

M-601

FM Radio • Recorder • Audio Player

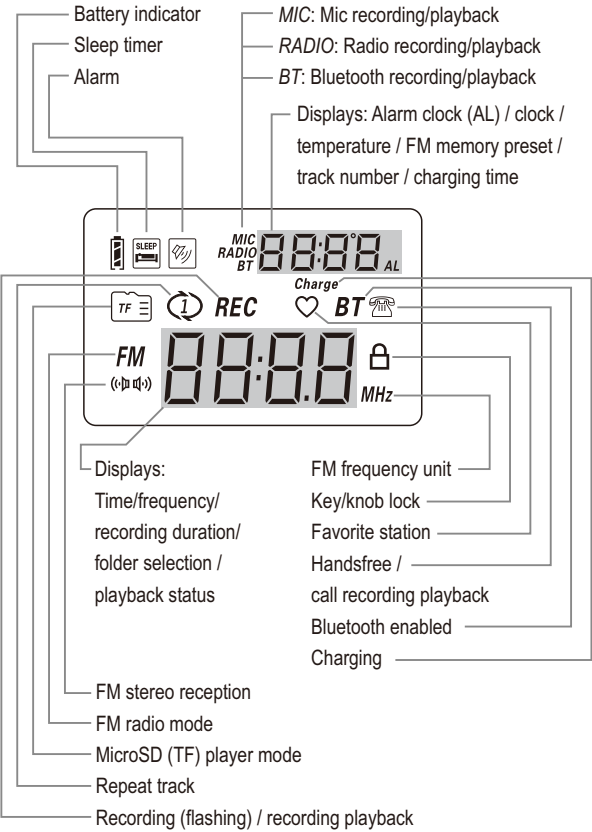
User Manual

(Please read this manual before use)

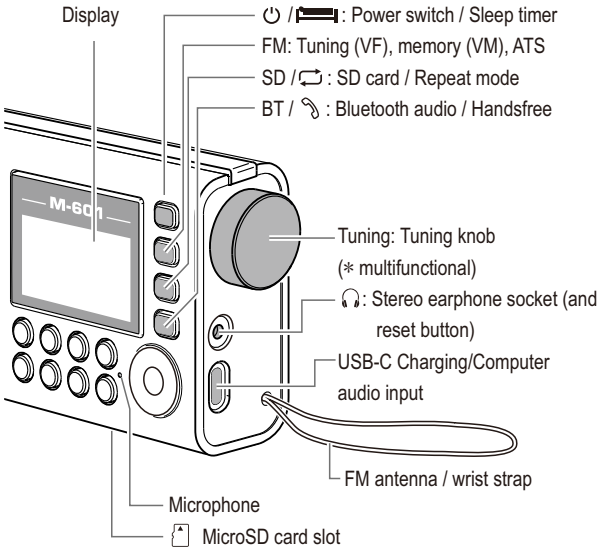


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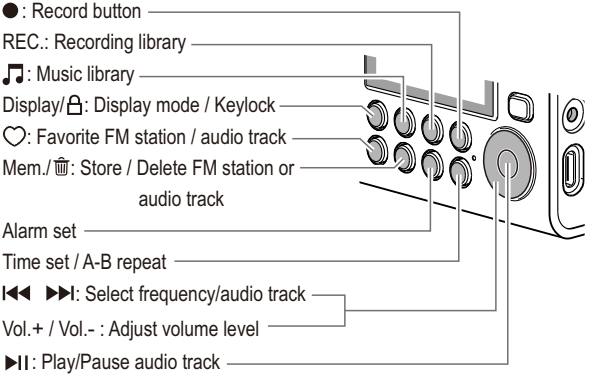
M-601 at a Glance – Display indication



M-601 at a Glance – Location of Controls



- * Multifunctional tuning knob:
 - After using [Vol.+] / [Vol.-], rotating the tuning knob will adjust the volume level.
 - After using [◀◀] / [▶▶], rotating the tuning knob can be used to tune the frequency or select an audio track.



