

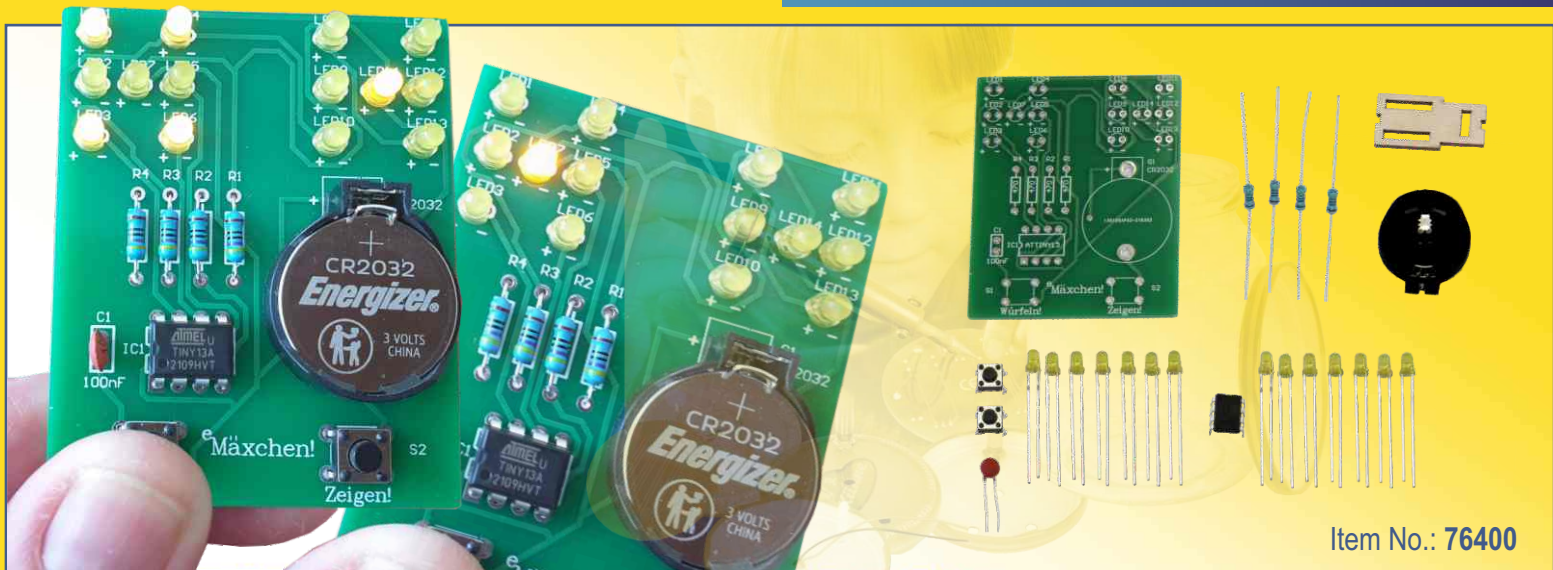


Please return the parts to a certified provider at the end of their useful life!

Soldering Kit Instructions eMäxchen

The popular game as a DIY PCB version

MADE IN EUROPE



Item No.: 76400

Important Information!



! For children and youngsters we recommend:
Assembly and soldering should be supervised by an adult! **!**









SAFETY NOTES:

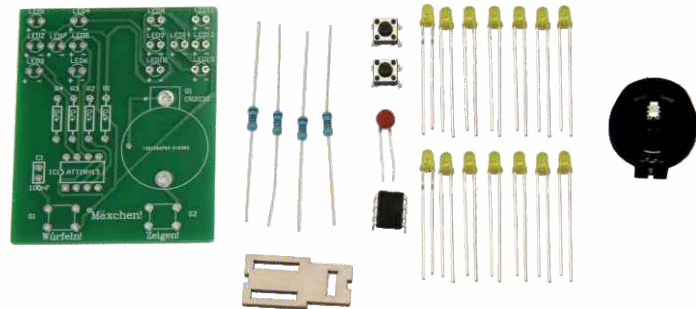
- Keep these instructions for future reference! They contain important information.
- This kit is only intended to be battery powered.
- The soldering iron, the solder and the soldered parts become very hot. Be very careful!
- Always use a soldering mat when soldering! It prevents parts and the PCB from slipping.
- We recommend using a soldering iron holder to set the soldering iron down safely during use.

