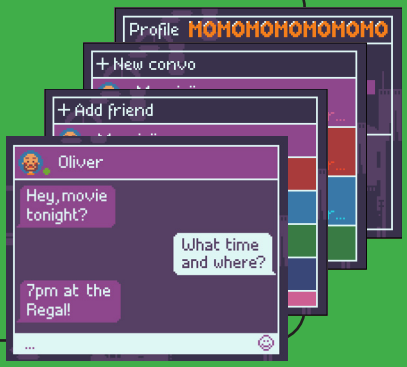
# CREATOR'S BOOKLET

CircuitMess

## Meet Chatter

Chatter is a DIY encrypted wireless communicator. It comes in a pair and it is a free, private, security-first texting device.




## How does it work?

- Assemble your Chatters
- Insert batteries
- Text for free
- Code your own custom apps

## What is CircuitMess?

**CircuitMess** started in 2016 when Albert (our CEO) was 17.

**Albert** loved tinkering with electronics, and one of his first projects was a DIY game console.

People liked the idea, so he launched it on **Kickstarter**, which raised $100,745!

After that, CircuitMess was born. We are a small and fast–growing team of tech lovers who wish to share our love of creating new technology with the rest of the world!

Albert

## The mission

Everybody knows how important technology is, but less than 1% of the population knows **HOW TO MAKE** new technology.

We're here to change that! With our kits, we want to inspire people to be **CREATORS** instead of just consumers.

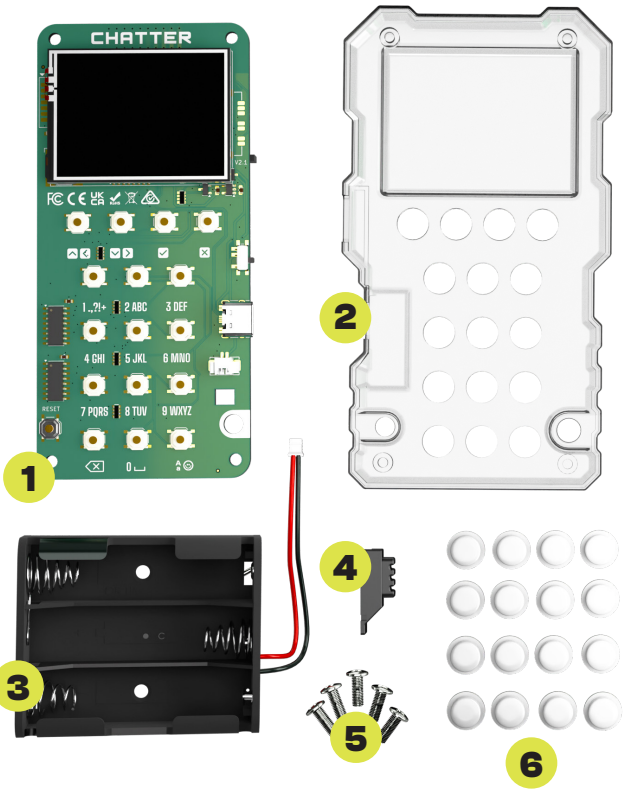
## What will you learn?

- How to assemble your very own private texting device
- How LoRa works
- What digital privacy means in today's world and how to digitally communicate without using the internet
- How Chatter encrypts/decrypts messages
- How Chatter pairs with other Chatters
- How to code and load custom apps onto your Chatter

## What's inside the box?

In the Chatter kit, you will get all the components & tools necessary to make two Chatter devices

