QOMO

QPC80H3

4K Portable Visualizer

User Manual
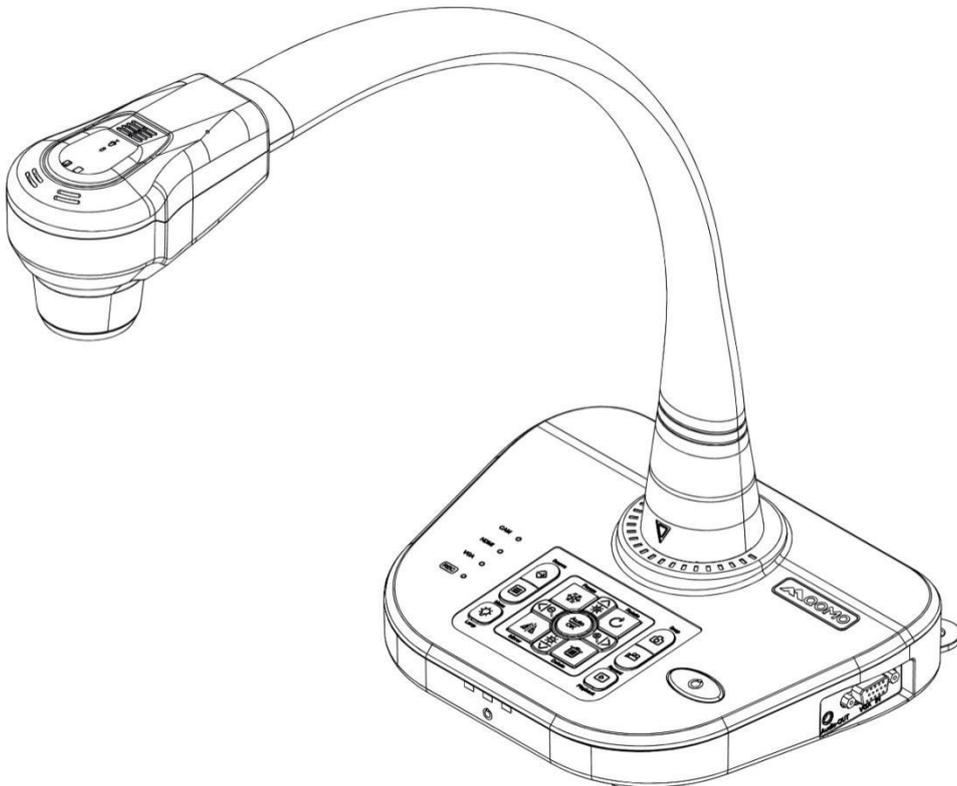
This document is subject to change without notice.

Contents

Warnings

- Please prevent children from operating the device without supervision.

- Please unfold the device and adjust the camera head with one hand placed on the base and the other hand holding the case of the camera head.

- Please do not look directly at the LED lamp to prevent your eyes from being damaged.

- When allocating the device, please hold the base with both hands. Do not carry the device by the gooseneck flexible tube or camera head with one hand.

- Please prevent the camera head to hit the desktop or any other hard objects, or it can be damaged easily.

- Please do not twist the gooseneck flexible tube.

- Please be careful not to spill liquid on the control panel keys.

- When the device is not in use for a while, please turn off the power.

FCC Warning Statement

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

－- Reorient or relocate the receiving antenna.

－- Increase the separation between the equipment and receiver.

－- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

－- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Statement

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance of 20cm the radiator your body. This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.

Parts Identification


1. Ventilation Hole
2. Microphone
3. Remote Sensor
4. Signal Indicator
5. Control Panel
6. Power Indicator
7. Goose Neck
8. VGA IN
9. Audio-OUT
10. USB-Thumb Drive & USB mouse
11. USB-B for PC Connection

12. Anti-theft Slot
13. LED Lamp Light
14. Camera Head
15. DC 12V Power Socket
16. VGA-OUT
17. HDMI-OUT
18. LINE-IN
19. RS232
20. HDMI-IN
21. USB-Thumb Drive & USB mouse
22. ETHERNET

