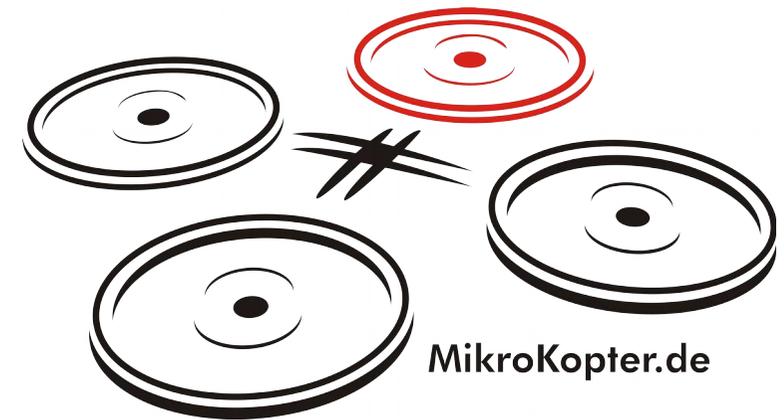


# Updaten der MikroKopter FlightCtrl / NaviCtrl

## Disclaimer

The contents of our pages were created with great care. For the accuracy, completeness and timeliness of the content is not guaranteed.

It is recommended to use the current software on the MikroKopter. It is only allowed to use the original MikroKopter software. The installation of the software is out at your own risk. Check after an upgrade all settings. We assume no liability for any damage or malfunction of the hardware that may occur after an upgrade  
For questions about the update or software, please contact: support@hisystems.de



HiSystems GmbH – Flachsmeerstr. 2 – 26802 Moormerland

If a newer software version available than the existing you can easily update your FlightCtrl / NaviCtrl.  
What is needed?

- The software for flight control (FlightCtrl) => e.g. *Flight-Ctrl\_MEGA1284p\_V2\_14a.hex*
- for navigation (NaviCtrl) => e.g. *Navi-Ctrl\_STR9\_V2\_14a.hex*
- and the right KopterTool => e.g. *Kopter\_Tool\_V2\_14a.zip*

(The version numbers we see here are exemplary!)

## **IMPORTANT:**

**The version numbers of the 3 parts must be the same (only the letter at the end does not matter).**

The current software can be downloaded here:

**<http://wiki.mikrokoetter.de/Download>**

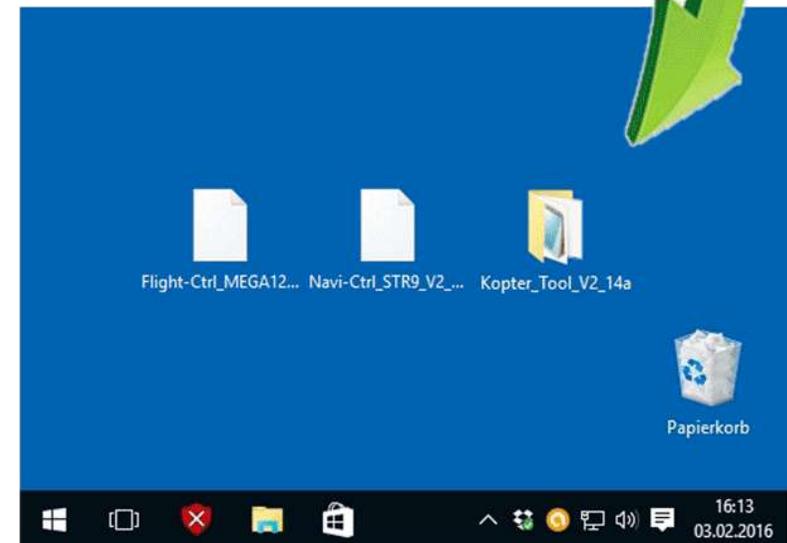
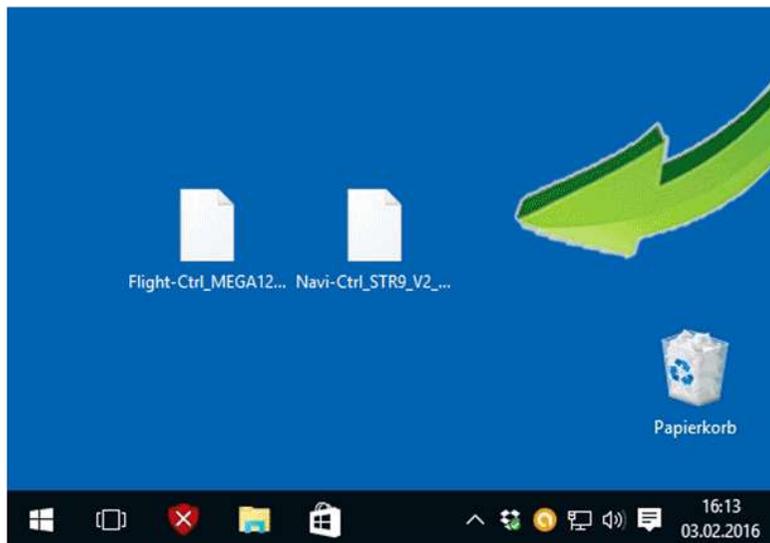
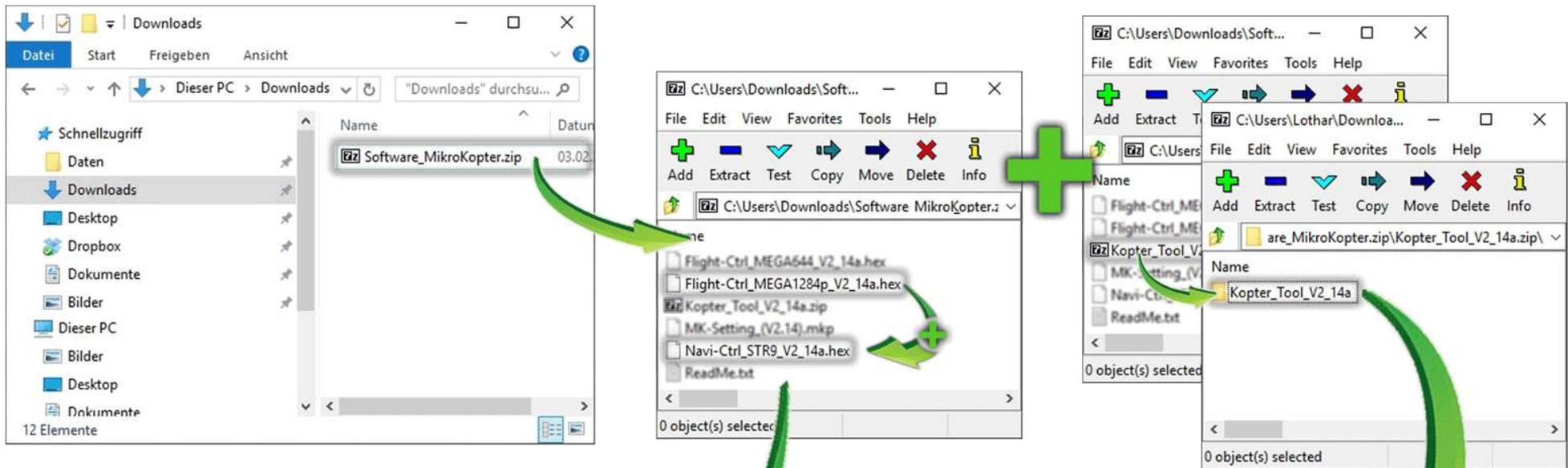
**Info:** The latest software is only to use with the hardware version FlightCtrl V2.1, FlightCtrl V2.5, FlightCtrl V3.0

The latest software is **NOT** to use with older hardware versions (FlightCtrl V2.0 and older).  
These are only supported up to software version V2.12.

## The Update

### Step 1:

The downloaded file is a packed file named „*Software\_MikroKopter.zip*“. In this packed file you find the needed software for the flight control, for the navigation and also the right KopterTool for this versions. The easiest way is to unpack the required software and the KopterTool on Desktop. Open the .zip file with a double click with the left mouse. Now select the needed files as you can see here and move them to your desktop.



## Step 2:

In the next step open the folder „KopterTool\_Vx.xxx“ (x.xxx = version number) and start the program „MikroKopter-Tool.exe“. If you open the program the first time you have to confirm the license conditions. Then you see the KopterTool. Here a click on the button „Firmware update & Terminal“ will open the terminal window.

Info: The copter must be connected with the computer, the battery if fully charged and the transmitter is ON.

