

**GMRS-210 + 3**  
**UHF TWO-WAY RADIO**  
Owner's Manual



**maxon**<sup>®</sup>  
SYSTEMS INCORPORATED

**- IMPORTANT NOTICE -**

Refer to a separately provided Programming Manual for placing your Maxon GMRS radio equipment on the assigned FCC frequencies. **NOTE: This radio programming must be done by a technically qualified mobile radio service facility in your area.**

**- WARNING -**

**THERE ARE NO USER SERVICEABLE COMPONENTS INSIDE THE MAXON GMRS-210 + 3 UHF TWO-WAY RADIO. ALL REPAIRS OR SERVICE PERFORMED ON THIS RADIO MUST BE DONE BY A TECHNICALLY QUALIFIED LAND MOBILE RADIO MAINTENANCE OR REPAIR FACILITY. REPLACING THE INTERNAL COMPONENTS OR IMPROPER ADJUSTMENTS MAY RESULT IN ILLEGAL EMISSIONS, INCLUDING OFF-FREQUENCY OPERATION, OR DAMAGE TO THE RADIO.**

## GENERAL SPECIFICATIONS

Communication Methods:	Simplex; Repeater (Half Duplex)
Frequency Range:	462.550 - 462.725 MHz (Simplex TX) 467.550 - 467.725 MHz (Repeater TX) 462.550 - 462.725 MHz (RX)
Number of Channels:	10
Transmit / Receive Frequency Spacing:	0 MHz / 5 MHz
Simplex / Repeater (Half Duplex) Channel Bandwidth:	25 kHz in 12.5 kHz steps
Power Source:	7.2 Volt (600 MAH Ni-Cd Battery); 9 Volt (6 Alkaline Batteries); 10.8 Volt (600 MAH Ni-Cd Battery); 13.8 Volt Vehicle Power Cord

## RECEIVER SPECIFICATIONS

Receiver Sensitivity:	Below 0.35 $\mu$ V (12 dB SINAD)
Selectivity:	Above 60 dB
Spurious Rejection:	Above 60 dB
Adjacent Channel Selectivity:	Above 60 dB
Hum and Noise:	Above 40 dB
Intermodulation:	Above 60 dB
Audio Output Power:	0.4 Watt
Audio Distortion:	Below 5% in standard power output
Audio Response Characteristics:	TIA 603 De-emphasis Curve
Receiver Frequency Range:	462.550 - 462.725 MHz
Frequency Stability:	5 PPM (-30 $^{\circ}$ C to +60 $^{\circ}$ C)
Antenna Impedance:	50 Ohms
Current Drain:	Below 55 mA (in Standby) Below 250 mA (standard power output) Below 20 mA (with power save)

## TRANSMITTER SPECIFICATIONS

Transmitter Output Power:	2.0 Watt / 7.2 Volt; 3.0 Watt / 9.0 Volt; 4.0 Watt / 10.8 Volt; 5.0 Watt / 13.8 Volt
Adjacent Channel Power:	Below -70 dB
Spurious:	Below -60 dB
Harmonics:	Below -60 dB
FM Hum and Noise:	Below -40 dB (with TIA603 Filter)
Audio Distortion:	Below 5% in standard modulation
Audio Response:	TIA 603 Pre-emphasis Curve
Audio Modulation:	16K0FID, 16K0F3E
Transmitter Frequency Range:	462.550 - 462.725 MHz (Simplex) 467.550 - 467.725 MHz (Repeater)
Frequency Stability:	5 PPM (-30 $^{\circ}$ C to +60 $^{\circ}$ C)
Antenna Impedance:	50 Ohms
Current Drain:	Below 1200 mA / 2.0 Watts / 7.2 Volts

## GMRS-210+3 CHANNEL FREQUENCY CHART

### INTERSTITIAL CHANNEL FREQUENCIES

CH1	462.5625 MHz
CH2	462.5875 MHz
CH3	462.6125 MHz
CH4	462.6375 MHz
CH5	462.6625 MHz
CH6	462.6875 MHz
CH7	462.7125 MHz

### FCC ASSIGNED EMERGENCY / SAFETY

CH8	462.675 MHz
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### CONVENTIONAL CHANNEL FREQUENCIES

CH9*	462.575 MHz
CH10*	462.625 MHz

\* Any of the following frequencies can be programmed by a radio communications dealer:

462.550 MHz	462.575 MHz
462.600 MHz	462.625 MHz
462.650 MHz	462.675 MHz
462.700 MHz	462.725 MHz

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## **PRODUCT DESCRIPTION**

Thank you for choosing the Maxon GMRS-210+3 UHF Two-Way Radio. This powerful (2 watt) handheld unit has an exceptional transmitting range, and state-of-the-art features.

These include 10 individual PLL Synthesized UHF channels. Two channels (CH9/CH10), are Dealer programmable radio frequencies and can be changed for user communications versatility. Channel 8 is set aside by the FCC for Emergency and Safety communications only. The seven remaining channels (CH1 - CH7) are non-programmable for frequency. They are set on Interstitial frequencies for all-purpose GMRS radio use.

For enhanced performance, the radio's functions can be programmed by the user to meet his own communication requirements. Some of these functions include access to Commercial Repeater Systems (to extend the radio's operating range); several scanning modes (to monitor channel activity); and CTCSS (Continuous Tone Coded Squelch System) for "private" communications between similarly coded radios.

