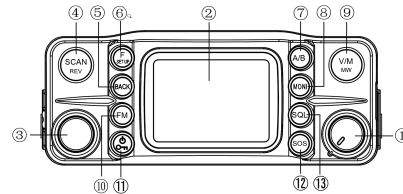


Mobile Transceiver User Manual
August 2025

Safety Instructions

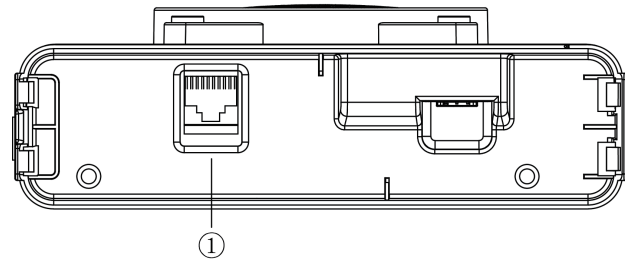
- Hazardous Environments
Turn off the transceiver when refueling or in flammable (gas/dust) environments.
Do not store spare fuel containers near the transceiver if installed in a vehicle trunk.
- RF Exposure Compliance
Maintain ≥50cm distance from the antenna during transmission.
Do not operate the transceiver when anyone is touching the antenna.
- Explosive Materials
Prohibited within 150m (500ft) of blasting zones or explosives transport.
Turn off the transceiver while in an area where blasting is taking place or where signs are posted saying [Turn Off Two-Way Radios].
- Key Precautions
●Power Supply: Use 13.8V DC (±15%) only. Connecting to 24V batteries will damage the unit.
●Installation:
Verify vehicle battery polarity before connection.
Use only manufacturer-provided mounting brackets.
- Transmission:
Avoid prolonged high-power use to prevent overheating.
Do not transmit without an antenna connected.
- Environment:
Keep away from extreme heat, moisture, or dust.
Discontinue use if abnormal odors/smoke are detected.

Device Overview
Front Panel Controls



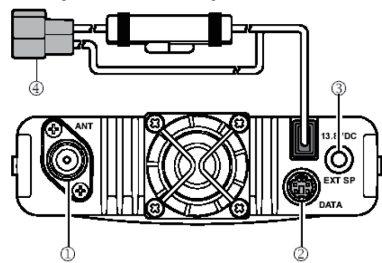
- ①VOL Knob: Adjust speaker volume
- ②Full-color LCD Display
- ③DIAL Knob:
Tune frequencies/channels
Menu Navigation:
Short press: Enters selected menu item
Rotate: Scrolls through options
- ④SQL (REV) Key:
Short press: Start scanning
Rotating the [DIAL] knob during scan mode reverses the scan direction.
Long press: Start reverse frequency
- ⑤BACK Key:
Press to go back to the previous screen or exit the current operation.
- ⑥F(SETUP) Key:
Press to access the setup menu.
Use the [DIAL] knob to navigate and configure options.
- ⑦A/B Key:
Switch between dual-band operation.
- ⑧MONI (Monitor) Key:
Hold [MONI] to temporarily unmute and monitor the current channel.
- ⑨V/M (MW) Key:
Each press switches between:

Front Panel (Main Unit)



- ①CONTROL Port
Connect the control cable to this port for panel-to-main unit communication

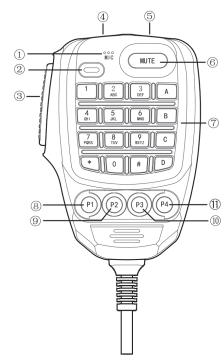
Rear Panel (Main Unit)



- ①ANTENNA Port
Connect N-type external antenna to this interface
- ②EXPANSION LINK Interface
TNC device connection via 6-pin mini-DIN connector
(Functionality reserved for future use)
- ③EXT SPKR (External Speaker) Jack
Connection: 3.5mm 2-conductor audio plug
Specifications:

- Load impedance: 8Ω
Auto-disables internal speaker when connected
Note: For enhanced audio output
- ④DC POWER Input with Fuse Box
Input: 13.8V DC (vehicle/base station power)
Wiring:
Red wire (+): Positive terminal
Black wire (-): Negative terminal
- Requirements:
Minimum 12A current supply
Use included power cable

