PNI HAM27

Portable radio scanner

Contents

Safety warnings

The use of the radio scanner may be restricted by law in some countries or areas. Be sure to comply with all regulations regarding the interception of communications.

Avoid using the scanner near medical equipment, on board aircraft, or in other places where it may cause harmful interference.

The scanner is not waterproof. Keep it away from rain, splashes, or other sources of moisture.

The use of unauthorized chargers or batteries may result in malfunctions or fire hazards.

Unauthorized tampering may result in electric shock or permanent damage to the device. Repairs should only be performed by qualified personnel.

Warnings regarding battery charging

The battery is not charged from the factory. Charge the battery before using the scanner.

The battery reaches its maximum charge capacity after 2-3 charges.

In order not to affect the charging efficiency, do not use the scanner while the battery is charging.

Remove the battery from the charging base after it has been

fully charged.

If the battery does not charge completely or has a reduced autonomy, it means that its service life has expired, replace it with a new one.

Use only the original battery and charger.

Charging the battery

The scanner battery can be charged in two ways: via the included charging base or via the USB-C port.

Charging the battery with the charging base

Turn off the scanner before starting charging.

Insert the scanner into the charging base. Make sure it is correctly positioned and firmly secured to the contact connectors.

Connect the power adapter of the charging base to a 100–240V AC outlet.

Check the charger LED indicator:

- Red LED: charging is in progress.
- Green LED: charging is complete.

LED off or flashing: check the connections or contact service.

Charging time is approximately 5 hours.

Do not leave the scanner in the charger for more than 24 hours.

Remove the scanner after the battery is fully charged to extend the battery life.

Charge the battery in a well-ventilated area, away from direct heat, moisture, or strong sunlight.

Charging the battery via USB-C port

The power supplied by the charger must be between a minimum of 4.5 watts, which the radio equipment needs, and a maximum of 5 watts to achieve maximum charging speed.

Turn off the scanner before charging.

Remove the protective cap and connect a USB cable (not included) to the USB-C port on the back of the battery.

Connect the other end of the USB cable to a 230V AC - 5V DC power adapter (not included).

Plug the power adapter into a power outlet.

Check the charger's LED indicator:

- Red LED: charging in progress.
- Green LED: charging complete.

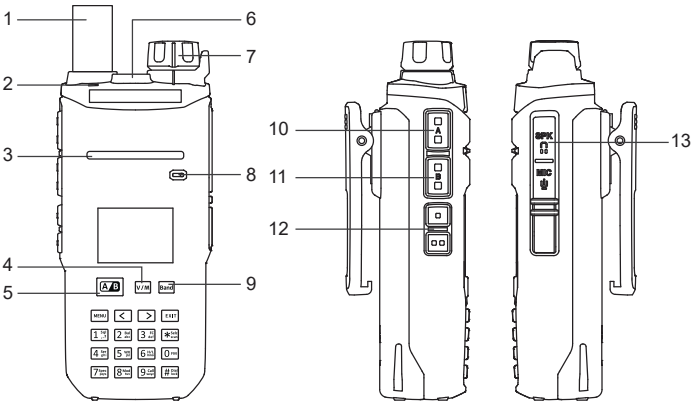
LED off or flashing: check connections or contact service.

Do not leave the battery charging for more than 24 hours. Remove the USB cable after the battery is fully charged to extend the battery life.

Charge in a well-ventilated area, away from direct heat, moisture or strong sunlight.

Do not charge the scanner in explosive or hazardous environments.

Product overview



1. Antenna 1	8. Microphone
2. LED indicator	9. Frequency band selection
3. Speaker	10. Channel A transmission key (PTT1)
4. VFO/MR mode switch	11. Channel B transmission key (PTT2)

5. Main channel switch	12. Multifunction side keys 1 and 2
6. Antenna 2 connector	13. Audio accessory connector
7. Power on/off and Volume	

Turn the scanner on/off and Volume control

Rotate the power button on the top of the scanner clockwise to turn on the scanner. Continue rotating in both directions to adjust the volume. After powering on, the voice prompt will announce the current operating mode (frequency mode or channel mode).

