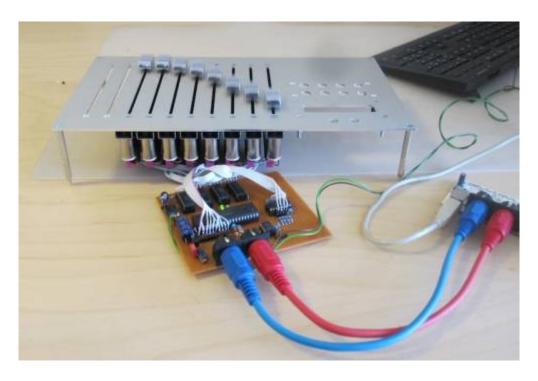
2024/09/20 07:43 1/3 Motorfader-NG Module

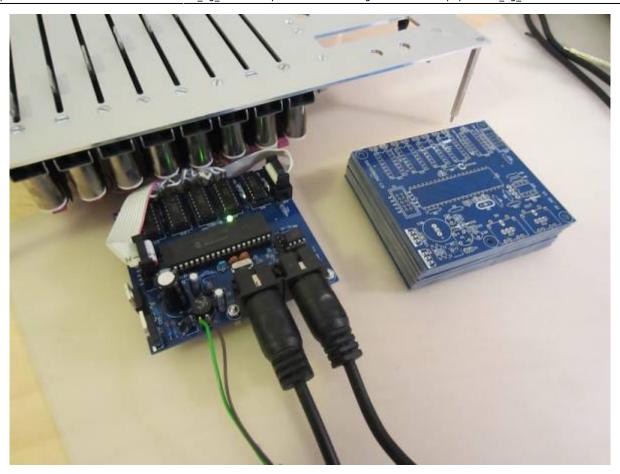
## **Motorfader-NG Module**



#### Introduction

The MF\_NG module is the successor of the MBHP\_MF module and has following design targets:

- find a solution to handle high-quality faders like Alps K faders with "coreless" motors
- find a solution for Core32 which doesn't deliver stable enough ADC conversion results due to the reduced 3.3V voltage range
- find a solution for Core32 which cannot handle touch sensors properly without heavy CPU load (resp. without an additional external device or microcontroller)
- find a solution which is compatible with PIC based projects for best usability
- find a solution which is DIY friendly and doesn't require additional gear for something which isn't part of the MBHP yet
- find a solution which can be easily tested and troubleshooted (no need to learn new processes)



#### And the result is:

- a dedicated **PIC controller** controls the motorfaders directly.
- the firmware can be updated via MIDI!
- motorfaders are accessed via MIDI this allows standalone usage, cascading (to chain multiple modules), and the re-use of existing infrastructure such as MIOS, MIOS Studio and MIOS Bootloader
- the module can either be connected to a PC directly, or controlled from a second PIC or STM32
- native support of various protocols (e.g. PitchBender, CCs, even Logic Control and Mackie Control Emulation)
- support for 8 touch sensors
- instead of TC4427 I'm using L293D now not at least because of the integrated diodes.
- due to the direct motor control connections, the PIC is now able to generate PWM with 50 uS steps for improved motor speed control while a motor is moved
- since the firmware is dedicated for this task, there was enough memory free to integrate advanced features, such as **runtime-calibration and motor position tracing** which are supported by MIOS Studio

#### **Parts List**

see MF\_NG Parts List

• Schematic UCapps

2024/09/20 07:43 3/3 Motorfader-NG Module

# **Compatible Motorfaders**

• ALPS RASON11M9 Interconnection Diagram UCapps

### **PIC Source Code**

• MF\_NG PIC Code UCapps

From:

http://www.midibox.org/dokuwiki/ - MIDIbox

Permanent link:

http://www.midibox.org/dokuwiki/doku.php?id=mf\_ng\_module&rev=1470425239

