



HT APP

Operating Instructions

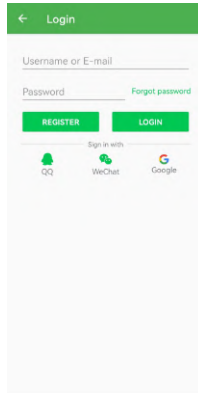
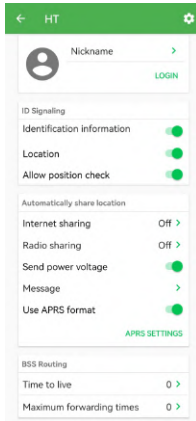
APP Operation

1,Download the APP

For Android users, please go to Googleplay  to search for HT  to download the APP

For IOS users, please go to Appstore  to search for HT  to download the APP

2,User login



User registration: Click on the avatar to register the user, enter the registration page to modify user information, signaling settings and change the avatar.

2.1. Nickname: Nickname is used for radio and network channel, please fill in your name or callsign (support Chinese, English and numbers), if you have obtained a legal call sign, please fill in the call sign.

2.2. Id signaling: This system uses self-developed signaling (BSS signaling system). If the APRS format is not enabled, the radio and network channel will use the BSS signaling system. Set the identity-related information sent by this device. When sending, the current channel must open the signaling function at the same time, and the relevant information of the radio will be attached after each transmission. If the signaling function is not enabled on the current channel, the recipient will not be able to see your device information.

Identification information – When ON is active, others will receive your radio equipment identification information.

Location ----- When ON is active, others will receive your real-time location, and the

location sharing function of the mobile phone must be turned on to take effect.
Allow checking ---- When ON is active, others will automatically find your location information without your confirmation.

2.3. Automatic location sharing: (through the BSS protocol, the APRS protocol will be used after APRS is enabled).

Network share location --- When ON is active, the radio will send real-time location information to the network channel according to the set interval.

Radio sharing --- When ON is active, the radio will send real-time location information to the selected radio channel according to the set interval.

Interval time-----Please set the interval time for automatic location sharing according to your needs. The time cannot be set too short, otherwise when multiple users use it at the same time, the channel will be occupied by data transmission for a long time, affecting communication.

Send power voltage --- When ON is active, others will know your phone battery level.

Attached message column ----- The information filled in here will be sent with the location information.


2.4. Use APRS format --- When ON is active,, automatically jump to the APRS setting page for related settings. (For APRS knowledge, please refer to related articles)

BSS routing (acting on BSS protocol radio sending and receiving text messages and location sharing functions)

2.5. TTL (time to live): It is the parameter of the device as the sender, which sets the maximum number of times the data sent by the device can be forwarded.

2.6. The maximum number of forwarding times: it is the number of forwarding times allowed as a router. Assuming that the maximum number of forwarding times of the router is set to 5 times, the received packet has been forwarded less than 5 times, the router will forward it automatically. When the received data packet has been forwarded more than 5 times, it will stop forwarding because it exceeds the maximum number of forwarding times set by this router. But if there are other routers that allow forwarding, it will continue forwarding through other routers.

3, Connect the Radio

3.1, installed APP, enter the main page click ☰ to open the main Menu, Click  to switch device interface and main menu, Swipe left to collapse the menu.

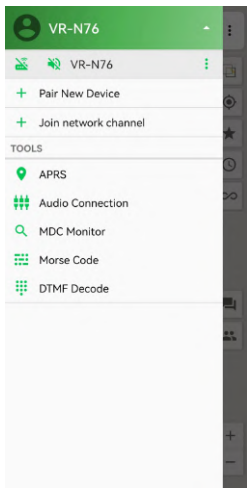


Figure (1-1)

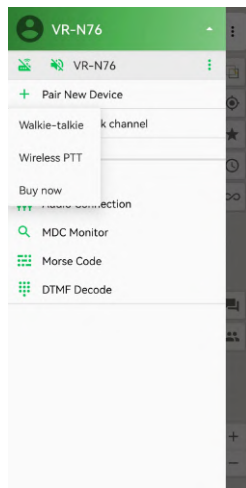


Figure (1-2)

3.2,Click "Bind new device", (as shown in Figure 1-2) pop up (walkie talkie, wireless PTT) to select the device you want to bind, after confirmation, the system prompts to turn on the Bluetooth function and click "Allow" to pair the device, some mobile phones do not "Allow" pairing prompt will pop up, please pull the phone from the top down to the mobile phone system notification bar, open the "Allow" pairing prompt and allow it.

