



# XTOOL M2 Desktop Laser Cutter and Engraver Machine User Manual

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## M2 Desktop Laser Cutter and Engraver Machine



<https://support.xtool.com/article/1291>

## Statement

Thank you for choosing xTool products!

If you use the product for the first time, read carefully all the accompanying materials of the product to improve your experience with it. If you do not use the product according to the instructions and requirements of the Manual, or mis-operate the product due to misunderstanding, etc., the Company shall bear no responsibility for any loss resulting therefrom.

The Company has collated the content of the Manual rigorously and carefully, but errors or omissions may remain. The Company is committed to continuously improving product functions and service quality, and therefore reserves the right to change any product or software described in the Manual and the content of the Manual at any time.

The Manual is intended to help you use the product properly and does not include any description of hardware and software configuration. For product configuration, refer to the related contract (if any) and packing list, or consult your distributor. Images in the Manual are for reference only and the actual product may vary.

Protected by copyright laws and regulations, the Manual shall not be reproduced or transcribed in any way, or be transmitted on any wired or wireless network in any manner, or be translated into any language, or be modified in any way, such as content, image, or layout modification, without the prior written authorization of the Company.

The Company is committed to continuously improving the product and related materials. The product and the Manual are subject to change, and updates can be found at [xtool.com](https://xtool.com).

## Safety first (important)

## 1. General safety

Read and get familiar with all safety precautions and procedures before using the machine. Strictly follow all safety precautions.

Ensure that the machine is properly assembled.



### Caution

#### Follow the operating principles:

- Check the machine for damage every time before you use it. Do not operate it in any way when any damage or defect is found.
- Ensure that the workspace is clean and flat.
- Do not disassemble the machine or change its structure in any way without authorization. Do not modify or decompile its operating system.
- Do not leave the device unattended during operation. Pay attention to whether it is working properly.
- Keep the inside of the machine clean. Residues and chippings accumulated during cutting and engraving are dangerous and may cause a fire. Clean the chippings and residues inside the work area regularly.
- The machine works properly at the temperature of 0°C to +35°C and can be stored properly at the temperature of -10°C to +40°C. Do not operate it at a temperature lower than 0°C.

## 2. Laser safety

Generally, the laser module is completely enclosed in the casing and light shield during operation. The device has a safety interlock switch. If the lid is lifted during operation, the device will stop working and no harm will be done to people.



### Warning

#### Follow the safety precautions:

- Do not operate the machine when any part of it is removed.  
Removing any part may expose the laser system and cause damage to the machine.
  - Do not engrave or cut any material that contains PVC or vinyl (processing plastics is not recommended). These materials (and other materials containing chlorine/chloride) can generate corrosive vapor that is extremely harmful to the human body and can cause damage to the device. Any damage caused by engraving or cutting any material containing PVC or vinyl is not covered by the Company's warranty.
  - Do not engrave or cut any unknown materials. Vaporization or melting of many materials, which include but are not limited to PVC and polycarbonate, may release harmful smoke.
  - Laser operation is prohibited when the lid is lifted. Make sure that the lid is closed during operation and do not tamper with the safety mechanism of the lid.
  - Do not leave the device unattended during operation. Pay attention to whether it is working properly.
- The reference standards for laser safety are the American National Standard for Safe Use of Lasers (Z136.1-2022), International Electrotechnical Commission Standard (IEC 60825-1:2014), and European Standards (EN 60825-1:2014/A11:2021).

## 3. Fire safety



Do not leave the device unattended when it is working.



Keep combustible materials away from the device.

A high-density laser beam is used by the device to irradiate the material to be cut or engraved, so as to heat up the material surface and vaporize the material without burning. But most materials are inherently flammable

and may be ignited to form an open flame that can burn down the device (even if it is made of flame-retardant materials) and its surroundings. Experience shows that vector cutting with a laser is most likely to produce an open flame. In particular, acrylic has proven to be extremely flammable in vector cutting.



### **Danger**

Read the following warnings and suggestions carefully:

- Ensure that the workspace is well-ventilated so that the generated smoke can be discharged in time.
- Do not stack materials (especially organic ones, such as paper) around the machine. They may cause the spread of flames and increase the risk of material ignition.
- Do not leave the machine unattended when it is working. If the machine works with setting errors and is left unattended for a long period of time, or if a mechanical or electrical fault occurs, a fire may be caused.
- Clean the device regularly. Excessive accumulation of residues and chippings from cutting and engraving would increase the risk of fire. The internal working area needs to be cleaned periodically to ensure that there is no residue or chipping inside the device.
- Ensure that the area around the machine is clean without any cluttered flammable materials, explosives, or volatile solvents, such as acetone, alcohol, or gasoline.
- Keep a fire extinguisher and perform regular maintenance and inspection of it.
- If a fire occurs during processing, take good care of yourself. For a small flame, you can wait for it to go off; for a larger fire, please keep a safe distance and use a fire extinguisher to put it out.

#### **4. Electrical safety**



### **Caution**

Read the following warnings and suggestions carefully:

- Do not open any access panel on the device when the device is connected to the power supply. Accidental contact with the power supply may cause injury.
- Do not touch any electronic area with your hands or other tools when the machine is connected to a power supply.

#### **5. Blade safety**



### **Caution**

- Prevent blade contact with your fingers when removing the laser module or blade, or you may get hurt.
- Blades are very sharp. Be careful not to hurt your hands when installing or replacing them.
- Place the used blades in a container that can prevent sharps from hurting people, such as a metal box, seal the container, and dispose of it.