Control Panel
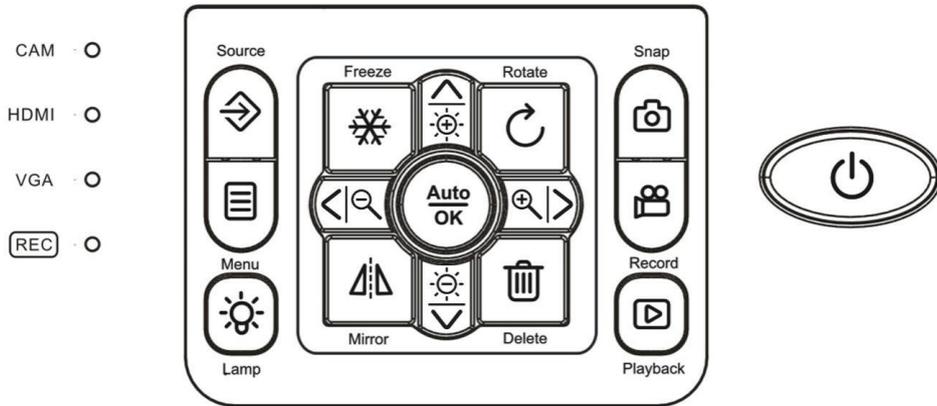
Button	Function	Button	Function
⏻	Power on/off *Press and hold for more than 3 seconds to turn off.	⊿⊾	Mirror the current image. Press and hold to enter/exit the split screen.
📷	Capture and save the current image	⊡/⊡	Up/Down, Increase/Decrease brightness
📹	Record video	◁⊝/⊕▷	Left/Right, Zoom out/Zoom in
▶	Enter/Exit Playback Mode	Auto OK	Auto-focus or confirm
↻	Rotate	⇨	Select the output signals
🗑	Delete selected file from memory when in playback mode	☰	To show or hide the OSD menu
❄	Freeze/Unfreeze the current image	🔆	Turn on/off the LED lamp

Remote Control

| Button	Function	Button	Function
Power	Power on/off *Press and hold for more than 3 seconds to turn off.	Auto OK	Auto-focus or confirm
Menu	To show or hide the OSD menu	Freeze	Freeze/Unfreeze the current image
Snap	Capture and save the current image	Mirror	Mirror the current image
Record	Record video	Rotate	Rotate
Playback	Enter/Exit playback mode	Source	Select the output signals
/	Up/Down, Increase/Decrease brightness	Lamp	Turn on/off the LED lamp
/	Left/Right, Zoom out/Zoom in	Delete	Delete selected file from memory when in playback mode

Portable Visualizer

The section explains how to set up and adjust the device to meet your needs.

- **Camera Head**

Please hold the camera head and adjust it to the position where you want to shoot the image.

- **Gooseneck**

Bend the gooseneck flexible tube gently by the hand and place the camera head to the preferable height and orientation.
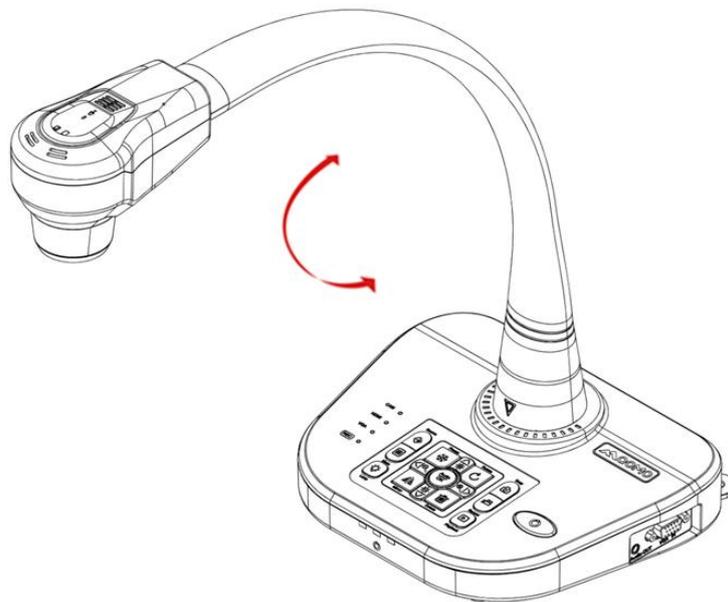
- **Support Stand**

Unfold the support stand of the base to prevent the device from failing backward.
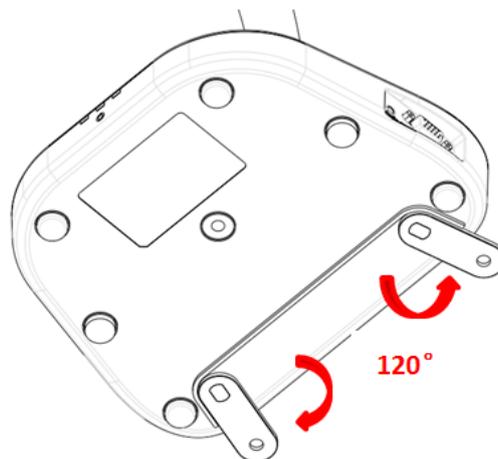
Recommended Working Environment
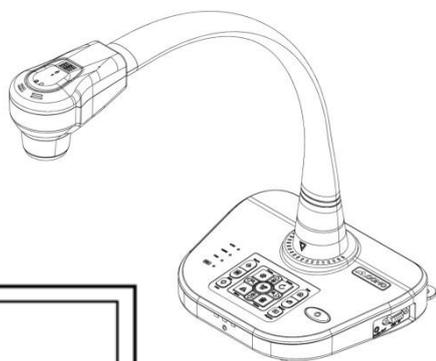
Suggested Object distance: 390 mm

