



# DEGEN

# OPERATION MANUAL

## DE28

FM STEREO • MW • SW DSP RECEIVER  
RECORDER  
MP3 PLAYER



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Supports firmware upgrade, please visit  
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# PREFACE

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Thank you for purchasing DEGEN products. Please read the manual thoroughly before operating and keep this book in a safe place for future reference.

Included items:

DE28

Lithium battery

USB cable

Operational manual

## STATEMENT

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To follow the continuous development strategy, we may keep the right to modify or upgrade the product described in this manual without prior notice. This manual is for reference only. In case the product functions after upgradation or modification appear to be not completely in accordance with this manual, please refer to actual product. Without the written permission from Degen, it is not allowed to copy, transfer, issue or save any content of this manual. For information about the updated software of this product, please visit Degen's website: [www.degen.com.cn](http://www.degen.com.cn).

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## LOCATION OF CONTROLS

### LOCATION OF CONTROLS



- ① Telescopic antenna
- ② Mini-USB port
- ③ Strap hole USB port
- ④ AUX-in jack
- ⑤ Earphone jack
- ⑥ Tuning knob: Rotate to tune or select
- ⑦ Battery compartment
- ⑧ Radio/MP3 mode selection

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## LOCATION OF CONTROLS

- ⑨ Power button
- ⑩ Volume +
- ⑪ Volume -
- ⑫ Long press to lock/unlock keys  
In music mode: Press to enter music selection
- ⑬ In radio mode: SW button, press in SW listening to change M bands  
In music mode: Press to select repeat mode
- ⑭ In radio mode: Frequency+  
In music mode: Next song/Fast forward
- ⑮ Menu button: Press to enter menu/sub-menu or confirm  
In time set mode: Press to move cursor
- ⑯ Speaker
- ⑰ In radio mode: FM button, press to select FM stereo/mono listening  
In music mode: Play/Pause  
In recording mode: Pause/Continue
- ⑱ Escape button: Press to exit sub-menu or go back to Main Menu  
In radio mode: M -  
In Main Menu: Press to display time  
In recording mode: Press to stop and save
- ⑲ In radio mode: Frequency-  
In music mode: Preview song/Rewind
- ⑳ In radio mode: MW button  
In music mode: A-B repeat

2

## LOCATION OF CONTROLS

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- ⑰ In radio mode: M+, long press to record radio  
In other modes: Long press to enter MIC recording
- ⑱ Display
- ⑳ MICRO SD/TF card slot

## DEFINITION OF KEY OPERATIONS

There are 3 operation ways of pressing the keys: short press, long press and hold on. Unless expressly stated, all the operations are short press.

**Short press:** press the key once, and the function starts to work.

**Long press:** press and hold for more than 2 seconds and the function starts to work, and works only one time.

**Hold on:** press the key and hold on till stop, the function works several times in a certain frequency, such as fast forward/backward.

## BATTERY POWER SUPPLY

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### LITHIUM BATTERY POWER SUPPLY

Please use the lithium battery approved by DEGEN to power this product. A lithium battery is attached with this product. Do not use any un-qualified battery that may cause problems or dangers such as inflammation or explosion.

### INSTALLING THE BATTERY

1. Turn off the unit and open the battery cover.
2. Install the provided lithium battery according to the battery polarity.
3. Close the battery cover.

### BATTERY CONSUMPTION INDICATOR



1. Full



2. Medium



3. Low



4. Exhausted

### CHARGING THE LITHIUM BATTERY


#### External Adapter (not included)

Please use a matched adapter(5V DC/500mA, USB port) to charge the unit.

1. Install the lithium battery.

## BATTERY POWER SUPPLY

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2. To charge the battery, connect the unit to the mini-USB port and opposite end to a power source.
3. While charging, the battery symbol shown on the display  moves from right to left, and stops when the battery is full charged. Then disconnect the unit and the adapter.


### NOTE:


Alternating current can interfere the radio signal, so it is not recommended to use the radio when charging.

