



**JTECH<sup>®</sup>**

**EXTEND**

**USER GUIDE**

## THANK YOU!

Thank you for purchasing this JTECH Extend portable two-way radio by JTECH. The JTECH Extend delivers the latest technology, has the most stable components, and has the most advanced production technology. The JTECH Extend radio will provide you with reliable performance and high quality you demand.

This user manual should be read to ensure that the user understands the operation of the JTECH Extend radios. Please read the Safety Information Manual before use.

### **PLEASE READ THIS IMPORTANT INFORMATION BEFORE USING YOUR JTECH PORTABLE TWO-WAY RADIO.**

- Only qualified technicians are allowed to maintain this product.
- To avoid electromagnetic interference, turn off your radio in places where posted notices instruct you to do so. Hospitals or health care facilities may be using equipment that is sensitive to external RF energy. When traveling on aircraft, turn off your radio when the airline crew instructs you to do so.
- When in vehicles equipped with an airbag, do not place a portable radio in the airbag deployment area.
- Turn off your radio prior to entering any area with a potentially explosive atmosphere. Do not remove, install, or change batteries in such areas.
- To avoid possible interference with blasting operations, turn off your radio when you are near electrical blasting caps.
- Do not expose the radio to direct sunlight for long periods of time. Do not place the radio in direct contact with any heating source.

## Safety Instructions

Please observe the following safety instructions to prevent fire, accidents, personal injury, or equipment damage.

- Do not modify the radio or its charger in any way.
- Do not expose the radio to direct sunlight for extended periods of time, leave near heaters or other heat sources.
- Do not store or use unprotected radios for prolonged periods in areas of high dust or excessive moisture.
- Users may experience signal interference if the unit is used near devices such as televisions or electric generators.
- If the unit emits smoke or you notice a strange smell, immediately turn off the power and send it to the closest repair station.
- The radios are small but contain high power components. It is not uncommon to notice slight warming of the handset. This is normal and the unit may be continued to be used.

If there is any problem with the radio, please contact JTECH or your local distributor.

## **Compliance and Control Guidelines and Operating Instructions for Portable Two-Way Radios to Control Your Exposure and Ensure Compliance with the Occupational/ Controlled Environment Exposure Limits, Always Adhere to the Following Procedures:**

- Transmit no more than 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 since the radio generates measurable radio frequency (RF) energy exposure only when transmitting (in terms of measuring standards compliance).
- For body-worn operation, always place the radio in a JTECH approved belt clip or similar accessory that contains no metallic components and provides a minimum separation distance of 1.3 cm between the back of the radio and the user's body. JTECH approved accessories, antennas, and device combinations comply with the occupational/controlled environment RF exposure limits. Using accessories not approved by JTECH may result in exposure levels which exceed the FCC's occupational/controlled environment RF exposure limits. JTECH approved accessories have been tested and comply with FCC RF exposure requirements.
- If you are not using a body-worn accessory and are not using the radio held in front of the face, ensure the radio is kept at a minimum of 1.3 cm from the body when transmitting. Keeping the radio at a proper distance is important since RF exposure decreases with increasing distance from the antenna.
- Use only FCC approved, supplied or replacement headsets, batteries, and accessories intended for use with this radio. Use of non FCC approved headsets, batteries, and accessories may exceed FCC RF exposure guidelines.

## **Product Safety and RF Exposure for Portable Two-Way Radios Compliance with RF Energy Exposure Standards**

NOTICE: This radio is intended for use in occupational/controlled applications where users have been made aware of the potential for exposure and can exercise control over their exposure. This radio device is NOT authorized for general population, consumer, or similar use.

**BEFORE USING THIS RADIO, READ THE TRAINING MATERIAL BELOW WHICH CONTAINS IMPORTANT OPERATING INSTRUCTIONS FOR SAFE USAGE AND RF ENERGY AWARENESS AND CONTROL INFORMATION FOR COMPLIANCE WITH RF ENERGY EXPOSURE LIMITS IN APPLICABLE NATIONAL AND INTERNATIONAL STANDARDS.**

## FCC License Information

Your JTECH radio operates on communications frequencies which are subject to FCC (Federal Communications Commission) Rules & Regulations. FCC rules require that all operators using Private Land Mobile radio frequencies obtain a radio license before operating their equipment. Application for license must be made on FCC main form 601, and schedules D, E, and H.

**FAX:** Forms can be obtained by fax from the FCC Fax-On-Demand system. Call 1-202-418-0177 from your fax machine and request document number 000600 for the form, schedules, and instructions.

**MAIL:** Forms can be ordered by telephone, and will be sent to you by first class mail. Call the FCC Forms Hotline at 1-800-418-FORM (1-800-418-3676).

**INTERNET:** Form 601 and instructions can be downloaded from the FCC Forms website at:

<http://www.fcc.gov/Forms/Form601/601.html>

Before filling out your Form 601 application Technical Data section, you must decide which frequency (or frequencies) you will operate on.

**QUESTIONS?** Call the FCC for license application questions at 1-888-CALL-FCC (1-888-225-5322). If you have any questions, call JTECH at 1-800-321-6221.

## Federal Communication Commission (FCC) Regulations

The FCC has established limits for safe exposure to radio frequency (RF) emissions from radio devices. The FCC requires manufacturers to demonstrate compliance with RF exposure limits before radio devices may be marketed in the U.S. When two-way radios are approved for occupational/controlled environment exposure limits, the FCC requires users to be fully aware of, and exercise control over, their exposure. Awareness and control of RF exposure can be accomplished using labels, or by education and training through appropriate means such as information and instructions in user manuals or safety booklets. Your JTECH two-way radio has an RF exposure information label in the battery compartment. The training material below includes useful information about RF exposure and helpful instructions.

Your JTECH two-way radio device was designed and tested to comply with several national and international standards and guidelines regarding human exposure to RF electromagnetic energy. In terms of measuring RF energy for compliance with FCC exposure guidelines, your radio device radiates measurable RF energy only while transmitting (during talking), not when it is receiving (listening), or in stand-by mode.

