# AVS) DJ® AND UNMANNED AIRCRAFT RTK SYSTEM TECHNOLOGIES! UAV COMPONEN

## COMPANIES OF UNMANNED AERIAL VEHICLE (UAVS) COMPONENTS:UAV CHASSIS, UAV DJ® PROPELLERS, DRONE MOTORS, RTK, DJ® UAV BATTERIES! SUPPLIERS OF UNMANNED AIRCRAFT RTK SYSTEMS:FIXED WING DJ® UAVS, MULTI-ROTOR UAVS, RTK CAMERA DRONES,BEST PTZ GIMBALS PCB IN CHINA.

UAV(unmanned aerial vehicle) technologies continues to advance, enabling new and innovative applications across various industries. an Unmanned Aircraft System (UAS) technologies, is an aircraft that operates without a human pilot on board. UAVs can be controlled remotely by a human operator or operate autonomously through onboard computers or remote control systems. UAV aircraft are used in a wide range of applications, including military, commercial, scientific, recreational, and more.

the rotary-wing UAV of a central unit that houses the main electronics and communications equipment. The central unit is coupled with several evenly spaced arms, each housing a single motor and propeller unit The number of arms of a rotary-wing UAV is variable, but four (quadcopter), six (hexacopter), eight (octacopter) are common. The arms can be made from trussed beams or tubes. a smaller number of arms can minimize size, weight, and complexity. a larger number of arms, however, can spread the lifting load and provide flight stability.

UAVs are simpler in construction than human-piloted aircraft. There is no need for life-critical systems onboard. Moreover, since the device is remotely or autonomously piloted, there is no need for a control interface, cockpit, or windows, which reduces weight and increases robustness.

many UAVs carry payloads that are significantly lighter than an adult human, which allows them to be lightweight and highly maneuverable. The presence of multiple propellers means that the average kinetic energy of the blades is relatively low, which reduces the possibility of damage to the UAV or injury to persons when in close proximity. Propellers can also be placed in guards, as ducted fans, to further reduce the possibility of damage when near obstacles

### types of Unmanned Aerial Vehicle (UAVs) and unmanned aircraft RTK systems.

commercial and consumer versions of UAVs have emerged. Today, the prolific use of lightweight and portable UAVs by industry, researchers, and hobbyists has led to a paradigm shift in aviation. UAVs were further adopted for commercial applications such as mining, farming, and other industries benefiting from aerial imagery. Today, demand for UAVs continues to increase in both the commercial and consumer markets.

UAVs come in two primary forms: fixed-wing and rotary-wing. Fixed-wing UAVs operate analogously to lightweight unmanned airplanes. Rotary-wing UAVs, also called multirotor, rotorcraft, or multi-copter UAVs

types of Unmanned Aerial Vehicle (UAVs) and unmanned aircraft Vehicle

| | |
|---|---|
| fixed-wing Unmanned Aerial Vehicle (UAVs) | fixed wing big long range UAVs, VTOL (vertical take-off landing) aircrafts UAVs, hand-throwing fixed-wing UAVs |
| types of Unmanned Aerial Vehicle (UAVs) and unmanned aircraft Vehicles, | |

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police drones
emergency drones
logistics drones
mapping drones
mining drones

| | |
|---|---|
| rotary-wing drones Unmanned Aerial Vehicle (UAVs) | quadcopter drones, hexacopter drones, 8 rotary-wing drones, unmanned helicopters |
| types of Unmanned Aerial Vehicle (UAVs) and unmanned aircraft Vehicles, | |

## VTOL (vertical take off and landing) Unmanned Aerial Vehicle (UAVs) and unmanned aircraft RTK systems.

VTOL vehicles are more convenient because they can become airborne in more enclosed environments and do not require a runway like some HTOL vehicles. On the other hand, HTOL vehicles generally require less power and tend to have larger efficiencies and hence flight times than VTOL vehicles.

