2024

ABCSCOPE

DIGITAL NIGHT VISION SCOPE

HI-SC02 / HI-SC02-LRF

PRODUCT MANUAL

CONTENTS

HI-SC02 / HI-SC02-LRF IMAGES

HI-SC02/ HI-SC02-LRF SPECIFICATION

	HI-SC02
Field of view at 1000 yds	226ft (4.3°)
Magnification	6X~48X (Optical Magnification: 6x) (Electron Magnification: 1.0x~8.0x)
Eye relief	55mm
Sensor	1080p (1920x1080)
CPU Performance	14nm Quad-Core Processer
Micro Display	1024x768
PHOTO Resolution	1080p(1920x1080)
Video Recording Resolution	1080p@60fps 1080p@30fps
Laser rangefinder measuring distance	1200m
Wi-Fi	IOS and Android (Streaming, Gallery & Controls)
FFP	YES
RVA	YES
Crosshair	8 reticle options & 6 Color Options
Microphone	Yes
TF CARD	64G/128G/256G TF CARD *1
USB	type C
IR Illuminator	850nm/940nm
Battery life (Li-ion)	Up to 8 hrs (18650X1) *2
Battery type	Replaceable
Waterproof rating	Weather resistant
Dimensions (body only)	L: 215mm

*1: It is recommended to use a TF card with a large capacity. The TF card with a small capacity is slow in reading and writing speed, which may cause the device to crash.

*2: Test conditions: the flashlight is off, and the capacity of a single 18650 battery is 3450ma.

FEATURES

■RECORD HIGH QUALITY VIDEO
■TRAJECTORY CALCULATOR 2.0
■BUILT IN HIGH SPEED TF CARD
■RECOIL ACTIVATED VIDEO(RAV)
■SMOOTH VIDEO DISPLAY
■LASER RANGE FINDER(OPTION)
■FFP & SFP
■QUICK ZERO CALIBRATION
■1024x768 HD DISPLAY
■QUAD CORE PROCESSOR
■SMOOTH ZOOM
■DAY/NIGHT MODES

APPLICATIONS

This product is a digital day & night vision instrument suitable for hunting. ABCSCOPE is determined to produce the world's high-quality scope. Compared with traditional optical products, the digital night vision scope has extremely rich electronic functions.

IMPORTANT NOTES

- The flashlight can only be activated in night mode.
- **Do not look directly at the infrared flashlight, otherwise it will cause damage to the eyes.**
- Infrared flashlight will gather a lot of energy when it is turned on, it is strictly prohibited to align with combustible objects at close range, otherwise it may cause a fire, please turn off the infrared fill light when it is not in use.
- Do not point the lens directly at the sun.
- Sand and seawater can damage the lens coating.
- Please use 3.7V 18650 battery.
- Do not disassemble the device without permission, if a failure occurs, please contact the manufacturer in a timely manner, otherwise it will be considered as a waiver of warranty service!

■ PREPARING THE DEVICE

List of product accessories

List of product accessories	
sight, mount rings, eyeshade, USB cable, user guide, cleaning cloth, allen wrench, TF card reader	X1

First use

Appearance inspection: please carefully check the appearance of the sight to ensure that the product is not damaged during transportation.

Component inspection: Please rotate the mechanical focusing parts and knobs on the sight to ensure that there is no abnormality.

Power on inspection: please press and hold the power button for 3 seconds to start the sight and observe whether the display screen can display normally. If the sight cannot be started normally, please perform the following steps:

1》 Check whether the positive and negative poles of the battery are placed correctly or replace the battery and try again;

2》 If it still not workable, please contact the manufacturer or after-sales service center.

