

# MIDLAND®

MICROMOBILE® GMRS 2-WAY RADIO



**MXT500**

[midlandusa.com](http://midlandusa.com)

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## **WELCOME TO THE WORLD OF MIDLAND RADIO**

Congratulations on your purchase of a high-quality Midland product. Your MXT500 2-way radio represents state-of-the-art high-tech engineering. Designed for General Mobile Radio Service (GMRS) 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 MXT500 radio is designed for reliability and trouble-free performance for years to come.

## **FEATURES**

- 50-Watt GMRS Radio
- 15 GMRS Channels
- 8 Repeater Channels
- Split Privacy Tones
- Water Resistant – IPX6
- NOAA Weather Radio
- Narrow and Wide Band
- 142 Privacy Codes (38 CTCSS/104 DCS)
- Monitor Function
- Keypad Lock
- Talk Around Function
- Automatic Power Off Function
- Adjustable Color and Brightness Settings for Backlight on LCD
- Call Function
- Scan Function
- Silent Operation
- Scan Skip
- Power Hi/Mi/Low Settings
- External Speaker Jack
- Intercom Jack
- USB-C Port for device charging
- 1-Year Warranty
- Compatible with all Midland FRS/GMRS radios
- GMRS License Required

## FCC NOTICE

The MXT500 operates on GMRS (General Mobile Radio Service) frequencies, which require a Federal Communications Commission (FCC) license. You must be licensed prior to operating on channels 1-7, 15-22 or RP15-22, which comprise the GMRS channels of the MXT500. Serious penalties may 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 that should be used for station identification when operating your 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.

This device complies with Part 15 of the FCC rules. Operation is subject to the condition that this device does not cause harmful interference

### 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.
  1. Transmit no more than 50% of the time. The radio generates measurable RF energy exposure only when transmitting.

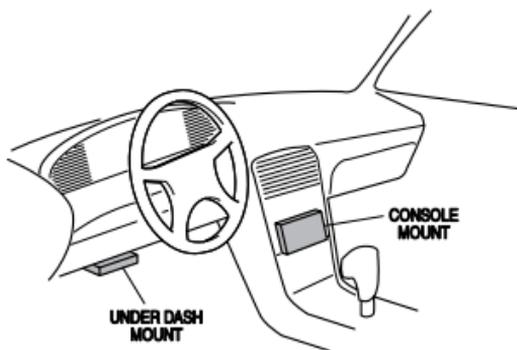
2. Use an antenna with maximum gain of 2.5 dBi including coax losses.
3. Maintain a minimum safe separation distance of 60 inches (151.8 cm) between the antenna and all persons when transmitting.

## INSTALLING YOUR RADIO

### Preparation for Installation

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

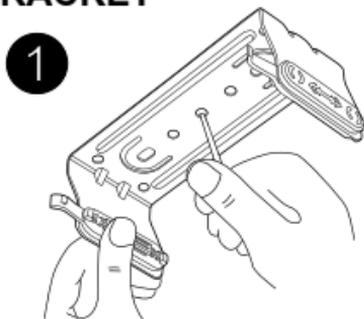
- Read these instructions completely before beginning installation.
- Read and follow all safety precautions in your vehicle's Service Manual.
- Make sure all necessary tools, materials, and parts are on hand.
- Disconnect the negative (-) battery cable before installing your radio. Be sure to reconnect the cable when installation is complete.
- Determine a mounting location for your radio. Choose a location that does not impair visibility or interfere with driving. Also take into consideration the routing and length of the lead wires and cables to the power source, antenna, and/or optional external speaker.



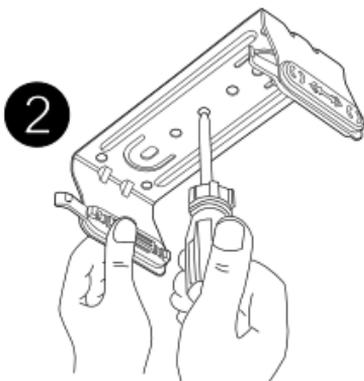
**CAUTION:** Extreme care should be exercised when drilling into the dash to avoid damage to under dash electronic ignition, cruise control, instrument and/or accessory wiring.

## INSTALLING THE MOUNTING BRACKET

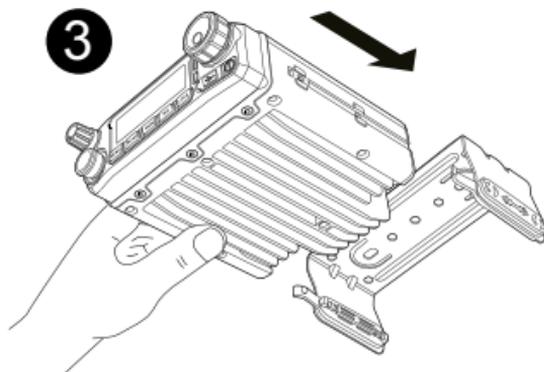
1. Using the mounting bracket as a template, mark the location of each screw hole under the dash. Use a nail or other sharp pointed object to mark the hole locations.



