



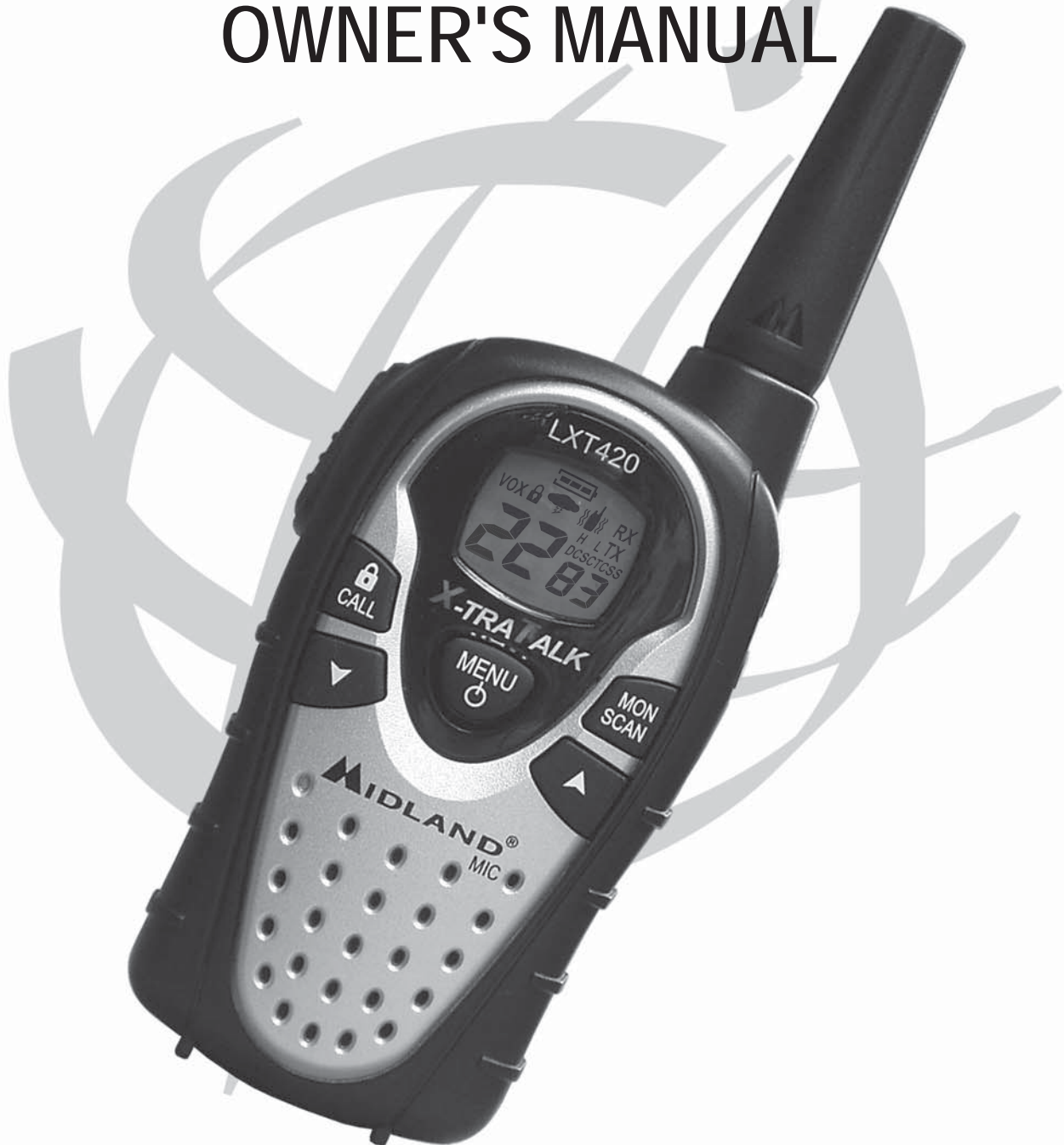
MIDLAND®

X-TRA TALK

LXT320/420 Series

GMRS/FRS Radio

OWNER'S MANUAL



www.midlandradio.com

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Welcome to the world of Midland electronics

Congratulations on your purchase of a high quality MIDLAND product. Your 2-way radio represents the state-of-the-art in high-tech engineering. Designed for GMRS (General Mobile Radio Service) operation, this compact package is big in performance. It is a quality piece of electronic equipment, skillfully constructed with the finest components. The circuitry is all solid-state and mounted on a rugged printed circuit board. Your two-way radio is designed for reliable and trouble-free performance for years to come.

