

SAMCOM

MADE IN FAITH

DMR



DP-20
*Digital/Analog
Portable Radio*
User Guide

FCC Statement

This equipment has been tested and found to comply with part 90 of FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates 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. 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.

Note: "Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment."

Attention:

This radio complies with IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environment at operating duty factors of up to 50% and is authorized by the FCC for occupational use only.

Compliance with RF Exposure Standards

The radio complies with the following RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47 CFR & 1.1307, 1.1310 and 2.1093
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005; Canada RSS102 Issue 5 March 2015.
- Institute of Electrical and Electronic Engineers (IEEE) C95.1:2005 Edition

RF Exposure Compliance and Control Guidelines and Operating Instructions

To control your exposure and ensure compliance with the occupational/controlled environment exposure limits always adhere to the following procedures.

Guidelines:

- Do not remove the RF Exposure Label from the device.
- User awareness instructions should accompany device when transferred to other users.
- Do not use this device if the operational requirements described herein are not met.

Operating Instructions:

- Transmit no more than the rated duty factor of 50% of the time. To transmit (talk), push the Push-To-Talk (PTT) button. To receive calls, release the PTT button. Transmitting 50 % of the time, or less, is important because this radio generates

measurable RF energy exposure only when transmitting (in terms of measuring for standards compliance).

- Hold the radio in a vertical position in front of face with the microphone (and the other parts of the radio, including the antenna) at least one inch (2.5 cm) away from the nose. Keeping the radio at the proper distance is important because RF exposures decrease with distance from the antenna. Antenna should be kept away from eyes.

- When worn on the body, always place the radio in a approved clip, holder, holster, case, or body harness for this product. Using approved body-worn accessories is important because the use of our's or other manufacturer's non-approved accessories may result in exposure levels, which exceed the FCC's occupational/controlled environment RF exposure limits.

- If you are not using a body-worn accessory and are not using the radio in the intended use position in front of the face, then ensure the antenna and the radio are kept at least 2.5 cm (one inch) from the body when transmitting. Keeping the radio at the proper distance is important because RF exposures decrease with increasing distance from the antenna.

- Use only manufacturer's name approved supplied or replacement antennas, batteries, and accessories. Use of non-manufacturer-name approved antennas, batteries, and accessories may exceed the FCC RF exposure guidelines.

INTRODUCTION

Thank you for purchasing our products. Combined the latest technology along with a sturdy mechanical frame, our radios provide cost-effective communications for the people who need to stay in touch with the working team such as retail stores, restaurants, campuses and schools, construction sites, manufacturing, shows and trade fairs, property and hotel management and more, they are the perfect communication solutions for all of today's fast-paced industries.

We sincerely appreciate your interest on our products, and strongly suggest you to read the instruction carefully. Your comment will be highly valued. Please read through the manual in order to get familiar with the device and learn the features of this model.

Main Features

- IP66 rating water resistance & dust protection
- Robust, rugged and heavy-duty design
- 1.8 inch TFT display, 65535 colors, 160x128 pixels
- Crisp, clear and high quality sound
- 2000mAh high capacity Li-ion battery pack
- 1024 channels, up to 250 zones
- 2 programmable function side buttons
- TDMA dual time slots technology
- ETSI DMR I&II standard compatible
- AMBE+2 digital vocoder
- Digital and analogue dual modes
- 5 watts output power
- SMS – short message service
- CTCSS/DCS/DTMF signaling
- Multiple call modes
- Noise suppression
- Voice encryption
- Emergency alarm

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SAFETY INFORMATION

Please read this information before using your radio. Failure to do so could result in personal injury, death, and/or damage to your radio, accessories and/or other property.

Radio Care

Advice

- Do not use options or accessories not specified.
- Ensure that the radio is used within the parameters for which it was designed.
- Turn the radio OFF before connecting optional accessories.

Warning

Turn the radio OFF in the following locations:

- In explosive atmospheres (flammable gas, dust including metallic & grain powders etc).
- Whilst taking on fuel or while parked near a fuel station.
- Near explosives or blasting sites.
- In aircraft, medical institutions or near persons known to be wearing a pacemaker.

Caution

- Do not disassemble or modify the radio for any reason.
- Do not transmit while touching the antenna terminal or any exposed metallic parts of the aerial as this may result in burn.
- Please check and observe regulation in your country with regards to use whilst driving.

End of Life Disposal

- When your radio reaches the end of its useful life, please ensure that the unit is disposed of in an environmentally friendly way.