#### **6. Warning and instruction signs**

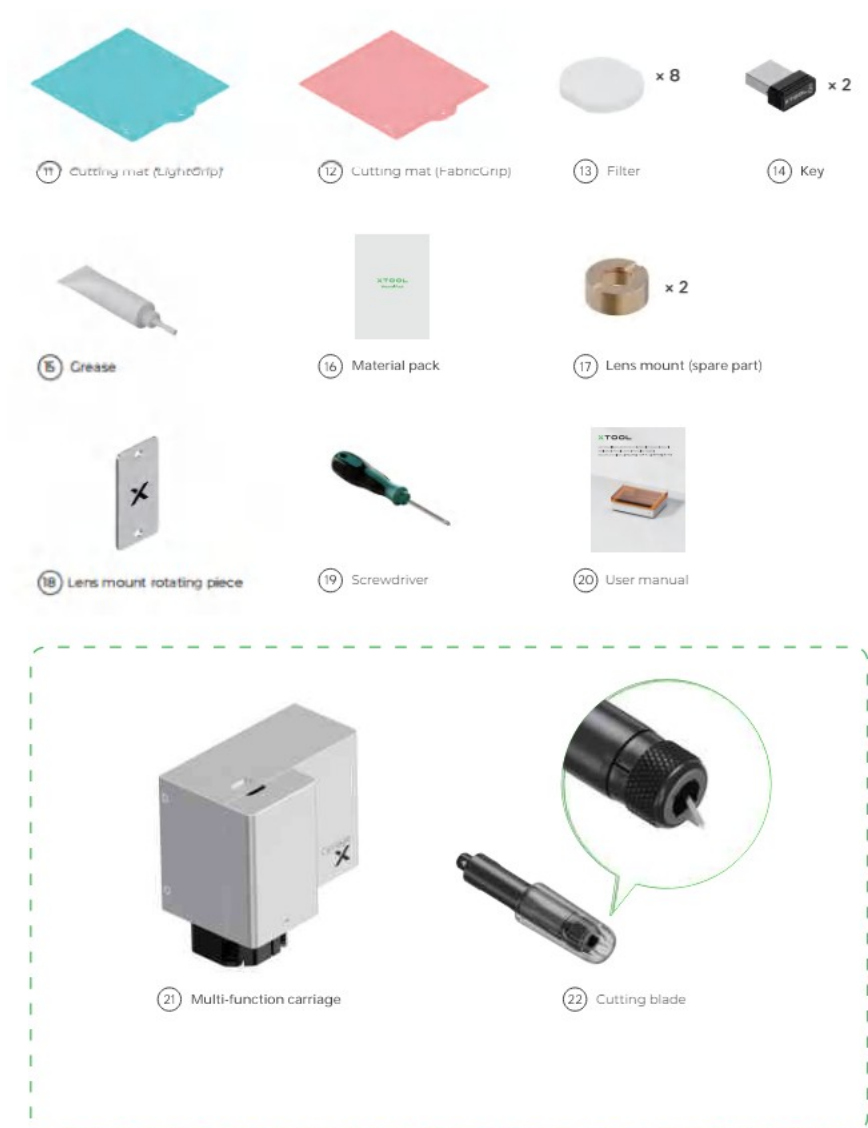
On xTool M2, the warning and instruction signs are labeled where physical injuries or damage to the machine may be caused before and/or during operation. If a sign is damaged or lost, replace it immediately. You can use the following template to print the sign you need.



Maximum RF transmit power: Wi-Fi 2.4G (2412–2472 MHz) < 20 dBm

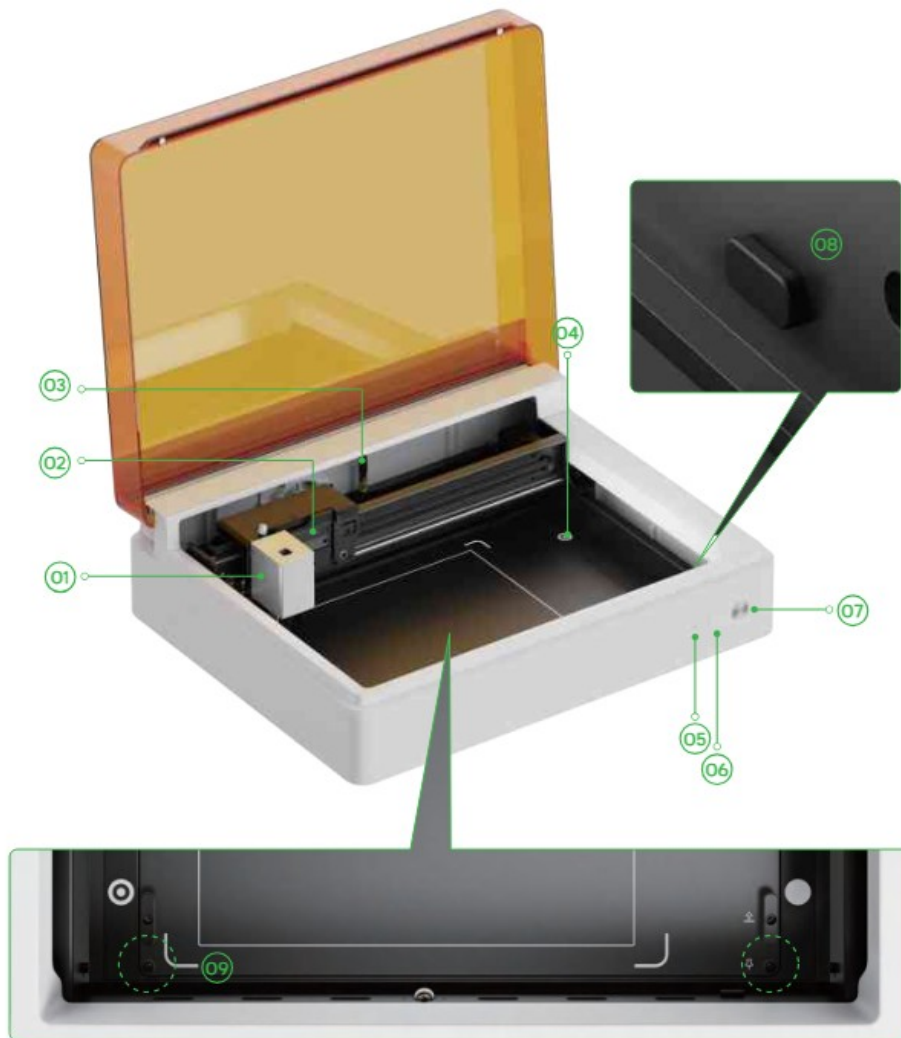
## List of items





Not all the kits include the multi-function carriage and its accessories.

