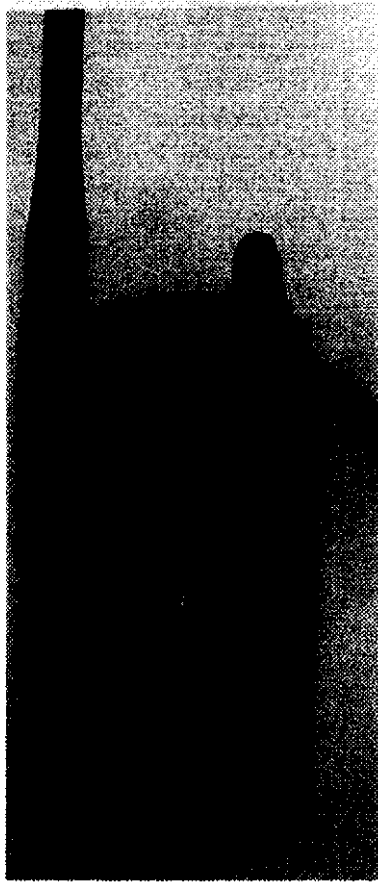


APPENDIX 5
USERS MANUAL

FOURTEEN (14) PAGE USER INSTRUCTIONS FOLLOW THIS SHEET

USERS MANUAL
FCC ID: MMA75515

APPENDIX 5



MODEL 75-515

**NEW FRS "FAMILY RADIO SERVICE"
VOICE ACTIVATED FOR HANDS FREE USE
MICRO-SIZE WITH MAXIMUM POWER
14 CHANNELS, 38 CTCSS CODES,
78 DCS codes, SCAN,
POWER SAVE CIRCUIT, DIGITAL READOUT**

TABLE OF CONTENTS

Introduction.....	3
Battery Installation.....	4
Belt Clip, Quick Use Instructions.....	5
Controls and Operation	7,8,9
Display.....	9
Description of the Display.....	9,10
Battery Information and Service.....	11
Technical Specification.....	12
Warranty.....	13

OPTIONAL ACCESSORIES FOR YOUR RADIO

Accessory Name	Model Number
Ni-cad Battery (single "AA").....	18-BATT
Standard Charger.....	18-396
Lapel Microphone with Earbud Speaker.....	22-405
Speaker/Microphone.....	22-411
Stealth Type Noise Canceling Throat Mic with Earbud.....	22-430
Boom Microphone Headset	22-540

Call 1 816 241 8500 ext. 200 to order accessories

THIS RADIO COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE CONDITION THAT THIS DEVICE DOES NOT CAUSE HARMFUL INTERFERENCE.

Your Midland model 75-515 brings the new FRS (Family Radio Service) to your fingertips. The Family Radio Service is provided for by the FCC and is totally license free. For the first time business and the general public can use the quiet UHF FM

band for personal communications at no charge. The 75-515 uses maximum allowable power for range up to 2 miles. Use for fishing, hunting, picnics, biking, business, or any other activity where communications are needed for convenience or safety. The model 75-515 incorporates all 532 channel combinations (14 channels with 38 different privacy codes) to provide the best in quiet and private communication. Also this radio offers scan with busy channel by pass or delete, power save, time out timer, squelch, and a multifunction backlighted liquid crystal display. This unit also incorporates VOX (voice operated transmit) that allows hands free use when the radio is equipped with certain accessories.

TIPS FOR GETTING THE MOST FROM YOUR 75-515

Due to the band of operation (462/467 Mhz) the 75-515 provides communications that are virtually free of atmospheric interference (skip) that is common on lower frequency bands. Along with this and an antenna system that is very efficient as compared to other unlicensed radio bands, communications range is surprisingly good. Many times the limit to maximum possible range are environmental factors such as blockage caused by trees, buildings, hills, or other obstructions. If you find communication is not possible, many times this can be overcome by moving only a few feet to a new location. Range is greatly reduced while operating in a metal building or with the attached whip in a vehicle. Battery condition also affects range. The 75-515 operates on rechargeable Ni-Cad batteries, alkaline batteries. While this unit has been designed with gaskets for water resistance and ruggedness it is a precision piece of electronic equipment that should not be exposed to water or handled carelessly. Normal care should result in years of trouble free operation. Do not leave batteries installed over a long period of time as leakage may occur, that can destroy the radio. If you experience problems operating the radio, removing power for 5 minutes or more or with power on removing and replacing the battery pack or adapter will cause the radio to return to the factory settings. Always save your receipt, as it is required for warranty consideration.

