

VHF 725e

submersible marine radio

owner's
manual
and
reference
guide



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Thank you for choosing the GARMIN VHF 725e. To get the most from your new VHF marine radio, take time to read through this owner's manual in order to understand all of the operating features. This manual is organized into three sections for your convenience:

The **Introduction to the VHF 725e Features** section gives you an overview of the unit's functional features.

The **Getting Started** section gets you started on using the VHF 725e for basic radio uses.

The **Appendix** section contains reference information on items such as accessories, a channel list, a troubleshooting guide, and the index.

Before getting started, check to be certain that your VHF 725e package includes the following items. If you are missing anything, please contact your dealer immediately.

Standard Package:

VHF 725e Unit	Owner's Manual
Lanyard	Antenna (SMA Connector)
Belt Clip	Charging Unit
NiCad Battery Pack	Alkaline Battery tray
Charging Stand/Mounting Bracket	

Refer to Section 3, Appendix A, for a list of optional accessories available from your GARMIN Dealer.

CE COMPLIANCE STATEMENT

This device complies with the essential requirements of CE for meeting standards EN301-178 and EN 300-828.

WARNING!

This transmitter will operate on frequencies (channels) that have restricted use. Use of International, U.S., and Canadian Bands presents frequencies that have restricted use. Operation on these frequencies without proper authorization is strictly prohibited.

In the United States Band, for example, the channel assignments include frequencies assigned for exclusive use of the U.S. Coast Guard. 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.

RADIO LICENSES

The VHF 725e user accepts all responsibility for obtaining the proper licensing before using the transmitter. In many instances, you must have a current radio station license before using this transceiver. It may be unlawful to operate a ship station which is not licensed. Inquire through your dealer or the appropriate government agency for a Ship Radiophone license application. A government issued radio station license is issued with the call sign which is your craft's identification for radio communication purposes.

OPERATOR'S LICENSE

A Restricted Radiotelephone Operator Permit is the license most often acquired by radio operators of small watercraft when the radio is not required for safety purposes.

This permit must be posted aboard the craft or kept by the licensed operator. Only a licensed operator may operate a marine radio (transceiver). Others may talk over a transceiver if the operator begins, supervises and ends the transmission.

IMPORTANT!

GARMIN strongly recommends obtaining a marine radio user's guide appropriate for the geographical location of intended use. Read and follow instructions for proper use of your marine radio. Improper usage can result in fines levied on mariners by regulatory agencies.

IMPORTANT!

Read all instructions carefully and completely before using the VHF 725e Marine Radio. This device is intended only as an aid to boating safety and navigation. The performance of the VHF 725e can be affected by many factors including environmental conditions and improper handling or use. It is the user's responsibility to exercise good safety and navigational judgement and the GARMIN VHF 725e should not be relied upon in lieu of such prudence and judgement.

CAUTIONS

For these reasons, the operator should exercise the following precautions to ensure proper and reliable use of the GARMIN VHF 725e.

DO NOT operate this transceiver within 1 meter of the ship's navigational compass.

DO NOT recharge batteries except in methods described in this manual

DO NOT use this transceiver for inappropriate communications. Know and observe the International Rules for Marine Radio Operation.

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**GETTING
STARTED**

*Unit
Description*



The VHF 725e is a 5 watt marine VHF communications transceiver in a convenient handheld package.

A keypad located on the front of the unit provides one-hand control of communication features. The knobless design allows push-button Squelch and Volume adjustment. A single button press provides a manual Squelch Override function. Tri-Watch monitoring mode allows simultaneous monitoring of emergency channel (16), Call channel and a working channel programmed by the user. The channel 16 key allows you to toggle between emergency and working channels.

A 1" high by 1-3/8" wide LCD display provides indication of all features and functions of the VHF 725e. The scan feature allows the operator to select up to 10 channels for continuous monitoring in any combination of U.S.A., Canadian, and International bands.

Call Channel programming allows you to select and program a channel for regular conversation for instant access by pressing the Call key. The high/low key toggles the transmitter power level from between five watts and one watt. When held for more than one second, it locks and unlocks the "Key Lock" function to prevent inadvertent changing of unit settings and modes.

The power key turns the unit off and on and, when pressed briefly after the unit is powered on, enables the display backlighting feature and illuminates the keys on the front of the unit.

Small size and light weight characterize the portability of the GARMIN VHF 725e.



Power/Backlighting
Key

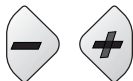


Channel Up &
Channel Down Keys



C PGM

Call Channel
Programming/
Call Key



Volume Increase &
Volume Decrease
Keys

Eleven keys provide access to all of the unit's features and functions. When any key (except the PTT key) is pressed, the unit will acknowledge by emitting a single beep confirmation tone. Some keys have dual functions and those keys on the front of the unit are illuminated when the display backlighting feature is active.

Power/Backlighting Key - This key turns on the unit when pressed and released, and turns the unit off when pressed and held for more than one second. Briefly pressing and releasing the power key when the unit is on will activate the backlighting feature and will last for five seconds after the last key is pressed.

Channel Up and Channel Down Keys - Pressing these CH arrow keys sets the operating channel. Pressing these keys while the Squelch key is pressed and held, sets the squelch threshold level.

Call Channel Programming/Call Key - Pressing this key for longer than 1 second after selecting a channel from one of the channel bands will store that channel as the calling channel to be accessed whenever the Call key is pressed. You can program a Call channel for each of the three bands (USA/Canadian/International).

NOTE: Selection of appropriate call channels is based on a working knowledge of available channels and their designated uses.

Volume Increase and Volume Decrease Keys - Pressing the plus and minus keys increases or decreases the volume of received transmissions and audio tones.

Memory Key - Pressing this key after selecting a channel places that channel into the scanning memory. Pressing this key when a channel is stored in memory (as indicated by the MEM icon on the display) will remove the channel from memory. A maximum of ten channels can be stored in memory.

Scan Key - Pressing this key starts the scanning of channels entered into memory. Pressing this key while scanning disables the scan feature while retaining the selected channels in memory.

U/I/C (USA/International/Canadian) Frequency Bands Key - This key allows the operator to select from the three channel bands. Pressing and releasing the key sequences through the three bands. The band selected is displayed on the LCD screen.

Channel 16 and Tri-Watch Key - Pressing this key once will monitor channel 16 (the emergency channel). Pressing again will return to the last used regular channel. Pressing and holding the key for more than 1 second will activate Tri-Watch which monitors channel 16 and the programmed Call channel for the currently monitored band and a working channel..

