



paul frank®

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22 CHANNEL

MINI FRS/GMRS TWO-WAY RADIOS



USER MANUAL

PF222

**PLEASE READ THIS MANUAL COMPLETELY BEFORE OPERATING
THIS UNIT AND RETAIN THIS MANUAL FOR FUTURE REFERENCE**

WARNING: Do not use close to the ear as this may cause damage to your hearing

**90 DAY LIMITED WARRANTY AND SERVICE
VALID IN THE U.S.A ONLY**

SPECTRA MERCHANDISING INTERNATIONAL, INC. warrants this unit to be free from defective materials or factory workmanship for a period of 90 days from the date of original customer purchase and provided the product is utilized within the U.S.A. This warranty is not assignable or transferable. Our obligation under this warranty is the repair or replacement of the defective unit or any part thereof except batteries, when it is returned to the SPECTRA Service Department, accompanied by proof of the date of original consumer purchase, such as a duplicate copy of a sales receipt.

You must pay all shipping charges required to ship the product to SPECTRA for warranty service. If the product is repaired or replaced under warranty, the return charges will be at SPECTRA's expense. There are no other express warranties other than those stated herein.

This warranty is valid only in accordance with the conditions set forth below:

1. The warranty applies to the SPECTRA product only while:
 - a. It remains in the possession of the original purchaser and proof of purchase is demonstrated.
 - b. It has not been subjected to accident, misuse, abuse, improper service, usage outside the descriptions and warnings covered within the user manual or non-SPECTRA approved modifications.
 - c. Claims are made within the warranty period.
2. This warranty does not cover damage or equipment failure caused by electrical wiring not in compliance with electrical codes or SPECTRA user manual specifications, or failure to provide reasonable care and necessary maintenance as outlined in the user manual.
3. Warranty of all SPECTRA products applies to residential use only and is void when products are used in a nonresidential environment or installed outside the United States.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. TO OBTAIN SERVICE please remove all batteries (if any) and pack the unit carefully and send it freight prepaid to SPECTRA at the address shown below. IF THE UNIT IS RETURNED WITHIN THE WARRANTY PERIOD shown above, please include a proof of purchase (dated cash register receipt) so that we may establish your eligibility for warranty service and repair of the unit without cost. Also include a note with a description explaining how the unit is defective. A customer service representative may need to contact you regarding the status of your repair, so please include your name, address, phone number and email address to expedite the process.

IF THE UNIT IS OUTSIDE THE WARRANTY PERIOD, please include a check for \$15.00 to cover the cost of repair, handling and return postage. All out of warranty returns must be sent prepaid.

It is recommended that you contact SPECTRA first at 1-800-777-5331 or by email at custserv@spectrainl.com for updated information on the unit requiring service. In some cases the model you have may be discontinued, and SPECTRA reserves the right to offer alternative options for repair or replacement.

SPECTRA MERCHANDISING INTERNATIONAL, INC.
4230 North Normandy Avenue,
Chicago, IL60634, USA.
1-800-777-5331

To register your product, visit the link below to enter your information.
<http://www.spectrainl.com/wform.htm>

Printed in China

SPECIFICATIONS

Description	Specifications
Operating Channels	22 (CH1-14 FRS / CH15-22 GMRS)
Operating Frequency Range	462.5500 to 462.7250 MHz
Talk Range	Up to 2 Miles (FRS), 5 miles (GMRS)*
Output Power	0.5 W MRP (FCC allowed maximum power)
Power Source	3 x 1.5V 'AAA' alkaline batteries
Battery Life	About 24 hours (based on 5/5/90 duty cycle)

