Introduction

The Archer SR10 PRO is a gyro-stabilized receiver with a built-in 3-axis gyroscopic and 3-axis accelerometer. They have 10 high-precision PWM channel outputs and features multiple flight modes and configuration methods. They support full range signal strength with dual detectable outputs, it guarantees optimal antenna-reception and maximum range. In addition to all this, the SR10 PRO can also be used as a redundancy receiver along with any other FrSky ACCESS capable receiver equipped with an SBUS port. The SR10 PRO 10-channel receiver’s noticeable features are its Anti-vibration performance and dual battery ports for redundancy.

All of the Archer receivers are IMU-matched with the ACCESS protocol. They not only feature wireless firmware upgrades and increased range and telemetry accuracy, the SR10 PRO now supports multiple functions, the configurable telemetry power, 3-Point Pro (Part 2) switching and FLR output. Additional valuable features are under development to unlock the true potential of the ACCESS protocol.

Overview

- Operating Voltage Range: 3.5 - 10V
- 10 high-precision PWM Channels
- Dimension: 48.5*33*17mm (L*W*H)
- External battery / device voltage detection
- Anti-Vibration
- Multiple flight modes and configuration methods (LUA & FreeLink)
- Built-in 3-axis gyroscope and 3-axis accelerometer sensor
- ACCESS protocol with Over The Air (OTA)

Specifications

- **Dimensions**: 48.5*33*17mm (L*W*H)
- **Weight**: 25g
- **9543 Configurable SBUS Channels**
- **10 high precision PWM Channels**
- **Operating Voltage Range**: 2.5 - 15V
- **Operating Current**: 350mA

Features

- **ACCESS protocol with Over The Air (OTA)**
- **Built-in 3-axis gyroscope and 3-axis accelerometer sensor**
- **Multiple Flight modes and configuration methods (LUA & Freeline)**
- **Full control range with sensitivity**
- **Anti-interference in op-amp**
- **Anti-Vibration**
- **External battery / device voltage detection**

Channels

- **Battery ports**: XT30
- **Full range signal** with telemetry
- **Full range**: 2.5 - 15V (range may vary based on local conditions.)
- **Voltage Measurement Range**: via ARD (External device) 0-3V
- **Compatibility**: All FrSky ACCESS transmitters

### Features

- **Signal readout** (SBUS In)
- **Supports signal readout (SBUS In)**
- **Different from ACST SR10 receivers, the SBUS IN signal can be adjusted by the STAB mode of SR10 PRO when the STAB function is enabled.**
- **Supports stabilization mode and manual (six-axis off) mode and configured through CH10.**
- **It will automatically be powered by the one with higher-voltage.**

### Quick Mode

**It supports stabilization mode and manual (six-axis off) mode and configured through CH10.** What’s more, an urgent mode is added to configure automatic mode level default through CH12. The precise configuration is written below.

#### Conventional Model

- **Flight modes**: None
- **Switch**: None
- **Configuration**: None

#### Data Wing

- **Flight modes**: Data Wing
- **Switch**: Data Wing
- **Configuration**: Data Wing

#### Flying Wing

- **Flight modes**: Flying Wing
- **Switch**: Flying Wing
- **Configuration**: Flying Wing

### Data Wing & Flying Wing & T-tail

- **Flight modes**: Off
- **Switch**: Off
- **Configuration**: Off

### Knife-Edge

- **Flight modes**: Knife-Edge
- **Switch**: Knife-Edge
- **Configuration**: Knife-Edge

### Rudder

- **Flight modes**: Rudder
- **Switch**: Rudder
- **Configuration**: Rudder

### Tailwinder

- **Flight modes**: Tailwinder
- **Switch**: Tailwinder
- **Configuration**: Tailwinder

### Hover

- **Flight modes**: Hover
- **Switch**: Hover
- **Configuration**: Hover

### Self-check activation switch

- **Flight modes**: Self-check activation switch
- **Switch**: Self-check activation switch
- **Configuration**: Self-check activation switch

### Attentions

- **FrSky radio configuration**
- **Methods**: APP configuration

### Instruction Manual for FrSky ARCHER SR10 PRO Receiver

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

**Setup your model and receiver**

You need complete calibration of Accelerometer about the six positions via the STAB RX LinkFreeLink, ARTF/FreeLink.exe firstly.

**Step 1:** Connect your vehicle before the channel list according to your model.

**Step 2:** Choose the Wing Type via the configuration button (STAB RX LinkFreeLink, ARTF/FreeLink.exe).

**Step 3:** Choose the AUTO LEVEL mode, check the model servo feedback.

**Step 4:** Choose the manual mode, check servo feedback via transmitter.

### Configuration

**Method:** APP configuration

**Frsy radio configuration**

**PC configuration software** (FrSky STK, etc.)

**Configuration parameters:** Wing type, mounting type, gain setting, offset angle setting, accelerometer configuration.

**APP(iOS/Android configuration):**

- Connect the FrSky RX to the App with ASCII.5. The menu screen is displayed below

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**Manufacturers Address:**

Add: F-Building C, Zhejiang Technology Park, No.3 Yuanxi Road, Wuxi, 214125, Jiangsu, China. Technical Support: technical@frsky-rc.com

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Mounting type
Options of wing types: Wing_Rud_Ele_Ail——conventional model
Wing_Delta_Ail/Wing_Flying—— Delta/Flying wing
Wing_Vtail_Ail——V-Tail

AUX1: If selected, AIL2 function will be disabled on CH5
AUX2: If selected, ELE2 function will be disabled on CH6

Wing Type
1. Open: Gives the PC software access to SR10 PRO configuration data.
2. Read: Retrieves the stored SR10 PRO data to be edited in the PC software.
3. Write: Stores the setted data on SR10 PRO.
4. Load: restore the settings into the file you saved before.
5. Save: save all settings to one file.
6. Default: Returns all PC software settings to the factory defaults.

