



# G-SCOPE™ User's Guide



# Contents

1. G-SCOPE Standard Package -----	3
2. G-SCOPE Overview -----	4
1) Introduction -----	4
2) Product Description -----	4
3. How to use your SMART G-SCOPE -----	4
1) Mode Switch -----	4
2) Button -----	6
3) LCD Display -----	6
4) End Caps -----	7
※ Warning & Precautions -----	8
5) End Caps -----	9
4. PC Software --- -----	10
1) Download & Installation -----	10
2) S/W Usage -----	11
5. Android Software -----	14
1) Download -----	14
2) How to use -----	15
6. Specifications -----	16



# 1. G-SCOPE Standard Package



- 1) SMART G-SCOPE Handset
- 2) IR Remote Controller
- 3) USB OTG Cable for Android
- 4) 3pi Corner End Cap
- 5) USB Cable for PC
- 6) G-SCOPE BOX

6)



## \*. Option Items : Stands & End Caps

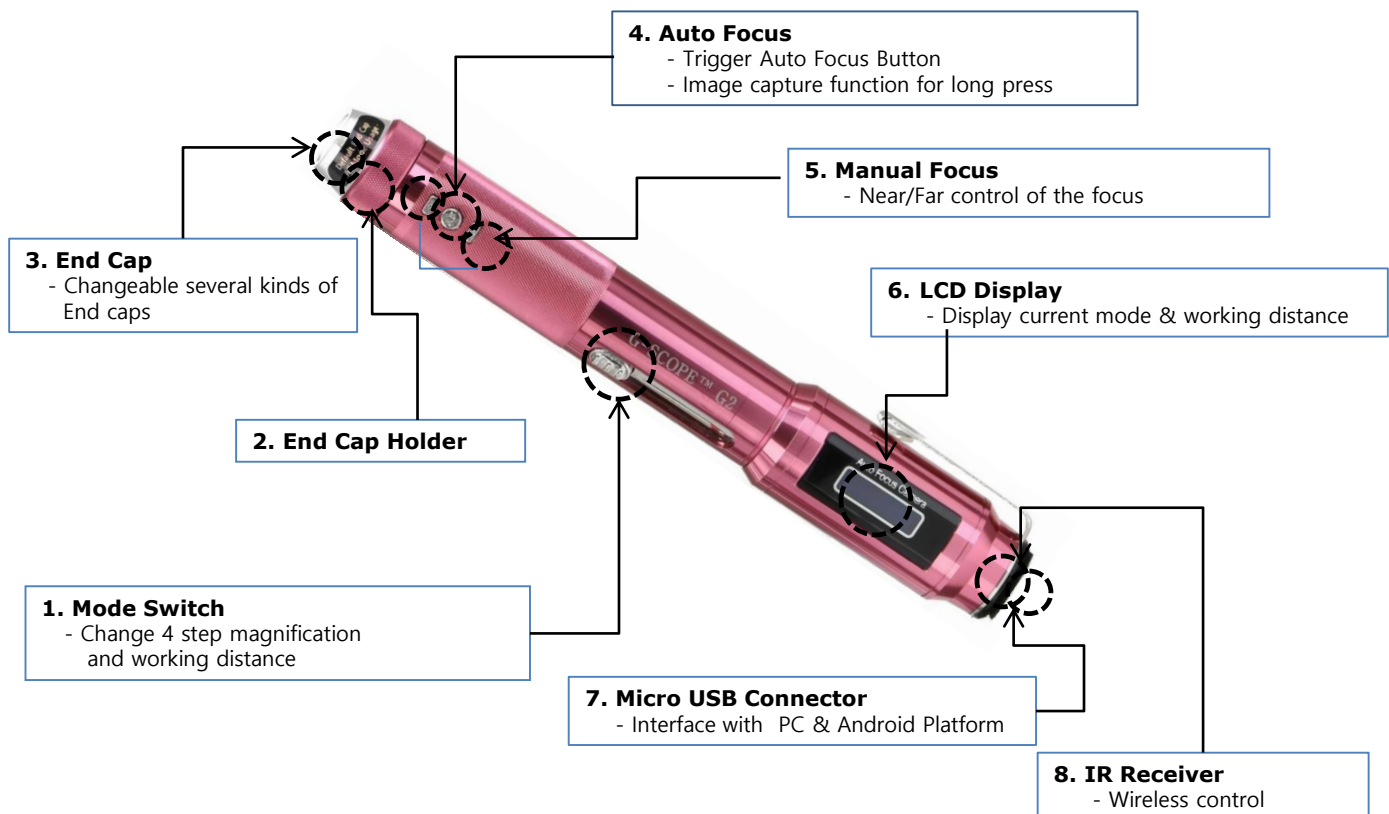


## 2. G-SCOPE Overview

### 1) Introduction

This sheet include the Product description & the explanation for installation & usage of the software.

