

**WEST MARINE VHF250 (MULTI-BAND)
HANDHELD MARINE RADIO**

PRELIMINARY DRAFT

UNIDEN AMERICA CORPORATION

Maritime Radio Services Operation

Warning! This transmitter will operate on channels/frequencies that have restricted use in the United States. The channel assignments include frequencies assigned for exclusive use of the U.S. Coast Guard, use in Canada, and use in international waters. Operation on these frequencies without proper authorization is strictly forbidden. For frequencies/channels that are currently for use in the U.S. without an individual license, please contact the FCC Call Center at 1-888-CALL-FCC (1-888-225-5322).

For individuals requiring a license, such as commercial users, you should obtain a license application from your nearest FCC field office (for US users) or Industry Canada (for Canadian users).

FCC/Industry Canada Information

Certification FCC Part 80 or RSS-182/188

Output Power 5W

Emission 16K0F3E, 16K0F2D

Transmitter Frequency Range 156.025 to 157.425 MHz

This device complies with the GMDSS provisions with Part 80 of the *FCC Rules*, as well as Part 15 of the *FCC Rules*. Operation is subject to the condition that this device does not cause harmful interference.

Unauthorized changes or modifications to this equipment may void compliance with the FCC Rules. Any change or modification must be approved in writing by West Marine. Changes or modifications not approved by West Marine could void the user's authority to operate the equipment.

FCC RF Exposure Information

WARNING! Read this information before using the radio

In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters. Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of the radio complies with the FCC guidelines and these international standards.

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

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

Use only the supplied or an approved antenna. Unauthorized antennas, modifications, or attachments could impair call quality, damage the radio, or result in violation of FCC regulations.

Do not use the radio with a damaged antenna. If a damaged antenna comes into contact with the skin, a minor burn may result. Please contact your local dealer for a replacement antenna.

Body-worn Operation This device was tested for typical body-worn operations using the supplied belt-clip. To maintain compliance with FCC RF exposure requirements, body-worn operations are restricted to the supplied belt-clip. For hand-held operation, the radio should be held 1 inch from the user's face. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements and should be avoided. For more information about RF exposure, please visit the FCC website at www.fcc.gov

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1. Executive Summary

The VHF250 will be designed to be a step up model to the current West Marine VHF100/200 radio. This radio will incorporate a full featured dot matrix display, Marine transceiver, AM radio receiver, FM radio receiver, AM Aircraft band receiver, FRS transceiver, a 1200mAh LiON battery, and a swivel belt clip to assure compliance with the FCC SAR requirements.

2. Product Specifications

Channels	All US, International, and Canadian
Transmit Power (5W Default)	1 Watt/2.5 Watt/5 Watt, User Selectable
Submersible	Yes, JIS Level 7
LiON Capable	Yes, 12 hours (minimum) of operation based upon the 90/5/5 rule
Drop-in Charging Cradle (4 Hour Charge)	Yes, Included. Rapid Charge. Includes Stainless Steel Mounting Hardware
Cigarette Lighter DC Plug	Yes, included.
Alkaline Battery Tray	Yes, included. 4xAAA (9 Hour, 2 Watt)
AM Band Radio Receiver	Yes
FM Band Radio Receiver	Yes
Air Band Radio Receiver	Yes
14 Channel FRS Transceiver	Yes (0.5W ERP output)
Tri-Watch	Yes
Weather	All 10 Weather Channels
S.A.M.E. Weather Alert	Yes
F.I.P.S. Code Memory Size	20 Locations
Memory Channel Scan	Yes, up to all channels
Backlit LCD & Keys	Yes, Green Color
Instant Channel 16	Yes, second press is channel 9
Belt Clip	Yes, detachable and swivel
AC Adapter	Yes, Input AC 100~240V 50/60Hz/ Output DC.
Flexible Soft Rubber Antenna (Non-removable type, FCC rule)	Yes, West Marine "ROPE" logo embedded in the rubber cover of the antenna
Speaker/Microphone Jacks	Yes, to be compatible with the new Uniden speaker microphone (model# HHVTA07) Jacks are to keep JIS level 7 spec. Screw-on Submersible cap required.
Sensitivity	0.20uV for 12 dB SINAD Nominal
Squelch Sensitivity	Threshold 0.10 uV Nominal
Adjacent Channel Selectivity	70 dB @ +or – 25kHz
Operating Temperature	-4 F (-20C) to 122F (+50C)
Frequency StaDuallity	+ or – 2.5ppm Limit
Channel Spacing	25KHz Fixed
Antenna Connector	Fixed. FRS band FCC requirement

Speaker	Built in 32mm Dynamic Type, 8 ohm, 0.5 watt rated
Microphone	Built in Electret type
UV Resistant Plastic	Yes
Stainless Steel Parts	Yes, for all exposed to the elements.
Wrist Strap	Yes, connected on the side of the radio.

3. Keys and Controls

On/Off/Volume Knob	Yes
Squelch Knob	Yes
PTT Key	Yes, on the side of the radio
WX/Alert Key	Yes
16/9/Tri Watch Key	Yes
Band/1/2.5/5W	Yes
UP Key	Yes
DOWN Key	Yes
MEM/Scan Key	Yes
Menu Key	Yes
Enter Key	Yes
Light/Lock Key	Yes, underneath the PTT key
Large LCD Screen: 22mm x 35.9mm (Viewable Size is 19mm high, 31mm wide)	Yes, Full Dot Matrix

4. Printed Materials and Packaging

Display Box	Yes, UJ to supply the Die, UAC to supply the film (West Marine to Create)
Owners Manual	Yes, To be written in English, French, and Spanish
Warranty	3 year, to be included in the owners manual (West Marine Information)
Registration Card	No, this is a West Marine model
Certificate of Compliance	N/A
RLI (Radio Life Insurance) Card	No, this is a West Marine model
POP Hang Tag	No, this is a West Marine model
POP for LCD	Yes, Placed on the LCD at the Factory
Serial Number Sticker	Yes, affixed to the Display Box and radio
Battery Specification Label	Yes, affixed to the battery pack
FCC/IC ID Label	Yes
Patent Engraving	No
Regulations	FCC, IC, UL
UPC Code	05063350093 4
ITF14 Code	10050633500931

