



# Whicam **M**

Macro to Infinity

User manual

Eng



1. Introduction	04
- Features	
- Description	
- Overview	
2. Safety Information	05
- Warning and caution	
- Notes and references	
- Installation and connection	
- Operation	
- Maintenance	
3. List of components	09
4. Parts and functions	10
5. Installation	11
6. How to use	12
7. Maintenance	14
8. Trouble shooting	15
9. Specification	16
10. Accessories	17
11. Warranty	17
12. Warranty card	18

# 1 Introduction

Thank you for purchasing the device. The instructions described below have been designed to provide the necessary information for the successful operation, daily maintenance and safety for the use of this unit.

## Features

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- Autofocus
- Adjustable LED brightness
- Software compatibility
- Mouse function

## Description

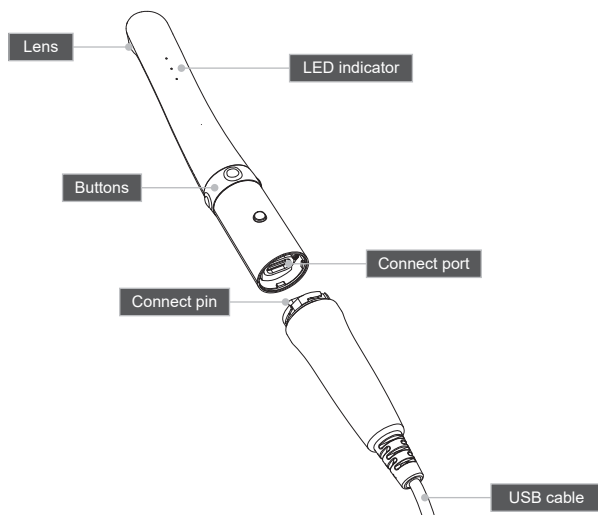
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This device is an intraoral camera used to take images of the inside of the mouth or oral cavity.

## Overview

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### 1) Camera



### 2) USB cable

## 2 Safety information

It is important to understand the following information to use this product safely.

### Warning and caution

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Warning and caution used in this manual are shown below.



Warning

Indicates a potentially hazardous situation which, if not avoided, may result in serious injury or death.



Caution

Indicates a potentially hazardous situation which, if not avoided, may result in minor/moderate injury or in damage of property.

### Notes and references

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Notes and references used in this manual are shown below.



Note

Indicates that potential malfunctions may occur if the description is ignored.



Reference

Supplementary information to facilitate better operation.

## 2 Safety information

### Installation and connection

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#### Warning

- Before use, check that there is no dust or foreign particles in the USB cable or connection part to avoid an electric shock.
- Keep away from sources of ignition.
- Protect the device from any liquid to avoid an electric shock or functional error.
- Place the device on a plate, stable surface, or cradle supplied.  
Dropping the device could result in an internal defect that may cause overheating or fire.
- Do not place the USB cable near a gas burner or other sources of heat. Should the cable catch on fire or become damaged, replace with a new one to avoid short-circuiting.



#### Caution

- Do not use or leave the unit in areas of high temperature or exposed to direct sunlight. Internal circuit faults may cause the device to overheat or catch on fire.
- Securely connect the dust-free USB cable. Use this device in well ventilated areas, as overheating may cause ignition.

## 2 Safety information

### Operation



#### Warning

- Do not plug in the USB cable with wet hands. This may result in an electric shock.
- Do not use this product on a person with a pacemaker as it may cause malfunction of the pacemaker.
- Use a disposable cover for each new patient to prevent cross-infection.



#### Caution

- Do not disconnect the USB cable by pulling on the cable. This may result in an electric shock or fire.
- Avoid damage or use of unnecessary force on the USB cable.  
This may result in an electric shock or fire.
- Remove the USB cable if the device is out of use for a long period of time.
- Do not use this product for any purpose other than dental use.
- This device is not waterproof. Use disposable covers to avoid wetting the device.  
In case of malfunction due to this case, it is not covered by warranty.
- The product may malfunction or the connection to the PC may be disconnected due to the ESD/EFT

## 2 Safety information

### Maintenance

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#### Warning

- Never disassemble or repair the product, this may cause injuries, electric shock, or fire.
- Avoid getting the unit wet to prevent an electric shock.
- Ensure that the USB cable is disconnected prior to cleaning.

