OMPHOBBY OFS3 / OFS3+

CONNECTION WITH VBAR CONTROL RADIO



REVISION 2

WWW.OMPHOBBY.COM

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Important Notes

This manual describes all the important steps required to fly the OMPHOBBY helicopter with OFS3 and OFS3+ (such as the OMPHOBBY M1 V3 PRO, M2 EVO MK2, M2 V3 PRO and M2 V3 SPORT) using a Mikado VBar Control Radio.

With VBar Control, two flight modes are available and can be switched: 3D Mode and Attitude Mode. The optional Rescue Mode can also be used. Telemetry support is available, please consult the latest OFS3 User Guide for further instructions.

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.

Setup Video (English)

Setup Video (German)

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 template provides pre-configured switches at your VBar Control Radio.

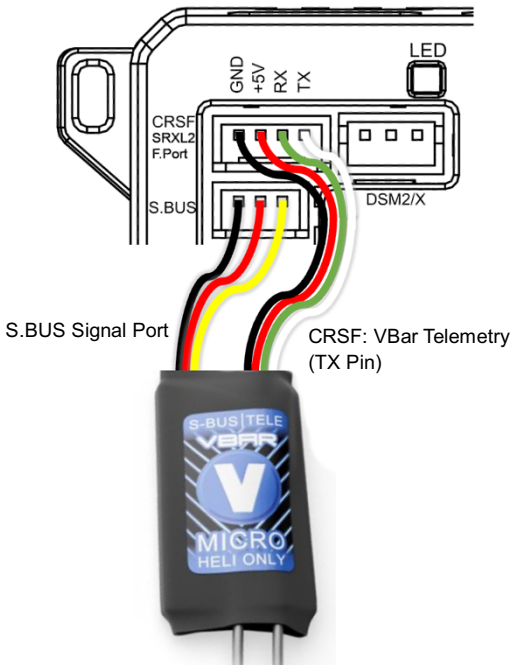
VBar Control switch	Template function
Motor	Motor ON/OFF
Safety Switch	Implemented (if defined under ‘‘Switch Assignments‘‘)
Bank	Bank 1/2/3
Flight Mode	Switch assigned in Macrocell 15 (Switch Option 3 by default)

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.

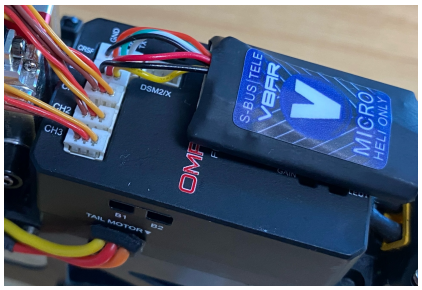
1. VLink S.BUS Telemetry Receiver Installation

Recommended receiver (PLUG and FLY).

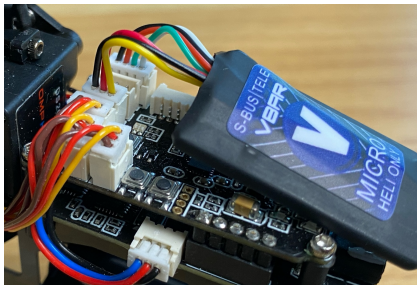
- Mikado Micro S.BUS receiver (item no. 05680)



OMPHOBBY M2



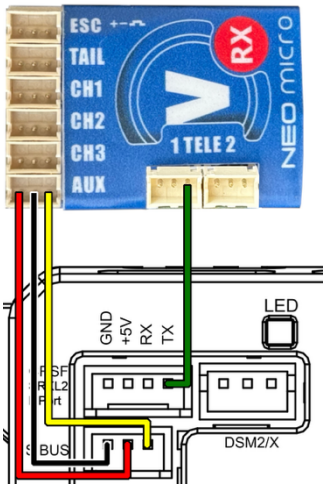
OMPHOBBY M1



The Mikado VStabi RX-Only 6-Channel Receiver (item no. 05599), has been discontinued. This information is provided for completeness in case you are still using the Mikado VStabi RX-Only 6-Channel Receiver.

