



# WORLD BAND RADIO AR-1945

AM/FM/SW/LW/AIR Band/SSB radio with LCD backlight  
display and keypad direct entry

OWNER'S MANUAL





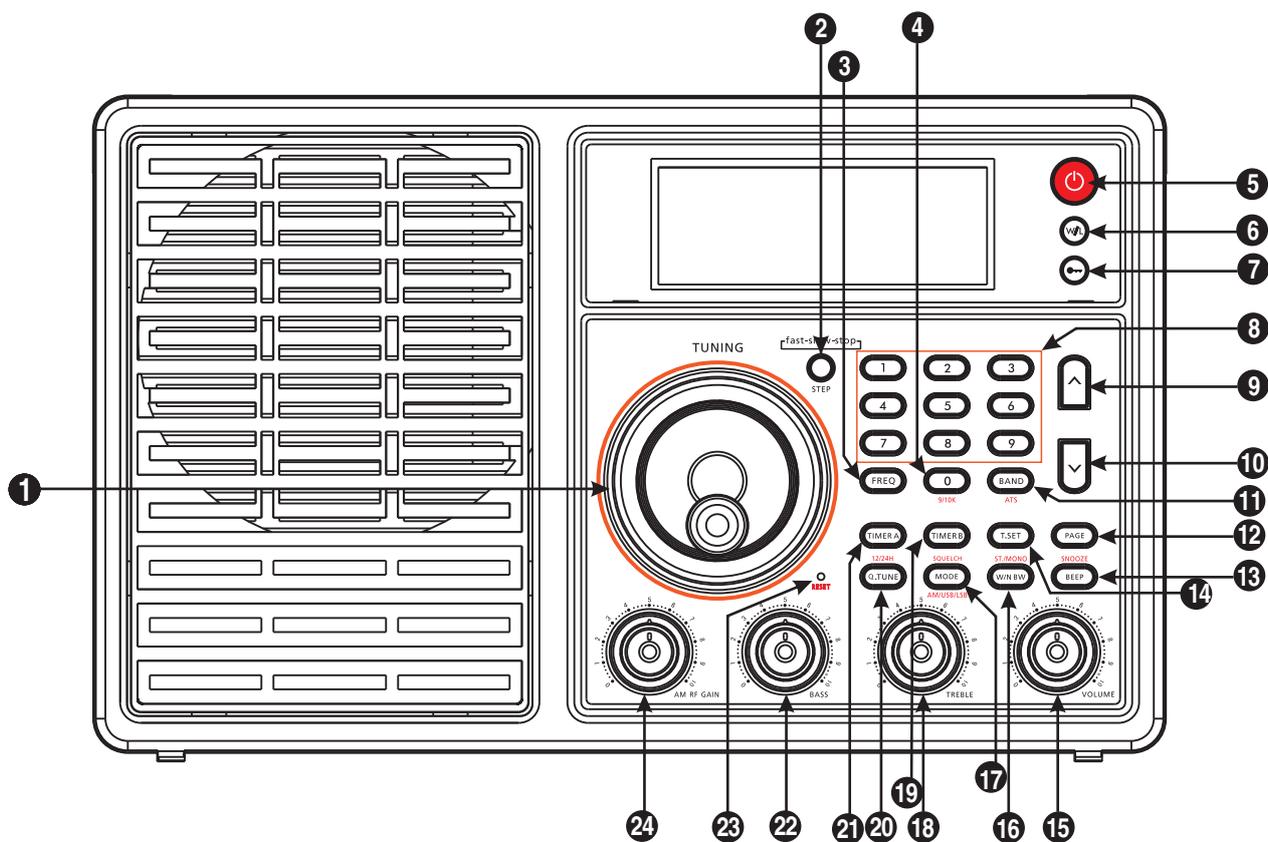
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## WARNING

- Do not expose this appliance to rain or moisture
- Do not submerge or expose to water.
- Protect from high humidity and rain.
- Only operate within specified temperature range (0 °C to 40 °C).
- Unplug immediately if liquid has been spilled or object have fallen into the apparatus.
- Clean only with a dry cloth. Do not use detergents or chemical solvents as this might damage the finish.
- Unplug and disconnect external antennas during lightning storms.
- Do not remove cover [or back].
- Refer servicing to qualified service personnel.