Do not use AC adapter or computer to power the unit to play music or listen to the radio when the battery is unloaded.

Please unload the battery or fully charge it once in 2 months if the unit is not used for a long time.

### Charged by PC



1. Connect the unit and the computer with the provided USB cable.
2. While charging, the battery symbol shown on the display  moves from right to left.
3. The battery symbol stops moving when the battery is full charged.



**NOTE:** When charged by PC, a USB symbol shown on the display. When Micro SD/TF card is inserted, press <  > twice and select Music Mode to play the music.

## MAIN MENU

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### LOCK/UNLOCK KEYS

**LOCK:** Long press <  / **Song Selection** >, all the keys except this key will be locked with the “  ” symbol shown on the display.

**UNLOCK:** After keys locked, long press <  / **Song Selection** > to unlock keys, and the “  ” symbol disappears.

### POWER ON/OFF

Press the <  > button to turn on/off the unit.



**Auto turn off:** The unit will turn off automatically in 3 minutes without any operation in Main Menu mode.

### MAIN MENU

In any mode, press < **M-/ESC** > can go back to Main Menu.



Main Menu

In Main Menu, rotate < **Tuning knob** > or press <  > or <  > to select either of the below functions and press < **MENU** > to enter.

**Radio:** FM/MW/SW Radio

**Music:** MP3 music play mode

**Text browser (Ebook):** Text reading mode

**System Settings**

**Calendar**

## RADIO

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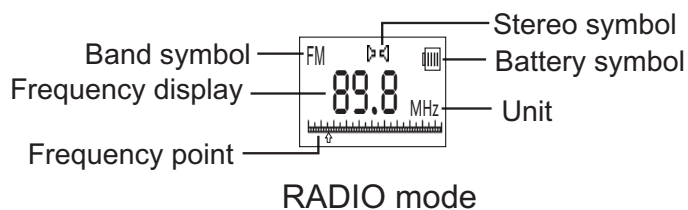
### NOTE:

Press <M-/ESC> in Main Menu can display the time. When the time is displayed, press <MENU> to go back to Main Menu.

## RADIO

In Main Menu, select Radio and press <MENU> to listen to FM, the frequency shows on the display.

Repeatedly pressing <RADIO/MP3> to enter either Radio or Music Mode.



### NOTE:

Due to current interference, it is not recommended to use FM radio when the unit is connected to an external adapter or a computer.

## CHOOSE BANDS

In Radio Mode, press <FM/▶|>, <MW/A⇌B> or <SW/↻> to select your desired band.

The display will show the band symbol that you are listening to.

When listening to SW, press <SW/↻> to change <m> bands.

## FM FREQUENCY RANGE

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### SELECT FM FREQUENCY RANGE

When listening to FM, press <MENU> to enter the below sub-menu:

- **Save:** Store the station into memory manually
- **Delete:** Delete single memory
- **Delete all:** Delete all stored memories
- **Auto Search:** Auto tuning storage
- **Ordinary band:** 87-108MHz
- **Campus radio:** 64-108MHz
- **Japanese FM:** 76-90MHz
- **Exit**

### FM STEREO/MONO SELECTION

When listening to FM, press <FM/▶|> to select stereo/mono listening. If [◀▶] shows in the display, stereo listening is selected, press <FM/▶|> again to change to mono listening and the mono symbol [◀▶] will show. You can not active stereo listening when the radio signal you are receiving is mono.

### Suggestions:

1. Stereo listening is for strong signal broadcasts and music programs.
2. For weak signal broadcasts or voice programs, please choose mono. (Because stereo decoding may produce noises.)

