Wireless HD Camera System

User Manual, Version A/0

Model: UW-100

Read Before Use

Thank you for purchasing this product from Guangzhou North-Southern Electronics! This manual is intended to introduce this product's safety information, technical parameters, operational method, and maintenance instructions. Please be kindly reminded to read this manual carefully to properly use this product. To achieve the optimum performance of the product, please follow the operational and maintenance methods specified in this manual.

Special attention shall be paid to the following:

- Keep this manual in places that are easy to reach make it easier to refer to.
- Keep this manual properly when not in use to avoid loss and damage.

Warning signs below are defined to ensure safe and proper operation.

⚠Warning: Such kind of information cannot be ignored, or it may lead to potential safety hazards or product damage.

⚠Attention: This is to remind readers that the important message following the sign shall be learned, though it may not be necessarily related to possible personal injury or product damage.

Guangzhou North-Southern Electronics reserves all the rights of final explanation.

Parts for Inspection

All the mentioned parts shall be examined to see if they are complete and intact once the packaging case is opened. Please contact your supplier immediately if there's any missing or broken part.

1	Main unit	x1	●
2	HD camera	x1	●
3	SD card	x1	●
4	Wireless video receiver	x1	●
5	Rechargeable lithium battery	x4	●
6	Battery charger	x1	●
7	Charger AC cable	X1	●
8	Wireless receiver power adapter	x1	●
9	Wireless remote control	x1	●
10	HDMI cable	x1	●
11	Micro USB cable	X1	●
12	TYPE-C cable	X1	●
13	Waistband	X1	●
14	Certification	X1	●
15	User manual	X1	●
16	Warranty card	X1	●
17	Head light	X1	★
18	Remote control	X1	★

Note: ● standard accessories; ★ optional supporting accessories.

CONTENTS

01 **1 Overview**

01 1.1 Product Name
01 1.2 Model & Specification
01 1.3 Structural Composition
01 1.4 Scope of Application
01 1.5 Contraindications
02 1.6 Symbolic label description
02 1.7 Ambient condition

03 **2 The Product's Structure**

03 2.1 Individual Product Diagram
04 2.2 The Complete Product Diagram
04 2.3 Buttons & Indicator Lights

06 **3 Installation & Operation**

06 3.1 Battery Installation
07 3.2 SD Card Installation
07 3.3 Connecting the System
07 3.3.1 Connecting the HD Camera
08 3.3.2 Connecting the Wireless Video Receiver
08 3.4 System Start Up
09 3.5 Wireless Transmission Verification
09 3.6 Wearing the Product
09 3.7 Focal Length Adjustment
09 3.8 Capturing and Recording

11 3.9 System Setup
12 3.9.1 System Setup: Alternative Button Controls
12 3.9.2 System Time Settings
13 3.9.3 System Language Settings
14 3.9.4 Formatting your SD Card
15 3.9.5 Factory Reset
15 3.10 Battery Replacement and Charging
15 3.10.1 Battery Replacement
16 3.10.2 Battery Charging

17 **4 Product Maintenance and Care**

18 **5 Common Troubleshooting**

18 5.1 System Malfunctions
18 5.2 Aborted Wireless Transmission
18 5.3 File Save Failure
19 5.4 Image Blurring
19 5.5 Black Block in Image

20 **6 Technical Specifications**

1 Overview

1.1 Product Name

Wireless HD Camera System

1.2 Model & Specification

UW-100

1.3 Structural Composition

This product comprises of the camera system's main recording unit, an HD camera, a wireless HD video receiver, and the base. The main recording unit is powered by 2 chargeable lithium batteries. The HD camera can be attached to the head light using its fastening clamp. The main recording unit can be hung onto the waist with its rear clip. While in use, once the wireless transmission between the main recording unit and the wireless video receiver has been successfully established, pictures captured by the camera can be shown on the display or transmitted to an off-site monitor.
Moreover, users can also choose to additionally purchase this camera's supporting accessories, such as the remote control, and the head light with 5 levels of adjustable brightness levels.

1.4 Scope of Application

This product is applicable for ultra-long-range picture-taking and video recording. It applies to real time observation and recording of clinical surgeries, stomatology department checks, and open surgeries.

1.5 Contraindications

Currently no contraindication has been found.

1.6 Symbolic label description

Symbol	Explanation
	Attention! Please refer to the attached files.
	Refer to the instructions.
	This symbol indicates the need to respectively collect electrical and electronic equipment in line with WEEE provisions.
	The product is recyclable.

