



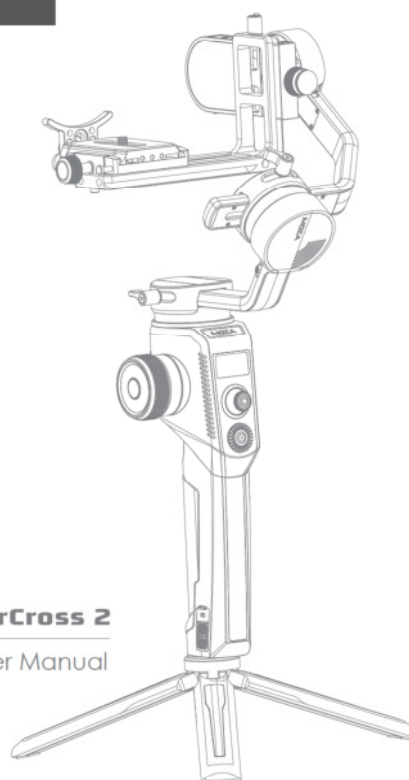
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Note: The users manual is suitable for AirCross 2 V0.1.19 firmware.

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**AirCross 2**

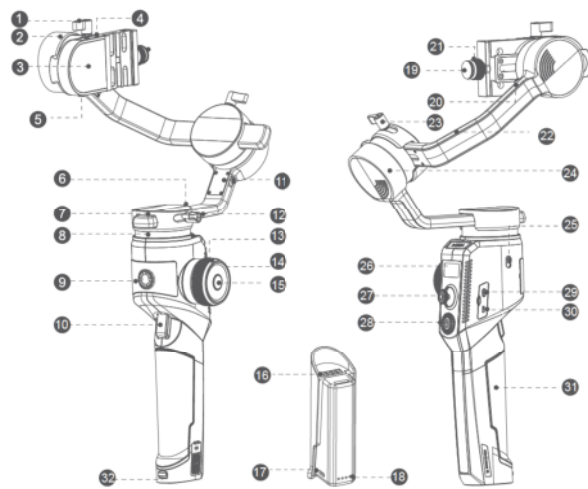
User Manual

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## AirCross 2 Overview

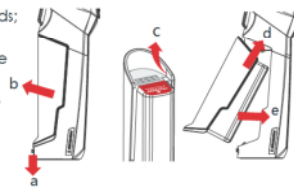


- |                       |                           |                             |                   |
|-----------------------|---------------------------|-----------------------------|-------------------|
| 1 Tilt Knob           | 9 3/8" Screw              | 17 USB Type-C Charging Port | 25 Pan Motor Lock |
| 2 Tilt Motor          | 10 Trigger                | 18 Battery Level Indicator  | 26 OLED Screen    |
| 3 Tilt Arm            | 11 Roll Motor Lock        | 19 Safety Lock              | 27 Joystick       |
| 4 Camera Control Port | 12 Pan Knob               | 20 Roll Motor Lock          | 28 Dial Wheel     |
| 5 Baseplate Knob      | 13 Smart Wheel            | 21 Multi-CAN Port           | 29 USB Port       |
| 6 Pan Arm             | 14 Indicator Light Ring   | 22 Roll Arm                 | 30 Multi-CAN Port |
| 7 Crash Pad           | 15 Power Button           | 23 Roll Knob                | 31 Battery        |
| 8 Pan Motor           | 16 Power Supply Electrode | 24 Roll Motor               | 32 Battery Lock   |

## Installation and Balance Adjustment

### Installing the Battery

- Press the battery lock downwards;
- Take out the battery;
- Remove the insulating film at the electrode;
- Attach the battery electrode to the gimbal.
- Press the battery into the hatch



### Attaching the Tripod

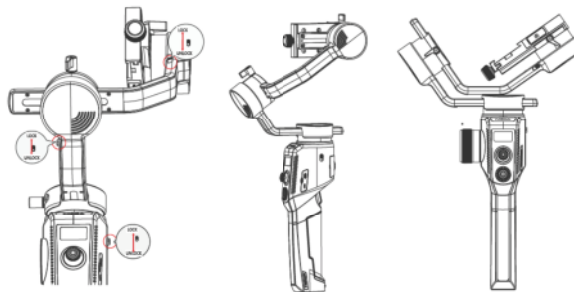
Attach the tripod to stand the gimbal.

- Screw the tripod tightly into the 1/4" hole at the bottom of the gimbal.
- Expand three support feet, place the gimbal on a flat surface



### Unlocking Motors

The AirCross 2 gimbal has 3 locks which are used to lock motors to prevent rotation.



3 Motor Locks

Unfolding

Storage

▲ Notes: Please unlock all motor locks before starting on the gimbal, otherwise motors will get overheated or enter the protection mode.

## Mounting the Camera

### Horizontal Mounting

a. Place the longer side of the L-Bracket under the camera, and lock the camera with a 1/4" screw.



b. Loosen the quick release knob screw, Pull out the safety lock at the end of the quick-release knob, insert the shorter end of the L-Bracket into the quick release baseplate, and then lock the knob.



### Vertical Mounting

a. Place the longer side of the L-Bracket under the camera, and lock the camera with a 1/4" screw.

