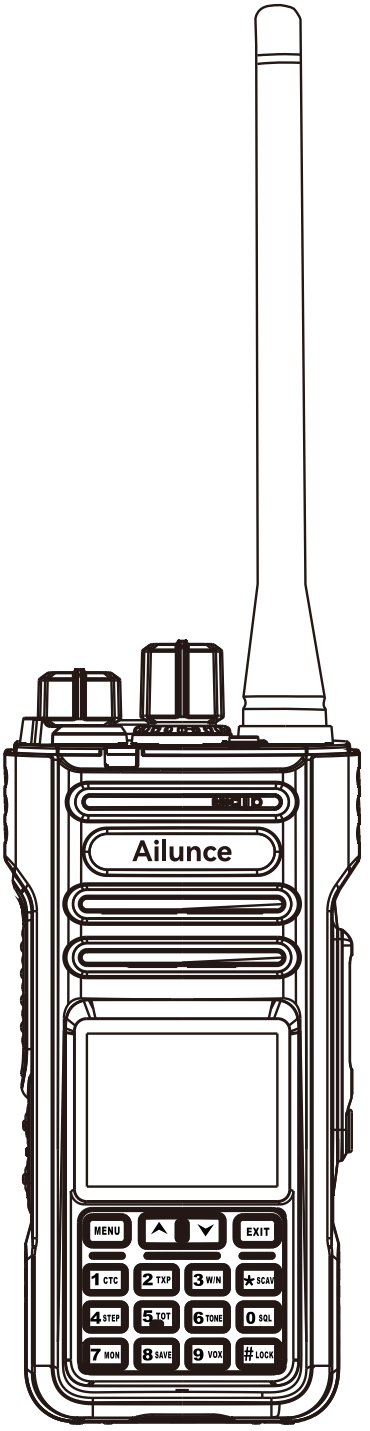
RETEVIS



Aliunce HA2
User Manual

Contents

For downloading further resources:
Brochures, Software/Firmware, Manual etc, Please contact your direct reseller first OR go to website retevis.com and check “support” in the each product link to download it.

1.Battery Attentions

1.The performance of the battery pack may be compromised, or the lifespan of the battery cells may be shortened, if the following safety instructions are not followed.

2.The battery packs must be stored and handled with care to prevent any physical damage. Dropping or crushing the battery packs may lead to internal damage, which could result in a fire or explosion.
Ensure that the battery packs are charged using the specified charger and following the recommended charging procedures. Using incompatible chargers or incorrect charging methods may damage the battery cells and pose a safety hazard.

3. Do not attempt to repair or modify the battery packs in any way. This includes disassembling, soldering, or modifying the terminals. These actions may cause internal damage, heat generation, and potentially lead to a fire, explosion, or leakage of harmful chemicals.

4. Keep the battery packs away from any sources of fire or heat. Exposure to high temperatures may cause the battery cells to rupture or explode.
Dispose of used battery packs in accordance with local regulations to ensure safe and environmentally responsible disposal.
5. Never let the battery packs come into contact with water or any other liquids. If the battery packs become wet, they must be dried immediately using a clean cloth. Do not use or charge a wet battery pack as it may cause damage or a safety hazard.

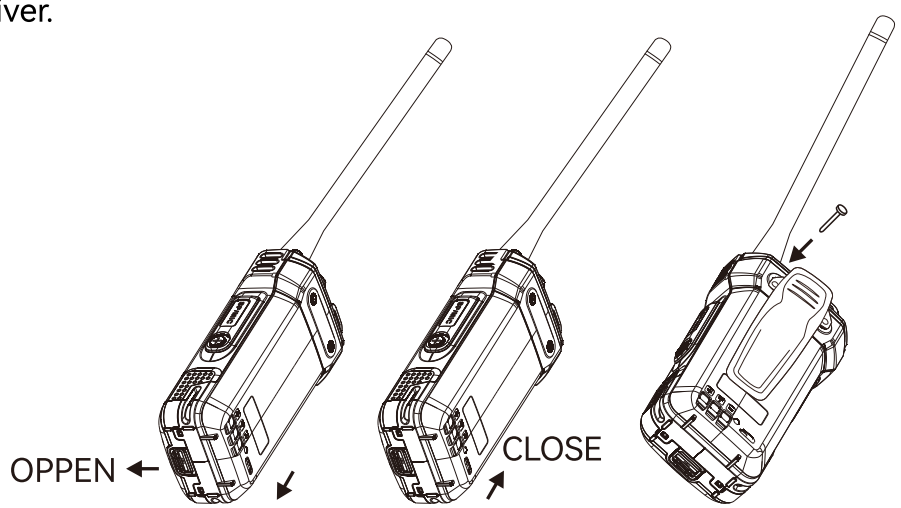
6. If the battery packs emit an abnormal odor, heat up, or show any signs of discoloration or deformation, stop using them immediately. Contact your Ailunce dealer or distributor for further assistance and replacement options.

7. The battery packs should only be used within the specified temperature range of -10℃ to +30℃. Operating the battery packs outside of this range may reduce their performance and shorten the lifespan of the battery cells.

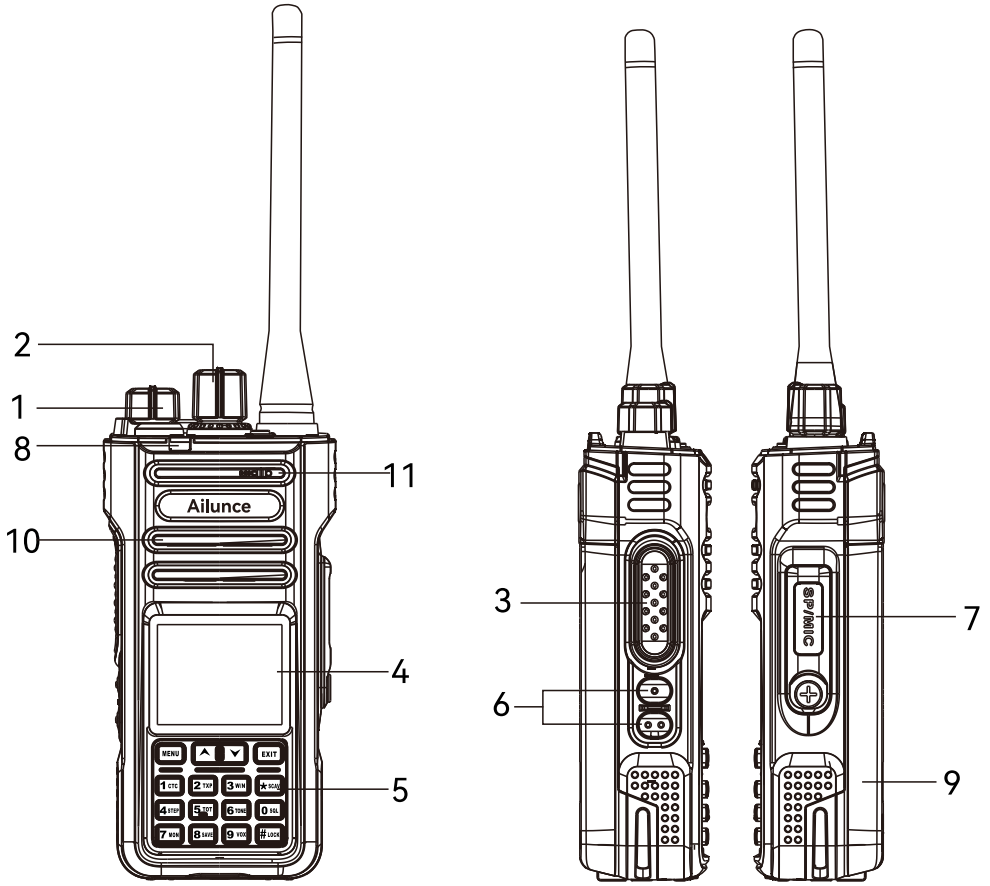
8. Avoid leaving the battery packs fully charged, completely discharged, or exposed to excessive temperatures (above 30℃) for extended periods of time. This may reduce the service life of the battery. If the battery packs are not in use for a long time, they should be discharged and removed from the transceiver.
By following these safety instructions, you can ensure the safe and effective use of your battery packs while minimizing the risk of accidents or damage. Always prioritize safety when handling and using batteries to protect yourself and others.

Installation of the Battery

Align the grooves of the battery pack with the designated guides located on the rear of the transceiver. Apply gentle pressure to seat the battery securely. Ensure a firm connection between the battery and the transceiver until the release latch on the transceiver's top locks into position. A distinct "click" sound will indicate that the battery is securely locked in place. To remove the battery, ensure that the transceiver is powered off. Subsequently, slide the release latch upward and gently detach the battery pack from the transceiver.