The Maxon GMRS-210+3 is designed for ease of operation with its "user-friendly" controls and accessory jacks conveniently located on the radio's top and side panels.

An eight button keypad is used to access, program and operate the radio's performance features. A large easy to read illuminated Liquid Crystal Display (LCD) is used to show current operation, function, and radio performance status.

## **PACKAGE CONTENTS**

Main Radio Unit containing the solid state electronics and controls  
600 MAH 2 Watt Ni-Cad Rechargeable Battery Pack  
AC/DC Wall Battery Charger  
Vehicular DC power supply cord with cigarette lighter plug  
"Rubber Duck" Antenna  
Nylon Handstrap  
Owner's Manual  
FCC License Application  
Ni-Cad Battery Charging Statement

## **LICENSING THE GMRS RADIO**

Your GMRS-210+3 radio operates on FM radio frequencies authorized by the Federal Communications Commission (FCC). The FCC requires that all operators using General Mobile Radio Service frequencies obtain a radio license before use. Application for your FCC license is made by using the enclosed FCC Form 574. A booklet entitled "Form 574 Instructions" can be obtained from the FCC Supply Section Administrative Services Division, 1919 M Street, N.W. Room B-10, Washington, DC 20554, telephone 202-418-3676.

The operator may receive a license for use of GMRS radio equipment under specific eligibility requirements as shown below:

- A) As described in FCC Rule Section 95.5:  
An individual is eligible to obtain, renew and have

a modified GMRS system license if that individual is 18 years of age or older and is not a representative of a foreign government. A non-individual (an entity other than an individual) is ineligible to obtain a new GMRS system license or to make a major modification to an existing GMRS system license (see FCC Rule Part 95.71 (e)).

The enclosed FCC Form 574 is used to apply for new radio station licenses.

The FCC charges a processing fee of \$80.00 for new license applications. The fee is payable by check or money order made out to the "Federal Communications Commission" and must be enclosed with the application. Any application without a check will be returned, with the exception of applicants who are government entities and all applicants in any public safety or special Emergency Radio Service. Upon approval, the FCC will mail your radio station license to the address shown on your application Form 574. Complete Form 574 and send to:

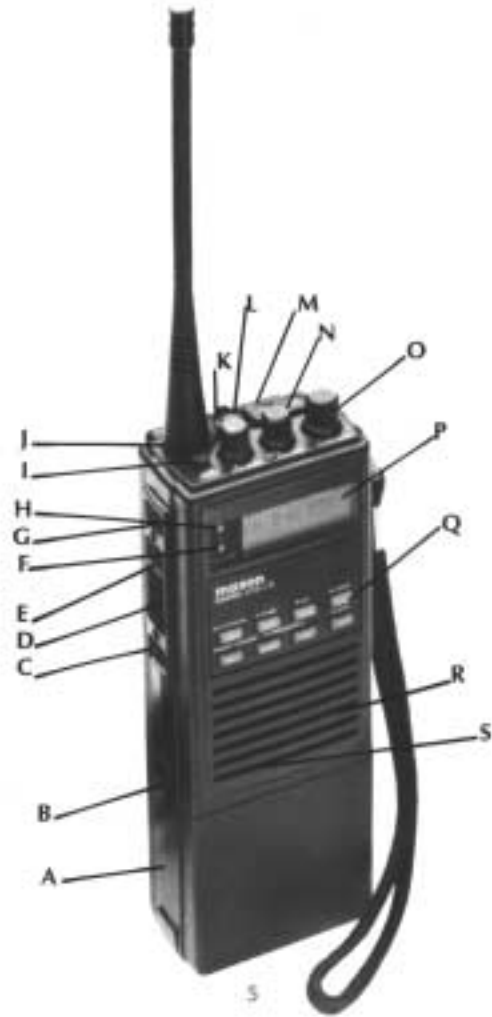
Federal Communications Commission  
General Mobile Radio Service  
P.O. Box 358230  
Pittsburgh, PA 15251-5230



## **GMRS-210+3 PERFORMANCE FEATURES**

- PLL Synthesized 10 UHF Channel operation on General Mobile Radio Service frequencies:
  - Two channels are Dealer programmable (radio frequencies can be changed for user communications versatility).
  - One channel is set aside by the FCC for Emergency and Safety communications.
  - Seven remaining channels are non-programmable for frequency - they are set on Interstitial frequencies for all-purpose GMRS radio use.
- 2 Watts of RF Power for exceptional transmitting range. Up to 5 Watts when used with the supplied Vehicular DC power supply cord.
- Eight button keypad is used to select programmable features.
- Top mounted "user-friendly" radio control knobs for Squelch, Power "On/Off" - Volume, and Tune/M-CH. Uses a High-Low Power Switch to conserve radio battery energy when communicating short distances.
- Channel, frequency, and radio status are shown on the illuminated LCD Display.
- Repeater operation extends communication range.
- Features Channel Scan, Priority Channel Scan, and "Call" Channel capability to monitor channel activity.
- Continuous Tone Coded Squelch System (CTCSS) capability to provide privacy in communications between similarly coded radios.
- User programmable Scan Delay Time Option, Busy Channel Lock-Out and Transmit Time-Out-Timer.
- Equipped with Jacks for external DC power cord use; and optional Maxon Speaker / Mic; or Voice operated / P-T-T Mini-VOX Headset accessories.