## Radio Identification - Front View

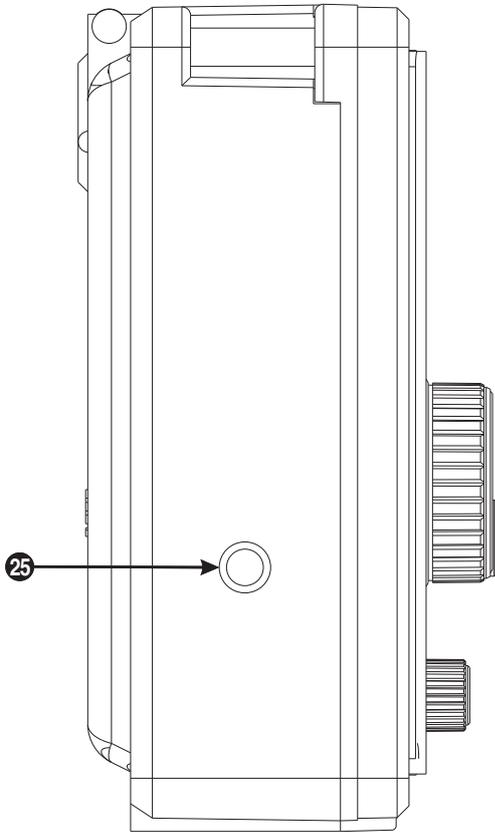


- |                            |  |
|----------------------------|--|
| ① Tuning knob              | ⑬ Beep/Snooze button                     |
| ② Dial Speed selection     | ⑭ Time Set button                        |
| ③ Frequency button         | ⑮ Volume control button                  |
| ④ "0" and 9k/10k button    | ⑯ Bandwidth & Stereo/mono button         |
| ⑤ Power and Sleep button   | ⑰ SSB mode selection/Squelch button      |
| ⑥ World/Local timer button | ⑱ Treble control button                  |
| ⑦ Lock button              | ⑲ Timer B button                         |
| ⑧ Numeric key button       | ⑳ Quick tune and 12/24 hour clock button |
| ⑨ UP button                | ㉑ Timer A button                         |
| ⑩ Down button              | ㉒ Bass button                            |
| ⑪ Band & ATS button        | ㉓ Reset button                           |
| ⑫ Page button              | ㉔ AM RF GAIN Control                     |