TABLE 1-1. MAIN PARTS

ITEM1	DESCRIPTION1
1	Diaphragm
2	Objective Lens
3	Objective Focus
4	Menu Knob
5	Return Button
6	Flashlight Button
7	Video/Photo
8	Power Button
9	Mount

ITEM2	DESCRIPTION2
10	TF Card Compartment
11	USB Compartment
12	Eyepiece Focus Ring
13	Eye Shade
14	Microphone
15	Power Indicator
16	Flashlight
17	Battery
18	Battery Cap

TABLE 1-2. SHORTCUTS BRIEFING

DESCRIPTION	SHORTCUTS
Menu Knob	Under video/photo mode, clockwise to enlarge the image, reduce the image by counterclockwise; Long press to switch image display quality
Power Button	Long press 3 seconds to turn on or turn off the device; When device is on, short press to switch day/night mode; Quickly press twice to enter standby mode, press any button to wake up
Video/Photo Button	Short press to start video recording. Press again to end. Long press to switch video/photo function. More details please refer to point<7>
Flashlight Button	Long press to activate the flashlight, Click one more time for strong light mode. Long press again to turn off the flashlight.

Return Button	1. Under the Menu interface, help to go back to the previous level of the menu. 2. Under the Main interface, 1st click to activate range finder function, 2nd click to activate BC function, 3rd click to return to main interface. 3, Press and hold this button for 1 second, then release it, the laser range finder will be paused; press and hold this button for 4 seconds to enter the marking modification state of the laser range finder.

<1>Diaphragm

When the light is very strong during the day, the use of this diaphragm can reduce the impact of stray light on the equipment, so as to make the image clearer. When the light is very weak or at night, please remove the diaphragm to increase the light input.

<2>Objective Lens

<3> Objective Lens Focus Ring

Rotate the focus ring to obtain clear images at different distances

<4> Menu Knob

- Short press the Menu Knob to enter the setting menu, and rotate the knob to switch the options.
- Short press the Menu Knob to confirm the option parameters.
- Press the Return button to exit the setting menu.

<5> Return Button

- Under the Menu interface, help to go back to the previous level of the menu
- Under the Main interface, 1st click to activate range finder function, 2nd click to activate BC function, 3rd click to turn off range finder function and BC function.
- After turning on the laser range finder, Press and hold this

button for 1 second, then release it, the laser range finder will be paused, and the distance measurement data will turn red and remain unchanged.

- After turning on the laser range finder, press and hold this button for 4 seconds to enter the marking modification state of the laser range finder. The marking of the laser range finder is a rectangle. Rotate the menu knob to move the position of the marking, and shot press the menu knob to switch the direction of movement. Press and hold the return button again to exit the modification status.

<6> Flashlight Button

In night mode, long press to activate the flashlight. Click one more time for strong light mode. Long press again to turn off the flashlight.

<7> Video/Photo Button

- Press and hold 1 second the Photo/video button to switch between Photo mode and video recording mode.
- In the Photo mode, short press the Photo/video knob to take a picture.
- In the recording mode, short press the button to start recording, and then short press it again to end recording.
- Rotate the menu knob clockwise to enlarge the image, reduce the image by counterclockwise.

<8> Power Button

- Long press 3 seconds to turn on or turn off the device.
- When device is on, short press to switch night/day mode
- When device is on, quickly press twice to enter standby mode, press any button to wake up.

<9> Mount

<10> TF Card Compartment

Support up to 256G TF Card.

<11> USB Compartment

The standard type-C USB port supports charging the battery on the device. The USB port also supports data transfer and can be connected directly to a computer to view files.

<12> Eyepiece Focus Ring

Rotate the hand wheel until you can clearly see the characters and crosshair on the display screen.

<13> Eye Shade

Attach to eyepiece when needed. Protect eye from recoil.

<14>Microphone

Voice recording.

<15>Power Indicator

When using USB to charge the battery in the device, the indicator light remains on.

<16>Flashlight

- There is an 850nm or 940nm flashlight
- Make sure the positive and negative battery terminals are placed correctly.
- Warning: do not look directly at the luminous part of the

flashlight.

<17>Battery Compartment

Please use standard 18650 lithium battery.

<18>Battery Cap

Corresponding to the negative electrode of the battery. Please ensure that it is tightened.

<19>Laser ranging spot position calibration

After upgrading the device to the latest firmware, We need to mark the spot position of the laser range finder again. The specific steps are as follows:

- Find a relatively dark environment (at night), then shot press the Return button to turn on the laser range finder, short press the power button to turn on the device's night mode and observe the target 50 meters away, you will see a white spot flickering on the display screen
- Long press the Return Button for 3 seconds, then you can use the Menu knob to move the spot marker on the display screen, shot press the Menu knob to switch the direction of movement.
- Long press the Return Button again to push out the modification status.

