**1. Turning the Radio On**

Press the PWR Key for over two seconds to turn the Radio on. The radio will power up in the same condition as it was last used. The last Channel Mode (USA/INT/CAN), Channel, TX Power, Key Lock, Squelch Level, Volume Level etc. are restored.

2. Adjusting the Volume

Press and release the VOL key to enter the volume control mode, and 'VOL' will appear on the display. Press the ▲ or ▼ keys to increase or decrease the volume level bar,. Three seconds after the last Key stroke, the volume display will set the volume. And, the radio will automatically return to channel selection mode. If the VOL key is pressed and released when in volume control mode. The radio will return to Channel selection mode.
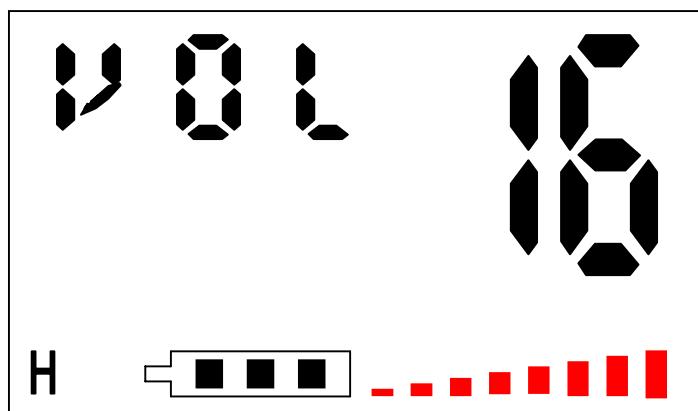
3. Receive Mode

When the radio is receiving a signal, the BUSY indicator will be displayed. This is an indication that you should not transmit until the BUSY indicator is not showing.
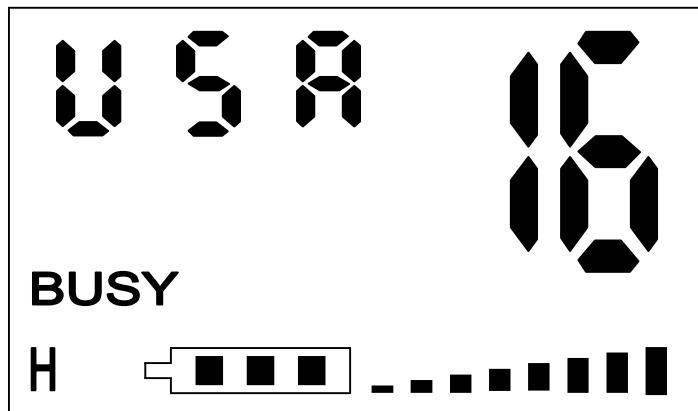

4. Squelch Control

The Squelch Control reduces the static and noise heard on the radio, but allows strong signals to be heard clearly. To adjust the squelch setting, press the SQL/HL key quickly. The radio's display will show SQL. Press the ▲ or ▼ keys to increase or decrease the squelch level bar. Three seconds after the last Key stroke, the squelch display will set the squelch. And, the radio will automatically return to channel selection mode. If the SQL/HL key is pressed and released when in squelch control mode. The radio will return to Channel selection mode.

Higher settings allow only stronger signals will be heard, while lower settings allow weak signals to be received (and possibly annoying static). Generally, the squelch control should be set for the lowest setting that eliminates unwanted static.

● No Level allows all signals to be heard.
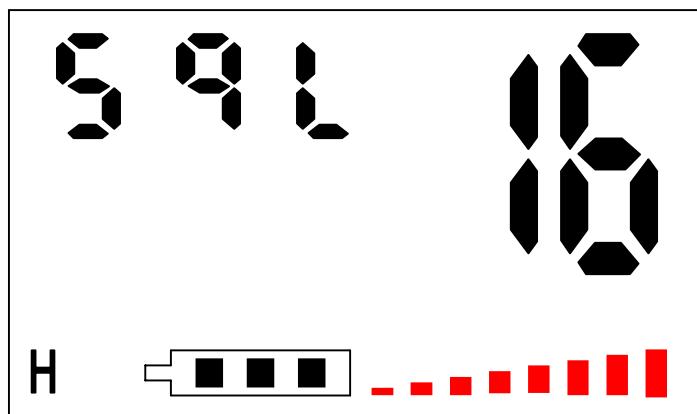
5. Changing Channels

To change channels, press the ▲ or ▼ keys.

- If the ▲ or ▼ keys are pressed for more than one second, the channel will change rapidly.
- The radio displays the channel number, memory status (MEM) and TX power status of the channel as you change the channels
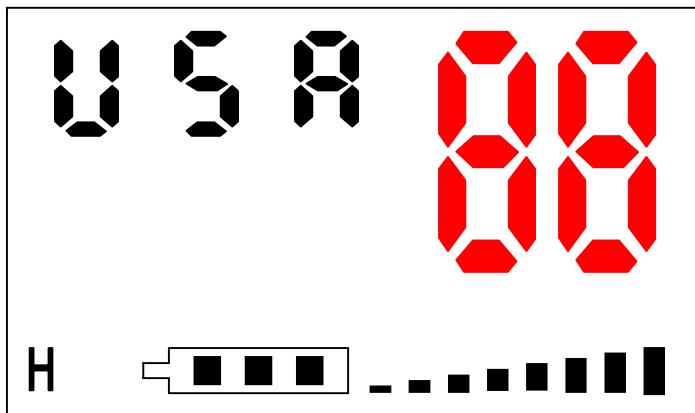

6. Changing Between USA, International, And Canadian Modes

Different areas of the world use different VHF frequencies, although the channel designation (1-88) may be the same. There are three modes: USA, International, and Canadian. Press and hold the VOL/UIC key for two seconds to enter the Country selection mode. When the Country mode display blinks, you can change from USA to International to Canadian Modes. Three seconds after the last Key stroke, the Country mode display will stop blinking and set the Country mode. And, the radio will automatically return to channel selection mode. If the VOL/UIC key is pressed and released when in Country selection mode. The radio will return to Channel selection mode.