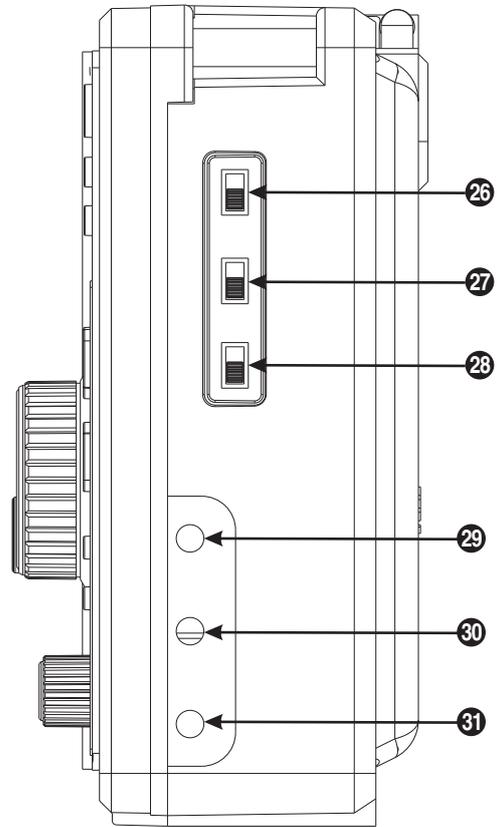
# Radio Identification - Side Views

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Left



Right

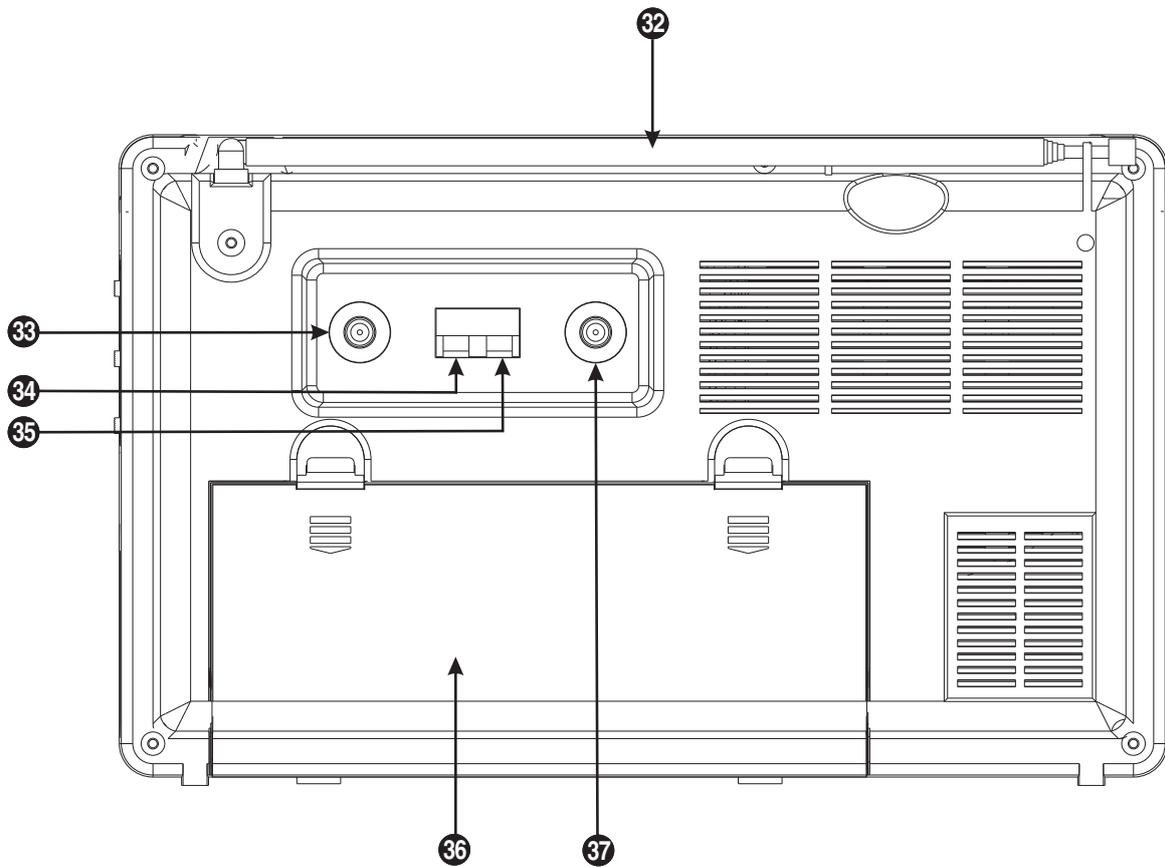


- 25 DC Power In jack
- 26 Antenna DX/Local switch
- 27 Antenna Sens Ext./Int. switch
- 28 Key light switch

- 29 Line out jack
- 30 Line in jack
- 31 Earphone jack (3.5mm)

## Radio Identification - Rear View

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- 32 Whip Antenna
- 33 FM/SW External Antenna
- 34 Ground
- 35 MW External Antenna
- 36 Battery Compartment
- 37 AM IF Output

## INSTALLING BATTERIES

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The battery compartment is on the back of the radio. Remove it by pressing the two tabs and pulling up. Install only fresh, new alkaline D cells, all of the same brand and type. To prevent battery acid leakage, follow these instructions. Battery acid leakage is not covered by the radios warranty. Never install or replace with batteries of different brands and types. Never intermix old batteries with new ones. When not using the radio for more than 30 days, remove the batteries.

## USING BATTERIES

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Use 6 D size alkaline batteries. Install them with correct polarity using the diagram inside the battery compartment on the back of the radio. Replace them if the battery strength indicator in the display shows one bar or the sound becomes distorted. The radio will turn off automatically if the batteries become too weak.

## BATTERY LEVEL INDICATOR

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The battery level indicator is in the upper left corner of the display. When batteries are full,  will be displayed in the LCD; if  flashes, it indicates that batteries are low and the radio will soon turn off automatically.