2. Attach the bracket to the dash with the Phillips head sheet metal screws provided. Tighten the screws securely. **DO NOT OVER-TIGHTEN.**



3. Once the bracket is secured to the vehicle, slide the radio into the bracket. Be sure the radio locks into the bracket so it does not shift while the vehicle is in motion.

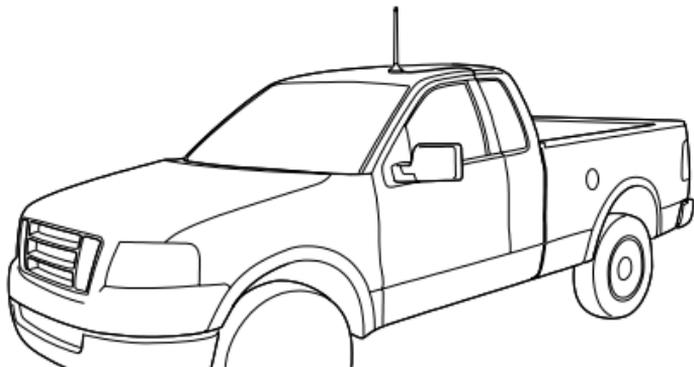


## INSTALLING THE ANTENNA

An external antenna (50Ω) is required for the MXT500. The antenna is intended to be attached to the vehicle's roof, trunk or similar location. Specific installation requirements vary between vehicles. Use the following guidelines to install the antenna:

**\*Where you locate your antenna affects performance.\***

1. Metal surfaces covered by fiberglass or vinyl may affect radio range. Avoid these locations.
2. Mount the antenna as high on the vehicle as possible. The higher the better.
3. If possible, mount the antenna in the center of whatever surface you choose.
4. The antenna cable is 19.7 feet (6 meters) long. Be sure the mounting location will allow for connection of the cable to the radio.
5. Be sure the mounting location is clean and dry before installing the antenna.
6. Route the antenna cable through an accessible entry point, such as a rear door or trunk opening.
7. When routing the antenna cable inside the vehicle, keep the cable away from noise sources, such as the ignition system, gauges, etc.
8. Exercise care to prevent cable damage. Make use of existing gaskets, grommets and weather stripping to protect the cable along its route.



## CONNECTING THE RADIO TO A POWER SOURCE

1. Connect the positive lead (RED wire with in-line fuse holder) to either (a) the fuse block or (b) directly to the positive post of the vehicle's battery.

**NOTE:** The fuse block is usually the most convenient connection point. The power cord positive lead can also be connected to the Accessory terminal on the fuse block or ignition switch, so the radio automatically turns off when the ignition is turned off.

2. Tightly connect the ground lead (BLACK wire) directly to the vehicle's metal frame. A good direct metal-to-metal ground is essential for optimum performance.

## CONNECTING THE MICROPHONE

Insert the slotted connector into the front of the MXT500. The microphone mounting bracket can be attached to the vehicle dash or other convenient location in a manner similar to the radio's mounting bracket.

## USING AN EXTERNAL SPEAKER

The MXT500 provides a rear-panel jack for connection of an optional external speaker (sold separately). The rear-panel jack is compatible with 3.5mm audio connector. When selecting an external speaker, ensure the speaker has 8-ohm impedance and is rated for 4 Watts.

**NOTE:** When an external speaker is connected, the radio's internal speaker is automatically disabled.

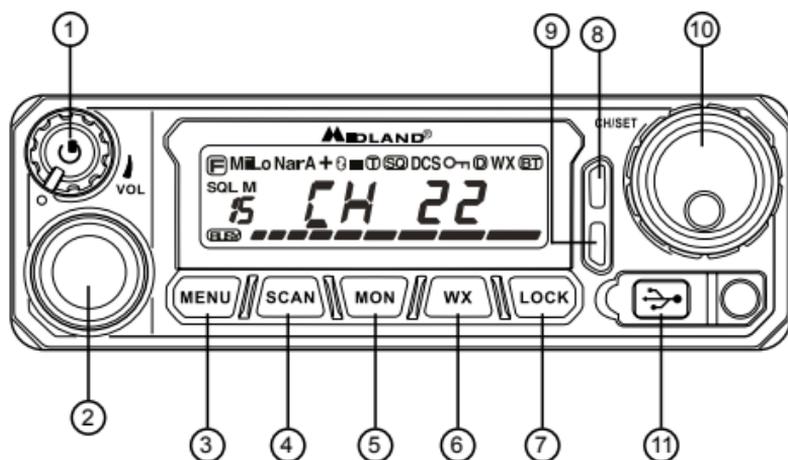
## USING AN INTERCOM

The MXT500 provides rear-panel jack for connection to an intercom or headsets with a TA5 mini XLR connector. When an intercom is connected, unplug the speaker mic from the radio so there is no echo. Midland recommends covering the speaker mic jack with the rubber accessory cover to ensure the speaker mic jack does not get filled with debris.