## WARNING

As the qualified end-user of this radio device, you must control the exposure conditions in the area to ensure the minimum separation distance is maintained between the antenna and nearby persons for satisfying RF exposure compliance. The operation of this transmitter must satisfy the requirements of occupational/controlled exposure environment. For work-related use, transmit only when the person(s) is at least the minimum distance from the properly installed, externally mounted antenna. Transmit only when people are outside the vehicle or away from the repeater antenna and are at least the recommended minimum lateral distance away from the antenna/vehicle.

## General Items

This warranty policy establishes the liability limits for which JTECH is responsible. JTECH has the right to decide, in their sole discretion, whether to repair, replace, or refund the purchase price of any equipment subject to this warranty. There are no other options available under this warranty. This express warranty is the complete agreement.

**OTHER THAN AS EXPRESSLY SET OUT IN THESE TERMS OR ADDITIONAL TERMS, NEITHER JTECH NOR ITS SUPPLIERS OR DISTRIBUTORS MAKE ANY SPECIFIC PROMISES ABOUT THE SERVICES OR PRODUCTS.**

## JTECH Radio Quality Warranty and Liability

### The Warranty Range and Limitation

JTECH is committed to quality and stands behind its products. JTECH will, during the warranty period specified for each product, repair or replace components that fail as a result of poor workmanship or materials. This warranty does not cover improper use or intentional damage.

### The Warranty Policy Does Not Include the Following Conditions:

- Defects or damages caused by working in abnormal or unusual situations.
- Defect or damages caused by misuse, accident, or water submersion.
- Defect or damages caused by unauthorized installation, repair, tampering, or adjustment.
- Warranty does not extend to cosmetic scratches or damages as a result of normal use or misuse.
- This warranty is void if the product information label is removed, or if the serial number is tampered with, changed, or cannot be identified. It is also void if the repeater enclosure is tampered with or unsealed.

## CONTENTS

Getting Acquainted	
Product Inspection	<u>8</u>
Common Package Items	<u>8</u>
Radio Controls	<u>9</u>
LCD Display Symbols	<u>10</u>
Programmable Auxiliary Functions	<u>10</u>
Safety and Care Instructions	<u>11</u>
Getting Started	
Installing the Swivel Belt Holster	<u>12</u>
Installing the Belt Clip	<u>12</u>
Installing the Battery	<u>13</u>
Charging the Battery	<u>14</u>
Turn the Unit ON/OFF	<u>16</u>
Adjusting the Volume	<u>16</u>
Select a Channel	<u>16</u>
Transmitting and Receiving	<u>17</u>
Keypad Lock	<u>17</u>
VOX Operation	<u>18</u>
Monitoring a Channel	<u>19</u>
Scanning	<u>19</u>
Wireless Cloning	<u>21</u>
Local Programming Mode	<u>22</u>
Entering Programming Mode	<u>23</u>
Advanced Features	<u>28</u>
Frequencies List	<u>29</u>
CTCSS/DCS Code List	<u>30</u>
Troubleshooting	<u>31</u>

## GETTING AQUAINTED

### Product Inspection

Thank you for your purchase of JTECH Extend portable two-way radio. Before use, please inspect the product as follows. First check the shipping carton for any signs of damage. If any damage has occurred, please contact your dealer or JTECH immediately. Confirm the supplied product against the packing slip to assure accuracy.

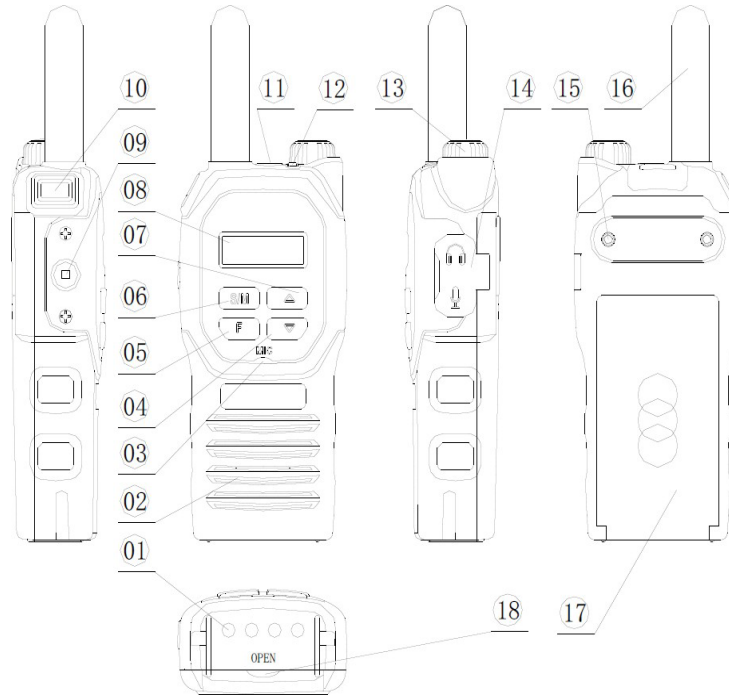
### Common Package Items (Contents May Vary):

	Item	Qty.
1	Radio (Extend)	1
2	Battery	1
3	Single Charger (with adapter)	1
4	Charger Power Adapter	1
5	Swivel Belt Holster	1



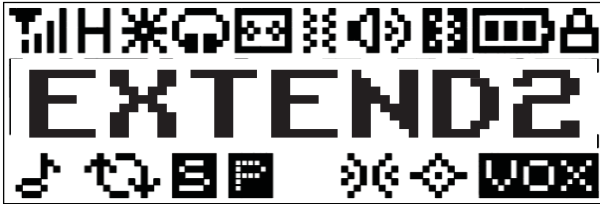
## RADIO CONTROLS

The following figures denote the radio keys, controls, and user interfaces of the JTECH Extend. The user should note the operation of each and be familiar before deployment.



