**DONGKER GY20923-3ABHIC**

# DONGKER Wireless FM Radio DIY Kit

Model: GY20923-3ABHIC

## Introduction

This manual provides detailed instructions for assembling and operating your DONGKER Wireless FM Radio DIY Kit. This kit is designed for enthusiasts and students interested in electronics, offering a hands-on experience in building a functional FM/MW/SW radio with integrated clock and memory features. Please read all instructions carefully before beginning assembly and operation.

## Safety Information

- Keep all components out of reach of small children.
- Handle electronic components with care to avoid damage.
- Ensure the device is powered off and disconnected from any charging source before performing any maintenance or adjustments.
- Do not expose the radio to water or excessive moisture.
- Use only a compatible 5V Type-C charger for recharging the battery.

## Package Contents

Before starting assembly, verify that all components listed below are present in your kit:

- Pre-soldered FM module (main circuit board with display)
- Speaker
- Telescopic rod antenna (for FM/SW reception)
- Magnetic rod antenna (for MW reception)
- Rechargeable Lithium Polymer battery (3.7V, 1000mAh)
- Acrylic housing panels
- Set of screws and standoffs
- Mini screwdriver
- Rubber buttons
- Connecting wires




Image: All components included in the DONGKER Wireless FM Radio DIY Kit, ready for assembly.

## Setup and Assembly

The FM module is pre-soldered, simplifying the assembly process. No soldering is required for this kit. Follow these steps to assemble your radio:

1. **Prepare Housing Panels:** Carefully remove the protective film from both sides of all acrylic housing panels.
2. **Mount Main Board:** Attach the pre-soldered FM module to the designated bottom panel of the acrylic housing using the provided screws and standoffs. Ensure the display faces outwards.
3. **Connect Speaker:** Connect the speaker wires to the corresponding terminals on the main board. Secure the speaker to the front panel of the housing.
4. **Install Antennas:** Connect the telescopic rod antenna and the magnetic rod antenna to their respective connection points on the main board. The magnetic rod antenna is crucial for MW reception.
5. **Install Battery:** Connect the rechargeable battery to the battery connector on the main board. Carefully place the battery within the housing.

6. **Attach Buttons:** Insert the rubber buttons into their slots on the front panel, aligning them with the corresponding switches on the main board.
7. **Assemble Housing:** Carefully assemble the remaining acrylic panels to form the complete radio housing, securing them with the remaining screws.