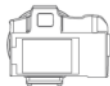


b. Loosen the quick release knob screw, pull out the safety lock, insert the longer end of the L-Bracket into the quick release baseplate, and then lock the knob.



### Use the Arka quick release plate for vertical shot:

a. Place the arka-swiss quick release plate horizontally under the camera and use a 1/4" screw to lock the camera;



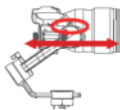
b. Loosen the quick-release knob and pull out the safety lock at the end of the quick-release knob. Install the Arka quick-release plate into the quick-release base. Then lock the knob.



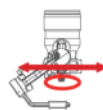
**⚠ Note:** The camera can only be installed vertically using the Arka quick release plate. It does not block the camera's battery port and memory card slot.

### Balancing

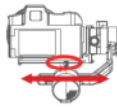
a. Loosen the knob of the tilt arm, adjust the tilt arm back and forth until the lens moves horizontally forward, and then lock the knob.



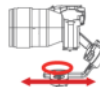
b. Rotate the camera to make its lens face upward, loosen knob on the release plate, adjust the release plate back and forth until the lens faces straight upward, and then lock the knob.



c. Loosen the knob of the roll arm, adjust the roll arm leftwards and rightwards until it remains horizontal, and then lock the knob.



d. Hold the gimbal horizontally to make the pan arm level with the ground, then loosen the knob on the pan arm, adjust the pan arm leftwards and rightwards until it remains level, and then lock the knob.



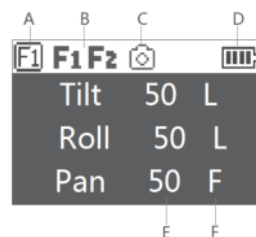
**▲** Note: Please release the motor lock of the axes before balance adjustment, otherwise it can't be adjusted accurately. Please ensure that the MOZA AirCross 2 is balanced well before use.

## Buttons and OLED Display

### Button Functions

| Button        | Operation           | Function                       | Customizable Function |                 |          |                 |           |          | Menu                      |
|---------------|---------------------|--------------------------------|-----------------------|-----------------|----------|-----------------|-----------|----------|---------------------------|
| Trigger       | 1X click            | —                              | —                     | Focus           | Photo    | —               | —         | —        | The same                  |
|               | 2X click            | Re-center                      | —                     | Re-center       | Selfie   | —               | —         | —        | The same                  |
|               | 3X click            | Selfie                         | —                     | Re-center       | Selfie   | —               | —         | —        | The same                  |
|               | Hold                | Pan/tilt follow                | —                     | Pan/tilt follow | All lock | Sport gear mode | FPV       | —        | The same                  |
|               | Click and hold      | All lock                       | —                     | —               | —        | —               | —         | —        | The same                  |
| Power Button  | 1X click            | Switch wheel modes             | —                     | —               | —        | —               | —         | —        | The same                  |
|               | 2X click            | Sleep/wake up                  | —                     | —               | —        | —               | —         | —        | The same                  |
|               | 3X click            | Switch Grouping of Wheel Modes | —                     | —               | —        | —               | —         | —        | —                         |
|               | Long press          | ON/OFF                         | —                     | —               | —        | —               | —         | —        | The same                  |
| Smart Wheel   | Turn                | Focus motor 1                  | Focus motor 1         | Focus motor 2   | E-focus  | Tilt axis       | Roll axis | Pan axis | The same                  |
| Joystick      | Push up/down        | Move the tilt axis             | Tilt axis             | Roll axis       | Pan axis | —               | —         | —        | The same                  |
|               | Push left/right     | Move the pan axis              | Tilt axis             | Roll axis       | Pan axis | —               | —         | —        | The same                  |
| Top Button    | 1X click            | Tilt follow                    | —                     | —               | —        | —               | —         | —        | Option-up                 |
| Down Button   | 1X click            | Pan follow                     | —                     | —               | —        | —               | —         | —        | Option-down               |
| Left Button   | 1X click            | Roll follow                    | —                     | —               | —        | —               | —         | —        | Return                    |
|               | 3X click            | FPV mode                       | —                     | —               | —        | —               | —         | —        | —                         |
| Right Button  | 1X click            | Sport gear mode                | —                     | —               | —        | —               | —         | —        | Confirm/Next menu         |
|               | 3X click            | Inception mode                 | —                     | —               | —        | —               | —         | —        | —                         |
| Center Button | 1X click            | Video recording                | —                     | —               | —        | —               | —         | —        | Video recording           |
|               | 2X click            | Take photo                     | —                     | —               | —        | —               | —         | —        | Take photo                |
|               | Long press          | Enter menu                     | —                     | —               | —        | —               | —         | —        | Exit menu                 |
| Dial Wheel    | Turn                | Adjust the follow speed        | —                     | —               | —        | —               | —         | —        | Adjust relevant parameter |
| Combo         | Power/center button | Firmware upgrade               | —                     | —               | —        | —               | —         | —        | —                         |

## OLED Display



A: Smart wheel working modes

- Controlling external follow focus motor 1
- Controlling external follow focus motor 2
- Electronic follow focus
- Controlling the tilt axis
- Controlling the roll axis
- Controlling the pan axis

B: Focus motor connection status. Icon will be displayed after connection, otherwise it won't be displayed. Up to two focus motors can be connected at the same time.