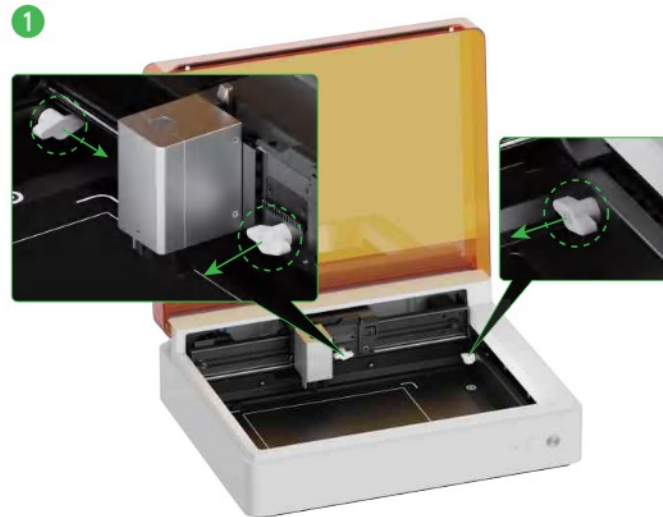
## Meet your xTool M2





01 Basic carriage	07 Start/Stop button	13 Power port
02 Multi-function carriage	08 Rotary Attachment port	14 Port for the key
03 Wi-Fi antenna	09 Thumb screw for the baseplate	15 Extension port × 4
04 Camera viewfinder point	10 Tube fitting for the air assist set	16 USB port
05 Indicator	11 Tube fitting for the fire safety set	17 Smoke outlet
06 Point marking button	12 Power switch	

## Preparations



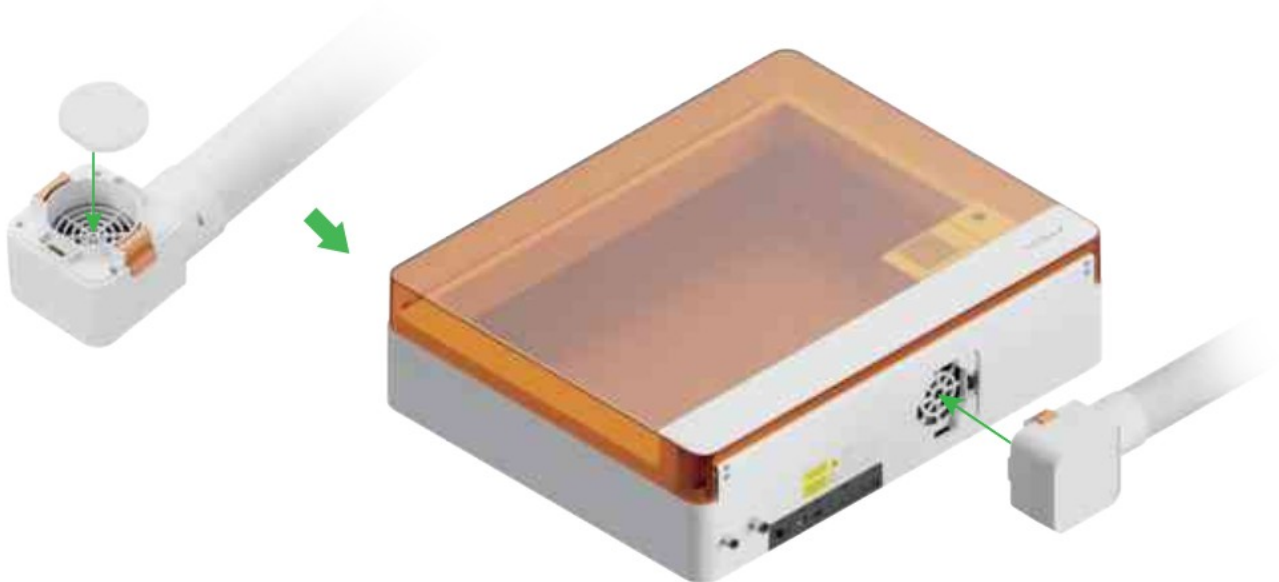
Press the laser module down until you hear a click.



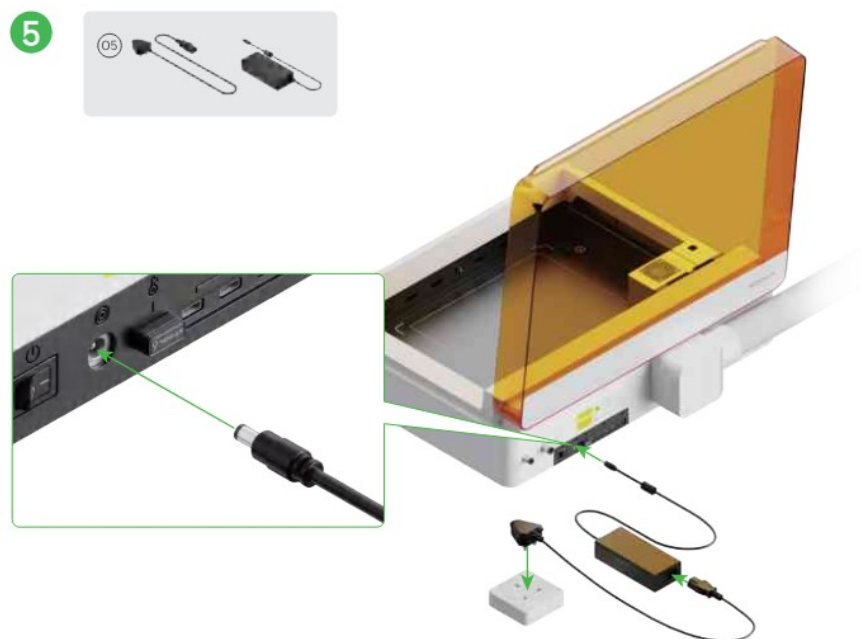
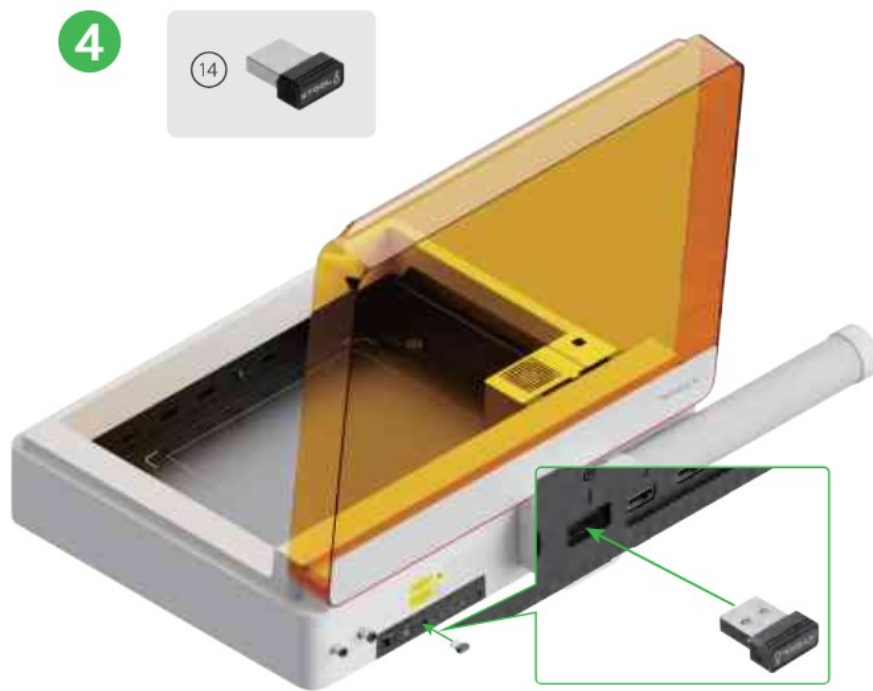