TROUBLESHOOTING GUIDE

Problem	Solution
No power	<ul style="list-style-type: none"> - Ensure that the batteries are installed properly. - The batteries may be weak. Reposition or replace batteries
Message not transmitted	<ul style="list-style-type: none"> - Make sure the PTT is completely pressed as you transmit.
Message not received	<ul style="list-style-type: none"> - Make sure that radios have the same channel setting. - Make sure PTT is not inadvertently being pressed. - Obstructions operating indoors or in vehicles may interfere with communication. - Change your location. - Check to make sure volume is loud enough to be heard.
Hearing other conversation or noise on a channel	<ul style="list-style-type: none"> - Shared channel may be in use, try another.
Limited talk range	<ul style="list-style-type: none"> - Steel/concrete structures and heavy foliage will decrease communication range, check for clear line of sight to improve transmission. - Wearing radio close to body such as in a pocket or on a belt will decrease range, change location of radio.
Heavy static or interference	<ul style="list-style-type: none"> - Radios are too close to each other, Radio must be at least 5 feet apart. Increase your separation distance. - Radios are too far apart. Obstacles interfere with transmission. Talk range is up to 2 miles in clear and unobstructed conditions.

NOTES ON FCC COMPLIANCE

This device complies with part 95A/95B of the FCC Rules. Operation is subject to the following two conditions: (1) This device does not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

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

NOTE:

This equipment has been tested and found to comply with the limits for Class B Digital Receiver, pursuant to Part 95A/95B of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

IMPORTANT FCC LICENSING INFORMATION

This Two-way Radio operates on CH 1~14 (FRS) and CH 15~22 (GMRS). If you intend to operate it on CH 15 to CH 22, you are obliged to obtain a license before operating. Operation on the GMRS frequencies is subject to additional FCC rules as specified in 47CFR Part 95. For detailed information, please visit :

http://wireless.fcc.gov/services/index.htm?job=service_home&id=general_mobile

PRECAUTION DURING OPERATION



WARNING

- Never apply any DC power to the battery terminals.
- Do not attempt to charge any non-rechargeable batteries.
- Do not attempt to open the unit case. No user serviceable parts inside.
- Refer servicing to qualified service personnel.
- Do not modify or attempt to adjust the transceiver for any reason.
- Do not expose the transceiver to long periods of direct sunlight, nor place the transceiver close to heating appliances.
- Do not place the transceiver in excessively dusty areas, humid areas, wet areas, nor on unstable surfaces.
- If smoke is detected coming from the transceiver, immediately switch OFF the power and remove the batteries from the transceiver. Contact your dealer.

CAUTION

- Use batteries only for the power of the unit, Alkaline or Rechargeable batteries.
- To maintain compliance with the FCC's RF exposure guidelines, hold the transmitter and antenna at least 2 inches (5 centimeters) from your face and speak in a normal voice, with the antenna pointed up and away from the face. If you wear the handset on your body while using the headset accessory, use only the manufacturers supplied belt clip for this product and ensure that the antenna is at least 1/2 inch from your body when transmitting.
- Use only the supplied antenna. Unauthorized antennas, modifications, or attachments, could damage the transmitter and may violate FCC regulations.

FEATURES

- Range: Up to 2 Miles FRS, 5 Miles GMRS*
- 22 Channels
- Multifunction LCD Display
- Auto Squelch Control
- Auto Power Saver Mode
- Selectable Low Transmission Power Mode
- Call Function
- Monitor Function
- Low Battery Alert
- Removable Belt Clip
- LED Torch

* Up to 5 miles under optimal conditions with unobstructed line of site, Up to 2-3 miles when used in shopping malls, downtown areas, etc. Actual range may vary are dependent on conditions including, but not limited to, terrain, weather, electromagnetic interference, obstructions, and battery level.

SCANNING CHANNELS

You can use the scanning feature to monitor channels or to find someone in your group who has accidentally changed channels. Channel SCAN performs searches for active signals in an endless loop from 1 to 22.

1. Press and hold the SCAN S Button until a beep is heard and channel scan starts. The Channel Number changes rapidly until an active signal is detected.
2. When the radio detects channel activity, it stops scanning and you can hear the transmission. Press **[PTT/C]** to respond to the active signal channel and CHANNEL SCAN is deactivated.
3. If the scanning stops on a channel that you don't want to listen to, briefly press **▲** or **▼** to resume scanning to the next active channel.
4. To turn scanning off, briefly press the **[M]/O** Button once.
5. Turn off the Two-way Radio by pressing and holding the **[M]/O** Button until a beep is heard and the display turns off.