### 2) Product Description

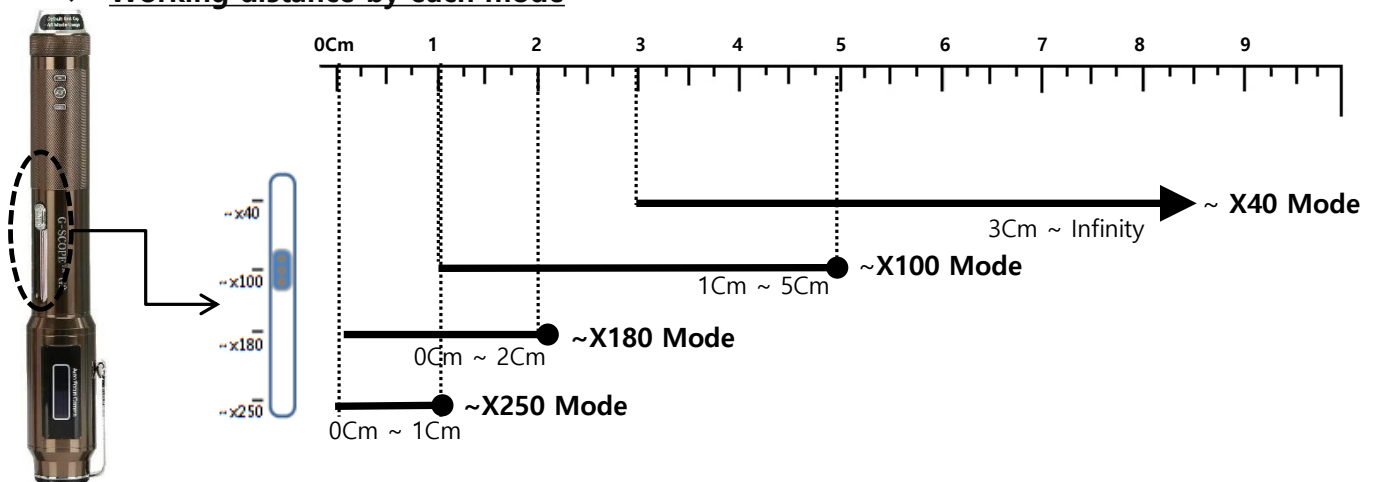


## 3. How to use your SMART G-SCOPE

### 1) Mode Switch

G-SCOPE have 4 step modes and each mode has their own max. magnification and working distance.

#### ❖ Working distance by each mode

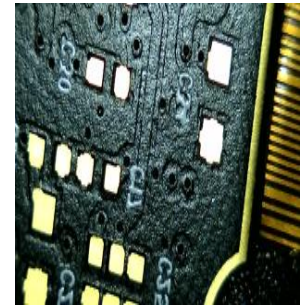
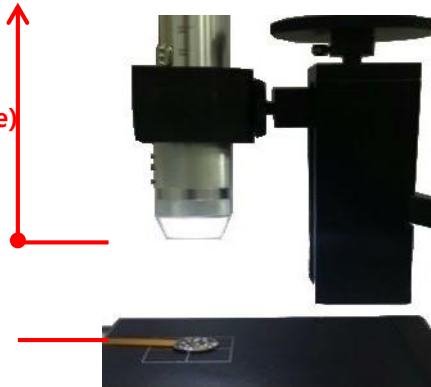


① ~x40 Mode working distance : 3cm~Infinity



Target Object

(Working Distance)  
3Cm~Inf



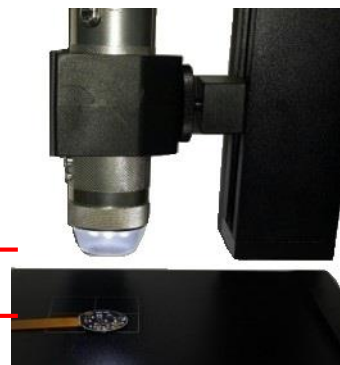
~x40 Mode

② ~x100 Mode working distance : 1cm~5cm



Target Object

(W.D.)  
1Cm~5Cm



~x100 Mode

③ ~x180 Mode working distance : Contact~2cm



Target Object

(W.D.)  
0Cm~2Cm



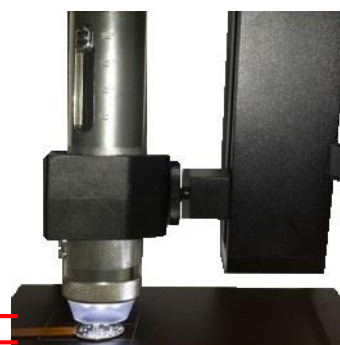
~x180 Mode

④ ~x250 Mode working distance : Contact~1cm



Target Object

(W.D.)  
0Cm~1Cm



~x250 Mode

## 2) Button



### ① AF : Auto Focus

Fast Auto Focus by pushing "AF" button shortly.

