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Tactic Remote Mount FPV Transmitter and Receiver

The hottest thing going in the world of R/C.

Certainly the hottest topic in the R/C world for 2016 has to be multi-rotor aircraft. Not because of the craft itself but what it can carry—a camera. Not that a camera is a bad thing by any means at all, the problems that have come into play revolve around how the camera is used and a person's reasonable expectation of privacy. This topic is still up for debate with the FAA and the AMA as this edition is sent to print. [And will most likely continue to be debated until the drone craze comes to an end – Ed]

That said there are numerous uses for an aerial vehicle and camera. Cinema companies are finding the savings when filming aerial scenes to be substantial over the previously used full-scale helicopters. There are many additional applications for mobile camera systems like the National Geographic videos depicting a fly-over of the rain forest. Anyone who watches football on television has most likely seen the camera platform the NFL uses on the screen. If you are into late night cable television you may have witnessed high speed multi-rotor FPV racing; this is something to see, especially if you are a radio control aviation enthusiast.

To keep up with the latest trends, the Tactic line from Great Planes keeps rolling out new products. We have looked at their transmitter and receiver lines for air and surface vehicles several times, and now we get to try out their new FPV (First Person View) system. Before holdout dealers begin to moan, when FPV is used properly it's a lot of fun, and it can be an exciting and rewarding addition to almost any air or surface craft.

Tactic offers a broad range of FPV products. It has a really lightweight WiFi Camera that can be linked to a PC or smart-phone. Multiple onboard transmitters are offered, each connecting to any number of user supplied



action cameras through the use of a standard mini USB. One of the items offered is a dual channel monitor and display. The monitor can be linked to any of the three FPV transmitters offered by Tactic. The combination reviewed is the monitor and 25mW (milliwatt) video transmitter.

Of prime importance to the customer who is interested in FPV is a 25mW transmitter does not require an FCC operator's license. This is something to keep in mind when selling the FPV system. Encourage your customer to get started with FPV and the limited range of the 25mW transmitter. As he's learning the ins and outs of FPV, he can simultaneously be studying for his FCC license, which when secured, opens an entirely new world of FPV.

What every FPV system has in common is an onboard camera that includes an internal transmitter, or a camera and separate transmitter. In each case, the onboard transmitter is linked to a receiver ground station monitor and display. The display can be as



The seven inch monitor offered by Tactic includes two antennas, sun shade and a built in battery.

specialized as a set of goggles or a separate screen. The Tactic system in review uses a seven inch monitor.

The Tactic display comes complete with viewing hood, two antennas, wall charger, built-in Lithium battery and video cables. The display is bright and clear—ideal for daytime use. On days that are really sunny, the provided hood can be used to prevent reflections. There are a number of front panel pushbutton controls to adjust the video settings and the ability to annually select any of the 22 – 5.8GHz frequencies available (32 frequencies on

the 200mW and 600mW units), and if the end user doesn't want to be bothered selecting a channel, there's an auto scan feature; however, FPV racing situations will dictate manual frequency selection. Additionally, on either side of the monitor there are video outputs and inputs (HDMI, DVI, AV) if there is a need to overlay another video source such as heads-up data.

The monitor includes a standard threaded insert that is used on most digital cameras; therefore it can be mounted to a tripod and placed at any convenient height or location, such as in front of the pilot, allowing him to view the action while at the same time flying his aircraft. The monitor does not have an onboard memory card for storage, but the previously mentioned video outputs can be connected to any compatible recording device.

The FPV transmitter is about the size of a large postage stamp and has the familiar GHz antenna we see on our many of the R/C transmitters we sell. These antennas are omni-directional, with a 360 degree radiation pattern. The FPV transmitter is enclosed in a plastic case



Mounting the system was easy. The size of the FPV transmitter requires minimum space, and for a unique view, a security camera was mounted in the ball turret.



with frequency setting dip-switches on one side. Included with the transmitter is a five wire harness. Two wires from the harness are used to connect to a power source and the other three wires are used for video and audio, fairly common connections for any camera. The battery range for the transmitter is from a 2S 7.4V to a 6S 22V LiPo. Since the camera used is rated for a maximum of eight volts, a spare 7.4V pack was used during

the tests.

To get a unique aerial view, the FPV transmitter was mounted in the navigator's position of a 79 inch (wingspan) WWII vintage B-17. The camera, an inexpensive mini unit of the type and quality most often used in surveillance, was installed in the ball turret. The turret is roughly three inches in diameter, but the camera fit easily in the available space. Understand the quality of the camera chosen will in no doubt affect the clarity of the image, but realize that regardless of the camera used, the view that's seen on the monitor is really quite good.

Even with all of the available possibilities, the action

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was recorded about the easiest way it could be done. Having recently watched a broadcast of the Apollo-11 moon landing, the NASA method was chosen. What was done was to mount the monitor and my digital camera to a single board facing each other. The camera was in-turn used to record what was displayed on the screen. Ultra low-tech, but completely functional.

So let's get flying. Like many of today's models, the B-17 is manufactured from molded foam, so adding a couple of holes isn't a big issue. Another consideration was the model is stable, and due to its size, the less than four ounces of weight added by the FPV system had absolutely no effect on its flight characteristics. Also, to keep within the guidelines of a product review, only the included wiring harness and a standard Y-extension were used to put the unit into service.

Installation proved to be the easy part. It took close to three weeks before decent flying weather came to the east



The size of the FPV transmitter can best be described by comparing the unit to a quarter.

coast. What we were experiencing was a lack of any sunshine and clear blue and bright days, with the results of some pretty muted colors. In the end we did capture the unique view that a ball turret gunner had. There is a video available on the *Hobby Merchandiser* Facebook page. Careful viewing will show two fly-pasts of fellow modelers. It's hard to imagine what the ball turret gunners went through when flying a mission. To spot the enemy then traverse the turret and get a shot off was certainly a tremendous and brave feat. And unlike WWII, in the video, nobody is shooting back.



Flying in the ball turret of a B-17 bomber must have required an indescribable amount of bravery.

The Tactic FPV system adds tremendously to the enjoyment of flying or driving. The FPV transmitters are available in three power levels: 25mW (no FCC license), 200mW and 600mW (FCC license is required). Plus the system is super easy to setup and use, a must for any potential enthusiast.

Like all Tactic products, FPV is available through Great Planes Distributors. **HM**

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