Battery Care

Precautions

- Turn the radio OFF before charging.
- Charge the battery pack before use.
- Do not recharge the battery pack if it is already fully charged as this will use one of its charge cycles and may shorten its life.
- Charge the battery in accordance with the instructions enclosed with your charger.
- Do not charge the radio and/or battery pack if they are wet.

The battery pack includes potentially hazardous components.

Please:

- Do not disassemble or reconstruct battery.
- Do not short-circuit the battery.
- Do not incinerate or apply heat to the battery.
- Do not immerse the battery in water or get it wet by other means.
- Do not charge the battery near fires or under direct sunlight.
- Use only the specified charger and observe charging requirements.
- Do not pierce the battery with any object or strike it with an instrument.
- Do not use the battery pack if it is damaged in any way.
- Do not reverse-charge or reverse-connect the battery.
- Do not touch a ruptured or leaking battery.

If liquids from the battery get on your skin or into your eyes, immediately:

- Wash your eyes out with fresh water avoiding rubbing them.
- Seek medical treatment.

Notes:

- If a battery is not to be used for an extended period of time (several months) remove the battery pack from the equipment and store in a cool and dry location part charged. Do not fully discharge the battery before storage.

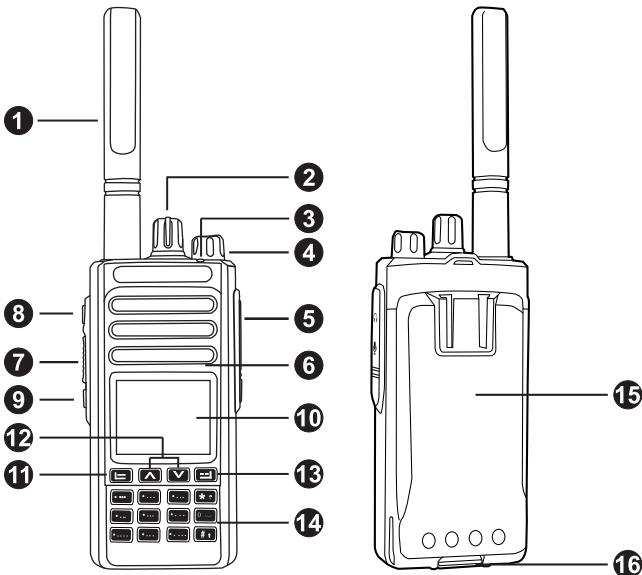
- Each charge cycle reduces the battery's life. Minimize the number of times you charge your battery especially in hotter environments which further shorten a battery's life.

RADIO OVERVIEW

Package Includes

- 1pcs radio unit
- 1pcs rubber antenna
- 1pcs rechargeable Lithium-ion battery pack
- 1pcs AC adapter & rapid desktop charger kit
- 1pcs belt clip & hand strap
- 1pcs user's manual

At a Glance



1 – Antenna

Provide attached rubber flexible antenna or anther 50Ω impedance antenna.

Note: It may cause the damage to your radio if the antenna is connected inappropriately.

2 – Channel Selector Knob

Select the radio's different channels.

3 – LED Indicator

Give battery status, radio TX & RX, scan information.

4 – On/Off/Volume Knob

Turn the radio ON or OFF and to adjust the radio's volume.

5 – Audio Accessory Jack

Connect compatible audio accessories.

6 – Microphone

Speak clearly into the microphone when transmitting.

7 – PTT (Push-To-Talk) Button

Press and hold down this button to transmit and talk, release it to receive and listen.

8 – Side Button P1

The button **P1** is a general button that can be configured by the programming software. The default setting is '**Monitor**' feature.

9 – Side Button P2

The button **P2** is a general button that can be configured by the programming software. The default setting is '**Scan**' feature.

10 – LCD Screen

The radio is with a 1.8 inch TFT, 65K colors and 160 x 128 pixels LCD display. You will see the working channel frequency name, number, zone and various icons which stand for the selected functions.

11 – Menu/Confirm Key

Press the key to enter menu mode or confirm the current operation.

12 – Navigation Key

Press the two keys to select the desired items when operating in menu mode.

13 – Back Key

Press the key to return back the previous setting, operation or the standby screen.

14 – Alphanumeric Keypad

You can input frequency, contact number, edit the contact and text messages with the keypad.

