en/Firmware-0.78

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MikroKopter.de

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Firmware 0.78

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Forum-Link: http://forum.mikrokopter.de/topic-13983.html

Download:

- Flight-Ctrl V0.78f
- Navi-Ctrl V0.18c
- MK3Mag V0.23a
- MikroKopter-Tool V1.68

What's new?

- FC: Output of **Current values** of the Bl-Controllers; Display of **Current, Power and current consumption**
- FC/MK-Tool: now with **12 Channels /** 8 Potis
- FC/MK-Tool: Mapping (assignment) of **Servo-Outputs** 3-5 (if using FC ME)
- MK-Tool: **Joystick**-support for serial Channels
- FC/MK-Tool: **Receiver selection** (ACT (DSL-Protocol), Spektrum, Jeti)
- FC: JetiBox supported
- MK-Tool: **Multi Language support**

Other new features

- FC: Selection of settings via serial command
- FC/NC/MK3Mag/MK-Tool: Support for Remote LCD-Display
- FC/MK-Tool: 12 Serial Channels for transmission of values (can be mapped to poti's)

- Error recognition when there is no SPI communication from NC->FC (Perviously only recognised as FC->NC)
- Bugfix: Low voltage limit updated when switching between settings
- **Maximum value** for a number of Parameters is now **247** (and not 250). This needs to be considered if old settings are transferred.
- LED-flash sequence for warnings in a set timing of 0.15sec --> Will now also work when the lighting is switchable
- New Home positions will now only be registered following a delay

Current Measurements

The Bl-Ctrl features the ability to measure current. There is **no** need to change the firmware for this!

The Mikrokopter can read the data of current measurements and will calculate:

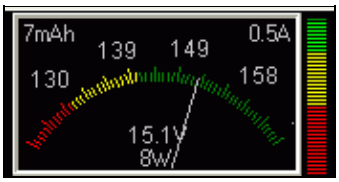
- real time current
- consumed capacity
- current power (watts)

⚠ Current measurement will only work with original Mikrokopter-BL_Ctrl

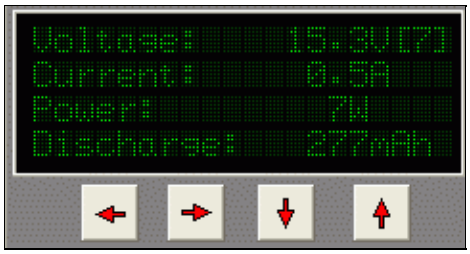
An idle current of 0,5A will be assumed. This value will be assumed as fixed and will not be measured. This is a reasonable assumption for an average Mikrokopter with lighting and possibly Camera servo's.

An accuracy of 3-10% can be expected.

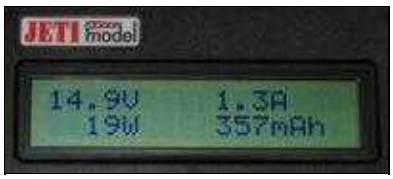
Representation of the Current data in the OSD-Window



