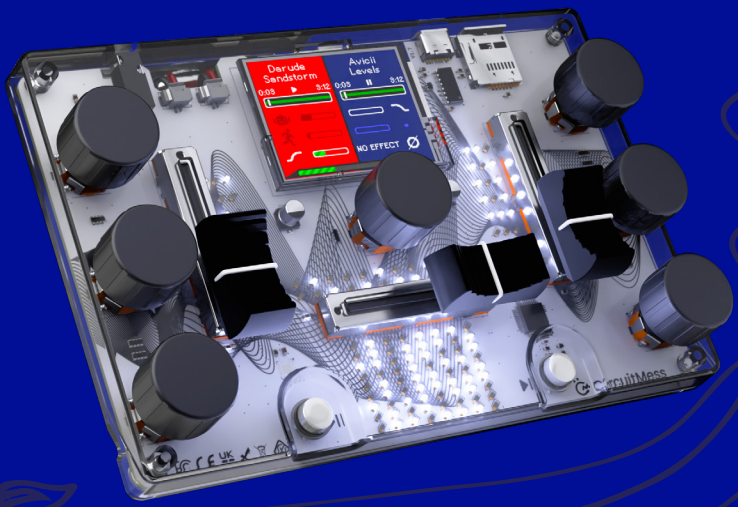
CREATOR'S BOOKLET



CircuitMess

Meet Jay-D

Jay-D is a DJ mixer you build and code yourself.

How does it work?

- Assemble your DJ mixer
- Code new apps and functions
- Play and mix music
- Become a DJ superstar!

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

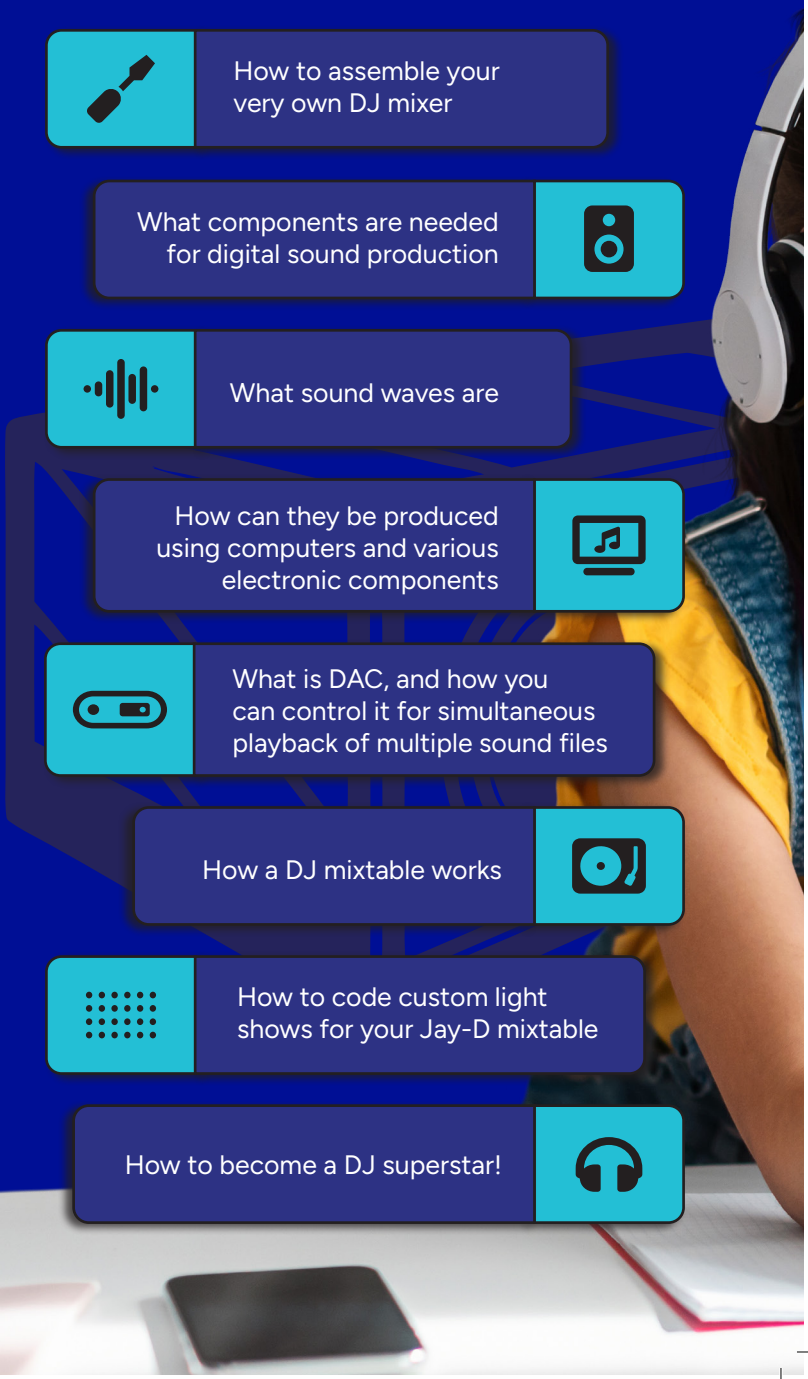
The mission

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.