225 mm
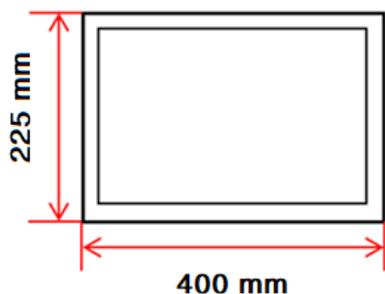
400 mm
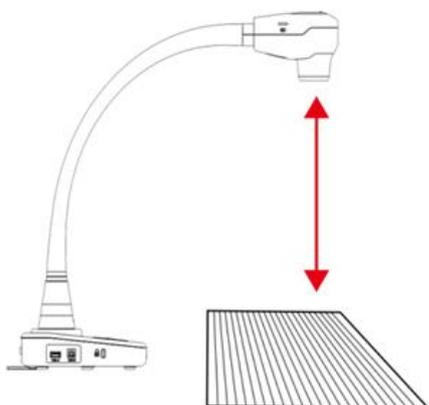
Suggested minimum height from the device in zoom mode: 280 mm
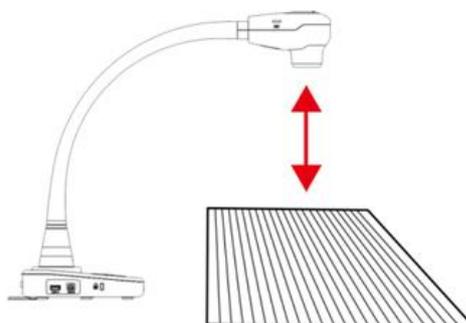
Minimum focusable height without zoom mode: 50 mm

If you do not select a working environment and placement according to the recommendation described above, please use the rotation (↻) key of the control panel or the remote control to adjust the orientation.

USB Thumb Drive
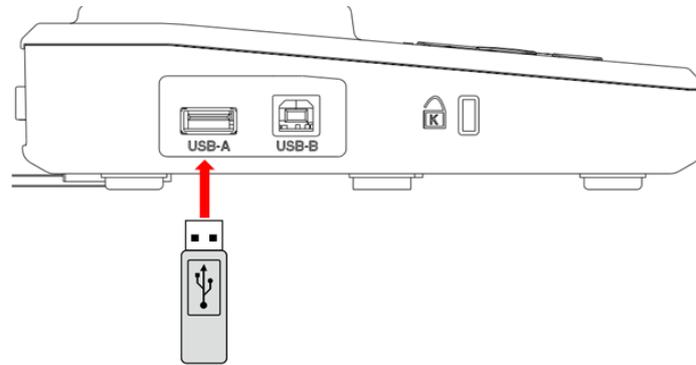
When the USB thumb drive plugs in USB Type-A successfully, the captured image and video can be saved in the thumb drive.

