

# Hand Held Fundus Camera

## Operating Manual



New Vision Meditec Co., Ltd

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# Preface





Thank you for purchasing our Handheld Fundus Camera. Please read this manual carefully before using this instrument in order to operate it properly and safely.

## Scope of Application

The Handheld Fundus Camera is mainly used for taking photo and video during ophthalmic examination of posterior segment and anterior segment.

Product contraindications:N/A

## Symbols

	Attention. Read user's manual for cautions and instructions for use.
	Type BF – Indicates this is a product with Type BF applied parts.
	Operating instructions for use.
	Date of manufacture.

## Cautions

Please read carefully about following cautions to avoid unexpected personal injury as well as the product being damaged and other possible dangers.



Do not use this instrument in the environment prone to fire and blast or where there is much dust and with high temperature. Use it in the room and simultaneously be careful to keep it clean and dry.



Always use the HANDHELD FUNDUS CAMERA in accordance with the directions and recommendations contained in this User Manual.



When operating this product, please do not use optical lens to touch the eyes or nose of patient, avoiding harm to the patient.



Avoid subjecting the HANDHELD FUNDUS CAMERA to vibration or shock. When the product is not in use, please disconnect the power plug and keep it in a safe place.



Before operation, please make sure the unit appears no damage or break. If there are breaks in the device cover or other visual defects, please contact New Vision.



Only use Li-ion Battery 3.6V2200mAh which shall be provided by New Vision.



If you purchase different memory capacity of SD Card it must be formatted to FAT32.



Do not increase the illumination light more than required, otherwise harmful to the eye.



For illumination and photography, do not select much higher exposure than required. Do not illuminate the eye over the normal exam time, otherwise, harm may be caused to the eyes.

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# Structure instruction

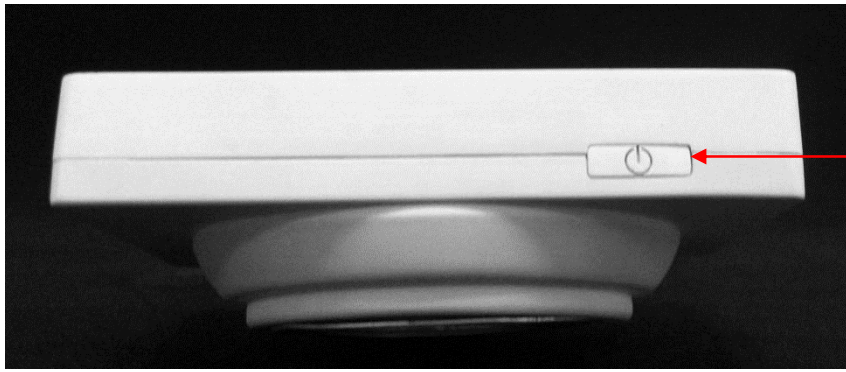
## 1. Intended Use

HANDHELD FUNDUS CAMERA is a digital hand-held camera used to record digital photographs and videos of eyeposterior and anterior segment.

## 2. User Interface



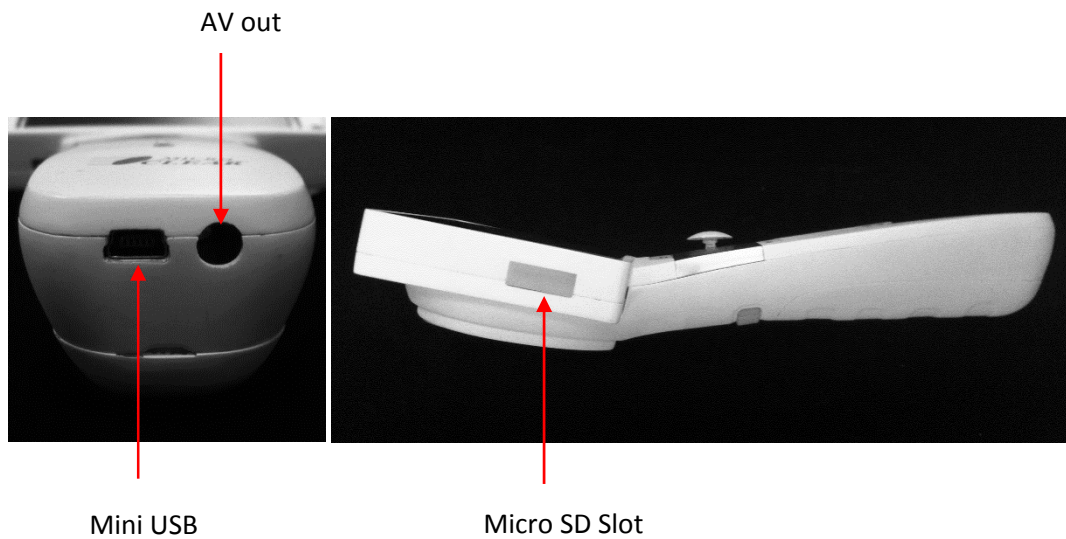
**Front View**



**Top View**



**Rear View**



**Note: AV port is reserved for later use.**

### **Bottom View and Memory Slot**



### **Optical Lens of Digital Fundus Scope**

# Operation

## 1. Battery Installation

Pry Open the battery cover and remove the cover by lifting it up.

