OMPHOBBY FLIGHT SYSTEM 3

CONNECTION WITH VBAR CONTROL RADIO

REVISION 0

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Table of Contents

Important Notes

This manual describes all the important steps required to fly the OMPHOBBY M2 with OFS3 (such as the OMPHOBBY M2 EVO MK2 and M2 V3 PRO) using a Mikado VBar Control radio.

With VBar Control, two flight modes are available and can be switched: 3D Mode and Attitude Mode. Telemetry support (such as CRSF) is not available. Please use a flight timer that suits your flying style.

Read this manual carefully before using OFS3 with VBar Control in any RC model. Failure to use OFS3 with VBar Control properly may result in property damage, serious injury, or even death. Make sure to be conscious of your own personal safety and the safety of others, as well as the environment around you when using OMPHOBBY products.

Detailed information about the OFS3 Flight Controller can be found in the official OFS3 User guide. Please visit the official support page at **omphobby.com**. You can also access it by scanning the adjacent QR code.

Damage or dissatisfaction of the product as a result of crashes, incorrect setup, modifications, or lack of necessary user skill is not covered by any warranty.

Please contact our distributors for technical support and parts supply as necessary.

Safety Notes

For safety reasons, both the tail and main blades must be removed during the initial setup!

Before flying, always verify all critical switch functions, including the bank switch and motor OFF. The model template is configured to use only the motor switch as the throttle hold function.

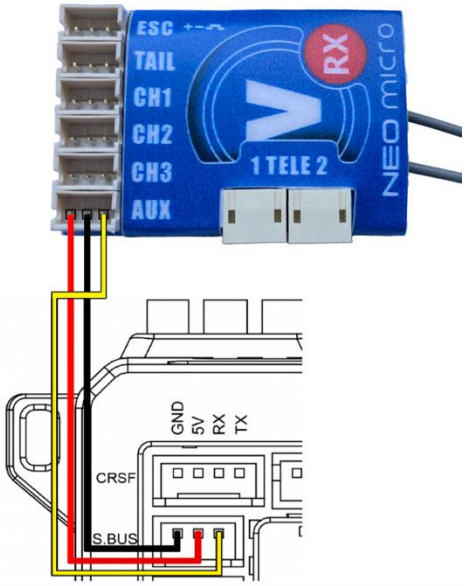
VBar Control switch function	Template function
Motor	Motor ON/OFF
Bank	Bank 1/2/3
Safety Switch	NOT IMPLEMENTED

The provided setup files have been developed and tested to the best of our knowledge and ability. Please ensure that the helicopter is functioning properly before each flight. OMPHOBBY assumes no liability for any damage resulting from negligent use or modifications of the recommended settings.

VBar Basic Receiver Installation

Necessary components:

- Mikado VStabi RX-Only 6 channel receiver (no. 05599)
- Cable for S.BUS connection