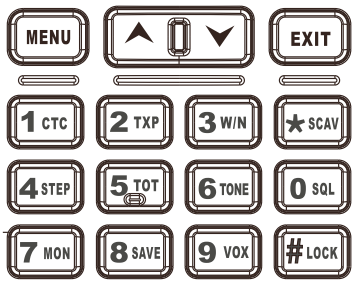
2.Familiar with the Radio



Number	Component Name	Description
1	Power/VOL Knob	Rotate to turn the radio on/off; adjust volume when powered on.
2	Channel Knob	Adjust frequency (in VFO mode) or switch channels (in Channel mode); used for menu value selection.
3	PTT (Push-to-Talk) Key	Press to transmit voice; release to receive.
4	LCD Screen	Displays frequency, channel number, battery level, and function status icons.
5	Keypad	Includes number keys (0-9), function keys ([MENU], [EXIT], [*SCAN], [#LOCK]), and direction keys ([Up]/[Down]).
6	SK1/SK2 (Side Keys)	Customizable shortcut keys (e.g., emergency alarm, monitor mode).
7	SP/MIC Jack	Connect external speakers, microphones, or programming cables.
8	LED Indicator	Shows power status, transmis-sion/reception, and charging status (red = charging, green = fully charged).
9	Battery Pack	2800mAh rechargeable battery; remove to charge or replace.
10	Speaker	Outputs audio (voice, alarms, FM radio).
11	Microphone	Captures voice for transmission.

3.Key Function Instructions

The keypad is used to access common functions quickly. Long-press the following keys in standby mode (no transmission/reception) to trigger the corresponding function.

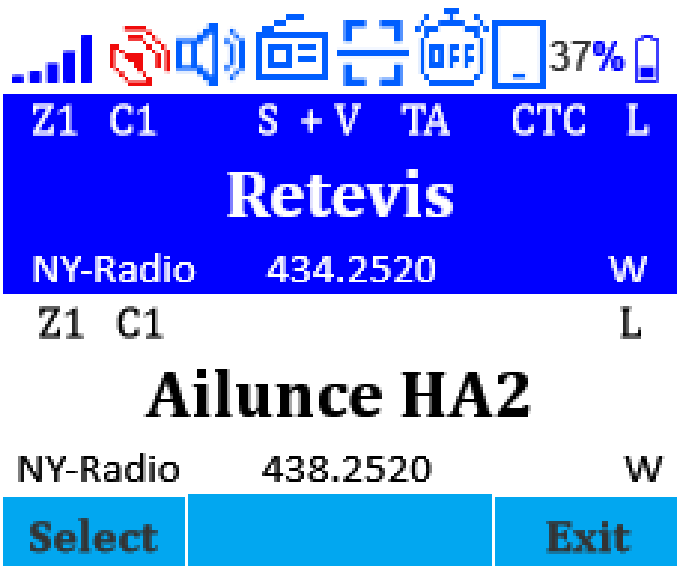


Key	Function Description
【1 CTC】	Enter CTCSS/DCS Setting Interface. CTCSS/DCS: Continuous Tone-Coded Squelch System/Digital-Coded Squelch, used to filter background noise and prevent interference from other channels.
【2 TXP】	Enter High/Middle/Low Power Switching Interface. - High (H): For long-distance communication; higher power consumption. - Low (L): For short-distance communication; saves battery.
【3 W/N】	Enter Wide/Narrow Band Switching Interface. - Wide (W): Better audio quality; suitable for clear signal environments. - Narrow (N): Stronger anti-interference; suitable for noisy signal environments.
【4 STEP】	Enter Frequency Step Setting Interface. In VFO mode (frequency adjustment mode), use [Up]/[Down] keys or the Channel Knob to set the "step" (interval for frequency adjustment, e.g., 5KHz, 12.5KHz) and scanning step.
【5 TOT】	Enter Transmit Time-Out Timer (TOT) Setting Interface. TOT: Prevents prolonged transmission (e.g., accidental PTT presses) by automatically stopping transmission after a set time.
【6 TONE】	Play and transmit a tone signal.
【7 MON】	Activate Monitor Mode (long-press to turn on, release to turn off). Monitor Mode: Disables squelch to listen to weak signals or background noise.
【8 SAVE】	Enter Power Saving Mode Setting Interface (see Section 5.1.8 for details).
【9 VOX】	Turn VOX (Voice-Activated Transmission) on/off. VOX: Automatically triggers transmission when the microphone detects your voice (no need to press PTT); suitable for hands-free use (e.g., driving, outdoor work).
【0 SQL】	Enter Squelch Setting Interface. Squelch: Mutes background noise when no signal is received. Adjust the level (1-10) — higher levels filter more noise but may miss weak signals.
【*SCAN】	Long-press: Turn scan mode on/off. Short-press: Switch between Band A and Band B (for dual-band monitoring).
【#LOCK】	- Long-press: Turn key lock on/off (prevents accidental key presses). - Short-press: Switch between single watch (monitor one channel) and dual watch (monitor two channels).

Key	Function Description
【EXIT】	Long-press: Switch between Memory Channel Mode and VFO Mode.
【MENU】	Short-press: Enter the main menu; confirm selections in the menu.
【Up】/ 【Down】	Navigate menu options; adjust values (e.g., volume, squelch) in settings.

4.Menu Icon Description

Icons on the LCD screen indicate the radio's current status.



Refer to the table below for explanations:

Icon	Function Description
	RSSI (Received Signal Strength Indicator) — more bars mean stronger signal.
	Speaker is enabled (audio output from the radio's built-in speaker).
	GNSS (Global Navigation Satellite System, e.g., GPS, BDS) is active (positioning).

Icon	Function Description
	Key lock function is enabled (keypad is locked).
	Wired headphones/speaker are connected to the SPIMIC jack.
	Emergency alarm function is active.
	Scan mode is active (searching for active channels).
	Monitor mode is active (squelch is disabled).
	Battery is charging (LED indicator is red).
	Shows battery level (icon, percentage, or voltage — set in Section 5.1.13).
	FM radio function is active.
	NOAA weather alarm is enabled.
	Wireless earphone is connected.
	Wireless earphone is disconnected.
	Radio is connected to a smartphone. (for APP programming).
	Wireless connection to the smartphone is disconnected.
	Auto power-off function is enabled (radio will turn off after the set time).
	Wireless PTT (remote push-to-talk) is connected.
	Wireless PTT is disconnected.

Standby Interface Characters

Additional text on the LCD screen (in standby mode) indicates specific statuses:

Character	Description
AM	Radio is receiving in AM (Amplitude Modulation) mode (used for aviation bands).
L/M/H	Transmit power level: Low (L), Middle (M), High (H).
N/W	Bandwidth mode: Narrow (N), Wide (W).
S	Scramble function is enabled (encrypts voice to prevent eavesdropping).
CTC/DCS/DCSI	CTCSS/DCS working mode (current sub-tone type).
V	VOX function is enabled.
FR/TA	FR (Frequency Reverse): Transmit and receive frequencies are swapped; TA (Talk Around): Direct communication (no repeater).
+/-	Offset direction (for repeaters): - "+": Transmit frequency is higher than receive frequency. - "-": Transmit frequency is lower than receive frequency.

5.Menu Operations

Press the 【MENU】 key in standby mode to enter the main menu. Use 【Up】/【Down】 keys to navigate menu options, the Channel Knob to adjust values, and 【MENU】 to confirm selections. Press 【EXIT】 to return to the previous level or standby mode.

5.1 Radio Settings

This menu group configures basic radio functions (display, power, keys, etc.).

5.1.1 Display Mode

The standby interface can show channel name, frequency, and channel number simultaneously. selecting one of them will main display on the standby interface as below:

Operation: Enter [Radio Settings] → [Display Mode] → Select a mode with 【Up】/【Down】 → Press 【MENU】 to confirm.

5.1.2 Band Setting

Choose to display single band (only Band A or Band B) or dual band (both bands side-by-side) on the LCD screen.

• **Menu operation:** Enter [Radio Settings] → [Band Setting] → Select "BandA/B" or "Dual Band A&B" → Confirm.
• **Quick switch:** Short-press the 【#LOCK】 key in standby mode to toggle between single/dual band.

5.1.3 Backlight Setting

Adjust the LCD screen's brightness and auto-off time (saves battery when not in use).

1.Brightness adjustment:

• Enter [Radio Settings] → [Backlight Setting] → Rotate the Channel Knob:
• Counterclockwise: Darken the screen.
• Clockwise: Brighten the screen.
• Press 【MENU】 to confirm.

2.Backlight duration:

• In the same menu, press 【Up】/【Down】 keys to set the auto-off time (steps of 5 seconds, max 1 hour).
• Set to "0 seconds" to keep the backlight always on (note: increases battery consumption).

5.1.4 Key Lock Function

Prevent accidental operations (e.g., changing frequency, triggering transmission) by locking specific keys.