The image illustrates the process of launching the MikroKopter-Tool software. It consists of several overlapping screenshots:

- Desktop:** Shows a Windows desktop with a folder named "Kopter\_Tool\_V2\_14a" highlighted. A green arrow points from this folder to the file explorer window.
- File Explorer:** Shows the contents of the "Kopter\_Tool\_V2\_14a" folder, including files like "License.txt", "MikroKopter.dll", "MikroKopter-Tool.exe", "mkutil.dll", "Octo.bmp", and "Octo.mkm". A green arrow points from "MikroKopter-Tool.exe" to the license dialog.
- License Dialog:** A dialog box titled "Important" with a red header. It contains the text: "Bitte bestätigen sie die Lizenz- /Nutzungsbedingungen für das MikroKopter Projekt." and "Please confirm the license/terms of use for the MikroKopter project." Below this, there is a scrollable area with license terms in German. At the bottom, there are fields for "Language file:" (set to "Language\_US.dat") and "Comport:" (set to "COM1"), and two buttons: "Akzeptieren / Accept" and "Abbrechen / Abort". A green arrow points from the "Akzeptieren / Accept" button to the main application window.
- Main Application Window:** The "MikroKopter-Tool V2.14a" interface. It features a large graph area with a grid. On the left, there is a list of "Analog (click to switch)" sensors with their current values: AngleNick (-5), AccNick (0), AccRoll (-33), FC-Flags (192), NC-Flags (129), Voltage [0.1V] (156), Current [0.1A] (5), GPS Data (3895), CompassHeading (306), GyroHeading (307), SPI Error (0), GPS CRC Error (0), I2C Error (0), and I2C Okay (3895). In the center, there is a "Scope" window showing a terminal-like display with text: "++ Navi-Ctrl", "HW: U3.0", "Set: 3 MikroKopter", and "No Error". To the right of the scope are "START" and "STOP" buttons. Below the scope are "Serial Channels" (3D, Map) and "Settings..." options. At the bottom, there is a "Firmware update & Terminal" button, along with "Load (csv)", "Export (c)", "License Info...", "SD Card...", and "Exit" buttons. A green arrow points from the "Firmware update & Terminal" button to the terminal window.
- Terminal Window:** A window titled "MikroKopter-Tool V2.14a" showing a terminal connection to "Navi-Ctrl..". The terminal output includes "Terminal 857600" and a large block of hex-encoded data.

Step 3:

**IMPORTANT:** During the update, the connection between the computer and the computer should not be interrupted.  
The battery on the copter must be fully charged.

In the terminal window start now the update:

1. Click on the button "*Update Software (serial)...*"
2. In the next window select „*Flight-Ctrl\_MEGA1284p\_VX\_XXx.hex*“
3. Click on the button „Open“ (or OK) => Update starts

Now the update of the flight control software starts and you can see it in the terminal window.  
Wait now until the update is ready and the initialization has been executed (white text at the end).  
To install the second part of the software start again:

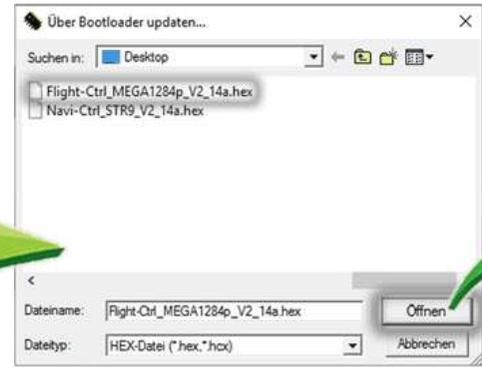
1. Click on the button "*Update Software (serial)...*"
2. In the next window select „*Navi-Ctrl\_STR9\_VX\_XXx.hex*“
3. Click on the button „Open“ (or OK) => Update starts

Now the update of the navigation software starts and you can see it in the terminal window.  
Wait now until the update is ready and the initialization has been executed (white text at the end).