## 9/10K MW TUNING STEPS

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### 9K/10K MW TUNING STEPS

When listening to FM, press <MENU> to enter the below sub-menu:

- **Save:** Store the station into memory manually
- **Delete:** Delete single memory
- **Delete all:** Delete all stored memories
- **Auto Search:** Auto tuning storage
- **Stepping switch:** When "522" appears in the display, it indicates 9K step is selected; When it shows "520, it indicates 10K steps is selected. Repeatedly pressing <MENU> to change between 9K and 10K.
- **Exit**

### VOLUME

To increase volume, press <V+>; To decrease volume, press <V->, the volume adjustment will be shown in the display.

### TUNING IN STATIONS

When tuning into stations, please avoid dense areas of buildings, electrical equipments and AC power disturbances. Optimal use of the antenna can improve signal reception.

#### Suggestions:

When tuning indoors, try the balcony or go near a window for better reception.  
AC current can interfere with the radio reception, please use lithium battery to power the radio while tuning.  
It is not recommended to use the radio when charging the battery.

## TUNE IN STATIONS

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### Using telescopic antenna:

It only works when listening to FM and SW.  
When listening to FM or SW, change the length of the telescopic antenna according to the signal intensity to get better reception.

### Using built-in antenna:

It only works when listening to MW broadcasts.  
While listening to MW stations, rotate the radio to find the position which gives the best reception, as the built-in ferrite bar is located inside the unit and it is strongly affected by the direction of placing the unit.

Five tuning methods: Manual tuning, Auto tuning, Jog tuning, Auto search(ATS) and memory recall.

### Manual tuning:

1. Turn on the unit and select [Radio] in Main Menu.
2. Adjust the volume to an appropriate level and choose your desired band.
3. Press <◀▶> or <▶▶> to tune into a station, frequency will change a step with each pressing, stop pressing when you get a satisfactory station.



## TUNE IN STATIONS

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### Auto tuning:

1. Turn on the unit and select [Radio] in Main Menu.
2. Adjust the volume to an appropriate level and choose your desired band.
3. Press and hold <I◀◀> or <▶▶I> for about 2 seconds, then release to auto tune into the next available station. If the auto-tuned station frequency is inaccurate, please use manual tuning to find the accurate frequency point.

### Jog tuning:

1. Turn on the unit and select [Radio] in Main Menu.
2. Adjust the volume to an appropriate level and choose your desired band.
3. Rotate <Tuning knob> and notice the frequency changing in the display, stop rotating when the radio receives a satisfactory station.

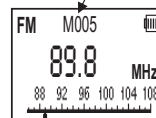
### Auto search (ATS):

1. Turn on the unit and select [Radio] in Main Menu.
2. Adjust the volume to an appropriate level and choose your desired band.
3. Press <MENU> to open the sub-menu and select [Auto search], press <MENU> again to start auto tuning and store all the available stations into memory.

## TUNE IN STATIONS

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### Memory location



### Memory Locations:

**FM:** M001 - M440

**MW:** M001 - M132

**SW:** M001 - M928

### Memory recall

1. Turn on the unit and select [Radio] in Main Menu.
2. Press <M+/ERC> or <M-/ESC> to select a station that stored within the memory.

### STORING STATIONS MANUALLY

Select your desired station, press <MENU> to open the sub-menu and select [Save], press <MENU> again to confirm. The stored station's memory location will be sorted according to the size of the frequency number.

### NOTES:

After storing stations into memory, you can use Memory Recall to find the stored station quickly.

All the stations that stored manually will be replaced when using Auto Search (ATS).

## RADIO RECORDING

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### DELETE SINGLE/ALL MEMORIES

Press <MENU> in radio mode, and select either “Delete” or “Delete all”, then press <MENU> again to delete single memory or all memories.

### RADIO RECORDING

While listening to radio broadcast, you can record the programs by the following steps:

(A micro SD/TF card must be inserted correctly when using this function, the recorded file will be saved in the inserted card.)

1. Tune into the station that you want to record, long press <M+/REC> to start recording, the file will be in .MP3 format.
2. Press <FM/▶|> to pause.
3. Long press <M-/ESC> to end recording, the file will be saved under [Music] automatically and sorted at the bottom of the list.