Cable for S.BUS and Telemetry 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. For telemetry, the TX pin of the CRSF port must be connected to the TELE port of the VStabi RX.

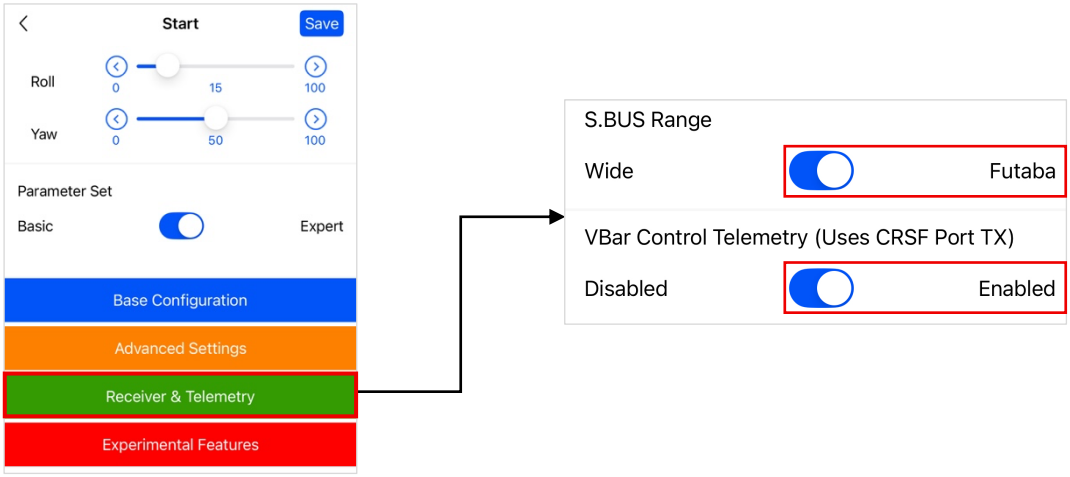


OFS3 Board	Mikado VStabi RX
S.BUS Port	AUX Port
CRSF Port TX	TELE Port

2. OFS3 Flight Controller Settings

Connect your OFS3 to the Bluetooth module using the OMPHOBBY iOS/Android application on your smartphone.
Open the **Receiver & Telemetry** page:

- Set the signal range to **Futaba** to activate the **S.BUS range**
- Set the **VBar Control Telemetry** to **Enabled**
- confirm with **Save**.



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 can't reach the OFS3 rates or 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. OFS3 supports VBar Control Telemetry starting from firmware version 15.20.

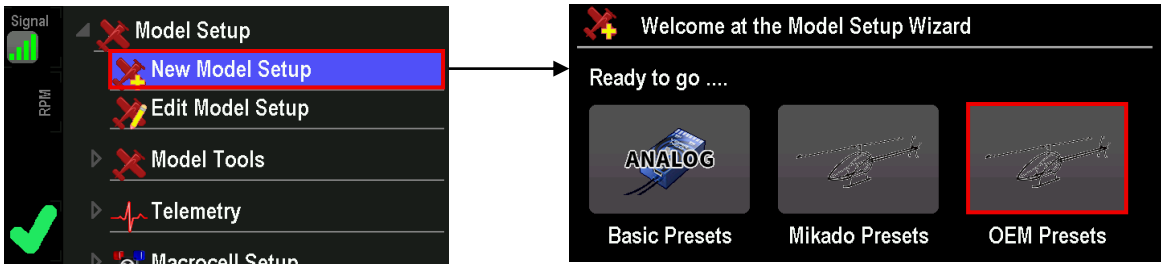
3. VBar Control Radio Setup

The next steps describe how to prepare your VBar Control Radio:

1. **Safety Information: Please remove the main and tail blades during the first setup.**
2. Power on the VBar Control Radio.
3. The Macrocell app must be installed and loaded on the VBar Control.
4. Power on your OFS3 equipped helicopter.
5. The Mikado receiver will turn into bind mode. Bind it with your VBar Control Radio.