Rotate the button counterclockwise to turn off the scanner.

Transmit and receive

Press the PTT1 or PTT2 key to transmit on channel A or channel B. Release the PTT key to receive.

Side keys 1 and 2

Side key 1 (top):

Short press: activate/deactivate the Monitor function.

Long press: turn on/off the FM scanner.

Side key 2 (bottom):

Short press: turn on/off the LED flashlight.

Long press: activate/deactivate the SOS alarm.

Key functions

A/B key

In the main interface, switches between the main channel and subchannel. The channel marked by the ► cursor becomes the main channel.

V/M key

In the main interface, switches between channel mode and frequency mode.

Band key

Switches between frequency bands in frequency mode (VFO).

The numeric keys

Key	Function
0	Short press to turn on/off the FM Scanner function.
1	Short press to adjust the squelch level. Long press to adjust the frequency step.

2	Short press to adjust the volume on channel A/B. Long press to change the display mode to channel mode (channel name or frequency).
3	Short press to activate the fast frequency synchronization function. Press the EXIT key to exit. Long press to activate/deactivate the Dual Receiver function (dual channel reception).
4	Short press to activate the CTCSS/DCS code scanning function. Press the EXIT key to exit. Long press to activate/deactivate the background noise reduction function.
5	Short press to listen to the weather channel (only on channel A). Long press to enable/disable the voice distortion function.
6	Short press to change the transmit power. Long press to enable/disable VOX function.
7	Short press to activate the scanner function. Long press to activate/deactivate the Talk Around function.
8	Short press to select modulation: FM, AM, LSB, USB. Long press to store channel.
9	Short press to quickly switch to channel mode. Long press to switch to NOAA scan mode (NOAA channels only).

*	Short press to enter manual frequency entry mode. Long press to enable/disable scan function.
#	Short press to enter frequency or channel editing mode. Long press to enable/disable key lock function.

The LCD screen

Icon	Description
	Signal level indicator.
HML	Transmission power indicator: H (high power), M (medium power), L (low power).
CT DCS	Indicates the CTCSS/DCS code.
	Voice prompt is active.
N	The scanner is operating in narrowband mode.
VOX	The VOX function is active.
+-	+ : the transmission frequency is equal to the reception frequency plus the frequency deviation. - : the transmission frequency is equal to the reception frequency minus the frequency deviation.

DTMF TONE	DTMF function or 5-tone signal decoding function is active.
DR	Dual Receive function is active.
	Key lock function is active.
	Battery level indicator.
►	Main channel indicator. All operations and settings will be made for the main channel (marked by the cursor).
SCR	Voice encryption function on the current channel is active.
R	Talk Around mode is active. The receive and transmit frequencies are reversed.
DN	Noise reduction function is active.
MV	Voice change function is active.
NS	NOAA scan function is active.
SAME	NOAA SAME decode function is active.
S	Power save function is active.
SC	Scan function is active.
RX	Receive indicator.
TX	Transmit indicator.

The menu

Press the MENU key to enter the menu. Press the left/right arrow keys to navigate through the menu or press the menu number key directly. Press the MENU key to enter a specific submenu. Press the left/right arrow keys to navigate through the options. Press the MENU key to confirm and the EXIT key to exit the menu.

