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# **Your New Radio**

Motorola FR50 radios operate on Family Radio Service (FRS) designated frequencies. This license-free, short range, two-way radio service was established specifically for family and group recreational use. You can use your radios anywhere within the United States and other areas listed by the FCC. Contact the FCC for more information at:

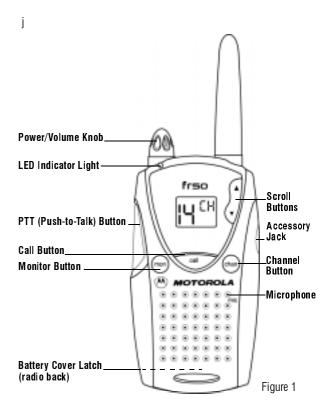
# 1-888-CALL-FCC

(1-888-225-5322)

Or:

http://www.fcc.gov

# FR50 Radio Diagram



# **Batteries**

FR50 radios operate with 3 AA alkaline batteries providing approximately 24 hours of use. That's almost 3 hours of talk and over 21 hours of standby time.

**Note:** The FR50 can be used with rechargeable AA NiCad batteries, but battery life will be reduced.

### To Install:

- With the back of the radio facing you, flip the Battery Cover Latch down to release.
- 2. Lift cover off. Fig. 2
- 3. Insert 3 AA batteries. Fig. 3
- 4. Replace the battery cover.
- 5. Reposition the Battery Cover Latch and snap into place.

# **Low Battery Alert:**

When batteries are low, radio will chirp 1 to 2 seconds after turning power on, after release of the Push-to-Talk button, and every 10 minutes. The LED Indicator

Light will also flash once per second. Replace batteries Figure 3 immediately to avoid interrupted use.

**Note:** Remove batteries before storing your radio for extended periods. Batteries corrode over time and may cause permanent damage to your radio.



Figure 2



**Belt Clip** 

Motorola FR50 radios come standard with a belt clip.

## To Attach:

- Locate the belt clip attachment opening on the radio's back.
- 2. Align the belt clip with the grooves in the radio back.
- 3. Gently push up until it clicks into place. Fig. 4

## To Remove:

- 1. Grasp radio firmly.
- 2. Pull release tab towards belt clip to release catch.
- 3. Push belt clip down and off the radio back.



Figure 4

# **To Communicate**

Read this manual carefully and make sure you know how to properly operate the radio before use.

Motorola FR50 radios have 14 channels. To communicate with others, all radios in your group must be set to the same channel (see chart on page 18). Other FRS radios may have Interference Eliminator Codes, which must be turned off or set to zero for proper communication with FR50 radios.

### Turn The Radio On:

- Rotate Power/Volume knob clockwise until you hear a click. The radio will beep and the LED Indicator Light will flash to confirm. The display will show the current channel. Fig. 5
- To turn radio off, Rotate Power/Volume knob counter clockwise until you hear a click and display disappears.



Figure 5

#### **Monitor Button:**

The Monitor button lets you hear the radio's volume level when you're not receiving so you can adjust the volume.

# Adjust The Volume:

Rotate Power/Volume knob while holding down the Monitor button until you reach a comfortable listening level. Rotate knob clockwise to increase and counter clockwise to decrease volume.

# **Radio Etiquette:**

Your radio's 14 channels are shared on a "take turns" basis. This means other groups may be talking on the channels. For uninterrupted communications, don't talk over someone who is already using the channel — your message may not be completely heard. Try changing the channel to avoid channel congestion.

**Note:** Since the channels are shared, your conversations will not be private and you may hear others talking.

### **Set The Channel:**

- With the radio on, press Channel button. Current channel will begin to flash.
- 2. Use scroll buttons to change channel while flashing.
- 3. Press Channel or Push-to-Talk button to set new channel.

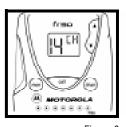


Figure 6

**Note:** Radio automatically saves channel after 5 seconds.

# **Sending Messages:**

- 1. To maximize clarity, hold radio 2 to 3 inches from mouth.
- Press Push-to-Talk button and speak into microphone. The LED Indicator Light glows continuously when transmitting.



Figure 7

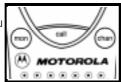
3. To receive messages, release the Push-to-Talk button.

#### **Time-out Timer:**

The Time-out Timer feature helps extend battery life by preventing accidental transmission. The radio will emit a continuous warning tone after the Push-to-Talk button is pressed for 60 continuous seconds and will stop transmitting.

## **Call Tone:**

The Call Tone alerts all receivers that you intend to transmit. Press the Call button and users on your channel will hear the Call Tone.