If long press over 1 second, Image capture function will be activated.

### ② Manual Focus (Near & Far)

Manual focus control by pushing Near (-) & Far(+) button.

### ③ Digital Zoom

If long press of "+" button, Digital Zoom (x1.5 → x3.0 → x1.0) function works

### ④ LED ON/OFF

If long press of "-" button, LED ON/OFF will be toggled.

## 3) LCD Display

Display current Mode & working distance.

If temperature end cap is attached, display the temp. icon & temperature of the object.



LCD display	Description
x40[3cm~INF]	Max. 40X magnification [Working distance : 3cm ~ Inf.]
x100[1cm~5cm]	Max. 100X magnification [Working distance : 0.5cm ~ 4.5cm]
x180[0~2cm]	Max. 180X magnification [Working distance : Contact ~ 1.7cm]
x250[0~1cm]	Max. 250X magnification [Working distance : Contact ~ 0.8cm]



#### 4) End Caps

Several kinds of end caps are designed for their own special purpose each by each and it can be changeable by replacing between the cap very easily.

##### ① End Cap List

- **Default End Cap** (All mode usage)

- Composed with high luminance 6 White LED.
- For normal microscope usage



- **3pi Corner End Cap** (~X100 mode )

- Composed with 4 white LED
- Very useful for the inspection of the corner point



- **OtoScope End Cap** (~X40 / ~X100 mode )

- Ear endoscope



- **Iris End Cap** (~X40 mode only)

- Iris endoscope



- **Temperature End Cap** (All mode usage)

- Temperature meter with Germany high quality sensor.



- **Dental End Cap** (~X40 mode only)

- Dental endoscope.



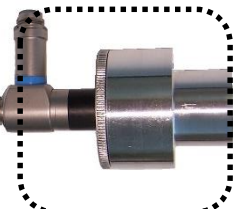
- **Pets Otoscope End Cap** (~X40 / ~X100 mode )

- Composed with 4 white LED
- Very useful for long- ear pets



- **Endoscope End Cap** (~X40 mode )

- Adaptor (Aluminum)
- Medical & Industrial inspection device for Automotive, Aviation, Machinery, Phone Repair, Construction, etc.



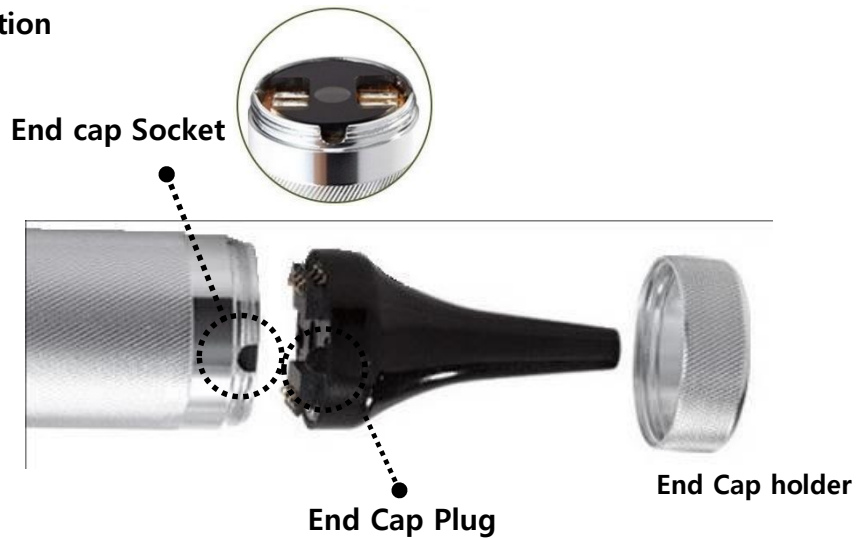
- **Telephoto End Cap** (~X40 mode only)

- Optical Zooming for long distance object  
(Long distance : Default 10X → With this cap, About 24X)