Operation:

1)Enter [Radio Settings] → [Lock Setting] → [Key Lock Mode].
2)Select lock type (via 【Up】/【Down】or Channek konb):
• Auto Lock: Keypad locks automatically after 10 seconds of inactivity.
• Manual Lock: Lock/unlock via long-pressing 【#LOCK】
3)Select locked components (via 【MENU】 and 【Up】/【Down】):
Keyboard only: Lock number/function keys (PTT,sidekey and channek kn still work).
• Channel Knob only: Prevent accidental frequency/channel changes.
• Side Keys (SK1/SK2) only: Lock custom side keys.
• Select all: Lock all of the above.

5.1.5 Side Key Setting

Customize the short-press and long-press functions of the top key, SK1, and SK2 (to quickly access frequently used features).
Available custom functions:
Power Switch, Squelch Adjustment, Monitor Mode, Scan Mode, Zone +/- (switch zones), FM Radio, Talk Around/Reverse, Emergency Alarm On/Off, Programmable PTT, Optional DTMF Code, Switch to Quick Zone.

Operation:

1)Enter [Radio Settings] → [Side Key Setting] → Select the key to customize (e.g., "SK1").
2)Select "SK1 Short-Press" or "SK1 Long-Press" → Choose a function from

the list → Confirm.

5.1.6 Audio

Adjust audio-related settings (e.g., prompts, microphone gain, transmission tail tone) for clearer communication.

1.Audio prompts:

• Enter [Radio Settings] → [Audio] → [Audio Enable].
• Turn on/off:
• TX Permit Tone: Beep when PTT is pressed.
• Key Beep: Beep when pressing keys.
• Voice Broadcast: Radio announces status (e.g., "Low voltage" when battery is low).

2.Microphone (Mic) Gain:

• Enter [Audio] → [Mic Gain] → Select gain level (via Channel Knob or【Up】/【Down】):
• Low: For loud environments (e.g., concerts, construction sites) — avoids audio distortion.
• Normal: Default setting for daily conversations (most scenarios).
• Strengthen: For quiet environments or distant speaking (e.g., outdoor team work) — amplifies voice.

3.ransmit Tail Tone (Roger Tone):

• Enter [Audio] → [Roger Menu] → Select a tail tone:Roger Beep or MDC (played to the receiver when you stop transmitting, indicating you've finished speaking).

5.1.7 VOX (Voice-Activated Transmission)

Enable hands-free communication by triggering transmission via voice (no need to press PTT).

Operation:

1.Enter [Radio Settings] → [VOX].
2.Adjust VOX sensitivity and delay:
• VOX Threshold (1-15): Level 1 = most sensitive (triggers with soft voice), Level 15 = least sensitive (requires loud voice). Default: Level 1.
• VOX Delay: Time to stop transmission after voice ends (max 2000ms, default 500ms). Set to longer if you pause mid-speech (avoids cutting off sentences).

5.1.8 Power Save

Reduce battery consumption by putting the radio into low-power sleep mode when no signal reception.

Operation:

1.Enter [Radio Settings] → [Power Save].
2.elect power-saving mode(via Channel Knob):
• 1:1: full power always — fastest response, highest power use (for critical

communication).
• 1:2: 50% full power, 50% sleep — balance of response and battery life (daily use).
• 1:4: 25% full power, 75% sleep — maximum battery saving, slightly slower response (long outdoor trips).
3.Press【Up】/【Down】to Set power-saving delay : Time to enter sleep mode after being idle (via Channel Knob).

5.1.9 Menu Timeout Setting

Set how long the menu stays if no operation is performed (auto-exits to standby mode).
Operation:
1.Enter [Radio Settings] → [Menu Timeout Setting].
2.Rotate the Channel Knob to set the timeout (0 no limit-255 seconds).

5.1.10 Save Channel (CH)

In VFO mode (manual frequency adjustment), save the current frequency as a new channel (or overwrite an existing one) for quick access later.
Operation:
1.Adjust the desired frequency in VFO mode.
2.Enter [Radio Settings] → [Save CH].
3.Select a channel number:
• "0001": Blank channel (no existing settings — save as new).
• "CH-0001": Existing channel (overwriting will replace its frequency/CTCSS settings).
4.Press 【MENU】 to confirm.

5.1.11 Single Tone

Select a fixed tone (1000Hz, 1450Hz, 1750Hz, 2100Hz) for testing communication or calling other users (e.g., 1750Hz is commonly used to activate repeaters).
Operation:
Enter [Radio Settings] → [Single Tone] → Select a tone frequency → Confirm.

5.1.12 Auto Power Off

Set the radio to turn off automatically after a period of inactivity (prevents battery drain if forgotten).
Operation:
1.Enter [Radio Settings] → [Auto Power Off].
2.Rotate the Channel Knob or 【Up】/【Down】to set the time (max 3 hours, e.g., 0.5 hours = 30 minutes).
3.Note: After auto-shutdown, you must turn off the radio via the Power/VOL Knob first, then turn it on again to restart.

5.1.13Battery Display
Choose how battery level is shown on the LCD screen (icon, percentage, or voltage).
Operation:
1.Enter [Radio Settings] → [Battery Display].
2.Select display type:
• Icon: Visual battery icon (empty → full).
• Percentage: Exact remaining power (e.g., 75%).
• Voltage: Battery voltage (e.g., 3.7V)

5.1.14 Alias Display
Set a custom "alias" (name) for the radio and choose when to display it to other users (at the start/end of transmission).
Operation:
1.Enter [Radio Settings] → [Alias Display].
2.Set Alias Type (via 【Up】/【Down】):
• BOT (Begin of Transmission): Display alias when you start transmitting.
• EOT (End of Transmission): Display alias when you stop transmitting.
• Both: Display at both start and end.
• Set alias (via keypad): Press number keys to select characters (e.g., press 【2】 repeatedly for "2/A/B/C/a/b/c") → Press 【MENU】 to save. Max 30 aliases can be stored.

5.1.15 Date & Time Set
Configure the current date and time (used for GNSS logs).
Operation:
1.Enter [Radio Settings] → [Date & Time Set].
2.Press 【*SCAN】 to switch between settings (Year → Month → Day → Hour → Minute).
3.Press 【Up】/【Down】button to adjust values → Press 【MENU】 to confirm each step.

5.1.16 Zone Time (UTC)
Select your local UTC time zone (used for GNSS positioning and APRS time synchronization).
Operation: Enter [Radio Settings] → [Zone Time] → Select the correct UTC offset→ Confirm.

5.1.17 Radio Information
View technical details of the radio (for troubleshooting or maintenance).

5.1.18 Factory Reset
Restore the radio to default factory settings (erases all custom settings: saved channels, key mappings, aliases, etc.).
Caution: Back up important data (e.g., channel lists) via CPS software before resetting.

Operation:
1.Enter [Radio Settings] → [Factory Reset].
2.Select "Confirm"→ Press 【MENU】 to start resetting.
3.The radio will restart automatically after reset.

5.2 Zone and Channel

The HA2 supports 16 zones, each with up to 64 channels (total 1024 channels). Zones help organize channels (e.g., "Work Team A", "Outdoor Trip", "Emergency") for quick access.

Zone Management
1.Enter Zone Menu: Press 【MENU】 → [Zone].
2.Common operations:
• Add Zone: Select "Add Zone" → Enter a zone name (via keypad) → Select the channels for this zone→ "Edit Name" → Modify via keypad→Save Zone.
• Delete Zone: Select the zone to delete → Choose "Delete" → Confirm (cannot delete the Quick Zone).
• Display Scope: Select "All Channels" (show all programmed channels) or "Current Zone Only" (show only channels in the selected zone).

Channel Management
1.Enter Channel Menu: Press 【MENU】 → [Channel].
2.Edit Channel Info: Select a channel → Modify parameters (see table below) → Confirm.

Channel Parameter	Description	How to Set
Channel Alias	Custom name for the channel (e.g., "Team Leader").	Press number keys to input characters (e.g., 【2】= A/B/C) → 【MENU】 to save.
Bandwidth	Narrow (N) or Wide (W)	Select via 【Up】/【Down】.
RX Frequency	Receive frequency of the channel (e.g., 433.9750MHz).	Rotate Channel Knob to adjust digits → 【MENU】 to confirm.
PRT Shift	Repeater offset direction (+/-) (only in VFO mode).	Select "+" (transmit > receive) or "-" (transmit < receive).
Shift Freq	Repeater offset direction (+/-) (only in VFO mode).	The offset frequency range is 0-99.99Mhz.
TX Frequency	Transmit frequency of the channel (same as RX for direct communication; different for repeaters).	Same as RX Frequency setting.