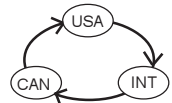
PTT (Press To Talk) Key - This Key allows the operator to transmit over those regular band channels that permit transmission. Press and hold the key to talk and release to receive.



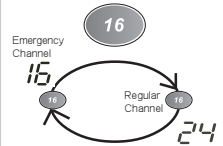
Memory Key



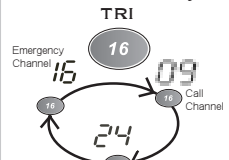
Scan Key



U/I/C Frequency
Bands Key



Channel 16 Key



Tri-Watch Key



PTT Key



Squelch Key

Squelch Key - This key breaks the squelch (unmutes the audio) when pressed and held. It is also used to set the squelch threshold (the level at which only strong signals can be received). The squelch threshold is set by pressing and holding the squelch key while using the **UP/DOWN** keys to adjust the squelch level from 0 to 9. At level 0, all signals can be heard, while at level 9, only the strongest signals can be heard. Adjusting the squelch level eliminates weak, unwanted signals, as explained on page 17.



H/L Power Key

H/L (High/Low) Power Key - This key toggles the transmitter power level from **High** (5 watts) to **Low** (1 watt) when pressed and released. It also locks the keypad when pressed and held for more than one second. The **Power** key, **PTT** key, backlighting key and the **Squelch** key still function in the Lock mode. Locking the keypad prevents inadvertent changing of channel settings and feature modes.

The VHF 725e LCD Display Screen gives indication of channels being monitored, battery power level, volume level, and the status of all unit features.

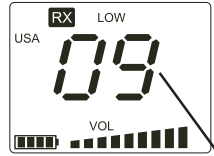
Channel Number Indicator - This large numeral display indicates the selected operating channel or the squelch threshold setting when the squelch key is pressed. This indicator is always active.

Channel Band Indicator - This display provides indication of the regular channel band selected, U.S.A., International, or Canadian.

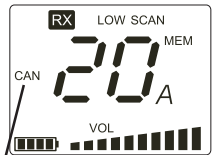
Call Channel Indicator - This display provides indication that a call channel is currently being received or transmitted on.

Memory Channel Indicator - This display, in conjunction with the Channel Number Indicator, indicates that the channel number displayed has been entered into the unit memory for selection when the scan feature is active.

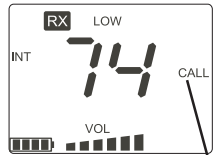
Tri-Watch Indicator - This display appears along with the Emergency (16) and Call Channel indicators to give notification that the Tri-Watch (three channel monitoring) feature is active.



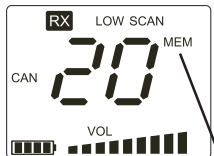
Channel Number Indicator



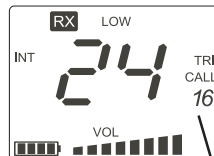
Channel Band Indicator



Call Channel Indicator



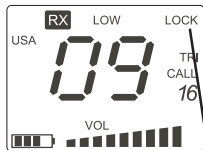
Memory Channel Indicator



Tri-Watch Indicator

GETTING STARTED

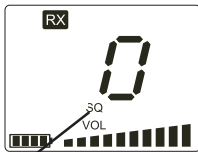
Keys & Function Displays



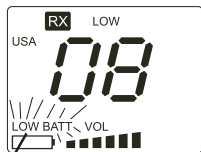
Lock Indicator



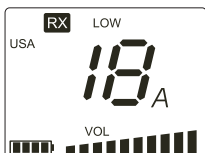
Battery Level Indicator



Squelch Indicator



Low Battery Indicator



Volume Indicator

Lock Indicator - This indicator is displayed when the Lock feature is active.

Battery Level Indicator - This battery shaped icon displays information about battery capacity in 25% increments. This indicator is always active.

Squelch Indicator - This display appears whenever the **SQ**, squelch key is pressed for either squelch override or setting of the squelch threshold.

Low Battery Indicator - This indicator flashes on and off when the battery capacity drops to 10% or below.

Volume Level Indicator - This band of gradually rising bars provides an indication of the volume setting. This indicator is always active.

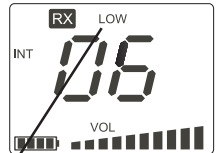
Hi/Low Power Indicators - These displays indicate the transmitter power level.

NOTE: Some channels only permit transmission on Low while others allow only receive operation.

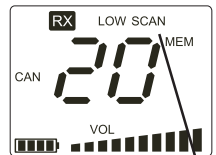
Scan Indicator - This display provides indication that the **Scan** feature is active.

Receive (RX) Indicator - This indicator provides notice that a signal is being received by the unit.

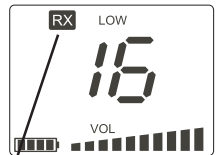
Transmit (TX) Indicator - This indicator appears when you are using the VHF 725e to transmit and will come on when you hold down the **PTT** key.



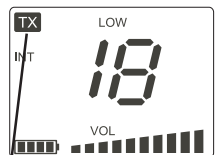
Hi/Low Power Indicator



Scan Indicator



Receive Indicator



Transmit Indicator

Important Information for First Time Users About Operating a Marine Radio

If you are a first time user of a marine radio, you should be aware of methods for operating your GARMIN VHF 725e.

International VHF Radio communication is governed by the International Telecommunications Union. (ITU). Rules and Regulations for use of International Band channels vary throughout the countries under ITU jurisdiction. It is therefore recommended that you obtain information about VHF radio use for the specific areas of planned use.

If you plan to use the USA Channel Band, we recommend that you obtain a copy of the “Maritime Radio Users Handbook” an authoritative handbook prepared by the Radio Technical Commission for Maritime Services, Post Office Box 19087, Washington, D.C. 20036. Although a Federal Communication Commission (FCC) license is no longer required for individual operator use, you must comply with all applicable FCC rules and regulations.

Marine radio communication within Canadian boundaries is governed by Industry Canada (RIC), Marine Communications Traffic Services. If you plan to use the 725e in this jurisdiction, it recommended that you obtain information concerning radio operation rules and regulations.

For safety and efficient navigation of vessels, the maritime radio frequency bands are separated into four groups. Specific frequencies within each are assigned for particular safety and functional

applications, such as ship to shore communications and navigation in waterways and ports. You may not have access to some which are not-for-public-use frequencies, and you are required to monitor and use others which are safety and navigational procedure frequencies.

