GOOZEEZOO MLite-880

GOOZEEZOO MLite-880 Portable All-Band DSP/SDR Radio Receiver Instruction Manual

Model: MLite-880

1. Introduction

The GOOZEEZOO MLite-880 is a portable all-band DSP/SDR radio receiver designed for high sensitivity and wide frequency coverage. It incorporates advanced Digital Signal Processing (DSP) technology and Software-Defined Radio (SDR) capabilities, offering features such as a real-time spectrum display, noise reduction, and various demodulation modes. This manual provides essential information for setting up, operating, and maintaining your MLite-880 receiver.

2. Safety Information

- Do not expose the device to extreme temperatures, direct sunlight, or high humidity.
- Avoid dropping or subjecting the device to strong impacts.
- Use only the specified charging cable and power adapter to prevent damage.
- Keep the device away from water and other liquids.
- Do not attempt to disassemble or repair the device yourself. Refer to qualified service personnel.
- Ensure proper ventilation when operating the device for extended periods.

3. Package Contents

Verify that all items are present in your package:

- MLite-880 Radio Receiver
- SMA Adapter
- Type-C Data Cable
- 21700 Battery Compartment (empty, for storage)
- User Manual (this document)

- 5000mAh 21700 Lithium Battery (pre-installed or separate)



Image 3.1: Contents of the MLite-880 package, including the radio, SMA adapter, Type-C cable, battery compartment, and user manual.

4. Product Overview

Familiarize yourself with the physical components of your MLite-880 receiver.



Image 4.1: Front view of the MLite-880 radio, showing the display, keypad, speaker, and extended telescopic antenna.



Image 4.2: Multi-interface diagram highlighting the Type-C charging port, 3.5mm headphone jack, multi-function dial, SMA external antenna connector, TF card slot, and On/Off power switch.

4.1. Controls and Ports

- **Display:** 2.3-inch screen for frequency, spectrum, and menu information.
- **Keypad:** Numeric and function keys for direct frequency entry and menu navigation.

- **Multi-function Dial:** Used for volume control, frequency tuning, and menu selection.
- **Telescopic Antenna:** For general reception.
- **SMA External Antenna Connector:** For connecting external antennas.
- **Type-C Charging Port:** For charging the internal battery.
- **3.5mm Headphone Jack:** For private listening.
- **TF Card Slot:** For microSD card storage for recording.
- **On/Off Power Switch:** To power the device on or off.

5. Setup

5.1. Battery Installation

The MLite-880 uses a replaceable 5000mAh 21700 lithium battery. If the battery is not pre-installed, follow these steps:

1. Locate the battery compartment on the back of the radio.
2. Open the battery compartment cover.
3. Insert the 21700 battery, ensuring correct polarity (+/-).
4. If a protective tab is present on the battery, remove it before insertion.
5. Close the battery compartment cover securely.

Image 5.1: Rear view of the MLite-880, illustrating the battery compartment and the 21700 rechargeable battery. Remember to remove any protective tab before first use.

5.2. Charging the Battery

Before first use, fully charge the battery. The radio supports USB-C charging.

1. Connect the provided Type-C data cable to the radio's USB-C port.
2. Connect the other end of the cable to a compatible USB power adapter (not included) or a computer USB port.
3. During charging, a red light will flash.
4. When fully charged, a green light will flash.