Charging the Battery

This device is powered by a 3.7V rechargeable lithium (Li-ion) battery. When the battery icon is displayed as “”, this indicates that battery power is about to run out. Please charge it in time. Use a suitable USB-C charging cable to connect the charging socket on the right side of M-601 to a DC 5V charger. When charging, the charging time is displayed at the top right corner of the display while the “Charge” indicator flashes. When charging is complete, the battery symbol is displayed as “” and the charging indicator “Charge” stops flashing.

Attention! Assure that your charger is appropriately certified and meets the safety standards and other requirements in your region.

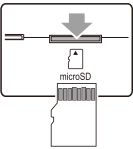
- Notes:
- Many smartphone and tablet chargers are DC 5V. If you own such a device, check the specifications to find out if it is suitable for use with M-601. Alternatively, charge M-601 by connecting it to the USB-port of a computer.
 - To extend battery life, when the lithium battery is fully charged but M-601 is not used for more than 6 days, the device will enter a self-discharge state, and the self-discharge will stop when the remaining battery power is about 70%.

Auto Sorting Memory

This device can automatically organize all stored stations. In power off mode, press and hold the [REC.] button until  appears on the display, indicating that stored stations are being sorted in ascending frequency. Once the display returns to showing the time and temperature, the memory sorting has completed.

RECORDING (microSD card required)

You can use M-601 to make FM radio recordings, voice recordings, and recordings of audio received via Bluetooth (including phone calls). Recordings are saved to an inserted microSD card (max. 128GB supported).



- To start a recording:** Press and hold []. “REC” flashes and the recording time is shown on the display.
- FM radio recording: In FM mode, records the selected radio station. The display indicates “Radio” while recording.
 - Voice recording: In audio player (SD) mode, uses the built-in microphone to record the surroundings. The display indicates “Mic” while recording.
 - Bluetooth recording: In Bluetooth mode, records audio from paired audio sources as well as incoming and outgoing phone calls. The display indicates “BT” while recording.

- Notes:
- The volume level of voice recordings and Bluetooth recordings depend on the volume level of the audio source.
 - While making voice recordings, to avoid noise, do not use any of the buttons or the tuning knob.
 - A recording file has a maximum duration of 1 hour. If the duration of the recording exceeds 1 hour, a new file will be generated.

Pause the recording: Quick press []. When the recording is paused, “REC” stops flashing, and the recording time stops and flashes.

GENERAL OPERATION

Power on/off: Quick press the [] button.

Volume adjustment: Quick press the [Vol.+] or [Vol.-] button.

Headphone socket: Suitable for 32Ω - 150Ω headphones (Φ3.5mm plug).
Caution! Do not use headphones at high volume for a long time period, as this may cause hearing damage.

- Setting the clock (in power off state): 24H format**
1. Press and hold the [TIME] button until the “hour” digits flash.
 2. Rotate the tuning knob to adjust the hour indicator.
 3. Quick press the [TIME] button to confirm. The “minute” digits start to flash.
 4. Rotate the tuning knob to adjust the minute indicator.
 5. Quick press the [TIME] button to confirm.

Setting the FM Frequency Range

With the device off, set the frequency range to correspond with the country in which you are using the radio. Press and hold the [FM] button. The display will show “”, “”, “” or “” to indicate the corresponding range: 64 - 108MHz, 76 - 108MHz, 87 - 108MHz or 88 - 108MHz. Quick press [FM] repeatedly to select your preference.

Temperature Display: Fahrenheit (°F) or Celsius (°C)

The temperature reading corresponds with the selected FM frequency range.

- Fahrenheit (°F): 88 - 108MHz
- Celsius (°C): 64 - 108MHz, 76 - 108MHz, 87 - 108MHz

Tip: Quick press [DISPLAY] repeatedly to display the temperature.

LISTENING TO FM RADIO

Quick press the [FM] button to switch to FM radio listening. While listening to FM, quick press the [FM] button to toggle between the frequency tuning (VF) and memory mode (VM).

- Tuning mode (VF): Frequency flashes after a quick press of the [FM] button.

- Memory mode (VM): Memory preset indicator “xx ch” flashes after a quick press of the [FM] button. Tip: If “P0--” is displayed, the memory contains no preset frequencies; the device will automatically return to VF mode.

