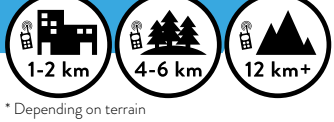
G18

PMR446 TRANSCEIVER

› INSTRUCTION GUIDE

Coverage*



* Depending on terrain

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Thanks for choosing Midland! G18 is a portable transceiver that is free use in almost all European countries. For further information, we suggest you look at the "Restrictions on the use" chart.

Midland G18 is the new multi-tasks PMR446 transceiver.
Its robust frame and the IP67 certification ensure a total protection from dust and from the immersion in water up to 1mt depth for 30 minutes.
G18 is the ideal solution for your free time but especially in extreme conditions that require a reliable device.

Programming software (optional)

Thanks to Midland Programming software PRG-G15, it is possible to increase the performance of your radio or to reduce its functionality by enabling or disabling some features (CTCSS, TOT, **VOX**, ROGER BEEP, SQUELCH, VOICE...)
For further information, please consult the Programming software manual.
Any attempt to change frequencies or output power of the radio invalidates the approval.

What's in the box

- 1 **G18** transceiver
- 1 belt clip
- 1 wall adaptor
- 1 Li-ion da 1600mAh rechargeable battery pack
- 1 fast desktop charger

Main features

- PMR446 transceiver
- IP67 certified: the housing protects the device from dust and from water infiltration up to a depth of 1 meter for 30 minutes
- Output power: ≤500mW ERP
- Channel spacing: 12.5KHz
- Scrambler
- Multifunction key
- Compander (programmable with PRG-G15)
- FM Radio (programmable with PRG-G15)
- Scan
- Vocal announcement
- Roger Beep
- Battery save
- Monitor
- Squelch

Coverage/Range

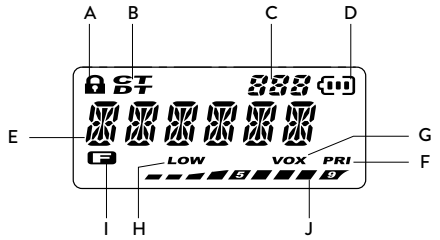
The maximum range depends on terrain condition and is obtained during use in an open space.
The only limitation to maximum possible range are environmental factors such as blockage caused by trees, buildings or other obstructions. Inside a car or a metallic construction, the range can be reduced. Normally 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.

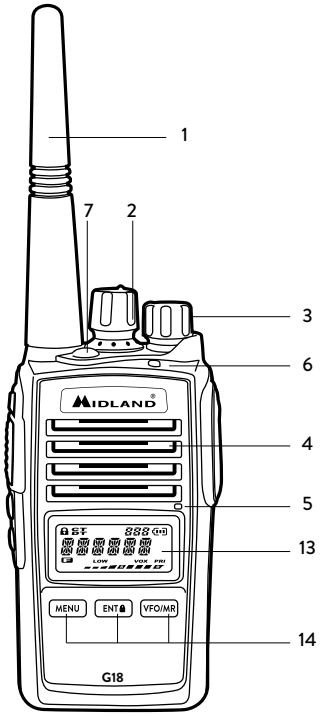
Suggestions and warnings

Your **G18** was designed to fulfill any warranty obligations and to enjoy this product for many years.
As for all the electronic devices, we recommend you to follow these suggestions:

- Do not attempt to open the unit. Non-expert handling of the unit may damage it and annul the warranty.
- When using regulated power supply, take note of the power voltage, that must be between 6V and 8V to avoid damages.
- High temperatures can shorten the life of electronic devices, and warp or melt certain plastics. Do not store the radio in dirty areas.
- If it appears that the Radio diffuses peculiar smell or smoke, please shut off its power immediately and take off the charger or battery from the radio.
- Do not transmit without antenna.

