

Introduction

ETHOS Surface Edition & Flexible RF Module Solutions

The Velox VX10 surface radio is equipped with an ETHOS operating system specifically for RC cars and boats. Building on its powerful and feature-rich capabilities, the operating system has been further refined and optimized for surface operation scenarios, helping reduce the learning curve for users adopting a new system while delivering excellent configuration flexibility and super low latency control.

The Velox VX10 series features a built-in 900MHz / 2.4GHz TD-ISRM RS RF module, supporting pairing with a full range of FrSky receivers across TD, TW, ACCESS, and ACCST D16 protocols. In addition, the VX10 series is equipped with a Lite-type external module bay, allowing users to flexibly install and pair with a wider variety of RF protocol modules or functional modules.

Ambidextrous L/R-Handed Control Design & Comprehensive Adjustment Capabilities

To accommodate users with different hand preferences, the Velox VX10 series was designed from the outset with a simplified left/right conversion mechanism for its functional modules. By simply swapping the steering wheel module and the external RF module using screws, and pairing this with a 180° rotatable color touchscreen, the difficulty of switching between left- and right-handed operation is greatly reduced. From both practical usage scenarios and ergonomic design perspectives, this also enhances the visual experience when configuring and operating the system via the screen.

The steering wheel supports customizable adjustment within a maximum travel angle of 26° inward and outward on both sides, with angle positioning achieved through damping holes. Users can also adjust the wheel's spring tension via dedicated adjustment points. For users accustomed to fixed steering angles and specific spring tension, the VX10's adjustable design minimizes the need for prolonged adaptation, allowing for quick and comfortable use.

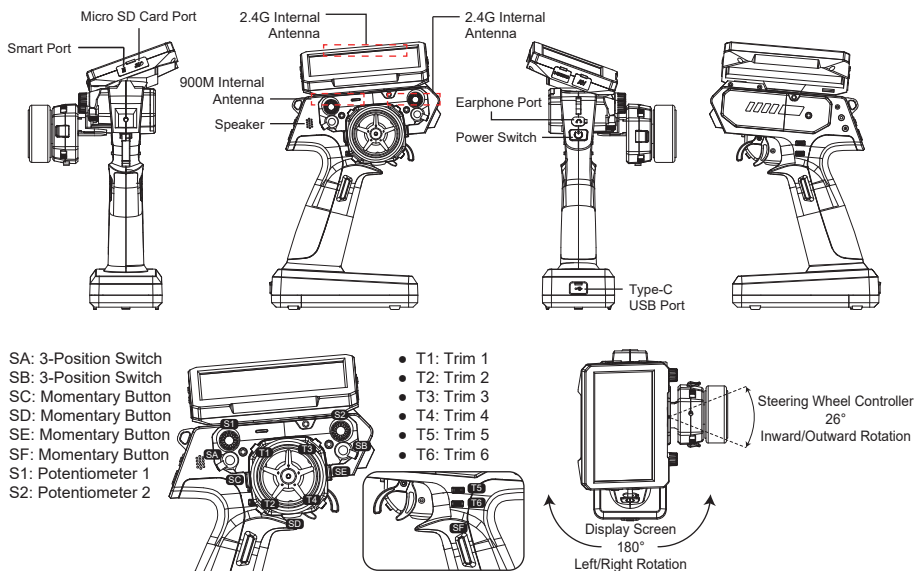
The throttle/brake trigger comes with multiple size options and a convenient replacement system. Combined with adjustable mounting positions for forward and backward trigger distance, it ensures comfortable handling for users with various hand sizes.

The steering wheel module and grip handle provide users with 2 knobs, 2 three-position switches, 4 momentary buttons, and 6 trim buttons. Among them, the T5, T6, and SF switches are symmetrically mirrored on both sides of the grip, ensuring that users retain the same number of input controls after switching between left- and right-handed configurations.

A Wide Range of Interface Configurations

The Velox VX10 features built-in flash storage and includes a TF card slot, allowing users to expand storage capacity according to the needs. Like all ETHOS series radios, the Velox VX10 is equipped with S.Port, 3.5mm audio output, and USB-C interfaces. By connecting to FrSky compatible devices via the S.Port, users can perform device firmware upgrades and configuration. Meanwhile, connecting to the FrSky Suite App via USB-C achieves more advanced features such as system updates, file management, model configuration, etc.. The USB-C port also supports lithium battery charging, and when paired with the high-capacity battery compartment, ensures long-lasting power for extended use.