Connect Portable Visualizer to external equipment

■ System connection diagram
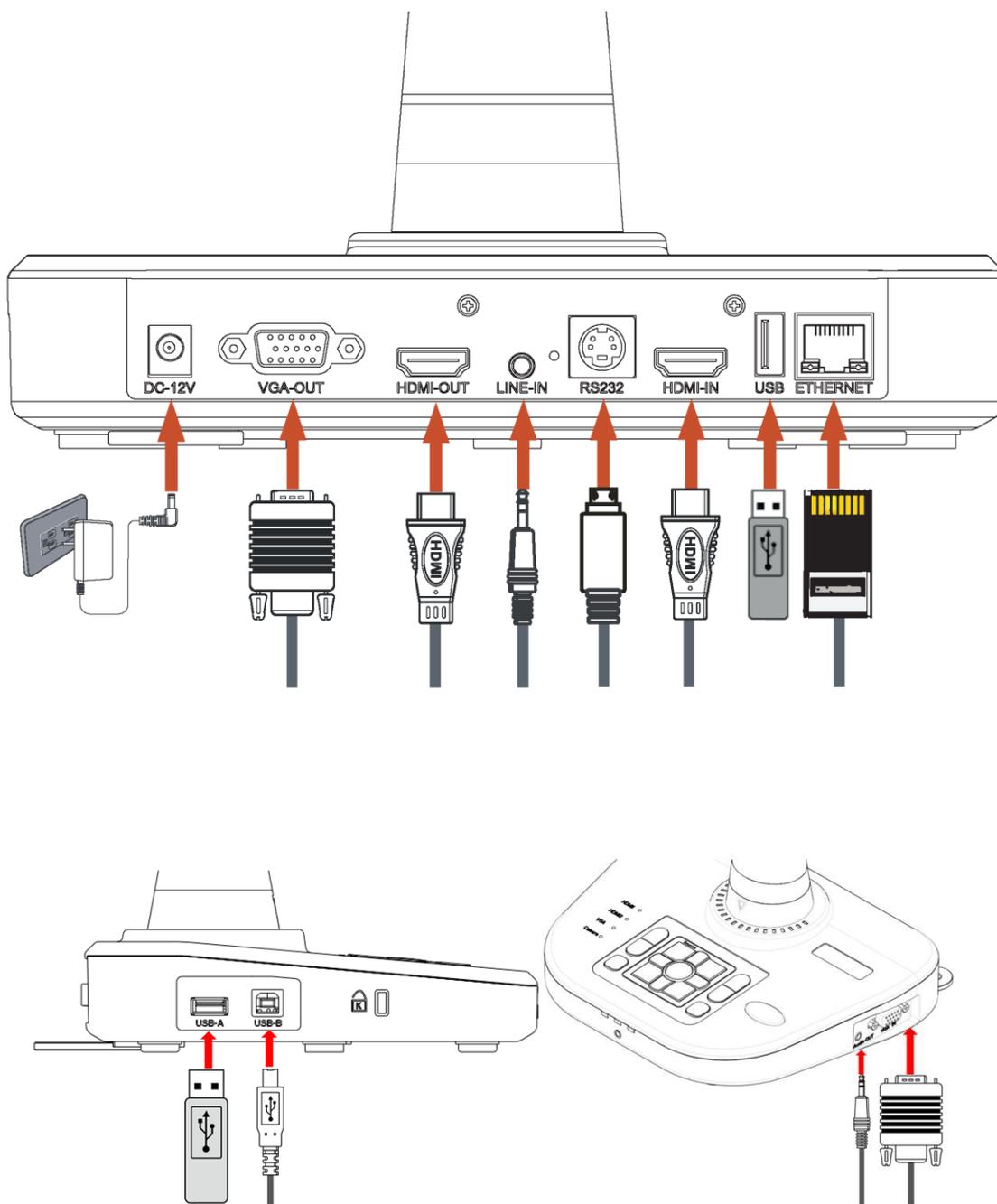
■ **Connecting the power cord**

Plug in the power adapter to the device DC 12V IN power socket first and then connect the AC power cord to a 100V~240V AC power source.

Note: The plug type of AC cord varies depending on the countries and regions where you are in.

■ Making the connection

Type	Device Interface	Cable	External Equipment Interface
HDMI	HDMI-OUT		HDMI-IN
	HDMI-IN		HDMI-OUT
VGA	VGA-OUT		VGA-IN
AUDIO	AUDIO-OUT		AUDIO-IN
USB	TYPE-B Port		TYPE-A Port
	TYPE-A Port		TYPE-B Port
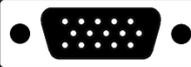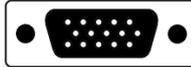
■ UHD TV

Connecting the HDMI output
Use an HDMI cable to connect the HDMI output port of the device with the HDMI input port of a 4K TV or Projector.
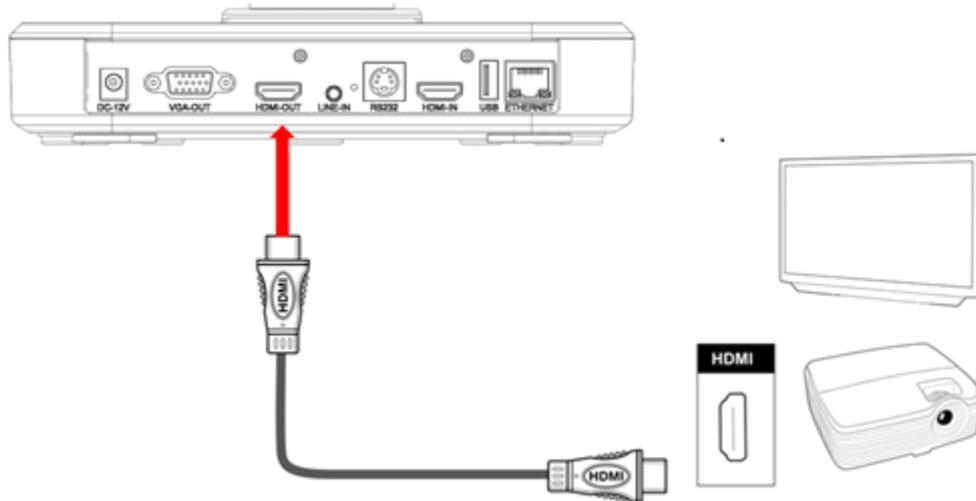
■ Standard TV