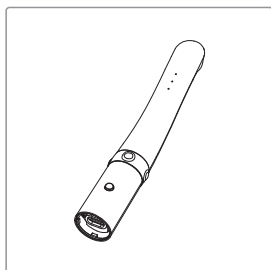


#### Caution

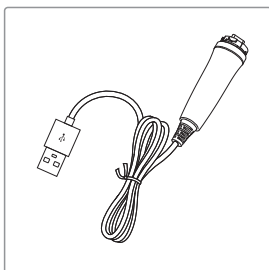
- Do not use solvents oil, ethanol, or acetone to clean or disinfect.
- The user must be in charge of the operation and maintenance of the device.

### 3 List of components

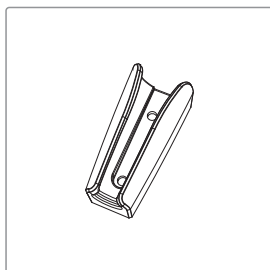
Please check the contents described below when removing the contents from the original packaging.



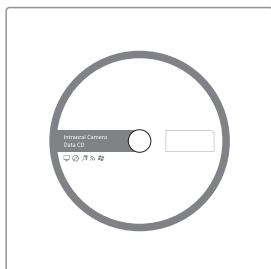
Camera



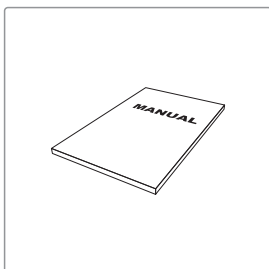
USB cable



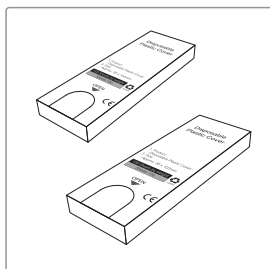
Cradle



Data CD

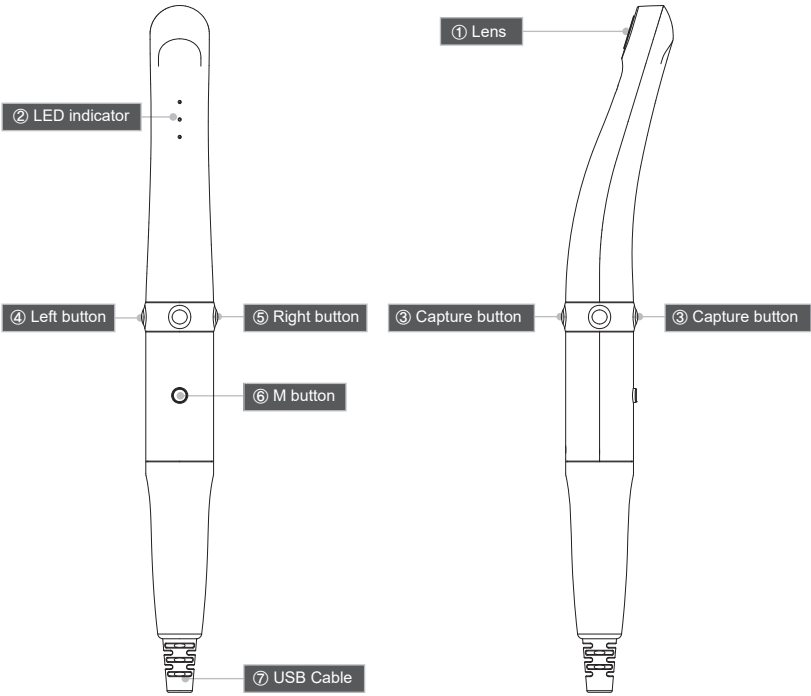


User Manual



Disposable cover  
(x 100 pcs by weight)  
x 2ea

# 4 Parts and functions



**① Lens**

- Takes image and send to sensor

**② LED indicator**

- Show the device status



- ① LED indicator
- ② LED indicator
- ③ LED indicator

**③ Capture button**

- Image capture, focus adjusting

**④ Left button**

- Mouse left button

**⑤ Right button**




- Mouse right button

**⑥ M button**

- Mouse activation

**⑦ USB Cable**

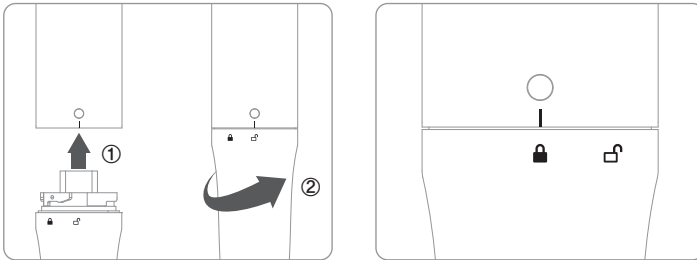
- Connect with camera and PC.

LED indicator	State	LED Color			
					OFF
① LED	Black & White mode	Normal mode	-	-	Black & White mode
② LED	Color impression	Original	Standard	Warm	-
③ LED	Auto-focus	Semi auto-focus	Full auto-focus	-	-

## 5 Installation

### 1. USB cable connection

Connect the USB cable with body as follow picture.



Caution