5. Frequencies and Channels

USA FREQUENCY CHART						
Ch No.	RX Freq	TX Freq	Status	Name	Full Name	16 Char Name
1 "A"	156.0500	156.0500	Simplex	VTS/COM	VESSEL TRAFFIC SYSTEM/COMMERCIAL	VTS/COMMERCIAL
3 "A"	156.1500	156.1500	Simplex	CG ONLY	COAST GUARD,GOVT ONLY	COAST GUARD ONLY
5 "A"	156.2500	156.2500	Simplex	VTS/COM	VESSEL TRAFFIC SYSTEM/COMMERCIAL	VTS/COMMERCIAL
6	156.3000	156.3000	Simplex	SAFETY	INTER-SHIP SAFETY	SAFETY
7 "A"	156.3500	156.3500	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
8	156.4000	156.4000	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
9	156.4500	156.4500	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
10	156.5000	156.5000	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
11	156.5500	156.5500	Simplex	VTS	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
12	156.6000	156.6000	Simplex	VTS	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
13	156.6500	156.6500	Simplex, 1W	BRG-BRG	BRIDGE TO BRIDGE	BRIDGE TO BRIDGE
14	156.7000	156.7000	Simplex	VTS	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
15	156.7500	<i>InhiDualt</i>	Receive Only	ENVIRON	ENVIRONMENTAL	ENVIRONMENTAL
16	156.8000	156.8000	Simplex	DISTRES	DISTRESS, SAFETY, CALLING	DISTRESS
17	156.8500	156.8500	Simplex, 1W	GOVT	GOVT MARITIME CONTROL	GOVERNMENT
18 "A"	156.9000	156.9000	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
19 "A"	156.9500	156.9500	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
20	161.6000	157.0000	Duplex	PORT OP	PORT OPERATION	PORT OPERATION
20 "A"	157.0000	157.0000	Simplex	PORT OP	PORT OPERATION	PORT OPERATION
21 "A"	157.0500	157.0500	Simplex	CG ONLY	COAST GUARD ONLY	COAST GUARD ONLY
22 "A"	157.1000	157.1000	Simplex	CG	COAST GUARD	COAST GUARD
23 "A"	157.1500	157.1500	Simplex	CG ONLY	COAST GUARD ONLY	COAST GUARD ONLY
24	161.8000	157.2000	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
25	161.8500	157.2500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
26	161.9000	157.3000	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
27	161.9500	157.3500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
28	162.0000	157.4000	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
61 "A"	156.0750	156.0750	Simplex	CG	COAST GUARD	COAST GUARD
63 "A"	156.1750	156.1750	Simplex	VTS	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
64 "A"	156.2250	156.2250	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
65 "A"	156.2750	156.2750	Simplex	PORT OP	PORT OPERATION	PORT OPERATION
66 "A"	156.3250	156.3250	Simplex	PORT OP	PORT OPERATION	PORT OPERATION
67	156.3750	156.3750	Simplex, 1W	BRG-BRG	BRIDGE TO BRIDGE	BRIDGE TO BRIDGE
68	156.4250	156.4250	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
69	156.4750	156.4750	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
70	156.5250	<i>InhiDualt</i>	Receive Only	DSC	DIGITAL SELECTIVE CALLING	DSC RECEIVE ONLY
71	156.5750	156.5750	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
72	156.6250	156.6250	Simplex	NON COM	NON COMMERCIAL (SHIP-SHIP)	NON COMMERCIAL
73	156.6750	156.6750	Simplex	PORT OP	PORT OPERATION	PORT OPERATION
74	156.7250	156.7250	Simplex	PORT OP	PORT OPERATION	PORT OPERATION
75	156.7750	156.7750	Simplex, 1W	PORT OP	PORT OPERATION	PORT OPERATION
76	156.8250	156.8250	Simplex, 1W	PORT OP	PORT OPERATION	PORT OPERATION
77	156.8750	156.8750	Simplex, 1W	PORT OP	PORT OPERATION (SHIP-SHIP)	PORT OPERATION
78 "A"	156.9250	156.9250	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
79 "A"	156.9750	156.9750	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
80 "A"	157.0250	157.0250	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
81 "A"	157.0750	157.0750	Simplex	USCG	COAST GUARD	COAST GUARD
82 "A"	157.1250	157.1250	Simplex	USCG	COAST GUARD	COAST GUARD
83 "A"	157.1750	157.1750	Simplex	GOVT	GOVERNMENT	GOVERNMENT
84	161.8250	157.2250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
85	161.8750	157.2750	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
86	161.9250	157.3250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
87	161.9750	157.3750	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
88	162.0250	157.4250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
88 "A"	157.4250	157.4250	Simplex	COMMERC	COMMERCIAL (SHIP-SHIP)	COMMERCIAL

CANADIAN FREQUENCY CHART

Ch No.	RX Freq	TX Freq	Status	Name	Full Name	16 Char Name
1	160.6500	156.0500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
2	160.7000	156.1000	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
3	160.7500	156.1500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
4 "A"	156.2000	156.2000	Simplex	CCG	CANADIAN COAST GUARD	COAST GUARD
5 "A"	156.2500	156.2500	Simplex	VTs	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
6	156.3000	156.3000	Simplex	SAFETY	INTER-SHIP SAFETY	SAFETY
7 "A"	156.3500	156.3500	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
8	156.4000	156.4000	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
9	156.4500	156.4500	Simplex	CALLING	BOATER CALLING CHANNEL	CALLING
10	156.5000	156.5000	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
11	156.5500	156.5500	Simplex	VTs	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
12	156.6000	156.6000	Simplex	VTs	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
13	156.6500	156.6500	Simplex, 1W	BRG-BRG	BRIDGE TO BRIDGE	BRIDGE TO BRIDGE
14	156.7000	156.7000	Simplex	VTs	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
15	156.7500	156.7500	Simplex	ENVIRON	ENVIRONMENTAL	ENVIRONMENTAL
16	156.8000	156.8000	Simplex	DISTRES	DISTRESS, SAFETY, CALLING	DISTRESS
17	156.8500	156.8500	Simplex, 1W	SAR	STATE CONTROL	STATE CONTROL
18 "A"	156.9000	156.9000	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
19 "A"	156.9500	156.9500	Simplex	CCG	CANADIAN COAST GUARD	COAST GUARD
20	161.6000	157.0000	Duplex, 1W	PORT OP	PORT OPERATION	PORT OPERATION
21 "A"	157.0500	157.0500	Simplex	CCG	CANADIAN COAST GUARD	COAST GUARD
22 "A"	157.1000	157.1000	Simplex	CCG	CANADIAN COAST GUARD	COAST GUARD
23	161.7500	157.1500	Duplex	CCG	CANADIAN COAST GUARD	COAST GUARD
24	161.8000	157.2000	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
25	161.8500	157.2500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
26	161.9000	157.3000	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
27	161.9500	157.3500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
28	162.0000	157.4000	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
60	160.6250	156.0250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
61 "A"	156.0750	156.0750	Simplex	CCG	CANADIAN COAST GUARD	COAST GUARD
62 "A"	156.1250	156.1250	Simplex	CCG	CANADIAN COAST GUARD	COAST GUARD
64	160.8250	156.2250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
64 "A"	156.2250	156.2250	Simplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
65 "A"	156.2750	156.2750	Simplex	RESCUE	SEARCH AND RESCUE	SEARCH & RESCUE
66 "A"	156.3250	156.3250	Simplex, 1W	PORT OP	PORT OPERATION	PORT OPERATION
67	156.3750	156.3750	Simplex	BRG-BRG	BRIDGE TO BRIDGE	BRIDGE TO BRIDGE
68	156.4250	156.4250	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
69	156.4750	156.4750	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
70	156.5250	<i>InhiDualt</i>	Receive Only	DSC	DIGITAL SELECTIVE CALLING	DSC RECEIVE ONLY
71	156.5750	156.5750	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
72	156.6250	156.6250	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
73	156.6750	156.6750	Simplex	PORT OPR	PORT OPERATION	PORT OPERATION
74	156.7250	156.7250	Simplex	PORT OPR	PORT OPERATION	PORT OPERATION
77	156.8750	156.8750	Simplex, 1W	PORT OPR	PORT OPERATION	PORT OPERATION
78 "A"	156.9250	156.9250	Simplex	SHP-SHP	INTER SHIP	INTER SHIP
79 "A"	156.9750	156.9750	Simplex	SHP-SHP	INTER SHIP	INTER SHIP
80 "A"	157.0250	157.0250	Simplex	SHP-SHP	INTER SHIP	INTER SHIP
81 "A"	157.0750	157.0750	Simplex	CCG	CANADIAN COAST GUARD	COAST GUARD
82 "A"	157.1250	157.1250	Simplex	CCG	CANADIAN COAST GUARD	COAST GUARD
83	161.7750	157.1750	Duplex	CCG	CANADIAN COST GUARD	COAST GUARD
83 "A"	157.1750	157.1750	Simplex	CCG	CANADIAN COAST GUARD	COAST GUARD
84	161.8250	157.2250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
85	161.8750	157.2750	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
86	161.9250	157.3250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
87	161.9750	157.3750	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
88	162.0250	157.4250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR

INTERNATIONAL FREQUENCY CHART

Ch No.	RX Freq	TX Freq	Status	Name	Full Name	16 Char Name
1	160.6500	156.0500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
2	160.7000	156.1000	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
3	160.7500	156.1500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
4	160.8000	156.2000	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
5	160.8500	156.2500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
6	156.3000	156.3000	Simplex	SAFETY	INTER-SHIP SAFETY	SAFETY
7	160.9500	156.3500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
8	156.4000	156.4000	Simplex	COMMERC	COMMERCIAL (SHIP-SHIP)	COMMERCIAL
9	156.4500	156.4500	Simplex	CALLING	BOATER CALLING CHANNEL	CALLING
10	156.5000	156.5000	Simplex	COMMERC	COMMERCIAL	COMMERCIAL
11	156.5500	156.5500	Simplex	VTS	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
12	156.6000	156.6000	Simplex	VTS	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
13	156.6500	156.6500	Simplex	BRG-BRG	BRIDGE TO BRIDGE	BRIDGE TO BRIDGE
14	156.7000	156.7000	Simplex	VTS	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
15	156.7500	156.7500	Simplex, 1W	ENVIRON	ENVIRONMENTAL	ENVIRONMENTAL
16	156.8000	156.8000	Simplex	DISTRESS	DISTRESS, SAFETY, CALLING	DISTRESS
17	156.8500	156.8500	Simplex, 1W	GOVT	GOVT MARINE CONTROL	GOVERNMENT
18	161.5000	156.9000	Duplex	PORT OP	PORT OPERATION	PORT OPERATION
19	161.5500	156.9500	Duplex	COMMERC	COMMERCIAL	COMMERCIAL
20	161.6000	157.0000	Duplex	PORT OP	PORT OPERATION	PORT OPERATION
21	161.6500	157.0500	Duplex	PORT OP	PORT OPERATION	PORT OPERATION
22	161.7000	157.1000	Duplex	PORT OP	PORT OPERATION	PORT OPERATION
23	161.7500	157.1500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
24	161.8000	157.2000	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
25	161.8500	157.2500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
26	161.9000	157.3000	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
27	161.9500	157.3500	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
28	162.0000	157.4000	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
60	160.6250	156.0250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
61	160.6750	156.0750	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
62	160.7250	156.1250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
63	160.7750	156.1750	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
64	160.8250	156.2250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
65	160.8750	156.2750	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
66	160.9250	156.3250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
67	156.3750	156.3750	Simplex	BRG-BRG	BRIDGE TO BRIDGE	BRIDGE TO BRIDGE
68	156.4250	156.4250	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
69	156.4750	156.4750	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
70	156.5250	<i>InhiDualt</i>	Receive Only	DSC	DIGITAL SELECTIVE CALLING	DSC RECEIVE ONLY
71	156.5750	156.5750	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
72	156.6250	156.6250	Simplex	NON COM	NON COMMERCIAL	NON COMMERCIAL
73	156.6750	156.6750	Simplex	PORT OP	PORT OPERATION	PORT OPERATION
74	156.7250	156.7250	Simplex	PORT OP	PORT OPERATION	PORT OPERATION
77	156.8750	156.8750	Simplex	PORT OP	PORT OPERATION (SHIP-SHIP)	PORT OPERATION
78	161.5750	156.9250	Duplex	PORT OP	PORT OPERATION	PORT OPERATION
79	161.5750	156.9750	Duplex	PORT OP	PORT OPERATION	PORT OPERATION
80	161.6250	157.0250	Duplex	PORT OP	PORT OPERATION	PORT OPERATION
81	161.6750	157.0750	Duplex	PORT OP	PORT OPERATION	PORT OPERATION
82	161.7250	157.1250	Duplex	PORT OP	PORT OPERATION	PORT OPERATION
83	161.7750	157.1750	Duplex	PORT OP	PORT OPERATION	PORT OPERATION
84	161.8250	157.2250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
85	161.8750	157.2750	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
86	161.9250	157.3250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
87	161.9750	157.3750	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR
88	162.0250	157.4250	Duplex	MAR OPR	MARINE OPERATOR	MARINE OPERATOR

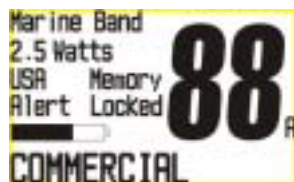
WEATHER FREQUENCY CHART		
Ch No.	RX Frequency	Description
WX01	162.5500	Weather Information (Receive Only)
WX02	162.4000	Weather Information (Receive Only)
WX03	162.4750	Weather Information (Receive Only)
WX04	162.4250	Weather Information (Receive Only)
WX05	162.4500	Weather Information (Receive Only)
WX06	162.5000	Weather Information (Receive Only)
WX07	162.5250	Weather Information (Receive Only)
WX08	161.6500	Weather Information (Receive Only)
WX09	161.7750	Weather Information (Receive Only)
WX10	163.2750	Weather Information (Receive Only)

6. Key Layout

See the image at the top of this document.

7. LCD Screen

This information will be provided with the radio image and throughout this document. The display images in this document are for feature description only.



7.1 Opening Screen

See animation provided by West Marine. This will be an animated splash screen featuring the West Marine "Rope" logo, then West Marine and model number.

8. ON/OFF/Volume Knob

The ON/OFF/Volume knob will be rotated in a clockwise direction to turn the radio on. Continued rotation of the knob will increase the volume level of the built in speaker. Upon turning the radio on, the radio will emit a wake up tone and will also have a click feel. The click feel will be felt upon both turning on and turning off and while changing the volume.

**NOTE: Every time that the radio is turned on, the radio will remember the last channel selected. Memory channels, 1/2.5W/5W, Channel Tag, Key Beep, and UIC (including the last channel selected) settings will remain in the mode that was selected prior to turning the radio off.*

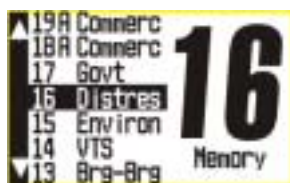
9. Squelch Knob

The Squelch knob will be rotated in a clockwise direction to increase the threshold of squelch. This control will have a clicking feeling for every level.

Example: As the user rotates the knob clockwise, the long-range sensitivity of the radio steadily decreases until a threshold is reached where there is no loud hissing sound. At that point, the radio will be able to receive signals without the excess background noise. The user may rotate the knob counterclockwise from this point to receive weaker or distant signals.

10. Channel UP and DOWN Keys

These keys will be used to incrementally change the channels in either an ascending order or a descending order. The UP key will move through the channels in an ascending order and the DOWN key will move through the channels in a descending order. The following screens show examples of changing channels downward. The currently selected channel will be highlighted in the center of the display. After a channel has been selected and no more UP or DOWN arrow keys presses, this screen will automatically time out after 3 seconds and return to the normal radio standby screen.





**NOTE: If either the UP or DOWN keys are held down for an interval of 2 seconds, the channel display will quickly scroll (no beep tones) in the direction of the appropriately held key.*

****NOTE: When AM, FM, or Air Band are active, pressing and holding the UP or Down keys will activate a SEEK feature, where the radio continues to increment the frequency until an active frequency is found. At this point, if the UP or DOWN keys are still held down, the radio will pause on the active channel for 3 seconds, then continue to the next active frequency. This operation will continue as long as the UP or DOWN keys are held down. If the UP or DOWN keys are released when an active frequency is found, then the radio will stay on that frequency. If the UP or DOWN arrow keys are released before an active channel is found, the radio will continue to seek until a active channel is found. Briefly pressing the UP or DOWN arrow keys will cancel the seek mode.*

11. Band/1/2.5/5W Key

Momentarily pressing this key for will select between the available bands on this model. The bands include Marine VHF, AM radio, FM radio, AM Air Band, and FRS radio. The default on power-up will be Marine VHF. The Band order will be: VHF, FRS, AM, FM, and then Air. Pressing and holding this key will change the transmit output power setting (see section 11.6).

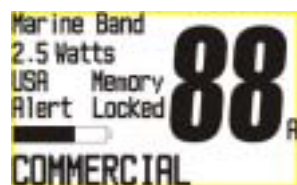
11.1 Marine VHF

When the Band key is pressed to select the VHF mode, the following screen will be displayed for ~3 seconds, then the normal VHF screen will be displayed. If the Band

key is pressed again while this screen is displayed, the FRS opening screen will be activated.



The features explaining the operation of the VHF radio are described in other parts of this document.



11.2 FRS Radio

When the Band key is pressed to select the FRS radio mode, the following screen will be displayed for ~3 seconds, then the normal FRS screen will be displayed. If the Band key is pressed again while this screen is displayed, the AM opening screen will be activated.



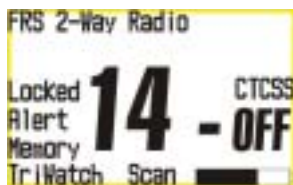
The following is the display for the FRS radio:



The frequency range for FRS is 462.5625~467.7125MHz, 12.5KHz steps, 0.5 Watt maximum transmit power.

There will be 142 CTCSS codes for this feature (see Menu for setup details). All 14 channels can be stored into the scan memory.