The four groups you will have occasion to use are the U.S.A. Regular Band of 52 channels, the Canadian Band of 56 channels, the International Band of 55 channels, and 15 programmed-in Marina Channels and 57 programmed-in Private channels on the International Band. Some of these are receive (listen) only.

The emergency channel 16 is restricted to hailing of other vessels, distress calls and safety purposes only. Known as the Hail and Distress Channel, it is used to contact nearby vessels and in emergencies where there is threat to life or property.

A calling or hailing channel is used for establishing contact with another vessel as an alternate to channel 16. As channel 16 is often used so frequently that hailing vessels is not practical in some high traffic areas. Contact is made using a programmed Call channel.

Maritime radio users are required to monitor channel 16, it is also advisable to monitor the Call channel and a selected regular channel as well. To facilitate these requirements, the VHF 725e is equipped with a Tri-Watch feature that allows you to engage in regular channel communications and monitor both the emergency channel and the Call channel.

Appendix C on pages 28 through 30 of this manual provides a listing of channels and the use of each, including those which are for receiving broadcast messages only.

Here is a grouping of the channels and a brief description of their use.

Channels 5,12, 14, 20, 65, 66, 73, 74,77: Port Operations - Can be used by any vessel for communications between ships and ship-to-coast stations for messages relating to operational handling, movement and safety of vessels in or near ports, locks or waterways. Channel 77 is limited to communications to and from commercial pilots in regard to movement and docking of vessels. Channels 11,12, 13, and 14 are used for traffic service on the Great Lakes, St. Lawrence Seaway and designated major ports.

Channel 6: Intership Safety - For use by any vessel for communicating navigational and weather warnings to other ships. Also used for communicating during search and rescue operations. Ship-to-ship communications only. Do not use for routine communications as this is a safety channel.

Channels 7, 8, 9, 10, 11, 18, 19, 67, 79, 80, 88: Commercial Vessels - Used for communication between vessels pertaining to the purpose for which the vessel is used. Limited communications between vessels and coast stations. Recreational boats are not permitted to use these channels. Channels 8, 67, and 88 may not be used for ship-to-coast communications. Channel 88 is not available on the Great Lakes and St. Lawrence Seaway.

Channels 9, 68, 69, 71, 72, 78: non-Commercial (Boat Operations) - Used by recreational boaters and others not engaged in commercial transport. Provides a communication channel pertaining to the needs of the vessel (maneuvers, berthing, provisioning, fueling, etc.). Used as a second receiver between ship-to-ship and ship-to-limited coast stations. Channel 72 may not be used for ship-to-coast communications.

Channel 13: Navigation - used by any vessel for safety communications regarding the maneuvering of vessels or directing of a vessels movements. Ship-to-ship and secondarily ship-to-coast communications. Commonly called the Bridge-to-Bridge channel. For routine operations, radio power must be reduced to one watt.

Channel 15: Environmental - Used by any vessel to receive only broadcast information concerning environmental conditions in which vessel operate, such as, weather, sea conditions, time signals, and hazards to navigation. One-way broadcast from coast-to-ship stations.

Channel 16: Emergency - Used if your vessel is sinking or on fire, someone has been lost overboard, or there is grave and imminent danger to life or property. Every ship is obliged to give priority to radio distress communications. Calling - This channel is also used to establish communication with another marine radio station. After contact is made, switch to a working channel. Due to congestion on channel 16, particularly in high traffic areas, the FCC (USA) has approved channel 9 as a second hailing channel.

Channels 24, 25, 26, 27, 28, 84, 85, 86, 87: Marine Operator - Can be used by any vessel to place a telephone call to any place in the world or to a vessel outside their transmitting range. Used between vessels and public coast stations. You must contact a marine operator on the channel assigned to your navigating area.

Private Channels: These are channels that require special registration to use and must be programmed into the International Channel Band by your radio dealer. Contact your radio dealer to determine availability of programming and private channels. A list of these channels is contained in the VHF Channel List on pages 30 through 32.

Marina Channels: These are channels located in the International Channel Band assigned to specific marinas in European countries. These channels must also be programmed at your request by your radio dealer. A list of Marina channels is contained in the VHF Channel List on page 29.

NOTE: *Programming of Private Channels and Marina Channels can be done only by your VHF Radio Dealer who is authorized and has the knowledge to program the VHF 725e. Your dealer is also prepared to assist you in making application for license for your use of private channels. Altering your VHF 725e without proper authorization is strictly prohibited and may result in penalties and fines.*

Some channels will appear on the display with an “A” suffix. These are “Simplex Channels” receiving and transmitting on the same frequency. See “Selecting a Channel” on page 16 for a more detailed explanation. There are other regular channels in the list of channels on pages 28 and 29 that are not defined above. They have special uses that do not apply generally to regular maritime traffic and communications.

Installing the Antenna

The antenna is an essential part of your VHF 725e and the unit should never be operated without the antenna installed, as this may result in damage to the unit. The antenna receives signals best when held upright and is less effective when positioned horizontally.

To install the antenna:

1. Carefully align the bottom of the antenna with the threaded connector on the top of the VHF 725e, and screw it on until snug against the seating surface. (Figure 1)

Installing the Batteries

The VHF 725e uses a rechargeable NiCad Battery Pack to provide approximately 10 hours of operating time under normal use. Alkaline "AA" batteries installed in the optional GARMIN Battery tray may also be used. The battery level indicator at the lower left corner of the unit LCD display gives indication of battery capacity in increments of 25%. The Battery Pack is provided with a Charging Stand and Charging Unit.

To assemble the Charging Unit:

1. Insert the Charging Unit cord plug with the contact pins into the base of the Charging Stand. Position the flange on the plug over the slots in the bottom of the stand base and then press down until it clicks into place. Pull the cord away from the stand slightly to allow the plug to move down freely. (Figure 2)

NOTE: If using the 12 VDC Cigarette Lighter Charging Cable, install the cord plug in the charging stand in the same manner.

2. Connect the Charging Unit to a 240 VAC Power Outlet.
3. The NiCad Battery Pack should be installed in the VHF 725e when you remove it from the shipping carton. Place the unit base-down into the Charging Stand and allow 12 hours for charging to full capacity.