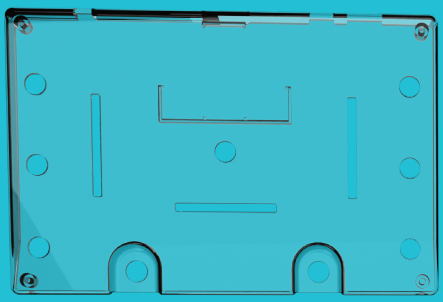
What will you learn?

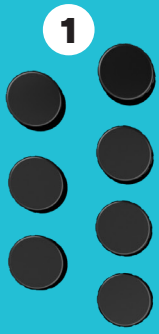
- How to assemble your very own DJ mixer
- What components are needed for digital sound production
- What sound waves are
- How can they be produced using computers and various electronic components
- What is DAC, and how you can control it for simultaneous playback of multiple sound files
- How a DJ mixtable works
- How to code custom light shows for your Jay-D mixtable
- How to become a DJ superstar!



What's inside the box?

1.  Custom-made plastic knobs
2.  Acrylic casing
3.  Main circuit board
4.  Micro SD card
5.  Slider caps
6.  Button caps
7.  Screws and spacers
8.  Speakers
9.  Screwdriver

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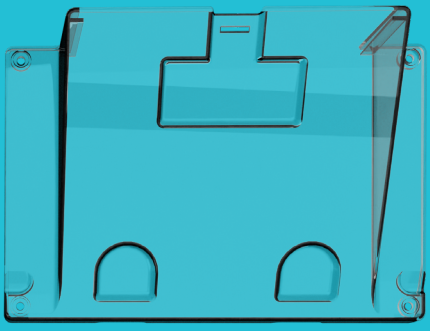

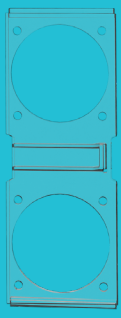
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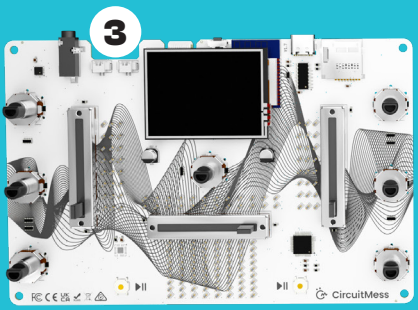
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CircuitMess


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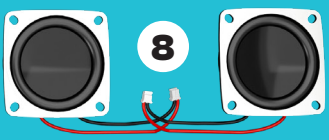
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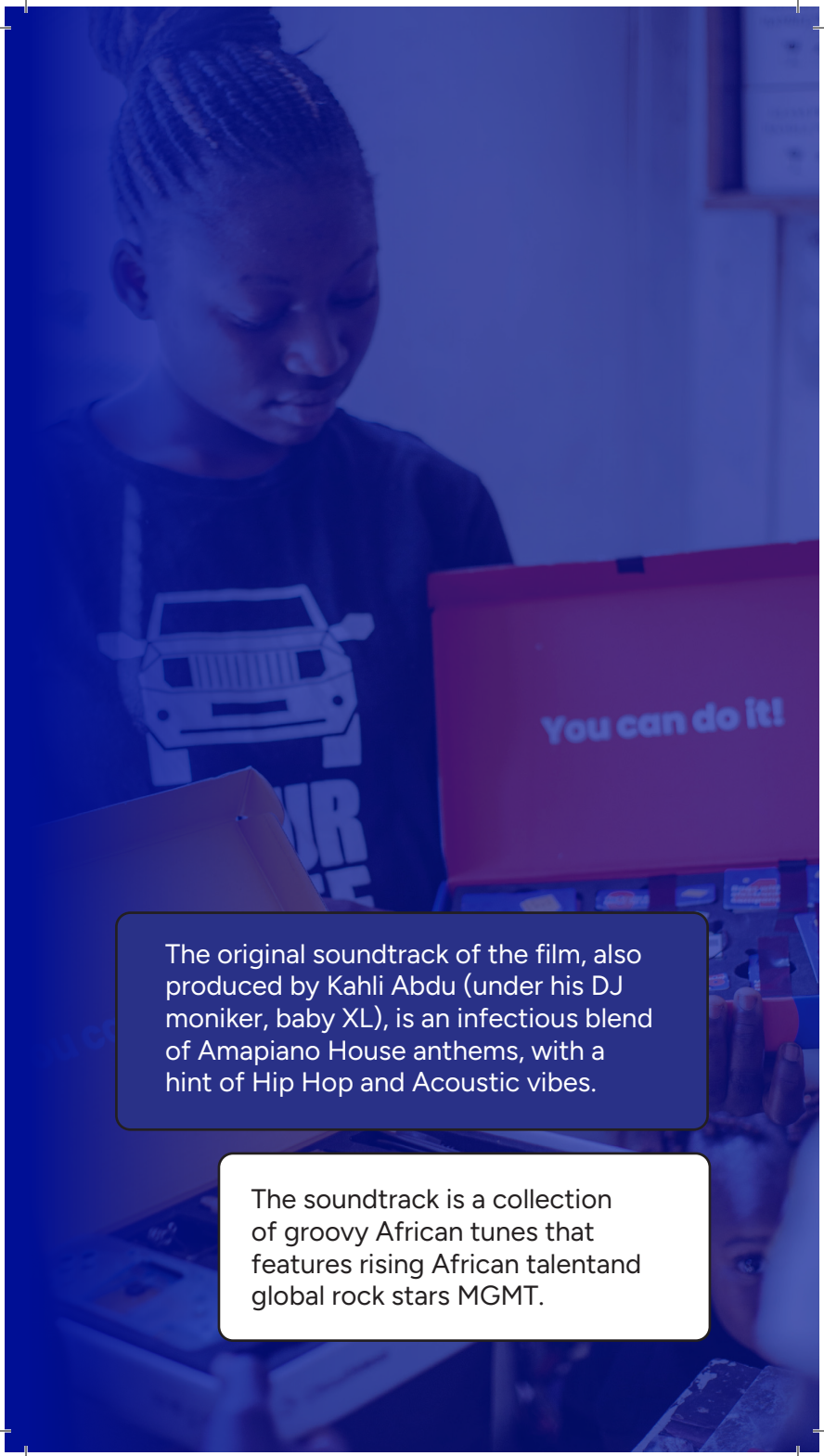
Shiny Gloves Club