### GMRS-210 +3 Call Outs



## CONTROLS AND FUNCTIONS

- A. **Battery Pack:** Slide-on pack for powering the GMRS radio. A 600 MAH 2 Watt rechargeable Ni-Cad battery pack is included with your radio.
- B. **Battery Pack Release Button:** Used to detach the battery pack from the radio.
- C. **LCD Display Light Button (L):** Used to illuminate the LCD (Liquid Crystal Display).
- D. **Push-To-Talk Button (P-T-T):** When pressed, the radio goes into the transmission mode, and the red "TX" LED will illuminate.
- E. **Monitor Button (M):** Used to monitor channel activity.
- F. **Battery Low LED Indicator:** Glows red when the battery pack requires recharging or replacement.
- G. **Function Button (F):** Used with the keypad to access radio functions.
- H. **"TX" LED Indicator:** Glows red to signal the radio is transmitting.
- I. **High-Low Power Switch:** Used to switch radio's output to "high" or "low" power.
- J. **Antenna Jack:** Used to attach the "Rubber Duck" antenna.
- K. **External DC Power Jack:** Used to connect the Vehicular DC power supply cord when using a vehicle's cigarette lighter receptacle.
- L. **Squelch Control Knob:** Used to eliminate background noise in the standby mode.
- M. **Accessory Jacks:** Used to plug in the optional Maxon Speaker / Microphone (WTA-10G); or Voice operated / P-T-T Mini-VOX Headset (WTA-13G) Accessories.
- N. **"On/Off"- Volume Control Knob:** Used to turn the power "On" and "Off" and control volume levels.

- O. Tune/M-CH Selection Knob:** Used to select the desired channel frequency and radio and channel configuration parameters.
- P. LCD Display:** Used to display the channel, frequency, and radio operating mode status.
- Q. Radio Keypad:** Used to access, program and operate the radio's performance features.
- R. Microphone:** Used to transmit voice signals.
- S. Speaker:** Used for audio output.
- T. Battery Charging Jack:** (Not shown). Located on back of radio's battery pack. Used to charge Ni-Cad battery pack with supplied AC/DC Battery Charger.
- U. Battery Charging LED Indicator:** (Not shown). Located next to Battery Charging Jack. Indicates charge is occurring.
- V. Belt Clip:** (Not shown). Used to attach the radio to a belt or pocket.

## OPERATING INSTRUCTIONS

**Read this manual thoroughly prior to operating this radio.**

Have your dealer program those features unique to your communications requirements. At the same time, review this Owner's Manual with the dealer to clarify the radio's capabilities.

### Charging the Battery Pack

A 2 Watt rechargeable Ni-Cad battery pack is provided with your radio. It is recommended that you charge the battery pack removed from the radio to prevent possible damage by accidentally turning the unit "On" during charging. To remove the battery pack from the radio, push up and hold the release button while sliding the battery pack away from you.

To charge the battery pack, insert the supplied Maxon AC/DC wall battery charger plug into the battery charging jack. The red LED on the battery pack will light to indicate it is being charged. **NOTE: THE UNIT MUST BE FULLY CHARGED (FROM 14-16 HOURS) BEFORE ANY RADIO OPERATION OCCURS.** Remove the charger plug and unplug the wall battery charger, if desired.

To reinstall the battery, align "rails" on pack with radio body and slide into "locked" position.

**CAUTION: THE RADIO MUST BE TURNED OFF BEFORE RECHARGING THE BATTERY PACK. USE ONLY THE ENCLOSED AC/DC WALL BATTERY CHARGER TO RECHARGE THE BATTERY PACK.**

### **Operating the GMRS-210+3 UHF Radio**

1. Thread the antenna clockwise onto the radio until securely mounted.
2. Turn the radio's power "On" by turning the "On/Off" - Volume Control knob clockwise. The radio will emit a series of tones to signal that the power is "On" and that the radio is operating normally.
3. Adjust the volume to a comfortable listening level.
4. Turn the Squelch Control knob clockwise until the channel noise (static) disappears. This is the threshold setting to keep the radio quiet when there is no signal present on the channel. It is important to adjust the squelch control properly - if static is heard constantly, battery life will be substantially shortened.
5. Check the position of the High-Low Power Switch. When in the "High" (raised) position, the radio is operating at the full rated output. In the "Low" position, the radio operates on 1 Watt RF power to conserve battery energy when communicating short distances.
6. Select the channel you want to use for transmitting and receiving messages by turning the Tune/M-CH Selection knob clockwise or pressing the DOWN or UP keys.
7. Press the Monitor button (M), when CTCSS is enabled, to listen for any channel activity prior to transmitting.
8. To transmit a message, press and hold the Push-To-Talk (P-T-T) button. The red "TX" LED on the LCD display will illuminate. Hold the radio about one inch from your mouth and speak clearly and in a normal tone directly into the microphone (located at the lower right hand corner of the front grill). Release the P-T-T button

when the transmission is completed. The red "TX" LED will go out until your next transmission.

9. For display illumination at night or during low-light levels, press the LCD Display Light Button (L) on the side of the radio. The light will automatically turn "Off" after 5 seconds. If the radio is in the middle of operating other functions while the LCD is illuminated, the light will automatically turn "Off" 5 seconds after the last function button is released.