Menu	No.	Function	Description
GENERAL	01-01	SAVE	Power saving level: Off, 1:1, 1:2, 1:3, 1:4
	01-02	ABR	Automatic backlight control: Off, 1-5, 10, 15, 20, 25, 30 seconds
	01-03	BEEP	Key sound: On, Off
	01-04	VOICE	Voice prompt: On, Off
	01-05	MDF	Channel display mode: frequency, number, name
	01-06	AUTOLK	Automatic key lock: On, Off

GENERAL	01-07	MIC	Microphone sensitivity: 1-5
	01-08	PONMSG	Message when opening the scanner: battery voltage, message, logo.
	01-09	DENOISE	Background noise reduction: Off, 1-6
	01-10	MAGICV	Voice distortion level: Off, 1-5
	01-11	SHOW RESET TIME	Set the time after which the scanner automatically exits the menu after no key is pressed: 8-200s.
	01-12	SKEY1_S	Select side key 1 function by short press
	01-13	SKEY1_L	Select side key 1 function by long press
	01-14	SKEY2_S	Select side key 2 function by short press
	01-15	SKEY2_L	Select side key 2 function by long press

GENERAL	01-16	RESET	Return to factory settings: VFO (reset parameters except channel parameters), Full reset (complete scanner reset)
CHANNEL	02-01	SQL	Sqlch level: 1-9
	02-02	STEP	Frequency step: 100Hz, 500Hz, 1K, 1.5K, 2K, 2.5K, 5K, 6.25K, 8.33K, 9K, 10K, 12.5K, 15K, 20K, 25K. 500Hz can only be set in F1, F2, F3.
	02-03	TXP	Transmit power (high, medium, low)
	02-04	TR CTC/DCS	CTCSS/DCS Transmit Encoding: None, CTCSS, DCSN, DCSI
	02-05	R CTC/DCS	CTCSS/DCS Receive Decoding: None, CTCSS, DCSN, DCSI
	02-06	T CTC/DCS	CTCSS/DCS Configuration: None, CTCSS, DCSN, DCSI

CHANNEL	02-07	SFT-D	Frequency offset direction: none: transmit frequency = receive frequency +: transmit frequency = receive frequency + offset -: transmit frequency = receive frequency - offset
	02-08	OFFSET	Frequency offset: 0-999.9999M
	02-09	W/N	Bandwidth: wide 25KHz, narrow 12.5KHz
	02-10	MW/SW-BW	Channel bandwidth in short wave and medium wave
	02-11	SCR	Encrypted call: Off, 1-10
	02-12	BCL	Busy Channel Lock function: Off, On
	02-13	DEMOD	Modulation” FM< AM, LSB, USB
	02-14	SIGNAL	Selective call code type: DTMF, 5 tones

CHANNEL	02-15	PTT-ID	DTMF transmission mode PTT-ID: off (code is not transmitted), the code is sent at the beginning of the transmission; the code is sent at the end of the transmission; and at the beginning and end of the transmission.
	02-16	DECODE	Signal that activates the signal decoding function: Off, On
	02-17	SEARCH LIST	Select scan list. All channels in the selected list will be scanned when scanning is activated on the current channel.
	02-18	MEM-CH	Store channel. Press # to change the keypad. Use the arrow keys and numeric keys to name the stored channel. Press MENU to save.

CHANNEL	02-19	DEL=CH	Delete channel from memory. Select the channel using the arrow keys or numeric keys. Press MENU to confirm deletion.
WORK	03-01	VOX	VOX level: Off, 1-10
	03-02	DUAL RX	Dual channel reception function: Off, On
	03-03	TOT	Timeout timer function: Off, 1-10 minutes
	03-04	STE	Eliminate end of transmission tone: Off, On
	03-05	RP-STE	Repeater confirmation tone: Off, 100-1000ms
	03-06	QUICK CALL	Configure fast access channel. Select the channel via the numeric keys or arrow keys.
	03-07	ROGER	End of transmission tone: none, beep, user defined 1-5 via programming software

WORK	03-08	AL-MOD	Alarm mode: local or remote (transmit alarm signal + local alarm)
	03-09	SBAR	Display signal level bar: Off, On
	03-10	MWSW AGC	Gain control. Improves reception of strong signals
	03-11	CW PITCH FREQ	Frequency deviation in CW mode (400-1500Hz)
VFO SCAN	04-01	SC-REV	Scanning mode: TO (continuous scanning), CO (after signal disappears, scanning continues), SE (after a signal is received, scanning stops)
	04-02	F1 START	VFO mode. Scan start frequency on F1 band: 0.153-1.8MHz
	04-03	F1 END	FVO mode. Scan stop frequency on F1 band: 0.153-1.8MHz