1. Circuit board with a built in communication module
2. Acrylic casing
3. Battery holder
4. Plastic on-off cap
5. Metal bolts
6. Button caps
7. Casing
8. Screwdriver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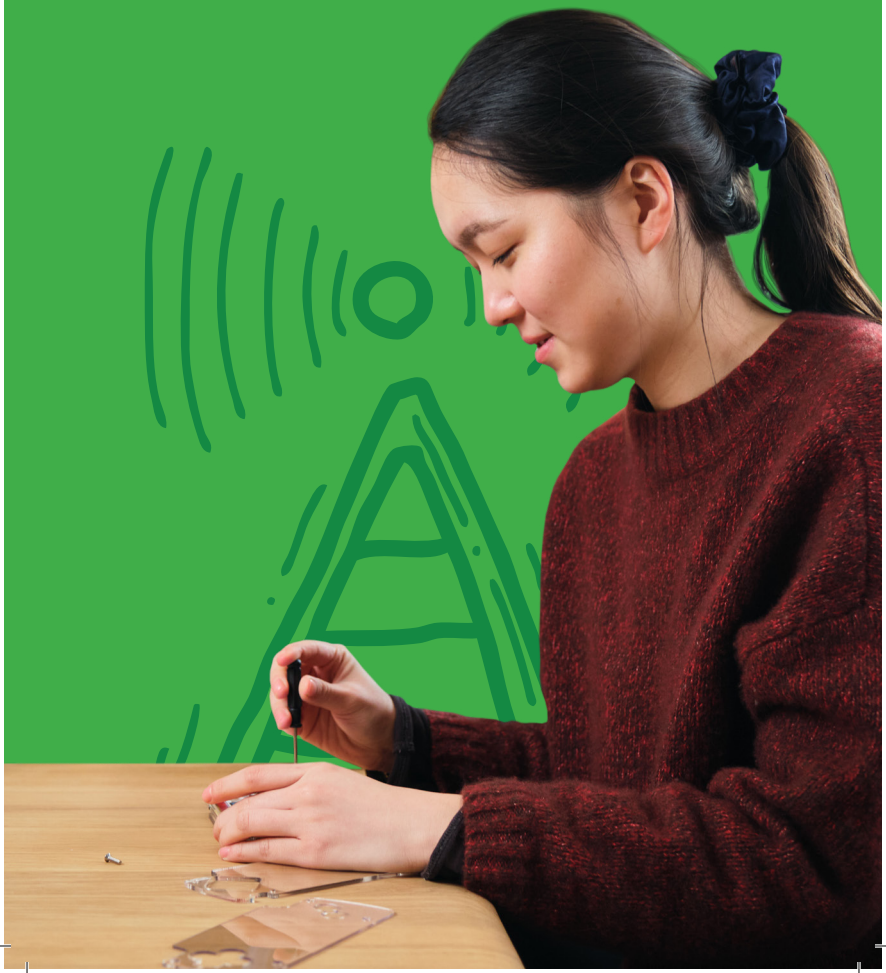
## What is LoRa® technology?

LoRa (long range) is a shortened term used to describe low-power wide-area network modulation technique used for transmitting radio signals.

**Low-power means that LoRa powered devices have low power consumption.**

**Wide-area represents physical range, which is up to 10 km in perfect conditions.**



## What's the difference between WiFi and LoRa?

WiFi is used to connect billions of professional and personal devices across the world

**LoRa** is a very unique & smart technology - it is used for smart homes and buildings, smart agriculture, home security and access control, smart cities and many more.

WiFi consumes much more energy compared to LoRa, and provides greater data transmission speeds, but has a much shorter range compared to LoRa.

In other words, WiFi transfers a lot of data over a short range and uses a lot of power. LoRa consumes very little power and is great for transferring small amounts of data (such as text messages) over a very long range.

### How does LoRa work?

Radio signal is transmitted using chirped, multi-symbol format to encode information. It works by encoding information on radio waves using chirp pulses.

**Sounds complicated?** Dolphins and bats have already figured it out - they communicate in a similar way!

# How did the world go wireless? - A brief timeline

1888

**Heinrich Hertz** experimentally proves the existence of radio waves, which can be used to carry signals in wireless communication.

1897

**Guglielmo Marconi** successfully demonstrates wireless communication with his invention of wireless telegraphy.

## 1900–1990

Lots of research and development is being done in the field of wireless technology for military purposes. At the same time, wireless communication is also expanding into a commercial sphere, in a form of Radio and TV broadcasting.

## The 1990s

Wireless revolution takes place! We're talking cellular networks, computer networks Bluetooth, Wi-fi...What a time to be alive :)