C: Camera connection status. Icon will be displayed after USB connection, otherwise it won't be displayed.

D: Battery level. Each grid represents 25% battery level. When the icon is empty, please charge the battery in time.

E: Follow speed value: 0-100. Turn the dial to adjust the value

F: Follow status

L: Lock. The axis locks and doesn't follow.

F: Follow. The axis follows.

Q: Sport Gear Mode

### LED Indicators

Power on: automatic color changing

Sport gear mode: solid blue

Inception mode: solid blue

Sleep mode: slowly flashing green

Motor protection mode: solid red

Warning alarm: quickly flashing red

Firmware upgraded: breathing yellow

Note: The button functions and light colors above are the factory default settings. You can customize some button functions and light effects in the menu.

### Menu Description

| L1       | L2        | L3            | L4           | L5   | Value   | Function   |
|----------|-----------|---------------|--------------|--|---|--|
| camera   |           | Shutter Cable |              |  | *   | set the connection type to universal shutter cable                 |
|          |           | MCSC-Multi    |              |  | *   | set the connection type to Sony-Multi port                         |
|          |           | MCSC-Multi/C  |              |  | *   | set the connection type to Sony-Multi port and power supply        |
|          |           | MCSC-Remote   |              |  | *   | set the connection type to Panasonic-Remote port                   |
|          |           | MCSC-USB      |              |  | *   | set the connection type to USB port                                |
|          | ISO       |               |              |  | 32-106400   | Set the camera ISO   |
|          | TV        |               |              |  | 30-1/8000   | Set the camera shutter   |
|          | AV        |               |              |  | F1-F22  | Set the camera aperture  |
|          | switch    |               |              |  | 7 /ok   | turn on/off motor  |
|          |           | autotune      |              |  | 7 /ok   | tuning/tuned   |
| motor    | power     | level         | ultra light  | *  | set motor level to the minimum                        |  |
|          |           |               | light        | *  | set motor level to light                              |  |
|          |           |               | medium       | *  | set motor level to medium                             |  |
|          |           |               | heavy        | *  | set motor level to heavy                              |  |
|          |           |               | ultra heavy  | *  | set motor level to ultra heavy                        |  |
|          |           | custom        | tilt         | 0-100  | set tilt motor power                                  |  |
|          | roll      |               | 0-100        | set roll motor power                             |   |  |
|          | pan       |               | 0-100        | set pan motor power                              |   |  |
|          | filter    | tilt          | 0-100        | set tilt motor filter                            |   |  |
|          |           | roll          | 0-100        | set roll motor filter                            |   |  |
|          |           | pan           | 0-100        | set pan motor filter                             |   |  |
|          | follow    | switch        | tilt         | on/off   | enter/exit tilt follow mode                           |  |
| roll     |           |               | on/off       | enter/exit roll follow mode                      |   |  |
| pan      |           |               | on/off       | enter/exit pan follow mode                       |   |  |
| speed    |           | tilt          | 0-100        | set the following speed of tilt motor            |   |  |
|          |           | roll          | 0-100        | set the following speed of roll motor            |   |  |
|          |           | pan           | 0-100        | set the following speed of pan motor             |   |  |
| deadband |           | tilt          | 0-100        | set the following initiation angle of tilt motor |   |  |
|          |           | roll          | 0-100        | set the following initiation angle of roll motor |   |  |
|          |           | pan           | 0-100        | set the following initiation angle of pan motor  |   |  |
| gimbal   |           | joystick      | function     | left-right                                       | tilt/roll/pan   | move the joystick left/right to control the tilt/roll/pan rotation |
|          |           |               |              | up-down  | tilt/roll/pan   | move the joystick up/down to control the tilt/roll/pan rotation    |
|          |           |               | sensitivity  | left-right                                       | 0-100   | set sensitivity level of left-right movement                       |
|          | up-down   |               |              | 0-100  | set sensitivity level of up-down movement             |  |
|          | habits    |               | left-right   | +/-  | set the control habit of joystick left/right movement |  |
|          |           |               | up-down      | +/-  | set the control habit of joystick up/down movement    |  |
|          | wheel     |               | function     | focus-1  | *   | control the external focus motor 1                                 |
|          |           |               |              | focus-2  | *   | control the external focus motor 2                                 |
|          |           |               |              | focus-e  | *   | control the electronic focus                                       |
|          |           |               |              | tilt   | *   | control the pan axis   |
|          |           |               | roll         | *  | control the tilt axis                                 |  |
|          |           |               |              | pan  | *   | control the roll axis  |
|          |           | sensitivity   | 0-100        | wheel sensitivity                                |   |  |
|          |           | habits        | +/-          | set the control direction of wheel rotation      |   |  |
|          | operation | hold          | none         | *  | none  |  |
|          |           |               | follow       | *  | enter pan-tilt follow mode                            |  |
|          |           |               | lock         | *  | enter all lock mode                                   |  |
|          |           |               | quick        | *  | enter sport gear mode                                 |  |
|          |           |               | FPV          | *  | enter FPV mode  |  |
|          |           |               | none         | *  | none  |  |
|          |           | click         | shutter      | *  | take photo  |  |
|          |           |               | focus        | *  | auto focus  |  |
|          |           |               | none         | *  | none  |  |
|          |           |               | double-click | re-center  | *   | re-center  |
|          |           |               | selfie       | *  | rotate the gimbal 180° for selfie                     |  |
|          |           |               | none         | *  | none  |  |
|          |           | triple-click  | re-center    | *  | re-center   |  |
|          |           |               | selfie       | *  | rotate the gimbal 180° for selfie                     |  |



