

MIDLAND GB1-R

PMR446 TRANSCEIVER

› USER MANUAL



Coverage*



* Depending on terrain

MIDLAND®

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MIDLAND GB1 is an extremely compact PMR446 mobile transceiver designed for mounting in modern vehicles with limited space.

Content of the packaging

- MIDLAND GB1 transceiver
- Mounting bracket
- Antenna with cable
- Microphone
- Microphone holder
- Screws
- Cigarette lighter power cable

Coverage/range

The maximum range depends on terrain condition and is obtained during use in an open space.

The only limitation to maximum possible range are environmental factors such as blockage caused by trees, buildings, or other obstructions. Inside a car or a metallic constructions, the range can be reduced. Normally the coverage in the city, with buildings or other obstructions is about 1 or 2 Km. In open space but with obstructions like trees, leaves or houses the maximum possible range is about 4-6 Km. In open space, without obstructions and in sight, like for example in mountain, the coverage can be more than 12 Km.

Warnings

Do not open the radio for any reason! The radio's precision mechanics and electronics require experience and specialized equipment; for the same reason, the radio should under no circumstances be realigned as it has already been calibrated for maximum performance. Unauthorized opening of the transceiver will void the warranty.

Main features

- Power: 500mW
- Operating temperature: from -20° to +55°C
- Flip function
- 50 CTCSS tones and 104 DCS codes (normal) + 104 DCS codes (inverted) that can be enabled through the optional programming software
- Monitor function
- SCAN function

Programming software (optional)

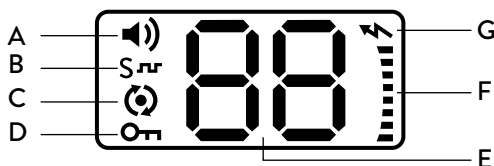
Thanks to the programming software PRG-GB1, it is possible to increase the performance of your radio or to reduce its functionality by disabling some of the default features (CTCSS, TOT...).

For further information, please consult the Programming software manual.

Any attempt to change frequencies or output power of the radio invalidates the approval.

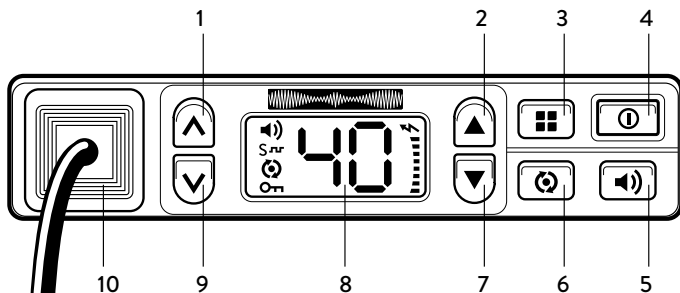
Description of the controls

Display



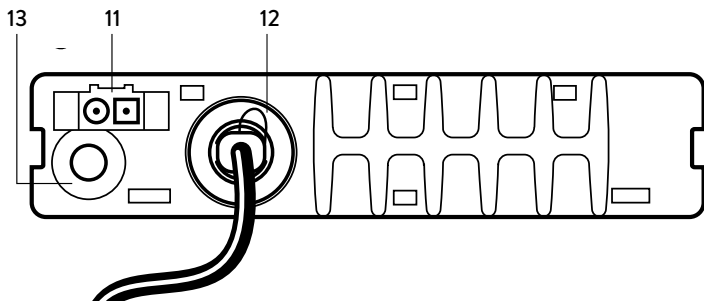
- A This icon appears when the radio receives a signal or when the squelch is opened;
- B Indicates a CTCSS tone or DCS code activated on the selected channel;
- C Indicates that the selected channel is included in the list of channels to be scanned (only the first 8 channels are enabled by default). To enable/disable some channels to the scan list, see paragraph “Scan”.
- D Keypad lock; only **▲/▼** buttons are active.
- E These digits show the selected channel;
- F This icon appears when the radio receives a signal or when it's transmitting;
- G Transmission mode.