A NOTE ABOUT THE CTCSS CODES.

This unit incorporates 38 (CTCSS) codes that, when activated, prevent the user from hearing other radios that do not have the same code. These codes **do not** make your conversation private. If you experience difficulties contacting or hearing another radio make sure the CTCSS code is set the same on both radios. If you are using the 75-515 where interference from other radios or electrical devices are present, enabling the CTCSS will usually eliminate the interference. Many times interference will be noticed by the presence of loud static from the speaker.

PREPARATION

BATTERIES

75-515 radios operate with 3 AA alkaline or Ni-cad batteries (optional). Ni-cad batteries provide about 15 hours of use. Alkaline batteries will provide about 45 hours of use. The 75-515B is supplied with Ni-cad batteries and a wall charger. Ni-Cad batteries must be charged prior to use. Charge 10 hrs with the standard charger.

To Install Batteries:

1. Hold the radio face down. Press the latch so it swings away from the cover.
2. Lift the battery cover slightly, gently slide the cover off the unit.
3. Insert 3 AA batteries observing the proper polarity.
4. Replace the battery cover over the batteries and fasten with the latch.

Battery Indicator:

The battery Condition indicator in the display will show the amount of charge of your batteries. Replace alkaline or recharge the Ni-Cad batteries as soon as possible after the indicator shows less than 2 segments of the battery lit.

CHARGING THE BATTERIES

Your 75-515 will not include rechargeable batteries and a charger. Your 75-515B will be supplied with rechargeable batteries and a wall charger. If you are using rechargeable batteries and the Midland standard charger (model 18-396), plug the charger into a wall socket and the charger plug into the charge jack on the side of the radio. Make sure the batteries are installed correctly. Allow the batteries to charge 10 hours prior to use. **Never attempt to charge any type of alkaline battery in this radio.**

BELT CLIP

The 75-515s come standard with a belt clip. Attach it to the radio back by sliding the top of the clip up over the two rectangular bosses on the back of the radio until it snaps into place. To detach the belt clip, press the lever inside the top of the clip away from the radio body and slide the clip toward the bottom of the radio.

QUICK USE INSTRUCTIONS:

1. Make sure the radio batteries have been removed for more than 5 minutes. This causes the radio to reset all the functions.
2. Install fresh or fully charged batteries.
3. Turn the unit on by rotating the ON/OFF Volume control clockwise.
4. The squelch is already adjusted to a usable level.
5. Make sure the radio you want to talk to does not have the CTCSS or other privacy codes turned on.
6. To talk, press the PTT (Push To Talk) button on the side of the radio marked "PTT". Talk into the front of the radio.

NOTE: When the PTT button is pressed continuously for 2 ½ minutes, the transmitter is turned off by the time out timer. Releasing the PTT button resets the timer.

7. To listen release the PTT button.
8. Volume and other functions maybe adjusted as described later.

POWER SAVE CIRCUIT

This part of the operation of the radio is completely automatic and not adjustable. When the radio has not transmitted or received a signal for several seconds it will begin to cycle from a sleep mode to fully on. This occurs several times a minute. If a signal is received or you cause the unit to transmit the radio will become fully awake. This cycling from sleep to fully on increases the standby battery life more than 50%.

RANGE OF FRS RADIOS

The best range between portable FRS radios is achieved when they are operating in open terrain outside of buildings and vehicles. Anyone using a portable unit inside a vehicle will experience a significant loss of range.

