



AMCREST

# ATR-22

## User Manual



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## Preface

Thank you for purchasing your Amcrest Amateur Portable Radio!

This is a dual band/dual display radio made to combine extensive functionality with unmatched reliability. This intuitive radio will help you deliver secure, instant, and reliable communications with utmost efficiency. Please read this manual carefully before using the device. The information presented herein will help you maximize the functionality and performance of your radio.

## Declaration by Manufacturer

Equipment programming is the responsibility of authorized service personnel only.

**WARNING: Reprogramming this radio to operate on one of the following restricted frequencies without a license or authorization by the FCC can result in a variety of enforcement actions, including seizure of equipment, fines and other criminal penalties: 136 MHz – 137 MHz (Aviation Services, Part 87); 137 MHz – 138 MHz (Satellite Communications, Part 25); 138 MHz – 144 MHz (not available to any FCC licensee – Federal use only); 156.7625 MHz – 157.0375 MHz (Maritime Services, Part 80 and Aviation Services, Part 87).**

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## Safety Information

The following safety precautions should always be observed during operation, service, and repair of this device:

- This device should be serviced by qualified technicians only.

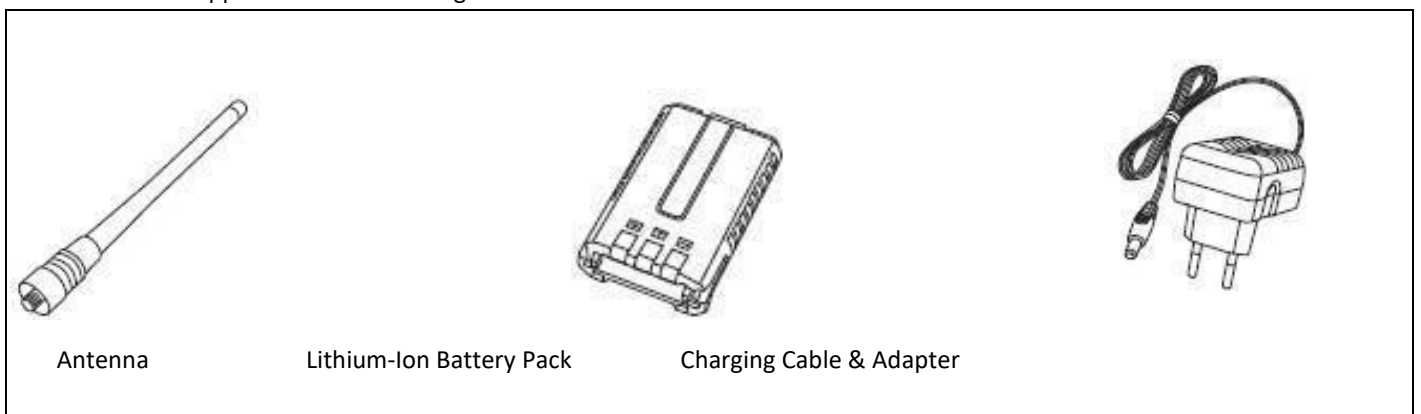
- Do not modify or alter the radio for any reason.
- Use only AMCREST supplied or AMCREST approved batteries and chargers.
- Do not use a radio that has a damaged antenna. Contact with a damaged antenna may result in a minor burn.
- Turn off the radio prior to entering any area with explosive and/or flammable materials.
- Do not charge the battery in a location containing explosive and/or flammable materials.
- Avoid electromagnetic interference and/or compatibility conflicts by turning off the radio in any area where posted notices instruct you to do so.
- Turn off the radio prior to boarding an aircraft. Any use of a radio within an aircraft must be in accordance with airline regulations or crew instructions.
- Turn off the radio prior to entering a blast area.
- For vehicles with air bags, do not place the radio on the air bag deployment area.
- Do not expose the radio to direct sunlight for extended periods of time, nor place it close to any source of heat.
- When transmitting, hold the radio vertically with the microphone 3 to 4 centimeters away from your lips. Keep the antenna at least 2.5 centimeters away from your body when transmitting.

