



Sky's The Limit

Drone Imaging Perspective. **Story and photos by Eddie Tapp**

CREATING IMAGERY USING A DRONE either photographic or cinematic has created new opportunities along with a host of commercial assignments for the professional photographer. At the same time, many qualified drone pilots are entering the drone imaging business — from landscapes to industrial and even search and rescue.

A photographer's mind set will have the exposure triangle to consider (*f*/stops, shutter speed, ISO speeds) and then to manage the quality of light, compositional element, structure, subject and background coordination to create exceptional imagery.

Add in telemetry information such as altitude, distance, heading, orientation,

speed, along with atmospheric conditions, air space clearance and the potential obstacles present at low flying altitudes and suddenly the level of flying a drone responsibility is greatly multiplied. Learning to fly a drone and create imagery takes study, practice, patience, plus a hefty amount of creative energy.

ABOVE: Boynton Canyon, Sedona, Arizona. All photos ©EddieTapp.





MAINTAINING CONTROL

Flight controls on a drone are not overly difficult. With practice and/or training, one can become proficient and turn what may start as a hobby into a professional venture or find a new creative outlet for that undiscovered hobby.

Many find the most difficult function when flying is turning the drone around and flying back toward you as the controls become reversed and awkward – left becomes right and right is left, but up and down remain the same. It all adds up to becoming familiar with a reflex.

GETTING LEGAL

Drones larger than a half pound must be registered with the FAA at a cost of \$5. A registration number is issued and must be displayed on the craft at all times. Those using a drone for commercial purposes must register as a “non-modeler” and then obtain

a Part 107 Certificate (Remote Pilot License) from the FAA to legally create imagery as a commercial drone photographer. The fines are stiff for not registering if caught on a commercial assignment. The best place to start is by visiting FAADroneZone.faa.gov to register and visit the host of links on getting started.

WHO'S IN CONTROL?

From a single drone operation to a full crew, there is a responsibility when flying drones in the National Airspace. A drone flight crew can consist of the PIC (Pilot in Command), Gimbal Operator (camera controller), VO (Visual Observer), drone tech, models, actors, clients and informed observer.

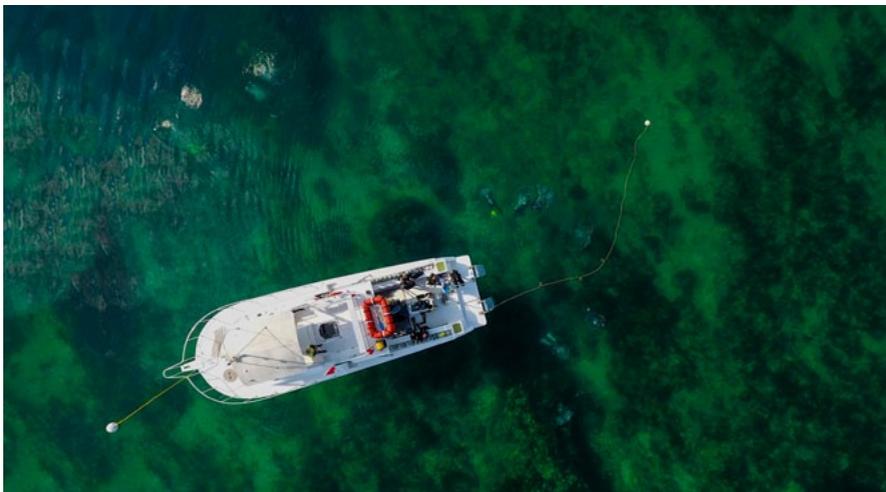
Single controller is where the pilot controls the flight and camera movements. If flying alone, he also acts as the visual observer. It can be challenging to watch all

of the components – telemetry, composition, camera settings, and the craft. However, with practice, controlling the drone becomes second nature. It's similar to driving a car, how the driver must watch the road and glance at the gauges.

