

# Solar & Hand Crank FM/AM Radio

SB-5016/FM/AM tuning radio

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## Working Principle:

This product adopts the best integrated radio circuit with high sensitive FM/AM radio that can catch every wonderful electric wave anywhere and anytime. The built-in battery can be charged in three ways: by solar panel, by hand crank and by outside power.

## Functions:

1. FM/AM tuning radio
2. High efficiency charged by direct sunlight
3. High efficiency power generation by cranking
4. Charged by outside power

## Features:

1. Cranking for power and powered by solar panel, no external batteries are needed, store energy by built-in rechargeable battery; green, environmental friendly, economy, safety, (the common battery will leak easily), reuse limitlessly.
2. Low power consumption, you can also listen to the radio under sunlight when battery goes dead.
3. Extra long cranking handle; Low noise but high efficiency; Low power consumption; Long working time.
4. It adopts the best integrated radio circuit with high sensitive FM/AM radio that can catch every wonderful electric wave anywhere and anytime.
5. Extra long antenna enhance the reception ability.
6. Green LED tuning indicator and blue LED charging indicator.
7. Speaker or earphone output, the volume is adjustable
8. It can be charged by outside power.
9. Simple outline and delicate appearance.

## Main Technical Parameters:

Radio:	
Sensitivity of the FM	$\geq 10 \mu\text{V}$
Sensitivity of the AM Better than	1.5 mV/m
Reception scope of the FM	88-108 MHz
Reception scope of the AM	530-1650KHz
The audio frequency output power	$\geq 100 \text{ mW}$
Radio working time after 1 minute cranking (2.5 - 3 circles/s)	$\approx 20$ minutes
Radio working time after 5 hours charging under sunlight	$\approx 30$ minutes
Max. electricity by solar panel charging	40mA
Time to full-charge by solar panel	20-30 hours
Radio working time after being charged fully	$\approx 7$ hours

## Charged by outside power:

Input voltage	5V
Fully charged time	$\approx 8$ hours

## Main parts life-span:

Switch	5000 times
The whole unit	5 years
The plastic part	5 years

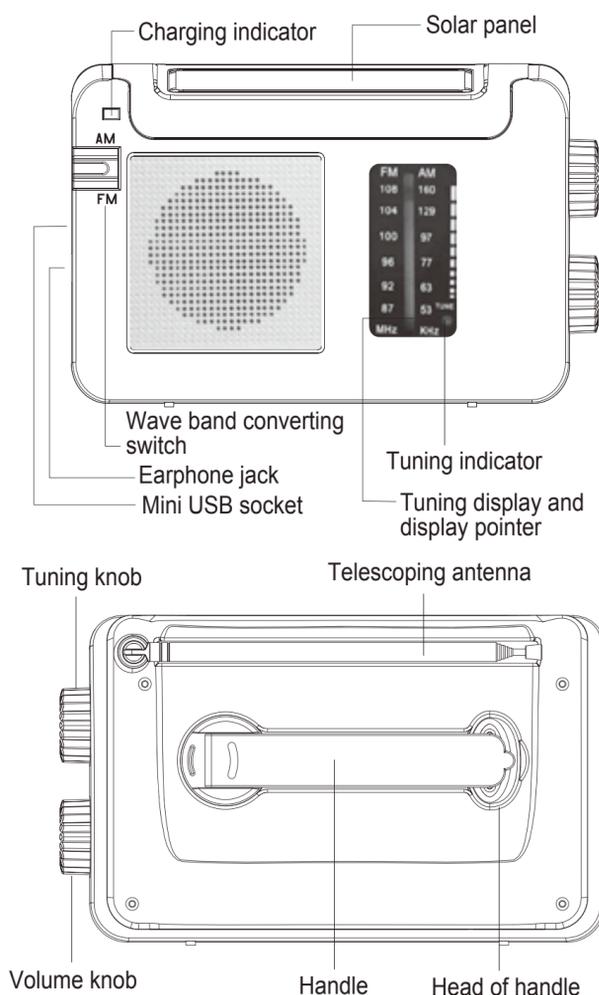
## Size and Weight:

Antenna length (external part)	$\approx 33\text{mm}$
Product size	$\approx 130^*73^*41\text{mm}$
Product weight	$\approx 203\text{g}$

## Others:

Specification of built-in battery	300mAh, 2.4v
Diameter of built-in loudhailer	$\Phi 40\text{mm}$

## Operation Method:



## 1. Cranking for power:

Unlock the handle, crank it at the speed of 2.5 to 3 circles per second. The faster you crank, the higher efficiency to charge. (It's better to crank it for no more than 4 circles per second.)