Be careful when connecting the USB cable to body. Do not force too much.

### 2. Capture key setting

- Capture key can be changed with "HIDDrS Manager" in the CD.
- Default value is "Space"



Reference

If software capture key value is unknown, contact technical support.

## 6 How to use

### 1. Turn on the device

- Connect the device to PC. Then the device is turned on with LED blink with beep sound.

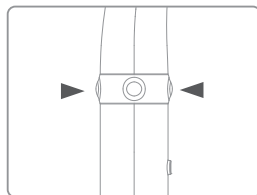
### 2. Image capture

#### 2-1. Semi auto-focus mode

- Half click: Adjust focus
- Full click: Image capture
- Half click & stay: Image capture after focus adjust.

#### 2-2. Full auto-focus mode

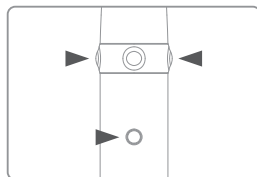
- half click: Image capture



Default setup is semi auto-focus. And capture key is "Space"  
To use other company software, need to check capture key.  
Or need to use twain driver.

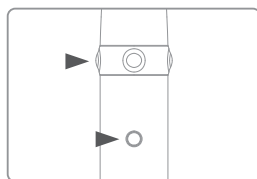
### 3. Mouse function

- Click M button and hold. Mouse cursor on the PC moves as device moves.
- Left / Right button works same as normal mouse button.



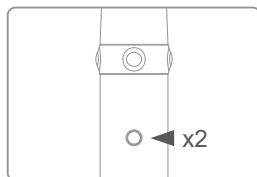
### 4. Brightness change

- Click M button with Left button for 1 sec. on live image.  
Then LED brightness is changed.
- Turn off ⇒ Brightness LV1 ⇒ Brightness LV2 ⇒  
Brightness LV3 is rotated.



### 5. Zoom function


- Double click and hold M button. Then specific area is enlarged.

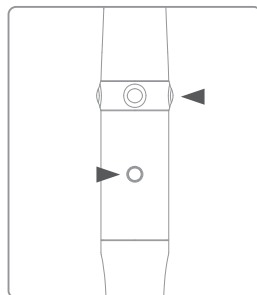


\* Need to install "Zoom function" program on the PC.




