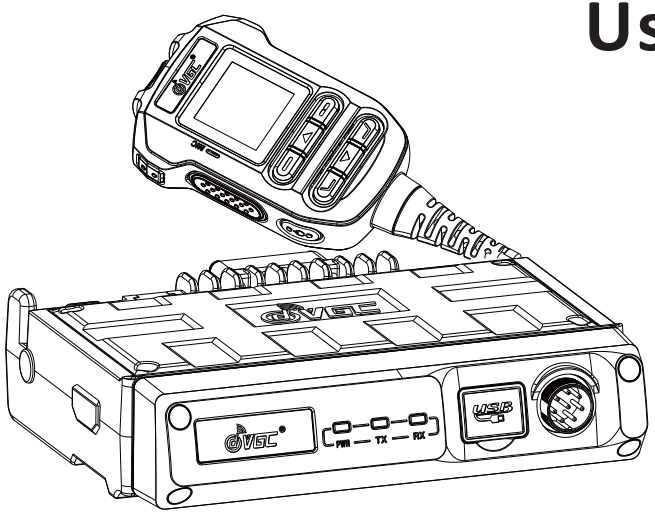
VR-N7600

User Manual



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INSTALLATION

This chapter describes the installation procedure for integrating the transceiver into a typical amateur radio station. it is presumed that you possess technical knowledge and conceptual understanding consistentwith your status as a licensed radio amateur, Please take some extratime to make certain that the important safety and technical requirements detailed in this chapter are followed closely.

PRELIMINARYINSPECTION

Inspect the transceiver visually immediately upon opening the packingcarton, Confrm that all controls and switches work freely, and inspect thecabinet for any damage, Gently shake the transceiver to verify that nointernal components have been shaken loose during shipping.If any evidence of damage is discovered, document it thoroughly andcontact the shipping company(or your local dealer, if the unit was purchased over-the-counter) so as to get instructions regarding theprompt resolution of the damage situation. Be certain to save the shipping carton, especially if there are any punctures or other evidence of damage incurred during shipping. lf it is necessary to return the unit forservice or replacement, use the oriainal packina materials. Then put theentire package inside another packing carton to preserve the evidence ofshipping damage for insurance purposes.

INSTALLATION TIPS

To ensure long life of the components, be certain to provide adequate ventilation around the cabinet of the transceiver.Do not install the transceiver on top of another heat-generating device(such as a power supply or amplifer) and in a location exposed to dustand/or high humidity, Avoid heating vents and window locations that could expose the transceiver to excessive direct sunlight, especially inhot climates, This transceiver should not be used in an environmentwhere the ambient temperature exceeds +140 °F(+60 °C)

⚠ This transceiver is designed for a 13.8 V power source. Never use a 24 V battery to power the transceiver.

⚠ The vehicle battery must have a nominal rating of 12 V. Neverconnect the transceiver to a 24 V battery. Be sure to use a 12 Vvehicle battery that has sufficient current capacity. If the current to the transceiver is insufficient the display may darken during transmission, or transmit output power may drop excessively.

⚠ If you use the transceiver for a long period when the vehicle battery is not fully charged, or when the engine is OFF, the battery maybecome discharged, and will not have sufficient reserves to start the vehicle. Avoid using the transceiver under these conditions.

⚠ Transmitting without first connecting an antenna or other matchedload will damage will transceiver. Always connect the antenna to the transceiver before applying power or transmitting.

This transceiver is an electrical apparatus, as well as a generator of High RF(Radio Frequency) energy.You should exercise all safety precautions that are appropriate for this type of device. These safety tips apply to any device installed in a well-designed amateur radio station.

⚠ Never allow unsupervised children to play in the vicinity of your transceiver or antenna installation.

⚠ Be certain to wrap any wire or cable splices thoroughly within sulating electrical tape, to prevent short circuits.

⚠ Do not route cables or wires through doorjambs or other locations where they may become frayed and shorted to groundor to each other.

⚠ Do not stand in front of a directional antenna while you are transmitting into that antenna.

⚠ Do not install a directional antenna in any location where humans or pets may walk in the main directional lobe of the antenna's radiation pattern.

⚠ In mobile installations, it is preferable to mount the antenna ontop of the vehicle, if feasible, this will utilize the car body as acounterpoise and raise the radiation pattern as far away from passengers as possible.

⚠ During mobile operation when stopped(in a parking lot, for example), make it a practice to switch to Low power if there are people walking nearby.

⚠ Never wear dual-earmuff headphones while driving a vehicle.Do not attempt to drive your vehicle while making a telephone or auto patch call.

⚠ While using the optional DTMF microphone. Pull over to the side of the road,whether dialing manually or using the auto-dial feature.

⚠ Do not connect the modular connector of the telephone line to MIC jack.