⚠ Do not use the smoke exhaust module without the filter. Or it may absorb smoke and dust and get damaged.

3

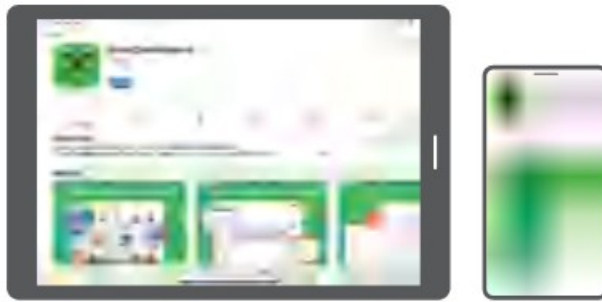


Insert the key to unlock the processing and related functions.  
You can remove the key to lock the processing and related functions.



Go to [xtool.com/software](https://xtool.com/software) to download and install xTool Creative Space (XCS).

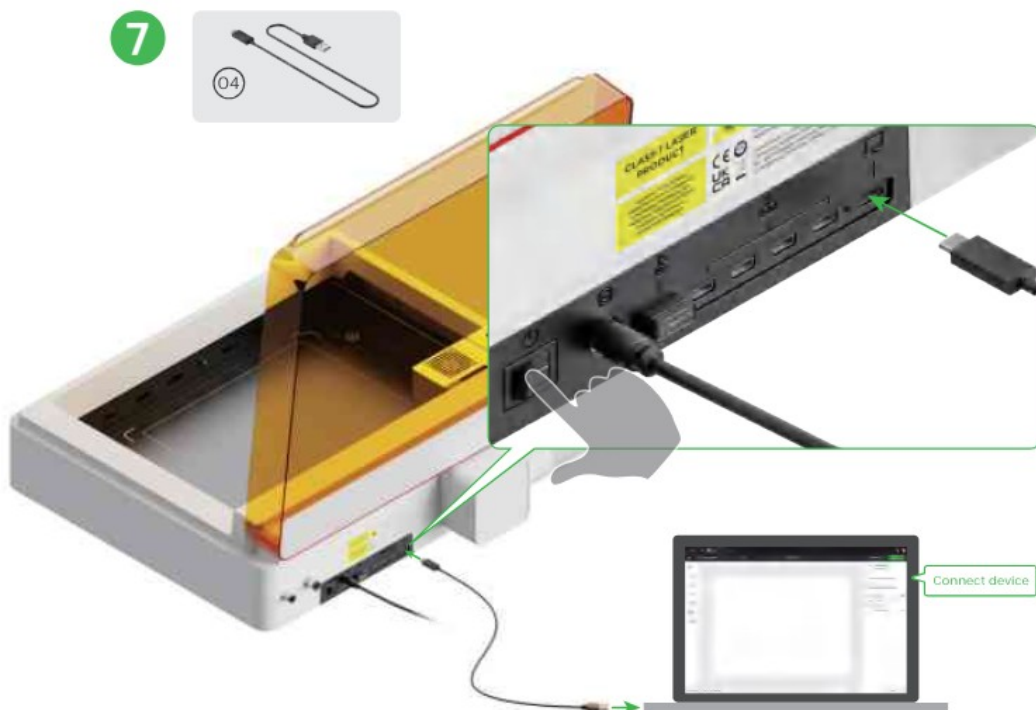




Search for xTool Creative Space in the App store or scan the following QR code to download the App.



<https://support.xtool.com/product/>



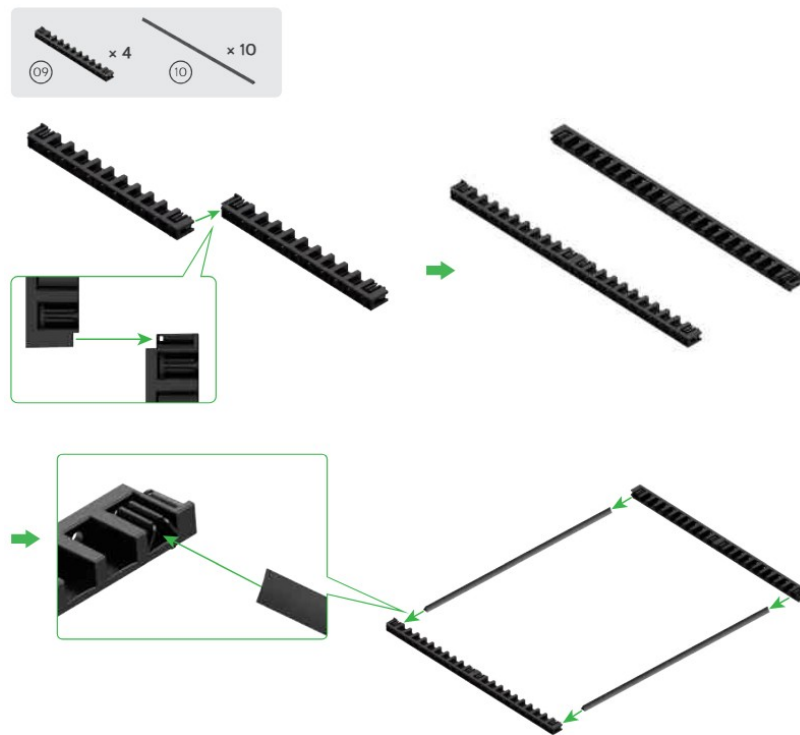
To know more details, scan the following QR code.