Features

- 22 GMRS/FRS Channel
- 121 Privacy Codes (38 CTCSS / 83 DCS)
- VOX
- Selectable CALL Alert
- NOAA Weather Radio
- VIBRATE ALERT (LXT420 Series only)
- SCAN Function
- MONITOR Function
- Roger Beep Tone
- Silent Operation
- Key Pad Lock
- Power High / Low Settings
- Speaker / Microphone Jacks
- Battery Meter / Battery Low Indicator

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device does not cause harmful interference, and (2) this radio must accept any interference that may cause undesired operation.

To maintain compliance with FCC's RF exposure guidelines, for body-worn operation, this radio has been tested and meets the FCC RF exposure guidelines when used with Midland Radio Corp. accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines. (Tested with Headset Model: AVP-1)

IMPORTANT NOTICE, FCC LICENSE REQUIRED FOR GMRS OPERATION

The LXT320/420 Series operates on GMRS (General Mobile Radio Service) frequencies which require an FCC (Federal Communications Commission) license. You must be licensed prior to operating on channels 1 - 7 or 15 - 22, which comprise the GMRS channels of the LXT320/420 Series. Serious penalties could result for unlicensed use of GMRS channels, in violation of FCC rules, as stipulated in the Communications Act's Sections 501 and 502 (amended).

You will be issued a call sign by the FCC which should be used for station identification when operating the radio on GMRS channels. You should also cooperate by engaging in permissible transmissions only, avoiding channel interference with other GMRS users, and being prudent with the length of their transmission time.

To obtain a license or ask questions about the license application, contact the FCC at 1-888-CALL FCC or go to the FCC's website:
www.fcc.gov/services/personal/generalmobile/licensing.html

Exposure To Radio Frequency Energy

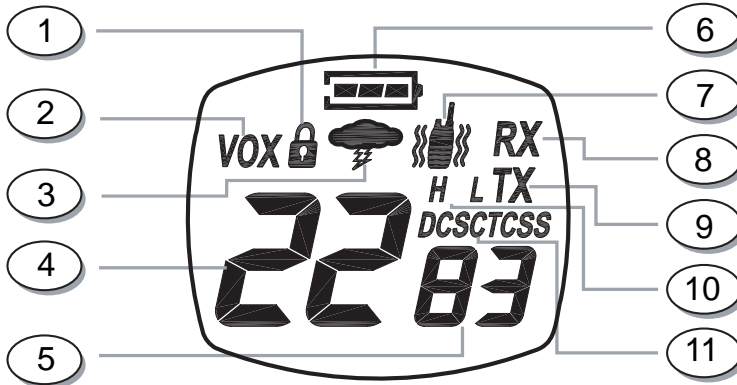
Your Midland radio is designed to comply with the following national and international standards and guidelines regarding exposure of human being to radio frequency electromagnetic energy:

- United States Federal Communications Commission, Code of Federal Regulations: 47 CFR part 2 sub-part J
- American National Standards Institute (ANSI)/Institute of Electrical & Electronic Engineers (IEEE) C95. 1-1992
- Institute of Electrical and Electronic Engineer (IEEE) C95. 1-1999 Edition
- National Council on Radiation Protection and Measurements (NCRP) of the United States, Report 86, 1986
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998

To control your exposure and ensure compliance with the general population or uncontrolled environment exposure limits, transmit no more than 50% of the time. The radio generates measurable RF energy exposure only when transmitting.

IMPORTANT: Changes or modifications to this unit not expressly approved by **MIDLAND RADIO CORP.** could void your right to operate this unit. Your radio is set up to transmit a regulated signal on an assigned frequency. It is against the law to alter or adjust the settings inside the COMMUNICATOR to exceed those limitations. Any adjustment to your radio must be made by qualified technicians.