## CONTROLS AND INDICATORS

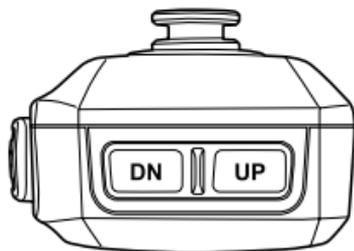
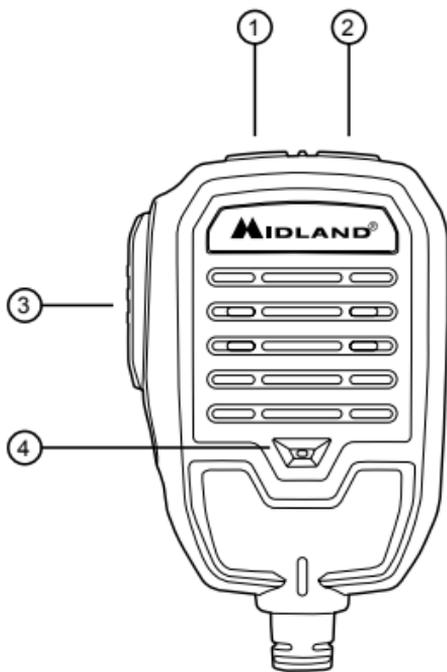
### RADIO OPERATING CONTROLS

1. Power and Volume Knob
2. Mic Jack
3. Menu Button
4. Scan/Scan Skip Button
5. Monitor Button
6. WX Button
7. Lock Button
8. Power Indicator
9. TX/RX Indicator
10. Channel/Menu Selection Knob
11. USB-C Port



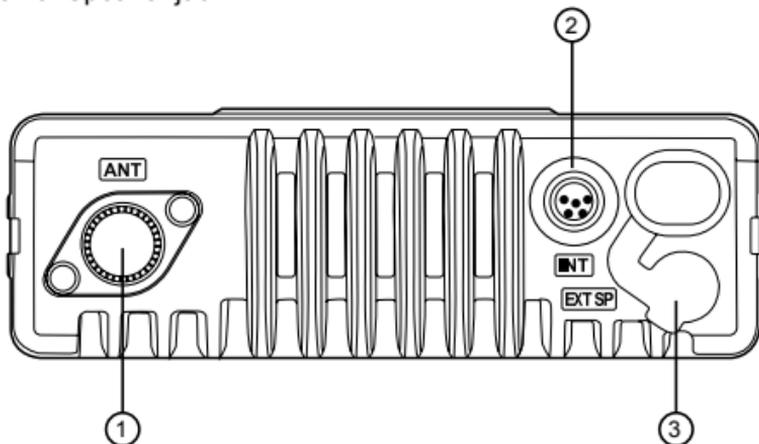
## MICROPHONE OPERATING CONTROLS

1. Channel Down
2. Channel Up
3. PTT
4. Microphone

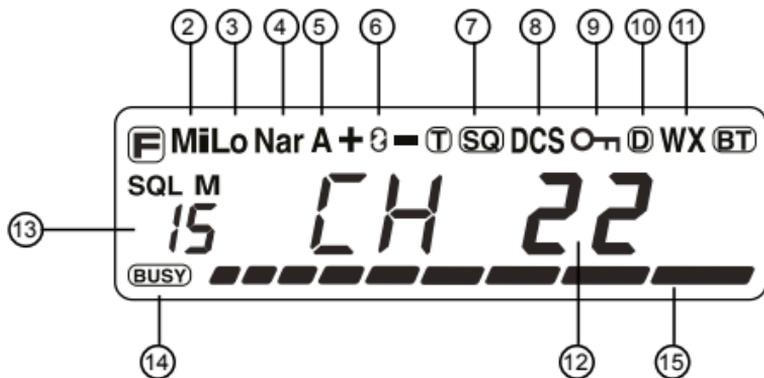


## REAR PANEL CONNECTIONS

1. Antenna Jack
2. Intecom jack
3. External Speaker jack



## LCD DISPLAY



2. Medium Power
3. Low Power
4. Narrow Band Channel
5. Auto power off
6. Repeater offset direction
7. CTCSS Privacy Tone
8. DCS Privacy Tone
9. Key Lock
10. Compander indicator
11. Weather band
12. Channel number
13. Menu item indicator
14. Receive indicator
15. Receive and transmit signal strength

## OPERATING YOUR RADIO

### About Range

Your MXT500 is designed to give you maximum operating range under optimal conditions.



