Introduction

The Archer SR6 is a gyro-stabilized receiver with a built-in 3-axis gyroscope and 3-axis accelerometer. It features 6 high-precision PWM channel outputs and supports multiple flight modes and configuration methods. They support full range signal strength with dual detectable retentions and guarantee optimal telemetry reception and maximum range. Additionally, the SR6 is designed to work with all FrSky ACCESS-enabled transmitters. The Archer SR6 can be used as a redundant receiver along with other FrSky ACCESS capable receivers equipped with an SBUS port.

Overview

Specifications

- Dimensions: 47.9 x 20.5 x 11.8 mm
- Weight: 11g
- 91.34 Configurable SBUS Channels
- 6 High-precision PWM Channels
- Operating Voltage Range: 3.5 - 10V
- Compatilibility: All FrSky ACCESS transmitters

Features

- ACCESS protocol with On The Air (OTA)
- Built-in 3-axis gyroscope and 3-axis accelerometer sensor
- Multiple flight modes and configuration methods (M-Bar & FreeLink)
- Full control range with telemetry
- Supports signal redundancy (SBUS In)

Channels

<table>
<thead>
<tr>
<th>Channel</th>
<th>Corresponding part on the model</th>
<th>Full name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH1</td>
<td>Aileron</td>
<td>Elevator</td>
</tr>
<tr>
<td>CH2</td>
<td>Elevator</td>
<td>Elevator</td>
</tr>
<tr>
<td>CH3</td>
<td>Throttle</td>
<td>Throttle</td>
</tr>
<tr>
<td>CH4</td>
<td>Rudder</td>
<td>Rudder</td>
</tr>
<tr>
<td>CH5</td>
<td>Elevator</td>
<td>Elevator</td>
</tr>
<tr>
<td>CH6</td>
<td>Elevator</td>
<td>Elevator</td>
</tr>
</tbody>
</table>

When the value of CH6 is in the center, the gain is zero. The gain increases as the value gets bigger. Gyro gain adjustment of CH5: When the value of CH5 is in the center, the gain is zero. The gain increases as the value gets bigger.

Delta Wing & Flying Wing & V-Tail

<table>
<thead>
<tr>
<th>Channel</th>
<th>Corresponding part on the model</th>
<th>Full name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH7</td>
<td>Aileron</td>
<td>Elevator</td>
</tr>
<tr>
<td>CH8</td>
<td>Elevator</td>
<td>Elevator</td>
</tr>
<tr>
<td>CH9</td>
<td>Elevator</td>
<td>Elevator</td>
</tr>
<tr>
<td>CH10</td>
<td>Elevator</td>
<td>Elevator</td>
</tr>
<tr>
<td>CH11</td>
<td>Elevator</td>
<td>Elevator</td>
</tr>
</tbody>
</table>

When Delta Wing/Flying Wing/V-tail is selected, the signal produced by the transmitter should be without active mixes on the channels related to AIL, ELE, ALT, THRO, and RUD. The CH10 (AIL), CH11 (ELE), and CH12 (RUD) should be used for signal adjustment. Signals on CH1 to CH6 should be used as required by the user.

Flights Mode

- Transition mode: The Archer SR6 can be configured to switch between different flight modes by assigning a switch on the transmitter.

Configuration

- Methods: APP configuration
- PC configuration software (FrSky STK utility)
- APP/OSD/Android configuration

Note: The default model of SR6 is Quick Mode. When re-flashing firmware of SR6 or replacing with a new one, the present model will be inherited. If Quick Mode is applied, it is in the Knife Edge or (3D) Hover mode. SR6 is not used when using Quick Mode.

Setup your model and receiver

You need complete calibration of Accelerometer about the six positions via the STAB RX Lua/FreeLink APP/FreeLink.exe (or FrSky STK USB Update utility).

1. For Taranis Q X-lite Pro as an example, turn on the transmitter, go to MENU-MODEL SETUP-PAGE 2, choose Internal or External RF, and select [Reg].
2. Connect 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. Select [ENTER] on the transmitter. The RED LED and GREEN LED on the receiver will flash, and the transmitter displays [Reg Confirmation].
3. Turn off the receiver.
4. Move the cursor to select the receiver 1 ([Set]).
5. Connect the battery to the receiver, the GREEN LED will flash, indicating into the [Set] status. Select the RX, the GREEN LED will keep on, and the transmitter displays [Set Successful].
6. The transmitter exit [Bind], GREEN LED will keep on, RED LED will be off, indicating Working normally.

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

Note: Optional range is from -20° to 20°.

Offset Angle of Auto Level

The angle of roll and pitch could be adjusted on the channels related to aileron and elevator. Straight and Level flight could be realized.

Offset Angle of Hover

The nose-up angle could be adjusted on the channels related to aileron and elevator. Stationary hover could be realized in calm weather.

Offset Angle of Knife Edge

The angle of aileron and rudder could be adjusted on the related channels. Straight and level knife-edge flight could be realized.

Note: Optional range is from 0 to 200%. 0, 1, 2 refers to 0%, 100% and 200% respectively.
Accelrometer 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 SR6 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 SR6 when done.

Self-check

Attention:
- 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), EL (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/SR, 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 reduce the value of servo endpoint setting. Ensure self-check mode will not damage the corresponding parts on the model.
- Assign a knob/slider to CH9, then real-time gain adjustment capabilities of SR10 PRO will be activated.
- Assign three-position switches to CH10 and CH11 with the purpose of switching available flight modes.
- Power on the model and check the deflection direction of each related parts on the model. Make sure the switch assigned to flight modes is correct and the compensation direction of the gyro is set as intended on AIL, RUD and ELE.
- Make a self-check for SR10 PRO if necessary. Disconnecting the power on SR10 PRO will not lose the set parameters.

Under identical operating conditions, the value of each channel produced by the assigned switch in FrOS are opposite to that in OpenTX. For example, SW Up in FrOS is equal to SW Down in OpenTX.