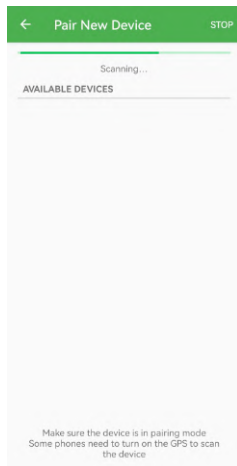


Figure (2-1)

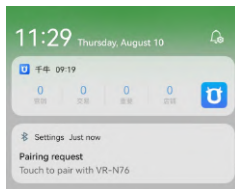


Figure (2-2)

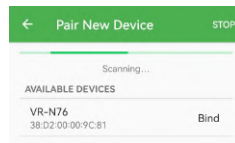


Figure (2-3)

The APP searches for the walkie-talkie device. Please open the pairing function on the walkie-talkie panel. If the corresponding device has not been found for a long time, please check whether the walkie-talkie is connected to other devices. After searching for available devices, click "Bind" (as shown in Figure 2-3) to start binding devices.

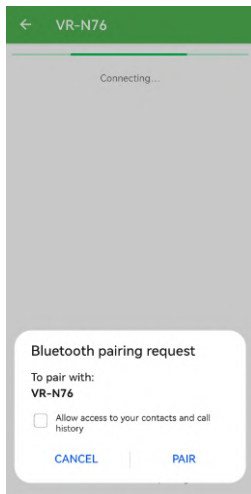


Figure (3-1)

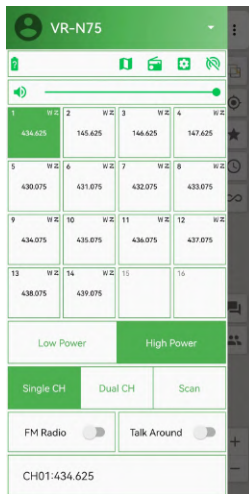



Figure (3-2)

3.3, The system prompts whether to pair with the searched radio (as shown in Figure 3-1), click "Pair" to complete the pairing. After the pairing is completed, it will automatically jump to the interface of the bound device (as shown in Figure 3-2) to operate the device wirelessly, and the device can be renamed to facilitate the management of multiple devices.
(If Figure 3-2 does not appear, please turn off the simple mode in the setting menu)

Main Menu Operation

4.1, The device model appears after connecting, click  You can customize the device name, click the device name to enter the device function setting interface.

4.2, The list shows the network channel names that have been joined.

4.3,, Binding new devices, this system can add multiple devices for switching.

4.4, Join the network channel:

4.4.1. Find the established network channel by searching related words. If you want to join, please obtain the password from the channel administrator. If the channel does not have a password, click to join directly.



4.4.2. Create a new network channel: users can create a new

network channel by themselves

(1. Channel name; 2. Set password; 3. Select the voice quality of this channel, the higher the bit rate, the better the voice effect).



Figure (4-1)

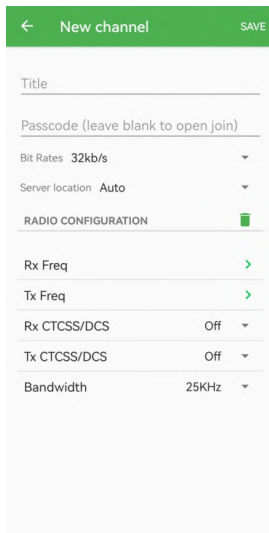


Figure (4-2)

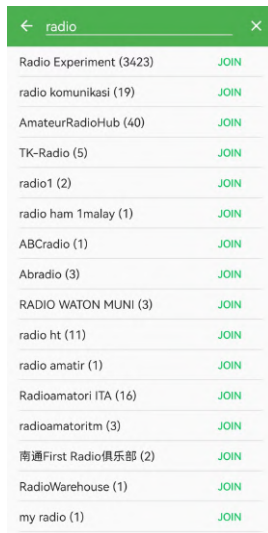


Figure (4-3)



4.5. Tools

4.5.1. APRS---automatic position reporting, message sending and receiving. To use this function, you must obtain a legal call sign and a station license before you can use it.

(For APRS knowledge, please refer to related articles)

APRS switch: switch APRS function.

Clear: Click to clear the history.

Search: Enter a keyword to find relevant information in the history.

APRS setting: Open the APRS setting page <Figure 17> to set.

Message: Click to enter the sending and receiving of text messages and view the history.

Map: Enter <Figure 18> location report map.

4.5.2. For audio connection, please read "A-1 APRS Cable Instructions"

4.5.3. MDC monitor --- will monitor the audio and decode the MDC information (this function is only for learning).

4.5.4. Morse code ---- automatically record Morse code for copying practice.

4.5.5. DTMF decoding ---- will monitor the audio and decode the DTMF information (this function is only for learning).

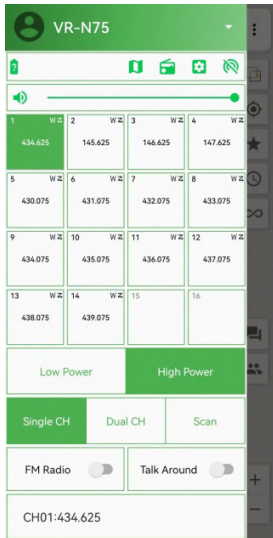
Device control interface

5.1. volume control, adjustment range (wireless hand microphone, wireless earphone, built-in speaker).