With a click on the button „*to MK-Tool...*“ you go back to the main window  
Here you can check now the version number in the virtual display.  
(with the button „*NaviCtrl*“ and „*FlightCtrl*“ you can change the display)

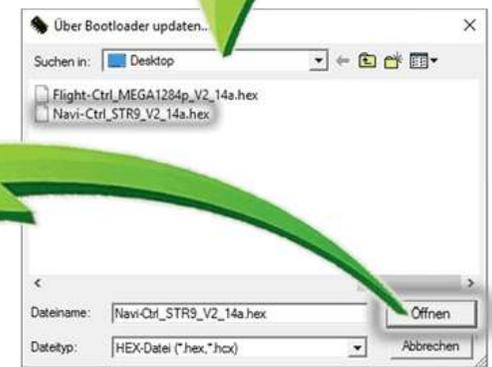
**Check the settings and functions after the update !**

```
MikroKopter-Tool V2.14a (c) www.mikrokopter.de
Connected to Navi-Ctrl.
Terminal @57600
[Hex dump of data]
COM1 to MK-Tool... Update Software (serial)...
```



```
MikroKopter-Tool V2.14a (c) www.mikrokopter.de
Flashprogram - Update
C:\Users\Hikro\...
Reading file...OK
Programsize: 97334 Bytes
Connecting (try to reset hardware and start bootloader)...OK
Controller: MEGA1284 (FCV.0)
Bootloader V3.0 30 1282A
Buffer: 254 Bytes
Erasing flash...OK
Transmitting data... 46%
Reset...
FlightControl
Hardware: 3.0
Software: V2.14a
the use of this software is only permitted
on original MikroKopter-Hardware
www.MikroKopter.de (c) HiSystems GmbH
Using Parameter Set 3
Mixer-Config: 'Octo2' (8 Motors)
Found BL-Ctrl: 12345678
BL-Firmware 1.10
Calibrating pressure sensor...
Flight-time 0 min Total:0 min
Batt: 4 Cells Low warning: 14.0V Auto-CH: 13.2V Autoland: 12.4V
Receiver: HO7T V4
```

```
MikroKopter-Tool V2.14a (c) www.mikrokopter.de
Flashprogram - Update
C:\Users\Hikro\...
Reading file...OK
Programsize: 247376 Bytes
Connecting (try to reset hardware and start bootloader)...OK
Controller: STR911 (NaviCtrl)
Bootloader V3.0 3D
Buffer: 4096 Bytes
Erasing flash...OK
Transmitting data... 20%
Reset...
DART1 init...ok
DART0 init...ok
ADC init...ok
SPI init...ok
I2C0 init...ok
I2C1 init...ok
FAT16 init...
SDC init...ok
SDC init...
Setting SD-Card speed to 2000 ok
SD-CARD V2.0 or later
Capacity = 1876 MB
Manufao. Date: 4/2014
ok
Settings init...ok
Version information:
NaviCtrl HW: V3.0 SW: V2.14a
Looking for compass===== main I2C-Bus =
I2MB0SDM ID 0x48/34/33-3c
EEPROM init...ok
Orientation: 1
Warning: calibrated orientation was 0 !
Reset ok
Using GPS: V3.0 SW:2.01
Using G98 ..... done
FlightControl..... FC V2.14a HW:3.0
the use of this software is only permitted
on original MikroKopter-Hardware
www.MikroKopter.de (c) HiSystems GmbH
Canbus init... No CamCtrl connected
```



MikroKopter-Tool V2.14a (c) www.mikrokopter.de

Altitude [0.1m] -33  
AccRoll 192  
AccNick 0  
AngleRoll 129  
Voltage [0.1V] 15.6  
Current [0.1A] 5  
CompassHeading 306  
GyroHeading 307  
SP1 Error 0  
GPS CRC Error 0  
I2C Error 0  
I2C Okay 3895

Flight-Ctrl V2.14a  
BL-Ctrl V1.10  
Navi-Ctrl V2.14a  
Compass

## Update error

If something went wrong during the update, normally only the software is cleared. In this case, it may look to you as if nothing works and as if there is no connection.

**But do not panic.** You can install the software again.

What we need:

- the copter:
  - is connected **with the MK-USB** with your computer (do NOT use a wireless connection!)
  - the battery is fully charged and connected with your copter
- the terminal window is open with the right COM Port
- When you start the update you see now maybe a *TIMEOUT*

Now we can do this:

1. start the update again
2. when you see "(try to reset Hardware....) . . ." you must have after 3-4 dots an **OK**. If not do this: ->
  - opening the battery connection and directly
  - close the battery connection
3. now an **OK** should appear behind the dots and the update should go further.

### **Info:**

If the update will not start, check the right COM port and the connections.

If nothing will work, please contact the MikroKopter Support: [support@hisystems.de](mailto:support@hisystems.de)

(Beispiel mit NaviCtrl Software)