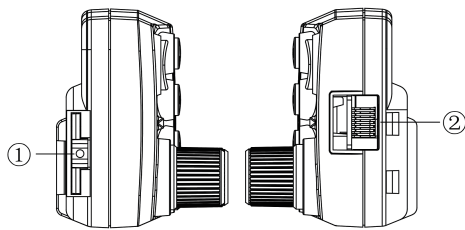
Handheld Microphone Controls



- ①MIC (Microphone)
Speak into the microphone during transmission
- ②TX (Transmit) LED
Illuminates red when PTT is pressed
- ③PTT (Push-To-Talk)
Normal Mode: Hold to transmit, release to receive
Setup Mode: Press to exit configuration

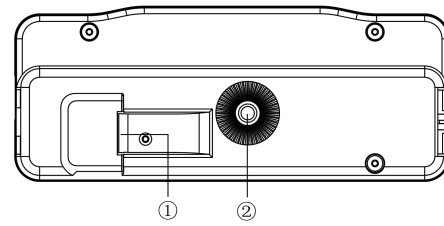
- Frequency Mode
- Memory Channel Mode
- GMRS Channel Mode
- ⑩FM Key:
Short press: Turns the FM radio function ON/OFF
Long press: Activates FM auto-scan mode
Rotate the [DIAL] knob during scanning to manually search for stations.
- ①POWER :
Hold 2 sec to turn on/off.
After turning on, short press to lock or unlock the keyboard.
- ①SOS Key:
Press to activate emergency alarm.
Press [BACK] to cancel alarm.
If an alarm code is set:
Your radio will begin transmitting and sounding an alarm, other radios with the same code will also sound alarms.
- ①SQL (Squelch) Key:
Press [SQL] to enter squelch adjustment mode.
Rotate [DIAL] to set squelch level.
Higher values mute background noise when no signal is received.

Front Panel Layout
Left Side and Right Side of Panel



- ①Panel Release Mechanism:
Secure-disconnect for control head
Operation:Depress button to unlock
Slide panel forward for removal
Audible click confirms engagement
- ②MIC (Microphone) Interface:
For DTMF microphone connection (supplied)
Accepts programming cable for channel/data configuration

Rear Panel:



- ①CONTROL Port:
Connect the control cable to this port for main unit communication
- ②Mounting Threads:
Designed for panel bracket installation

Icon	Description
108.0MHz	When the FM radio is turned on, the FM frequency is displayed.
LOCK	It appears when the keyboard is locked
12.3V	Display the DC voltage of the power supply
FM/AM	Current operating frequency band
M	Power display. H-high power, M-medium power, L-low power
W	Bandwidth display. W-broad band; N-narrow band
D	It appears when CTCSS/DCS + signaling functions are enabled in receive mode
023N	Tone codes appear when CTCSS/DCS is on
C	It appears when the voice compander activated
AL	It appears when the scrambler is activated
R	It appears when the frequency reverse is activated
Am	Activates when operating frequency is set within Aviation Band
S	It appears when the scan is activated
148.55000	Display Frequency Values,Memory Channel Name or Function Name
VFO	It appears when in VFO (Variable Frequency Oscillator) mode
148.55000	Signal strength is shown in green during reception
148.55000	Selected power level displays in red when transmitting
VOL	Volume Level

Basic Operations
Power On/Off

- Hold [POWER(ON)] for 2 seconds.
When you turn on the radio, the startup message will be displayed on the screen for about 2 seconds. Then the screen will switch to the normal operating frequency display.
 - To shut down, hold [POWER(ON)] again for 2 seconds.
- Volume Adjustment Instructions
Volume adjustments apply uniformly to both Band A and Band B.
Operation:
Clockwise rotation VOL Knob→ Increases volume
Counterclockwise rotation VOL Knob→ Decreases volume
Squelch Adjustment
Band A and Band B have separate squelch settings
Adjustments do not affect the opposite band
1. Operation:
Press [SQL] → Rotate [DIAL] to set threshold
Press [DIAL] to confirm.Then Press the [BACK] to exit

- Squelch Level Function Purpose
Mutes speaker audio when no valid signal is detected
Ensures noise-free operation by opening only for qualified signals
- Adjustment Principle
Higher Squelch Level = Stronger signal required to unmute

Band Selection (Dual-Receive Operation)

- Primary Band (Tx-Capable)
Indicated by [V]above the active band
Short-press [A/B],toggles primary band assignment

Operating Mode Selection (Independent for Band A/B)

- 1.Available Modes
Each band (A and B) can independently operate in:
VFO (Frequency) Mode
Memory (MR) Mode
GMRS Mode
- 2.Short-press [V/M] to switch