### To Use Audio Accessories:

Figure 8

- 1. Make sure the radio is off.
- 2. Open accessory jack cover and plug accessory connector into jack.
- Turn radio on and lower volume before placing accessory on head or in ear.
- 4. Press Monitor button while rotating Volume knob to adjust volume to a comfortable listening level.
- 5. To transmit, press Push-to-Talk on radio or accessory and speak into accessory microphone. To receive, release Push-to-Talk.

# **Talk Range**

Motorola FR50 radios have been designed to maximize performance and improve transmission range in the field. It is recommended that you do not use the radios closer than 5 feet apart because of heavy interference.







Optimal Range

Maximum talk range in flat, open areas, is up to 2 (two) miles.

Medium Range

Range is decreased when buildings and trees are in the way.

Minimal Range

Dense foliage and mountains can limit range.

# **Care of Your Radio**

To clean the radio, wipe with a soft cloth dampened with water. Don't use cleaners or solvents on the radio, they can harm the radio body and leak inside, causing permanent damage. Battery contacts may be wiped with a dry, lint-free cloth.

If the radio gets wet, turn it off and remove batteries immediately. Dry battery compartment with a soft cloth to minimize potential water damage. Leave cover off the battery compartment overnight or until completely dry. Do not use the radio until completely dry.

# **Frequently Asked Questions**

# Will FR50 radios work with other two-way radios?

Radios operating on the same frequency can communicate with each other. Radios with Interference Eliminator codes must have the codes off or set to zero to communicate properly with FR50 radios.

## Why are there so many channels?

The more channels, the less channel congestion. If people use the radios in congested areas, i.e. malls, zoos, ski areas, the choice of more channels reduces interrupted communications. If you hear other conversations, simply change your channel to find a less busy channel to talk on.

# How many radios can communicate in the same group?

As many as you want, as long as the radios are set to the same channel, codes are inactive, and radios are within range of each other.

#### How far do the radios talk?

FR50 radios are "line of sight" meaning the radios will talk up to 2 miles depending on terrain and conditions. Heavy foliage and cement structures will limit range. If skiers are on opposite sides of a mountain, chances are they will not be able to communicate. If they are on the same side of the mountain, however, the communications should be clear.

#### **How durable are FR50 radios?**

All Motorola radios are subjected to and must pass the Motorola Accelerated Life Test. Motorola backs this quality with a Limited 1 Year Replacement Warranty to ensure customer satisfaction.

# **Safety Information**

# **Exposure to Radio Frequency Energy**

The design of your Motorola two-way radio, which generates radio frequency (RF) electromagnetic energy (EME), complies with the following national and international standards and guidelines.

## The Relevant Guidelines and Standards Are:

- FCC Report and Order FCC 96-326 (August, 1996)
- American National Standards Institute (C95-1 1992)
- National Council on Radiation Protection and Measurements (NCRP - 1986)
- International Commission on Non-Ionizing Radiation Protection (ICNRP 1986)
- European Committee for Electrotechnical Standardization (CENELEC)
  - Env. 50166-1 1995E Human Exposure to Electromagnetic Fields Low Frequency (0Hz to 10kHz)
  - Env. 50166-2 1995E Human Exposure to Electromagnetic Fields High Frequency (10kHz to 300GHz)
  - Proceedings of SC 211/8 1996 Safety Considerations for Human Exposure to E.M.F.'s from Mobile Telecommunications Equipment (M.T.E.) in the Frequency Range 30 MHz -6 GHz (E.M.F. - Electromagnetic Fields)

To assure optimal radio performance and to ensure that exposure to RF energy is within the guidelines in the above standards, the following operating procedures should be observed:

### **For Portable Two-way Radios**

- When transmitting with a two-way portable radio, hold radio in a vertical position with its microphone 2-3 inches (5.0 to 7.5 cm) away from your mouth.
- Keep antenna at least 1 inch (2.5cm) from your head and body when transmitting.
- If you wear a portable radio on your body, ensure that the antenna is at least one inch (2.5cm) from your body when transmitting.



Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed or otherwise configured for electromagnetic compatibility.

- Turn your radio OFF in any facilities where posted notices instruct you to do so. Hospitals or health care facilities may be using equipment that is sensitive to external RF energy.
- Turn your radio off when on board aircraft when instructed to do so. Any use of the radio must be in accordance with airline regulations or crew instructions.



#### **Damaged Antennas**

Do not use the radio with a damaged antenna. If a damaged antenna comes in contact with the skin, a minor burn may result.

#### **Batteries**

All batteries can cause property damage and/or bodily, injury or burns if a conductive material such as jewelry, keys or beaded chains touches exposed terminals. The material may complete an electrical circuit (short circuit) and become quite hot. Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse or other container with metal objects.