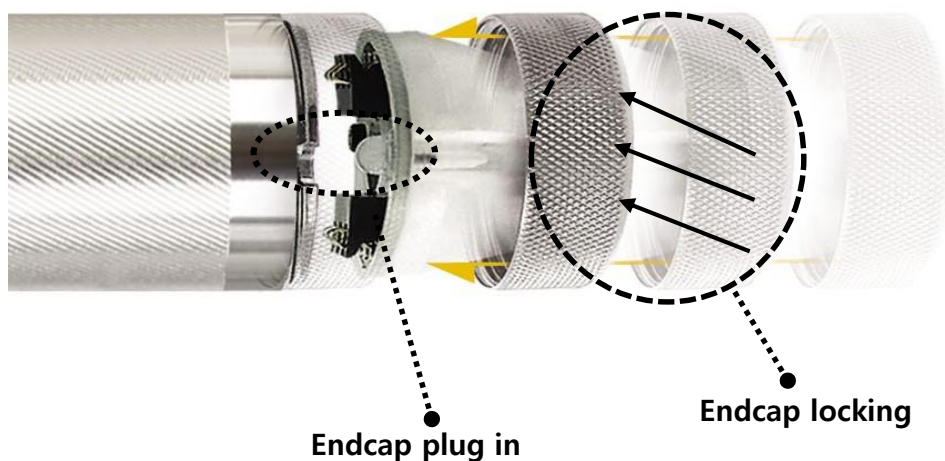


## ② End Cap Replacement

### a. Description



### b. End Cap Installation



## ※ Warning and Precautions

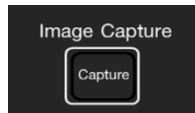
- ✓ **When you replace end cap, please locking it tightly with the body.**
  - If the locking is not tight, LED may not be turned on.
- ✓ **Please insert USB CABLE into the connector correctly.**
  - The device doesn't work or may have the damage unattended.
- ✓ **Do not pull USB cable tightly, when it is connected with the device.**
  - Interconnection with PC or Android platform may be destroyed.



## 5) IR Remote Controller

Smart G-Scope can be easily controlled by IR Remote controller..

### ❖ Description of function key



#### ▪ Image Capture

Capture : Image Capture in G-Scope software.



#### ▪ Auto Focus

- NEAR : Manual Focus (NEAR direction)
- A/F : Auto Focus function
- FAR : Manual Focus (FAR direction)



#### ▪ Image Filter

- Normal : Ruler On/Off
- + : 2 Axis <-> 4 Axis Ruler Change
- - : Ruler Color Change  
(Black->White->Green->Pink->Red->Yellow->Blue)



#### ▪ Zoom/Rotate

- Zoom : 1.5x → 3x → 1x Toggle
- Normal : Original image
- Rotate : 180 degree rotation.



#### ▪ Brightness Control

- - : Less Brightness
- 0 : Original Image
- + : More Brightness

## 4. PC Software

### 1) Download and Installation

To download G-Scope application, Please visit the web;  
([http://www.genie-tech.co.kr/document/english/Technical/board\\_datasheet.php](http://www.genie-tech.co.kr/document/english/Technical/board_datasheet.php))



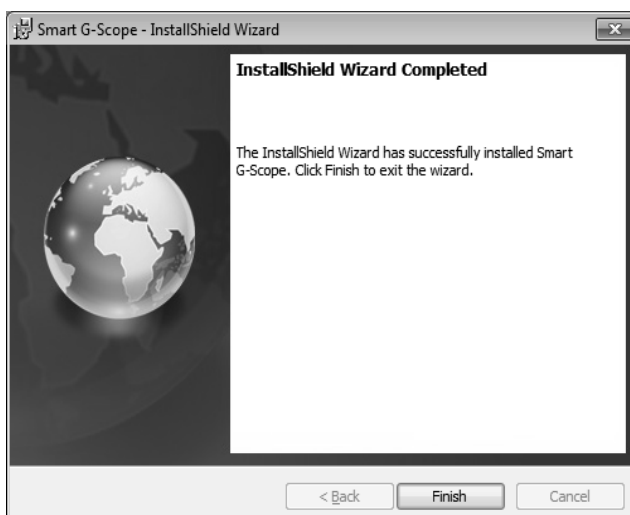
- ① Execute Setup.exe
- ② Select the language and Click "OK"



- ③ Click "Next" button



- ④ Click "Next" button



- ⑤ Installation finished and click "F"