USING THE TORCH

Press and hold the TORCH Button to shine the torch.

Note: The torch works even if the Radio is switched off.









NOTES FOR GOOD COMMUNICATIONS

1. Your Two-way Radio uses 22 channels that are shared on a "take turns" basis. This means other groups may be talking on any of the channels. A common code of ethics/courtesy is to switch to another vacant channel and not to attempt to talk over someone who is already using the channel you first selected.
2. Your Two-way Radios have been designed to maximize performance and improve transmission range in the field. To avoid interference, it is recommended that you do not use the units closer than 5 feet apart.
3. For best transmission results, always keep your mouth about 2-3 inches from the Microphone and speak slowly and clearly in a normal voice.

CARE AND MAINTENANCE



1. Clean your unit with a damp (never wet) cloth. Solvent or detergent should never be used.
2. Avoid leaving your unit in direct sunlight or in hot, humid or dusty places.
3. Keep your unit away from heating appliances and sources of electrical noise such as fluorescent lamps or motors.

BASIC OPERATION

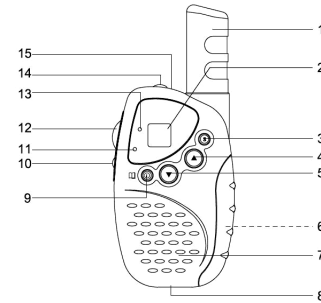
- Turn on the Two-way Radio by pressing  until a channel number appears and a confirmation tone is heard.
- To adjust the desired volume level (01-08), first press the ▲ or ▼ Buttons, a symbol, "U", will briefly appear in the Display and then changes to flashing Volume Level digits. Adjust your desired Volume by pressing the ▲ or ▼ Buttons while the Volume Level Digits are flashing. The level of the beeps will increase or decrease as the volume is adjusted.
Note: The LCD Display will revert back to the channel mode if no button is pressed within 5 seconds and a confirmation beep will be heard.
- Briefly press the Button to activate the channel select mode. The channel display will begin flashing. Use the ▲ or ▼ Buttons to change the channels.
- Press the  Button to confirm your selection.
Note: Both units must be set to the same channel number in order to be able to communicate with each other.
- To send a CALL tone to another party on the same channel to alert the other when you are attempting to contact them, briefly press the  Button twice. The red TX LED Indicator will light up and the CALL tone will be heard on both units and will sound for about 3 seconds.
- Press and hold the  Button to communicate with another party on the same channel. Hold the radio 2-3 inches from your mouth and speak clearly into the microphone (#11).
- When transmission is complete, release the  Button and listen for a reply.
- The Two-way Radio is equipped with auto squelch, which will automatically block out any unwanted noise or static due to terrain conditions or if you have reached your range limit. You can disable automatic squelch by pressing the  Button 3 times. Static will be heard along with any distant transmission you may be receiving. Press the  Button again to go back to the automatic squelch mode.
- Turn off the Two-way Radio by pressing and holding the  Button until a beep is heard and the display turns off.



CHANGING HI/LO TRANSMISSION POWER

By default your radios are in the "High Power" transmission mode. In order to save the battery life in general use, the units have been equipped with a Hi/Lo transmission power selection function. The "Low Power" transmission mode is good for short range communication. To change from the "Hi" power transmission mode to "LO" power transmission mode:

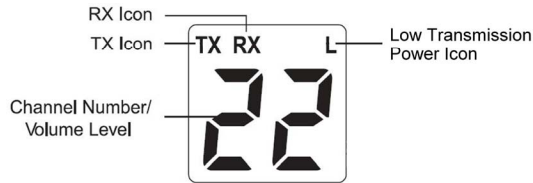
- After turning on the radio, press the  Button twice. Flashing "H I" will appear in the Display.
- While "H I" is flashing, press the ▲ or ▼ Buttons once. Flashing "L o" will appear and a small icon "L" will show steadily in the top right corner of the Display. Then press the  Button to confirm.
- Repeat above steps to change from "LO" to "HI" power transmission mode.