Optimal conditions for maximum operating range are:

- Over water
- In open rural areas without obstructions
- On flat areas where you can see the other radio user

### To ensure you get maximum range:

- Be sure to mount the antenna (sold separately) as high as possible on your vehicle
- Be sure to set your radio to use Hi power (see Selecting the Transmit (TX) Power Level)

## **POWER ON/OFF**

1. To power on, press the POWER/VOLUME knob.
  - The LCD will display the welcome screen and then display the factory settings (if first time powering up) or the most recently selected channel.
2. To power off, press and hold the POWER/VOLUME knob. The LCD will go blank when the radio turns off.

## **SELECTING THE ACTIVE CHANNEL**

**IMPORTANT!** To communicate between two MXT500 radios or any GMRS radio, both radios must be set to the same channel and privacy code (see Selecting a Privacy Code) selections

1. Rotate the CHANNEL/MENU SELECTION knob clockwise to scroll forward through the available channels. Rotate the CHANNEL/MENU SELECTION knob counter-clockwise to scroll backward through the available channels.
  - The channel icon on the LCD will display the active channel selection.
2. Press Up/Down button on mic.

## **ADJUSTING THE VOLUME**

1. Rotate the Volume knob clockwise to increase the volume.
2. Rotate the Volume knob counter clockwise to decrease the volume.

## **TRANSMITTING AND RECEIVING A CALL**

**IMPORTANT!** To communicate between two MXT500 radios or any GMRS radio, both radios must be set to the same channel and privacy code (see Selecting a Privacy Code) selections..

1. To transmit a call, press and hold the PTT button on the microphone, and speak into the microphone in a normal voice.
  - The bottom LED will illuminate red while your radio is transmitting.
  - The signal strength indicator on the LCD will display the transmit signal strength.
2. To receive a call, release the PTT button on the microphone.
  - The BUSY icon will show on the LCD display when your radio is receiving a transmission.
  - The TX/RX indicator will illuminate green when your radio is receiving.
  - The signal strength indicator on the LCD will display the signal strength.
3. If necessary, rotate the POWER AND VOLUME KNOB to increase or decrease radio volume.

**NOTE:** For maximum clarity, hold the microphone 2 to 3 inches from your mouth when speaking.

## LOCKING THE KEYPAD

You can use the keypad “lock” function to prevent accidentally changing your radio’s settings. When the function is enabled, the current radio settings are “locked” in place.

**NOTE:** When the “lock” function is enabled, the PTT button on the microphone and the POWER AND VOLUME KNOB on the radio remain active. This allows you to transmit and receive a call, adjust the volume and power the radio on/off. If you attempt to press “locked” buttons, a tone will play to notify you that the radio is “locked”.

1. To “lock”, press and hold the LOCK button.
  - The KEY LOCK icon will display on the LCD when the radio is “locked”.
2. To “unlock”, press and hold the LOCK button
  - The KEY LOCK icon will disappear on the LCD when the radio is “unlocked”.

## USING MONITOR MODE

Monitor mode lets you check for activity on the current active channel. You can also use Monitor mode to adjust the volume of your radio when not receiving a signal.

1. Press the MON button to enter Monitor Mode.
  - You will hear any activity on the current selected channel.
2. Rotate the POWER AND VOLUME KNOB to increase or decrease radio volume.
3. Release the MON button to exit Monitor Mode.

## SCANNING FOR ACTIVE CHANNELS

Your MXT500 includes an “auto-scan” mode that continuously scans all 15 GMRS channels for activity.

1. Press the SCAN button to enter “auto-scan” mode.
  - Your radio will rapidly scan through the 15 GMRS channels and will pause on any active channel.
  - “Auto-scan” will resume when there has been no activity on the current channel for five seconds.
2. To transmit during “auto-scan”, press and hold the PTT button on the microphone while the radio is paused on the desired channel.
  - The radio will remain on the active channel for three seconds after the PTT button is released.
3. To exit “auto-scan” mode, press the SCAN button.

**NOTE:** If you transmit during “auto-scan” and the “auto-scan” has not found an active channel, it will transmit on the last selected channel.

## USING SCAN SKIP

Scan skip allows you to opt out of scanning specific channels when using “auto-scan”.

1. Before using scan skip, be sure the radio is powered on (see POWER ON/OFF).
2. Select the channel you would like to remove from the auto-scan list (see SELECTING AN ACTIVE CHANNEL).
3. To remove a channel from the “auto-scan” list, press and hold the SCAN button.
  - The period after the CH icon on the LCD will disappear noting that the channel is inactive in the “auto-scan” list.
4. To add a channel to the “auto-scan” list, press and hold the SCAN button.