Radio (Front side)

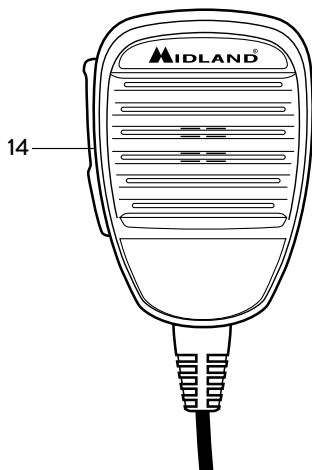


- 1-9 ▲/▼ buttons; to increase / decrease the volume level (from 0 to 15). Press to select the desired audio level.
- 2-7 Channel ▲/▼: to select the desired channel (from 01 to 99).
- 3 Menu: push this button to enter the functions Menu (from F1 to F5) where you can change the radio parameters. Press Menu and select the desired function with the ▲/▼ buttons. Confirm by pushing again Menu and select the desired level with Channel ▲ or Channel ▼.
- 4 On/Off: press this key to switch on or off the unit.
- 5 Monitor: this button suppresses noises on free channels and allows to receive even weak signals.
- 6 Scan: push this button to start/stop the channel scan. The scan can be done on the channels enabled to the scan and will stop when a signal is detected and starts again after 4 seconds if the signal disappears.
- 8 LCD display
- 10 RJ mike connector: connect the microphone or the optional programming cable to this jack.

Rear side



- 11 Power supply connector
- 12 Antenna cable
- 13 EXT SPK jack: you can connect an external speaker to this jack (3.5mm). In this case the internal speaker is automatically excluded.



Microphone

- 14 PTT: press to transmit

Functions

Turning on/off

Press **ⓘ** to turn on/off the unit. When the radio is turned on, you can press this button to adjust the backlight (6 levels available).

Channel selection

Select the desired channel with the **▲/▼** buttons.

If you hold down the **▲/▼** buttons for 2 seconds, the channels will scroll quickly upwards or downwards.

Transmission and reception

Select the desired channel

Press the **PTT** button on the microphone and speak with a normal tone of voice to the microphone

To receive, release the **PTT**.

'FLIP' function

Thanks to this function, the unit can be mounted with the speaker facing up or down; the display can read in either orientation.


To activate this function, keep pressed **▼** while turning on the radio: the LCD display will flip by 180°. Hold down **▲** while turning on the radio to restore to normal position.

Menu

In the functions **Menu** it is possible to change the radio's parameters. Press the **☐ Menu button** and select the desired function (from F1 to F5) by using the **▲** or **▼** keys. Confirm by pressing **☐ Menu** again and select the desired value with the **▲** or **▼** buttons.

The functions menu is composed of the following 5 options listed here below:

- F1 **CTCSS** (subaudio tones): you can select the desired CTCSS tone; you can choose amongst 50 different tones from 67Hz to 254,1Hz. If you select 'OF' the CTCSS tone is disabled.
- F2 **DSC codes**: the codes available are from 1 to A4. If you select 'OF' the DCS code is disabled.
- F3 **SQUELCH LEVEL**: it allows to select the squelch threshold level (from 0 to 9. 0 = no squelch threshold). To open the squelch and disable a threshold previously set, press **⏏**).
- F4 **KEYPAD BEEP**: whenever a key is pressed the radio will emit a beep tone. If it's too loud or too soft for you, it can be adjusted with 9 different levels between b0 and b8. b0 = no beep.
- F5 **RF POWER**: to select the tx power level. Two levels are available: **HI** (high) and **LO** (low). This menu is active only in the export version.



 *If you hold down the **Menu button** for 3 seconds, you will enable the keypad lock; the display shows **OL** and only **▲** and **▼** keys will be active.*




To disable the keypad lock push the **Menu button** again for 3 seconds.

Monitor

This function allows to temporarily open the squelch so as to listen to signals that are too weak to be received. Briefly press **⏏**) to open the squelch. This key also excludes the CTCSS and DCS tones programmed on that channel.

Scan

The channel scan starts or is interrupted with the  **Scan key**. The scanning will be done on the channels enabled for it, it will stop when a signal is found and will automatically resume after 4 seconds if the channel is clear again. By default only the first 8 channels are scanned; to remove a channel from this list, select the desired channel and then keep pressed the  **Scan key** for 2 seconds.

The  icon will disappear from the display. To add again the channel to the scan list, hold down the  **Scan key** for 2 seconds; the display will show again the  icon.