Representation within the Analog data in the koptertool



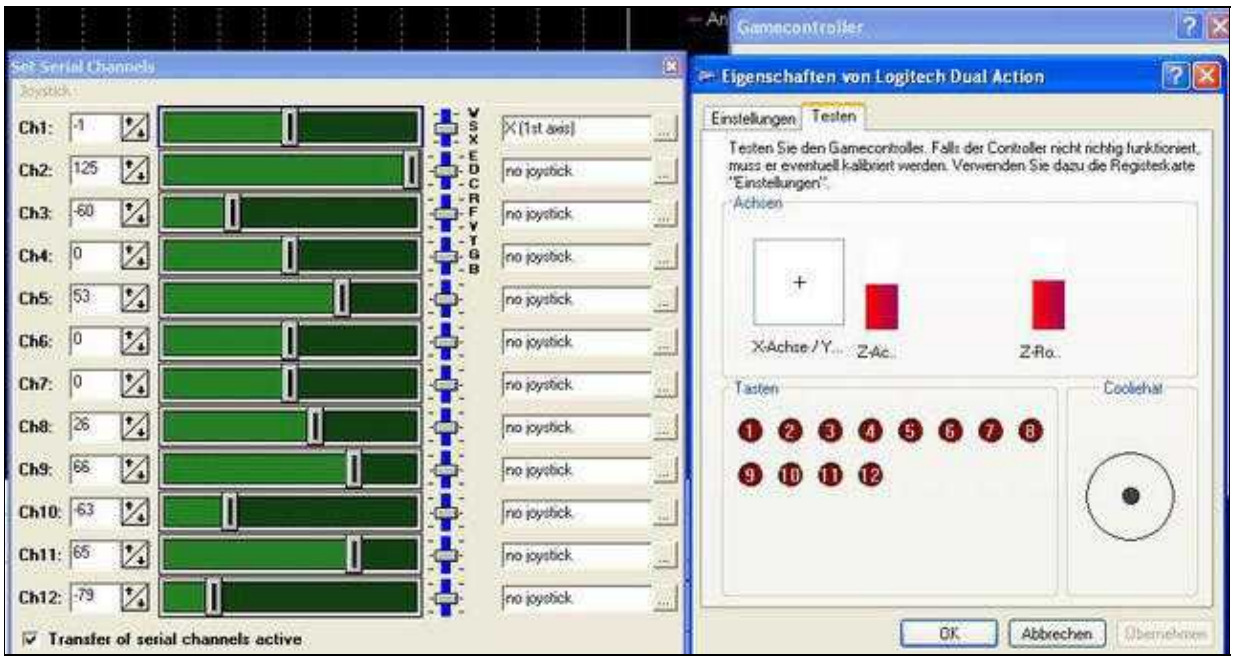
Display on the JetiBox



serial Channels

It is now possible to transmit channel data via a serial connection. To simulate this, we have (amongst other examples) integrated a Gamepad control into the koptertool.

The channels can also be controlled using a mouse of keyboard (w-s-x; etc.).



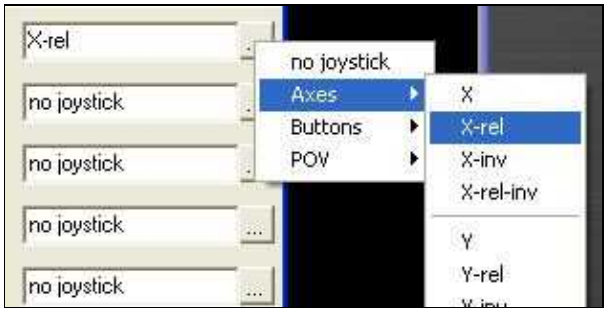
Gamepad

You can now control most of the channels using a Gamepad - **however Nick/Roll and Gas/Gier are blocked for this feature** (The link is not safe and fast enough for actual flight control's)

Examples of opperation:

- GPS-Functions (CH, PH and Free) can be assigned to keys
- Camera angle can be controlled by a second opperator via gamepad
- etc...

Tip for use in conjunction with camera servo's

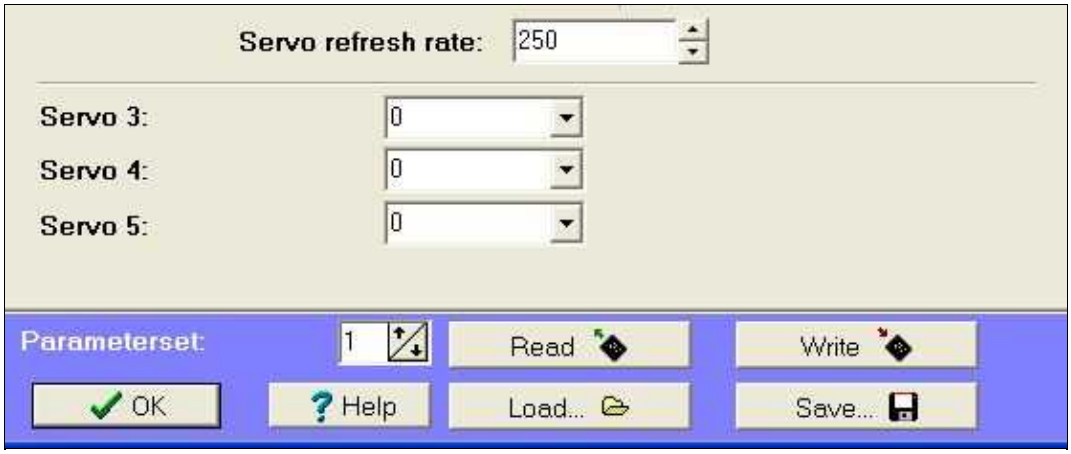


As the sticks on Gamepads are neutralised (Will always return to the central position), we have added the option **Option REL**.

This allows operators to change camera angles and the angle will remain at its new setpoint when you let go of the gamepad sticks.

Servo Outputs

The Servo-outputs 3-5 can now the assigned to any channels (e.g. also onto a Gampad)



⚠ Whether a channel will be controlled is dependent on the Refresh rate: If for example a 4 is entered here, then the maximum servo that will be controlled is Servo ouput 4

Excample:

- 8 = eight pulses are generated.
- 2 = two pulses are generated. That is fast, but channel 3 and upper don't get output signals in that case.