Software upgrade

Preparation before upgrade

Please back up the data in the device memory before upgrading. Please check the software version number to determine if you need to upgrade. The software version number of the device can be viewed as follows:

1. Turn on the device, short press the Setting Knob to enter the setting menu, rotate the knob, select the option <more>, and short press the Setting Knob to enter.
2. Rotate the knob to browse different options, and find the option "FW Version" which is the description of the software version.

Software upgrade

Please visit our website to obtain the latest upgrade software and steps:
https://www.abcscope.com/h-col-105.html

Data download

Software Upgrade Steps

1.Download the latest upgrade file from the website to the computer, the name of the upgrade file is (abcscope_fwupdate_vx.Bin) or (RIFLE_SCOPE_FWUPDATE.bin).

2.Ensure that there is a TF card inserted into the sight and that the battery power is sufficient.

3.Turn off the sight, and then connect the device to the computer with USB. After about four seconds, the sight will automatically turn on. At this time, the screen displays: USB connecting……

4.Copy the upgrade file to the TF card of the sight. Note: The upgrade file must be placed in the root directory of the TF card. Then unplug the USB, at this time, a prompt will appear on the display screen: FW Update? Turn the "Setting Knob" to select √, and then short press the "Setting Knob" to confirm the upgrade.

5.The screen is directly blank. Don't worry, the device is already being upgraded.

6.After about 30 seconds, the device starts automatically, indicating that the upgrade is successful. The upgrade file in the TF card will be automatically deleted.

APP

The device app supports Android and IOS, and can be connected to mobile phone and pad. You can search "ABCSCOPE" in Apple store or Google store, then download and install this app.

App connection steps

1.Turn on the sight and ensure that the Wi-Fi in the sight is turned on.
2.Turn on the Wi-Fi setting option of the mobile phone, select the Wi-Fi option named "ABCSCOPE_xxxxxx", and connect this Wi-Fi option. The initial password of Wi-Fi is 88888888.
3.Short press the app icon on the mobile phone to enter.
4.Short press <Connect> to enter the app, and you can watch the video through your mobile phone.

If you fail to enter the app, please try the following methods:
1.Close the app and reopen the app to connect.
2.Turn off the sight, turn it on again, connect the sight's Wi-Fi with your mobile phone, and then reopen the app.

NOTES

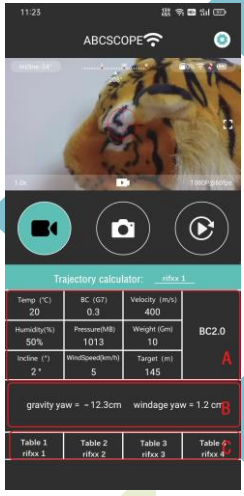
- If the device is in the recording state, then after entering the app, the video cannot be viewed on the mobile phone. If the recording function is activated after APP is connected with the device, then you can review the video in APP same as device.
- When you click <Connect> to enter the app, if the mobile phone prompts that the current network cannot access the Internet, do you want to use this network? Be sure to use this network. If the phone cannot access APP, please close the APP

and "Mobile Data" option. Then open APP again after connecting the device successfully, you can open the cell phone "Mobile Data" option. At this time does not affect the normal use of APP.

Trajectory calculator 2.0 (BC 2.0)

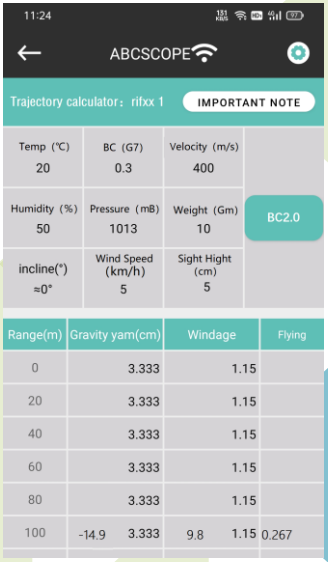
Trajectory calculator 2.0 (BC 2.0) can adapt to different devices. Before using this function, you need to fill in some parameters on the mobile app. The specific instructions are as follows.

