HD BOREHOLE INSPECTION CAMERA SYSTEM

ASSEMBLY AND OPERATING INSTRUCTION

Part No.	DESCRIPTION	QUANTITY
1	Camera head	1pcs
2	Electrical winch	1pcs
3	HD DVR Control Box	1pcs
4	Camera Skid	1pcs
5	Video Link cable	1pcs
6	4Pin Link cable	1pcs
7	2Pin Link cable	1pcs
9	AC power cable	1pcs
9	USB flash disk	1pcs
10	Seal ring	4pcs
11	Earphone	1pcs
12	Mini Microphone	1pcs
13	User manual	1pcs
14	Tool bag	1pcs

Read these instructions completely before operating the device

PLEASE CHARGE BATTERY FIRST BEFORE USE!

Technical specifications

Monitor	
Screen size	13inch LCD IPS screen
Display Ratio	16:9
Resolution	1280x720
Menu	Chinese English and others
Sunshade function	Yes

HD DVR		
Support playback file format	video	H.265 encode， MP4 format
	Audio	audio and video
	Picture	JPEG
Audio input	External Microphone	
Video input	AHD analog high-definition	
Signal input	6pin Cam port	
Video system	AHD PAL、AHD NTSC（Support CVBS	
Video Input	Stereo audio output	
Video Output	Composite video signal output	

Power support	
Winch power	AC110V-230V
Battery	11.1V 10500mA/H
Complete system power	20W （Max）
Battery charge time	8hours
Battery work time	5-6 hours

HD Dual view Camera head	
Camera	Dia.45mm x L422mm
View range	90 degree
Lighting	6pcs high light LED for side camera 6pcs high light LED for down camera
Focus	Down camera: Fixed Side camera: Focus manually
Camera	1/3 CMOS, 1.3MP 720P
Operating	5°C ~ 50°C
Camera	304#Stainless steel
Waterproof	IP68,50bars

Cable wheel	
Special protective connector to camera	
Dia.8mm Kevlar cable	
Cable length:☐ 200 meters ☐300 meters ☐500 meters	

| Other	
Meter counter	Display on the screen (Meter/Feet switch)
WIFI function	Using intelligent terminals as display and recording device
Compass funtion	Show the side camera direction and display on the screen,the error is 20 degrees
Temperature function	Inspect the camera environment temperature and display on the screen

Attention

1. Read this manual carefully before using this system.
2. Before press the master switch "Power" button, please confirm system all parts and cables connected well.
3. Connecting external power supply (alternating current),Please confirm the winch wheel speed button is in "MIN" position and "Downward /Upward" button in the center position.
4. Assembly the camera according to the instructions. Please don't dismantle the camera if you don't use this system. Each time before use check whether the nut is tightened.
5. Connect external power supply; please confirm the voltage is in normal range.
6. Please do not remove the USB flash disk while reading or playing. It may damage the unit USB flash disk.
7. For Wifi function, please download the app from google store or apple store
8. Wireless keyboard, please connect the USB adaptor to the control box. If the battery in a low power, please change a new battery

KNOW YOUR DEVICE
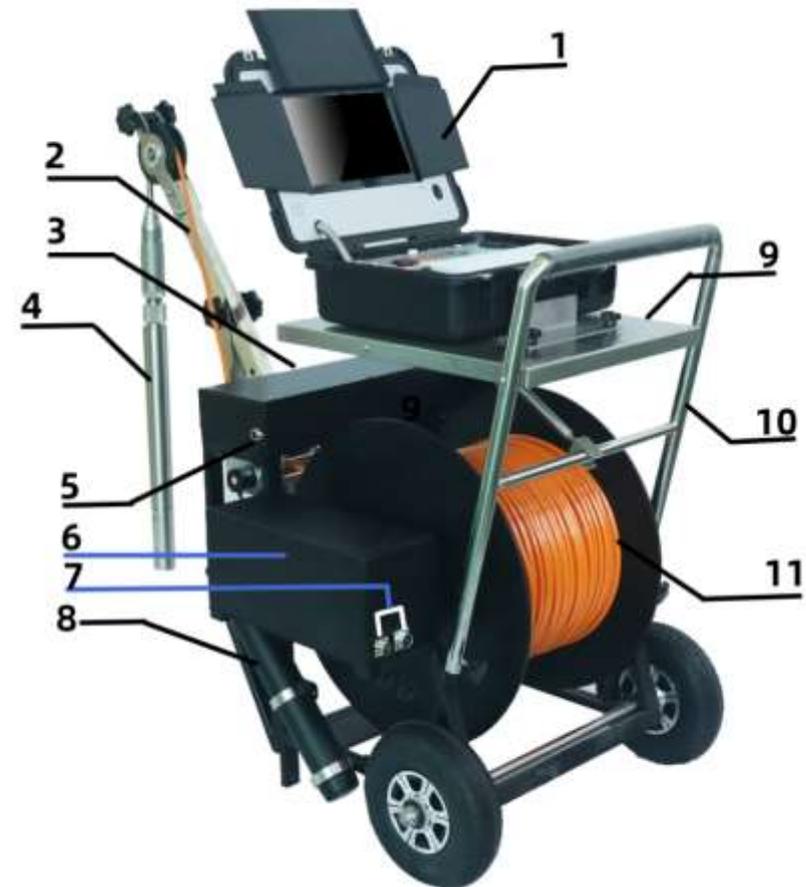
1: DVR control unit	2: Extended arm
3: Automatic wire device	4: Camera head
5: 4pin port（to depth counter）	6: Motor
7: 2pin port & 6pin port	8: Camera slot
9: Working plate	10: Working plate
11: Kevlar cable	

