

GLOSSARY OF DRONE TERMINOLOGY

Accelerometer: An instrument within the drone's central processing unit that measures acceleration. This is primarily used for flight stabilization purposes.

AGL (Above Ground Level): In aviation, AGL refers to the height or altitude of the drone as compared to the ground surface. If a drone is flying 250 feet above a 100-foot building, the AGL is 350 feet.

Altitude Hold Function: In this flight mode, the drone maintains a consistent altitude through its onboard barometric pressure sensor. However, the pilot can still control the roll, pitch, and yaw in this setting.

AMA (Academy of Model Aeronautics): A nonprofit, self-supporting organization that promotes model aviation, including drones, and drone use as a recreational activity.

A Mode: Abbreviation for Atti or Attitude Mode, wherein the drone will maintain a consistent altitude.

ARTF or ARF (Almost Ready to Fly): The standard for drone operations, drones that are pre-built, or require minimal assembly before flying.

ATC/ATM (Air Traffic Control or Management): A service in which air traffic controllers on the ground direct traffic within controlled airspace, and advise those in non-controlled airspace. These individuals are trained and administered by the FAA.

AUW (All Up Weight): The maximum weight of the drone, including batteries and other add-ons.

Autonomous Aircraft: The International Civil Aviation Organization classifies autonomous aircraft as, “unmanned aircraft that does not allow pilot intervention in the management of the flight.”

Autonomous Flight: In the drone world, this is flight guided by GPS, without intervention from the pilot.

Autopilot: Drone feature that allows the flight to continue without manual control by the pilot.

Axis: On a DJI drone, this is what the gimbal rotates around.

Balanced Battery Charger: Smart technology used to charge and balance Lipo batteries internally.

Barometric Pressure Sensor: Device used to measure the pressure of the atmosphere. In aircraft, this, combined with barometric readings, measures the drone’s altitude.

Bind: The process of enabling the controller to communicate with the selected drone.

BVLOS (Beyond Visual Line of Sight): Requiring a specific permit from the FAA, this is the ability to fly a drone beyond the pilot’s line of sight.

CG or CoG (Center of Gravity): The drone’s center of balance.

CoAs (Certificate of Authorizations): An authorization granted by the FAA that allows a public operator to perform a selected drone flight or activity. This process can take up to 60 days and undergo an operational review.

Collision/Obstacle Avoidance: A feature built-in to some drones that allow the aircraft to sense and avoid obstacles, minimizing collisions.

Commercial Drones: A drone that is used for business or profit.

Controlled Airspace: A type of airspace in which air traffic control services are offered depending on the defined dimensions and classification.

Daisy Chain: Visual observers assisting the pilot when the drone goes beyond visual line of sight.

DJI: The largest drone manufacturer in the world, located in Shenzhen, China. Compatible with DroneDeploy.

DJI Drone Flight Modes: Flight modes specific to DJI drones that enable pilots to perform their duties safely and intelligently.

Drone: Another term for “unmanned aerial vehicles” (UAVs) or “remotely piloted aircraft” (RPA), covering a wide range of functions.

Electromagnetic Interference: A disturbance in radio frequency by an external source that disrupts the operation of electronic devices.

ESC (Electronic Speed Control): Regulates the speed and direction of the drone’s motors.

Elevator: Another term for “pitch” - moving the drone up or down.

FAA (Federal Aviation Administration): Regulatory agency under the US Department of Transportation that enforces air safety, installs control facilities, and maintains proper air navigation.

FHSS (Frequency Hopping Spread Spectrum): To avoid interference and avoid eavesdropping, this method of transmitting radio signals switches carriers amongst numerous frequency channels.

Firmware: Located in a drone’s flight controller, this is permanent software updated solely by manufacturers.

Fixed-wing drones: Similar to airplanes but without a human pilot on board, these are drones that have a non-detachable wing that make the aircraft capable of flight. They are typically larger and more powerful than commercial drones.

Flight Controller: Device used to control how the drone moves, by receiving and processing information from the drone's sensors.

Flight Envelope: The limits to ranges of motion to ensure that the aircraft remains stable.

Fly Away: Accidental flight outside of the set boundaries of operation.

Fly-Away Protection System: When the communication between pilot and drone is lost, this system will return the drone to the pre-selected area.

FOV (Field of View): The "drone's-eye" view.

FPV (First Person View): Piloting a drone in real-time through the drone's camera. Pilots often wear goggles with footage streamed inside.

Frequency: To maintain communication with the pilot and drone through FPV, both pieces of equipment will need to be on the same radio frequency.

