

# FRS-214

Family Radio Service  
UHF Two-Way Radio

OWNER'S MANUAL



**maxon**<sup>®</sup>

*A World of Communications*

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## FRS PRODUCT DESCRIPTION

Family Radio Service (FRS) is the newest generation in personal two-way radio communications. FRS radios operate in a license-free band (these frequencies require no FCC license or fees) on one of 14 different channels.

Maxon's FRS-214 is a lightweight, cellular-styled, two-way radio that can be used to communicate up to 2 miles\* with family or friends at shopping malls, sporting events, concerts, amusement parks... any indoor or outdoor activity!

The FRS-214 is a 14-channel UHF radio, featuring a multi-functional LCD display (which indicates channel and various radio status icons). The display can be backlit for convenience when using the FRS at night, or under poor lighting conditions. Other features include channel scan, last channel recall, keypad lock, battery save circuitry and user programmable CTCSS private channel codes (programming is described in this manual).

\* Range will vary, depending on terrain and environment.

# PACKAGE CONTENTS

FRS-214 Radio

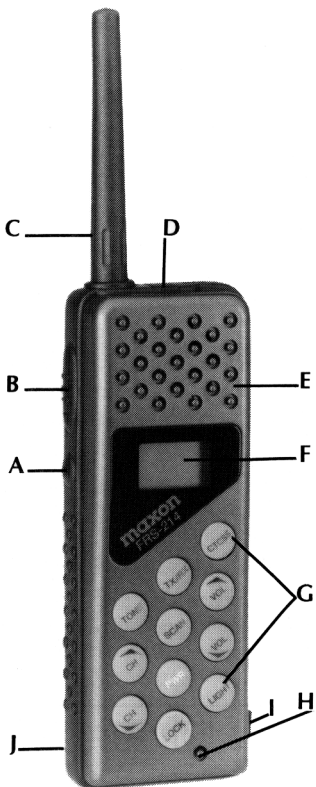
Leather Case with Belt Clip

Screw-in "Rubber Duck" Antenna

Owner's Manual

## CONTROLS AND FUNCTIONS

- A. **Monitor button** - Checks activity on the channel, and permits the radio to monitor weak signals
- B. **Push-To-Talk button** - Used to place radio transmissions
- C. **Antenna**
- D. **Ear speaker jack** - Used with optional ear speaker for private audio reception
- E. **Speaker** - Emits audio signals
- F. **Liquid Crystal Display (LCD)** - Multi-functional display shows channel and other radio status icons
- G. **Keypad** - Used to access radio functions and controls
- H. **Microphone** - Transmits voice signals
- I. **Charge jack** - (located on side of unit)  
Used for in-unit charging of ni-cad batteries (requires Maxon DV-7510 AC/DC wall charger)
- J. **Battery housing** - (located on back of unit)  
Holds 4 AA size alkaline or ni-cad batteries



# DISPLAY & KEYPAD SPECIFICS

## Display Icons

**TONE** - Indicates private tone codes (CTCSS) have been programmed on a channel

**BATT** - Indicates low battery condition - replace or recharge the radio batteries immediately. (NOTE: only ni-cad batteries are rechargeable).

**SAVE** - Indicates that the battery save circuitry is active

**BUSY** - Indicates channel activity (the radio receiver is identifying a signal on channel)

**SC** - Indicates SCAN function is active

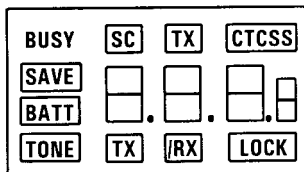
**TX** - Indicates the P-T-T button is being used to transmit signals (the unit is transmitting)

**CTCSS** - Indicates that private tone codes (CTCSS) are programmed and active on the current channel

**Channel display** - Identifies current radio channel and specific CTCSS tone frequency when programming private tones

**LOCK** - Indicates the keypad is locked

**TX/RX** - In conjunction with the TONE icon, indicates CTCSS tones are programmed for either transmit (TX), or receive (RX), or both channel frequencies.