5.2. The area indicated by the red box in (Figure: 6) displays the list of channels currently used by the bound device. Select this channel to switch to it.

5.3.Output Power: Transmitting power of the current channel, switching between high and low power.

5.4. Single CH: only monitor the currently selected channel.



(Figure: 6)

5.5. Dual CH: dual-channel monitoring, the cursor points to the channel as the main control channel (transmitting only works on the main control channel), move the cursor to switch. The main control channel is triggered by the received signal to automatically move the cursor to switch between the two pairs of guard channels. It can be switched manually in idle state. Turn on the dual watch, and automatically block the radio function.

5.6. Scanning: On, the channels that have been allowed to scan in the channel list will enter the scanning state.

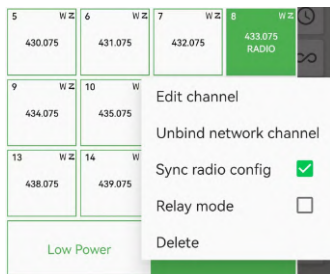
5.7.FM Radio: Turn on the radio function, the device will automatically turn off the radio function when the call is busy, and automatically turn on the radio when it is idle. Click the radio icon to enter the radio operation interface.

5.8. Talk Around : switch between talk around frequency and repeater frequency state

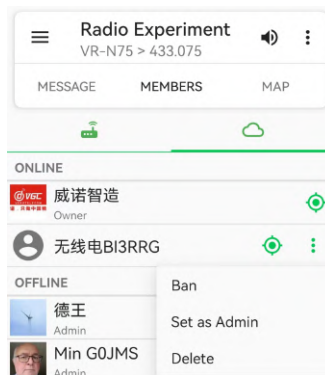
(details in the edit channel section).

5.9. Power: Turn on or off the power of the currently bound device. (This function is only applicable to the mobile radio)

Radio and Network Channel



(Figure: 7-1)



(Figure: 7-2)

6.1. Binding of radio channel and network channel: (Figure: 7-1) Long press the channel box to pop up a submenu to select the network channel to be bound, after the binding is

completed.

6.2. Dual-mode use of radio and network channel: (the analog channel must be bound with the network channel)

When using the mobile radio, only the wired microphone can be used for dual-mode transceiver.

When using the handheld radio, press the PTT on the handheld radio can be used for analog and network dual-mode.

Note The wireless microphone only works for radio transceiver. Only the radio channel interface can be used for dual-mode when using the APP, and only the network channel is effective when operating on the network channel interface.

6.3. The radio prohibits the transmission function. When the dual mode of radio and network intercom is used, the radio transmission function can be turned off as needed. At this time, press the PTT transmission button, and the walkie-talkie will only conduct intercom through the selected network channel. When the network signal is poor or disconnected, press PTT at this time, and the handset will emit a warning tone, indicating that the network intercom cannot be performed.

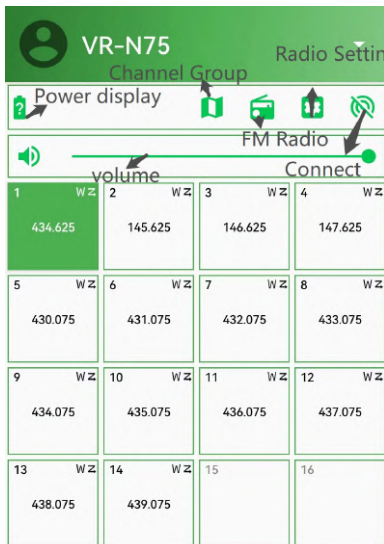
6.4. Repeater mode: cross band between radio and network intercom, press (step 1) to bind

the analog channel to the network, return to the channel interface and long press the channel box to pop up a submenu to select the open (relay mode) function, At this time, the cross band function can be realized. To enable relay mode, the bound network channel must be the owner of the network channel creator (director) or authorized administrator to have permission.

6.5. (Figure: 7-2) The network channel creator (director) can authorize administrators to mute and delete team members.