- |  |   |
|--|---|
| 1. Charger Terminal  | 10. SF1, Programmable Function Key - ( default: PTT ) |
| 2. Speaker   | 11. LED Flashlight                                    |
| 3. Microphone  | 12. LED Indicator (Tx & Busy)                         |
| 4. ▼ , Channel Down Key - (Select item key in Local setting Mode)  | 13. Power Switch/ Volume Knob                         |
| 5. F , Programmable Function Key - (Default: Key Lock @long press, Flashlight @short press, exit current status key in local setting mode) | 14. Headset Jack/Programming Cable Jack               |
| 6. S/M, Programmable Function Key - ( Default: Menu @long press, Scan @short press)  | 15. Belt Clip Screw Hole                              |
| 7. ▲ , Channel Up Key - (Select item key in Local programming Mode)  | 16. Antenna   |
| 8. LCD Display - refer to the below symbols list   | 17. Battery Cover                                     |
| 9. SF2 , Programmable Function Key - (Default: Channel View @short press, Monitor @long press)   | 18. Open Slot for Battery Cover                       |

## LCD Display Symbols



Symbol	Function
EXTEND2	Power on text, it can be channel number/channel alias/channel frequency
	RSSI
H	High power: the current channel is high power (H/M/L)
	LED flashlight function enable
	Headset connected
	Headset function disable
	Vibration function enable
	Monitor indicator
	Speaker opened
	Speaker function disable
	Battery indicator
	Keypad lock
	DTMF signalling enable

	Scan
	The current channel is in scan list
	The current channel is prior channel
	Compander enable
	Scrambler enable
	VOX enable

## Programmable Auxiliary Functions

The SF1, SF2, S/M, and F keys can be programmed for a variety of functions. See “Local Programming Mode” menu list later in this manual. Please contact your dealer for further details on these functions.

## Safety and Care Instructions

### Safety Precautions

Please observe the following safety precautions when setting up and using this product.

- **LCD Panel** - The LCD panel is made of glass and may break if the unit is dropped or impacted.
- **Heat Sources** - Keep the product away from heat sources such as radiators, stoves, heaters, and other heat-generating products.
- **Water and Moisture** - Do not use the product in or near water or in high moisture areas such as a bathroom or outdoors when rain is present.

### Caring For This Product

To ensure you receive the maximum benefit from using this product, please observe the following guidelines.

- **Cleaning** - Use a damp cloth. Do not use liquid cleaning agents, benzene, thinner, or aerosols.
- **Repair** - Do not attempt to repair the product or modify the circuitry by yourself. Only replacement parts that are recommended by JTECH should be used. You can contact JTECH at (800) 321-6221.
- **Scratches** - Do not scratch hard objects against the LCD display as this may cause damage.

### Caution

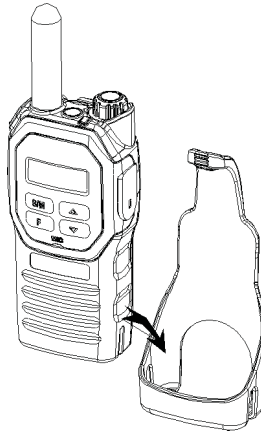
- To avoid risk of fire or injury, do not attempt to charge non-rechargeable batteries.
- Please turn off the unit while charging.
- Only replace batteries with the same or equivalent type recommended by the manufacturer.
- Please dispose of old, defective batteries in an environmentally friendly manner in accordance with the relevant laws and regulations.
- Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.
- Do not expose equipment and accessories to open flames, such as lighted candles, etc.
- To reduce the risk of electric shock, do not expose equipment to rain or moisture.

## GETTING STARTED

### Installing the Swivel Belt Holster (Optional Accessory)

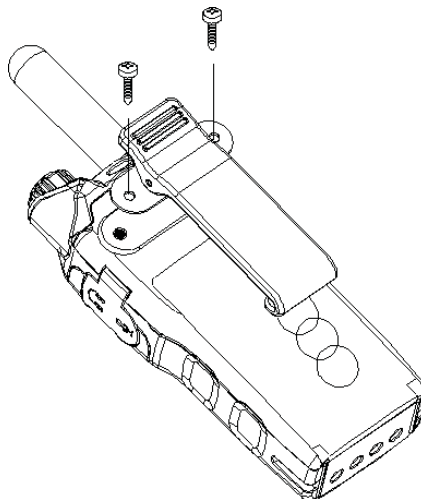
- Slide the bottom of the radio into the holster until it snaps into place.
- To remove, push the tab on the holster and pull the radio away from the holster.

**NOTE:** If there is a need to replace the holster, contact your account manager or call (800) 321-6221 to order a replacement.



### Installing the Belt Clip

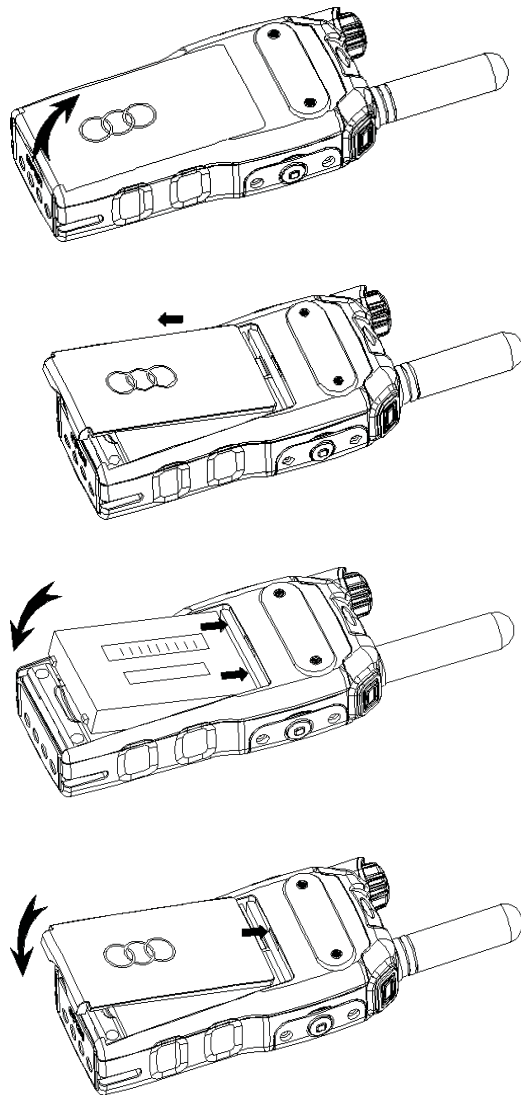
- Align the two screw holes on the metal bracket of the belt clip with holes on the back side of the radio. Then secure the belt clip on the back side of the radio, as shown below, and then secure the screws.
- To remove, loosen the screw to remove the belt clip.