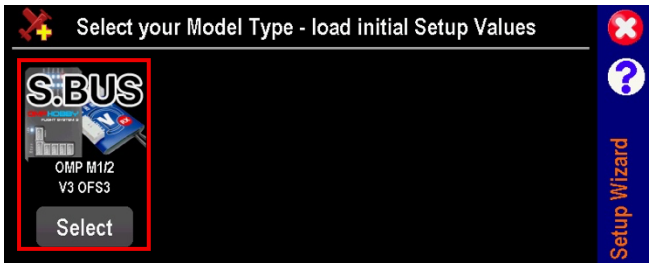
3.1. VBar Control OEM Presets

Mikado now also provides OEM (Original Equipment Manufacturer) model presets directly in your VBar Control Radio. **The radio must be updated to access the new OEM template menu**. Open the **Model Setup** menu, click **New Model Setup** and select the **OEM Presets** menu.

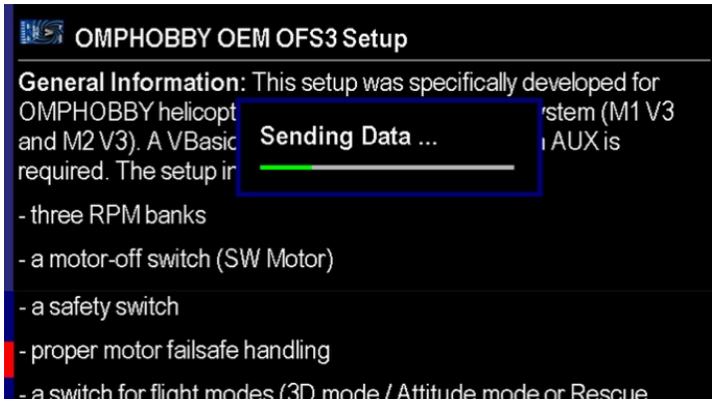


Important Note
If the OEM menu is not available, or if you are unable to update your VBar Control Radio, continue with Step **3.2: Manual File Installation**.

The OEM Preset menu will open. **Select** the **OMPHOBBY OFS3 S.BUS model template**.



Please wait until the setup has fully loaded and read the instructions carefully. Detailed information is available in **Section 4: Important Model Template Details**. Your model is now ready to fly.



3.2. Manual File Installation

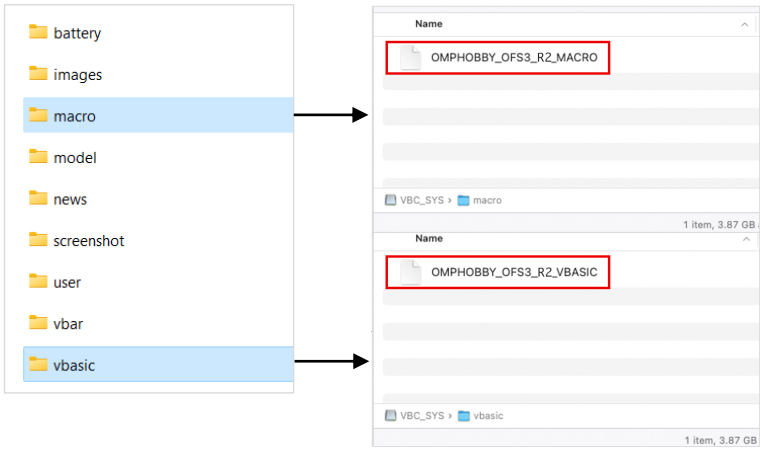
The manual file installation is only needed if the OEM menu is not available.

