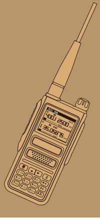


Multi-Band Portable Transceiver User Manual

No	Function function	Secondary menu	Setting instructions
26	SCAN DCS		
27	CDCSS SAVE MODE	ALL	ALL
		RX	Receiving
		TX	Transmitting
28	POWER ON MSG	LOGO	Photo
		VOL TAGE	Battery voltage
29	ANI NAME	NUM1...NUM60	No.1---No.50 radio. The radio name of 51-60 can be set
30	S-CODE	1,2,3...15	
31	DTMF CODE	OFF	Turn off
		BOT	Press PTT to transmitting DTMF
		EOT	Release PTT to transmitting DTMF
		BOTH	BOTH
32	DTMFST	OFF	No DTMF prompt when press key to transmitting DTMF
		DT-ST	DTMF prompt when press key to transmitting DTMF
		ANI-ST	DTMF prompt when automatically transmitting DTM
		DT+ANI	DTMF prompt when automatically transmitting DTMF and press key to transmitting DTMF
33	AUTOLK	OFF	Turn off auto keypad look
		5s,10s,...3min	Turn on the keypad timing automatic lock function
34	SCAN ADD		
35	TONE	1000,1450,1750,2100Hz	
36	PTT-LT	0,100,...,1000	Delay time before automatic DTMF transmitting
37	MENU EXIT TIME	5,10,...60s	Control the time of menu automatically exit
38	VOX DELAY	0.5SEC.....2.0SEC	Due to the delay of the repeater, noise appears when receive instant signal.
39	RP_STE	OFF	OFF: Adjust to eliminate the tail. If want to ensure if the repeater is work or not, set OFF.
		1,2,3,4,5,...10s	
40	RPT-RL	OFF	OFF: Adjust the length of time the tail sound appears, if not needed, set it to off.
		1,2,3,4,5,...10s	

Thanks for your favor in our product.
This manual is helpful for you to quickly know how to use the product.

This manual is applicable to the following product:
Multi- Band Portable Transceiver

Contents

General information

Preface 01
Disclaimer 01
RF Radiation Information 01
RF Radiation Profile 01
RF Radiation Safety 02
Operational Instructions and Training Guidelines 02
EU Regulatory Conformance 02

Basic Operation And Installation

Radio Structure 03
Radio Packing 03
Button Details 04
Specifications 04
Attach Battery 05
Assemble Antenna 05
Assembling the Belt Clip 06
LED Indicator 06
Assembling the Accessories 07
Charge the radio 07
Powering On/Off 08
Button Details 08
Channel Selection Button 09
Side Buttons 09
PTT Buttons 09
A36 menu description 10

Care

Product Care 14
Troubleshooting 15
Optional Accessories 17

No	Function function	Secondary menu	Setting instructions
42	MDF-A	FREQ	A band displays as frequency in channel mode
		CH	A band displays as channel in channel mode
		NAME	A band displays as channel name in channel mode
43	MDF-B	FREQ	B band displays as frequency in channel mode
		CH	B band displays as channel in channel mode
		NAME	B band displays as channel name in channel mode
44	TDR	OFF	Turn off
		ON	Turn on
45	TX-A/B	OFF	In dual standby mode, transmitting current frequency band
		A	In dual standby mode, press PTT to transmitting A band for cross-band TX/RX
		B	In dual standby mode press PTT to transmitting B band for cross-band TX/RX

No	Function function	Secondary menu	Setting instructions
46	STE	OFF	After releasing the PTT, the radio will send a turn-off code to suppress the instant noise of the receiver.
		ON	After releasing the PTT, the radio will send a turn-off code to suppress the instant noise of the receiver.
47	AL-MOD	SITE	On-site Emergency
		SOUND	Send emergency voice
		CODE	Send emergency code
48	RXEND TAIL	OFF	Turn off
		ON	MDC1200
49	RESET	VFO	Menu back to factory setting
		ALL	Menu and channel back to factory setting
50	VERSION	Firmware	
		Hardware	

17. Product Care

Do not pierce or scrape the product with any edged instruments or hard objects.

HNO3
HNO3
HMNO4

Keep the product far away frpm substances that can corrode the circuit.

Do not hold the product by its antenna directly.

Do not hold the product by its earpiece cable directly.

Attach the accessory jack cover when the product is not in use Keep the product far away frpm substances that cancorrode the circuit.

General information

Preface

Thanks for your favor in our product. This manual is helpfulfor you to quickly know how to use the prodcut.