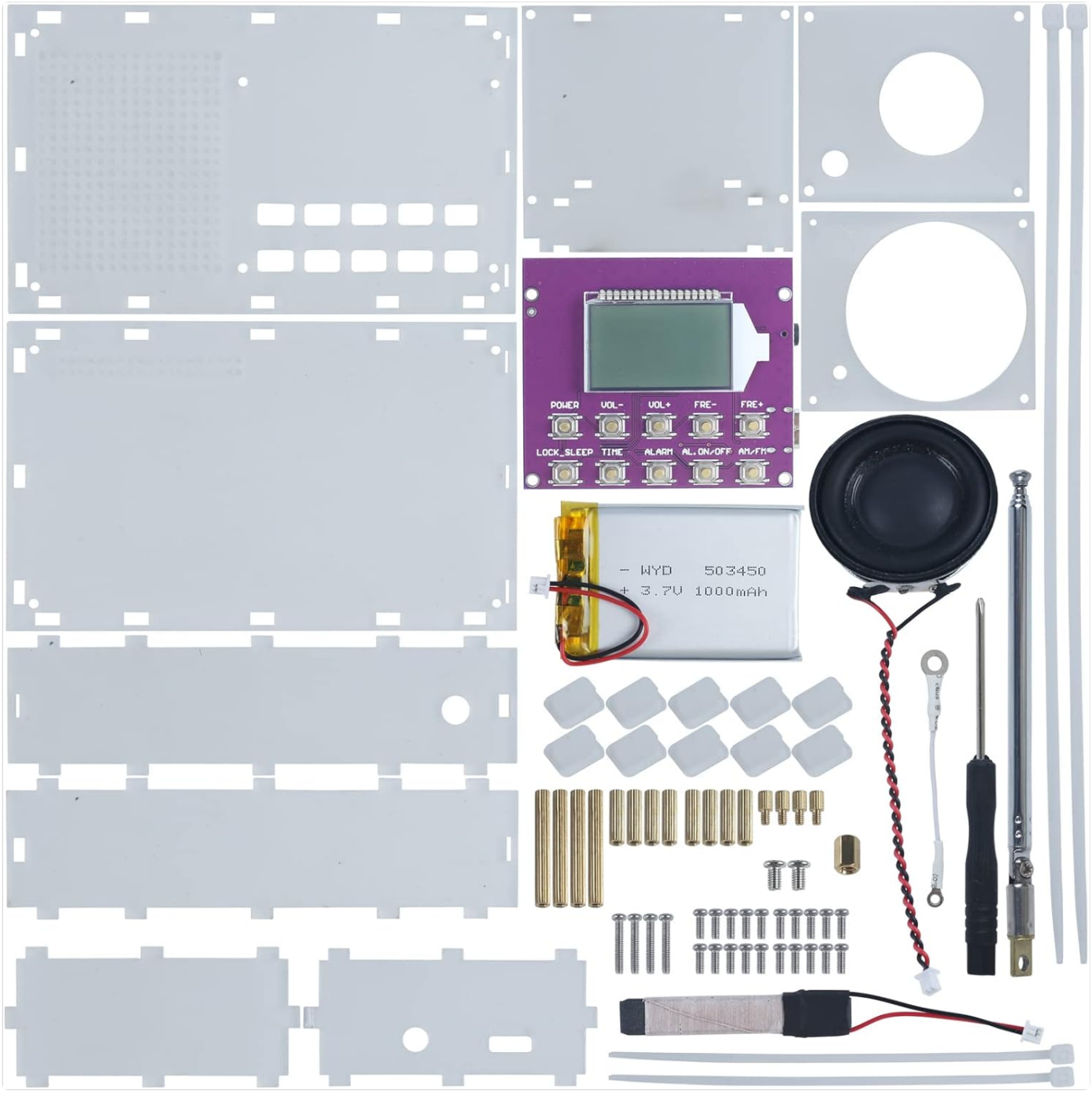



Image: The pre-soldered FM module, highlighting its ease of assembly.




Image: Front and back view of the main circuit board, showing the display and button interface.

## Operating Instructions

### Power On/Off

Press the **POWER** button to turn the radio on or off.

### Band Selection (FM/MW/SW)

The radio supports FM, MW (Medium Wave), and SW (Shortwave) bands. Press the**AM/FM** button to cycle through the available frequency bands.




Image: Overview of the three supported radio bands and their frequency ranges.

## Tuning and Frequency Adjustment

Use the **FRE+** and **FRE-** buttons to adjust the frequency within the selected band. For optimal reception, adjust the angle of the telescopic antenna for FM and SW bands. For MW programs, the magnetic rod antenna is used; rotate the entire device to improve signal reception.




Image: Explanation of antenna usage for different frequency bands, including the magnetic rod antenna for MW.

## Searching and Saving Programs

The radio can automatically search for and save channels. To quickly switch between saved programs, use the **M+** and **M-** buttons. Long-press **ALARM** to activate the M- function, and long-press **ALARM_ON/OFF** to activate the M+ function.




Image: The radio display showing a tuned frequency and indicating the search and save program feature.

## Volume Control

Adjust the audio output level using the**VOL+** and **VOL-** buttons.

## Clock Setting and Alarm Function

The time can only be set when the radio is in clock display mode. Press the**TIME** button to enter time setting mode. Use the frequency or volume buttons to adjust the hour and minute, then press **TIME** again to confirm. You can also set alarm times using the **ALARM** and **ALARM_ON/OFF** buttons.

## Power-Off Memory Function

The radio automatically saves the current program and settings when powered off. Upon restarting, it will resume playback from the last listened station.

## Sleep Timer Function

The radio includes a sleep timer function, allowing you to set an automatic power-off time (e.g., 90, 60, 45, 30, 15, 10

minutes, or OFF). Press the **SLEEP** button to cycle through the sleep timer options.




Image: The radio displaying sleep timer options, allowing users to set an automatic power-off duration.

## Headphone Use

For private listening, connect 3.5mm headphones (not included) to the headphone jack on the side of the radio. The internal speaker will automatically mute when headphones are connected.