Channel Parameter	Description	How to Set
CTCSS/ DCS	Sub-tone to set RX and TX separately.	1.Select "RX" or "TX" via 【Up】/【Down】. 2.Short-press 【#LOCK】 to switch CTCSS/DCS. 3. Rotate Channel Knob to select a sub-tone value.
Squelch Level	Mute background noise (1-10, default 5).	Rotate Channel Knob or 【Up】/【Down】to adjust.
TX Power	Transmit power (L/M/H) (same as Section 3's 【2 TXP】).	Select via 【Up】/【Down】.
TX Permission Set	Restrict transmission (prevent unauthorized use).	- CTCSS/DCS Match: Transmit only if sub-tones match. - Channel Free: Transmit only if the channel is free. - Receive Only: Disable transmit (listen only). - Always Allow: Transmit anytime.
Signaling System	Select a signaling system (e.g., DTMF) for the channel.	Select from pre-set signaling lists.
Emergency List	Assign an emergency list (for Section 8's emergency function).	Select from pre-set emergency lists.
VOX Enable	Turn VOX on/off for this channel (same as Section 5.1.7).	Select "On"/"Off".
Scramble	Encrypt voice.	Select a scramble frequency.
Compander	Improve audio clarity (reduces volume differences between loud/soft sounds).	- TX+RX: Enable for both transmit and receive. - TX Only: Enable only for transmission. - RX Only: Enable only for reception.

6.One-Key Frequency Pairing

This function automatically scans and matches frequencies/CTCSS/DCS codes with another radio — ideal for quick communication with novices (no manual frequency adjustment needed, e.g., field trips, team work).

Operation Steps:

1.Ensure the target radio (to pair with) is in standby mode and not transmitting.
2.On your radio: Press 【MENU】 → [One-Key Frequency Pairing] → "Start Pairing".
3.The radio will start scanning.
4.If pairing succeeds:
• LCD displays the matched frequency (e.g., 433.9750MHz) and CTCSS/DCS code (e.g., CTC 67Hz).
• The radio stays on this frequency — you can start communicating immediately.
5.Optional actions after success:
• Rescan: Press 【*SCAN】 to scan for another radio.
• Save Channel: Press 【MENU】 → "Save to Channel" → Select a channel (e.g., CH-001) → Confirm (overwrites existing settings if the channel is not blank).
Note: Pairing works within a short distance (depending on environment). Ensure no strong signal interference nearby.

7. SCAN (Channel Scanning)

The HA2 can create 16 scan lists (each with up to 100 channels).

Create/Edit a Scan List

1.Press 【MENU】 → [SCAN] → [Channel Scan List]→ [Add ScanList].
2.Enter a scan list name (e.g., "Daily Use") → Confirm.
3.Add channels to the list:
• Select "Channel List" → Choose channels from existing channels→ Press 【MENU】 to add.
Optional: Delete channels from the list (select the channel → "Delete").

Scan Settings

Customize how scanning works (e.g., when to stop, which channel to transmit on) via [SCAN] → [Scan Settings].
The HA2 can create 16 scan lists (each with up to 100 channels).

Create/Edit a Scan List

1.Press 【MENU】 → [SCAN] → [Channel Scan List]→ [Add ScanList].
2.Enter a scan list name (e.g., "Daily Use") → Confirm.
3.Add channels to the list:
• Select "Channel List" → Choose channels from existing channels→ Press 【MENU】 to add.
1.Optional: Delete channels from the list (select the channel → "Delete").

Scan Settings

Customize how scanning works (e.g., when to stop, which channel to transmit on) via [SCAN] → [Scan Settings].

Scan Setting	Description	Options/Settings
Scan Condition	When to stop scanning (for active channels).	- Carrier: Stop if any co-frequency signal is detected . - CTCSS/DCS: Stop only if signal + matching sub-tone are detected.
Scan Mode	How long to stay on an active channel.	- Time Scan (TO): Stay for a time ,resume scanning even if the channel is still active. - Carrier Scan (CO): Stay until the signal disappears then resume scanning. - Search Scan (SE): Stop permanently after finding a signal and then restart scanning manually.
TX Mode Set	Which channel to use for transmission during scanning.	- Current Channel: Transmit on the channel where scanning stopped. - Last Active Channel: Transmit on the last channel used before scanning. - Designated Channel: Transmit on a Designated Channel.
Designated Channel Select	Pre-select a channel for transmission.	Choose from existing channels.
Priority Channel 1/2	Channels to scan first (e.g., emergency channels).	Select two channels → Scanning checks these first every cycle.
Hang Time	Time to stay on a channel after its signal disappears (avoids missing short signals).	adjust 1-10 seconds.
Delete Scan List	Remove an unused scan list.	
VFO Scan Set	Start scanning from which frequency (for VFO mode).	- Current Frequency: Start from the current VFO frequency. - Preset Frequency: Start from a pre-set frequency (e.g., 430.0000MHz).

Start/Stop Scanning

• Quick start: Long-press 【*SCAN】 in standby mode, Press 【*SCAN】 again to stop scanning.

• If in VFO mode, it will scan follow the [VFO Scan Set],if scan in the channel mode, it will scan follow the channel scan settings.

8.Emergency Function

The HA2 supports 8 emergency lists to ensure quick alerts in critical situations (e.g., accidents, natural disasters). At least one emergency list must be configured.

Prerequisites (Must Complete First)

Create an emergency list: It supports to create 8 emergency list， ensure there is at least one alarm list in the radio's alarm settings. If not, create one in the CPS software.

1.Assign the list to a channel: On the radio, press 【MENU】→ [Channels Setting] → [Emergency List] → Choose an emergency list for this channel→ Confirm.

• If no list is assigned, the emergency function will not work.

Set Emergency Parameters

Configure alarm type, mode, and advanced settings via [Emergency].

① Alarm Types (How the Alarm is Triggered)

Type	Description	Scenario
Siren Only	Only emits a sharp alarm sound locally.	Alert nearby people (e.g., lost in the wild, needing help from nearby teammates).
Regular Alarm	Triggers sound (local siren) + indicators (LED flashes, LCD alarm icon).	Alert both nearby people and remote teammates (signal is transmitted).
Silent Alarm	Triggers no sound/indicators (only transmits an alarm signal to pre-set channel).	SSecret alerts (e.g., dangerous situations where silence is needed).
Silent Alarm with Voice	Silent by default, but plays sound when receiving a response (avoids missing replies).	Secret alerts + ensures you hear teammate responses.

② Alarm Modes (What the Alarm Does)

Mode	Description Scenario
Emergency Siren	Only emits a local siren (no signal transmission — for nearby alerts).
Emergency Call	Immediately transmits an emergency signal to pre-set contacts (e.g., team leader's radio).
Alarm Call	Transmits an emergency signal + an alarm code (identifies your radio) to pre-set contacts.

③ Designated Jump Channel
Select a channel that the radio will automatically switch to when the alarm is activated (regardless of the current channel).
• Set: Press 【MENU】 → [Emergency] → [Alarm Revert Channel] → Select a channel (e.g., "Emergency Channel 1") → Confirm.
• Purpose: Ensures the alarm signal is transmitted on a dedicated emergency channel (teammates know to monitor this channel).

Activate/Deactivate the Alarm
• Default operation:
• Activate: Short-press the [TK key] (customizable via Section 5.1.5).
• Deactivate: Long-press the [TK key].
• Also can set the SK1/2 button as a emergency function key.

Advanced Settings (Via CPS Software)
Use CPS to configure parameters not adjustable on the radio:
• Alarm duration: How long the alarm lasts (e.g., 5 minutes).
• Hot MIC time: How long the microphone stays active after the alarm (e.g., 30 seconds — allows you to speak without pressing PTT).
• Reception time: How long the radio listens for responses (e.g., 10 seconds).
• Alarm cycle: How often the alarm signal is retransmitted (e.g., every 2 minutes).

9. Detailed Function Descriptions

9.1Power-On Password Configuration

Set a password to protect the radio from unauthorized use (power-on password) or data modification (read/write password).
Operation:
• Configure via CPS software (cannot set on the radio directly):
a.Connect the radio to a computer via a programming cable.
b.Open RETEVIS CPS → [Basic Setting] → [Password] → Set "Power-On

Password" (4 digits) or "Read/Write Password" (at least 6 digits) → Save to the radio.

9.2 Quick Zone

A dedicated zone for frequently used channels (quick switching without navigating multiple zones).
Operation:
1.Add channels to Quick Zone: Press 【MENU】 → [Quick Zone] → [Add Channels] → Select channels from existing zones → Confirm.
2.Set a shortcut key: Press 【MENU】 → [Radio Settings] → [Side Key Setting] → Select a key (e.g., SK2) → Set "Short-Press = Switch to Quick Zone" → Confirm.
3.Use: Press the shortcut key to enter Quick Zone → Use 【Up】/【Down】 to switch channels.