## 2. Charged by solar power:

Put this unit on the windowsill, balcony and outdoors where sunlight can shine on. Let the sunlight shine on the solar panel vertically. Lighting of charging indicator shows that it is charging.

## Note:

- A. Let the whole surface of solar panel be shined when charging, otherwise you will only get low charging efficiency.
- B. On cloudy days the solar panel can also charge the radio, but low charging efficiency.
- C. Let the sunlight shine on the solar panel vertically to enhance charging efficiency.
- D. Be aware of raining when charging outdoors.

## 3. Charged by outside power:

Insert the 5V USB power source to charge the internal battery, and about 6~8hours later it will be fully charged.

## 4. Reception of radio:

- A. Operation of the radio switch and volume adjusting: Turn the volume knob anticlockwise to increase the volume. Contrariwise, turn the volume switch clockwise can decrease the volume gradually, a "crack" sound will be heard to show power off.
- B. FM/AM wave band shifting : push the switch down is FM, push it up is AM.
- C. Searching ways: Turn the "tuning knob", contrapose the "tuning display" to find the station you want to listen. When the signal is strong enough, the tuning indicator will light, then you can modulate the "tuning knob" slightly till the indicator brighter and make the volume more clear.
- D. Use of antenna:

- a). This product adopts telescoping antenna to receive signal for FM. When the signal is weak, you can pull out the antenna or change the direction of the antenna to find the optimal position, thus can improve the effect of radio. Whereas, shrink the antenna when the signal is strong.
- b). It adopts built-in magnetic antenna to receive signal for AM. You can change the position of the product properly when the signal is weak.

## Note:

- a. It is advised to turn the volume to the optimal position (be comfortable) when you listen. It will be anamorphic if the sound is too loud.
- b. Avoid places like high building, basement, etc as possible as you can, such places will badly influence the effect of the reception. Leave far away from the induction cooker, fluorescent lamp, car generator, motor, computer or such electrical equipment that may disturb the signal easily.

## 5. Earphone:

Plug the earphone into the earphone jack, the loudhailer will be off at this time. Be caution the things below when using the earphone:

- A. Adjusting the volume to proper position when listen, too loud or listen for a long time will affect your hearing.
- B. Avoid listening for a long time when you have fallen asleep.

## Cautions:

1. Pay attention to the holding gesture when cranking which can protect your finger and nail from hurting. Keep rotating steadily.
2. In order to assure the using life of the battery and mechanical parts, pls pay attention to the things below:
  - a) Do not crank it for more than 5 minutes when the power of the battery is enough (lighting and radio normally) and less than 20 minutes when it runs out of power.
  - b) When the light is dim or the radio is soundless, it means the battery is lack of power badly, pls turn off the light and radio or crank it for a while.
  - c) Cranking it as even as possible (keep rotating steadily, 2.5 or 3 circles per second is best). Avoid cranking too violent and quick or changing the cranking direction abruptly. Too slowly cranking would make current weak and influence the charging efficiency, and too violent cranking will possibly damage the driving system.
  - d) Do not crank it for a long time or too violent.
  - e) In order to prolong the lifespan of the battery, you should crank it for at least one minute once a month.
3. Do not place this product in which temperature or humidity is high . Do not drop or hit this product.
4. Turn off the light when charging to enhance the efficiency of charging .
5. The product will be a little hot if cranking for a long time .
6. We do not give notice again if the parameter of this product changed.
7. We reserve the final right to interpret this product.



MADE IN CHINA