- When Country Mode is changed, Channel 16 is automatically selected, Not the last channel used.
- If for some reason you find that you cannot communicate with another radio use on a predetermined channel, insure that both radios are set the correct Channel Mode. This can be very confusing if different modes are being used.

    USA mode -> International mode -> Canadian mode
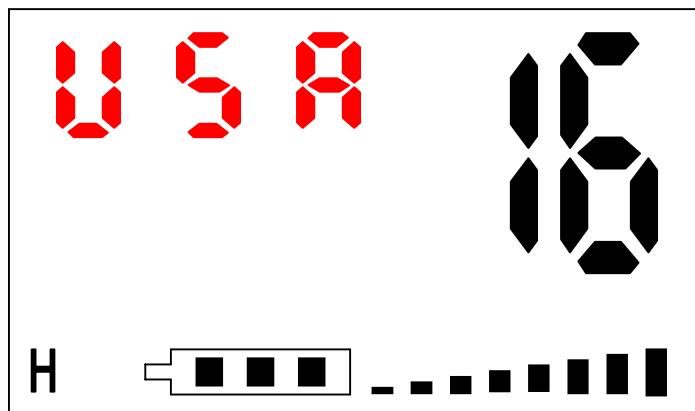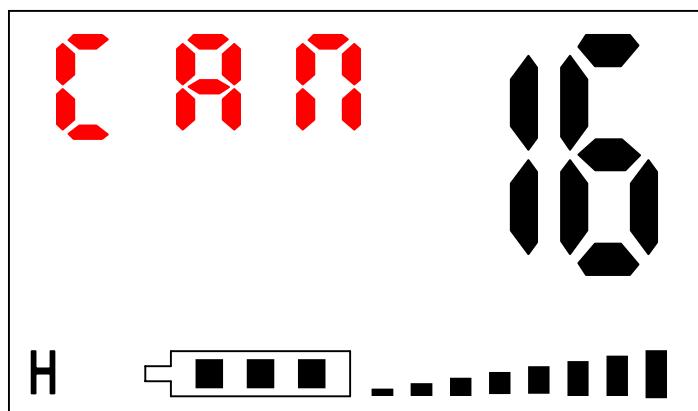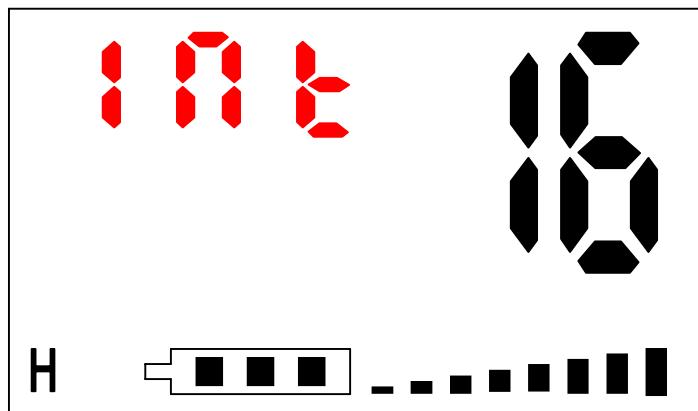
7. Transmitting a Signal

To transmit a signal, press the Push-To-Talk (PTT) key on the side of the radio. While transmitting, the **TX** indicator will appear. When PTT key is released, the radio returns to Receive Mode.

- You cannot transmit on receive-only channels like the Weather Channels or Channels 15 and 70. If you try, an error tone will sound and the channel number and TX indicator will blink three times and then go back to the normal display.
- If PTT key is pressed when the battery condition is low, one last transmission will be allowed, then an error tone will sound with **BAT LO** displayed. No further transmission will be allowed.
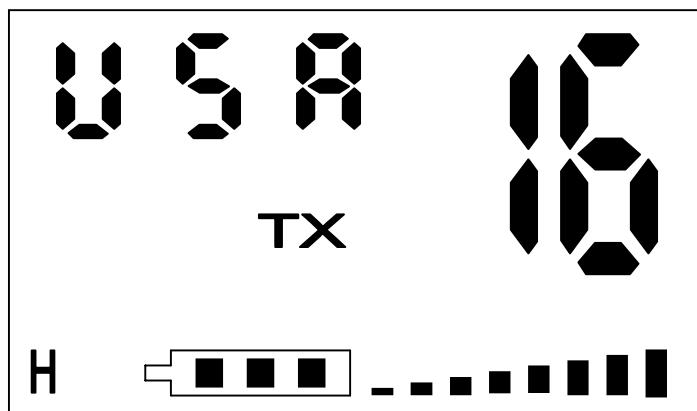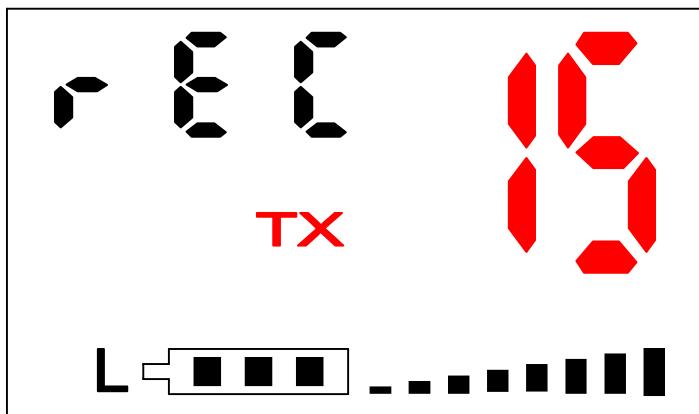
8. Selecting the Transmit Power