1.7 Ambient condition

Environmental requirement	Operational environment	Storage and transportation environment
Ambient Temperature	5°C ~ 40°C	-10°C ~ 55°C
Relative Humidity	20% ~ 80%	10% ~ 95%, non-condensing
Atmospheric pressure	86 kPa ~ 106 kPa	86kPa ~ 106kPa

2 The Product's Structure

2.1 Individual Product Diagram

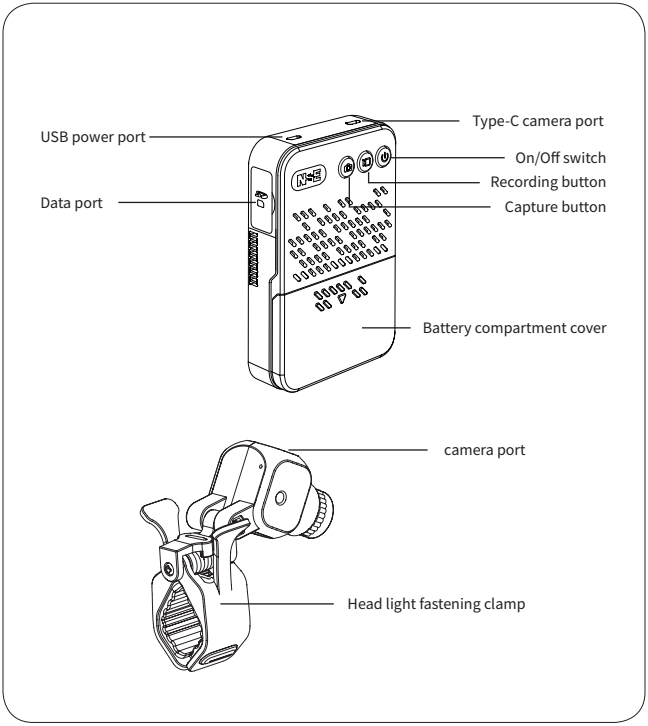

Fig. 1. Product diagram

2.2 The Complete Product Diagram

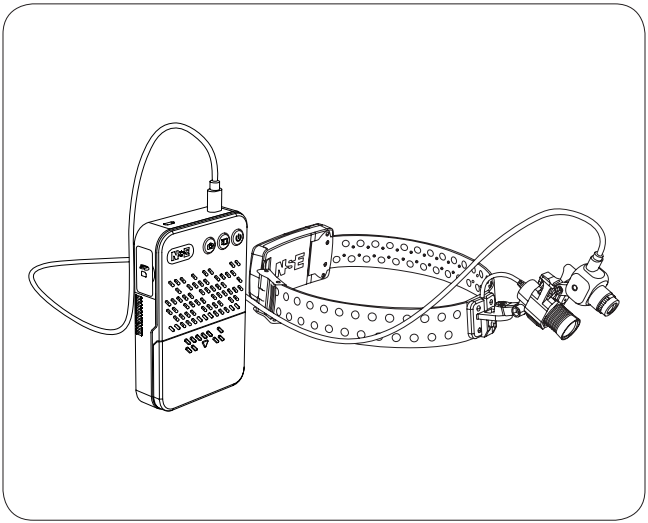

Fig.2 A diagram showing the completely connected camera system

2.3 Buttons & Indicator Lights

The host is equipped with 3 light-emitting buttons, which act not only as a regular control inputs but also as status indicators. Their functions are as shown in Table 1 and 2.

Icon	Name	Function
	On/Off switch	Long press to start up/shut down.
	Recording button	Short press to enter/exit the video shooting mode.
	Capture button	Short press to take pictures.

Table 1. Buttons

No.	Name	Function
1	Power on indicator light	Normally in green: indicating system is running normally.
2	Recording indicator light	• Flashing in blue: indicating that the system is in the recording mode. • Light off: indicating that the system has existed the recording mode.
3	Photo-taking indicator light	A single flash in blue: indicating that the system has successfully captured the photo.

Table 2. Indicator Lights

3 Installation & Operation

3.1 Battery Installation

Two chargeable lithium batteries shall be installed before the product can be used. The following are the detailed steps:

(1) Hold the camera system's main recording unit, and push the battery cover with your thumb along the direction as shown in Fig. 3 to remove it.

(2) Install both the chargeable lithium batteries to the battery compartment in the correct orientation.