DVR Control Unit with 13inch HD display
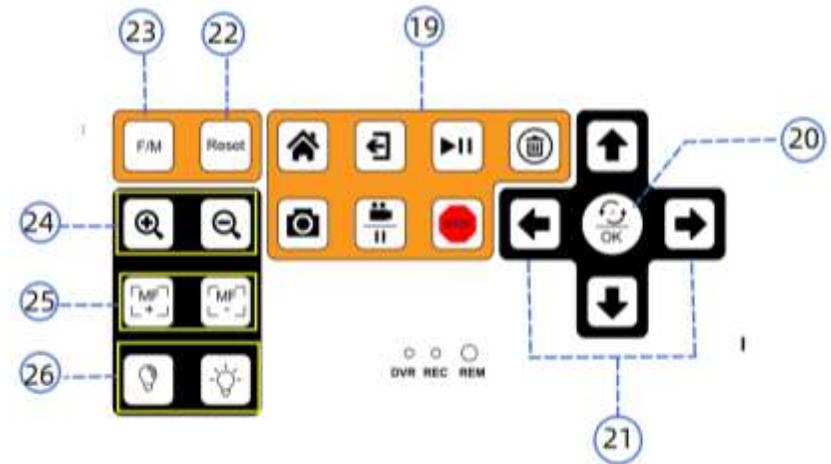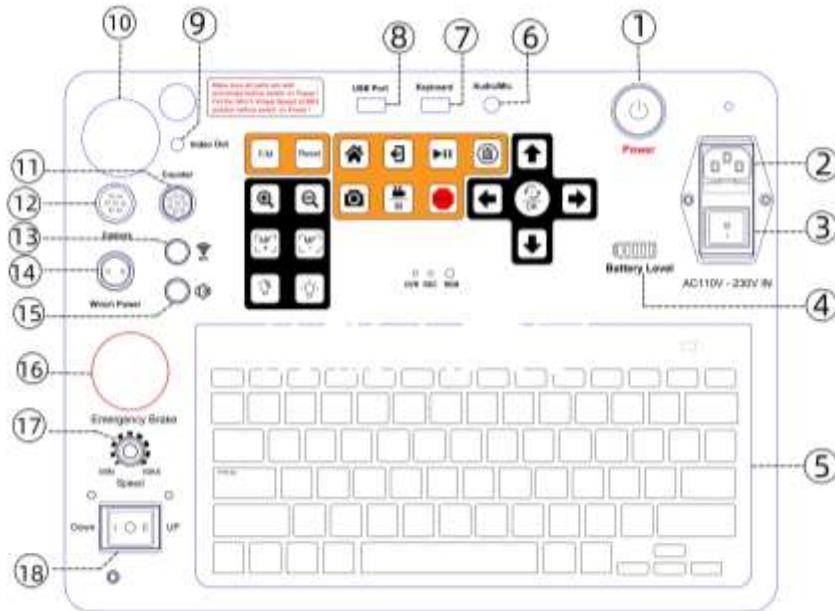
No	Name	Function	How to use
1	POWER	On/Off	Press down the button fo turn on the control box
2	AC plug	Connect External AC 110V to 230V power	If the electrical winch is working, please connect the AC plug
3	Switch for AC power	Turn on the power for electrical winch	
4	Battery indicators	Indicate the control box battery level	If it is low level, please charge the battery with AC power
5	Wireless Keyboard	USB wireless keyboard	Typewrite the words
6	Audio port	Record the audio	Insert earphone or Mini Microphone
7	Keyboard	Insert the keyboard adaptor	
8	USB port	External USB flash driver	Connect USB flash disk to record the video
9	Video out	Display the video to external display	Connect an external display

