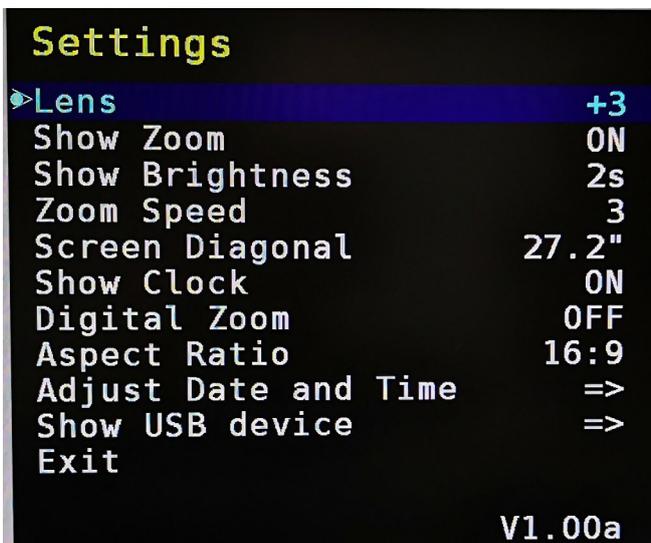
LENS: default is +3.

SHOW ZOOM: how long the OSD ZOOM info will last on the screen.

SHOW BRIGHTNESS: how long the OSD Brightness info will last on the screen

ZOOM SPEED: how fast the system will zoom.

SCREEN DIAGONAL: set your monitor diagonal dimension.*

SHOW CLOCK: show date and time on the screen.

DIGITAL ZOOM : turn Digital Zoom on / off, default off

ASPECT RATIO : set aspect ratio, default 16:9

ADJUST DATE / TIME: set time and date.

SHOW USB DEVICE: free space on the memory stick.

*IMPORTANT: exactly set your monitor diagonal before start working to obtain a correct magnification value

Remote control pairing

Hold the remote control on the back of the device while the power is on, then press the OK button on the remote control for 5 seconds. When a red light start flashing, the pairing procedure is complete.

Note: The remote control inside the package is paired by the Factory. Changing batteries or using remote with more than one device may require additional pairing.

The device live streaming

Live streaming on the device is only possible with a unique connection to a Monitor or to a PC.

The Device cannot work properly if connected to a PC and a Monitor at the same time.

4D LENS

If you are using a Tilt table or any higher object, you should replace the lens to a +4 lens.

Clean the lens before using the system to avoid fingerprints etc. Notice that you also need to change the lens settings in the device menu.

Press **FUNC** button on the remote for 5-8 seconds to get into the menu.

Lens – Change to **+4** or **+3** by using the ◀ ▶ buttons on the remote.

USE WITH A PC

Software
Operating System required: Windows 10 or higher.

INSTALLATION
The software is compatible with Windows 10 and 11. We recommend a minimum screen resolution of 1920x1080. If you are using the software with an external monitor, avoid using Extended or Dual Mode unless the resolution on both displays is the same. Additionally, verify in your screen settings that the "Scale and Layout" option is set to **100% (Recommended)** to ensure proper functionality.

Click on the Cmore2 Appxbundle Setup file, accept the Camera request.