To change the Transmit power, press the H/L key for over 2 seconds.

Restricted Channels

Certain channels are limited by law to 1 watt transmit power (USA Mode Channel 12, 17, 67, 77; INT Mode Channel 15, 17, CAN Mode Channel 12, 15, 17, 20, 66, 77). These channels will always transmit on low (1 watt) power.

- You cannot change the transmit power setting on receive-only channels (all weather channels, USA Mode Channel 15, 70, INT Mode Channel 70, CAN Mode Channel 70)
- Pressing the H/L key while scanning or while on a receive-only channel will sound the error tone and the transmit power setting will not change.
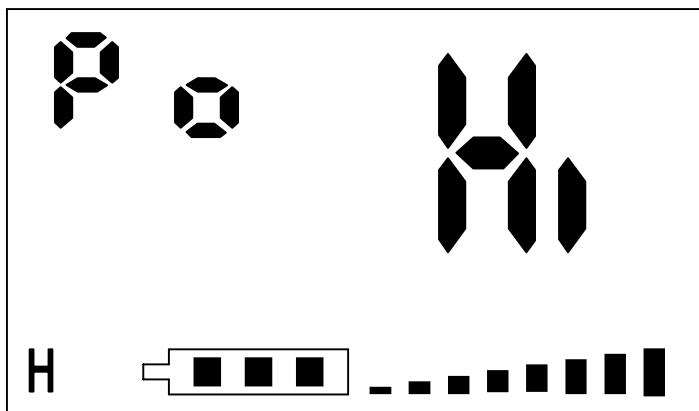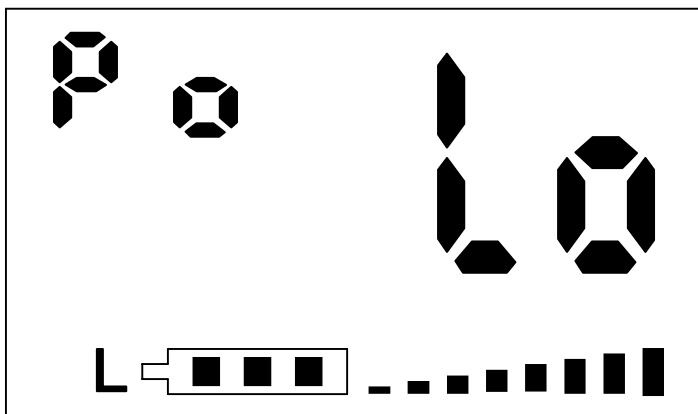
9. Battery Level and Low Battery Displays

The Battery Level is shown using the Battery Level indicator (1-3 bars). More bars mean more battery capacity is left. When the battery condition is very low, the entire battery indicator will blink.

- The BAT LO message will show when the battery condition is very low.
- If the battery condition is very low and the PTT key is pressed, the radio will sound the error tone and allow one final transmission.
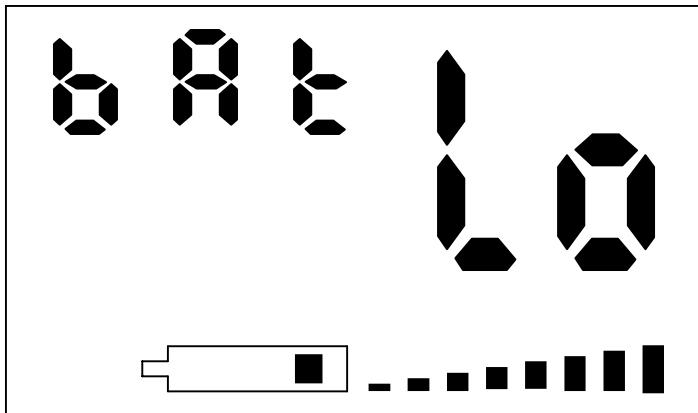
10. Listening to the Weather

To listen to the weather channels, press the Weather (WX) key. Press the ▲ or ▼ keys to select the weather channel of interest for your area (generally Channel 01, 02, or 03.) To return to Marine Channel (normal) Mode, press the WX key again.

- Pressing several keys (SCAN, MEM, H/L, and UIC) while in the Weather Mode won't have any effect, but will cause the error tone to sound.
- Pressing the 16 key will cause the radio to monitor Channel 16 and the WX indicator will blind. A second press will monitor Channel 9. A third press will return to Weather Mode.