GCS (Ground Control Station): A command center on-the-ground that controls airborne drones.

Geofencing: A predefined set of virtual geographic boundaries that prevents drones from crossing into restricted areas.

Gimbal: A device that allows the drone's camera to remain stable while moving.

GIS (Geographic Information System): Technology that captures, analyzes, and manages spatial and geographic data.

GLONASS (Global Navigation Satellite System): An alternative to GPS technology that defines a drone's location.

GPS (Global Positioning System): A satellite-based navigation system owned by the U.S. government.

Gyroscope: A circular device connected to the drone's flight controller that allows the drone to remain level.

Headless Mode: Feature that allows the drone to remember the orientation in which it took off last.

Hexacopter or Hexicopter: A drone with 6 rotor arms.

Hobby Drone or Hobby-Grade: Typically ready-to-fly drones designed for the drone enthusiast.

IMU (Inertial Measurement Unit): Measuring device that relies on accelerometers, gyroscopes, and magnetometers to report the drone's orientation.

INS (Inertial Navigation System): Internal method by which a drone determines its own position.

IOC (Intelligent Orientation Control): Another term for "Headless Mode," this allows the drone to remember its prior orientation on its next flight.

IP Rating or Code: A rating system that codifies the level of protection a drone has against the physical elements.

LAANC system (Low Altitude Authorization and Notification Capability system): A beta program offered by the FAA that facilitates controlled airspace access to drone pilots.

LiDAR (Light Detection and Ranging): LiDAR is used for measuring distances by their light reflection with a laser.

LiPo (Lithium Polymer): The type of battery most commonly found in drones.

LOS (Line of Sight): An FAA requirement for drone operation, this states that the drone must be visible from the pilot's operating position at all times.

Magnetometer: A device inside the flight controller that acts as a compass by measuring the Earth's magnetic field to determine its orientation.

mAh (Milliampere Hours): This is used to measure the power in drone batteries.

MAVLink (Micro Air Vehicle Link): Most commonly found as protocols for communication between drones and ground control systems (GCS) to convey orientation, speed, etc.

METAR (Meteorological Terminal Aviation Routine Weather Report): Format used to report specific weather information.

Micro-air vehicle: A small drone. Many have size restrictions.

Mode 1 transmitters: This throttle is located on the right transmitter stick, and is most commonly found in the U.K.

Mode 2 transmitters: This throttle is located on the left transmitter stick, and is most commonly found in the U.S.

MSL (Mean Sea Level): A drone's altitude/elevation in reference to the average height of the sea.

Multicopter: A drone with 2 or more rotor arms.

Multispectral Imagery: A type of imagery commonly used in agriculture, this is captured by a multispectral camera which detects light humans can not see.

No Fly Zone: An FAA restricted area where drones are not allowed to fly. Above airports and government buildings are prime examples.

NOTAM (Notice to Airmen): Information given to drone operators that warns them of immediate hazards or restrictions not yet published.

OAS (Obstacle Avoidance System): System pre-programmed into a drone that alerts pilots to obstacles and collision dangers.

Octocopter: A drone with 8 motor arms.

Orthomosaic: A drone map comprised of a collection of photos from the selected area that have been stitched together.

OSD (On Screen Display): On a drone, this projects flight data like speed, battery life, and the like on-screen.

Part 107: FAA regulations that all drone operators must follow. Pilots can obtain a Part 107 license that demonstrates their knowledge in drone safety, FAA regulations, and operating procedures.

Payload: This is the capacity at which a drone can handle additional weight, such as cameras.

PDB (Power Distribution Board): The link between a drone's battery and other aircraft components.

Photogrammetry: Drone photography that measures the distance between objects.

PIC (Pilot in Command): The drone operator.

Pitch: A term for moving the drone up or down.

P Mode (Positioning Mode): The most popular flight mode, this activates all sensors to ensure stability while hovering.

POI (Point of Interest): Available on most drone models, this flight mode keeps the drone's camera trained on an area or object.

PPK (Post-Processing Kinematic): A satellite positioning technology similar to RTK.

Pre Flight Planning: A set of activities recommended by the FAA before takeoff, including checking the weather, equipment, and flight path.

Props (Propellers): An essential component of a drone, featuring angled blades that allow it to fly.

Quadcopter: A drone with 4 rotor arms.

Radio: This transmitter controls the drone's movements such as pitch, yaw, and roll.

R/C or RC (Radio Controlled): Operating a drone via radio waves.

