### AI POWERED SPORTS ANALYSIS CAMERA

# CERBERUS Instruction Manual (EN)

When you get Cerberus delivered, please use it after [Checking components] and [Software update].

▼ 0. Components : Please check components before you use it.



Please check if all components are included

No.	Items	Note
1	Camera	· 1EA
2	External battery	<ul> <li>• 1EA</li> <li>• External battery is mounted with the camera.</li> </ul>

3	Charger Set	<ul> <li>Power adapter : 1EA</li> <li>Power Adapter Plugs : 4EA [220V(KR), 220V(EU), 240V, 110V]</li> </ul>
4	Charging cable	· 1EA
5	Mount head	<ul> <li>Head : 1EA</li> <li>Plate : 1EA</li> <li>Converting bolt : 2EA (3/8" - 1/4" size)</li> </ul>
6	Bag & Bag strap	· 1EA

# ▼ 1. Optimal distance & height for recording (Video Manual Included)



<u>Video Manual (Link)</u>



- Distance : The minimum distance of 2 meters is required from the sideline, and the recommended distance is 6 to 7 meters
- Height : When setting a tripod from the ground, the optimal height is 4 meters. If it is higher, the tripod could be affected by the wind

#### ▼ 2. Connect a Mount head

1. Check the size of a Bolt and a Nut



 The nut size of Cerberus is 3/8"



- Check the bolt size of the mount head
  - If it is 3/8", connect it to Cerberus directly
  - If it is 1/4", combine a converting bolt (3/8" 1/4") with it first and connect it to Cerberus.
- 2. Connection with Camera & Tripod



- Separate the Mount and the Square plate (attached to the top of the mount)
  - Please make sure to separate the Square plate and connect it to the Camera first.



Connect the Square plate and the Camera



- Connect the Tripod and the Mount
  - Before combining with the Square plate, please connect the Tripod and the Mount first.



 Combine and let Tripod-Mount-Square plate-Camera fixed.

# ▼ 3. Camera Power On & Mobile Device Connection (Video Manual Included)



<u>Video Manual (Link)</u>

1. Camera Power On



 Open Cerberus's bottom lid, press and hold the power button for 2 seconds to turn on the camera



- [Whilte LED] blinks twice and the loading takes about 30 seconds to 1 minute
- Check power on : If [White LED] stays on after booting

## the camera, it means that the power on is completed

#### 2. Connect to Wi-Fi



- Check Wi-Fi password : You can check it from the camera's bottom lid (In the red box on the left photo)
- Connect to Wi-Fi
- Check connection : Launch Bepro app → If you spot [Red Cerberus] button, it is connected well (Right photo)
  - Message of the button : You are connected to Cerberus
- Tab [Red Cerberus] button

#### Notice

• When you connect multiple devices to Cerberus Wi-Fi, there could be limitations in the use of real-time video.

#### ▼ 4. Camera Angle Setup (Video Manual Included)



Video Manual (Link)





- 1. Live Preview Mode On (Left photo)
- 2. Check Live Preview : Please make sure if the entire pitch (Corner line, Side line) is covered thoroughly (Left photo)
  - If the entire pitch is not covered, you should tilt the camera and extend or lower the tripod to cover it
  - The recommended final view : Please ensure there is more space at the top than at the bottom (Right photo)

#### ▼ 5. Recording (Video Manual Included)



<u>Video Manual (Link)</u>

1. Start Recording



- Tab [] button positioned at the screen's bottom center
- 2. Set Pitch Parameter



 Tab [Confirm] button on Check Guidelines pop up



 Shift the 6 yellow dots to the four corners and two endpoints of the center line and then tab [Done] button



 Confirm the blue dots comprehensively cover the pitch before tabbing the [Start Recording] button



- If the pitch parameter value and the actual pitch are different, AI may misrecognize the pitch area and auto view may not work properly in the 3D video player.
- 3. Check Recording Status



• If [Green LED] outside the camera blinks, it means that the recording works well

#### ▼ 6. Use in Real-time (Video Manual Included)



<u>Video Manual (Link)</u>

- 1. Connection between Camera & Laptop
  - a. Wired connection



- Connect a LAN cable between a LAN port next to the power button at the bottom of the camera and another LAN port from the laptop (Left photo)
- Change the wired connection option within [Settings] page (Right photo)
  - Launch BEPRO app → Tab [Red Cerberus] button on the top
     → Tab [Settings] at the bottom right → Select [User Device]
     option from [Wired Connection]
- It can be used more stably when you use wired connection
- c. Wireless connection





- Access a laptop's wifi settings : Select Cerberus Wi-Fi (Left photo)
- Input the Wi-Fi password : Check on the bottom lid of the camera (In the box from the right photo)

#### Notice

- When you connect multiple devices to Cerberus Wi-Fi, there may be limitations in using real-time video.
- If you are too far from the camera, there may be limitations in using real-time video.
- 2. Use the Real-time Video
  - Laptop



- Launch BEPRO Editor  $\rightarrow$  Tab [Red Cerberus icon] on the top right
- Tab [New Live Coding Project] button from the video presently being recorded





- Create a project
- Play the video & Create/Edit clips

• Mobile phone, tablet



• Real-time video can be checked



- All devices must be connected to Cerberus Wi-Fi.
- To create and edit clips are only available when using BEPRO Editor on a laptop.

