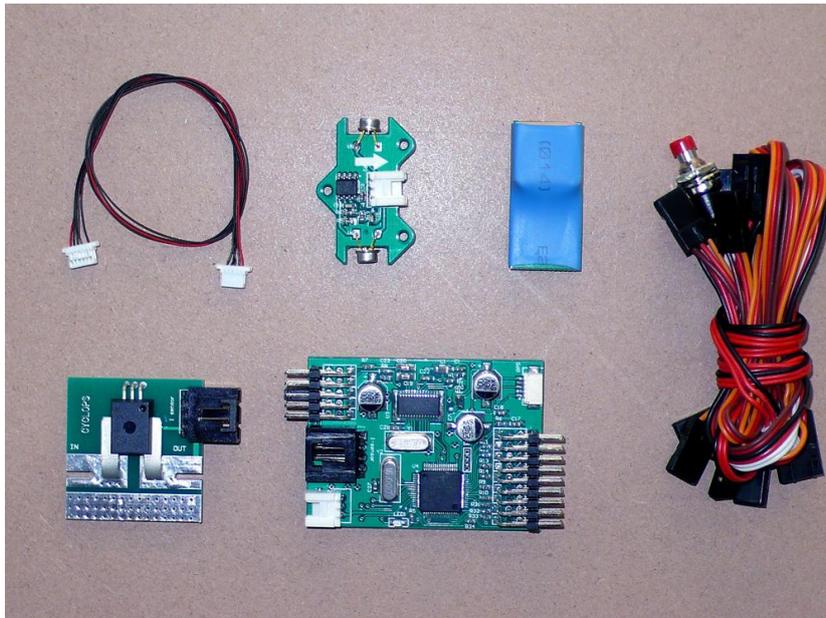


## NOVA OSD V1.0 manual

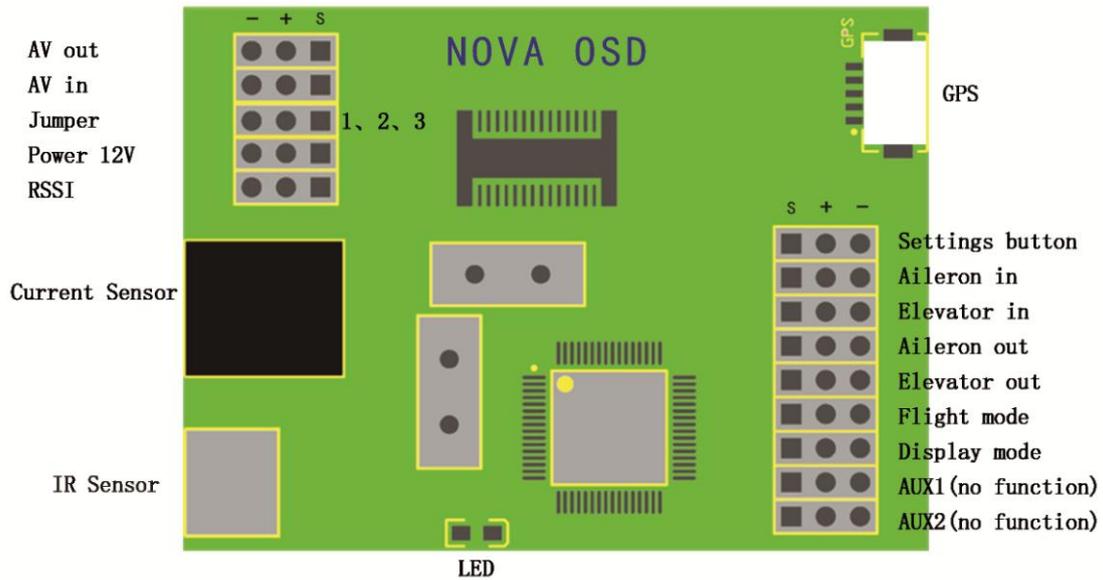
Thanks for choosing the Cyclops products.

