

BR100/200
Owners Manual

Table of Contents

WELCOME TO THE WORLD OF MIDLAND	3
FEATURES	3
FCC NOTICE	4
Exposure To Radio Frequency Energy	4
GETTING TO KNOW YOUR RADIO	9
CONTROLS	9
INSTALLING THE BATTERY	10
INSTALLING THE BELT CLIP	10
INSTALLING THE ANTENNA	11
INSTALLING THE EXTERNAL SPEAKER/MIC	11
CHARGING THE BATTERY PACK	11
OPERATING YOUR RADIO	12
POWER ON/OFF AND VOLUME	12
TRANSMITTING AND RECEIVING A CALL	12
ABOUT RANGE	12
MONITOR	13
CHANNEL SELECTION	13
SCAN FUNCTION	13
PRIVACY CODES	13
TROUBLESHOOTING GUIDE	14
USE AND CARE	15
SPECIFICATIONS	16
DEFAULT FREQUENCIES CHART	16
AVAILABLE FREQUENCIES CHART	16
CTCSS PRIVACY CODES CHART	16
DCS PRIVACY CODE CHART	17
LIMITED WARRANTY	18

WELCOME TO THE WORLD OF MIDLAND

Congratulations on your purchase of a high quality MIDLAND product. Your Business Radio represents state-of-the-art high-tech engineering. Designed for Business Radio operation, this compact package is big on performance. It is a quality piece of electronic equipment, skillfully constructed with the finest components. The circuitry is all solid-state and mounted on a rugged printed circuit board. Your two-way radio is designed for reliable and trouble-free performance for years to come.

FEATURES

- 16 Channels
- 56 Frequencies
- 121 Privacy Codes (38 CTCSS / 83 DCS)
- Monitor Function
- Scan Function
- Voice Prompted Battery Alert & Channel Selection
- External Speaker Jack
- PC Programmable

FCC NOTICE

The radio operates on UHF frequencies which require an FCC (Federal Communications Commission) license. You must be licensed prior to operating on these frequencies. Serious penalties could result from unlicensed use of these frequencies, in violation of FCC rules, as stipulated in the Communications Act's Sections 501 and 502 (amended).

You will be issued a call sign by the FCC which should be used for station identification when operating the radio on these channels. You should also cooperate by engaging in permissible transmissions only, avoiding channel interference with other users, and being prudent with the length of your transmission time.

To obtain a license or ask questions about the license application, contact the FCC at 1-888-CALL FCC or go to the FCC's website:

<http://www.fcc.gov> and request form **605**.

Exposure To Radio Frequency Energy

Your Midland radio is designed to comply with the following national and international standards and guidelines regarding exposure of human beings to radio frequency electromagnetic energy:

- United States Federal Communications Commission, Code of Federal Regulations: 47 CFR part 2 sub-part J
- American National Standards Institute (ANSI)/Institute of Electrical & Electronics Engineers (IEEE) C95. 1-1992
- Institute of Electrical and Electronics Engineers (IEEE) C95. 1-1999 Edition
- National Council on Radiation Protection and Measurements (NCRP) of the United States, Report 86, 1986
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998

To control your exposure and ensure compliance with the general population or uncontrolled environment exposure limits, transmit no more than 50% of the time. The radio generates measurable RF energy exposure only when transmitting.

IMPORTANT: Changes or modifications to this unit not expressly approved by MIDLAND RADIO CORP. could void your right to operate this unit. Your radio is set up to transmit a regulated signal on an assigned frequency. It is against the law to alter or adjust the settings inside the COMMUNICATOR to exceed those limitations. Any adjustment to your radio must be made by qualified technicians.

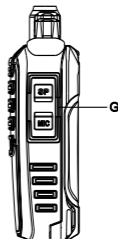
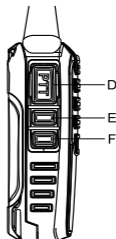
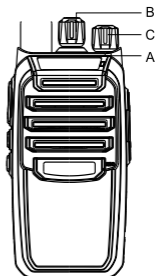
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device does not cause harmful interference, and (2) this radio must accept any interference that may cause undesired operation.