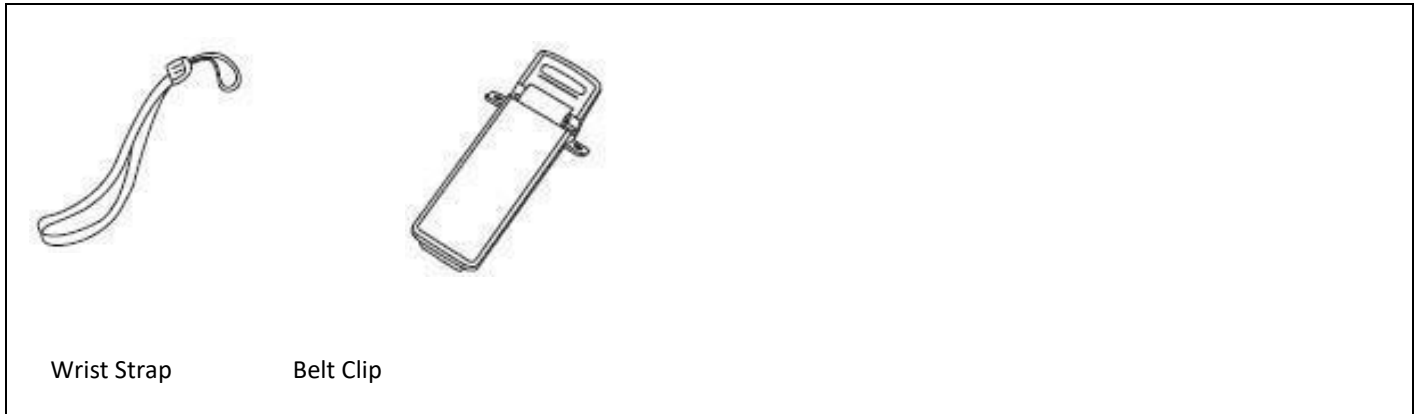
## Getting Started

### Initial Setup

#### What's in the Box

This radio comes shipped with the following accessories in the box:





### **Optional Accessories**



### **Assembly**

#### **Antenna**

This device is fitted with a Male SMA connector. To mount the antenna (Female SMA Connector), align the two connectors and turn the antenna clockwise until it stops.

- When installing the antenna, install it by holding the base and turning.
- If an external antenna is used, ensure that the 'SWR' is about 1.5:1 or less to avoid damage to the device's transistors.
- Holding the antenna with your hand or wrapping the outside may cause subpar operation of the device.
- Never transmit from the device without an antenna.

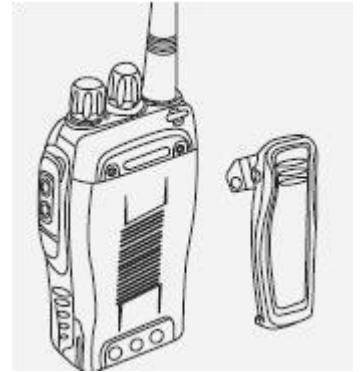


## **Belt Clip**

On the back of the device, above the battery, there are two parallel screws. Remove these and align them so that they go through the holes on the belt clip as they are screwed back into the device body to securely affix the belt clip.

Install the belt clip at the rear of the battery compartment cover as shown in the figure to the right.

Do not use glue to affix the screws onto the battery clip. Application of glue may cause damage to the casing of the battery.



