

HGLRC Sector 132 Review | Unique 4K Micro Drone

HGLRC Sector 132 4K is a pretty new design concept in its ability to be used as a 3" micro and a 2.5" 'protected' cinewhoop while able to record 4K with the Caddx Tarsier 4K dual camera. Its a compelling quadcopter due to its affordable price and the ability to be flown inside and outside.

The quadcopter comes as a BNF (bind to fly) or PNP (plug and play). The BNF version offers two different types of receiver, FrSky R-XSR, and FrSky XM+. PNP version comes without a receiver and that means that you will have to buy a separate receiver and put it in by yourself.

At the date of writing this review, [HGLRC Sector 132 4K](#) comes with a price of around 160 USD with free worldwide shipping for the PNP version and around 175 USD for the version that comes with the FrSky XM+ receiver.

If we went ahead and bought all the parts separately, the price would come to around 260 USD without a receiver so you are saving yourself around 85 USD and 2-3 hours that would take you to build it completely.

PACKAGE INCLUDES

- 1x F4 Zeus AIO Flight Controller
- 1x FD VTX Micro
- 4x FD1106 3800KV Brushless Motor
- 1x Sector132 Freestyle Frame Kit
- 1x CADDX Tarsier 4K

6x Gemfan 2540 propeller

6x Gemfan 3035 propeller

1x Hammer Antenna

1x Receiver (BNF version)

BUILD QUALITY

The quadcopter was well protected in its box, it came with extra screws for mounting the prop guards, TPU GoPro mount, 6x Gemfan 2540 propeller and 6x Gemfan 3035 propeller.

The CADDX Tarsier 4K camera stick out, but when the prop guards are on its well protected. The receiver antennas are protected and

held by plastic tubes, which could be a failure point but had no problems with it so far.

The frame features a unibody design, it bends a bit but feels nice and has chamfered edges.

All the wiring is well done with nice solder joints, everything fits well due to the AIO Zeus board.

The whole build uses M2 screws, and you get a bunch of spares included in the box. The frame is missing one row of standoffs to fit the VTX which is not a deal breaker but it flexes and it could potentially be a breaking point.

The unibody bottom plate with arms is 3mm thick while the top plate is 2mm. If you break an arm you have to replace the whole frame but thats a given on 3" frames.

FEATURES

Specs	
Model	HGLRC Sector132
Voltage	3-4S
Weight (Dry)	154g
Weight (AUW)	214g
Optional RX	FrSky XM+ Flysky A8s V2 Crossfire Nano
VTX	FD Micro 400mW Smart Audio
Camera	Caddx Tarsier 4K
FC+ESC	HGLRC F4 Zeus AIO 15A

Specs	
Motors	FD1106 3800KV
Battery Connector	XT30

Micro quads are excellent way to get started into FPV and learn various maneuvers. It's a lot easier to pick up some stick time with small brushless quad where you can't hurt anyone around you while practicing. In the guide we feature [Best Micro FPV Drone](#) that will get you started.

MICRO FPV DRONES – BEST BRUSHED AND BRUSHLESS MICRO QUADCOPTERS | 2020 GUIDE

BATTERY OPTIONS

Since this is a transformer drone with different weights and flight styles to get the most out of it you should be using two different batteries dependent on the application.

For flights with prop guards and inside you should use a 3S battery for better throttle control. HGLRC recommends a 3S around 550mAh with average flight times of 3-5 minutes.

For flights without prop guards and 3" propellers you could use a 3S but if you are outside a lighter 4S would make this little 3" scream. HGLRC recommends a 4S 450mAh, you could use a bigger pack but at cost to performance. Flight time on this setup is 3 minutes average so make sure you grab a couple of them since it is really fun to fly.

We used Tattu r-line packs for our testing and were getting good results, you could use any brand just make sure the packs are with a XT30 plug.

FC, ESC, VTX STACK AND CAMERA STACK

The Sector 132 comes with HGLRC electronics, HGLRC F4 Zeus 15A 4in1 ESC Flight Controller is an AIO board with FC, PDB and ESC built in. Thanks to it being AIO the whole stack fits in nicely since the camera stack fills up most of the space in the frame.

The flight controller is an F4 board that comes with Betaflight 4.0.4 flashed. It has OSD, 4 Uarts, 8MB of BlackBox memory, 2 custom PID profiles for 2.5" props with prop guards and a tune for 3" props without prop guards.

The tune is OK, it is a base tune without bidirectional DShot since the ESC is BIHeli_S, you could flash JazzMaverick BIHeli_S SiLabs on it but it flies pretty good without it. The ESCs are 15A which is plenty for a 3". The board comes with a low-esr capacitor preinstalled

which will eliminate any noise issues you might run into without it. It is always recommended to use a capacitor with AIO boards.