ENVIRONMENTAL NOTES:

Generally: Please return electronic parts to certified disposal companies after use. These will ensure the parts are disposed of in compliance with the law. This is good for the environment and your part in actively protecting the environment.

e soldering kit - the popular game to solder yourself

Parts list		Check the parts:
Qty.	Part	Value / Designation
1	PCB	76400
14	3 mm LED (LED1-LED14)	yellow 
1	Processor (IC1)	ATTINY13A 
4	Resistor (R1-R4)	470 Ohm 
2	Push button (S1-S2)	3301 
1	Capacitor (C1)	22 nF/10V 
1	Battery holder (G1)	für Cr2032 
1	Bending tool	für R1-R4 
1	Button cell (not included)	Cr2032 



You will also need:

soldering iron, solder, side cutters, tweezers, CR2032 battery

„eMäxchen" soldering kit

The "eMäxchen" circuit board kit is perfect for soldering novices, all budding electronics engineers, amateur technicians and anybody who enjoys building a circuit board with a soldering iron or soldering station. Over 20 parts are soldered to the "eMäxchen" PCB, including a microprocessor. This allows you to play the popular "Mäxchen" game on the finished PCB. The processor is preprogrammed, so this kit requires no programming skills. Simply solder, play and if necessary cheat a bit. 😊

ASSEMBLY INSTRUCTIONS

Preparation

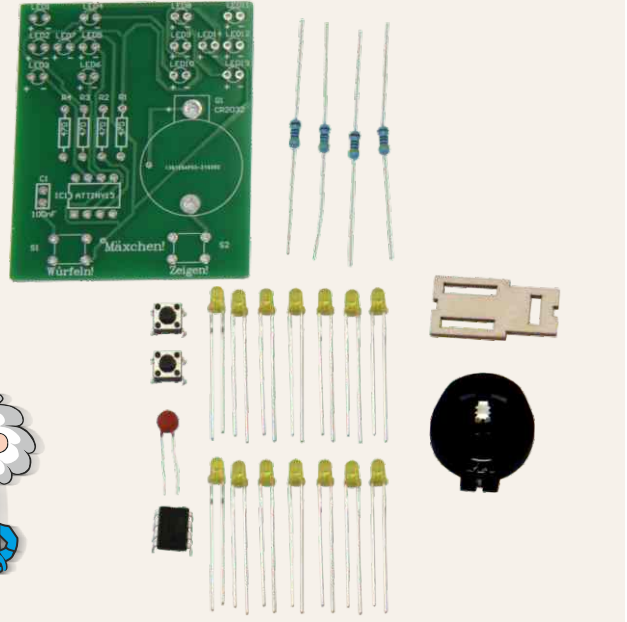
Set out and sort all parts. This will make it easier for you to later identify the individual parts you will need during the steps. And it doesn't hurt to tidy up your work space so you can quickly find all parts.

Now set out your tools and switch on your soldering iron. When using an adjustable soldering station/iron, we recommend a soldering temperature of about 320 - 340 degrees and a soldering tip about 2-3 mm wide.

Everything OK? Let's get started!



Presorted parts:



A

Prepare resistors with the bending tool.

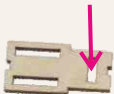
In order for the **resistors** to fit properly between the eyelets, the leads must be bent exactly in the correct location. To make this easier, we have designed a simple yet functional bending tool. Simply place the resistors in the notch and bend the leads down straight along the wooden edge. The part will now fit perfectly between the eyelets.