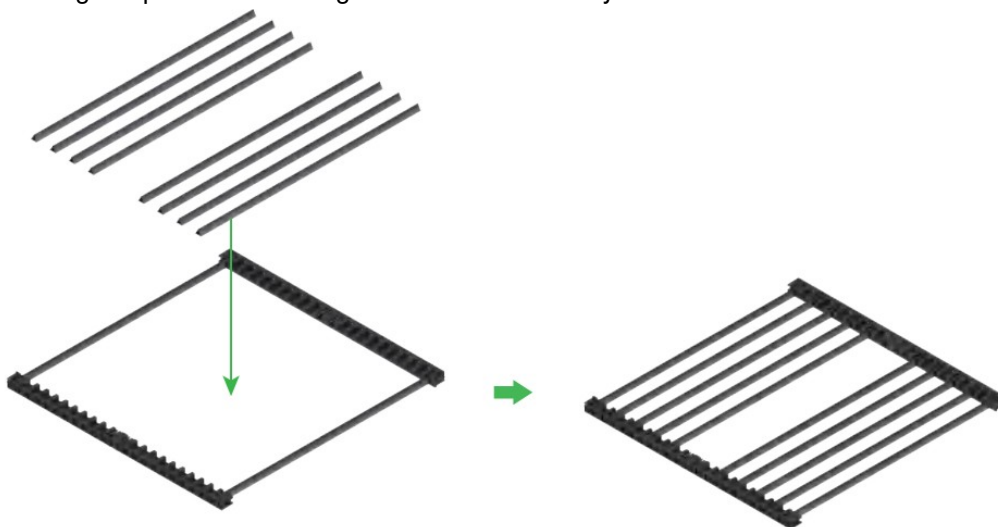
<https://support.xtool.com/product/35>

## Use xTool M2

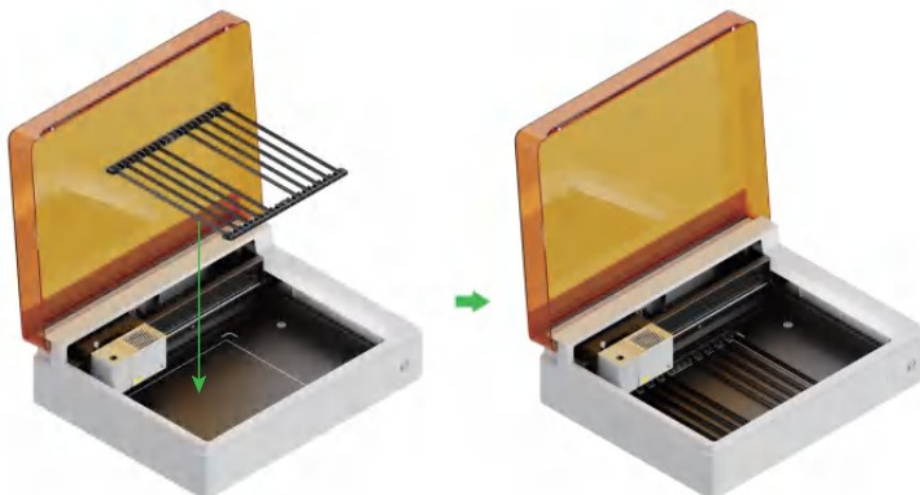
### For laser cutting



Fit the other two triangular prism holders together in the same way.



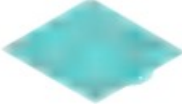

Determine the number of the triangular prisms based on the material to be processed.

