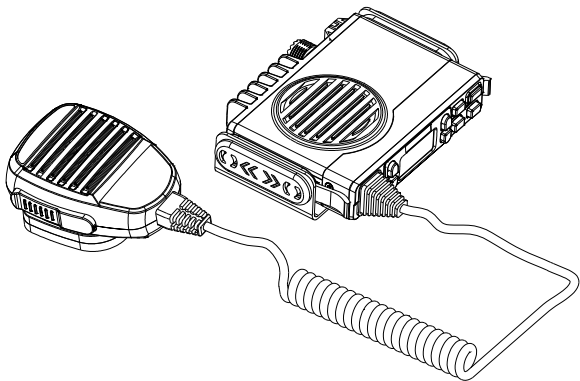# MIDLAND®
X-TRA TALK

MXT100
GMRS Radio
OWNER'S MANUAL

midlandusa.com

⊕ **MIDLAND**

Welcome to the World of Midland electronics

Congratulations on your purchase of a high quality MIDLAND product. Your 2-way radio represents state-of-the-art high-tech engineering. Designed for GMRS (General Mobile Radio Service) operation, this compact package is big on 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

- 15 GMRS Channels
- 142 Privacy Codes (38 CTCSS / 104 DCS)
- Monitor Function
- Keypad Lock
- Power HI/LO Settings
- External Speaker Jack

**IMPORTANT NOTICE, FCC LICENSE REQUIRED FOR GMRS OPERATION
(Only Applicable for GMRS Radio Use in the United States)**

The MXT100 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 MXT100 Series. Serious penalties could result from 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 your 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:
http://www.fcc.gov and request form **605**.

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 beings 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 & Electronics Engineers (IEEE) C95. 1-1992
- Institute of Electrical and Electronics Engineers (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.

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INSTALLATION

This transceiver may be installed in any 12-volt negative ground-system car or truck. Most current U.S. and Foreign vehicles use a negative system, but some older models and some newer large trucks may have a positive ground. Check the requirements for your vehicle before you begin installation. Generally, you have a negative-ground system if the minus (-) battery terminal is connected to the motor block. Contact your dealer in the event you are unable to determine your vehicle's polarity system.

Location

Your new Midland GMRS mobile is designed to be installed under the dash or vertically on a console of your vehicle. Safety and convenience are the primary considerations in deciding exactly where to locate your radio. Caution: Be sure that the unit is located so that it does not interfere with the driver, supplemental restraint systems (air bags), or impair access to any controls. Connecting cables must be routed and secured in such a manner as not to interfere with the operation of the brake, accelerator or other controls. Interference from either the unit or connecting cables may contribute to the loss of control of the vehicle.
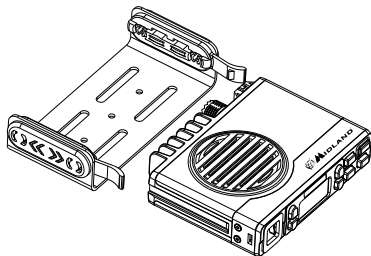
Mounting

1. Plug power cable into back of radio marked "13.8V DC." Be sure to observe polarity markings.
2. Use the mounting bracket as a template for marking the location of screw holes under the dash. Use a nail or other sharp pointed object to mark the hole locations.
3. Drill a 1/8" hole for each screw hole in the mounting bracket. Attach the bracket to the dash with the Phillips head sheet metal screws provided.
4. Attach removable 2-pin plug-in DC cord to polarized DC jack on the rear of the transceiver.
5. Locate and secure the radio into the mounting bracket, allowing working space for later power connections.

Installation of Microphone

Insert the RJ11 connector into the front of the MXT100. Once the microphone is connected, use a small tool to insert the strain relief.
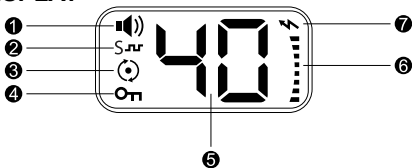
The microphone hanger bracket

The bracket can be attached to the vehicle dash or other convenient location.