9.3 Aviation Band Reception

The HA2 can receive aviation frequencies (108.0000-135.9750MHz), reception only — no transmission allowed, as aviation bands are regulated.
Operation:
1.In VFO mode.
2.Set a frequency within 108.0000-135.9750MHz.
3.The LCD will automatically display "AM" (aviation uses AM mode — no manual setting needed).
Note: Aviation frequencies cannot be saved as channels (must adjust manually in VFO mode each time).

9.4 Frequency Step

Adjust the "step" for frequency adjustment in VFO mode (e.g., 5KHz step = each rotation of the Channel Knob changes frequency by 5KHz).
Available steps: 2.5Khz, 5Khz, 6.25Khz, 7.5Khz, 8.33Khz, 10Khz, 12.5Khz, 15Khz, 20Khz, 25Khz, 30Khz, 50Khz, 100Khz.
Operation:
• Quick set: Long-press 【4 STEP】 in standby mode → Rotate the Channel Knob to select a step → Press 【MENU】 to confirm.

9.5 CTCSS/DCS Scan

Automatically scan and match the CTCSS/DCS code of an active channel (avoids manual testing of dozens of sub-tones).
Operation:
1.Tune the radio to the target frequency (in VFO mode or Channel mode).
2.Long press【4STEP】enter the CTCSS/DCS menu → Short press [*SCAN] to scan TX CTCSS" (scan the transmit sub-tone of the target channel).
3.If a sub-tone is detected:
• LCD stops at the RX CTCSS/DCS window (shows the matched code, e.g., "CTCSS 67Hz").
• Press 【MENU】 to save the code to the current channel → You can now

communicate with the target channel without interference.

9.6 Radio Alias Display

As introduced in Section 5.1.14, the radio can display your alias to other users. A critical note:

• Conflict with GNSS: If both GNSS (Section 9.12) and Alias Display BOT and EOT enabled, only GNSS will work (alias will not be displayed). Disable GNSS first if you need to show your alias.

9.7 Signaling (DTMF & Repeater Activation)

Many repeaters remain in a dormant state to save power or avoid interference. Enthusiasts need to send a specific DTMF sequence (such as 1234) to "wake up" or activate them before communication can take place.The HA2 supports DTMF signaling for this purpose.

What is DTMF?

DTMF (Dual-Tone Multi-Frequency) is a signal composed of two tones — used for remote control (e.g., activating repeaters, remote stun/kill of radios).

Signaling Settings

Press 【MENU】 → [Signaling] to configure DTMF parameters or Set configure in the CPS.

APTT ID	Push-to-Talk ID, a unique identification code for the radio.
PTT ID Type	Configurable options: Off, BOT (Begin of Transmission), EOT (End of Transmission), or Both. Determines whether DTMF signaling is sent when PTT is pressed.
Sidetone	An audible tone played during transmission to confirm DTMF signal emission.
BOT ID / EOT ID	Supports up to 16 characters from the set: 0–9, A–D, *, #. Defines the DTMF sequence sent at the start or end of transmission.
ID Display	When enabled, received DTMF decoding results are shown in a pop-up window.
CALL_ID	Local device identification code (equivalent to a phone number). Supports 10 digits (0–9 only).
Remote Control Functions	Stun: Remotely disables the target device's transmission capability. Kill: Remotely disables both transmission and reception. Wake-up: Remotely restores transmission and reception.

Stun ID	Identification code used to stun or kill the local device. Supports 10 characters from 0–9, A–D, *, #.
Wake-up ID	Identification code used to wake up the local device. Supports the same characters as Stun ID.
DTMF Group Code	AGroup call identifier, configurable as A, B, C, D, *, or #.
DTMF Code Length	Duration of each DTMF tone and the interval between tones. Adjustable from 30ms to 150ms.

1) DTMF Call Test (Between Two Radios)
Test DTMF calls with another radio (same frequency and CTCSS/DCS).
Steps:
① First, select the signaling list for the channel for which you want to enable DTMF.
② Then, enable codec in the signaling category settings.
③ Set the local device's CALL_ID to 123 and the other device's CALL_ID to 456.
④ Select the PTT ID type as BOT and set the BOT ID to the other device's CALL_ID (456). If the other device is calling the local device, the BOT ID should be set to 123.
If both walkie-talkies are on the same frequency and tone and the above settings are complete, DTMF intercom communication can be established.

2) Show ANI ID
Show ANI is the switch that displays the other party's identity code;
For example, If enable the show ANI ID in the CPS, and set Receiver ID: 456 and Transmitter ID: 123; Then the transmitter need to sends: 456123; after the receiver matches 456, it will display 123.

3) Remote Stun/Kill/Wake-Up
Remotely control a target radio (e.g., disable a lost radio to prevent misuse).
Principle: Send the target radio's Stun ID (to stun/kill) or Wake-up ID (to restore) via DTMF signaling.
Steps:
①Configure the target radio: On the target, press 【MENU】 → [Signaling] → Set [Stun ID] = 123456 → Set [Wake-up ID] = 654321 → Enable "Decode".
②Configure the managing radio (your radio): Set [Encode] = On → Set [PTT ID Type] = BOT → Set [BOT ID] = 123456 (target's Stun ID).
③Stun the target: Press PTT on your radio → The target radio will receive the Stun ID and disable its transmit/receive functions (LCD shows "Stunned").
④Wake up the target: On your radio, set [BOT ID] = 654321 (target's Wake-up ID) → Press PTT → The target radio will restore functions.
Note: This can also be done via CPS software: [Settings] → [Remote Control] → Enter target's ID → Send command.

4) Send DTMF via Quick Call List
Create a list of frequently used DTMF sequences (e.g., repeater activation codes) for quick access.
Steps:
①Create the list via CPS: Open CPS → [DTMF Quick Call] → Add sequences (e.g., "1234" = Repeater A, "5678" = Repeater B) → Save to the radio.
②Send on the radio: Press 【MENU】 → [Signaling] → [Quick Call List] → Select a sequence → Press 【MENU】 to send (no need to press PTT).
5)Send DTMF via numerical key
When press the PTT, dial the destination DTMF number to send a decode.

9.8FM Radio

Listen to FM broadcast stations (50-115MHz) for entertainment or news during breaks.
Operation:
1.Turn on/off: Short-press 【MENU】 → [FM Radio] → Select "On"/"Off".
• Or use a shortcut key: Assign "FM Radio" to SK1/SK2 (Section 5.1.5)
2.Adjust frequency:
• Short-press 【Up】/【Down】: Adjust by 1MHz (e.g., 88.0MHz → 89.0MHz).
• Rotate the Channel Knob: Adjust by 0.1MHz (e.g., 88.0MHz → 88.1MHz).
1.Auto-search channels: For automatic channel searching, press and hold the "Up" or "Down" button. Once a channel is detected, the radio will automatically switch to the corresponding receiving frequency.
2.Exit FM radio: Press【MENU】to exit the FM Radio.
3.VFO/MR in FM Radio: Long press【*scan】button to switch between VFO and MR.

9.9 Weather Setting (NOAA)

Receive NOAA weather channels to get real-time weather forecasts and severe weather alerts (e.g., hurricanes, tornadoes).

NOAA Channel Frequencies
The HA2 supports 12 NOAA channels (pre-programmed; no manual frequency input needed):

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
NOAA1	162.5500	NOAA7	162.5250
NOAA2	162.4000	NOAA8	161.6500
NOAA3	162.4750	NOAA9	161.7500
NOAA4	162.4250	NOAA10	161.7750
NOAA5	162.4500	NOAA11	162.0000
NOAA6	162.5000	NOAA12	163.2750

Listen to NOAA Channels
1.Turn on NOAA: Long press 【MENU】, it will display the 12 NOAA channles in the standby interface.
2.Select a channel: Rotate the Channel Knob or press 【Up】/【Down】 to choose a NOAA channel (LCD shows the channel number and frequency).
• Select the channel with the strongest signal (no static) for clear audio.
3.Exit NOAA: Press PTT or 【EXIT】 (returns to standby mode).

Weather Alarm
Enable automatic alerts for severe weather, the radio will sound an alarm and switch to NOAA automatically.
Operation:
1.Enter [Weather Setting] → [Weather Alarm] → Select "On".
2.LCD displays the weather alarm icon (Section 4) ,a special alarm tone sounds an alert and turns on the weather receiver to give you immediate weather and emergency information.

9.10 Compass
The HA2 has a built-in compass for direction guidance (requires calibration for accuracy).
Operation:
1.Enter compass menu: Press 【MENU】→ [Compass].
2.Calibrate the compass : Once you're in the compass menu, you can do the calibration at any time. When you leave the compass screen, the compass function will turn off. Next time you open the compass, you'll need to calibrate it again.

9.11 Configuration Copy Function
The Config Copy Function allows you to transfer the parameters of one radio to another via radio frequency. This function supports channel config copy, basic settings copy, or full-device config copy. The config copy transmit frequency is fixed at 435.562500 MHz.