## LCD (LIQUID CRYSTAL DISPLAY) DATA

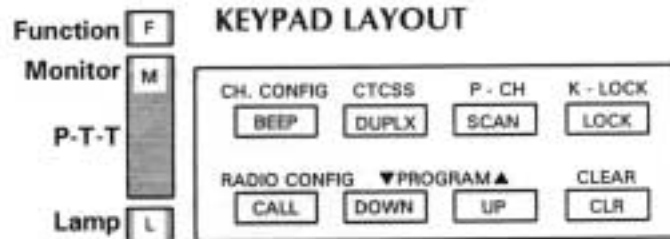


Icon(s) will appear on the LCD display to identify certain operating modes of the radio. See the "Special Programming" Section of this manual.

Following is a description of each icon:

<b>BUSY</b>	Activity on selected channel
<b>CTCSS</b>	CTCSS Tone is active
<b>SIMPLEX</b>	"Normal" (non-Repeater) mode
<b>CH9</b>	Channel 9 at 462.575 MHz
<b>TONE TX</b>	CTCSS Tone active in "TX" only
<b>TONE TX/RX</b>	CTCSS Tone active in "TX"&"RX"
<b>PROG</b>	"Programming" mode
<b>SCAN</b>	"Scan" mode
<b>LOCK</b>	"Channel Lockout" mode
<b>LOCK (Flashing)</b>	"Keypad Lock" mode





### PRIMARY KEY FUNCTIONS

(BEEP)	Beep Enable / Disable
(DUPLX)	Repeater / Normal Mode
(SCAN)	Scan Start / Stop
(LOCK)	Channel Lockout
(CALL)	Call Channel Selector
(DOWN) and (UP)	Selects Channels
(CLR)	"Clear" Function

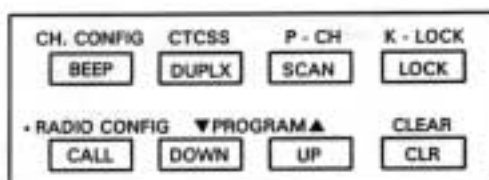
### SECONDARY FUNCTIONS

The (F) Function button is used in conjunction with the keypad to access Secondary functions.

(F+BEEP)	Channel Configuration Mode
(F+DUPLX)	CTCSS Enable / Disable
(F+SCAN)	Priority Channel Selection
(F+LOCK)	Keypad Lock / Unlock
(F+CALL)	Radio Configuration Mode
(F+CLR)	"Clear" Function

(DOWN) and (UP)	Toggles programming functions in the Channel and Radio Configuration modes
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## OPERATING THE PRIMARY KEYS



**(BEEP) Beep Enable / Disable Key:** Press this key to enable or disable the "beep" sound emitted when using the keypad. Press this key again to return to enabled or disabled settings.

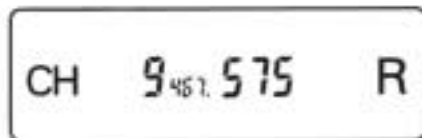
When the keypad "beep" is enabled, there are two kinds of condition signals that will be heard:

**A. Short Beep at 1000 Hz:** This "high" pitch beep is emitted when the command from the user is accepted and when the radio is actually performing the function.

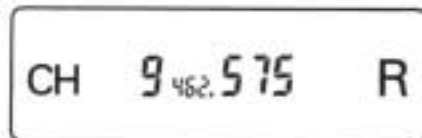
**B. Short Beep at 800 Hz:** This "low" pitch beep is emitted when the command from the user is not accepted and when the radio is not performing the function.

**(DUPLEX) Repeater / Normal Mode Selection Key:** To utilize the Repeater mode, the user must contact a local radio communications dealer. Use of Repeater frequencies will increase the radio's range by transmitting through a Repeater station.

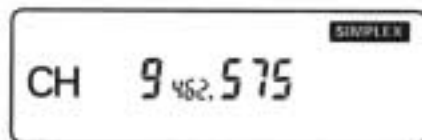
Press this key to access the Repeater mode (indicated by an "R" following the displayed channel), or the Normal mode (indicated by the Simplex icon on the display).



**Repeater Mode (TX)**



**Repeater Mode (RX)**

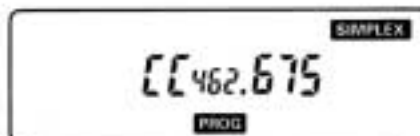


**Normal Mode**

**(SCAN) Scan Start / Stop Key:** Pressing this key during the Receive or Standby mode will initiate Scan. The "Scan" icon will appear on the LCD. Pressing this key during Scan mode will stop the Scan. (Pressing the (CLR) Clear key will also stop the Scan mode). See "Radio Configuration" section for more information.

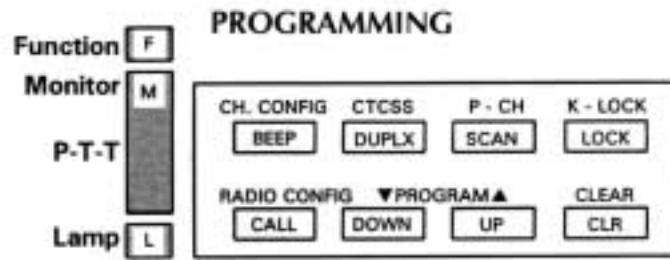
**(LOCK) Channel Lockout Key:** Pressing this key during Scan (when receiving a signal on an undesired channel) will immediately stop the reception and start Scan on the next channel. Scanning will cease on the channels selected for Channel Lockout.

