Thank you for purchasing FrSky CPPM/SBUS Decoder. This product can be used as CPPM/SBUS decoder to convert CPPM/SBUS signal for conventional servo (other than use CPPM/SBUS compatible servo directly) with CPPM/SBUS system. In order to fully enjoy benefits of this system, please carefully read the instructions and set up the devices as described below.

**Specifications**

- **Operating Voltage**: DC 4-10V
- **Operating temperature range**: -10 to 50°C

**WARNING**

The input voltage should match the servo’s proper operating condition. There is the danger of erroneous operation or damage.

**NOTE**: DO NOT plug in the power HIGHER than the connected decoder/servo operating voltage. Otherwise injury or damage may occur.

**Channel Setting**

Before installing the CPPM/SBUS decoder to the fuselage, set each channel at each servo connector. Use FrSky SCC (Servo Channel Changer), FrSky CPPM/SBUS receiver (TFR8SB etc.), Futaba SBC-1, Futaba SBUS receiver (R6208SB etc.) to set.

- **Before channel setting**, make sure **NO** servo is connected. There is the danger of erroneous operation or damage.

1. **Connect the servo and battery connector in the correct polarity**. Connecting the power + and – polarities in reverse by mistake may cause smoke, fire, and damage.

2. **Do not disassemble or modify the product**. FrSky will not be responsible for disassembly or modification other than those specified by us.

3. **Do not connect any other device (gyro, battery, etc.) other than servo to the servo connection port of decoder**. There is the danger of erroneous operation or damage.

FrSky Electronic Co., Ltd will not be responsible for damage caused by combination with other than FrSky Genuine parts.

- **Channel setting by FrSky Servo Channel Changer** (Strongly recommended)
  a. Connect the Signal port of the decoder to the servo connection port of the FrSky SCC.
  b. Connect the battery to the battery connection port of the FrSky SCC.
  c. Quickly press the decoder's setting button and select the servo connection port at which channel is to be set.
  d. Use SCC rotate switch set to the channel you want to set.
  e. Hold down the setting switch (about 1 second).
  f. To set the channel of other servo connection ports, quickly press and release the decoder's setting button to choose and repeat steps d. and e.

- **Channel setting by Futaba SBC-1**
  a. Connect the Signal port of the decoder to the servo connection port of the Futaba SBC-1.
  b. Connect the battery to the battery connection port of the Futaba SBC-1.
  c. Quickly press the decoder's setting button and select the servo connection port at which channel is to be set.
  d. Set the Futaba SBC-1channel selector switch to the channel you want to set.
  e. Hold down the setting switch (about 1 second).
  f. To set the channel of other servo connection ports, quickly press and release the setting button and repeat steps d. and e.

- **Connect the servo and battery connector in the correct polarity**. Connecting the power + and – polarities in reverse by mistake may cause smoke, fire, and damage.

- **Do not connect any other device (gyro, battery, etc.) other than servo to the servo connection port of decoder**. There is the danger of erroneous operation or damage.

FrSky Electronic Co., Ltd will not be responsible for disassembly or modification other than those specified by us.

FrSky Electronic Co., Ltd will not be responsible for damage caused by combination with other than FrSky Genuine parts.

**WARNING**

The input voltage should match the servo’s proper operating condition. There is the danger of erroneous operation or damage.

**NOTE**: DO NOT plug in the power HIGHER than the connected decoder/servo operating voltage. Otherwise injury or damage may occur.
Instruction Manual of FrSky CPPM/SBUS Decoder

- Channel setting by Futaba SBUS compatible receiver
  - Channel setting by FrSky TFR8SB

a. Turn on Frsky CPPM/SBUS decoder, quickly press the decoder’s setting button and select the servo connection port at which channel is to be set.
b. Turn off the decoder.
c. Connect the receiver’s SBUS port’s signal pin and RSSI port’s signal pin via provided cable.
d. Connect the Signal port of the decoder to the conventional system output connector (1 to 8) corresponding to the channel you want to set.
e. Turn on the receiver
   ! At once when turning on the receiver, the channel setting is completed in mode A.
   (To switch to mode B, press the F/S button until the red and green LED starts to blink simultaneously. The channel setting is completed in mode B)
   ! The LED corresponding to the setting mode blinks.
   Mode A: Red blinks 3 times
   Mode B: Green blinks 3 times.
f. Turn off the receiver.

- Channel setting by Futaba SBUS receiver (R6208SB etc.)
  Please refer to the product specifications.

b. Connect a conventional servo or a digital servo to the servo connection port of the decoder.
   ➢ When an SBUS servo was connected, that servo will operate as a conventional servo.
   However, it operates on the channel set at the servo connection port of the decoder instead of the channel set at the servo itself.

<table>
<thead>
<tr>
<th>Decoder’s LED status</th>
<th>SBUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power on Normal working</td>
<td></td>
</tr>
<tr>
<td>Last selected servo port</td>
<td>Last selected servo port</td>
</tr>
<tr>
<td>Flashing when channel has signal</td>
<td>All flashing</td>
</tr>
<tr>
<td>Lost signal</td>
<td></td>
</tr>
<tr>
<td>OFF with “No Pulse” failsafe</td>
<td>All flashing</td>
</tr>
</tbody>
</table>

- Cautions

1. When use decoder with V8 series CPPM receiver. DO NOT use more than 6 channels of CPPM signal. Otherwise damage may occur.
2. The factory default firmware of D series (Two-Way) CPPM receivers is 21ms for CPPM. If want to use more than 6 channels, please download and flash with 27ms firmware from www.FrSky-RC.com. The V8 series receiver CANNOT be upgrade with this firmware.
3. Before channel setting, BE SURE there is NO servo connected. There is the danger of erroneous operation or damage.
4. The decoder’s output PWM frequency is automatically match with the input CPPM/SBUS signal frequency, make sure the proper servo is connected. DO NOT use conventional servo with SBUS High Speed mode and/or CPPM mode when frame length is shorter than 14ms. There is the danger of erroneous operation or damage.
5. With Digital servo, CPPM frame length MUST NOT larger than 30ms; in case of conventional servo, CPPM frame length MUST NOT larger than 22ms. Otherwise erroneous operation or damage may occur.
6. Before take-off, BE SURE there is no redundant servo connects to decoder. There is the danger of erroneous operation or damage.
7. DO NOT switch receiver High Speed/Normal Speed mode when decoder is connected.
8. Do not fly until inspection is complete.

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FrSky Electronic Co., Ltd
Tel: (86) 0510-85187718 Fax: (86) 0510-85187728
E-mail: frsky@frsky-rc.com Technical Support: sale4tech@gmail.com