# DISPLAY & KEYPAD, Continued

## Keypad Functions

**TONE** - Used in conjunction with TX/RX button to activate CTCSS programming mode

**TX/RX** - Used in conjunction with TONE button to program CTCSS tone frequencies on either transmit, or receive, or both, channel frequencies

**CTCSS** - Used to enable or disable CTCSS tones programmed on a channel

**SCAN** - Used to activate or disable the channel scanning function

**Channel ^ & v** - Used to scroll up or down through available channels

**Volume ^ & v** - Used to increase or decrease volume via 8 incremental settings

**PWR** - Used to turn power on or off

**LOCK** - Used to lock or unlock keypad

**LIGHT** - Used to illuminate the LCD for approximately 6 seconds

# OPERATING INSTRUCTIONS

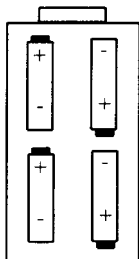
## Battery Installation

To operate your new FRS-214, you will need to install 4 new or fully charged AA size ni-cad or alkaline batteries. Cradle the radio gently in your palm (with keys facing your palm) then press inward on the tab located on the bottom of the battery housing. The housing will raise slightly upward and away from the radio body. Lift the battery housing up and remove it from the radio.

Slide the battery holding clip toward the top or pin contact points of the housing (notice it slides along grooves on the side). Remove the clip and place the 4 AA size batteries as shown, or per the embossed diagram markings inside the battery housing.

Replace the battery holding clip - slide it until it stops at center position to securely hold batteries in place.

Insert the tab of the battery housing into the slot, then place the loaded battery housing to the back of the radio. Gently press the housing down until it snaps into place.





## OPERATION, Continued

### Power Up Unit and Operate

**Power up** - Press the PWR button for 1 second. A tone series will sound and the current channel will be displayed.

**Select a channel** - Select the desired channel by pressing the CH  $\wedge$  or  $\vee$  buttons to scroll through the channels.

**Adjust volume** - There are 8 incremental settings for volume. Press the VOL  $\wedge$  or  $\vee$  buttons to step through these settings and an acceptance high pitch tone will be heard. When at either the top or bottom limit settings, a lower off-pitch tone will be heard, indicating either maximum or minimum volume settings have been reached. Receiver squelch quieting is automatic, to listen to the volume adjustment setting, press the MON (monitor) button to open receiver audio, or have someone with another unit talk to you on the same channel. **WARNING:** When using an ear speaker, it is advised not to use a high volume setting for an extended period of time.

## OPERATION, Continued

**Transmitting** - You should always monitor a channel before transmitting to prevent transmitting over someone else. Use the monitor (MON) button to check for activity before your transmit. Position the radio 2-3 inches from your mouth, then press and hold the P-T-T (Push-To-Talk) button on the radio side. Speak slowly and clearly in a normal voice into the microphone. When transmitting, the TX icon will be shown on the display. When your transmission is complete, release the P-T-T button and listen for a reply.

The button below the P-T-T is the monitor button, marked MON. There are two main reasons to use the monitor button: first, to check for distant or weak signals that are not strong enough to open the radios automatic squelch. Second, when using private channel tones, the MON button is used to monitor the channel for use before transmitting.

## **OPERATION, Continued**

### **CTCSS Private Tone Codes**

CTCSS (Continuous Tone Coded Squelch System) allows you to use your radio with other radios programmed with the same CTCSS code, thus giving you semi-private communications. This allows you to limit your reception to only those you wish to hear, and blocks out all other communications on our specific channel.

### **Programming and Using CTCSS**

Select the channel desired for CTCSS tones. Press and hold the TONE button, then press the TX/RX button. This places the channel into the CTCSS programming mode. The display may read OFF, and the TONE TX/RX and CTCSS icons will be shown.

Press the CH  $\wedge$  or  $\vee$  buttons, to scroll through the 38 standard tone frequencies. Select the CTCSS tone you wish to use, and be sure that all units that you are going to use are on the same CTCSS tone code frequency. Once the CTCSS tone is selected, exit the programming mode,

## OPERATION, Continued

### Programming and Using CTCSS, Cont'd.

by pressing and holding the TONE button then pressing the TX/RX button. The radio display will show the channel, and the TONE TX/RX and CTCSS icons.

To deactivate the CTCSS tone codes without reprogramming, simply press the CTCSS button. When disabled, the TONE TX/RX icon will remain on to indicate a coded tone is programmed on the channel, but the CTCSS icon will disappear, indicating that CTCSS is not active. Press the CTCSS button again to re-enable the CTCSS tone mode.

**Special Note:** Although not normally used, it is possible to program different TX and RX coded CTCSS tones. Once in the programming mode, pressing only the TX/RX button will scroll through 3 setting options: RX only, TX only and back to both TX and RX same. Should you wish to program different TX and RX tones, as an example, be sure that the Unit 1 TX tone matches Unit 2 RX tone,

## OPERATION, Continued

### Programming and Using CTCSS, Cont'd.

and that Unit 2 TX tone matches Unit 1 RX tone. To exit this programming mode, use the same step as above.