**(CALL) "Call" Channel Key:** Pressing this key during the Receive or Standby mode will cause the radio to move to the channel previously selected as the "Call" Channel. (Pressing the (CLR) Clear key will disable the "Call" Channel selection). See "Radio Configuration" section for more information.



**(DOWN) and (UP) Keys:** The DOWN or UP keys are used to "toggle" through the function codes when in the Radio or Channel Configuration Mode.

**(CLR) Clear Key:** Press this key to disable Scan or "Call" Channel Modes.



**NOTE:** To access the GMRS radio's programmable functions you must press and hold the (F) Function button and then press the specified keypad key. Release the button and the key simultaneously.

### Channel Configuration Mode

A CTCSS\* programmed radio will transmit the CTCSS Tone along with the chosen channel frequency. Radios programmed for CTCSS will not break squelch until the radio receives a matching CTCSS tone.

In the Channel Configuration Mode, the radio is being programmed for the following function codes:

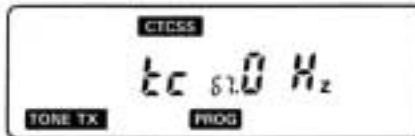
- tc - TX (Transmit) CTCSS Tone Programming
- rc - RX (Receive) CTCSS Tone Programming
- ti - TX (Transmit) Inhibit Programming

\* Continuous Tone Coded Squelch System

### (tc) TX CTCSS Tone Programming (optional):

- A. Select the channel to be programmed with CTCSS. (You may program any of the available channels or the "Call" or "Priority" Channels).

- B. Press F+BEEP. The "PROG" (Program) icon will be displayed on the LCD:



NOTE: If the LCD shows a different screen, use the DOWN or UP keys to toggle to the above screen.

- C. Turn the Tune/M-CH Selection knob to display the appropriate CTCSS Frequency as listed below:

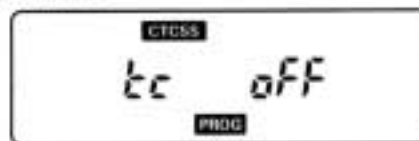
CTCSS FREQUENCY CHART

Hz	Hz	Hz	Hz	Hz	Hz	Hz
67.0	88.5	114.8	151.4	177.3	203.5	250.3
69.1	91.5	118.8	156.7	179.9	206.5	254.4
71.9	94.8	123.0	159.8	183.5	210.7	oFF
74.4	97.4	127.3	162.2	186.2	218.1	
77.0	100.0	131.8	165.5	189.9	225.7	
79.7	103.5	136.5	167.9	192.8	229.1	
82.5	107.2	141.3	171.3	196.8	233.6	
85.1	110.9	146.2	173.8	199.5	241.8	

- D. When the CTCSS Tone frequency is set between 67.0 and 254.4 Hz, the "TONE TX" icon will be displayed on the LCD.

NOTE: The "TONE TX" icon indicates the CTCSS Tone selected is used for the Transmit mode only.

NOTE: If your programming is complete after this step, you can return the radio to the "Normal" mode by pressing F+BEEP or the P-T-T button. If you choose to program other functions in this Mode, use the UP key to toggle to the next screen.



**(rc) RX CTCSS Tone Programming (optional):**

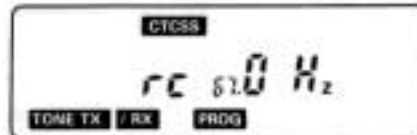
NOTE: If the TX CTCSS Tone is not programmed, the RX CTCSS Tone cannot be programmed.

- A. To program the Receive (RX) CTCSS Tone function, the LCD display will show:



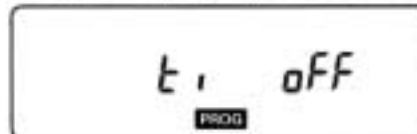
NOTE: If the LCD shows a different screen, use the DOWN or UP keys to toggle to the above screen.

- B. Turn the Tune/M-CH Selection knob to select the appropriate CTCSS frequency (refer to the CTCSS Frequency Chart on previous page). When the CTCSS is set between 67.0 and 254.4 Hz, the "TONE TX" icon will change to read "TONE TX/RX" (to verify that a CTCSS Tone has been selected for both Transmit and Receive modes).



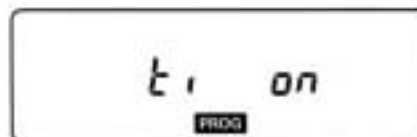
NOTE: If your programming is complete after this step, you can return the radio to the "Normal" mode by pressing F+BEEP or the P-T-T button. If you choose to program other functions in this Mode, use the UP key to toggle to the next screen.

**(ti) Transmit Inhibit Setting (optional):** A Channel set for Transmit Inhibit is locked from transmitting - it can only receive messages. To program, the LCD will show:



NOTE: If the LCD shows a different screen, use the DOWN or UP keys to toggle to the above screen.

A. Turn the Tune/M-CH Selection knob to "on" to activate Transmit Inhibit or "off" for Normal radio operation.



NOTE: If your programming is complete after this step, you can return the radio to the "Normal" mode by pressing



F+BEEP or the P-T-T button. If you choose to return to any functions in the Channel Configuration Mode, use the UP key to toggle to the desired screen.