We have partnered with **Shiny Gloves Club** on this project - a non-profit organization founded by Kahli Abdu committed to providing free education to children in impoverished communities in Africa.

Kahli Abdu's short film **Young Michael** (shot in Miango village in Jos, Nigeria) is about a poor, but a gifted boy who will use his extraordinary gifts to lift his single mother and sister out of poverty. The film was written and produced by Kahli Abdu and is directed by JENOM.

On your **Jay-D**, besides free sample music, you will also find 4 awesome and exclusive new tracks from Young Michael's movie soundtrack.



The original soundtrack of the film, also produced by Kahli Abdu (under his DJ moniker, baby XL), is an infectious blend of Amapiano House anthems, with a hint of Hip Hop and Acoustic vibes.

The soundtrack is a collection of groovy African tunes that features rising African talentand global rock stars MGMT.

What is a DJ mixer?

A **Mixer** is an essential piece of equipment for any DJ. These mysterious little electronic boxes make music magic happen.

They are used to **control**, **mix** and **manipulate** tracks. With them, you can create different sounds & sound effects to make unique music.

Walter Winchell

Fun fact

DJ is an abbreviation for **"disc jockey"** - a person who plays recorded music for an audience. The word "disc" comes from vinyl gramophone records used before all of the fancy electronics that we have nowadays were invented.

The term "jockey" means the operator of a machine. This term was coined in 1935 by an American radio commentator **Walter Winchell**.

Digital sound production

Digital audio is a representation of sound recorded in or converted into digital form.

In digital audio, the audio signal's sound wave is typically encoded as a sequence of numbers.

Digital audio systems need to handle the following tasks:

Compression - the audio signal is compressed to save storage and bandwidth. Jay-D handles this with its dual-core processor called the ESP32.

Storage - digital audio needs to be stored somewhere. Jay-D has a Micro SD card where the songs are stored in a digital format.

Processing - digital audio needs to be processed, synced, and sometimes converted in order to be played correctly. Jay-D processes digital audio using its dual-core processor.

Data transmission - this is usually done by various communication channels in digital audio systems such as computer buses, copper wires, and sometimes optical fibers.

Speakers

A speaker is a device that converts electrical signals into sound.

More technically, a speaker changes an electrical audio signal into sound pressure waves.

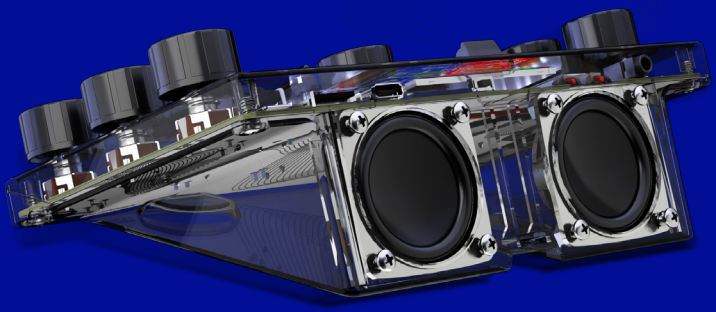
Speakers usually have two things written on them:

W **Wattage** (i.e., 5W) - this marks how much power the speaker can handle. More specifically, the number of Watts indicates how much power a speaker can be burdened with under certain circumstances before it breaks.

Impedance (i.e., 8 ohms) - this represents how difficult the speaker is to power. The lower the impedance, the more efficiently it allows the electric signal, which is the music, to pass through the speaker. Impedance is measured in ohms.

