

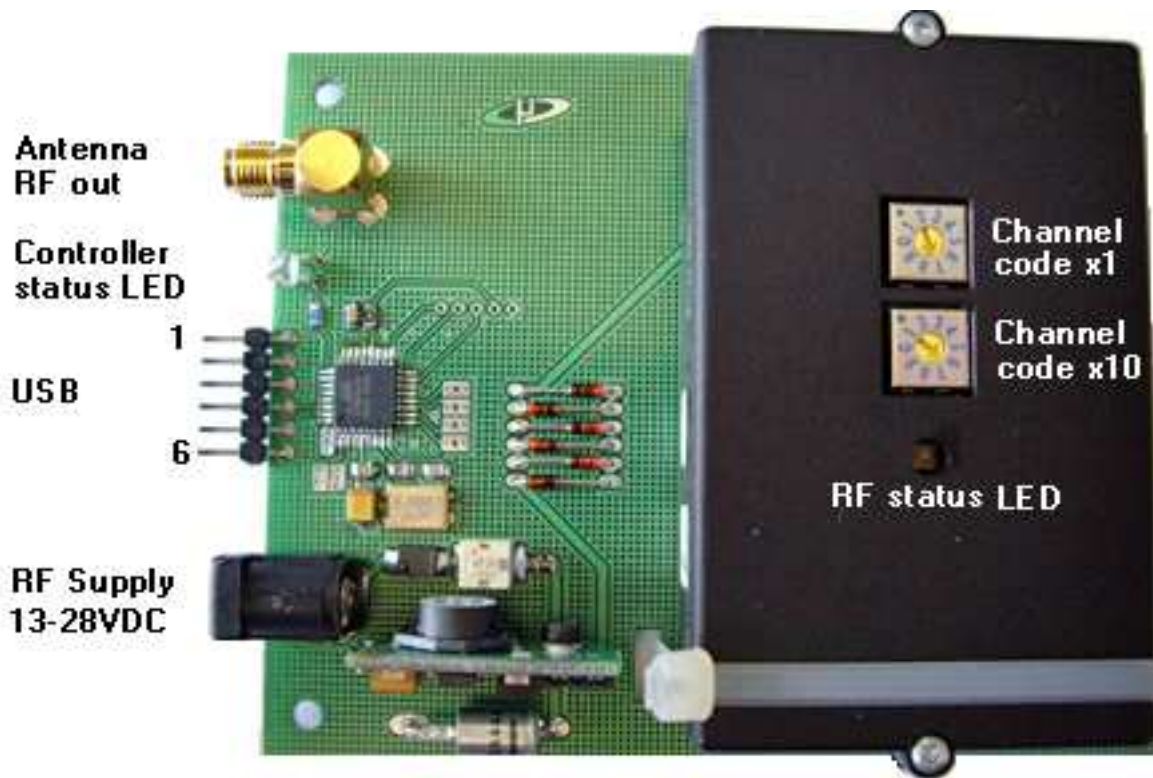
Description of PPM9_USART

Rev. 1.0 October 2007

General

PPM9_USART is developed by microdrones GmbH.

This hardware module enables the emulation of a standard RC controller via a computer. It is connected to the computer by a USB interface.



Interface / Controller

USB connector pinout	1 = GND, 2 = NC, 3 = +5V, 4 = RxD, 5 = TxD, 6 = NC
Controller supply	5VDC @25mA (supplied by USB computer interface)
RF supply connector	13-28VDC, Center pin = positive voltage, Reverse polarity protected, RF decoupled
RF connector	SMA, 50 Ohm load
Communication	USART RS-232 (38400,n,8,1), ASCII

RF-Transmitter

Supply	13VDC to 28VDC @160mA to 120mA
RF output	35/40/72MHz, FM modulation 10kHz, 110mW ERP @50Ohm

Mechanical Data

Dimensions	100 x 80 x 30mm
Mounting hole grid	90 x 70mm
Weight	ca. 80g

Communication

All commands to the module and all responses from the module are sent in comma or space delimited, line terminated (CR + LF) ASCII format.

Do-Commands

“RES”

Reset controller.

“RAC”

Reset all channels to initial values.

Set-Commands

The “chn” parameter is valid from 1 to 9.

The parameters “value” and “chnx_value” is valid from -100 to +100.

The parameter “state” is valid from 0 to 1.

“SSC”, chn, value

Set single channel “chn”. Channel value in percent, range -100..+100.

“SLC”, chn1_value, chn2_value, chn3_value, chn4_value

Set lower channels 1 to 4. Channel values in percent, range -100..+100.

“SUC”, chn5_value, chn6_value, chn7_value, chn8_value, chn9_value

Set upper channels 5 to 9. Channel values in percent, range -100..+100.

“SAC”, chn1_value, chn2_value, chn3_value, chn4_value, chn5_value, chn6_value, chn7_value, chn8_value, chn9_value

Set all channels 1 to 9. Channel values in percent, range -100..+100.

“SRF”, state

Set RF module on (“1”) or off (“0”).

Get-Commands

“CHN?” (chn)

Get channel value(s). If no parameter is used, then the values of all channels will be sent.

If a channel number is specified, then only the value of this single channel is sent.

“IDN?”

Get module identity (“PPM9_USART_R1.0_0710”).

“HLP?”

Get Help (command list).

Module Response / Status

Controller command acknowledge

All command acknowledges have two leading spaces.

“ 0” Command execution Ok

“ 1” Unknown command

“ 2” Bad parameter

Controller status LED

3x blinking at Power up.

Short flash at every successful command reception.

RF status LED

Always on RF output disabled

Blinking 1x (slow) RF output enabled

Blinking 2x Bad channel code selected

Blinking 3x RF module defect, output disabled