Connecting the VGA output port
Use a VGA cable to connect the VGA OUT port of the device with the VGA input port of the TV or projector.
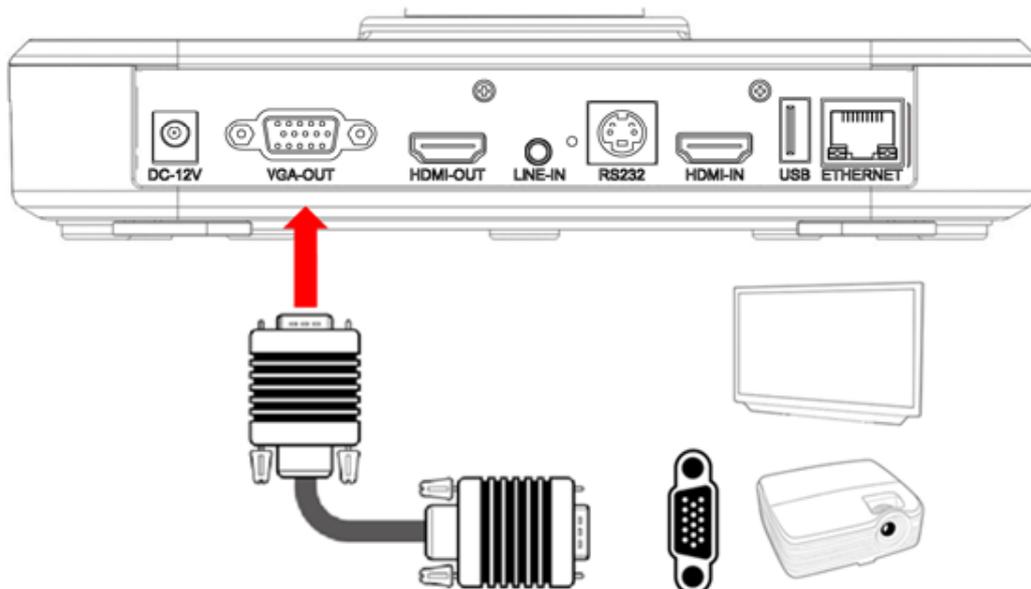
■ Using USB connection

Connecting the USB-B port
Use a USB A-B cable to connect the USB-B port of the device with the USB-A port
of the computer.
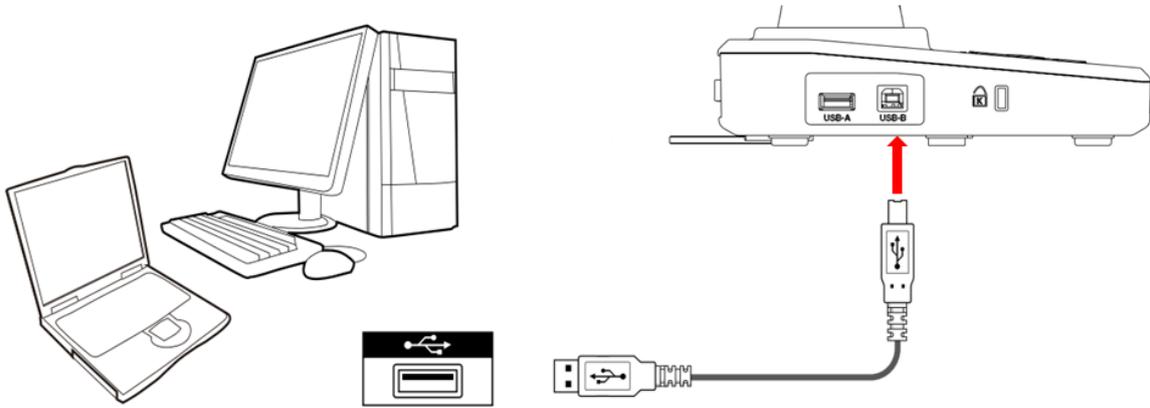
■ RS232 control protocol

RS232 Setting

|	
Baudrate	9600 bps
Parity check	no parity
Stop bit	one
Data bit	8 bits

RS232 Packet 1 (Packet size: 4 bytes)