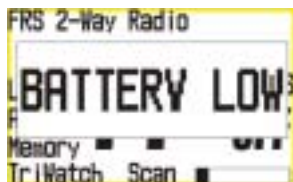
When the CTCSS code option is not activated on the current FRS channel, the following screen will be displayed.



During transmit, the following screen will be displayed.



If the low battery occurs and the PTT is pressed, or anytime of a battery low condition occurs, an error tone will sound (400Hz every 1 second) and the Battery Low message will show on the bottom of the display. This indicates that the TX is disabled. After the PTT key is released. The Battery Low message will disappear. The Battery level icon will continue to blink until the radio either shuts off or the radio is recharged. The only exception to this would be the battery low condition can happen much more easily while transmitting. After the PTT is released, the radio will check the battery voltage to determine if the radio is still in a low battery condition, if not then the battery icon will not continue to blink.



Note: During Tri Watch or Dual Watch, The FRS radio does not change to the Marine VHF while looking channel 16 or channel 9. If carrier is detected on channel 16 or channel 9 while checking these channels, the Marine VHF screen will be displayed.

11.3 AM Radio

When the Band key is pressed to select the AM radio mode, the following screen will be displayed for ~3 seconds, then the normal AM radio screen will be displayed.

If the Band key is pressed again while this screen is displayed, the FM opening screen will be activated.



The following is the display for the AM radio receiver:



The frequency range for AM is 500~1800KHz, 9KHz or 10KHz steps (See Menu). The default setting is 10KHz steps.

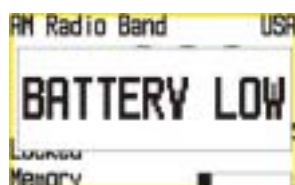


If 9KHz steps are selected in the menu, “Europe” will be displayed on the LCD.

Up to 25 frequencies can be stored in the memory scan feature.

Pressing the UP or DOWN arrow keys will increase or decrease the frequency by 10KHz. The user can momentarily press the MEM key to store the currently selected channel into memory or deselect the current channel if it is already in memory. The user can access up to 25 frequencies by activating the SCAN feature (press and hold the MEM/SCAN key for ~2 seconds). Each time SCAN is pressed, the next stored frequency, in ascending order will be selected.

When the radio detects a battery Low condition the following screen will be displayed. The radio will also beep (400Hz every 1 second) for 15 second and blink the Battery level icon. If any key is pressed, the tone will stop and the battery low message will disappear. The battery Low icon will continue to blink until the radio shuts off or until the radio is recharged.



*****NOTE:** When AM, FM, or Air Band are active, pressing and holding the UP or Down keys will activate a SEEK feature, where the radio continues to increment the frequency until an active frequency is found. At this point, if the UP or DOWN keys are still held down, the radio will pause on the active channel for 3 seconds, then continue to the next active frequency. This operation will continue as long as the UP or DOWN keys are held down. If the UP or DOWN keys are released when an active frequency is found, then the radio will stay on that frequency. . If the UP or DOWN arrow keys are released before an active channel is found, the radio will continue to seek until a active channel is found. Briefly pressing the UP or DOWN arrow keys will cancel the seek mode.

11.4 FM Radio

When the Band key is pressed to select the FM radio mode, the following screen will be displayed for ~3 seconds, then the normal FM screen will be displayed. If the Band key is pressed again while this screen is displayed, the AIR opening screen will be activated.



The following is the display for the FM radio receiver:



The frequency range for FM is 88~108MHz, 200KHz steps (factory default), or 100KHz steps for foreign ports.



If 100KHz steps are selected in the menu, "Europe" will be displayed on the LCD.

Up to 25 frequencies can be stored in the memory scan feature.

Pressing the UP or DOWN arrow keys will increase or decrease the frequency by 200KHz (100Khz optional for foreign ports). The user can momentarily press the MEM key to store the currently selected channel into memory or deselect the current

channel if it is already in memory. The user can access up to 25 frequencies by activating the SCAN feature (press and hold the MEM/SCAN key for ~2 seconds). Each time SCAN is pressed, the next stored frequency, in ascending order will be selected.

When the radio detects a battery Low condition the following screen will be displayed. The radio will also beep (400Hz every 1 second) for 15 second and blink the Battery level icon. If any key is pressed, the tone will stop and the battery low message will disappear. The battery Low icon will continue to blink until the radio shuts off or until the radio is recharged.



*****NOTE:** When AM, FM, or Air Band are active, pressing and holding the UP or Down keys will activate a SEEK feature, where the radio continues to increment the frequency until an active frequency is found. At this point, if the UP or DOWN keys are still held down, the radio will pause on the active channel for 3 seconds, then continue to the next active frequency. This operation will continue as long as the UP or DOWN keys are held down. If the UP or DOWN keys are released when an active frequency is found, then the radio will stay on that frequency. . If the UP or DOWN arrow keys are released before an active channel is found, the radio will continue to seek until a active channel is found. Briefly pressing the UP or DOWN arrow keys will cancel the seek mode.

11.5 Air Band

When the Band key is pressed to select the Aircraft radio mode, the following screen will be displayed for ~3 seconds, then the normal air band screen will be displayed. If the Band key is pressed again while this screen is displayed, the VHF opening screen will be activated.

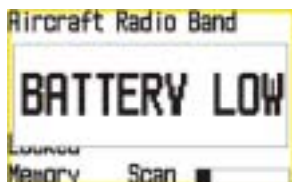


The following is the display for the Air band AM receiver:



The frequency range for Air band is 108~137MHz, 25KHz steps. Up to 25 frequencies can be stored in the memory scan feature. Pressing the UP or DOWN arrow keys will increase or decrease the frequency by 25KHz. The user can momentarily press the MEM key to store the currently selected channel into memory or deselect the current channel if it is already in memory. The user can access up to 25 frequencies by activating the SCAN feature. Each time SCAN is pressed, the next stored frequency, in ascending order will be selected.

When the radio detects a battery Low condition the following screen will be displayed. The radio will also beep (400Hz every 1 second) for 15 second and blink the Battery level icon. If any key is pressed, the tone will stop and the battery low message will disappear. The battery Low icon will continue to blink until the radio shuts off or until the radio is recharged.



*****NOTE:** When AM, FM, or Air Band are active, pressing and holding the UP or Down keys will activate a SEEK feature, where the radio continues to increment the frequency until an active frequency is found. At this point, if the UP or DOWN keys are still held down, the radio will pause on the active channel for 3 seconds, then continue to the next active frequency. This operation will continue as long as the UP or DOWN keys are held down. If the UP or DOWN keys are released when an active frequency is found, then the radio will stay on that frequency. . If the UP or DOWN arrow keys are released before an active channel is found, the radio will continue to seek until an active channel is found. Briefly pressing the UP or DOWN arrow keys will cancel the seek mode.

11.6 Marine Transmit Power

Pressing and holding the Band/1/2.5/5W key for ~2 seconds will switch the transmit power from 5 Watts output to 2.5 Watts output to 1 Watt output. The default setting for all channels is the 5 Watt mode *(Except for channels 13 and 67 that may not be used in 5 Watt mode except in emergencies by pressing this key during transmit, also channels 75 and 76 are 1 Watt only)*. When the radio is transmitting in the 5 Watt mode, the following screen will be displayed.



From the radio idle mode, pressing and holding the Band/1/2.5/5W key for ~2 seconds will place the radio into the 2.5 Watt mode. When the radio is transmitting in 2.5 Watt mode, the following screen will be displayed.



By again pressing the Band/1/2.5/5W key for ~2 seconds, the radio will be placed into the 1 Watt transmit mode. When the radio is transmitting in the 1 Watt mode the following screen will be displayed.



**NOTE: Pressing and holding the Band/1/2.5/5W down while transmitting will override the 1W default setting for channels 13 and 67. Doing this will place either channel into 5 Watt mode. This needs to be available for emergency purposes but these channels are not to typically be used in high power. The 5 Watt text will be shown for as long as the PTT key is held down (this feature is currently used on all Uniden handheld radio models) .*

12. MEM/SCAN Key

This key will be used to place a channel into memory so it can be scanned. A press of the MEM key will place the active channel into memory and the following screen will be displayed.



If no other action is performed, this screen will timeout after 3 seconds and the radio idle screen will be displayed.



Another press of the MEM key will take the channel out of memory and the following screen will be displayed.