## USING AC POWER

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Plug AC adapter into the socket on the left side of the radio. Use only the AC adapter supplied. When the AC adapter is plugged in, the full power level will show in the upper left corner of the display, looking like a full battery. If you lose the AC adapter that came with the radio, use one with 9Volt DC output, negative polarity, 500 milliampere and a plug with 5.5 millimeter outer diameter, 2.1 millimeter inner diameter.

## POWERING FROM A CAR OR BOAT

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Use a DC to DC converter. Output: 9Volt DC, negative polarity, outer diameter 5.5 millimeter; inner diameter 2.1 millimeter

## TURNING ON AND OFF / SETTING AND DEACTIVATING THE SLEEP TIMER

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Turn on the radio by pressing the red POWER & SLEEP button on the front top right corner of the radio. When it turns on you will briefly see a sleep timer symbol in the upper left corner of the display, this is the sleep time and the radio will play for this amount of minutes and then shut off. It can be deactivated by continuously pressing the power button until 'on' appears in the bottom of the display; with each press you will see the numbers going down from 120 to 90 to 60 to 45 to 30 to 15 minutes and then to 'on'. When 'on' appears, stop pressing the button. The sleep timer is now disengaged and you don't have to change it unless you want a sleep time to appear.

To activate the sleep timer, turn the radio on and press the POWER & SLEEP button continuously until the desired sleep time appears. The radio will play for the specified length of time and automatically shut off. The sleep timer symbol will show in the display, 

## WORLD/LOCAL TIME SETTING

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It toggles between "WORLD" and "LOCAL" time clock with the radio 'on' or 'off'. The radio displays the word WORLD or LOCAL indicating which the clock time is the default display time clock.

With the radio 'off', hold the button down for 2 seconds, the radio display will change displaying the word LOCAL or WORLD. See "CLOCK SETTING" to set the time on the default clock.

## LOCK SETTING

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Quickly press the button to lock out the operations of all buttons except back light. The "lock" icon will be displayed.

Press and release the "LOCK" button for 2 seconds unlock the operations of all buttons, the "lock" icon will disappear.

## USING THE NUMERIC KEYPAD (0-9)

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With the radio 'off', there are used to directly enter a frequency or memory channel. See TIME or CLOCK SETTING to direct enter digits to set time clock and alarm.

With the radio 'on', quickly press numeric buttons (0-9) to recall presets; hold the buttons down for 2 seconds to preset stations. Quickly press "PAGE" button then select the desired numeric key (0-9) to set page.

## SETTING 9K/10K STEP (MW)

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With the radio 'off', hold the numeric key "0" down for 2 seconds to toggle between '9K' or '10K'.

MW: 522-1620kHz (9k)  
520-1710kHz (10k)

## USING THE 'FREQ'UENCY BUTTON

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This is used to directly enter a frequency. You must in the radio band of your choice before you enter a frequency. AM and SW is straight-forward. Press "FREQ" and enter AM or SW frequency using numeric keys.

For FM, you must enter a last digit. To enter 100.3 FM, you must press "FREQ" and then press 1-0-0-3; To enter 98.5 FM, press the button to auto fill the last zero to confirm.

## USING THE BAND BUTTON

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Pressing the "BAND" button with the radio 'on' changes band in order: FM, LW, MW, SW, AIR.

Hold the button down for 2 seconds to enter ATS(auto tuning storage) from low end to high end frequency.

## SETTING PAGE

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With the radio 'on', quickly press the button, the 'page' icon will flash, then select the desired numbered key to set page(0-9).

Directly enter the numeric key to recall page (0-9) to press PAGE button quickly.

## SETTING BEEP/SNOOZE

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With the radio 'off' or 'on', hold the button down for 2 seconds to turn on or off "BEEP" .

SNOOZE: when the alarm is activated, quickly press "BEEP" button to pause an alarm, each time the "BEEP" bar is pressed, the alarm will be paused for 5 minutes.

## USING UP $\wedge$ /DOWN $\vee$ BUTTON

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When the radio is on:

- 1) It will increase or decrease the frequency one step at a time with each press and release of the button.  
FM step : 100kHz, LW step: 3kHz, SW step: 5kHz ,AIR step: 25kHz  
AM step: 9kHz or 10kHz
- 2) It will automatically search 'up' or 'down' in frequency until it finds a strong station to stop on when you press and hold the button for two seconds.