(3) Push the battery cover upward and make sure it clicks firmly.

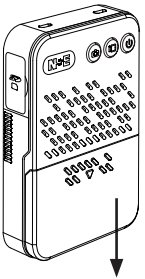

Fig.3 Removing the battery cover

⚠Attention: It's recommended to fully charge the chargeable batteries with the randomly-given charger before use.

3.2 SD Card Installation

Open the lid of the data port on the side of the camera system's main recording unit. Take out the SD card from the packaging box and insert it into the SD card slot. Then, put back the lid of the data port.

⚠Attention: The camera system's main recording unit must be powered off before you insert the SD card, or the main recording unit will shut down automatically.

⚠Attention: While installing your SD card for the first time, please go to the "system setup" menu to format the SD card. Refer to Chapter 3.9.4 for specific the formatting steps.

3.3 Connecting the System

Take out the Main unit, HD camera, the head light(optional), the HDMI cable, the Type-C cable, as well as the wireless video receiver and its power adapter to connect all the individual units as per the instructions below.

3.3.1 Connecting the HD Camera

(1) Take out the (optionally-provided) head light, and select a suitable position on the head light to fix the camera.

(2) Fix the HD camera with the head light using the fastening clamp as shown in Fig. 4.

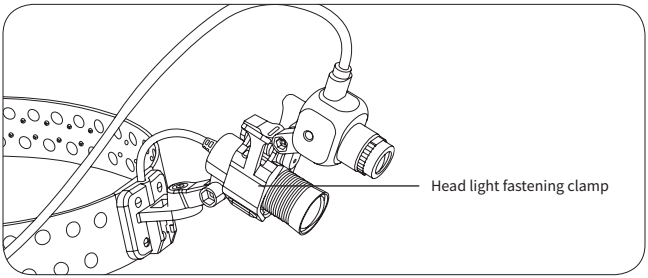

Fig. 4. Connecting the HD camera with the head light

(3) Insert the plug end of the HD camera's Type-C cable into the Type-C camera port. Neatly organize and fix the cable. Hot plugging is supported by the HD camera.

⚠Attention: Squeeze the hard-plastic part of the Type-C cable and apply more power while pulling the plug if necessary. Do not directly pull the thin wire part to avoid damaging it.

3.3.2 Connecting the Wireless Video Receiver

(1) Connect the power adapter to the power supply jack on the wireless receiver.
(2) Connect the HDMI cable to the HDMI port of the receiver. Another end shall be connected to the HD display device which supports HDMI input.

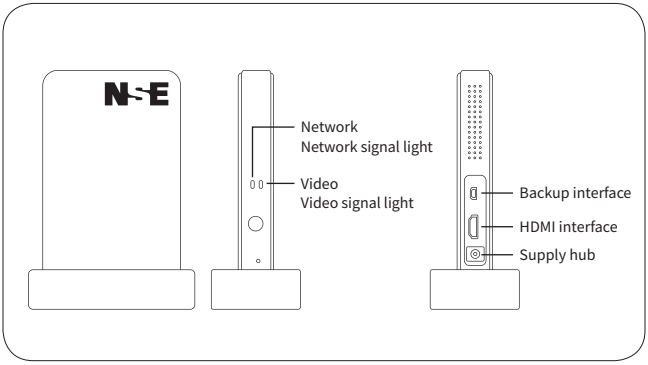

Fig.5 Wireless Interface Module

⚠Attention: The HD display device shall support 1,080P/30FPS data transmission.

3.4 System Start Up

Long press the On/Off switch ⏻ for 3 to 5 seconds until it beeps. Then, the main recording unit's power on indicator will light up, and the camera display appears.

3.5 Wireless Transmission Verification

Check the network signal indicator light of the wireless transmission receiver. If it's on, the wireless transmission is successfully established. Then check the video signal indicator light. If it's on, it means the transmission functions properly.
If any of the signal indicator is off, shut down the camera system's main recording unit, and restart the wireless receiver. If it still does not work, please contact the customer service hotline for technical support.

3.6 Wearing the Product

After completing the necessary adjustment, ensure that the camera is located at the center of the forehead by adjusting the position of the head light. Then fix the camera system's main recording unit on your waistband using its rear clip.

3.7 Focal Length Adjustment

After product wearing and brightness adjustment, manually rotate the front end of the camera until the image in the display screen turns to be the clearest.

⚠Attention: The head lamp brightness adjustment switch is in the coaxial positioning lamp cap.