10	Video Debug	Adjust the image for different cables	Please don't open part
11	Counter	Connect 4pin link cable	For depth counter function
12	Camera	Connect 6pin link cable	For camera video
13	Wifi	Connect this WIFI, share the video on the mobile device	Install the Wifi app to mobile device
14	Winch power	Supply the power the motor	Connect 2pin link cable
15	Speaker	Play the auido	Press it down, open the louderspeaker
16	Emergency Brake	Emergency stop winch	Press it down, the motor is stopped working
17	Speed	Adjust winch speed	From min to max
18	Down/Up	Cable up/ down	Down—press it to left Up---Press it to right
19	DVR menu	Record the audio ,video	
20	Switch camera	Swithc side /down camera	Press it
21	Left- Right	Camera rotation	
22	Reset	Depth counter reset to zero	
23	F/M	Swith feet ./ Meter	
24	Zoom in/out	Digital zoom in/out	
25	MF	Adjust focus from near to far	
26	LED light	Adjust the camera led brightness	

DVR remote controller

Button	Function
REC	Recording video
SNAP	Screenshot / Photography
▲	Up
▼	Down
◀	Left/Backward(Playback Model)
▶	Right/Forward(Playback Model)
OK	Confirm
MENU	DVR menu
STOP	Stop recording
ESC	Exit
PLAY	Playback the video
DEL	Delete the video or picture file

Quick Start Guide

1.Connect camera head to cable reel.Find the correct gap between camera

2. Connect the link cables from control box to winch.

3. Install camera skids to camera head. One end is fix to cable connector. The other end is fixed to camera head. Adjust the height, it can change the skid diameter.

4. Press the "Power" button to turn on the control unit . If the electrical winch is working,please connect external AC power.

DVR menu instructions

Press menu button to enter the main menu
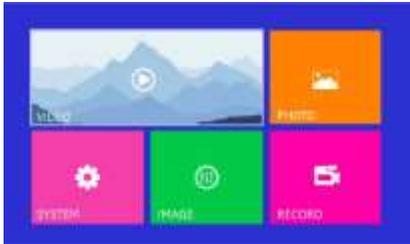
1. Video: Playback the video file
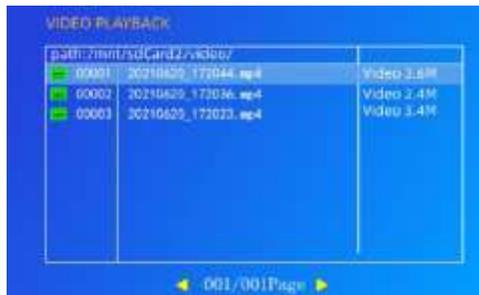
Press the "UP" and "DOWN" keys to select files

Press the "LEFT" and "RIGHT" keys to turn pages,

Press" 🔁 " key to play the file, "STOP, DEL key" to delete files.

2.PHOTO：Playback the picture file

3.SYSTEM: Setting language,date,time …

4. IMAGE: Image setting,such as CVBS out, HDMI

Resolution,brightness,chroma, contrast, noise reduction

5.RECORD: Video setting, such as video clip time, frame rate, compress,

photo quality, record model,overwrite.

Operating instruction

1) Press menu button to enter main menu, then press

UP/DOWN/LEFT/RIGHT arrow to choose the submenu

2) Press 🔁 button to confirm.

3) Press 🔁 button to exit the submenu

System Setting

1. LANGUAGE: Setting the menu language.
   It has 9 languages.(English,Chinese,French, Espanol German,Polish,Korea,Russian and Italian.

2. ENCODER：Setting the counter value
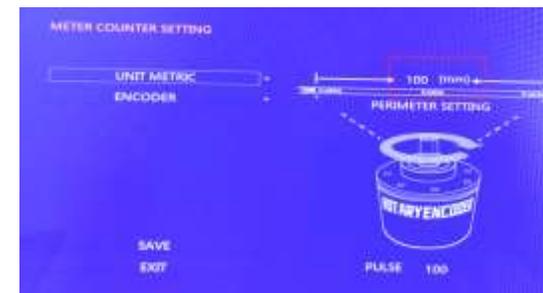
The PREMITER SETTING value is different for different cables.
The correct value is 100. Please don't change it

3. DISK: Format the USB flash driver.


The default value is "DISK1".

4. RESET: Restore the factory default Settings

5. TIME SETTING: Setting the time,date
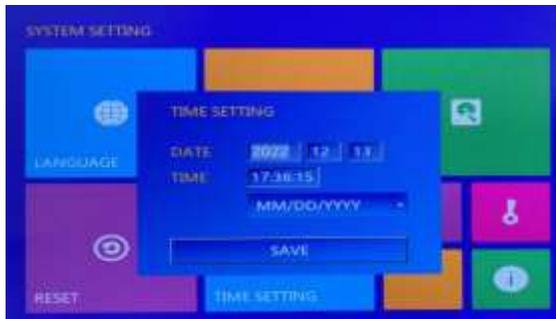
Press UP/Down/Left/Right arrows to set the date and time.