Download the VBar Control Radio 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:

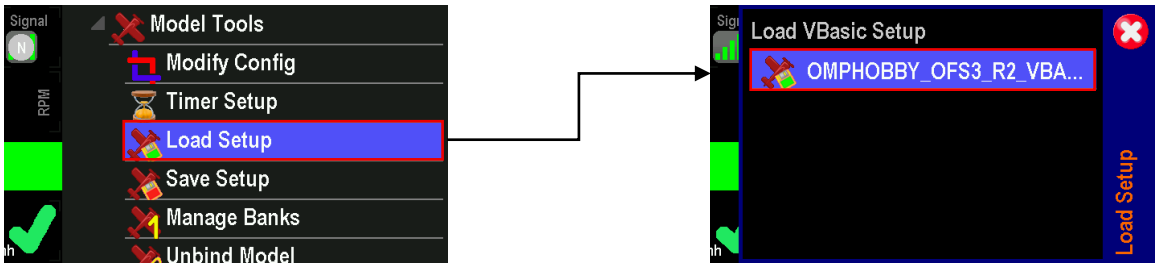
- In the **macro** folder: add the file OMPHOBBY_OFS3_R2_MACRO
- In the **vbasic** folder: add the file OMPHOBBY_OFS3_R2_VBASIC

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.

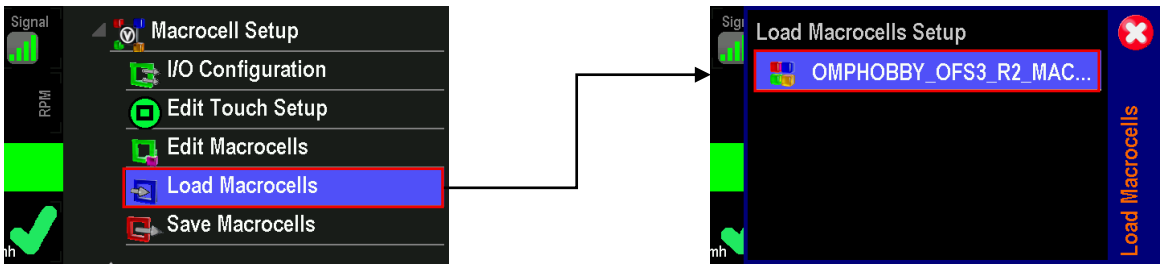


Verify that your VBar Control Radio has the VBasic app and the Macrocell app installed and loaded.

Load the VBasic Setup:
Open the **Model Tools** menu, click **Load Setup** and select **OMPHOBBY_OFS3_R2_VBASIC**.



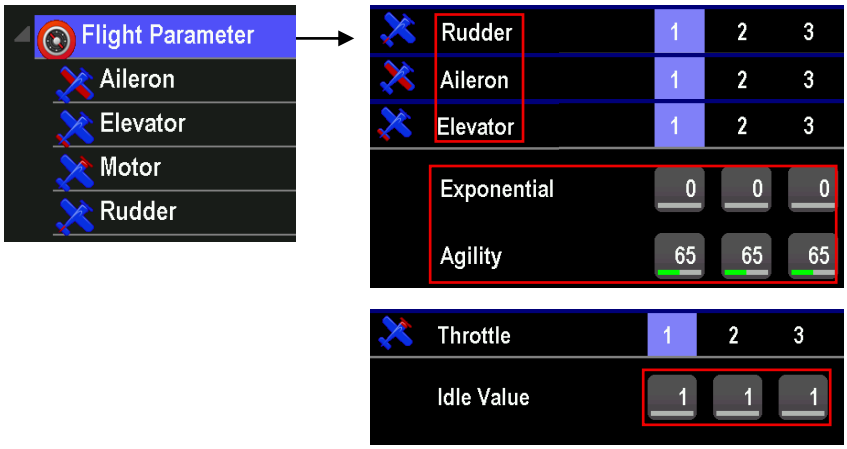
Load the Macrocell Setup:
Open the **Macrocell Setup** menu, click **Load Macrocells** and select **OMPHOBBY_OFS3_R2_MACRO**.