| L1      | L2          | L3           | L4         | L5 | Value     | Function   |
|---------|-------------|--------------|------------|----|-----------|--|
| gimbal  | operation   | dial         | habits     |    | +/-       | rotate the dial clockwise to increase/decrease value |
|         |             | LED          | switch     |    | ? /ok     | turn on/off LED light on the wheel                   |
|         |             |              | brightness |    | 0-100     | adjust the brightness                                |
|         | autotune    |              |            |    | ? /ok     | auto tune  |
|         | balance     | ok           |            |    |           | check the balance state of camera                    |
|         | ifocus      | F1           | switch     |    | ? /ok/err | turn on/off the focus motor 1                        |
|         |             |              | set A      |    | ? /ok/err | set the point A of focus motor 1                     |
|         |             |              | set B      |    | ? /ok/err | set the point B of focus motor 1                     |
|         |             |              | Clear AB   |    | ? /ok/err | Clear the calibration information                    |
|         |             |              | Guidance   |    | >         | Enter the guidance mode                              |
|         |             | F2           | switch     |    | ? /ok/err | turn on/off the focus motor 1                        |
|         |             |              | set A      |    | ? /ok/err | set the point A of focus motor 1                     |
|         |             |              | set B      |    | ? /ok/err | set the point B of focus motor 1                     |
|         |             |              | Clear AB   |    | ? /ok/err | Clear the calibration information                    |
|         |             |              | Guidance   |    | >         | Enter the guidance mode                              |
|         | advanced    | inception    | speed      |    | >         | Enter the dolly zoom mode                            |
|         |             |              |            |    | 0-100     | set the rotation speed of inception mode             |
|         |             | motion set   | tilt       |    | ? /on/off | turn on/off the motion control of tilt axis          |
|         |             |              | roll       |    | ? /on/off | turn on/off the motion control of roll axis          |
|         |             |              | pan        |    | ? /on/off | turn on/off the motion control of pan axis           |
|         |             |              | speed      |    | 0-100     | set the rotation speed of motion control             |
|         |             | tracking     | speed      |    | 0-100     | set the max speed of tracking                        |
|         |             |              | tilt       |    | on/off    | turn on/off the manual positioning of tilt axis      |
|         |             | manual pan   | roll       |    | on/off    | turn on/off the manual positioning of roll axis      |
|         |             |              | pan        |    | on/off    | turn on/off the manual positioning of pan axis       |
|         | calibration | gyro         |            |    | ? /ok     | calibrating/calibrated the gyroscope                 |
|         |             | acc          |            |    | ? /ok     | calibrating/calibrated the accelerometer             |
|         |             |              | tilt       |    | 0-100     | set the offset value of tilt axis                    |
|         |             | angle offset | roll       |    | 0-100     | set the offset value of roll axis                    |
|         |             |              | pan        |    | 0-100     | set the offset value of pan axis                     |
|         |             |              |            |    |           |  |
| general | language    | English      |            |    | *         | switch display language to English                   |
|         |             | 中文           |            |    | *         | switch display language to Chinese                   |
|         | config      | config1      | save       |    | ? /ok     | save to configuration 1                              |
|         |             |              | load       |    | ? /ok     | load configuration 1                                 |
|         |             | config2      | save       |    | ? /ok     | save to configuration 2                              |
|         |             |              | load       |    | ? /ok     | load configuration 2                                 |
|         |             | config3      | save       |    | ? /ok     | save to configuration 3                              |
|         |             |              | load       |    | ? /ok     | load configuration 3                                 |
|         |             | reset        |            |    | ? /ok     | restore default parameter settings                   |
|         | about       |              |            |    |           | device name and firmware information                 |

Menu type introduction:

If there is a ">" mark at the right side of the selected item, press the dial right button for the next menu.

If the selected item has a "【】" and contains a number, rotate the dial to adjust its value.

If the selected item has a "()" and contains an option, press the right button to switch among options

Notes:

1. If there is a "\*" at the right side of one item, the current list is the final option, press the dial right button to launch it.
2. If the selected item and other items in the menu list don't have any marks, press the dial right button to launch the option once. "?" is displayed during the process. "OK" is displayed after the process is completed, and "ERR" is displayed if the option fails.

3. Filtering parameters: When the motor vibrates with high-frequency, the value should be turned down. When the motor vibrates with low-frequency, the value should be increased.
4. The manual positioning function has lower priority than the following function. When using manual positioning function normally, following function of the axis should be turned off.