- A period will appear after the CH icon on the LCD noting that the channel is active in the “auto-scan” list.

**NOTE:** The radio comes standard with all channels enabled for “auto-scan”.

## **NOAA Weather Radio/Scan**

Your MXT500 has a NOAA Weather Radio function, to enable the user to receive weather reports from designated NOAA stations. Your radio also has a NOAA Weather Scan function, to enable the user to scan all 10 channels for the NOAA National Weather Service.

### ***To enter and exit Weather Scan***

1. Press and release the WX button to enter weather mode.
2. The radio will then scan all 10 weather channels and will lock on to the strongest weather channel in your area
3. Use the Channel Up and Channel DN on the microphone to force the radio to re-scan the weather channels.
  - Pressing the Scan button takes the radio out of scanning mode, locking in the active channel. Press and release the Scan button to reactivate weather scan.
4. Press the PTT to exit Weather Mode.

### ***To Manually Set the Weather Channel:***

1. With the Weather Scan activated, press the Scan button to exit scanning mode.
2. Use the Channel Up / Channel DN buttons on the microphone, manually set the active weather channel.

### ***To Enable Weather Alert:***

1. With Weather mode activated, press the Scan button to exit scanning mode.

1. Use the Channel Up or Channel DN on the microphone to select the desired Weather Channel.
2. Press and hold the WX button to turn the Weather Alert on.
  - The WX icon will begin flashing.
3. To return to GMRS mode, press and release the WX or PTT button.
  - When a Weather Alert goes off, the MXT500 will sound an alert tone. Pressing any button on the mobile will take you to the assigned weather channel and you will be able to hear the weather alert. If the siren stops prior to you entering the weather mode, the mobile will automatically take you to weather mode.

## CALL ALERT

Your radio can transmit a call alert for a fixed length of time.

1. To send a call alert, press and hold the PTT button. While pressing and holding the PTT button, press the UP button on the microphone. The call tone will transmit.

- The bottom LED will illuminate red while your radio is transmitting the call alert.
- The signal strength indicator on the LCD will display the call alert signal strength.

2. To disable the call alert, press the PTT.

**NOTE:** Call alert can be disabled by selecting "OF" for call alert sequence.

## MENU FUNCTIONS

Menu functions let you configure several operational parameters of the MXT500 to suit your personal preferences.

**NOTE:** All menu functions are automatically saved after making selection. The menu will timeout after 10 seconds on inactivity or can be closed by pressing the menu button.

## SELECTING A PRIVACY CODE

Continuous Tone Coded Squelch System (CTCSS) and Digitally Coded Squelch (DCS) are systems that allow several users to share the same channel without disturbing each other. When CTCSS or DCS are enabled for a selected channel, the channel is muted to all incoming signals unless they carry the correct CTCSS or DCS tone.

When a transmission with the correct tone is received, the mute is removed, and the voice audio can be heard. When the transmission ends, the channel is muted again. Transmissions that do not have the correct tone are not heard.

The MXT500 has 142 Privacy Codes (38 CTCSS codes and 104 DCS codes), which can be applied to any channel. If desired, you can select a different Privacy Code for each channel. See CTCSS Privacy Codes Frequency Chart and DCS Privacy Codes Chart for lists of available Privacy Codes.

**IMPORTANT!** To communicate between two MXT500 radios or any GMRS radio, both radios must be set to the same channel (see SELECTING AN ACTIVE CHANNEL) and privacy code selections.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #01 – PRIVACY.
2. To edit the privacy codes, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between OFF, TSQ, or DCS for the receive privacy code (RCP).
  - OFF – privacy codes are disabled
  - TSQ – CTCSS privacy codes
  - DCS – DCS privacy codes
3. Repeat step 2 to set the transmit privacy code (TRP).

**NOTE:** The MXT500 can have separate privacy codes for receiving and transmitting on all channels.

**To Select a CTCSS Privacy Code:**

The MXT500 has 38 CTCSS privacy codes.

1. Follow steps 1-3 under SELECTING A PRIVACY CODE.
2. For receive privacy code (RCP), select TSQ in the privacy menu by pressing the CHANNEL/MENU SELECTION knob.
3. Use the CHANNEL/MENU Selection to navigate through the privacy code options. Select the desired privacy code by pressing the CHANNEL/MENU SELECTION knob.
  - Once the CTCSS privacy code is enabled, the SQ icon will appear on the LCD. The T and SQ icon will appear when the radio is transmitting.
  - See CTCSS PRIVACY CODE CHART
4. Repeat steps 2-3 for transmit privacy code (TRP).
5. Press the MENU button to exit the privacy code settings

**To Select a DCS Privacy Code:**

The MXT500 has 104 DCS privacy codes.