This manual is applicable to the following product:B3X PMR446 Portable Radio (X may represent 0-9)

RF Radiation Information

The radio is not intended for use by general population in an uncontrolled environment. It is only for occupational useand only applied to work-related conditions. The radio must be only used by users, who are fully awareof the hazards of the exposure and who are able to exercise control over their RF exposure to qualify for thehigher exposure limits.

RF Radiation Profile

Radio Frequency (RF) is a frequency of electromagnetic radiation in the range at which radio signals are transmitted. RF technology is widely used in communication, medicine,food processing and other fields. It may generate radiation during use.

RF Radiation Safety

In order to ensure user health, experts from relevant industries including science, engineering, medicine andhealth work with international organizations to develop standards for safe exposure to RF radiation. These standards consist of:

- United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J;
- American National Standards Institute (ANSI)/Instituteof Electrical and Electronic Engineers (IEEE) C95. 1-1992;
- Institute of Electrical and Electronic Engineers (IEEE) C95. 1 – 1999;
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998;

Operational Instructions and Training Guidelines

To ensure optimal performance and compliance with the occupational/controlled environment RF energy exposure limits in the above standards and guidelines, users should transmit no more than 50% of the time and always adhere to the following procedures:

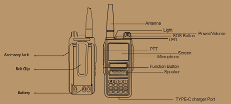
- RF energy will be generated only when the radio is transmitting.
- The radio must be 2.5 centimeters away from humanbody when transmitting.

EU Regulatory Conformance

As certified by the qualified laboratory, the product is in compliance with the essential requirements and other relevant provisions of the Directive 1999/5/EC.

Please note that the above information is applicable to EU countries only.

1.Radio Structure



2.Radio Packing

Belt Cilp x 1

Battery x 1

Antenna x 1

Charger x 1(Select)

Ad aptor

Charger Line

18. Troubleshooting

Phenomena	Analysis	Solution
Power-on Fallure	The battery may be improperly installed.	Remove the battery and reassemble it.
	The battery power may be used up.	Remove or replace the battery.
	The battery is poorly connected due to dirtied or damaged battery contacts.	Clean the battery contacts.If the problem cannot be solved, contact your dealer or authorized service center for inspection and repair.
During receving, the voice is weak, discontinuous or totally inactive.	Low battery voltage.	Recharge or replace the battery.
	Low volume level.	Increase the volume by rotating the Volume Control knob.
	The antenna may be loosened or improperly installed.	Reassemble the antenna after turning off the radio.
	The speaker may be blocked or damaged.	Clean the surface of the speaker.If the problem cannot be solved, contact your dealer or authorized service center for inspection and repair.
Unable to communicate with other members.	The frequency or signaling may be inconsistent with that of other members.	Set your TX/RX frequency and signaling to the same as that of other members.
	The channel type(digital/anaiog)may be set inconsistently.	Make sure all members are on the same digital/analog channel.
	You may be interrupted by radios using the same frequency.	Change the frequency, or adjust the squelch level.

Phenomena	Analysis	Solution
Irrelevant communication or noise is heard on the channel.	You may be interrupted by radio using the same frequency.	Change the frequency, or adjust the squelch level.
	The radio may be set with no signaling.	Set signaling for all member radios to avoid inference at the same frequency.And change the signaling settings for all portable radios at the same time.
The noise is too loud.	You may be too far away from otjer members.	Move towards other members.
	You may locate in an unfavorable position.For example, your communication may be blocked by high buildings or frustarted in the underground areas.	Move to an open and flat area, and restart the radio to try again.
	You may suffer from external disturbance (such as electromagnetic interference).	Stay away from equipment that may cause interference.

19. Optional Accessories

The following items are main optional accessories for the radio. For more information of other accessories, olease consult your local dealer.

Note

Use the accessories specified by **Company** only. If not, the Company shall not be liable for any losses or damages arsing out of use of unauthorized accessories.

Charger
3 series standard desktop charger / 3.7V–7.4V / DC12V input
3 series integrated desktop charger / 7.4V / AC220V input

Antenna
Digital / analog UHF short antenna / 400-470MHz / black mark
Digital / analog UHF long antenna / 400-470MHz / black mark
Digital / analog UHF built-in GPS short antenna / 400-470MHz / black label
Digital / analog VHF long antenna / 136–174MHz / black mark
Digital / analog UHF long antenna / 450-470MHz / black mark
Digital / analog UHF long antenna / 350-400MHz / black mark
Analog UHF long antenna / 400-480MHz / orange standard