3.8 Capturing and Recording

Photo-taking and video-recording can be done by pressing the Capture button ⓒ and the Recording button ⓡ on the camera system's main recording unit. The following are the detailed operation method.

(1) Recording
Open the HD display device and start up the camera system. After the camera's input is displayed on the screen, short press the Recording button ⓡ . After it beeps, a red round dot will flash at the top right corner of the screen. The recording indicator light will flash in blue, indicating that the recording session is underway. Please refer to Fig. 6.

Fig.6 video-recording mode

(1) Photo Taking

After starting up the camera system, you can capture the camera input directly whenever needed, or do so during the recording. The current camera input can be captured by simply short pressing the Capture button ⓒ .

Attention: Recorded videos or captured images can be read with a built-in SD card. The photos are saved in the “DCIM-Photo “folder in .JPG format, while the videos are saved in the “DCIM-Movie” folder in .MP4 format. The main recording unit will automatically name files in the following format: “date + starting time (hour, minute and second) + serial number”, i.e. YYYY_MMDD_HHMMSS_XXX(e.g., 001).

⚠Attention: A 32G SD card can continuously record for 5 to 6 hours. The system is configured to store the recording according a fixed time period. If the actual recording is shorter than this preset time period, the recording file will be saved as one file; but if the actual recording is longer than this preset time period, the recording file will be segmented into multiple segments of the preset time length, in addition to a final file having the remaining time length.

⚠Attention: When the storage space in the SD card is not enough, previous files will be overwritten automatically by the system. Please check your SD card regularly and back up your files to your local hard disk.

3.9 System Setup

Open the HD display device, and turn on the camera system. After the camera input is displayed on the screen, long press the Capture button , then the system setup interface will be shown ;please refer to Fig. 7.

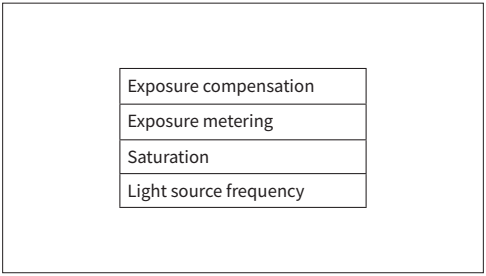

Fig.7. System setup

Operations below can be conducted in system setup interface:

1.Exposure compensation	2.Exposure metering	3.Saturation
4.Light source frequency	5.Video and audio	6.Language settings
7.Date label	8.Date/time	9.Formatting
10.Default setting	11.Version	

Table 3 Functions in system setup interface

⚠Attention: The camera system has had its color composition and saturation calibrated according to the factory configuration. Generally, users are not required to reset these settings.

3.9.1 System Setup: Alternative Button Controls

After entering the system setup interface, please follow the instructions in Table 4 to operate.

Move up	In the system setup interface, short press ⓒ to maneuver to the setting above the current one.
Move down	In the system setup interface, short press ⓜ to maneuver to the setting below the current one.
Enter settings	After selecting the desired setting, long press ⓒ to enter the secondary menu.
Cancel settings	After making your modifications, long press ⓜ to cancel the change and return to the interface.
Save settings	After making your modifications, long press ⓒ to save the changes and return to the interface.

Table 4 System setup: buttons controls

After the system setup is completed, long press ⓜ to close the interface.

3.9.2 System Time Settings

(1) Long press ⓒ to enter the system setup interface.
(2) Short press ⓜ to select the “date/time”. Long press ⓒ to enter the “date/time settings” interface as shown in Fig. 10.
(3) Long press ⓒ to move the selection frame to the item needs adjusting. Short press ⓒ and ⓜ to modify the figures in the selection frame.
(4) Long press ⓜ to save the change, then go back to the system setup interface.
(5) Wait for 10 seconds, or long press ⓜ to close system setup interface as shown in Fig. 8.

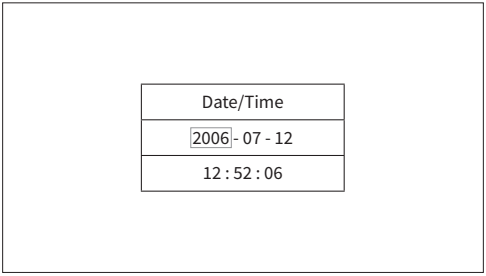

Fig. 8. Date/time settings

3.9.3 System Language Settings

(1) Long press ☎ to enter system setup interface.
(2) Short press ◁ to select “language settings”, then long press ☎ to enter the setup interface as shown in Fig. 9.

