



BELL® Phones
BY NORTHWESTERN BELL PHONES



UHF FM TRANSCEIVER
(Family Radio Service)

99160. 99161. 99162

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IMPORTANT SERVICE INFORMATION

Read this manual before attempting to set up or use this instrument. It contains important information regarding safe installation and use. Keep this manual for future reference. Also save the carton, packaging and proof of purchase to simplify and accelerate any needed action.

SAVE THESE INSTRUCTIONS

What's Included with Your NW BELL FRS

- One NW BELL FRS Two-Way Radios with Antennas*
- User-Removable Belt Clips*
- User's Manual

*Attached to the units at the time of packaging

Speaker/ Microphone (Not Included)

The radio can be fitted with an external speaker/ microphone (Not included) with two stereo jack.

Warning) The radio may be damaged when wrong jack type is plugged in.

To use this accessory with the radio,

1. Open spk/mic cap on top of the radio
2. Insert jack into the spk/mic port.

FCC NOTICE

The FCC requires that you be advised of certain requirements involving the use of this device. 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 are designed to provide reasonable protection against harmful interference in a residential installation. This equipment uses and can generate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that the 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 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 to an outlet on a circuit different from that to which the receiver is connected.
- Consult the manufacturer for technical assistance.

FCC INFORMATION: This device complies with Part 15 of the FCC Rules. Operation is subject to the following 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. Privacy of communications may not be ensured when using this equipment.

FCC WARNING: This equipment generates or uses radio frequency energy. Changes or modifications not expressly approved in writing may cause harmful interference and void the user's authority to operate this equipment.

FRS PRODUCT DESCRIPTION

Family Radio Service (FRS) is the newest generation in personal two-way communications. FRS radios operate in a license-free radio band (no FCC license is needed for FRS operation), on any of the 14 license-free channels.

The NW BELL FRS is a lightweight, compact two-way radio that can be used with family or friends at parks, shopping malls, sporting events, concerts- any indoor or outdoor activity!

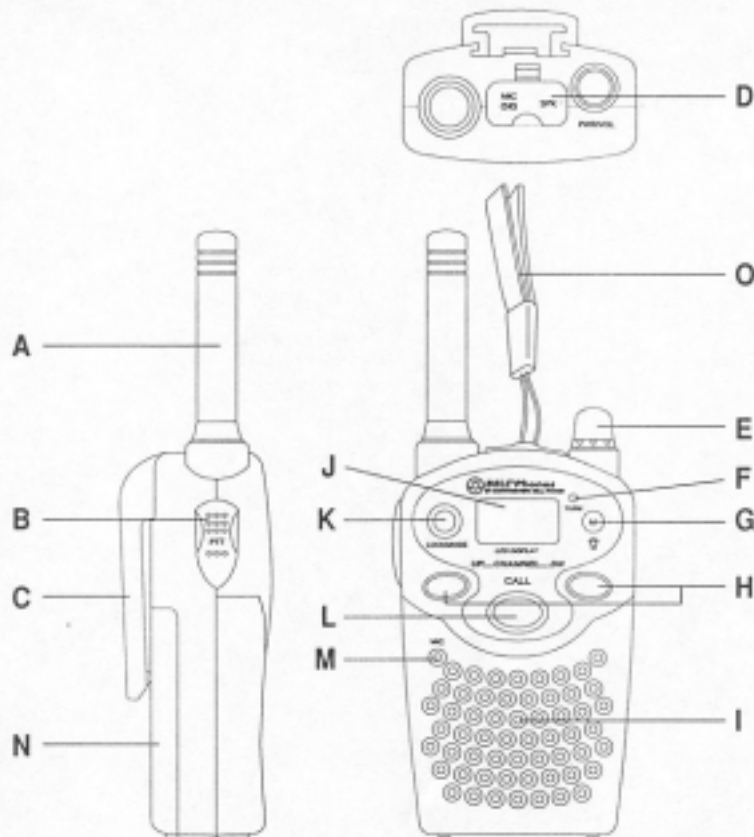
The NW BELL FRS is compatible with other two-way radios using the FRS frequency band (operating in the frequency range from 462.5625 MHz - 462.7125, & from 467.5625 MHz-467.7125 MHz).

The NW BELL FRS is a 14-channel/ SCAN/ UHF two-way radio, featuring a multi-functional LCD panel (which indicates the current channel and various radio status icons). Other features also include rotary volume control and battery save circuitry.

Please read this user's manual thoroughly to get the most out of your NW BELL FRS two-way radio.

