



BR180

# INSTRUCTIONS

PMR446 TRANSCEIVER



INSTRUCTION GUIDE



**Thanks for choosing Midland!**

*BR180 is a portable transceiver that is free use in all European countries.*

Midland BR180 is a licence free professional PMR446 walkie talkie, designed for the retail world, such as fashion stores, restaurants, beauty salon, department stores and more. It is ideal for environments where efficiency and practicality are essential to optimize the sales process and save costs.





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## Package Contents

The BR180 transceiver is supplied with the following accessories:

- BR180 transceiver
- Rotating belt clip
- Wrist belt
- 1800 mAh rechargeable Li-Ion battery
- Fast desktop charger
- Wall adapter
- Earphone/mike with 2-pin Kenwood-type connector

## Main features

- 32 channels
- Battery life up to 28 hours
- Front-mounted TALK button (Push-to-talk)
- Keypad lock
- Fast charger
- Programmable via PC software
- Vibracall function
- VOX with 3 sensitivity levels
- Compact and lightweight design
- 38 CTCSS tones + 104 DCS codes
- 2-pin Kenwood-type accessory jack

## Programming Software

The BR180 can be configured using a dedicated software, which allows enabling or disabling specific features. The software offers access to a wide range of customizable settings.

Note: Further details are available in the software.

***WARNING: Any unauthorized modification of the device will void its certification.***

## Coverage/Range

The BR180 transceiver is designed to ensure optimal performance in indoor environments.

Maximum coverage varies depending on the layout and structure of the location:

- Horizontal coverage: up to 12,000 m<sup>2</sup>
- Vertical coverage: up to 8 floors

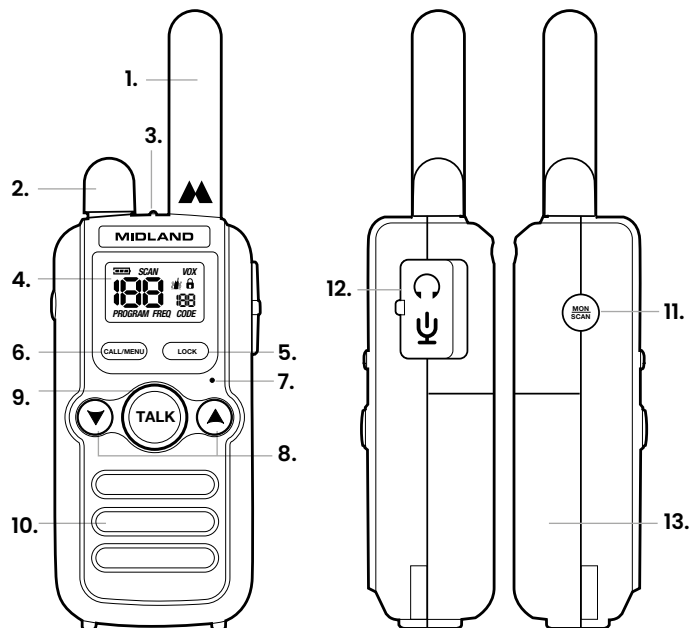
The actual operating range may vary depending on structural obstacles, environmental conditions, and potential radio interference.

## Precautions

Your BR180 transceiver has been designed to provide years of safe and reliable performance. As with all electronic devices, there are certain precautions we recommend observing:

- Do not open the device: tampering may damage the unit and void the warranty.
- Always use the original charger included in the package to recharge the device.
- Avoid exposure to extreme temperatures.
- If smoke or unusual odors are detected, immediately switch off the device and remove the battery.