vertical take-off landing fixed-wing drones, mini UAV, adults drones, big UAV systems, drone toys, UAV parts,camera drones,

| | |
|---|---|
| types | HY-SZ-220 |
| wingspan | 2.5m |
| aircraft length | 1.45m |
| weight | 5.5kg |
| payload | 3kg |
| flight altitude | 4000m |
| battery life | 2.5h |
| maximum flight speed | 35m/h |
| cruising speed | 23m/h |
| wind resistance rating | level 5 |
| remote control linkd | 30km |
| vertical take-off landing fixed-wing drones, mini UAV, adults drones, big UAV systems, drone toys,unmanned aerial vehicle UAV parts,camera drones,flight control systems,communication systems,navigation systems | |

## big long range fixed-wing Unmanned Aerial Vehicle (UAVs) and unmanned aircraft RTK systems.

the UAV can serve as a stationary floating platform from which images or sensor measurements can be obtained. Fixed-wing UAVs require less power to produce lift and thus tend to have long flight times and distance ranges.

fixed-wing UAVs are favored for applications that demand long-endurance flight, large-area coverage, and the ability to carry diverse payloads. Their efficiency in energy use and extended flight times make them suitable for tasks like mapping, surveillance, and remote sensing, where covering expansive areas is essential.

fixed-wing drones, long range UAV, adults drones, big UAV systems, UAV parts,camera drones,

| | |
|---|---|
| types | HY-GDY-200 |
| wingspan | 560cm |
| aircraft length | 415cm |
| high | 128cm |
| control radius | 400km |
| flight altitude | 6000M |
| cruising speed | 80-120km/h |
| battery life | 6-8h |
| maximum take-off weight | 100kg |
| payload | 50kg |
| takeoff method | gliding track |
| landing method | gliding landing |
| resolution: | visible light 1920*1080, thermal imaging 720*576 |
| zoom: | visible light 50x optical zoom |
| video resolution: | 1080P@50hz |
| link distance: | 30~50km |
| control system: | UCS-402 integrated system, GCS-302 portable system, TC-200 handheld system |
| video storage: | H.264TS package |
| fixed-wing drones, mini UAV, adults drones, big UAV systems, drone toys,unmanned aerial vehicle UAV parts,camera drones,flight control systems,communication systems,navigation systems | |

## hand-thrown fixed-wing UAVs, Unmanned Aerial Vehicle (UAVs) and unmanned aircraft RTK systems.

hand-thrown fixed-wing UAV: integrated lightweight work box, low maintenance cost, partial repair and replacement of spare parts can be carried out, aviation foam material is also equipped with strong impact resistance, and can effectively protect airborne equipment.

hand-thrown fixed-wing drones,camera drones, mini UAV, adults drones, big UAV systems, drone toys, UAV parts.

| | |
|---|---|
| types | HY-Swift |
| wingspan | 18000mm |
| drone length | 1380mm |
| drone height | 500mm |
| drone material | carbon fiber, EPO |
| maximum flight speed | 95km/h |
| cruising speed | 75km/h |
| flight altitude | 4500m |
| endurance time | 90 minutes |
| payload | 1.5kg |
| takeoff weight | 5.5kg |
| wind resistance rating | level 6 |
| control radius | 50km |
| takeoff method | hand thrown takeoff, vehicle mounted takeoff, catapult takeoff, vertical takeoff. |
| landing method | parachute, vertical descent. |
| hand-thrown fixed-wing drones, mini UAV,camera drones, best UAV, adults drones, big UAV systems, drone toys,unmanned aerial vehicle UAV parts,flight control systems,communication systems,navigation systems | |

## quadcopter drones,camera drones UAVs, Unmanned Aerial Vehicle (UAVs) and unmanned aircraft RTK systems.

UAVs are also sometimes classified by endurance and altitude, including VTOL (Vertical Take-Off & Landing), LASE (Low Altitude, Short-Endurance), LASE Close (LASE requiring a runway), LALE (Low Altitude, Long Endurance), MALE (Medium Altitude, Long Endurance), and HALE (High Altitude, Long Endurance). Rotary-wing UAVs are referred to as vertical takeoff and landing (VTOL) vehicles, The most common configurations for rotary-wing UAVs are quadcopter and hexacopter. Rotary-wing UAVs can hover and have high maneuverability.

the breakthrough electronic control of quadcopters through advances in microprocessor technology that led to miniaturization and reduced costs for flight controllers. quadcopters have six degrees of freedom, corresponding to three translation and three rotational degrees of freedom, quadcopters have four independent controls.