4. Important Model Template Details

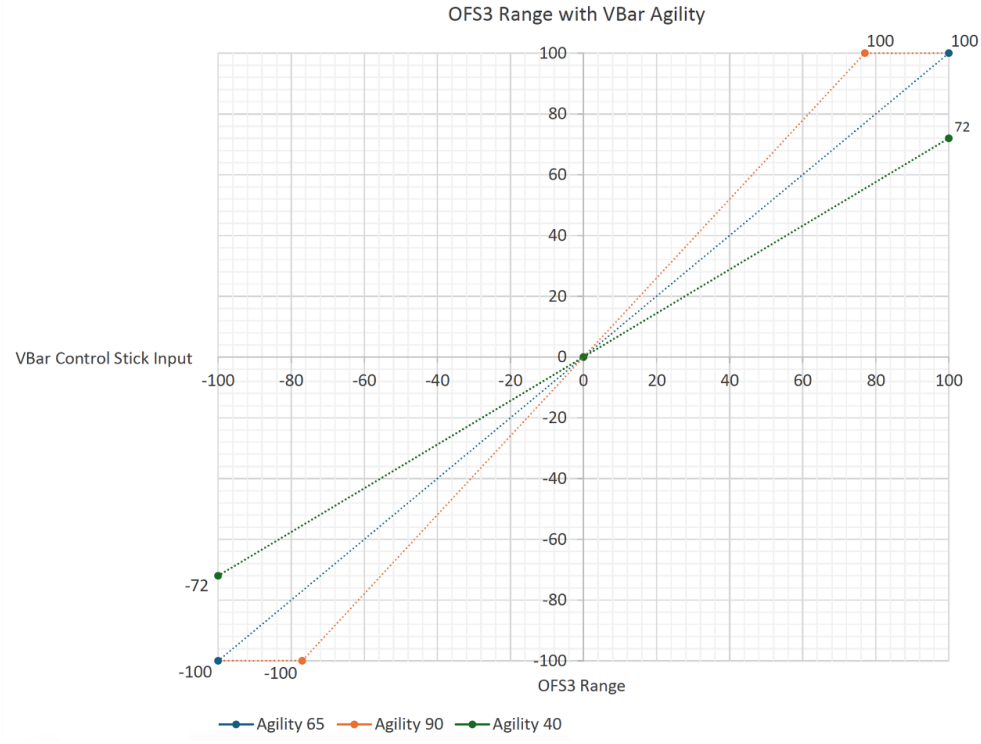
The provided model template contains the following values: (**DO NOT CHANGE!**)

- **Update rate 10ms**. This value is mandatory and optimized for the Mikado S.BUS receiver.
- Aileron/ Elevator/Rudder: **Agility 65, Expo 0**
- **Throttle Idle Value**: **1**



Important Note

If using the S.BUS receiver with OFS3, never change the Agility and Expo values in the VBar Control Radio. 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**. To adjust rotation rates or expo settings, use the OMPHOBBY iOS and Android app to make changes directly in the OFS3.



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 (Switch assignment can be changed here)	❌
16/E1 AUX1	6	Collective Pitch	❌
17/E1 RPM	7	Software RPM selection (If enabled through the app, unused by default)	❌
18…26		Unused	❌
27…31		Throttle Hold and Safety Switch programming	❌
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…39		Unused	❌
40/NN		Throttle/ESC values for bank 1, 2, and 3 RPMs	✅

The macrocell file uses your individual VBar Control switches for **Throttle Hold, Kill/Safety Switch** 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 **Switch Option 3** in **Macrocell 15**.

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 40 sets the motor RPM of the helicopter. Default throttle values: **Bank 1:** +18% **Bank 2:** +48% **Bank 3:** +68% These values correspond to the rpm set by default for the Software Throttle feature on OFS3.

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