15 – Lithium-Ion Battery Pack

Radio comes equipped with a rechargeable Lithium-ion battery pack. This battery should be fully charged before initial use to ensure optimum capacity and performance. Batteries are designed specifically to be used with a supplied charger and vice versa.

16 – Battery Latch

Push down battery latch to release battery pack.

GETTING STARTED

Install and Remove Battery Pack

Installing Battery

1. Turn the radio OFF.
2. With the top side up on the battery pack, fit the tabs at the top of the battery into the slots at the top of the radio's body.
3. Press the latch on the bottom of the radio's body towards the battery until a click is heard.

Removing Battery

1. Turn the radio OFF.
2. Push down the battery latch while removing the battery.
3. Pull the battery away from the radio.

Install and Remove Antenna

Installing Antenna

Screw the antenna into the connector at the top of the radio by holding the bottom of the antenna, and turning it clockwise until secure.

Removing Antenna

Rotate the antenna counter clockwise by holding the bottom of antenna.

Install and Remove Belt Clip

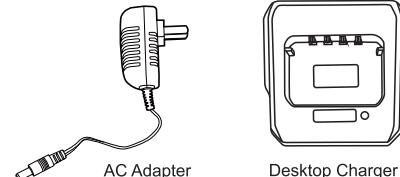
Installing Belt Clip

Slide the spring action belt clip rails into the belt clip grooves on the back of the battery pack and slide it down until the belt clip tab snaps into place.

Removing Belt Clip

To remove, pull back the metal release tab on the belt clip tab and push the spring action belt clip upward to remove.

AC Adapter and Desktop Charger



The radio is equipped with 1pcs AC adapter and 1pcs desktop charger.

Charging the Battery Pack

To charge the battery pack, place it in the supplied desktop charger.

1. Place the desktop charger on a flat surface.
2. Insert the connector of the AC adapter into the charger port on the back of the desktop charger.
3. Plug the AC adaptor into a power outlet.
4. The charger is ready for charging if the indicator LED lights red for one second and turns off. If the indicator LED is flashing, the charger is not ready.
5. Place the battery into the charger aligning the battery slots with the charger guide rails.
6. The indicator LED lights red when charging. If the battery capacity is too low, the indicator LED flashes red. The battery first trickle charges and turns to normal charging automatically.
7. The battery is fully charged when the battery LED light is green. The charger stops charging automatically.

Notes:

- When you charge a battery attached to the radio, turn the radio OFF to ensure a full charge.
- The estimated charging time of the battery with charger is about 5 hours.

BASIC OPERATION

Turn the Radio ON/OFF

To turn on the radio, rotate on the On/Off/Volume Knob clockwise. The radio will play power up audio and LCD will display startup screen.

To turn off the radio, rotate the On/Off/Volume Knob counterclockwise until you hear a 'Click' sound.

Adjusting Volume

Turn the On/Off/Volume Knob clockwise to increase the volume, or counterclockwise to decrease the volume.

Note: Do not hold the radio too close to the ear when the volume is high or when adjusting the volume.

Programmable Side Buttons P1 & P2

The radio's two side buttons can be programmed as short-cut buttons for many of the radio's features.

The following table shows the functions available by quickly pressing and releasing the buttons (short press), or by pressing and holding the buttons for a period of time (at least 1 second to 3.75 seconds) before releasing (long press).

Items	Functions
Unassigned	None.
All Alert Tone On/Off	Turn on/off the all alert tone.
Emergency On	Activate the emergency alarm.
Emergency Off	Deactivate the emergency alarm.
High/low Power	Select the radio TX power level.
Monitor	Enable to hear all the calls even with unmatched CTCSS/DCS.
Nuisance Delete	Remove the channels from the Scan List.
One Touch Access	Call or send message to pre-set target radio directly.

Repeater/Talkaround	Enable/Disable talk around.
Scan On/Off	Enable/Disable channel scanning.
Tight/Normal Squelch	Select squelch between normal and tight level.
Privacy On/Off	Enable/Disable voice encryption.
VOX On/Off	Enable/Disable VOX.
Zone Select	Enter Zone selection menu.
Manual Dial For Private	Input the target radio's ID with the keypad to make a call directly.
Lone Worker On/Off	Enable/Disable lone worker.

Use the Keypad to Input Character

You can use the alphanumeric keypad to enter the contact names/ID and text messages. Some characters are available for pressing the keypad more than one times. Input mode includes 3 modes: **EN** – English; **CH** – Chinese; **123** – Digits.

The following table is a list for your reference.