**(F+DUPLX) CTCSS Enable / Disable:** Press F+DUPLX to temporarily disable programmed CTCSS on the selected channel. Press F+DUPLX again to enable the programmed CTCSS.



**(DOWN) and (UP) Program Keys:** The DOWN or UP keys are used to "toggle" through the function codes when in the Channel Configuration Mode.

**(F+CLR) "Clear" Function:** Used for disabling Channel or Radio Configuration Mode settings.

### Radio Configuration Mode

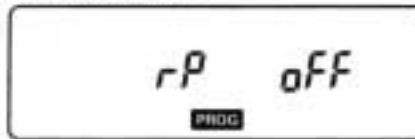
In the Radio Configuration Mode, the radio is being programmed for the functions listed below.

<b>rP</b> = Receiver Power Savings	<b>P1</b> = Priority Channel #1
<b>Sd</b> = Scan Time Delay	<b>P2</b> = Priority Channel #2
<b>tt</b> = TX Time Out Timer	<b>P3</b> = Priority Channel #3
<b>CC</b> = Call Channel	<b>bP</b> = Battery Pack Voltage

#### **(rP) Receiver Power Savings (optional):**

"On" setting will save battery life when the radio is in Standby mode.

- A. Press F+CALL. The "PROG" (Program) icon will be displayed on the LCD:



NOTE: If the LCD shows a different screen, use the DOWN or UP keys to toggle to the above screen.

- B. Turn the Tune/M-CH Selection knob to "on" or "oFF" setting.

NOTE: If your programming is complete after this step, you can return the radio to the "Normal" mode by pressing F+CALL or the P-T-T button. If you choose to program other functions in this Mode, use the UP key to toggle to the next screen.

#### **(Sd) Scan Delay Time Setting (optional):**

##### **Receive Scan Delay Time**

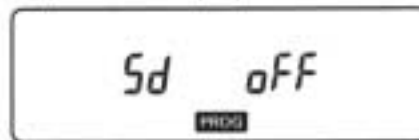
If a signal is received in any channel during Scan, the Scan function will cease temporarily. When the signal ceases, Scan will restart immediately. The time interval between the disappearance of the signal and the restart of Scan is the Receive Scan Delay Time.

##### **Transmit Scan Delay Time**

If the P-T-T button is pressed during Scan, the transmission will take place in the channel where Scan stopped the last time. If there is no signal in the selected channel after transmission, Scan will restart. The time interval between

the end of transmission and the restart of Scan is the Transmit Scan Delay Time.

- A. To program the Receive and Transmit Scan Delay "Sd" function, the LCD display will show:

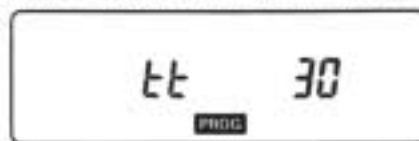


- B. Set 0,1,2,3,4,5,6,7 or 8 second scan delay time (or choose "inF" (Infinite time)) by turning the Tune/M-CH Selection knob.

NOTE: If your programming is complete after this step, you can return the radio to the "Normal" mode by pressing F+CALL or the P-T-T button. If you choose to program other functions in this Mode, use the UP key to toggle to the next screen.

**(tt) Transmit Time-Out-Timer Setting (optional):**

Permits user to set the maximum radio transmit time before the radio automatically switches back to standby mode. Prevents excessive battery discharge or accidental transmissions. The LCD display will show:



(Diagram shows 30 second time setting)

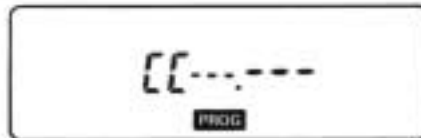
NOTE: If the LCD shows a different screen, use the DOWN or UP keys to toggle to the above screen.

- A. Set "off" or 30,60,90,120,150 or 180 second time settings by turning the Tune/M-CH Selection knob.

NOTE: If your programming is complete after this step, you can return the radio to the "Normal" mode by pressing F+CALL or the P-T-T button. If you choose to program other functions in this Mode, use the UP key to toggle to the next screen.

**(CC) Call Channel Setting (optional):** A single user-selectable channel where most communications will be placed or received.

- A. To program the Call Channel "CC" function, the LCD display will show:



- B. Set the desired frequency by turning the Tune/M-CH Selection knob. The LCD display will show:



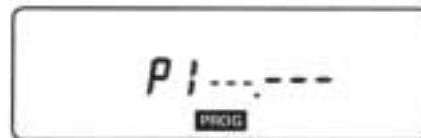
(Diagram shows 462.675 MHz setting)

NOTE: If your programming is complete after this step, you can return the radio to the "Normal" mode by pressing

F+CALL or the P-T-T button. If you choose to program other functions in this Mode, use the UP key to toggle to the next screen.

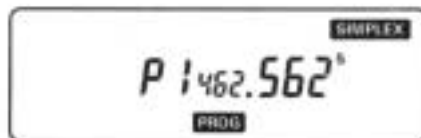
**(P1) Priority Channel Programing (optional):** Allows user to select up to three "priority" channels which can be scanned for activity.

