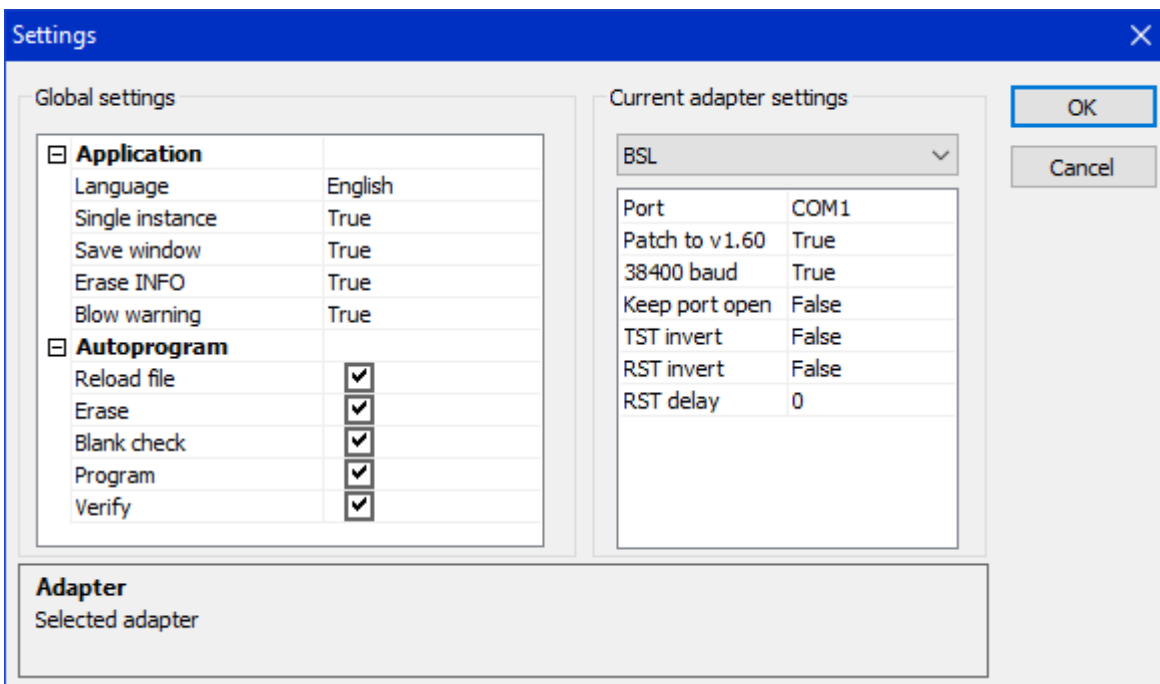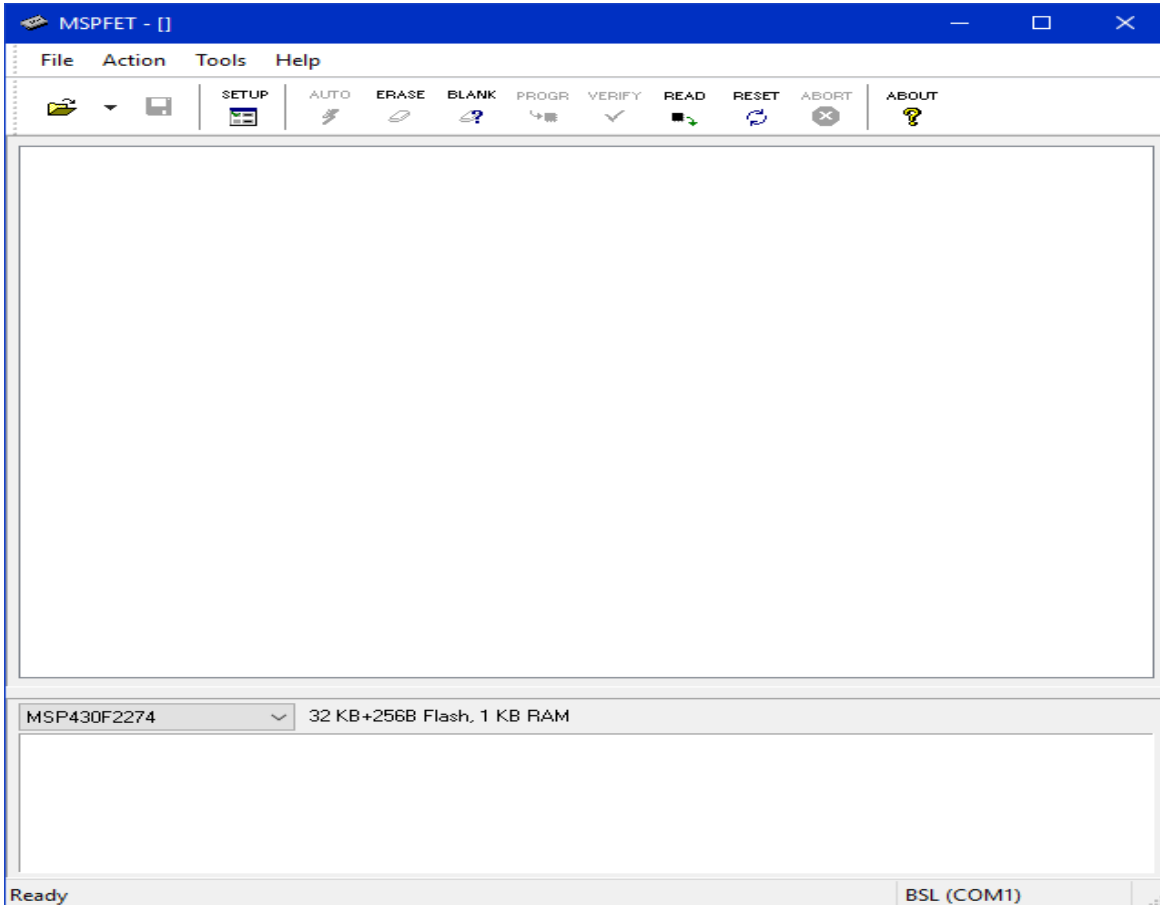# MSPFET