Overview



Specifications

- Dimension: 192×193×72mm (L×W×H)
- Weight: 560g (Battery Incl.)
- Operating System: ETHOS
- Internal RF Module: TD-ISRM RS
- 4.3" Touch-Screen Display Resolution: 800×480
- Number of Channels: Up to 24 Channels
- Operating Voltage Range: 6.5V ~ 8.4V (2S Li-Battery)
- Operating Current: 400mA@7.4V (typ.)
- Operating Temperature: -10°C ~ 60°C (14°F~140°F)
- Battery Bay Size: 93.5×55×21.5mm (L×W×H)
- Data Transmission & Charging Interface: USB Type-C
- USB Adaptor Voltage and Current: 5V±0.2V, ≥2.0A
- Compatibility: ACCST D16 / ACCESS / TW / TD modes

Features

- ETHOS Operating System for Surface Series Radios
- Built-in 900M/2.4G TD-ISRM RS RF Module & Lite-Type External RF Module Slot
 - Supports TD, TW, ACCESS, and ACCST D16 modes
 - Capable of More RF protocols via the External RF modules
- Ambidextrous L/R-Handed Swapping Control Design
 - The steering & external RF function modules can be simply swapped
 - 180° Rotatable 800×480 Resolution Outdoor High-Brightness Touchscreen Color Display
 - Provides more easily operable trims (×2) and buttons (×1), positioned on both sides of the handle
- Built-in Flash Storage & External TF card slot for storage extension
- Features an S.Port interface for external device configuration and upgrades
- Supports video transmission via HDMI and AV interfaces (VX10 HD edition)

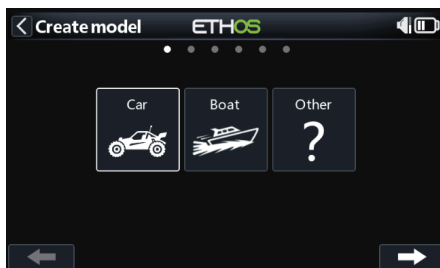
ETHOS Operating System

Create the model

STEP 1:

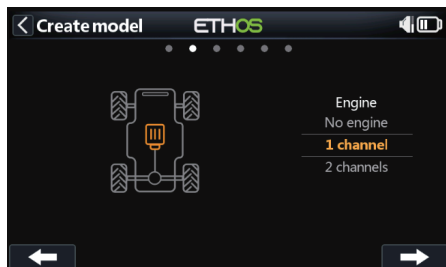


Enter into Model Select, then select the model type.

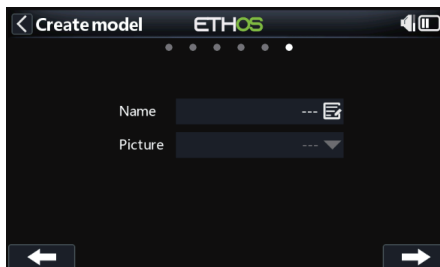


Create a new model.

STEP 2:



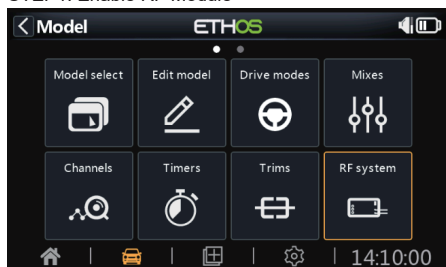
Configure the model channel.



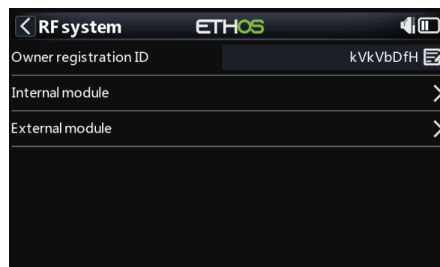
Name the model and set the model picture.