- Tuning for new FM frequencies**
- Manual tuning: Quick press [◀◀] or [▶▶]. Alternatively, quick press [◀◀] or [▶▶] and then rotate the [TUNING] knob.
 - Auto tune: Press and hold [◀◀] or [▶▶]. The device automatically scans the FM frequency band. When a radio station is found, it will stay there for about 5 seconds before continuing the scan. To stop, gently rotate the [TUNING] knob.

Storing FM frequencies

There are several ways to store FM stations.

- Storing Stations Manually
 - 1) In VF mode, tune into the frequency.
 - 2) Quick press the memory [MEM.] button, the next available memory location flashes on the display. If desired, select a different memory location by rotating the [TUNING] knob.
 - 3) Quick press the [MEM.] button again to confirm the location or wait for about 2 seconds to auto store the station into the memory.

- Storing Stations During Auto Tune

It is possible to store stations manually while the radio scans the FM band for available stations.

 - 1) Press and hold [◀◀] or [▶▶] to start the auto tune feature.
 - 2) When coming across a station that you wish to store, quick press the memory [MEM.] button twice. The frequency is stored and the radio continues scanning for the next available station.
 - 3) To stop the auto tune feature, gently rotate the [TUNING] knob.

- Auto Tuning Storage (ATS)

Press and hold the [FM] button. The frequency starts running and available FM stations are automatically stored into the memory.

When the frequency stops running, it means the ATS operation has been completed. Rotate the [TUNING] knob to view all the stored stations.

- Recalling Stored Stations**
- 1) Quick press the [FM] button to enter the memory (VM) mode. The memory is entered when “xx Ch” flashes in the top right corner of the display.
 - 2) Quick press the [◀◀] or [▶▶] button repeatedly to change stations, or quick press and then rotate the [TUNING] knob.
- Tip: If “P0--” is displayed, it means the memory contains no preset frequencies; the device will automatically return to VF mode.

- Memory Scan**
- The device can auto scan all stored stations, staying on each station for about 5 seconds before continuing.
- 1) Quick press the [FM] button to enter the memory (VM) mode. The memory is entered when “xx Ch” flashes in the top right corner of the display.
 - 2) Press and hold the [◀◀] or [▶▶] button until “Ch” flashes in the upper right corner of the display. The device starts to scan all stored stations.

To stop scanning, quick press [◀◀] or [▶▶] .

- Setting a Favorite Station**
- You can set one favorite station that can be accessed using the [] button. Follow these steps to set a favorite station:
- 1) Tune into a frequency.
 - 2) Press and hold the [] button. “  ” flashes on the display briefly, indicating that your favorite station has been set.
- To set a new station as your favorite, follow the above steps again.

FM Mono/Stereo

The speaker audio output is mono. When listening through headphones, the device automatically switches to stereo output, indicated by the “” icon.

When using headphones, but the radio signal is broadcasted in mono, or

broadcasted in stereo but the signal received is weak, the audio output is in mono and “” is not displayed.

- Deleting a Single Station**
- 1) Enter the memory (VM) mode using the [FM] button.
 - 2) Use [◀◀] or [▶▶] to select the station that you wish to delete.
 - 3) Press and hold the [] button until “ dEL ” and “xx Ch” flash on the display.
 - 4) Quick press the [] button to confirm and delete the unwanted station.
- Note: If the [] button is not pressed for confirmation within 3 seconds, the delete function is exited automatically.

Deleting Stations During Memory Scan

The device can auto scan all stored stations, staying on each station for about 5 seconds, and giving you the opportunity to delete any unwanted stored stations.

- 1) Use the [FM] button to enter the memory (VM) mode.
- 2) Press and hold [◀◀] or [▶▶] until “Ch” flashes in the upper right corner of the display. The device starts to scan all stored stations and stays on each station for about 5 seconds before continuing.
- 3) Upon finding an unwanted station, press the [] button. No confirmation is required and scanning continues immediately.
- 4) To stop the memory scan, quick press [◀◀] or [▶▶].

- Deleting All Stored Stations**
- It is possible to simultaneously delete all stored stations from the memory, but excluding the favorite station.
- 1) Use the [FM] button to enter the memory (VM) mode.
 - 2) Press and hold the [] button until “P0 dEL” flashes on the display.
 - 3) Quick press the [] button to confirm and delete all stored stations.
 - 4) “P0--” is briefly shown on the display. Once the display returns to showing the frequency, all stored frequencies have been deleted.

