DEGEN

DE23

FM/MW/SW DSP Digital Receiver with MP3 and Speaker Function

OPERATION MANUAL

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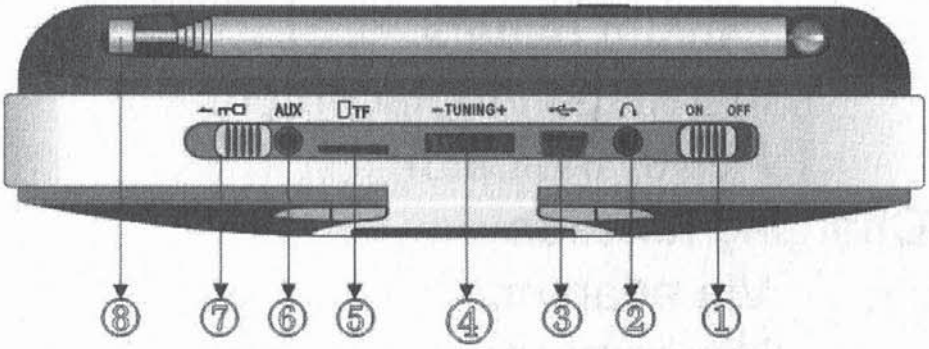
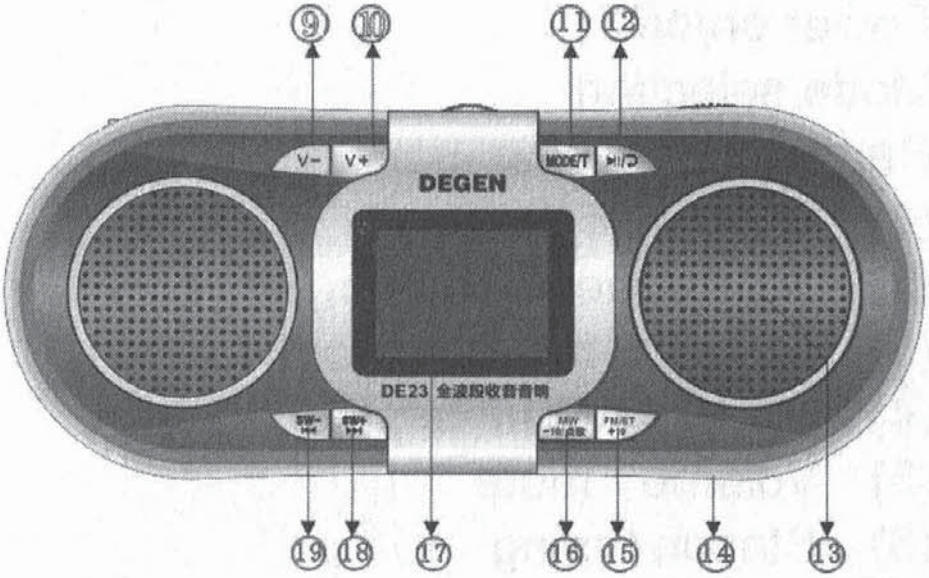
1. LOCATION OF CONTROLS

Top view



Front view



1. Power On/Off switch
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- *Radio mode:* press to select MW; press and hold to select 9K/10K MW tuning step.
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17. LCD display
18. SW+/>>|
- *Radio mode:* press for upward tuning of the SW band.
- *Music mode:* press to select the next song; press and hold for fast forward play.
19. SW-/|<<
- *Radio mode:* press for downward tuning of the SW band.
- *Music mode:* press to select the previous song; press and hold for fast reverse play.

2. POWER SUPPLY

Please use the included lithium battery for this device. If you use any other unqualified battery, this may lead to voltage instability and increases fire or explosion hazards.

When the battery's operating time is shortened or the battery expands or is deformed, replace the battery with a new one immediately.
Lithium Battery Installation/Replacement:

1. Turn off the device and remove the battery cover.
2. Install the provided lithium battery according to the battery's polarity.
3. Close the battery compartment.

Power Indicator:

1. Full

2. Slightly less

3. Low

4. Depleted, please charge

3. CHARGING FUNCTION

Via Adapter:

After installing the battery, you may charge it by using an external adapter. Connect the device through the mini-USB port to the power source (5V DC/≥500mA). You can buy an adapter from our company online.

Via Computer:

A computer with a USB jack can also be used as a power source to charge the battery. After installing the lithium battery, connect the device to a computer with the provided USB cable.

When charging, the display shows the power symbol " " moving from left to right, and stops when the battery is fully charged. Please disconnect the external power source when charging is complete.

NOTE:

- When charging, the <ON/OFF> button is disabled. If the radio or music mode is not required, please switch to the clock mode.
- When using the battery for the first time, please charge it continuously for more than 6 hours, but not more than 12 hours. After charging the battery for the first time, you can fully charge it within 3-5 hours.
- When not using the device for a long time, please remove the battery.

- AC current can interfere with the reception of radio signals; do not charge the battery while listening to radio.
- While charging through a computer, "PC" is shown on the display. Enter the music or radio mode by long pressing <MODE/T> button.