## **Battery**

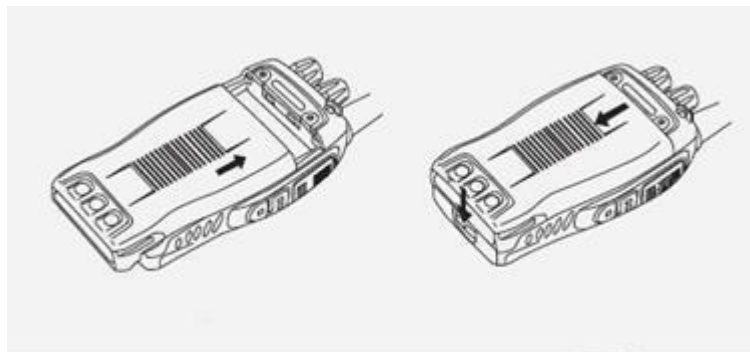
Before attaching or removing the battery make sure the device is turned off by turning the power/volume knob all the way counter-clockwise.

## **Installation**

To attach the battery, ensure the battery is parallel and in good contact with the aluminum chassis. The battery bottom is about 1 to 2 centimeters below the bottom of the device's body.

Align the battery with the guide rails on the radio chassis and slide it upwards until it clicks into place.

The battery latch at the bottom locks the battery in place.



## **Removal**

Ensure the device is off before removing the battery.

To remove the battery, press the battery release above the battery pack and slide the battery downward.

After sliding the battery down a few centimeters, the battery can be removed from the device body.

### **External Headset**

Plug the external micro-headset connector into the jack of 'SP & MIC' of the device as shown in the figure on the right.

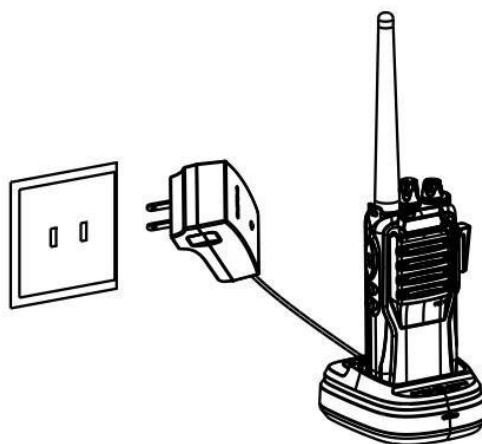


## **Charging and Battery Maintenance**

### **Charging the Battery**

Follow the steps below to set up and use the charger:

1. Plug the end of the power adapter into the charger base.
2. Plug the power adapter into an electrical wall socket.
3. Place the device or battery in the charging slot on the charger.
4. Make sure the contact plates of the battery are making contact with the charger. Ensure that the device fits snugly into the dock. When the red LED stays on, the device is charging.
5. The device is fully charged once the LED on the charger stays green. Please remove the device after it is fully charged to avoid over-charging the battery.



### **Charger LED Codes**

Charging Status	LED Indication
Charging	Red LED glows solidly
Fully Charged	Green LED glows solidly

## **Battery Maintenance**

The battery for the device comes uncharged from the factory. Please charge it for at least four to five hours before starting to use the device.

- Use only batteries that are approved by the original manufacturer.
- Never attempt to disassemble the battery pack.
- Do not expose the battery to fire or intense heat.
- Dispose of batteries in accordance with local recycling regulations.

## **Prolonging the Life of the Battery**

- Only charge batteries in normal room temperatures.
- When charging a battery attached to the device, turn the device off for a faster charge.
- Do not unplug the power to the charger or remove the battery and/or device before it has finished charging.
- Never charge a wet battery.
- Batteries wear out over time. If there is a considerably shorter operating time with the device, please consider purchasing a new battery.
- Battery performance is reduced when temperatures are below freezing. When working in cold environments, it is recommended to keep a spare battery at hand, preferably inside a jacket or in a similar location to keep the battery warm.
- Dust can interfere with the contacts on the battery. If necessary, wipe the contacts with a clean cloth to ensure proper contact with device and charger.

## **Storage**

Fully charge the battery before storing the device for a prolonged period of time in order to prevent damage from over discharge.