You will need these parts:



4 x resistor 470 Ohm, 1 x bending tool

Notch:

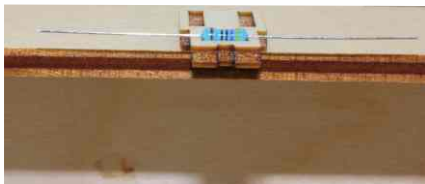


Resistor before

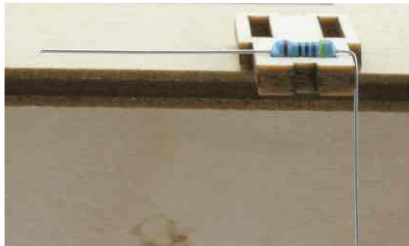


Bent

Insert resistor:



Bend one leg down:



Bend the other leg down:



You will now need these parts:

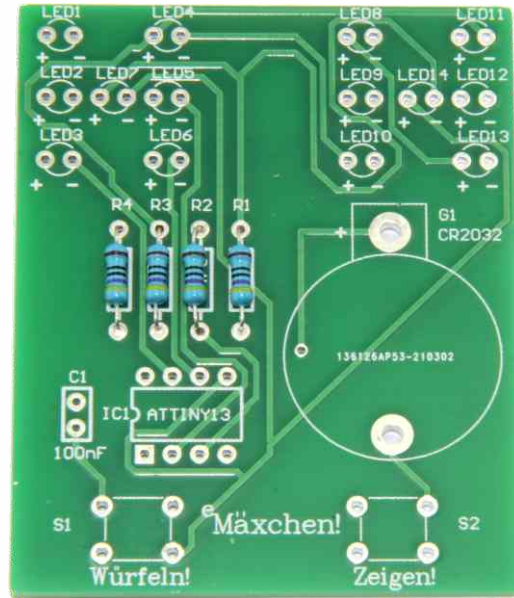


1 x PCB

4x 4 x bent resistors

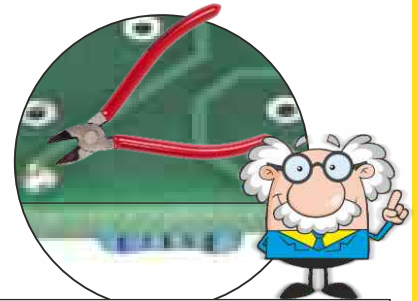


Solder on resistors...



... then trim the excess leads.

After soldering, trim the excess leads on the back to approx. 2 mm with side cutters.



Trim here to 2 mm high:

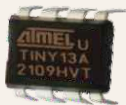
Part lead Soldering point

PCB

Part

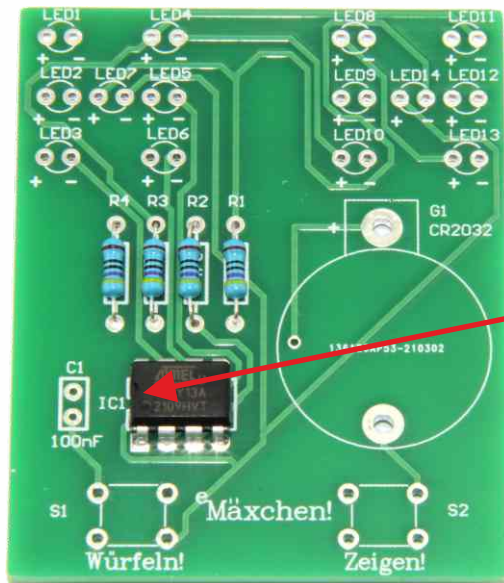
B

You will now need this part:



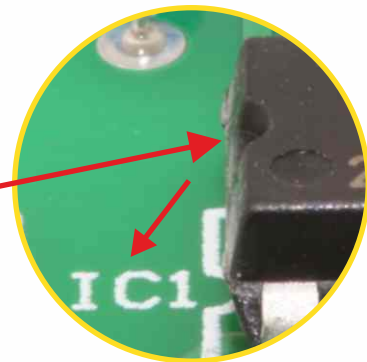
1 x processor ATTINY 13A

Solder on processor:



ATTENTION!