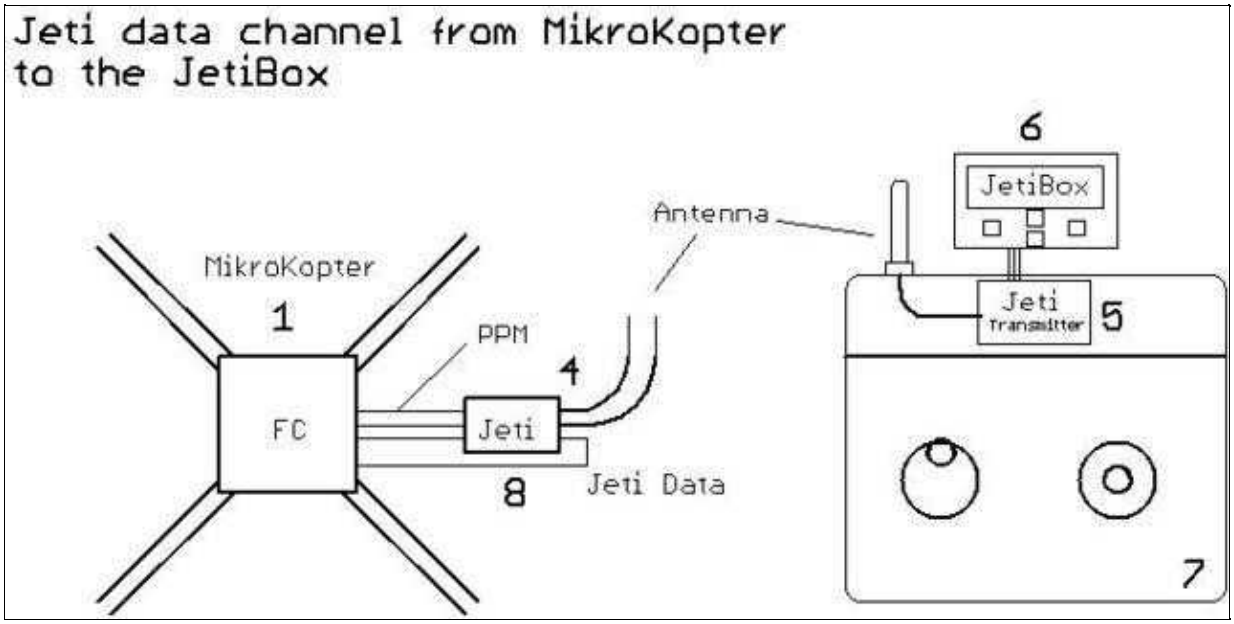
Receiver

- Now 12 receiver channels supported plus 12 serial channels
- Selection of the receiver type

Quick selection
Open the description -> click Button

This page as an **PDF-Document**?
Click on that Symbol and wait a little moment... --->

Jeti return channel



MK-status data on the JetiBox

The JetiBox can now be used to display Mikrokopter status data (Voltage, Altitude, Distance etc.).

The **Status data** will display in **one view**:

Voltage [V]	Distance from origin [m]	Heading towards origin [°]
consumed capacity [mAh]	Flight time	altitude [m]

- 16,5V Lipo-Voltage
- 158mAh used
- 21m distance from origin
- The mikrokopter needs to fly a heading of 189° in order to return to its origin. It is therfore North relative to ourselves
- Flight time: 0:36
- Altitude: -1m i.e. landed

Further info for attachement of the data channel etc.here

Buzzer in the Transmiter-module]

The transmitter modules have a built in buzzer. The FC can make these beep in a morse code.

⚠ Low voltage warnings will make the Jeti-module beep!!

ACT Data channel

A number of ACT Receivers feature a DSL socket as show in the below example of the ACT DSL 4-TOP.

The biggest advantage of the DSL data is the additional transmission of an RSSI (Receiver signal quality), which can be used to make a good estimation of your maximum range before a total RF signal is lost. Additionally the **behaviour on the RF signal's maximum range is now safer**, as the MK will receive more reliable data via DSL-protocol during interference.

Further info: DSL4Top

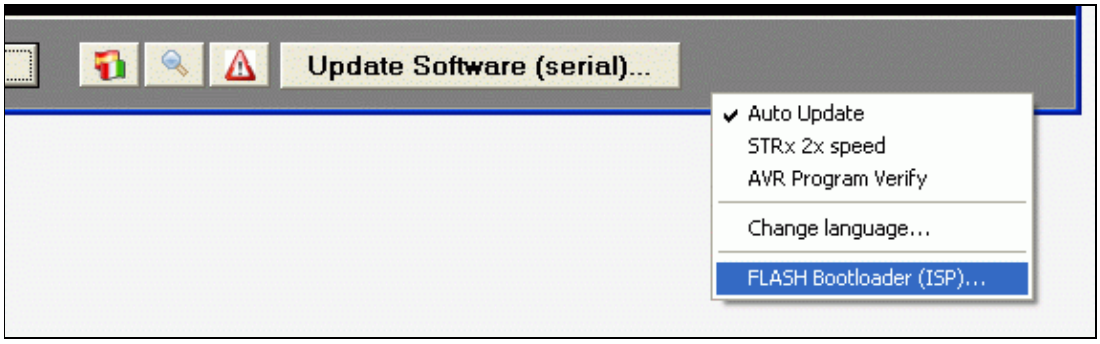
Multi Lingual KopterTool

You now have the option of loading various languages into the koptertool.

You can also integrate your own translation into the koptertool:

- Language_XX.dat modify and add to index (Use present language as guide)
- Language_XX.bmp Design and add to index (Use present graphics as guide)
- unknown texts, i.e. Text without translation should be compiled in *Language_unknown_XX.log* and can then be transferred to Language_XX.dat

Function "Bootloader Flashen" Greyed out



This function (used to flash bootloaders) has had a history of causing confusion as people using smd assmebled boards do not need these and would otherwise get error messages.

For people who smd build their own boards, the booloader function has now been moved into the context menu (Right Click on the grey background)

- KategorieFirmware