Warning!: High RF voltage is present in the TX RF section of thetransceiver while transmitting. Do not touch the TX RF sectionwhile transmitting.

UNPACKING

Notice:

All the above recommendations apply equally to various accessories of your VERO radio. If they do not function properly, please promptly contact an authorized dealer of our company. Please note that the safety and operability of the radio cannot be guaranteed when using accessories not manufactured or sold by our company.

Supplied Accessories

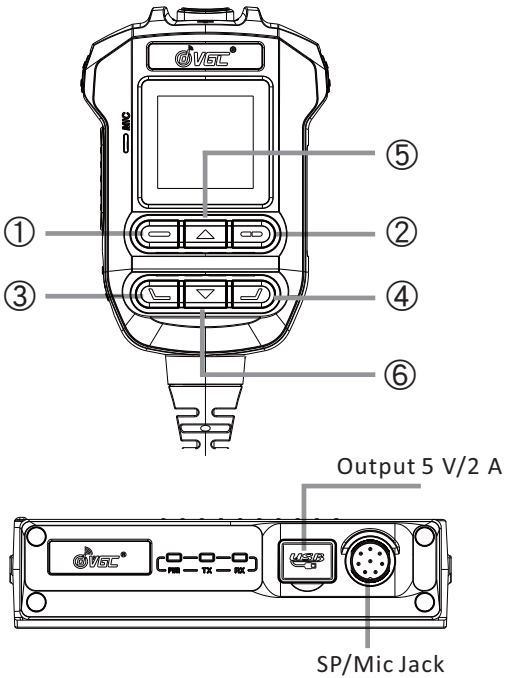
Carefully remove the radio from its packaging. Before discarding any packaging materials, please verify that all items listed in the following table are present. Should any components be missing or damaged during unpacking, please contact your authorized dealer immediately.

Standard Accessories

Mareria	**Qty**
Radio body	1
Speaker Microphone	1
DC Power Cable W/Fuse	1
Mounting Bracket	1
Screw&Spare Fuse	1
APP Operating Manual	1
Radio Operating Manual	1

Standard Accessories

Mareria	**Qty**
Wireless Speaker Microphone (BHM-79)	1
Wireless Speaker Microphone with LCD (BHM-88)	1
Wireless PTT (BS-PTT)	1
Speaker Microphone Extension Cable (5m)	1



Button Definition

① **Menu / Confirm Button**;

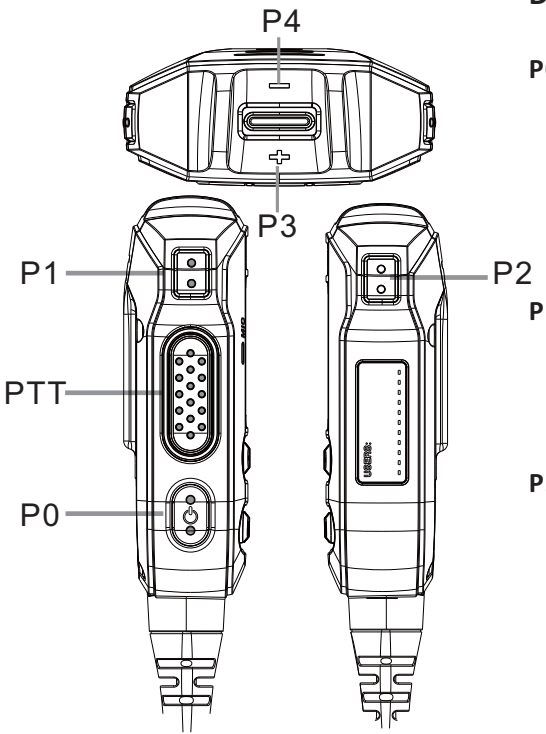
② **Standby Screen**, Switch display pages/Return to the previous menu;

③ **Short press**: Enter channel edit mode.
Long press: Switch groups
Double press: Toggle between VFO mode and Channel mode ;

④**Short press** (inside menu): Return to standby screen
Long press: Lock/unlock the keypad;

⑤**Up Button**: Scroll to the previous channel or decrease frequency;

⑥**Down Button**: Scroll to the next channel or increase frequency。



Default Programmable Key Functions

P0 Key (Non-programmable)
- **Single Press:** Voice announcement of the current channel
- **Double Press:** Enter Bluetooth pairing mode
- **Long Press:** Power on/off

P1 Key
- **Single Press:** Decrease volume
- **Double Press:** Toggle mute on/off
- **Long Press:** Switch between A/B channel

P2 Key
- **Single Press:** Increase volume
- **Double Press:** (No function)
- **Long Press:** Switch to talk around mode

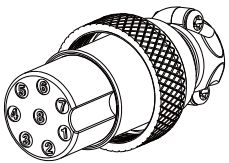
P3 Key

Single Press: Switch to the next channel
Double Press: (No function)
Long Press: (No function)

P4 Key

Single Press: Switch to the previous channel
Double Press: (No function)
Long Press: (No function)

Speaker Microphone Status Indicator



1:AF OUT 2:MIC-AN
3:MIC-AP 4:GND
5:+5V 6:RXD
7:TXD 8:RST

LED		
Status	Red	Green
Transmitting	On	
Receiving		On
Pair Mode	Red and green lights flash alternately	
Mute Status	Breathing green indicator	

Restore Factory Settings

To restore factory settings, press and hold P0 + P1 simultaneously.