Ω

Jay-D's speakers are rated for 5 Watts of power and 4 ohms of impedance.



Amplifiers

An electronic **amplifier** is a device that increases the level or amplitude of an electric signal, making the resulting sound louder.

Every device that produces sound has some kind of amplifier, including your **laptop**, **mobile phone**, or the **TV** in your living room.

Did you know?

Not all amplifiers are made out of microchips!

An acoustic amplifier is the part of the musical instrument that vibrates in response to the instrument's initial vibration, causing the surrounding air to move more efficiently and making the sound louder. Some examples of an acoustic amplifier include the body of an acoustic guitar, a drum's shell, and the piano's wooden soundboard.

Jay-D's plastic casing acts as an acoustic amplifier. You can try playing sounds on your Jay-D with and without the casing attached, and you'll see that the sound is louder when you attach the plastic casing.

Soundwaves

Sound wave is a wave caused by a **vibration** that results in slight air pressure variations, which we hear as **sound**.

Sound waves move by vibrating objects, and these objects vibrate other surrounding objects, carrying the sound along. Sound can move through the air, water, or solids as long as there are particles to bounce off.

Believe it or not, there is **no sound** in outer space because there are no molecules there.

Here on Earth, fortunately, we have air molecules that vibrate to our ears.

DAC

Digital-to-Analog Converter (usually called "DAC") is an electronic circuit that takes **digital data** and transforms it into an **analog audio signal**. Afterward, it sends that analog signal to an amplifier.

When you hear digital recording, you're actually listening to an analog signal converted from digital by a DAC. Jay-D has a DAC chip called **"MAX98357AETE+T"**. This chip has an amplifier built-in.

In the conversion process, the digital signal, which is a stream of ones and zeros, is transformed into an analog signal in the form of an electrical charge.

D/A is an abbrevation fancy engineers use for Digital to Analog conversion.