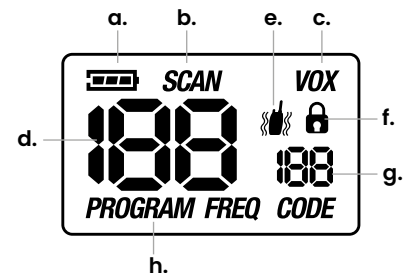
## Description of Radio Components



- 7. **Microphone**
- 8. **Selection buttons** ▲/▼
- 9. **TALK button** (push-to-talk)
- 10. **Speaker**
- 11. **MON/SCAN button**  
*Short press:* activates **monitor function**  
*Long press:* activates **scan function**
- 12. **Jack inputs** for speaker and microphone
- 13. **Battery compartment**

## Controls and Buttons

- 1. **Antenna**
- 2. **Power/Volume knob** (PWR/VOL)
- 3. **Status LED**
- 4. **LCD screen**
- 5. **Keypad lock button**
- 6. **CALL/MENU button**
  - *Short press:* activates **call function**
  - *Long press:* accesses the **menu**



## LCD Screen Indicators

- a. Battery level indicator
- b. Scan active
- c. VOX active
- d. Channel number
- e. Vibration active
- f. Keypad lock
- g. CTCSS/DCS code
- h. Programming information

## Battery Charging

The BRI80 transceiver uses a rechargeable 1800 mAh Li-Ion battery, which provides the necessary power for operation. Please follow the instructions carefully to ensure safe and proper battery charging.

### To charge the battery:

- Place the radio in the charging base connected to the wall adapter.
- Charging is completed within a maximum of 5 hours (depending on the battery's current level).

### Charging the battery separately from the device:

- Carefully remove the battery from the transceiver and insert it into the appropriate slot of the desktop charger.
- Ensure the contacts are properly aligned.

This charging method is useful for keeping spare batteries ready to use, ensuring uninterrupted operation, especially in professional settings.

### Charging base LED indicators:

- **Red = Charging**
- **Green = Fully charged**

### Tip for Optimal Charging:

It is recommended to turn off the radio during charging to optimize the process and reduce the risk of overheating.

### Charging Precautions:

- Only use the charger supplied with the device. Using incompatible chargers may damage the battery or the transceiver.
- Use only the battery pack provided with the device. Third-party battery packs may damage the unit.
- Do not expose the battery or charger to extreme temperatures. Avoid charging in excessively hot or humid environments.
- In case of malfunctions such as smoke or unusual smell during charging, immediately disconnect the charger and remove the battery.

### Tips to Extend Battery Life:

The BRI80 automatically enters Power Save Mode if no signal is received for more than 5 seconds, so as to reduce the power

consumption by up to 50%.

This function can be activated only via software.

## Functions

### Power On/Off and Volume Adjustment

Turn the **PWR/VOL knob** clockwise to power on the radio.

After powering on the device, turn the **PWR/VOL knob** clockwise or counterclockwise to adjust the volume as desired.

To power off the radio, turn the **PWR/VOL knob** fully counterclockwise until you hear a "click," indicating the device is switched off.

### Channel Selection and Privacy Codes

The transceiver supports communication across multiple PMR446 channels (16 + 16 pre-programmed). To ensure correct communication between two or more devices, all radios must be tuned to the same channel.

#### Channel Selection Procedure:

Turn on the radio by rotating the **PWR/VOL knob** clockwise.

Use the **▲|▼** buttons to scroll through the available channels (from 1 to 32).

The selected channel number will appear on the LCD display.

#### Tip:

To avoid interference, choose a channel that is less used. If available, activate a CTCSS or DCS privacy code for added communication security.

#### Procedure for Activating a CTCSS/DCS Code:

1. Turn on the radio while holding down both **MON/SCAN** and **CALL/MENU** buttons.
2. Use the **▲|▼** buttons to scroll through the available codes (from 1 to 142).
3. The selected code number will be displayed on the LCD screen.
4. Press the **TALK** button (Push-to-talk) to confirm the selection.