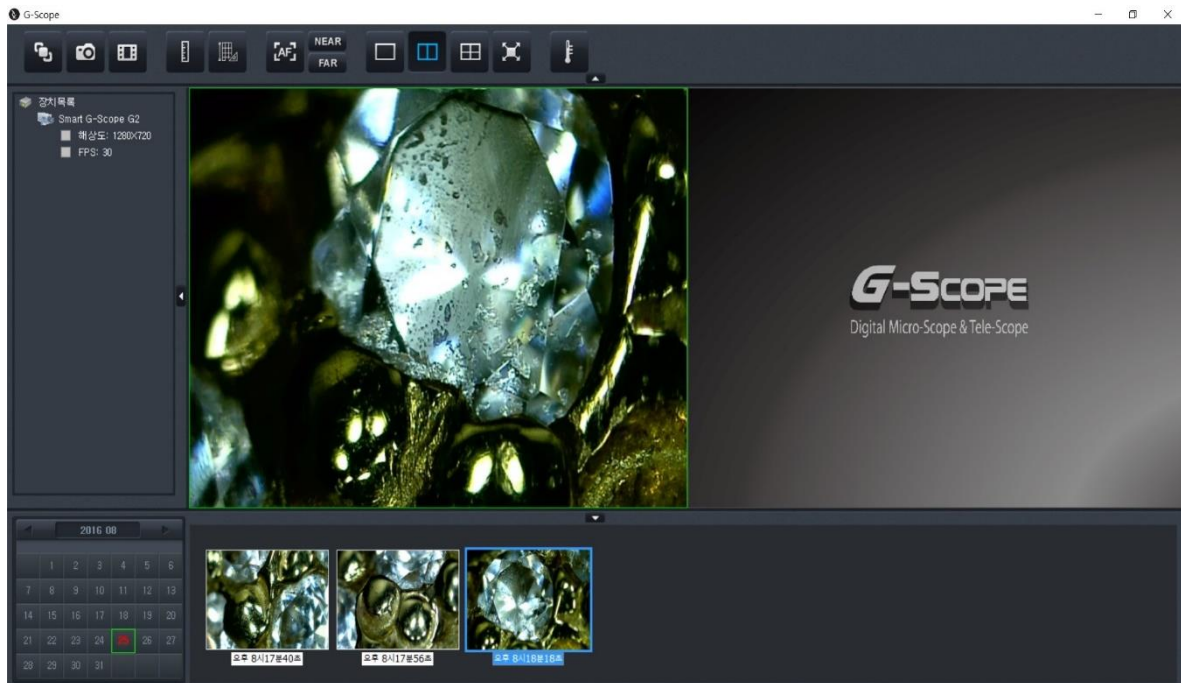
- ⑥ The icon below will be made automatically



## 2) S/W Usage

### ① Software Description

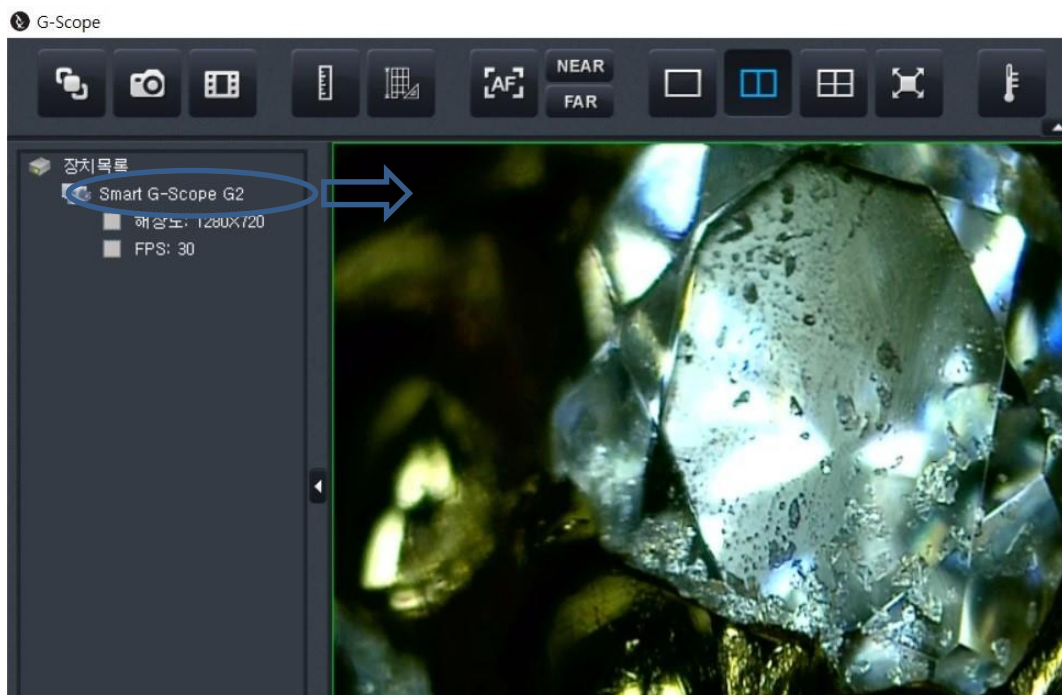
After connecting Smart G-SCOPE Gx with PC and execute the program.  
Max. 4EA Smart G-Scope can be connected at the same time.