## THE TUNING KNOB CONTROLS: FAST,SLOW,STOP

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When the radio is on,

- 1) Quickly press the button at a time to set the desired frequency step, '0kHz' indicates "STOP";
- 2) In LW/AM/SW mode, quickly press "MODE" button to activate SSB to switch between "LSB" and "USB". Press "STEP" button to select SSB fine tuning step: 1 or 10.

## USING TUNING KNOB

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The "TUNING" dial has two functions:

- 1) When the radio is "on", it is used to tune in stations at fast/slow frequency step; and
- 2) In LW/AM/SW mode, when SSB is activated, rotate tuning knob to increase or decrease fine tuning step as (-99,-98,...-1,0,+1,...+98,+99) at 1kHz step; and
- 3) At 10kHz step, rotate tuning knob to increase or decrease fine tuning step as (-90,-80,...-0,10,+20,...+80,+90).

## VOLUME KNOB

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Turn up the volume by turning the volume knob clockwise (right), down by turning the knob counterclockwise (left)

## BASS/TREBLE KNOB

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Use these knobs to control the bass and treble response of the radio's speaker system.

## USING THE AM RF GAIN KNOB

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When listening to AM(MW) broadcast stations, this control knob should be dialed to or near position 5. If you are listening to a weak station, increase the gain; When listening to extremely strong stations, decrease the gain. For listening to Shortwave stations, place this control to maximum gain and decrease the gain as necessary.

## SETTING TIME

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When the radio is off, hold "T. SET" (short for "TIME SET") down for two seconds and release to enter time setting. Directly enter hour and minute digits to complete setting. For 12 hour format, also enter 4 digits directly, like 0-9-3-2.

## STEREO/ MONO, WIDE/NARROW BANDWIDTH

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When the radio is on,

- 1) In LW/AM/SW/AIR mode, quickly press the button to switch between WIDE and NARROW bandwidth. 3kHz indicates narrow bandwidth; 6kHz indicates wide bandwidth.
- 2) In FM mode, quickly press the button to switch between STEREO and MONO. If "Stereo" icon displays for 2 seconds, it means STEREO is on; If "Stereo" icon flashes for 2 seconds, it means STEREO is off.

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## USING THE QUICK TUNE BUTTON

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When the radio is on, press the “Q. TUNE” button at a time to tune across a band quickly at fixed step (FM at 1000kHz, LW at 10kHz, MW at 100kHz, AIR at 1000kHz). For Shortwave band, it can be used quickly step to the beginning of each of commonly designated SW broadcast bands.

When the radio is off, hold the button down for 2 seconds to select 12 or 24 hour display format. If 12 hour is selected, the “AM” or “PM” icon will be displayed in the LCD.

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## SETTING MODE/SQUELCH BUTTON

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When the radio is off,

- 1) In LW/MW(AM)/SW band, quickly press the button at a time to switch among LSB and USB and SSB OFF; and
- 2) Hold the button down for 2 seconds to enter SQUELCH mode, the “SQUELCH” icon will flash in the LCD. The default is “OFF”, rotate TUNING knob to select squelch level as “1-2-3-4-5-OFF” in cycle, press the button again to confirm selection.

TIP: It is best to set squelch level as low as possible. This way you hear signals that may be weak. If set squelch too high, you may miss some weak voice transmissions.

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## ANTENNA DX/LOCAL SWITCH

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*(right side of radio)*

If the station you’re listening to is so strong that it sounds distorted, turn this switch to the LOCAL position. Otherwise, leave it on DX, which stands for maximum distance.

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## ANT. SENS SWITCH: EXT OR INT

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*(right side of radio)*

Use this switch to enable the use of FM or SW internal or external antennas. MW Ext. Ant. - This is a 500 ohm impedance socket, for use with long wire antennas.

## SETTING THE ALARM CLOCK

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There are two different alarm modes to choose from, TIMER A and TIMER B. You can choose to wake up the radio or to buzzer tone.