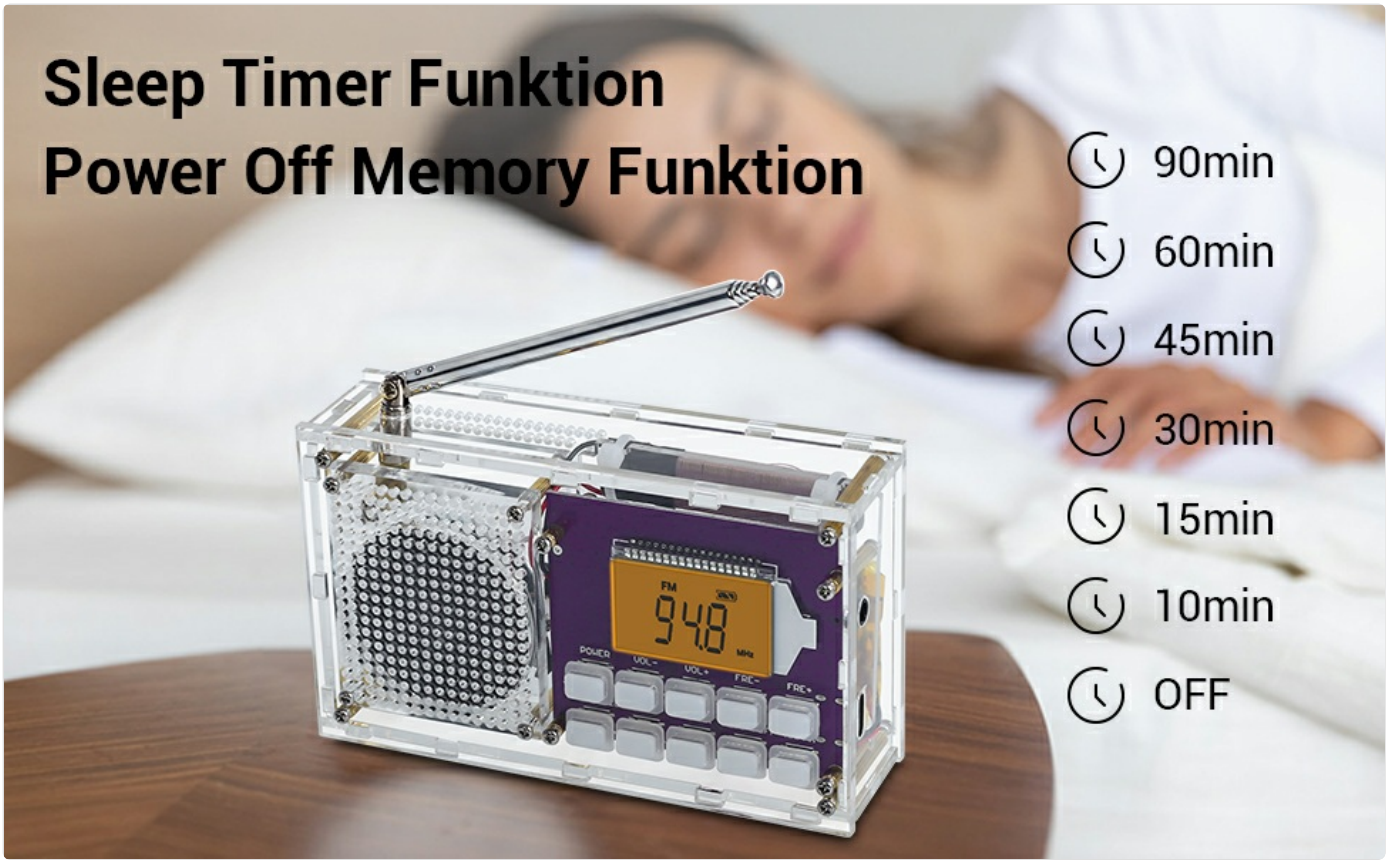


Image: Detail of the headphone jack and charging port on the side of the radio.

## Charging

The DONGKER Wireless FM Radio is equipped with a rechargeable Lithium Polymer battery. The battery symbol on the display indicates the current power level. When the symbol shows '0', the radio requires charging.

1. Connect a 5V mobile charger (with a Type-C connector) to the charging port on the side of the radio. (USB cable and charger are not included).
2. During charging, the battery icon on the display will flash.
3. Once fully charged, the battery icon will stop flashing.