Configuration parameters
The configuration parameters are listed on the top of the interface: Wing type, Mounting Type, Gain Setting, Offset Angle Setting, Accelerometer Calibration

The menu screen on the home page is displayed below:

The first part
Compensation direction: selecting the travel direction of AIL, AIL2, ELE, ELE2 and RUD. "+" means positive and "-" means negative.

The second part
Gyro gain: Stabilization Mode
The gain setting under stabilization mode should be set on the channels related to aileron, elevator and rudder.
Angle Gain: Auto Level Mode
The gain setting under automatic level mode could be set on the channels related to aileron and elevator.

Note: Optional range is from 0 to 200%. 0, 1, 2 refers to 0%, 100% and 200% respectively.

Offset Angle Setting
Due to the possible errors in minor installation and calibration, the function is designed to adjust the attitude of the model. Thus, the user could achieve the best orientation when Auto Level, Hover mode and Knife-edge mode is activated.

Options of wing types: Wing, Ail, Elev, Rudder

AUX1: If selected, AIL2 function will be disabled on CH5
AUX2: If selected, ELE2 function will be disabled on CH6

Mounting type
Accelerometer Calibration

The positive and negative values related to three-axis gyroscope and accelerometer make a total of six values that need to be acquired. Please follow the on-screen instructions.

- Click the "Calibration" button and wait until the YELLOW LED flashing, indicating the calibration on this orientation has been completed.
- Repeat the above step five times (remaining 5 dimensions). Placing SR10 PRO in the required orientation, ensure all values (X, Y, Z, Mod) are displaying 1.000 with the deviation of ±0.1.
- Press "Write" to save the data on SR10 PRO when done.

Self-check

**Attentions**

- Before self-check, please place the model on the ground (level surface).
- When the model is flying, aerodynamic balance is more important than level attitude, which results in that the model flies at a constant altitude with the nose slightly pointing up at low speed. To avoid the nose-diving of the model at high air speed, the user must insure that the model is placed at a level or slightly-nose-up attitude during self-check.
- Always install SR10 PRO straight and level in the model. If required, PC software could be used to adjust the angle of attack with the purpose of realizing the required setting. If the values set by the user is bigger than average ones, we advise to recheck the installation orientation of SR10 PRO.

**Steps (Different from the SX/R9 STAB OTA/RB series)**

- Turn on the transmitter and ensure that Ail (CH1), ELE (CH2), RUD (CH4), AIL 2(CH5) and ELE (CH6) are in the neutral position.
- Power on the model and start SR10 PRO self-check. Ensure the auto level angle of the gyro and the neutral position of gimbal. Please don’t touch/move the model until self-check finishes, or it may corrupt the calibration settings created during the procedure.
- For OPEN TX system, please download LUA SCRIPT from FrSky official website, then click TOOLS/FrSky SxR-R9S/ Self Check on the screen. For ETHOS system, please click Device Config/SxR, select Self Check [ON]. Then the BLUE LED will turn on. Waiting the 8~9 seconds, the LED will flash and move the sticks bound to CH1~CH6 (except the CH related to Thr) in 7~8 seconds, the corresponding parts on the model will move. At last, the BLUE LED will turn off, the corresponding parts on the model will move automatically (indicating self-check has completed. In the end, SR10 PRO will save the zero points of the gyro, auto level angle, gimbal neutral position and servo channel limits.
- Move the sticks bound to CH1~CH6 (except the CH related to Thr) and check the channel output limits, ensuring that the signal outputs of SR10 PRO will not damage the corresponding parts on the model.
- **Never operate the stick bound to CH12 during flight session. If so, it will trigger self-check and may cause the crash of the model.**

Setup

- Calibrate SR10 PRO with the Lua or Freerlink App or the PC software and install it into the model. Insure the settings of wing type and mounting type are identical to the intended model installation.
- Turn on the transmitter and ensure that Ail (CH1), ELE (CH2), RUD (CH4), AIL 2(CH5) and ELE (CH6) are in the neutral position.
- Power on the model and check the deflection direction of each related parts on the model. Make sure the signal assigned to flight modes is correct and the compensation direction of the gyro is set as intended on AIL, RUD and ELE.
- Always install SR10 PRO straight and level in the model. If required, PC software could be used to adjust the angle of attack with the purpose of realizing the required setting. If the values set by the user is bigger than average ones, we advise to recheck the installation orientation of SR10 PRO.
- **Under identical operating conditions, the value of each channel produced by the assigned switch in FrOS are opposite to that in OpenTX. For example, 30Up in FrSky is equal to 30 Down in OpenTX.**

Note: If the compensation direction is incorrect, please reverse the corresponding channel as illustrated below.

After changing the compensation direction, make sure to check it again on the actual model.