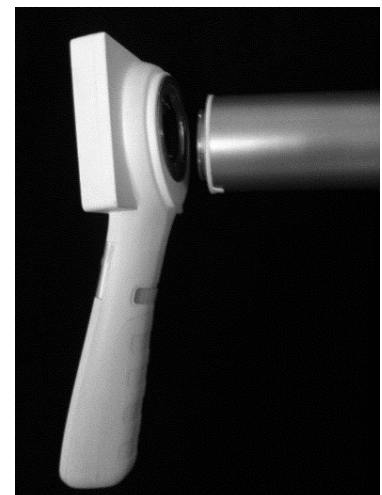


## 2. Lens Installation

Step 1: Align the mark of the Optical Lens and Control Unit.

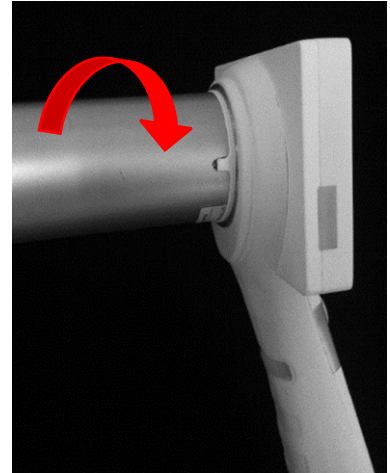


Step 2: Hold Optical Lens and attach it on Control Unit.





Step 3: Rotate and fasten Optical Lens as shown until the lens stops.



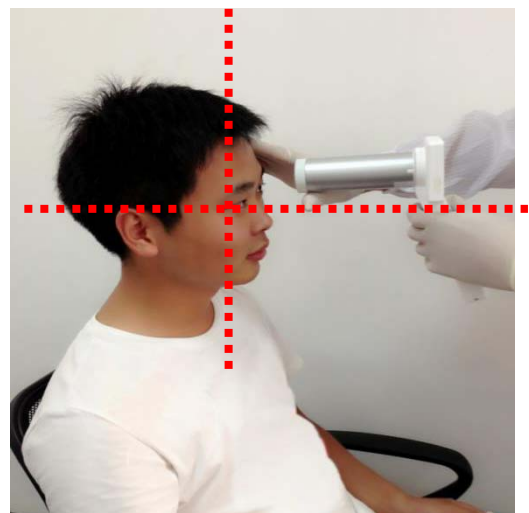
Step 4: The HANDHELD FUNDUS CAMERA is powered on by pressing the power button. Start up takes approximately 3-5 seconds.



### 3. How to Take Picture

Step 1: Turn on the power, it will go to photographing mode automatically.

Step 2: Hold control unit in one hand and rest the lens between the index finger and thumb of the other hand.



Step 3: Brace lens holding hand against patient's forehead. Keep scope perpendicular to patient's line of sight.(Fig. 1)

Fig. 1

Step 4: Slide lens toward the patient until the fundus image fills the screen as shown.(Fig. 2)

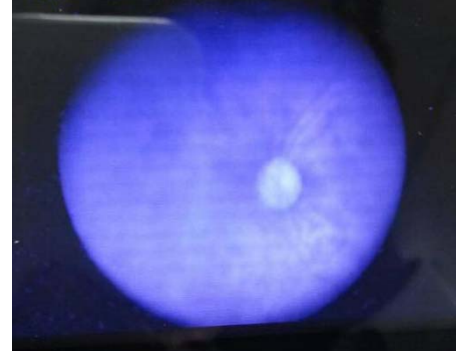


Fig. 2

Step 5: Rotate the focus wheel for minor adjustments to get clear fundus. Press HOME button to take image. (Fig. 3)