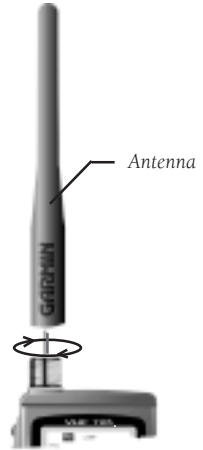


FIGURE 1

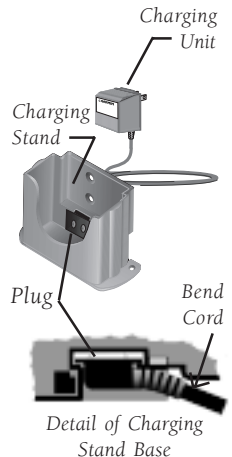


FIGURE 2

GETTING STARTED

Selecting A Channel

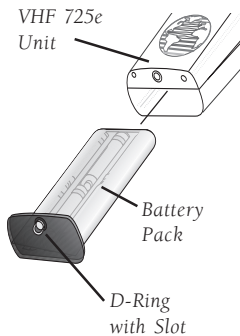


FIGURE 3

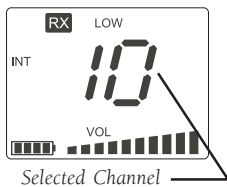


FIGURE 4

4. If you have an additional NiCad Battery Pack to use as a spare, you may insert it directly into the charging stand for recharging.
5. To remove a depleted Battery Pack and install a spare, lift up on the D-ring on the base of the Battery Pack and use it or a coin inserted in the screw slot to turn the screw and remove the battery pack from the unit. (Figure 3)
6. After installing the spare Battery Pack, press the **POWER** key to be certain the battery has been properly charged and the unit is functioning. Check the Battery Level indicator on the LCD display to be certain of a full charge.

NOTE: If using two battery packs, with one as a spare, it is recommended to cycle both packs through the unit as NiCad batteries will self-discharge when stored for long periods of time. This practice will ensure a fully charged spare battery at all times.

Selecting a Channel

To begin using the VHF 725e you will want to select a channel to monitor while you personalize the unit settings, such as volume and squelch. When you power-up the unit, a channel will automatically be selected, but it may not be suitable for making unit settings.

To select a channel:

1. Use the **U/I/C** Channel Band key to select USA, International, or Canadian channel bands. (Figure 4) The unit was set at the factory to channel 10 before shipment.
2. Press the **UP** or **DOWN** arrow key to scroll through the channels available on the selected band. (Figure 4) If you don't know which channel to select, refer to the Channel List in Appendix C on pages 28 and 29.

NOTE: You will notice an "A" indicator adjacent to some channel numbers in the USA and Canadian bands. These are simplex channels (transmitting and receiving on the same frequency) while the International counterpart is a duplex channel (transmitting on one frequency while receiving on another.)

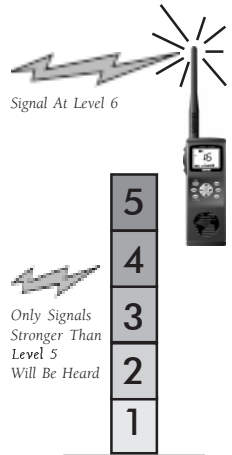
Setting the Squelch Threshold

Setting the Squelch is important for reception of signals you want to hear. There are ten threshold levels, from 0, which allows all signals to be received, to 9, which allows only the strongest signal to be heard through the speaker. The diagram in Figure 5 demonstrates how setting the threshold level allows you to hear only the signals you desire, while weaker, unintelligible signals are not heard.

To set the Squelch threshold:

1. Adjust the Squelch to the lowest setting by pressing and holding the Squelch (**SQ**) key, then pressing the **DOWN** arrow key repeatedly until the display indicates "0". You should hear static. If you hear a voice transmission, change to another channel and repeat this step. (Figure 5)
2. While holding the Squelch (**SQ**) key down, use the **UP** arrow key to increase the squelch level to "1". If no static is heard, you have set an acceptable squelch threshold level. If you hear static, then increase to the next threshold level, repeating the process until unwanted static is eliminated. Release the **SQ** key to return to your selected channel. The squelch setting is universal for all channels, but it may require resetting from time to time

NOTE: During squelch adjustment, Tri-Watch and Scan are suspended.



EXAMPLE of THRESHOLD
SET AT LEVEL 5



FIGURE 5

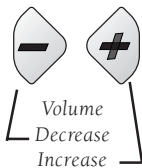
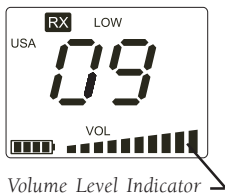


FIGURE 6

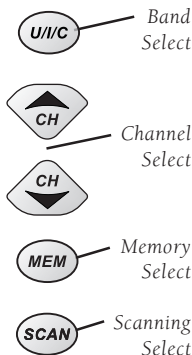
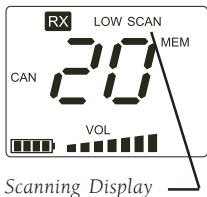


FIGURE 7

Adjusting the Volume

The Volume key may be adjusted using the +/- keys. The volume level is indicated by the band of gradually rising bars on the LCD display.

To adjust the volume:

1. Press the **+** key to increase the volume or the **-** key to decrease the volume. (Figure 6)

Scanning Channels

You may want to keep in contact with several vessels in your immediate area at the same time. For this purpose, the scan feature is available. You can program up to ten channels from any combination of USA, International, or Canadian bands into memory. Whenever a transmission is received, the scan will stop at that channel until the transmission ends and then move on until it recognizes another transmission. You cannot scan weather channels since they broadcast continually and do not allow a break in transmission for the scan to move to the next channel. You can utilize the WX Alert feature to monitor for severe weather conditions.

To scan channels:

1. Before activating the scan feature you must program at least two channels into memory. You can do this by pressing the **U/I/C** key to select the desired channel band and then use the **UP/DOWN** arrow keys to select channels in that band. Press the **MEM** key to place the displayed channel in the scan memory. (Figure 7)
2. Repeat this process for the desired channels.
3. Press the **SCAN** key to begin the scanning process. Pressing the **SCAN** key again will stop the scanning process.

NOTE: If the PTT key is pressed during scanning (when the display is changing) it will cancel SCAN and stop at the channel last scanned. If a channel is static (being received) you must transmit within 5 seconds after the received broadcast ends before SCAN moves to the next channel. After transmitting, scanning resumes when you release the key. Pressing any other keys will cancel the scan with the exception of the Power, Volume +, Volume -, Squelch and Hi/low keys.

- To remove a channel from the scan memory, simply access it with the **UP/DOWN** arrow keys and press the **MEM** key.