If no other action is performed, this screen will timeout after 5 seconds and the radio idle screen will be displayed.



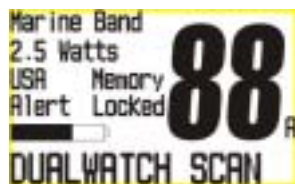
Pressing and holding the MEM/SCAN key for ~2 seconds will activate the memory channel scan feature. This feature will scan all of the channels previously placed into the channel memory.

If the SCAN key is pressed from this mode, the LCD will display the following screen.



In this mode the radio will scan the memory channels in ascending order and will check channel 16 every 2 seconds, then channel 9 (depending on the user menu setting), and then resume scanning the memory channels. During this mode, the

“TriWatch Scan” text will remain at the bottom of the screen. If the user has opted not to scan channel 9, the following screen will be displayed.



During this mode, the “DualWatch Scan” text will remain at the bottom of the screen. From this mode, the 16/9/TRI key when pressed will automatically exit the scan mode and go immediately to channel 16. If the 16/9/TRI key is held for 2 seconds in the scan mode, the Triwatch or Dualwatch text will disappear and then the radio will only scan the memory channels. During this mode, the “Channel Scan” text will remain at the bottom of the screen.



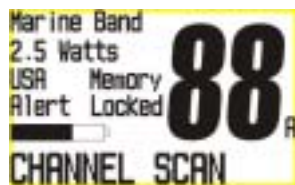
If the SCAN feature is activated from the weather channel display mode the following screen will be displayed.



The radio at this point will leave the WX mode. Now the scan function will operate as described above (Section 12).

NOTE: TriWatch is activated by default when scan is activated. The reason is that the radio should keep watch on channel 16 whenever possible.

NOTE: From this mode the user may hold down the TRI key for 2 seconds and the radio will just scan the channels that have been placed into memory. The following screen will be displayed.

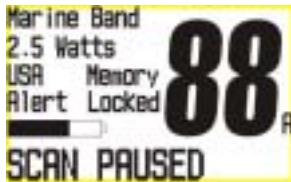


NOTE: If the weather alert function is activated when the SCAN key is pressed, the radio will scan the memory channels and then check the active weather channel every 7 seconds for the 1050Hz tone, then return to scanning the memory channels.

NOTE: If the weather alert function is activated while the scan and Tri watch functions are active, the radio will scan the memory channels, check channel 16 every 2 seconds, then check channel 9, then check the active weather channel every 7 seconds for the 1050Hz tone, then go back to scanning the memory channels. In all cases if the 1050Hz tone is received, the radio will stay on the weather channel until the user takes it out of the weather mode. The radio will display the following screen.



NOTE: When a transmission is found in scan mode the radio will receive the transmission and hold on that channel for 2 seconds before resuming scan. Any time that squelch is broken, the radio will have an automatic 2 second delay. During receive, the following screen will be displayed.



NOTE: When in Scan mode, the user can press the SCAN,16/9/TRI, or the WX/ALERT keys to exit the scan function and return to the channel display mode.

NOTE: All channels can be stored into memory. (Except weather channels)

NOTE: The memory status of each channel is retained when the radio is powered down. Upon turning on, all of the memory channels are still retained.

NOTE: The factory default is that no channels are stored into the memory.

NOTE: For AM, FM, and Air band, the user can store 25 frequencies per band. The FRS radio feature will be capable of storing all 14 channels.

13. WX/Alert Key

A single press of this key will place the radio into the weather channel display mode. The channel display will show channel 01 as the initial default. The user can use the channel UP or DOWN keys to move through the 10 weather channels to find the active channel in their local area. The following screen will also be displayed as long as the user is in this mode.



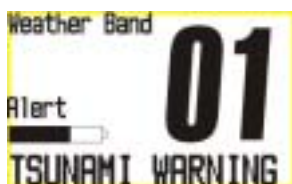
**NOTE: The weather channel that is active when the radio is turned off will be kept in memory and will be the active weather channel the next time the radio is turned back on and placed in the weather mode.*

From weather channel display mode only, the user will hold down the WX/ALERT key for 2 seconds and the radio will be placed into ALERT mode.

When a Weather Alert or a S.A.M.E. Alert is detected and will sound the Siren tone to let the user know of a serious impending weather condition. The radio will blink both the Weather channel numbers and the Alert icon. If the radio does not detect and decode the FIPS code and/or the Event code, the radio will display the following screen.



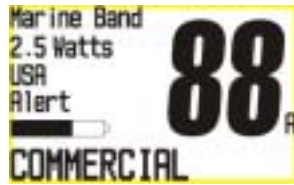
If the radio detects and decodes a FIPS and Event code, the radio will display the decoded Event code from the table at the back of this document and will display the information on the display. The following screen is an example of a decoded S.A.M.E. event code. If the Event code is more than 16 characters, the display will scroll the long name and after the entire long name has scrolled across the display, the short name will be displayed.



**NOTE: When the WX/ALERT key is held down, the following screens will be displayed depending what mode the radio is currently in.
VHF Radio mode:*



After 3 seconds, the following screen is displayed.



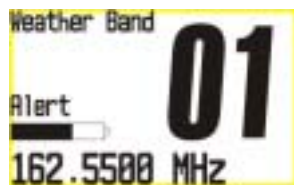
If the WX/Alert key is pressed and held again for ~2 seconds, the following screen will be displayed.



WX Mode:



After 3 seconds, the following screen is displayed.



If the WX/Alert key is pressed and held again for ~2 seconds, the following screen will be displayed.



FRS Mode:

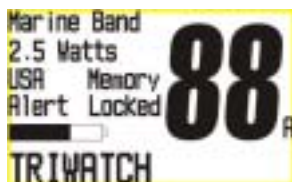


**NOTE: When the user returns to the channel display mode, the alert icon will still be displayed.*

14. 16/9/TRI Key

The 16/9/TRI key will instantly tune the radio to channel 16. A second press of this key will change the radio from channel 16 to channel 9. A third press of this key will return the radio to the last user selected channel. The 16/9/TRI key may be held down in the following modes to operate the Triwatch function. It will operate in the following ways based on the mode of the radio.

From the channel display mode the 16/9/TRI key may be held down for 2 seconds. The radio will search the existing working channel, then channel 16 every two seconds, then channel 9 (depending on the user menu setting) for transmissions before returning back to the working channel and starting the cycle over again. The following screen will be displayed when this mode is activated. During this mode, the “Triwatch” text will remain at the bottom of the screen.



If the user has opted not to scan channel 9, the following screen will be displayed. During this mode, the “DualWatch” text will remain at the bottom of the screen.



To exit this function, hold down the 16/9/TRI key for two seconds.

From the weather channel display mode, the 16/9/TRI key may be held down for 2 seconds. The radio will search the existing weather working channel, then channel 16 every 2 seconds, then channel 9 (depending on the user menu setting) for a transmission before returning back to the weather channel and starting the cycle over

again. The following screen will be displayed when this mode is activated. During this mode, the “TriWatch” text will remain at the bottom of the screen.



The Weather Band text will only be displayed when the weather channel appears on the screen. When the radio leaves the weather channel to scan channels 16 and 9, the Marine Band text will be displayed on the screen. To exit this function, hold down the 16/9/TRI key for two seconds.

From the channel display mode (with Weather Alert enabled), the 16/9/TRI key may be held down for 2 seconds. The following screen will be displayed. During this mode, the “TriWatch” text will remain at the bottom of the screen.



The radio will search the existing weather working channel, then channel 16 every 2 seconds, then channel 9, then for the 1050Hz tone (Weather Alert) every seven seconds for a transmission before returning back to the working channel and starting the cycle over again. TriWatch and Alert will be displayed when this mode is activated. Weather Band will only be displayed when the weather channel appears on the screen. The ALERT icon will be displayed throughout the entire cycle. To exit this function, hold down the 16/9/TRI key for two seconds.