#### ▼ 7. Change Settings

• Control the Brightness



- Launch BEPRO app → Tab [Red Cerberus] button on the top → Tab [Settings] at the bottom right
- Tab [Brightness] (Left photo)
- Tab [+/-] button to control the brightness of the video (Right photo)



- After you tab [+/-] button, it needs 8 to 10 seconds to check the brightness-adjusted video screen.
- Set Extrinsic



- Launch BEPRO app → Tab [Red Cerberus] button on the top → Tab [Recordings] at the bottom left
- Tab […] button on the top right of the video presently being recorded → Tab [Set extrinsic] (Left photo)
- Reset the pitch parameter (Right photo)



- If the camera position or angle changes unavoidably, it is necessary to set extrinsic following the way above
- Reset Parameters



• When setting Pitch Parameter, check if the left and right



• Click [Settings] at the bottom right of the screen

screens are misaligned (Red circles)

 If you find the misalignment, click [X] button at the top left of the screen to go back to HOME screen



• Click [Reset Parameters] at the bottom of the screen



Click [OK] button



- [Reset Parameters] is not applicable during recording
- You must [Reset Parameters] before recording the next Match/Training if you find the misalignment between the left and right screens during recording or when checking the uploaded video

### ▼ 8. Finish Recording



 Finish recording from mobile device : Tab [Stop] button at the



• Camera power OFF : Press and hold the power button for a few

bottom center of the screen (Left photo)

seconds to turn off the camera (Right photo)



- Check power off : If [Red LED] blinks twice and the camera is turned off, it means that it is powered off completely
- ▼ 9. Video Upload (Video Manual Included)



<u>Video Manual (Link)</u>

- 1. Connect the Camera to Internet
  - a. Wireless connection



- Launch BEPRO app → Tab [Red Cerberus] button on the top → Tab [Settings] at the bottom right
- Tab [Camera internet] below Connections (Left photo)
- Connect Wi-Fi (Right photo)

#### Notice

- Certain Wi-Fi networks like those in cafes or hotels that require an email address or an acknowledgement checkbox could not be compatible with Cerberus due to security concerns.
  - Solution 1: Open an internet browser (e.g. : Safari) and type [login.wifigem.com] on the address bar → Connect to Hotel/Cafe's Wi-Fi from a pop up window
  - Solution 2 : Open an internet browser (e.g. : Safari) and type [Wi-Fi router's IP] → Connect to Hotel/Cafe's Wi-Fi from a pop up window
- b. Wired connection



- Wired connection between the router and the camera (Left photo)
- Launch BEPRO app → Tab [Red Cerberus] button on the top → Tab [Settings] at the bottom right
- Select [Router] option below Wired Connection (Right photo)

#### 2. Uploading videos





- Launch BEPRO app → Tab [Red Cerberus] button on the top → Tab [Recordings] at the bottom left
- Press [Upload to schedule] after you tab […] button on the top right corner of the video



• Tab [Add] button to create a schedule (Match or Training)



• Tab [Upload] button after you choose the schedule



 If [Blue LED] is visible steadily, uploading is in progress well

#### Notice

- Uploading will pause if the camera is powered off, loses its internet connection, or if the schedule is removed.
- If you restore all settings to their regular state, uploading will seamlessly continue from where it was paused.

#### ▼ 10. Software Update

- Launch BEPRO app → Tab [Red Cerberus] button on the top → Tab [Settings] at the bottom right
- 2. Connect to Internet
  - Wired connection



- Wired connection between the router and the camera
- Wireless connection



- Launch BEPRO app  $\rightarrow$  Tab [Red Cerberus] button on the top
- Tab [Settings] at the bottom right

- Tab [Camera internet] below Connections
- Connect to Wi-Fi
- 3. Start Update : It takes about 3 to 5 minutes



- When connected to internet, [Firmware Update] pop-up appears
- Tab [Update] button
- 4. Update Completed
- 5. Reboot the Camera



### Notice

- Internet connection is required for software update.
- Before updating, please make sure the camera battery is sufficient.

NOTE: 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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 Warning Statements:** 

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment shall be installed and operated with minimum distance 20cm between the radiator & body.