08/2024

There are various options for programming finished firmware on the microcontroller. One of these options is to use the MSPFET programme. MSPFET is a programme that is available free of charge. It supports a variety of different microcontrollers, but tends to focus on older microcontroller series. The **MSP430F2274 (HF-Controller / Hauptcontroller Compact-M2 R7/R13)** is relevant for us here.

Setup

Before programming with MSPFET, it should be ensured that the correct settings have been made in the programme. To do this, the properties menu can be opened via the **"SETUP"** button and all the necessary settings can be adopted as shown in the image above. The correct selection of the COM port is crucial for the function.

If a synchronisation problem occurs, it may help to set the 38400 baud setting to False.

Programming HF firmware (MSP430F2274)

Programming adapter: Universal programming adapter Compact M (2.250.7506)
! For HF part, the RST Invert flag in the settings must be set to True!

1. select the appropriate firmware (*.txt) with **"OPEN"** (yellow folder symbol).
2. ensure that the toggle switches of the programming adapter **"BSL"** are set to **ON** and **"SEL"** to **OFF**
3. connect the programming adapter to the receiver
4. connect the receiver to a suitable power supply (**make sure the operating voltage is correct!**)
5. after a few seconds, set the toggle switch of the programming adapter **"BSL"** to **OFF** and **"SEL"** to **ON**
6. use the **"AUTO"** button to load the firmware onto the receiver
7. disconnect the receiver from the power supply
8. after successful programming (see log below), unplug the programming adapter

As soon as the firmware has been successfully programmed, the corresponding message appears in the log area:
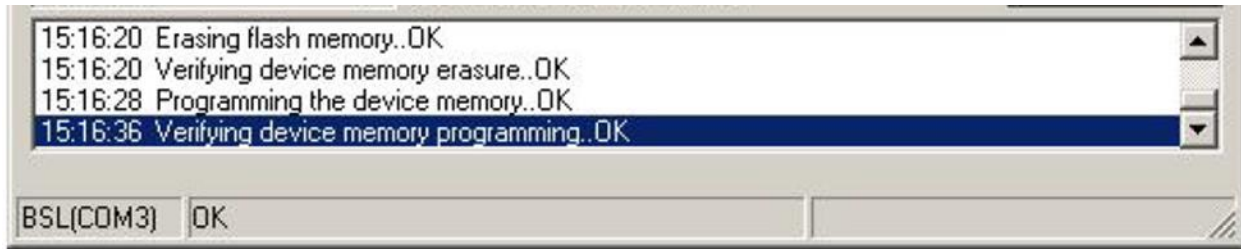
```
15:16:20  Erasing flash memory..OK
15:16:20  Verifying device memory erasure..OK
15:16:28  Programming the device memory..OK
15:16:36  Verifying device memory programming..OK
```
```
BSL(COM3)   OK
```

Programming a receiver firmware (Compact-M2 R7/R13 - MSP430F2274)

Programming adapter: NBB USB-Serial Adapter (2.250.7514) + Compact-M2 R7 Adapter
! For receivers, the RST Invert flag must not be set to True in the settings!

1. select the appropriate firmware (*.txt) with **"OPEN"** (yellow folder symbol).
2. connect the programming adapter to the receiver
3. connect the receiver to the appropriate power supply (**make sure the operating voltage is correct!**)
4. use the **"AUTO"** button to load the firmware onto the receiver
5. disconnect the receiver from the power supply
6. after successful programming (see log below), unplug the programming adapter

As soon as the firmware has been successfully programmed, the corresponding message appears in the log area:

```
15:16:20  Erasing flash memory..OK
15:16:20  Verifying device memory erasure..OK
15:16:28  Programming the device memory..OK
15:16:36  Verifying device memory programming..OK

BSL(COM3)   OK
```

! Care must be taken to ensure that the microcontroller and software are compatible with each other, otherwise the hardware may be destroyed!

! When programming with MSPFET, the complete microcontroller is erased before the actual programming. Parameters such as the calibration values must be saved beforehand!