

# en/SumSignal

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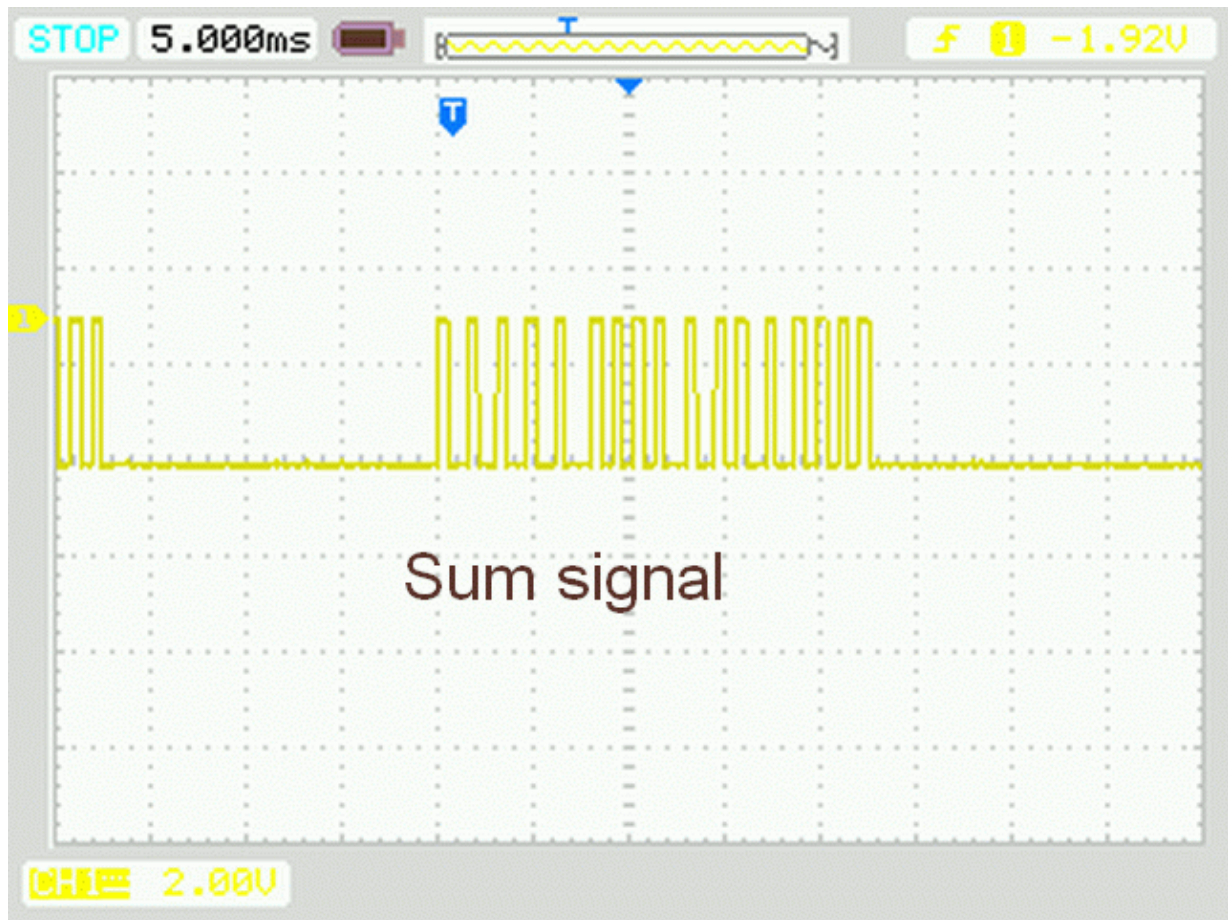
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# 1 sum signal

