

TWO-WAY COMMUNICATOR

# COLUMBIA



**OWNER'S MANUAL**

**MODEL: FRS-S14**

PLEASE READ THIS MANUAL CAREFULLY BEFORE USE.

# COLUMBIA

## CARTON CONTENTS

- COLUMBIA Two-Way Communicator
- User-Removable Belt Clip
- Owner's Manual
- Warranty Card

\* Attached to the units at the time of packaging

## **WARNING!**

**DO NOT CHARGE UNIT USING AC/DC ADAPTER WITH  
REGULAR AAA ALKALINE  
BATTERIES INSTALLED.  
ONLY USE THE AC/DC ADAPTER WITH AAA  
NI-MH RECHARGEABLE BATTERIES.**

**(NOT INCLUDED!)**

## **FCC NOTICE**

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**Warning:** Adjustment to this unit or replacement of any transmitter component (crystal, semiconductor, etc.) to this unit that could result in a violation of the rules.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits for are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation, If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is needed.
- Consult the dealer or an experienced radio/TV technician for help.

If shielded cables or special accessories are required for compliance, a statement must be included which instructs the user to employ them, eg. Shielded cables must be with this unit to ensure compliance with the Class B FCC limits.

**This device complies with Part 15 of the FCC Rule. Operation is subject to the follow two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.**

## ***FEATURE LIST***

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### **A . GENERAL**

- a.14 CHANNEL
- b.38 CTCSS CODES PER CHANNEL
- c. BATTERY ("AAA" 1.5V X 4 )
- d. LCD DISPLAY (RF CH, CTCSS CODE CH, RX/TX STATUS, LOCK INDICATOR, LOW BATT. INDICATOR)
- e. FIXED FLEX ABLE RUBBER ANTENNA
- f. EXTERNAL EAR / MIC JACK
- g. AUTO POWER SAVING CIRCUITRY
- h. AUTO SCAN

### **B. BUTTON CONTROL**

- a. MONITOR BUTTON
- b. PTT (PUSH TO TALK ) BUTTON
- c. MODE KEY
- d. LOCK KEY
- e. LAMP KEY
- f. CALL KEY
- g. UP KEY
- h. DOWN KEY
- i. POWER AND VOLUME CONTROL ROTARY SWITCH

\* .\* FRS: Family Radio Service

\* .\* CTCSS: Continuous Tone Coded Squelch System

### **C. SPECIFICATION**

## 1. FREQUENCY RANGE

CHANNEL	FREQUENCY (MHz)	CHANNEL	FREQUENCY(MHz)
1	462.5625	8	467.5625
2	462.5875	9	467.5875
3	462.6125	10	467.6125
4	462.6375	11	467.6375
5	462.6625	12	467.6625
6	462.6875	13	467.6875
7	462.7125	14	467.7125

## 2. CTCSS CODE FREQUENCY CHART

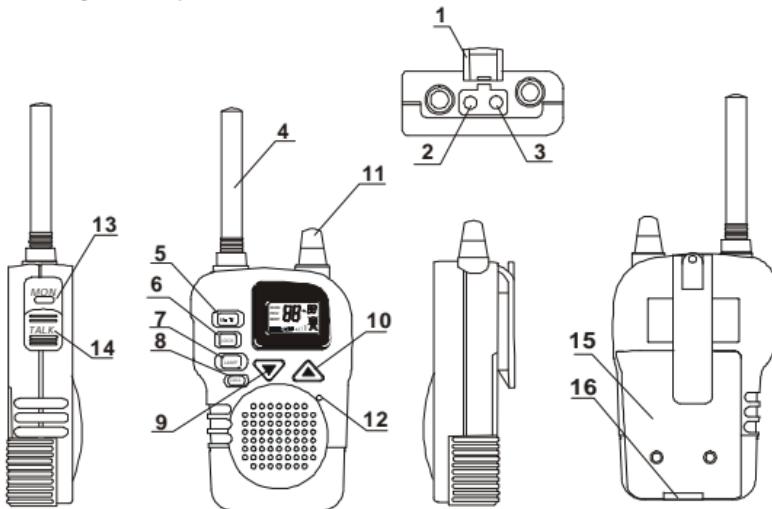
CODE	FREQUENCY(Hz)	CODE	FREQUENCY(Hz)
1	67.0	20	131.8
2	71.9	21	136.5
3	74.4	22	141.3
4	77.0	23	146.2
5	79.7	24	151.4
6	82.5	25	156.7
7	85.4	26	162.2
8	88.5	27	167.9
9	91.5	28	173.8
10	94.8	29	179.9
11	97.4	30	186.2
12	100.0	31	192.8
13	103.5	32	203.5
14	107.2	33	210.7
15	110.9	34	218.1
16	114.8	35	225.7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