WX 01

USA 16
H

USA 16
WX
H
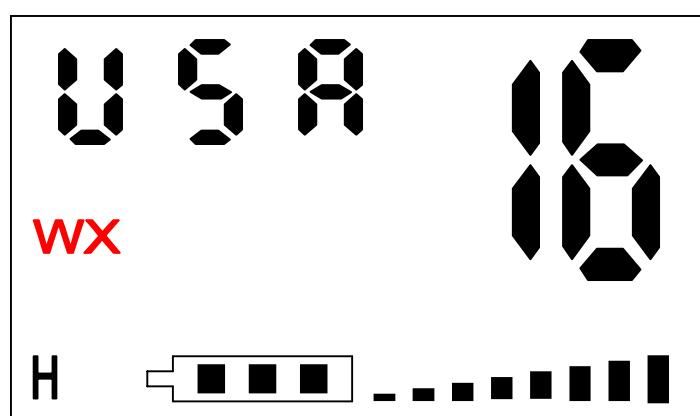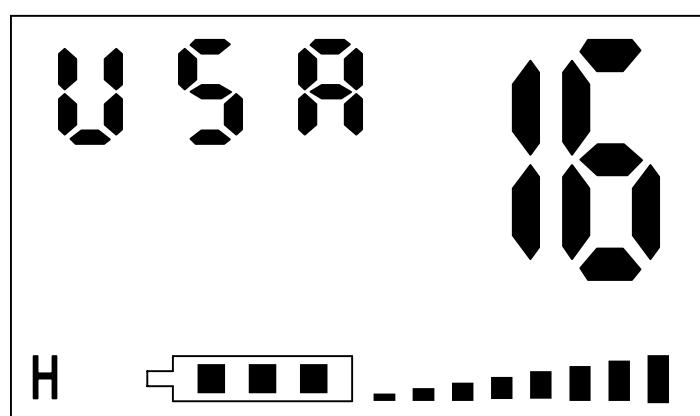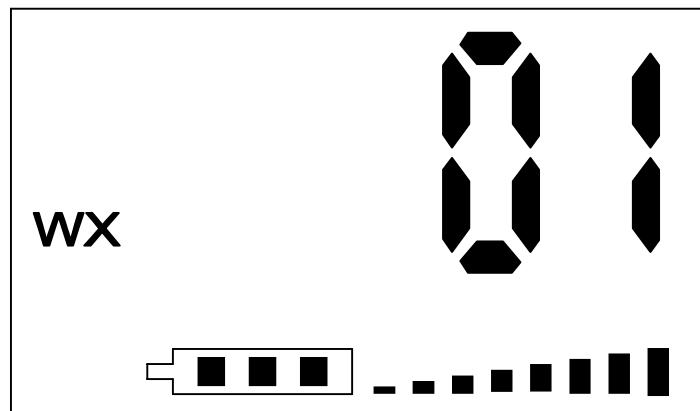
11. Channel 16/9 Key

Each time the 16/9 key is pressed briefly, the radio will change from Channel 16 to Channel 9 and back to the starting channel. For example, if the starting channel is Channel 61, pressing the 16/9 key will change the channel from 61 to 16 to 9 and back to 61.

- If the radio is scanning, it will change to Channel 16 after the first press, Channel 9 after the second press, and will continue scanning after the third press.
- If the radio is in Dual Watch Mode, it will switch to Channel 16 or Channel 9, then return to Dual Watch after the third press.
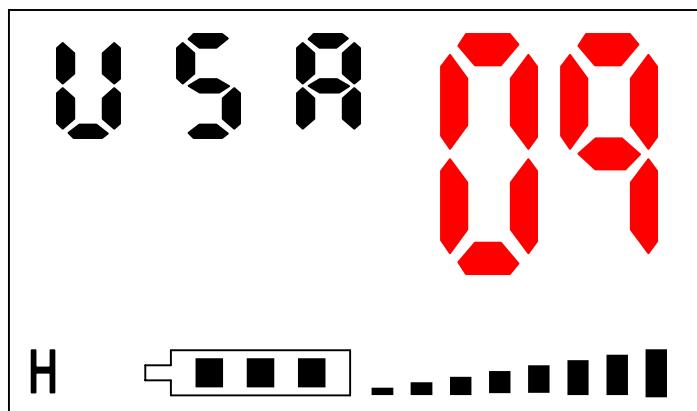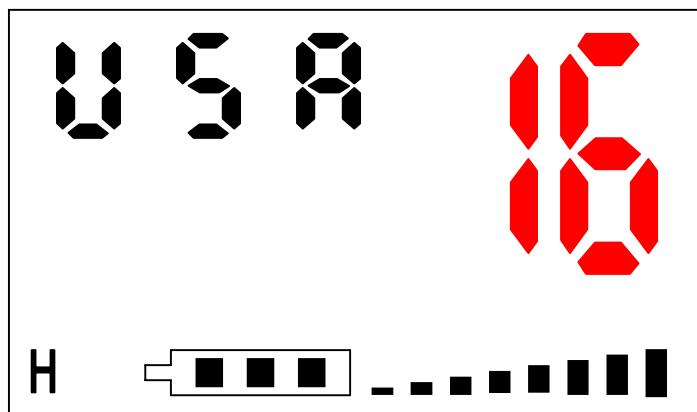
12. Dual Watch Mode