**NOTES:** While recording, some keys will be disabled.

## MIC RECORDING

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### MIC RECORDING

While not listening to the radio, you can activate the MIC recording function by long pressing <M+/REC>. While recording, please get the audio source close to the top of the unit where the built-in mic is located. Before recording, please make sure a micro SD/TF card is inserted correctly, the recorded file will be saved in the card in .MP3 format.

Do not pull out or insert card when recording is in the progress to avoid damage.

### LISTENING TO RECORDING FILES

Select [Music] in Main Menu, all the recording files can be found at the bottom of the list. You can also use Song Selection function to find a particular file.

### CALENDAR

Select [Calendar] in Main Menu, press <MENU> to display the date, time and day of the week. Press <◀◀> or <▶▶> to adjust the year, month and day to see the corresponding day of the week.

When adjusting the date, press <MENU> to move the cursor.

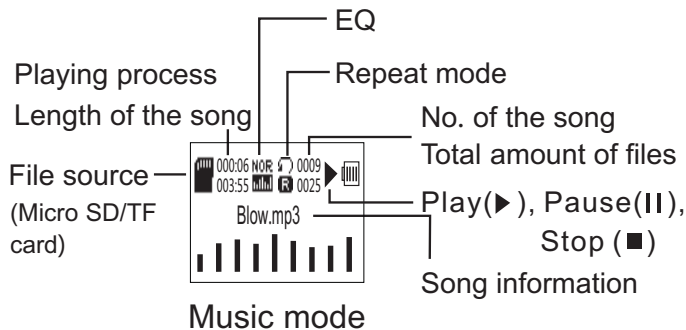
## MUSIC PLAY

### MUSIC PLAY

In radio offmode, insert a micro SD/TF card that with MP3/WMA/WAV format music files.

Then turn on the unit and select [Music] in Main menu, press <MENU> to enter music playing mode, the display will show the information of the song.

In Radio mode, press <Radio/MP3> to directly switch to Music mode.



#### NOTES:

Please insert or pull out the micro SD/TF card when radio is off. Do not operate them when the music are being played.

If Music mode can not be entered, please check if the card was inserted correctly.

#### PLAY AND PAUSE

When the music is playing, press <FM/▶||> to pause, the pause symbol "||" will show on the display. Press <FM/▶||> again to resume playing and the play symbol "▶" appears.

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## MUSIC PLAY

### SELECT MUSIC FILES

1. Press <◀◀> or <▶▶> to select music files, press and hold them to fast rewind or fast forward.
2. When pause, press <MENU> to open the sub-menu and select "File browser", press <MENU> to enter the folder and find the particular file by pressing <◀◀> or <▶▶>.

### SONG SELECTION

When playing music, press <◀◀/Song Selection> to enter song selection. Input 4 digit of the music file no. from right to left by pressing <◀◀> or <▶▶> to adjust and <◀◀/Song Selection> to move cursor. Then press <FM/▶||> to play the selected file.

### A-B REPEAT

When the music is playing, press <MW/A⇌B> once to set the start point A, [A-B] shows on the display and "B" starts flashing. When the playing process reaches your desired location, press <MW/A⇌B> again to set the ending point B. Now the unit will repeat playing from A to B. While repeating, press <MW/A⇌B> can cancel the repeating and go on playing the file normally.





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## REPEAT MODE SELECTION

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### REPEAT MODE SELECTION

When the music is playing, press <SW/↻> or press <MENU> enter sub-menu to select repeat mode from the below:

-  - Repeat all
-  - Repeat folder
-  - Repeat one
-  - Random

### EQUALIZER SELECTION

When the music is playing, press <M+/EQ> or press <MENU> enter sub-menu to select equalizer from the below:

-  - Normal
-  - Pop
-  - Rock
-  - Jazz
-  - Classic
-  - Bass

### LYRICS DISPLAY

Supports both Chinese and English display.  
The lyrics must be in .lrc format, use the same name as the song and located in the same folder.