**This package includes:**

Name	Quantity	Param
NOVA OSD mainboard	1	
GPS module	1	10Hz
100A Current sensor	1	50V 100A
Infrared sensor	1	
Servo lead	4	20cm
Infrared sensor cable	1	50cm
Current sensor cable	1	20cm
GPS cable	1	20cm
Setting button with cable	1	



## Connection diagram

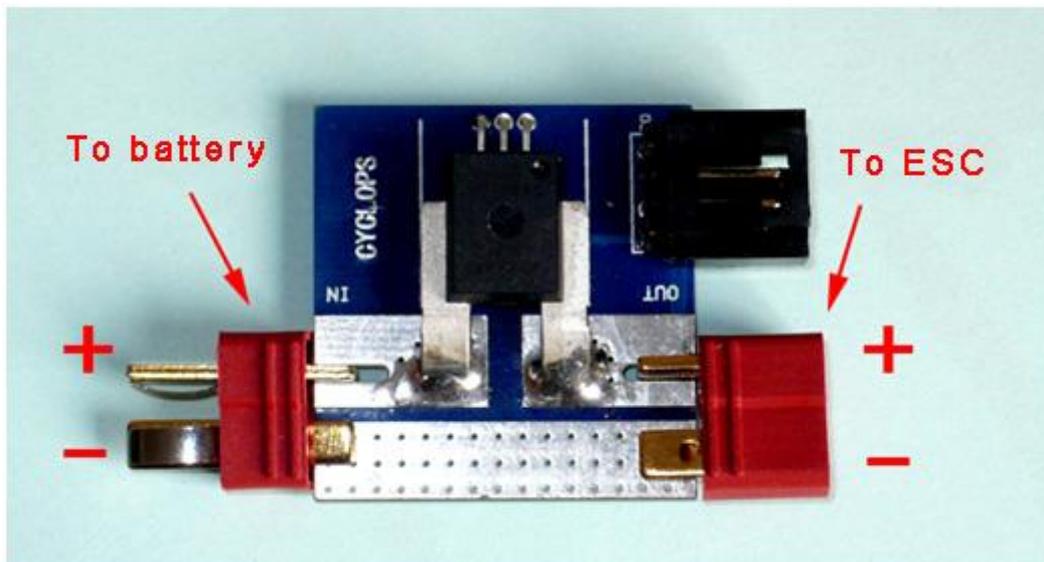


Power jumper notice: there are 3 pins marked as above (pin 1, 2, 3), when the jumper connects the pin 1 and 2, the OSD and the AV in(camera) and AV out(video Tx) will be powered by the current sensor, also the power of your motor.

**WARNING, in this situation, your motor lipo should be 3s, or you will damage the OSD or your video devices.**

When the jumper connects the pin 2 and 3, the current sensor just offer the voltage info to the OSD board, you need to connect another 12v power (3s lipo for exaple) to power the OSD and AV in and AV out.