Key	Number of times key is pressed.												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1	.	,	?	!	@	&	'	%	-	:	*	#
2	a	b	c	2	A	B	C						
3	d	e	f	3	D	E	F						
4	g	h	i	4	G	H	I						
5	j	k	l	5	J	K	L						
6	m	n	o	6	M	N	O						
7	p	q	r	7	P	Q	R	S					
8	t	u	v	8	T	U	V						
9	w	x	y	z	9	W	X	Y	Z				
0	0												
*	*	Space											
#	Switch input mode: EN, CH, 123.												

Digital and Analogue Mode

Each channel can be set as digital or analog mode. When set as analog mode, some of the functions are unavailable, e.g. short messages, icons representing the digital features will be

not shown on the LCD screen and the relative items will be not shown or invalid in the menu either.

Icons Indicators

ICON	Description
	RSSI signal strength indicator.
	Means current channel is set as analog mode.
	Means current channel is set as digital mode.
	Means current channel sets call mode.
	Means there is a message unread.
	Means the received message read.
	Means current channel is set high TX power.
	Means current channel is set low TX power.
	Means talk around feature is deactivated.
	Means the scanning is activated.
450.00250	Channel frequency.
Zone1 CH 1	Zone number and channel number.

LED Indicators

Radio Working Status and LED Indicators

Radio Status	LED Indicator
Receive emergency alarm call	Red Heartbeat
Transmit (TX)	Solid Red
Receive (RX)	Solid Green
During the time when the radio receives the call and is going to reset (analog) or call hang (digital)	Solid Orange
In emergency alarm status; Missed call or incoming call alert; Scanning	Orange Heartbeat

Transmitting and Receiving a Call

Selecting a zone

You can set up to 1024 channels and 250 zones, each zone can store up to 16 channels.

To select a zone via menu mode:

1. Press [] key to enter menu mode.
2. Press [] or [] key to select **Zone** item and press [] key to confirm. The current working zone will be shown.
3. Press [] or [] key to choose the target zone and press [] key again to confirm and return to the previous menu.

Selecting a channel

After the target zone is selected, turn the Channel Selector Knob until you reach the desired channel name and number. LCD screen will show the selected zone, channel name and channel number.

Receiving and answering the call

1 - Receiving and answering a group call

In order to receive the group call, you must set your radio as the group member (add your radio into the group call list via PC programming software).

When the radio receives the group call:

- a. Green LED indicator lights on.
- b. The group call icon, group's name/ID will show on the screen.
- c. Keep your mouth 3~6 inches away from the microphone.
- d. Press **PTT** key to answer the call and RED LED indicators lights on.
- e. Wait for the Talk Permit Tone to finish (if activated) and speak to the microphone.
- f. Release **PTT** key to receive the call.
- g. After the present time (call hang time) is over, the call is over.

2 - Receiving and answering a private call

Private call is a call from an individual radio to another individual radio. You need to set Private Call Confirmed via PC programming software.

When the radio receives the private call:

- a. Green LED indicator lights on.
- b. The private call icon, the caller's name/ID will show on the screen.
- c. Repeat step c ~ g as previous 'Receiving and answering a group call'.

3 - Receiving and answering an all call

All call is a call from an individual radio to every radio on the channel. It is used to make importance announcements requiring the users' full attention.

When the radio receives the all call:

- a. Green LED indicator lights on.
- b. The all call icon, the caller's name/ID will show on screen.
- c. When the all call is finished, the radio returns back to the previous screen.

Note:

1. The radio can't answer the all call. During receiving, if the receiver switches to the other channel, the radio stops receiving the all call.
2. During all call, all the programmable keys are invalid until the call is over.

Making a call

There are 4 methods to select a channel, contact ID or talk group.

1. Turn the Channel Selector Knob;
2. Programmable one-touch access & call side button;
3. Via the Contact List in the menu;
4. Manual Dial. Note: this method is only available for private call and dial by keypads.

1 - Using a channel knob to make a call

In order to make a group call, you must set your radio as the group number (add your radio into the group call list).