Note:
①Before performing config copy, please check the radio's battery level. Do not operate the radio during the config copy process.
②The Config Copy Function only supports one-to-one config copy (i.e., one transmitter and one receiver) at a time and location.
Supported copy types:
• Full-Device Config Copy: Transmit all settings.
• Basic Settings Copy: Transmit only basic settings.
• Channel Config Copy: Transmit only saved channels.
• Basic + Channel Copy: Transmit basic settings + channels.
• Keep the two radios within 10 meters (no obstacles) for a stable signal.

9.12 GNSS and Location Sharing

GNSS (Global Navigation Satellite System) supports multiple positioning systems (BDS, GPS, GLONASS, Galileo, QZSS) for real-time location tracking and sharing.

Enable GNSS and View Position

1.Turn on GNSS: Press 【MENU】 → [GNSS] → [GNSS ON/OFF] → Select "On".

2.View real-time position:

- Enter [GNSS] → [GNSS Info] → LCD displays:
- Latitude (Lat): e.g., 22°37.95'N (north latitude).
- Longitude (Lon): e.g., 114°3.83'E (east longitude).
- Speed (Spd): e.g., 0km/h (stationary).
- Time: Current time (synchronized with GNSS).

Note: GNSS needs a clear view of the sky (no tall buildings/trees) to get a signal (takes 1-2 minutes for first positioning).

Location Sharing Settings

Configure how your location is shared with other users (manual or automatic).

1.Enter sharing settings: Press 【MENU】 → [GNSS] → [GNSS Set].

2.Common settings:

Transmit Type:

- Manual: Send location only when you make a transmission.
- Automatic: Send location at set intervals time (from 30sec to 60 mins).
- Transmission content:
- Text: Send location as text (e.g., "Lat:22°37.95'N, Lon:114°3.83'E").

3.View received locations:

- Enter [GNSS] → [Received List] → View locations sent by other users (max 100 entries — old entries are overwritten when full).

Location Tracking (GpsLogInfo)

Track the location of a specific point, and calculate the distance to it.

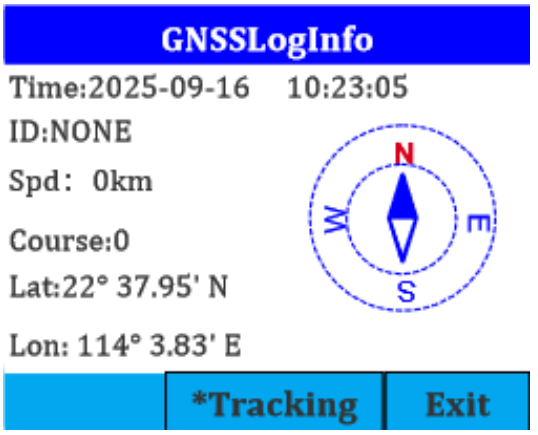
Operation:

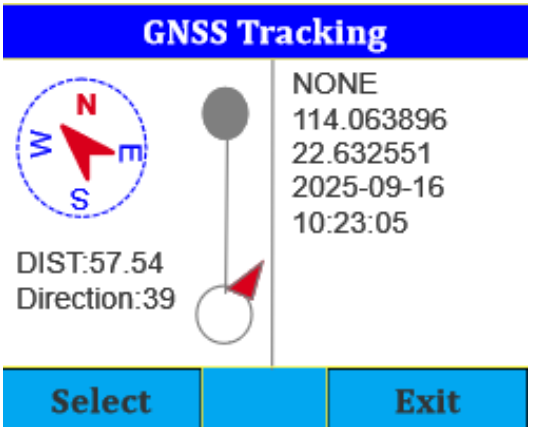
1.Enter [GNSS] → [GpsLogInfo] → Press 【*】 key to save the current location as a "tracking point".

2.LCD displays:

- Distance (DIST): e.g., 57.54 meters (distance from your current location to the tracking point).
- Direction: e.g., 39° (direction from you to the tracking point).

Note: Coordinates are not updated automatically — press 【*】 again to refresh the distance/direction.





9.13 APRS (Automatic Packet Reporting System)

APRS is a digital communication system that transmits real-time location, weather, and status information to a global network (viewable on websites like https://aprs.fi).

APRS Basic Settings

Press 【MENU】 → [APRS] to configure core parameters.

Parameter	Description	How to Set
APRS Switch	Turn APRS on/off.	Select "On"/"Off".
Ana APRS Set - PTT Report	Send an APRS signal when you release PTT	Select "On"/"Off".
- My Callsign	Your unique APRS callsign (required to use APRS, e.g., "AAAA2B-1").	Enter via keypad (format: Callsign-SSID, SSID = 1-15) → Confirm.
- Comment Text	Additional info to attach to your location (e.g., "Hiking Team A, Good Weather").	The characters will displayed on https://aprs.fi).
- DIGIPATH	Signal transmission path (how your APRS data is relayed).	Default: "WIDE-1" (suitable for most users; advanced users can customize on the radio).
- Tx Frequency	Frequency used to transmit APRS data.	- Selected CH Frequency: Use the current channel's frequency. - APRS Standard Frequency: Use the global APRS frequency.

My Position	Source of your location data (for APRS).	- GPS: Use GNSS positioning (real-time, dynamic). - Manual: Manually enter latitude/longitude (for fixed locations, e.g., a base camp).
Manual Position - Latitude/ Longitude	Manually set location (for "My Position = Manual").	Enter latitude (e.g., 22.6325°N) and longitude (e.g., 114.0639°E) → Confirm.
APRS TX Delay	Time to wait after releasing PTT before sending APRS data.	100-1000ms.
Beacon TX	How APRS "beacons" (location updates) are sent.	- Auto: Send beacons at set intervals (Section 9.13's "Beacon Interval"). - Manual: Send beacons only when you press PTT. - Smart: Adjust interval based on speed (e.g., shorter intervals when moving fast — set via CPS).
Beacon Interval	Interval for automatic beacons (for "Beacon TX = Auto").	30 seconds to 60 minutes (adjust via 【Up】/【Down】 — shorter = more frequent updates).
APRS Ringer	Whether to play a beep when receiving APRS data.	Select "On"/"Off".
Smart Beacon	Type of smart beacon (adjusts interval based on speed/movement).	Select "Type1"/"Type2"/"-Type3" (configure parameters via CPS).
APRS List	View all received APRS data (locations, comments from other users).	Select an entry → View details (latitude, longitude, time, comment) → Press 【EXIT】 to return.

Example: Set Up APRS for Hiking
1)Turn on GNSS: Ensure GNSS is active (Section 9.12) — APRS needs location data.
2)Configure callsign: Enter [APRS] → [Ana APRS Set] → [My Callsign] → Input "AA6ABB-1" (replace with your actual callsign).
3)Set comment: Enter [Comment Text] → Input "Hiking Mt. X, 3 people".
4)Set beacon interval: Enter [Beacon Interval] → Select "5 minutes" (sends location updates every 5 minutes).
5)Start APRS: Set [APRS Switch] → "On" → LCD shows the APRS icon (Section 4).
6)View your location: Go to https://aprs.fi → Search for your callsign ("AA6ABB-1") → See your real-time location on the map.

9.14 APP Programming Operation

Program the HA2 via the RETEVIS smartphone APP (no computer/CPS needed) and connect Wireless accessories (earphones, PTT).

① Program via RETEVIS APP

Use the APP to edit channels, set key functions, and back up data.

Steps:

Turn on BT on the radio:

- Press 【MENU】 → [BT Power] → Select "On".
- LCD displays a phone icon (Section 4) — BT is active.

Connect the APP to the radio:

- Download the "RETEVIS" APP from the App Store (iOS) or Google Play (Android).
- Open the APP → Add Radio → Select "Ailunce HA2" from the Radio list.
- It will read the data from the radio first.
- Program the confirgration on the phone APP.

② Connect Wireless Accessories

Pair Wireless earphones (for hands-free audio) or Wireless PTT (remote push-to-talk) with the HA2.

Connect Wireless Earphones

Enter BT menu: Press 【MENU】 →[BT Earphone].

Scan for earphones:

- Select "EAR Scan" → The radio starts scanning for nearby wireless earphones.
- Put your earphones in pairing mode.

Pair the earphones:

- The radio's LCD shows the earphone's name (e.g., "BT-Earphone-01") → Select it → Press 【MENU】 to confirm.
- LCD shows "Paired Success" → Earphone icon appears.

Manage paired earphones:
• [EAR Scan List]: View all detected earphones.
• [EAR Paired Device]: View the last paired earphone (quick reconnection).
• [EAR Disconnect]: Disconnect the current earphone.

③ BT Audio Settings

Adjust audio quality for Wireless accessories via [BT Settings].