You can now start the Cmore application. If a previous version been installed, we recommend that it uninstalled before a new one is installed. On some Windows 10/11 PC's it can be necessary to set the settings to allow sideload apps.
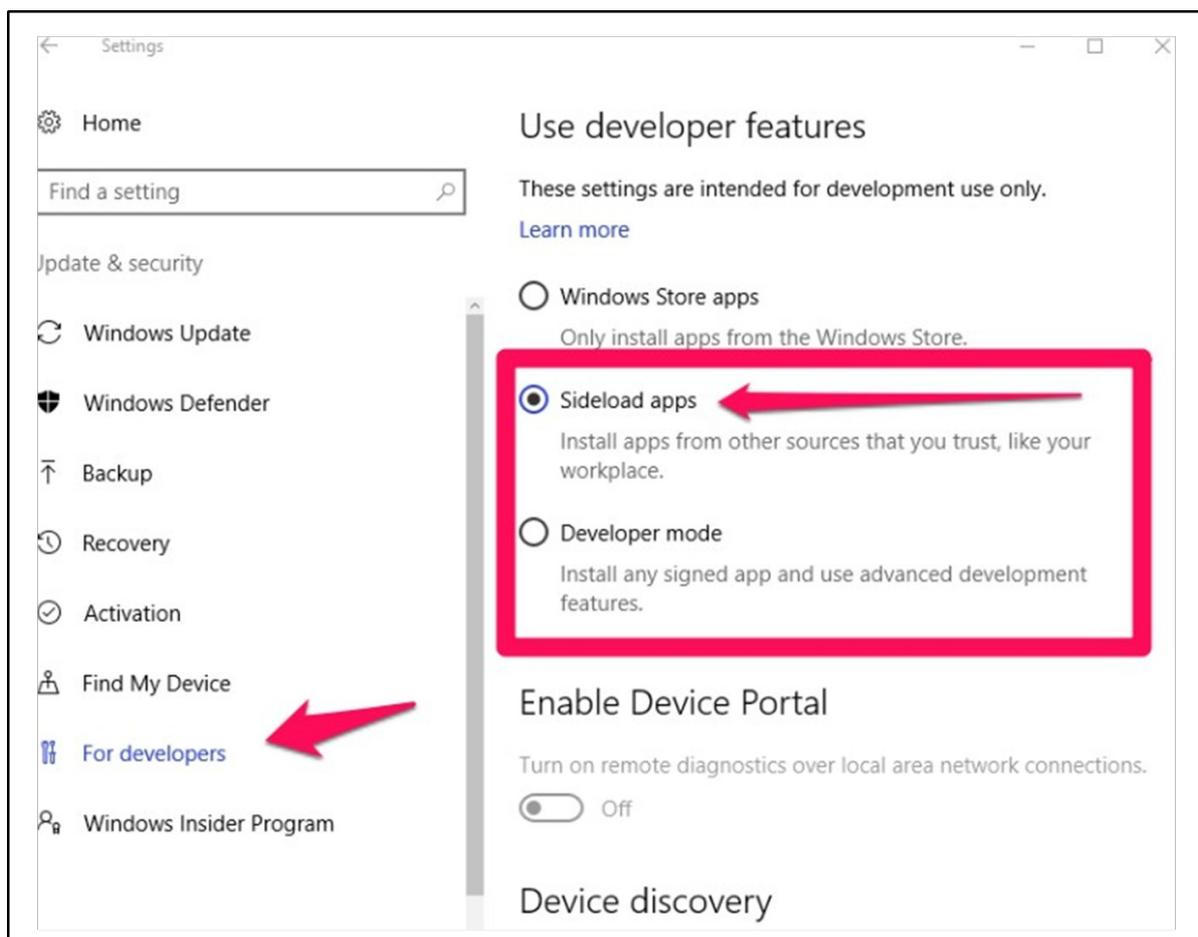
After installing the Software, you can access the device functions:

Toolbar

Zoom in / out	
Record video (microphone requested)	
Save image to jpg, files will remember indexed, and store zoom data	
Save Image As.. You can choose where to save your pictures	
Lock - Unlock autofocus	
Adjust manual focus	
Show Crosshair	
Freeze /Unfreeze image	
Color / Greyscale	
Digital Zoom ON / OFF	
Draw mode (measurements, image comparison, etc.)	
Setting menu	
Full screen image (no buttons on screen)	
Choose between 6 different preset and recall preset options. Set with Right click, Recall with left. Store Zoom value.	
Calibrate, see more page 11	

Draw Mode Toolbar

Edit. Move anything you have added, lines, text.	
Draw a rectangle. No measure values Draw a circle.	
Diameter value. 3 points circle	
Draw vertical or horizontal line with measure value	
Draw oblique line with measure value and angle degree from horizontal base	
Insert text. See more on page 8.	