⚠ Warning: This action will erase all user-stored data. Proceed with caution!

PROGRAMMABLE BUTTONS DESCRIPTION

Programmable Buttons, different shortcut operations can be realized through programming [P1] /[P2] /[P3] /[P4] key, this function can only be operated through APP.

Some button states will restrict each other, so after setting, please confirm that all functions are available

Disable	No function
Alarm	Broadcasts Alarm on preset frequency with local audio alarm
Alarm &Mute	Broadcasts alarm signal without speaker output
Mute Switch	Press assigned mute key (standby) to enable/disable mute.
Send Location	Press assigned location key (standby) for single APRS position report
Toggle Scan	Press assigned scan key (standby mode) to toggle
Toggle Dual CH	Switch between single watch and double watch status
Main Channel Swicth	Switch Main Band between A/B Band

Toggle Talk Around	Press assigned direct key (standby) to toggle simplex /repeater
Toggle radio tx enable	Press assigned radio tx enable (standby) to restrict/allow transmission
Transmit Power Switch	Press assigned power key (standby) to toggle output levels
Radio switch	Press assigned radio key (standby) to enable/disable
Toggle Monitor	Press assigned monitor key (standby) to toggle
Toggle VOX	Press assigned VOX key (standby) to activate/deactivate
Toggle KISS	Press assigned KISS key (standby) to activate/deactivate
Prev Channel	Press assigned previous key (standby) to revert channel
Next Channel	Press assigned next key (standby) to next channels

Prev Group	Press assigned group key (standby) to previous group
Next Group	Press assigned group key (standby) to next group
Volume -	Press assigned volume key (standby) to decrease volume
Volume +	Press assigned volume key (standby) to increase volume
T-CALL	Press assigned T-CALL key (standby) for 1750Hz burst
Main PTT	Press assigned PTT key (standby) for main channel operation
Sub PTT	Press assigned PTT key (standby) for sub channel operation
Pairing	Press assigned pairing key (standby) to initiate connection
Freq Sync Rapid Scan	Press assigned Freq Sync Rapid Scan (standby) for rapid frequency coordination

DOWNLOAD THE APP

1. For Android users, please go to Google play to search for **HT** to download the APP.

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

Radio Connect With The APP

2.1,**Method 1: Automatic Pairing**

1,Open the installed APP.

2,From the VR-N7600 main menu, select [Pairing].OR double click [P0] to enter Pairing mode.

3,When the message *"**Detected new device VR-N7600, do you want to link now?**"* appears, click **[Yes]**.

4,The APP will begin connecting to the radio.

5,A Bluetooth authorization dialog box will pop up (see Figure 1). Click [Pair] to confirm,Once connected successfully, the device will be ready for use.

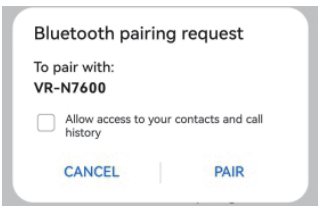
2.2Method 2: Manual Binding

1,Click “**Bind new device**” in the APP.

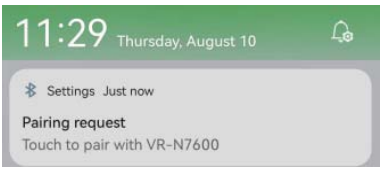
2,Ensure the radio is in Pairing Status (LED flashing).

3,A device selection menu will appear (e.g., walkie-talkie, wireless PTT). Choose the target device.

4,After confirmation, the system will prompt you to enable Bluetooth and click **[Allow]** to pair (see Figure 1).



(Figure 1)



(Figure 2)

Troubleshooting (No Pairing Prompt?)

If the [Allow] prompt does not appear:

Swipe down from the top of your phone screen to open the notification bar (see Figure 2).

Locate the pending Bluetooth pairing request and manually select [Allow].

2.2，Open The 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。

Other Peripheral Pairing Instructions

1. Auto Pairing

1.Ensure both the **radio** and **peripheral** are in pairing mode simultaneously.
2.The devices will automatically complete pairing.