quadcopter drones,camera drones, mini UAV, adults drones, big UAV systems, drone toys, UAV parts.

| | |
|---|---|
| types | HY-FOA-820 |
| wheelbase | 900mm |
| drone weight | 3470g |
| load mass | 5000g |
| satellite positioning module | GPS, Beidou, GLONASS |
| endurance time | 40 minutes |
| control radius | 10km |
| maximum flight speed | 88km/h |
| flight altitude | 5000m |
| Maximum wind resistance level | level 7 |
| battery type | Smart lithium battery |
| battery capacity | 29000mAh |
| obstacle avoidance function | support |
| flight control | Multi-attitude flight modes such as fixed altitude, fixed point, autonomous cruise, one-button takeoff and landing, low voltage protection, automatic return to home, preset no-fly zone, electronic fence |
| operating temperature | -20~60C |
| expand size | 717(W)*755(D)*520(H)mm |
| quadcopter drones, mini UAV,camera drones, best UAV, adults drones, big UAV systems, drone toys,unmanned aerial vehicle UAV parts,flight control systems,communication systems,navigation systems | |

the naming convention of provides a convenient shorthand for describing these configurations and is often used. UAV has evenly distributed rotors in a circle around the central unit. The number after the configuration type refers to the total number of rotor blades present.

these craft derive their lift from propellers, which are fans that generate thrust through the rotation of rotor blades on a rotor mast. most rotary-wing UAVs require multiple rotors to manage the stresses upon the rotor blades necessary to become airborne

## big hexacopter drones,camera drones UAVs, Unmanned Aerial Vehicle (UAVs) and unmanned aircraft RTK systems.

One major reason for the dominance of rotary-wing UAVs is their ability to produce lift whilst stationary whereas fixed-wing UAVs require movement in order to generate lift via the theorem. This makes rotary-wing UAVs more maneuverable and movement is generally more controlled. There are many possible rotary-wing UAV configurations . These configurations are delineated both by the number of propellers and the placement relative to the central unit of the UAV.

big hexacopter UAV, drones,camera drones, mini UAV, adults drones, big UAV systems, drone toys, UAV parts.

| | |
|---|---|
| types | HY-FOA-1550 |
| wheelbase | 1550mm |
| drone weight | 7000g |
| load mass | 10000g |
| satellite positioning | GPS, Beidou, GLONASS |
| big quadcopter drones, mini UAV,camera drones, best UAV, adults drones, big UAV systems, drone toys,unmanned aerial vehicle UAV parts,flight control systems,communication systems,navigation systems | |

| | |
|---|---|
| module | |
| endurance time | 60 minutes |
| control radius | 10km |
| maximum flight speed | 54km/h |
| flight altitude | 5000m |
| Maximum wind resistance level | level 7 |
| battery type | Smart lithium battery |
| battery capacity | 29000mAh |
| obstacle avoidance function | support |
| flight control | Multi-attitude flight modes such as fixed altitude, fixed point, autonomous cruise, one-button takeoff and landing, low voltage protection, automatic return to home, preset no-fly zone, electronic fence |
| operating temperature | -20~60C |
| expand size | 1640(W)*1425(D)*590(H)mm |
| recycling methods | plug in structure |
| **big quadcopter drones, mini UAV,camera drones, best UAV, adults drones, big UAV systems, drone toys,unmanned aerial vehicle UAV parts,flight control systems,communication systems,navigation systems** | |

the propulsion system translates electrical energy to mechanical energy. A motor attached to each propeller must be able to respond quickly and reliably to changes in electrical power. The motor shaft is connected to the propeller. Brushless motors reduce friction and thus increase power efficiency. Lithium-polymer (Li-Po) and lithium-ion (Li-ion) batteries are the most widely used on UAVs. In recent years, they have become smaller and more affordable, mainly driven by the computer and mobile phone industries.