## TEXT BROWSER

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### DELETE MUSIC FILES

When pause, press <MENU> to enter the following settings:

- File browser: Select music file
- Delete file: Delete a single music file
- Delete all: Delete all music files

To operate the above settings, press <MENU> to enter or confirm, press <◀◀> or <▶▶> for selection.

### TEXT BROWSER

Insert the micro SD/TF card that with .txt format text file, then you can read the file with the unit. Select [Text browser] in Main menu, press <MENU> to enter and select your desired file. Then press <MENU> to start reading, press <◀◀> or <▶▶> to turn pages.

When reading, press <MENU> to enter below settings:

- File selection: select a particular file
- Play set: Manual or Auto play selection
- Playback speed
- Enter main: Enter Main menu
- Exit

## SYSTEM SETTINGS

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### SYSTEM SETTINGS

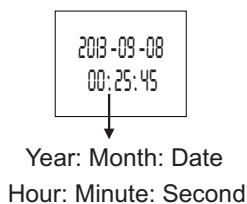
Select [System Settings] in Main menu, press **<MENU>** to enter below settings:

- System time
- Backlight
- Language
- Tools
- Contrast
- Firmware version
- Restore factory settings
- Exit

### DATE AND TIME SET

Select [System time] in System Settings, press **<MENU>** to enter date and time set. Press **<MENU>** to move the cursor and press **<I◀◀>** or **<▶▶I>** to adjust. Press **<M-/ESC>** to save and exit when setting finishes.

**NOTE:** Operate time for each step is about 5 seconds.



Press **<M-/ESC>** in Main menu can play the time on the display.

## SLEEP TIMER

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### SLEEP TIMER

In System Settings, select [Tools] - [Sleep timer], press **<MENU>** to enter. Press **<I◀◀>** or **<▶▶I>** to adjust the auto turn off timer from 00 - 90, select 00 to turn off the sleep timer. Press **<MENU>** to confirm and exit.

The radio will turn off automatically when reaches the preset timer.

After setting the sleep timer, [🕒] will show on the display when the time is displayed.

### BACKLIGHT TIMER

Select [Backlight] in System Settings, press **<MENU>** to enter. Press **<I◀◀>** or **<▶▶I>** to adjust the backlight timer from 03-240 (seconds), press **<MENU>** to confirm and exit.

### LANGUAGE SELECTION

Select [Language] in System Settings, press **<MENU>** to enter. Press **<I◀◀>** or **<▶▶I>** to select your desired language.

Available languages:

- |                       |             |             |
|-----------------------|-------------|-------------|
| - Chinese simplified  | - Dutch     | - Turkish   |
| - Chinese traditional | - Portugese | - Hebrew    |
| - Japanese            | - Spanish   | - Thai      |
| - Korean              | - Swedish   | - Hungarian |
| - English             | - Czech     | - Romanian  |
| - French              | - Danish    | - Arabic    |
| - German              | - Polish    |             |
| - Italian             | - Russian   |             |

## CONTRAST SET

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### CONTRAST SET

Select [Contrast] in System Settings, press <MENU> to enter. Press <I◀◀> or <▶▶I> to adjust from 00-16, press <MENU> to confirm and exit.

### TURN ON/OFF KEY TONE

In System Settings, select [Tools] - [Touch-tune (off)]. Press <MENU> to turn on the key tone, and "Keypad tones (on)" shows on the display. While "Keypad tones (on)" displays, select it and press <MENU> to turn off the key tone.

### FIRMWARE VERSION

Select [Firmware version] in System Settings, press <MENU> to display the firmware version information.

## ALARM SET

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### ALARM SET

In System Settings, select [Tools] - [Alarm]. Press <MENU> to enter the below settings:

#### - Alarm Off

Repeatedly pressing <MENU> to turn on or off the alarm. [Alarm Off] indicates the alarm is off, [Alarm ON] indicates the alarm is activated.