With these button   you can control the size of Image panel window.

### ② Image display

To see G-Scope image, Just drag Smart G-Scope G x of Device panel onto Image panel window you want to put in.



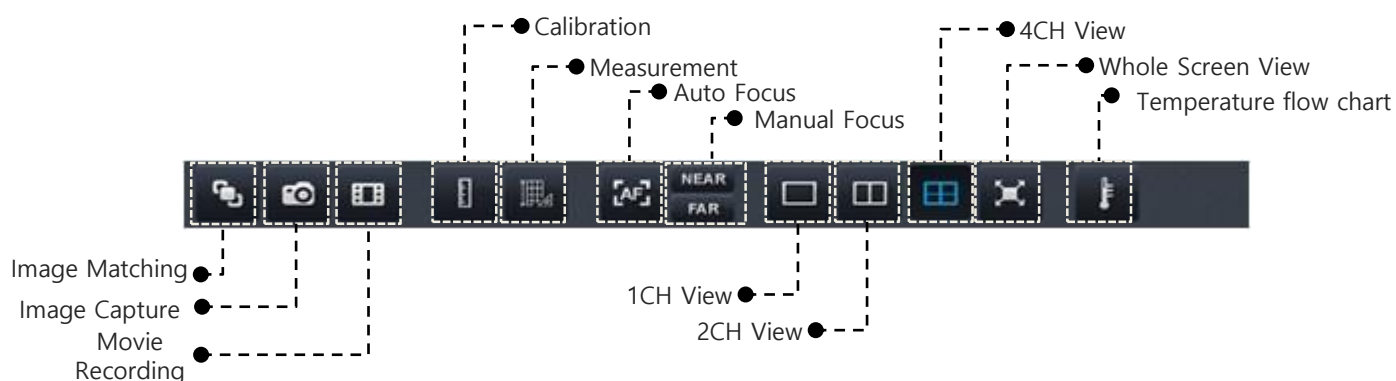
### ③ Camera Setting

You can see the pop-up menu, when clicking the right button of the mouse on activated image window.



- a. **Disconnect** → Turn off the camera
- b. **Whole screen** → Maximize Image panel window.
- c. **Image Format** → Change camera output size.
- d. **ISP Effect** → Several kinds of image effect filters.
- e. **Auto Focus** → Trigger auto focus

### ④ Button Function Overview



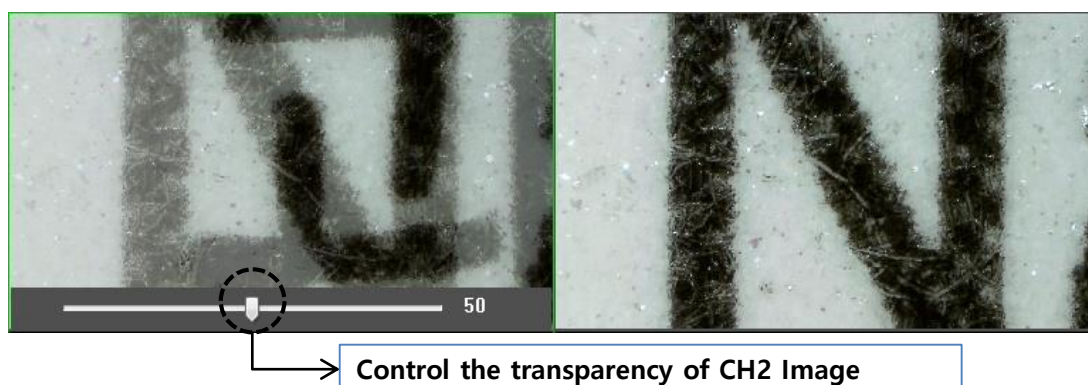
#### ■ Image Matching



Overlap CH2 Image on CH1 image panel and Control the transparency rate of CH2 image.

