

FM RADIO KIT

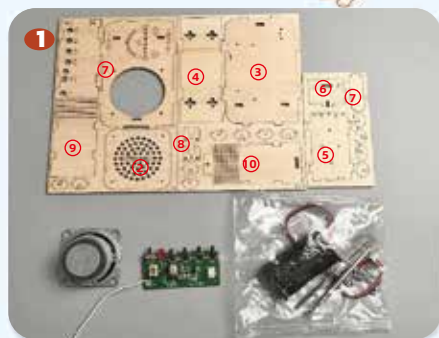
Introduction

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.

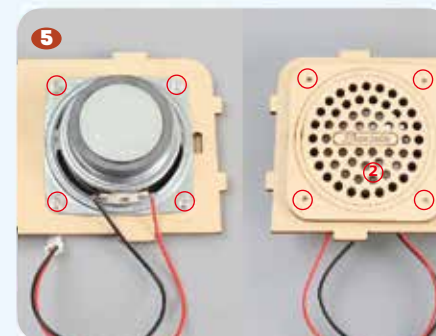
Operation procedure



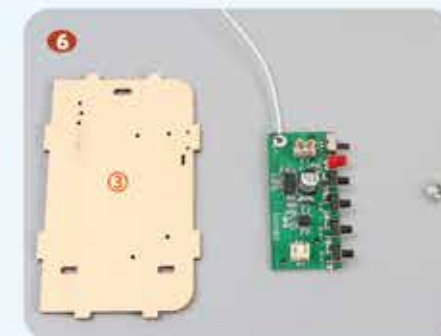
As shown, align the horn with the four small holes on board No. 1



Prepare board No. 2 and four 6mm screws as shown



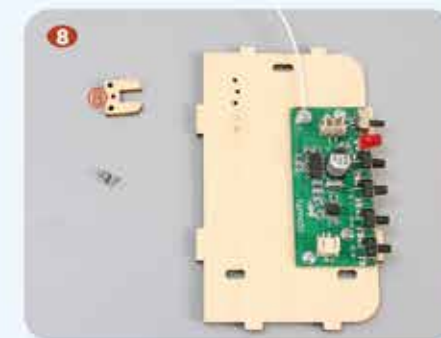
As shown, fasten the screws from the back of plate No. 1 at the same time Board two and horn



As shown in the picture, prepare board No. 3, radio circuit board and four 4mm screws

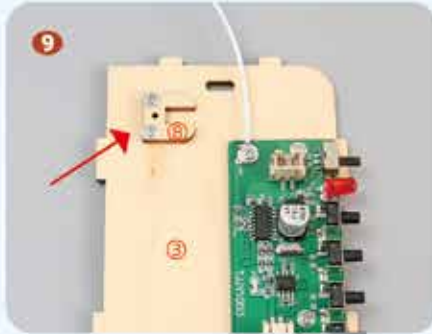


As shown in the picture, fix the circuit board on board No. 3 with screws

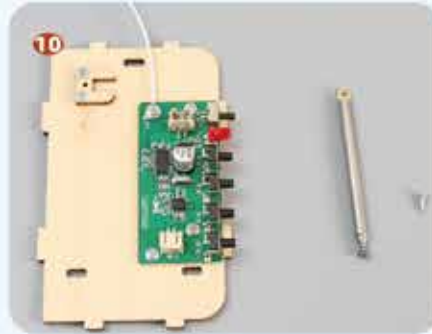


Prepare board No. 8 and two 6mm screws as shown

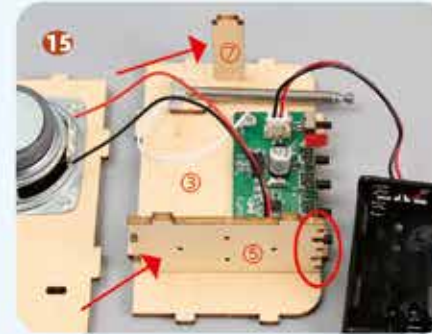




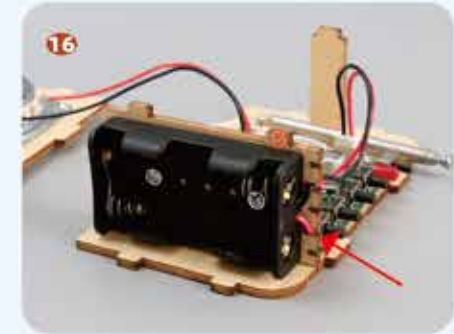
Screw plate 8 into place on plate 3 as shown