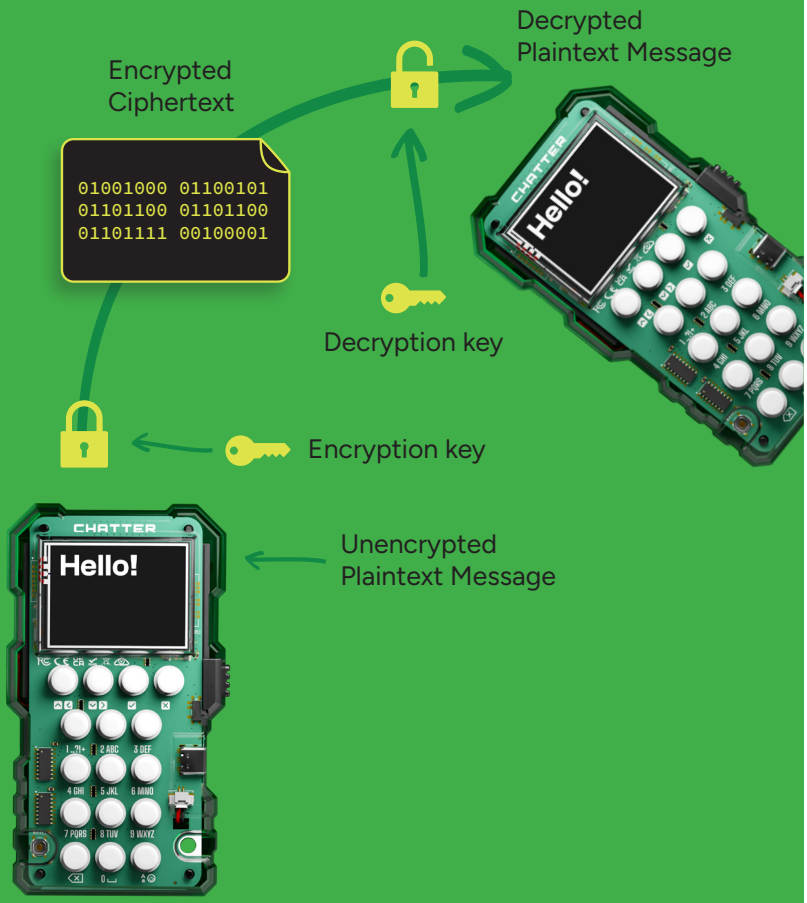
## 2022

CircuitMess launches Chatter. Now you can actually assemble and code your own wireless communicator in a fun and simple way!

Chatter uses low-power wide-area network technology (LoRa) to send text messages, emojis, memes, and GIFs.

## Your communication through Chatter is super-secure

The messages you send to other Chatter devices are encrypted and are not passing through an internet service provider. You can share as many secrets as you want with your friends ;)



## Safety first

Before you start with the assembly, pay attention to the following safety measures:

1. Using products provided in this electronic kit is not recommended for children under the age of 7!

2. **Keep Chatter away from young children! This product contains small components that are dangerous to children under the age of 3.**

3. If you are a minor, assemble Chatter strictly with the help of an adult.

CircuitMess Chatter is a fun introduction to the world of real electronics, but it is not a toy for toddlers!

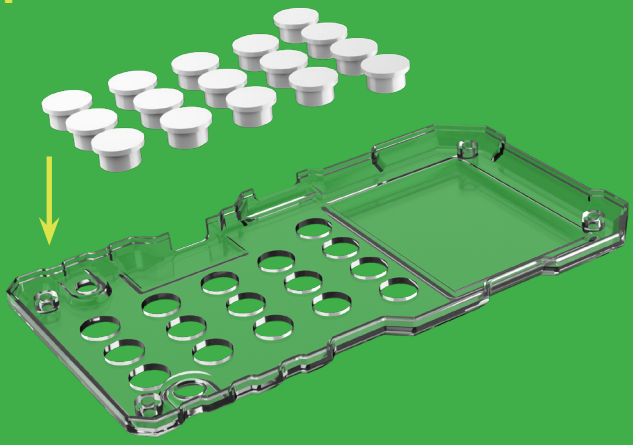
Strictly follow all the instructions you received in this kit and those found on our online pages so that no one gets hurt.

If you have never used a screwdriver before, carefully follow the assembly instructions on our website and, if necessary, ask someone more experienced or older to help you.

If you are having problems with your kit, contact our customer support via email at contact@circuitmess.com

# Build guide

## 1



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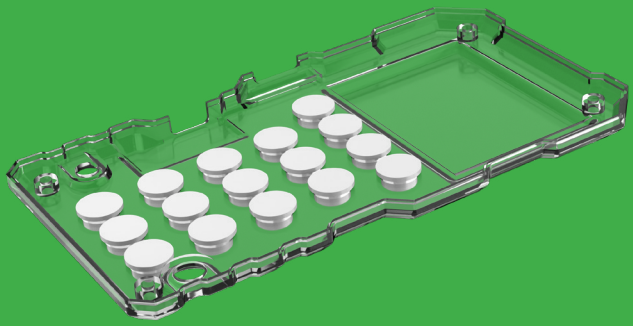