Press the WX/DW key fore over 2 seconds to enter Dual Watch Mode. Dual Watch Mode allows you to monitor a desired channel (e.g. Channel 61) as well as Channel 16. To activate Dual Watch Mode, first select the channel you'd like to monitor using the ▲ or ▼ keys, and then press and hold WX/DW key for over two seconds. Dual Watch Mode will be selected and the DW indicator will be displayed. Every two seconds, the radio will check Channel 16 for traffic. If the radio detects traffic, it will remain on Channel

16 for three seconds after the last transmission (called the Dual Watch Delay), then return to Channel 61. Dual Watch Mode also operates when you're listening to a weather channel. every two seconds, the radio will briefly check Channel 16 for traffic, then return to the Weather Channel.
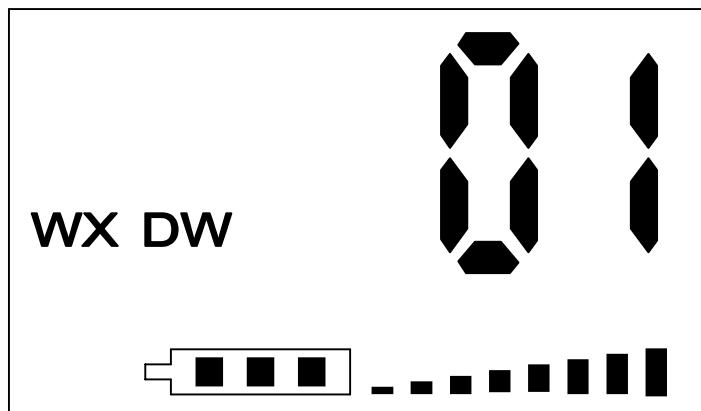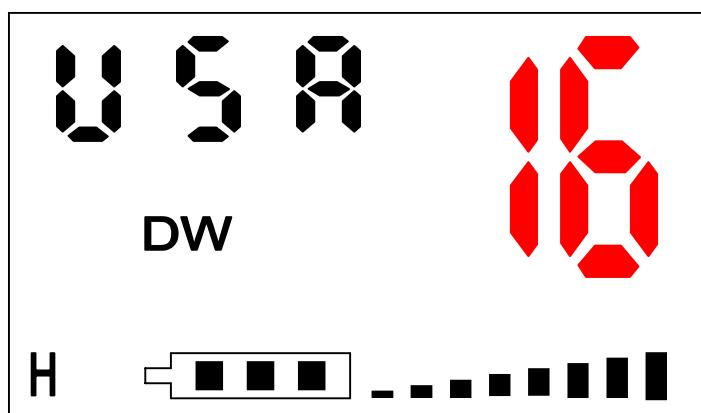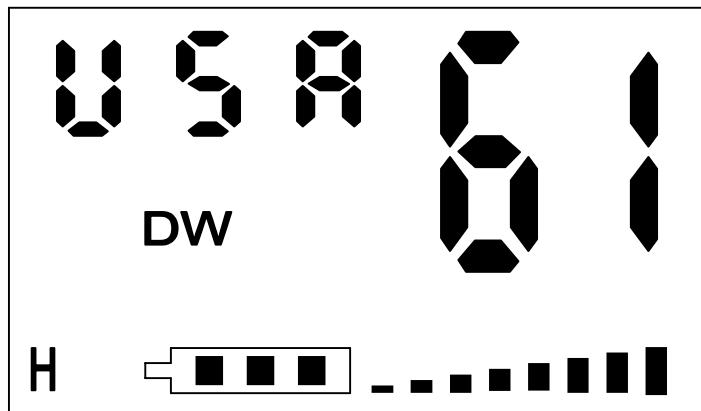
13. Scanning Channels

Scanning allows you to monitor the traffic or conversations on several channels in quick succession. This can be helpful if you're trying to listen to fishing traffic on several channels, or need to monitor Race Committee traffic on Channels 68, 69, and 71.

As the radio detects traffic on any channel in its scan list, it will pause until three seconds after the last transmission, then continue scanning.

Before you can scan channels, you need to place two or more channels into the radio's scan memory.
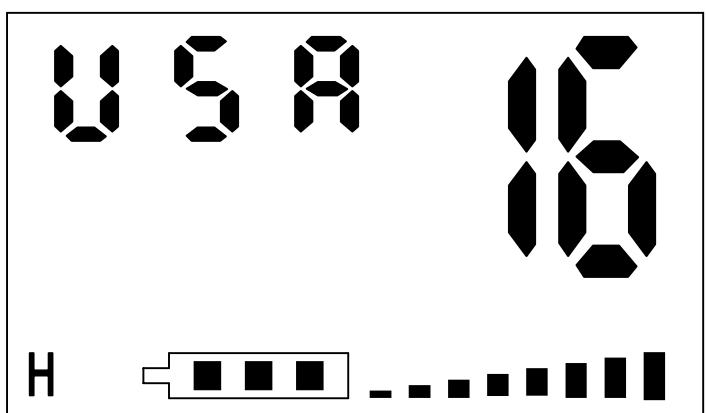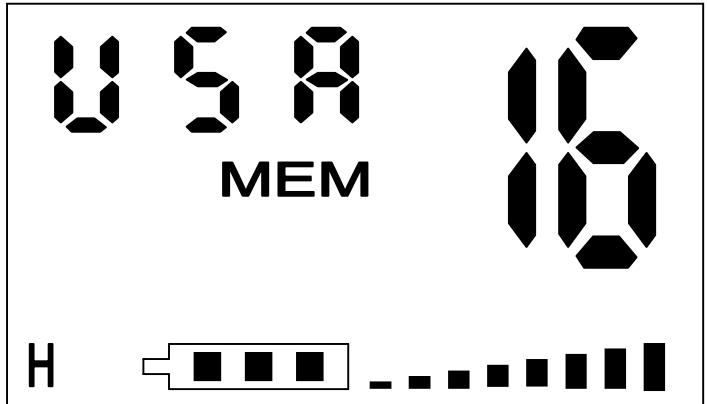
Adding and removing channels from memory

Press the SCAN/MEM key for over 2 seconds to enter the displayed channel into scan memory or, if the channel is currently in scan memory, remove it from scan memory. If the displayed channel is in scan memory, the MEM indicator will be shown.