Receiver: In FPV, this is what links the drone camera's live stream to the goggles. Also called a "video receiver" (RX), "transmitter" (Tx) or "video transmitter" (VTX).

(The) Roadmap: A document released in 2013 by the FAA detailing safety guidelines for drone flight in national airspace.

Roll: Moving the drone side to side laterally.

Rotorcraft: A drone that generates lift through rotor blades instead of wings.

RPAS (Remotely Piloted Aerial/Aircraft System): A combination of a drone, pilot, and its command systems.

RPM (Revolutions Per Minute): The unit of measurement used to determine the number of times the drone's motors turn in 1 minute.

RSSI (Received Signal Strength Indicator): The unit of measurement used to estimate the radio signal strength between a controller and a drone.

RTF (Ready-to-Fly): Great for beginners, this drone requires no (or minimal) assembly and can be flown right out of the box.

RTH (Return to Home) or RTL (Return to Launch): An automated drone feature that grounds the drone at the selected home point.

RTK (Real-Time Kinetics): Satellite positioning technology that draws on GPS and GLONASS data to precisely pinpoint a drone's location.

Rudder: Another term for "yaw." This is rotating the drone clockwise or counterclockwise.

Build > Code > Fly

Rx (Receiver): Component built-in to a drone that receives and interprets radio signals.

Sense And Avoid: If a drone is enabled with this technology, it will automatically steer away from obstacles and other aircraft.

Servo (Servomotor or Servomechanism): Drone component that assists with positioning and acceleration. Sometimes also called an “actuator.”

Skydio: Drone manufacturer located in Redwood City, California. Compatible with DroneDeploy.

S Mode (Sport Mode): DJI drone setting that allows the pilot to fly at the fastest speed possible for that model.

Spatial Awareness: The capability of a drone to be aware of its boundaries and positioning.

Spotter: When flying in FPV, this person keeps the drone in their visual line of sight (VLOS).

sUAS (Small Unmanned Aircraft System): A small drone that weighs less than 55 lbs. Can also be a micro-air vehicle.

Telemetry: The communications stream between a drone and its ground control system (GCS).

TFR (Temporary Flight Restriction): A notice given to drone pilots by the FAA that restricts airspace temporarily. This is common for natural disasters or large events.

Throttle: This control gives the propellers and motor power.

Thrust: The amount of force driven by the throttle that generates lift.

Trim: The buttons on the side of a drone’s remote control that manage roll, pitch, yaw, and throttle.

Tx (Transmitter): In FPV, this is what links the drone camera's live stream to the goggles. Also called a "video transmitter" (VTX), "receiver" (RX), or "video receiver" (VRX).

UAS (Unmanned Aircraft System): An FAA term for unmanned aircraft, operated by a pilot on the ground. This includes drones. Also called an "unmanned aerial vehicle" (UAV).

UAV (Unmanned Aerial Vehicle): An FAA term for unmanned aircraft, operated by a pilot on the ground. This includes drones. Also called an "unmanned aircraft system" (UAS).

Ultrasonic sensors: On a drone, these sensors calculate height and balance.

Upright Launch: This is the ability of the drone to take off upright, as opposed to fixed wing aircraft. Also called "vertical takeoff" (VTOL).

Uncontrolled Airspace: Term used by the FAA to indicate class F and G airspace, unregulated by air traffic control (ATC).

UTM (Unmanned Traffic Management): An air traffic management system under development by NASA, the FAA, and other government agencies that will traffic low altitude drone flights.

Video Latency: The lag in video streaming between a drone's camera and pilot's goggles or monitor.

VLOS (Visual Line of Sight): An FAA requirement that the drone in operation remains visible by the pilot's naked eye, unaided by devices.

VO (Visual Observer): An optional teammate that aids the pilot by scanning the airspace for hazards while the drone is in flight. Can also be called a "spotter."

VTOL (Vertical Takeoff): This is the ability of the drone to take off upright, as opposed to fixed wing aircraft. Also called "upright launch."

WAAS (Wide Area Augmentation System): A satellite navigation system developed by the FAA that enhances GPS signals for better positioning accuracy.

Waypoints: Helpful in creating flight paths, these are GPS coordinates used to define a point in space.

WiFi FPV: This type of FPV is common with more inexpensive drones. Typically, the pilot connects to a mobile app to receive the drone's live stream.

XWing: Refers to the x design on a drone's framework.

Yaw: Rotating the drone clockwise or counterclockwise. Another term is "rudder."

YWing: Refers to the y design on a drone's framework.