

# FM RADIO KIT



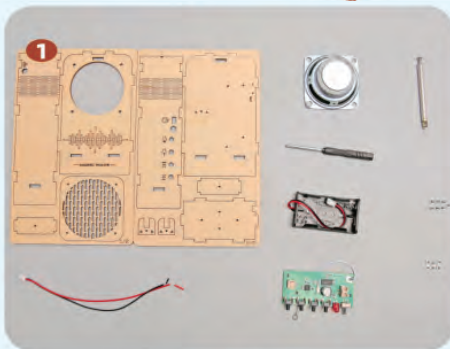
## Introduction

The radio is mainly composed of wood, circuit board, horn, antenna, battery box, screw parts. This small science production can not only cultivate children's learning ability, hands-on ability and independent thinking ability, but also allow children to learn real scientific knowledge while playing, and increase children's interest in endless exploration of the scientific world.

## Knowledge principle

Radio: Receive high-frequency signals through the antenna, and then revert to audio signals after a certain demodulation, and then convert them into sound waves through the output components, and then play them out.

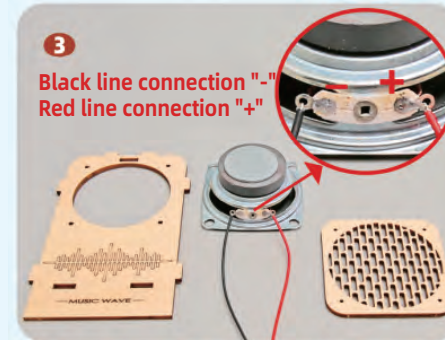
## Operation procedure



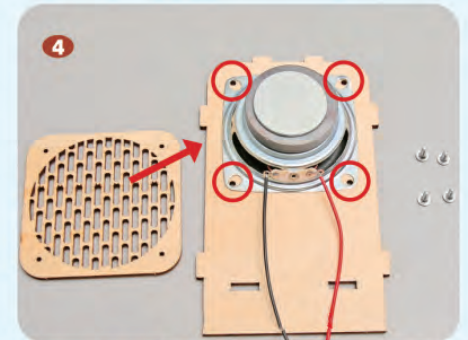
Prepare materials



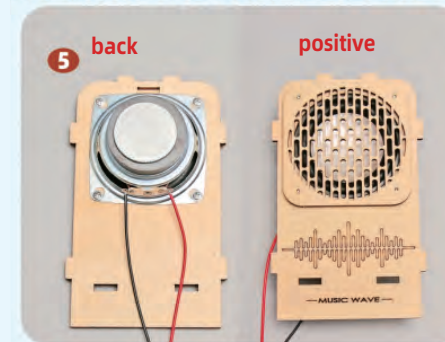
Prepare the horn and terminal wires on the diagram



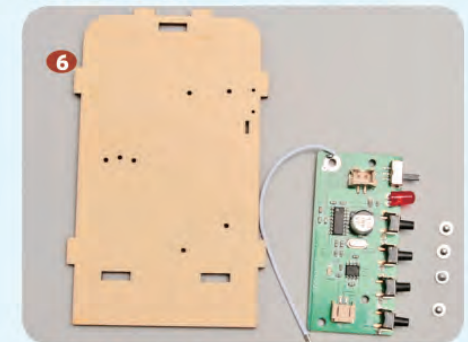
Connect the terminal wire to the speaker as shown in the diagram, with the red wire connecting the positive pole to+and the black wire connecting the negative pole to -. Prepare the next part as shown in the diagram



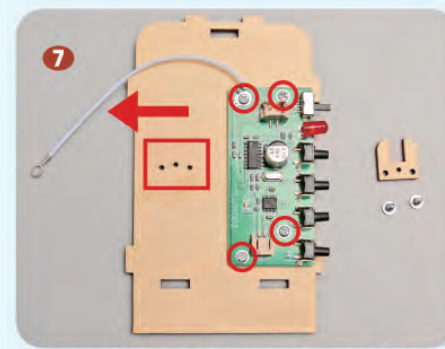
As shown in the picture, place the horn into the circular hole. Prepare 4 6mm screws and screw them into the red circle on the diagram