## Controls and displays

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### Controls and displays

1. Belt clip
2. Microphone jack
3. Speaker jack
4. Antenna
5. Mode
6. Lock
7. Lamp
8. Call
9. Down
10. Up
11. On/Off / Volume knob
12. Microphone
13. Monitor button
14. PTT (Push To Talk) button
15. Battery door
16. Battery door clip



# ***Setting Up Your FRS Radio***

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## **Battery Installation**

Batteries are not included with your FRS radio, To use the radio, you must install 4 AAA size alkaline batteries. Always use high quality batteries in the unit, to prevent damage from leaking or corrosion.

Caution: incorrect positioning or the batteries can damage both the batteries and the unlit.

To install batteries:

- \* Remove the belt clip by pulling the tab on the top of the clip back, and adding belt clip up and off the unit.
- \* Pull the battery door.
- \* Insert four AAA batteries. Position the batteries according to the polarity markings on the plastic.
- \* Replace the battery cover.

### **Battery level / Low battery indication.**

- \* The LCD panel displays the battery power level according to the number of squares inside the battery symbol.
- \* When the battery level is low, the battery icon will flash to indicate that the batteries need to be changed.

### **Note:**

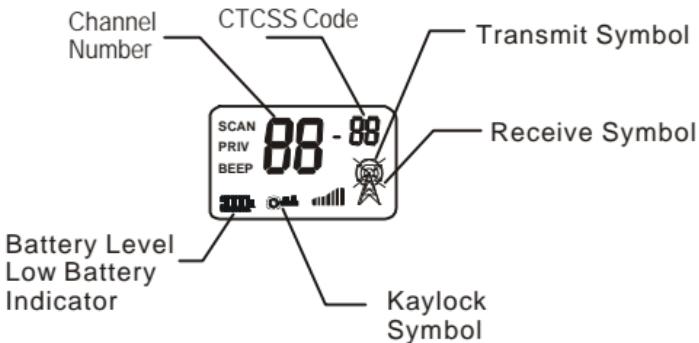
When the batteries are low or need charging, the BATT LOW indicator in the LCD display icon will blink.

Do not put batteries into fire or expose to high heat. they may explode.

# *Operation*

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## LCD Panel Display



## Turning On Your FRS

Turn the ON/OFF Volume knob clockwise on the top of the unit.

An audible tone will generate and The RF channel indicate on the LCD.

## Communication

You can communicate two ways your new FRS radio.

You can either talk directly to the other party and hear their response, or you can call or page them with an audible tone.

**Note:** FRS radios can only communicate when either the TALK button (for conversation) or the CALL button (for paging only) is pressed. The unit can only receive when both buttons are fully released.

## *Operation*

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### **Receiving communications**

When your FRS unit is turned on and is not being used to transmit voice communication or pages, it is always in the listening mode.

You can not receive any transmissions when the TALK or CALL buttons are pressed, even if you are not saying anything. Pressing these bottoms automatically overrides and turns off the transmit mode.

when you are using the unit in conversation, you must release the TALK and or CALL buttons to hear the responses of the other people.

Failure to do so will keep your unit in transmission mode, preventing you from hearing other units.

### **To speak directly to an other radio**

1. Push and hold the PTT button/switch to transmit. The LCD transmit icon will light-on (see LCD PANEL SYMBOLS for details)
2. While holding the PTT button/switch, speak in a normal voice about 2 to 3 inches away from the microphone.
3. Release the PTT button/switch when you have finished transmitting.

**NOTE:** In order for other people to receive your transmission, they must also be on the same channel and CTCSS code you are currently using. Refer to the "Changing Channels" section for more information. (Page 5)

# *Operation*

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## **Changing Channels**

This set has 14 available channels, To change channels:

1. Press the Mode key the channel number digit will flashes on the LCD panel.
2. While the channel number is flashing.
  - \* Press the UP ( $\blacktriangle$ ) key to increase the channel number.
  - \* Press the DOWN (  $\square$  )key to decrease the channel number.
3. Press the Mode key twice to select the desired channel.

**Note :** Refer to the "FRS Channel Table" section of this manual for detailed frequency listings.(Page 9)

## **Continuous Tone Coded Squelch System (CTCSS)**

CTCSS allows you to hear only specific users, effective blocking out unwanted calls from other users on the same channel you are using. The FRS has 38 CTCSS codes available. To set the CTCSS code .