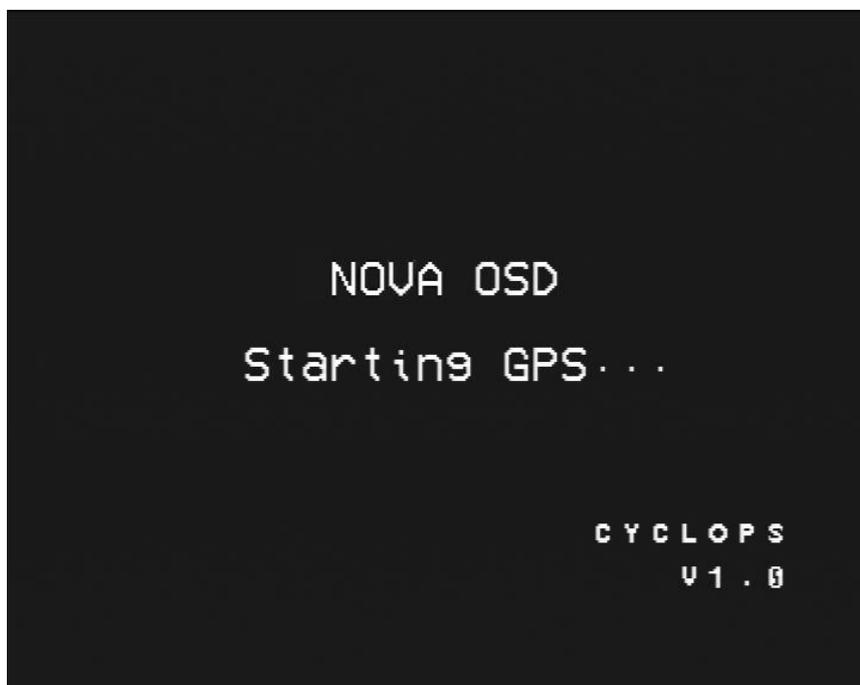
So when your motor lipo is bigger than 3s, you must make sure the jumper connects pin 2 and 3, another 12V power is used to power the OSD and your video devices.



Current sensor connection diagram (The T plugs are not included)

### User guide

Connect the equipments as above (the gps must be connected), power it on, the red LED will flash and the Nova OSD will show start-up screen as below:



Before the start-up screen disappear, press the setting button, you will enter the configuration menu screen as below:



### Configuration guide:

Press the setting button one time, the cursor will move to the next setting

item, if press and hold for 2 seconds, the present configuration item will be executed.

#### **INIT IR:**

Calibrate the IR sensor. First, the IR sensor should be mounted on the plane horizontally, and keep the arrow marked on the sensor head to the front of the plane. Hold your plane and make one of the wing head to the sky, the other wing head to the ground, press and hold the setting button for 2 seconds, when the word "OK" appears, which means the calibration is done, when the word "error" appears, which means the condition is not suitable for the sensor's usage. The calibration is no need to do before every flight, just when you find the condition changed a lot.

#### **SERVO DIR:**

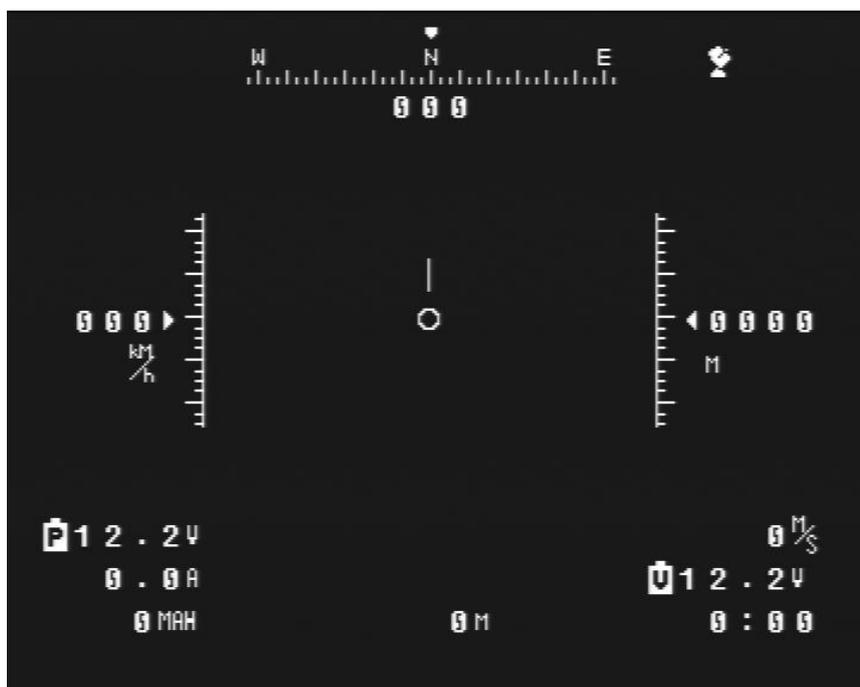
Set the center position and directions of the servos for your plane. Press and hold the setting button for 2 seconds, the word "center" will appear, during the time, you should keep your Aileron and Elevator sticks of your radio on the center position; when the word "U+R" appear (which means up and right), please pull your elevator to the bottom and push the Aileron to the right end. When the word "OK" appear, which shows the process is done, when the word "Error" appear, please do it again.

