



# FrSky R6FB 6 High-Precision PWM Channel Receivers Instruction Manual

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**FrSky R6FB 6 High-Precision PWM Channel Receivers**



## Product Information

The FrSky ARCHER PLUS R6FB/GR6FB Receiver is a high-precision receiver designed for use with FrSky enabled transmitters. The Archer Plus GR6FB model features an upgraded variometer sensor, providing pilots with more accurate and quicker altitude and vertical speed data. The receiver supports 6/24CH telemetry and variometer functionality.

### Key Features:

- Enhanced Anti RF-Interference capability
- Smart-matched ACCESS & ACCST D16 modes
- Supports basic Black-Box function
- 7 FBUS channel ports
- SBUS Out port (Supports 16CH / 24CH mode)
- SBUS In port (Supports Signal Redundancy)
- Full control range with telemetry (S.Port or FBUS)
- Over-The-Air (OTA) FW update
- External battery / device voltage detection

### Specifications:

- Dimension: 33\*15\*9.7mm (L\*W\*H)
- Weight: 4.2g (ARCHER PLUS R6FB) / 4.3g (ARCHER PLUS GR6FB)
- Number of Channels: 7 FBUS channels
- SBUS Out (Supports 16CH / 24CH mode)
- Operating Voltage Range: 3.5 -10V
- Operating Current: 65mA@5V
- Operating Range: 2km (Full range) (\*Range may vary based on local conditions.)
- Variometer Measurement Range (ARCHER PLUS GR6FB)
- Antenna connector: IPEX4
- Compatibility: FrSky 2.4GHz ACCESS / ACCST D16 capable transmitters

## Product Usage Instructions

## Registration & Automatic Binding

To register and bind the receiver, follow these steps:

1. Select the RF System in the Model menu of your transmitter and turn on the internal module.
2. Press the button on the receiver for registration (Note: Once the receiver is registered, the button is not needed anymore in the binding process in ACCESS mode).

## Setting Altitude Telemetry Data (ARCHER PLUS GR6FB)

1. Bind the receiver with the built-in variometer sensor to the transmitter.
2. Enter the Model menu and select the Telemetry tool.
3. Discover new sensors and locate the Altitude data, which should be flashing in the list.
4. Hold the Altitude bar to bring up the Edit menu.
5. Set the telemetry data such as Range and Unit for the variometer.

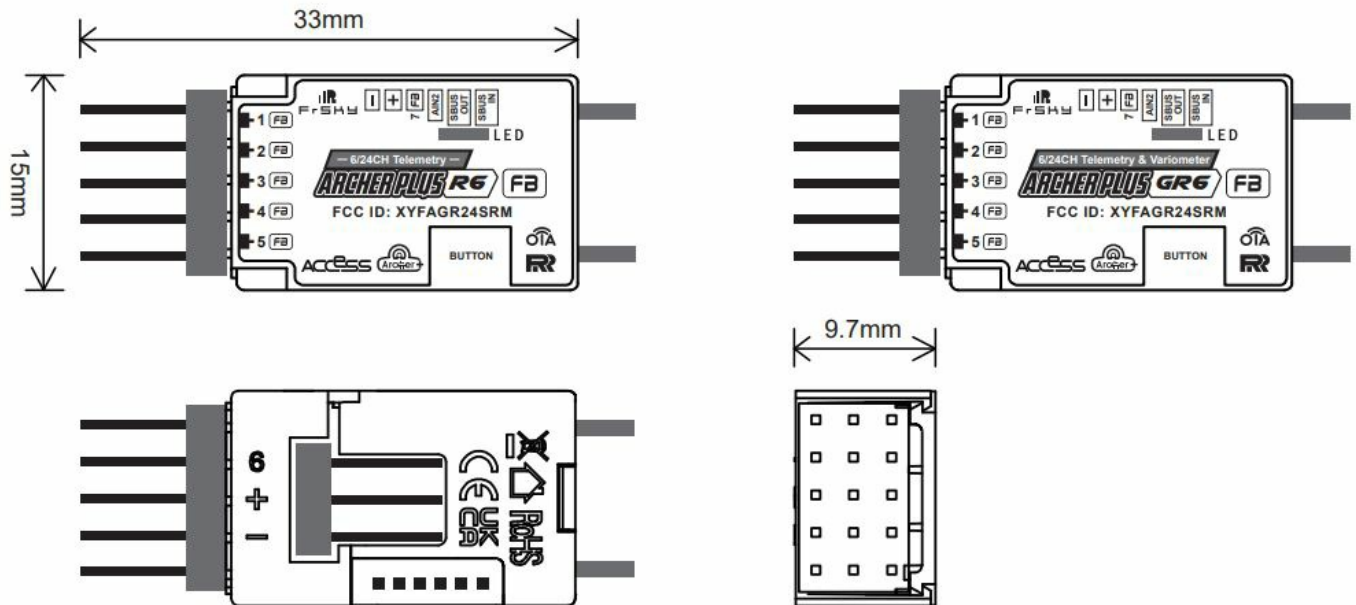
## Switching S.Port/F.Port/FBUS

To switch between S.Port/F.Port/FBUS, enter the Set menu of the receiver.