Main controls and parts of the radio



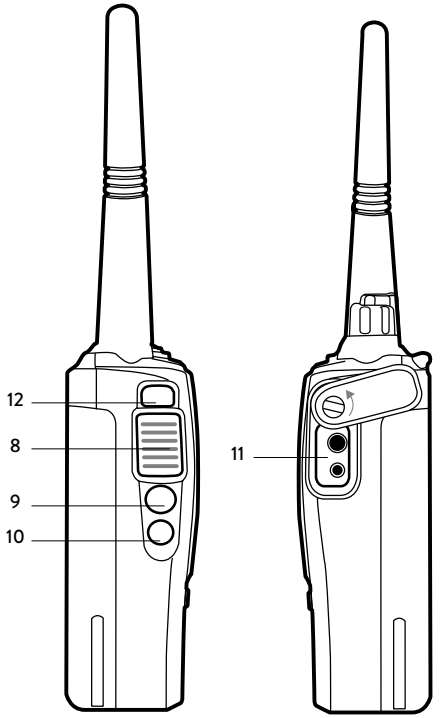


LCD Display

a. Keypad lock
b. Selected CTCSS tone or DCS code
c. Number of the menu/channel indicator
d. Battery status indicator
e. Channel in use
f. Priority scan mode
g. **VOX** function activated
h. Low power indicator
i. Function key activated
j. Indicator of rx and tx signal strength

Radio

1. **Antenna**
2. **Encoder:** rotate clockwise or counter-clockwise to select the different settings.
3. **Power/volume knob:** turn clockwise to power on and increase the volume level. Turn counter-clockwise to decrease the volume level and power off.
4. **Speaker**
5. **Built-in microphone**
6. **Led indicator:** RED: TX; GREEN: RX.
7. **Emergency button** (it can be activated through the programming software)



8. **PTT:** push this button to transmit, release it to receive.
9. **Function key 1:** Short pressure: Monitor function activation (PF3).
10. **Function key 2:** Long pressure: **SCAN** function activation (PF4).
11. **External Speaker/Mic Jack** (Motorola type) : allows the connection with external devices such as headsets, microphones.
12. **Multi-function key 'FUN':** it allows to activate secondary functions.
13. **LCD Display**
14. **Multi-function keys MENU - ENT - VFO/MR**

Battery recharge

G18 is equipped for using a 7,4V Li-ion rechargeable battery pack, which can be recharged by connecting the socket of the AC/DC wall adaptor to a mains power socket and inserting the jack of the wall adaptor into the desktop charger plug.
It takes 4 hours to fully recharge the radio.
The led of the desktop charger indicates the status of the recharge:

Red = charging,
Green = full charge

For maximum battery life, we recommend you to charge the battery pack when the **G18** is off and the battery pack is fully discharged.

! Using a different battery charger other than the one specified can cause damage to your device or may even cause explosions and personal injuries.

The Battery power saving feature enables a reduction in consumption of up to 50% and saves the battery life. If it has been set, it automatically activates when the transceiver does not receive any signal for more than 5 seconds. Power saving can be disabled only through the Programming software.

Operations

Power on/off and volume adjustment

Rotate the **PWR/VOL** clockwise to turn the radio on.
Rotate the control clockwise /counter-clockwise to adjust the volume level as you prefer.
To turn the radio off, rotate the control counter-clockwise till hearing a mechanical "click".

Transmission and reception

To communicate, all radios in your group must be set to the same channel.
Briefly press the **Function key 1** to enable the Monitor feature in order to make sure that the frequency is not busy, then press the **PTT** button.
Release the **PTT** key to receive.

Only one user at a time can talk during radio communications. Therefore, it is important not to transmit when you are receiving a communication and use the transmission mode sparingly to allow other users to talk.
Transmission consumes a significant amount of energy and should therefore be used sparingly to prolong the battery life.
If you are unable to contact a station that you have no problems in receiving, the station may be using CTCSS tones or DCS codes.

Monitor

The Monitor feature is for excluding (opening) the Squelch, in order to listen to signals that are too weak to keep the Squelch permanently opened.
Press briefly the **Function key 1** to enable such function.

Roger Beep (end transmission tone)

When the **PTT** button is released, the radio will beep to confirm to other users that you've finished your transmission and that they can start talking.
Roger Beep is disabled by default and can be activated through the programming software.

Alarm function (Emergency)

By pressing the Emergency button, the radio will switch to Alarm Emergency mode.
G18 will switch to transmission for 30 seconds by generating a sound alarm, then for further 30 seconds will remain in tx to allow the user to communicate his status.
At the end, the radio will switch to reception.
If needed, the Emergency call can be repeated.

MENU functions

Here below is a list of the default functions that you will find in the menu of this radio.
First of all, you have to push the **MENU** button to enter and find the desired function.