## Installing the Battery

Your radio uses a rechargeable Lithium Ion (Li Ion) battery.

- If the battery cover is already in place, use the fingers to press down the three circle position and in the meantime use the thumb to pull up in the direction of arrow from the bottom side OPEN slot. Then lift the rear cover and remove it from the radio's body, as shown in the figure below.
- Insert the battery, printed arrows first, into the battery compartment and press down to secure firmly in place.
- Fit the one extension at the top of the battery cover into the slot at the top of the radio's body, press the bottom of the battery cover towards the radio until a click is heard, and then the battery cover is securely attached to the radio, as shown below.



## Charging the Battery

When the Battery Icon displays 0 bars, you will hear a voice prompt “please charge”, then you need to recharge the battery.

For optimum battery life, do not charge the battery for prolonged periods after it is fully charged.

### Using the Drop-in Charger

1. Place the charger on a flat surface.
2. Insert the plug of the power cord into the jack on the charger.
3. Plug the cord into an AC outlet.
4. Turn the radio off. If the radio is on while charging, it will not fully charge.
5. Insert the radio (with battery installed) into the front charging pocket.

**NOTE:** The radio will fit in the charger with the holster or belt clip on. The drop-in charger will also charge a spare Extend Li Ion battery. Both batteries will charge in approximately 3–6 hours.

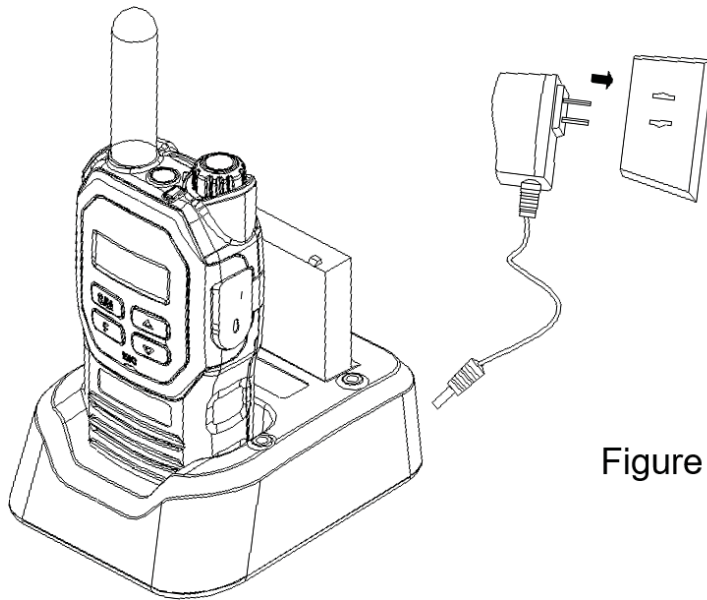


Figure 6

## Using the Extend Multi-Unit Charger

The Multi-Unit Charger (MUC) allows drop-in charging of up to 6 radios or batteries. Batteries can be charged inside the radios or removed and placed in the MUC Separately. Each of the 6 charging pockets can hold a radio or battery, but not both.

1. Place the charger on a flat surface.
2. Insert the power cord plug into the jack on the MUC.
3. Plug the cord into an AC outlet.
4. Turn the radio off.
5. Insert the radio or battery into the charging pocket.

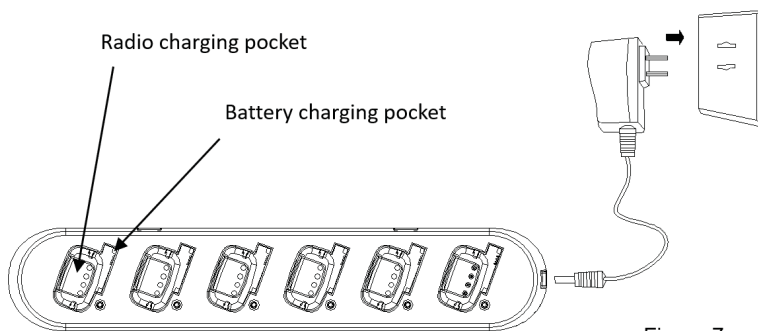


Figure 7

## Charging Status LEDs

On the drop-in charger, the radio and battery charging pockets have their own LEDs.


On the MUC, each of the 6 charging pockets has an LED. The LED is solid red when the battery is charging and solid green when charging is complete. See label at the bottom of the charger for other LED conditions.

## Battery Meter

The battery meter in the upper right corner of the display (see page XX) indicates how much battery power is remaining.

3 Bars	2 Bars	1 Bar	0 Bar
			Voice Charging Prompt
100%-85%	85%-25%	25%-10%	Final 10%

## Turn the Unit ON/OFF

Turn  clockwise to turn the radio on, and counterclockwise to turn the radio off. When you turn the radio on, the radio will chirp and if enabled, speak the channel number. The display briefly shows all features and display segments.

### Adjusting the Volume



Turn  clockwise to increase the volume, and counterclockwise to decrease the volume.