Fig. 3

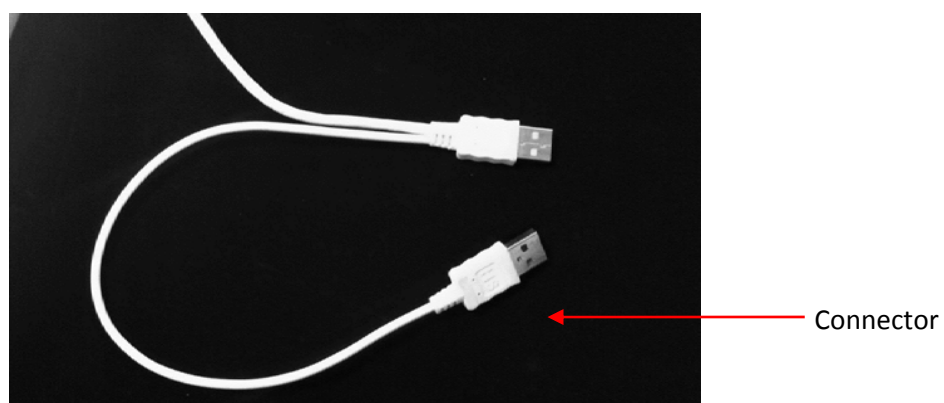
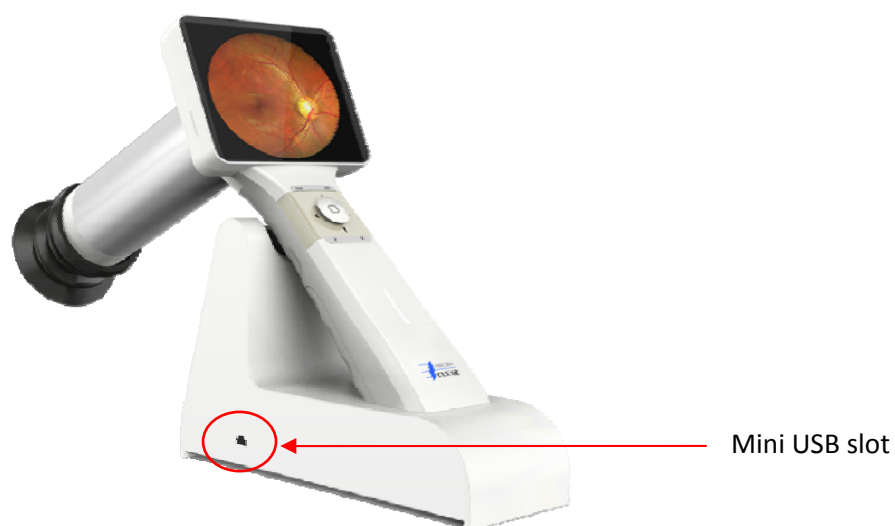
## 4. Image display

- Press “camera” button to take photo and store automatically .
- After getting pictures, press “+” or “-” button to magnify or diminish the image, checking more images by pressing ▲/▼
- Press “Menu” to display/delete image, checking stored images by pressing ▲/▼

## 5. Data Transferring

- Place the HANDHELD FUNDUS CAMERA in the station and connect the mini USB cable to the station.

- The computer must meet CE or other related international safety standards.
- Connector to computer for data transfer.



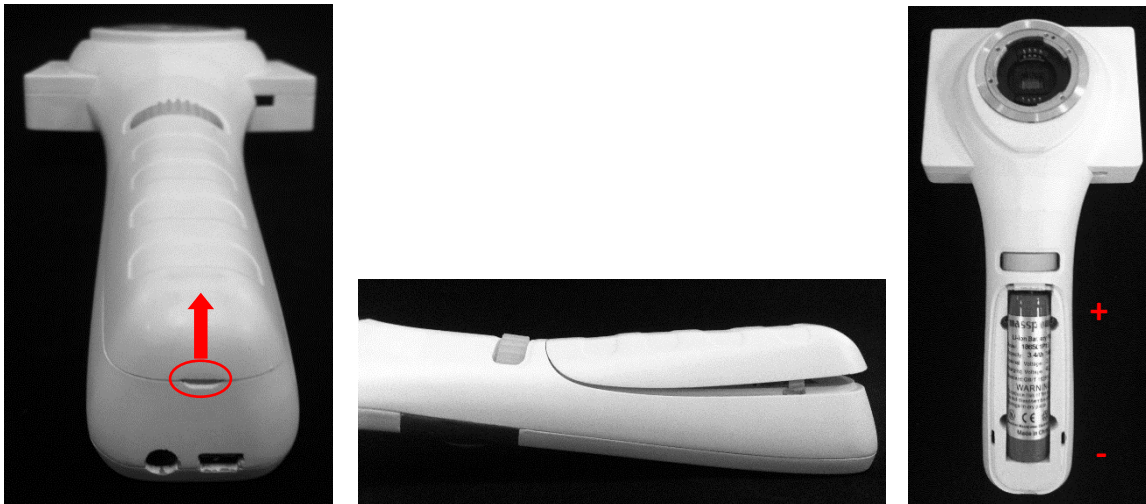
## 6. Battery charging

- Place the HANDHELD FUNDUS CAMERA in the station and connect the mini USB cable to the station.
- Connector to computer/transformer for recharging.