1. Open the app on the mobile phone, and you will see the Trajectory Calculator area in the lower half of the screen, as shown in the right figure.



2. Trajectory calculator is divided into three areas: A, B and C. All parameters in area A are obtained from the scope and cannot be modified. Area B is the actual calculator result of the Trajectory calculator. Area C has four tables, you can fill in one or all. After filling in, select one of the tables to use. You need to open the scope and find the Trajectory calculator option (BA) in the scope setting menu. Select the table to be used in this option.

3. Open the table 1 in area C to fill in. Please see (IMPORTANT NOTE) for the filling rules. After filling in, you can submit it.



4. For more information, please download the instruction document 'Ballisticcalculator2023_1.0.pdf'

Data download

Software interface

Main interface

After pressing the power button to start the machine, the first interface on the display screen is the main interface. The main interface consists of video images, status bars at the top and bottom of the screen, and crosshair in the middle of the screen. The icons in the status bar are described as follows:

① TF card capacity display
② Wi-Fi status
③ Bluetooth status
④ Battery level indication
⑤ Electron magnification value
⑥ Photo / Recording / RAV modes indication
⑦ Resolution indication

Switching between Photo and Recording mode

- Long press the Photo / video Button to switch the Photo / Recording mode.

- After switching to the Recording mode, short press the Photo / video Button to record the video.
- After switching to the Photo mode, short press the Photo / video Button to take pictures.
- In Recording mode ,The function of RAV（RECOIL ACTIVATED VIDEO）needs to be opened in the setting menu. The specific opening method is described in the following description.

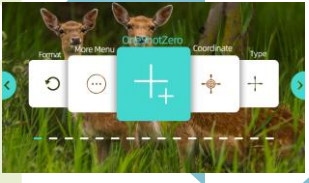
Setting menu

Press the Menu Knob to enter the setting menu. The setting menu has a total of 17 options, which can be switched through the knob.

<1> QUICK ZERO CALIBRATION

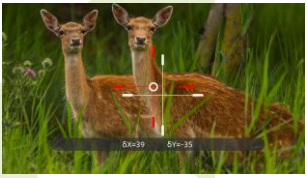
Step 1: Use the crosshair on the sight to aim at and shoot the target.

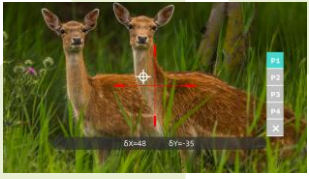
Step 2: Enter the setting menu and select the crosshair calibration option, as shown in the right figure, then short press the Menu Knob to enter.



Step 3: as shown on the left figure, the small white circle represents the center of the screen. The red crosshair represents the crosshair currently used. When entering this option for the first time, the red crosshair is located in the center of the screen, so it coincides with the small white circle. （ δ x=0 δ Y=0) represents the coordinate value of the current crosshair.

Step 4: rotate Menu Knob to see a white cross line appear on the screen, as shown in the right figure. First the red cross line should coincide with the aiming point, then move the center of the white cross line to the actual impact point. Rotate the menu knob to move the white cross line, and short press the menu knob to switch between X-axis and Y-axis movement.

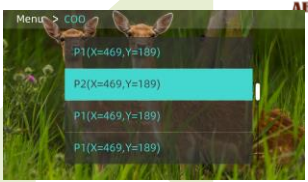




Step 5: short press the Return Button to display the vertical bar of the crosshair saving. Rotate the Menu Knob to select a location where you want to save the data, as shown in the left figure, you can also select the "x", which means discarding the current new coordinate, continuing to use the old coordinate. Then press the Return Button to save and use the latest coordinate, and return to the previous menu.

<2> Crosshair coordinates selection

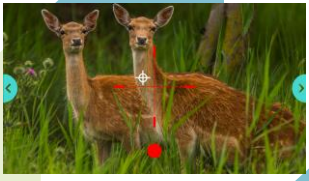
The device can save up to four coordinates, and you can use any of the crosshair coordinates. The left of the following figure is the option of crosshair coordinate selection, and the right of the following figure is the interface after entering this option. Rotate the knob to select the coordinate to be used, and then press the knob to confirm. Short press the Return Button to return to the previous menu.