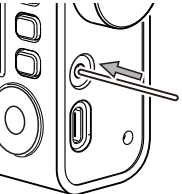
Note: If the [] button is not pressed for confirmation within 3 seconds, the delete function is exited automatically.

Selecting an audio file: 1) Enter the music [] or recording [REC.] library. 2) Quick press the [SD] button to enter the folder preview mode. The display shows the current folder from which music is being played (e.g. ) and the number of audio files that it contains (e.g. ). 3) To select a different folder on the microSD card, rotate the [Tuning] knob. 4) To select an audio file within the folder, quick press the [] or [] repeatedly.	
Tips: ● In the music library, if the microSD card contains audio files that are not located in a folder, these are displayed as located in the  folder by default. ● Audio playback from the recording library indicates the type of recording folder: MIC (voice recordings folder), BT (Bluetooth recordings folder), RADIO (FM radio recordings folder),  (phone recordings folder).	
Pause/Play: Quick press []. While paused, “  ” is displayed.	
Restart audio track: Quick press [].	
Previous audio track: Quick press [] twice. Alternatively, press once and then rotate the [Tuning] knob.	
Next audio track: Quick press []. Alternatively, press once and then rotate the [Tuning] knob.	
Fast forward: Press and hold [].	
Rewind: Press and hold []	
Repeat track: Press and hold [] until the display shows “  ”. Press and hold [] again to resume normal playback.	
A-B segment repeat: Quick press [Time] at the beginning of the segment ( - - is displayed). Quick press [Time] again to set the end of the segment ( - -  is displayed). To stop the segment repeat, quick press [Time].	
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Keylock To activate the keylock, press and hold []. The lock “  ” icon is displayed and the buttons and tuning knob are disabled. Press and hold [] again to unlock.

Troubleshooting

System Reset This device works on advanced and stable firmware to enhance users' enjoyment. In the event that a sudden firmware glitch does occur (e.g. unresponsive or erratic behavior of buttons/knob, LCD display issues) press the [RESET] button. Use an insulated pointy object (e.g. a toothpick) and press the button located inside the earphone socket.	
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Q & A

Q: Why is it that sometimes the [TUNING] knob can only be used to select FM stations and audio tracks, but cannot be used to adjust the volume; and at other times it can only adjust the volume, but cannot be used to select FM stations and audio tracks?	
A: The function of the [TUNING] knob is related to its last operation. If the [] or [] key was used previously, the default operation of the [TUNING] knob is to select FM stations an audio track or folder. If the [VOL. +] or [VOL. -] button was used previously, the default operation of the [TUNING] knob is to adjust the volume.	

Setting a Favorite Audio Track You can set one favorite audio track that can be accessed using the [] button. 1) Select an audio track from the music library. 2) Press and hold the [] button. “  ” flashes on the display briefly, indicating that your favorite station has been set.	
To set a new station as your favorite, follow the above steps again.	

Recalling the favorite audio track In audio player (SD) mode, quick press the [] button. The audio track is played automatically, with the display indicating the folder and track number. Quick press [] to exit the favorite audio track.	
Notes: ● Audio in the recordings library cannot be set as favorite. ● Only one favorite audio track can be set.	

Deleting audio files 1) Select the file you want to delete. 2) Press and hold [] until the track number and “ dEL ” flash on the display. 3) Quick press [] to confirm and delete the file.	
Tip: To delete multiple files simultaneously, power on M-601 and connect it to a computer using the included USB data cable. Access the microSD card and delete the files.	

BLUETOOTH AUDIO RECEIVER (BT)

Quick press the [BT] button and then use the Bluetooth enabled audio source (e.g. smartphone or tablet) to pair with "TECSUN-M601". ● “ - - - - ”: Indicates that M-601 is waiting to pair. ● “ [] ”: Indicates that M-601 has paired successfully.
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Unpair a Bluetooth connection: Press and hold the [BT] button.

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Q: Why does the display show “ -  - ” after inserting a microSD card?	
A: There are four possibilities: 1. There are no audio files on the card. 2. M-601 does not support the audio file formats on the card. 3. The capacity of the microSD card is more than 128GB. 4. The microSD card or the audio files are corrupted.	