## 7. Power Indicator

Power Indicator Color	Status
Blue Colored Light	Battery is higher than 25% when the unit is ON
Red Colored Light	Battery is lower than 25% when the unit is ON
No Light	The unit is power OFF.

## 8. Battery Replacement



- Open the battery cover by digging out the gap in the bottom of battery cover with a finger or something pointed.
- Remove the battery cover by lifting up.
- Remove the original battery and replace with a new battery, making sure to keep the battery facing the correction direction.
- Re-cover the battery cover.

Warning: Incorrect way of battery replacement will cause HANDHELD FUNDUS CAMERA not to start up normally.

## 9. Maintenance

The HANDHELD FUNDUS CAMERA is a precision photo-electronic instrument that shall be handled with specific care. Please note the following cleaning instructions:

- Power off the HANDHELD FUNDUS CAMERA before cleaning it.
- It is recommended to clean the optical lens with cleaning cloth or lens cleaning tissue.
- Not using HANDHELD FUNDUS CAMERA for a long time, please take out the battery and place it separately. And please recharge it once a month.
- HANDHELD FUNDUS CAMERA needs to be cleaned once a week.

## **Technical Specifications**

### **1. Operation Environment**

- Ambient temperature       $0^{\circ}\text{C}$  to  $+35^{\circ}\text{C}$
- Relative humidity range      10% to 80%
- Atmospheric pressure       $700\text{hPa} \sim 1060\text{hPa}$

### **2. Storage Environment**

- Ambient temperature       $-10^{\circ}\text{C}$  to  $40^{\circ}\text{C}$
- Relative humidity range       $\leq 80\%$
- Working life: 3 years with periodic maintenance
- Production date: See product label
- Note: It is recommended to remove the battery if the HANDHELD FUNDUS CAMERA is stored more than 2 weeks.

### **3. Technical Description**

Dimension:  $16 \times 9 \times 19\text{cm}^3$

Weight: 450Grams(Typical)

View Angle: 40 Degree(Typical)

Diopter:  $-20\text{D} \sim +20\text{D}$

Focus: Manual Focus

Camera Resolution: 1920×1080 pixels

Search Fundus Lighting: Two modes, natural white Light Emitting Diode(LED) or infrared LED

Camera / video flash: Natural white LED

LCD Monitor: 3.5" Full Color TFT-LCD

Image Format: JPEG(Photograph)

Interface: Mini USB

File Transfer: Mini USB Port to PC

File Storage: SD card up to 16G.

Power Source: Rechargeable Lithium battery 3.6V / 3400mAh

## **4. Liability**

New Vision considers itself responsible for the effects on safety, reliability and performance of this product only if:

- Assembly operations, extensions, re-adjustments, modifications or repairs are carried out by persons authorized.
- The electrical installation of the relevant room complies with the requirements.
- The equipment is used in accordance with these instructions for use.

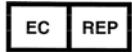
## **5. Warranty**

- New Vision provides the HANDHELD FUNDUS CAMERA one year warranty for the parts. Warranty for battery is six months.
- The warranty starts at delivery date.
- Natural disasters, man-made damage, lack of reasonable care, disassembly, upgrade, warranty sticker torn off, or any phase-out parts are not included in the warranty.

## **6. Standards**

Electrical safety

IEC 60601-1 : 2005(EN 60601-1 : 2006)



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## 7. Attention

- If the user's qualified technician repairs the repairable parts designated by producer, please contact the producer to ask for circuit diagram, component list,figure,detailed correction rules,etc.
- Environment protection: The producer shall collect and dispose the replaced circuit board, control board and power supply box, in order to reduce environment pollution. At the end of the device working life, the producer should do product tracking and recycle the waste camera according to local regulations.
- Fundus camera and its function can be affected by electromagnetic interference, so please make sure be far away from magnetic objects and strong magnetic field( $\geq 1\text{mT}$ ).
- Fundus camera produces and releases electromagnetic energy,and normal use will not interfere with other equipment. Incorrect installation or incorrect use may affect other equipment.

## 8. Packing list

Hand-held fundus camera control unit	1
Hand-held fundus camera lens tube	1
Power supply adapter	1
USB cable	1
Charger	1
Battery 18650(Model No.)	1
Eye patch	1
User manual	1
Software disk	1
Dust cover	1

