Air Rec V1.0

User Manual & Setup Guide

FC Wiring, Button & LED Indications

Wiring Guide



Setting in Betaflight App

Ports: Enable MSP to Corrisponsed UARTS.

OSD: Enable & Place Custom Message 1-4 to OSD

Physical Control Button (Default : off)

1x Short Press: Toggle Capture

2x Short Press: Disconnect & Discover new Camera

LED Status Diagram

AMBER — Disconnected

BLUE — Scanning / Connecting

GREEN — Connected (Successful)

RED — Connected & Actively Recording

PURPLE / YELLOW FLASH — Firmware Upload

GREEN BLINK (10x) — Success (Pre-Restart)

Air Rec Setup & Wifi AP Web-UI

INITIAL SETUP PROCEDURE

1. Prep Aircraft & Camera: Disarm aircraft completely and set target camera to Bluetooth pairing mode.

2. Connect to Access Point: Connect phone or PC to Wi-Fi AP "Air-Rec-Setup" using password "AirRec-L33T".

3. Access Web Interface: Open browser and navigate to "192.168.4.1"

**Phone may pop up warning of No Internet Connection. Please proceed with "Connect to Network Anyways".*

4. Initiate Camera Pairing:

- ***Gopro*** : goto "Pair Devices" tab and click Pair, then click "Connect camera" on Web UI.
- ***DJI*** : Simply click "Connect camera" on Web UI, then a notification will pop up on your DJI Action Camera, tap accept and done.
- ***Insta360*** : Simply click "Connect camera" on Web UI, and wait for pairing to complete.
- ***Sony*** : Simply click "Connect camera" on Web UI, and wait for pairing to complete.

INTELLIGENT FLIGHT WI-FI LOGIC

• **Armed Trigger:** Upon receiving a valid ARMED report, setup Wi-Fi AP automatically turns OFF across all control modes to prevent RF interference and preserve power.

• **Disarmed Trigger:** An DISARMED report instantly restores the setup Wi-Fi network for immediate post-flight configuration access.



CAMERA ECOSYSTEM COMPATIBILITY

GOPRO ECOSYSTEM

Fully Supported:
Recording control, telemetry data, and visible preset selection.

LEGACY SUPPORT
HERO5 Session only support start and stop commands.

SONY ALPHA & FX

Bluetooth Remote Control
Alpha 7 IV and FX3 supported for recording control and status notifications.



AIR REC CONTROLLER ARCHITECTURE

MULTI-PROTOCOL ENGINE: Universal wireless control layer designed for action and cinema rigs.

- GoPro: Fully Supported
- DJI: Mostly Supported
- Sony: Shutter Only
- Insta360: Mostly Supported

DJI ACTION & OSMO

Recording Control & Mode Switching:
Covers Action 4, Action 5 Pro, and Action 6.

Recording Control Only:
Action 2 & Osmo Nano recording. Osmo Nano provides battery life, remaining time, & video quality telemetry.

INSTA360 ECOSYSTEM

GPS REMOTE MENU LINK
Cameras paired through the GPS Remote menu connection interface.

ADVANCED MODES
Experimental shutter toggle and Next mode for advanced shooting configurations.

Flight Controller Automation

// Recording Control Modes

Off / Manual Mode

Disables automatic trigger logic, only allowing full manual control over Web UI..

AUX Switch Range Mode

Recording automatically starts when switch enters designated channel position and stops when moved outside.

AUX Switch Toggle Mode

Toggles recording state once upon entering designated state zone, preserving position neutrality.

Arm / Disarm Mode

Automatically initiates video recording upon receiving an ARM command and terminates on DISARM.

// Standard AUX Positions & Filtering

LOW STATE	900 to 1299 µs
MID STATE	1300 to 1699 µs
HIGH STATE	1700 to 2100 µs

- **Input Debounce: 150 ms strict filtering to prevent false triggers**

// Shooting Mode Bindings

12

Custom Rows Max Limit

Advanced Routine Integration

Allows pilots to map specific shooting modes to designated AUX channels and exact state positions (Low, Mid, or High).

Seamlessly unifies flight maneuvers with automated camera workflow execution.

Betaflight OSD Telemetry Integration

Real-time situational awareness is delivered directly to the pilot's goggles through robust Betaflight On-Screen Display (OSD) integration.

Telemetry data is transmitted via custom messages using the **MSP2_SET_TEXT** protocol, mapped across **CUSTOM_MSG1** to **CUSTOM_MSG4**.



FPV Goggle View

Direct HUD telemetry overlay configured for high-speed flight visibility.

OSD FRAMEWORK RULES

Max Payload:
Strict 30 chars per message

Formatting:
All output in UPPERCASE

Disconnected State:
Displays "OFFLINE"

Unsupported Metric:
Represented by "--"

DEFAULT TELEMETRY CONFIGURATION SLOTS

- **CUSTOM_MSG1 • Recording Status & Elapsed Time**

  `RECORDING 03:40`

- **CUSTOM_MSG2 • Storage & Remaining Time**

  `01:23:00 SD 62.0GB`

- **CUSTOM_MSG3 • Shooting Mode & Format**

  `VIDEO 8K|4:3|50FPS`

- **CUSTOM_MSG4 • Connected Device Identifier**

  `GOPRO MISSION 1 PRO`