The tables below list the corresponding frequencies for each CTCSS or DCS privacy code:

**CTCSS Privacy Code Table**

Privacy code number	CTCSS Frequency (Hz.)	Privacy code number	CTCSS Frequency (Hz.)
1	67	20	131.8
2	71.9	21	136.5
3	74.4	22	141.3
4	77	23	146.2
5	79.7	24	151.4
6	82.5	25	156.7
7	85.4	26	162.2
8	88.5	27	167.9
9	91.5	28	173.8
10	94.8	29	179.9
11	97.4	30	186.2
12	100	31	192.8
13	103.5	32	203.5
14	107.2	33	210.7
15	110.9	34	218.1
16	114.8	35	225.7
17	118.8	36	233.6
18	123	37	241.8
19	127.3	38	250.3

**DCS Privacy Code Table**

Privacy code	DCS code	Privacy code	DCS code
39	23	65	165
40	25	66	172
41	26	67	174
42	31	68	205
43	32	69	223
44	43	70	226
45	47	71	243
46	51	72	244
47	54	73	245
48	65	74	251
49	71	75	261
50	72	76	263
51	73	77	265
52	74	78	271
53	114	79	306
54	115	80	311
55	116	81	315
56	125	82	331
57	131	83	343
58	132	84	346
59	134	85	351
60	143	86	364
61	152	87	365
62	155	88	371
63	156	89	411
64	162	90	412

Privacy code	DCS code	Privacy code	DCS code
91	413	117	731
92	423	118	732
93	431	119	734
94	432	120	743
95	445	121	754
96	464	122	36
97	465	123	53
98	466	124	122
99	503	125	145
100	506	126	212
101	516	127	225
102	532	128	246
103	546	129	252
104	565	130	255
105	606	131	266
106	612	132	274
107	624	133	325
108	627	134	332
109	631	135	356
110	632	136	446
111	654	137	452
112	662	138	454
113	664	139	455
114	703	140	462
115	712	141	523
116	723	142	526

## Transmission and Reception

To communicate with other radios, you must:

1. Ensure that all radios are tuned on the same channel.
2. Briefly press the **MON/SCAN** button to check if the channel is free, using the monitor function.
3. Press and hold the **TALK** button (push-to-talk) and speak into the microphone.
4. Release the **TALK** button (push-to-talk) to receive transmissions and allow others to speak.

Before starting a transmission, it is recommended to briefly press the **MON/SCAN** button to verify, through the monitor function, that the frequency is not currently in use.

While transmitting, the radio's LED will light up red. While receiving, the LED will light up green.

Only one user can transmit at a time. Avoid pressing the **TALK** button (push-to-talk) when another user is speaking, as your message will not be heard. Keep transmissions as brief as possible to allow others to respond.

Transmission consumes the most battery power. To extend battery life, keep transmission time to a minimum.

If you are unable to establish contact with a station even though you can hear it clearly, it is possible that the other station is using a CTCSS tone or DCS code. In this case, refer to the previous section to set the matching privacy code and restore communication.

### Monitor

The Monitor function allows you to receive very weak signals by temporarily disabling the automatic squelch.

To activate the monitor function, briefly press the **MON/SCAN** button.

### Scan

The scan function allows the transceiver to automatically monitor all available channels, stopping on active ones to facilitate listening to ongoing communications. This enables quick identification of conversations without manually selecting each channel.




### To activate this function:

1. Press and hold the **MON/SCAN** button for 3 seconds until the word **"SCAN"** appears on the LCD screen.
2. The radio will begin scanning all available channels in sequence, automatically pausing on any channel where a signal is detected.
3. To stop scanning, briefly press the **TALK** button (push-to-talk) or deactivate the scan function.


## Keypad Lock

The keypad lock function prevents accidental key presses during transport or handling. When the lock is active, only certain essential controls remain functional.

### To activate the Keypad Lock:

1. Press and hold the **LOCK** button for approximately 3 seconds.
2.  icon will appear on the display, indicating that the lock is active.
3. All buttons will be disabled, except: **TALK** (Push-to-talk) button, Power/Volume knob (**PWR/VOL**) and **MON/SCAN** button

### To deactivate the Keypad Lock:

1. Press and hold the **LOCK** button again for about 3 seconds.
2.  icon will disappear, and all keys will resume normal operation.

### Tip:

Use the keypad lock when carrying the radio in your pocket, bag, or attached to your belt to avoid unintentional changes to settings.