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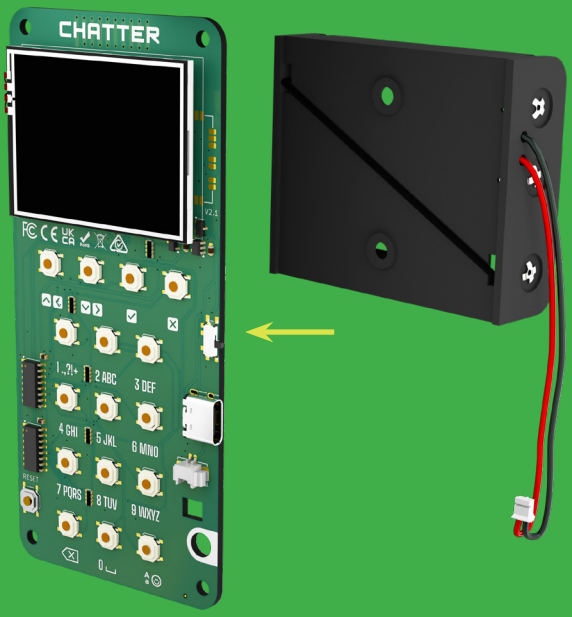
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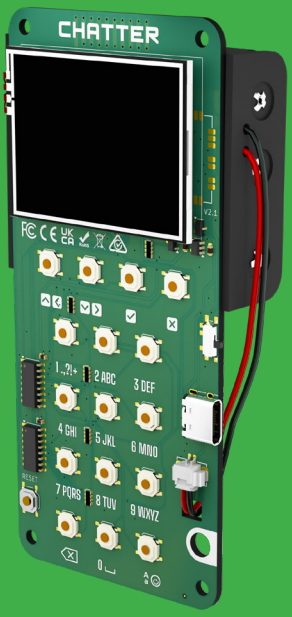
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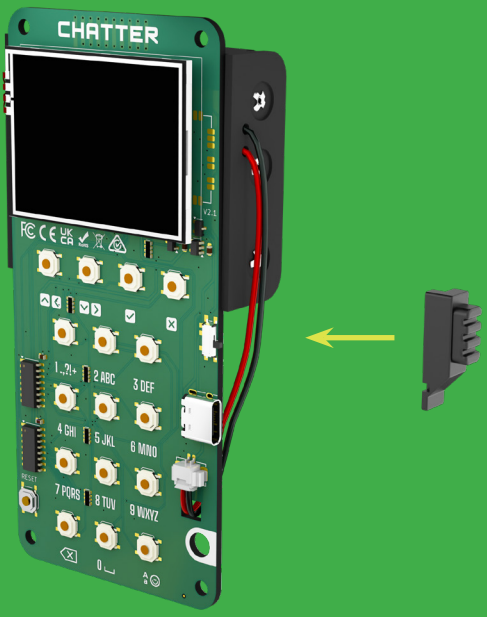
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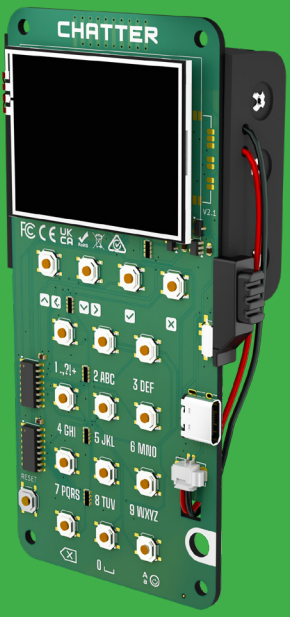
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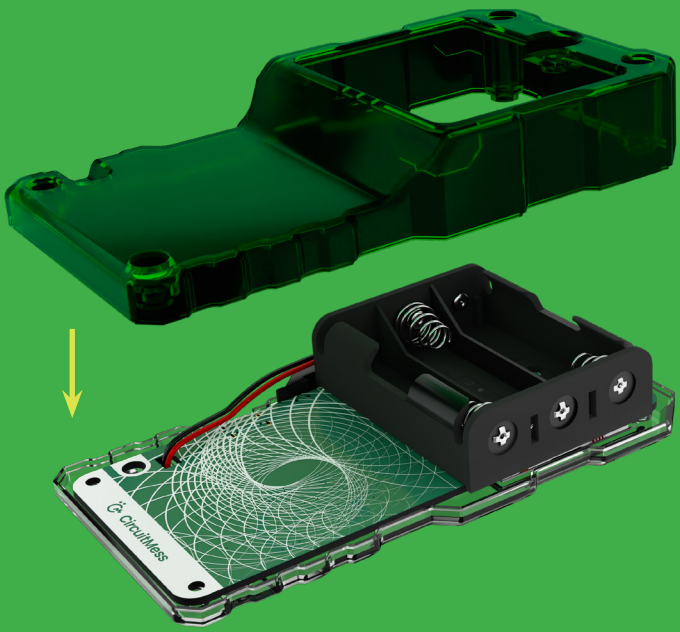