To maintain compliance with FCC's RF exposure guidelines, for body-worn operation, this radio has been tested and meets the FCC RF exposure guidelines when used with Midland Radio Corp. accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

GETTING TO KNOW YOUR RADIO

CONTROLS

- A. LED INDICATOR:** The LED is Green when receiving signals and Red when transmitting.
- B. CHANNEL SELECTOR:** Rotate to select channels 1-16.
- C. POWER/VOLUME KNOB:** Turn clockwise to turn the power on and increase the volume level. Turn counter-clockwise to decrease the volume level and turn the power off.
- D. PTT (Push to Talk):** Press and hold to transmit voice communication.
- E. Monitor Button:** Press to enter the Monitor mode.
- F. Function Button:** Rotate channel selector to channel 16, hold the function key and power unit ON to change the voice option.
- G. External Speaker/Mic Jack**



INSTALLING THE BATTERY

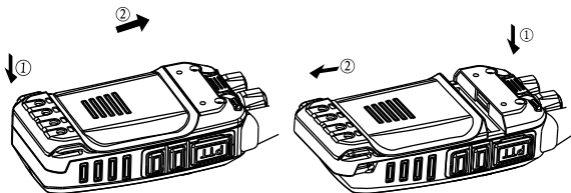
Your radio operates with a Lithium-Ion battery. The belt clip should be removed (see below) to make the installation and removal of the battery easier.

To install the battery:

With the back of the radio facing you, install the battery by sliding the pack along the back of the radio until the latch on the radio locks.

To remove the battery:

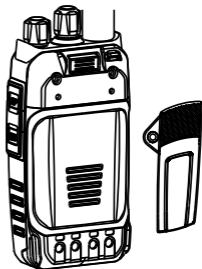
Press the release latch and slide the pack away from the radio.



INSTALLING THE BELT CLIP

With the back of the radio facing you, align the **BELT CLIP** with the screw holes on the radio. Attach the **BELT CLIP** with the Phillips-Head screws provided in the giftbox.

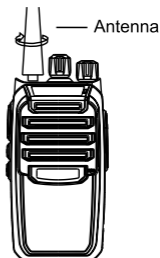
Be careful not to over tighten screws to avoid damaging radio chassis.



INSTALLING THE ANTENNA

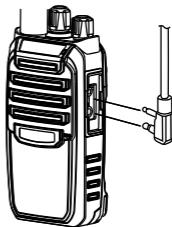
Align the antenna with threaded connector located on the top of the radio. Holding the antenna at the base, rotate the antenna clockwise until secure.

Be careful not to over tighten to avoid damaging antenna mount.



INSTALLING THE EXTERNAL SPEAKER/MIC

Pulling the rubber cover to the side exposing the speaker/mic jacks, insert the speaker/mic plugs into the Speaker/Mic jack.



CHARGING THE BATTERY PACK

Your radio is equipped for using a rechargeable Lithium-Ion battery pack which can be recharged by inserting the radio or battery into the desktop charger (as described below). Midland recommends charging the battery pack when the charge battery alert comes on and removing the radio from the charger when the charging is finished.

To charge using the Desktop Charger:

1. Plug the AC adaptor into a 120VAC wall outlet, the charger's LED turns green when power is present.
2. Making sure the battery contacts and charge terminals are clean and in good condition, slide the battery or radio with installed battery into the charger.

3. The charger LED will turn red and begin charging the unit. Charging time depends on the capacity of the battery. After charging is complete the LED will turn Green.

In order to ensure that the battery pack is fully charged, it is recommended that the battery pack be charged with the radio turned off.



1. Only use the Midland Lithium-Ion battery pack.
2. Do not attempt to charge any battery packs other than the one indicated in the manual. This may cause leakage and damage to the radio.
3. For long term storage of the radio, turn the radio OFF and remove the batteries from the radio.

OPERATING YOUR RADIO

POWER ON/OFF AND VOLUME

Rotate the **POWER/VOLUME** knob clockwise to turn the radio on and increase the volume level. Rotate the control counter-clockwise to reduce the volume level and to turn the radio off. During Power On, the radio will beep once and indicate the last channel selected.