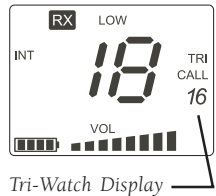
NOTE: Channels entered into memory will be retained when the unit batteries are removed.

Tri-Watch

Tri-Watch is a method of monitoring the emergency channel 16 and the Call channel while monitoring the channel you are using for communications.

To use Tri-Watch:

- First determine which channel other than 16 and the Call channel that you desire to monitor, then use the **UP** or **DOWN** arrow keys to make a choice.
- Press and hold the **16** key for more than one second. (Figure 8)
- Observe the LCD display showing TRI/CALL/16, and the cycling set of channel numbers indicating that the TRI-WATCH feature is active.
- Observe that when a transmission is received by the third channel, reception will be briefly interrupted to monitor channels 16 and the Call channel. If reception is on the Call channel it will be interrupted to monitor channel 16. Channel 16 always has priority in TRI-WATCH.
- To cancel the TRI-WATCH feature, press the **16** key to monitor only channel 16 or any other key to return to a selected channel.



Tri-Watch Display



FIGURE 8

NOTE: If you enter channel 16 into memory for the Scan Mode, it will not have the priority it receives in the Tri-Watch Mode.

Programming Call Channels

The Call channel is simply a channel that has been selected from the list of channels for each band (USA/Canadian/International) and reserved for easy access for use as a calling or hailing channel. The Call channel has its own dedicated key.

To program Call channels:

1. The default Call channel in all bands is Ch. 09. Each band (USA/International/Canadian) can be programmed with a different Call channel. (Figure 9)
2. To select a new Call channel use the **UP/DOWN** arrow keys to select a channel from the regular channel list of the channel band you are using (USA/International/Canadian).
3. Press and hold the **CALL** key for more than one second to program the selected channel as the Call Channel. (Figure 9)

NOTE: Selection of appropriate call channels is based on a working knowledge of available channels and their designated uses.

To activate a Call Channel:

1. Press the **CALL** key to access the programmed channel..
2. To return to your previous channel, press the **CALL** key again.

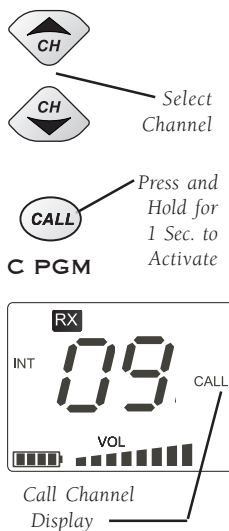


FIGURE 9

Receiving and Transmitting

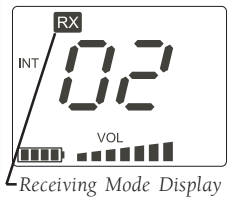
Whenever the VHF 725e is powered-up (On) it is in the receiving mode. If the unit is monitoring a channel that is broadcasting, you will hear that transmission. It is possible to monitor any channel on any band, but transmission on some channels is not allowed. Many are receive only channels, while others are simply not intended for your category of radio use.

To receive on the VHF 725e:

1. Press and release the **PWR** key to turn the unit on.
2. Observe that the display screen will come on and the last channel accessed will be displayed. If there is someone transmitting on that channel, you will hear their communication and the RX symbol will appear on the LCD display. You may now select from the many receiving options.

NOTE: For clearer reception, you can adjust the volume key up or down and set the squelch threshold to a level at which the audio will be enabled.

3. Press the **U/I/C** key to select a channel band. (Figure 10)
4. Press the **UP/DOWN** arrow keys to select a channel. (Figure 10)
5. Press the **MEM** key when scrolling through the channels to enter up to ten channels in the SCAN memory. You must select at least two for the SCAN feature to activate. (Figure 10)



U/I/C — Select Channel Band

CH — Select Channel

CH — Enter Channel Into Memory

MEM

FIGURE 10

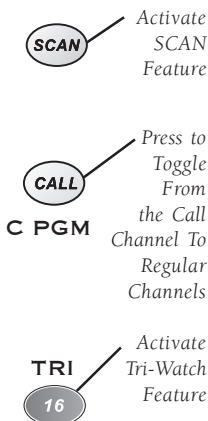


FIGURE 11

6. Press the **SCAN** key to monitor the selected channels. (Figure 10)
7. Press the **16** key once if you want to monitor the emergency channel (16). (Figure 11)
8. Press the **CALL** key if you want to monitor the programmed Call channel.
9. Press and hold the **16** key if you want to activate the TRI-WATCH feature in order to monitor the emergency channel, the Call channel and one regular channel simultaneously.

To transmit on the VHF 725c:

1. Perform Steps 1 through 4 of the procedure for receiving, above.
2. Choose a correct channel for communications. Channels are restricted to use by various government agencies, types of vessels and maritime service operators. Review the list in Appendix C to determine which channels are available for your use.
3. Wait until the channel you have selected is free of communications. **THIS IS A REGULATORY AGENCY REQUIREMENT!**

NOTE: For communications over short distances, press the **H/L** key until "LOW" is displayed on the LCD. This reduces transmission power to one watt, prolonging battery life.

4. Press and hold the **PTT** (Press To Talk) key and begin your transmission. The TX symbol will appear on the LCD display. (Figure 12)
5. Speak directly into the microphone on the front of the unit (see page 2) and hold the unit vertically 1 to 2 inches from your mouth.

NOTE: VHF Marine Radios communicate over distance by “Line-of-Sight”, which means that the signal may be blocked by objects such as land forms, large vessels, etc. It is therefore important to transmit with the antenna in a vertical position and with the radio positioned as far above the water as is feasible.

6. Release the **PTT** key when you have completed your transmission.

NOTE: You must use a specific communication style when using a marine radio, such as your station call sign or boat name and ending your transmission with proper terminology such as “Over”. Refer to the “Maritime Radio User’s Handbook”. Also be aware that the unit will automatically cancel TX after the PTT key has been pressed for more than thirty seconds to limit extensive transmissions and protect the unit from damage.

The FCC, Canadian DOT, and ITU prohibits the following communications:

False distress or emergency messages
 Messages to “Any Boat” except in emergencies and radio tests
 Messages to or from a vessel on land and transmission while on land
 Obscene, indecent, or profane language
 (potential fine of \$10,000)

7. Remember to return to monitoring of Channel 16

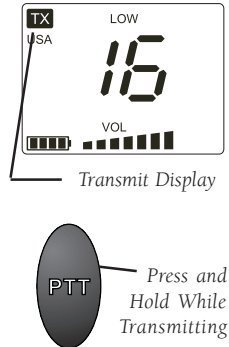


FIGURE 12

Backlighting the LCD Display and Keypad

The backlighting feature is used to improve readability of the LCD display and keypad in dim light.