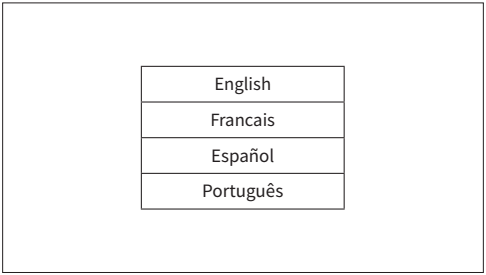

Fig. 9 Language Settings

(3) Short press ☎ and ◁ to select the desired language.

English	English	Francais	French
Español	Spanish	Português	Portuguese
Deutsch	Germany	Italiano	Italian
简体中文	Simplified Chinese	繁體中文	Traditional Chinese
Русский	Russian	日本語	Japanese

Table 5. Language settings and comparison

(4) After completing the setup, long press ☎ to save the changes and return to the "system setup" interface.
(5) Wait for 10 seconds, or long press ↩ to close the system setup interface.

3.9.4 Formatting your SD Card

(1) Long press ☎ to enter the system setup interface.
(2) Short press ↩ to select "formatting", then long press ☎ to enter the setup interface as shown in Fig. 10.

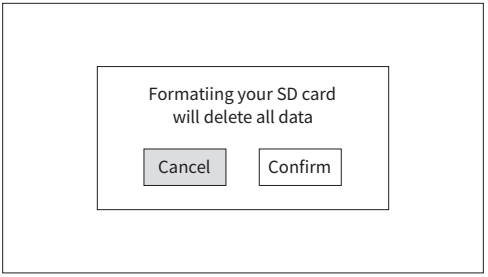

Fig. 10. SD card formatting interface

(3) Short press ⏮ to hover the cursor to the “Confirm” button. Long press 📷 to save the change and return to the “system setup” interface.
(4) Wait for 10 seconds, or long press ⏮ to close the “system setup” interface.

3.9.5 Factory Reset

(1) Long press 📷 to enter the system setup interface.
(2) Short press ⏮ to select “default settings”. Then long press 📷 to enter the setup interface as shown in Fig. 11.

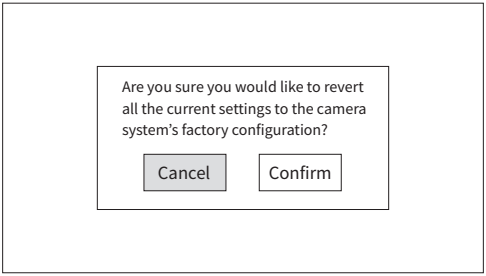

Fig.11 The factory reset interface

(3) Short press ⏮ to hover the cursor to the “Confirm” button. Long press 📷 to save the changes and return to the system setup interface.
(4) Wait for 10 seconds, or long press ⏮ to close the system setup interface.

3.10 Battery Replacement and Charging

3.10.1 Battery Replacement

When the battery becomes low, the camera system's main recording unit will beep to remind you that the batteries need replacing. An external power supply can be connected to the micro-USB power supply port on the main recording unit to prevent the system from shutting down or the recording process from being interrupted.

(1) When the main recording unit starts producing the low-battery beep, remove the battery compartment cover and take out the low-powered battery.
(2) Get the backup battery from the packaging box, install it in the battery compartment, slide the battery compartment cover back and ensure that it firmly clicks. Please refer to Chapter 3.1 for further details.

3.10.2 Battery Charging

(1) Take out the backup battery in the packaging box and put it in the charger as shown in Fig. 12. The charging status and other information of the battery being charged will be shown on the screen above the charging base. Pressing the button on the left of the charger allows you to switch among the information the batteries.

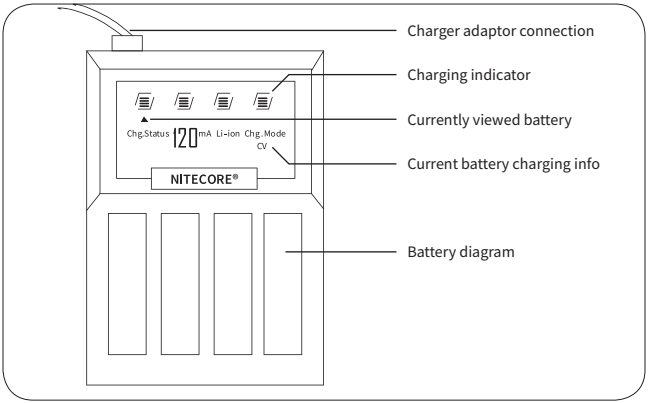

Fig. 12. Charging status

(2) Put the replaced low-powered battery in the randomly provided charger to fully charge it for the next usage.