NOTE: Extreme care should be exercised when drilling into the dash to avoid damage to underdash electronic ignition, cruise control, instrument and/ or accessory wiring.
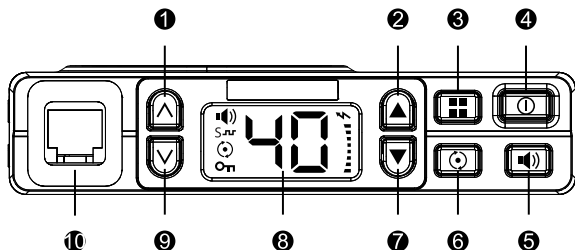
⌬ MIDLAND
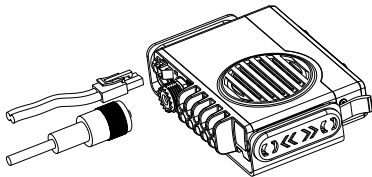
LCD DISPLAY

1. Receiving Icon
2. CTCSS/DCS Icon
3. Scanning Icon
4. Key Lock Icon
5. Channel Icon
6. Receiving/Transmitting Signal Icon
7. Transmitting

CONTROLS

1. Volume Up
2. Channel Up
3. Menu
4. Power On/Off
5. Squelch/Monitor
6. Scan
7. Channel Down
8. LCD
9. Volume Down
10. Microphone Socket

OPERATING YOUR RADIO
POWER ON/OFF AND VOLUME
Press and hold the ① button for 2 seconds to turn the radio on. To turn the radio off, press and hold the ① button for 2 seconds. The volume is controlled using the ∧ and ∨ buttons. During Power On the LCD will display all icons for 1 second and the LCD display will indicate the last channel selected.

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

ABOUT RANGE
Your MXT Series radios are designed to give you maximum range under optimum conditions.

Maximum Range / No Sight Obstruction

Medium Range / Partial Obstruction to Line of Sight

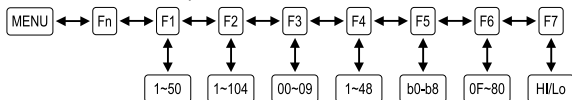Short Range / Major Obstruction to Line of Sight

Optimum Conditions are:
l Over water
l Open rural areas without obstructions
l Flat areas where you can see the other person

To ensure you get maximum range:
l Be sure to mount the antenna as high as possible
l Be sure to set your radio to use Hi power.

MXT100 SERIES QUICK REFERENCE CHART

```
MENU ←→ Fn ←→ F1 ←→ F2 ←→ F3 ←→ F4 ←→ F5 ←→ F6 ←→ F7
              ↕      ↕      ↕      ↕      ↕      ↕      ↕
            1~50   1~104  00~09  1~48   b0-b8  0F~80  HI/Lo
```

Fn - Function
F1 - CTCSS Code (S)
F2 - DCS Code (⌐⎍⌐)
F3 - Squelch Sensitivity (◀))
F4 - Key Beeps
F5 - Transmit Power Level

DISPLAY FLIP

MXT100 has a unique **Display Flip** function that allows the unit to be installed upside-down, if required, and the display read from either orientation.

When the radio is off, hold the ▼ button while turning the radio on. The LCD display will rotate from one direction to the other by 180°. To rotate it back, repeat these steps using the ▲ button

KEYPAD LOCK

To avoid accidentally changing the radio settings, press the ▒ button for 2 seconds. The **O━** icon will appear on the display. **PTT**, ∧ and ∨ will still be active. Repeat the same procedure to unlock the keypad.

DISPLAY ILLUMINATION

When the radio is on, briefly press the ① button to cycle through the brightness levels for the LCD. There are 5 levels of lighting from off to full brightness. Each key press increases the brightness until maximum brightness is reached. The next key press resets the brightness level to off.