🗑	Delete. Choose from the Index (#) what to cancel.
💾	Save image with information
📄	Open a saved image to make live comparison
■	Full screen (Default)
▭ ▯	Compare Live image with stored images (horizontally and vertically)
▤	Overlay, compare live image and stored image
🔍	Zoom IN on the editing image
🔧	Calibration: use calibration to get more accurate values
⚙	Settings
📹	Go back to live image
Calibrated 🔵 Calibrated 🟢	Blue Light = Not Calibrated | Green light = Calibrated

Text

Insert text by pressing LB (Left button) on the Text icon (T) and then write your text. To either move or edit the text, you simply press the text icon (T) again and you can edit the text or move it by pressing Left button and move the text frame. You can also use the "Edit" function to move your text freely. If you want to remove the text frame just press (x) to delete.

SETTING MENU

- **Lens:** Choose between 3 or 4, depending on your system.

- **Unit:** Specify whether measurements are in mm or inches.

- **Number of Digits:** Determines the decimal precision displayed.

- **Mouse Wheel Zoom:** Enables zooming using the mouse scroll wheel in live mode.

- **Zoom Value / Rotation:** Adjusts how zoom responds to the scroll wheel.

- **Editing Colors:** Use Backcolor_text or Line_Text_Color to change text and drawing colors in Draw Mode.

- **Path for Images and Videos:** Choose the storage location (default is \pictures and \Video).

- **Image Name:** The stored image and video filenames include an index.

- **External Monitor:** If using an external monitor with a connected PC, set it to "only external" (not extended or dual). This ensures accurate magnification and measurements.

System set up

Example of system setup when the device Software is used:

DO NOT CONNECT THE DEVICE BOTH TO A MONITOR AND PC TOGETHER.

If the computer and the monitor are used together, like extended or dual, the algorithm for magnification/ measuring will be effected.

With the following screens sizes: 20"(1600x900); 22"(1920x1080); 22"(1680x1050); 24"(1920x1080); 24"(1920x1200) measuring will have a tolerance of 1-2% without calibration.

Measuring

Put your object under the camera. Choose the magnification by the software buttons.

Notice: using the remote control, the Zoom factor will be not updated and measuring will be wrong.

DO NOT USE REMOT CONTROL WHEN CONNECTED TO THE PC BUT USE THE SOFTWARE TOOLBAR.

Press the draw button. Press LB (Left button) on your mouse, select the horizontal or vertical   button and click the starting point. Then go to the second measuring point and press LB on your mouse. The measure value will appear on the screen.

CALIBRATION

Press the Calibration button. A message will indicate whether you should be within the 10 mm or 1 mm range (or 0.39" if inch units are chosen from the settings menu).
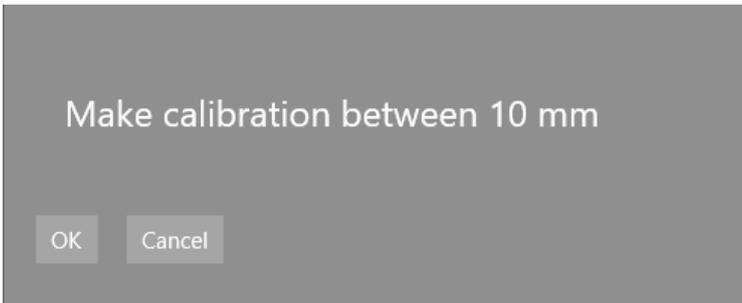
Press "ok". Press and hold down the left mouse button and move it 10mm and then release the left mouse button then the menu bellow will appear.

After Calibration in Live mode it will show these options:
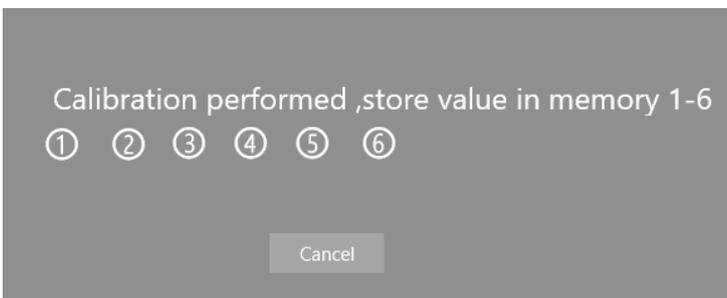
After calibrating in Live mode, you'll see options to save presets. You can have up to 6 different presets with various zoom values, all calibrated simultaneously.