CTCSS TONES

01	67.0	11	94.8	21	131.8	31	171.3	41	203.5
02	69.3	12	97.4	22	136.5	32	173.8	42	206.5
03	71.9	13	100.0	23	141.3	33	177.3	43	210.7
04	74.4	14	103.5	24	146.2	34	179.9	44	218.1
05	77.0	15	107.2	25	151.4	35	183.5	45	225.7
06	79.7	16	110.9	26	156.7	36	186.2	46	229.1
07	82.5	17	114.8	27	159.8	37	189.9	47	233.6
08	85.4	18	118.8	28	162.2	38	192.8	48	241.8
09	88.5	19	123.0	29	165.5	39	196.6	49	250.3
10	91.5	20	127.3	30	167.9	40	199.5	50	254.1

DCS CODES

01	023	19	116	37	225	55	325	73	452	91	627
02	025	20	122	38	226	56	331	74	454	92	631
03	026	21	125	39	243	57	332	75	455	93	632
04	031	22	131	40	244	58	343	76	462	94	654
05	032	23	132	41	245	59	346	77	464	95	662
06	036	24	134	42	246	60	351	78	465	96	664
07	043	25	143	43	251	61	356	79	466	97	703
08	047	26	145	44	252	62	364	80	503	98	712
09	051	27	152	45	255	63	365	81	506	99	723
10	053	28	155	46	261	64	371	82	516	A0	731
11	054	29	156	47	263	65	411	83	523	A1	732
12	065	30	162	48	265	66	412	84	526	A2	734
13	071	31	165	49	266	67	413	85	532	A3	743
14	072	32	172	50	271	68	423	86	546	A4	754
15	073	33	174	51	274	69	431	87	565		
16	074	34	205	52	306	70	432	88	606		
17	114	35	212	53	311	71	445	89	612		
18	115	36	223	54	315	72	446	90	624		

Reset

With this function all settings will return to the default settings.

Keep pressed ▲ and turn on the radio; release the button after you hear the beep tones.

Technical specifications

General

Frequency range	446.00625- 446.09375 MHz (PMR446)
Working temperature	-20°/+55° C
Operating voltage	12Vdc \pm 10%
Operate mode	Simplex
Dimensions	100x85x22mm
Weight	220g
Antenna impedance	50 Ω
Duty cycle	5/5/90%
Category	B

Transmitter

Frequency stability	\pm 2.5PPM
Output power	\leq 500mW ERP
Max frequency deviation	\leq 2,5KHz
Audio distortion	\leq 3%
Adjacent channel power	< 60 dB
Spurious radiation	Within European legal terms
Occupied bandwidth	Within European legal terms

Receiver

RF sensibility	<0.5 μ V@20 dB SINAD
Audio distortion	\leq 3%
Audio response	300Hz \div 3KHz
Adjacent channel selectivity	Within European legal terms
Intermodulation rejection	Within European legal terms
Spurious response	Within European legal terms
Blocking	Within European legal terms

Specifications are subject to change without notice.

A readily accessible disconnect device shall be incorporated in the installation wiring. The disconnect device shall disconnect both poles simultaneously.



INFORMAZIONE AGLI UTENTI: Ai sensi dell'art. 13 del decreto legislativo 25 luglio 2005, n.151 "Attuazione delle Direttive 2002/95/CE, 2002/96/CE e 2003/108/CE, relative alla riduzione dell'uso di sostanze pericolose nelle apparecchiature elettriche ed elettroniche, nonché allo smaltimento dei rifiuti". Il simbolo del cassonetto barrato riportato sull'apparecchiatura indica che il prodotto alla fine della propria vita utile deve essere raccolto separatamente dagli altri rifiuti. L'utente dovrà, pertanto, conferire l'apparecchiatura giunta a fine vita agli idonei centri di raccolta differenziata dei rifiuti elettronici ed elettrotecnici, oppure riconsegnarla al rivenditore al momento dell'acquisto di una nuova apparecchiatura di tipo equivalente, in ragione di uno a uno. L'adeguata raccolta differenziata per l'avvio successivo dell'apparecchiatura dismessa al riciclaggio, al trattamento e allo smaltimento ambientalmente compatibile contribuisce ad evitare possibili effetti negativi sull'ambiente e sulla salute e favorisce il riciclo dei materiali di cui è composta l'apparecchiatura. Lo smaltimento abusivo del prodotto da parte dell'utente comporta l'applicazione delle sanzioni amministrative di cui al dlgs. n.22/1997 (articolo 50 e seguenti del dlgs. n.22/1997).

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