1. Press and the Mode key again the CTCSS code digits will flash on the LCD Panel.
2. Press the Mode key again the CTCSS code digits will flash on the LCD Panel.
3. While the CTCSS code is flashing.
  - \* Press are UP ( $\blacktriangle$ ) key to increment the CTCSS code.
  - \* Press the DOWN (  $\square$  )key to decrement the CTCSS code.
4. Press the Mode key or the PTT button/switch to select the desired CTCSS code.
5. To turn the CTCSS feature off, set the CTCSS code to zero (0).  
You will hear everyone in the channel if the CTCSS feature is turned off.

## ***Operation***

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**Note:** CTCSS codes are mainly used for blocking unwanted calls over a crowded channel. Other users in the same channel can still hear you, but you cannot hear them unless they have the same CTCSS code that you have set.

### **Range**

Your FRS unit has a range of up to 2 miles

This range can be decreased by certain atmospheric and environmental conditions at the time of your conversation.

Some conditions that affect range are:

- \* Buildings
- \* Dense trees or foliage
- \* Hilly or mountainous terrain

The best range will be in flat, open terrain, without obstructions. Using the Mon(monitor) button to override the automatic squelch will help extend the range to the maximum limits.

### **Calling (paging) the other radio**

To send a page

- \* Make sure both units are on.
- \* Press and release the CALL button the front of your unit.

## ***Special Features***

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### **Automate Squelch**

You FRS is equipped with automatic squelching circuitry, which will automatically filter out weak transmissions and unwanted noise.

These signals may be picked up as background static, and are usually caused by terrain conditions or if you have reached the limit of your range.

### **Monitor button**

You can use the Monitor feature to listen in for weak signals in the current channel, or for adjusting the speaker volume.

- \* Press the Monitor button for normal monitoring.
- \* Press and hold the Monitor for at least four seconds for continuous monitoring.

Your range is dependent on the battery condition of the radio.

The type of terrain where you are located, and the strength of the signal from the transmitting radio .

### **Key lock**

This feature prevents accidental channel change and other features from inadvertent changes. Key lock temporarily disables the UP, DOWN, and MODE key when the lock mode is turned on.

- \* To turn key lock ON, Press the Lock button until the lock symbol appears on the LCD panel.
- \* To turn lock OFF, Press the Lock button until the lock symbol disappears on the LCD panel.

**Note:** Only the PTT and Call key function during key lock mode.

## ***Special Features***

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### **Channel scan**

Your FRS unit can scan for 14 channels. To scan the unit.

- \* Press Mode and UP buttons at the same time.
- \* Channel indicator will change continue.
- \* Once received any signal scan will stop and listen for 4 second.
- \* Press talk button and talk on that channel (scan will automatically stop ) or press up key to scan continue.
- \* To stop the scan press Mode button.

### **Automatic Battery Save**

Your FRS unit has special circuitry designed to extend the life of your battery. When the radio is not used for 4 seconds, it will automatically switch itself into a low power mode.

The battery save dose not affect the radio ability to receive transmissions.

When the unit has any activity, it automatically returns to full power.

### **Lamp key**

Once you press the Lamp key. Turn the LCD back lit, on for 10 seconds.

### **Respond prompt tone**

When the person talk to you from an other radio, Finish speaking and release his. Talk button, You will hear a tone from your unit. This means the other radio is receive mode now and you can begin your transmission.

### **External Microphone / Speaker jacks.**

Your FRS radio can be used with an optional external microphone and speaker, usually sold together in a headset combination. The jacks on the top of the unit, under the protective rubber cover, are used for this purpose.

# *Specifications*

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## **Specifications**

1. Channels available : 14 Channels (see channel table)
2. Output Power (Tx) : 0.5W (FCC Maximum)
3. Battery life : 20 Hours (typical)

## **FRS Channel Table**

CH#	FREQ (MHz)	CTCSS Channels
1	462.5625	38
2	462.5875	38
3	462.8125	38
4	462.6375	38
5	462.6625	38
6	462.6875	38
7	462.7175	38
8	467.5625	38
9	467.5875	38
10	467.6125	38
11	467.6375	38
12	467.6625	38
13	467.6875	38
14	467.7125	38

## **CTCSS CODE FREQ (Hz) TABLE**

CODE	FREQ	CODE	FREQ
1	67.0	20	131.8
2	71.9	21	136.5
3	74.4	22	141.3
4	77.0	23	146.2
5	79.7	24	151.4
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