Note the polarity of the processor.
It has a **notch** (curve), which must
be on the left.



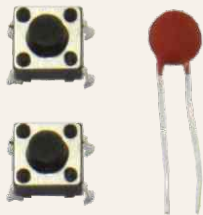
**EXTREMELY
IMPORTANT**

Notch on this side!



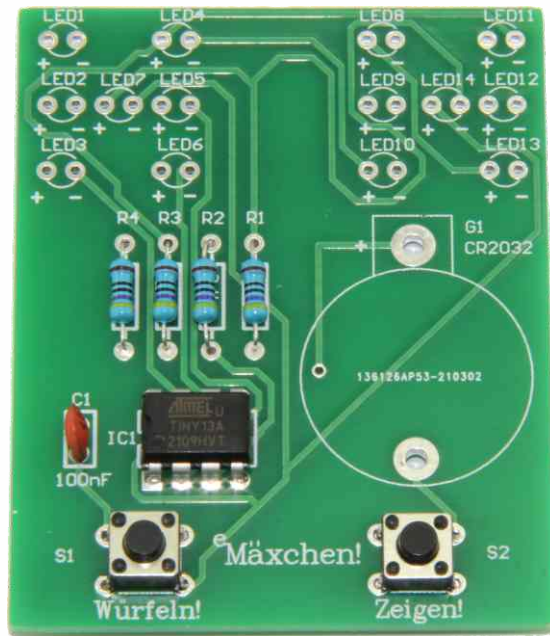
C

You will now need these parts:



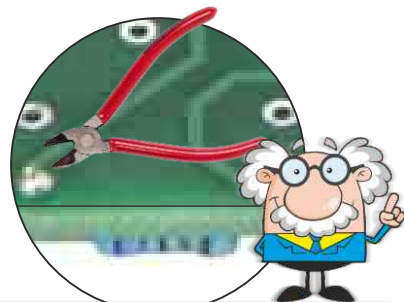
2 x push button
1 x capacitor 22 nF

Solder on push button and capacitor:



... then trim the excess leads.

After soldering, trim the excess leads on the back to approx. 2 mm with side cutters.



Trim here to 2 mm high:

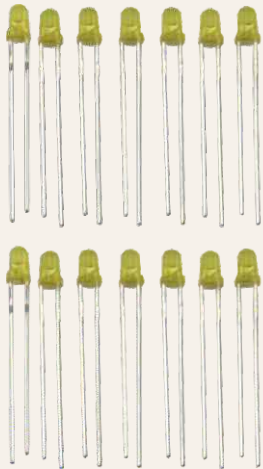
Part lead Soldering point

PCB

Part

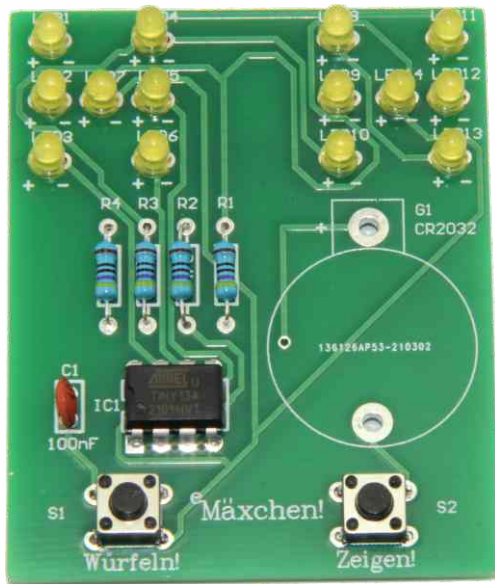
D

You will now need these parts:



14 x LED

Solder on LEDs and **be sure to note the polarity** - polarity indicated on the PCB!
The longer leg on the LED is always POSITIVE!
After soldering, trim excess leads.



TIP: When soldering on the LEDs, ensure they are properly seated on the PCB!