0	1	2	3	4
HEADER	LENGTH	CAT	KEY	END
0X48	0X02	0X14	0XXX	0X54

Command list

FUNCTION	HEADER	LENGTH	CAT	KEY	END
UP	0x48	0x02	0X14	0x04	0x54
DOWN	0x48	0x02	0X14	0x05	0x54
LEFT	0x48	0x02	0X14	0x02	0x54
RIGHT	0x48	0x02	0X14	0x03	0x54
OK	0x48	0x02	0X14	0x06	0x54
POWERON	0x48	0x02	0X14	0x10	0x54
POWEROFF	0x48	0x02	0X14	0x11	0x54
CAPTURE	0x48	0x02	0X14	0x12	0x54
PLAYBACK	0x48	0x02	0X14	0x13	0x54
LAMP	0x48	0x02	0X14	0x14	0x54
FREEZE	0x48	0x02	0X14	0x15	0x54
NEG	0x48	0x02	0X14	0x16	0x54
MIRROR	0x48	0x02	0X14	0x17	0x54
SPLIT	0x48	0x02	0X14	0x18	0x54
ROTATE	0x48	0x02	0X14	0x19	0x54
RESOLUTION	0x48	0x02	0X14	0x1A	0x54
B&W	0x48	0x02	0X14	0x1B	0x54

AUTO	0x48	0x02	0X14	0x22	0x54
NEAR	0x48	0x02	0X14	0x23	0x54
FAR	0x48	0x02	0X14	0x24	0x54
SOURCE	0x48	0x02	0X14	0x25	0x54
BRIGHT_UP	0x48	0x02	0X14	0x2E	0x54
BRIGHT_DOWN	0x48	0x02	0X14	0x2F	0x54
RECORD	0x48	0x02	0X14	0x32	0x54
RECORD STOP	0x48	0x02	0X14	0x33	0x54
PLAY/PAUSE	0x48	0x02	0X14	0x34	0x54
DELETE	0x48	0x02	0X14	0x35	0x54
CAM	0x48	0x02	0X14	0x3A	0x54
VGA	0x48	0x02	0X14	0x3B	0x54
HDMI	0x48	0x02	0X14	0x3C	0x54

Basic Operation

Name	Icon	Selection	Functions Description
Function		Resolution	720P/1080P/2160P
		Focus Mode	Auto Focus/ Manual Focus
		Audio In	MIC/Line In
		Mask	Activate the Mask function
		Split	Activate the Split function
		Lamp	Set the default light intensity
Image Setting		Photo Resolution	3840x2160
		Recording Resolution	2160P@30FPS/1080P@30FPS/ 720P@30FPS
		Delay Recording	Activate the countdown and start recording in 3 seconds
System Setting		Language	Support English, Chinese
		Time Setting	User-defined
		Display Information	Set to display the information on top of the display or not.
		File Manager	Copy to external storage
			Delete all
			Format external storage
		System Reset	Confirm/ Ignore
		System Upgrade	Upgrading the Mainboard Firmware
		Lens FW upgrade	Upgrading the Camera Firmware
		Button sound	ON/OFF
		PC Control	USB/DB9/PS2
		User Profile	User 1/User 2/User 3
Effect Setting		Mask Setting	10%-80%
		Mirror	Normal
			Left-right Mode
			Up-down Mode
		Effect	Normal
			Black-white Mode
			Negative Mode
		Flicker	Auto/50HZ/60HZ/Disable
		Brightness, Sharpness, DNR,	

		Contrast, Saturation	Use (∧/∨) to adjust its setting.
Name and Security	⚙	Device Name	
		Password	Default to null, Used for QCamera security connection
Ethernet Settings	🖥	Ethernet	ON/OFF
		IP Assignment	DHCP/Static
Wi-Fi Settings	📶	Wi-Fi	ON/OFF
		Mode	AP/Client
RTSP Settings	RTSP	Resolution	1080P
		RTSP address	through the address, allows you to pull a live video stream from your camera and view it from different devices and programs
Time-lapse Photo	⟳	ON/OFF	
		Interval	User-defined