Setting	Description	How to Set
BT SPK Gain	Volume of audio from the wireless earphone.	1-6 levels (higher = louder).
BT MIC Gain	Sensitivity of the wireless earphone's microphone (affects how loud you sound to others).	1-6 levels (higher = more sensitive).
BT + int SPK	Whether to enable the radio's built-in speaker when using wireless.	- On: Audio plays from both earphone and built-in speaker. - Off: Audio plays only from the earphone.

9.15 Signaling Tone

Transmit a fixed tone (1000Hz, 1450Hz, 1750Hz, 2100Hz) during voice transmission (e.g., to call attention or test communication).

Operation:

1.Select a tone: Press 【MENU】→ [Signaling Tone] → Choose a frequency (e.g., 1750Hz) → Confirm.

2.Transmit the tone:

• In voice transmission mode (press PTT to talk), press and hold SK1/SK2 (customized via Section 5.1.5 to "Signaling Tone") → The tone is transmitted.
• Release SK1/SK2 to resume normal voice transmission.

9.16 APP QR Code

You can scan the APP QRCode to learn the APP instruction and download it to your phone.

9.17 Firmware Update Operation

Update the radio's firmware to fix bugs, add new features, or improve performance.

Caution: Do not turn off the radio or disconnect the cable during the update (may damage the radio).

Preparation

• A computer (Windows 10/11 recommended).

• RETEVIS CPS software (download from https://www.ailunce.com/ResourCecenter).

• A programming cable (connects the radio to the computer).

Step 1: Enter DFU Mode (Update Mode)

1.Turn off the radio.

2.Press and hold the PTT key + SK1 simultaneously→ Do not release.

3.Rotate the Power/VOL Knob to turn on the radio → Release PTT and SK1 when the LED turns red (DFU mode is active).

Step 2: Update Firmware via CPS

1.Connect the radio to the computer via the programming cable.

2.Open RETEVIS CPS software → Click [Firmware] from the top menu.

3.Configure update parameters:

• [COM Port]: Select the correct COM port (check via "Device Manager" on Windows).

• [Model]: Select "Ailunce HA2".

• [Firmware File]: Click "Select File" → Select the downloaded firmware file (format: .bin).

①Start the update: Click [Download] → CPS shows the update progress (0%-100%).

②Complete the update:

• LCD shows "Update Success" when done.

• The radio restarts automatically (LED turns green).

Verify the update: Press 【MENU】 → [Radio Information] → Check the firmware version (should match the downloaded file).

10. Specifications

Category	Specifications
General	- Channel capacity: 1024 channels - Channel spacing: 5/6.25/7.5/8.33/10/12.5/15/20/25/30/50/100KHz - Antenna impedance: 50Ω - Modulation/demodulation mode: FM Wideband, NFM Narrowband, AM - Modulation mode: F3E - Dimensions (W×H×D): 56.5 × 126.5 × 37.5mm (excluding antenna) - Weight: 426g (with antenna and battery) - Operating temperature: -10℃ to +45℃
Transmitter	Transmit frequency range: EU: 144-146MHz (2m band), 430-440MHz (70cm band) US: 144-148MHz (2m band), 420-450MHz (70cm band) Adjacent channel power: - Wide band: ≤-65dBc - Narrowband: ≤-62dBc Audio distortion: ≤5% - Mod

CTCSS TONE FREQUENCY (Hz)

Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency
1	67	2	69.3	3	71.9	4	74.4	5	77
6	79.7	7	82.5	8	85.4	9	88.5	10	91.5
11	94.8	12	97.4	13	100	14	103.5	15	107.2
16	110.9	17	114.8	18	118.8	19	123	20	127.3
21	131.8	22	136.5	23	141.3	24	146.2	25	151.4
26	156.7	27	159.8	28	162.2	29	165.5	30	167.9
31	171.3	32	173.8	33	177.3	34	179.9	35	183.5
36	186.2	37	189.9	38	192.8	39	196.6	40	199.5
41	203.5	42	206.5	43	210.7	44	218.1	45	225.7
46	229.1	47	233.6	48	241.8	49	250.3	50	254.1

DCS TONE FREQUENCY (Hz)

Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency
1	D023N	21	D125N	41	D245N	61	D356N
2	D025N	22	D131N	42	D246N	62	D364N
3	D026N	23	D132N	43	D251N	63	D365N
4	D031N	24	D134N	44	D252N	64	D371N
5	D032N	25	D143N	45	D255N	65	D411N
6	D036N	26	D145N	46	D261N	66	D412N
7	D043N	27	D152N	47	D263N	67	D413N
8	D047N	28	D155N	48	D265N	68	D423N
9	D051N	29	D156N	49	D266N	69	D431N
10	D053N	30	D162N	50	D271N	70	D432N
11	D054N	31	D165N	51	D274N	71	D445N
12	D065N	32	D172N	52	D306N	72	D446N
13	D071N	33	D174N	53	D311N	73	D452N
14	D072N	34	D205N	54	D315N	74	D454N
15	D073N	35	D212N	55	D325N	75	D455N
16	D074N	36	D223N	56	D331N	76	D462N
17	D114N	37	D225N	57	D332N	77	D464N
18	D115N	38	D226N	58	D343N	78	D465N
19	D116N	39	D243N	59	D346N	79	D466N
20	D122N	40	D244N	60	D351N	80	D503N

DCS TONE FREQUENCY (Hz)							
Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency
81	D506N	115	D053I	149	D252I	183	D465I
82	D516N	116	D054I	150	D255I	184	D466I
83	D523N	117	D065I	151	D261I	185	D503I
84	D526N	118	D071I	152	D263I	186	D506I
85	D532N	119	D072I	153	D265I	187	D516I
86	D546N	120	D073I	154	D266I	188	D523I
87	D565N	121	D074I	155	D271I	189	D526I
88	D606N	122	D114I	156	D274I	190	D532I
89	D612N	123	D115I	157	D306I	191	D546I
90	D624N	124	D116I	158	D311I	192	D565I
91	D627N	125	D122I	159	D315I	193	D606I
92	D631N	126	D125I	160	D325I	194	D612I
93	D632N	127	D131I	161	D331I	195	D624I
94	D645N	128	D132I	162	D332I	196	D627I
95	D654N	129	D134I	163	D343I	197	D631I
96	D662N	130	D143I	164	D346I	198	D632I
97	D664N	131	D145I	165	D351I	199	D645I
98	D703N	132	D152I	166	D356I	200	D654I
99	D712N	133	D155I	167	D364I	201	D662I
100	D723N	134	D156I	168	D365I	202	D664I
101	D731N	135	D162I	169	D371I	203	D703I
102	D732N	136	D165I	170	D411I	204	D712I
103	D734N	137	D172I	171	D412I	205	D723I
104	D743N	138	D174I	172	D413I	206	D731I
105	D754N	139	D205I	173	D423I	207	D732I
106	D023I	140	D212I	174	D431I	208	D734I
107	D025I	141	D223I	175	D432I	209	D743I
108	D026I	142	D225I	176	D445I	210	D754I
109	D031I	143	D226I	177	D446I		
110	D032I	144	D243I	178	D452I		
111	D036I	145	D244I	179	D454I		
112	D043I	146	D245I	180	D455I		
113	D047I	147	D246I	181	D462I		

Troubleshooting

The transceiver does not turn ON.	The battery is exhausted.	Charge the battery pack,or replace the batteries.
	Loose the connection of a battery pack (case).	Clean the battery terminals
No sound comes from the speaker	The volume level is too low	Rotate Volume Knob to adjust the level.
	The squelch level is too high	Adjust the squelch level
	An external speaker is connected to the [SP]jack	Check the external speaker connection.
	The CTCSS tone is not compatible	Disable CTCSS/DCS or be sure setting matches incoming transmission.
Keypad is unresponsive	Keyboard locked or not	Check if the keypad has been locked. Check if other keys are currently pressed
Battery life lower than expected	Be sure the charger indicates the battery is fully charged. The battery pack capacity will naturally diminish over a number of charge cycles.This s the case with all lithium batteries	
Transmitting is impossible	Set the transmit power level to High.	
	The PTT Lock function is activated.	Turn OFF the PTT Lock function on the MENU screen.
	The Busy Lockout function is activated.	Turn OFF the Busy Lockout function on the MENU screen.
	The transmit frequency is out of the amateur radio band.	Set the transmit frequency within the amateur radio band.

The list aims at helping you correct the problems that don't belong to the device's fault.If you can't find out the reason for problems or can't work them out,please contact your seller or customer service.As follow email address:hams@ailunce.com.

* To provide you with more comprehensive and accurate product instructions (including feature optimization instructions, new operating instructions, and FAQs), this product's electronic manual will be continuously updated.
You can obtain the latest version by:

Log in to the Ailunce official website (www.ailunce.com), go to "Resource" - find Ailunce HA2 to download.