To avoid severe capacity degradation of the battery while in long time storage, please cycle the battery at least every six (6) months.

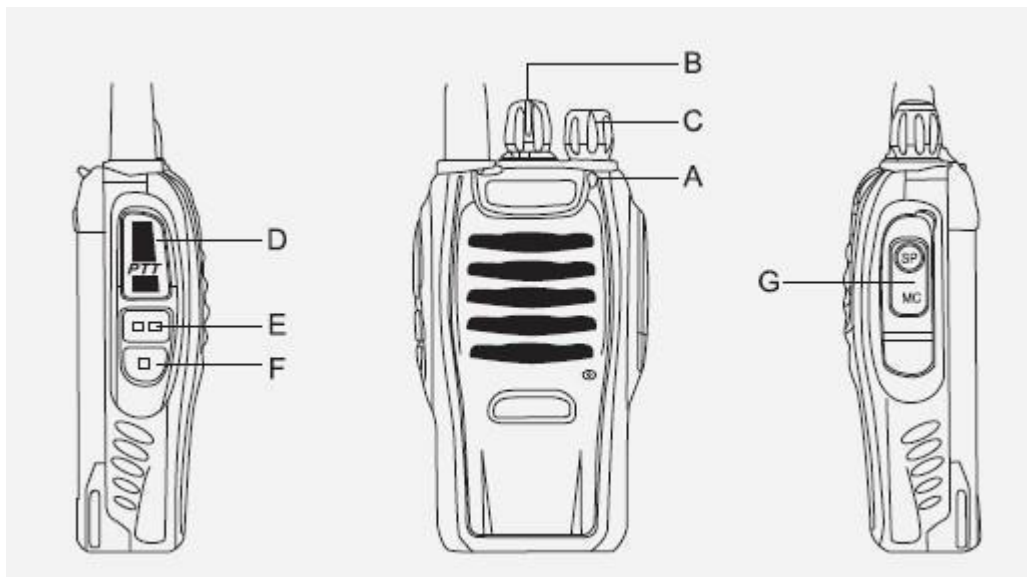
Store the batteries in a cool and dry place, never above normal room temperatures.

### In Case of Exposure to Water

If the battery has become wet, remove it from the device, dry with a towel, and put it in a plastic bag that contains a handful of dry rice. Tie the bag up and let it sit overnight. The rice should absorb any remaining moisture in the battery.

## Getting to Know the Device

### Device Overview

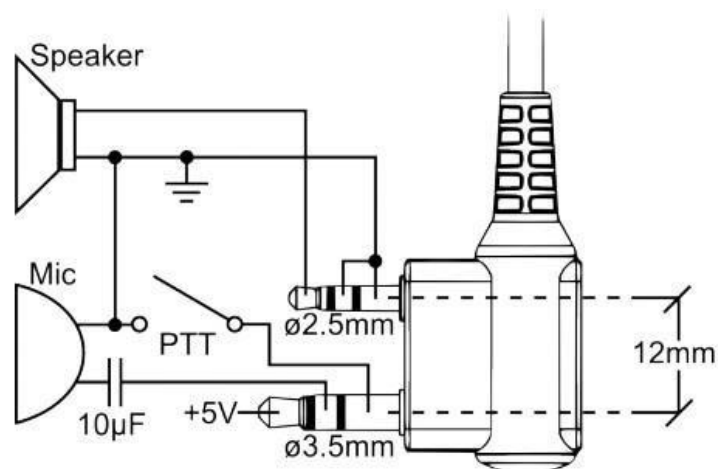


1. LED Indicator – The LED indicator shows red when transmitting
2. Channel Selector – Rotate to select a channel. There are 16 channels to select from.
3. Power Switch/Volume Control – Turn clockwise to switch the device ON. Rotate further to adjust the volume and make it louder. Rotate fully counterclockwise to turn the device OFF.