#### **ELEVON:**

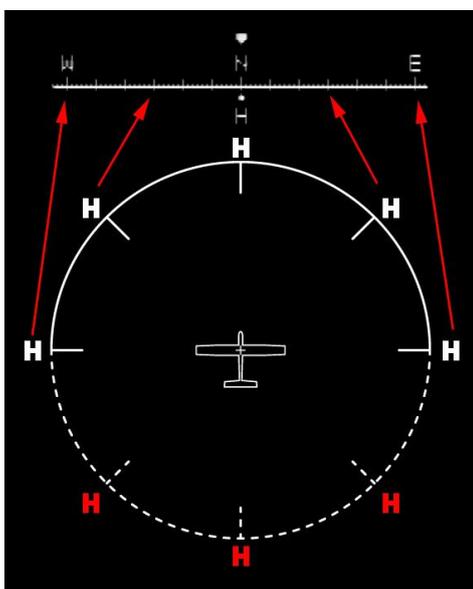
If your plane is delta wing or V-tail type, you need to activate this option, at the meantime, you need to deactivate the ELEVON in your radio. The OSD will do it for you.

#### **RETURN:**

Leave the configuration menu screen. Press and hold for 2 secs, the OSD will shows the flying screen as below:



- 1、 As GPS beginning to search satellites, the satellite number is indicated by the GPS strength icon on the upper right corner. A flashing icon indicates weak or unreliable GPS strength and take-off in this situation is not recommended. (with good GPS signal, the satellite searching would last 1-5 minutes depending on different circumstances)
- 2、 Press and hold the setting button for 3 seconds, the units will switch between from Metric and Imperial. The OSD will remember your setting.
- 3、 Set up the IR sensors correctly, mount it horizontally on your plane, and keep no devices block the 2 sensors on the board. Keep the IR sensor from the video Tx, which may affect the sensor.
- 4、 There are 3 modes for Nova OSD, you can connect one spare channel of your radio and use a 3-position stick to switch the modes. When the gps get signals, you can switch between manual mode, PA mode and RTH mode.
- 5、 Before your every flight, press the setting button one time to reset all the parameters of the OSD screens shows (including altitude, distance, flying time, current, mah consumed), don't press and hold, or you will enter the unit switch process.
- 6、 When the OSD detects the motor voltage is 0, the motor voltage, current, and mah consumed won't be shown on the screen.
- 7 You can connect one spare channel of your radio to the display mode pins, then you can switch 3 screens, the simple screen, the F-16 screen and blank screen. In the simple screen, The "H" on the screen indicates "Home", when the home is in front of the plane, H will not flash; when home is behind the plane, H will flash; When H is in the middle and not flash, it indicates the plane is heading directly to home; When the H is in the middle and flash, it indicates the plane is flying 180 degree away from home; How to return to home: when H is on the left, turn left; when the h is on the right, then turn right.



- 8 NOVA OSD will detect video signal automatically and support both PAL and NTSC signal.
- 9 NOVA OSD heats up during working, which is normal.
- 10 NOVA OSD can work with ChainLinkDare UHF receiver and shows the digital RSSI and right packet ratio on the top left side of the screen, at the meantime, send the gps info to the ChainLinkDare receiver for the future bi-direction communication application.
- 11 NOVA OSD can show analog RSSI voltage on the top left side, the voltage detect range is 0.1—3.3V, when the voltage is less the 0.1v, the RSSI voltage won' t be shown.

**Note:** In order to display RSSI voltage, the user has to open the receiver and to solder wires by himself and bears all consequent damage due to this operation.

### The OSD screens descriptions