**NOTE:** Do not hold the radio too close to your ear when adjusting the volume.

### Select a Channel

The transmitting and receiving radios must be on the same channel using the same CTCSS code or DCS code in order for you to communicate with another party.

**To Select Between Channels (Maximum 16):**

1. Press  to increase channel
2. Press  number. to decrease channel number.



## Transmitting and Receiving

For best transmission, speak about 1.5" away from the radio and leave a short pause before speaking once you have pressed the PTT button.


### To Talk to Another Radio

1. Press and hold "SF2" (this button is set to the Monitor function) to check for channel activity. Do not transmit if someone is speaking on the channel.
2. Press and hold PTT button (SF1) and speak into the microphone to transmit.
3. Release the PTT button once you have finished speaking to allow other radios to respond. The radio will automatically hear received transmissions.

The transmit LED on the top of the radio is red when transmitting and is green when receiving.

### Signal Strength and Channel Busy Indicators


When there is activity on a frequency, the radio LCD display  and the green LED lights steady.

When there is activity on the same frequency and code as your radio (your radio is receiving), the radio displays  and a signal strength from 1 (weakest) to 4 (strongest). This can help determine when a radio is moving out of range.

**Note:** Obstacles that block the signal path may affect the strength of the incoming signal.

## Keypad Lock

To avoid accidentally changing the channel and the unit's preferred settings, you can lock the keypad.

**To lock or unlock the keypad:** Press and hold the F button for 2.0 seconds.  appears on the LCD when the keypad is locked.

### Note:

1. The F button Long Press is programmed for keylock (default).
2. While key lock is "on" you can still use the PTT button.

## VOX Operation

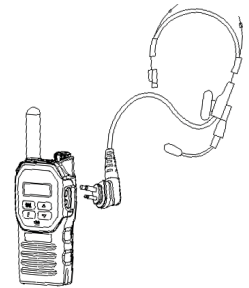
The Voice Activated Transmission (VOX) function allows your voice to activate transmission automatically when the transceiver is used with an optional hands-free microphone / headset. If the unit is set to VOX level 1, 2, .....6, it will automatically detect and transmit your voice through to the selected channel.

**NOTE:** The VOX level and transmission delay time should be set according to your voice loudness and personal preference.

### To Set Up a VOX Headset:

When you enter the local programming mode, the key function is as below:

1. Turn the radio off.
2. Open the accessory cover.
3. Plug the headset into the accessory jack.
4. Turn the radio back on again. The radio displays **VOX**
5. Lower the radio volume BEFORE placing the headset in or near your ear.
6. To transmit, speak into the accessory microphone. To receive, stop talking.



**NOTE:** This product is compatible with Motorola headsets, please ask your local Account Manager for further information. Pressing the PTT button disables VOX.

## Monitoring a Channel



Monitoring allows you to check for activity on a channel. The JTECH Extend has three monitor modes. You can choose a mode according to your preference.

- **Squelch Off (Default):** In this mode, the speaker is unmuted in any condition so as to receive any sound on the current channel. When audio signal is received on the channel, audio will be heard. Otherwise, background noise will be heard.  
**Operation:** Press and hold the Monitor (Default SF2) key to enter this mode, and release the key to exit.
- **Monitor toggle:** In this mode, the receiving party can receive incoming calls from the transmitting party regardless of CTCSS/CDCSS condition. If the channel frequency is not the same, the receiving party will not receive any incoming calls.  
**Operation:** Press the Monitor key to enter this mode, and press it again to exit.
- **Monitor Momentary:** Refer to Monitor toggle.  
**Operation:** Hold down the programmed monitor key continuously to enter this mode, and release the key to exit.

## Scanning



You can scan up to 16 channels and frequencies. When the radio detects activity, it stops scanning and locks in on the active channel. If programmed for talkback, you can talk and listen to the person transmitting without changing channels.

**NOTE:** The  icon will appear on the display when the current channel is added to the scan list. The  icon will appear on the display when the current channel is a priority channel.

1. To start scanning, press the key programmed as “Scan” (S/M default). The scan icon  displays and the radio begins to scan the channels. When the radio detects activity, it stops on that channel and displays  and the channel number.
2. To talk to the person transmitting without switching channels, press the PTT button before scan resumes. If no transmission occurs, scanning resumes.  
**Note:** these timers can be changed by the programming software.
3. To stop scanning, press the “Scan” Key. If you press PTT while the radio is scanning, the radio transmits on the channel you were on before you activated scan.

### Skipping and Removing Channels While Scanning

Scan has two temporary features to make it easier to use.

1. Scan advance: If the radio stops scanning on a channel you do not want to listen to, press .
2. Nuisance delete: Press and hold  to temporarily remove a channel from the scan list. The channel returns to the scan list when the radio is turned off & then on again.

## Without Priority Channel

Providing that there is a scan list with 6 channels and all channels are non-prioritized, the normal scan operation would proceed in the following sequence, as shown in Figure 1.

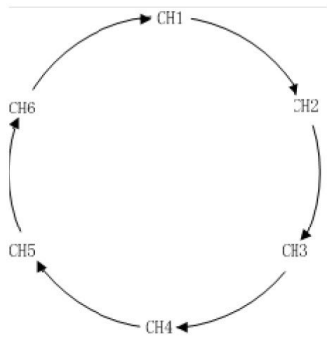


Figure 1 Normal Scan Sequence

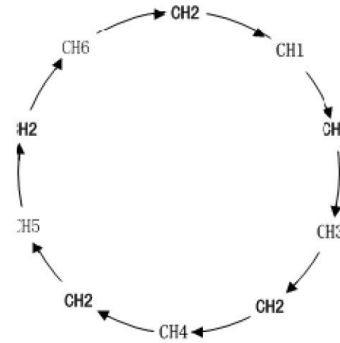


Figure 2 Priority Scan Sequence

## With Priority Channel

If you prioritize Channel 2 as priority, the scan operation would proceed in the following sequence, as shown in Figure 2.