## Features Description

### Camera Control

The AirCross 2 can support camera video recording, photo taking and electronic focus control. Please refer to the compatibility list for more details ( \* Please set the lens to "MF" mode)

| NO | Camera brand | Camera Model | Connection type | Cable  | Sub/Release  | Shutter | Recording | Auto Focus | Electronic focus | AV | TV | ISO | Power supply |
|----|--------------|--------------|-----------------|--|--------------|---------|-----------|------------|------------------|----|----|-----|--------------|
| 1  | Canon        | EOS          | MSC-USB         | MSC-Mini   | USB          | * ✓     | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 2  |              | EOS          |                 |  |              | * ✓     | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 3  |              | EOS          |                 |  |              | * ✓     | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 4  |              | EOS          |                 |  |              | * ✓     | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 5  |              | EOS          |                 |  |              | * ✓     | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 6  |              | EOS          |                 |  |              | * ✓     | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 7  |              | EOS          |                 |  |              | * ✓     | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 8  |              | EOS          |                 |  |              | * ✓     | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 9  |              | EOS R        |                 |  |              | * ✓     | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 10 | Nikon        | D850         | MSC-USB         | MSC-Micro  | USB          | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 11 |              | Z5           |                 | MSC-C  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 12 |              | Z6           |                 | MSC-C  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 13 |              | Z7           |                 | MSC-Micro  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 14 | Sony         | A7S          | MSC-Micro       | MSC-Micro  | Micro        | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 15 |              | A7R          |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 16 |              | A6600        |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 17 |              | A6400        |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 18 |              | A7M3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 19 |              | A7R2         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 20 |              | A7M3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 21 |              | A7R3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 22 |              | A7S2         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 23 |              | A7R2         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 24 |              | A7M3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 25 | Sony         | A6600        | MSC-USB         | MSC-Micro  | USB          | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 26 |              | A6400        |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 27 |              | A7R2         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 28 |              | A7M3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 29 |              | A7S2         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 30 |              | A7R3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 31 |              | A7M3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 32 |              | A7S2         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 33 |              | A7R3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 34 |              | A7M3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 35 |              | A7S2         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 36 |              | A7R3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 37 | Panasonic    | G85          | MSC-Remote      | MSC-Remote   | MSC-Remote   | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 38 |              | G85          |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 39 |              | G85          |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 40 |              | G85          |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 41 |              | G85          |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 42 |              | G85          |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 43 | Fujifilm     | X-T3         | MSC-C1          | MSC-C1   | Full shutter | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 44 |              | X-T3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 45 |              | X-T3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 46 |              | X-T3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 47 |              | X-T3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 48 |              | X-T3         |                 |  |              | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |
| 49 | Others       | Others       | Shutter cable   | Shutter cable that needs to be prepared separately | Shutter      | ✓       | ✓         | ✓          | ✓                | ✓  | ✓  | ✓   | ✓            |

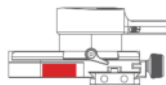
#### Operation Steps:

- Long press the center button to enter the menu, refer to the compatibility list to select the correct camera type.
- Refer to the list to choose and connect the camera control cable. Connect the Mini-USB end of the control cable to the control port of AirCross 2. Connect the other end to the corresponding control port of the camera.

c. After selecting the camera type and connecting the camera control cable, press the menu button once to achieve recording and press it twice to achieve photo taking.

**Note:**

1. Cameras equipped with Micro USB 3.0 interface, such as the Nikon D850, can be normally controlled by half plugging the M3C-Micro cable.



2. After plugging the camera control cable, please operate the camera according to the prompts on the camera screen, otherwise the camera control function may not work properly.

### Motor Output

The payload of AirCross 2 is from 300g to 3200g. Different payload requires different motor power to achieve the best stability. There are three methods for adjusting the output of the motor:

Auto-tuning operation method:

- a. Install the camera and adjust the balance
- b. Unlock all motor locks
- c. Turn on the stabilizer, long press the center button to enter the menu, select 'Gimbal' > 'Motor' > 'Power' > 'Auto-tune'
- d. During the auto-tuning, the stabilizer will vibrate automatically to match the most suitable output value. Wait for about 5 seconds, the stabilizer stops shaking, and the auto-tuning completes.

|          |   |           |   |        |   |          |   |
|----------|---|-----------|---|--------|---|----------|---|
| camera   | > | motor     | > | switch | > | autotune | > |
| gimbal   | > | follow    | > | power  | > | level    | > |
| advanced | > | operation | > | filter | > | custom   | > |
| general  | > |           |   |        |   |          |   |

Set the output gear:

Factory default presets 5 groups of motor output values, which are suitable for cameras of different weight levels.

Customize the output value of each motor:

The users can customize the output value of each motor to reach more precise control of the motor output. The adjustment range is 0 to 100.