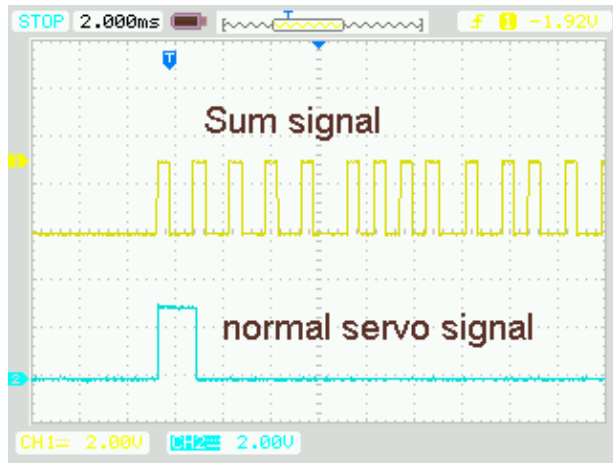
The easiest way to realize the interface between the FC and the receiver is the sumsignal. All channel data are included into this data stream.

The information of each channel value is transmitted by its time gap.



Several channels are transmitted here in this signal

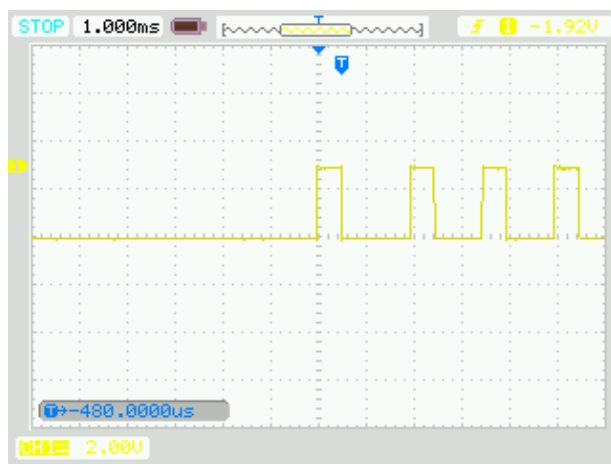
## 1.1 Compared to a normal PPM-Servo signal



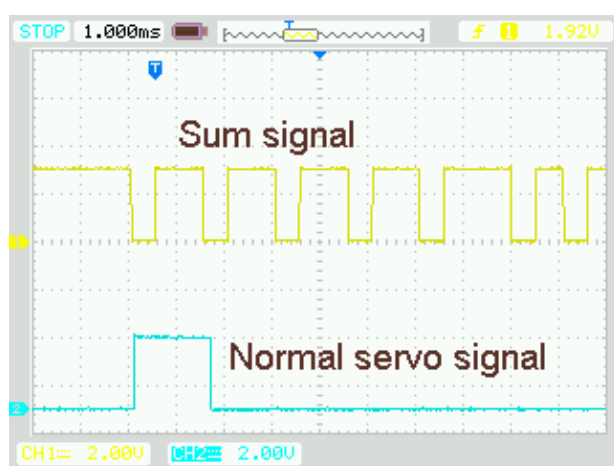
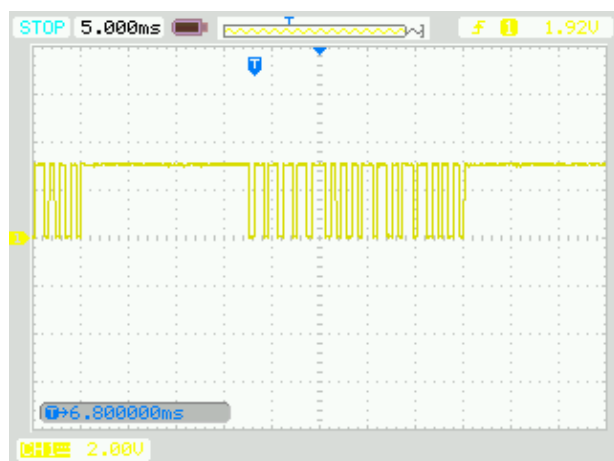
## 1.2 Channel 1 Minimum



### 1.3 Channel 1 Maximum



## 2 inverted sumsignal



The [FlightControl](#) operates with an inverted signal also. No change in the settings required.

Graupner HoTT uses an inverted signal for example.