●VFO (Frequency) Mode Operation

- ①Manual Frequency Tuning
Rotate [DIAL] Knob:
Clockwise → Increases frequency
Counterclockwise → Decreases frequency
- ②Alternative Tuning Methods
Mic [UP]/[DOWN] Keys:
Short-press: Steps frequency up/down
③Direct Keypad Entry:
Press mic number keys to input exact frequency

Transmission

- Select frequency/channel
 - Hold microphone PTT to speak
- TX Power Level Indication
Visual Feedback:
Real-time power bar graph displayed for the active transmit band
3. Microphone Best Practices
Optimal Distance: 5 cm (2 inches) from lips
Use normal conversation volume
4.After you finish speaking, release the PTT
- Transmit Power Selection Guide
1.Recommended Power Settings
Optimal Practice: Use the lowest sufficient power for clear communication.Reduces interference with other frequencies.
2.Band A and Band B can be set to different power levels
Power Adjustment Steps:
①Short-press [DIAL]: Enter Menu
②Rotate [DIAL]: Select Menu Item 10 (Power Level)
③Short-press [DIAL]: Enter power setting mode
④Rotate [DIAL]:
To choose: High Power or Medium Power or Low Power
⑤Confirm/Cancel:
Short-press [DIAL]: Save setting
Short-press [BACK]: Exit without saving
⑥Exit Menu: Short-press [BACK]

Context Menu Setting Table

No of context menu	Display	Description
01	RX-CTCSS	Receive - Analog Tone Squelch
02	RX-DCSN	Receive - Digital Coded Squelch
03	RX-DCSI	Receive - Digital Coded Squelch
04	TX-CTCSS	Transmit - CTCSS Code
05	TX-DCSN	Transmit - DCS Code
06	TX-DCSI	Transmit - DCS Code
07	RX-MODE	Set the receive mode
08	TX-DTMF1	Set the DTMF code group sent automatically when PTT is pressed
09	TX-DTMF2	Set the DTMF code group sent automatically when PTT is released
10	TX-POWER	Transmit Power
11	WIDENA	Bandwidth
12	COMP	Voice Comanding
13	SRMR	Scrambler
14	SPT	Frequency Shift Direction
15	OFFSET	Frequency Shift Offset Amount
16	STEP	Frequency Step Size Setup
17	CH-MEM	Memorize Channel
18	CH-DEL	Delete Channel
19	SQL	Squelch Level
20	RF-SW	Turn the current channel ON/OFF
21	BACKLIGHT	Set the backlight activation mode
22	KEY-BEEP	Keypad Voice Prompt
23	RING-TIME	Adjust call alert duration
24	BCL	Busy Channel Lockout
25	TOT	TX Time Out Time
26	TOPE	Signal signaling
27	DTMF-TIME	DTMF transmission time
28	LCD-BRIGHT	Set LCD panel intensity
29	LANGUAGE	Screen Prompts display
30	DATA-REST	Initialize to Factory Defaults
31	DTMF-L	DTMF group
32	ANI-ID	ANI ID Code

Technical Specifications

The specification are subject to changes with the technical development without notice.

Basic Specifications	
Channel Memory Capacity	Independent 128-Channel Storage per Band (A/B)
Modulation	11K4F3E (12.5KHz) , 16K4F3E (25KHz)
Antenna Impedance	50Ω
Frequency Stability	±2.5ppm @ -10 °C ~ +50 °C
Operate Temperature Range	-20 °C ~ +60 °C
Input Voltage	13.8V DC (±15%)
Dimensions	150 X 55 X 190mm
Weight	1000g
Receiving	
Frequency Range	FM : 76-108MHz AM : 108-135.9975MHz VHF1 : 136-173.9975MHz VHF2 : 174-299.9975MHz UHF1 : 300-399.9975MHz UHF2 : 400-469.9975MHz UHF3 : 470-600.0000MHz
Sensitivity	±0.2uV (12dB SINAD)
Squelch Sensitivity	±0.16uV
Adjacent Channel Selectivity	±60dB
Max Audio Output	2W @ 8Ω 5%distortion
Transmitting	
Frequency Range	VHF : 144-148MHz (optional 136-174MHz) UHF : 430-440MHz (optional 400-490MHz)
Output Power	VHF : 50/20/10W UHF : 45/20/10W
Modulation Limiting	≤50KHz(25KHz), ≤2.5KHz(12.5KHz)
Adjacent Channel Power	±60dB
Modulation Distortion	≤5%