

QAONIE A21 PRO

QAONIE A21 PRO Drone User Manual

Model: A21 PRO

1. IMPORTANT SAFETY GUIDELINES

Read all instructions carefully before operating the A21 PRO Drone. Failure to follow safety guidelines may result in injury or damage to the drone.

- **Flight Environment:** Operate the drone in open, clear areas, away from people, animals, buildings, and power lines. Avoid flying in strong winds or adverse weather conditions.
- **Battery Safety:** Use only approved batteries. Do not overcharge or puncture batteries. Discontinue use if batteries show signs of damage or swelling.
- **Propeller Safety:** Keep hands, face, and loose clothing away from rotating propellers. Ensure propellers are securely attached before flight.
- **Obstacle Avoidance:** While the drone features active obstacle avoidance, it is not foolproof. Always maintain visual line of sight and be prepared to take manual control.
- **Age Recommendation:** This product is intended for adult use.
- **Legal Compliance:** Be aware of and comply with all local regulations regarding drone operation.

2. PACKAGE CONTENTS

Verify that all items listed below are included in your package:

- A21 PRO Drone
- Remote Controller with integrated screen
- Lithium Ion Batteries (x2)
- USB Charging Cable
- Spare Propellers
- Propeller Guards
- Screwdriver
- User Manual
- Handbag

- Airdrop Module
- Camera (integrated)
- SD Card



Image 2.1: The A21 PRO Drone package contents, including the drone, remote controller, and two batteries.

3. COMPONENT IDENTIFICATION

3.1 Drone Overview

- **Propellers:** Four main propellers for lift and thrust.
- **Brushless Motors:** Provide efficient and powerful flight.
- **Camera:** Integrated 720P HD camera for photo and video capture.
- **Optical Flow Sensor:** Located on the underside for stable hovering.
- **Obstacle Avoidance Sensors:** Detect obstacles to prevent collisions.
- **Battery Compartment:** Located at the rear of the drone.
- **LED Indicators:** Provide status information during flight.



Image 3.1: The A21 PRO Drone, showcasing its camera, brushless motor, and optical flow hover capabilities.

3.2 Remote Controller

- **Left Joystick:** Controls altitude (up/down) and rotation (yaw left/right).
- **Right Joystick:** Controls forward/backward and left/right movement (pitch/roll).
- **Integrated Screen:** Displays real-time flight data and camera feed.
- **One Key Takeoff/Landing Button:** Initiates automatic takeoff or landing.
- **Photo/Video Button:** Captures images or starts/stops video recording.
- **Speed Mode Button:** Toggles between different flight speeds.
- **Emergency Stop Button:** Immediately stops drone motors.

A21 PRO

FPV integrated
Remote control handle

The remote control adopts rubber paint grip
Skin-friendly without cutting hands
non-slip and delicate texture



Image 3.2: The A21 PRO remote controller, featuring an FPV integrated handle for comfortable grip and precise control.

4. SETUP

4.1 Battery Installation and Charging

1. Ensure the drone and controller are powered off.
2. Insert a fully charged battery into the drone's battery compartment until it clicks into place.
3. To charge the batteries, connect them to the USB charging cable and plug into a suitable USB power source (e.g., computer, USB wall adapter). The indicator light will show charging status.
4. Charge the remote controller using its dedicated charging port and cable.

4.2 Propeller Installation and Guards

1. Match the propellers to their corresponding motor shafts (usually marked A and B).
2. Gently push down and twist the propellers onto the motor shafts until they are secure.
3. For added protection, attach the propeller guards by snapping them onto the drone's arms around each propeller.

Multilayer protection
That's impeccable

← A21 PRO



Image 4.1: The A21 PRO Drone with propeller guards, illustrating the multilayer protection feature.

4.3 Remote Controller and App Setup

1. Power on the remote controller.
2. Power on the drone. The drone's LED lights will flash.
3. Wait for the drone and controller to automatically pair. The drone's LED lights will become solid when paired.
4. For FPV view and advanced features, download the dedicated QAONIE drone app on your smartphone.
5. Connect your smartphone to the drone's Wi-Fi network (usually named 'A21 PRO-XXXX').
6. Mount your smartphone onto the controller's phone holder.