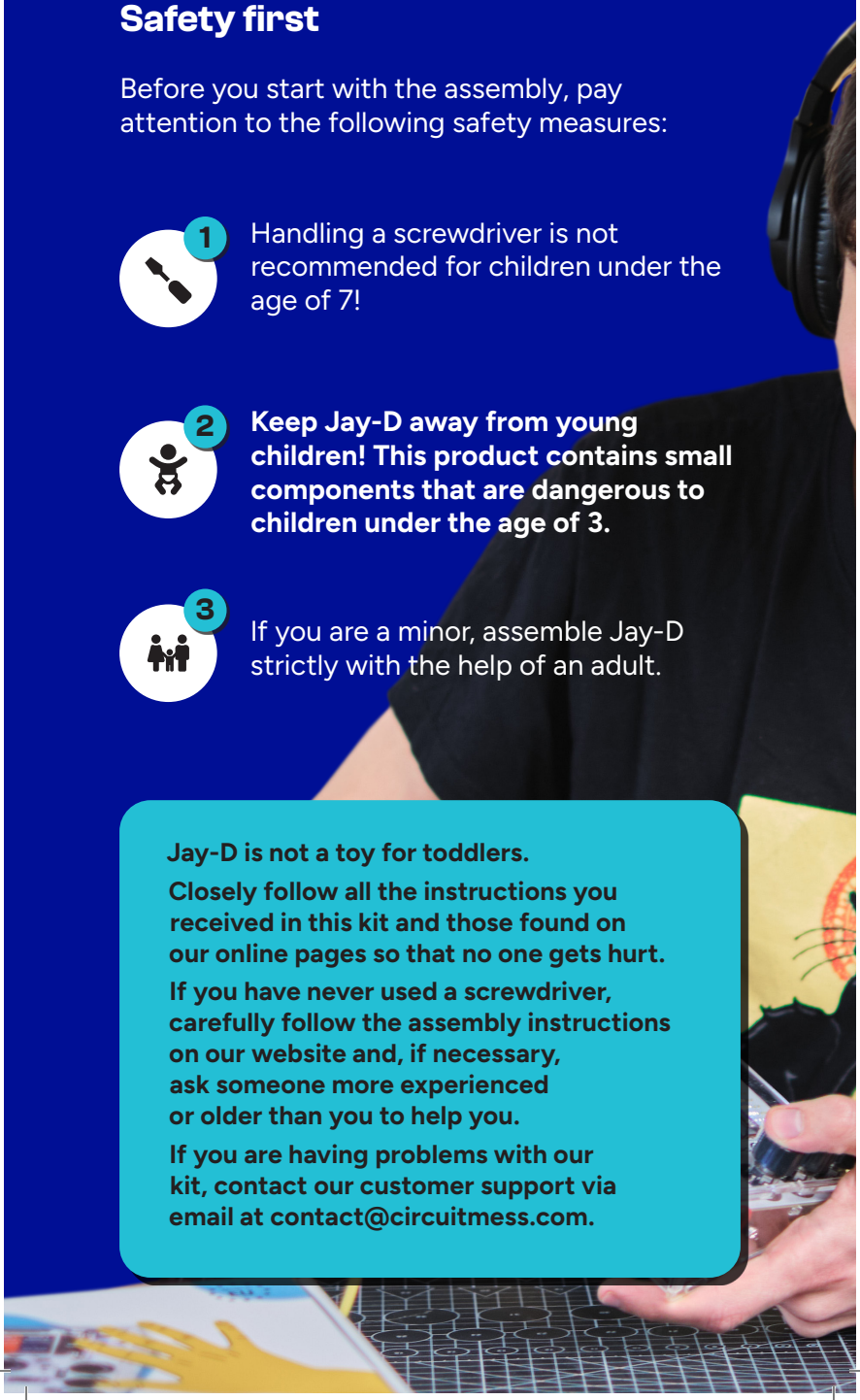
Safety first

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

1. Handling a screwdriver is not recommended for children under the age of 7!

2. **Keep Jay-D 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 Jay-D strictly with the help of an adult.



Jay-D is not a toy for toddlers.

Closely 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, carefully follow the assembly instructions on our website and, if necessary, ask someone more experienced or older than you to help you.

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


audio-technica
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TOURNÉE
DU
CHAT

Build guide

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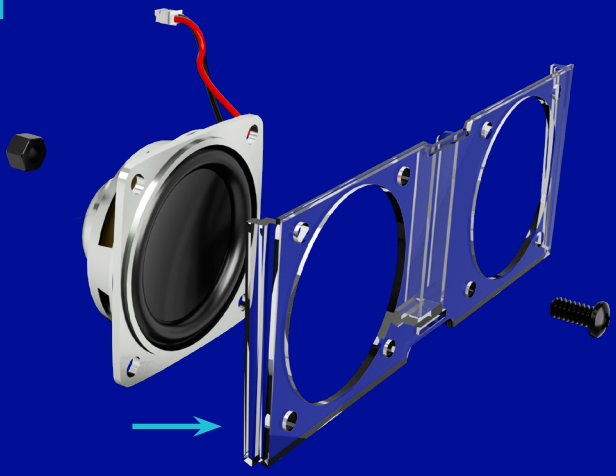

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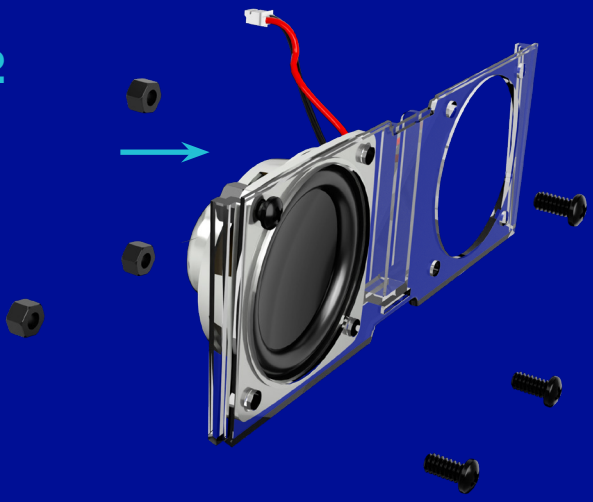

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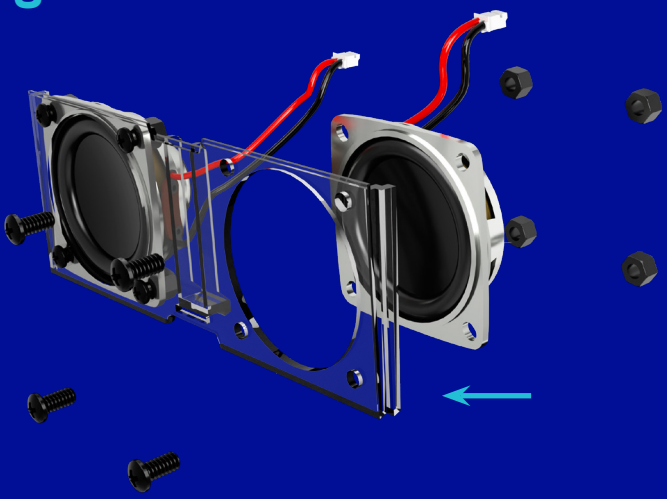

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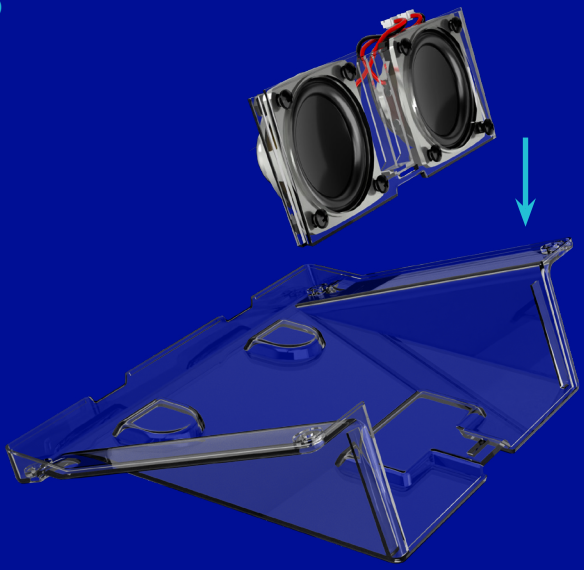