LCD DISPLAY



1. **KEY LOCK ICON** – Indicates KEY LOCK mode is on.
2. **VOX ICON** – Indicates when VOX mode is active.
3. **NOAA WEATHER (WX) BAND ICON** – Indicates when the radio is in Weather Band mode.
4. **CHANNEL NUMBER** – Changes from 1~22 on GMRS/FRS band (1~10 on WX band).
5. **PRIVACY CODE** – Indicates Privacy Code selected by user (oF~38/oF~83).
6. **BATTERY METER** – Indicates the battery level.
7. **VIBRATE-ALERT ICON** – Indicates when the Vibrate-Alert (LXT420 Series only) feature is on.
8. **RECEIVE (RX) ICON** – Indicates radio is receiving a transmission.
9. **TRANSMIT (TX) ICON** – Indicates radio is transmitting a signal.
10. **TRANSMIT POWER LEVEL ICON** – Indicates TX Power setting (H/L)
11. **PRIVACY CODE ICON** – Indicates Privacy Code setting (CTCSS/DCS).

CONTROLS



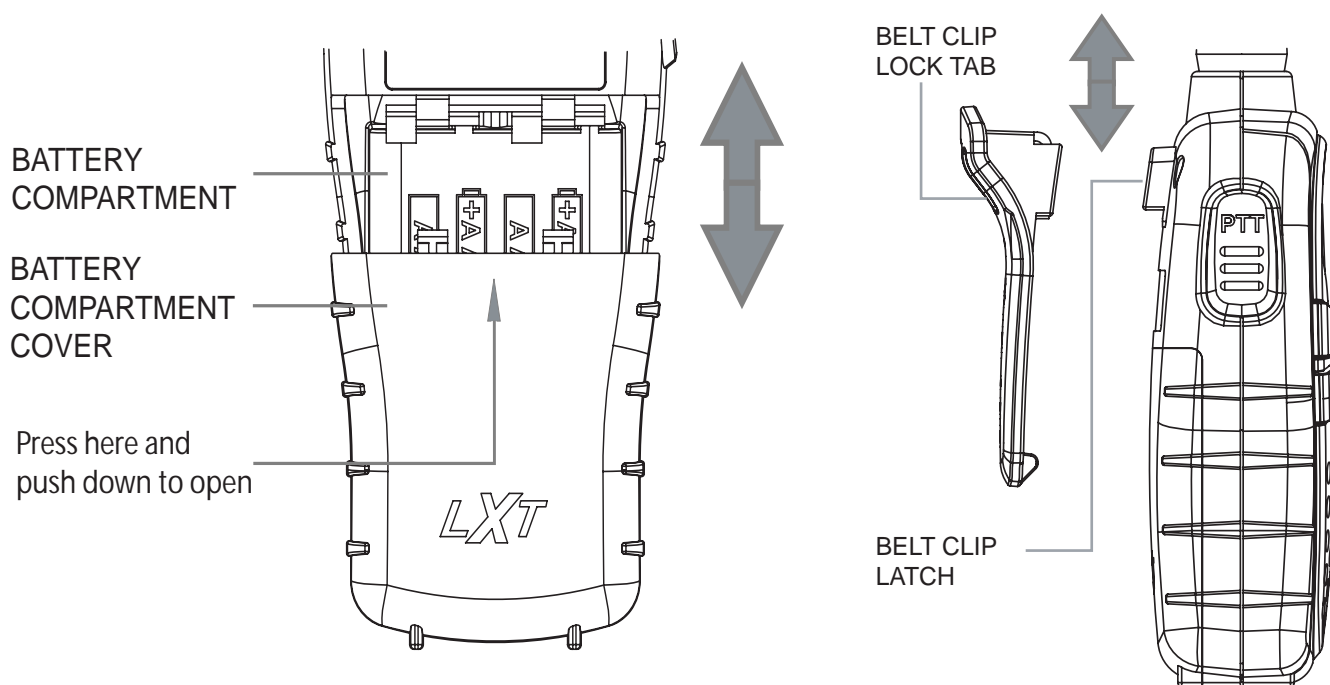
12. **PTT Button** – Press and hold to transmit voice communication.
13. **CALL/LOCK Button** – Press to send a CALL Alert signal. Press and hold to turn KEY LOCK on/off.
14. **MIC** – Built-in microphone.
15. **SPEAKER** – Built-in speaker.
16. **ANTENNA.**
17. **EXTERNAL SPEAKER/MIC/CHG. JACK**
18. **POWER / MENU Button** – Press and hold for at least 3 seconds to turn the radio on/off. Press momentarily to access Menu mode.
19. **MONITOR/SCAN Button** – Press to enter SCAN mode. Press and hold to enter MONITOR mode
20. **UP ▲ and DOWN ▼ Button** – Make adjustments in MENU mode.