Scan

This function is enabled by pushing the **Function key 2** for 3 seconds; you will see the channels scanning on the display of the radio.
Whenever any signal is detected, the scanning will stop on a busy channel and, if no operation is done, will start after 5 seconds.
If you press the **PTT**, the radio will transmit on the latest busy channel; after about 5 seconds that you released the **PTT**, the scanning will be active.

PRI (Priority Scan)

When you activate this function, the radio will alternately scan the standard channels and the priority one. The priority channel can be selected only with the programming software. The default priority channel is **CH1**.

VOX

The **VOX** feature enables hands free conversations without using **PTT**: just speak in the direction of the microphone and the communication will be automatically activated.
The **VOX** sensitivity can be adjusted in **10 different levels** (0,1,2,3...9) through the Menu or programming software :
OFF means that the **VOX** is turned off, level 1 is set by default and has the lowest **VOX** sensitivity, 9 is the highest one.

To activate the **VOX** levels, follow these steps:

1. Press the **MENU** button;
2. Turn the Encoder knob until the display shows "**VOX**";
3. Press the **ENT** key;
4. Turn again the Encoder knob and select the desired **VOX** level: 1= low sensitivity; 9= highest sensitivity.
5. Confirm your selection with the **ENT** key.

POW – Setting the transmission power

G18 has 2 power levels.
To select the desired level:

1. Press the **MENU** button;
2. Rotate the Encoder knob till the display shows **"POW"**;
3. Press **ENT**;
4. Rotate the encoder knob and select the desired power level;
5. Press **ENT** to confirm. If you selected the low power, the display will show **"LOW"**

By default, both low and high power are set at 500mW.

Squelch

The Squelch function suppresses noises on free channels and allows to receive even weak signals.
G18 has 10 (0-9) different Squelch levels that can be set by programming software or Menu:
0 means that the Squelch is turned off; from level 1 to level 9 you will have different levels of noise reduction. The higher is the level, the louder will be the Squelch.
By default, the Squelch level is set on **level 5**.

To select the Squelch level:

1. Press the **MENU** button;
2. Turn the Encoder knob until **"SQL"** is displayed;
3. Press the **ENT** button;
4. Turn the Encoder knob and select the desired Squelch level (the levels available are 10);
5. Confirm your selection with **ENT**.

Make sure you do not set an excessively high squelch level because in this case you may not be able to receive weaker signals. On the other hand an excessively low Squelch value could enable the Squelch even when no signals are present.
Squelch must always be adjusted when no signals are present.

Scrambler

The scrambler is designed to protect communications.
This feature prevents parties from other networks from hearing and understanding voice communications.
To enable/disable the scrambler:

1. Press the **MENU** button;
2. Turn the Encoder knob until **"SCRM"** is displayed;

3. Push **ENT** to enter the function;
4. Turn the Encoder knob to activate/deactivate the SCRAMBLER: "ON" (to activate it), or "**OFF**" (to deactivate it);
5. Confirm your selection with **ENT**.

When the scrambler is enabled, it is not possible to clearly receive communications. Therefore, before enabling it, it is necessary to make sure that all the radios you wish to communicate with have enabled this feature, otherwise you won't be able to talk with them.
The scrambler of the transceiver does not fully guarantee the safety of communications.

Led - Backlight

To enable/disable the LCD backlight:
1. Press the **MENU** button;
2. Turn the Encoder knob until **"LED"** is displayed;
3. Push **ENT** to enter the function;
4. Turn the Encoder knob to activate/deactivate the Backlight.
   There are 3 available options: **"ON"**, "**OFF**" and **"AUTO"**.
   AUTO: the display backlight activates when you press any key and lasts a few seconds.
   OFF: back light off.
   ON: backlight always on. Attention: in this mode the power save is off, therefore the battery consumption will increase.
5. Confirm your selection with **ENT**.

Keypad Beep on/off

Every time a button is pressed, you will hear a Beep tone. The keypad beep tone is activated by default.
To disable the beeps, follow this procedure:
1. Press the **MENU** button;
2. Turn the Encoder knob until **"BEEP"** is displayed;
3. Push **ENT** to enter the function;
4. Turn the Encoder knob to activate/deactivate the Beep tones: **"ON"** (to activate it), or "**OFF**" (to deactivate it);
5. Confirm your selection with **ENT**.