FEATURES AND LOCATION OF CONTROLS

THE RADIO MUST BE NOT BE SCANNING AND THE CONTROLS NOT LOCKED

BEFORE THE CONTROLS WILL WORK PROPERLY.

TO TURN THE RADIO ON OR OFF

Rotate the ON/OFF Volume control clockwise to turn the radio ON. An audible tone will indicate the radio is on. The display will go through a 1 second self test and go to operation mode. Rotate the ON/OFF Volume control counter clockwise to turn the radio off.

TO SELECT THE CHANNEL

Press the channel "UP" or "Down" button to select the desired channel.

Note: Most of the functions of the radio cannot be used while the radio is scanning.

TO ADJUST THE VOLUME

Rotate the ON/OFF Volume control clockwise to increase the volume. Rotate the ON/OFF Volume control counter clockwise to decrease the volume.

TO ADJUST THE SQUELCH

Squelch is preset, no adjustment is available.

TO TURN ON THE DISPLAY BACKLIGHT

Press and hold the "Enter" button for about 2 seconds. A beep will be heard (if enabled). The backlight will stay on for about 5 seconds then turn off.

TO OPERATE THE SCAN

The 75-515 has two scan modes. The most popular and most used is the "BUSY" channel scan. This allows the radio to stop on a channel that someone is talking on. When the radio stops on a "Busy" channel, the scan will stop and resume after about 5 seconds. The second is the "OPEN" channel scan. This allows the radio to stop on channels that are NOT used. This is useful when looking for open channels to use.

Busy Channel Scan:


Press and release the "F" button, the "SCAN" icon will begin flashing in the lower center of the display. Press and release the "UP" or "DOWN" channel button to activate scan. The unit will now begin scanning through the channels. Pressing the "UP" or "Down" channel button during scan will determine if the channels are scanned up or down. Pressing the "PTT" (push to talk) button will cause the radio to stop scanning.

Open Channel Scan:

Press and release the "F" button repeatedly (usually twice) until the "B.SCAN" icon flashes in the lower center of the display

PRIVACY CODES (CTCSS).

To activate these, press the "F" button repeatedly (usually 3 times) to cause the icon "CTCSS" to be displayed in the upper left of the display to flash. Press and release the "UP" or "DOWN" buttons to select the "CTCSS" code you desire.

 You must do this for all the channels you want CTCSS codes on.

Note: Turning on the CTCSS privacy code will prevent you from hearing any conversation that is not using the same CTCSS privacy code. The following listing is the frequency of the CTCSS codes. Different brands of radios may use a different code for the frequencies. For operation with other brands of radios the selected CTCSS codes must be the same frequency.

01=67.0 Hz	11=97.4 Hz	21=136.5 Hz	31=192.8 Hz
02=71.9 Hz	12=100.0 Hz	22=141.3 Hz	32=203.5 Hz
03=74.4 Hz	13=103.5 Hz	23=146.2 Hz	33=210.7 Hz
04=77.0 Hz	14=107.2 Hz	24=151.4 Hz	34=218.1 Hz
05=79.7 Hz	15=110.9 Hz	25=156.7 Hz	35=225.7 Hz
06=82.5 Hz	16=114.8 Hz	26=162.2 Hz	36=233.6 Hz
07=85.4 Hz	17=118.8 Hz	27=167.9 Hz	37=241.8 Hz
08=88.5 Hz	18=123.0 Hz	28=173.8 Hz	38=250.3 Hz
09=91.5 Hz	19=127.3 Hz	29=179.9 Hz	00=OFF
10=94.8 Hz	20=131.8 Hz	30=186.2 Hz	

TO LOCK THE CONTROLS

Press and hold the "MON" button for about 3 seconds a beep (if enabled) will be heard and the KEY icon will be displayed.

TO OPERATE THE HANDS FREE VOX (VOICE OPERATED TRANSMIT)

Slide the switch on the side of the radio to "VOX". Now you only have to talk into the microphone of an optional headset to make the unit transmit. (PTT switch is inactive) The "VOX" has two adjustments available. The first setting is the sensitivity level. This is the level of voice needed to activate the transmitter. The second setting is the delay. This is the time that the transmitter stays activated after you stop talking. Both of these settings have a value from 1 to 6. A setting of 1 in the level is the most sensitive. A setting of 1 in the delay is the least amount of delay.