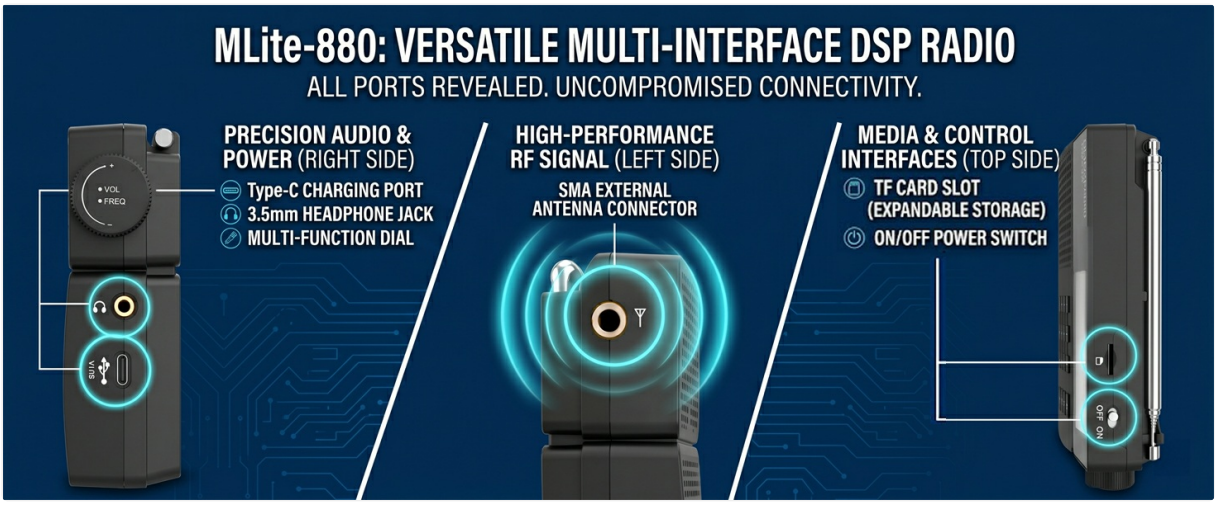


Image 5.2: The MLite-880 connected for USB-C charging, showing red flashing light for charging and green flashing light for full charge.

5.3. Antenna Connection

For optimal reception, extend the telescopic antenna or connect an external antenna.

- **Telescopic Antenna:** Fully extend the built-in telescopic antenna for most listening scenarios.
- **External Antenna:** For enhanced reception, especially on shortwave bands, connect an external antenna to the SMA connector using the provided SMA adapter.

6. Basic Operation

6.1. Power On/Off

Locate the On/Off power switch on the side of the radio. Slide it to the 'ON' position to power on the device, and to 'OFF' to power it down.

6.2. Volume Control

Rotate the multi-function dial (often labeled VOL/FREQ) to adjust the audio volume.

6.3. Frequency Tuning

The MLite-880 offers two primary methods for frequency tuning:

- **Multi-function Dial:** Rotate the dial to incrementally change the frequency. The tuning step can often be adjusted in the menu or by pressing a dedicated 'STEP' button (Key 1).
- **Keypad Entry:** For direct and rapid frequency input, use the numeric keypad. Enter the desired frequency and press the '#' key to confirm.



Image 6.1: The multi-function dial on the MLite-880, used for both volume and precise frequency tuning.



Image 6.2: Detailed layout of the MLite-880 keypad, showing functions assigned to each key for direct operation.

6.4. Band Selection

The MLite-880 covers multiple frequency bands:

- FM: 64–108 MHz
- MW (Medium Wave): 520–1710 kHz
- LW (Long Wave): 100–519 kHz
- SW (Shortwave): 1.711–29.999 MHz
- AIR (Airband): 118–137 MHz

Press the 'BANDS' key (Key 0) to cycle through available frequency bands or access a band selection menu.

6.5. Mode Selection

The receiver supports various demodulation modes:

- AM (Amplitude Modulation)
- SAM (Synchronous AM)
- CW (Continuous Wave)
- USB (Upper Sideband)
- LSB (Lower Sideband)
- NFM (Narrowband FM)
- WFM (Wideband FM)

Press the 'MODE' key (Key 2) to select the desired demodulation mode. The current mode will be displayed on the screen.

7. Advanced Features

7.1. Real-time Spectrum Display

The 2.3-inch display features a real-time spectrum analyzer with a 40kHz slice view. This visual aid helps in quickly identifying active signals and interference, facilitating more efficient tuning.



Image 7.1: The MLite-880's display showing a real-time spectrum analysis, visualizing signal strength across a frequency range.

7.2. Noise Reduction (NR) and Noise Blanking (NB)

The MLite-880 incorporates advanced DSP-driven multi-level Noise Reduction (NR) and Noise Blanking (NB) functions to filter out interference and improve audio clarity.

- **NR:** Reduces general background noise. Activate or adjust NR via the menu or dedicated button (Key C).
- **NB:** Specifically targets impulse noise, such as ignition noise. Activate or adjust NB via the audio settings menu.



Image 7.2: A visual representation of the Noise Reduction (NR) function, showing a noisy signal with NR off and a clearer signal with NR on.



Image 7.3: Another comparison demonstrating the effectiveness of Noise Reduction, showing a significant improvement in signal clarity when NR is active.

7.3. Bluetooth Audio Output

The MLite-880 features built-in Bluetooth for wireless audio output, allowing connection to Bluetooth headphones or speakers.

1. Ensure your Bluetooth audio device is in pairing mode.
2. Access the Bluetooth settings on the MLite-880 (refer to the menu options, typically under 'Audio Settings' or a dedicated Bluetooth menu).
3. Select your device from the list to pair.



Image 7.4: The MLite-880 demonstrating wireless Bluetooth audio output, connected to an external speaker.

7.4. MicroSD Card Recording

The radio supports lossless WAV/FLAC recording to a microSD card (not included).