Model Setup Procedure - Internal Module

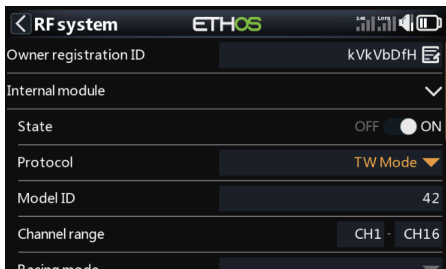
STEP1: Enable RF Module



Enter the RF system menu by the touch-screen or use the navigation encoder key.

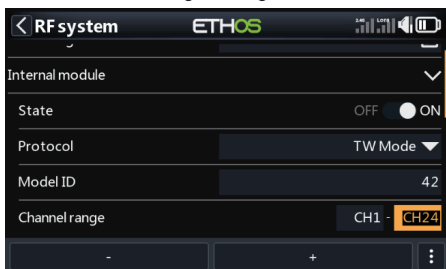


Choose the Internal Module.



Then turn the state of Internal RF to On. Set the binding mode for the Internal RF module corresponding to the receiver (ACCST D16, ACCESS, TW, TD modes).

STEP2: Channel Range Setting

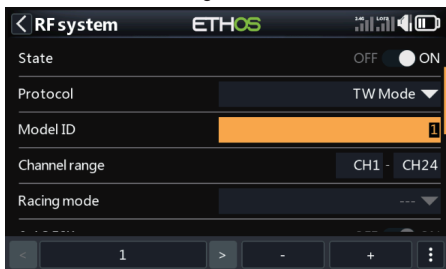


The Internal RF module supports 24 channels (CH1-8 / CH1-16 / CH1-24).



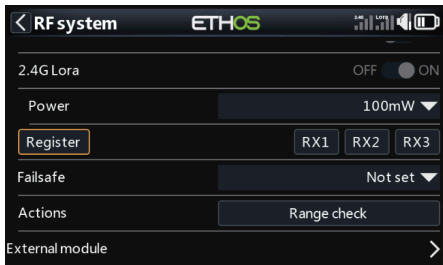
The channel range is configurable by pressing the channel bars, please also make sure of the channel configuration before using the module.

STEP3: Model ID Setting

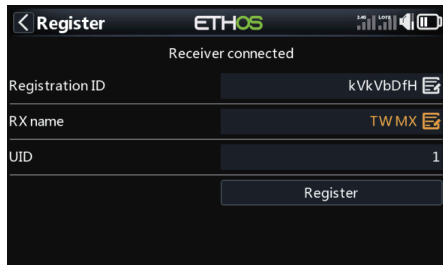


The system assigns the receiver a number for the receiver (Model ID) automatically while creating a new model. (The Model ID can be set from 00 to 63, with the default ID being 1.)

STEP4: Registration



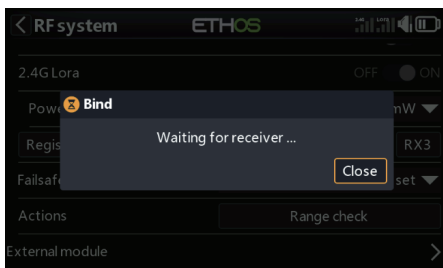
For TW Mode as an example, select the Set [Register] for getting the radio into Registration status in the RF System-Internal Module tool, then press the F/S button on the receiver and power the receiver on.



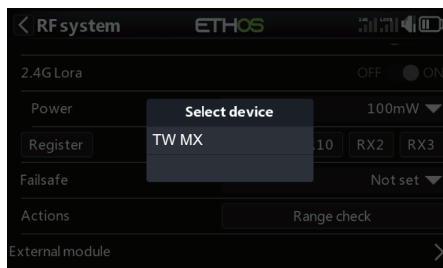
When the "RX Connected" page pops up, press the [REGISTER] to complete the Registration procedure and then power the receiver off.

(The system automatically assigns the receiver a UID differently in the same model when you have several receivers to bind at the same time.)

STEP5: Automatic Binding (Smart Match)



Move the cursor to RX1 [BIND], press it and repower the receiver.