1. Follow steps 1-3 under SELECTING A PRIVACY CODE.
2. For receive privacy code (RCP), select DCS in the privacy menu by pressing the CHANNEL/MENU SELECTION knob.
3. Use the CHANNEL/MENU Selection to navigate through the privacy code options. Select the desired privacy code by pressing the CHANNEL/MENU SELECTION knob.
  - Once the DCS privacy code is enabled, the DCS icon will appear on the LCD.
  - See DCS PRIVACY CODE CHART
4. Repeat steps 2-3 for transmit privacy code (TRP).
5. Press the MENU button to exit the privacy code settings.

**To Disable Privacy codes:**

1. Follow steps 1 & 2 under SELECTING A PRIVACY CODE.
2. Select OFF in the privacy menu by pressing the CHANNEL/MENU SELECTION knob.
3. Press the MENU button to exit the privacy code settings.

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

**NOTE:** The LCD icons for privacy tones (TSQ and DCS) will be displayed while receiving and transmitting. Example: If a DCS tone is set for receive the radio will show DCS when in receive mode. If a CTCSS tone is set for transmitting, the LCD will show TSQ when in transmit mode.

**SELECTING A TRANSMIT (TX) POWER LEVEL**

The MXT500 provides up to 3 transmit power levels; Hi, Mi and Lo. The Lo power level is generally suitable when operating under optimum conditions (see ABOUT RANGE). The Hi power level is recommended to ensure you get maximum range from your radio.

**IMPORTANT!** Channels 1-7 cannot be removed from the Lo transmit power setting due to FCC regulations.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #02 – PWR.
2. To edit the transmit power level, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between Hi, Mi and Lo. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
  - Only the Mi and Lo transmit power settings will be indicated on the LCD. When neither Mi or Lo is displayed, this indicates that the radio is set to Hi transmit power.
3. Press the MENU button to exit the transmit power level settings.

## SELECTING A CHANNEL BANDWIDTH

GMRS radios may operate in wide band mode, maximum 20 kHz occupied bandwidth. FRS radios are limited to narrow band mode, maximum 12.5 kHz occupied bandwidth, by FCC regulations. For best clarity, all radios communicating together should use the same bandwidth. Midland GMRS radios use narrow band mode to provide optimum communication and spectrum efficiency with both FRS and GMRS radios which share the 12.5 kHz spaced FRS/GMRS channel frequencies. For systems using wide band GMRS radios, the MXT500 channel bandwidth can be switched to wide band mode.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #03 – NB (narrow band).
2. To edit the channel bandwidth, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between NB (narrow band) ON or OFF. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
  - NB – ON is selecting narrow band
  - NB – OFF is selecting wide band
  - Only the Nar (narrow band) will be indicated on the LCD. When the Nar is not displayed, it indicates the radio is in wide band.
3. Press the MENU button to exit the channel bandwidth settings.

### Talk Around (Talk) Function

The Talk Around function allows you to directly communicate with other radios in your group when the repeater is not activated or out of range. The radio will use the Receive frequency and Privacy Tone settings for transmitting when the Talk Around Function is enabled.

**IMPORTANT!** The Talk Around (Talk) Function is only compatible when the radio is using a repeater channel.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #04 – TALK.
2. To enable or disable the talk around function, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between ON or OF. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
  - The “+” icon will be off when talk around is on.
3. Press the MENU button to exit the talk around settings.

### **Voice Comander (Comp) Function**

The Voice Comander Function is used to reduce background noise and enhance audio clarity, especially in long range communication.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #05 – COMP.
2. To enable or disable to voice comander function, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between ON or OF. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
  - Once the voice comander is enabled, the D icon will appear on the LCD. If the voice comander is disabled, the D icon will disappear.
3. Press the menu button to exit the voice comander settings.

### **Silent Operation (Mute) Function**

The MXT500 has a Silent Operation mode. In this mode, all beeps and tones are disabled.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #06 – MUTE.
2. To enable or disable button beeps, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between ON or OF. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
  - No LCD icon will be displayed noting the mute around function being on or off.
3. Press the MENU button to exit the button beep settings.

### **Time Out Timer (TOT) Function**

The Time Out Timer limits the amount of transmitting time the radio has per PTT activation.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #07 – TOT.
2. To set the time out timer, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between OFF, 30, 60, 90, 120, 150, 180, 210, 240, 270, 300 seconds. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
3. Press the MENU button to exit the time out timer settings.

### **Automatic Power Off (APO) Function**

The Auto Power-Off function allows the user to set a time interval for the radio to automatically power off.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #08 – APO.
2. To set the automatic power off, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between OFF, 30, 60, 90, 120 minutes. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
  - Once the automatic power off function is enabled, the A icon will appear on the LCD.
3. Press the MENU button to exit the automatic power off settings.