● Pressing the SCAN/MEM key in WX Mode doesn't store the Weather Channel in memory and will result in the error tone.

● Pressing the SCAN/MEM key while scanning will stop scanning.

Normal Scan

Normal Scan scans the memorized channels in ascending (or descending) order. To enter Normal Scan Mode, press and release the SCAN key. If Channels 6, 12, 68, 69, and 72 have been entered into memory, the scan sequence will go from Channel 6 to 12 to 68 to 69 to 72 to 6 to 12 and so on. The **SCAN** indicator
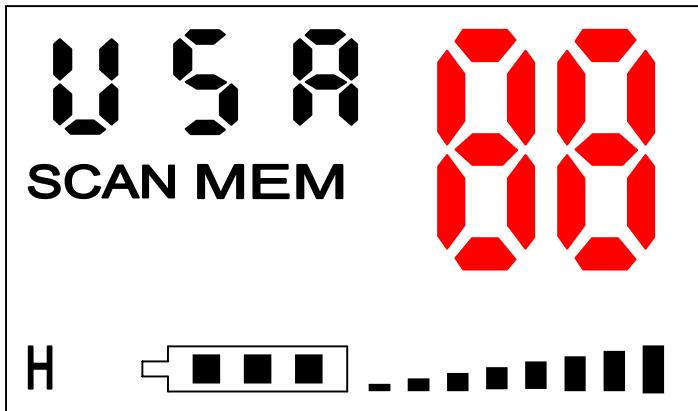
will be shown.

Notes on Scanning

● Pressing the SCAN/MEM key while scanning will stop scanning and revert to the Start Channel.

● You cannot scan channels while in Weather Mode.

● If you have not entered any channels into scan memory, the radio will sound the error tome when the SCAN/MEM key is pressed.

● If there is only one channel in scan memory, the radio will sound the error tone and change to that channel..

● If the PTT key is pressed while in Scanning Mode, but while the radio is stopped to receive traffic, the radio will transmit on the current channel before the continuing to scan.

● If the PTT is pressed while scanning and the radio is not stopped for traffic, the radio will transmit on the Start Channel. This is defined as the channel which was shown on the radio's display prior to pressing the SCAN/MEM key.

● The SCAN indicator will flash when the radio is either receiving, or pausing before continuing to scan.
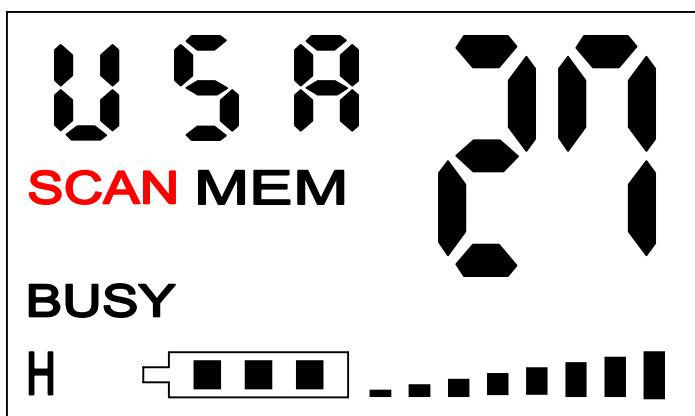
● You can change the order in which the channels are scanned (increasing or decreasing) by pressing the ▲ or ▼ keys.

● If the 16/9 key is pressed briefly (less than one second) the radio will switch from Channel 16 to Channel 9 and back to Scan Mode in turn. If the ▲ or ▼ keys are pressed while on Channel 16 or Channel 9, the radio will continue to scan in ascending or descending order.

● Pressing the WX key while scanning will change to Weather Mode.

● Pressing the SQL/HL key briefly (less than one second) while scanning, will change to Squelch

Change Mode. The LCD display will show the squelch level (which can be changed with the ▲ or ▼ keys) and the radio will continue to scan.

● If VOL/UIC key is pressed for over two seconds while scanning, the radio will stop scanning and change to Country Selection Mode.

● If the SQL/HL key is pressed for over 2 seconds while scanning, the radio will make an error tone.

14. Display Back-Light

If any key is pressed, the display and keypad light will turn on and remain on for 10 seconds after the last key press.

15. Keypad Lock

If the Lock key (located below the PTT key) is pressed for over two seconds, the keypad lock indicator LOCK will show on the display, and the keypad will not respond to key presses. Press the Lock key for another two seconds to unlock the keypad.

● When keys are locked, only the PTT key and the Lock key function.