## Factory Reset

The transceiver supports restoring the original factory settings. This is useful in case of malfunctions, unwanted configuration changes, or if you want to return the device to its initial state.

### Reset procedure:

1. Turn off the device.
2. Press and hold the **▼** button, **TALK** button (push-to-talk), and **▲** button simultaneously.
3. While holding these buttons, turn on the radio.
4. Release all buttons to start the reset process.

Once completed, the radio will return to its factory settings, including frequencies, privacy codes, audio functions, and system configurations.

**Warning:** The factory reset will erase all personalized settings. It is recommended to write down important parameters before proceeding.

## Menu Functions

### Roger Beep

At the end of each transmission, when the **TALK** (Push-to-talk) button is released, a tone is emitted to signal the receiving party that they may begin speaking.

This function is disabled by default, but can be enabled as follows:

1. Press and hold the **CALL/MENU** button for 3 seconds until **"RB"** appears on the display.
2. Use the **▲/▼** buttons to select ON or OFF.
3. Press the **TALK** button (push-to-talk) to confirm.

### Call

This function allows you to send a call tone to notify other users before starting a transmission.

To enable it:

1. Press and hold the **CALL/MENU** button for 3 seconds until **"RB"** appears.
2. Press the **CALL/MENU** button once.
3. Use the **▲/▼** buttons to select the desired setting (OFF, 1, 2, 3, 4, 5).
4. Press **TALK** button (push-to-talk) to confirm.

### TOT – TX Time-Out Timer

This function sets a delay at the end of a hands-free (VOX) transmission before returning to receive mode.

To configure:

1. Press and hold **CALL/MENU** button for 3 seconds until **"RB"** appears.
2. Press the **CALL/MENU** button twice.

3. Use the ▲|▼ button to select the value (30, 60, 90 seconds).
4. Press **TALK** button (push-to-talk) to confirm.

### Power Saving Mode

The power saving function optimizes battery life by reducing energy consumption when the radio is not in function.

If no signal is received or transmitted for approximately 5 seconds, the radio automatically enters Power Save mode, lowering internal activity to minimize battery usage. As soon as a signal is detected or a key is pressed, the radio exits Power Save mode and resumes normal operation.

If you want to activate this function, you can do it via software and via menu.

Manual activation procedure:

1. Press and hold **CALL/MENU** button for 3 seconds until **"RB"** appears.
2. Press the **CALL/MENU** button three times.
3. Use the ▲|▼ button to select ON or OFF.
4. Press **TALK** button (push-to-talk) to confirm.

### VOX – Voice Operated Transmission

The VOX function allows the user to transmit voice automatically without pressing the **TALK** button (push-to-talk). Transmission is activated simply by starting to speak into the microphone, making using the radio convenient in situations where your hands are full.

The BRI80 offers 3 VOX levels (OFF, 1, 2, 3), adjustable via the menu or programming software.

The OFF level disables the function, level 3 has the lowest VOX sensitivity and level 1 has the highest one.

How to activate VOX from the menu:

1. Press and hold **CALL/MENU** button for 3 seconds until **"RB"** appears.
2. Press the **CALL/MENU** button four times.
3. Use the ▲|▼ button to select (OFF, 1, 2, 3).
4. Press **TALK** button (push-to-talk) to confirm.

#### Tip:

In noisy environments, use a lower sensitivity level to avoid unintended activation.

### Important:

The return-to-receive delay time after speaking can be configured via the TOT function.

For best results, use VOX with a compatible external microphone/earpiece.

### Vibracall

The Vibracall function enables the radio to emit a vibration alert when receiving a call or incoming transmission. It provides a discreet and effective notification system, particularly useful in noisy environments or where audible alerts are inappropriate.

To enable this function:

1. Press and hold **CALL/MENU** button for 3 seconds until **"RB"** appears.
2. Press the **CALL/MENU** button five times.
3. Use the ▲|▼ button to select ON or OFF.
4. Press **TALK** button (push-to-talk) to confirm.

#### Notes:

- Vibration is triggered only if a signal is received on a shared channel and matching CTCSS/DCS code.
- Vibration does not occur during transmission but only during reception.
- Effectiveness may vary depending on whether the radio is worn or placed on a surface.