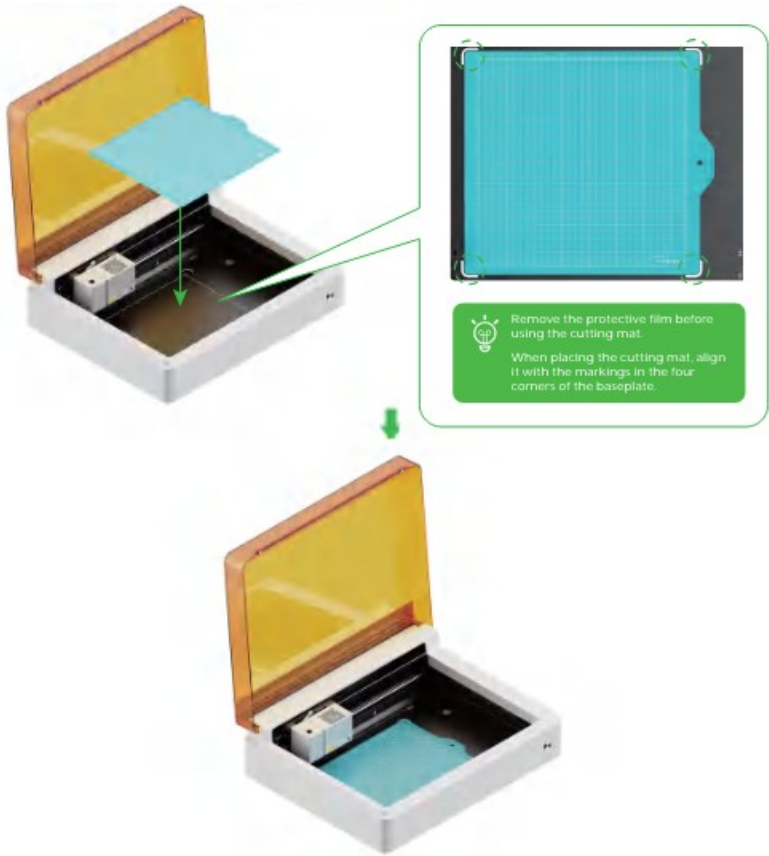


For blade cutting or combination of laser processing and blade cutting



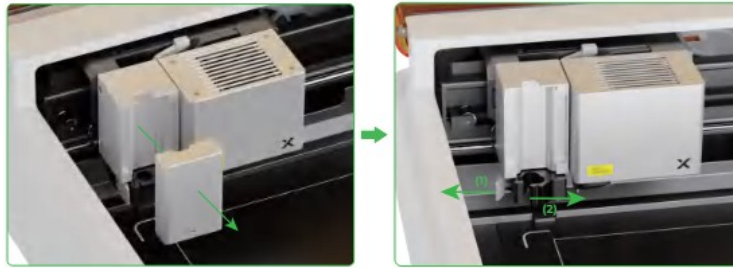
**⚠ Note:** For paper materials such as cardboard and kraft paper, use the LightGrip cutting mat; and for fabric materials such as cloth, use the FrabicGrip cutting mat.  
Do not use any cutting mat when cutting a material with laser beams.

Cutting mat			
Color	Blue		Pink
Applicable to	Lightweight materials		Fabrics
Material	Cardboard, Wrapping paper, Printing paper Kraft paper, Pearl paper		Fabric

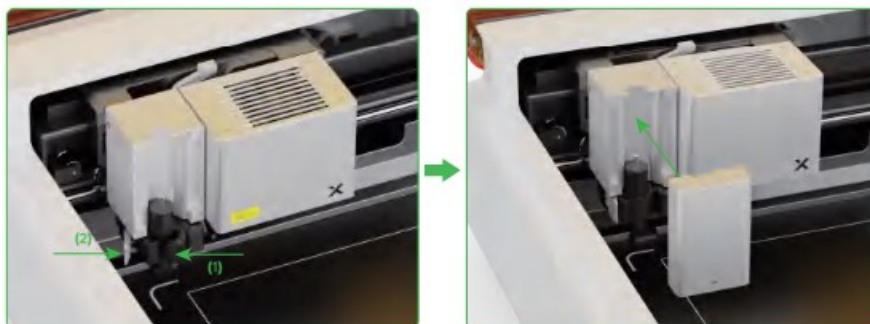




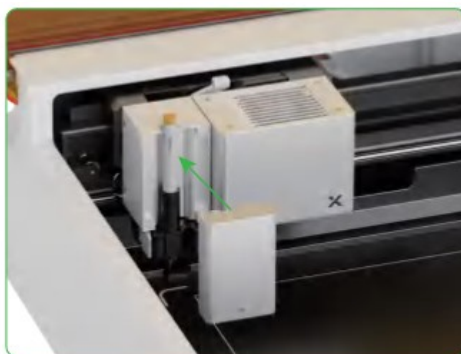
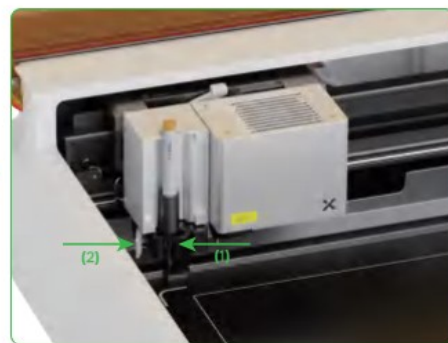
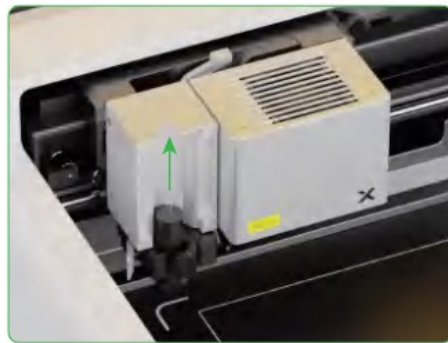
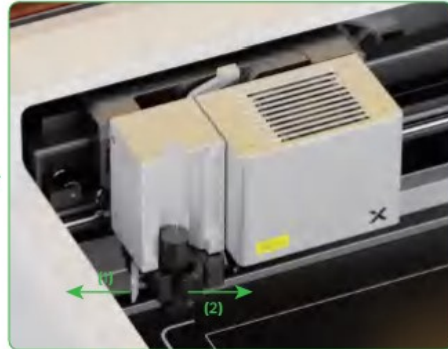
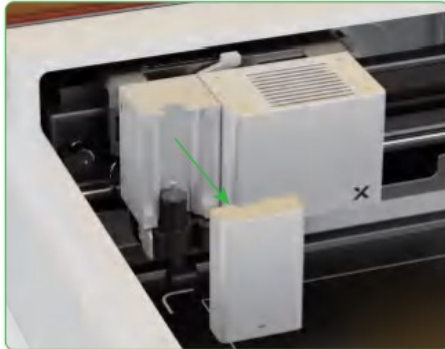
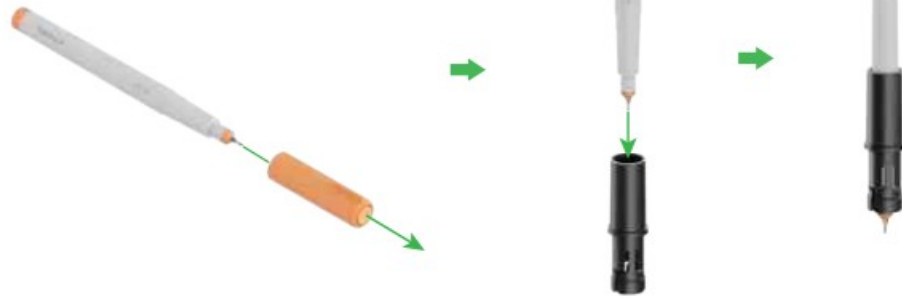
2