2. APP-Assisted Pairing

1.Open the HT APP → Go to [Connection Management].
2.Tap [Scan] to:
View paired peripherals
Manage existing connections

Bluetooth Pairing Instructions	
Device Type	**How to Enter Pairing Mode**
VERO N Series Radios	Double-click [Pairing Key] OR select " Pairing" in radio menu
VERO Wireless Speaker Microphone	Double-press [Pair] button Or Double-press "Power" button
VERO Wireless PTT	Press and hold PTT button until red/green LEDs alternate flashing (≈5s)
Other Brand Accessories	Please refer to the corresponding device's user manual for operating instructions.

For more APP operations, please read the APP operation instructions. You can check the paper manual that comes with the product, or you can go directly to our website to download the electronic version and save it for review at any time. www.vero-china.cn

Bluetooth Pairing Instructions

To connect your radio using the programming app, follow these steps:
1. Do not pair your radio directly through your phone's Bluetooth settings.
2. Always pair your radio directly through the programming app on your phone.

If you encounter pairing issues:

- **After a Factory Reset:** A factory reset changes the Bluetooth identiffer of your device, so you'll need to remove the old connection on your phone and re-pair.
- **On iOS:** Go to your Bluetooth settings, find the device name, tap the (I), and select "Forget This Device." Then re-pair through the programming app.
- **On Android:** Follow a similar process by removing the old Bluetooth connection and re-pairing through the app.
- Delete old Bluetooth connections or reset your phone's network settings if necessary.

RADIO OPERATING

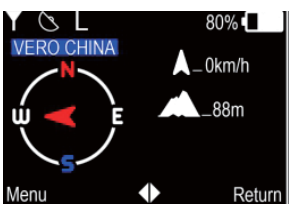
1.1 Power On/Off

Power On: While the radio is off, press and hold the microphone **P0 key** for 3 seconds until the screen displays the device model with a startup tone, indicating successful activation.

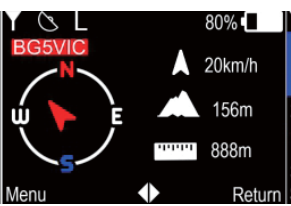
Power Off: While the radio is operational, press and hold the microphone **P0 key** for 3 seconds until the screen displays "Power Off" and the device shuts down.

1.2 Standby Interface Toggle

In standby mode, short press the [ ] key to cycle through the following three display interfaces:



(Figure 3)



(Figure 4)

(Figure 5)

First Interface: User Information Display
Shows owner registration details and device status

Second Interface: Communication Log Display
Displays recent callers' locations and real-time distance

Third Interface: Message Notification Display
Shows the 30 most recently received text messages with location data
(Note: This interface stores temporary data, which is automatically cleared after power-off)

Operation Guide:

Each short press of the [] key sequentially switches to the next interface.
Interface toggling follows a cyclic pattern:
First → Second → Third → First...
In any secondary screen interface, press the [] button to directly return to the standby screen.
(Note: Continuous presses will loop through all available display modes.)

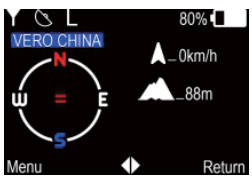
1.3 Electronic Compass Calibration

① Sensor Prompt Icon "="

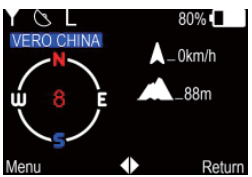
When the "=" icon appears in the center of the electronic compass, it indicates the device is affected by external interference. Follow the on-screen instructions to complete calibration:

- Enter the [Compass] menu
- Place the device horizontally (screen facing up)
- Press the [OK] key in the upper-left corner of the keypad to confirm

(Note: Keep away from magnetic interference sources during calibration.)



(Figure 6)



(Figure 7)

(Figure 8)

② Sensor Prompt Icon "∞"

When the "∞" icon appears in the center of the electronic compass, it indicates the device is affected by external interference. Follow these steps:

- Enter the [Compass] menu
- Follow the on-screen prompt: "Rotate the device in an ∞-shaped pattern for sensor calibration"
- Hold the microphone straight forward
- Quickly and firmly trace an ∞-shaped pattern (like the "∞" symbol)
- Recommended: Complete 1-8 full motions within ~2 seconds

Special Conditions

- **Strong Magnetic Interference:**
  - If icons appear briefly when near strong magnets but disappear after moving away, no calibration is needed.
  - If the compass responds sluggishly during use, immediately enter the [Compass Calibration] menu for sensor recalibration.

Precautions

- Before calibration, keep away from the following interference sources:
  - Permanent magnets
  - Electronic devices
  - Metal-containing structures

(This calibration corrects temporary deviations caused by ambient magnetic interference.)

1.4 Main/Sub Channel Switching

In standby mode, press and hold the P1 key (programmable) to toggle between Main/Sub channels. The currently active channel (primary channel) is displayed in large font on the screen.

1.5 VFO/Channel Mode Toggle

In standby mode, double-press the [] key to switch between VFO mode and channel mode.