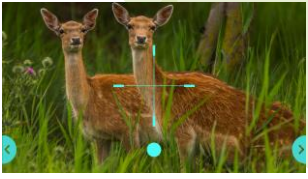


<3>Crosshair shape and color settings

The sight supports any combination of six colors and eight crosshair shapes. Enter the setting menu and select the crosshair calibration option, as shown in the left figure.

Short press the Menu Knob to enter, as shown in the right figure. Rotate the knob to select crosshairs of different shapes.

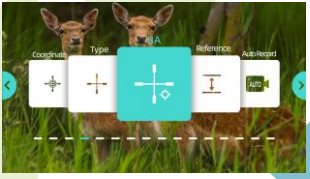




Short press the Menu Knob to switch to color selection, as shown in the left figure. Rotate the knob to select different colors. Short press the Return Button to return to the previous menu.

<4> Trajectory calculator settings (BC 2.0)

Trajectory calculator.

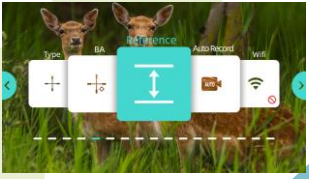


Short press the Menu Knob to enter the parameter setting interface of Trajectory calculator, as shown in the left figure. Rotate the knob to switch between different options. Only three parameters can be modified: Select Table, Wind Speed and Temp. There are four table options in (Select Table). These tables need to be filled in on the APP. Please refer to Instruction **< Trajectory calculator 2.0>** for specific filling rules.

Methods to modify parameters: for example, to modify temperature parameters, first rotate the knob, select the temperature option temp, and then short press the knob, at this time, a long red line will appear under the temperature option. You can rotate the knob to increase or decrease the temperature. short press the knob again to exit the parameter editing state, and the temperature parameter is successfully modified. Short press the Return Button to return to the previous menu.

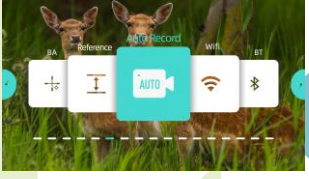
<5> Optical ranging finder settings

"Reference" option.



If you need to modify the height of the animal, please select the animal option and short press the knob. A red line appears under the parameters in the screen. Then rotate the knob to increase or decrease the value, and short press the knob again to exit the parameter modification mode. The modification is successful.

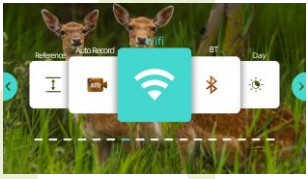
<6> RECOIL ACTIVATED VIDEO(RAV)

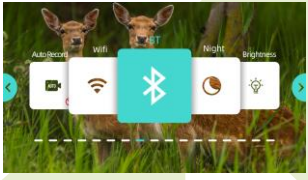


"Auto Record" option: short press the knob to turn this function on or off. When this function is turned on, you can set the recording time. The specific operations are as follows: rotate the knob to select one of the options, then short press the knob to enter the parameter modification mode, a red line appears under the parameters, then rotate the knob to increase or decrease the value, and then short press the knob again to exit the parameter modification mode. The modification is successful. "Before Fire" refers to the video duration before pulling the trigger, and "After Fire" refers to the video duration after pulling the trigger. Note: the maximum recording duration before pulling the trigger is 10s.

<7> Wi-Fi

Short press the knob to turn Wi-Fi on or off.

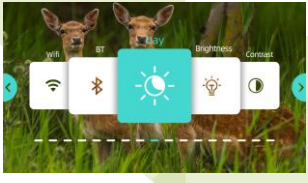




<8> Bluetooth

Short press the knob to turn Bluetooth on or off. This function is temporarily unavailable

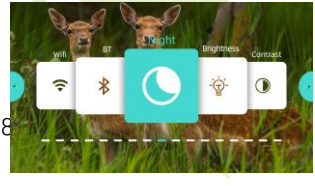
<9> Day/Night mode switching



Short press the Menu knob to switch between day mode and night mode. Note: The flashlight can only be turned on in night mode. In the Day mode, the image is colorful.