### 2.1 specifications

- the sum signal must be stopped by the transmitter in case of RC-Lost. The FC detects that missing signal and goes into failsafe
- the pulses in the sumsignal are shorter than a single PPM-Signal, because every channel information is the time between two equal edges
- the sum signal has one more pulse than number of channels, because the last signal is also closed by an edge
- The Channel timing is the same like the normal PPM-Signals (about 1ms length) The setpoint information is transmitted in the gap between two similar edges
- 1.11ms = 0%
- 1.93ms = 100%

The signal is valid when it is between 0,9ms and 2,1ms (outside this range the BL-Ctrl will switch off).

## 3 Normal servo signals

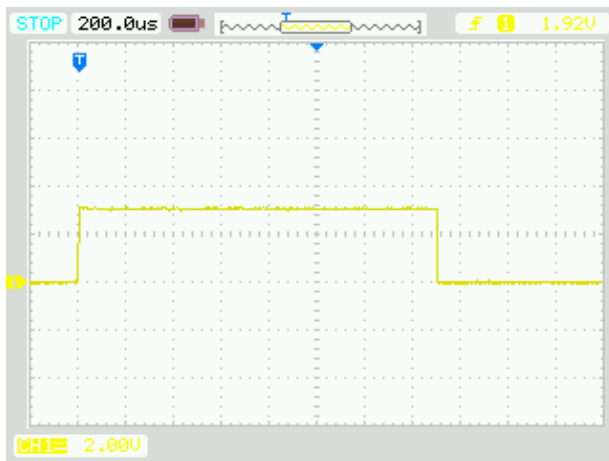
A normal servo signal is just a single pulse. The length corresponds to the channel data.

The setpoint information is transmitted in the gap between two similar edges

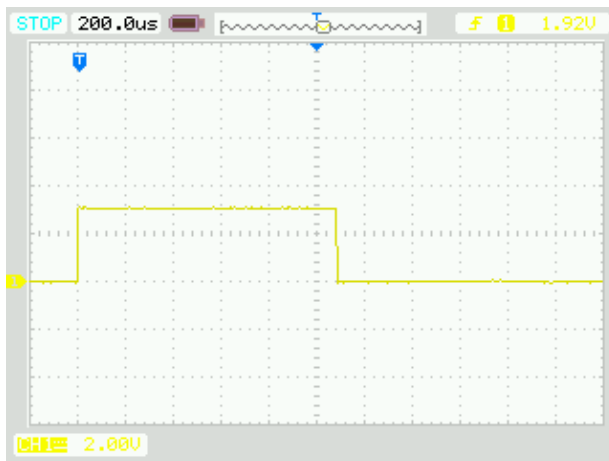
- 1.1ms = 0%
- 1.93ms = 100%

The signal is valid when it is between 0,9ms and 2,1ms (outside this range the BL-Ctrl will switch off).

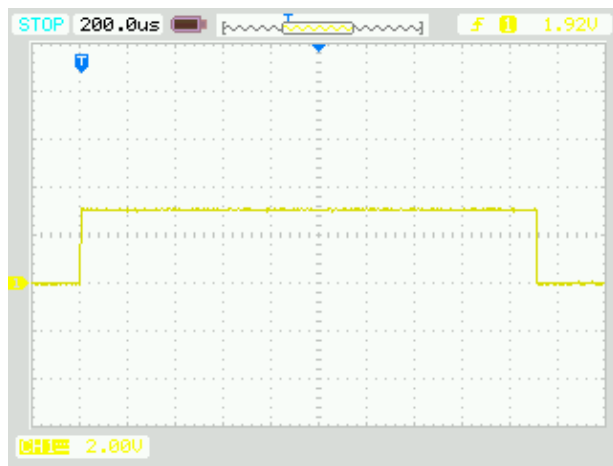
### 3.1 Zero



### 3.2 Min



### 3.3 Max



## 4 vendors

- ACT [DSL4top](#) (35MHz)
  - ACT S3D (2,4GHz)
  - Jeti [RMK2](#) (2,4GHz)
  - Futaba [R6107](#) (2,4GHz) R6108, R6208 (8-Kanal)
  - Graupner HoTT
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- [KategorieEmpfänger](#)