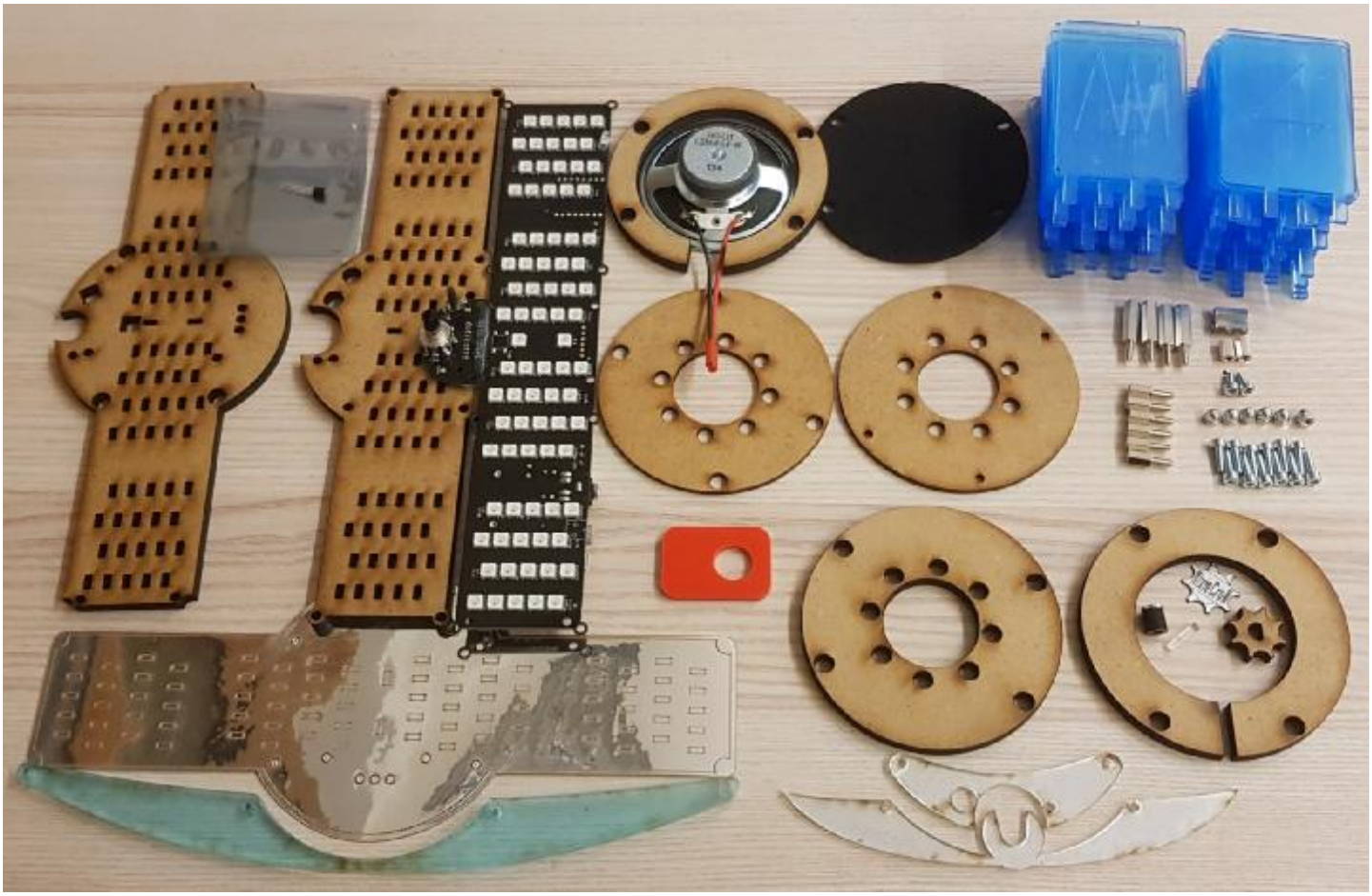
Assembly of the NixieCroN M4

Please unpack all components. The following parts are included in the kit:



Mounting Material:

6 x capping nut M3
6 x spacer M3 8mm, internal thread and external thread
4 x spacer M3 18mm, internal thread and external thread
2 x spacer M3 8mm, internal thread on both sides
2 x spacer M3 12mm, internal thread on both sides
2 x screw Torx M3 6mm
12 (+1 as a reserve) x screw Torx M3 10mm

1 x knob MDF 6mm for encoder
1 x decoration for the knob, engraved (“NixieCroN”), self-adhesive (remove protective film!)
1 x knob aluminum / MDF for push-button
1 x acrylic light pipe

Electronic Components:

1 x motherboard NixieCroN M4, tested
1 x temperature sensor DS18B20
1 x loudspeaker

MDF Components:

3 x rings for the base MDF 6mm, several internal diameters
2 x rings for the base MDF 3mm

1 x MDF board with eyelets
1 x MDF board without eyelets

Acrylic Components:

2 x mirror element front (remove the protective film from each one!)
1 x decorative component, transparent, front (remove the protective film!)

40 x acrylic numbers and symbols (remove the protective film on both sides!)

1 x red tool for the removal of the protective film

Further Components:

1 x chrome foil, laser-cut, self-adhesive
1 x felt

Tips for the Assembly:

Important notice: All acrylic parts were cut with a laser. Due to this production method there is a protective film on their surface. It has to be removed before the assembly. The protective film prevents the acrylic from being damaged in the production process. Underneath the foil the acrylic is clean.

The MDF components were also cut with a laser. The method creates an edge whose odor may possibly be perceived as unpleasant wood odor. If necessary, the MDF components are to be aired out outdoors, 24 to 36 hours are sufficient. Stains on the MDF are normal and when the clock has been assembled they are being covered by the chrome foil and the motherboard.

The protective film needs to be removed carefully from the acrylic numbers. For this purpose the kit contains a red acrylic tool. With this tool the protective film can be lifted on the edges for easier removal. Please be very careful. Especially the two light pipes of every acrylic number are very fragile and break when there is too much strain. Take your time for this step.
It is also recommendable to wear gloves so the acrylic does not get stained. In case there are fingerprints on the acrylic in spite of that, remove them immediately using a new and clean microfiber cloth. Please do not use alcohol or methylated spirits to clean it. That destroys the acrylic immediately! If the use of cleaning detergents is necessary then please use only plastic cleaner without alcohol and without solvents.

Please be very careful with the motherboard while the clock is not assembled yet. Especially the operating panel is fragile (e.g. concerning pressure). Please do not press it until the whole assembly of the switch and the encoder is completed.