Avoid using the remote for measuring; any zoom changes made via the remote will affect the software's values.

Compare Live image with a stored image, horizontal, Overlay.
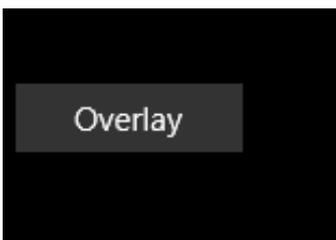
Overlay Comparison:

Press the "Overlay" option. Your live image will serve as the background, and the stored image will appear as a transparent overlay. Use the slide control to adjust the transparency level. This feature is useful for comparing electronic boards or other visual elements.
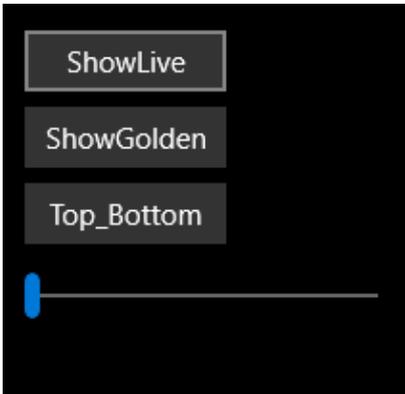
VIEW OPTIONS:

You can choose between the following display modes:

"ShowLive": Displays the live camera feed.

"ShowGolden": Shows your saved image (the "golden" reference).

"Top_Bottom": Splits the screen vertically, with the live image on top and the golden image below.

IMAGE INFORMATION:

When your images are stored, it also stores information about the actual zoom value. And will be used when you use the function load an image in Drawmode.

ETHERNET

Connect an Ethernet cable to your system and your network will give the system an IP address, this address can be found either in the menu OSD or under settings in the software. This address can be used in Google Chrome browser on every device connected to the same network domain to show a live picture. If you would like to view a live image from the system while outside your local network, please contact your network administrator.

IMPORTANT: Edge & Firefox browsers are currently not supported by this unit.

OPTIONAL ACCESSORIES

TEK-TILT_PLUS 360° Inspection Table

Maneuverable tilting table provides perfect object alignment. The table plate is covered with an ESD-safe material. The 4D lens is included to replace standard The device lens.

Diameter: 220 mm; Height: 73 mm

TEK-XY Inspection Table

Portable XY ESD safe table for easy control of magnified object.

Horizontal Movement: 190mm; Vertical Movement 235 mm; Table Dimension: 420x410 mm; Weight= 5.45 kg

TECHNICAL FACTS

Magnification 27" monitor: 46x optical (bigger monitor size results in increased optical magnification)
up to 140x digital (92x recommended). Digital magnifications beyond these values are possible, but they bring noise to the image.

Autofocus and manual focus
Free working distance under camera : 310mm
Resolution: FHD on monitor, 1920 x 1080
On screen magnification rate
Sensor: 1.2/8"
Store image on USB stick
Ethernet connection
Wireless Remote control
Frame rate: 60 Hz
LED light (only TEK-SCOPE-PLUS): 12 V, built-in
ESD safe
Weight: 4,5 Kg
Microscope battery: Lithium CR1220 MFR 3 Volt
Remote control batteries: 2 x Alkaline LR03PRO AAA 1,5v
Plug Type: Type C (EU)
AC input: TEK-FLEX 100-240 V~, 2.0A, 50-60Hz ; TEK-SCOPE 100-240 V~, 0.9-0.45A, 50-60Hz
DC output: TEK-FLEX 12.0V - 5.0A, 60.0W; TEK-SCOPE 12.0V - 3.0A, 36.0W MAX

SAFETY INFORMATION

Never connect the product if it has been exposed to moisture.
Avoid pinching power cord.
If the product is moved from cold to warm, condensation may occur. Wait about 30 minutes before using the product.
Use the device only on stable work surface, with at least 45 cm depth.
If normal functions can't be reset after troubleshooting, turn power off and contact your local supplier.

WARRANTY

1 year warranty for manufacturing defects.

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