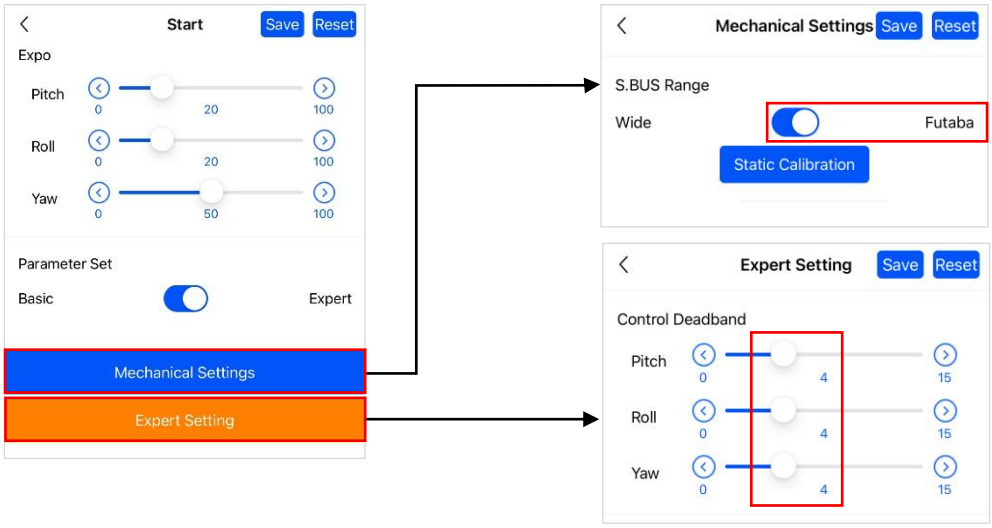


The OFS3 S.BUS port provides output from a stabilized 5 V rail, which is a common operating voltage for S.BUS-type receivers. The connector used is a Picoblade 3-pin, but it is also compatible with JST MX 1.25 mm connectors. The Mikado VStabi RX must be connected to the AUX port using a JST-ZH 3-pin connector, which is commonly used for Spektrum satellite cables.

OFS3 Board	Mikado VStabi RX
S.BUS Port	AUX Port

OFS3 Flight Controller Settings

Connect your OFS3 to the Bluetooth® module using the OMPHOBBY iOS/Android application. In the OMPHOBBY app, go to **[Mechanical Settings]**, set the signal range to **Futaba S.BUS**, and click **Save**.
For maximum performance, go to **[Expert Settings]**, set the **deadband** for **Pitch, Roll**, and **Yaw** to **4**, and click **Save** again.



Important Note
The **Futaba** mode is mandatory to achieve the full ±100% control range with OFS3. If the signal range is left on **WIDE**, the helicopter may fail to arm because it cannot detect the negative 100% throttle position when throttle hold is active. This is typically indicated by continuous motor beeps as an error message.

VBar Control Files

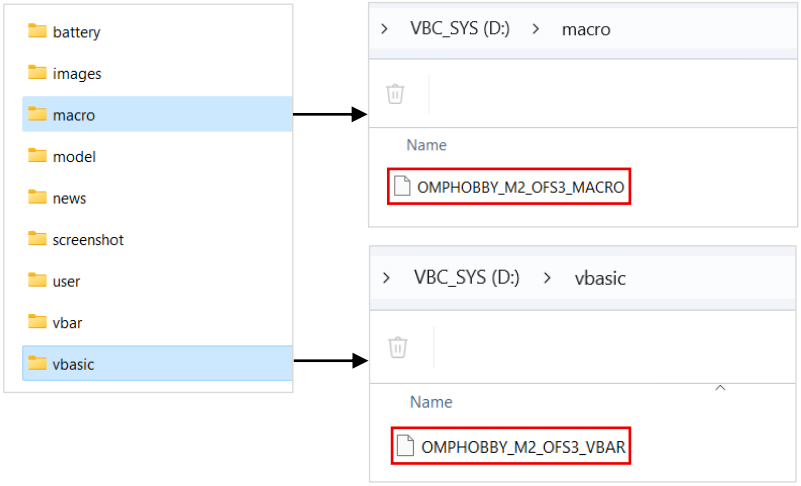
Download the VBar Control files by visiting the **Firmware Download** page in the **Support** section at www.omphobby.com.

Connect your VBar Control radio to your computer and add the files as shown below:

- In the **vbasic** folder: add the file OMPHOBBY_M2_OFS3_VBAR
- In the **macros** folder: add the file OMPHOBBY_M2_OFS3_MACRO

Important Note

If the folder **vbasic** or **macro** is not yet available on your VBar Control Drive – create a new folder with the exact same name.



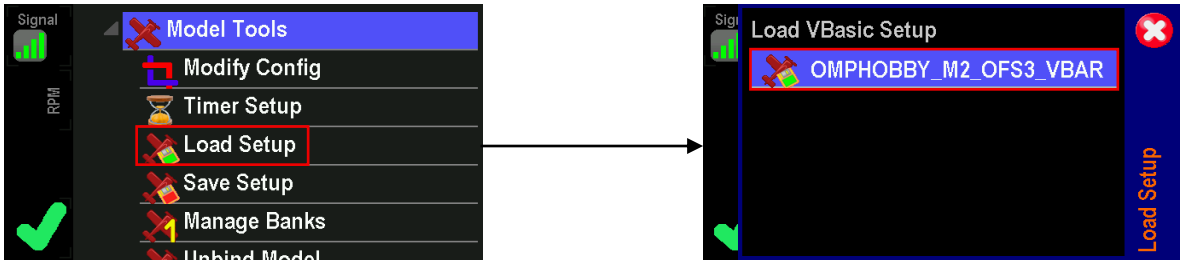
VBar Basic Setup

Safety Information: Please remove the main and tail blades during the first setup.