VFO SCAN	04-04	F2 START	VFO mode. Scan start frequency on F2 band: 1.8-18MHz
	04-05	F2 END	FVO mode. F2 band scan stop frequency: 1.8-18MHz
	04-06	F3 START	VFO mode. F3 band scan start frequency: 18-32MHz
	04-07	F3 END	FVO mode. F3 band scan stop frequency: 18-32MHz
	04-08	F4 START	VFO mode. F4 band scan start frequency: 32-76MHz
	04-09	F4 END	FVO mode. F4 band scan stop frequency: 32-76MHz
	04-10	F5 START	VFO mode. F5 band scan start frequency: 108-136MHz
	04-11	F5 END	FVO mode. F5 band scan stop frequency: 108-136MHz

VFO SCAN	04-12	F6 START	VFO mode. F6 band scan start frequency: 136-174MHz
	04-13	F6 END	FVO mode. Scan stop frequency on F6 band: 136-174MHz
	04-14	F7 START	VFO mode. Scan start frequency on F7 band: 174-350MHz
	04-15	F7 END	FVO mode. Scan stop frequency on F7 band: 174-350MHz
	04-16	F8 START	VFO mode. Scan start frequency on F8 band: 350-400MHz
	04-17	F8 END	FVO mode. Scan stop frequency on F1 band: 350-400MHz
	04-18	F9 START	VFO mode. Scan start frequency on F8 band: 400-470MHz
	04-19	F9 END	FVO mode. Scan stop frequency on F9 band: 400-470MHz

VFO SCAN	04-20	F10 START	VFO mode. Scan start frequency on F10 band: 470-580MHz
	04-21	F10 END	FVO mode. Scan stop frequency on F10 band: 470-580MHz
	04-22	F11 START	VFO mode. Scan start frequency on F11 band: 580-760MHz
	04-23	F11 END	FVO mode. Scan stop frequency on F11 band: 580-760MHz
	04-24	F12 START	VFO mode. Scan start frequency on F12 band: 760-1000MHz
	04-25	F12 END	FVO mode. Scan stop frequency on F12 band: 760-1000MHz
	04-26	F13 START	VFO mode. Scan start frequency on F13 band: 1000-1160MHz
	04-27	F13 END	FVO mode. Scan stop frequency on F13 band: 1000-1160MHz
MR SCAN	05-01	SEL LIST	Select scan list: 1-32

MR SCAN	05-02	EDIT LIST	Edit current scan list:
	05-03	PRO 1 CHAN	Current channel: displayed MR channel
	05-04	PRO 1 CHAN	P1 XXXX: priority scan Channel 1
	05-05	EDIT NAME	P2 XXXX: priority scan Channel 2
FREQ SCAN	06-01	TIMEOUT	Add channel to scan list
	06-02	DECODE MODE	Select priority channel 1 for current scan list
	06-03	DCS MODE	Select priority channel 2 for current scan list
	06-04	DET THRES	Edit scan list name
DTMF	07-01	LOCAL ID	DTMF communication local ID
	07-02	UPCODE	DTMF exit code
	07-03	DWCODE	DTMF Input Code
	07-04	DELIMITER	Separation Code
	07-05	GRPCODE	Group Call Code
	07-06	SIDE TONE	DTMF Side Tone: Off, On