● Locking the keypad can cause confusion. If the radio doesn't seem to be operating properly, look to see if the LOCK indicator is on.
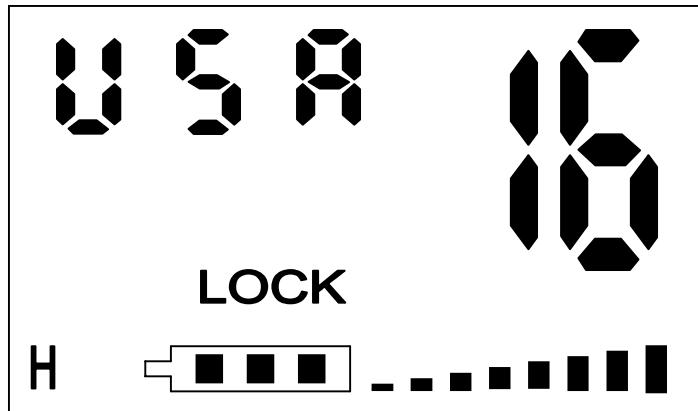
16. Restoring Factory Settings

If you wish to reset all of the customized settings to the original factory settings, hold the WX/DW key down while turning on the radio. Please note that the your customized settings and channels stored in memory will be lost when factory settings are restored.

Factory Settings

Country Mode ……………..……. USA

Last Used Channel…………..………16

WX Mode ……………..……..Disabled

WX Last Used Channel…..…………..01

Key Lock……………………...…..Disabled

Dual Watch…………………..…Disabled

All Channel Memory…………..Disabled

Squelch Level………………………….4

Volume Level…………………………..4

(1) USA Frequency Chart

Ch No.	Rx Frequency (MHz)	Tx Frequency (MHz)	Status
1	156.0500	156.0500	
2			Rx/Tx invalid
3	156.1500	156.1500	
4			Rx/Tx invalid
5	156.2500	156.2500	
6	156.3000	156.3000	
7	156.3500	156.3500	
8	156.4000	156.4000	
9	156.4500	156.4500	
10	156.5000	156.5000	
11	156.5500	156.5500	
12	156.6000	156.6000	
13	156.6500	156.6500	Low Power Only
14	156.7000	156.7000	
15	156.7500	*Inhibit*	Tx Invalid
16	156.8000	156.8000	
17	156.8500	156.8500	Low Power Only
18	156.9000	156.9000	
19	156.9500	156.9500	
20	157.0000	157.0000	
21	157.0500	157.0500	
22	157.1000	157.1000	
23	157.1500	157.1500	
24	161.8000	157.2000	Rx/Tx Shift
25	161.8500	157.2500	Rx/Tx Shift
26	161.9000	157.3000	Rx/Tx Shift
27	161.9500	157.3500	Rx/Tx Shift
28	162.0000	157.4000	Rx/Tx Shift

Ch No.	Rx Frequency (MHz)	Tx Frequency (MHz)	Status
60			Rx/Tx Invalid
61	156.0750	156.0750	
62			Rx/Tx Invalid
63	156.1750	156.1750	
64	156.2250	156.2250	
65	156.2750	156.2750	
66	156.3250	156.3250	
67	156.3750	156.3750	Low Power Only
68	156.4250	156.4250	
69	156.4750	156.4750	
70	156.5250	*Inhibit*	Tx Invalid
71	156.5750	156.5750	
72	156.6250	156.6250	
73	156.6750	156.6750	
74	156.7250	156.7250	
75			Rx/Tx Invalid
76			Rx/Tx Invalid
77	156.8750	156.8750	Low Power Only
78	156.9250	156.9250	
79	156.9750	156.9750	
80	157.0250	157.0250	
81	157.0750	157.0750	
82	157.1250	157.1250	
83	157.1750	157.1750	
84	161.8250	157.2250	Rx/Tx Shift
85	161.8750	157.2750	Rx/Tx Shift
86	161.9250	157.3250	Rx/Tx Shift
87	161.9750	157.3750	Rx/Tx Shift
88	157.4250	157.4250	

2) International Frequency

Ch No.	Rx Frequency (MHz)	Tx Frequency (MHz)	Status
1	160.6500	156.0500	Rx/Tx Shift
2	160.7000	156.1000	Rx/Tx Shift
3	160.7500	156.1500	Rx/Tx Shift
4	160.8000	156.2000	Rx/Tx Shift
5	160.8500	156.2500	Rx/Tx Shift
6	156.3000	156.3000	
7	160.9500	156.3500	Rx/Tx Shift
8	156.4000	156.4000	
9	156.4500	156.4500	
10	156.5000	156.5000	
11	156.5500	156.5500	
12	156.6000	156.6000	
13	156.6500	156.6500	
14	156.7000	156.7000	
15	156.7500	156.7500	Low Power only
16	156.8000	156.8000	
17	156.8500	156.8500	Low Power only
18	161.5000	156.9000	Rx/Tx Shift
19	161.5500	156.9500	Rx/Tx Shift
20	161.6000	157.0000	Rx/Tx Shift
21	161.6500	157.0500	Rx/Tx Shift
22	161.7000	157.1000	Rx/Tx Shift
23	161.7500	157.1500	Rx/Tx Shift
24	161.8000	157.2000	Rx/Tx Shift
25	161.8500	157.2500	Rx/Tx Shift
26	161.9000	157.3000	Rx/Tx Shift
27	161.9500	157.3500	Rx/Tx Shift
28	162.0000	157.4000	Rx/Tx Shift