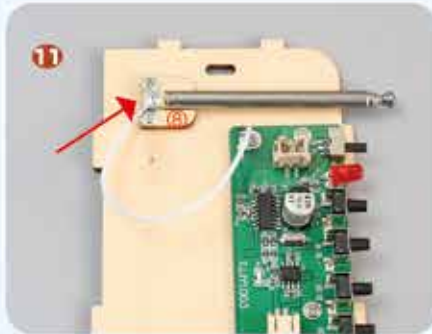
Prepare the antenna and 16mm screw as shown



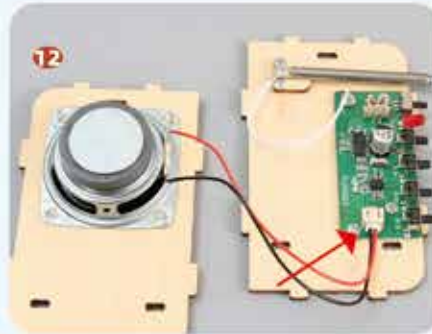
After installation, pay attention to the installation orientation of board No. 5



Fix the battery box on board No. 5 with two 4mm screws



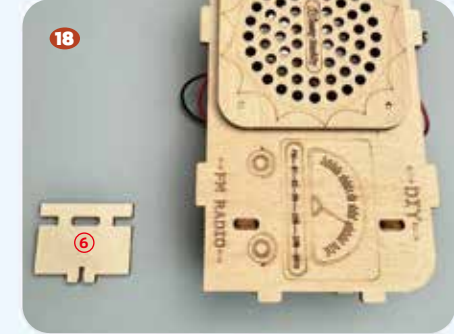
Fix the antenna and the white wire with screws as shown It's on board eight



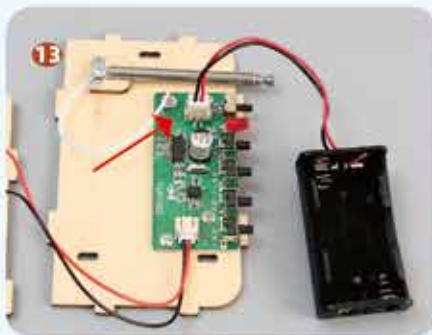
As shown, insert the terminal wire from the speaker into the jack on the radio circuit board



As shown in the figure, assemble plate No. 1 to plate No. 5 and plate No. 7



Prepare board No. 6 as shown



Insert the terminal cable of the battery box into the jack on the radio circuit board as shown



Prepare boards No. 5 and 7 as shown

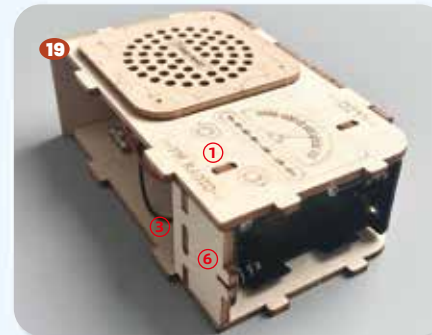
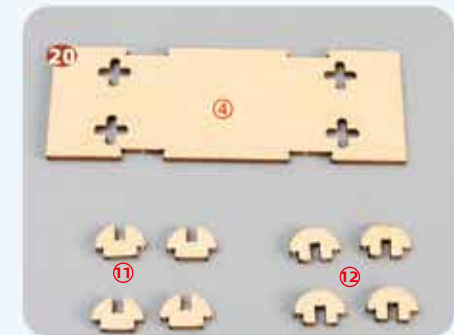