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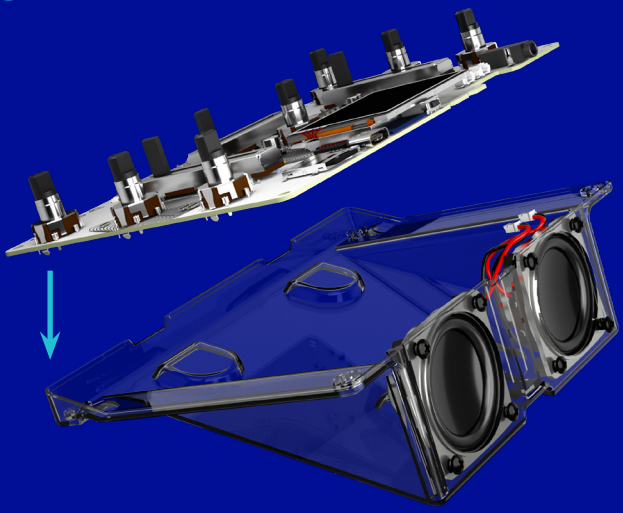

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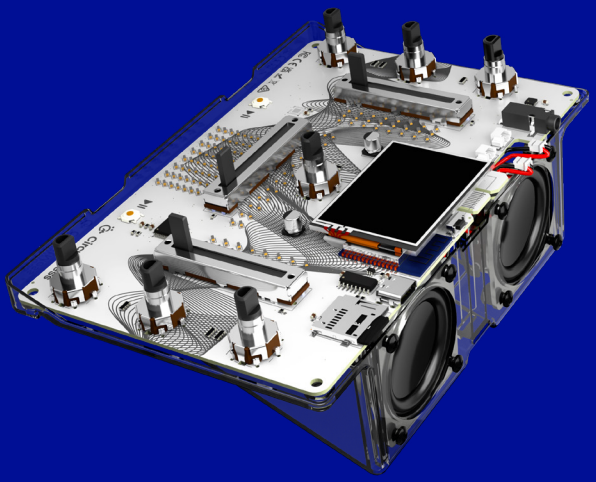

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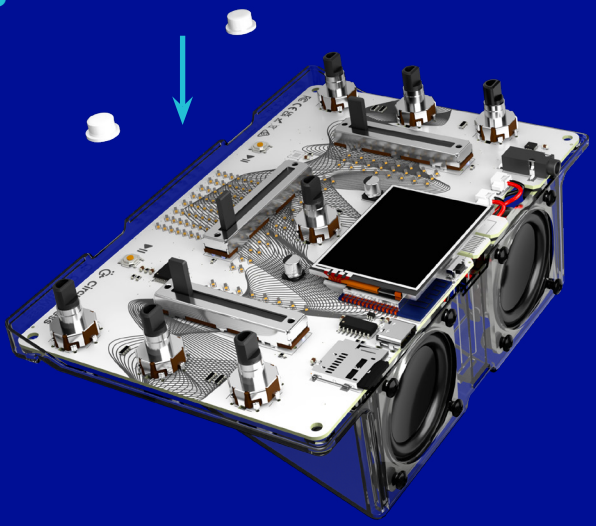

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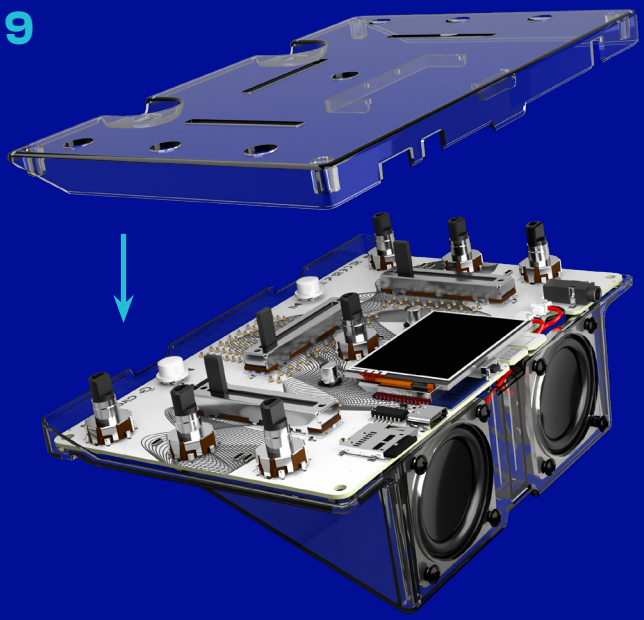