Setting "VOX" Sensitivity Level:

The sensitivity is adjustable to 6 levels. Level 1 is the most sensitive.

To set the sensitivity level,

1. With the radio turned off, press and hold the "ENTER" button and turn the radio on. The radio will display all segments available on the display, sound the power up tone then display in the lower right corner "BEEP".
2. Press the "F" button repeatedly until you see "LE" on the display.
☰ The numbers next to the "LE" is the sensitivity setting.
3. Press the "UP" or "DOWN" button to change the "VOX" sensitivity level.

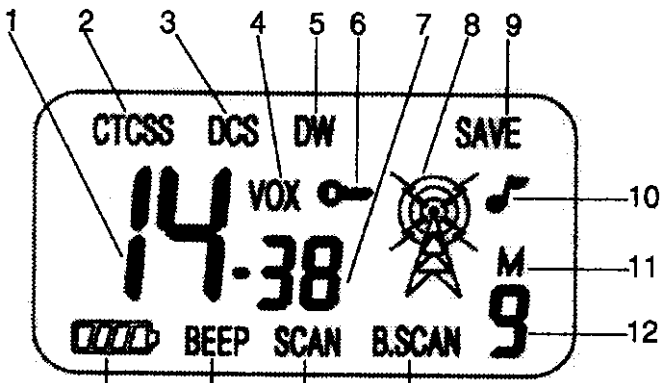
Setting "VOX" Delay.

The Delay is adjustable to 6 levels. Level 1 is the least amount of delay.

Refer to the above steps.

1. Press the "F" button repeatedly until the "dL" is on the display.
☰ The numbers next to the "dL" is the delay setting.
- 2.

CAUTION: DON'T EXPOSE THE DISPLAY TO EXTREME HOT OR COLD TEMPERATURE.



1. **Channel number:** Displays channel number 1-14.
2. **Privacy Code (CTCSS Symbol):** Comes on when the privacy mode is turned on.
3. **DCS Symbol:** Indicates that Digital Coded Squelch mode is on.
4. **VOX Symbol:** Comes on to show the VOX operation on.
5. **DW Symbol:** Indicates Dual Watch channel selection is active.
6. Symbol indicates when the keypad has been locked. Only the PTT, and buttons will work when this indicator is on.
7. Shows the CTCSS code you have selected. When this is on, other radios you talk to must be set to the same code. When the volume or squelch is being adjusted, the pertinent levels will be shown in this area of the display.
8. **BUSY/TX Symbol:** This symbol will display a circular pattern when the unit is transmitting. Ray lines pointing inward are displayed when a signal is being received. Sometimes you may not hear the signal due to the PRIVACY CODE (CTCSS) being on. If the "BUSY" symbol is on it can mean someone is trying to call you but has the improper CTCSS code.
9. **SAVE Symbol:** Comes on when no signal has been present for 5 seconds. The battery save feature is active.
10. Indicates ROGER BEEP is on.
11. **M Symbol:** Comes on when a memory channel is active.
12. **Number** indicates memory in use.
13. **B.SCAN** indicates the scan mode B is in use
14. **SCAN** indicates the normal scan mode is in use
15. **BEEP** indicates the key stroke tone is active.
16. This symbol comes on to show the battery condition. Replace or recharge the batteries when this indicator displays 2 or fewer segments of the battery.

TROUBLESHOOTING

PROBLEM	SOLUTION
No Power	1. Check battery installation and/or replace batteries
Cannot Receive Messages	1. Make sure the volume is set high enough. 2. Confirm the radios have the same channel and CTCSS code settings. 3. Change your location, you may be out of range. 4. Install batteries properly or replace.
Range is Short	1. Operating the radio in a vehicle or metal building will decrease the range. If possible operate outside of vehicles or buildings. 2. Carrying the radio so that the antenna is very near the body will decrease the range. Hold the radio in the open for the best range.