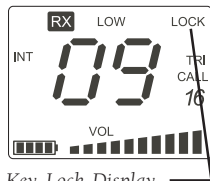
1. Press and release the **PWR** key after the unit has powered on. The display and keypad will be illuminated for 5 seconds after the last key press before cycling off.

NOTE: Press this key anytime you require visual reference in dim light.

Using the Key Lock Feature

If you desire to maintain a selected function on your VHF 725e, such as TRI-WATCH, or SCAN, you can lock the keys using the Lock feature to prevent inadvertent canceling or changing of unit settings. However, the Press-To-Talk, Squelch, and Power keys still function.

1. Press the **H/L-LOCK** (Hi/Low transmission power) key for more than one second after you have set the unit to the function desired. When the unit keypad is locked, the "LOCK" message will be displayed on the LCD screen. (Figure 13)
2. To cancel the lock feature, press the **H/L-LOCK** key again for more than one second or turn Off the unit using the **POWER** key.



Key Lock Display

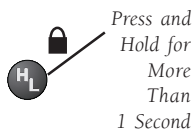


FIGURE 13

Standard Accessories & Replacement Components

(Included with the VHF 725e)

Antenna.....	Part Number: 700-00010-00
NiCad Battery Pack Kit (Includes Battery Pack and Charger & Charging Stand.)	Part Number: 010-10188-01
Alkaline Battery Tray (Requires Six "AA" Alkaline Cells).....	Part Number: 010-10189-00
Wrist Strap.....	Part Number: 013-00027-00
Belt Clip.....	Part Number: 145-00327-00
Belt Clip Mounting Screws.....	Part Number: 211-54307-11
Cigarette Lighter Charging Cable Kit Assy.	Part Number: 010-10190-00
Owner's Manual.....	Part Number: 190-00163-00

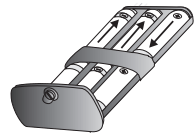
Contact GARMIN Customer Service to obtain replacement parts.

Refer to Page 15 for Antenna and Battery Installation.



Cigarette Lighter Charging Cable Assembly

Charges the battery pack using a 12 volt DC power source.



Alkaline Battery Tray

Provides an alternate source of power.

Installing the Belt Clip and Wrist Strap

The VHF 725e is supplied with a belt clip and carrying strap so you can carry the unit wherever you go. Attach the clip to the back of the unit using the two mounting screws provided. To attach the wrist strap, thread the cord portion of the strap through the slot in the clip then insert the solid end of the strap through the loop formed by the cord, pulling it through until snug. (Figure 13)

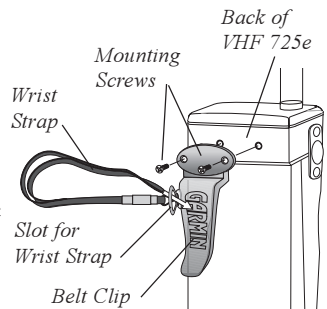


FIGURE 13

Optional Accessories

Optional Accessories

Nickel Metal Hydride Rechargeable Battery Pack, (50% more capacity than the NiCad Pack).....Part Number: 010-10245-00

Spare NiCad Battery Pack..... Part Number: 010-10189-00

VHF 725e Soft Carry Holster..... Part Number: 010-10219-00

Contact your GARMIN Dealer to obtain these optional accessories.

VHF 725e Optional Accessories:

Nickel Metal Hydride Battery Pack

Provides 50% more battery capacity.
Recharges using the charging stand and charging unit provided with the VHF 725e.



Soft Carry Holster Rugged nylon holster with integral belt loop.



Spare NiCad Battery Pack

Allows for uninterrupted use of the VHF 725e. Use while charging the original battery pack.



Specifications

Physical:

Size:	5.5"H x 2.0"W x 1.3"D (14.0 x 5.0 x 3.3cm)
Weight:	Approximately 12.1 oz (.35Kg)
Temperature Range:	-4 to +158 degrees F (-20 to + 70 degrees C)

Transceiver:

Frequency Bands:	All U.S., Canadian, and International marine channels
Channel Spacing:	25kHz
Receiver:	
Selectivity:	Adjacent channel selectivity, 70dB Intermodulation rejection, 68dB Spurious Image Response, 70dB
Sensitivity (FM): (WX):	> 12dB SINAD at 0.3 microvolt > 12dB SINAD at 0.3 microvolt
Squelch Sensitivity: (Threshold)	-123dBm to -107dBm
Audio Power:	0.5 W into 16 ohm speaker
Audio Distortion:	< 10%
Hum and Noise:	< 40dB
Transmitter:	
Transmitter Output:	5 watts high/1 watt low
Frequency Stability:	+/- 10 PPM
Hum and Noise:	< 40dB
Spurious Emissions:	< 70dB
Duty Cycle:	No damage, even if continuously keyed
Microphone:	Internal, electret
Compliance:	EN 301-178
Power:	
Operating Voltage:	7.5 VDC
Source: Standard Optional	NiCad rechargeable battery pack (6) "AA" alkaline battery cells
Battery Life:*	10 hours with NiCad battery pack 6 hours with 6 "AA" alkaline cells 13 hours with NiMH battery pack
Current Consumption:	Receiver: < 50mA Transmit: High Power <1.6A - Low Power <0.8A