#### - Alarm Time

Press <I◀◀> or <▶▶I> to adjust the Hour and the Minute, press <MENU> to move the cursor, and press <M-/ESC> to save and exit.

#### - Alarm Cycle

You can select from [Ring Once], [Ring Daily] or [Ring multi-day].

Ring Once: Press <I◀◀> or <▶▶I> to adjust the Year, Month and day, press <MENU> to move the cursor, and press <M-/ESC> to save and exit.

Ring Daily: The alarm is effective everyday.

Ring multi-day: Select from Monday to Sunday, press <MENU> to select and a tick will show. Press <M-/ESC> to save and exit.

#### - Alarm Mode

Ring Embedded: Auto turn on the radio with a ringtone.

RADIO: Auto turn on the radio with the last radio station listened to.

## RESET

Card folder: Auto turn on the radio with the music file in the micro SD/TF card that selected.

Exit

### - Exit

When the alarm is activated, [🔔] appears on the display, the radio will alarm with the selected mode when reaching the preset time.

If the selected mode is [Ring Embedded], you can press any button to turn off the ringtone when the alarm goes off.

## RESET

Select [Restore factory settings] in System Settings, press <MENU> and notice [Restore factory sett, NO] shows on the display. Press <◀▶▶▶> or <▶▶▶▶> to make [NO] or [YES] shows alternately. Select [YES] and press <MENU> to confirm reset.

## FIRMWARE UPGRADE

### FIRMWARE UPGRADE

The radio supports firmware upgrade, if there is an updated firmware or the radio system breaks down, you can update the radio system with the below steps: **(Unload the battery before upgrade)**

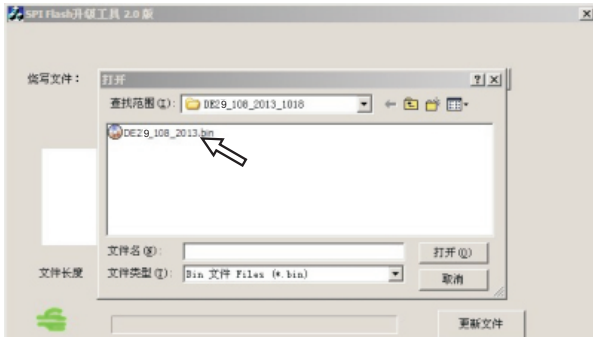
1. Download the upgraded firmware and update tool from our website to a computer.
2. Use the provided USB cable to connect the radio and computer.
3. Open the downloaded update tool, the below program appears on the screen. (Picture 1-1)



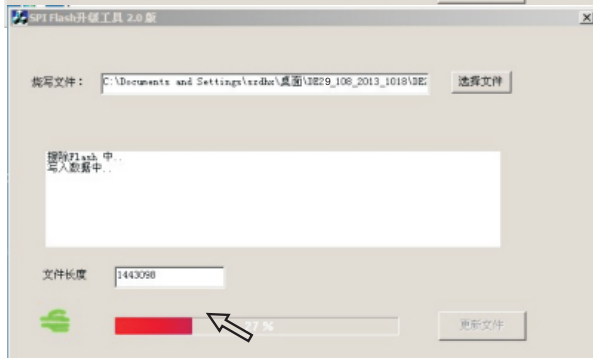
1-1

4. Click [Select file] (as the arrow pointed to) and find the downloaded upgraded firmware in your computer (Picture 1-2), import the file to the tool. Click [Update file] to start updating. (See picture 1-3)
5. The process bar will turn from red to green once the updating finishes. (Picture 1-4)

## FIRMWARE UPGRADE



1-2



1-3





1-4

## LINE-IN

### USE AS AN ACTIVE LOUDSPEAKER (LINE-IN)

The radio has line-in function, can be used as an active loudspeaker by connecting it to other media devices such as laptop, voice recorder or other MP3 players with a line-in cable.