1. Press MENU (▤) on the control panel or (▤) on the remote control.

2. Use (∧ / ∨ / ⟨ / ⟩) to make a selection and adjust the setting.

3. Press the OK button ($\overset{Auto}{OK}$) to make the new setting activated.

4. Press the MENU (▤) button to hide the OSD menu.
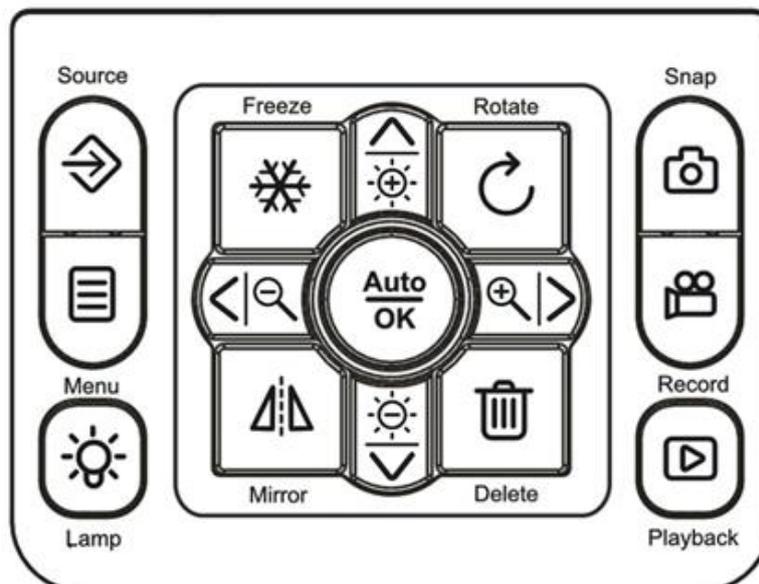
■ Power On

1. Plug in the power cord.
2. Wait until only the middle red light is on.
3. Press the Power button to turn on the Visualizer.

■ Setting the Resolution

1. Press the Menu button (▤).
2. Select Function-Resolution.
3. Use the Up/Down button to select and press Ok to confirm.

NOTE：When you set the resolution of 2160p, make sure your monitor supports the display 4K resolution.

■ Recording videos and capturing images

1. Use the Left/Right buttons (⟨ / ⟩) to adjust the image size.
2. Use the Auto Focus button $\frac{Auto}{OK}$ to adjust the focus automatically. Use the Manual Focus button to adjust the focus manually.
3. Use the video button (🎥) to begin recording a video. Press the button again to stop recording.
4. Use the Snap button (📷) to capture an image.

Note: You need to insert a USB drive first to take a video record.

■ Play

1. Use the Playback button (▶). The latest captured image or video will be displayed.
2. Use the Left/Right buttons (⟨ / ⟩) to select the file to be displayed.
3. Press the OK ($\frac{Auto}{OK}$) button.

Advanced Functions

■ Time-lapse photography

You can produce the time-lapse video with video maker software.
1. Use the Menu (▤) button on the control panel or the remote control to show the menu.
2. Use the arrow buttons to make your selection: Menu>Delay Photography.

■ **Connecting the microscope**

Connect the device with a microscope can display microscopic objects on a large screen.
1. Adjust the microscope and the objects to be focused on.
2. Please select a proper microscope adapter.
3. First, install the microscope adapter on the lens of the device.
4. After the microscope adapter is installed on the camera head, connect the camera head with an ocular lens.

Note: If the image on the presentation screen is blurry, please adjust the focus of the microscope.

■ **Use the device as a UVC camera**

1. Turn on your computer, and connect the device to your computer via USB through the USB Type A-B port. Please confirm the USB is connected correctly.
2. After connecting the device to your computer, ensure the computer detects the camera. Install QCamera or use any third-party camera software to view the camera.

Note: When the UVC function is in use, only Zoom in/out, Near, Far, lamp, brightness, Flip, and Autofocus functions are available on the panel and remote control.

■ **Installing visualizer software QCamera**

The visualizer is a standard UVC camera - you can use it with a variety of software that supports a UVC camera connection. The visualizer is compatible with the third-party video conferencing software Zoom, Microsoft Teams, or Google Meet. It also supports streaming video via Real-Time Stream Protocol (RTSP) over the network. However, to better experience the 4K UHD visualizer UVC function and network video streaming function, we'd recommend using it with the QCamera(Currently, only the windows version of QCamera supports RTSP) and you can download this free from the QOMO website at the link below.
https://www.qomo.com/qcamera

■ **Network Connection**

After connecting the visualizer to the LAN through Wi-Fi or wired, or networking with the computer through AP mode, you can view the current real-time picture easily and quickly by using the windows version of QCamera. It is also possible to use the third-party software, such as VLC, to capture the network streaming image based on the address listed in the visualizer's RTSP Settings.

The connection procedure is as follows:
1. **Client mode:**
   A. Enable Wi-Fi in Wi-Fi Settings and set mode to Client.
   B. At this time, the device will automatically search for the Wi-Fi signal that the attachment can connect to.
   C. Move the cursor to the search box and click ok. Select the WIFI you want to connect through the arrow keys. Right-click the arrow keys to confirm the connection and enter the password. Note: It is easier to use a mouse or touch
2. **AP mode:**
   A. In Wi-Fi Settings, turn on the Wi-Fi switch and select the ap mode. The default SSID and password of the device will be displayed at the bottom of the screen (you can select and edit and modify them).
   B. open the wireless network list on your computer.
   C. Select the [QOMO-XXXXXX] in the network list, and input the password for the connection to start the connection.
3. **Wired mode:**
   A. In Ethernet Settings, turn on the Ethernet switch.
   B. Access the LAN through network cables.
   C. In DHCP mode, the device automatically connects to the network. If your LAN does not support DHCP, set IP Assignment to Manual and enter the IP Settings manually.