1. Insert a formatted microSD card into the TF card slot.
2. Navigate to the recording menu (Key 7).
3. Select 'Record' to start recording the current audio.
4. Recordings can be played back directly on the device or transferred to a PC.



Image 7.5: Overview of audio features including direct recording to SD card, Bluetooth audio output, and professional headphone output.

7.5. Firmware Updates and PC Control

The MLite-880 supports firmware updates and PC software control for advanced signal recording, analysis, demodulation, and playback.

1. Connect the MLite-880 to a computer using the Type-C data cable.
2. Refer to the official GOOZEEZOO website for specific PC software and firmware update instructions.



Image 7.6: The MLite-880 connected to a PC, demonstrating its capability for software control, signal recording, analysis, demodulation, playback, and firmware upgrades.

7.6. Screen Off Function

To reduce internal interference and conserve battery, press the '9' key to turn off the display while the radio continues to operate.

7.7. Menu Navigation

The MLite-880's menu system is accessed and navigated using the keypad and multi-function dial. Key functions include:

- **Key 1 (STEP):** Frequency Step Menu / Option 1
- **Key 2 (MODE):** Modulation Mode Menu / Option 2
- **Key 3 (RADIO SET):** Device Menu / Option 3
- **Key 4 (FREQ SET):** Manually enter frequency / Option 4
- **Key 5 (VISUAL):** Display Settings / Option 5
- **Key 6 (AUDIO):** Audio Settings / Option 6
- **Key 7 (RECORD):** Recording Menu / Option 7
- **Key 8 (CH MEMO):** Channel Record / Option 8
- **Key 9:** Null / Turn off display
- **Key 0 (BANDS):** Bands / Option 0
- **Key *:** Multi-functional keys
- **Key #:** Enter
- **Key A:** Audio output channel selection
- **Key B:** SQL enablement
- **Key C:** NR enablement
- **Key D:** Return



Image 7.7: Examples of menu screens, including Date and Time settings, Enter Frequency prompt, Select Mode options, Audio Settings, and Visual Settings.

8. Maintenance

8.1. Cleaning

Wipe the radio with a soft, dry cloth. Do not use liquid cleaners or solvents, as they may damage the finish or internal components.

8.2. Battery Care

To prolong battery life:

- Avoid fully discharging the battery frequently.
- Store the radio with a partially charged battery if not used for extended periods.
- Replace the battery if its performance significantly degrades.

9. Troubleshooting

If you encounter issues with your MLite-880, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Radio does not power on	Battery is depleted or not installed correctly.	Charge the battery. Ensure the battery is inserted with correct polarity and the protective tab is removed.
Poor reception	Antenna not extended, weak signal, or high interference.	Fully extend the telescopic antenna. Try an external antenna. Activate Noise Reduction (NR) or Noise Blanking (NB). Move to an area with less interference.
No audio output	Volume too low, headphones not connected, or Bluetooth not paired.	Increase volume. Check headphone connection. Ensure Bluetooth device is paired and connected.

Problem	Possible Cause	Solution
Cannot record to microSD card	MicroSD card not inserted, full, or not formatted correctly.	Insert a microSD card. Check available space. Format the card if necessary (refer to device menu for formatting options).

If the problem persists, please contact customer support.

10. Specifications

Feature	Detail
Brand	GOOZEEZOO
Model Number	MLite-880
Frequency Coverage	FM (64–108 MHz), MW (520–1710 kHz), LW (100–519 kHz), SW (1.711–29.999 MHz), AIR (118–137 MHz)
Demodulation Modes	AM, SAM, CW, USB, LSB, NFM, WFM
Display	2.3-inch Real-time Spectrum Analyzer (40kHz slice view)
Battery	5000mAh Replaceable 21700 Lithium Battery (3.7V)
Charging Port	USB-C
Audio Output	Built-in Speaker (5 Watts), 3.5mm Headphone Jack, Bluetooth
Recording	MicroSD Card (WAV/FLAC lossless)
Connectivity	USB (for PC control/firmware), Bluetooth
Dimensions (L x W x H)	6.3" x 4.3" x 1.6"
Material	Acrylonitrile Butadiene Styrene (ABS)

11. Warranty and Support

The GOOZEEZOO MLite-880 Portable All-Band DSP/SDR Radio Receiver comes with a**1 Year Manufacturer Warranty**.

For technical support, troubleshooting assistance, or warranty claims, please contact GOOZEEZOO customer service through the retailer where the product was purchased or visit the official GOOZEEZOO website for contact information.

12. Product Video

Your browser does not support the video tag.

Video 12.1: An official product video demonstrating the GOOZEEZOO MLite-880 radio in operation, showcasing its features and user interface.