1. Turn the channel knob to select the target channel with name/ID. (The call type depends on the contacts pre-setting via PC programming software.)
2. Keep your mouth 3~6 inches away from the microphone.
3. Press **PTT** key to make a call and the RED LED indicator lights on. The target radio's name/ID, call type icon will show on the screen.
4. Wait the Talk Permit Tone to finish (if activated) and speak to the microphone.
5. Release **PTT** key to receive the call. If the target radio answers the call, GREEN LED indicators lights on, the target radio's call type, name/ID will show on the caller's screen.
6. If the Channel Free feature is enabled, you can hear a short alert tone when release the target radio's **PTT** key (the alert tone indicates that the channel is idle), you can answer the call. Press **PTT** key to answer the call or the call ends after the present time (call hang time) is over, 'Call End' will show on the screen.

2 - Using the programmable side button to make a call

1. Press the side button which programmed as one-touch access & call feature to make a group/private call to the name/ID.
2. Repeat step 2 ~ 6 as previous 'Using a channel knob to make a call'.

MENU OPERATON

The general steps of menu operation are as follows:

- a) Press [] key to enter the menu mode;
- b) Press [] or [] key to select the desired item;
- c) Press [] key to enter the sub item;
- d) Press [] key to confirm or press [] key to return back to previous screen;
- e) Press [] key to return back to the standby screen.

Contacts

Contacts provides the contact name or ID that you use to make a call, including group call, private call and all call.

In digital mode, contacts can store up to 512 groups. You can check, add and edit the contacts records.

Note:

Contacts item will show in the menu under digital mode only.

There are 3 sub items under **CONTACTS** item.

1 – Contacts

List the contacts' name/ID saved here.

2 – New Contact

Add private call new contacts' name/ID here.

3 – Manual Dial

Input the target radio's ID via keypad here and make a call directly.

For private call type contact, there are 9 items under the contact.

1) Call Alert

Call alert allows the user to ask another user to call back.

2) View Number

Check the contact call type, name and ID.

3) Edit Name

Edit the contact name here.

4) Edit Number

Edit the contact ID here.

5) Program Key

Set short-cut key to find the corresponding contact. After

setting you can long press the 0 ~ 9 keys on the panel and directly reach the contact.

6 – Radio Check

This function is used to check if the target radio is active in the system or not.

7) Remote Monitor

This function is used to activate the target radio's microphone. You can use this function to remote monitor the sound around the target radio.

8&9) Radio Enable & Disable

This function allows one radio sending the signal to kill the target radio. The radio to be killed can not be powered on. The radio can only revive via PC programming software or the administrator radio sends a revive order. After revived, the radio can work normally again. This function is used to manage the unauthorized usage of the radio, prevent the radio which is lost.

Scan

You can turn ON/OFF channel scanning and view current scanning list here.

Zone

Select the desired zone here.

Messages

The radio has messages function, it allows you to send text messages to another radios or receive the messages from another radios.

Note:

Messages item will show in the menu under digital mode only.

There are 5 sub items under **Messages** item.

1 – Inbox

Check the messages you received here.

2 – Write

Edit the messages you want to send here.

3 – Quick Text

Save the messages often to use here.

4 – Sent Items

Check the messages you have sent here.

5 – Drafts

Save the messages you edit and plan to send here.

Call Log

The radio can record all recent calls, including missed call, answered call and outgoing call. With this function you can check and manage the recent calls.

Note:

Call Log item will show in the menu under digital mode only.

Utilities

You can set the radio conventional functions, edit the channels parameters and check your radio own name/ID/firmware version under this item.

There are 3 sub items under **Utilities** item.

1 – Radio Settings, includes:

1) Talkaround

Activate talkaround feature when the channel operates in repeater mode.

2) Tones/Alerts

Turn ON/OFF talk permit tone and keypad tone.

3) Power

Select TX power level.

4) Backlight

Set the time of radio LCD backlight ON.

5) Squelch

Set the radio squelch level.

6) Intro Screen

Set the radio startup screen: picture or character string.

7) Keypad Lock

Set keypad lock method and time.

8) Language

Set the radio operating system language: English or Chinese.

9) LED Indicator

Turn ON/OFF the radio LED indicator function.

10) VOX

Activate VOX feature and set VOX delay time.

11) Passwd Lock

Enter the password to lock radio program function.

12) Clock

Set the current date and time.

13) Mode

Select the current channel mode to be CH mode or MR mode.

2 – Radio Info**1) My Number**

Check the radio's name and number here.

2) Versions

Check the radio's firmware version here.

3 – Program Radio**1) RX Frequency**

Edit the channel receive frequency here.

2) TX Frequency

Edit the channel transmit frequency here.

3) Channel Name

Edit the channel name here.

4) Time Out Timer

Set the radio TOT time here.

5) CTC/DCS

Set the channel CTCSS tones/DCS codes here.