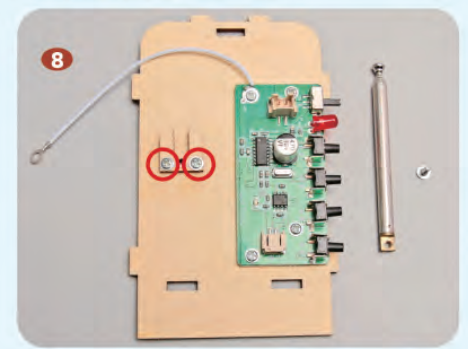
As shown in the picture, tighten the screws



Prepare the back parts, radio circuit board, and 4mm screws as shown in the picture



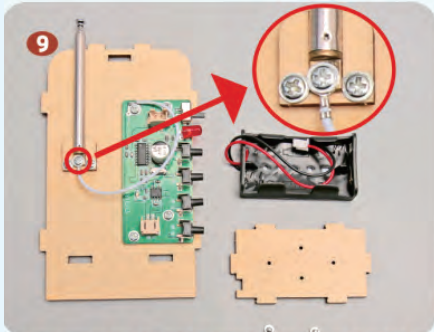
As shown in the picture, tighten the screws inside the red circle and prepare the next part and 2 6mm screws



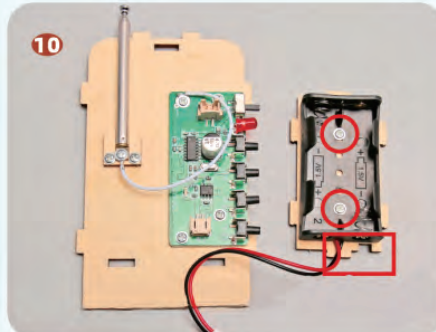
As shown in the picture, tighten the screw inside the red circle, prepare the antenna and one 6mm screw

Tips: Children should pay attention to safety in the production process, all parts can not be imported, children please operate under the guidance of parents or teachers.

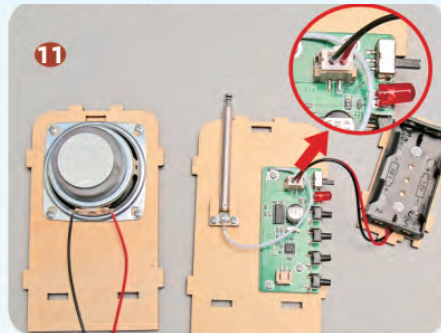




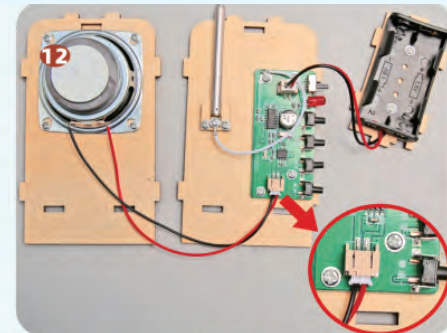
As shown in the picture, use screws to screw the white lines on the antenna and radio circuit board into the red circle. Prepare parts, battery box, and 2 4mm screws



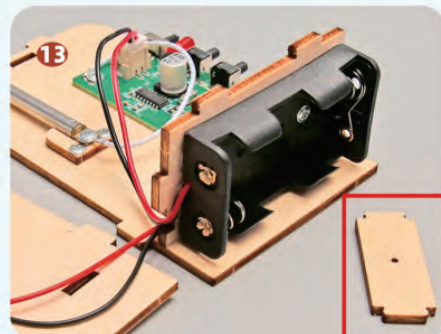
As shown in the picture, tighten the screw inside the red circle



As shown in the figure, the terminals on the battery box are inserted into the sockets on the radio circuit board



As shown in the figure, insert the terminal wire on the speaker into the socket on the receiver circuit board



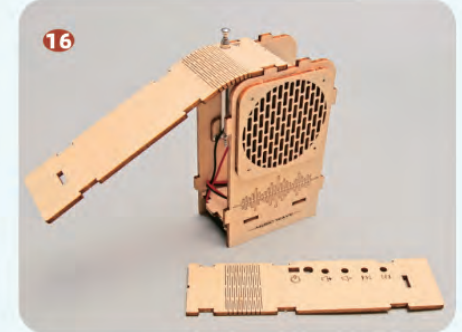
As shown in the picture, press it into the battery box and prepare the parts inside the red box