This function enables users to scan the most frequently used channel so that messages will not be missed. The priority channel is programmed by the dealer via programming software or by the radio's keypad if full radio programming is activated.

**Note:** If the radios receiving on a non-priority channel, the priority channel is still scanned. The radio will switch to the priority channel once any activity is detected.

## Power-On Scan

If power-on scan is enabled by your dealer, the radio will automatically enter scan mode when it is turned on. The radio is always in scan mode. Scan cannot be turned off.

## Wireless Cloning

The JTECH Extend is capable of wireless cloning.

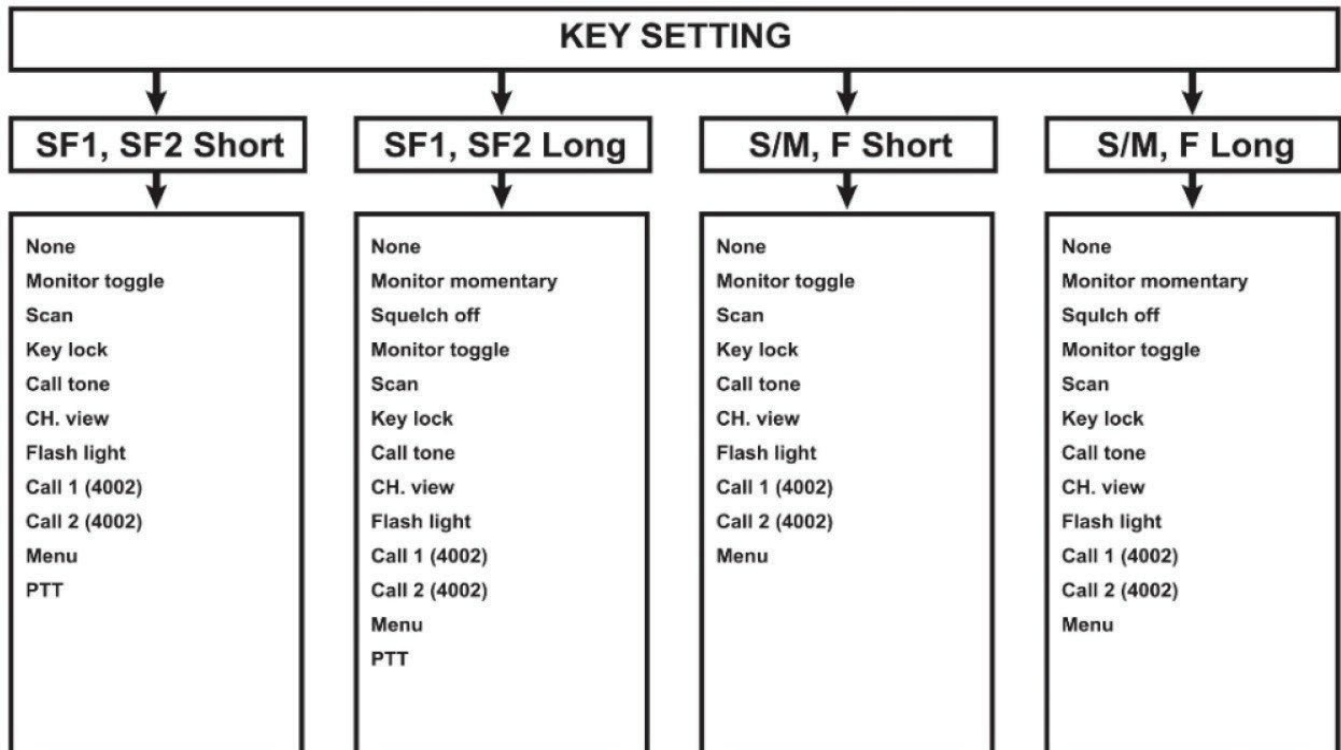
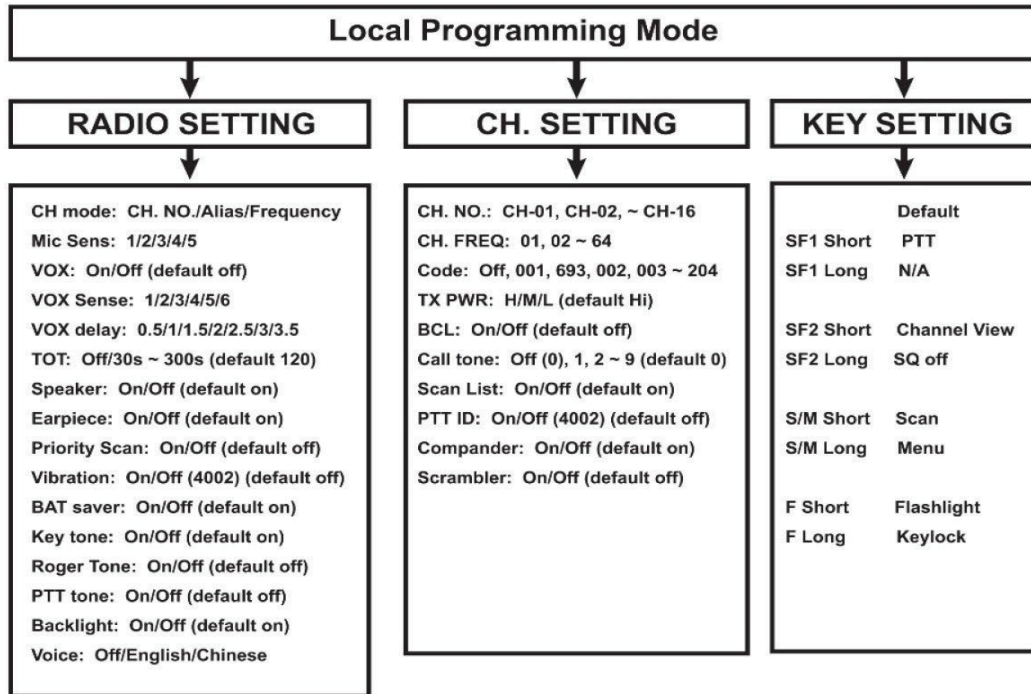
**NOTE:** It is very important to know the source radio. If a target radio's PTT is pressed, it will overwrite the intended source unit.