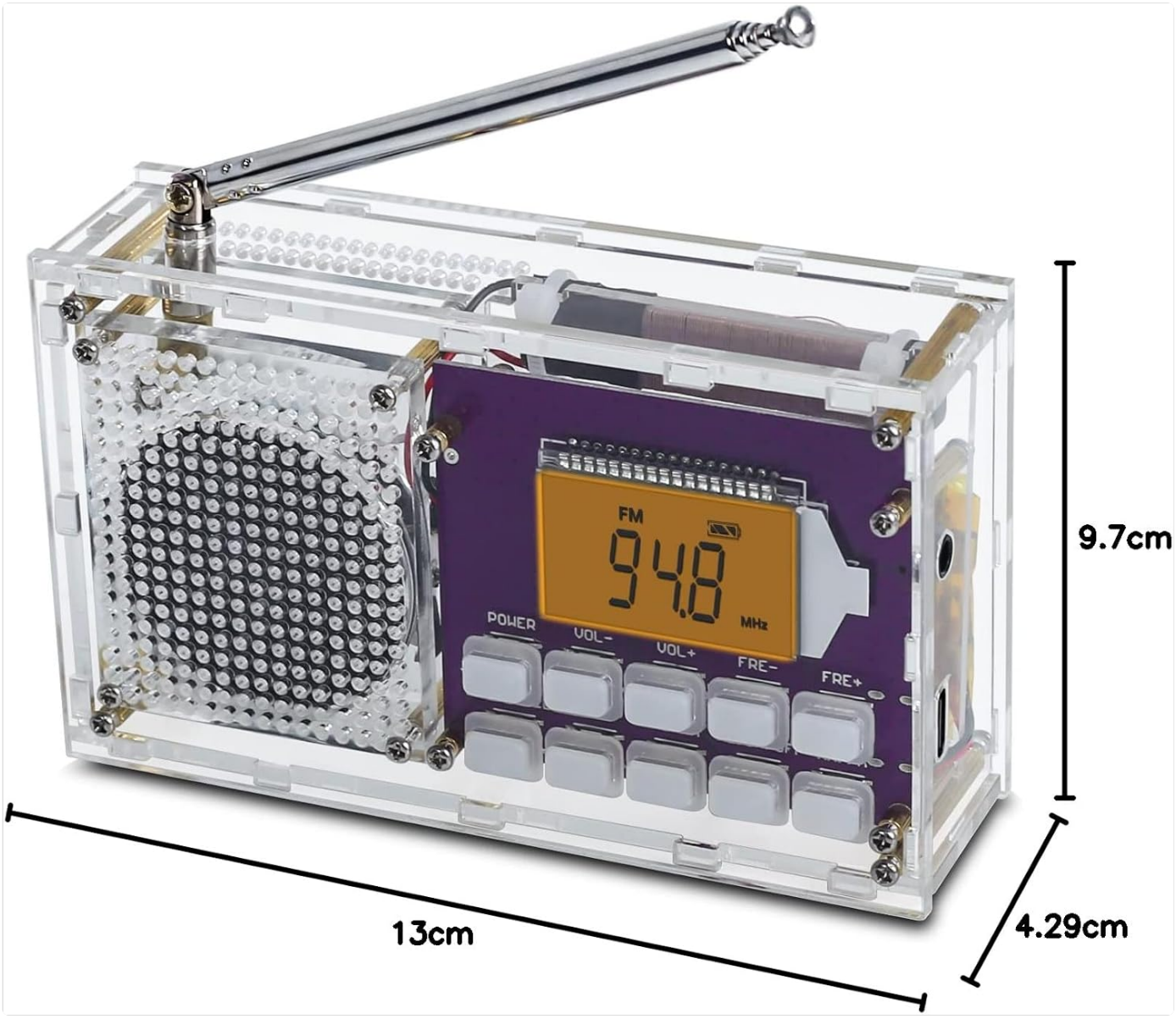



Image: The radio being charged via a USB-C connection, illustrating the rechargeable feature.

## Maintenance

- Clean the radio's exterior with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- Avoid dropping the radio or subjecting it to strong impacts, as the acrylic housing can be fragile.
- Store the radio in a cool, dry place when not in use.
- Regularly charge the battery to maintain its lifespan, even if the radio is not used frequently.

## Troubleshooting

| Problem | Possible Cause | Solution |
|---|---|---|
| Radio does not turn on. | Battery is discharged. | Charge the battery using a 5V Type-C charger. |
| Poor reception (FM/SW). | Antenna not extended or positioned correctly. | Fully extend the telescopic antenna and adjust its angle. Try moving to a different location. |
| Poor reception (MW). | Device orientation is not optimal. | Rotate the entire radio to find the best signal using the internal magnetic rod antenna. |
| No sound from speaker. | Volume is too low or headphones are connected. | Increase volume using VOL+ button. Disconnect headphones if present. |
| Buttons are unresponsive. | Temporary software glitch. | Try turning the radio off and on again. Ensure buttons are correctly seated in the housing. |

## Specifications

| Feature | Detail |
|---|---|
| Model Number | GY20923-3ABHIC |
| Dimensions (L x W x H) | 13 x 9.7 x 4.3 cm |
| Weight | 225 g |
| Battery Type | 1 x Lithium Polymer (included) |
| Voltage | 3.7 Volts |
| Connectivity Technology | USB (Type-C for charging) |
| Tuner Technology | FM |
| Supported Radio Bands | FM, MW, SW |
| FM Frequency Range | 87 - 108 MHz |
| MW Frequency Range | 522 - 1620 KHz |
| SW Frequency Range | 4.75 - 21.85 MHz |
| Display Type | LCD |
| Special Features | Built-in Clock, Memory Function, Sleep Timer |
| Water Resistance Level | Not water resistant |

## Warranty and Support

For warranty information or technical support, please refer to the seller's contact details on your purchase platform or the official DONGKER website. Keep your purchase receipt as proof of purchase.

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**Question**

Example: How do I reset this device or fix this error?

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Model number, symptoms, what you tried, or the section of the manual you are using.

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