BATTERY INSTALLATION

Your LXT320/420 Series radio operates with either 4 AAA alkaline batteries or an optional NiMH battery pack. The belt clip should be removed (see below) to ease installation or removal of the batteries.

To install the batteries:

1. With the back of the radio facing you, remove the belt clip (see diagram below) for easy access, then remove the Battery Cover by pressing down on the top center and sliding it down from the radio.
2. Insert 4 AAA batteries observing the polarity as shown. Installing the batteries incorrectly will prevent the unit from operating or may damage the unit.
3. Return the Battery Cover by sliding it up on the radio. Replace the belt clip, making sure it locks into place.



INSTALLING THE BELT CLIP

To install the **BELT CLIP**, slide the clip up into the slot on the back of the radio until the **BELT CLIP LATCH** clicks. To remove the **BELT CLIP**, press the **LOCK TAB** up, then gently pull the belt clip down toward the bottom of the radio.

CHARGING THE OPTIONAL BATTERY PACK

Your LXT320/420 Series is equipped for using an optional rechargeable NiMH battery pack which can be recharged by inserting the AC adapter into the radio charge jack, or with optional desktop charger (as described below). Initial charge time is 24 hours. Charge time is about 12 hours thereafter. For maximum battery life, we recommend charging the battery pack when the low battery icon comes on. Remove the radios from the charger when the charge time expires.

To charge using a Desktop Charger:



1. Place the rechargeable battery packs in the radios.
2. Connect the AC adapter into an AC wall outlet.
3. Insert the AC adapter plug (or DC Cigarette Lighter adapter if charging in vehicle) into the desktop charger jack.
4. Place the units into the desktop charger slot and note that the LED indicator with **RED** color will light up, indicating charging function.

In order to ensure that the battery pack is fully charged, it is recommended that the battery pack be charged for at least 12 hours with the radio turned OFF.



1. Only use our NiMH battery pack.
2. Do not attempt to charge alkaline batteries or any batteries or battery packs other than the one indicated in the manual. This may cause leakage and damage to the radio.
3. For long term storage of the radio, turn the radio OFF and remove the batteries from the radio.

BATTERY LEVEL INDICATOR

Your LXT320/420 Series has a **BATTERY LEVEL METER**  that shows the battery power level. The greater the number of bars visible, the stronger the battery level. When the battery level is low, the **Battery Shell**  icon will flash in the display indicating your batteries should be replaced or recharged if using a rechargeable battery pack.

OPERATING YOUR RADIO

POWER ON/OFF AND VOLUME

Press the **POWER/MENU** button for at least 3 seconds to turn the radio on/off. During Power On, the radio will beep 2 times with different tones, the LCD will display all icons for 1 second and the LCD display will indicate the last channel selected.

To increase/decrease the volume level, press the ▼/▲ button during **RX** or **STANDBY** mode.

TRANSMITTING AND RECEIVING A CALL

To communicate, all radios in your group must be set to the same channel and Privacy Code.

1. For maximum clarity, hold the radio 2 to 3 inches from your mouth.
2. Press and hold the **PTT** button and speak in a normal voice into the **microphone**. The **TX** icon will appear continuously on the LCD Display while transmitting.
3. To receive a call, release the **PTT** button. The **RX** icon will appear on the display when your radio is receiving a transmission.

ABOUT RANGE

Your LXT Series radios are designed to give you maximum range under optimum conditions.

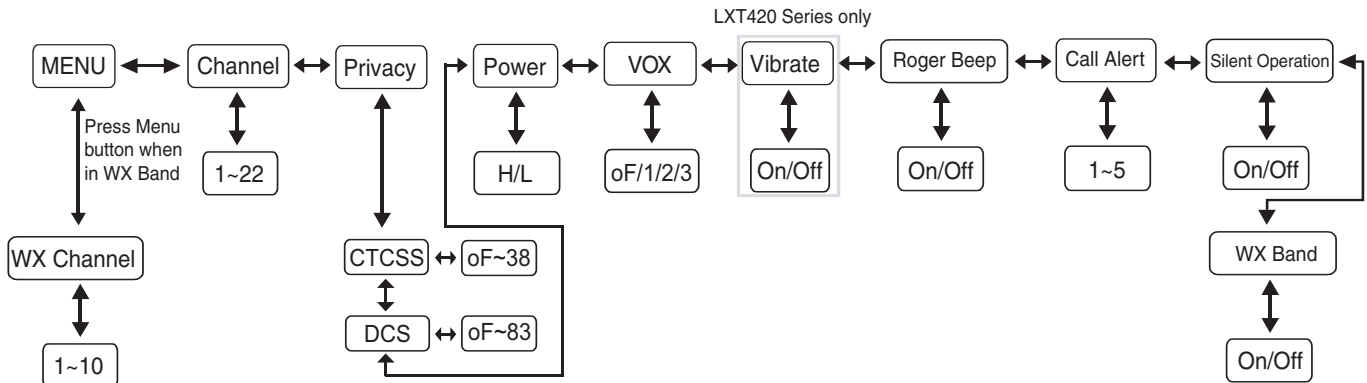
Optimum Conditions are:

- Over water
- Open rural areas without obstructions
- Flat areas where you can see the other person

To ensure you get maximum range:

- Be sure to use fresh or fully charged batteries - low batteries will cause low power conditions
- Be sure you are on a GMRS channel - FRS channels are restricted by the FCC to low power
- Be sure to set your radio to use Hi power.

LXT320/420 SERIES QUICK REFERENCE CHART



MONITOR

Pressing and holding the **MONITOR** button for 3 seconds will let you hear noise so you can adjust the volume level of the radio when not receiving a signal. This could also be used to check any activity on your current channel before transmitting.

Press and hold the **MONITOR** button for 3 seconds again to get out of **MONITOR** mode.

SCAN

Your LX320/420 Series can scan all 22 channels for activity. To enter, quickly press the **SCAN** button. Repeat the same procedure to exit. Your radio will rapidly scan each of the 22 channels and stop on any active channel for 4 seconds before resuming scan.

When you press the **PTT** button to transmit on an active channel, the scanning function will stop and remain on the active channel. To resume scanning, quickly press the **SCAN** button.

CALL ALERT

Your LXT320/420 Series can transmit a call alert for a fixed length of time. To send a call alert, press the **CALL** button. The **TX** icon will appear while transmitting a call alert and a tone can be heard on the speaker for confirmation.

KEYPAD LOCK

To avoid accidentally changing the radio setting, press the **LOCK** button for 4 seconds. The **KEY LOCK** icon will appear on the display. **PTT** and **CALL** will still be active. Repeat the same procedure to unlock the keypad.

CHANNEL SELECTION (GMRS/FRS BAND)

Press the **MENU** button once, and then the ▼/▲ buttons to select one of the 22 GMRS/FRS channels. To confirm the selection, press the **PTT** button or press the **MENU** button again to move to the next feature setting.

SETTING PRIVACY CODES

Your LXT320/420 Series has 121 **Privacy Codes** available. The selected **Privacy Code** may be different for each channel. To select a **Privacy Code** for the current channel press the **MENU** button twice, and then the ▼/▲ buttons to select one of the 38 **CTCSS** Privacy Code. Press again the **MENU** button and the ▼/▲ button to select one of the 83 **DCS** Privacy Code. The **Privacy Code** icon on the display will indicate whether you set your Privacy Code in **CTCSS** or **DCS** mode. To confirm the selection, press the **PTT** button or press **MENU** button again to move to the next feature setting.

Note : If you select any **CTCSS** Privacy Code, any pre-selected **DCS** Privacy Code will be cancelled and vice-versa.

Selecting a Privacy Code of "oF" will disable the Privacy feature. To communicate between two LXT320/420 Series radios, all radios in your group must be set to the same channel and Privacy Code selections.

TRANSMIT (TX) POWER LEVEL SELECTION

Your LXT320/420 has 2 power level settings. To select the power level on channels 1~7 and 15~22, press the **MENU** button until a "Pr" icon will appear blinking on the display. Then press the ▼/▲ buttons to select **TRANSMIT POWER LEVEL** icon (**H**: Hi/**L**: Lo). To confirm, press the **PTT** button or press **MENU** button again to move to the next feature setting. **When the PTT button is pressed during Low Battery Level condition, the TX Power will automatically switch from Hi(H) to Lo(L) level.**

Note : *You cannot adjust the power setting on the FRS channels (8~14). They are set to Low power per FCC regulations.*

VOX

Your LXT320/420 Series has 3 VOX level settings: (*oF*/1/2/3).