4. PTT (Push to Talk) Button – Press this button, then speak into the microphone to transmit. Release the button to receive transmissions.
5. Monitor Button – Press and hold to hear background transmission. Release to resume normal operation.
6. Function Key – Press to activate the LED light.
7. Speaker/Microphone Jack

## Accessory Jack

The accessory jack on the Amcrest ATR-22 is a Kenwood compatible two pin design.



The Kenwood 2-pin connector has one 3.5mm TRS plug, and one 2.5mm TS plug, with 12mm of space in between.

To attach accessories such as headsets, speaker, microphones, or USB PC cables, align the connectors and push the plugs in fully.

Ensure the device is turned off before attaching any accessories.

## Basic Use

### Power and Volume

Before the power is turned on, ensure that the battery and antenna are both attached, as described in the *Initial Setup* section.

#### Turning the Unit On/Off

To turn the unit on, rotate the volume/power knob clockwise until a “click” sound is heard. If the device powers on correctly, there should be an audible double beep.



Turn the volume/power knob counter-clock wise all the way until a “click” sound is heard. The unit is now off.

### Adjusting the Volume

To turn up the volume, turn the volume/power knob clock-wise.

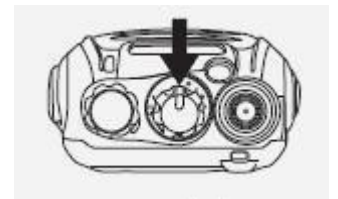
To turn the volume down, turn the volume/power knob counter-clock-wise. Be careful not to turn the knob too far, as you may accidentally turn the device off.

A good way to adjust volume is by using the monitor function, enabled from the [MONI] button below the [PTT] button, to more accurately and easily adjust the volume by adjusting it to the un-squelched static sound.



### Selecting the Channel

To select a channel, turn the channel switch knob to the desired channel. Channel 16 is used for scanning purposes.



### Transmitting

To transmit, press and hold the [PTT] button and speak into the microphone. The LED indicator lights up red while transmitting. To maximize audio clarity, hold the device 2 to 3 inches from your mouth.



## Advanced Functions and Features

### **Squelch Level**

The purpose of the Squelch function is to mute the speaker when no signals are present (Squelch OFF). With the squelch level correctly set, sound can only be heard when receiving signals (Squelch ON). The squelch level can be adjusted via PC software.

### **Time-Out Timer**

The purpose of the Time-Out Timer is to prevent callers from using a channel for an extended period of time. Using a channel for an extended period of time may cause thermal damage to the device. The built-in Time-Out Timer limits each transmission time to a certain time. If a transmission's time exceeds the set limit, an alert tone will sound.

### **Scanning**

Scanning is a useful function for hands-off monitoring of your favorite frequencies. When the device is set to SCAN via the software, turn the channel selector to channel 16, and the device will automatically detect and scanning activity on channels 1-15.

1. The device stops scanning at the channel where a signal is detected. It then continues or stops scanning altogether.
2. If there are less than 2 channels, the scanner does not work.
3. While on channel 16, press [PTT] and [MONI] buttons together to turn scanning on or off.
4. Scanning does not work if the FM radio function is activated.

### **Voice Prompt**

Voice prompts allow the user to audibly hear what settings the device is currently on.

1. While on channel 10, press the [PTT] and [MONI] buttons together, then switch on the device, to activate or deactivate voice prompts.
2. While on channel 15, press the [PTT] and [MONI] buttons together, then switch on the device, to change the voice prompt language.

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## Voice Operated Transmission (VOX)

VOX eliminates the need to manually press the [PTT] button to begin transmitting. The VOX circuitry senses audio input in the microphone, and automatically begins transmitting. To use VOX, an optional headset must be used with the device.

