

# Goggles

## Guide

GET THE MOST  
OUT OF YOUR  
VIRTUAL FLYING  
EXPERIENCE

BY JOHN REID PHOTOS BY PETE HALL

**Flying with first-person-view (FPV) goggles** is a completely immersive experience that makes you feel like you're moving through the air. All the external light is blocked out, and you feel as if you're inside the aircraft. Because there are so many different types of goggles available, deciding which one is right for you is a personal—and expensive—decision. In fact, a pair of high-end goggles might cost more than your aircraft! To help you narrow the field, we tested the most popular goggles for fit and feel, display quality, and how easy they are to adjust during flight.





## Fat Shark Dominator V2

The Dominator V2 is a popular setup for many FPV racers because it delivers great clarity and can be adapted for any pilot. Be aware that, when you purchase this set of goggles, you also need to buy a radio-frequency module for them. Available are 1.3G, 2.4G, and 5.8G band receivers, which can be inserted inside the hatch door on the right side of the goggles. On the left-side hatch door, you can insert a Trinity head tracker module, which allows head-tracking abilities for the mounted camera (if it is so equipped). The two plastic optics are mounted on an interpupillary distance track, which is controlled by two levers on the bottom of the goggles. Simple adjustments will accommodate the Dominator to almost all eye distances for the best display possible.

Just as with other goggles that fit right over the eyes, it is not possible to wear the Dominator V2 with glasses; however, optional diopter lenses, which simply slide and lock in place, can accommodate most people who wear glasses. All the controls are on the top and are easy to feel for when making adjustments. Another big plus is that the Dominator V2 has a built-in DVR that uses a micro SD card to record the flight through the onboard FPV camera. While the camera footage is not quite as good as it is using an onboard sport camera, I have found it useful for finding a lost quad by reviewing the last bit of flight footage. This and the newer V3 are durable units that are great for any FPV pilot. [fatshark.com](http://fatshark.com)



### QUICK SPECS

**Picture:** 13x18mm  
**Screen resolution:** 600x480  
**Weight:** 6.4 oz. (w/o battery)  
**Voltage:** 7-13v  
**Connectors:** Micro HDMI, 3.5mm AV in/out port  
**Channels:** 43 (depending on the module)  
**Extras:** Case, battery, and antenna  
**Price:** \$324.99

## HobbyKing Quantum Complete FPV Bundle Set with Goggles

These goggles offer a wide-view FPV experience. This is a nice plug-and-play unit that is perfect for the novice to advanced FPV pilot. The large 5-inch LCD screen sits in front, and a magnifying lens between the pilot and the screen allows for adjustable vision to match any eyesight. The neoprene glove that fits around the goggles is worth the investment. This creates a comfortable fit around the face (foam strips are included for a custom fit) and eliminates light leaks. In addition, it has pockets for the battery, FPV receiver, and switch. The setup also allows a switch to go to a goggles-mounted FPV camera at the front (available separately) so that the pilot can see the aircraft from ground view when landing without having to take the goggles off.

The focus/magnifying screen can be adjusted inside the goggles to match just about any eyesight and three different-magnification Fresnel screens are included. The external receiver is easy to operate and has a scan function to quickly find the video channel. The picture quality is very good, and I had no problem adapting to this large screen after flying with normal goggles. Of all the goggles available, this is one of the best buys with the most features. If you are just trying out FPV and are still on the fence as to whether this is your type of flying, these are the perfect goggles to start with.

[hobbyking.com](http://hobbyking.com)



### QUICK SPECS

**Picture:** 5-inch  
**Screen resolution:** 800x480  
**Weight:** 1lb. 5 oz. (w/ battery/receiver)  
**Voltage:** 7-13v  
**Connectors:** Adapters available  
**Channels:** 32  
**Extras:** Set of circular polarized antennae  
**Price:** \$99.99

## RangeVideo HeadPlay HD

This is one of the bigger goggles that you can get your hands on. It has a screen size of 7 inches with a resolution of 1280x800. If you like going to IMAX movies, you will like this headset. I found it comfortable to wear for long periods of time, and it was easy to navigate the menu system to get to the band and channel you want. The adjustable straps distribute some of the weight of the unit around the head and ensure a tight fit on the face. But most of the weight is spread out evenly on the forehead and cheeks. There are some foam strips that can be added to create a form fit to your face and add additional comfort, but I did not need to add those.

The HeadPlay HD provides an immersive experience to the pilot, but if you are used to flying with regular-size goggles, you will have to fly for a bit until you get acclimated to that large screen in front of you. A good tip is to change the aspect ratio to 4:3 instead of 16:10; this displays a smaller field of view to help make the

transition easier. You can also use the second screen insert that has more magnification and also produces a smaller picture.