# A١

# WARNING

## For Vehicles With an Air Bag

Do not place a portable radio in the area over an air bag or in the air bag deployment area. Air bags inflate with great force. If a portable radio is placed in the air bag deployment area and the air bag inflates, the radio may be propelled with great force and cause serious injury to occupants of vehicle.

#### **Potentially Explosive Atmospheres**

Turn your radio OFF when in any area with a potentially explosive atmosphere, unless it is a type especially qualified for such use (for example, Factory Mutual Approved). Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. These radios are not Instrinsically Safe. If you need an Instrinsically Safe radio, contact Motorola at 1-888-567-7347.

#### **Batteries**

Do not replace or charge batteries in a potentially explosive atmosphere. Contact sparking may occur while installing or removing batteries and cause an explosion.

## **Blasting Caps and Areas**

To avoid possible interference with blasting operations, turn your radio OFF near electrical blasting caps or in a "blasting area" or in areas posted: "Turn off two-way radio". Obey all signs and instructions.

**Note:** Areas with potentially explosive atmospheres are often, but not always, clearly marked. They include fuelling areas such as below deck on boats, fuel or chemical transfer or storage facilities; areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.

Problem	Solution
No Power	Reposition or replace batteries.
Erratic Display	Reposition or replace batteries.
Message Not Transmitted	Make sure the Push-to-Talk button is completely pressed as you transmit. Reposition or replace batteries.
Message Not Received	Confirm radios have the same Channel settings and/or the Interference Eliminator Code is inactive (non FR50 radios).  Make sure Push-to-Talk is not inadvertently being pressed.  Reposition or replace batteries.  Obstructions, operating indoors or in vehicles may interfere with communication.  Change your location.  Check to make sure volume is turned up.
Hearing Other Conversation or Noise on a Channel	Shared Channel may be in use, try changing channels.

Problem	Solution
Limited Talk Range	Steel/concrete structures, heavy foliage and use in buildings and in vehicles will decrease 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	Radios too close. Radios must be at least 5 feet apart, increase your distance. Radios too far apart. Obstacles interfere with transmission. Talk range is up to 2 miles in clear, unobstructed conditions. Shared Channel may be in use, try another.

# **Motorola Product Services**

If the radio still doesn't work properly, contact your place of purchase or call Motorola Product Services.

1-800-353-2729

# 1 YEAR LIMITED WARRANTY

Motorola, Inc. warrants the enclosed product against defects in material and workmanship under normal use and service for one (1) year provided it is returned in accordance with this warranty. If defective, the product will be repaired or replaced at Motorola's option, at no charge, with dated proof of purchase. This warranty does not cover defects or damage resulting from: misuse, improper operation, unauthorized modification, liguid, batteries, or normal wear and tear,

MOTOROLA IS NOT LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT, FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE SUCH PRODUCT, TO THE FULL EXTENT SUCH MAY BE DISCLAIMED BY LAW. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY. HOWEVER, SOME STATES DO NOT ALLOW LIMITATIONS ON INCIDENTAL OR CONSEQUENTIAL DAMAGES. OR LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS. SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE

For warranty information and service call: 1-800-353-2729.

## **FCC LICENSE NOT REQUIRED**

FCC Information: Changes or modifications not expressly approved by Motorola may void the user's authority granted by the FCC to operate this radio and should not be made. To comply with FCC requirements, transmitter adjustments should be made only by or under the supervision of a person certified as technically qualified to perform transmitter maintenance and repairs in the private land mobile and fixed services as certified by an organization representative of the users of those services. Replacement of any transmitter component (crystal, semiconductor, etc.) not authorized by the FCC equipment authorization for this radio could violate FCC rules

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## **Patent Notice**

This product is covered by one or more of the following United States Patents:

5896277	5699006	D399821
5894592	5734975	D383745
5894292	57 42 48 4	D387758
5893027	5861850	D389827
5864752	D408396	D389158
5789098	D395882	D389139

# **Accessories**

There are many accessories (sold separately) available for FR50 radios. Whether it's a Belt/Bike Case or one of several audio accessories, Motorola has a great accessory for you! For information contact place of purchase or call Motorola at:

## 1-800-353-2729

Description	Specs
Channels	14
Operating Frequency	UHF-462.550 to 467.725 MHz
Talk Range	Up to 2 Miles
Power Source	3 AA Alkaline Batteries
Battery Life (talk time)	24 Hours (5/5/90 duty cycle)

**Compander Feature:** FR50 radios have a built-in voice compander that enhances the audio quality, creating crystal clear communications.

Channel Frequency Chart				
Channel 1	462.5875 462.6125 462.6375 462.6625 462.6875	9 10 11 12 13	MHz 	

# Visit our website at: http://www.motorola.com



# **Notes:**