## Introduction

- The Archer line of receivers has been enhanced further with the addition of the new Archer Plus Series.
- The Archer Plus Series receivers include some new features. Firstly an enhanced anti-RF-Interference capability can offer a more solid RF performance, and this is in addition to the receivers with anti-interfere performance in the spark ignition process. These Plus series receivers are also with both ACCESS and ACCST D16 modes, where the RF protocol is smart matched during the binding process on the radio. With the Black-Box function, some basic flight data (like Power & Signal related) can be well preserved.
- The Archer Plus R6FB/GR6FB 7 FBUS channel receivers is ideal for any types of glider pilot, it supports full-range signal strength with dual detachable antennas and guarantees optimal antenna reception and range. The R6FB /GR6FB can be used as a
- Primary receiver in a redundant solution by wiring the SBUS In port and connecting to any other FrSky receiver equipped with an SBUS Out port. With the FBUS protocol, the Archer Plus series receivers can open up the possibility of seamlessly pairing with multiple telemetry devices (XACT servos, ADV Sensors, etc.) as well as simplifying the builds setup.
- The Archer Plus GR6FB are receivers with an upgraded high-precision variometer that gives pilots more accurate and quicker altitude and vertical speed data, and also features its more accurate and quicker vario audio feedback from your FrSky enabled transmitter.
- (\*Some features require the support of ACCESS and ETHOS.)

## Overview



## Specifications

- **Dimension:** 33\*15\*9.7mm (L\*W\*H)
- **Weight:** 4.2g (ARCHER PLUS R6FB) / 4.3g (ARCHER PLUS GR6FB)
- **Number of Channels:** 7 FBUS channels
- **SBUS Out (Supports 16CH / 24CH mode)**
- **Operating Voltage Range:** 3.5 -10V
- **Operating Current:** 65mA@5V
- **Operating Range:** 2km (Full range) (\*Range may vary based on local conditions.)
- **Variometer Measurement Range (ARCHER PLUS GR6FB)**
- **Altimeter Range & Resolution:** -700m to 10000m & 0.1m Vertical Speed Range:  $\pm 10$ m/s
- **Voltage Measurement Range via AIN2 (External device):** 0-35V (Battery Voltage Divider Ratio: 1:10)
- **Antenna connector:** IPEX4
- **Compatibility:** FrSky 2.4GHz ACCESS / ACCST D16 capable transmitters

## Features

- Enhanced Anti RF-Interference capability with more solid RF performance
- Smart-matched ACCESS & ACCST D16 modes
- Supports basic Black-Box function
- Upgraded variometer sensor (ARCHER PLUS GR6FB)
- 7 FBUS channel ports
- SBUS Out port (Supports 16CH / 24CH mode)
- SBUS In port (Supports Signal Redundancy)
- Full control range with telemetry (S.Port or FBUS)
- Over-The-Air (OTA) FW update
- External battery / device voltage detection

## LED State (ACCESS)

Green LED	Red LED	Status
On	On	Register
Flash	Flash	Register successfully
On	On	Bind
On	Off	Bind successfully
On	Off	Working normally
Off	On	Failsafe

## Registration & Automatic Binding

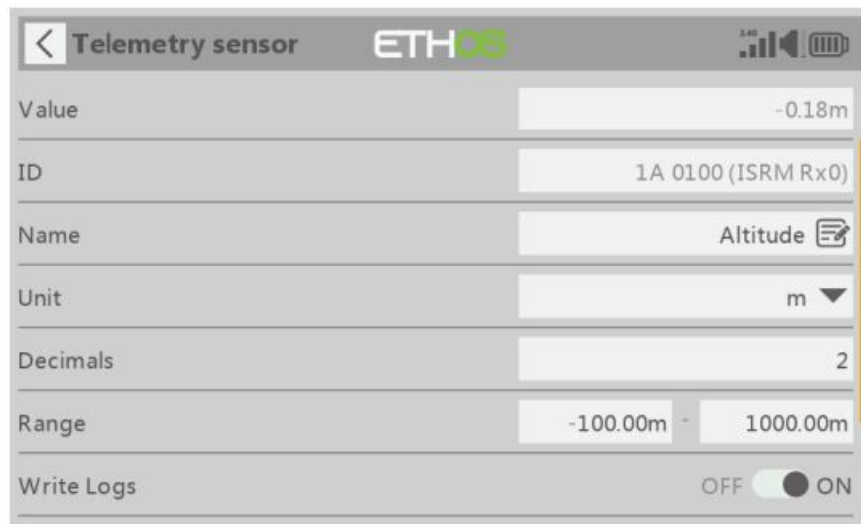
Follow the step below to finish the registration & binding procedure:

1. For TANDEM X20 as an example, enter into the Model, select RF System, turn on the internal module, select status [ON] and ACCESS, Then determine the antennas (internal or external) and choose the RF power according to the actual usage, the ACCESS receiver can be registered to the radio at the moment. (Notice: the "Registration" process is not required while binding the receiver in ACCST D16 mode.)
2. Connect the battery to the receiver while holding the button on the receiver. The RED LED and GREEN LED on the receiver will be on, indicating into the [Reg] status.
3. When it shows the Register ID, RX name and UID, click [Register]. The RED LED and GREEN LED on the receiver will flash, and the transmitter displays [Registration OK ].
4. Power off the receiver.
5. Move the cursor to select any one of the 3 receivers and press [Bind].
6. Connect the battery to the receiver.
7. Select the RX, the GREEN will keep lit, then the transmitter displays [Bind successful].