DTMF	07-07	DECODE RSP	DTMF Decode Response: Off, Tone, Auto, Tone+Auto
	07-08	HOLD TIME	DTMF Reset: 5-60s
	07-09	PRE TIME	Time Interval Before Sending DTMF Code: 30-990ms
	07-10	1ST TIME	Time for Sending First DTMF Code: 30-990ms
	07-11	*# TIME	Time for Sending Special Character: 30-990ms
	07-12	ON TIME	Time for Sending Normal Character: 30-990ms
	07-13	OFF TIME	Time between Two Codes: 30-990ms
	07-14	SEL CONTACT	Select contact for DTMF call
	07-15	EDIT CONTACT	Add, edit contact
	07-16	DEL CONTACT	Delete contact

5TONE	08-01	LOCAL ID	Local 5-TONE communication ID
	08-02	UPCODE	Outgoing 5-TONE code
	08-03	DWCODE	Incoming 5-TONE code
	08-04	REPEAT TONE	Tone repeat
	08-05	GRPCODE	Group call code
	08-06	SIDE TONE	5-TONE side tone: Off, On
	08-08	DECODE RSP	5-TONE decode response: Off, Tone, Auto, Tone+Auto
	08-08	HOLD TIME	5-TONE reset: 5-60s
	08-09	PRE TIME	Time interval before sending 5-TONE code: 30-990ms
	08-10	1ST TIME	Duration of sending the first 5-TONE code: 30-990ms
	08-11	ON TIME	Duration of sending a normal character: 30-990ms

5TONE	08-12	OFF TIME	Duration between two codes: 30-990ms
	08-13	SEL CONTACT	Select contact for 5-TONE call
	08-14	EDIT CONTACT	Add, edit contact
	08-15	DEL CONTACT	Delete contact
	08-16	STANDARD	Standard selection: EIA, EEA, CCIR, ZVEI1, ZVEI2, user defined
	08-17	SYM FREQ	Display frequencies that correspond to 5-TONE codes.
NOAA	09-01	SCAN	NOAA scan mode: auto, manual
	09-02	SQL	NOAA channel squelch level
	09-03	DECODE	Decode mode: 1050Hz, SAME
	09-04	EVENT MODE	Event mode: default, on, off, user defined

NOAA	09-05	LOC MODE	Location mode: single address, multiple address, user defined
	09-06	EVENT SET	Event setting. Press the MENU key to access the next menu level where you can choose between On and Off for each event.
	09-07	LOC SET	Location setting. Press the MENU key to access the next menu level where you can view and modify the address list.
	09-08	EVENT LIST	Event list. Press MENU key to access the next menu level where you can see the list of alarm events
HOSTINFO	10-01	HOST NAME	User name
	10-02	LOGO1	Edit logo characters 1 for scanner startup interface
	10-03	LOGO	Edit logo characters 2 for scanner startup interface

HOSTINFO	10-04	VERSION	Software version

Scanner operation

Select the main channel

Press the A/B key. The channel indicated by the cursor ► is the main channel.

Single or dual channel reception

Long press the 3 key or enter menu 03-02 to activate dual channel reception. DR appears on the screen.

Note: dual channel reception cannot be used if the operating mode of channel A is in the F1, F2 or F11 band.

Frequency mode/Channel mode selection

Press the V/M key to switch between frequency mode and channel mode.

Frequency Mode: Press the arrow keys to adjust the frequency according to the set frequency step, or short press the # key and use the numeric keys to enter the receiving frequency.

Channel Mode: Press the arrow keys to select the channel, or short press the # key and the numeric keys to enter the channel number.

Select modulation mode

Press key 8 and choose from: FM, AM, LSB, USB.

Select frequency band

In VFO mode, press BAND key to select the desired band.

Channel A: F1, F2, F3, F4, F5, F6, F7, F8, F9, F10, F11

Channel B: F5, F6, F7, F8, F9, F10, F11 F12, F13

Memorize channel

In channel mode, you can copy the current channel to a new memory channel.

In frequency mode, after selecting the parameters (receiving frequency, bandwidth, transmitting power, etc.), press key 8 to memorize the channel or enter menu 02-18. Channels that are empty are marked with XXX, for example CH-XXX.