To set **VOX**, press the **MENU** button until the display shows “**VOX**” blinking while on the right of the **CHANNEL NUMBER** display, an “*oF*” icon appears. Select “**1**”, “**2**” or “**3**” by pressing the ▼/▲ buttons and push the **PTT** key, or press **MENU** button again to move to the next feature setting.

VOX will be more sensitive on the “**1**” setting than on the “**3**” setting.

To turn **VOX** off, press the **MENU** button until the display shows “**VOX**” blinking while on the right of the **CHANNEL NUMBER** display, a “**1**”, “**2**” or “**3**” icon appears. Select “*oF*” by pressing the ▼/▲ buttons and push the **PTT** key, or press **MENU** button again to move to the next feature setting.

VIBRATE ALERT (LXT420 Series only)

To turn the **VIBRATE ALERT** on, press the **MENU** button until the display will show the **VIBRATE-ALERT** icon blinking, while on the right of the **CHANNEL NUMBER**, an “*oF*” icon appears. Select “**on**” by pressing the ▼/▲ buttons and push the **PTT** button, or press **MENU** button again to move to the next feature setting. The **VIBRATE ALERT** icon will remain on the display.

To turn the **VIBRATE ALERT** off, press the **MENU** button until the display will show the **VIBRATE ALERT** icon blinking, while on the right of the **CHANNEL NUMBER**, an “**on**” icon appears. Select “*oF*” by pressing the ▼/▲ buttons and push the **PTT** button, or press **MENU** button to move to the next feature setting. The **VIBRATE ALERT** icon will go off.

ROGER BEEP (end of transmission) TONE

When the **PTT** button is released, the radio will beep to confirm to other users that your transmission has finished.

To turn the **ROGER BEEP** tone on, press the **MENU** button until the display shows an “**rb**” icon while on the right of the “**rb**” display, an “*oF*” icon appears. Select “**on**” by pressing the ▼/▲ buttons and push the **PTT** key, or press **MENU** button to move to the next feature setting.

To turn the **ROGER BEEP** tone off, press the **MENU** button until the display shows an “**rb**” icon while on the right of the “**rb**” display, an “**on**” icon appears. Select “*oF*” by pressing the ▼/▲ buttons and push the **PTT** key, or press **MENU** button to move to the next feature setting.

CALL ALERT SELECTION

Your LXT320/420 Series has 5 selectable **CALL ALERTS**.

To select, press the **MENU** button until a “**CA**” icon appears and to the right of the “**CA**” icon the current **CALL ALERT** setting is displayed. Then press the ▼/▲ buttons to make the **CALL ALERT** selections - the radio will emit a corresponding tone for each selection. To confirm, press the **PTT** button or press **MENU** button to move to the next feature setting.

SILENT OPERATION

Your LXT320/420 Series has a **SILENT OPERATION** mode. In this mode, all “beeps” and “tones” are disabled.

*To turn the **SILENT OPERATION** mode on,* press the **MENU** button until the display shows an “**bP**” icon while on the right of the “**bP**” display, an “**on**” icon appears. Select “**oF**” by pressing the ▼/▲ buttons and push the **PTT** key or **MENU** button.

*To turn the **SILENT OPERATION** mode off,* press the **MENU** button until the display shows an “**bP**” icon while on the right of the “**bP**” display, an “**oF**” icon appears. Select “**on**” by pressing the ▼/▲ buttons and push the **PTT** key or **MENU** button.

NOAA WEATHER RADIO

Your LXT320/420 Series has a **NOAA WEATHER RADIO** function, to enable user to receive weather reports from designated **NOAA** stations.

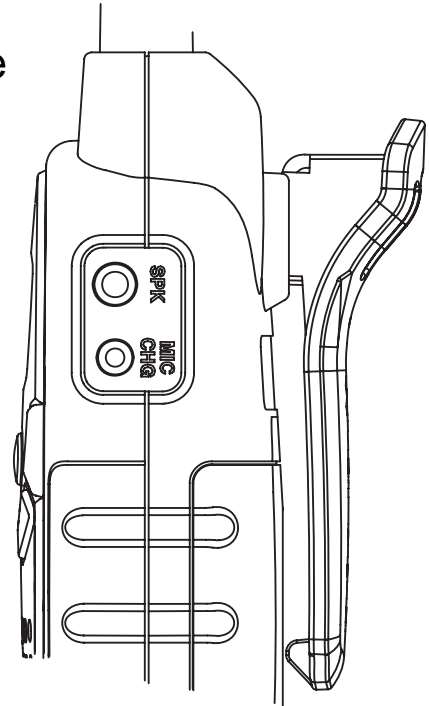
To turn the **NOAA WEATHER (WX) RADIO** on, press the **MENU** button until the **WX Band** icon appear while in the right an **“oF”** icon appears. Select **“on”** by pressing the ▼/▲ buttons and push the **MENU** button to confirm. The display will show the current **WX Band** channel setting and the **WX Band** icon. While on **WX Band** mode press the **MENU** button once, and then the ▼/▲ buttons to select one of the 10 **NOAA WEATHER (WX) BAND** channels.

