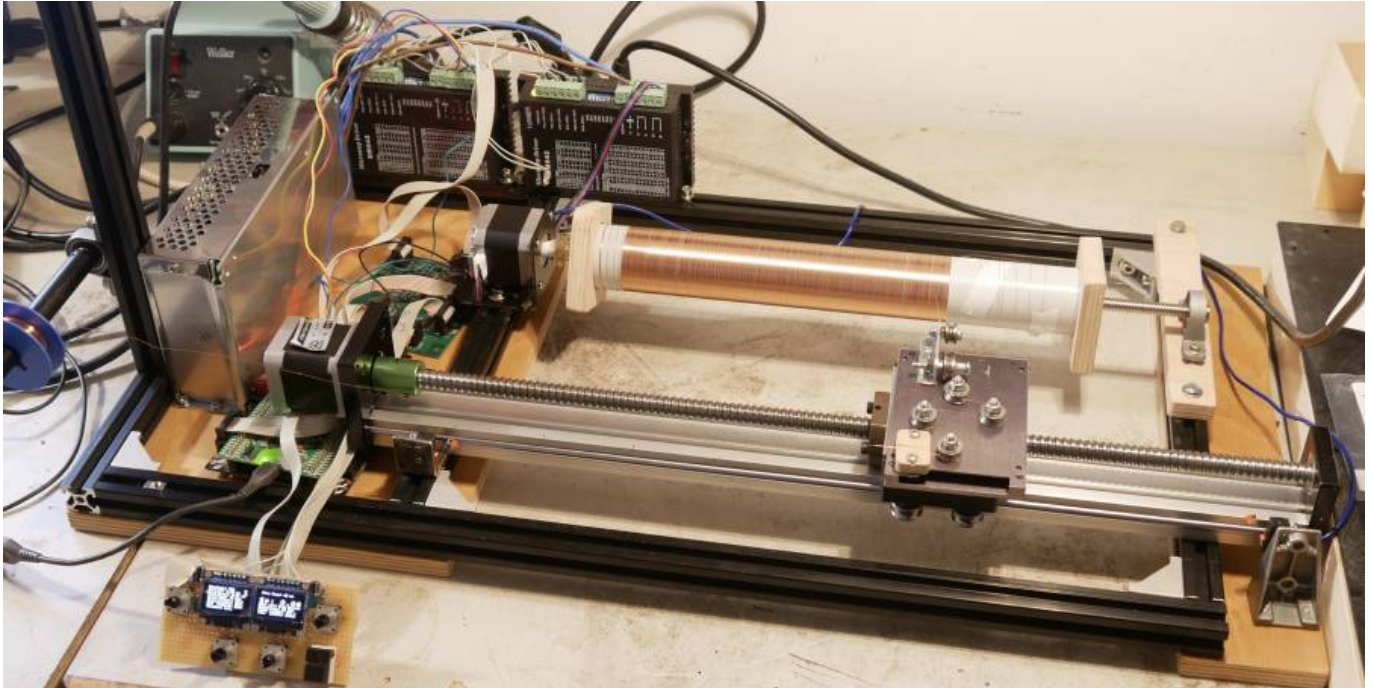


Coil Winder

A Tesla Coil winding machine, controlled by Mios:



Watch German Video about using it, and TimeLapse build



Video

Watch English Video...



Video

CODE, FIRMWARE

Install **MIOS Studio**, connect a Core-Stm32F4 via USB, and Start the STUDIO

1. Upload **MIOS BOOTLOADER**

2. (only needet for Virgin Machines) type following commands into the MIOS-TERMINAL:

- set lcd_type GLCD_SSD1306_ROTATED
- set lcd_num_x 2
- set lcd_num_y 1
- set lcd_width 128
- set lcd_height 64
- store