## 6 How to use

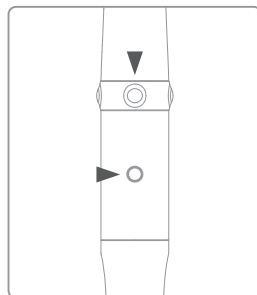
### 6. Black & White mode

- Click and hold M button with Right button for 1 sec.  
Then LED turn off, and live image changed to black & white mode with 1st LED indicator change
- : Normal mode
- OFF: Black & White mode





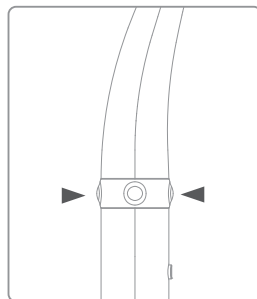
### 7. Color impression changing

- Click and hold M button with Capture button for 1 sec.  
Then the color impression is changed with 2nd LED indicator change
- : Original
- : Standard
- : Warm
- Original ⇒ Standard ⇒ Warm color impression is rotated.






### 8. Focusing mode changing

- Click and hold up/bottom capture buttons for 1 sec.  
Then the focusing mode is rotated Semi / Full auto-focus with 3rd LED indicator change.
- : Semi auto-focus
- : Full auto-focus



Reference

The functions work on live image on.

LED indicator	State	LED Color			
					OFF
① LED	Black & White mode	Normal mode	-	-	Black & White mode
② LED	Color impression	Original	Standard	Warm	-
③ LED	Auto-focus	Semi auto-focus	Full auto-focus	-	-

### Cleaning and disinfection

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- Clean the camera gently with clean, soft, lint-free cloth.
- Avoid using solvents which contain ethanol or acetone.
- Do not use sharp or pointed tools to clean as they may damage or scratch the plastic.
- Be careful not to spill any liquid into the device.
- Use disposable covers when using the device to avoid cross-infection and spilling any liquid into the device.

### Maintenance

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- Do not disassemble the device for any purpose.
- To repair the device, please contact authorized dealer or manufacturer.
- Remove the USB cable from PC, if the device is not in use for long period.

## 8 Troubleshooting

If the device doesn't work normally, please refer to the following points.

Problem	Cause and solution
Button doesn't work	<p>If the button is pressed with excessive force, it would not work, try pressing the button gently.</p> <p>In case of installation or device setting is incorrect, the button could not work. Check the 5. Installation and 6. How to use.</p>
LED indicator does not work	<p>If the USB connection is not good, or USB electric power is not enough the camera will not work. Check the USB connection and use other USB port.</p>
Power off while in operation	<p>If the USB cable is not connected properly, the device may turn off. Check the USB cable connection.</p>
Not able to capture image	<p>Capture key-value will not match with other company dental imaging software. Please check keyboard shortcut. If you don't know please ask the dental imaging software vendor and check the key-value of device.</p>
Live image is not shown	<p>If the device is not recognized well, live image is not shown. Please check camera connection or imaging device of device manager.</p> <p>If there is TV tuner in the PC. The image could be not shown. Check "Disable" the TV tuner device on the device manager.</p> <p>If you use other company dental viewer software, it would be related with its setting. Please ask to the dental viewer software vendor.</p> <p>If you use other company dental viewer software, other imaging device (ex. Web-cam, etc.) should be checked for "Disable".</p> <p>Some codec makes block the live image shown. Uninstall the codec file. (ex. klite codec and etc.)</p>

\* If the trouble is not fixed after following solution, please contact your local dealer or manufacturer.