Protective case
Semi-packed nylon cover / adhesive type / with oblique lanyard / small
Semi-packed leather holster / button type / oversized iron back clip / with diagonal strap / medium
All-inclusive leather holster / button type / thick leather pattern / with diagonal strap / large
Wearable chest bag protector / all black
Wearable chest bag protective cover / fluorescent strip
Waterproof bag

Data line / write frequency line
Universal K head dual hole USB to serial port programming cable / N4 / N5 / D4 / B3 universal
USB to Micro cable / OD3.8PVC / common to all series

3. Button Details

NO	Icon	Name	Description
1		LED Light	Green: RX Red: TX
2		PTT	Press to Talk
3	PF2	PF2	Programable Side button
4	PF3	PF3	Programable Side button (Better use Long press S2 for SOS)
5		Accessory Jack	For Headsets, Program Cable
6		Power Knob	Turn clockwise to power on and increase the volume Turn counterclockwise to power off the power and decrease the volume
7		SOS button on the top	One click on SOS alarm
8		Keyboard	Multifunction keyboard

4. Specifications

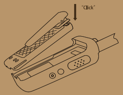
Regular		
Model Name		
Frequency Range	FM:65-108M AM:108-136M VHF:136-174M 220-260M UHF:350-390M 400-520M	
Power	5W	10W
Number of channels	256	
Work Mode	Analog	
Frequency Stability	±2.5ppm	
SOS Alarm	1	
Weight	210g	
Size	108*52*28(mm)	
Program Key	2	
Antenna Type	UHF 400-470/136-260 Antenna	
Battery	Standard 2000mAh, 7.4V	
Antenna Impedance	50Ω	
IP Rating	IP54	
Working Temperature	-30℃ ~ +60℃	

The above specifications are tested according to applicable standards. Due to the continuous development of technology, the above index data is subject to change without notice.

Receive	
Receiving sensitivity	<0.20uv(12dB SINAD)
Squelch sensitivity	<0.2uV
Intermodulation anti-interference	65dB
Audio distortion	<5%
Audio power	1W
Receive current	≤380mA
Audio Response	+1~-3dB
Clutter resistance	≥65dB

launch Part	
Emission current	≤1.3A
Maximum deviation frequency	≤5KHz/≤2.5KHz
Stray power	≤7.5uW
Adjacent channel power	≤-65dB
QT/DQT Frequency deviation	0.7±0.1KHz/0.4±0.1KHz
Signal-to-noise ratio	≥-45dB/≥-40dB
Modulation sensitivity	8-12mV
Output Power	5W/2W

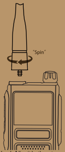
5.Attach Battery



Note

- Turn off the radio before removing the battery.
- If not assembled with battery specified by Company, the radio will give alarm tone to remind you when powering on. Afterwards, it will operate normally.

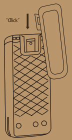
6 . Assemble Antenna



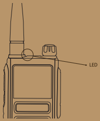
Note

Do not swing the radio when holding it by the antenna, so as to avoid lowering the performance and shorteningthe life span of the antenna.

7. Assembling the Belt Clip



8. LED Indicator



LED Status	Product Status
Steady Green	Receiving
Steady Red	Transmiting

Headset
2-Wire Earloop with On-MIC PTT
2-Wire D-Ring Earphone with On-MIC PTT
2-Wire Acoustic Tube with On-MIC PTT
Earloop with In-line Microphone
D-Ring Earphone with In-line Microphone
Acoustic Tube with In-line Microphone
3-Wire Acoustic Tube Surveillance Kit (Black)
Rotatable ear-hook type oval clip PTT headset
Right earhook type oval clip PTT headset
C-type ear-hook oval clip PTT headset
Ear hook + earplug type oval clip PTT headset

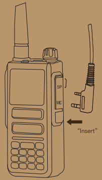
Multi-channel charger
3 Series Inline Desktop Six-way Charger / 14V3.5A
3 Series 3X2 type6 Slots Charger 14V3.5A-7.4V

Back clip
2 Series / 3 Series Belt Clip / Spring Type / 7CM

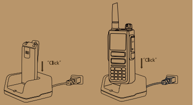
Hand microphone
Speaker Microphone
Speaker Microphone With Volume Control

Power Adapter
Power adapter / 12V2A / GB
Power adapter / 12V2A / European regulations
Power adapter / 12V2A / British regulations
Power adapter / 12V2A / Australia regulations
Power adapter USB interface / 5V2A
Power adapter USB interface / 5V1A
Power adapter / 12V1A / GB
Power adapter / 12V1A / European regulations
Power adapter / 12V1A / British regulations
Power adapter / 12V1A / Australia regulations

