arLoupe

3D DIGITAL MAGNIFIER

Operation Guide

CONTENTS

I What Are In The Box

The common accessories of G-W/G-L include: power charger x1, usb cable x1, hdmi cable x1. Special accessories for different models are as follows:

G-W:

Main Device×1

Remote Control (RMW01)×1

Batteries (BP064)×2

Battery Shoulder Pad (BSP01)×1

G-L:

Main Device×1

Wire- Control Battery Box (BP160)×1

II Assemble The System

Assembling the arLoupe G-W:

Method 1: Attach the battery BP064 to the magnetic socket at the rear of the head mount. The indicator on the control box lights up indicates that the system is powered. The BP064 battery provides 2 hours of power.

Method 2: Attach a BP064 or a BP192 battery on the battery shoulder pad BSP01, and then attach the cable to the magnetic socket at the lower rear end of the head mount. The indicator on the control box lights up indicates that the system is powered. The BP192 battery provides 7 hours of power.

Pairing the remote control RMW01 with G-W:

1. Make sure the remote control RMW01 is equipped with batteries.
2. Make sure the arLoupe G-W main device is connected with a battery.
3. Press the button on the head mount control box for 5 seconds until the indicator flashes to enter pairing mode. Press the pairing button on the remote control to pair.
4. The indicator on the control box is off indicates that the paring succeeds.
5. The remote control enters sleep mode if no any command is made (no button is pressed) within 30 minutes. Press any button to wake up the remote control from sleep mode, then press any function button to make a command.

Pairing the foot switch FSW01 with G-W

1. Make sure both the foot switch FSW01 and arLoupe G-W are powered by battery.
2. Press the button on the head mount control box for 5 seconds, until the indicator flashes to enter pairing mode. Press the pairing button on the foot switch.
3. The indicator on the control box is off indicates that the paring succeeds.
4. If the foot switch FSW01 has been paired with the main device, press the pairing button of the remote control to dismiss the connection between remote control and main device and transfer the connection priority to the foot switch.
5. The foot switch enters sleep mode if no any command is made (no button is stepped on) within 30 minutes. Step on any button to wake up the foot switch from sleep mode, then step on any function button to make a command.

Assembling the arLoupe G-L:

Connect one end of the type-C cable to the power socket of the BP160 wire-control battery box (located on the same side of the mini-HDMI socket), and connect to the other end of type-C cable to the type-c port under the rear end of the head mount. The BP160 wire-control battery box provides 6.5 hours of power.

Pairing the foot switch FSL01 with G-L

1. Make sure the foot switch FSL01 is equipped with batteries and the G-L main device is connected to BP160 wire-controlled battery box.

2. Press the LED button (also the pairing button) on the BP160 wire-control battery box for 5 seconds until the indicator flashes to enter pairing mode. Press the pairing button on the foot switch.

3. The indicator on the BP160 wire-control battery box stopped indicates that the paring succeeds.

III Wear The Device

1. Put on the head mount, press down the back of the head mount, and turn the swivel knob (at the rear of head mount) to ensure a comfortable fit.

> **Note:** arLoupe can be operated while wearing glasses, the user does not have to remove his/her glasses.

2. Adjust the head mount to a comfortable position. Hold both sides of the device with both hands and adjust the height of the main device up and down so that the near-eye displays are straightly aligned with the eyes.

3. After positioning the displays in front of eyes, press the power button of the remote control/wire-control battery box (if it is the first time to power on after replacing the battery, please press the power button 2nd time to turn on the device). Wait for 5 seconds, the main device emits a "beep" sound indicating that the device is turned on. At the same time, the green icon (shown below) will appear on the near-eye display, and the LED will also light up.

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4. After the device is turned on, point the LED light toward the target to be observed. Make sure the center of the view (i.e. the center of the image) locates at the center of the LED light circle.

5. Adjust the display
Toggle the sides of the screen and adjust the angle forward or backward to find the full area of the near -eye displays. Then adjust the left and right position of the device. When the L-shaped signs on the four corners can be seen, indicates that the best field of view is obtained.

IV   Start To Use

01. Focus:

After wearing arLoupe, adjust the distance between your head and the target object by leaning body back and forth. When the distance from the device to the target object equals to the focal length (S: 40cm, M: 45cm, L: 50cm), the target object can be clearly observed.

02. Functions

Operate the device using the remote control or the wire-controlled battery box. Each time the user clicks a control button, the device emits a "beep" sound to confirm user's command.

Color temperature adjustment

The arLoupe G-W comes with automatic color temperature adjustment and automatically sets the LED color temperature when the LED light is turned on. Users can manually set color temperature to 3500K, 4500K or 5500K using the left and right keys on the remote control or the wire-control battery box.

Take photos

Click the photo button, the device emits a "beep" sound, and the camera icon appears on the near-eye display for 1 second, and a photo is taken.