## 9 Specification

### ■ Equipment Class

Model:	IC-WHMA90
Trademark:	Whicam M
Power supply:	5V USB power
Protection from ingress of liquids:	IPX0 (ordinary equipment)

### ■ Operation, transport, and storage condition for the main unit

	Operation	Storage	Transport
Temperature	10~40C	0~40C	-10C~50C
Humidity	10~80%	0~80%	0~80%
Atmospheric pressure	800 ~ 1060 hPa		

### ■ Additional Information

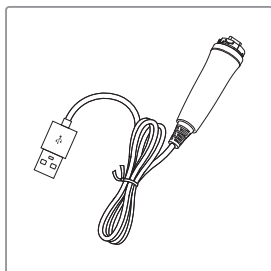
Camera	Operation voltage	5V
	Measurement	Approx. 128 x 21.5 x 32 mm
	Weight	Approx. 61g
	Resolution	FHD (1920 x 1080)
	Sensor type	CMOS
USB cable	Length	Approx. 3 M
Disposable cover	Quantity	Approx. 100 pcs by weight x 2ea
	Raw material	Polyethylene

### ■ Minimum system requirement

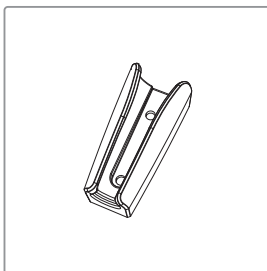
PC system:	3.3GHz CPU, 4GB RAM
OS:	Windows 7 or higher
USB port:	USB 2.0 or higher

\* Upper specification is changeable without prior notice.

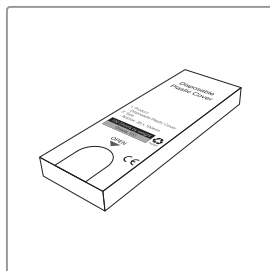
## 10 Accessories



USB cable  
(Item No. IC0409010)



Cradle  
(Item No. IC0509010)

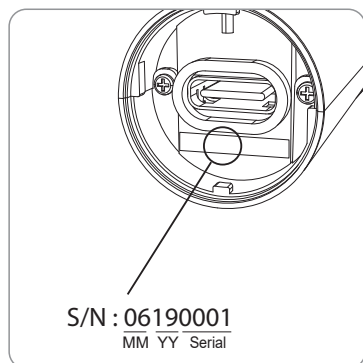


Disposable cover  
(x 100 pcs by weight)  
(Item No. IC0206010)

## 11 Warranty

This product is only shipped after strict inspection. Should the product incur any problems under normal use conditions within one year from the date of purchase, the repair will be free of charge. However, repair of consumables (Disposable Cover, and etc.) are not covered by the warranty. For more information, refer to the 12. Warranty card attached.

Serial number check.



### EC REP Good Doctors Germany GmbH

Gerhard-Domagk-Str. 2, 53121 Bonn, Germany  
TEL: +49 (0) 228/53 44 14 65 FAX: +49 (0) 228/53 44 14 66  
www.gooddrs.de



### Good Doctors Co., Ltd.

#208, B-dong, 283 Bupyeong-daero, Bupyeong-gu  
(Woolim Lions Valley, Cheongchoen-dong), Incheon,  
21315, Republic of Korea  
Tel : + 82 32 424 6325 Fax : + 82 32 424 6326  
E-mail : info@gooddrs.com Website : www.gooddrs.com

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We guarantee the quality of the product as follows

**Name of product :**

**Name of model :**

### Customer information

- Office name :

- Office phone :

### Distributor

- Dealer name :

### Assurance period

- Date of purchase : from \_\_\_\_\_, \_\_\_\_\_, 20\_\_\_\_

Product is for 1 year except accessories.

### < Assurance details >

1. If there is any defect of manufacturer or product has any fault itself within the assurance period, it will be replaced with the same product.
2. Below cases are not effective for the free refund.
  - Malfunction and damage according to user's carelessness.
  - Malfunction and damage according to natural disaster such as fire, earthquake and flood etc.
  - Malfunction and damage according to user's intention or accident.
  - Malfunction and damage according to using incompatible product.
3. The manufacturer does not accept any liability resulting misuse.



**Good Doctors Co., Ltd.**

#208, B-dong, 283 Bupyeong-daero, Bupyeong-gu (Woolim Lions Valley, Cheongchoen-dong), Incheon, 21315, Republic of Korea

Tel: +82 32 424 6325 Fax: +82 32 424 6326

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