TRANSMITTING AND RECEIVING A CALL

1. For maximum clarity, hold the radio at least 1 inch (2.5cm) from your mouth.
2. Press and hold the **PTT** button and speak in a normal voice into the microphone. The RX/TX LED will glow RED while transmitting.
3. To receive a call, release the **PTT** button. The RX/TX LED will glow GREEN when your radio is receiving a transmission.

ABOUT RANGE

Your BR Series radio is designed to give you maximum range under optimum conditions.



Maximum Range / No Sight Obstruction



Medium Range / Partial Obstruction to Line of Sight



Short Range / Major Obstruction to Line of Sight

Optimum Conditions are:

- Over water
- Open rural areas without obstructions
- Flat areas where you can see the other person

To ensure you get maximum range:

- Be sure to use fresh or fully charged batteries - a low battery will cause low power conditions.

MONITOR

Pressing the **Monitor** button will let you hear noise so you can adjust the volume level of the radio when not receiving a signal. This should be used to check activity on your current channel before transmitting.

CHANNEL SELECTION

Rotate the **Channel Selector** knob to select one of the 16 channels.

SCAN FUNCTION

Using the Programming software, the scan function can be enabled. Your radio can then scan all 16 channels for activity. To enter, rotate the **Channel Selector** knob to channel 16. Your radio will then rapidly scan each of the 16 channels and stop on any active channel and resume scanning 3 seconds after the channel becomes inactive.

PRIVACY CODES

CTCSS (Continuous Tone Coded Squelch System) and DCS (Digitally Coded Squelch) are systems that allow several users to share the same channel without disturbing each other. With CTCSS or DCS enabled, the channel is muted to all incoming signals unless they carry the correct CTCSS or DCS tone. When a transmission with the correct tone is received, the channel un-mutes and the voice audio can be heard. When the transmission ends the channel becomes muted again. Transmissions that do not have the correct tone will not be heard.

Your BR Series radio has 121 **Privacy Codes**, which are available on any channel. The selected **Privacy Code** may be different for each channel.

Privacy Codes can only be set using the programming software, this software can also be downloaded separately from the midlandusa.com website.



Note: If you select a **CTCSS** Privacy Code, any pre-selected **DCS** Privacy Code will be cancelled and vice-versa.

TROUBLESHOOTING GUIDE

PROBLEM	SOLUTION
No Power	<ul style="list-style-type: none">- Check battery installation and/or replace battery pack- Check Power/Volume control knob.
Cannot Receive Messages	<ul style="list-style-type: none">- Confirm the radios have the same channel and privacy code settings.- Make sure that you are within range of the other transceivers.- Buildings and other structures may interfere with your communication
Charger not functioning	<ul style="list-style-type: none">- Contacts on the bottom of the radio may require cleaning.- Ensure the outlet where the charger is plugged in is functioning properly.- Check that the battery pack is installed properly.

If you have a problem which you believe requires service, please call first and speak with a service technician at 816-241-8500. Many problems can be remedied over the phone without returning the unit for service.

USE AND CARE

1. Use a soft damp cloth to clean the radio
2. **Do not** use alcohol or cleaning solutions to clean the radio.
3. **Do not** immerse the radio in water.
4. Dry the radio with a dry lint-free cloth should it get wet.
5. Turn off the radio and remove the batteries during long-term storage.

SPECIFICATIONS

Channels 16 Channels + 121 Privacy Codes

Operating Frequency UHF 461.0375 ~ 469.5625MHz

Power Source 3.7Vdc Li-ion Battery Pack

DEFAULT FREQUENCIES CHART

CH. No	CH. Freq (MHz)	Code	CH. No	CH. Freq (MHz)	Code
1	464.5500	-	9	467.8500	-
2	464.5500	1	10	467.8500	1
3	464.5500	6	11	467.8500	6
4	464.5500	29	12	467.8500	29
5	467.9250	-	13	467.8750	-
6	467.9250	1	14	467.8750	1
7	467.9250	6	15	467.8750	6
8	467.9250	29	16	467.8750	29