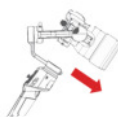
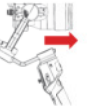
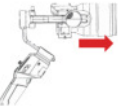

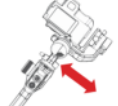
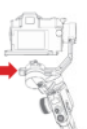
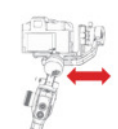
**Note:**

1. Under the camera lens combination of the limit, the auto-tuning function may not accurately calculate the appropriate output value. Please manually adjust the motor output according to the situation.
2. If the motor output is too low, the shooting picture will not be stable enough; if the motor output is too high, it will cause high-frequency vibration of the stabilizer.
3. When the motor output is at the critical value, the stabilizer will not vibrate in the upright state, but it will vibrate in the forward or inverted state. Please reduce the motor output moderately.

### PFV, Sport Gear Mode

When the follow function is enabled, the camera will follow the movement of the gimbal.

Users can enable the follow mode of each axis thru dial buttons and turn the dial to adjust the following speed, which can be also enabled in the menu.

| Follow Mode Switch    | Example 1   | Example 2   |
|-----------------------|---|---|
| Enter the tilt follow |    |    |
| Exit the tilt follow  |   |   |
| Enter the roll follow |  |  |
| Exit the roll follow  |  |  |

#### ⚠ Note:

1. The AirCross 2 is in pan follow mode by default.
2. In addition to switches that enable the follow mode of each axis independently, commonly used follow modes can be also enabled by trigger, please refer to Page4 'Button Functions' for more details.
3. The angle of the roll follow is 45°. For a larger following angle, please triple click the left button to enter the FPV mode to achieve 360° follow of three axes.
4. If faster following speed is required, please click the right button to enter the sport gear mode. (Currently only supports the pan axis)

### Manual Positioning

Manual positioning is used to quickly adjust the lens orientation. When manual positioning is enabled, turn the camera orientation by hand and the camera will stay in the final direction without returning to the initial position. The adjustment speed is faster than that of using the joystick control or follow control.

The manual positioning of the tilt axis is enabled by default on the AirCross 2. Manual positioning of the roll and pan axes can be enabled in the menu.

|          |   |             |   |      |       |      |       |
|----------|---|-------------|---|------|-------|------|-------|
| camera   | > | balance chk |   | tilt | [off] | tilt | [on]  |
| gimbal   | > | iFocus      | > | roll | [off] | roll | [off] |
| advanced | > | inception   | > | pan  | [on]  | pan  | [on]  |
| general  | > | manual pos  | > |      |       |      |       |

⚠ Note: The follow function has higher priority than manual positioning. When the follow function of any axis is on, the manual positioning function cannot be used. Only after the follow function is off, the manual positioning can be used normally.

### Button Customization

Button Customization is used to specify the function, sensitivity and operation direction of each button according to the user's habits.

For Example:

By default, moving the joystick up and down controls the tilt axis rotation. It can be changed to control the roll or pan axis rotation by customizing;

By default, moving the joystick left and right controls the pan axis rotation. It can be changed to control the tilt or roll axis rotation by customizing.

|          |   |           |   |          |   |             |   |            |        |
|----------|---|-----------|---|----------|---|-------------|---|------------|--------|
| camera   | > | motor     | > | joystick | > | function    | > | left-right | [pan]  |
| gimbal   | > | follow    | > | wheel    | > | sensitivity | > | up-down    | [tilt] |
| advanced | > | operation | > | trigger  | > | habits      | > |            |        |
| general  | > |           | > | dial     | > |             | > |            |        |

The higher the sensitivity of the button, the more sensitive and faster the control is. If you change the 'custom' to -, the direction of operation will be opposite. For more button customization, please refer to Page 6 Menu Description.

### Inception Mode

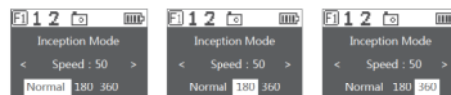
The Inception Mode is used to control the camera to rotate in the roll direction for shooting upside down and rotating footages. In the main interface, triple click the right button to enter the Inception Mode. After entering the Inception Mode, the camera lens is vertically up and each axis automatically follows.

Button Definition for Inception Mode:

- Turn the joystick left or right: the gimbal turns to left or right, when

release or turn to a specified angle, the gimbal stops.

- Turn the dial: adjust the rotation speed
- Press the left button on the dial once: the gimbal rotates to the left automatically.If the gimbal is rotating, press once to stop.
- Press right button on the dial once: the gimbal rotates to the right automatically.If the gimbal is rotating, press once to stop.
- Press up/down button on the dial: select rotation angle
- Normal: gimbal rotates and does not stop automatically
- 180: the gimbal rotates 180° and stops automatically.
- 360: the gimbal rotates 360° and stops automatically.



Triple click the right button again to exit the Inception Mode.

#### Balance Check

The gimbal can check the balance status of each axis automatically and instruct users to make the correct adjustment.

- Attach a tripod to the gimbal, turn on the gimbal and place it on a horizontal tabletop.
- Enter the menu, select advanced>balance chk, the gimbal begins to check the balance adjustment.



- When balance check is completed, the balance status of each axis will be displayed on the screen, direction guide will be also displayed if the adjustment is needed.
- C means quick release plate, T means tilt axis, R means roll axis, the direction can be viewed at the corresponding position of the gimbal, then start the adjustment according to the screen prompts.
- When adjustment is completed, press the right button and check it again until the gimbal is well balanced.