**Warning:** Enabling Vibracall may slightly reduce battery life due to increased power consumption.

### Key Beep

The Key Beep function emits a short audio tone every time a button is pressed. This provides immediate audio feedback, useful for confirming input during menu navigation or operation.

How to enable/disable Key Beep:

1. Press and hold **CALL/MENU** button for 3 seconds until **"RB"** appears.
2. Press the **CALL/MENU** button six times.
3. Use the ▲|▼ button to select ON or OFF.
4. Press **TALK** button (push-to-talk) to confirm.

## Backlight

The backlight function allows the LCD screen of the radio to be illuminated, making it easier to read displayed information (channel number, battery level, active functions, etc.) in dark or low-light environments.

To activate/deactivate the backlight:

1. Press and hold the **CALL/MENU** button for 3 seconds until **"RB"** appears on the display.
2. Press the **CALL/MENU** button seven times.
3. Use the **▲/▼** button to change the setting (OFF, ON).
4. Press the **TALK** button (push-to-talk) to confirm.

### Important Notes:

- When the backlight is active, the radio does not enter Power Save mode, as the backlight requires continuous power.
- To extend battery life, it is recommended to disable the backlight when not strictly necessary.
- Brightness and illumination duration are not adjustable.

**Warning:** Prolonged use of the backlight may reduce battery life, especially when used in combination with other active features such as Vibracall or VOX.

## Technical Specifications

General	
Frequency range	446.00625 – 446.19375 MHz (PMR446)
Channels:	16 + 16 pre-programmed
Operating temperature	-20°C to +55°C
Power supply voltage	3.7V
Operating mode	Simplex
Dimensions	47mm x 27mm x 98mm (excluding antenna)
Weight	118g (including battery)
Antenna impedance	50Ω
Duty cycle	5/5/90%
Category	B
SAR	0.083 W/Kg
Transmitter	
Frequency stability	±2.5 PPM
Output power	≤500 mW ERP
Maximum frequency deviation	≤2.5 kHz
Audio distortion	≤3%
Adjacent channel power	< 60 dB
Spurious emissions	Compliant with European regulations
Receiver	
RF sensitivity	<0.2 μV @ 20 dB SINAD
Audio distortion	2%
Audio response	300 Hz – 3 kHz
Adjacent channel selectivity	>70 dB
Intermodulation rejection	>60 dB
Spurious emissions	Compliant with European regulations
Blocking	>84 dB

Specifications are subject to change without notice.

## Troubleshooting

Issue	Possible cause	Solution
<b>The radio does not turn on.</b>	Battery pack is discharged and/or not properly installed.	Ensure the battery pack is charged and properly installed.
<b>The radio turns off immediately after powering on.</b>	Battery pack is discharged.	Charge the battery pack.
<b>The battery pack does not charge.</b>	Charger is not connected properly, or the battery pack is not correctly inserted.	Check the charger connection and battery installation.
<b>The radio turns on but does not receive signals.</b>	Radio is in a highly shielded location.	Move to a more open area.
	Volume level is too low.	Adjust the volume level.
	Incorrect CTCSS or DCS setting.	Make sure the CTCSS or DCS matches that of the other radios.
<b>Unable to communicate with other radios.</b>	Incorrect channel selection.	Set the same channel as the other party.
	Radio is too far or in a shielded location.	Move closer to the other user or to a more favorable location.
	Incorrect CTCSS or DCS setting.	Ensure matching CTCSS or DCS codes are set.
<b>Reception is choppy or noisy.</b>	Signal is too weak.	Try temporarily disabling the squelch.
	Radio is too far or blocked by obstacles.	Move closer and find a better location.
	Other users are using the same channel.	Use the Monitor function to check for traffic and switch to another channel if needed.
	Radio is too close to interfering devices (TVs, computers, etc.).	Move the radio away from electronic devices.
<b>Battery life is poor.</b>	Excessive transmission use.	Try to reduce transmission time.





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