CHANNEL SELECTION

Press the ▲ / ▼ buttons to select one of the 14 GMRS channels.

PRIVACY CODES

CTCSS (Continuous Tone Coded Squelch System) and DCS (Digitally Coded Squelch) are squelch quieting systems that allow several groups of users to share the same channel without disturbing each other. The system applies a continuous low-level tone to the transmission and uses a matching tone decoder to control your receiver's squelch. With CTCSS or DCS enabled, the channel remains quiet to all incoming signals unless they carry the correct tone. When a transmission with the correct tone is received, the squelch opens and remains open for as long as the signal is present. When the transmission ends the channel becomes quiet again. Transmissions that do not use the correct tone will not be heard.

Your MXT100 Series has 142 **Privacy Codes** available which are available on any channel. The selected **Privacy Code** may be different for each channel. To select a **Privacy Code** for the current channel press the 🞂 button twice, and then the ▲ / ▼ buttons to select between *"Off/CTCSS/DCS.*" Press the 🞂 button again and the ▲ / ▼ buttons to select one of the 38 **CTCSS Codes** or one of the 104 **DCS Codes**.

To select a Privacy code, press the 🞂 button and use ▲ / ▼ until the LCD displays "F1" (CTCSS) or "F2" (DCS), then press the 🞂 button again. The ⊆ or ⏛ icon will come on. Use the ▲ / ▼ buttons to select the desired privacy code. Press 🞂 or PTT or confirm the selection.

> **Note**: If you select a *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 MXT100 Series radios, all radios in your group must be set to the same channel and Privacy Code selections.

Since the display does not have enough digits to display DCS tones 100-104, these tones are displayed as A0-A4

MONITOR

Pressing the ◀) button will let you hear noise so you can adjust the volume level of the radio when not receiving a signal. This should be used to check activity on your current channel before transmitting. Press the ◀) button again to disable Monitor mode.

SQUELCH SENSITIVITY

The MXT100 has adjustable squelch sensitivity. The minimum squelch level of 01 is the most sensitive and will allow the squelch to open on very weak signals. Setting the squelch to the maximum setting of 09 will require very strong signals to open the squelch. The default setting is 03 which generally provides reliable squelch operation for most applications.

To adjust the squelch sensitivity, press ▪▪ button and use ▲ / ▼ to select F03, then press ▪▪ button again. Use the ▲ / ▼ buttons to the desired level. Press the ▪▪ button or wait 3 seconds to confirm your selection.

KEY BEEPS

The beep tones on your MXT100 are designed to provide audible feedback whenever a key is pressed. If the beep tone level is too loud or too soft for your operating environment you can adjust it from off to one of 8 different levels.

To adjust the key beep level, press ▪▪ button and use ▲ / ▼ to select F04, then press ▪▪ button again. Use the ▲ / ▼ buttons to select the desired level. Press the ▪▪ button or wait 3 seconds to confirm your selection.

TRANSMIT (TX) POWER LEVEL SELECTION

To adjust the key beep level, press ▪▪ button and use ▲ / ▼ to select F05, then press ▪▪ button again. Use the ▲ / ▼ buttons to toggle between HI and Lo power. Press the ▪▪ button or wait 3 seconds to confirm your selection.

SCAN

Your MXT100 Series can scan all 14 channels for activity. To enter, quickly press the ⊙ button. Repeat the same procedure to exit. Your radio will rapidly scan each of the 14 channels and stop on any active channel. Your radio will resume scanning after 4 seconds when the channel is no longer active.

When you press the PTT button to transmit on an active channel, the scanning function will stop and remain on the active channel for 3 seconds before resuming scan when PTT button is no longer pressed. To resume scanning, quickly press the ⊙ button.