1.6 Group Selection

In standby mode, press and hold the [] key to enter the group selection menu.

1.7 Channel Editing Instructions

Operation Steps:

1,Enter Edit Mode

- Press the [ ] key once to enter editing mode.

2,Channel Selection

- Use the [Up/Down Arrow keys] to browse the channel list.
- Press the [Toggle key] to switch between Group A/B channels.

3,Channel Editing

- Select a channel and press the [Edit key] to enter edit mode.
- Use the [Up/Down Arrow keys] to modify the current digit.
- Press the [Next Digit key] to move to the next digit for editing.
- After completing edits for the current item, press the [Next Item key] to proceed to other parameters.

4,Save & Exit

- Press the [Exit key] to save changes and exit.

1.8 Frequency Storage

In VFO mode:

1,Edit the desired frequency (e.g., 438.500) using the keypad.
2,Press the [Exit] key to confirm.
3,Select "Save to Channel" from the menu.
4,Choose an empty channel to store the frequency.

1.9 Storing Frequency with Tone

In VFO mode:

1,Edit the desired frequency (e.g., 438.500) using the keypad.
2,Press the [Exit] key to confirm.

3,Open the Settings Menu → Navigate to "TX Tone/RX Tone".
4,Select the required tone frequency → Press [Confirm] to exit.
5,Select "Save to Channel" from the menu.
6,Choose an empty channel to store the frequency with tone.

1.10 Storing Frequency with Offset

In VFO mode:

1,Edit the desired frequency (e.g., 438.500) via the keypad → Press [Exit] to confirm.
2,Open Settings Menu → Select "Frequency Offset".
3,Choose offset mode:
Auto + (+5MHz)
Auto - (-600Hz)
Custom (manual input,User-defined shift (0.1-99.9MHz adjustable))
4,Press [Exit] to save offset settings.
5,Select "Save to Channel" → Choose an empty channel for storage.

1.11 Freq Sync Rapid Scan

1,Enter Sync Mode
•Select [Freq Sync Rapid Scan] from the function menu

- System automatically initiates frequency scan

2,Sync Process

- Transmitter begins automatic signal emission
- Screen displays dynamic frequency scan (flashing frequency values)

3,Sync Completion

- When frequency stops flashing:
- Screen locks onto detected frequency
- Simultaneously displays matched tone parameters

4,Save Settings

- Option to save scan results to any designated channel
- Press [Confirm] to complete storage

Status Indicators:
Flashing Frequency → Scanning in progress
Steady Frequency Display → Synchronization completed

Note:
Keep the transmitter at an appropriate distance during synchronization.
Close proximity may cause frequency measurement inaccuracies.

1.12 Wireless Batch Programming

Procedure:

1,Receiver Setup

- Power on all target radios sequentially
- Set menu to [Receive channel] mode

2,Transmitter Setup

- Power on the pre-programmed master radio
- Set menu to [Send channel] mode

3,Programming Process

- Automatic data transmission initiates
- Each radio displays "Complete" when its frequency list is successfully copied

4,Completion Indicators:

- All target radios show completion status
- Copied frequency lists fully overwrite existing configurations

Important Notes:

- Ensure all devices are within effective communication range during operation.
- Do not power off any device during the copying process.
- Recommended to perform in environments with minimal electromagnetic interference.

1.13 HT App Batch Frequency Editing Guide

HT App supports CSV import/export for frequency tables, enabling bulk editing and sharing across all N-Series devices.

Operation Steps

1,Connect Device

- Open HT App and connect your radio.

2,Export Frequency Table

- Go to "Channel & Group Management" → Tap [Import] → Select [Import from Device].
- Name the new group and save. When prompted "Sync to Device?", choose No.

3,Sync to Device

- Locate the new group in the channel list → Tap the upload icon to sync it to the corresponding device group.

4,CSV File Editing

- Export the CSV file to a computer, edit, and save it back to your phone.
- Tap [Import] → Select [File] → Browse and choose the edited file.
- Save to the target group and upload to the corresponding device group.

CSV File Specification

Field	Format Requirement	Example
Tx/Rx Freq	9-digit number (pad with leading zeros)	438500000
CTCSS Freq	CTCSS Value X 100	88.5 Hz → 8850
DCS Freq	Direct code entry	D047N → 47
Modulation Mode	Default FM=0	AM=1,FM=0
Output Power	H=High ,M=Middle ,L=Low	H/M/L
Bandwidth	Narrow Band=12500	12500
Scan	1=Scan On / 0=Scan Off	1/0

Advantages

- **Efficient Batch Editing:** Manage frequencies directly via the App without external tools.
- **Easy Sharing:** Export CSV files to social media or local communities.
- **Cross-group Compatibility:** Quickly distribute frequency tables for different groups.