6.6. Remotely control the frequency of the local walkie-talkie: 2 Android phones are required to realize this function. The remote-controlled mobile phone must be the creator of the network channel. The local walkie-talkie and the mobile phone are bound to each other and enter the network channel created by the remote phone. Synchronize radio configuration needs to be checked , (Figure: 7-1) so that the remote creator only needs to modify the frequency of this network channel, and the frequency of the local walkie-talkie will change accordingly. (Figure: 4-2)

Device Settings



(Unconnected devices cannot display the channel setting interface)

7.1. Power: Display the current power of the device.

7.2. Region: regional management of channels.

1. Select an area; 2. Import the current device channel to the APP for management.

7.3. Radio: Enter the radio operation interface.

7.4. Connection: Disconnect the device from the APP.

8. Setting: Enter <Figure 9-1> device setting page.

8.4. Wired microphone speaker: Hand microphone speaker working mode.

Automatic mode - when the device speaker is turned off after connecting with the

walkie-talkie or the automatic mode is selected, the sound will be played by the hand microphone;

ON - turn on the hand microphone speaker;

OFF - turn off the hand microphone speaker

8.5. Click (Figure 9-1) "General Settings" to enter the general setting interface of the walkie-talkie device (Figure 9-2).

8.6. Automatic location sharing: You can choose any channel to send location reports

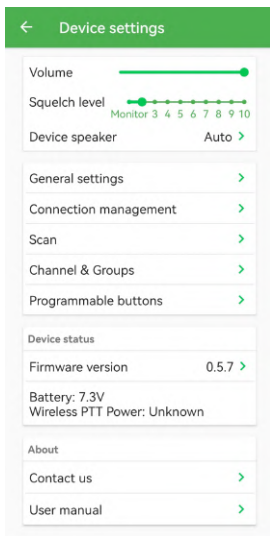
8.7. Sending time limit: set the device sending time limit.

8.8. Send hold: when the relay is connected, the delay time for the end of the transmission.

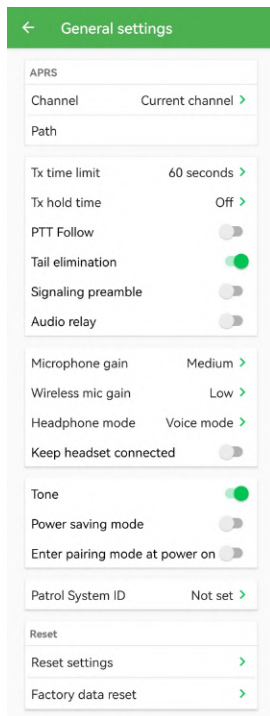
8.9. PTT follow: 1. When it is turned off, it is the designated channel to transmit; 2. When it is turned on, it is to scan and activate the channel to transmit.

8.10. Tail elimination: On, automatically eliminates the noise after transmission.

8.11. Audio relay: on, replay and transmit the received voice (the longest recording time is about 30 seconds).



(Figure 9-1)



(Figure 9-2)

(Note: If you use the mobile phone APP to make a voice call, the main interface will display that the voice channel is connected. You need to choose to close the voice channel in the sub-menu in the upper right corner of the main interface, so that the voice echo relay can work.)

8.12. Microphone gain: Adjust the input gain of wired handset microphone.

8.13. Wireless microphone gain: Adjust the input gain of the wireless microphone

8.14. Headphone mode: the access method of the car phone system (voice mode/telephone mode).

8.15. Keep the headset connected: select the continuous connection and trigger connection of the headset.

(When keep connected is selected, the headset will always be connected to the radio station, and the headset will not receive voices from other devices; when the headset needs multiple connections, for example: to listen to songs, answer calls, listen to navigation, etc., you can choose to close this function, the radio station will quickly connect to the earphone after receiving the signal. At this time, if the earphone is occupied by other devices, the earphone will receive the radio signal. When the earphone is idle, the sound from other devices can be received. The mute function will not work).

8.16. Prompt sound: Turn on or off the prompt sound for device panel operation.


8.17. Power-saving mode: After it is turned on, the display and indicator lights will go out after 60 seconds of no operation, and press any key on the panel to wake it up.

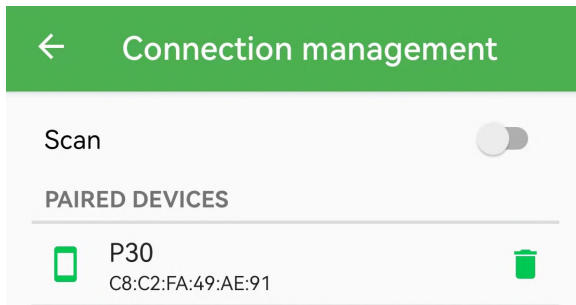
8.18. Automatic power-on: After it is turned on, the device is powered on and turned on, and there is no need to press the power button to turn it on every time it is powered on.

8.19. Automatic shutdown: The radio will automatically shut down if there is no transmission operation within the selected corresponding time. If you need to turn it on, please press the power button or power off and restart.

8.20. Reset: restore the default settings --- click to confirm, and the function settings of the radio will be restored to the factory state.

Restore factory settings --- After clicking Confirm, the radio settings and channel information will be restored to the factory state. It is recommended to save the useful radio channel area with the sharing function before using this function, and then import it to the APP again when needed. When the APP needs to be uninstalled and reinstalled, it is recommended to use the sharing function to save the channel area.