To remove a channel from the list of scanned channels, manually select the desired channel using the ▲ / ▼ buttons then press and hold the ⊙ button. The ⊙ icon will be removed from the LCD. Repeat this procedure to add the channel to the list of channels scanned and the ⊙ icon will turn back on.

EXTERNAL SPEAKER/MICROPHONE JACK

Your MXT100 Series can be used with an optional external speaker. To use it, connect an external speaker to the external speaker jack on the rear panel. Ensure the external speaker has 8-ohm impedance and is rated to handle 4.0 watts. When an external speaker is plugged in, the internal speaker is automatically disabled.

RESTORING YOUR RADIO TO THE ORIGINAL SETTING

To reset your radio to the original (default) setting, turn on the radio while pressing and holding the ▲ button. The radio will go to standby mode at channel 1 without any Privacy Code.

TROUBLESHOOTING GUIDE

PROBLEM	SOLUTION
No Power	- Check battery installation and/or replace batteries - Check input power connection and/or wires to vehicle power source.
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 7)
Radio Is Not Responding To Button Presses	- Make sure key lock is not on. (See KEYPAD LOCK on Page 8) - Radio might need to be reset. Turn radio off then on.
Display Backlight Is Dim	- See DISPLAY ILLUMINATION on page 8

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 a dry lint-free cloth should it get wet.

If you have a problem which you believe requires service, please call first and speak with a service technician at 816-241-8500. Many problems can be remedied over the phone without returning the unit for service.

SPECIFICATIONS

Channels 15 GMRS Channels + 142 Privacy Codes
Operating Frequency UHF 462.5500 ~ 462.725 MHz
Power Source 13.8V

GMRS FREQUENCY CHART

CH. No	CH. Freq (MHz)	CH. No	CH. Freq (MHz)
1	462.5625	15	462.550
2	462.5875	16	462.575
3	462.6125	17	162.600
4	462.6375	18	462.625
5	462.6625	19	462.650
6	462.6875	20	462.675
7	462.7125	21	462.700
Ch 8 – 14 Reserved for FRS		22	462.725

CTCSS 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	192.4		
8	88.5	16	114.8	24	151.4	32	203.5		

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DCS PRIVACY CODE CHART

No.	CODE	No.	CODE	No.	CODE	No.	CODE
1	23	27	165	53	413	79	731
2	25	28	172	54	423	80	732
3	26	29	174	55	431	81	734
4	31	30	205	56	432	82	743
5	32	31	223	57	445	83	754
6	43	32	226	58	464	84	36
7	47	33	243	59	465	85	53
8	51	34	244	60	466	86	122
9	54	35	245	61	503	87	145
10	65	36	251	62	506	88	212
11	71	37	261	63	516	89	225
12	72	38	263	64	532	90	246
13	73	39	265	65	546	91	252
14	74	40	271	66	565	92	255
15	114	41	306	67	606	93	266
16	115	42	311	68	612	94	274
17	116	43	315	69	624	95	325
18	125	44	331	70	627	96	332
19	131	45	343	71	631	97	356
20	132	46	346	72	632	98	446
21	134	47	351	73	654	99	452
22	143	48	364	74	662	100	454
23	152	49	365	75	664	101	455
24	155	50	371	76	703	102	462
25	156	51	411	77	712	103	523
26	162	52	412	78	723	104	526

LIMITED WARRANTY

Midland Radio Corporation will repair or replace, at its option without charge, any Midland 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.

For Product Purchased in the USA:

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.

For Product Purchased in Canada:

Performance of any obligation under this warranty may be obtained by returning the warranted product, along with proof of purchase, to your dealer in Canada.

This warranty gives you specified legal rights. Additional warranty rights may be provided by law in some areas.

MIDLAND RADIO CORPORATION
5900 Parretta Drive
Kansas City, MO 64120
Call 816.241.8500

**We'd love to hear from you! Let us know what you
think of your new Midland product at**

or by visiting us at
www.midlandusa.com

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