- 1) Quickly press TIMER A or B button to display TIMER A or TIMER B alarm time; and
- 2) To set the alarm time, if the alarm is deactivated, press and hold the button for two seconds until word "TIMER A" begins to flash in the display.
- 3) While they are flashing, directly enter digits by pressing numeric keys (0-9) to set HOUR and MINUTE. Press the TIMER A or B button again to confirm finishing setting.  
(Note: directly enter 4 digits either in 12 hour or 24 hour mode)
- 4) If the alarm is activated, hold the button down for 2 seconds to shut down dual alarm and will not enter dual alarm setting.
- 5) To set TIMER B alarm, repeat the same procedure as described for TIMER A.

## USING KEY LIGHT SWITCH

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*(right side of radio)*

Flip this switch to ON to make the keys light when they are pressed. Flip it to OFF to shut down this feature.

## USING THE LINE IN/ OUT SOCKETS

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*(right side of radio)*

These sockets are on the right side of the unit, an 1/8 inch stereo type (3.5mm), An external audio device (such as an MP3 player) can be played by connecting an AUX line from the device into the Line-in socket. The Line out socket can be used to feed audio from the unit to amplified external speakers.

## USING THE EARPHONE JACK

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The EARPHONE jack will be in stereo for FM stations that broadcast in stereo. FM sound is in stereo if the signal is sent in stereo and the STEREO is selected.

## FM/SW EXTERNAL ANTENNAS

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This socket locates on the back of the radio is primarily for antennas designed to be fed with 50 or 70 ohm coaxial cable, such as dipoles or comparable antennas, It can also be used for long wire antennas. Use PAL type connector for feeding this socket.

## MW(AM) EXTERNAL ANTENNA/GND Jack

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If you are in a brick or metal building, AM can be greatly improved with the addition of a simple antenna. A small diameter insulated stranded wire, about 60" in length is a good place to start. Antenna wire can be attached by pressing the spring loaded lever and inserting the wire.

The "GND" jack is used with the "MW EXT. ANT.". Attached one end of a length of wire to be Ground jack and the other end to a good earth ground.

## USING AM IF OUT SOCKETS

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The jack is used for AM/SW only. This is an interesting feature if you are a radio experimenter. There are many different digital formats that are currently being broadcast such as weather, marine, aeronautical information, and a digital SW format called DRM. you can search the internet for free utility programs to decode these broadcasts. For long range broadcasts, SW is the only frequency range that can cover hundreds

To connect to this jack, a PAL type connector is needed.

## USING SINGLE SIDE BAND (SSB)

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In shortwave mode, press the "MODE" button repeatedly to select Upper Side Band (USB) or Lower Side Band (LSB).

- 1) "USB" showing in the display indicates USB mode;
- 2) "LSB" showing in the display indicates LSB mode;
- 3) "USB" or "LSB" disappearing means SSB OFF mode;
- 4) Suggest to key in SSB frequency directly, then rotate TUNING knob to fine tuning as selected step.

TIP: When single-sideband is used for amateur radio voice communication, it is common practice that LSB is used for frequencies below 10MHz and USB is used for frequencies above 10MHz.

## RESET RADIO

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"RESET" is used to clear up the radio if it becomes scrambled and buttons do not respond. Use the end of paperclip and push it into the hold briefly. Stations stored in Memory are save after you reset the radio

## SPECIFICATIONS:

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### FREQUENCY COVERAGE

|              |   |
|--------------|---|
| FM Band:     | 87.5 - 108 MHz  |
| AM(MW) Band: | 522 - 1620 kHz (9kHz step)<br>520 - 1710 kHz (10kHz step) |
| SW Band:     | 1711 - 29999 kHz  |
| LW Band:     | 144 - 450 kHz   |
| Air Band:    | 118 - 137MHz  |

### MEMORY PRESETS

500 Total ( 100 Per Band)

### SPEAKER

5 Watt 4 ohm

### INPUT POWER

6 "D" size batteries (not included)  
9V DC 500mA tip negative

### EARPHONE JACK

3.5mm 32 ohm

### AM IF OUTPUT

For expansion of CW, SSB, DRM etc

### AM DUAL CONVERSION

55.845 MHz 1st IF  
455 kHz 2nd IF

### DIMENSIONS

W 310mm x H 195mm x D 100mm

### WEIGHT

1.71 kg without batteries

### ACCESSORIES

Owner's manual  
AC/DC adapter  
D size battery adapter  
Carry strap

\* Specifications subject to change without notice.