1. When cloning a radio(s), they should be in the same area as the source radio (radio containing the desired configuration).
2. To put the JTECH Extend in clone mode, press and hold the S/M key and PTT key while turning the radio on. "CLONE" will be displayed on the LCD.
3. To start the cloning process, press the PTT button of the source radio.
4. The source radio LED will light steady red. The target radio will toggle from red to green. There can be any number of Target radios.
5. When complete, the source radio will display "Clone", the target radio will display "OK". If "ERROR" is displayed on the target radio, perform the clone process again.
6. When finished, turn the source radio and all target radios off, then on to use.

## Local Programming Mode

Local programming mode allows you to configure your radio by manual operation.

**NOTE:** Local programming mode can be disabled by the programming software. Local programming mode menu is as below.







## Entering Programming Mode

Press and hold PTT and F key while turning the radio on. The radio beeps and displays “RADIO SETTING”. The radio enters radio setting programming mode.

**NOTE:** If you press and hold the PTT button for 3 seconds when the radio is in local programming mode, you will exit from the programming mode.

### Key Operation Definition

When you enter the local programming mode, the key function is as below:

-  Select the main menu/function.
-  Select the main menu/function.
-  Enter sub-menu or confirm the selected value/function.
-  Exit the sub-menu status and return to front of the menu.

### Selecting Radio Setting, Channel Setting, Key Setting Main Menu

1. When the radio is in the ‘radio setting’ programming mode, the “RADIO SETTING” will appear on the bottom of the screen.



2. Press ▲ or ▼ to select the main menu that you want to program



OR



3. Press S/M to enter the main menu setting status.

## Programming Channel Display Mode (CH. Mode)

1. When the radio is in radio setting status, press ▲ or ▼ until “CH MODE” displays on the bottom of the screen. In the meantime the current display mode will appear in the middle of the screen.



2. Press S/M and the current display mode will flash.



3. Press ▲ or ▼ to select the channel display mode you want to set.



**NOTE:** There are three modes that can be selected: Channel Number (CH NO), Alias, Frequency.

4. Press S/M to confirm your selection.



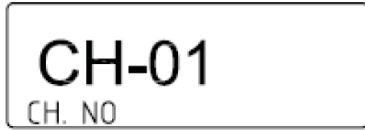
5. Press ▲ or ▼ to set another function, or press “F” to exit channel mode status, or press and hold PTT to exit local programming mode.

**NOTE:** To set MIC sensitivity, VOX parameter, TOT, speaker, headset, priority scan, vibration, battery saver, key tone, PTT tone, backlight, channel voice, the process is similar with channel display mode.

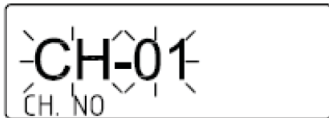


## Selecting a Channel

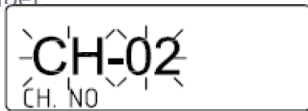
1. When the radio is in channel setting status, press ▲ or ▼ until the “CH. NO” appears in the bottom of the screen.  
(This is the first setting item after you enter channel programming mode).



2. Press S/M and the “CH-01” will flash.

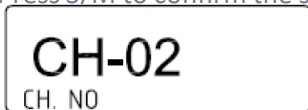


3. Press ▲ or ▼ to select a channel number



**NOTE:** There are 16 channels that can be selected.

4. Press S/M to confirm the selecting channel.



5. Press ▲ or ▼ to set another function, or press F to exit channel setting menu, or press and hold PTT to exit local programming mode.

## Programming the Frequency

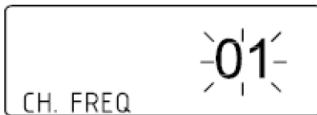
1. When the radio is in channel setting status, press ▲ or ▼ until the “CH. FREQ” appears on the bottom of the screen.



2. Press S/M and the “08” will flash.



3. Press ▲ or ▼ to select a channel.



**NOTE:** See page 49-51 for information on frequencies for communicating with other business radios. There are 64 available frequencies.

4. Press S/M to confirm the selecting frequency number.



5. Press ▲ or ▼ to set another function, or press F to exit channel setting status, or press and hold PTT to exit local programming mode.

**NOTE:** For code, TX PWR (transmit power), BCL, call tone, scan list, priority scan, compander, scrambler setting, the process is similar with programming frequency.

## Programming SF1 Key Short Press Function

1. When the radio is in key setting programming status, press ▲ or ▼ until the SF1 short appears on the bottom of the screen.



**NOTE:** When SF1 function is set to none, “NONE” will appear on the screen.

2. Press S/M to set SF1 key short press function. The “NONE” will flash.



3. Press ▲ or ▼ to select the key function



**NOTE:** When you set SF1 short press as a PTT function, the SF1 long press will not be set to another function.

4. Press ▲ or ▼ to confirm the key function.



5. Press ▲ or ▼ to set another function, or press F to exit ‘KEY SETTING’ status, or press and hold PTT to exit local programming mode.

**NOTE:** For SF1 long, SF2 short, SF2 long, S/M short, S/M long, F short, and F long key setting, the process is similar with SF1 short.

## Advanced Features

### Busy Channel Lockout (BCL)

When the BCL feature is enabled, you are prevented from transmitting on a channel that is already in use by fellow radio users. Press the PTT on a channel that is already in use by fellow radio users and the radio will sound an alert tone and turn back to the receive mode.

### Time-Out-Timer (TOT)

The Time-Out-Timer (TOT) is used to prevent someone from using the same channel for a long time and to prevent the radio from damage due to continuous transmission. If the transmission exceeds the preset time, transmission will be inhibited and a beep tone will sound. To stop the beep tone, release the PTT key. Press the PTT key again to resume transmitting.