To turn the **NOAA WEATHER RADIO** off, press the **PTT** button. The current **GMRS/FRS** radio setting will be displayed and the **WX BAND** icon will go off.

EXTERNAL SPEAKER/MICROPHONE JACK

Your LXT320/420 Series can be used with an optional external speaker/microphone or headset, freeing your hands for other tasks. To use an optional speaker / microphone or headset:

- Insert the plug(s) into the **SPK/MIC** jacks
- Place the earbud into your ear, and adjust the mic into your desired position.



TROUBLESHOOTING GUIDE

PROBLEM	SOLUTION
No Power	- Check battery installation and/or replace batteries
Cannot Receive Messages	- Confirm the radios have the same channel and Privacy Code settings. - Make sure that you are within range of the other transceivers. - Buildings and other structures may interfere with your communication. (See ABOUT RANGE on Page 8)
Radio is not responding to button presses	- Make sure key lock is not on. See "Keypad Lock" (Page 9). - Radio might need to be reset. Turn radio off then on. - Ensure accessory microphone is set properly
Display is dim	- Recharge or replace batteries.
Charger not functioning	- Contacts on the bottom of the radio may require cleaning. - Ensure the outlet where the charger is plugged into is functioning properly. - Check that the battery pack is installed in the radio properly.

USE AND CARE

1. Use a soft damp cloth to clean the radio
2. **Do not** use alcohol or cleaning solutions to clean the radio.
3. **Do not** immerse the radio in water.
4. Dry the radio with dry lint-free cloth should it get wet.
5. Turn off the radio and remove the batteries during long-term storage.

If you have a problem which you believe requires service, please call first and speak with a service technician. Many problems can be remedied over the phone without returning the unit for service.

SPECIFICATIONS

Channels 22 GMRS/FRS Channels +121 Privacy Codes
10 NOAA Weather (WX) Band Channels

Operating Frequency UHF 462.5500 ~ 467.7125 MHz

Power Source 4 AAA Alkaline or 4.8V Rechargeable Ni-MH battery pack

GMRS/FRS FREQUENCY CHART (MHz)

CH. No	CH. Freq.	CH. No	CH. Freq.	CH. No	CH. Freq.
1	462.5625	9	467.5875	17	462.6000
2	462.5875	10	467.6125	18	462.6250
3	462.6125	11	467.6375	19	462.6500
4	462.6375	12	467.6625	20	462.6750
5	462.6625	13	467.6875	21	462.7000
6	462.6875	14	467.7125	22	462.7250
7	462.7125	15	462.5500		
8	467.5625	16	462.5750		

* Channels 8~14 are low-power FRS license free channels

NOAA WEATHER (WX) RADIO FREQUENCY CHART (MHz)

CH. No	CH. Freq.	CH. No	CH. Freq.
1	162.550	6	162.500
2	162.400	7	162.525
3	162.475	8	161.650
4	162.425	9	161.775
5	162.450	10	163.275

* Channel 8,9 and 10 are designated Canadian Marine Frequencies

PRIVACY CODES FREQUENCY CHART (Hz)

Code	Freq.	Code	Freq.	Code	Freq.	Code	Freq.	Code	Freq.
1	67.0	9	91.5	17	118.8	25	156.7	33	210.7
2	71.9	10	94.8	18	123.0	26	162.2	34	218.1
3	74.4	11	97.4	19	127.3	27	167.9	35	225.7
4	77.0	12	100.0	20	131.8	28	173.8	36	233.6
5	79.7	13	103.5	21	136.5	29	179.9	37	241.8
6	82.5	14	107.2	22	141.3	30	186.2	38	250.3
7	85.4	15	110.9	23	146.2	31	192.8		
8	88.5	16	114.8	24	151.4	32	203.5		