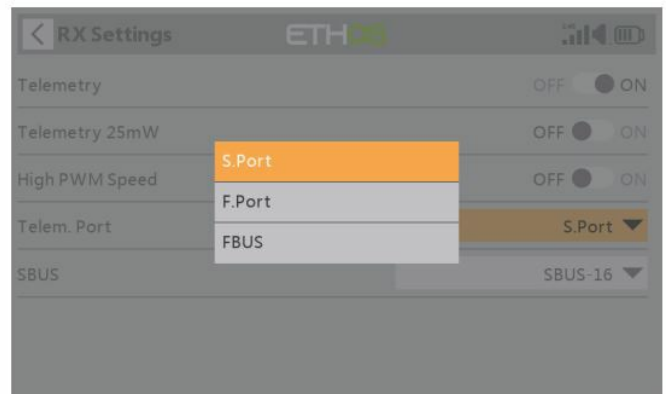
**Note:** Once the receiver is registered, the button is not needed anymore in the binding process (ACCESS mode).

## How to set the altitude telemetry data (ARCHER PLUS GR6FB)

1. Bind the receiver with the built-in variometer sensor to the transmitter.
2. Enter [Model] menu and use [Telemetry] tool.
3. Discover new sensors and then the [Altitude] data should keep flashing in the list.
4. Holding the [Altitude] bar can call the [Edit] menu out.
5. The telemetry data like [Range] and [Unit] of the variometer can be set now.

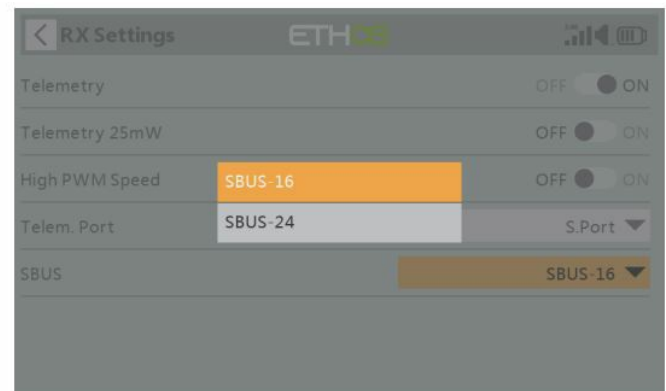


### How to switch the S.Port/F.Port/FBUS



- Enter into the [Set] of receiver.
- Click the Telem.Port, and select S.Port/F.Port/FBUS.

### How to switch SBUS channel mode



- Enter into RX Settings.
- Click [SBUS], then select SBUS-16 mode or SBUS-24 mode.

### About OTA function

- Go to the [File manager], and select the FW, press the enter button, select [Flash RX by int.OTA]. Power on the receiver, select the RX, go to the [ENTER], complete the flash process, the transmitter will display [Success]. Wait for 3 seconds, the receiver works properly at the moment.

- **Note:** Please do not do the binding operation in the near range while the firmware upgrading in progress.
- **Note:** Update the firmware after the receiver getting registered (OTA).

## Range Check

A pre-flight range check should be done before every flight, 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.

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 pwm 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 receiver defaults to Hold mode.
- When in No Pulses Mode, do not set the Failsafe to No Pulses Mode for the SBUS port as it will keep the signal output continuously Please set “Hold” or “Custom” mode for the SBUS port.

## FCC STATEMENT

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
  1. This device may not cause harmful interference.
  2. This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

**NOTE:** 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. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate transmitter frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to transmitter communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to transmitter or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

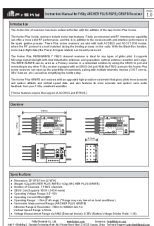
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced transmitter/TV technician for help.

FrSky is continuously adding features and improvements to our products. To get the most from your product, please check the download section of the FrSky website [www.frsky-rc.com](http://www.frsky-rc.com) for the latest update firmware and manuals

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## Documents / Resources

	<p><a href="#">FrSky R6FB 6 High-Precision PWM Channel Receivers</a> [pdf] Instruction Manual  R6FB 6 High-Precision PWM Channel Receivers, R6FB, 6 High-Precision PWM Channel Receivers, Precision PWM Channel Receivers, PWM Channel Receivers, Channel Receivers, Receivers</p>
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## References

-  [Robinson+Cole](#)



-  [FrSky Top Rated RC Hobby Radio, Receiver and RC Model - Lets you set the limits](#)

Manuals+