### **Squelch Sensitivity**

The MXT500 has adjustable squelch sensitivity. The minimum squelch level (01) is the most sensitive, allowing the squelch to open on very weak signals. Setting the squelch to the maximum setting (09) requires very strong signals to open the squelch.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #09 – SQL.

2. To set the squelch sensitivity, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between 01, 02, 03, 04, 05, 06, 06, 08 and 09. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
  - If the squelch sensitivity is set to off, the BUSY icon will appear on the LCD.
3. Press the MENU button to exit the squelch sensitivity settings.

### **Display Color**

The MXT500 has seven different adjustable LCD display colors: Green (GRN), Blue (BLU), Cyan (CYN), Yellow (YEL), Purple (PUR), Clear (CLR) and Red (RED).

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #10 – COL.
2. To set the LCD color, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between GRN, LU, CYN, YEL, PUR, CLR and RED. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
  - You can preview each color while navigating the menu options.
  - Once you confirm your color selection, the LCD will display the color chosen.
3. Press the MENU button to exit the LCD color settings.

### **Display Brightness**

You can adjust the six brightness levels of the LCD display to ensure optimum visibility under various daytime and night-time lighting conditions.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #11 – LAMP.
2. To set the display brightness, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between OF, 01, 02, 03, 04 and 05. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
  - You can preview the brightness level while navigating the menu options.

- Once you confirm your brightness level, the LCD will display the brightness chosen.

3. Press the MENU button to exit the display brightness settings.

### **Repeater Channels**

The MXT500 can talk to GMRS repeaters, which can greatly increase radio range. You can enable and disable the repeater channels on the MXT500. There are 8 repeater channels.

**NOTE:** Be sure to be aware of the local sharing and usage policies set forth by the owner and operator of the repeater.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #12 – REP.
2. To enable or disable repeater channels, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between ON or OFF. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
  - Once repeater channels are enabled, they will be available in the channel list (see SELECTING AN ACTIVE CHANNEL). They will be displayed as RP 15 – RP 22.
  - When using a repeater channel, a + will appear on the LCD to indicate the repeater offset direction.
3. Press the MENU button to exit the repeater channel settings.

### **USB-C Programming Function**

The MXT500 had a built in USB-C charging port that allows you to quickly charge other devices. It may also be used as a programming port for updates. However, when the USB port programming function is ON it may interfere with some charging protocols.

**IMPORTANT!** When using the MXT500 the USB-C port for charging the USB programming function should be set to OFF. Only when the radio needs to be programmed through the USB-C port, should the USB programming function be set to ON.

**IMPORTANT!** When the USB-C programming function is set to OFF, the USB-C port is still a functional charging port for your devices.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #13 - USB.
2. To enable or disable USB-C programming, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to choose between ON or OFF. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
3. Press the MENU button to exit the USB-C programming settings.

### **Restoring the Default Settings**

You can restore the factory (default) settings for your MXT500 at any time.

1. Press the MENU button to enter the menu. Use the CHANNEL/MENU SELECTION knob to navigate to menu setting #14 - RESTORE.
2. To reset your radio, press the CHANNEL/MENU SELECTION knob. Use the CHANNEL/MENU SELECTION knob to select FACT. Press the CHANNEL/MENU SELECTION knob to confirm your selection.
3. Once reset, the radio will restart with the factory settings

## **CARE AND MAINTENANCE**

**CAUTION:** DO NOT use alcohol or cleaning solutions to clean the radio. DO NOT immerse the radio in water.

1. Use a soft cloth moistened with water to clean the radio.
2. Dry the radio with a dry lint-free cloth should it get wet.