AVAILABLE FREQUENCIES CHART

Code	Freq (MHz)	Code	Freq (MHz)	Code	Freq (MHz)	Code	Freq (MHz)
1	464.5000	15	461.1875	29	462.9125	43	466.2625
2	464.5500	16	461.2125	30	464.4875	44	466.2875
3	467.7625	17	461.2375	31	464.5125	45	466.3125
4	467.8125	18	461.2625	32	464.5375	46	466.3375
5	467.8500	19	461.2875	33	464.5625	47	466.3625
6	467.8750	20	461.3125	34	466.0375	48	467.7875
7	467.9000	21	461.3375	35	466.0625	49	467.8375
8	467.9250	22	461.3625	36	466.0875	50	467.8625
9	461.0375	23	462.7625	37	466.1125	51	467.8875
10	461.0625	24	462.7875	38	466.1375	52	467.9125
11	461.0875	25	462.8125	39	466.1625	53	469.4875
12	461.1125	26	462.8375	40	466.1875	54	469.5125
13	461.1375	27	462.8625	41	466.2125	55	469.5375
14	461.1625	28	462.8875	42	466.2375	56	469.5625

CTCSS PRIVACY CODES CHART

Code	Freq (Hz)	Code	Freq (Hz)	Code	Freq (Hz)	Code	Freq (Hz)	Code	Freq (Hz)
1	67.0	9	91.5	17	118.8	25	156.7	33	210.7
2	71.9	10	94.8	18	123.0	26	162.2	34	218.1
3	74.4	11	97.4	19	127.3	27	167.9	35	225.7
4	77.0	12	100.0	20	131.8	28	173.8	36	233.6
5	79.7	13	103.5	21	136.5	29	179.9	37	241.8
6	82.5	14	107.2	22	141.3	30	186.2	38	250.3
7	85.4	15	110.9	23	146.2	31	192.4		
8	88.5	16	114.8	24	151.4	32	203.5		

DCS PRIVACY CODE CHART

No.	CODE	No.	CODE	No.	CODE	No.	CODE
1	23	27	165	53	413	79	731
2	25	28	172	54	423	80	732
3	26	29	174	55	431	81	734
4	31	30	205	56	432	82	743
5	32	31	223	57	445	83	754
6	43	32	226	58	464	84	36
7	47	33	243	59	465	85	53
8	51	34	244	60	466	86	122
9	54	35	245	61	503	87	145
10	65	36	251	62	506	88	212
11	71	37	261	63	516	89	225
12	72	38	263	64	532	90	246
13	73	39	265	65	546	91	252
14	74	40	271	66	565	92	255
15	114	41	306	67	606	93	266
16	115	42	311	68	612	94	274
17	116	43	315	69	624	95	325
18	125	44	331	70	627	96	332
19	131	45	343	71	631	97	356
20	132	46	346	72	632	98	446
21	134	47	351	73	654	99	452
22	143	48	364	74	662	100	454
23	152	49	365	75	664	101	455
24	155	50	371	76	703	102	462
25	156	51	411	77	712	103	523
26	162	52	412	78	723	104	526



X-TALKER



2-Way Radios



Weather Radios



HD Wearable Video Cameras

LXT / GXT



2-Way Radios



Emergency Crank Radios



CB Radios

 Check out these other great products at midlandusa.com

LIMITED WARRANTY

Midland Radio Corporation will repair or replace, at its option without charge, any Midland UHF transceiver which fails due to a defect in material or workmanship within One Year following the initial consumer purchase.

This warranty does not apply to water damage, battery leak or abuse. Accessories have a 90 day warranty from date of purchase, including any antennas, chargers, or earphones.

This warranty does not include the cost of labor for removal or re-installation of the product in a vehicle or other mounting.

For Product Purchased in the USA:

Performance of any obligation under this warranty may be obtained by returning the warranted product, prepaid freight, along with proof of purchase to:

**Midland Radio Corporation
Warranty Service Department
5900 Parretta Drive
Kansas City, MO 64120**

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 Product Purchased in Canada:

Performance of any obligation under this warranty may be obtained by returning the warranted product, along with proof of purchase, to your dealer in Canada.

This warranty gives you specified legal rights. Additional warranty rights may be provided by law in some areas.

MIDLAND RADIO CORPORATION**5900 Parretta Drive****Kansas City, MO 64120****Call 816.241.8500**

We'd love to hear from you! Let us know what you think of your new Midland product at



or by visiting us at

www.midlandusa.com

Note: Features & Specifications are subject to change without notice. MIDLAND is not responsible for unintentional errors or omissions on its packaging.