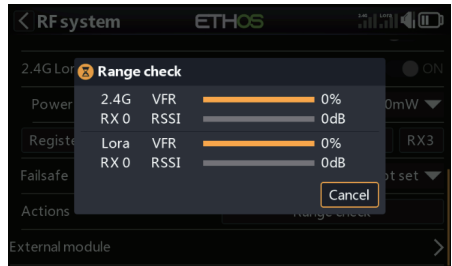
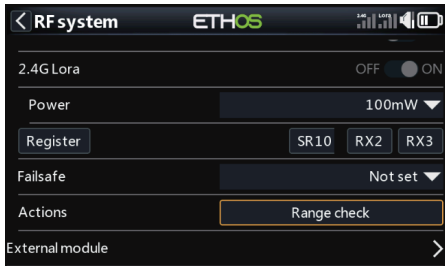
Click the RX to complete the binding after the receiver window pops up, the system will confirm "Bind succeed".

Reset: Registration procedure is not required to repeat anymore after the receiver was once registered even though the receiver is deleted. Pressing the [Reset] and repower the receiver can have the bound recovered.

Range Check

A range check should be done before every operation, in case the signal loss is caused by the reflection of the signal by the nearby metal fence or concrete, and the shading of the signal by buildings or trees during the actual flight. Under normal circumstances, in Range Check mode, the RSSI at 150m is about 45-50.

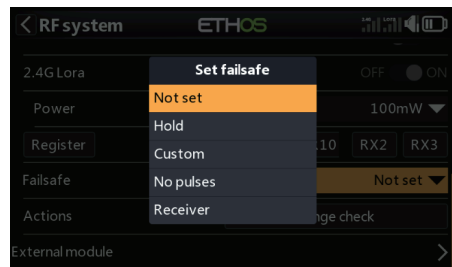
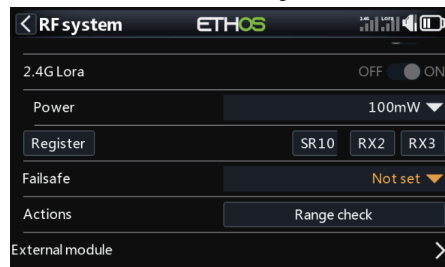
1. Place the model at least 60 cm (2 feet) above the non-metal contaminated ground (such as on a wooden bench). The receiving antenna should be in a vertical position.
2. Enter the ETHOS system, move to the "RF System", scroll the Encoder to select "RANGE" mode and press Encoder. In range check mode, the effective distance will be decreased to 1/30.



How to set Failsafe

There are 3 failsafe modes when the setting is enabled: No Pulse, Hold, and Custom mode.

- **No Pulses Mode:** On loss of signal, the receiver produces no pulses on any channel. To use this mode, select it in the menu and wait 9 seconds for the failsafe to take effect.
- **Hold Mode:** The receiver continues to output the last positions before the signal was lost. To use this mode, select it in the menu and wait 9 seconds for the failsafe to take effect.
- **Custom Mode:** Pre-set to required positions on the lost signal. Move the cursor to the failsafe mode of the channel and press Encoder, then choose the Custom mode. Move the cursor to the channel you want to set failsafe On and press Encoder. Then rotate the Encoder to set your failsafe for each channel and short-press the Encoder to finish the setting. Wait 9 seconds for the failsafe to take effect.



Note:

- If the failsafe is not set, the model will always work with the last working status before the signal is lost. That could cause potential damage.
- When the failsafe is disabled on the RF module side, the failsafe set on the receiver side will be applied.
- SBUS port does not support the failsafe setting in No Pulses mode and always outputs signal. Please set "Hold" or "Custom" mode for the SBUS port.

FCC

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules

CE

The product may be used freely in these countries: Germany, UK, Italy, Spain, Belgium, Netherlands, Portugal, Greece, Ireland, Denmark, Luxembourg, Austria, Finland, Sweden, Norway, Switzerland, France and Iceland.

Updates

FrSky is continuously adding features and improvements to our radio systems. Updating (via USB Port or the Micro SD card) is easy and free. To get the most from your new transmitter, please check the download section of the FrSky website for the latest update firmware and guide for adjusting your sticks. (www.frsky-rc.com)