Note: Privacy codes can be programmed for use on any channel

DCS PRIVACY CODE CHART

No.	CODE	No.	CODE	No.	CODE
1	023	29	174	57	445
2	025	30	205	58	464
3	026	31	223	59	465
4	031	32	226	60	466
5	032	33	243	61	503
6	043	34	244	62	506
7	047	35	245	63	516
8	051	36	251	64	532
9	054	37	261	65	546
10	065	38	263	66	565
11	071	39	265	67	606
12	072	40	271	68	612
13	073	41	306	69	624
14	074	42	311	70	627
15	114	43	315	71	631
16	115	44	331	72	632
17	116	45	343	73	654
18	125	46	346	74	662
19	131	47	351	75	664
20	132	48	364	76	703
21	134	49	365	77	712
22	143	50	371	78	723
23	152	51	411	79	731
24	155	52	412	80	732
25	156	53	413	81	734
26	162	54	423	82	743
27	165	55	431	83	754
28	172	56	432	-	-

Note: Privacy codes can be programmed for use on any channel

LIMITED WARRANTY

Midland Radio Corporation will repair or replace, at its option without charge, any Midland FRS/GMRS transceiver which fails due to a defect in material or workmanship within Three Years following the initial consumer purchase. This warranty does not apply to water damage, battery leak or abuse.

Accessories have a 90 day warranty from date of purchase, including any antennas, chargers, or earphones. This warranty does not include the cost of labor for removal or re-installation of the product in a vehicle or other mounting. Performance of any obligation under this warranty may be obtained by returning the warranted product, prepaid freight, along with proof of purchase to:

**Midland Radio Corporation
Warranty Service Department
5900 Parretta Drive
Kansas City, MO 64120**

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Note : The above warranty applies only to merchandise purchased in the United States of America or any of the territories or possessions thereof, or from a U.S. Military exchange.

**Midland Radio Corporation
5900 Parretta Drive
Kansas City, MO 64120
Tel: (816) 241-8500
E-mail: mail@midlandradio.com
URL: www.midlandradio.com**



CB RADIOS



WEATHER RADIOS



MARINE RADIOS

ACCESSORIES

Accessories can be purchased at www.midlandradio.com or fill in the form on the following page and mail it to our address.

AVP-6



- 1 Dual Desk Charger
- 2 Rechargeable battery packs
- 1 AC Adapter
- 1 DC Cigarette lighter adapter

- **\$39.99**

AVP-1



- 2 Over the Ear Mic. Headsets w/ PTT

- **\$19.99**

AVP-H1



- 1 Open Face Helmet Microphone Kit

- **\$49.99**

AVP-H2



- 1 Closed Face Helmet Microphone Kit

- **\$49.99**

AVP-H3



- 2 Surveillance Headset

- **\$39.99**

AVP-H4



- 2 Ear Wrap Headset

- **\$39.99**

AVP-H5



- 2 Behind the Head Headset

- **\$39.99**



ACCESSORIES ORDER FORM

Please send Money Order or fill in Visa/MasterCard information and mail to the address below. Please **DO NOT** send cash or checks. Make Money Order to Midland Radio Corporation.

Name: _____

Address: _____

City: _____ **State** _____ **Zip Code** _____

Tel: _____ **email:** _____

CC# _____ **Type:** _____ **Exp.** _____

Qty	Item	Price	Total
	AVP-1	\$19.99	
	AVP-6	\$39.99	
	AVP-H1	\$49.99	
	AVP-H2	\$49.99	
	AVP-H3	\$39.99	
	AVP-H4	\$39.99	
	AVP-H5	\$39.99	

Mail To:
 Midland Radio Corporation
 Consumer Dept.
 5900 Parretta Drive
 Kansas City, MO 64120

 Or Call 816.241.8500.

 To order online go to
www.midlandradio.com

Sub-Total _____
 Tax (MO, CO, IL, FL only) _____
 S & H (U.S. only) _____ \$14.95
 Total \$ _____

MIDLAND RADIO CORPORATION

**5900 Parretta Drive
Kansas City, MO 64120
Call 816.241.8500**

visit us at <http://www.midlandradio.com>

Note: Features & Specifications are subject to change without notice. MIDLAND is not responsible for unintentional errors or omissions on its packaging.