A. To program Priority Channel "P1", "P2", "P3" functions, the LCD will show "P1" has been selected.



B. Set the desired frequency by turning the Tune/M-CH Selection knob.

NOTE: The frequencies which can be selected are limited to the frequencies available for CH1 - CH10.



(Diagram shows frequency at 462.562 for P1 Channel)

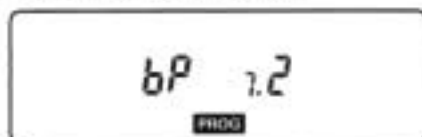
- C. Your programming for "P1" is complete. Repeat the programming steps for "P2" and "P3" Channels, if desired.

NOTE: If your programming is complete after these steps, you can return the radio to the "Normal" mode by pressing F+CALL or the P-T-T button. If you choose to program other functions in this Mode, use the UP key to toggle to the next screen.

#### **(bP) Setting The Battery Pack Low Battery Alarm**

NOTE: This setting **must** be programmed whenever a new power source is used, so that the radio can properly indicate a "low battery" condition.

- A. To program the battery pack low battery alarm function, the LCD Display will show:



(Diagram shows 7.2 volts for the included 2 watt Ni-Cad battery pack (Model WTA-6GN2)).

- B. Set the battery pack voltage for the battery pack being used by turning the Tune/M-CH Selection knob. Refer to the Battery Pack Voltage Chart below:

Battery Pack Model No.	Output Volts	"bP" Parameter	Battery Type
WTA-6GN2	7.2	7.2 Volts	Ni-Cad 2 watt
WTA-6GA	9.0	7.2 Volts	Alkaline 3 watt
WTA-6GN4	10.8	10.8 Volts	Ni-Cad 4 watt

**NOTE:** If your programming is complete after this step, you can return the radio to the "Normal" mode by pressing F+CALL or the P-T-T button. If you choose to return to any functions in the Radio Configuration Mode, use the UP key to toggle to the desired screen.

**(F+SCAN) Priority Channel Selection (optional):** Press F+SCAN to use the DOWN or UP keys to toggle through the Priority Channels (P1, P2, and P3). The LCD display will show:



Press F+SCAN again to cancel the Priority Channel Selection function.

**(F+LOCK) Keypad Lock On / Off:** Press F+LOCK. A flashing "LOCK" icon will be displayed on the LCD:



Press F+LOCK again to cancel the Keypad lock.

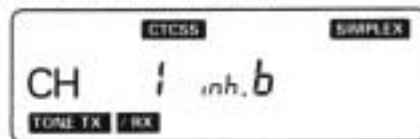
**(DOWN) and (UP) Keys:** The DOWN or UP keys are used to "toggle" through the function codes when in the Radio Configuration Mode.

**(F+CLR) "Clear" Function:** Used for disabling Channel or Radio Configuration Mode settings.

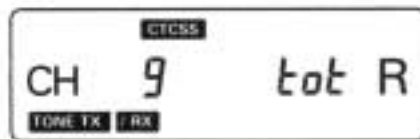
## WARNING ALERTS

**Transmission Inhibit Warning Alert:** This "beep" sounds when transmission is tried on a channel programmed for reception only. See section on "Transmit Inhibit Setting" under Channel Configuration Mode Programming.

The following will be displayed on the LCD with the Transmission Inhibit Warning Alert:



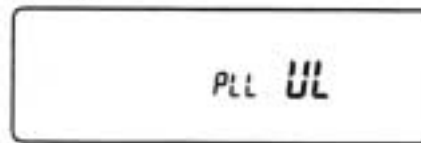
**Excessive Transmission Time Warning Alert:** This "beep" sounds to indicate that transmission time has exceeded the length of time programmed for the channel. See section on "Transmit Time Out Timer Setting" under Radio Configuration Mode Programming. The following will be displayed on the LCD with the Transmission Time Warning Alert:





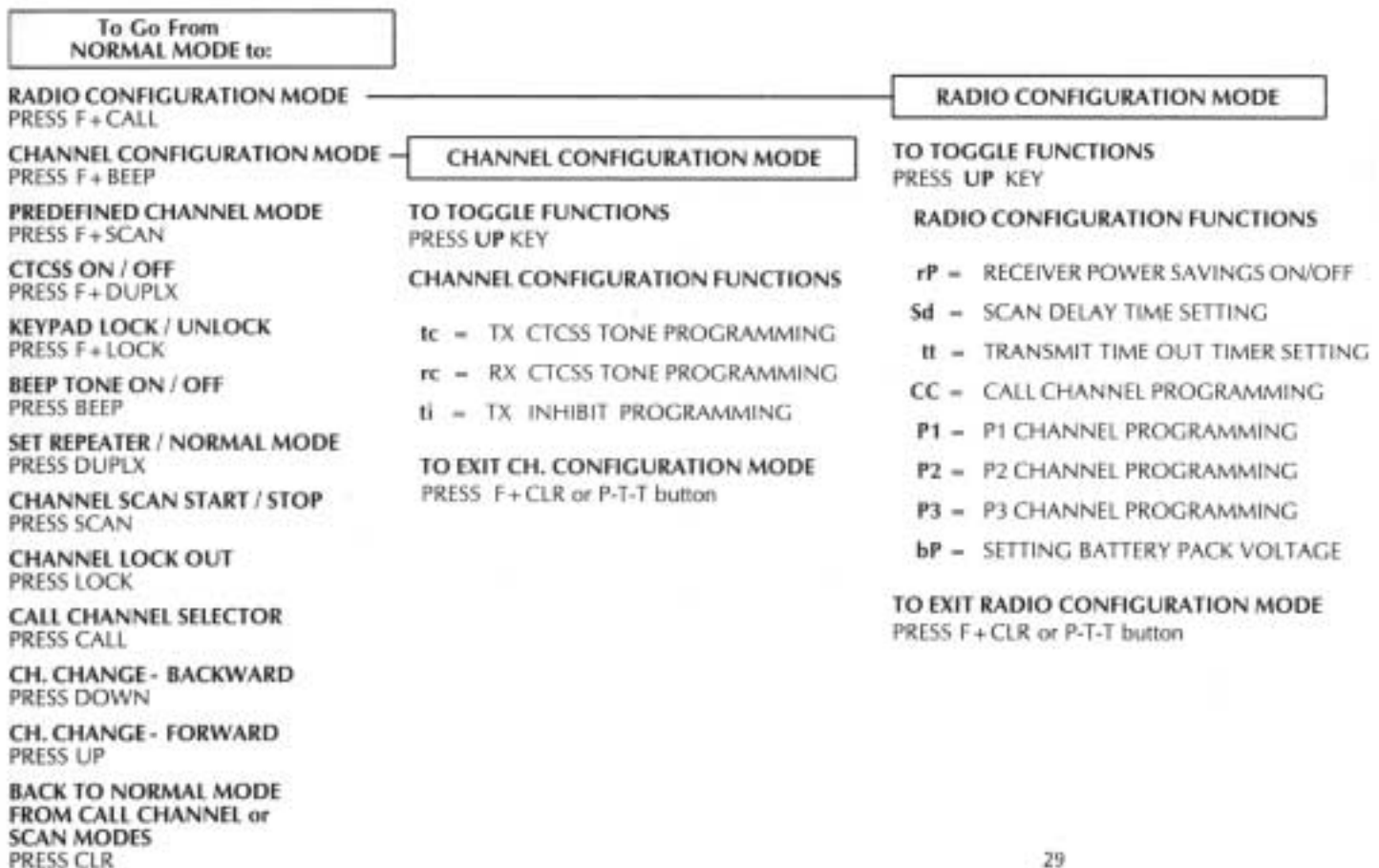
## ERROR MESSAGE

**PLL Synthesizer Operation Error Message:** The LCD display will show:



This display indicates that the PLL Synthesizer is not in normal operating condition. If the display is continuous, repair service is required.

## RADIO KEYPAD QUICK REFERENCE CHART



## WARRANTY SERVICE INSTRUCTIONS

1. Refer to the Operating Instructions section of this Owner's Manual for proper operation and adjustments.
2. If the problem cannot be resolved by reference to this Owner's Manual, return the product with proof of purchase (a sales receipt) to the place of purchase.

### FOR YOUR RECORDS

**Purchase Date:**

\_\_\_\_\_

**Purchased From:**

\_\_\_\_\_

**Serial Number:**

\_\_\_\_\_

**KEEP THIS INFORMATION  
IN A SAFE PLACE.**

## LIMITED WARRANTY

Maxon Systems, Inc. warrants that its Products and their included accessories will be free from defects in workmanship or materials under normal use for a period of one (1) year from date of purchase by the original end user, provided that the buyer has complied with the requirements stated herein.

If the Product which because of manufacturing defect(s) or workmanship fails to function under normal use during the one (1) year period following the date of purchase, it will be replaced or repaired at Maxon Systems' option at no charge when returned to the place of purchase. The defective unit must be accompanied by proof of the date of purchase in the form of a sales receipt.

Maxon Systems, Inc. shall have no obligation to make repairs or to cause replacement required through normal wear and tear or necessitated in whole or in part by catastrophe, fault or negligence of the user, improper or unauthorized alterations or repairs to the Product, use of the Product in a manner for which it was not designed, or by causes external to the Product. This warranty is void if the serial number is altered, defaced or removed.

The purchaser shall provide for removal of the defective Product and installation of its replacement.

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FOR ANY PRODUCT WHICH DOES NOT COMPLY WITH THE WARRANTY SPECIFIED, THE SOLE REMEDY WILL BE REPAIR OR REPLACEMENT. IN NO EVENT WILL MAXON SYSTEMS, INC. BE LIABLE TO THE BUYER FOR ANY DAMAGES, INCLUDING ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, OR THE LOSS OF USE OF OR THE INABILITY TO USE THE PRODUCT.

This warranty is void for sales and deliveries outside of the U.S.A.

## OPTIONAL / REPLACEMENT ACCESSORIES

WTA-6GA	Alkaline Battery Pack / 3 watt
WTA-6GN2	Rechargeable Ni-Cad Battery Pack/2 Watt
WTA-10G	Speaker / Microphone
WTA-13G	Voice Operated / P-T-T Mini-VOX Headset

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Handheld CB/Weather  
Radio with 40 Channel  
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**49-FX**  
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Two-Way Radio  
with "Hands-Free"  
operation.



***Thank you for choosing  
Maxon Systems, Inc.***

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P.O. Box 20570  
Kansas City, Missouri 64195-0570

Phone: 1-800-922-9083  
In Missouri: 816-891-1093