**NOTE: When in the Triwatch mode, the user can press the UP and DOWN arrows to change the existing working channel and still continue to be in Triwatch scanning channels 16 and 9. If the UP and DOWN arrows are pressed in the weather channel display mode, the weather channel that is being monitored will change accordingly.*

**NOTE: Pressing the SCAN key from the Triwatch mode will start the memory channel scan and also continue to do the Triwatch based on the aforementioned timing parameters.*

**NOTE: A single press of the WX/ALERT key in Triwatch mode will change the working channel to the active weather channel and continue to check channels 9 and 16 as specified above.*

**NOTE: When a transmission is found in scan mode the radio will receive the transmission and hold on that channel for 2 seconds before resuming scan. Any time that squelch is broken, the radio will have an automatic 2 second delay.*

15. PTT (Push To Talk) Key

Pressing the PTT key will allow the user to send a transmission on the channel currently displayed on the LCD. The following screen will be displayed during transmitting.



The word "Transmitting" will be displayed as long as the PTT is held. The PTT key will not allow the user to transmit on the weather channels, specific receive only VHF-FM channels, AM, FM, or AIR bands. The PTT key will also not work if the user has the key pressed down while turning on the radio. In any of these cases, the radio will emit an error tone and the current channel number will flash along with the Transmitting text.

If the low battery occurs and the PTT is pressed, or anytime of a battery low condition occurs, an error tone will sound (400Hz every 1 second) and the Battery Low message will show on the bottom of the display. This indicates that the TX is disabled. After the PTT key is released. The Battery Low message will disappear and be replaced by the channel name. The Battery level icon will continue to blink until the radio either shuts off or the radio is recharged. The only exception to this would be the battery low condition can happen much more easily while transmitting. After the PTT is released, the radio will check the battery voltage to determine if the radio is still in a low battery condition, if not then the battery icon will not continue to blink.



**NOTE: The PTT key will not transmit during the Scan mode or during the Tri Watch mode. When the PTT key is pressed, all scanning modes are immediately disabled and the radio will start transmitting on the currently selected channel if there is carrier on this channel. If a carrier is not present, the first press of the PTT key will only take the radio out of the scan mode. The second press of the PTT key will activate transmit.*

**NOTE: If the PTT key is pressed for 5 minutes, a timer will timeout causing the radio to stop transmitting, an error tone will sound, the "Transmitting" text will blink, and an error message will be displayed at the bottom of the screen, until the PTT key is released. The PTT key may now be pressed to start transmit and restart the 5 minute timeout timer. The following error screen will be displayed.*

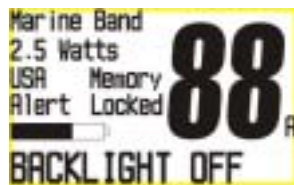


16. Light / Lock Key

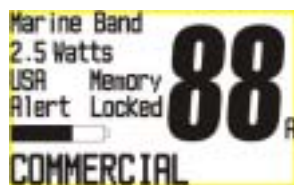
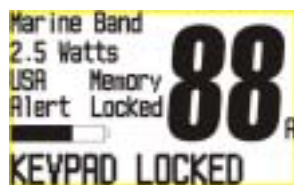
Pressing this key will activate the LCD and Key backlight. The following screen will be displayed.



The backlight “on” time will correspond to the setting in the Lamp Adjust menu (the factory default will be set to 5 seconds). Momentarily pressing this key again will turn off the backlight. The following screen will be displayed.

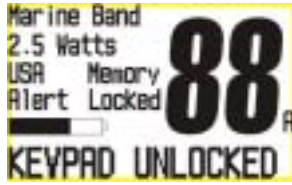


The keyboard lock function will be activated by holding the Light/Lock key down for 2 seconds. The display will show “Keypad Locked” to let the user know that the keyboard is locked. The following screen will be displayed for 3 seconds and then will return to the radio idle screen.



The only keys and controls that can be used in this mode are the PTT key, Light/Lock key, 1/2.5/5W key, Volume, and Squelch. To deactivate the keyboard Lock function, hold down the Light/Lock key for 2 seconds and the Locked text will disappear, or turn the radio off and back on again. The keyboard lock function will not remain in memory

when the radio is turned off. The following screen will be displayed for 3 seconds and then will return to the radio idle screen.



17. Menu Key

Pressing this key will activate the radio menu. The menu items are dependant on which radio band is currently selected. The following chart indicates which menu items are available for that radio band. When a item menu is activated, the current option that the radio is using is highlighted (example: the current channel mode of the radio is USA mode. When the USA/CAN/INT menu is selected, USA mode is highlighted).

<u>Marine VHF/WX</u>	<u>FRS</u>	<u>AM</u>	<u>FM</u>	<u>Aircraft</u>
USA/CAN/INT	CTCSS	Lamp Adjust	Lamp Adjust	Lamp Adjust
Lamp Adjust	Lamp Adjust	Contrast	Contrast	Contrast
Contrast	Contrast	Tuning Steps	FM Muting	Key Beep
Dual or Tri Watch	Dual or Tri Watch	Key Beep	Tuning Steps	Exit
Key Beep	Key Beep	Exit	Key Beep	
FIPS Codes	Exit		Exit	
Channel Name				
Exit				

The first press of the Menu key will activate the menu, if the Menu key is pressed again, the radio exits the menu mode. If a menu item is selected by pressing the enter key and the menu key is pressed, the radio will back-up one level in the menu. If a menu item is selected and the Menu key is pressed and held for ~2 seconds, the radio will exit the menu mode.

The following screens show the menus for each mode.

MARINE MENU
▲ USA/CAN/INT ▶
Lamp Adjust ▶
▼ Contrast ▶
Dual/Tri ▶
Key Beep ▶
FIPS Codes ▶
Channel Name ▶
Exit

FRS MENU
▲ CTCSS ▶
Lamp Adjust ▶
▼ Contrast ▶
Dual/Tri ▶
Key Beep ▶
Exit

AM MENU
▲ Lamp Adjust ▶
▼ Contrast ▶
Tuning Steps ▶
Key Beep ▶
Exit

FM MENU
▲ Lamp Adjust ▶
▼ Contrast ▶
FM Muting ▶
Tuning Steps ▶
Key Beep ▶
Exit

AIRCRAFT MENU
▲ Lamp Adjust ▶
▼ Contrast ▶
Key Beep ▶
Exit

All of the common items, Lamp adjust, Contrast Adjust, Key Beep, and Exit operate the same way in all modes.

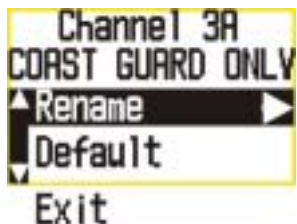
17.1 Channel Names

This item in the menu will allow the user to change the default channel names. This is necessary when the user needs to change the channel name depending what the channel's authorized use is for that area. From the Menu, this is the last menu item, or pressing the DOWN or UP arrow keys until the following screen is displayed (the menu highlights the last channel selected in the VHF mode).

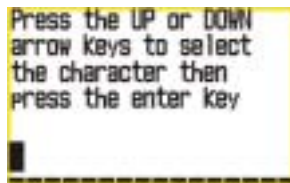


Pressing the UP or DOWN arrow keys will scroll through a list of preprogrammed channel names. A selection of Default all, when selected, will restore all of the channel names to the factory default channel names.

Highlighting and selecting an individual channel will allow the rename of that channel. From this screen, the user can select Rename, Default, or Exit. When Default is selected, the current channel name will be restored the factory default name. When the Rename option is highlighted and Enter is pressed, the next screen is displayed:



The UP and DOWN arrow keys will select a new first character. After choosing the first character, pressing the Enter key will flash the second character. Repeating this process for a maximum of a 16 character channel name.



Pressing the Enter key again will activate a double beep and return the radio to the Channel Name menu. This way, the user can quickly rename all of the channels they want.

17.2 Contrast Adjust

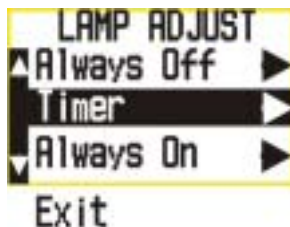
The feature will allow the user to adjust the LCD contrast setting. From the Menu, press the UP or DOWN arrow keys to highlight the Contrast Adjust menu item and press the Enter key. This feature will have 10 levels of contrast adjustment. The following screen shows the Contrast Adjust display:



Pressing the Enter key will save the current setting and return to the radio Menu. There needs to be a way to reset the contrast adjustment if the screen is either too light or too dark. Pressing and holding the Menu key while turning on the radio will reset the contrast to a middle setting of 7.