1. When using VOX, ensure that the VOX gain settings allow the device to recognize the proper amount of sound it should receive before it begins transmitting.
2. If the VOX level is too sensitive, the device will begin transmitting when it detects background noise.
3. If the VOX level is not sensitive enough, the device will not pick up your voice when you begin speaking, and will not start transmission.
4. To activate or deactivate VOX, change the device to any station between 1 and 5, press and hold both the [MONI] and [PTT] buttons, then switch on the device.

## Emergency Alarms

Emergency alarms allow the user to emit a loud high-pitched siren from the device.

1. While on channel 11, press and hold the [PTT] and [MONI] buttons together, then switch the device on to activate or deactivate the alarm function.

## Battery Saver

To conserve battery on your device, the battery saver function on the device activates automatically. When the channel is not busy and no operations (button presses or switch turns) have been performed for more than 10 seconds, the battery saver function activates. Battery saver turns off when the device performs an operation or receives a transmission.

## Battery Low Alert

When the device's battery is low, an alert tone will sound and the LED indicator on the device will blink red.

1. While on channel 11, press and hold the [PTT] and [MONI] buttons together, then switch the device on to activate or deactivate the alarm function.

## Monitor

The device's monitor function can be used when no signals are being received. This function mutes the speaker so that background noise is cancelled out.

1. To turn off the squelch monitor press and hold the [MONI] button.

## Busy Channel Lockout (BCL)

The Busy Channel Lockout function on the device prevents interference with other transmissions. While another transmission on the channel is occurring, concurrent transmission is denied. When BCL is activated, pressing the [PTT] button while a transmission is occurring causes the device to emit an alert tone, and transmission is inhibited until the ongoing transmission stop. Releasing the [PTT] button during this will stop the alert tone and return to receive mode.

## Technical Specifications

Specification	Value
Channel Capacity	16
Operational Voltage	2V
Dimensions	115mm X 60mm X 33mm
Weight	150g

## WARRANTY CERTIFICATE

# WARRANTY CERTIFICATE

<b>WARRANTY CERTIFICATE</b>		
Brand:	Model no.:	Serial no.:
Name of purchaser:		
Address:		Seal and name of the dealer:
City:	Zip code:	
Province/State:	Tel no.:	
Date of purchase:		

<p><b>WARNING:</b> Warranty is valid provided it is complete and properly filled in legibly and clearly present the seal and name of the dealer and have attached the bill proof of purchase of equipment.</p>	

**Please see conditions of warranty on the next page**

The device described in this Certificate is guaranteed for a period of **ONE YEAR** from the date of sale to the final user. This Warranty Certificate is unique and not transferable and may not be reissued. Substitution of the product, or any product component thereof shall not extend the guarantee.

The warranty covers the replacement of all parts that are defective in materials or components used in the manufacturing and/or assembly of the device.

The warranty does not cover any faults caused by accident, improper installation and use, improper connection to a power source other than the included or claims due to deterioration in the external appearance of the device due to normal use, nor claims pertaining to the amount or condition of the accessories packaged with the device. Checking the accessories is the responsibility of the purchaser at the time of purchasing the device.

The warranty does not cover rechargeable batteries even if they are part of the equipment purchased as they are considered consumables. Any impairment must be reported within a period of fifteen days from the date of purchase.

The warranty is voided when any of the following conditions are met:

1. Devices that have been manipulated by another or by anyone other than authorized service provider.
2. Equipment and accessories in which the serial number has been altered, deleted, filed, or in any way become unreadable.
3. Use of the product other than as intended.

To make use of the warranty, it is necessary to provide the dealer or any Authorized Service Provider the following items:

1. The defective device.



2. Any accessories included with the device.
3. The Warranty Certificate, filled out in its entirety.
4. Original invoice/receipt clearly identifying the device and its date of purchase.
5. Description of any faults the device may have.

The warranty terms contained in this Certificate of Guarantee do not exclude, modify or restrict the statutory rights of the buyer by virtue of the laws in force at the time of purchase, but are added to them.

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