"CH 1"

"CH 2"



#### ■ Image Capture



Capture still image

#### ■ Movie Recording

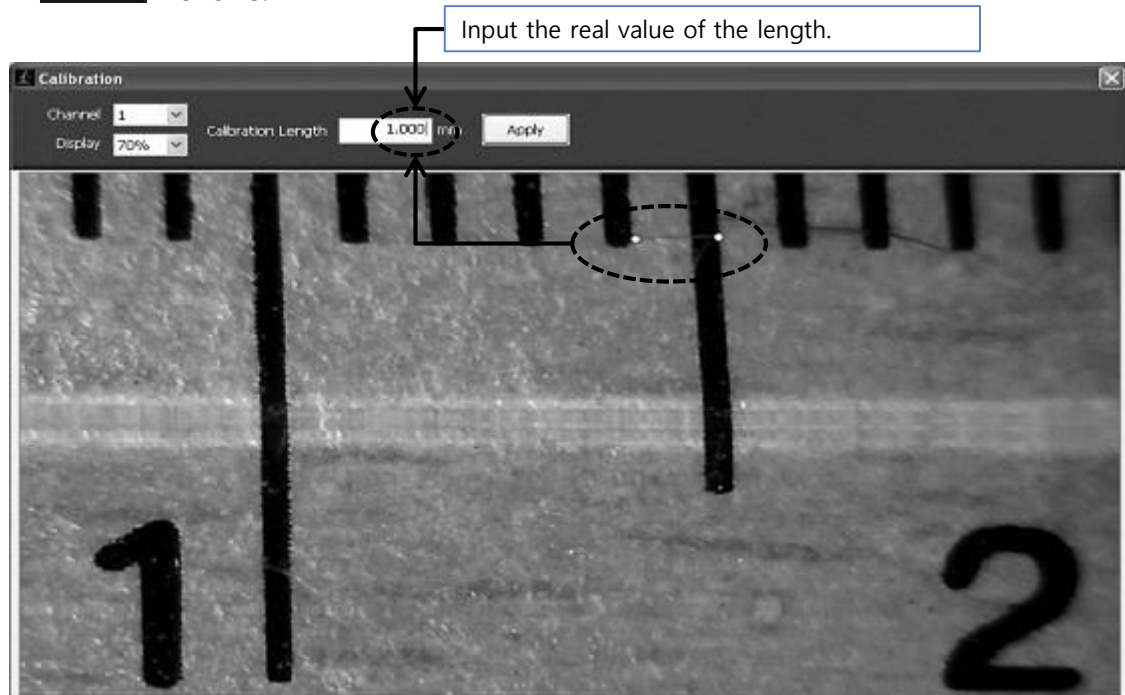


Record the movie

## ■ Calibration



To get the right data of the measurement, you should do calibration as follows.




## ■ Measurements



Measurement of Length, Circle, Area and Angle of the target object.



## ■ Switched Focus

- Once **1** button clicking, a dot line rectangle will be shown on the image.  
With Mouse drag, the rectangle can be resized and moved.
- For 2<sup>nd</sup> area you want to focus, just click **2** and resizing & moving
- Same way for 3<sup>rd</sup> area you want to focus. **3**
- From 0.1 sec to several sec, input the time you want to see between the area.
- To play switch focus function, just click  icon.
- To stop switch focus function, click "switch focus" icon again.

\*. Very useful function to see the different focus areas of the scene simultaneously.