17.3 Lamp Adjust

The feature will allow the user to adjust the LCD and Keypad backlight setting. In addition, the user can set the backlight timer. From the Menu, press the UP or DOWN arrow keys to highlight the Lamp Adjust menu item and press the Enter key. The following screen shows the Lamp Adjust display:



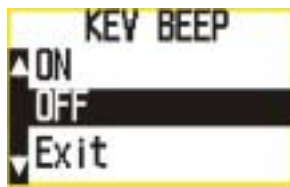
From this screen, the user can select Always Off, Timer, Always On, or Exit. When the Timer option is highlighted and Enter is pressed, the next screen is displayed:



From this screen, the user can select how long the backlight stays on after any key press or if the Light / Lock key is momentarily pressed. Select Exit will return the radio to the Lamp Adjust menu.

17.4 Key Beep

This feature will allow the user to turn on or off the key beep tones. From the Menu, press the DOWN or UP arrow keys until the Key Beep option is highlighted. The radio will then display the following screen.



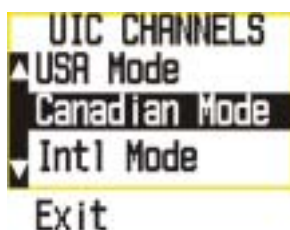
Pressing the Enter key will accept this setting and return the radio to the radio Menu.

17.5 U.I.C

This feature will allow the user to select the channel mode of the radio. The user can choose between USA channel mode (Factory Default), Canadian channel mode, or International channel mode.

**NOTE: The radio will remember the last selected channel in each mode, even the radio is powered off or disconnected from power.*

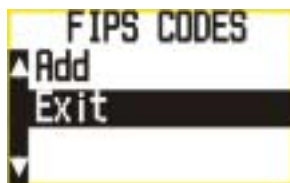
From the Menu, use the UP or DOWN arrow keys until the UIC Channel option is highlighted and then press the Enter key. The radio will then display the following screen.



To select the channel mode, the user just needs to press the Enter key when the desired option is highlighted or pressing the Exit option will return the radio to the Marine VHF radio Menu mode.

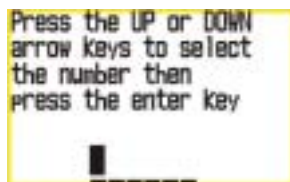
17.6 F.I.P.S

This option from the menu system will allow the user the aDuality to add FIPS codes in order to activate the Specific Area Message Encoding (S.A.M.E.) weather alert system. The following screens will be used to program FIPS codes and to activate the weather alert. From the Menu, use the UP and DOWN arrow keys to highlight the FIPS option and press the Enter key. The radio will display the following screen if a FIPS code has not yet been entered:

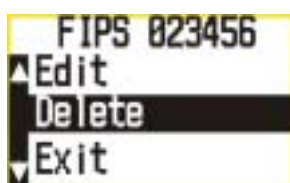
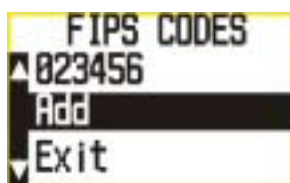


Use the DOWN or UP keys to select either Add or Exit if a FIPS code has not yet been entered to a location.

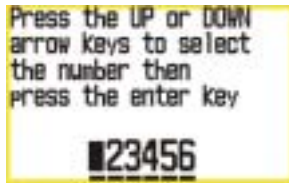
The following screen will be used to add a new FIPS code.



If a FIPS code has already been programmed into the location, the user can select the FIPS code and either Edit, Delete, or Exit from this entry. The EXIT option will take the user back to the radio Menu mode.



If the edit option is selected, the following screen will be displayed.



**Note : There will be a minimum of 20 FIPS memory locations.*

**Note : The radio will be able to decode the event codes only when the radio is left in the Weather radio mode.*

17.7 FM Muting

This feature allows FM muting on the FM broadcast band. This feature is used to eliminate the White noise while tuning between FM radio stations with sufficient signal strength. Another way of explaining this feature is: Muting is user-selectable and keyed to the noise level within the received signal. With MUTE invoked, the program signal will be squelched whenever the noise level rises above a preset level, such as when moving between stations.

From the Menu, use the UP and DOWN arrow keys to highlight the FM Muting option and press the Enter key. The radio will display the following screen:



From this screen, the options are ON, OFF, or Exit. If the Exit option is selected, the radio will return to the radio Menu Mode.

17.8 FRS CTCSS/DCS

This feature allows the user to select a CTCSS/DCS privacy code for each of the 14 FRS channels. From the Menu, use the UP or DOWN arrow keys to highlight the FRS CTCSS menu option and press the Enter key.

The radio will display the following screen.

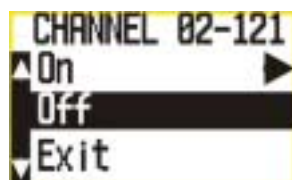


Using the UP or DOWN arrows keys, the user will select a channel to assign a CTCSS code to. Channels that have an asterisk after the channel numbers indicate that these channels currently have CTCSS codes assigned to them.

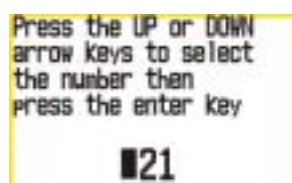
Note : When entering this menu, the currently selected channel will be highlighted. An example would be: The user is using FRS channel 2. When entering this menu, channel 2 would be highlighted. This will allow the user to quickly set the CTCSS code for the channel they are using.

Channels that have an asterisk after the channel numbers indicate that these channels currently have CTCSS codes assigned to them.

When a channel is selected and the Enter key is pressed, the following screen will be displayed.



When the On menu option is selected, the following screen will be displayed.



From this screen, the user will be able to see the currently selected CTCSS code for this channel (NONE, 01~142). If the EXIT option is selected, the radio will return to the radio Menu.

17.9 AM Radio Frequencies

This feature enables the AM radio to operate in foreign countries where the frequency steps are 9KHz. The factory default is set to 10KHz steps.

From the Menu, use the UP or DOWN arrow keys to highlight the AM RADIO FREQ menu option and press the Enter key.

The radio will display the following screen.

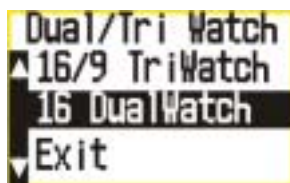


From this screen, the user can choose 9 KHz frequency steps, 10 KHz frequency steps, or Exit this screen. If the EXIT option is selected, the radio will return to the radio Menu.

17.10.0 Dual or Tri Watch

This feature allows the customer to choose whether the radio will TriWatch channels 16 and 9, or whether the radio will DualWatch only channel 16. The option of watching channel 9 in certain parts of the USA will have no meaning to the user. The use of channel 9 as the secondary hailing and distress frequency is used in all parts of the USA. From the VHF radio Menu, use the UP or DOWN arrow keys to highlight the Dual / TriWatch menu option and press the Enter key.

The radio will display the following screen.



From this screen, the user can choose to TriWatch channels 16 and 9 (factory default), or DualWatch just channel 16, or Exit this screen. If the EXIT option is selected, the radio will return to the radio Menu.

18. Enter Key

This key is used to select Menu items.