9. Assembling the Accessories

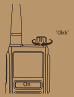


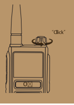
10. Charge the radio



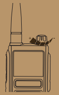
Charging Status		
✳ Blinking Red	⊠	Unchargeable
✳ Blinking Orange	▭	Waiting to charge.(Either the battery Voltage is too low or the battery temperature is to low or too high to allow charging.When this condition is corrected,the battery will automatically begin charging.)
• Steady Red	▭	Rapid Charging
✳ Blinking Green	▬	Charged(90% capacity)
• Steady Green	▬	Fully Charged

11. Powering On/Off

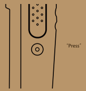




12. Button Details

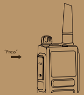


14. Side Buttons



According to different models and user habits, side buttons can be set to group/member/friend selection,SOS or to broadcast current groups.

15. PTT Button



In different interfaces,press PTT button to make group call,single call, private call.

16. Multi-B and Portable Transceiver menu description

NO	Function function	Secondary menu	Setting instructions
0	SQL	0, ..., 9	The lower the squelch level, the easier it is to interfere,the higher the level, the worse the sensitivity, and the setting should be moderate
1	STEP	2.50K	In the frequency mode, press the up and down keys to change the step value of the frequency
		5.00K	
		6.25K	
		10.00K	
		12.50K	
		20.00K	
		25.00K	
		30.00K	
		50.00K	
2	MEMCH	000,...,256	Indicate the channel number to be stored while store channel. If 'CH' in front of number means this channel already has a channel parameter.
3	DELCH	000,...,256	Delete the channel parameters of the specified channel. If there is no CH– means that the channel has no parameters and the operation is invalid.
4	R–CTCSS	OFF	None CTCSS
		67.0HZ,...,254.1 HZ	Standard CTCSS . Input standard or nonstandard CTCSS via keypad.
5	R- DCS	OFF	None DCS
		D023N,...,D754I	Standard DCS
6	T- CTCSS	OFF	None CTCSS
		67.0HZ,...,254.1 HZ	Standard CTCSS . Input standard or nonstandard CTCSS via keypad.

No	Function function	Secondary menu	Setting instructions
7	T- DCS	OFF	None DCS
		D023N,...,D754I	Standard DCS
8	VOICEPRI	OFF	
		Encryption 1	
		Encryption 2	
		Encryption 3	
		Encryption 4	
9	TXP	HIGH	High Power Transmitting
		LOW	Low Power Transmitting
10	SAVE	OFF	Off Battery Saving
		1	Off Battery Saving
		2	Normal Saving
		3	Super Saving
11	ROGER	OFF	Turn Off
		ON	Turn On
12	TOT	30,60,...480s	The number is from 30 to 480s, and the maximum time for PTT transmission is indicated in 30s steps.

No	Function function	Secondary menu	Setting instructions
13	VOX	OFF	Turn off VOX function, transmitting without PTT pressing.
		1,2,...9	Activate the sound pressure intensity of voice control, level 1 is the most sensitive.
14	W/N	WIDE	Wide mode
		NARR	Narrow mode
15	VOICE	OFF	Turn off voice prompt
		ON	Turn on voice prompt
16	BEEP	OFF	Turn off operation prompt
		ON	Turn on operation prompt
17	LANGUAGE	ENGLISH	English
		CHINESE	Chinese
18	BCL	OFF	OFF
		ON	ON

No	Function function	Secondary menu	Setting instructions
19	SC-REV	TO	Time scanning, the walkie-talkie pauses scanning when it detects a signal, and after staying stopped for about 5 seconds, the walkie-talkie will continue scanning even if the signal is still there.
		CO	Carrier scanning, the two-way radio pauses scanning when a channel is detected and keeps it on the same frequency until the signal disappears. There is a 2 second delay between the disappearance of the signal and the resumption of scanning to allow time for the response to begin transmission.
		SE	Search scanning, the walkie-talkie exits scanning when it detects a signal and stays at this frequency.
20	PF2		
21	PF2 LONG PRESS		
22	PF3		
23	ABR	ON	Background light is always on.
		5s,10s,...3min	Time between the background light ON to automatically OFF.
24	OFFSET	00.000,...,99.995	In frequency mode, the difference between the transmitting and receiving frequencies.
25	SFT-D	OFF	In frequency mode, turn off the difference between the transmitting and receiving frequencies.
		+	In frequency mode, the TX frequency=RX frequency plus frequency difference
		–	In frequency mode, the TX frequency=RX frequency minus frequency difference