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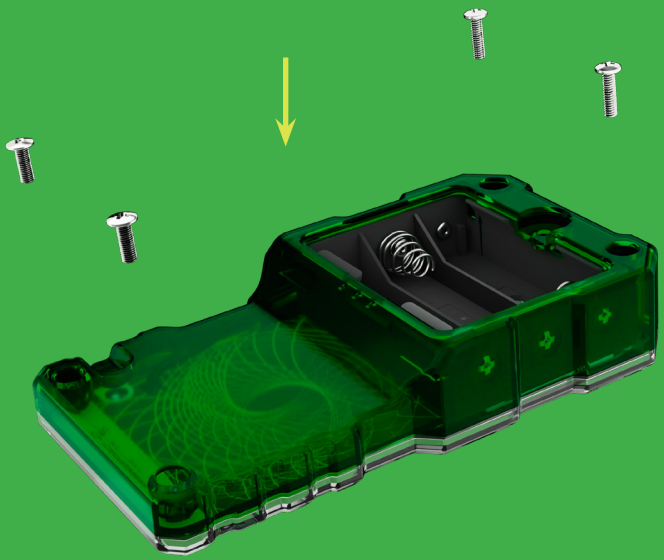

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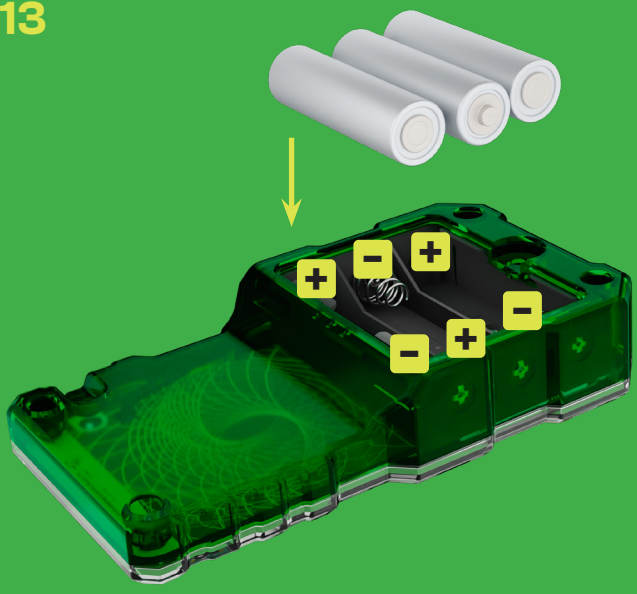

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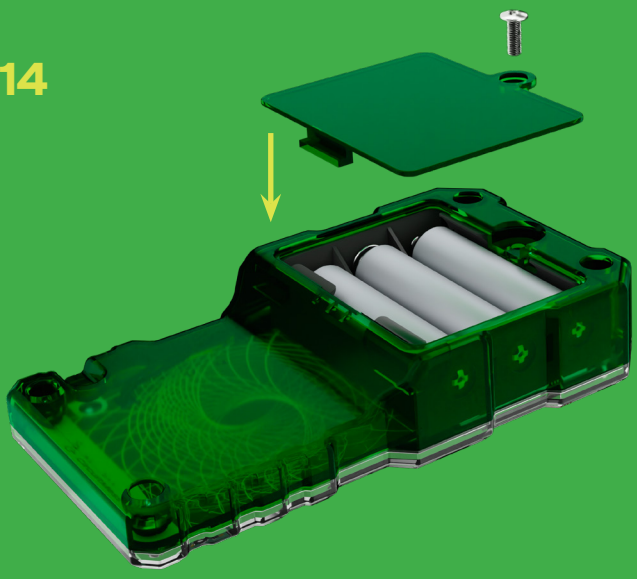