Caution!  
Sharp blade



For pen drawing



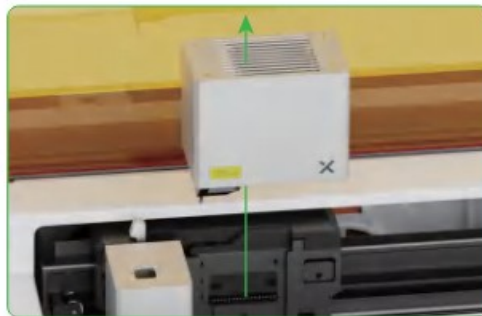


## For more functions



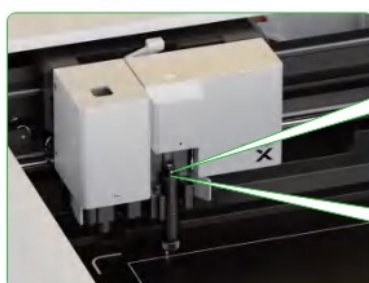
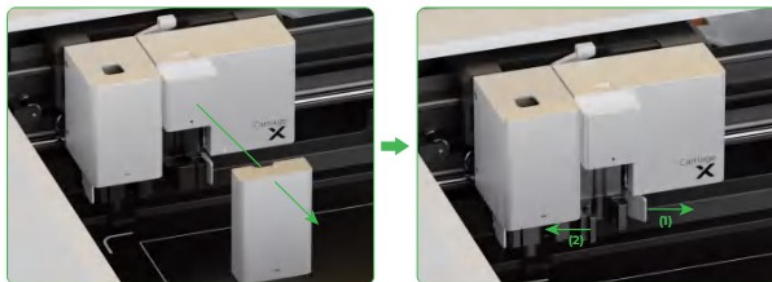
If the kit you've purchased does not include the multi-function carriage and its accessories, you can purchase them separately.

1



Select accessories according to the processing needs.









2







## Indicator description

Indicator status	Buzzer status
<div> <div></div> <div>Solid white</div> </div>	Standby, not connected to XCS

Device status

 Solid purple	S o u n d i n g o n c e		Standby, connected to XCS
 Breathing white	/	Sleeping, not connected to XCS	
 Breathing purple	/	Sleeping, connected to XCS	
 Blinking purple slowly	/	Network setting / Firmware updating	
 Solid green	/	Processing area marking on XCS / Framing / Processing	
 Blinking blue slowly	S o u n d i n g o n c e		Ready for framing / Ready to process
 Solid blue	/	Task paused	
 Blinking yellow	S o u n d i n g o n c e		The lid is open or not fully closed during operation.

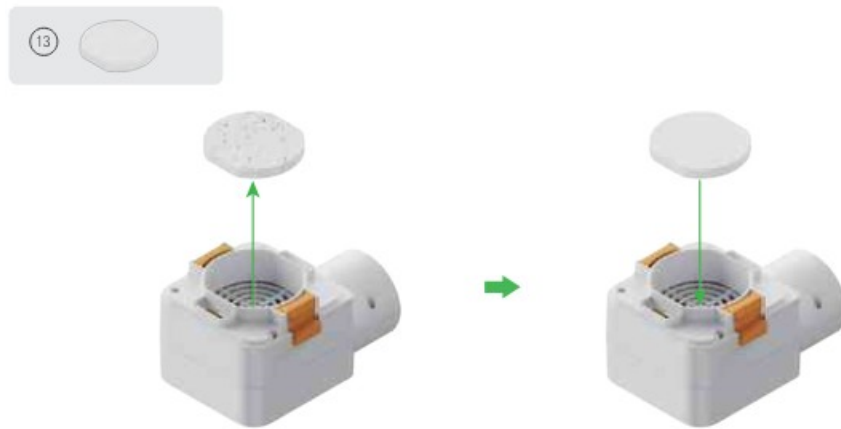
 Blinking yellow	K e e p i n g s o u n d i n g
 Blinking red	K e e p i n g s o u n d i n g
 Blinking yellow	S o u n d i n g t h r e e t i m e s
 Blinking red	S o u n d i n g t h r e e t i m e s

Flame detected (small flame ) / Device shaken
Flame detected (large flame)
Exceptions occur
Major exceptions occur