Q: Can you repeat the audio files of all folders in one loop?	
A: No. It is only possible to repeat audio files in a single folder.	

Q: In audio player (SD) mode, the music library (or recording library) cannot be selected.	
A: The audio player is still in the folder preview state. Quick press the [SD] button to exit the folder preview state.	

Q: I previously saved a favorite audio track, why is it gone?	
A: When the microSD card is removed, or the audio track is deleted from the card, the favorite audio track selection cannot be retained.	

Q: Why is there no response (cannot record) after pressing the recording button?	
A: Recordings are made directly to the microSD card. Has a supported (max. 128GB) SD card been inserted correctly?	

Q: Why can't I record voice calls?	
A: Some apps (e.g. WeChat) prevent voice recordings to be made.	

Playback controls: Play, pause, song selection and volume control can be operated on the M-601 using the corresponding buttons.
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Handsfree calls: If the Bluetooth enabled audio source receives an incoming phone call, audio playback is paused and the display shows “  ” and the “  ” symbol flashes.

Answering an incoming call: Quick press [].
Tip: The microphone is located below the LCD display.

Recording a phone call: During a call, press and hold []. “REC” flashes and the recording time is shown on the display.

Rejecting an incoming call: Quick press [] twice.

Ending a call: Quick press [].
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COMPUTER SPEAKER MODE

Use this device as a speaker for a computer by following the below steps: 1) Turn on the device. 2) Use a suitable USB data cable to connect M-601 and the computer. The display shows “  ”. 3) Turn on the audio player of the computer.

Playback controls: Play, pause, song selection and volume control can be operated on the M-601 using the corresponding buttons.
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Tip: If there is no sound, adjust the sound output settings of your computer, or turn off and restart the computer's audio player.
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Q: What is the length of a recording for each 1GB capacity of the microSD card?	
A: For Bluetooth/radio recording, 1GB can store approx. 14 hours. For phone call recordings, 1GB can store approx. 72 hours. For voice recordings, 1GB can store approx. 41 hours.	

Q: Can audio in the recording folder be set as the “favorite audio track”?	
A: No. If you want to set a recorded audio track as the “favorite audio track”, use a computer to move this recording file out of the recording folder. You can then set it as the “favorite audio track”.	

Q: How long does it take to charge the battery?	
A: When the battery is still new and fully discharged, use a DC 5V≥1A charger to charge it; it will take about 4 hours to fully charge the battery.	

Q: How to prolong battery life?	
A: 1. In order to avoid accelerated aging of lithium batteries, ● Charge the battery before it is completely exhausted. ● Do not charge the battery longer than it is necessary to fully charge it. ● Avoid charging the battery and playing audio at the same time. ● Do not keep the device in a high-temperature environment. 2. When not using the device for a prolonged period of time, it is recommended to charge the battery to about 50% - 70% before storing, and to check the remaining battery power regularly. Do not let the battery drain completely.	

OTHER SETTINGS AND FEATURES

Setting the Sleep Timer 1) Turn the device off. 2) Press and hold the [POWER / ] button to enter the setting mode. 3) Rotate the [TUNING] knob to select a power-off timer of 1-120 minutes, or select “  ” to deactivate the sleep timer. 4) The setting is automatically confirmed after 2 seconds. The sleep timer “  ” icon is shown on the display.
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Activating/Deactivating the alarm Quick press [ALARM] to activate the alarm. The alarm “  ” icon is shown on the display to indicate that the device will turn on at the preset time. Quick press again to deactivate the alarm.