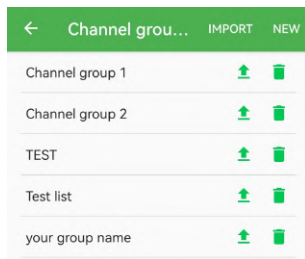
8.21. Click "Connection Management" in (Figure: 9-1) to enter the connection management interface (Figure: 10). The list of paired external devices saved in the device is displayed on the connection management interface, and the corresponding device can be deleted by clicking  .



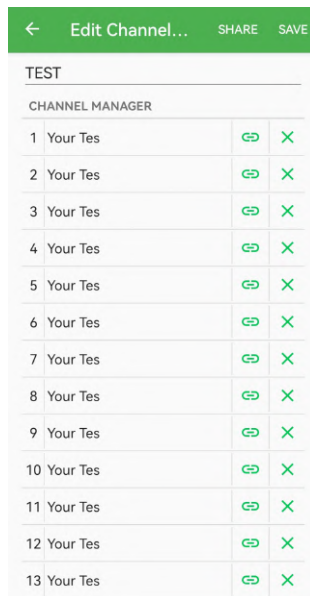
(Figure: 10)

8.22, Scanning: Turn on or off the device pairing function.

Channel and Channel Group Management



(Figure: 11-1)



(Figure: 11-1)

9.1, Click (Figure: 9-1) channel and channel group to enter the channel group management interface (Figure: 12-1). The storage group list is displayed in the channel group management, and the name can be customized. Click the "Import" button to import the area information stored in the device into the APP; you can also click "New" to create a new area. Each channel group stores 16 channels.

9.2, Channel group sharing: The 16 channels in the current group will be shared or saved in text form at the same time, which is different from channel sharing.

9.3. Click the group list in the channel group management to enter the edit group interface (Figure: 11-2), click the corresponding channel in the channel management list of this interface to edit the channel (Figure: 12)

← Edit cha... DELETE SHARE ⋮

Title

Your Tes

Rx Freq

FM 409.800 MHz >

Tx Freq

FM 409.800 MHz >

Rx CTCSS/DCS

Off ▾

Tx CTCSS/DCS

88.5Hz ▾

Tx Power

Low ▾

Bandwidth

25KHz ▾

Disable TX

☐

Mute

☐

Talk Around

☐

Allow scan

☐

Pre/De-emphasis

☒

(Figure: 12)

Title: You can name the channel.

TX/RX frequency: Click to edit transmit and receive frequency.

TX/RX sub-tone: the use of transmitting and receiving sub-tone

Output Power: Power selection for channel presets.

Bandwidth: Select the channel bandwidth to affect the volume of voice modulation. The default selection is 25KHz.

Disable TX: Turn on or off the radio prohibition function. When the dual mode of radio and network intercom is used, you can choose to turn off the radio transmission function and only use the network intercom function. When using the mobile radio, only the wired hand microphone (analog channel It needs to be bound with the network channel) to enable dual-mode transmission and reception, and the wireless handset microphone only works on radio transmission and reception. Using the APP intercom (the analog channel needs to be bound to the network channel) can only be dual-mode when operating on the radio channel interface, and only the network intercom is valid when operating on the network channel interface.

Mute: This channel is muted

Talk Around: whether to use talk around frequency for the default channel.

Repeater frequency---Turn off the Talk Around function, the current channel is set to the upper repeater frequency, the transmitting and receiving frequency and subtone will be different, forming a difference frequency.

Talk Around frequency---Turn on the Talk Around function, the current channel will only use the receiving frequency and subtone for transmitting and receiving, and no difference frequency will be formed.

8. Allow scanning: select whether the current channel is allowed to scan.

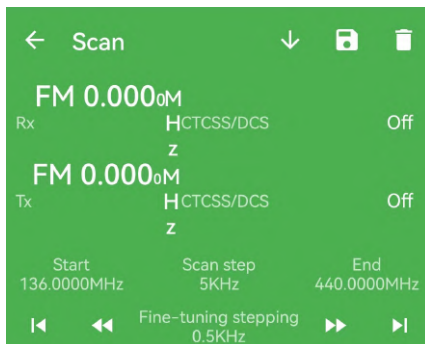
9. Pre/de-emphasis: Enable pre-emphasis and de-emphasis of voice modulation. In order to improve the signal-to-noise ratio of voice, the radio terminal equipment will use pre-/de-emphasis when sending and receiving.

10. Delete: delete the current channel.





11. Sharing: (single channel sharing) The current channel information will be shared or saved in text form through third-party software.