Dual controllers allow the pilot to monitor the flight path, while the gimbal operator uses the other controller. The dual controller is the easiest way to establish cinematic imagery and then add a VO for in-flight safety. There is constant communication with the pilot and gimbal operator for flight path, camera movements and VO communication when obstacles are present. Obstacles may include approaching birds and any sound of aircraft approaching the area, trees, building, electrical lines and so on.

Before any flight, it is the responsibility of the crew to be informed of pre-flight safety conditions such as air space clearance, flight route inspection, emergency and yield





plans, secure take off and landing areas, VO positions/communications and weather conditions.

The FAA issues TFRs (Temporary Flight Restrictions) and NOTAMs (Notice To Airman) at multiple times throughout each day. Pilots must check the tfr.faa.gov website. The site reports a list of every TFR in the country, listed by; location, date, time, and duration.

A TFR may include VIP, sporting events, security, hazards or other conditions.

There are also restricted airspaces within 15 miles of Washington DC, military areas, prisons, National Parks, airports and other security areas where you can only fly with supervision and FAA airspace authorization or permits. Flying in restricted airspace without permissions can bring expensive fines. In some places, the controller applications will not even allow take off in certain restricted areas.

GETTING PROTECTED

Aeronautical liability insurance is imperative for anyone planning to fly a drone professionally. As a matter of fact, most companies will only hire drone photographers who possess an FAA license to fly a drone in the national airspace and are also covered by drone liability insurance.

It is important for drone owners to know that aeronautical liability insurance is in addition to any general liability coverage. Drone equipment insurance is also separate and can be covered with any equipment insurance plan. Professional associations such as the Professional Photographers of America (PPA), Academy of Model Aeronautics (AMA), International Drone Racing Association (IDRA) and a host of independent insurance agents offer aeronautical insurance.

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OBTAINING CERTIFICATION

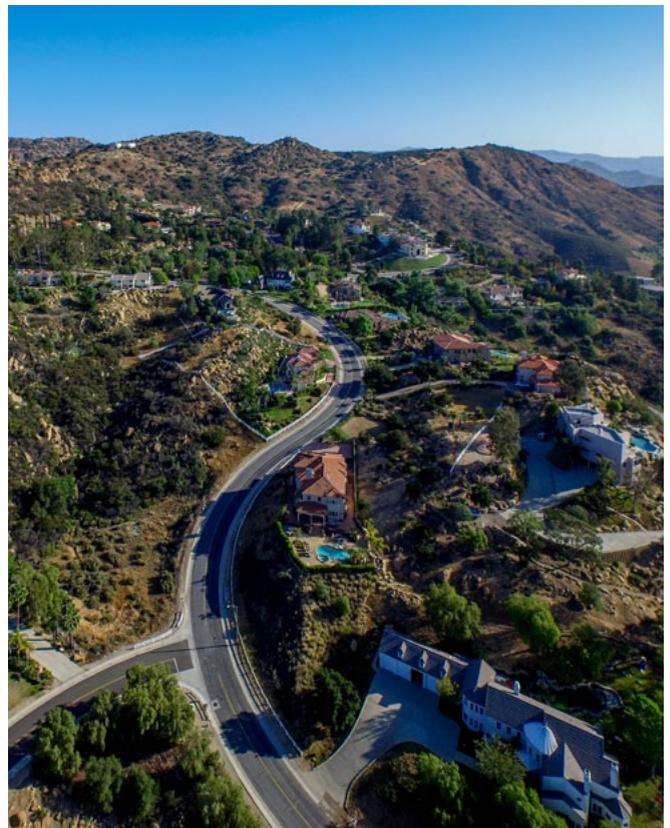
Anyone planning to take the FAA Part 107 test should plan study time. If you are not a pilot, there are valuable resources to study and online classes, such as uavgroundschool.com. Pilots understand the aeronautical maps and weather codes and a host of valuable information regarding the National Airspace which are vital to know. Study courses cover needed information required to obtain an FAA Part 107 Remote Pilot Certification. This will provide you the opportunity to create professional services while operating a drone.