## TROUBLESHOOTING GUIDE

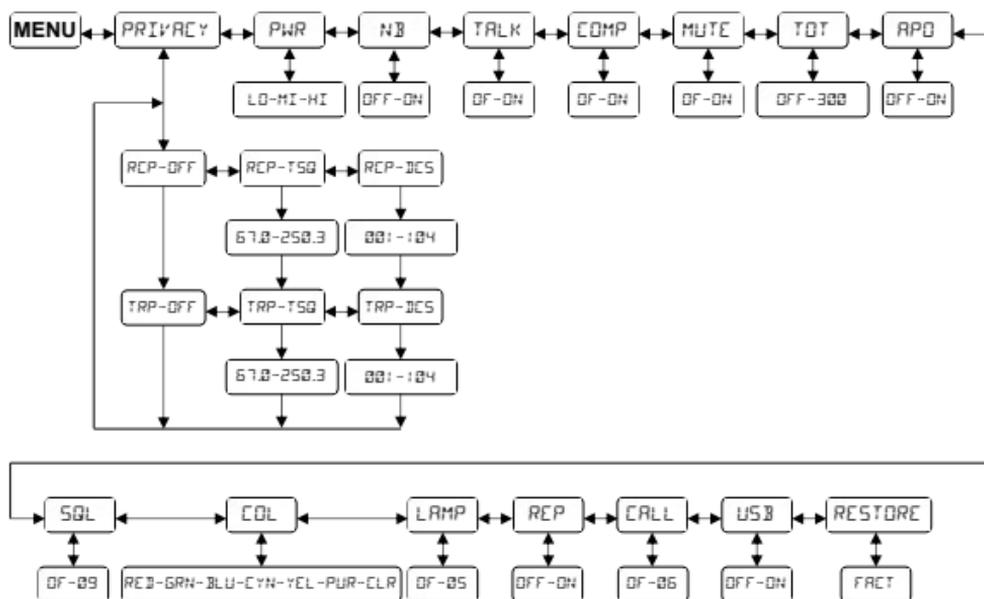
If you experience difficulties using your MXT500, refer to the following chart to correct common operation problems. If you have a problem which you believe requires service, please call our Midland customer service representatives at 816-241-8500 on Monday – Friday between 8 AM to 4:30 PM CST. Many problems can be remedied over the phone without returning the unit for service.

PROBLEM	SOLUTION
<b>No Power</b>	Check vehicle power source (battery); replace as needed.
	Check input power connection and/or wires to vehicle power source.
<b>Cannot Receive Messages</b>	Verify both radios have the same channel selection and Privacy Code settings.
	Make sure you are within range of the other radio.
	Confirm communication is not affected by buildings and other structures (see <b>About Range</b> ).
<b>Keypad is not Responding</b>	Make sure keypad "lock" is not on (see <b>Locking the Keypad</b> ).
	Reset the radio (turn radio off then back on).
<b>Display Backlight is Dim</b>	Confirm your backlight setting is enabled.

# SPECIFICATIONS

<b>Channels:</b>	15 GMRS Channels and 8 Repeater Channels
<b>Privacy Codes:</b>	38 CTCSS; 104 DCS
<b>Receive Frequency:</b>	UHF; 462.550 ~ 462.550 MHz
<b>Transmit Frequency:</b>	UHF; 462.550 ~ 467.725 MHz
<b>Power Source:</b>	13.8 VDC Nominal

## MENU QUICK REFERENCE CHART



**GMRS FREQUENCY CHART (MHz)**

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	462.600
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 Restricted to Portable Use Only		22	462.725

**GMRS REPEATER FREQUENCY CHART (MHz)**

Ch. Number	TX Freq. (MHz)	RX Freq. (MHz)
15RP	467.5500	462.5500
16RP	467.5750	462.5750
17RP	467.6000	462.6000
18RP	467.6250	462.6250
19RP	467.6500	462.6500
20RP	467.6750	462.6750
21RP	467.7000	462.7000
22RP	467.7250	462.7250

**WX BAND CHANNELS**

Channel Number	Frequency (MHz)
1	162.550
2	162.400
3	162.475
4	162.425
5	162.450
6	162.500
7	162.525
8	161.650
9	161.775
10	163.275

## CTCSS PRIVACY CODE CHART

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		

## 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

**FCC WARNINGS AND STATEMENTS**

**IMPORTANT!** Changes or modifications to this unit not expressly approved by Midland Radio Corporation 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.

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

## **LIMITED WARRANTY (United States)**

Subject to the exclusions set forth below, Midland Radio Corporation will repair or replace, at its option without charge, any MXT500 which fails due to a defect in material or workmanship within One Year following the initial consumer purchase.

This warranty does not apply to water damage, battery leak, abuse or misuse of unauthorized accessories, unauthorized service or modification or altered products. Accessories have a 90 day warranty from date of purchase including the power cable, antenna, and microphone that are included with the unit.

ANY IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED AS SET FORTH HEREIN AND TO THE DURATION OF THE LIMITED WARRANTY, OTHERWISE THE REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS EXPRESS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER AND IS PROVIDED IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. IN NO EVENT SHALL MIDLAND BE LIABLE, WHETHER IN CONTRACT OR TORT (INCLUDING BUT NOT LIMITED TO NEGLIGENCE, GROSS NEGLIGENCE, BODILY INJURY, PROPERTY DAMAGE AND DEATH) FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT OR ACCESSORY, OR FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATA OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE ABILITY OR INABILITY TO USE THE PRODUCTS OR ACCESSORIES TO THE FULL EXTENT THESE DAMAGES MAY BE DISCLAIMED BY LAW.

### **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 place of purchase in Canada. This warranty gives you specified legal rights. Additional warranty rights may be provided by law in some areas within Canada.





**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:**

**[midlandusa.com](http://midlandusa.com)**

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