12. Save: After editing the current channel information, press the save button to save.

Frequency Scan



(Figure: 13)

Frequency scan: Click (Figure: 9-1) "Frequency Scan" to enter the frequency scan setting interface (Figure: 13). Click in the interface  to synchronize the receiving frequency to the transmitting frequency, and the sending operation can be performed. Set the start frequency, scan step frequency and end frequency; click the icon  to scan upwards with fine-tuning steps; click the icon  to scan quickly with the scan step frequency; click the icon  to save the scan frequency to the channel. For the scanning results, sub-audio, emission, deletion and renaming can be set.

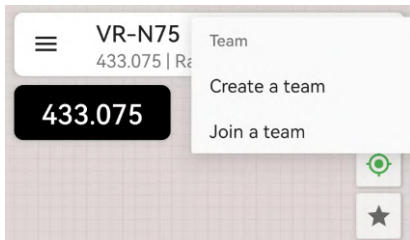
Device Status:

Firmware Version-----Displays the current firmware version.

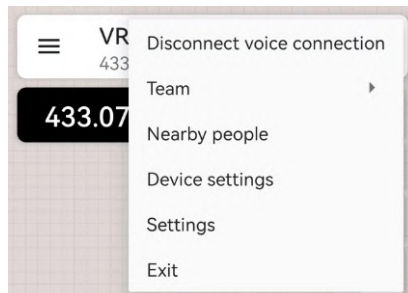
Battery Voltage ----- Displays the current voltage of the device.

Wireless PTT Power --- Display the connected wireless PTT power.

Sub Menu



(Figure: 14-1)



(Figure: 14-2)

1. Establish voice connection: When connected to a wireless microphone/wireless headset and press the send button, the APP will automatically switch to the data connection and only record data. When you want to use the mobile phone to make a voice call, press the voice send button, and the APP will automatically Establish a voice connection (after the APP establishes a voice connection, the voice relay function will not be available).

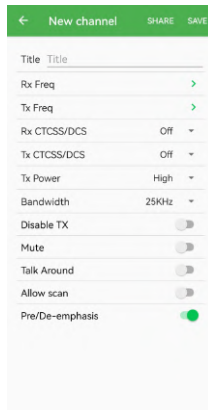
2. Click the icon in the main interface of the APP to pop up the submenu (Figure: 14-1), click "Team Formation" to pop up the team menu (Figure: 14-2) to start forming a team; if you need to create a new team, click "Create Team" to enter Select the channel interface (Figure: 13-3) to select the corresponding team building channel, and the device will broadcast team formation through radio and wait for team members to join. Or click to create a new channel (Figure: 14-4). Click "Share" in the new channel interface to share team formation information with teammates through other third-party software; click "Save" to save the current team formation channel information to the storage list. The team channel of the created team will automatically replace the 16 channel of the device. After confirming joining the team, channel 16, which is also automatically replaced by the device, is the team channel.

3. Nearby people: APP will send a request command through the connected radio device. If there is the same device nearby and the same frequency receives the request command, it will check whether the channel is free within a random time of 10 seconds. If it is free, it will reply. If the channel has been busy within 10 seconds, the reply will be canceled due to timeout, so when using this function, you can send several requests to search for more nearby people.

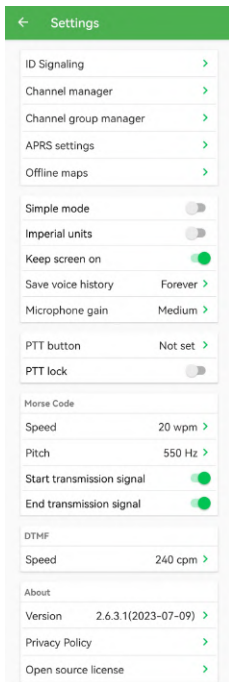
4. Save the voice record - choose whether to save the voice contact record.



(Figure: 14-3)



(Figure: 14-4)



APP Settings

1. ID Signaling:ID Setting

2,Channel management: channel editing under offline conditions.

3. Channel Group management: region editing in offline mode, after connecting the device, select the group to synchronize to the device.

4. APRS setting: (Figure 16) The APRS setting on this page will be used as a gateway, and the login information and location of this machine will be shared to the Internet after verification.

5. Offline map: The APP comes with a map system of Amap and Google Topographic Map. Users can download relevant map offline packages according to their needs, and the map can still be used offline. After entering the route navigation, the APP system will display all the navigation software

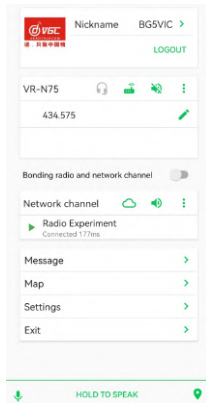
(Figure: 16)

installed in the device for users to choose according to their needs.

6,Simple Mode: as Figure: 17,if need show the 16 channel area as Figure 6,please Turn Off The Simple Mode.

5. Keep the screen always on: Turn on this function and the phone will not turn off the screen on the APP interface, which is convenient for operation.