4. KEY LOCK FUNCTION

Lock: Push the < ⊓□ > button to into the lock position. A key symbol " ⊓□ " is shown on the display. All key entries are now disabled.

Unlock: Push the < ⊓□ > button into the unlock position. The " ⊓□ " disappears from the display. All key entries are now enabled.

5. KEY STROKES DEFINED

The device is operated by three operating keystrokes: short press, long press, and press & hold.

Unless specified differently, all keystrokes mentioned in this manual are "short press".

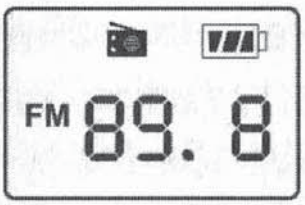
- Short press: press the button to take effect immediately.
- Long press: press and hold for 1-2 seconds.
- Press & hold: press and hold until action commences.

6. POWER ON/OFF

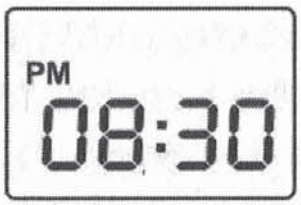
When the <ON/OFF> button is in the "OFF" position, the radio is turned off. By pushing the <ON/OFF> button to "ON", the machine will boot. When booting, the display shows "LOAD" before entering the last used mode.

7. MODE SELECTION

Press the <MODE/T> button to switch modes.

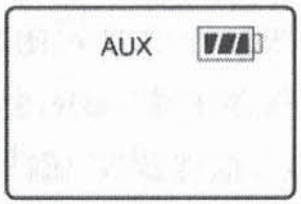


Radio mode



Clock mode

Music mode

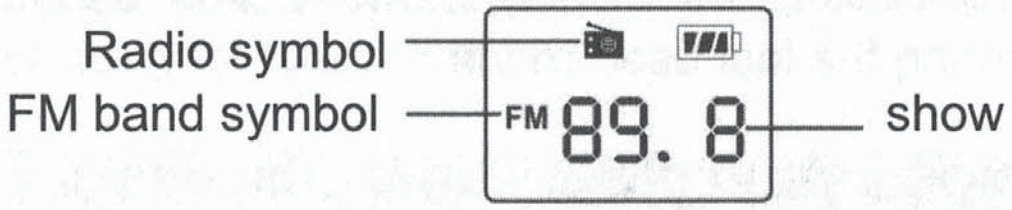


Speaker mode

Radio mode: listen to radio broadcastings.
Music mode: Micro SD/TF card music playback.
Clock mode: time display.
Speaker mode: connect to an external audio source via audio line-in cable.

8. RADIO MODE

While turned on, press the <MODE/T> button and select radio mode. The display shows a radio symbol, the band and frequency.



Radio mode

(1) Band Selection:

When listening to the radio, press the <FM/ST/+10> button to listen to FM band radio ("FM" shows on the display), or <MW/-10> for MW band or <SW-/ ⏮ > or <SW+/ ⏭ > for SW band.

(2) FM Frequency Range:

While listening to the FM band, the frequency range can be selected by long pressing <FM/ST/+10>.

"Normal band" frequency range: 87~108MHz

"School band" frequency range: 64~87MHz

(3) Mono/Stereo selection:

Mono or stereo can be selected when listening to FM band. The < (((◗◖))) > symbol on the display indicates stereo listening. Press the <FM/ST/+10> button to change to mono listening, indicated by the <((◗> symbol. If neither symbols are shown on the display, mono/stereo selection is unavailable.

Suggestions:

- When receiving strong FM signals or listening to music, please select stereo.
- When receiving weak FM signals or listening to spoken broadcastings (news broadcastings for example), please select mono. Stereo decoding may produce noise when listening to spoken broadcastings.

(4) 9K/10K AM Tuning Steps:

When listening to AM band, long press <MW/-10> to select 9K/10K steps. When the display shows "522", it means 9K steps is selected; when it shows “520", it means 10K steps is selected.

(5) Volume / Mute:

To increase the volume, press <V+>. To decrease volume, press <V->. The volume adjustment is shown on the display. In radio mode, press <▶II/⮌> to mute, press again to restore the sound.

(6) Station Tuning:

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

Using the Telescopic Antenna:
By adjusting the length and direction of the antenna, the signal strength of FM and SW broadcastings can be enhanced. Please adjust according to the optimal reception sensitivity in your location.

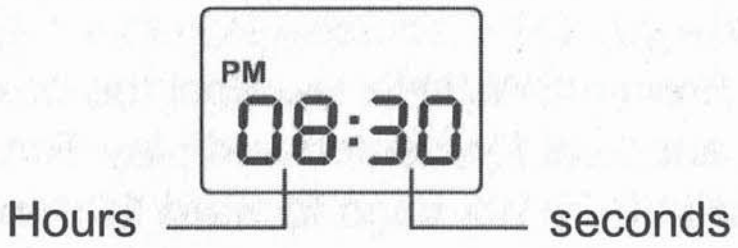
Using the Internal Ferrite Antenna:
By adjusting the direction of the radio body, AM signal reception can be enhanced. Please slowly adjust the position of the entire radio according to the optimal reception sensitivity in your location.