Delete channel

Enter menu 02-19. Use the arrow keys or numeric keys to select the channel you want to delete from memory. Press the MENU key and then the MENU key again after the message SURE? appears.

Set CTCSS/DCS codes on transmit and receive

Enter menu 02-05 to set CTCSS/DCS on receive and menu 02-06

for transmit.

Press the # key to select CT, DCSN or DCSI. Use the arrow keys to select the CTCSS/DCS code from the list or enter it directly using the keypad (CT:60.0-260.0), (DCS: 000-777).

Scanner function

After setting the center frequency, press the 7 key to enter the scanner mode.

Press the 1 key to change the center frequency, press the arrow keys to edit or press the numeric keys to manually enter the frequency. Press the EXIT key to exit the editing mode.

Press the 2 key to change the reference field strength, press the arrow keys to edit or press the numeric keys. Press the EXIT key to exit the editing mode.

Press the 3 key to change the bandwidth: 128KHz-6.4MHz. Press the EXIT key to exit the editing mode.

Press the 4 key to change the mark point position, press the arrow keys to edit or press the numeric keys to manually enter the reference point frequency. Press the EXIT key to exit the editing mode.

Press the side Monitor key to monitor the center frequency signal.

Press the 5 key to copy the reference point frequency to the center frequency.

Automatic signal search

Set the receiving frequency and press the 4 key to start the automatic signal search. After a valid signal has been identified, it will be displayed. Press the MENU key to save the detected signal on the current channel. The automatic search stops. SCAN CMP appears on the screen. If SCAN FAIL appears on the screen, it means that no valid signal has been found, the search stops.

Frequency measurement and automatic frequency matching between transmitter and receiver by pressing a single button

The automatic frequency matching function requires a strong signal on both the receiver and the transmitter. Both scanners must have antennas installed and not be too far from each other.

Press the 3 key on the receiver scanner to enter the frequency measurement interface. Once a strong signal has been detected, it will display the frequency of the signal accompanied by CTCSS/DCS.

Press * key to measure the frequency again. When measuring non-standard CTCSS/DCS, if no valid value has been detected, enter menu 06-02 and select either Master Mode or Self-learning Mode. In self-learning mode, the detected CTCSS/DCS code will not be displayed, but you can press MENU key to save it for future use.

Press EXIT or PTT to exit the frequency measurement interface.

Note: the self-learning mode can only save frequencies on the first 100 channels.

DTMF and 5-tone dialing

Enter menu 02-14 to select DTMF or 5-TONE.

Manual dialing: long press the PTT key and the A/B, V/M, Left Arrow, Right Arrow keys to dial.

A/B=A
V/M=B

Left arrow=C

Right arrow=D

Auto dial: Press * key and enter the 3-digit number. Then press PTT key to make the call. DTMF. During transmission, the scanner will send its ID.

Individual call: The scanner sends the receiver number ID along with its own ID. For example, 123*100 means that the user with ID 100 calls the user with ID 123.

Group call: Replace one or more characters of the ID number with the group call code to call a group of users.

The group code can be configured through the programming software.

For example, if the group code is set to #, sending 12# will call IDs 120-129 (10 users). Sending 1AA will call IDs 100-199 (100 users).

Call All Users: Sends a 3-character code to all users.

Receiving a call: Enter menu 02-16 and select On. When the received code is a DTMF or 5-TONE code, the caller's username will be displayed on the screen. You can communicate with the caller within the preset time. When this time expires, the call code must be resent. Automatic answer after receiving a call can be set in menus 07-07 and 08-07.

PTT-ID

Initialization: Enter menu 02-15 to activate the DTMF and 5-TONE incoming and outgoing codes. Each time the PTT is pressed, the outgoing code is sent. When the PTT is released, the incoming code is received.

Emergency alert

Alerts are used to communicate an emergency situation. You can send an alert at any time, in any mode, even when the channel is busy.