Note: The maximum transmission range will vary depending on terrain and environment. Range will be greater in open fields, while the range is shorter within and around buildings or large structures.

FUNCTION AND LOCATION OF THE CONTROLS



A. Fixed Antenna

B. PTT Button- speak into the microphone when the TX indicator lights. When you finish speaking, release PTT.

C. Belt Clip- use to secure the radio to a belt, or another.

D. Speaker/ Microphone, Charge Jack- Please see page 2.

E. Power Volume Control- Turn ON/OFF the Power and Control Volume.

F. TX/RX LED- lights when you transmit a message.

G. Monitor Button- Backlight checks activity on the channel, and permits the radio to monitor weak signals and light the LCD panel.

H. UP(▲)/ DOWN(▼) Button- used for changing the channel and controlling function in mode.

I. Speaker

J. LCD Panel- a multi-function display which indicates channel and other radio status/ icons.

K. LOCK/SCAN- 99160
LOCK/MODE- 99161, 99162

L. Call Button- Sends a tone to other radios tuned to the same channel.

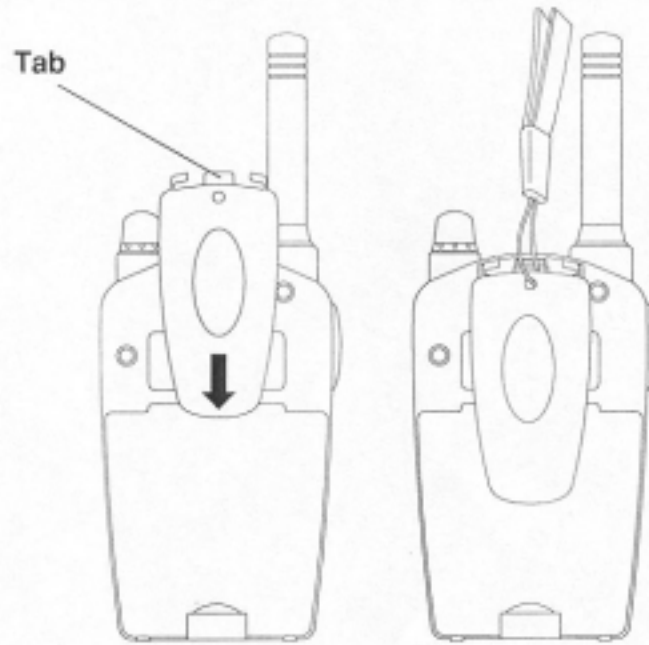
M. MIC

N. Battery Compartment- houses 4 AAA size Alkaline batteries. (Not included)

O. Hand Strap

THE BLET CLIP

To remove the belt clip, pull the tab and slide the belt clip up.
To reattach the belt clip, slide it down until it locks into place.



BATTERY INSTALLATION

1. Release the battery cover latch located on the rear side of the unit. See Figure 1.
2. Lift up the battery cover from the battery compartment.
3. Install four(4) "AAA" alkaline batteries (not included) following the polarities as shown on Figure 2.
4. Reinstall the battery cover.
5. Lock the battery cover latch into position.

Notes:

- The NW BELL FRS has built-in power saver for maximum battery life. But when the NW BELL FRS is not being used, conserve battery power by pressing the power button to OFF.
- Remove the batteries if the unit will not be used for a long period of time.

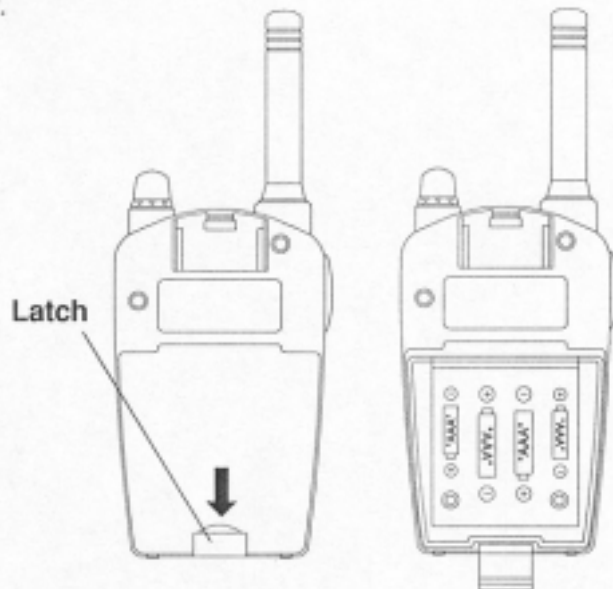


Figure 1
(Rear View)

Figure 2

OPERATION

Turning the Radio ON- Rotate PWR/VOL Control clockwise. The radio will beep and LCD panel will display.