6. Save voice records: choose whether to save voice communication records.



(Figure: 17)

7.PTT Button: Set the button to be used as PTT, only support wired buttons

8,PTT Lock: If this function is turned on, click the PTT, the device will start to enter the transmitting state, and the transmission will not stop until the next time you click the PTT. This function is more convenient for people who cannot keep pressing the PTT to talk

9,Speed ----- the number of words sent per minute;

10,pitch ----- adjust the tone frequency of the code.

9, Start/End Transmission Signal: When sending Morse code, add a start/End code.

APRS Setting

1. Login:

Call sign: (please fill in the legal call sign) - (suffix 0-15, please refer to the suffix setting table)

Password: Fill in the authentication password obtained through customer service

Get password --- click to enter the link to contact customer service and provide the login password for the radio license application.

Verification password---Enter the verification password for verification, and the APRS function can only be used if the verification is passed.

2. IGate gateway:

Server ----- You can choose the region to which the server belongs

Radio to Internet-----After it is turned on, the APRS signal received by the connected radio device that conforms to the protocol will be published to the Internet through the gateway of this radio

Internet to Radio-----When turned on, the APP will broadcast information from the Internet through the radio device connected to the APP according to the APRS protocol.

Receive messages via the Internet --- After opening, the APP will display and record the messages from the Internet. Turn off this function APP will

Do not receive messages from the Internet. However, it does not affect messages received by radio. (According to the APRS protocol message release function is enabled by default).

Receiving range-----Select the APRS receiving range displayed on the map and set it as needed. If it is too large, it will affect the refresh speed of the map.

3. Share location: (Figure 17)

Automatically share location through the Internet --- Turn it on, and the APP will send your real-time location information to the Internet according to the set interval.

Interval time-----Please set the interval time for automatic location sharing according to your needs. The time cannot be set too short, otherwise when multiple users use it at the same time, the channel will be occupied by data transmission for a long time, affecting

communication. Also due to frequent data uploads occupying the network bandwidth shared by the Internet.

Icon ----- Select the icon to easily distinguish the type of APRS device. The selected icon will be displayed on the APRS map.

Send power supply voltage --- On, others will receive the battery status of your device.

Send working frequency --- On, the current channel frequency will be sent when sending location information. (Valid for connecting to AP series products).

Attached message file ----- The information filled in here will be sent with the location information.

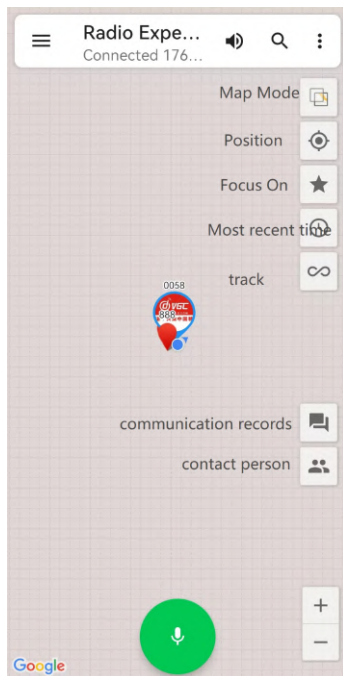
Preview ----- Displays the data that will be sent over the Internet.

4. Routing: (acting on messages and location sharing functions from radio and Internet conforming to the APRS protocol)

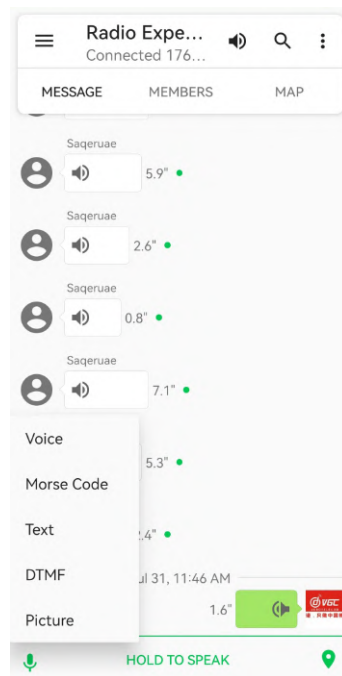
7. About:

1. Version ----- Display the current APP version number.

2. Open source license --- Instructions on some open source programs used internally by this APP software.



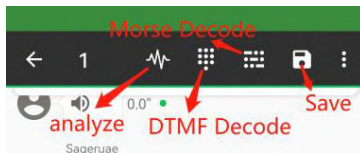
(Figure: 19-1)



(Figure: 19-2)

1. Communication function:

1. The voice message will be processed as a recording file. Click the message interface <Figure 19-2>, long press the voice message to pop up the function menu <Figure 20>, and select the function to operate. Long press the "press and hold to talk" button to automatically switch to the voice communication mode. If you need to monitor directly with your mobile phone, please press the speaker icon in the upper right corner of the APP to turn on the mobile phone speaker.