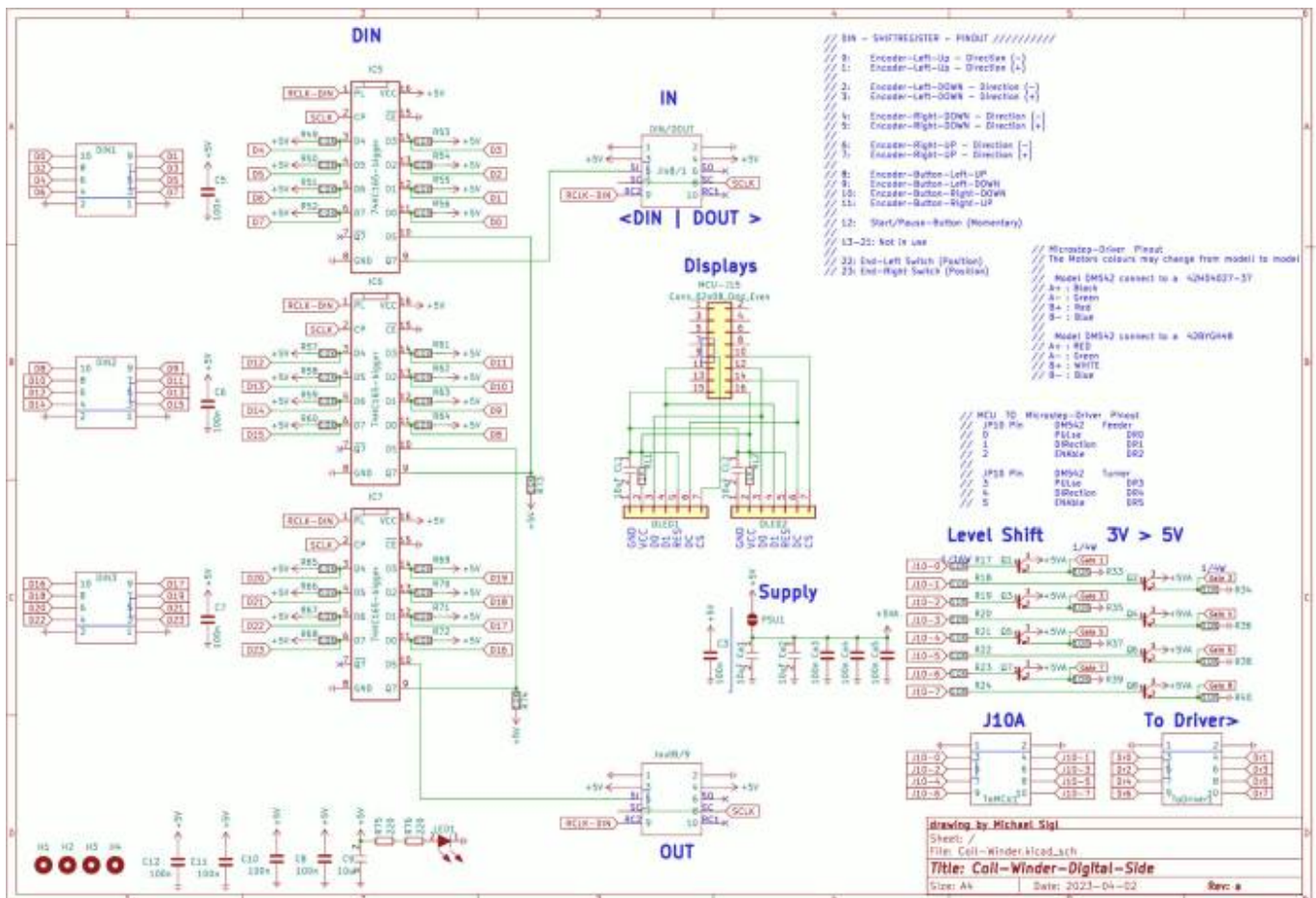
3. Unzip **the Firmware, and Upload the project.hex**

4. Unconnect USB & Connect the USB again — finished.

5. If the Machine is not detected by mios studio, and you already checked the usb-connections, the device or the code is broken, for that you may search for “Bootload Switch”, please set it to “bLOAD”, now you can upload new & unbroken codes, dont forget to set it to “normal” back again - after upload new code - else the APP will not boot...

BUILD

Shemata



The Rest is stated in the youtube video, in TimeLapse

You can use any motor you like, the code is programmed for a Motor that takes 400 steps for a whole 360° turn... if you use other motors you need to adapt the code (which you can download a bit above...)

Main Parts

Midibox: Core STM32 based core (STM32F4)

DINX4 Module (only 3DINX are used)

Levelshifter circuit from 3to5Vs (J10A to Motor-Driver)

2x SSD1306 Screens with 64x128 Pixels - 7Pin Variant!!!

4x Encoders with inbuilt switches

1x Momentary Button for "Play/Pause"

1x Breadboard ca. 100x50mm

3 days time

There are a lot of wires, nuts and screw which i have not listed here, here are only the big and expensive parts:

Amazon/Ebay/Ali...