Ch No.	Rx Frequency (MHz)	Tx Frequency (MHz)	Status
60	160.6250	156.0250	Rx/Tx Shift
61	160.6750	156.0750	Rx/Tx Shift
62	160.7250	156.1250	Rx/Tx Shift
63	160.7750	156.1750	Rx/Tx Shift
64	160.8250	156.2250	Rx/Tx Shift
65	160.8750	156.2750	Rx/Tx Shift
66	160.9250	156.3250	Rx/Tx Shift
67	156.3750	156.3750	
68	156.4250	156.4250	
69	156.4750	156.4750	
70	156.5250	*Inhibit*	Tx Invalid
71	156.5750	156.5750	
72	156.6250	156.6250	
73	156.6750	156.6750	
74	156.7250	156.7250	
75			Rx/Tx Invalid
76			Rx/Tx Invalid
77	156.8750	156.8750	
78	161.5250	156.9250	Rx/Tx Shift
79	161.5750	156.9750	Rx/Tx Shift
80	161.6250	157.0250	Rx/Tx Shift
81	161.6750	157.0750	Rx/Tx Shift
82	161.7250	157.1250	Rx/Tx Shift
83	161.7750	157.1750	Rx/Tx Shift
84	161.8250	157.2250	Rx/Tx Shift
85	161.8750	157.2750	Rx/Tx Shift
86	161.9250	157.3250	Rx/Tx Shift
87	161.9750	157.3750	Rx/Tx Shift
88	162.0250	157.4250	Rx/Tx Shift

(3) Canadian Frequency

Ch No.	Rx Frequency (MHz)	Tx Frequency (MHz)	Status
1	160.6500	156.0500	Rx/Tx Shift
2	160.7000	156.1000	Rx/Tx Shift
3	160.7500	156.1500	Rx/Tx Shift
4	156.2000	156.2000	
5	156.2500	156.2500	
6	156.3000	156.3000	
7	156.3500	156.3500	
8	156.4000	156.4000	
9	156.4500	156.4500	
10	156.5000	156.5000	
11	156.5500	156.5500	
12	156.6000	156.6000	
13	156.6500	156.6500	Low Power Only
14	156.7000	156.7000	
15	156.7500	156.7500	Low Power Only
16	156.8000	156.8000	
17	156.8500	156.8500	Low Power Only
18	156.9000	156.9000	
19	156.9500	156.9500	
20	161.6000	157.0000	R/Tx Shift, Low Pwr
21	157.0500	157.0500	
22	157.1000	157.1000	
23	161.7500	157.1500	Rx/Tx Shift
24	161.8000	157.2000	Rx/Tx Shift
25	161.8500	157.2500	Rx/Tx Shift
26	161.9000	157.3000	Rx/Tx Shift
27	161.9500	157.3500	Rx/Tx Shift
28	162.0000	157.4000	Rx/Tx Shift

Ch No.	Rx Frequency (MHz)	Tx Frequency (MHz)	Status
60	160.6250	156.0250	Rx/Tx Shift
61	156.0750	156.0750	
62	156.1250	156.1250	
63			Rx/Tx Invalid
64	156.2250	156.2250	
65	156.2750	156.2750	
66	156.3250	156.3250	Low Power Only
67	156.3750	156.3750	
68	156.4250	156.4250	
69	156.4750	156.4750	
70	156.5250	*Inhibit*	Tx Invalid
71	156.5750	156.5750	
72	156.6250	156.6250	
73	156.6750	156.6750	
74	156.7250	156.7250	
75			Rx/Tx Invalid
76			Rx/Tx Invalid
77	156.8750	156.8750	Low Power Only
78	156.9250	156.9250	
79	156.9750	156.9750	
80	157.0250	157.0250	
81	157.0750	157.0750	
82	157.1250	157.1250	
83	157.1750	157.1750	
84	161.8250	157.2250	Rx/Tx Shift
85	161.8750	157.2750	Rx/Tx Shift
86	161.9250	157.3250	Rx/Tx Shift
87	161.9750	157.3750	Rx/Tx Shift
88	162.0250	157.4250	Rx/Tx Shift

(4) Weather Frequency

Ch No.	(MHz)	Status
WX01	162.5500	
WX02	162.4000	
WX03	162.4750	
WX04	162.4250	
WX05	162.4500	
WX06	162.5000	
WX07	162.5250	
WX08	161.6500	
WX09	161.7750	
WX10	163.2750	

FCC Safety Precautions

When operating your portable marine VHF radio transceiver, you should know that the antenna radiates radio frequency energy. This radio was designed to meet the FCC's rules and regulations for the maximum permissible exposure to radio frequency energy. This design was tested and found to be compliance to the strict requirements established by the FCC.

The belt clip is provided for the purpose of carrying the radio ONLY.

WARNING : It is up to the user to properly operate this radio transmitter to insure safe operation. Please adhere to the following:

- Never allow children to operate the radio without adult supervision and the knowledge of the following safety guidelines.

- Hold the radio transceiver to your face, but always maintain at least a 1 inch (2.5cm) separation distance between your body (including the face and eyes) and any surface of the radio.

- Never allow the antenna to touch the human body or to come within 1 inch when the transmitter is active.

FCC NOTICE

Unauthorized changes or modifications to this equipment may void compliance with FCC Rules.

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 marine 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 the following measures:

Consult the dealer or an experienced marine electronics technician for help.