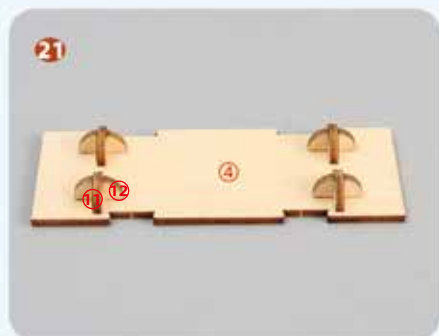
Plate 6 is installed between plate 1 and plate 3 as shown in the figure



Prepare No. 4, 11 and 12 as shown

To Guardians (parents):

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



As shown in the figure, first install No. 11 board on No. 4 board, and then clamp No. 12 board in the groove of No. 11 board



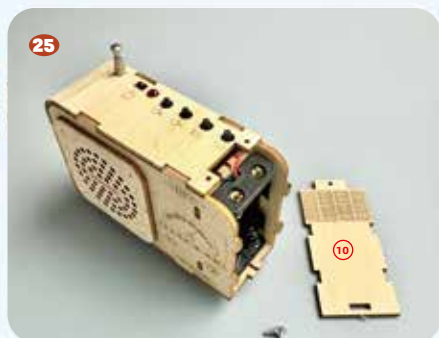
As shown in the figure, the assembled board 4 is installed at the bottom of the radio, stuck between the board 1 and the board 3



Prepare board No.9 and 2 6mm screws as shown



Install board 9 on the top of the radio as shown. Insert it into the antenna and clamp the two ends together with screws



Prepare the No. 10 board and 2 6mm screws as shown (note: Batteries can be installed in advance)



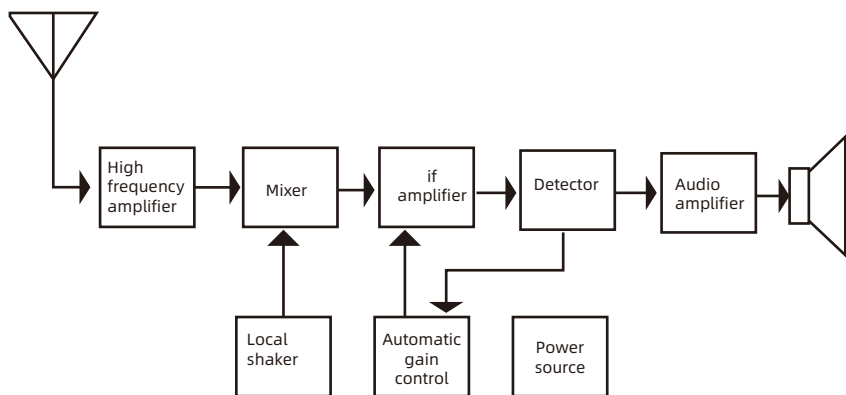
Install board No. 10 and fix it with screws as shown. The radio station needs to repair the transmission tower and the differential station every week, and the radio can not receive the station. Please confirm the local maintenance time



Science trivia



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

Thanks to technological advances, there are many different frequencies of radio waves in the sky. If all these waves are received, the audio signal will be like being in a busy market, so many sounds are mixed together that nothing can be heard. In order to try to choose the required program, after receiving the antenna, there is a selective circuit, its role is to pick out the required signal (radio), and do not want the signal "filter out", so as to avoid interference, this is the "select station" button used when we listen to the broadcast. The output of the selective circuit is to select a radio station's high-frequency amplitude modulation signal, using it to directly promote the headset (electroacoustic device) is not possible, but also must restore it to the original audio signal, this reduction circuit is called demodulation, the demodulated audio signal to the headset, you can receive the broadcast.

A radio is a receiver that broadcasts radio. The high frequency input from the receiving antenna is restored to the audio signal after playing frequency conversion and detection. According to different needs, the radio can be combined with different components and wiring methods. Early radios used tubes, but now transistors and integrated circuits are common. A regenerative radio with a simple line uses only one transistor, while a superheterodyne FM radio with a complex line often uses a variety of integrated circuits.

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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.