Turning the Radio OFF- Rotate PWR/VOL Control counter clockwise.

Adjusting the Speaker Volume

- Rotate PWR/VOL Control clockwise or counter clockwise to adjust the Volume.

Receiving a CALL(RX)- The radio is continuously in RECEIVING mode when the radio is ON. The LED will light up in green when receiving a tone.

Transmitting a CALL (TX)

1. Press and Hold the PTT button to transmit and The TX LED will light up in red.
2. While holding the PTT button, speak in a normal voice about 2 to 3 inches away from the microphone.
3. Release the PTT button 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 subchannel(96161, 96162 only) you are currently using.

Changing Channels- The NW BELL FRS has 14 available channels. To change channels:

- Press the UP(▲) button for higher channel.
- Press the DOWN(▼) button for lower channel.
- The channel changes from 1 to 14, or from 14 to 1, repeatedly.

Note: Refer to the "FRS Channel Table" section of this manual for detailed frequency listings.

Monitor- You can use the MONITOR feature to listen in for weak signals in the current channel.

- Press and Hold the MONITOR button for at least one second for normal monitoring.
- Press the MONITOR button quickly to backlight the LCD Display.

Battery Level/ LOW Battery Indication


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

Sending Call Tones- You can use Call Tones to alert the other user or to identify yourself. You can also use Call Tones to signal the beginning or the end of a transmission.

- Press and Release the CALL button.
- Release the CALL button. Your Call Tones will transmit.

Function Mode (99160 : LOCK/SCAN. 99161, 99162 : LOCK/MODE)

1. Lock function - to lock buttons to avoid accidental operation.

- a. Press and Hold the Function button to engage the Lock function. Lock indicator  will appear on LCD display.
- b. The UP/DOWN buttons will lock and will not operate under Lock function.
- c. To Unlock, press and hold the function button again until Lock indicator on LCD disappears.

2. Select CTCSS Subchannel (00-38) - 99161, 99162 only


- a. Press and Release the Function button to select CTCSS subchannel and , press and release Up/ Down button to move your desired CTCSS subchannel.
- b. When desired code is displayed, press and release PTT button.
- c. To return to operational mode and not save your last setting, just press and release the CALL button.

Note: The CTCSS (Code Tone Controlled Squelch System)


Subchannel allows the user to utilize a less used channel range (00-38) within a main channel.

3. Talk confirmation (ROGER) tone (ON/ OFF)- The listener will hear an audible tone when you release the PTT button. This alerts the other party that you are finished talking and it is OK for them to begin talking.


3-1.99160

- a. Press and Hold the Call button to engage the Roger function.
Roger indicator () will appear on LCD display.
- b. To Unlock, Press and Hold the Call button again until Roger indicator in LCD disappears.

3-2.99161, 99162

- a. Press and Release the FUNCTION button until ROGER TONE() icon flashes.
- b. Press and Release the Up/ Down button to turn beep tone ON/ OFF.
- c. Press and Release the PTT button to save your selection and the radio will return to operational mode.
- d. Press and Release the Call button to cancel your selection and the radio will return to previous operational mode.

4. Beep Tone ON/OFF Selection - 99161, 99162 only

- Press and Release the Function button until Beep Tone icon  flashes.
- Press and Release Up/ Down button to turn Beep Tone ON/ OFF.
- Press and Release the PTT button to save your selection and the radio will return to operational mode.
- Press and Release the call button to cancel your selection and the radio will return to operational mode.


Note: 99160 is always on mode (No icon) and does not have the selection mode.

5. SCAN main channels


5-1. 99160

- Press and Release the Function button and the unit will scan the main channels.
- Press and Hold PTT button and then, talk.

5-2. 99161, 99162


- Press and Release the Function button until scan icon  and 14 channel indicator flashes.
- Press and Release Up/ Down button and the unit will scan the main channels.
- Press and Hold PTT button and then, talk.
- Press PTT or Call button to stop scanning.

6. To SCAN CTCSS Subchannels - 99161, 99162 only

- Press and Release the Function button until scan icon  and subchannel indicator flashes.
- Press and Release Up/ Down button and the radio will begin scanning the Subchannels.
- Press and Hold PTT button and talk.
- Press PTT or Call button to stop scanning.