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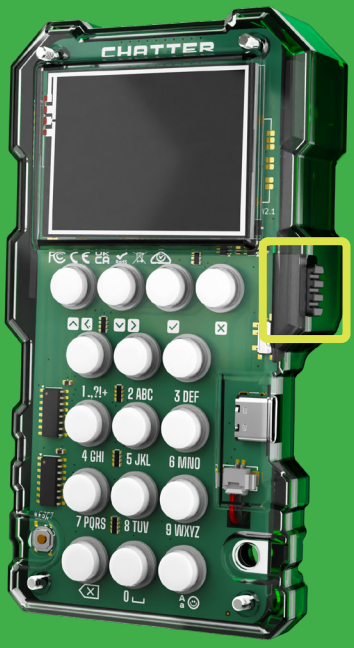


On-off switch

**Scan the QR code to learn how to use your device**

## Questions and answers

**1. What is the communication range of Chatter devices?**

Chatter devices have a range of approximately 2 kilometers (about 1.2 miles) under optimal conditions. This range can vary based on environmental factors and obstacles.

**2. Do I need Wi-Fi or a cellular network to use Chatter?**

No, Chatter uses LoRa (Long Range) radio technology to communicate directly between devices, eliminating the need for Wi-Fi or cellular networks.

**3. How do I add friends on Chatter?**

Use the "Friends" app on Chatter to scan and find nearby devices. Once detected, you can send and accept friend requests to establish a connection.

**4. Can I program Chatter?**

Yes, Chatter is programmable through CircuitBlocks (our beginner-friendly online coding platform). For more advanced users, programming in Python or C++ (Arduino) is also supported, providing flexibility for various skill levels.

**5. What should I do if a message isn't delivered?**

If a message isn't delivered (indicated by an unfilled circle), it may be due to the recipient being out of range or their device being turned off. You can attempt to resend the message by selecting it and choosing the "Resend message" option.

**6. How do I restore Chatter's firmware?**

Open code.circuitmess.com, click "Restore firmware," and connect your Chatter device while it's powered ON. Make sure to select the correct COM port to begin the restoration.

SPARKY
KICKSTART
YOUR STEM
ADVENTURES!

**Thank you for purchasing CircuitMess Chatter.**

For more information and detailed instructions on assembling and using your device, visit our official website: circuitmess.com/resources/guides

**Important safety information for CircuitMess Chatter**

Read all safety information before using the device.

**WARNING:** Failure to follow these safety instructions could result in fire, electric shock, injury, and damage to your device or other objects. Read all safety information before assembling and using this device.

This product is a do–it–yourself device, and for it to work properly, you must assemble it according to the instructions you'll find on our website.

If you are a minor, assemble it only under an adult's supervision to avoid potential risks.

CircuitMess Chatter contains sensitive electronic components. CircuitMess Chatter or its components may be damaged if dropped, burned, punctured, crushed, or in contact with liquid. If you suspect that any part of your CircuitMess Chatter kit (especially the batteries) is damaged, stop using the device. Using a damaged device may cause injury.

Use only authorized accessories compatible with your device and/or the supplied tools.

The device's operating temperature ranges from 0 ° C ~ 40 ° C.

Using this device in conditions outside this temperature range may damage the device.

Please turn off CircuitMess Chatter after use and store it in a safe and dry location.

The included battery must be recycled appropriately and/or disposed of separately from household waste.

Improper handling of batteries can cause a fire or explosion. Dispose of or recycle your device, battery, and accessories according to local regulations.

**The included battery is NOT rechargeable.**

• Do not short–circuit the battery

• Improper use of the battery can cause overheating, burns, or other injuries.

• Do not leave the battery directly exposed to intense sunlight.

• Do not use the device or the battery in high–temperature conditions. Overheating may cause an explosion.

• Do not disassemble or damage the battery to avoid battery leakage, overheating, or explosion.

• In the case of deformation, stop using the battery immediately and dispose of it properly.

• If you are not sure whether your device or the included battery is safe to use, turn off the device, put it in a safe place, and contact our customer support via email at contact@circuitmess.com.

Keep the device dry.

Do not attempt to repair the device by yourself.

If any part of the device does not work correctly, contact our customer support (contact@circuitmess.com) or take your device to a certified repair shop.

Connect other devices according to their operating instructions. Do not connect incompatible devices to this device.

**Precautions**

During prolonged use, CircuitMess Chatter may rarely overheat.

Keep CircuitMess Chatter in a ventilated room during the use and assembly. Pay special attention to this if you suffer from a physical condition that affects your ability to detect heat on your body.