**▲ Note:**  
Balance check can be only used with the tilt and roll axis, the pan axis balance can't be checked.  
Be sure that the motor lock has been released when using balance check.

## Sensor Calibration

### Gyroscope Calibration

Turn on the gimbal and leave it quietly for about 5 minutes, the gyroscope calibration is required when the gimbal drifts obviously. The steps are as follows:

- Turn on the gimbal (long press the power button)
- Turn off the motors (double press the power button/enter the menu, select gimbal>motor>switch, set 'off')
- Leave the AirCross 2 on the table and don't shake it or the desktop.
- Enter the menu, select advanced>calibrate>Gyro cali and press the dial right button, wait about 5 seconds, when the '?' changes to 'OK', the calibration is completed.

|          |   |             |   |             |   |             |    |
|----------|---|-------------|---|-------------|---|-------------|----|
| camera   | > | iFocus      | > | gyro        |   | gyro        | ok |
| gimbal   | > | inception   | > | acc         |   | acc         |    |
| advanced | > | manual po:  | > | angle offse | > | angle offse | >  |
| general  | > | calibration | > |             |   |             |    |

### Accelerometer Calibration

Turn on the gimbal and there is no obvious drift, the accelerometer calibration is required when the camera doesn't keep level. The steps are as follows:

- Turn on the gimbal (long press the power button)
- Turn off the motors (double press the power button/enter the menu, select gimbal>motor>switch, set 'off')
- Leave the L-shaped quick release plate on the horizontal table. Avoid the bottom screw and keep the AirCross 2 at static position. Do not shake the it or tilt it. (or mount the camera to refer to its level)
- Enter the menu, select advanced>calibrate>Acc cali, and press the dial right button to enter calibration. Wait about 5 seconds, when the '?' changes to 'OK', the calibration is completed.

|          |   |             |   |             |   |             |    |
|----------|---|-------------|---|-------------|---|-------------|----|
| camera   | > | iFocus      | > | gyro        |   | gyro        |    |
| gimbal   | > | inception   | > | acc         |   | acc         | ok |
| advanced | > | manual po:  | > | angle offse | > | angle offse | >  |
| general  | > | calibration | > |             |   |             |    |

**Note:**  
1. Please keep the gimbal stationary during the calibration, any shaking will cause the calibration to deviate. 2. Any drastic shaking might cause 'err' shown on the screen, please calibrate again. 3. Do not arbitrarily perform calibration operations while it is not necessary.

### Offset

In case of emergency shooting, the camera cannot be leveled and there is no time for sensor calibration, the camera can be adjusted to a horizontal state by offset.

- Turn on the gimbal and the camera level, check the offset of the tilt and yaw axis.
- Enter the menu, select advanced>calibrate>offset, select an axis that is not horizontal, and then turn the dial to adjust the fine adjustment value of the axis until the camera completely keeps level.

|          |   |             |   |              |   |      |     |      |     |
|----------|---|-------------|---|--------------|---|------|-----|------|-----|
| camera   | > | ifocus      | > | gyro         |   | tilt | [0] | tilt | [1] |
| gimbal   | > | inception   | > | acc          |   | roll | [0] | roll | [0] |
| advanced | > | manual por  | > | angle offset | > | pan  | [0] | pan  | [0] |
| general  | > | calibration | > |              |   |      |     |      |     |

⚠ Notes:  
 1.The offset can only adjust the angle of each axis within the range of about  $\pm 5^\circ$ , if there is too much offset, the camera cannot be completely leveled. 2.Offset is only a temporary solution, after shooting, accelerometer calibration is still needed. 3.The parameters of the offset will not be saved and will become invalid after restart.

#### Language Switch

The AirCross 2 supports both Chinese and English. After turning on the gimbal, users can switch language in the menu.

|          |   |          |   |         |   |         |   |
|----------|---|----------|---|---------|---|---------|---|
| camera   | > | language | > | English |   | English | * |
| gimbal   | > | config   | > | 中文      | * | 中文      |   |
| advanced | > | about    |   |         |   |         |   |
| general  | > |          |   |         |   |         |   |

#### User Configuration Management

The AirCross 2 can save 3 groups of user data like camera type, motor output, button operations and other parameters, so users can retrieve relevant parameters previously used and avoid trouble of setting parameters each time when changing the camera.

|          |   |          |   |         |   |      |  |
|----------|---|----------|---|---------|---|------|--|
| camera   | > | language | > | config1 | > | save |  |
| gimbal   | > | config   | > | config2 | > | load |  |
| advanced | > | about    |   | config3 | > |      |  |
| general  | > |          |   | reset   |   |      |  |

When configuration data is confusing, users can select "restore configuration" to clear all previous configuration data.



## Extension

### Manfrotto Quick Release System

The AirCross 2 is equipped with a Manfrotto quick release baseplate and a plate which make it facile for users to change shooting equipment. When using the Manfrotto quick release system, please install the baseplate onto the longer end of the L-Bracket, so that the knob screw onto the baseplate is exposed. Then fix the camera onto the release plate.



### Two Camera Mounting Directions

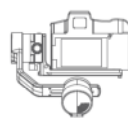
By default, the camera handle side is located near the tilt motor to allow an unobstructed access to the camera control ports; however under some special circumstances, the camera control ports side should be located near the tilt motor.