■ **Set the device name and password**

When using QCamera for network connection to obtain real-time images, you can modify the device name and password in the "Name and Security" Settings, to better distinguish visualizer and encrypt protection when there are multiple visualizers in the network.

Storage

1. Please turn off the power of the device.
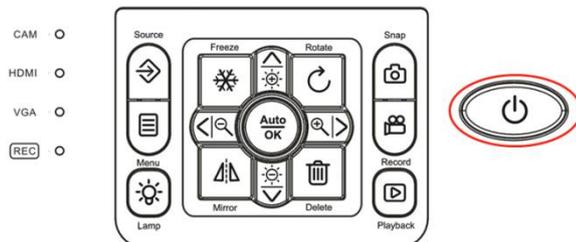
2. Please unplug and remove the power cord and all other cables from the device.
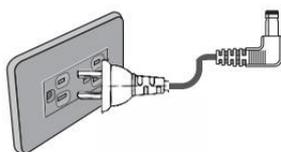
3. Please refer to the diagram to the right to fold the gooseneck flexible tube for storage.
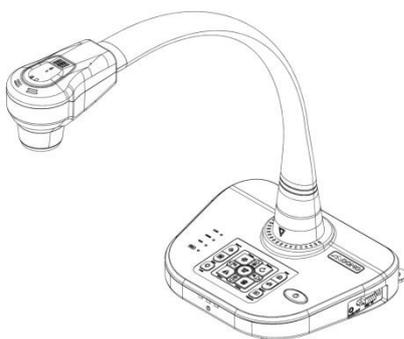
Problems and Solutions

Problem	Possible causes	Solutions
The device does not turn on in normal conditions.	The power adapter is not connected correctly to the device or the power socket.	Make sure the power adapter is connected correctly to the device and power socket.
The device is unable to capture images or record videos.	The device has insufficient memory.	Remove some files and clear up the memory space of the USB drive or built-in memory.
	The USB drive is protected.	Reset the USB drive to be writable.
After the device is connected, there is no image output.	The device is not connected to the external equipment correctly.	Re-connect the device with the external equipment.
	The external equipment is not selected correctly.	Select the correct external equipment.
	The resolution of the external equipment is set incorrectly.	Reset the resolution of the external equipment.
	The device is not switched to the correct source of signals.	Switch to the correct source of signals.
The captured image is too blurry.	The object to be photographed may be too close to the camera head.	Use Auto Focus or Manual Focus to adjust the focus.
		Please ensure that there is a distance of at least 50cm under 1.0x magnification.
The image is upside down.	The objects are not placed in the recommended working environment.	Press the Image Rotation key to adjust the display orientation.
The image cannot be moved around.	The image cannot be moved around because the Freeze function of the device is activated.	Press again the Freeze function key on the control panel or the remote control to deactivate the function.
The remote control does not respond.	The battery runs out.	Please replace it with a new battery.
	Objects are located between the remote control and the device and block the communication signals.	Please remove the objects that block the communication signals.
	The distance between the remote control and the device is too far.	Please shorten the distance between the remote control and the device.

Specifications

Model	QPC80H3
Lens	10 x optical zoom, 10 x digital zoom
Shooting Area	A3/A4
Video output Resolution	For HDMI:720P, 1080P,2160P For VGA:720P,1080P
Total Pixels	8.3 Mega, CMOS sensor from Sony
Frame Rate	2160p@30Hz,1080p@60Hz
Input Connector	HDMI-IN*1, VGA IN*1, LINE-IN*1
Output Connector	HDMI-OUT*1, VGA-OUT*1, Audio-OUT*1
USB port	USB 2.0*1 TO PC (Type B, UVC&UAC, USB to serial) USB 2.0*2 (Type A, for mouse, USB drive, touch)
DC POWER	12V/2A
Image Effects	B&W/Negative/Mirror/Freeze/Split
Remote Control	Yes
Camera Rotation	Free (Gooseneck)
Focus	Auto / Manual
White balance	Auto
Image Save & Recall	10 pictures max
Image Transfer	USB drive
Lights	LED
Microphone	Built-in
WIFI	YES
Ethernet (RJ45)	YES
RS232	YES (USB to Serial built-in or PS2 RS232)
Accessories	AC Power Cord, VGA Cable, USB Cable, HDMI Cable, AC Adapter, Remote, RS232 Cable

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