⚠Attention: It is recommended every time after using that the randomly provided chargeable batteries be fully charged to make it available for the next use.

4 Product Maintenance and Care

(1) Ensure that the lid of the data port is closed before cleaning the camera system.
(2) Wipe the external surface of the product gently with a soft cloth and neutral detergent. Do not drip any kind of solution into the jack.
(3) A clean and dedicated lens cloth shall be used to gently wipe the camera and head light.
(4) Wipe all the components with a dry cloth.

⚠Attention: If the camera system has not been used for a long time, please remove the batteries, and clean the camera system before storing it in the tool kit.

⚠Attention: If the camera system were to be left idle for an extended period of time, please separate the batteries from the camera system as well as the charging base. Also, remember to fully charge the batteries regularly every 3 months to prevent them from malfunctioning due to over-discharge.

⚠Attention: The camera system is not compatible for direct sterilization. Whenever sterilization is necessary, use a sterilization cover for protection.

⚠Warning: This camera system belongs to a precision electronic product. Dismantling the product in any way will lead to irrevocable product damage and possibly permanent malfunctioning.

5 Common Troubleshooting

5.1 System Malfunctions

Problem description:

The status indicator light of the main recording unit is normal, the connection between the wireless receiver and the main recording unit is also successfully established, but the screen still prompts a “No connection” notice.

Cause analysis:

The connection between the camera and the main recording unit has been interrupted, or the camera has been damaged.

Solution:

Power off the main recording unit, and plug out the coaxial camera connection cable; restart the main recording unit after reinserting the line.

5.2 Aborted Wireless Transmission

Problem description:

The network signal light or the video signal light of the wireless video receiver is not working.

Cause analysis:

The connection between the wireless receiver and the main recording unit has not been established, or the wireless module has been damaged.

Solution:

Shut down the camera system’s main recording unit, and restart the wireless receiver.

5.3 File Save Failure

Problem description:

The dialog “Please insert SD card” pops up in the display screen.

Cause analysis:

SD card is not inserted or damaged.

Solution:

Shut down the main recording unit. Restart after the SD card is inserted. If there's any SD card damage, please replace with a new one to try again.

5.4 Image Blurring

Problem description:

(1)The display screen just shows stripe images instead of round one.

(2)It can show round images, but they are blurring.

Cause analysis:

(1)The camera mount is not well connected;

(2)The main recording unit start-up is abnormal;

(3)The focal length of camera mount is not well adjusted.

Solution:

(1)Reconnect the camera mount;

(2)reboot the system of the main unit;

(3)Adjust the focal length.

5.5 Black Block in Image

Problem description:

There are black blocks in the pictures shown in display screen.

Cause analysis:

There's smudginess on the surface of lens of the camera mount, or camera mount is damaged.

Solution:

Wipe lens with a clean and soft cloth to remove the stains.

⚠Attention: If the problem still cannot be solved, please dial in after-sales service call to gain further technical support. Please do not disassemble the product without permission to avoid damage.

6 Technical Specifications

The main technical specifications of this camera system are as listed in the following:

Specifications	Parameters
Video file specification	1080P(1920X1280)@30fps, MP4 format
Image file specification	Resolution 1920X1080, JPG format
Working distance	Adjustable from 20 to 60 cm
Depth of field	20cm
Control method	The buttons on the main recording unit, or the remote control (optionally provided)
SD card capacity	128G at maximum; can be optionally added as per requirement
Duration	≥3 hours
Wireless transmission	Lossless 1080P at a maximum distance of 20m.
Wireless receiver power input	100-240V ~ 50/60Hz
Weight of the main recording unit	270g
Camera weight	45g (excluding lines)
Illuminance of the positioning head light (optionally provided)	≥50000Lux with 5 degrees of adjustable brightness levels

Table 6. Main technical specifications

North-Southern Electronics

North-Southern Electronics Limited
Rm.202-2, NO.5 Tianfeng Rd.,Science City,
Development District, 510530 Guangzhou,
PEOPLE'S REPUBLIC OF CHINA