Rightward installation is required under the following situations:

- a. The camera size is too wide like BMPCC.
- b. A specialized camera cage is used.
- c. The camera lens is too heavy to adjust the balance



Regular installation



Rightward installation

Rightward Installation steps:

- a. Mount the L-Bracket at the bottom of the camera with the short end near the side of the lens;
- b. Rotate the roll arm 180° until the tilt motor is located at the left side of the roll motor;
- c. Mount the shorter end of the L-Bracket on the release baseplate.

#### ⚠ Notes:

- 1. Some camera cages are equipped with ARCA standard release plate. These special cages can be mounted directly on the AirCross 2, gimbal without using the L-Bracket.
- 2. Some special cages have no Arca standard quick release plate on the side. The Arca quick release plate can be mounted on the side of the camera rabbit cage with a 1/4" screw and then mounted to AirCross 2.
- 3. When camera is mounted in this way, the camera control port or HDMI port will be blocked.

### Smartphone and PC Connection

The AirCross 2 is equipped with BLUETOOTH 4.0 and can be connected with smartphones. Users can set parameters, shot time-lapse video, upgrade firmware and make other operations via the MOZA Master App. With a Type-C USB interface, the AirCross 2 is able to be connected to a computer. Users can set parameter, upgrade firmware and make other operations via the MOZA Master software.

Download Link: <https://www.gudsen.com/moza-aircross-2>

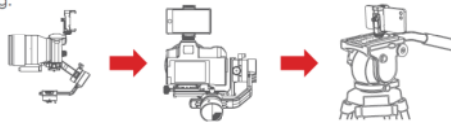
#### ▲Note:

1. The MOZA Master supports iOS, Android, Windows and MacOS
2. Before using the MOZA Master on computer, please install the driver first, otherwise the computer cannot recognize the AirCross 2
3. Smart phones cannot directly pair with the AirCross 2 via Bluetooth, MOZA Master App must be used to connect your phone with the AirCross 2

### Install the Phone Holder

Install the phone on top of the camera. Operate object tracking through App.

- a. Fix the phone holder to the hot shoe connector on the top of the camera
- b. Place the phone horizontally in the phone holder
- c. Open the App. Enter the object tracking feature. Adjust the phone angle. Make the phone framing as consistent as possible with the camera framing.



In addition to being mounted on the top of the camera for object tracking, the phone holder can also be used to fasten the phone to tripod head for mimic motion control.

### Firmware Upgrade

Upgrade via computer:

- a. Turn off the gimbal.
- b. Long press the center button, then press the power button with the other hand until the prompt 'Boot Mode' appears on the screen.
- c. Connect the gimbal to the computer with a USB Type-C cable.
- d. The software will automatically identify the device and load the firmware. Press the 'Upgrade' button and wait for about 30s.
- e. Restart the gimbal after the upgrade.

#### Upgrade via App:

- Turn off the gimbal.
- Long press the center button, then press the power button with the other hand until the prompt 'Boot Mode' appears on the screen.
- Start App, press Bluetooth to search for AirCross 2 device and connect.
- The App will automatically enter the firmware upgrade interface, please wait for the firmware download to complete, press the 'upgrade' button and wait for about 5 minutes.
- Restart the gimbal after the upgrade.

#### ⚠ Note:

Make sure the gimbal is fully charged and the computer or mobile phone network connection is normal during the upgrade.  
Do not disconnect the gimbal from power, USB cable or Bluetooth during the upgrade, otherwise the upgrade will fail.  
Please re-install the batteries and try to upgrade again until the upgrade is completed.

### Specs

| Specs                        |                                    |                |
|------------------------------|------------------------------------|----------------|
| Body weight (g)              | Battery excluded                   | 950            |
| Payload (g)                  | Minimum                            | 300            |
|                              | Maximum                            | 3200           |
| Dimension (mm)               | Storage dimension                  | 360*220*100    |
| Camera Tray Dimension (mm)   | Release center to roll axis        | 120            |
|                              | Release center to tilt axis        | 125            |
|                              | Release center to the peak of tilt | 75             |
| Mechanical Endpoint Range(°) | Pan                                | 360°continuous |
|                              | Roll                               | 360°continuous |
|                              | Tilt                               | 360°continuous |
| Operation Temperature (°C)   | Lowest                             | 0              |
|                              | Highest                            | 50             |
| Operation Voltage            | Standard                           | 7.4            |
| Operation Current            | Dynamic (mA)                       | 200            |
| Battery                      | Model                              | M2S30QB        |
|                              | Type                               | Li-ion         |
|                              | Standard capacity (mAh)            | 3000           |
|                              | Standard voltage (V)               | 7.4            |
|                              | Charging time (H)                  | 1.5            |
|                              | Battery life (H)                   | 12             |
| Connections                  | Bluetooth                          | 4.0 BLE        |
|                              | 2.4G                               | 50m            |
|                              | USB in                             | USB -C         |
|                              | Camera control port                | Mini USB 10PIN |
|                              | Accessory extension ports          | Multi-CAN*3    |