Long press side key 2 to issue a local or remote alert.

Scanning

Method 1: Long press * to start/stop scanning.

Method 2: Set the Scan function to one of the side keys 1/2 via the programming software.

Frequency scanning: During scanning, press the arrow keys to change the scanning direction.

Press PTT, EXIT or * to stop scanning.

Channel scanning: After scanning starts, the scanner will scan the channels saved in the scan list.

During scanning, if a call is received, you can press the PTT key to answer.

Scan options can be set in menu 05.

Priority Scan: You can designate a channel as the priority scan channel.

NOAA reception

Press key 5 to enable/disable weather channel reception.

The scanner has 10 NOAA weather channels.

Reception settings can be made in menu 09.

If SAME option is selected, received events will be automatically saved in menu 09-08.

FM scanner

Long press side key 1 or press key 0.

Press arrow keys to change FM frequency or press # key to manually enter frequency or press number keys to directly select

a saved scanner.

Press key 1 to start automatic FM frequency scanning. Found scanners will be automatically saved in the 20 available memories.

Press key 2 to start manual FM frequency scanning. When a scanner is found, the user needs to save it manually:

Press MENU key and arrow keys to save the found scanner.

Press EXIT key to stop scanning.

If while listening to FM scanner, the scanner receives a signal, you can press PTT key to answer. FM scanner reception will be temporarily interrupted and will resume after the communication ends.

Press key 0 or EXIT to exit FM Scanner function.

Speed dial

Enter menu 03-06 to set the channel for speed dialing. Press key 9 to quickly dial it.

Aviation band reception

Enter the reception frequency. If the aviation frequency is unknown, you can use the scan function to scan the frequency range 108-136MHz. Press the 8 key to change the modulation to AM.

Return to factory settings

Enter menu 01-16.

VFO: clears all data, but the saved channels remain.

ALL: clears all data, including the saved channels.

Press MENU when the display shows SURE?

After reset, the scanner will restart.

Wireless duplication of the scanner

Long press the PTT key + side key 2 while restarting the scanner to enter the duplication interface. The screen displays AIR COPY (RDY). Set the frequency for wireless duplication on both the receiving scanner and the transmitting scanner. The frequency must be the same. The default frequency is 410.0125 MHz.

Receiving scanner: press EXIT to enter the receiving mode. The screen displays AIR COPY (RCV).

Transmitting scanner: press MENU to start data on the set frequency. The screen displays AIR COPY (PUB).

The progress of the data copying process will be displayed on the screen as RCV:XX E:XX where E:XX are the errors, that is, the data not copied.

When the copying is completed, the transmitting scanner will display SND:XXX.

Technical specifications

General	
Channels	CB: 40 channels PMR: 16 channels
Frequency range	CB: 26.965 - 27.405 MHz PMR: 446 MHz
NOAA channels	10
Output power	Li-Ion battery 7.4V 2500mAh
FM scanner memory	32
Frequency stability	±1ppm
Modulation mode	FM:11K0F3E (12.5KHz), 16K0F3E(25KHz)
Antenna impedance	50 Ω
Headphone jack	2-pin PNI-K
Screen	1.44 inch
Audio power	16 Ω 1W
Protection grade	IP
Dimensions	126 x 58 x 34.5 mm
Operating temperature	-26 ~ 80°C
Transmitter	

Emission power	CB: 4W PMR: 0.5W
Transmitter current	≤ 2.5A
Frequency deviation	≤ 5KHz(25KHz), ≤ 2.5KHz(12.5KHz)
Modulation distortion	≤ 5%
Spurious emissions	≤ 7.5uW
Adjacent channel power	70dB(25KHz), 60dB(12.5KHz)
Residual modulation	40dB
Receiver	
FM reference sensitivity	-21dBm
WFM reference sensitivity	-108dBm
AM reference sensitivity	-100dBm
Audio power	≥ 0.5W
Audio distortion	≤ 10%