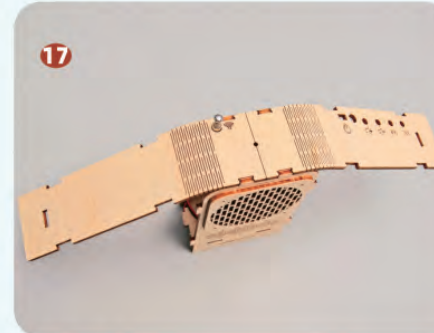
Install the parts as shown in the picture



As shown in the figure, align the holes and install the front panel to prepare the next part



Press the button as shown in the picture to prepare the next part



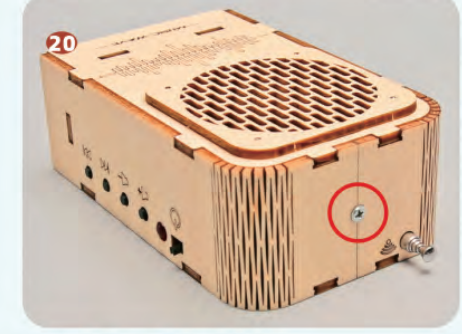
Press in as shown in the picture



As shown in the picture, press one side first



As shown in the picture, align the hole position and install the other side. Prepare one 10mm screw



Insert the screw into the red circle as shown in the picture

To Guardians (parents):

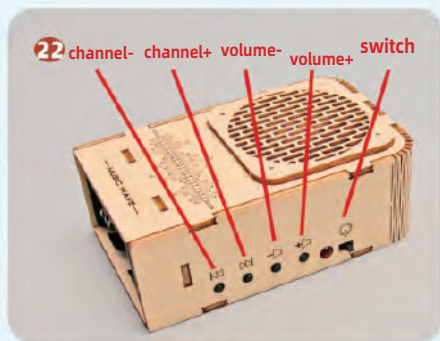
parents please guide children to assemble according to the instructions on the packaging and instruction manual, do not change at will.

MEASURABLE  
LENGTH





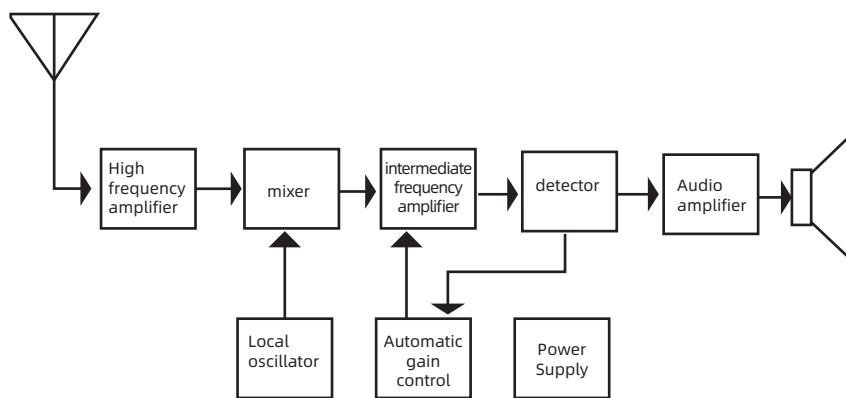
Finished product display



The radio station needs to inspect the transmission tower and differential turntable every week, and the radio cannot receive the station. Please confirm the local repair time

## Scientific knowledge

The radio station first converts the sound into an audio signal through the microphone, and then when the high-frequency current flows through the antenna, the signal forms radio waves and is transmitted outward. The radio receives the high-frequency signal of many radio stations from the antenna, and selects the required radio signal through the input loop to the base of the frequency conversion stage. At the same time, the high-frequency amplitude modulation wave is converted into an intermediate frequency modulation wave signal with a carrier of 465KHz, and then amplified from the intermediate frequency amplifier, and the amplitude detection is sent to the detector to restore the audio message, through low-frequency voltage amplification and power amplification, and finally push the speaker to restore the sound.



How AM or FM radio works

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.

Any 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.