1.14 Group/Channel Sharing Feature (Android Only)

This function allows users to instantly share custom groups and channel configurations via a generated code, eliminating manual setup.

Step 1: Generate Share Code

- Navigate to "Zone Management" in HT App.
- Select the target zone → Tap "Share".
- The app generates a shareable string (copy or send directly).

Step 2: Import Shared Group

- Recipient opens HT App and pastes the string.
- Edits the group name (optional) if prompted.
- Clicks "Save" to import all channels with full configurations (tones, power, etc.).

Requirements:

- Both parties must use the same HT App version.
- Shared strings include all parameters (channels, CTCSS/DCS, power settings).

1.15 FM Radio

Activate Radio

- Navigate to [Radio] in the menu → FM radio automatically powers on.

Frequency Scan

- Press [Up/Down Arrow] to auto-scan for available stations.
- Auto-lock & play when a valid frequency is detected.

Deactivate Radio

- Select [Radio] in the menu → Tap "Power Off" to disable.

1.16 Signaling Configuration

1. Access Signaling Settings
   - Open [General Settings] → Select [Signaling Settings].
2. Set Device ID
   - Enter a custom ID (alphanumeric recommended for identification).

Transmission Modes:

BSS Mode: Displays the set ID in sent messages.

APRS Mode: Displays the verified callsign in sent messages.

3. Feature Configuration
   - **Send ID:** Enable to broadcast your ID to other devices.
   - **GPS:** Enable to share your real-time position.

- **Allow Check:** Lets others query your location without manual approval.
- **Preamble:** Add a pre-tone to optimize signal clarity.

Important Notes

ID Settings must comply with device specifications. Special characters may fail to transmit.
Location Sharing requires stable GPS signal for accurate data.

1.17 Signaling Transmission

1. Send Message
   - Edit message content
   - Press [PTT] to send via current frequency
2. Send DTMF
   - Enter DTMF sequence
   - Press [Confirm] to transmit
3. Call
   - Enter target Device ID
   - Press [Confirm] to initiate call

   (Note: Recipient's device & linked app phone will ring simultaneously)

4. Check
- Enter target Device ID
- Press [Confirm] to send request

(Note: Recipient must enable [Allow Check] function)

5. Group Broadcast(Nearby People)

Nearby Device Scan ("People Nearby"):
- Auto-sends group query signal
- Authorized devices reply with real-time locations

Important Notes

1,Correct Target ID Required: Ensure accurate Device ID input for all ID-based operations.

2,Response Dependency: Receipt of feedback depends on recipient's device settings (e.g., enabled permissions).

3,Group Query Responses: Broadcast queries may trigger multiple device replies

1.18 APRS Configuration

1. Callsign Setup

①.Registered Callsign
- Enter your legally registered callsign in the Callsign field.

- Input the corresponding verification code.

2. Path Settings

①.Preset Path Modes

- Select from predefined path options (e.g., WIDE1-1, WIDE2-1).

②.Custom Path

- Manually configure path hops if needed.

3. Enable APRS

- Navigate to Digital Mode Menu → Select "Enable".
- Choose "APRS" in the format options.

Location Sharing Settings

1. Automatic Position Reporting
   - Set transmission interval (e.g., every 10 min).
   - Select "Off" to disable auto-broadcasting.
2. Channel Configuration
   - Assign a dedicated channel for APRS data transmission.
3. Mute Settings
   - Digital Mute will mute all digital signal tones when a digital signal is detected
   - Recommended: Set separate Mute Rules for APRS channels.

1.19 Smart Beacon Mode

Enables or disables Smart Beacon Mode. When enabled, the system will automatically extend the location sharing interval configured in Share Location. The maximum sharing interval is 30 minutes, while the minimum interval remains the duration set in Share Location.

Location Reporting Triggers

A location report will be sent if:

Any of the following conditions are met:

- Heading change exceeds 30°
- Speed variation exceeds 30 km/h and persists for 120 seconds
- Time elapsed since last report exceeds 30 minutes

And the time since the last report is greater than the Share Location interval.

Example Scenarios

Scenario	Last Report	Current Status	Triggers?
Stationary for 30 min	30 min ago	No movement	✔ (Forced)
Highway driving (steady)	10 min ago	Speed stable, heading change <30°	✕
Making a turn in city	8 min ago	Heading change >30°	✔
Sudden acceleration	3 min ago	Speed jumps by 30+ km/h for 2 min	✔
Minimum interval = 5 min	4 min ago	Heading change >30°	✕ (Too soon)

GPS/BDS Positioning

"Positioning" refers to calculating the current location based on satellite orbital data and radio wave transmission time. A minimum of 3 satellites is required for successful positioning. If positioning fails, move to an open area away from buildings.