19. SAME Event Codes

SAME Event Codes

Standard	Event Code (Scrolling Name)	Warning	Watch	Statement	Test	Display (16 Character Name)
ADR	ADMINISTRATIVE MESSAGE			X		ADMIN MESSAGE
AVA	AVALANCHE WATCH		X			AVALANCHE WATCH
AVW	AVALANCHE WARNING	X				AVALANCHE WARN
BHW	DUALOLOGICAL HAZARD WARNING	X				DUALOLOGICAL WARN
BWW	BOIL WATER WARNING	X				BOIL WATER WARN
BZW	BLIZZARD WARNING	X				BLIZZARD WARNING
CAE	CHILD ABDUCTION EMERGENCY			X		CHILD EMERGENCY
CDW	CIVIL DANGER WARNING	X				CIVIL DANGER
CEM	CIVIL EMERGENCY MESSAGE	X				CIVIL EMERGENCY

CFA	COASTAL FLOOD WATCH		X			COASTAL FLOOD
CFW	COASTAL FLOOD WARNING	X				COASTAL FLOOD
CHW	CHEMICAL HAZARD WARNING	X				CHEMICAL HAZARD
DBA	DAM WATCH		x			DAM BREAK WATCH
DBW	DAM BREAK WARNING	X				DAM BREAK WARN
DEW	CONTAGIOUS DISEASE WARNING	X				CONTAGIOUS WARN
DMO	PRACTICE/DEMO				X	SYSTEM DEMO
DSW	DUST STORM WARNING	X				DUST STORM WARN
EAN	EMERGENCY ACTION NOTIFICATION	X				EMERGENCY NOTIFY
EAT	EMERGENCY ACTION TERMINATION	X		X		EMERGENCY END
EQW	EARTHQUAKE WARNING	X				EARTHQUAKE WARN
EVI	IMMEDIATE EVACUATION	X				IMMED EVACUATION
EVA	EVACUATION WATCH		X			EVACUATION
FCW	FOOD CONTAMINATION WARNING	X				FOOD CONTAMIN
FFA	FLASH FLOOD WATCH		X			FLASH FLOOD WARN
FFS	FLASH FLOOD STATEMENT			X		FLASH FLOOD WARN
FFW	FLASH FLOOD WARNING'	X				FLASH FLOOD WARN
FLA	FLOOD WATCH		X			FLOOD WATCH
FLS	FLOOD STATEMENT			X		FLOOD STATEMENT
FLW	FLOOD WARNING	X				FLOOD WARNING
FRW	FIRE WARNING	X				FIRE WARNING
FSW	FLASH FREEZE WARNING	X				FLASH FREEZE
FZW	FREEZE WARNING	X				FREEZE WARNING
HLS	HURRICANE STATEMENT			X		HURRICANE
HMW	HAZARDOUS MATERIAL WARNING	X				HAZARDOUS WARN
HUA	HURRICANE WATCH		X			HURRICANE WATCH
Standard	Event Code (Scrolling Name)	Warning	Watch	Statement	Test	Display (16 Character Name)
HUW	HURRICANE WARNING	X				HURRICANE WARN
HWA	HIGH WIND WATCH		X			HIGH WIND WATCH
HWW	HIGH WIND WARNING	X				HIGH WIND WARN
IBW	ICEBERG WARNING	X				ICEBERG WARNING
IFW	INDUSTRIAL FIRE WARNING	X				INDUSTRIAL FIRE
LAE	LOCAL AREA EMERGENCY			X		LOCAL EMERGENCY
LEW	LAW ENFORCEMENT WARNING	X				LAW ENFORCE WARN
LSW	LAND SLIDE WARNING	X				LAND SLIDE WARN
NAT	NATIONAL AUDIBLE TEST				X	NATIONAL AUDIBLE
NIC	NATIONAL INFORMATION CENTER			X		NATIONAL INFORM
NMN	NETWORK NOTIFICATION MESSAGE			X		NETWORK MESSAGE
NPT	NATIONAL PERIODIC TEST				X	NATION PERIODIC
NST	NATIONAL SILENT TEST				X	NATIONAL SILENT

NUW	NUCLEAR POWER PLANT	X				NUCLEAR WARNING
	WARNING					
POS	POWER OUTAGE ADVISORY			X		POWER OUTAGE ADV
RHW	RADIOLOGICAL HAZARD	X				RADIOLOGICAL
	WARNING					
RMT	REQUIRED MONTHLY TEST				X	REQ MONTHLY TEST
RWT	REQUIRED WEEKLY TEST				X	REQ WEEKLY TEST
SMW	SPECIAL MARINE WARNING	X				SPECIAL MRN WARN
SPS	SPECIAL WEATHER			X		SPECIAL WEATHER
	STATEMENT					
SPW	SHELTER IN-PLACE WARNING	X				SHELTER IN-PLACE
SVA	SEVERE THUNDERSTORM		X			THUNDERSTORM
	WATCH					
SVR	SEVERE THUNDERSTORM	X				THUNDERSTORM
	WARNING					
SVS	SEVERE WEATHER			X		SEVERE WEATHER
	STATEMENT					
TOA	TORNADO WATCH		X			TORNADO WATCH
TOE	911 TELEPHONE OUTAGE			X		911 OUTAGE
	EMERGENCY					
TOR	TORNADO WARNING	X				TORNADO WARN
TRA	TROPICAL STORM WATCH		X			TROPIC STORM
TRW	TROPICAL STORM WARNING	X				TROPIC STORM
TSA	TSUNAMI WATCH		X			TSUNAMI WATCH
TSW	TSUNAMI WARNING	X				TSUNAMI WARNING
VOW	VOLCANO WARNING	X				VOLCANO WARNING
WFW	WILD FIRE WARNING	X				WILD FIRE WARN
WFA	WILD FIRE WATCH		X			WILD FIRE WATCH
WSA	WINTER STORM WATCH		X			WINTER STORM
WSW	WINTER STORM WARNING	X				WINTER STORM
* * A	UNRECOGNIZED WATCH		X			UNRECOGNIZED
Standard	Event Code (Scrolling Name)	Warning	Watch	Statement	Test	Display (16 Character Name)
* * E	UNRECOGNIZED EMERGENCY			X		UNRECOGNIZED
* * S	UNRECOGNIZED STATEMENT			X		UNRECOGNIZED
* * W	UNRECOGNIZED WARNING	X				UNRECOGNIZED
TXB	TRANSMITTER BACKUP ON					No event code shown
TXF	TRANSMITTER CARRIER ON					No event code shown
TXO	TRANSMITTER CARRIER OFF					No event code shown
TXP	TRANSMITTER PRIMARY ON					No event code shown

20. CTCSS/DCS Code LIST

CTCSS Code List

Code No.	Frequency (Hz)	Code No.	Frequency (Hz)	Code No.	Frequency (Hz)
"OFF"	OFF	13	103.5	26	162.2
1	67.0	14	107.2	27	167.9
2	71.9	15	110.9	28	173.8
3	74.4	16	114.8	29	179.9
4	77.0	17	118.8	30	186.2
5	79.7	18	123.0	31	192.8
6	82.5	19	127.3	32	203.5
7	85.4	20	131.8	33	210.7
8	88.5	21	136.5	34	218.1
9	91.5	22	141.3	35	225.7
10	94.8	23	146.2	36	233.6
11	97.4	24	151.4	37	241.8
12	100.0	25	156.7	38	250.3

DCS Code LIST

Code No.	DCS Code (Octal)	Code No.	DCS Code (Octal)	Code No.	DCS Code (Octal)	Code No.	DCS Code (Octal)	Code No.	DCS Code (Octal)
39	023	60	143	81	315	102	532	123	53
40	025	61	152	82	331	103	546	124	122
41	026	62	155	83	343	104	565	125	145
42	031	63	156	84	346	105	606	126	212
43	032	64	162	85	351	106	612	127	225
44	043	65	165	86	364	107	624	128	246
45	047	66	172	87	365	108	627	129	252
46	051	67	174	88	371	109	631	130	255
47	054	68	205	89	411	110	632	131	266
48	065	69	223	90	412	111	654	132	274
49	071	70	226	91	413	112	662	133	325
50	072	71	243	92	423	113	664	134	332
51	073	72	244	93	431	114	703	135	356
52	074	73	245	94	432	115	712	136	446
53	114	74	251	95	445	116	723	137	452
54	115	75	261	96	464	117	731	138	454
55	116	76	263	97	465	118	732	139	455
56	125	77	265	98	466	119	734	140	462
57	131	78	271	99	503	120	743	141	523
58	132	79	306	100	506	121	754	142	526
59	134	80	311	101	516	122	36		

21. FRS Channel Chart

CH No.	RX Frequency (MHz)	TX Frequency (MHz)
1	462.5625	462.5625
2	462.5875	462.5875
3	462.6125	462.6125
4	462.6375	462.6375
5	462.6625	462.6625
6	462.6875	462.6875
7	462.7125	462.7125
8	467.5625	467.5625
9	467.5875	467.5875
10	467.6125	467.6125
11	467.6375	467.6375
12	467.6625	467.6625
13	467.6875	467.6875
14	467.7125	467.7125