### Using Other Radio Functions

**Scan** - By pressing the SCAN button, the radio will automatically begin scanning Channels 1 through 14. The SC (scan) icon will be shown on the display when the radio is scanning. Should activity be present on any channel, the radio will automatically stop on that channel. When transmissions complete, the radio will pause on that channel briefly, allowing you time to respond. After approximately 5 seconds of no signal or transmission, unit will resume scanning. To stop scan, simply press the SCAN button again. The unit will quit scanning and the SC icon will disappear from the display.

**Lock** - To prevent accidental channel changes or other radio settings, press the LOCK button to lock the keypad from operating. The LOCK icon will display.

## OPERATION, Continued

### Lock, Continued

When the keypad is locked, the LIGHT button is still functional. To unlock the keys, press the LOCK button again. The LOCK icon will disappear.

**Light** - By pressing the LIGHT button, the LCD will be backlit for approximately 6 seconds. The light will automatically shut off.

**Battery save** - When the radio is on, but remains idle for more than 8 seconds, the unit will automatically go into a battery save mode, conserving the battery and extending battery life.

### Using the Optional Accessory Jacks

**Charge jack** - The charge jack is located on the right side of the unit. When using ni-cad batteries, it is possible to charge them while installed in the battery housing. Use Maxon's model DV-7510 AC/DC Wall Charger adapter and plug it into the side jack. Normal charging requires 12-16 hours. **WARNING:** Do not

## OPTIONAL ACCESSORY JACKS, Cont'd.

### Charge jack, Continued

attempt to charge alkaline batteries as damage to the unit and/or an explosion could occur.

**Ear jack** - The ear speaker jack is located on the top of the unit. It is recommended that you use the Maxon model WTA-9F Ear Speaker, with a 3.5 mm plug. The ear speaker will allow more private radio reception.

# FRS-214 SPECIFICATIONS

## General

Channels:	14
Output Power:	0.5 Watts (FCC maximum)
Battery Life:	33 Hours (typical)
Dimensions:	5"h x 1-7/8"w x 1-7/16"d
Weight:	7.9 oz.
Number of CTCSS Tones:	38 Standard
Channels/Frequencies:	1 462.5625 MHz
	2 462.5875 MHz
	3 462.6125 MHz
	4 462.6375 MHz
	5 462.6625 MHz
	6 462.6875 MHz
	7 462.7125 MHz
	8 467.5625 MHz
	9 467.5875 MHz
	10 467.6125 MHz
	11 467.6375 MHz
	12 467.6625 MHz
	13 467.6875 MHz
	14 467.7125 MHz



## **WARRANTY SERVICE INSTRUCTIONS**

- 1) Refer to the Operating Instructions section of this Owner's Manual for adjustments that may be applicable to correct your problem.
- 2) If the above mentioned procedure does not correct the problem you are experiencing, return the unit (with proof of purchase) to the place of purchase, or call Maxon's Customer Service Department for assistance, 1-800-821-7848, Ext. 499.

## **OPTIONAL/REPLACEMENT MAXON ACCESSORIES**

- DV-7510**     AC/DC Wall charger  
**WTA-9F**     Ear speaker

**Rely on Maxon for quality,  
value-priced consumer electronics!**

Maxon manufactures a full line of personal electronics products, including handheld and mobile CB radios, GMRS/DOT frequency two-way radios, 49 MHz personal communicators, and weather monitors.

## LIMITED WARRANTY STATEMENT

The Consumer Products Division of Maxon America, Inc. (herein "Maxon"), 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 fails to function under normal use because of manufacturing defect(s) or workmanship during the one (1) year period following the date of purchase, it will be replaced or repaired at Maxon's 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's sole obligation hereunder shall be to repair or replace the Product covered in this Warranty. Replacement, at Maxon's option, may include a similar or higher-featured product. Repair may include the replacement of parts or boards with functionally equivalent reconditioned or new parts or boards. Replaced parts, accessories, batteries or boards are warranted for the balance of the original time period. All replaced parts, accessories, batteries or boards become the property of Maxon America, Inc.

Maxon 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,

## **WARRANTY STATEMENT, Continued**

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.

**THE EXPRESS WARRANTIES CONTAINED HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED, OR STATUTORY, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

**FOR ANY PRODUCT THAT DOES NOT COMPLY WITH THE WARRANTY SPECIFIED, THE SOLE REMEDY WILL BE REPAIR OR REPLACEMENT. IN NO EVENT WILL MAXON AMERICA, 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.

***Thank You  
for Choosing Maxon  
Communication Products!***

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