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The EACHINE Racer 250 Drone Overview

The EACHINE Racer 250 FPV is a great entry-level Almost-Ready-to-Fly (ARF) drone. If you are new to racing but already worked with drones before, this is a perfect choice. Average price - \$150-\$200.

Main Features

Carbon fiber, super anti-fall structure.

- Easy disassembly quick change propeller device.
- Ultrafast flight speed easily manipulated.
- Long distance remote control high sensitivity.
- Real-time image transmission.
- Automatic search frequency.
- Snowflakes screen, built-in OSD.

Technical Characteristics

Size	220 x 233 x 50
Weight	400g (without battery)
Flight time	10-14 min
Camera	1000TVL
Battery	11.1V 1500mAh 25C 3S
Speed	not specified
Flight controller	CC3D
Charging time	60+ min (info's taken from 3rd-party website, no official data available)
Transmitter	600MW 5.8G 32CH
Motor	Brushless 2204 2300kV

Model's Strong and Weak Points

Pros	Cons
Fast and responsive	Not a very helpful manual
Capable of competing with more expensive racers in terms of speed and quality	Speed controllers and motors are soldered to the main board
This is one of the lowest cost racers on the market	No RTF version yet available for sale
Bright lights for long distance and night flights	You have to program it after installing the receiver before you can fly it
Tiltable FPV camera	No included video monitor or means of recording a video stream
Secure battery compartment	
Easy to program the CC3D flight controller	

Conclusions:

It is very good budget-friendly model for anyone who wants to dive into the world of drone racing for the first time. EACHINE Racer 250 is fast, durable, and crash-friendly. Though it might require some real efforts to set it all up, in case you've never set up a drone on your own before.

However, if you're a complete newbie when it comes to flying a drone, you might consider buying a cheaper Ready-To-Fly model.

References:

<http://www.eachine.com/Eachine-Racer-250-FPV-Drone-Built-in-5.8G-Transmitter-OSD-With-HD-Camera-BNF-Version-p-242.html>

<http://3dinsider.com/racing-drones/>

<http://dronereview.com/eachine-racer-250/>

Eachine Wizard x220 Drone Overview

Eachine Wizard x220 is one of the most popular drones among racers these days. It is an easy one to control so beginners would have much of a trouble with it. Wizard is also a pretty customizable drone - you can easily replace parts or upgrade various components. Average price - \$270.

Main Features

- Compatible with max 5 inch propeller
- Compatible with 2206, 2208 motor
- Can be used with 4S/3S battery
- With self-protection function
- With direction indicator LED
- Inclined motor base design, fast speed
- Removable protection motor base

Technical Characteristics

Size	12 x 9.5 x 5.3 inches (info's taken from 3rd-party website, no official data available)
Weight	535g (with battery)
Flight time	12 minutes
Camera	700TVL
Battery	LiPo 3S 1500 mAh, 11.1 V 25c
Speed	not specified
Flight controller	F3 6DOF, betaflight 2.9.1 version
Charging time	30 min (info's taken from 3rd-party website, no official data available)
Transmitter	5.8G 48CH 200mw
Motor	2205 2300KV

Model's Strong and Weak Points

Pros	Cons
Excellent value for money considering the performance	Comes without a manual
Neatly built and durable	Motor bearings could be better
Fast battery charging time	The frame itself is glass fibre with outer layers of carbon fibre
Includes lots of spares	Included battery and charger are not the best, so expect to replace it fairly soon
Good flight time	
Nice bright RGB LED tail along with a buzzer	
It includes everything you need to fly in the box including a battery and charger (in the RTF version)	

Conclusions:

If you want to get into the drone racing, you should consider a durable, Ready-To-Fly model that's not too high on the price range and Eachine Wizard x220 is a great candidate for you. The overall design is pretty solid which minimizes the chances of anything other than props breaking.

References:

<http://3dinsider.com/racing-drones/>

http://www.eachine.com/Eachine-Wizard-X220-FPV-Racing-Drone-Biheli_S-F3-6DOF-2205-2300KV-Motors-5_8G-48CH-200MW-VTX-700TVL-Camera-ARF-Version-p-569.html

<https://blog.dronetrest.com/eachine-wizard-x220s/>

<http://www.insanitydrones.com/eachine-wizard-x220-review/>

Walkera F210 3D Edition Drone Overview

Walkera F210 is a Ready-To-Fly quadcopter with an essentially improved design. With a new bow body and carbon fiber material, it has good anti-drop abilities. It is a great fit for both beginners and time-tested experts. Average price - \$400.

Main Features

Super tough carbon fiber construction

- Innovative “Bow” design
- Fast and lightweight
- Night flying capable camera
- Powerful LEDs
- The F210 3D Edition body is created using CFP for outstanding crash survivability.
- Modern industrial and modular design, improves the product performance and permit easy maintenance and upgrades.
- Advanced 5.8 GHz live video and OSD system, for a unforgettable visual FPV experience.

Technical Characteristics

Size	182x182x103mm
Weight	370g
Flight time	8~9 min
Camera	700TVL
Battery	14.8V 1300mAh 40C 4S Li-PO
Speed	50MPH (info's taken from 3rd-party website, no official data available)
System	PAL/NTSC
Charging time	90 min (info's taken from 3rd-party website, no official data available)
Remote controller	Devo 7
Visual range	120°

Model's Strong and Weak Points

Pros	Cons
Strong carbon, anti-shock body	No safety features
Great FPV experience	Quite long charging time
Responsive racer	Short flight time
Brushless motors	Occasionally poor video signal
Flip ability in 3D Aerobatic Mode	
Optimized flight controller	
Optimized OSD	

Conclusions:

Due to a smart design and features of high precision and light weight, the drone is easy to operate and is more stable in aerial photography. The bow design, based on anti-collision and anti-drop mechanics, minimizes the impact of surface damage, ensuring the safety of a normal flight. Modern flight control allows you to freedom with your flying style, giving you the chance to do some amazing routines.

The main disadvantage is that the video signal can sometimes be quite poor and fails to link with the transmitter.

References:

https://hobbyking.com/en_us/walkera-f210-fpv-f3-fpv-racing-quad-rtf-w-camera-vtx-devo-7-osd-no-battery-or-charger-mode-2.html?store=en_us
<http://www.walkera.com/index.php/Goods/info/id/38.html>
<http://3dinsider.com/racing-drones>
<http://smalldronesreview.com/2016/05/04/walkera-f210-3d-edition-drone-review/>