Radio Tuning Methods:
When the radio is turned on with an appropriate volume level, choose the desired band and gently rotate the < - Tuning + > dial. Stop rotating the dial when a satisfactory station is found.

Suggestions:
- While tuning for stations indoors, try the balcony or go near a window for better reception.
- While tuning or listening to the radio, disconnect the USB connection.
- AC current can interfere with the reception of radio signals; do not charge the battery while listening to radio.

9. CLOCK MODE

When the radio is on, press the <MODE/T> button to choose clock mode.



In the clock mode, long press <MODE/T> to enter the time setting. Long press <MODE/T> again to move the cursor between the hours and minutes indicators. Press <V+> or <V-> to adjust the hours and minutes. After setting the time, press <MODE/T> to save the setting.

NOTE:

The clock has a 12-hour format, using "PM" to indicate the afternoon.

10. MUSIC MODE

Correctly insert the Micro SD/TF card with the music files into the appropriate slot. Turn on the device and press <MODE/T> to select music mode. The device immediately starts playing the songs and displays the playback time.

(1) Functional Operations:

Pause: When playing music, press <SW-/⏮> to pause.

Resume Play: When paused, press <SW+/⏭> to resume playing.

Previous: Press <SW-/⏮> to select the previous song; press and hold for fast reverse play. Press and hold <MW/-10> to go back 10 songs.
Next: Press <SW /⏭> to select the next song; press and hold for fast forward play. Press and hold <FM/ST/+10> to go forward 10 songs.

(2) Song Selection:
In Music mode, press <MW/-10> to activate the cursor, press again to move the cursor to another position.
Press <SW-/⏮> or <SW /⏭> to select a track number. After selecting the right track, press <⏯/⮌> to play the song.

(3) Repeat All / Single Repeat:
Repeat all: The device will play all the files on the Micro SD/TF card continuously. After playing all the files, it will automatically start playing from the beginning.
Single repeat: Press and hold <⏯/⮌> to repeat the track currently playing; the <[1]> symbol shows in the display.

NOTE:

Only insert or remove the Micro SD/TF card when the device is turned off.

11. SPEAKER MODE

When connected by an audio cable, this device can function as a speaker for an external audio source (for example: laptops, MP3 players or other small audio players). Insert one end of the audio cable into the earphone jack of the external audio source; insert the other end into the AUX jack of the device. When properly connected, the display shows "AUX". Press the play button on the external audio source to play the audio.

The device can also be used as a computer speaker. Use the provided USB cable to connect the computer and the device.

12. 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 device does accidentally get wet, remove the battery and wait for the radio 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 device in hot areas. High temperatures can shorten the life span of certain components.

(4) Do not place or store the device in cold environments. 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 device.

(6) Do not use harsh chemicals, cleaning solvents, or strong detergent to wash the device. Use a clean, soft, dry cloth to clean the screen.

13. BATTERY SAFETY INFORMATION

(1) Use the battery under normal conditions; temperature: (20 ± 5) ° 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, prevent children from playing with electric currents.

(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 non-conductive 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 expose to direct sun light for a prolonged period, to avoid heat, deformation or smoldering. This will reduce the performance and life span of the battery.

14. TROUBLESHOOTING

(1) Cannot turn on the device: The battery may be exhausted, charge it in time.
(2) Cannot connect to a computer: The USB cable may be damaged. Please use a new cable and try again. The USB port on the computer may be damaged. Please try another port or another computer.
(3) There is no sound: Check if the volume level is too low, turn up the volume if necessary.
(4) Cannot play audio from the Micro-SD card: The format of the audio file may be incorrect or the file is corrupted. Make sure the file is in MP3, WMA or WAV format.
(5) Cannot charge the device: Check that the USB cable is connected. Check if the power adapter or USB cable is damaged.
(6) How to reset the device: Misuse may lead to errors in the firmware. Remove the battery for a few minutes before turning on the device again.

15. SPECIFICATION

Memory support	Micro SD / TF card 64M-8G
Audio supported formats	MP3, WMA, WAV
Bitrates	MP3：16-320Kbps WMA：8-384Kbps
FM frequency MW(AM) frequency SW frequency	87.0-108 MHz 64.0-87.0 MHz 522-1710 KHz 3.20-21.85 MHz
Earphone output power	≤10mW*2
USB connection	USB 2.0 (high speed)
Speaker Maximum Output Power	about 350mW
Maximum current consumption	about 300mA
Power supply: Built-in battery External supply	 Lithium 3.7V 5V ⎓ 500mA
Lithium playback time (volume level 22)	MP3: about 8 hours Radio: about 8 hours
Charging time	3-5hours
Built-in speaker	D40mm
Earphone jack	D3.5mm
Dimensions	Approx. 160 x 65 x 40 mm
Weight	Approx. 239 grams (with battery)

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