About Measurement Errors

- Environmental factors may cause errors of several hundred meters. Under ideal conditions, positioning can succeed with just 3 satellites. However, accuracy degrades or may fail entirely in these scenarios:
- Narrow roads between high-rise buildings
- Indoors or near large structures
- Under elevated roads or high-voltage power lines
- Among dense trees (forests/wooded areas)
- Inside tunnels or underground
- Near heat-reflective glass or strong magnetic fields

Initial/Extended Use

After purchase or prolonged GPS/BDS inactivity, allow several minutes for satellite acquisition. Similarly, if the function has been disabled for hours, reacquisition may take minutes.

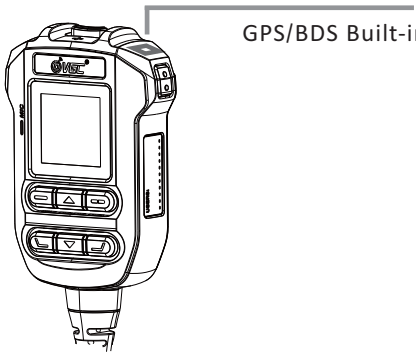
⚠ **Important Notes:**

1,Screen Requirement

- During satellite positioning, keep the screen always on for N-series devices.

2,Antenna Orientation

- When mounting the microphone holder, ensure the GPS/BDS antenna faces upward for optimal signal reception.
- Avoid metal obstructions or placing it tilted inside a case, as this degrades accuracy.



3,Microphone Holder Placement

- Fix the holder away from interference sources (e.g., motors, power lines) to prevent signal degradation.

4,Magnetic Mount Restrictions

- Do NOT modify or use strong magnetic mounts—they disrupt the internal e-compass, causing direction errors.

1.20 AI Noise Reduction

When enabled, AI-powered noise reduction activates during both transmission (speaking) and reception (listening), ensuring clear voice communication in noisy environments.

Transmit AI Noise Reduction

- Smart noise separation + dynamic noise suppression
- Wind noise optimization → clearer outgoing audio

Receive AI Noise Reduction

- Intelligent noise filtering + voice enhancement
- Adaptive noise cancellation → cleaner incoming audio

> ⚠ **Important Note:**
>
> - Turn off AI noise reduction in weak signal conditions.
> - Extremely fragmented signals may be misclassified as noise, resulting in full audio cutoff.

1.21 PTT Follow Mode

Enables auto-transmission on the active receive Band (A/B) via PTT (when pressed within 3 seconds after reception ends) without manual switching.

Operation Guide

1,Activation

- Enable [PTT Follow] in the menu.

2,Transmission Logic

- Main Band (A) Active: PTT transmits on Band A.
- Sub Band (B) Active: PTT auto-switches to Band B.
- Default (Disabled): PTT only transmits on Band A.

3,Status Indication

- Screen displays current transmit Band (A/B) during operation.

Typical Use Cases

- Dual-Watch Monitoring: Rapid response to calls on either band
- Alternating A/B Communication: Eliminates manual band switching delays

Key Notes

- Ensure frequency/tone parameters are correctly set for both bands.
- Output power follows the active band's settings.
- Disable this function to force Main Band (A) transmission.

TWO WAY RADIO MENU LIST

First level menu	Second level menu	Third level menu
Channel	Edit	(the up and down buttons to switch the AB Band, and the left and right buttons to switch channels)
Signaling	Send Message:	(a paragraph of text needed)
	Call:	(Usename or Callsign needed)
	Check:	(Usename or Callsign needed)
	Nearby People	（Nearby people will use the current frequency to transmit a search code.If the device with the samefunction receives this code, it will feedback their location information back. For details, please click the APP settingspage

Radio Settings	Dual Watch	
	Scan	
	Talk Around	
	Power	
	TX Subtone	
	RX Subtone	
	Offset	
	Channel Group	
	Squelch Level	
	TX Time Limit	
	Tail Elimination	
	AI NR	
	Digital Mute	
	PTT Follow	
	Enable VOX	

General Settings	Connection；	Pariring
		Scanning
		Paired Devices
	Signaling Settings；	ID
		Send ID
		GPS
		Allow Check
		Signaling Preamble
	APRS Settings，	Call Sign
		Path
		Password
	KISS TNC	Enable KISS TNC
		Upload Sent Msg
		TX Delay
		TX Tail

General Settings	Digital Mode	Enable
		Share Loc.
		Smart Beacon
		Digital Channel
		Format
	Sound Settings;	Mid Gain
		BT Mic Gain
		Keep Connected
		Tone
	Display Settings;	Language
		Brightness
		Screen Timeout
		Time Zone
		Imperial Units
		Low Power Mode