* Tested using 5% TX (High), 5% RX, 90% Standby Duty Cycle

APPENDIX C

VHF Channel List

Channel Number			Frequency (MHz)		Type of Traffic	Function	
USA	CAN	INT	TX	RX		Ship to Ship	Ship to Shore
01A	01	01	156.050	160.650	Com'l, Port Ops, VTS	Yes	Yes
			156.050	156.050	Com'l, Port Ops, VTS	Yes	Yes
03A	02	02	156.100	160.700	Port Ops	Yes	Yes
	03	03	156.150	160.750	Com'l, Port Ops, VTS	Yes	Yes
			156.150	156.150	Com'l, Port Ops, VTS	Yes	Yes
			156.200	160.800	Port Ops	Yes	Yes
05A	04A	04	156.200	156.200	Port Ops	Yes	Yes
		05	156.250	160.850	Port Ops, VTS	Yes	Yes
06	05A		156.250	156.250	Port Ops, VTS	Yes	Yes
07A	06	06	156.300	156.300	Safety	Yes	No
		07	156.350	160.950	Com'l	Yes	Yes
08	07A		156.350	156.350	Com'l	Yes	Yes
					Com'l	Yes	No
09	08	08	156.400	156.400	Com'l & Non-Com'l	Yes	Yes
10	09	09	156.450	156.450	Com'l	Yes	Yes
11	10	10	156.500	156.500	Com'l	Yes	Yes
12	11	11	156.550	156.550	Com'l, VTS, SMS	Yes	Yes
13	12	12	156.600	156.600	Port Ops, VTS, SMS	Yes	Yes
			156.650	156.650	Navigational	1 watt int.	No
14	13	13	156.650	156.650	Navigational	Yes	No
		14	156.700	156.700	Port Ops	Yes	Yes
15	14		NO TX	156.750	Environmental	RX Only	-
		15	156.750	156.750	Environmental	1 watt Only	-
16	15	15	156.800	156.800	Distress, Safety, Calling	Yes	Yes
17	16	16	156.850	156.850	State Control	1 watt Only	Yes
		17	156.900	161.500	Com'l	Yes	Yes
18A	18A		156.900	156.900	Com'l	Yes	Yes
		19	156.950	161.550	Com'l	Yes	Yes
19A	19A		156.950	156.950	Com'l	Yes	Yes
		20	157.000	161.600	Port Ops	Yes	Yes
20	20		157.200	161.650	Port Ops	1 watt Only	Yes
		21	157.050	161.650	U.S. Govt. Only	Yes	Yes
21A	21A		157.050	157.050	U.S. Govt. Only	Yes	Yes
		22	157.100	161.700	Coast Guard	Yes	Yes
22A	22A		157.100	157.100	Coast Guard	Yes	Yes
		23	157.150	161.750	U.S. Govt. Only	Yes	Yes
23A			157.150	157.150	U.S. Govt. Only	Yes	Yes
24	24	24	157.200	161.800	Public Corresp.	No	Yes
25	25	25	157.250	161.850	Public Corresp.	No	Yes
26	26	26	157.300	161.900	Public Corresp.	No	Yes
27	27	27	157.350	161.950	Public Corresp.	No	Yes
28	28	28	157.400	162.000	Public Corresp.	No	Yes
61A	60	60	156.025	160.625	-	-	-
		61	156.075	160.675	-	-	-
		61A	156.075	156.075	-	-	-
		62	156.125	160.725	-	-	-
62A	62A		156.125	156.125	-	-	-
		63	156.175	160.775	-	-	-
63A	63A		156.175	156.175	-	-	-
		64	156.225	160.825	-	-	-
64A	64A		156.225	156.225	-	-	-

VHF

Channel List

Note: Private channels can be programmed by your radio dealer after you have made application and received a designated frequency from the appropriate licensing agency.

Programmable frequencies available are from 154.500 MHz to 163.500 MHz in 25 kHz increments.

Channel Number			Frequency (MHz)		Type of Traffic	Function	
USA	CAN	INT	TX	RX		Ship to Ship	Ship to Shore
		65	156.275	160.875	Port Ops.	No	Yes
65A	65A		156.275	156.325	Port Ops.	No	Yes
		66	156.325	160.925	Port Ops.	Yes	Yes
66A			156.325	156.325	Port Ops.	1 watt Only	Yes
	66A		156.325	156.325	Port Ops.	Yes	Yes
67	67	67	156.375	156.375	Com'l.	Yes	No
68	68	68	156.425	156.425	Non Com'l	Yes	Yes
69	69	69	156.475	156.475	Non Com'l	Yes	Yes
70	70	70	NO TX	156.525	Digital Selective Calling	Yes	No
71	71	71	156.575	156.575	Non Com'l	Yes	Yes
72	72	72	156.625	156.625	Non Com'l	Yes	No
73	73	73	156.675	156.675	Port Ops.	Yes	Yes
74	74	74	156.725	156.725	Port Ops.	Yes	Yes
77	77		156.875	156.875	Port Ops.	1 watt int.	Yes
		77	156.875	156.875	Port Ops.	Yes	Yes
		78	156.925	161.525	Non Com'l	Yes	Yes
78A	78A		156.925	156.925	Non Com'l	Yes	Yes
		79	156.975	161.575	Com'l	Yes	Yes
79A	79A		156.975	156.975	Com'l	Yes	Yes
		80	157.025	161.625	Com'l	Yes	Yes
80A	80A		157.025	157.025	Com'l	Yes	Yes
		81	157.075	161.675	U.S. Govt. Only	Yes	Yes
81A	81A		157.075	157.075	U.S. Govt. Only	Yes	Yes
		82	157.125	161.725	U.S. Govt. Only	Yes	Yes
82A	82A		157.125	157.125	U.S. Govt. Only	Yes	Yes
		83	157.175	161.775	U.S. Govt. Only	Yes	Yes
83A	83A		157.175	157.175	U.S. Govt. Only	Yes	Yes
84	84	84	157.225	161.825	Public Corresp.	No	Yes
85	85	85	157.275	161.875	Public Corresp.	No	Yes
86	86	86	157.325	161.925	Public Corresp.	No	Yes
87	87	87	157.375	161.975	Public Corresp.	No	Yes
88	88	88	157.425	162.025	Public Corresp.	No	Yes
88A			157.425	157.425	Public Corresp.	No	Yes
Marina Channels - International Band Only - (Must be programmed by an Authorized Dealer)							
		F1	155.975	155.975	Denmark, Finland, Netherlands	Yes	Yes
		F2	155.925	155.925	Denmark, Finland, Netherlands	Yes	Yes
		F3	155.175	155.175	Denmark, Finland, Netherlands	Yes	Yes
		F4	155.150	155.150	Netherlands	Yes	Yes
		F5	155.125	155.125	Netherlands	Yes	Yes
		F6	155.100	155.100	Netherlands	Yes	Yes
		F7	157.375	157.375	Netherlands	Yes	Yes
		L1	155.500	155.500	Denmark, Finland, Sweden	Yes	Yes
		L2	155.525	155.525	Denmark, Finland, Sweden	Yes	Yes
		L3	155.550	155.550	Finland	Yes	Yes
		M1	157.850	157.850	United Kingdom	Yes	Yes
		M2	161.425	161.425	United Kingdom	Yes	Yes
		P1	155.625	155.625	Sweden	Yes	Yes
		P2	155.775	155.775	Sweden	Yes	Yes
		P3	155.825	155.825	Sweden	Yes	Yes

Storage:

Store the VHF 725e in a cool, dry location when not used for prolonged periods. When stored for more than six months, remove alkaline batteries to prevent leakage from expended cells. While the GARMIN VHF 725e is designed to withstand immersion in water (with or without the battery pack in place) it should be treated like all quality electronic equipment. Wipe away any water accumulation from the surface of the unit and use a paper towel or other absorbent material to wick out any moisture from the battery cavity. Exposure of battery terminals to salt spray may cause corrosion and loss of conductivity. Be certain to keep contacts dry and away from corrosive elements. Storage temperature should not vary from: below -4 degrees F (-20 degrees C) and above 158 degrees F (70 C)

Cleaning:

Clean exterior portions of the VHF 725e with a mild soap and water solution. Do not use harsh detergents or solvent based cleaning agents. Isopropyl alcohol is acceptable. Wipe dry with a clean, non-abrasive cloth.