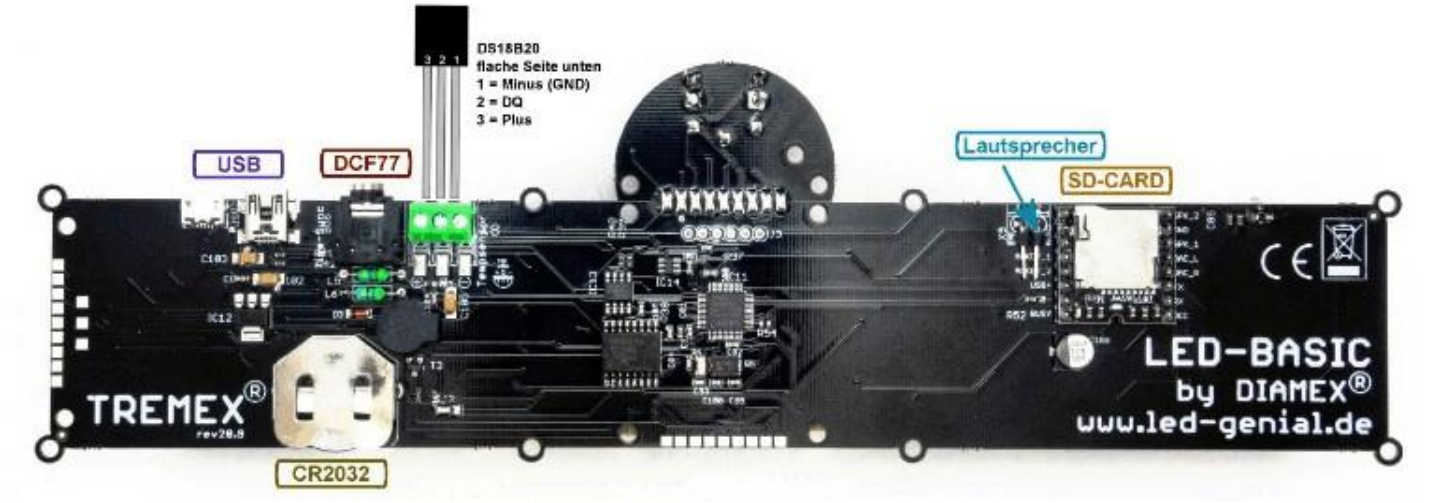
Throughout the assembly tools are unnecessary. A fitting Torx screwdriver is helpful but should not be used with force. The screws should only be tightened with your hands. That is very important for the insertion of the acrylic numbers. Only insert them while the screws are a little tightened but still loose. If you tighten them too much the fragile acrylic numbers can break.

Please add the knob for the encoder and the aluminum knob for the push-button carefully. Due to the laser-cutting the knob for the encoder has one side where it is easier to add and one where it is a little harder. If you have problems with this component try turning it around.

Sound Module:

A micro SD card is necessary. Sound files for the time (German) are available as a download on www.led-genial.de.

Contact of the temperature sensor:



External Synchronization:

In spite of the very precise RTC (deviation only few seconds per month) the NixieCroN M4 can be synchronized with external signals.
DCF77, Wi-Fi and GPS are available. The respective sync can easily be connected to the motherboard.
If you would like to acquire a sync please contact your retailer.

LED BASIC:

The operating system of the NixieCroN M4 kits is based on LED BASIC. The 32 bit ARM-Cortex M0 controller on the motherboard can process the BASIC code quickly—about 10,000 lines per second.

The inspiration for LED BASIC is the µBasic interpreter by Adam Dunkel.

With LED BASIC you can change, modify, or adjust the complete NixieCroN system. LED BASIC is freeware and can be learned easily.

The LED BASIC Editor including the manual (pdf) is available as a download:
https://www.led-genial.de/LED-Basic-Downloads

The editor is only compatible with Windows. Windows 7 - 10 are recommended.

Power Supply:

The power supply are USB-compatible contacts like smartphone power supplies, USB power banks, USB contacts of PC or laptop. On the motherboard there are two USB connectors (mini and micro). Only one of the connectors can be used at once.

Manual for the Clock:

The software is constantly being developed. We recommend consulting the Basic code for the current manual.

1. Please download the LED BASIC Editor and install it
2. Select the entry LED-Nixie-4 in the settings menu and tick it
3. Open the file menu and select the latest version (e.g. LED-Nixie4-Vanessa-2.06). The entries can be sorted according to the date. At the beginning of the source code the current manual of the file is included.

Feedback:

NixieCroN M4 is based on LED BASIC, an interesting and quickly useable free programming language. If you have programmed an interesting component, added a foreign language or implemented new features we would be happy about your feedback. You can contact us via feedback@led-basic.de .

VERTRIEB

DIAMEX Produktion und Handel GmbH

Innovationspark Wuhlheide
Köpenicker Straße 325, Haus 41
12555 Berlin

Telefon: 030-65762631

E-Mail: info@diamex.de
Homepage: http://www.diamex.de

HERSTELLUNG

www.tremex.de
Köpenicker Str. 325 12555 Berlin
Tel.030-65762631
Hersteller: Tremex GmbH
DIAMEX * OBD-DIAG * TREMEX
WEE-Reg.Nr. DE 51673403

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