General Settings	Lock Channel Data: When enabled, all frequency editing functions (including VFO, Freq Sync Rapid Scan) frequency scanning, etc.) will be disabled. To restore these editing capabilities, this option must be disabled via the app.
	Factory Reset
	Reset Settings
Sync Settings	Send Channels
	Receive Channels
Freq Rapid Scan	Enter and start working
Tone Scanning	Enter and start working
GPS status	Click the menu button to switch the positioning system or turn off the positioning system
compass	Calibrate the compass with a figure-of-eight rotation
Status	Firmware Version, battery information
Pairing	Select pairing, the red and green lights flash alternately, and enter the pairing mode
FM Radio	enter FM radio mode

TECHNICAL SPECIFICATIONS

General	
Frequency Ranges:	TX : 144-146(148) MHz (Ham Band) 430-440(450) MHz (Ham Band) RX: 136-174&400-520 AM 108-137Mhz FM 88-108 /174-225/400-520 MHz AM/FM 300-400Mhz GPS 1575.42MHz *(RX Only)
Channel Steps:	2.5/5/6.25 / 10/12.5 /25 /50 /100 KHz
Channel Bandwidth:	12.5 kHz
Emission Type:	F1, F2, F3,
Frequency Stability:	±1.5ppm

Number Of Channels:	32*6
Antenna lmpedance:	50Ω
Supply Voltage:	Nominal: 13.8V DC, Negative Ground Operating: 11.7-15.8V, Negative Ground
Current Consumption:	0.5A(Receive) 9A(TX,144 MHz 50W) 9A(TX,430 MHz 50W)
Operating Temperature:	-20° ℃ to +55° C
Case Size	140 x40 x155mm
Weight	1.2 kg Rear Chassis.
Transmitter	
RF output power	H 50/M 25/L 8
Spurious Emission:	At least 65dB below
Modulation Type:	Variable Reactance F1, F2, F3
Maximum Deviation:	±5 kHz
Microphone Impedance:	2KΩ

Receiver	
Sensitivity:	87-108 MHz(WFM) 0.5 µV TYP for 12 dB SINAD 108-137 MHz(AM) 0.5µV TYP for 10 dB SN 136-174 MHz (FM) 0.15 µV TYP for 12 dB SINAD 174-225MHz (FM) 0.25 µV TYP for 12 dB SINAD 300-336 MHz(AM) 0.7µV TYP for for 10 dB SN 336-400 MHz(FM) 0.2µV TYP for 12 dB SINAD 400-520 MHz(FM) 0.15 µV TYP for 12 dB SINAD
Squelch Sensitivity	0.13 µV (144 / 430 MHz Band)
Selectivity (NFM, AM):	12 kHz / 30 kHz (–6 dB / –60 dB)
AF Output:	2 W(4Ω for 10 % THD) Internal Speker 5 W(4Ω for 10 % THD(@ 13.8 V) External Speker
AF Output Impedance:	4-8Ω

Note: All specifications are subject to change without notice or responsibility.

EU Declaration of Conformity

We, hereby declare that the essential requirements set out in the **RED Directive 2014/53/EU,** have been fully fulfilled on our product with indication as below:

Product Name	VHF & UHF FM TRANSCEIVER
Brand Name / Model	VGC / VR-N7600

The following standards have been applied for the investigation of compliance:

☒ Safety	EN IEC 62368-1: 2020+A11:2020
☒ Health	EN 50665:2017; EN IEC 62311:2020;
☒ EMC	ETSI EN 301 489-1 V2.2.3 (2019-11) ETSI EN 301 489-15 V2.2.1 (2019-04)
	EN 55032:2015/A1:2020 EN 55035:2017/A11:2020 EN IEC 61000-3-2:2019/A1:2021 EN 61000-3-3:2013/A2:2021
☒ Radio	ETSI EN 301 783 V2.1.1 (2016-01)
	ETSI EN 303 345-1 V1.1.1 (2019-06) ETSI EN 303 345-3 V1.1.1 (2021-06)

The conformity assessment procedure referred to in Article 17 and detailed in Annex III of Directive 2014/53/EU

Manufacturer Information:

Company	VERO GLOBAL COMMUNICATION CO.LTD		
Address	3th Building Chongxiang St,Quanzhou Economy & Technology Development District, Quanzhou, China		
Name/Title	Jimmy Ho	E-mail	info@verotelecom.com
Tel. No.	86-595-22496660	Fax No.	

Jimmy HO

Signature / stamp Date: May 27, 2025

FCC STATEMENT:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. 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.

We declare that the radio is compliance with Radio equipment Directive (RED) 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: xxxxxx

The device in the environment with the temperature between -20-55℃ and operating under 2000m, otherwise, it may damage your radio.

This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment. This equipment shall be installed and operated with minimum distance min 236 cm between th e radiator& body.

External Antenna:

Antenna Gain: 0dbi (Typical), 3dBi (Max)

Antenna Impedance:50 Ohms

Address:No.4 Chongmin St, Qingmeng Area,QuanzhouFujian, P.R.C
Postcode:362006
http:www.vero-china.cn