5. OPERATING INSTRUCTIONS

5.1 Pre-Flight Checklist

- Ensure drone and controller batteries are fully charged.
- Check that propellers are securely attached and undamaged.
- Verify that the flight area is clear of obstacles and people.
- Confirm drone and controller are paired.

- If using the app, ensure it is connected to the drone's Wi-Fi.

5.2 Takeoff and Landing

- **Manual Takeoff:** Push both joysticks down and outwards simultaneously to arm the motors. Then, slowly push the left joystick up to ascend.
- **One Key Takeoff:** Press the 'One Key Takeoff' button on the controller. The drone will automatically ascend to a stable hovering height.
- **Manual Landing:** Slowly pull the left joystick down to descend. Once landed, push both joysticks down and inwards to disarm the motors.
- **One Key Landing:** Press the 'One Key Landing' button. The drone will automatically descend and land.

5.3 Flight Controls

- **Left Joystick (Up/Down):** Controls altitude.
- **Left Joystick (Left/Right):** Controls yaw (rotation).
- **Right Joystick (Up/Down):** Controls pitch (forward/backward movement).
- **Right Joystick (Left/Right):** Controls roll (sideways movement).

5.4 Advanced Flight Features

- **Optical Flow Localization:** Utilizes a downward-facing camera to maintain stable hovering, especially indoors or at low altitudes.
- **Active Obstacle Avoidance:** Sensors detect obstacles in the drone's path and automatically adjust its flight to prevent collisions.
- **Waypoint Fly:** Through the app, you can draw a flight path on your screen, and the drone will follow the designated route automatically.
- **Trajectory Flight:** Similar to Waypoint Fly, allowing for pre-programmed flight paths.
- **Airdrop Function:** The drone is equipped with an airdrop module for carrying and releasing small items. Refer to the separate airdrop module instructions for operation.



Image 5.1: The A21 PRO Drone in flight, demonstrating optical flow hovering and trajectory flight capabilities, controlled via the remote with a connected smartphone displaying a map.

5.5 Camera Operation

- **Photo Capture:** Press the dedicated photo button on the controller or within the app to take a still image.
- **Video Recording:** Press the dedicated video button on the controller or within the app to start recording. Press again to stop.
- **Storage:** Photos and videos are saved to the inserted SD card and can also be viewed in real-time via the app.

6. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the drone and controller. Do not use harsh chemicals or solvents.
- **Propellers:** Regularly inspect propellers for cracks or damage. Replace damaged propellers immediately.
- **Battery Care:** Store batteries in a cool, dry place. Do not store fully charged or completely depleted for extended periods. Charge them to about 50% for long-term storage.

- **Storage:** When not in use, store the drone and its components in the provided handbag or a protective case to prevent damage.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Drone does not power on	Battery not installed correctly or depleted.	Ensure battery is fully charged and properly inserted.
Controller does not connect to drone	Drone and controller not paired.	Power cycle both devices and try pairing again. Ensure they are within range.
Drone drifts during flight	Calibration issue or strong wind.	Perform a gyroscope calibration. Fly in calm conditions.
Poor camera feed or no image	Wi-Fi interference or app not connected.	Ensure phone is connected to drone's Wi-Fi. Restart app and drone.
Propellers not spinning	Motors not armed or propellers obstructed.	Arm motors (joysticks down and out). Check for obstructions.

8. SPECIFICATIONS

Feature	Detail
Model Name	A21 PRO
Brand	QAONIE
Dimensions	12.95"L x 3.74"W x 8.89"H
Item Weight	0.48 Pounds (7.7 ounces)
Video Capture Resolution	1080p (Output: 1920x1080 Pixels)
Video Capture Format	MP4
Connectivity Technology	Bluetooth, Wi-Fi
Control Type	Remote Control
Battery Type	Lithium Ion (2 included)
Optical Sensor Technology	CMOS
Special Features	FPV Design, Brushless Motor, Optical Flow Localization, Active Obstacle Avoidance, Waypoint Fly, One Key Take Off/Landing, Airdrop

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the contact information provided with your purchase or visit the official QAONIE website. Keep your proof of purchase for warranty claims.

This manual is subject to change without prior notice. For the most up-to-date information, please refer to the manufacturer's official resources.

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