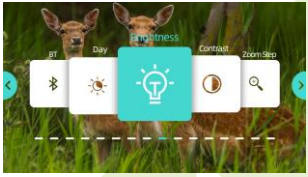
When you exit the setting menu, then long press the Menu Knob, you can switch three different image states: DAY, DAY+ and COLOR NV. DAY+ and COLOR NV are enhanced modes for daytime and evening respectively.

In the night mode, the image is not colorful, which can be seen more clearly with an infrared flashlight.



When you exit the setting menu, then long press the Menu Knob, you can switch two different image states: NIGHT and NIGHT+. Night+ is the enhanced mode of night.

<10> Display brightness setting



Brightness option

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<11> Image contrast setting

Contrast option

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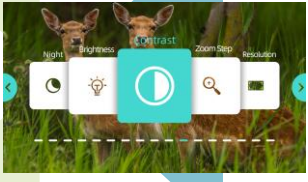
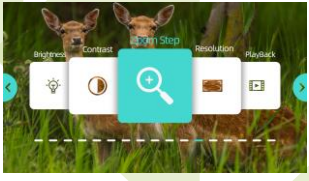


<12> Zoom step value setting

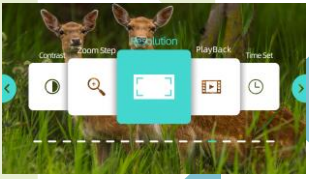


Zoom step option:
When set to 0.1x, the change value of electron magnification is 1.0x ->1.1x ->1.2x

When set to 0.5x, the change value of electron magnification is 1.0x ->1.5x ->2.0x
When set to 4.0x, the change value of electron magnification is 1.0x ->5.0x ->8.0x

<13> Resolution setting

Resolution option



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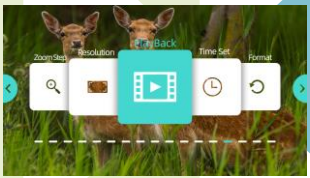
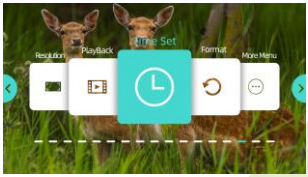
<14> Video / photo playback



Video / photo playback option:

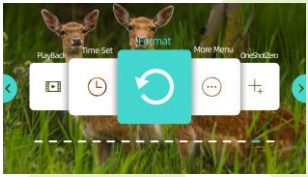
- The default is video preview, rotate the knob to switch to photo preview or TF Card formatting options. Press the Menu knob to enter the list of videos or photos.
- When you enter the video list, rotate the knob to select the videos to watch. Short press the knob to play or pause the video. Long press the knob to delete the currently played video.

<15> Time setting



Time setting option:
Rotate the knob to modify the parameters and short press the knob to switch to another parameter.

<16> TF card format

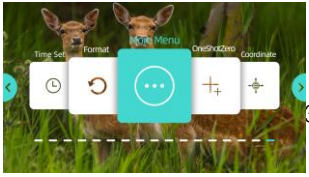


TF card format option: short press the knob, A prompt will appear on the display: **Format Card?** The default is "**x**". If formatting is required, please select " **√** ", and then short press the knob. The device will prompt again that formatting will delete all data.

<16> PIP

In the "more" option, you can turn on and off the PIP function. When the phone is connected to the device through WIFI to watch videos, the PIP function will be automatically turned off

<17> More



more option:

Video Stamp	ON/OFF ON represents a combination of Date_Time and Crosshair that appears on recorded videos and photos. Off means it will not appear on the recorded videos and photos
Photo Burst	0ff 3P/S Number of consecutive photos per second
Metering	Center/Multi/Spot Metering mode: Center metering, multi-point metering and single point metering
Reset Wi-Fi password	Restore Wi-Fi password to initial state:88888888
Language	Language selection
FFP	YES/NO
PIP	ON/OFF
Distance unit	Meter/Yard
Factory reset settings	YES/NO Restore to the factory settings, and all parameters will be lost
Fw version	HI-SC02_XX_VX.XX Software version

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