All of the buttons needed to change the inputs and frequency are on the side of the headset and are easy to navigate with the goggles on. Video controls, such as brightness and color, are in the same location and easy to adjust with the headset on. This system will work with almost all FPV receivers and will soon have race-band channels available. Overall, this is a good setup for pilots who like a large screen view and want to be totally immersed in the FPV flying experience.

◀ [headplay.com](http://headplay.com) ▶



### QUICK SPECS

**Picture:** 7-inch  
**Screen resolution:** 1280x800  
**Weight:** 14.1 oz.  
**Voltage:** 6-15v  
**Connectors:** HDMI, XS9JK, SMA antenna  
**Channels:** 32, 5.8GHz  
**Extras:** Built-in speaker  
**Price:** \$249.99

## Spektrum/Fat Shark Teleporter V4 Video Headset

The Teleporter V4 are the type of goggles you see many of the FPV racers using because they are compact, lightweight, and easy to use.

Because they fit right over the eyes, you can't wear them with glasses, but an optional diopter lens kit that slides in place can accommodate most people who wear glasses. All the controls are located on the top and are easy to distinguish while wearing the goggles. The contrast and brightness controls are on a single toggle switch; channel and volume are next to that toggle switch. Power is achieved by plugging in the included battery, which is held in place by the headband.

When equipped with a camera gimbal, these goggles can control the camera with your head movement, which is a big plus when racing, but the camera will only travel so far before reaching its limits. But it is still good to be able to look around the corner, so to speak, when you need to. The rubber eyecups do a good job of blocking out external light, and the video quality on the screens is very good. This type of goggles is widely used by FPV racers and is considered to be the standard in the field. It also works with most FPV transmitters. Because of their lightweight and solid comfortable fit, I have no problem wearing these all day while racing. These goggles will likely last you a long time and fit all your FPV needs. ▶ [horizonhobby.com](http://horizonhobby.com) ◀



### QUICK SPECS

**Picture:** 13.2x17.6mm  
**Screen resolution:** 320x240  
**Weight:** 5.74 oz. (w/o battery)  
**Voltage:** 7-13v  
**Connectors:** Analog NTSC  
**Channels:** 7  
**Extras:** Case, battery, and antenna  
**Price:** \$199.99

## FPV Transmitters

Pick your video transmitter power level based on the type of flying you plan on doing.

Transmitters in the 5.8GHz range come with different transmission levels, such as 25mW, 200mW, and 600mW. If you are flying by yourself, you will want a more powerful 600mW transmitter to prevent interference and give yourself some flying distance. But if you're flying

in an environment with other pilots flying FPV, the 25mW transmission power is the one you should choose. When everyone's transmitter is at that lower power level, all of you can fly together without overpowering each other and degrading video signals.

FPV transmitters come in four different frequencies to pick from, but in most cases, your goggles will be tuned to the

ones in the 5.8GHz frequency. In this range, there are 32 channels across four different bands. When you are flying with other people, the transmitters should be at least two channels apart from each other so that they don't bleed over and cause interference. If they do bleed over, the video quality will suffer and there is the possibility of a lost video signal.

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## Zeiss VR ONE

This is one of the newer types of goggles to come onto the FPV market. Zeiss is known for its quality lenses, and the VR ONE elevates the quality image that you can get from FPV goggles.

There are two lenses, each with a separate image that gives a stereoscopic type of view. They are very comfortable to wear. The screen images are sharp from the center to the edges, and no lens adjustments are necessary; in fact, you can wear your glasses while operating the VR ONE. The goggles weigh only 16 ounces without the smartphone and have a form-fitting foam that conforms nicely to the face. The head strap creates a good tight fit that allows for continuous use and very little light leak around the sides (there is a little more when wearing glasses).

The goggles don't actually come with a screen; for this, you use your smartphone to view the camera feed, so the video quality is quite good. This seems like it will be the next level of goggles for the FPV crowd, but right now, the system only works on aircraft that have DJI's FPV system that works with smartphones and tablets. But Zeiss is working on developing an upgrade that will work with the more commonly used system of FPV transmission. This is a very nice system, but at the time of this writing, it is limited for FPV applications. When that obstacle is conquered, these will be the goggles to get. [zeiss.com](http://zeiss.com)



### QUICK SPECS

**Picture:** 4.7- to 5.2-inch (depending on the smartphone)

**Screen resolution:** Variable (depending on the smartphone)

**Weight:** 16 oz.

**Voltage:** None

**Connectors:** Depends on the smartphone used

**Channels:** None

**Extras:** Many VR apps available

**Price:** \$120.00



**Bottom Line** One thing that you can be sure of, goggles will continue to improve with better optics resolution, brighter and bigger displays, and additional creature comforts, such as fans to prevent fogging. But those features might be years away. In the meantime, whether you are an FPV racer or are using goggles for aerial videography or photography, this guide is a perfect start to help you find a set of goggles that is exactly what you need. ✈️