Turner Motor: [Iverntech NEMA 17 Schrittmotor mit integrierter 400 mm T8-Leitspindel](#) I dont think that is a good choice, the T8 Spindle bends to much... better you M10-M12 ones and 450mm or more Travel

Feeder Motor: [Akozon Linearschiene](#) - this hasent come in good condition, the first 5cm moove a bit woobly

Corner-Mounts: [Justech 10x Winkelverbinder Aluprofil 20x20mm](#) better order 2 sets...

20x20mm Profiles: [CNCYEAH 4 Stück 800mm Aluminiumprofil20X20 T](#)

Stepper Motor Driver: [DM542 Schrittmotor Controller](#) you need 2 off them!

PSU: [Schaltnetzteil 24V 10A](#)

Mounting Kit for the Turner-Motor: [42 mm Schrittmotor-Halterung](#) not the stabelst one... mooves under Load...find better...

Microswitches: [Mikroschalter Endschalter mit Rollenhebel 250V 5A SPDT 1NO 1NC](#) you need 2 off them

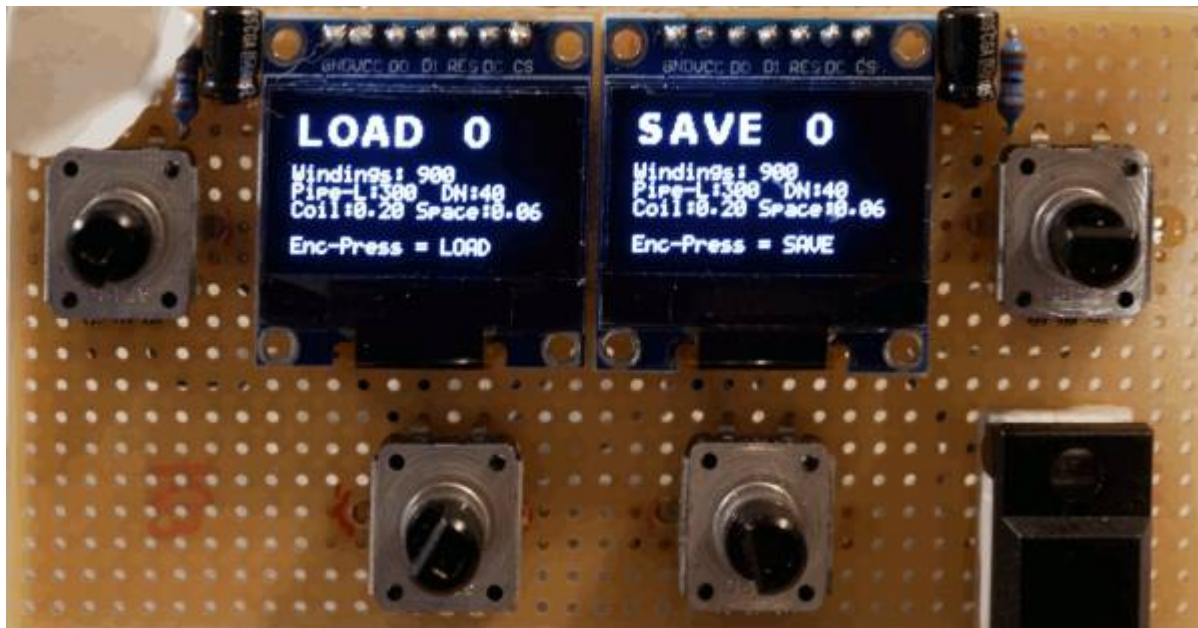
V-Rolls for Wires: [V624ZZ Kugellager V Nut Rillenkugellager](#) you will need 6 off them and special M4 Screws else they will not moove

T8 Nuts: [T8 Mutter Gewindespindel Messing Mutter](#) you need 3 off them, but you may find a better way to mount your pipe on the Spindle!

Flange Bearing: [Flanschlager](#) you need 2 off it...

Menue Structure

Menue 1: Load and Save Coil-Data



Menue 2: Edit Coil-Data, and get some resulting values



Menue 3: Start the Operation, guide thru Stages

Winding	Stage:
Trn:0	Needhome
Winding	Stage:
Trn:0	FindHome
Winding	Stage:
Trn:0	StartOff
Winding	Stage:
Trn:0	StartIso
Winding	Stage:
Trn:15	NormWind
Winding	Stage:
Min: 0	IsoPaint

Community users working on it

- **Phatline** = Programming, Documentation, Hardware-Prototype, Testing, Winding

Getting Involved ?

Just let a Private message on the forum to user already involved

From:

<http://wiki.midibox.org/> - **MIDIbox**

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