Assembling or using CircuitMess Chatter in an area with a potentially explosive atmosphere, such as areas where the air contains high levels of flammable chemicals, vapors, or particles (such as dust or metal powder), can be dangerous.

Exposure of CircuitMess Chatter to environments with high concentrations of industrial chemicals, including liquefied gases that evaporate, such as helium, can damage the functionality of CircuitMess Chatter.

Do not use CircuitMess Chatter in hospital operating rooms or intensive care units.

Contact your doctor or our customer support (contact@circuitmess.com) to determine if the device's operation may compromise the work of medical devices.

To avoid possible interference with a pacemaker, maintain a minimum distance of 15 cm between the CircuitMess Chatter and the pacemaker.

To achieve this, do not carry the included device in your pockets.

Do not use CircuitMess Chatter near hearing aids or similar medical aids and equipment to avoid interference with medical equipment.

Check aircraft safety regulations and turn off CircuitMess Chatter on the aircraft if necessary.

Do not use CircuitMess Chatter while driving.

To avoid lightning strikes, do not use CircuitMess Chatter outdoors during storms.

Do not use the CircuitMess Chatter in high-humidity environments such as bathrooms. Failure to do so may result in electric shock, injury, fire, and damage to the product, electronic components, power adapter, or other parts of this electronic educational kit.

Follow all the rules that limit the use of portable electronic devices in some situations and conditions.

The individual parts and components in the CircuitMess Chatter can pose a choking risk to children under 36 months. Keep all components, tools, and parts of this product away from small children before and after assembling the device.

**Additional Recommendations and Precautions for Parents, Guardians, and Teachers Buying CircuitMess Chatter for Children**

**1.** Carefully follow the instructions for adequately assembling CircuitMess Chatter. Keep these and all other instructions that came with the products in a safe place.

**2.** Supervise your child while assembling and using the CircuitMess Chatter. Your responsibility is to ensure that the child uses the CircuitMess Chatter correctly and that the CircuitMess Chatter is suitable for the child's age and abilities.

**3.** Check from time to time if CircuitMess Chatter is damaged or worn out in any way to prevent possible injuries and risks to the child's health and safety. If CircuitMess Chatter is damaged, remove it immediately.

**4.** Remove any unnecessary packaging, but keep the instructions. Take care that children do not play with any plastic packaging as there are suffocation risks.

**5.** Teach children to always store CircuitMess Chatter and other parts of the CircuitMess Chatter educational kit appropriately to prevent accidents. Do not leave CircuitMess Chatter on stairs or on the floor in your home or classroom where someone can step on it.

**6.** Always report a product security issue to our customer support (contact@circuitmess.com)

**Declaration of Conformity**

CircuitMess d.o.o. declares that this DIY educational kit CircuitMess Chatter model complies with the essential requirements and all other relevant provisions

of Directive 2014/53 / EU. The full text of the EU declaration of conformity is available at the following Internet address: circuitmess.com/certification.

**Legal Information**

This device can be used in all EU Member States. Check all the national and local regulations about using the device. This device may be restricted for use, depending on local laws.

Manufacturer:

CircuitMess, Inc.

651 N Broad St, Suite

206, Middletown, 19709

New Castle,

Delaware

**Proper disposal of this product**

WEEE markings on the product indicate that this product may not be disposed of with the rest of your household waste in the EU. To prevent possible damage to the environment or human health from uncontrolled waste disposal, recycle the product responsibly. Recycling promotes the sustainable reuse of resources. For more information on the disposal of electrical and electronic equipment, don't hesitate to contact your local household waste disposal service, the store where you purchased the kit, or our customer support (contact@circuitmess.com).

**IMPORTANT! Warranty conditions:**

The warranty is valid only if the original invoice is attached to the product as proof of purchase during the complaint. If the customer sends the product for repair for any reason not covered by the warranty, the customer may be charged for inspection and testing and delivery costs.

**WARRANTY STATEMENT**

CircuitMess d.o.o., with its registered office in New Castle, Delaware, 651 N Broad St, Suite, 206, Middletown, 19709, guarantees the quality and proper functionality of the components that come in the CircuitMess Chatter DIY educational kit for a duration of 24 months from the date of purchase.

If the assembled device does not work correctly due to defects in supplied parts or electronic components supplied in the CircuitMess Chatter DIY educational kit, CircuitMess d.o.o. will repair the product or send an equivalent replacement product at their own expense.