The printed manual is the fixed version at the time of shipment. In the event of any discrepancy between the printed manual and the electronic version, the latest electronic version will prevail. We recommend that you regularly review the electronic version for the best user experience.

CAUTION

User’ instructions should accompany the device when transferred to other users.

Unauthorized modification and adjustment Changes or modifications not expressly approved by the party responsible for compliance may void the user’s authority granted by the local government radio management departments to operate this radio and should not be made. To comply with the corresponding requirements, transmitter adjustments should be made only by or under the supervision of a person certified as technically qualified to perform transmitter maintenance and repairs in the private land mobile and fixed services as certified by an organization representative of the user of those services. Replacement of any transmitter component (crystal, semiconductor, etc.) not authorized by the local government radio management departments equipment authorization for this radio could violate the rules.

Radio License

Governments keep the radios in classification. Two-way radios are only operated on authorized radio frequencies that are regulated by the local radio regulatory authorities (such as FCC, ISED, OFCOM, ANFR, BFTK, ComReg, Bundesnetzagentur, and so on.). For detailed classification and the use of your two-way radios, please contact the local government radio management departments. Use of this radio outside the country where it was intended to be distributed is subject to government regulations and may be prohibited.

FCC compliance information

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference. (Licensed radios are applicable)

Note: This equipment has been tested and found to comply with the limits for a Class B digital device. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

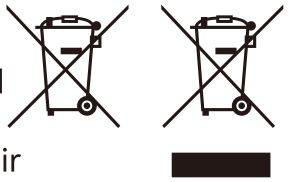
—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.
WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

Disposal



The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that all electrical and electronic products, batteries, or accumulators must be taken to designated collection locations at the end of their working life. Do not dispose of these products as unsorted municipal waste. Dispose of them according to the laws and rules in your area.

RF Safety

This two-way radio uses electromagnetic energy in the radio frequency (RF) spectrum to provide communications between two or more users over a distance. RF energy, which when used improperly, can cause biological damage. Please refer to the following websites for more information on what RF energy exposure is and how to control your exposure to assure compliance with established RF exposure limits: http://www.who.int/en/
Transmit no more than the rated duty factor 50% of the time. Transmitting necessary information or less, is important because the radio generates measurable RF energy exposure only when transmitting in terms of measuring for standards compliance. For users who wish to further reduce their exposure, some effective measures to reduce RF exposure include:

- Reduce the amount of time spent using your wireless device.
- Use a speakerphone, earpiece, headset, or other hands-free accessory to reduce proximity to the head (and thus head exposure).

While wired earpieces may conduct some energy to the head and wireless earpieces also emit a small amount of RF energy, both wired and wireless earpieces remove the greatest source of RF energy (handheld device) from proximity to the head and thus can greatly reduce total exposure to the head.

- Increase the distance between wireless devices and your body.
- This radio is designed for and classified as “Occupational/Controlled Use Only”.

Occupational/Controlled environments are defined as locations where there is exposure that may be incurred by people who are aware of the potential of exposure, for example, as a result of employment or occupation. It means a radio must be used only by individuals aware of the hazards, and the ways to minimize such hazards; Not intended for use in a General population/un-controlled environment.

Hand-held Mode

To control your exposure and ensure compliance with the controlled environment exposure limits, always adhere to the following procedure:
-To receive calls, release the PTT button.
-To transmit (talk), press the Push-to-Talk (PTT) button in front of the face.
-Hold the radio in a vertical position with the microphone (and other parts of the radio including the antenna) at least one inch (2.5 centimeters) away from the nose or lips.

Electromagnetic Interference/Compatibility

Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed, or otherwise configured for electromagnetic compatibility.
During transmissions, your radio generates RF energy that can possibly cause interference
with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so, such as hospitals or healthcare facilities.

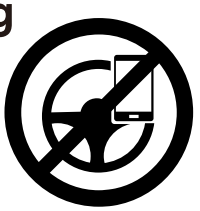
- Persons with pacemakers, implantable cardioverter defibrillators (ICDs) or other active implantable medical devices should
- Consult with their physicians regarding the potential risk of interference from radio frequency transmitters, such as portable radios (poorly shielded medical devices may be more susceptible
to interference).
- Turn the radio OFF immediately if there is any reason to suspect that interference is taking place.
- Do not carry the radio in a chest pocket or near the implantation site, and carry or use the radio on the opposite side of the body from the implantable device to minimize the potential for interference. Hearing Aids: Some digital wireless radios may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer to discuss alternatives.
- Other Medical Devices: If you use any other personal medical device, consult the
manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.
Turn off your radio in the following conditions:

- Turn off your radio prior to entering any area with a potentially hazardous or explosive atmosphere. Only radio types that are especially qualified should be used in such areas as “Intrinsically Safe”. Note: the areas with

potentially explosive atmosphere referred to above include blasting caps, blasting areas, inflammable gas, dust particles, metallic powders, grain powders, fueling areas
such as below decks on boats, fuel or chemical transfer or storage facilities, areas where the air contains chemicals or particles (such as grain, dust or metal powders) and any other area where you would normally be advised to turn off your vehicle engine. Areas with potentially explosive atmospheres are often – but not always posted.

Use of Communication Devices While Driving



• Always check the laws and regulations on the use of radios in the areas where you drive. Use of Communication Devices, for example, mobile radio, may not be allowed.
• Give full attention to driving and to the road.
• Use hands-free operation, if available.
• Pull off the road and park before making or answering a call, if driving conditions or regulations so require.
• Do not place a portable radio in the area over an air bag or in the airbag deployment area.
The radio may be propelled with great force and cause serious injury to occupants of the vehicle when the airbag inflates.

Protect your hearing

• Use the lowest volume necessary to do your job. Turn up the volume only if you are in noisy surroundings.
• Limit the amount of time you use headsets or earpieces at high volume.
• When using the radio without a headset or earpiece, do not place the radio's speaker directly against your ear.
• Use carefully with the earphone maybe possible excessive sound pressure from earphones and headphones can cause hearing loss.
CAUTION: Exposure to loud noises from any source for extended periods of time may temporarily or permanently affect your hearing.
The louder the radio's volume, the less time is required before your hearing could be affected.
Hearing damage from loud noise is sometimes undetectable at first and can have a cumulative effect.

Batteries Safety

• WARNING: KEEP NEW OR OLD USED BATTERIES OUT OF REACH OF CHILDREN.
• In the event of a battery leaking, do not allow the liquid to come into contact with the skin or eyes. If contact has been made, wash the affected area with copious amounts of water and seek medical advice immediately.

potentially explosive atmosphere referred to above include blasting caps,
• If a radio or a battery has been submerged in water, please dry and clean it before use. Do not dry the radio or battery with an appliance or heat source, such as a hair dryer or microwave oven. If the radio has been submersed in a corrosive substance (e.g. saltwater), rinse the radio and battery in fresh water, then dry them.
Since batteries are sensitive to high temperatures when storing them, keep them in a cool and dry place. The recommended temperature should be between +10 ℃and +25℃and never exceed +30℃. Batteries should therefore not be stored next to radiators or boilers nor in direct sunlight. Extremes of humidity (below 35% and above 95% relative humidity for sustained periods should be avoided since they are detrimental to both batteries and packing. Although the storage life of batteries at room temperature is good, storage is improved at lower temperatures provided special precautions are taken. Also, accelerated warming is harmful.
Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas;
A battery subjected to extremely low air pressure may result in an explosion or the leakage of flammable liquid or gas.
• The plug of the adapter is considered a disconnect device. The socket-outlet shall be installed near the equipment and shall be easily accessible.

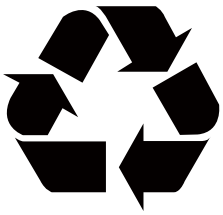
Authorized Accessories List

• Contact Retevis for assistance regarding repairs and service.
• For a list of Retevis-approved accessories for your radio model, visit the website: http://www.Retevis.com

Guarantee

Model Number: _____
Serial Number: _____
Purchasing Date: _____
Dealer: _____ Telephone: _____
User's Name: _____ Telephone: _____
Country: _____ Address: _____
Post Code: _____ Email: _____

Remarks:
1.This guarantee card should be kept by the user, no replacement if lost.
2.Most new products carry a two-year manufacturer's warranty from the date of purchase.
3.The user can get warranty and after-sales service as below:
● Contact the seller where you buy.
● Products Repaired by Our Local Repair Center
4.For warranty service, you will need to provide a receipt proof of purchase from the actual seller for verification
Exclusions from Warranty Coverage:
1.To any product damaged by accident.
2.In the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs.
3.If the serial number has been altered, defaced, or removed.



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Made in China

说明书要求

尺寸：90*130mm

印刷：单色印刷

装订：骑马订

纸张材质：双胶纸

本页无需印刷