Press"Save "to save the setting

**For date format, it has 3 different ways.**

IMAGE SETTING

Adjust the LCD screen brightess,Contrast

Default resolution:1280x720_60

Usually we suggest the customers don't change these value

RECORD Setting

VIDEO SETTING

VIDEO CLIP TIME	30 MINUTE
FRAME RATE	NTSC30FPS/PAL25FPS
VIDEO QUALITY	LEVEL 3
COMPRESS	LEVEL 5 / LEVEL 4
PHOTO QUALITY	
RECORD MODE	LEVEL 2 / LEVEL 1
OVERWRITE	OFF
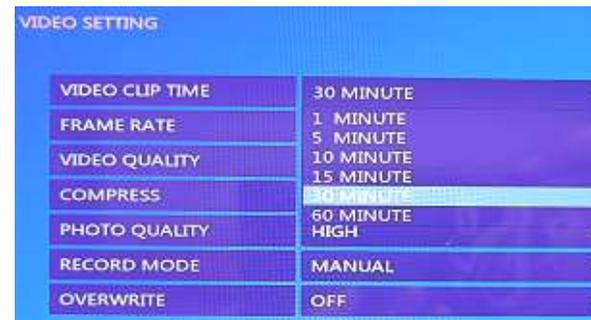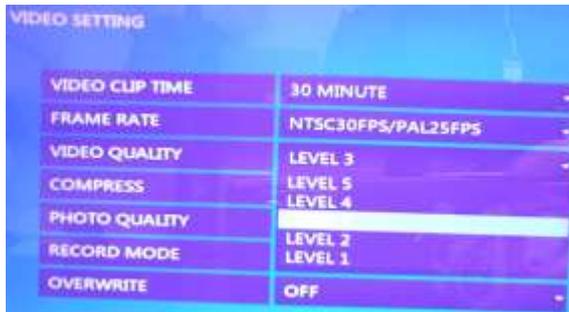
Video clip time:1 MINUTE / 5 MINUTE / 10 MINUTE
15 MINUTE / 30 MINUTE / 60 MINUTE
Default value: 30 MINUTE

FRAME RATE:NTSC 30FPS / PAL 25FPS

Video Quality: It has 5 options. Usually we choose Level 3.
The level is bigger, the video resolution is higher

Compress:H265
**Photo Quality:** High / Middle / Low
Default Value : High

Record Mode: Manual / Auto
Default Value : Manual

Overwrite:OFF/ON
Default Value : OFF

Keyboard Function
The font and text size are fixed and cannot be changed.
The basic operation of the text overlay unit is straight forward. A flashing underscore cursor indicates the current screen position. This cursor can be moved around the screen by the keyboard cursor keys. The cursor will wrap around the screen left and right, top and bottom. If no key is pressed then the cursor will disappear after approximately ten seconds. The video text overlay unit uses the standard UK keyboard mapping.
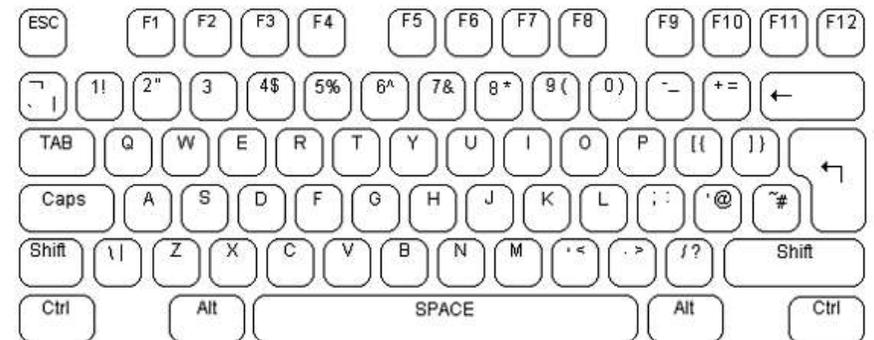
Standard UK keyboard mapping used by the video text overlay unit. By default all UK units are supplied with this.
The alphanumeric characters in the QWERTY section of the keyboard and the keys of the numeric keypad can be typed directly to the screen as would normally be expected. Each alphabetic character key is normally lowercase. Uppercase characters can be typed by holding down the shift key or pressing the CAPS LOCK key. The keyboard's LED indicators will not be lit by the unit.
Note:
- Press F10: Clear the screen
- Press F8 : Display the words
- Press F9: Hidden the words