In case you are experiencing assembly or functionality difficulties with your device, please contact us via email (contact@circuitmess.com).

Please include a detailed description of the problem.

If you are sending the product to a repair shop, it is recommended to deliver the product in the original packaging to protect it from potential damage during transportation.

**WARRANTY CONDITIONS**

• The warranty period begins on the day of sale indicated on the invoice.

• The warranty is valid upon presentation of the original invoice.

• If the defect is not remedied within a reasonable period after receiving the product for repair, CircuitMess d.o.o. will replace it with a new product.

• The repair shop does not take responsibility for storing and/or losing personal data while repairing the device.

**WARRANTY DOES NOT COVER**

• Upgrades, alterations, modifications to hardware and/or software without the written consent of CircuitMess d.o.o.

• Malfunctions due to improper handling, faults due to wear of the device and/or its parts (in you need help with assembly or if you have difficulty using the device after

assembling it, please contact us at contact@circuitmess.com).

• Defects caused by external particles (including, but not limited to: staples, waste, dust, food) and external factors (including, but not limited to: moisture, water, thermal damage).

• Mechanical damage and/ or failures caused by mechanical damage.

• Use of the product for a purpose for which it is not intended.

• Requirements for the appearance, technical functionalities, and/ or capabilities of the product outside the manufacturer's specifications and/or standards.

• Damages to personal data, other tangible and/or intangible assets of the buyer and/or third parties, indirect damages, lost profits caused by the use of the product, and/or its failure.

• Repairs in an unauthorized repair shop and/or installation of non–original spare parts.

• Damage caused during transportation caused by improper packaging.

The rights under this warranty are the exclusive and final rights of the customer unless otherwise provided by national law.

CircuitMess d.o.o. as the warranty provider and/or its authorized partners will not be liable for any defect, damage, loss, direct or indirect cost, or connection with the delivered products outside the warranty conditions written here.

This warranty does not affect other rights of the customer belonging to him on other legal grounds.

**FCC STATEMENT:**

This device complies with Part 15 of the FCC rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for Class B digital devices pursuant to Part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference to radio communications. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication.

However, there is no guarantee that interference will not occur in a particular installation. If this toy does cause interference to radio or television reception, you can check this by turning the toy off and on while listening for the interference), one or more of the following measures may be useful.

• Reorient or relocate the receiving antenna

• Increase the separation between the toy and the radio or the TV

• Consult the dealer or an experienced TV-radio technician for help.

**NOTE:** Changes, adjustments or modifications to this unit, including but not limited to the replacement of any transmitter component (crystal, semiconductor, etc), could result in a violation of FCC rules under pad 15 and/or 95 and must be expressly approved by CircuitMess d.o.o. or they could void the user's authority to operate the equipment.

**Photosensitivity / epilepsy warning:**

A very small percentage of individuals may experience epileptic seizures when exposed to certain light patterns or flashing lights. Exposure to certain patterns may induce an epileptic seizure in these individuals. Certain conditions may induce previously

undetected epileptic symptoms even in persons who have no history of prior seizures or epilepsy. If you, or anyone in your family, have an epileptic condition, consult your physician before playing. If you experience any of the following symptoms while using the product - dizziness, altered vision, eye or muscle twitches, loss of awareness, disorientation, any involuntary movement, or convulsions - immediately discontinue use and consult your physician before resuming play.

**WARNING:**
This toy produces flashes that may trigger epilepsy in sensitised individuals.

⚠ **WARNING: CHOKING HAZARD - Small parts.** Not for children under 3 years.

## WARRANTY SHEET

| | |
|---|---|
| **Product name:** | CircuitMess do-it-yourself educational set for electronics and programming |
| **Warranty on components and parts contained in this set is:** | 24 months |
| **Date of purchase:** | |
| **Seller and point of sale stamp:** | |
| **Invoice number:** | |

Information on interventions during warranty period is entered by a repair shop technician at an authorized repair shop.

| Received on | Issued on | Fault description | Warranty extension |
|---|---|---|---|
| | | | |

CircuitMess

**Manufacturer:**

CircuitMess, Inc.
651 N Broad St, Suite
206, Middletown, 19709
New Castle,
Delaware
Country of origin: China
www.circuitmess.com

**Authorized repair shop:**

CircuitMess, Inc.
651 N Broad St, Suite
206, Middletown, 19709
New Castle,
Delaware
Country of origin: China
www.circuitmess.com

CircuitMess