LED polarity:



Side view

+

-



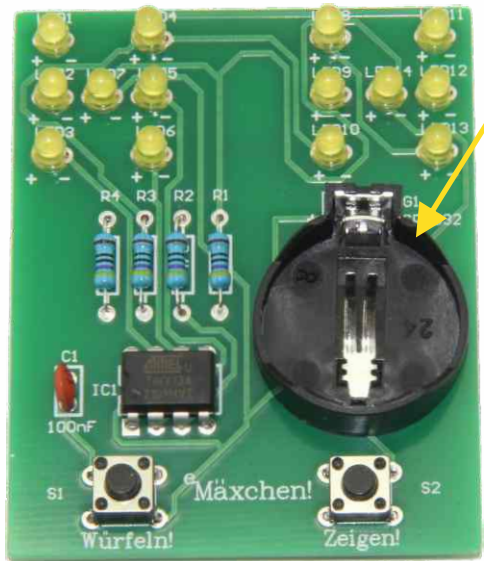
E

You will now need this part:



1x battery holder

Insert and solder battery holder for CR2032. Note the polarity!

**F**

Insert the CR2032 battery *(not included)*

If you can see the positive end \oplus from above, the battery is inserted correctly.



Troubleshooting

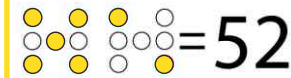
If you push a button and no LEDs light up:

- Visually inspect all soldering points. If individual soldering points are not properly soldered, resolder with some solder.
- Check the polarity of the processor (IC1)
- Replace the CR2032 battery you inserted or check the battery voltage with a multimeter.

eMäxchen - GAME INSTRUCTIONS

eMäxchen is a game for two or more players in this version. The objective of the game is to always have a higher number than the number rolled by another player before. The lowest number is 31, followed by 32, 41, 42, 43, 51, 52, 53, 54, 61, 62, 63, 64, 65, then "doubles" 11, 22, 33, 44, 55 and 66. The highest number is eMäxchen, 21. If you roll this, you win the round. Player 1 starts rolling by pressing and holding the "Roll" button as long as they like. After releasing the button the result will appear, consisting of two die number (which the player hides from the other players), with the left being higher or equal to the number on the right. Read the number as two digits.

If a player does not roll 21, they must either: say the number they rolled **or:** cheat/make up a number. If the player cheats and says a different number, they can say any number except 21 not lower than the number rolled before (so on the first roll any number except 21). After a few seconds the LEDs will go out (only the middle two LEDs will flash now) and the PCB can be passed to the next player.



The next player can then believe the previous player they rolled the number called out: It is now the current player's turn. The player rolls and tells the next player a number which must be higher or equal to the number called out before. If a lower number is rolled, the player must cheat or they will immediately lose the round. **Or: don't believe the previous player:** In this case the current player will press the "Show!", button, which shows the number rolled before. If the previous player in fact cheated, the current player wins. But - if the previous player said the truth, the current player loses.

If no button is pressed for a few seconds, the game will automatically switch off. This extends the battery life considerably. If a battery is drained, remove the battery and replace it with the same type. Please take the old battery to a collection site, never throw it in the household rubbish. This is your active part in protecting the environment to everybody's benefit!

Hier geht es zur Anleitung:



Click here for the instructions:



Cliquez ici pour les instructions:

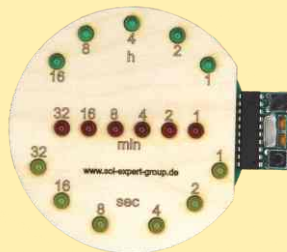


Klik hier voor de instructies:



Other great SOL-EXPERT group soldering kits:

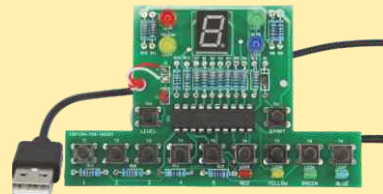
Binary Clock soldering kit



Shows the time digitally!

Item no.: 76334

TrainYourBrain soldering kit



Keep your brain fit!

Item no.: 79300

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