(Figure: 20)

2. Location information sending and receiving: When the location information is received, it will be directly decoded into a location marker, and the software will automatically jump to the map interface for viewing when the location marker is clicked. Location sharing: Click the location sharing icon to automatically jump to the map interface, drag the icon to the designated location, and click the send button to complete the sending. If you want to send the real-time location, please check the location and press the send button directly to

complete the sending.

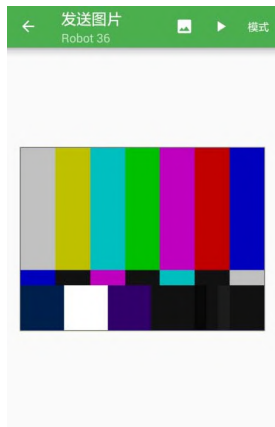
3. Morse code sending and receiving practice: Input messages (numbers, Chinese and English, symbols, emoticons) in the dialog box, and the APP will encode and send the input information content (encoding method UCS-2). The received information is saved as a voice file. If you need to decode, please press and hold the file to pop up the function menu <Figure 19-2> and select <Morse Decoding> to decode. After saving the decoded content, it will be superimposed and displayed on the received voice message in text form.

5. Sending and receiving of text information: When receiving text information data, it will be directly decoded and displayed in text form. Enter information directly in the input field (numbers, Chinese and English, symbols, emoticons) and press <Send button> to complete sending.

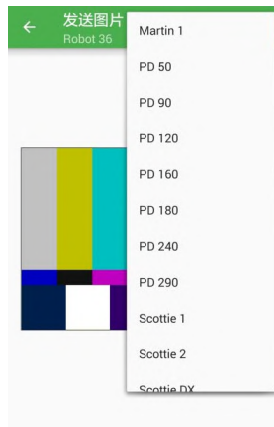
6. DTMF sending and receiving: When the received DTMF data is directly decoded, it will be superimposed and displayed on the received voice message in text form. Click directly on the DTMF keyboard to display confirmation in the input field, press <Send button> to complete the sending.

7. Picture sending and receiving: When the picture data is received, it will enter the picture receiving state, and the complete picture will be displayed after receiving the synchronous

decoding. The receiving time is determined by the format and definition used by the sender. Long press the picture to realize sharing and forwarding ,delete. Send pictures---Open the picture sending interface, select a photo or a photo in the album, you can adjust the sending area of the picture, and select the picture sending mode as needed. The clearer the picture, the longer it will take to send. For the picture format description, please refer to related articles.



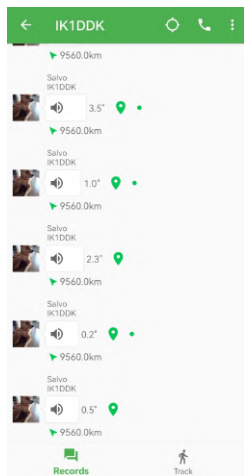
(Figure: 21-1)





(Figure: 21-2)

2. Communication records---The information sent and received will be recorded for viewing, and the "Save Voice Record" option must be turned on (Figure 15-1). When the amount of information is too large, please use the search function to enter keywords to search.

3. Contact --- All valid user names received will be recorded in chronological order. You can actively search for more users through the <People Nearby> function.



Click a contact to enter a single user operation, click the call icon  to send a ringing call to the user. When the other party receives the ringing command, the walkie-talkie and mobile phone will ring at the same time to remind the user to be called.

2. Click the location icon  to send a location request to the user. The other party receives the location request command (the user has enabled the permission check), automatically checks whether the current channel is free, and waits for the channel to be free to automatically reply to the current location information.

3. View the contact activity track on the map, and you can choose the track in different time periods.

4. Clear chat history.

4. Location report map: The data sent and received by APRS registered users conforms to the APRS protocol, and will be automatically sent and received through the gateway or broadcast by radio at the same time according to user configuration. The data sent and received by users who have not passed the APRS registration does not conform to the APRS protocol, and will only be sent and received by radio through the BSS protocol, and will not enter the Internet through the gateway and will not be decoded by the APRS radio receiving device.

1. Search for users: Enter the name of the user to be searched in the search bar. If the user exists, click the user's avatar on the map and the map will automatically follow the user as the center.

2. Map mode: map, satellite image, terrain.

3. Positioning: Click to automatically return to the current real-time position.

4. Follow: On, only users who have been marked by follow will be displayed on the map.

Functions for user operations:

- A. Send a message --- Send a message (Chinese and English, numbers, symbols) to the designated user.
- B. Navigation --- After entering the route navigation, the APP will display all the navigation software installed in the machine for users to choose according to their needs.
- C. Follow --- follow/cancel the selected user.
- D. Trajectory management --- support the trajectory import of multiple third-party map software.