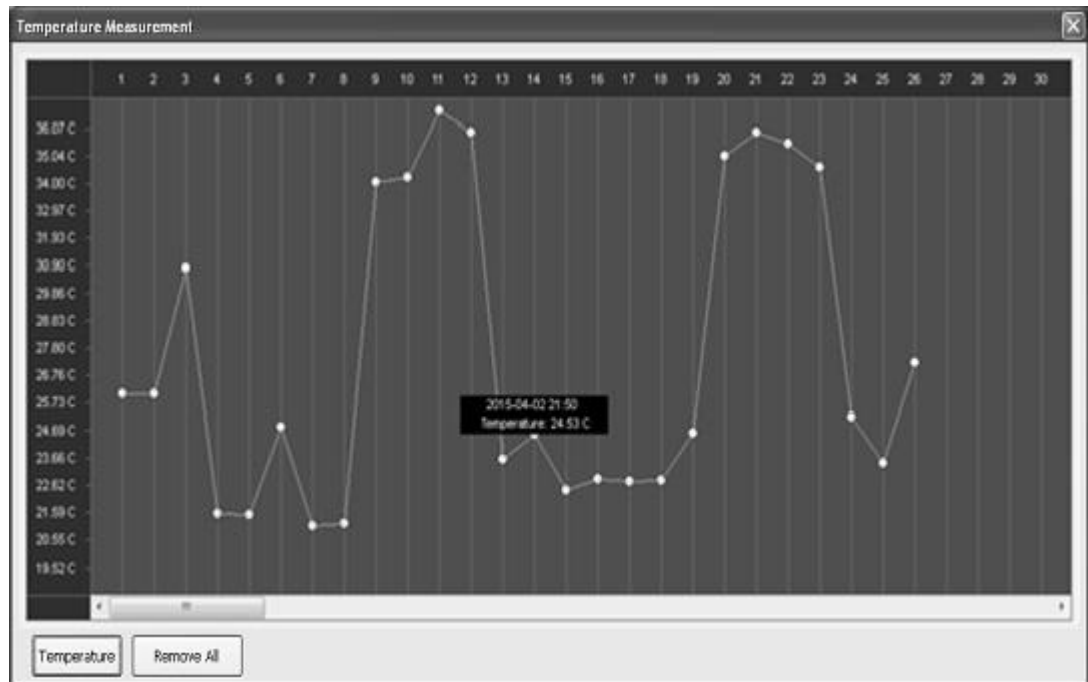


## ■ Temperature Chart



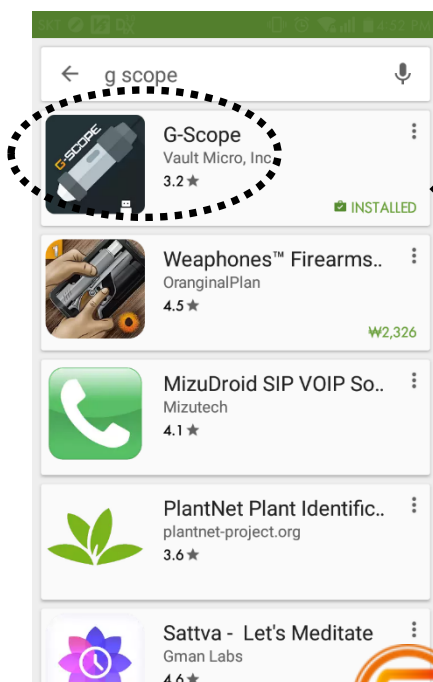
Display temperature data flow that is stored in smart G-Scope.

- It can be displayed, when Temp. end cap is attached with Smart G-Scope.
- Max. 1K unit data with date and time can be displayed.



## 5. Android Software

### 1) Download



- Excute "play store" on android platform.
- Input 'G-SCOPE' or 'g scope'. in search window
- Select 'G-Scope' app and install it.



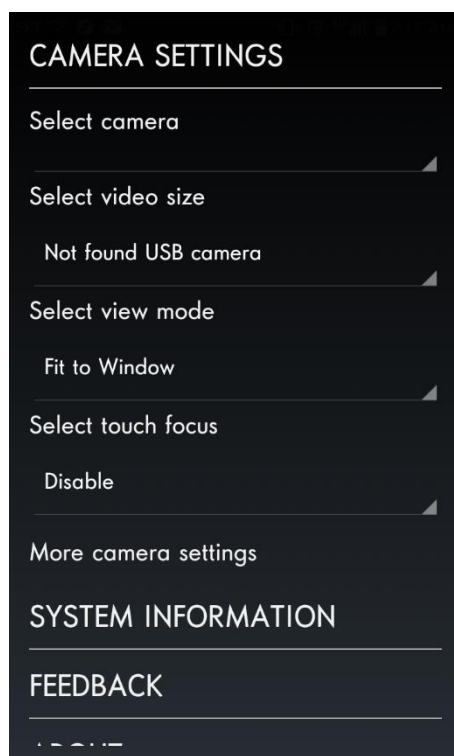
## 2) How to use



Click for the execution



### ■ Camera Setting



- a. Select the device  
Display the device connected.
- b. Image format  
Select Image resolution to be displayed.  
Support the image formats of Full\_HD (1920X1080), HD(1280X720), D1(720X480), VGA(640X480).
- c. Display size  
Select image display size.  
- Fit the image to LCD resolution or display a real image resolution.

## 6. Specifications

Model	SMART G-Scope G1 ~ G7
Magnify	10 ~ 250X
Sensor	3.5M Pixel CMOS
Auto Focus	Fast Auto Focus using Liquid Lens
Working Distance	Contact ~ Infinity by Mode Change
OLED	Display Magnify Mode & Temp.
Lighting	White LED with On/Off Control
Movie Recording	30fps, AVI(1920x1080, 1280x720, 720x480, 640x480)
Image Capture	JPG(1920x1080, 1280x720, 720x480, 640x480)
Length Calculation	Yes
Attachable End Cap	Polarity filter End Cap
	3Pi Corner End Cap
	Endoscope for Ear
	Endoscope for Iris
	Endoscope for Dental
	Infrared Thermometer
	Telephoto End Cap
Remote Control	IR Remote Controller
Exposure	Auto Exposure
Color Control	Auto White Balance
Image Processing	Emboss, Sketch, Grayscale, Opposite Negative, etc
Interface	USB 2.0 High Speed
O/S	Win XP, Win7, Win8, Mac OS, Linux, Android
Stand	Optional