Setting the alarm time: 1) Turn the device off. 2) Press and hold [ALARM], the "hour" digit in the upper right corner of the display flashes. 3) Rotate the [TUNING] knob to adjust the "hour". Quick press [ALARM] to confirm. 4) The "minute" digit flashes. Rotate the [TUNING] knob to adjust, followed by a quick press of the [ALARM] button to confirm the setting. 5) The display shows the alarm duration, while “  ” and “  ” flash on the display. 6) Rotate the [TUNING] knob to set the alarm duration (1 - 60 minutes). 7) Quick press [ALARM] to confirm. The alarm icon “  ” is shown on the display.
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Setting the alarm by radio or audio player:
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Alarm by radio: 1) Turn on the device and select the FM station you want to use as the alarm. 2) Select a suitable volume level for the alarm. 3) Quick press [MEM.], the memory location will flash. 4) While still flashing, quick press [ALARM], the alarm icon “  ” flashes. 5) After 2 seconds, the alarm icon “  ” stops flashing and the alarm is set.
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Lithium Battery Safety Instructions ● This device uses a built-in (104050) lithium battery, which should not be replaced by yourself. There is a risk of explosion if the battery is incorrectly replaced. The device can only be used with a battery of the same type or equivalent. If the battery needs replacing, please contact our customer service department or a professional repair center. ● Do not expose the battery to heat sources (e.g. sunlight, fire), low temperatures, humidity, or high pressure. Do not use after being immersed in water. ● Do not short-circuit or disassemble the battery. If the battery is seriously inflated, please do not continue to use it. Dispose of the battery properly. ● Please consciously abide by aviation regulations; lithium batteries may be prohibited from placing into checked luggage.
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M-601 Maintenance ● Keep it dry. Rain, humidity and other types of liquids or moisture can contain minerals that may cause corrosion to components. ● Do not place or store the device in environments above +45℃. High temperatures can shorten the life span of certain components. ● Do not place or store the device in cold environments below -5℃ . Otherwise, once the surrounding temperature rises, internal condensation may develop and damage the circuit board and LCD display. ● Do not drop, hit, or smash the device. Avoid violent shocks. ● Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the device. Use a clean, soft, dry cloth to clean the screen. ● Do not attempt to disassemble the device to adjust internal parameters.

Alarm by audio player: 1) Insert a microSD card containing audio files. 2) Select an audio track from the music library that you want to use as the alarm. 3) Select a suitable volume level for the alarm. 4) Quick press [MEM.], the audio track number flashes. 6) Quick press [ALARM], “  ” and “  ” are flashing. 7) After 2 seconds, “  ” and “  ” stop flashing, indicating that the alarm has been set.

Tips: ● Once the preset alarm time is reached, the radio or audio player turns on and stays on for as long as the alarm duration (01 – 60 minutes) was set. To turn off the device during the alarm playtime, quick press the [POWER] button twice. ● Audio files from the recording folder cannot be set selected for the alarm.

Display mode: Quick press the [DISPLAY] button repeatedly to (briefly) show any of the following in the top right corner of the display: ● FM mode: Memory preset (VM mode), clock time, alarm time, temperature ● Audio player mode: Track number, clock time, alarm time, temperature ● Bluetooth mode: Clock time, alarm time, temperature ● Computer speaker mode: Clock time, alarm time, temperature ● Power off mode: Alarm time, temperature

Voice Prompts: This device can use voice prompts to indicate when a feature is being selected: “FM mode”, “SD card mode”, “Bluetooth mode”.

Turning on/off voice prompts: 1) Turn on the device. 2) Quick press [FM] to enter FM mode. 3) Press and hold the [TIME] button until “On” / “OFF” is displayed.
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M-601 Specifications

FM frequency range	64-108 MHz 76-108 MHz 87-108 MHz 88-108 MHz
FM station memories:	100
FM noise limit sensitivity:	< 3μV (S / N = 30dB)
FM selectivity:	> 60dB
MicroSD Card:	Max. 128GB
Supported Audio:	16bit / 44.1kHz; FLAC / WAV / WMA / MP3 up to 320 kbps
Recording format:	
Voice	mono MP3 (56kbps)
Phone calls	mono WAV (32kbps)
Radio and Bluetooth (not phone)	stereo MP3 (160kbps)
Bluetooth version:	BT 5.0
Stereo headphone impedance:	32 - 150Ω
Speaker:	4Ω, 3W
Maximum operating current:	500mA
Quiescent current (FM):	< 50mA
Maximum output power:	2W
Stand-by current:	< 90μA
Power supply:	3.7V / 2500mAh (104050 Li-ion battery) or external DC 5V
Charging / external power:	5V± 1000mA
Charging socket:	USB type-C
Unit size (excl. carrying strap):	Approx. 148 x 73 x 34 mm
Net weight:	Approx. 225 gram

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