The FAA has several excellent publications that are also where most of the test questions draw from. The Pilot's Handbook of Aeronautical Knowledge and the Airman Knowledge Testing Supplement for Sport Pilot, Recreational Pilot and Private Pilot publications are available for download from the FAA website.

There are also numerous companies offering specialized UAV (unmanned aerial vehicle) online study courses. This offers a convenient way to study and keep up-to-date on procedures, as the test must be taken every two years in order to maintain the certification.

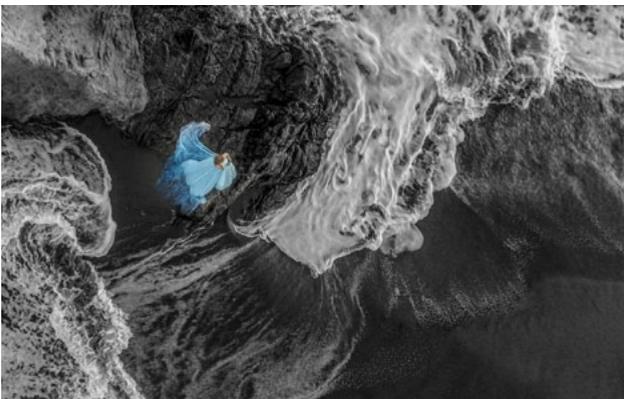
I BELIEVE I CAN FLY!

Interested, but have never flown a drone? Start out small. Try a small, palm sized toy drone and learn to fly it safely indoors. These start around \$10 online and provide good experience with the flight controls. A drone with prop guards is preferred. Most of these do not have a camera but are fun and a good way to learn the directional controls. (Google CX-10 Quadcopter).



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When it is time to move up to a larger drone, find a fly buddy or someone to practice with ~ preferably an experience drone pilot. Also, consider joining the AMA, Academy of Model Aeronautics (www.modelaircraft.org) to take advantage of approved flying fields to meet up with fellow pilots.

The larger drones, while much more expensive, are much easier to fly and control, but be prepared to spend in the \$800 to \$2000 price range for a low-end commercial drone.

GOING PRO

Put a drone in a photographer's hand and what do you get? A higher tripod, a long slider and bigger boom rig for those smooth cinematic moves. Think of it as a new way to create commercial assignments, industrial

imaging and even fine art.

Besides the obvious real estate work, today drone imaging is flourishing in agriculture and farming, utility inspection and monitoring. Also, the use of drones are growing in cinematography for movies, TV and News, aerial photography, videos, construction, surveying and mapping, first responder services, education and training.

As in any business, having partners in a drone business is an important part of daily operations. Identify reliable partners for supplies, repairs, training and especially support. There are now many vendors, equipment suppliers, associations and educational opportunities in the drone industry. Also, getting the Part 107 Remote Pilot Certificate is the fastest way to get

licensed to do professional drone imaging.

As noted, there is much more to the industry beyond just knowing how to fly the drone. Regardless of the ultimate goal, flying and photographing is a fun, profession and exciting hobby. ■

LINKS:

- faadronezone.faa.gov
- www.uavgroundschool.com
(mention TAPP for a discount)
- www.uavus.org (Unmanned Aerial Videographers of the United States)
- www.eddietapp.com



Professional photographer Eddie Tapp from Atlanta adopted aerial drone photography for the first release of DJI's Phantom series 6 years ago. An experienced aerial photographer creating assignments with helicopters in past decades, Eddie was instrumental in creating WSB-TV's first ever news set background of the Atlanta skyline in 1980 where he used a Continental Mount on the helicopter to create a series of images for Cox Broadcasting in search for the final 8 images that created a daylight and twilight 4 panel panorama background behind the news anchors.