Note: Refer to the "CTCSS Channel Table" section of this manual for detailed frequency listings.

7. Weather Channel Selection - 99162 only

- Press and Release the Function button until weather icon  flashes.
The last weather channel turned will be displayed.
- Press and Release UP/DOWN button to select the appropriate channels for your area.
- To exit weather reception, press PTT button. The radio will go to the last FRS channel.

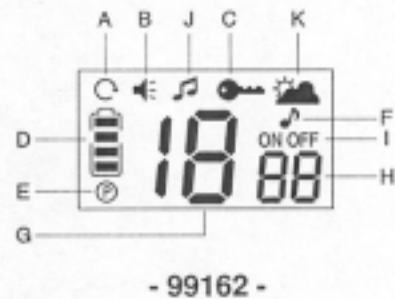
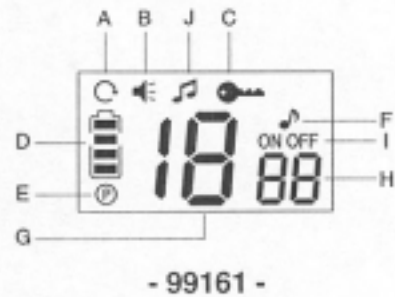
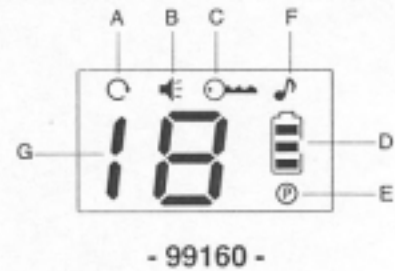
Note: Refer to the "Weather Channel Table" section of this manual for detailed frequency listings.

LCD Panel Display

- A. Scan mode indicator
- B. Monitor function indicator
- C. Lock indicator
- D. Battery capacity level indicator
- E. Power Save Mode indicator
- F. Talk Confirmation Tone indicator
- G. Main Channel indicator
- H. 38 CTCSS Subchannel indicator (99161, 99162 only)
- I. Function On/Off indicator (99161, 99162 only)
- J. Key Tone indicator (99161, 99162 only)
- K. Weather Mode indicator (99162 only)

Power Save Mode

- After 6 seconds in Standby Mode without RX signal, Power Save Mode will be ON and Power Save Icon flashes.
- If there is RX signal or a Key stroke in Power Save Mode, Power Save Mode will be removed and the radio will return to operational mode.



SPECIFICATIONS

Channels Available	14 Channels/ 38 CTCSS (99161, 99162 only)
Output Power (TX)	0.5W (FCC Maximum)
Battery Life	30 Hours (typical)
Range	About 2 Miles (OPEN FIELD)

Note:

- Optional item sold separately.
- DO NOT USE Alkaline batteries when using battery charger.
Rechargeable Ni-Cad batteries (rated 500mAh or higher) are recommended when using the battery charger.

FRS CHANNEL TABLE

Channel Number	Frequency (MHz)	Channel Number	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

CTCSS CHANNEL TABLE

CTCSS Channel Number	Frequency (Hz)	CTCSS Channel Number	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	79.9	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

WEATHER CHANNEL TABLE

Weather Channel Number	Frequency (MHz)
0	163.275
1	162.550
2	162.400
3	162.475
4	162.425
5	162.450
6	162.500
7	162.525
8	162.650
9	161.775

TROUBLESHOOTING

PROBLEM	SOLUTION
Does not turn on.	<ul style="list-style-type: none">• Check batteries. Ensure that the batteries are installed properly.• The batteries may be weak. Replace old batteries with four (4) new "AAA" alkaline batteries.
Reception is weak.	<ul style="list-style-type: none">• Press the UP button to increase volume.• The receiving signal may be weak and out of range. If this happens, press the MONITOR button.
Cannot change channels.	<ul style="list-style-type: none">• To change channels, press and release the FUNCTION button first until the Channel digit flashes on the LCD panel. Press the UP or DOWN buttons to change channels.
Range is limited.	<ul style="list-style-type: none">• Batteries may be weak. Replace with new batteries if the battery level indicator is low.• The maximum range will vary depending on terrain and environment. Open fields provide the maximum range, while buildings and other structures may limit the range significantly.
Sound distortion problems	<ul style="list-style-type: none">• If you are transmitting, speak in a normal tone of voice, 2 to 3 inches away from the microphone.• If you are receiving, lower the volume control to a comfortable level.