Verify that your VBar Control Radio has the VBasic app installed.

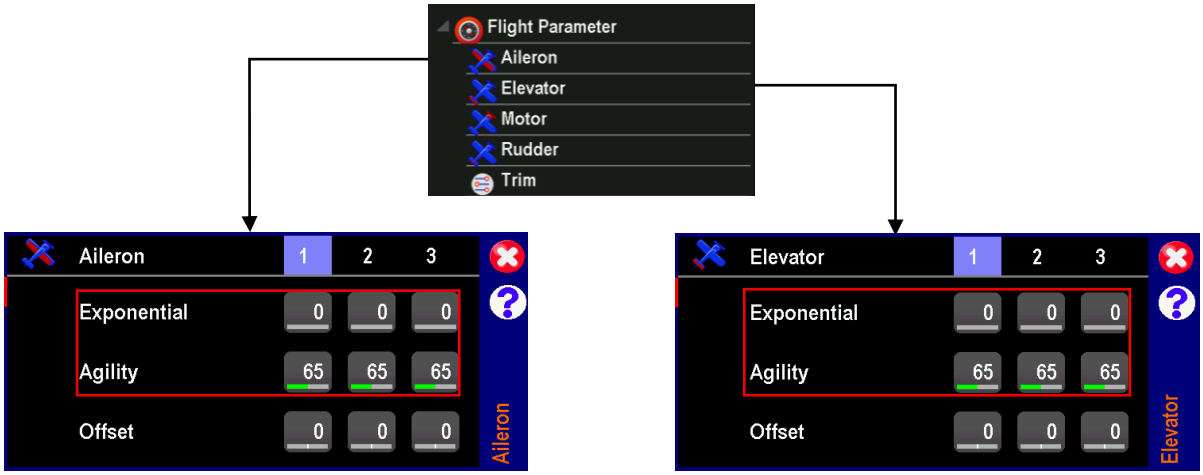
The next steps describe how to load the downloaded VBasic setup file.

1. Power on the VBar Control Radio and your M2
2. The Mikado VStabi RX will turn into bind mode. Bind it with your VBar Control Radio.
3. Load the VBar Basic Setup OMPHOBBY_M2_OFS3_VBAR



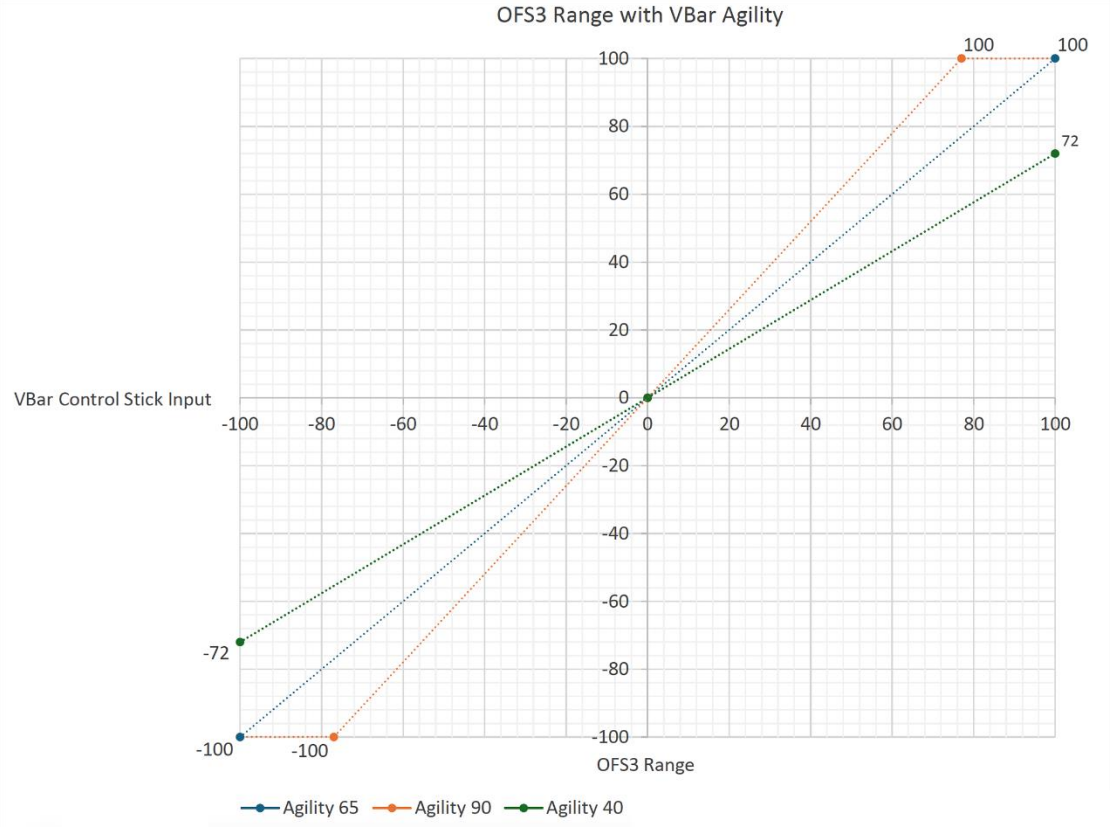
The VBar Basic setup OMPHOBBY_M2_OFS3_VBAR contains the following values:

- Update rate 7ms (144Hz.)
- Aileron/ Elevator/Rudder: **Agility 65, Expo 0**



Important Note

Never change the Agility and Expo values in the VBar Control VBasic setup. The preset values **Agility 65** and **Expo 0** provide the optimal linear input signal for the OFS3 range. Reducing the Agility value below 65 can limit the maximum input signal, resulting in a reduced control loop and lower rotation rates. Increasing the Agility value above 65 can cause signal clipping, which leads to an overly aggressive control response. Therefore, **always leave Agility at 65 and Expo at 0 in the VBasic setup.** To adjust rotation rates or expo settings, use the OMPHOBBY iOS app to make changes directly in the OFS3.



VBar Macrocell Setup

In the next step, the macrocell file OMPHOBBY_M2_OFS3_MACRO needs to be loaded:

1. Open the **Macrocell Setup** on the VBar Control radio.
2. Select the file OMPHOBBY_M2_OFS3_MACRO and click **Load**.

The provided macrocells have the following structure.

Name	S.BUS Channel	Function	Make adjustments
1…10		Default VBar channels (not available for S. BUS)	✗
11/E1 CH1	1	Aileron	✗
12/E1 CH2	2	Elevator	✗
13/E1 CH3	3	Throttle signal for ESC	✗
14/E1 CH4	4	Rudder/Tail	✗
15/E1 TAIL	5	3D-Mode or Attitude Mode	✗
16/E1 AUX1	6	Collective Pitch	✗
17/E1 RPM	7	Software RPM Selection (If enabled through the app, unused by default)	✗
18…32		Unused	✗
33/NN		Pitch curve bank 1	✓
34/NN		Pitch curve bank 2	✓
35/NN		Pitch curve bank 3	✓
36/NN		Mixer Macrocell: Bankswitch for Pitch curves	✗
37/NN		-120% Throttle for safety throttle hold	✗
38/NN		Mixer Macrocell: throttle hold switch	✗
39/NN		Throttle/ESC values for bank 1, 2, and 3 RPMs	✓
40/NN		Unused	✗

The macrocell file uses your individual VBar Control switches for **Throttle Hold** and **bank switching**, just like in any other VBar model. By default, the switch for toggling between **3D Mode** and **Attitude Mode** is assigned to **VBar Control Option 3**.

Important Note
No changes should be made in the macrocells except for the following: **Pitch Curves:** Macrocells **33**, **34**, and **35** control the collective pitch curves for **Bank 1**, **Bank 2**, and **Bank 3**, respectively. The default values define a linear ±100 curve. These maximum values (±100) must **not** be exceeded. Flattening the curve is allowed if desired. **RPM / ESC %:** Macrocell **39** sets the motor RPM of the helicopter. The default throttle values are: ▪ **Bank 1:** 50% ▪ **Bank 2:** 62% ▪ **Bank 3:** 75%

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