The HGLRC FD VTX Micro has a 20x20 board with a IPEX connector, the quadcopter comes with an antenna. The VTX goes up to 400mW and has smart audio for changing the setting in the Betaflight OSD menu. HGLRC VTXs are well known to be reliable and put out the advertised power.

The 5.8Ghz antenna is mounted on a TPU 3D printed part with the receiver antenna inside the plastic tubes, on the bottom there is an option to mount it horizontally and mounting options for a 900Mhz receiver antenna like for TBS Crossfire.

FPV/HD CAMERA

This is what makes this quadcopter soo interesting and worth buying. For such a low price you are getting a Caddx Tarsier camera that can record up to 4K HD video, this is really important on 3" setups since they are too small to carry a GoPro, this is the best way to capture video with a small quadcopter.

Plus the FPV feed is on par with the best cameras out there, very similar to the Caddx Ratel. To change the FPV camera settings use

the standard camera joystick, the connector is cut off for some reason and if you don't have a spare connector you are going to have a bad time changing any FPV settings, luckily the settings are very good out of the box..

To change the setting on the camera you will need to use the app and connect to the camera with your phone. The quadcopter has to be powered on of-course. Use the app to check the picture and expose properly.

Resolution	Frame Rate
4K 16:9	30 fps
2.7k 4:3	60 fps

Resolution	Frame Rate
1440p 4:3	60 fps, 30 fps
1080p 16:9	90 fps, 60 fps, 30 fps,
720p 16:9	120 fps

MOTORS

The HGLRC FD1106 3800KV Brushless Motors are a bit small for a 3" since most of the 3" builds feature a 14xx motor, this was quite a surprise because they performed really well. This is due to a lower pitch and light propeller. We tried Gemfan Windancer 3028 3-blade Propellers which resulted in hot motors and a lot of propwash. There is a reason they chose such light props.

When installing the prop guards use the longer screws included in the box, when switching back and removing the guards use the old screws, these will damage your motor since they are too long and will dig into the winding.

QUADCOPTER CONVERTIBLE

The HGLRC Sector 132 4K has something unique about it, being a BNF getting this kind of customisability and versatility out of the box is unusual. The biggest advantage with a BNF like this being able to convert from a 3" freestyle micro to a safe indoor cinewhoop just by adding the propguards makes it feel like you are getting two quadcopters compared how different these configurations fly.

This little guy can even carry a small HD camera like a GoPro Hero 5 Session, not that it is recommended considering how small the motors are plus you already have a 4K camera included. Non the less HGLRC provides you with a GoPro mount expanding the possibilities even more.

When in cinewhoop mode the quad does feel a bit underpowered paired with a 3S battery for outdoors flying, but this configuration flies really well indoors. While flying straight the hover throttle position is just below the centre of the stick leaving no room for punches but thats what we come to expect from cinewhoops that are meant for taking smooth and stable footage, the lack of stabilisation could be a deal breaker for some but considering what this quadcopter is this is completely acceptable.

When in 3" freestyle mode the quadcopter feels just like any other 3" micro. Its small, light, fast and hella fun to fly in spots you wouldn't bring your 5". Quadcopters like this are great for flying on playgrounds and backyards. When in freestyle mode you will need to use a 4S battery, you might want to put a 1300mAh which you could, but to get the best performance HGLRC advises a much smaller battery 450mAh - 850mAh.

Keep in mind the lighter it is the better its going to perform in smaller places, but if you want to throw it around like a 5" use a heavier pack.

When installing the prop guards use the longer screws included in the box, when switching back and removing the guards use the old screws, these will damage your motor since they are too long and will dig into the winding.

CONCLUSION

HGLRC did something different with this design, which is always welcome in the FPV hobby. You do get one quadcopter but it can be used in two very different ways giving you the flexibility to fly it indoors as well as outdoors while not sacrificing performance.

HGLRC did something really beautiful with the options it provides you with out of the box letting you really choose how you want to fly this quadcopter. It is one of the cheapest 4K 3" micros on the market making it a clear banger!

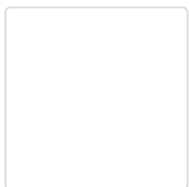
Model	Store Options	Firmware	Type	Rate
Sector 132 4K	Banggood	Betaflight	Cinewhoop	★★★★★ ★

The closest thing to a quadcopter like this is the GepRC CineQueen 4K 3inch Hybrid CineWhoop which is 270\$. The CineQueen has better specs in terms of bigger motors and a better ESC but since it

is still BlHeli_S that doesn't make much difference. It also features a 3" prop guard and the HGLRC fits 2.5" props in its prop guards.

For the low price HGLRC is a great option compared to anything on the market, take into consideration that you get a 4K video recording capable quadcopter for 170\$ that flies amazing on 4S and 3" props! You really cant go wrong with it, it is a ton of fun with and without prop guards.

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