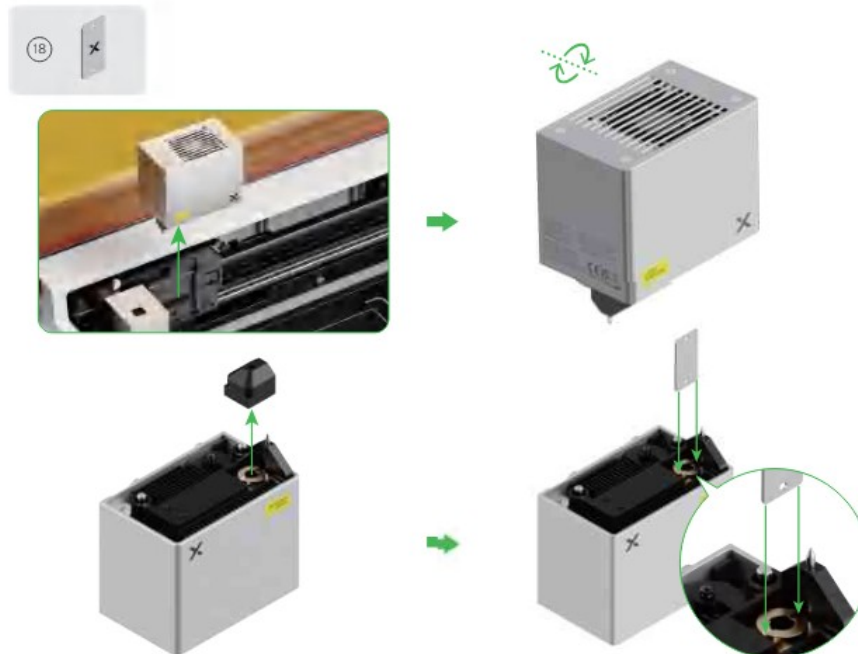
## Maintenance

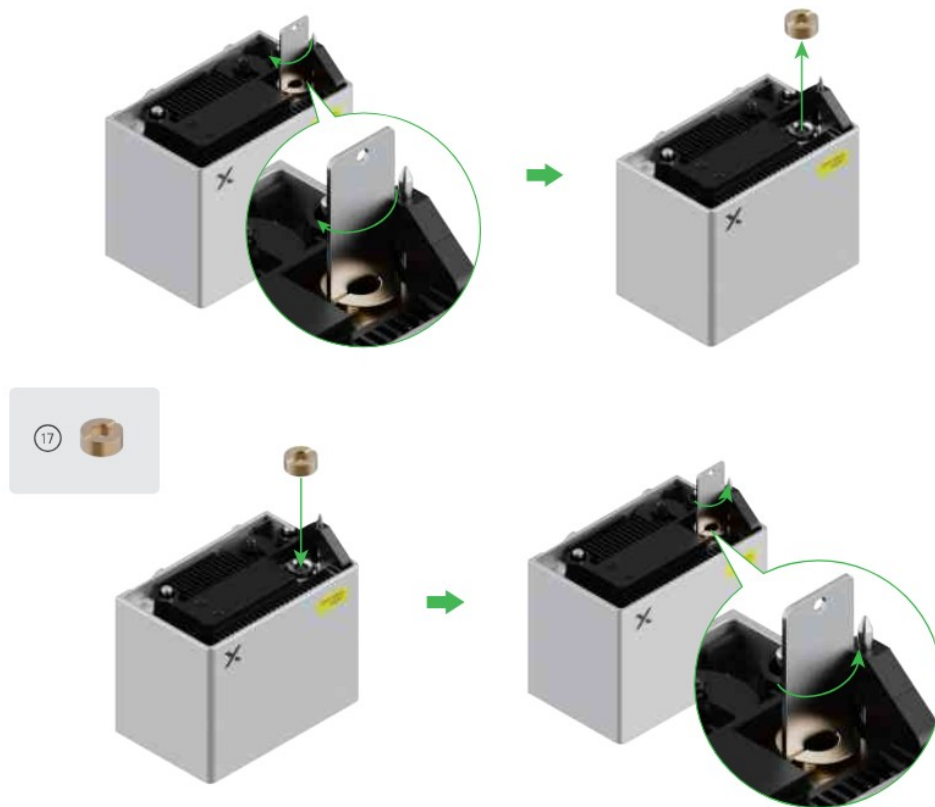
### Replace the filter

 Do not use the filter if it is moistened.



### Replace the lens mount

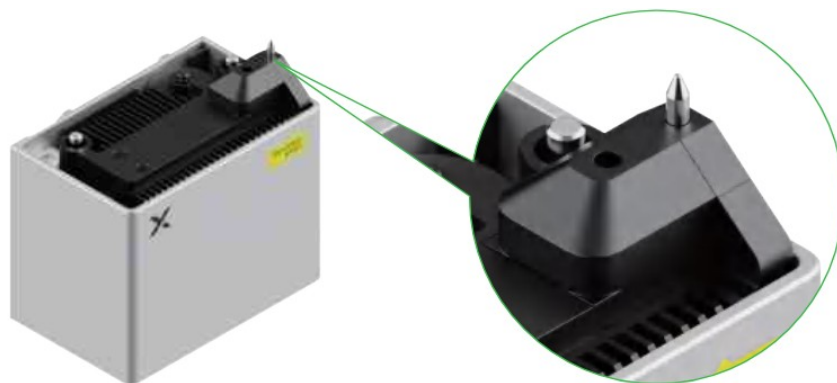




### Clean the probe

The probe may get dirty after a long period of laser processing. Clean it in a timely manner, or the focusing accuracy may be reduced.

You are advised to clean the probe with a lint-free cloth moistened with alcohol.



### FAQs

1. The smoke exhaust module doesn't work during material processing. What can I do?

Possible causes: Too much dust accumulates on the exhaust fan. / The filter gets blocked. Solutions: (1) Turn off xTool M2 and remove the smoke exhaust module. (2) Replace the filter. (3) Install the smoke exhaust module back to xTool M2. Note: Ensure that you install the smoke exhaust module back to prevent laser leakage or fan contact.

2. The laser module / multi-function carriage doesn't work properly. Why?

Possible causes: ■ The laser module / multi-function carriage is not installed properly. ■ The locking bar above the laser module is not locked in place. Solutions: ■ Push the laser module / multi-function carriage down until you hear a click. ■ After the laser module or multi-function carriage is fitted in place, toggle the locking bar to the right to lock it.

3. The baseplate or cutting mat is dirty due to long time processing. What can I do?

■ Each time after you complete the processing, clean the baseplate or triangular prism with a cleaning cloth moistened with water and then dry it. ■ If the baseplate is very dirty and hard to clean, wipe the dirt from it with a cleaning cloth moistened with absolute ethyl alcohol.

4. When do I need to replace the filter?

The replacement frequency varies according to material. You need to replace the filter when: ■ A pop-up window on XCS prompts you to replace the filter. ■ The smoke and fumes accumulate a lot inside the device.

5. When I use an orange pen for processing, I can't see the lines drawn by the pen. Why?

Because the lid is orange.

## Declaration of conformity

Hereby, Makeblock Co., Ltd., declares that this product is in compliance with the essential requirements and other relevant provisions of Directive RED 2014/53/EU and the RoHS directive 2011/65/EU.

## 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.

**Warning:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

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 communications. However, there is no



guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This device complies with Industry Canada licence-exempt RSS standard (s). Operation is subject to the following two conditions:

1. this device may not cause interference, and
2. this device must accept any interference, including interference that may cause undesired operation of the device.

## After-sales services

For technical support, contact us at [support@xtool.com](mailto:support@xtool.com).

For more information about after-sales services, visit [support.xtool.com](http://support.xtool.com).



## Documents / Resources

A small rectangular label with Chinese text, likely a warning or safety notice.	<a href="#">XTOOL M2 Desktop Laser Cutter and Engraver Machine</a> [pdf] User Manual M2, M2 Desktop Laser Cutter and Engraver Machine, Desktop Laser Cutter and Engraver Machine, Laser Cutter and Engraver Machine, Cutter and Engraver Machine, Engraver Machine, Machine
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## References

- [xTool Support Center](#)
- [Smart Desktop Laser Cutter and Engraver | xTool Laser](#)
- [xTool Creative Space: Software Download for All xTool Machines](#)
- [youtube.com/makeblock-help-center-zh/xgren8/video\\_tutorial](#)
- [User Manual](#)

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