6) Color Code

Set the channel color code here.

Note:

This item will show in the menu under digital mode only.

7) Repeater Slot

Set the channel repeater slot here.

Note:

This item will show in the menu under digital mode only.

TROUBLESHOOTING

Problem	Possible Reasons and Potential Solutions
No Power	Recharge or replace the battery pack; Extreme operating temperatures may affect battery life.
Hearing other noises or conversation on a channel	Confirm CTCSS/DCS is set; Frequency or CTCSS/DCS may be in use; Change settings: either change frequencies or CTCSS/DCS on all radios; Make sure the radio is at the right frequency and privacy code when transmitting.
Audio quality not good enough	Radio settings might not be matching up correctly. Double check frequencies, CTCSS/DCS and bandwidths to make sure they are identical in all radios.
Limited talk range	Steel and/or concrete structures, heavy foliage, buildings or vehicles decrease range. Check for clear line of sight to improve transmission; Wearing radio close to body such as in a pocket or on a belt decreases range; Change location of radio. UHF radios provide great coverage in industrial and commercial buildings. Increasing power provides greater signal range and increases penetration through obstructions.
Can not transmitted or received	Make sure the PTT button is completely pressed when transmitting; Confirm that the radios have the same Channel, Frequency, Interference Eliminator Code and bandwidth settings; Recharge, replace and/or reposition batteries; Obstructions and operating indoors, or in vehicles, may interfere, change location; Verify that the radio is not in Scan.
Heavy static or interference	Radios are too close, they must be at least seven feet apart; Radios are too far apart or obstacles are interfering with transmission.
Low battery	Recharge or replace the battery pack; Extreme operating temperatures affect battery life.
Desktop Charger LED light does not blink	Check that the radio/battery is properly inserted and check the battery/charger contacts to ensure that they are clean and charging pin is inserted correctly.
Cannot activate VOX	VOX feature might be set to OFF; Use the programming software to ensure that the VOX sensitivity level is not set to '0'; Accessory not working or not compatible.

Battery does not charge	Check desktop charger is properly connected and correspond to a compatible AC adapter; Check the charger's LED indicators to see if the battery has a problem.
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Note: Whenever a feature in the radio seems to not correspond to the default or preprogrammed values, check to see if the radio has been programmed using the user program software with a customized profile.

SPECIFICATIONS

General

Frequency Range	V: 136-174MHz / U: 400-480MHz
Channel Capacity	1024 Channels
Channel Spacing	Digital: 12.5KHz / Analog: 12.5KHz
Operating Voltage	7.4V DC ± 20%
Antenna Impedance	50Ω
Battery Type	Lithium-ion, 2000mAh
Dimensions (H x W x D)	133 x 61 x 40mm
Weight with battery	270g with antenna & battery

Transmitter

RF Power	5W(H) / 2W(L)
Frequency Stability	±1.5ppm
4FSK Modulation	7K60FXD / 7K60FXE
Spurious Emissions	-36dBm < 1GHz, -30dBm > 1GHz
Idle Slot Power	-57dBm
FSK Error	<3%
FM Noise	40dB@12.5KHz

Receiver

Sensitivity	0.3µV (BER 5%) / 0.7µV (BER 1%)
Co-Channel Rejection	-8dB@12.5KHz
Spurious Radiation	-57dBm < 1GHz, -47dBm > 1GHz
Adjacent Channel Selectivity	70/60dB
Intermodulation	60dB
Spurious & image Rejection	70 dB
Audio Output	1W@16Ω for 5% THD

Hereby, we declare that our radio is in compliance with the essential requirement and other relevant provisions of Directive 1999/5/EC.

WARRANTY INFORMATION

Warranty Period

Radio Body: 2 years from date of purchase.

Battery Pack: 6 months from date of purchase.

Note: Please retain your receipt as your proof of purchase will be required to valid warranty claim.

Warranty Exclusions

This warranty will not apply in relation to:

- Failure to provide a proof of purchase
- Product has been modified, changed or serial number has been removed
- If any damage is caused by the use of non approved accessories
- Product that has been replaced by an unauthorized person
- Product failure due to customer misuse, abuse or abnormal use
- Failure by the customer to take reasonable care
- Failure due to not using the product in accordance with instructions stated in the manufacture's user guide.
- Product failure due to recommended installation procedures not being followed as stated in the manufacture's user guide.

More warranty relative information please read our Warranty Policy on our website.