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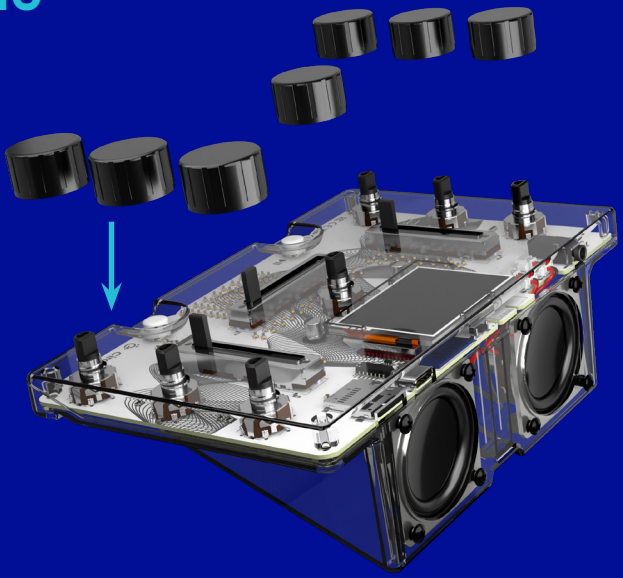

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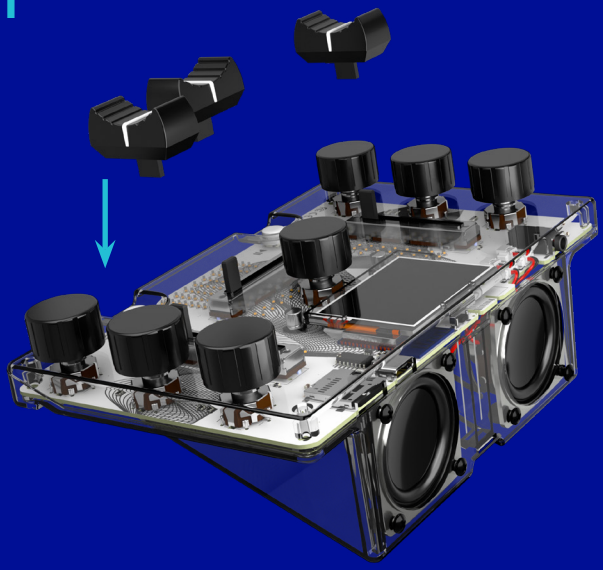

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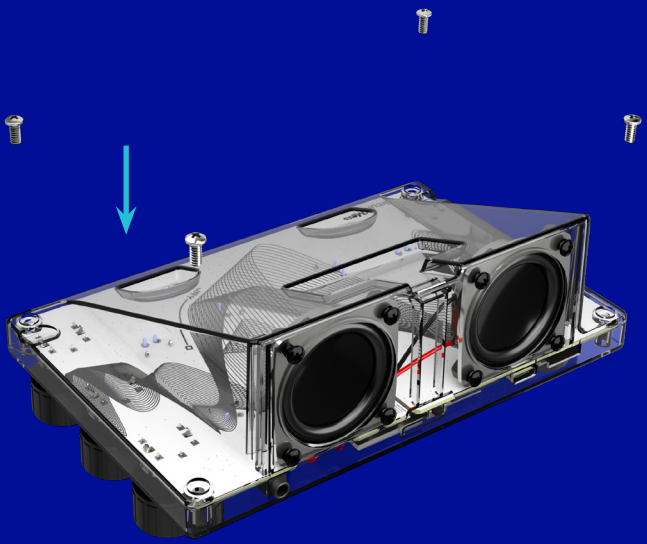

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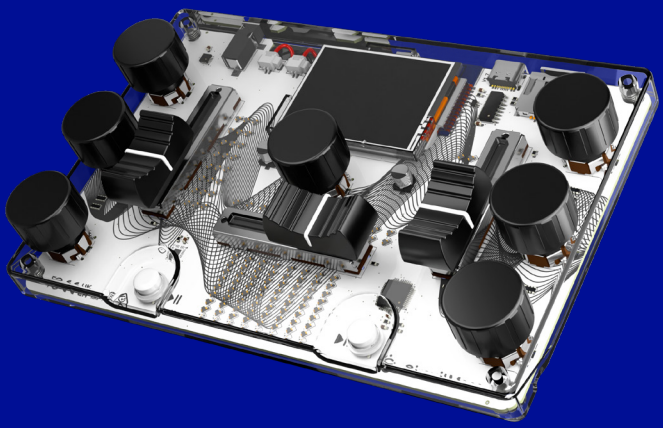

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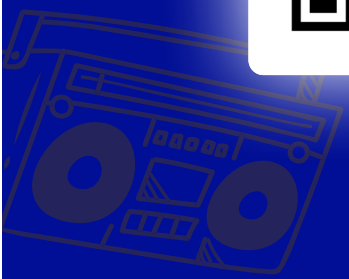
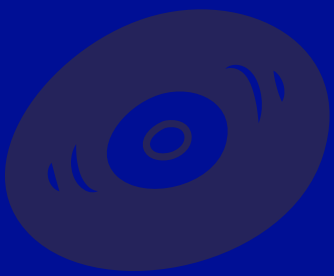
Scan the QR code to learn how to use your device