Plug one end of the line-in cable to the earphone jack of the media device, and the other end into <AUX> jack on the side of the radio. [  ] will show on the display, then play the audio in the media device.

The radio can also be used as a speaker of computer. Use a USB cable to connect the radio and a computer, all the audio from the computer will be played via the speaker of the radio. To turn off this function, press <  > to turn off the radio.



## CARE AND MAINTENANCE

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### CARE AND MAINTENANCE

- 1.** Keep it dry. Rain, humidity and other types of liquids or moisture can contain minerals that may cause corrosion to components. If the unit does accidentally get wet, remove the battery and wait for the unit to dry completely before placing it back.
- 2.** Do not use or store in dusty or dirty areas. This may damage the moving parts and electronic components.
- 3.** Do not store the unit in over heated areas. High temperatures can shorten the life span of certain components.
- 4.** Do not place the unit in cold environment. Otherwise, when the surrounding temperature rises to room temperature, internal moisture may develop and damage the circuit board.
- 5.** Do not drop, hit or smash the unit.
- 6.** Do not use harsh chemicals, cleaning solvents, or strong detergent to wash the unit. Use a clean and dry soft cloth to clean the screen.

## BATTERY SAFETY INFORMATION

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### BATTERY SAFETY INFORMATION

- 1.** Use the battery under normal conditions, temperature: (0 - 35)°C, relative humidity: 65 ± 20%. Under normal circumstances, the battery can be charged and discharged about 300 times.
- 2.** Do not expose the battery to heat or high pressure, do not drop the battery, and prevent children from playing with the battery.
- 3.** Do not short-circuit the battery, do not open or amend, do not expose to damp environments.
- 4.** If not using for an extended period of time, remove the battery and store in a safe manner. Please use a nonconductive material to wrap the battery in order to avoid direct contact with metal. You can avoid damages by keeping the battery in a cool dry place.
- 5.** Dispose of the battery properly, do not put into fire or water.
- 6.** Do not use the battery under strong sunlight, to avoid over heat, deformation or smoldering. This will reduce the performance and life span of the battery.

## TROUBLESHOOTING

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### TROUBLESHOOTING

#### 1. Can not turn on the radio.

- Possibly the battery drained, please charge the battery.

#### 2. Can not be connected to a computer.

- Please do the connection in radio off mode.
- The USB cable maybe damaged, please try another one.

#### 3. Speaker does not sound.

- Check if the volume level is too low, turn it up.

#### 4. Can not play audio from the Micro SD(TF) card.

- Check if the card has poor compatibility, try another card.
- The file is damaged or with incorrect format, delete the file and try again.

#### 5. Can not charge the unit.

- Check if the external adapter or the USB cable was connected correctly.
- Check if the adapter or USB cable is damaged.

#### 6. How to reset the unit?

- Misuse may lead to errors in the firmware, remove the battery for a few minutes and reload.

## SPECIFICATIONS

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### SPECIFICATIONS

<b>Memory</b>	Supports micro-SD/TF card 64M-32G
<b>Music format</b>	MP3 WMA WAV
<b>Access rate</b>	MP3: 16-320Kbps WMA: 8-384Kbps
<b>Frequency range</b>	FM 87.0-108MHz 64.0-108MHz 76.0-90.0MHz MW 520/522-1710KHz SW 3.00-22.00MHz
<b>Earphone output</b>	≤10mW*2
<b>Communication standard</b>	USB2.0(hightspeed)
<b>Max. output (Speaker)</b>	About 500mW
<b>Max. current consumption</b>	About 300mA
<b>Power source</b>	
Lithium battery	3.7V
External adapter	5V --- 500mA
<b>Lithium battery consumption (Volume is 22 level)</b>	MP3: About 5H Radio: About 5H
<b>Charging time</b>	3-5 hours
<b>Speaker</b>	D40mm
<b>Earphone</b>	D3.5mm
<b>Unit size</b>	Approx.110 x 68 x 25mm
<b>Weight</b>	Approx.146 g (battery incl.)