Interference/Static	<ol style="list-style-type: none">1. Setting the squelch to the proper level will generally stop the static noise.2. Using the CTCSS should stop interference from other users and computers.
---------------------	--

CARE OF RECHARGEABLE NI-CAD BATTERIES

ALWAYS DISPOSE OF BATTERIES PROPERLY

Always follow the battery manufactures recommendations for charging and disposing of Ni-cad batteries.

The following is meant as general information regarding Ni-cad batteries.

1. Occasionally allow the batteries to fully discharge before recharging. Full discharge will be indicated by the low battery indicator coming on during receive operation.
2. Always allow the battery to fully charge before using. This requires 10 hours with the included charger.
3. The above will prevent the batteries from developing "memory" which effectively reduces their capacity.
4. It is better to store Ni-cad batteries that are discharged rather than charged.

Note: **Do not charge any type of alkaline batteries in this unit.**

SERVICE:

If it ever becomes necessary to return your unit for service:

Pack the unit in its original box and packing. Improper packing may result in damage during shipment.

Include a full description of any problems. Include your telephone number.

Include a money order for \$7.50 to cover shipping and handling (this may not be required in some states).

You do not need to return accessory items (brackets, screws, power cord, antenna, etc.) unless they maybe directly related to the problem.

Include a photocopy of the bill of sale or other proof of purchase showing the date of sale. This information must be included before warranty service can be considered.

TECHNICAL SPECIFICATIONS*

GENERAL

Frequency range.....462/467 Mhz
 Channels.....14
 Modulation type.....FM
 Antenna impedance.....50 Ohm
 Loudspeaker.....8 Ohm 0.5W
 Microphone.....electronic type
 Power supply.....3 AA Ni-cads or Alkaline(3.6/4.5VDC)

RECEIVER

Sensitivity at 12dB Sinad.....0.35µV
 Selectivity.....50 dB
 Squelch range.....Automatic
 Audio output power.....0.25W @ 8 Ohm (10% distortion)
 Distortion at 500 mV.....7%
 Audio frequency response.....400-2400 Hz

TRANSMITTER

RF Output Power.....nominal 500 mW @ 4.5VDC
 Frequency Tolerance.....0.00025%
 Harmonic Suppression.....more than 50 dB
 Modulation.....FM +/- 2.5 kHz

***Specifications are nominal and subject to change**

CHANNEL FREQUENCIES

01=462.5625	05=462.6625	09=467.5875	13=467.6875
02=462.5875	06=462.6875	10=467.6125	14=467.7125
03=462.6125	07=462.7125	11=467.6375	
04=462.6375	08=467.5625	12=467.6625	

LIMITED WARRANTY

Midland Consumer Radio Inc. will repair or replace, at its option without charge, any Midland Mobile, 4 watt portable, Base Station Citizens Band, or FRS transceiver which fails due to a defect in material or workmanship within one year following the initial consumer purchase.

This warranty does not include any carrying cases, earphones, or antennas which may be a part of or included with the warranted product, or the cost of labor for removal or re-installation of the product in a vehicle or other mounting.

Performance of any obligation under this warranty may be obtained by returning the warranted product, freight prepaid, along with proof of purchase date, to Midland Consumer Radio Inc., Warranty Service Department, 1670 North Topping Avenue, Kansas City, Missouri 64120, or to any "Midland Authorized Warranty Service Station," or to the place of purchase (if a participating dealer).

Warranty information and the location of the nearest "Midland Authorized Warranty Service Station," may be obtained by writing Midland Consumer Radio, Warranty Service Department.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Note: The above warranty applies only to merchandise purchased in the United States of America or any of the territories or possessions thereof, or from a U.S. Military exchange. For warranty coverage on merchandise purchased elsewhere, consult the supplemental warranty information included with this product or ask your dealer.

Midland Consumer Radio
1670 N. Topping
Kansas City, Mo. 64120

Printed in Korea

e-mail: midlndcb@midlandradio.com
URL: www.midlandradio.com