Battery Maintenance:

Keep battery contacts clean. Use only the NiCad Battery Pack or types of batteries specified for use with VHF 725e. The VHF 725e accepts six (6) standard "AA" alkaline, rechargeable alkaline or rechargeable NiCad cells when the optional battery tray is used.

It is advisable to maintain a supply of replacement batteries if the VHF 725e is to be placed in service for a prolonged period where recharging of the NiCad Battery Pack is not possible and replacement batteries cannot be easily obtained.

NOTE: *Whenever possible, transmit with 1 watt power to prolong battery life.*

If Using The Optional NiCad* Battery Pack:

Fully charge the battery pack before its first use. The battery pack requires 12 hours for a full charge and should not be charged in excess of this time period.. Charge only with the VHF 725e Charging Unit provided with the NiCad Battery Pack. Partially discharging a nickel-cadmium battery and then recharging it causes a phenomenon referred to as “memory reset”. When a battery that is not fully discharged is then recharged, it resets the memory in proportion to the amount of previous discharge, resulting in a gradually decreasing recharge capacity. To ensure that this type of battery pack retains its full capacity, it should be almost fully discharged** (when the battery symbol blinks) and then recharged completely after every few cycles of use.



* Municipal Law requires for environmentally sound collection and recycling or disposal of nickel-cadmium batteries. Contact your local waste management official for instructions on disposal.

**Frequently fully discharging a NiCad battery may cause damage to the battery cells.

Service and Repairs:

The GARMIN VHF 725e is warranted for three years under the terms of the GARMIN Limited Warranty on Page 36 of this manual. If you need to obtain warranty service for your unit, call the GARMIN Product Support Department (913-397-8200) for a returned merchandise tracking number. The unit should be securely packaged with the tracking number clearly marked on the outside of the package and sent freight prepaid and insured to GARMIN warranty service station. A copy of the original sales receipt is required as proof of purchase for warranty repairs. GARMIN reserves the exclusive right to repair or replace the unit or software at its sole discretion. If your unit is no longer under warranty, GARMIN will make repairs at the GARMIN current labor rate and parts costs. Units repaired in this manner are warranted for 90 days from the date of return to the owner.

Troubleshooting Guide

SYMPTOM	PROBABLE CAUSE	REMEDY
Unit does not come ON	Batteries are exhausted.	Replace batteries
No sound from speaker	Squelch threshold level too high.	Set to a lower threshold point.
	No channel broadcast is being received	Move to another channel.
	Volume is set too low.	Increase volume.
Cannot transmit or transmission isn't being received.	Some channels are for receive only.	Change channel.
	Batteries are exhausted.	Replace batteries.
	Some channels are for low power only.	Change channels.
	Output power too low.	Press H/L key for high power.
The displayed channel cannot be changed.	The LOCK function is on.	Press and hold the H/L key for at least one second.
Error tone (2 beeps) is heard when a key is pressed and no unit function is performed.	Incorrect key selection and the programming is limiting key function.	Select correct key.

Messages

The VHF 725e responds to operating conditions in two ways, LCD Display screen messages and audio tones. These messages provide notification of errors in operation or the status of VHF 725e features.

Audio Messages

Confirmation Tones - These tones, consisting of a single “Beep”, are audible whenever you press a key on the unit and confirm that unit is responding to your action.

Error Tones - These tones, consisting of two beeps and in some instances a continuous string of beeps, and indicate that you have pressed a key that cannot perform a function under the current unit operating mode.

Screen Messages

“LOW BATT” - This display appears when the battery capacity has dropped to 10% of its capacity. The “LOW BATT” display flashes and an initial three beep tone will be heard. The unit will operate under normal use for approximately 30 more minutes.

“TX” and “RX” - If these two icons flash together or the “TX” only flashes whenever the PTT key is pressed, the unit must be serviced. Contact the GARMIN Product Support Department at (1-800-800-1020) or (913-397-8200) for information.

*Glossary***Glossary of Radio Terminology and Abbreviations**

Canadian Channels: Channel designations as defined and regulated by Industry Canada, (RIC), Marine Communications & Traffic Services.

Duplex: Transmit and receive on different frequencies.

FM: Frequency Modulation

International Channels: Channel designations as defined for use in international waters by the International Telecommunications Union, (ITU).

Marina Channels: Special channels reserved for marinas located in selected European countries. These channels must be programmed into the VHF International Band by an authorized dealer.

Private Channels: Channels which are assigned by regulatory agencies governing VHF radio use for a specific region or country. These channels must be programmed into the VHF International Band by an authorized dealer.

PTT: Press-To-Talk switch

RX: Receive

Simplex: Transmit and receive on the same frequency.

Squelch: To suppress background noise.

Tri-Watch: Monitors Channels 16 and the Call channel while working on yet another user designated channel.

TX: Transmit

U.S.A. Channels: Channel designations as defined by the Federal Communications Commission, (FCC).

VHF: Very High Frequency (30 MHz to 300 MHz)

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LIMITED WARRANTY

GARMIN Corporation warrants this product to be free from defects in materials and manufacture for three years from the date of purchase. GARMIN will, at its sole option, repair or replace any components that fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts or labor. The customer is, however, responsible for any transportation costs. This warranty does not cover failures due to abuse, misuse, accident or unauthorized alteration or repairs.

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To obtain warranty service, call the GARMIN Customer Service department (913-397-8200) for a returned merchandise tracking number. The unit should be securely packaged with the tracking number clearly marked on the outside of the package and sent freight prepaid and insured to a GARMIN warranty service station. A copy of the original sales receipt is required as the proof of purchase for warranty repairs. GARMIN retains the exclusive right to repair or replace the unit or software or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.



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