## unmanned helicopter drones, UAVs, Unmanned Aerial Vehicle (UAVs) and unmanned aircraft RTK systems.

the unmanned helicopters have the characteristics of high mobility, folding design, intelligent obstacle avoidance, multiple payload for different missions, and it meets the operation tasks of public security, defense, reconnaissance, border defense, ocean, plateau, mountainous areas and other complex environments.

unmanned helicopter drones with camera,strong power helicopter UAV systems,heavy load unmanned helicopters

| | |
|---|---|
| length: | 1870mm |
| width: | 565mm |
| height: | 620mm |
| UAV Weigh | 13.8kg(without battery) |
| maximum takeoff weight | 39kg |
| maximum payload | 12kg |
| wind resistance level | level7 |
| working temperature | -20~55degree (customizable cryogenic battery) |
| maximum operating ASL Altitude | 5200m(should be under the legal flight altitude) |
| economic cruising speed | 50-70km/h (maximum horizontal speed 100km/h) |
| maximum endurance | no Load, with sufficient power: 60 min |
| maximum flight distance | 62.5km |
| **unmanned helicopter drones with camera,strong power helicopter UAV systems,heavy load unmanned helicopters** | |

## Global Navigation Satellite System (GNSS) for Unmanned Aerial Vehicle (UAVs) and unmanned aircraft RTK systems.

Global Navigation Satellite System (GNSS) for Unmanned Aerial Vehicle (UAVs) and unmanned aircraft RTK systems.

| | | |
|---|---|---|
| Beidou | china | B1/B2 |
| GPS | USA | L1/L2. |
| GLONASS | Russia | G1/G2 |
| Galileo | europe | E1/E5b |

Global Navigation Satellite System (GNSS) for Unmanned Aerial Vehicle (UAVs) and unmanned aircraft RTK systems.

a ground pilot or computer typically communicates with a UAV through bidirectional radio. Computer and telephone WiFi frequencies such as 2.4GHz or 5 GHz are often used. This choice simplifies the need for regulatory approvals for use of the electromagnetic spectrum, but it also limits by regulation the maximum allowed radio power. Commercially available UAVs often employ multiple antennas for redundancy, typically in odd numbers such that if one is disabled or fails to receive signal, then an electronic consensus between the remaining antennas is still possible.

## above frequencies for Unmanned Aerial Vehicle (UAVs) and unmanned aircraft RTK systems.

the most popular data link frequencies used by UAVs for telemetry are 400 MHz and 900 MHz. they can travel long distances with relatively little attenuation and hence data loss. cellular networks frequencies are also sometimes used for telemetry. the most popular of these being 850 MHz, 1700 MHz, and 1900 MHz.

| | |
|---|---|
| 400 MHz. | Long-range but low data rates; ideal for telemetry and small data transfers. |
| 900 MHz. | Able to penetrate through many obstacles but narrow band with relatively slow data rates |
| 1.3 GHz. | Able to penetrate through obstacles (inferior to 900 MHz); limited data rates (superior to 900 MHz). |
| 1.575 GHz. | Wavelength used specifically for GPS signals. |
| 2.4 GHz. | Widely used WiFi frequency; it can become overcrowded in urban contexts; relatively high data rates. |
| 5.8 GHz | Short-range and high data rates; ideal for imaging any other large data transfers. |

## Application of Unmanned Aerial Vehicle (UAVs) and unmanned aircraft RTK systems.

Aerial photography drones, camera drones, agriculture, plant protection, power inspection, environmental monitoring drones, disaster relief, logistics drones, aerial photography, self-media, forests, volcanoes, debris flow drones

application of camera drones, mini UAV, adults drones, big UAV systems, UAV parts.

| | |
|---|---|
| agriculture: | pesticide spraying, irrigation, assisted pollination, crop yield estimation, plant protection, soil analysis. |
| business: | logistics and transportation, film and television shooting, news gathering. |
| personal: | aerial photography, photography, self-media |
| disaster prevention and relief | flood control, drought relief, earthquake, volcano, disaster relief. |
| land and resources: | urban and rural planning, railway construction, archaeological survey, mineral development. |
| energy: | electric power inspection, pipeline inspection, hydraulic inspection, wind energy inspection, oil inspection, natural gas inspection. |
| police use: | forest fire prevention, traffic control, crowd control, border inspection. |

application of camera drones, mini UAV, adults drones, big UAV systems, UAV parts.