Record Videos

Click the video button, the device emits a "beep" sound, and a red dot appears on the upper left corner of the near-eye display, indicating a video is being recorded. To end the recording, click the video button again, the device emits a "beep", the red dot disappears and the recording ends.
Note: A micro SD card needs to be inserted before taking photos or recording videos.

Adjust the LED illumination

Click the LED button, the device emits a "beep" sound and the LED illumination changes. The LED has three levels of illumination: off, low light, and full light. Click the LED button to select illumination.

Image grid and brightness (EV) adjustment

The G-W can impose a grid onto the near-eye display as a visual guide for scaling the target object. It also allows users to reduce the brightness (EV) of over exposure area of the image . Click the grid button, and the near-eye display will switch among "grid", "-1/2EV", and "-1EV".

Zoom

Click the zoom button, the device emits a "beep" sound and changes the image magnification. The G-W offers 4 levels of magnifications and the function is operated by pressing the" +" and " - " buttons of the remote control. The G-L offers 2 levels of magnifications and the function is switched by pressing the "zoom" button. The magnifications number is showed on the upper left corner of the screen.

LED shield

The G-W and G-L are equipped with an orange light shield in front of the LED to prevent the composite fillings from hardening. When performing tooth filling operation, flip down the LED shield to block blue light or ultraviolet light.

03. Low battery warning and automatic shutdown:

When the battery voltage is low, the system will use the remaining power to support normal operation for about 15 minutes, allowing time for user to complete on hand task and replace a new battery. During this time, the image quality gradually deteriorates as the power supply is insufficient, and dim stripes begin to appear in the background of the screen. If the battery is not replaced after 15 minutes, the system releases a low-battery warning signal and then auto-matically shut down after 30 seconds.

V Output The Images

1. To transmit image from arLoupe G-W to an external display, insert the mini-HDMI plug (small plug) of the HDMI cable into the mini-HDMI port under the rear end of the head mount. For arLoupe G-L, insert the mini-HD-MI plug into the mini-HDMI port of the wire-control battery box. Then insert the HDMI plug (large plug) into the HDMI port of an external display or projector.

2. If the image does not show on the external display, check the image source setting of the external display menu and select the corresponding HDMI port.

3. The external display shows the image captured by the user. Audiences watch the "first-person perspective" image, which is exact the same as seen by the user.

VI Check Photo And Video Files In The SD Card

1. Withdraw the micro SD card from the main device, insert the card to a card reader, and connect the card reader to a computer.

2. Select "My Computer" in the computer and click the storage folder of the card reader to access the photos and video files in this SD card.

VII After-Sales Service：

Warranty Period
The G4 series product has a one-year warranty.

Warranty Scope
During the warranty period, for issues caused by product inherent defects like electrical component failures or poor contacts, BEWELLTECH INC. will offer free repair services. However, damages from unauthorized disassembly, accidental impacts, and improper operation are excluded.

Non-warranty Charges
BEWELLTECH INC. may provide services for the following upon request by clients and after investigation and mutual agreement:
- Devices with human-caused hardware damage
- Repairs requested after the warranty period
- Functional adjustments not related to quality issues

For these services, BEWELLTECH INC. will apply charges for both materials and labor accordingly.

How to request for service
If the user needs to seek for warranty service, please contact the distributors or dealers whom the product was purchased from and return the product for repair through the original channel.

VIII arLoupe Sizing Chart:

Device Size	Distance (cm) From Lens-Focus ~Object	Working Distance (cm) User's Mid-Finger-Tip To Elbow	Suitable User's Height (cm)
S	40	~ 40	BELOW 165 (5' 6")
M	45	41~ 48	166~183 (5' 6" ~ 6')
L	50	49 ~	ABOVE183 (6')

IX arLoupe G-L/G-W Product Specifications

General	
Size（w/o head-mount）	80(L) × 140(W) × 100(H)mm
Weight（w/o head-mount）	160g
Flip up angle	90°
Environment Temperature	Working temperature:10 - 40°C
	Storage temperature: 0 - 60°C
Electronics	
Working voltage	DC 5V
Working current	2A
Power	5V, 3A
Est. working hour	2h/6400mAh@3.7V, 6.5h/16000mAh@3.7V
Optical	
Lens	Fix focal length
CMOS sensor	1/2.5"
CMOS Resolution	3864 x 2218 pixels
magnification	2-step/4-step (from 2X to 12X, depend on models)
Image file format	video: H.264(1920x1080@60fps)
	photo: JPG (4K)
Color temperature	Auto/manual: 3000K, 4000K, 5000K (3000K,3500K,4000K,5000K)
Pupil distance	Universal
View angle (G-W3510)	diagonal:13.0°
	Horizon:9.7°
	Vertical:7.2°
Operation working distance	S: 400mm
	M: 450mm
	L: 500mm

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