CONTROL AND INDICATORS



Item	Description
1. Antenna	Receives and transmits signals
2. LCD Display	Displays current channel selection and other radio status symbols
3. SCAN S Button	Press and hold for one second for channel scanning
4. UP ▲ Button (VOLUME/CHANNEL)	Press to adjust volume level and change channels.
5. DOWN ▼ Button (VOLUME/CHANNEL)	Press to adjust volume level and change channels
6. Battery Compartment (ON THE REAR)	Houses 3 x 'AAA' alkaline or Ni-MH rechargeable batteries (Not included).
7. Speaker	
8. Battery Compartment Cover Screw (ON THE REAR)	Secures the Battery Compartment Cover.
9. MENU/POWER (ON/OFF)  Button	Press and hold to turn your unit On/OFF. Allows you to change channels, select high/low power. Press to tune in and hold onto weak signals.
10. Torch  Button:	Press and hold to turn on the torch.
11. Built-in Microphone	
12. PUSH TO TALK/CALL PTT/C Button	Press and hold to talk. Briefly press twice for call tone transmission.
13. TX (transmission) LED Indicator	Illuminates red when transmitting. Lights up every 15 seconds to show low battery.
14. LED Torch	
15. Belt Clip (ON THE REAR)	

LCD DISPLAY



Icon	Description
TX	Appears in Transmission mode
RX	Appears in Receive mode
Digits	Selected Channel Number (1-22) / Volume Level (1-8)
L	Appears when Low Transmission Power mode is selected

CHANNEL LISTING

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	462.5625	12	467.6625
2	462.5875	13	467.6875
3	462.6125	14	467.7125
4	462.6375	15	462.5500
5	462.6625	16	462.5750
6	462.6875	17	462.6000
7	462.7125	18	462.6250
8	467.5625	19	462.6500
9	467.5875	20	462.6750
10	467.6125	21	462.7000
11	467.6375	22	462.7250

GETTING STARTED

Carefully remove your Two-way Radios from its packing. If there is visible damage, do not attempt to operate the Radios. Return it to the place of purchase.

REMOVING THE BELT CLIP

1. Pull the BELT CLIP LATCH away from the unit.
2. While pulling the BELT CLIP LATCH, push up on the BELT CLIP to remove it from the unit. See figure 1.

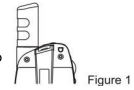


Figure 1

INSTALLING THE BELT CLIP

Slide the BELT CLIP SLOT until a "Click" is heard. See Figure 2. A "Click" indicates the BELT CLIP is locked into position.



Figure 2

BATTERY INSTALLATION

Each Two-way Radio operates on three 'AAA' size batteries (not included).

1. Remove the BELT CLIP as described above.
2. Remove the Battery Door by loosening the screw and unclipping the door.
3. Following the polarity diagram shown inside the battery compartment, insert three 'AAA' size alkaline batteries or Ni-MH rechargeable batteries (not included).
4. Replace the Battery Door, tighten the screw and replace the Belt Clip.

IMPORTANT: Be sure that the batteries are installed correctly. Wrong polarity may damage the unit.

To reduce the risk of fire or injury to persons while using batteries, read and follow these instructions:

- Use only the type and size batteries specified in the operation instructions.
- Do not dispose of the batteries in fire.
- Do not open or mutilate the batteries.
- Exercise care in handling batteries in order not to short out the batteries with conducting materials such as rings, bracelets, and keys.
- All batteries should be replaced at the same time.
- Take out batteries if the unit is not to be used for an extended period of time.
- Discard "dead" batteries.

LOW BATTERY ALERT

When the batteries in the unit are low, an alert tone will be heard and red LED will light up once every 15 seconds. Replace new batteries immediately.