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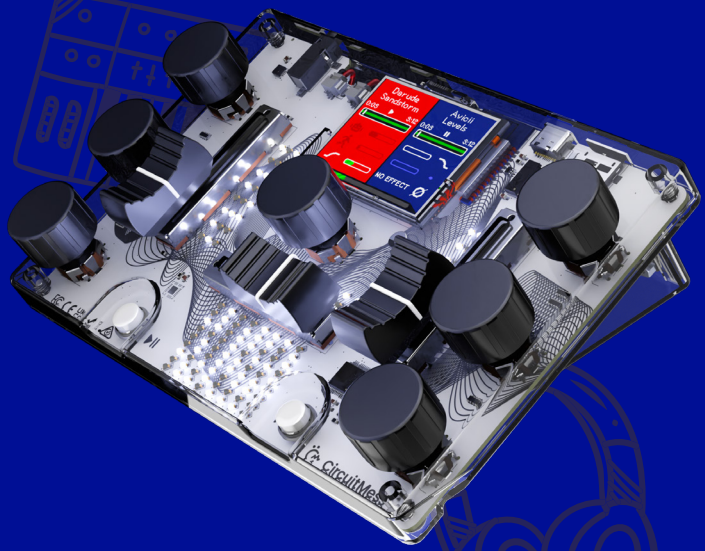
NO EFFECT
CircuitMess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CircuitMess

Questions and answers

1. What kind of music files does Jay-D support?

Jay-D supports a specific audio format: AAC files with a bitrate of 64 kbps, a sample rate of 24 kHz, and mono audio channels. If your music is in a different format, such as MP3, you'll need to convert it using an online audio converter, or a tool like FFmpeg.

2. Can I use headphones with Jay-D?

Yes! Jay-D has a built-in headphone jack. Plug in your headphones and the sound will automatically switch from the speakers to your headset.

3. Can I customise Jay-D's features?

Absolutely! Jay-D is fully programmable using CircuitBlocks or Arduino. You can tweak the interface, add sound effects and much more!

4. How do I load music onto Jay-D?

Just drag and drop compatible AAC audio files onto the included microSD card, then insert it into Jay-D — it's super simple.

5. Does Jay-D support Bluetooth or Wi-Fi?

No, Jay-D is designed as a standalone mixer, focused on offline music mixing and learning.

6. Can I add my own sound effects?

Yes! With some basic coding knowledge, you can program custom audio effects using CircuitBlocks or Arduino.

7. Can I use a different SD card for Jay-D?

We recommend the usage of the original SD card that came with the device.

8. How can I restore Jay-D's firmware?

To restore Jay-D's firmware, visit code.circuitmess.com and click on "Restore firmware." Make sure your Jay-D is turned ON when connecting it to your computer, and select the correct COM port when prompted.

Need help converting your music?

Scan the QR code to check out our **Jay-D Usage Guide**! It walks you through everything — from loading songs to converting files — in a quick and easy way:

Thank you for purchasing CircuitMess Jay-D Educational kit

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 Jay-D

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.

Improper handling can result in burns, injuries, and property damage, so handle the screwdriver or any other supplied tools and electronic components that are an integral part of this do-it-yourself kit very carefully.

Handling a screwdriver is not recommended for children under the age of 7. For children under the age of 18, it is recommended only under the supervision of a more experienced adult.

CircuitMess Jay-D kit contains sensitive electronic components. CircuitMess Jay-D or its components may be damaged if dropped, burned, punctured, crushed, or in contact with liquid.

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 Jay-D after using it 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 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, Jay-D may rarely overheat.

Keep CircuitMess Jay-D in a ventilated room during the use and the 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 Jay-D 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 Jay-D to environments with high concentrations of industrial chemicals, including liquefied gases that evaporate, such as helium, can damage the functionality of CircuitMess Jay-D.

Do not use CircuitMess Jay-D 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 Jay-D and the pacemaker.

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

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

Check aircraft safety regulations and turn off CircuitMess Jay-D on the aircraft if necessary.

Do not use CircuitMess Jay-D while driving.

To avoid lightning strikes, do not use CircuitMess Jay-D outdoor during storms.

Do not use CircuitMess Jay-D 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 Jay-D 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 Jay-D for Children

1. Carefully follow the instructions for adequately assembling CircuitMess Jay-D. 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 Jay-D. Your responsibility is to ensure that the child uses the CircuitMess Jay-D correctly and that the CircuitMess Jay-D is suitable for the child's age and abilities.

3. Check from time to time if CircuitMess Jay-D is damaged or worn out in any way to prevent possible injuries and risks for the child's health and safety. If CircuitMess Jay-D 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 Jay-D and other parts of the CircuitMess Jay-D educational kit appropriately to prevent accidents. Do not leave CircuitMess Jay-D on stairs or on

the floor in your home or classroom where someone can step on them.

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 Jay-D 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 Jay-D 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 Jay-D 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 (if 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, and food) and external factors (including, but not limited to: moisture, water, and 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 Jay-D do-it-yourself educational kit
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