### Battery Save

When enabled, the battery save feature is automatically activated once the radio has no activity on the channel and no operation performed for 10-12 seconds. This will extend battery life. Pressing any key or receiving a signal will restore the radio to normal operation and exit from battery save.

### Low Battery Alert

When the battery voltage goes below a preset value, a “please charge” voice prompt will sound and then the radio stops transmitting. This feature is designed to automatically remind you of recharging or to replace the battery.

### Scrambler

If enabled, transmit audio will not be heard clearly unless the receiving radio also has scramble enabled.

### Comander

Comanding is a feature that allows improved voice quality in weak signal areas. It compresses your voice at transmission and expands it when receiving, while simultaneously reducing static noise. However, to enjoy this benefit, all transmitting and receiving radios must have this feature activated.

### Limited Menu Feature (Default S/M Long Press)

The JTECH Extend has a limited menu feature. If enabled, this feature allows the user to access commonly altered settings. These settings include:

- Battery Save (On/Off)
- PTT Tone (On/Off)
- TX Power H/M/L
- Scan List (On/Off)
- Power On Scan Channel Selection (if enabled by programming software)

**NOTE:** Scan list on/off determines if the selected channel will be part of the scan list.

## Frequencies List

Display Number	Frequency (MHz)
1	464.5000
2	464.5500
3	467.7625
4	467.8125
5	467.8500
6	467.8750
7	467.9000
8	467.9250
9	461.0375
10	461.0625
11	461.0875
12	461.1125
13	461.1375
14	461.1625
15	461.1875
16	461.2125
17	461.2375
18	461.2625
19	461.2875
20	461.3125
21	461.3375
22	461.3625

Display Number	Frequency (MHz)
23	462.7625
24	462.7875
25	462.8125
26	462.8375
27	462.8625
28	462.8875
29	462.9125
30	464.4875
31	464.5125
32	464.5375
33	464.5625
34	466.0375
35	466.0625
36	466.0875
37	466.1125
38	466.1375
39	466.1625
40	466.1875
41	466.2125
42	466.2375
43	466.2625

Display Number	Frequency (MHz)
44	466.2875
45	466.3125
46	466.3375
47	466.3625
48	467.7875
49	467.8375
50	467.8625
51	467.8875
52	467.9125
53	469.4875
54	469.5125
55	469.5375
56	469.5625
57	462.1875
58	462.4625
59	462.4875
60	462.5125
61	467.1875
62	467.4625
63	467.4875
64	467.5125

### CTCSS/DCS Code List

Display Number	Code (Hz)
OFF	OFF
001	67.0
693	69.3
002	71.9
003	74.4
004	77.0
005	79.7
006	82.5
007	85.4
008	88.5
009	91.5
010	94.8
011	97.4
012	100.0
013	103.5
014	107.2
015	110.9
016	114.8
017	118.8
018	123.0
019	127.3
020	131.8
021	136.5
022	141.3
023	146.2
024	151.4
025	156.7
026	162.2
027	167.9
028	173.8
029	179.9
030	186.2
031	192.8
032	203.5
033	210.7
034	218.1
035	225.7
036	233.6
037	241.8
038	250.3

Display Number	Digital Code
039	023N
040	025N
041	026N
042	031N
043	032N
044	043N
045	047N
046	051N
047	054N
048	065N
049	071N
050	072N
051	073N
052	074N
053	114N
054	115N
055	116N
056	125N
057	131N
058	132N
059	134N
060	143N
061	152N
062	155N
063	156N
064	162N
065	165N
066	172N
067	174N
068	205N
069	223N
070	226N
071	243N
072	244N
073	245N
074	251N
075	261N
076	263N
077	265N
078	271N
079	306N
080	311N
081	315N
082	331N
083	343N
084	346N
085	351N
086	364N
087	365N
088	371N
089	411N
090	412N
091	413N
092	423N
093	431N
094	432N

Display Number	Digital Code
095	445N
096	464N
097	465N
098	466N
099	503N
100	506N
101	516N
102	532N
103	546N
104	565N
105	606N
106	612N
107	624N
108	627N
109	631N
110	632N
111	654N
112	662N
113	664N
114	703N
115	712N
116	723N
117	731N
118	732N
119	734N
120	743N
121	754N
122	023I
123	025I
124	026I
125	031I
126	032I
127	043I
128	047I
129	051I
130	054I
131	065I
132	071I
133	072I
134	073I
135	074I
136	114I
137	115I
138	116I
139	125I
140	131I
141	132I
142	134I
143	143I
144	152I
145	155I
146	156I
147	162I
148	165I
149	172I

Display Number	Digital Code
150	174I
151	205I
152	223I
153	226I
154	243I
155	244I
156	245I
157	251I
158	261I
159	263I
160	265I
161	271I
162	306I
163	311I
164	315I
165	331I
166	343I
167	346I
168	351I
169	364I
170	365I
171	371I
172	411I
173	412I
174	413I
175	423I
176	431I
177	432I
178	445I
179	464I
180	465I
181	466I
182	503I
183	506I
184	516I
185	532I
186	546I
187	565I
188	606I
189	612I
190	624I
191	627I
192	631I
193	632I
194	654I
195	662I
196	664I
197	703I
198	712I
199	723I
200	731I
201	732I
202	734I
203	743I
204	754I

## TROUBLESHOOTING

See below for some common problems and their remedies. DO NOT attempt any repairs yourself. This will invalidate your warranty.

Problem	Possible Causes/Remedies
Can't Turn the Radio On	Check That the Battery Is Correctly Installed and Has Been Fully Charged
Can't Communicate w/ Other Radios	For This and All Other Issues Contact JTECH at 1-800-321-6221 or Visit <a href="http://www.jtech.com">www.jtech.com</a> for more information.



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