6. Keypad lock (KEYBO)

It is possible to choose between two types of Lock Mode:
1. Press the **MENU** button;
2. Turn the Encoder knob until **"KEYBO"** is displayed;
3. Push **ENT** to enter the function;
4. Turn the Encoder knob and choose between **"MANUAL"** or **"AUTO"**.
5. Confirm your selection with **ENT**.

As previously mentioned, there are two ways to lock the keypad:
"MANUAL": to lock the keypad, simply press **FUN** and **ENT** keys for 3 seconds. 🔒 will be displayed.
"AUTO": the keypad will be automatically locked after 20 seconds. To unlock the radio, press **FUN** and **ENT** keys.

TOT- Funzione TX timeout timer

G18 can be programmed with a transmission timer that temporarily blocks transmissions if the radio has been used beyond the maximum time permitted.
The radio is forced in reception mode if it continues transmitting after the preset timer threshold has been reached.
To restart the transmission, release the **PTT** key.
To enable this function:
1. Press the **MENU** button;
2. Turn the Encoder knob until **"TOT"** is displayed;
3. Push **ENT** to enter the function;
4. Turn the Encoder knob and set a timer from 30 to 270 seconds.
5. Confirm your selection with **ENT**.

SCAN mode settings

Press **MENU** and then rotate the Encoder knob. The display will show **"SCANS".**
Press **ENTER** and then rotate the Encoder knob to choose the type of Scan (TO/CO/SE).
Confirm your selection with **ENT**.
TO - Time-operated Scan
Whenever a signal is detected, the radio will suspend the scan for 5 seconds, and then will continue to scan even if the signal is still present.
CO: Carrier-operated Scan
Whenever a signal is detected, the radio will stop scanning. It will resume to scan once the signal will disappear.
SE: Search Scan
The radio will stop scanning and exit the Scan mode once detected a signal.

VOICE function

With this function, you activate a voice that informs you about any operation/selection you are doing.
To activate it, follow these steps:

1. Press the **MENU** button;
2. Turn the Encoder knob until **"VOICE"** is displayed;
3. Push **ENT** to enter the function;
4. Turn the Encoder knob to activate/deactivate the function: **"ON"** (to activate it), or "**OFF**" (to deactivate it);
5. Confirm your selection with **ENT**.

C-CDC / R-CDC / T-CDC

The CTCSS tones can be added to the channels for creating new private channels. They are similar to access codes and enable the radio to communicate only with the users that are tuned on the same channel and have set the same code. For each channel you can set up to 50 CTCSS tones and 105 DCS codes.
To select a CTCSS tone:

1. Press the **MENU** button;
2. Turn the Encoder knob till **"C-CDC"**(in TX and RX); **"R-CDC"**(only in RX) or **"T-CDC"** (only in TX) appears on the display;
3. Push **ENT** to enter the function;
4. Turn the Encoder knob and select the desired CTCSS tone
5. To confirm, press the **ENT** button.

The setting of a CTCSS tone disables all DCS codes, because these functions cannot be used simultaneously.

If you want to use and select a DCS code, instead of a CTCSS tone, follow these steps:

1. Press the **MENU** button;
2. Turn the Encoder knob till: **"C-CDC"**(in TX and RX); **"R-CDC"**(only in RX) or **"T-CDC"** (only in TX) appears on the display;
3. Push **ENT** to enter the function;
4. Press the **Function key 1**;
5. Turn the Encoder knob and select the desired DCS code;
6. Confirm the selection by pressing the **ENT** button.

The setting of a DCS code disables all CTCSS tones, because these functions cannot be used simultaneously.

Name - Nome

It is possible to choose and set a name that will appear on the display instead of the channel number.

Technical specifications

General	
Frequency range	446.00625- 446.09375 MHz (PMR446)
Channels	8 +91 pre-set
Working temperature	-20°+55°
Operating voltage	7.4V
Operative Mode	Simplex
Dimensions	113mm×56mm×38mm (Antenna excluded)
Weight	240g (Battery included)
Impedance	Antenna 50Ω
Duty cycle	5/5/90%

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

Receiver	
RF sensitivity	<0.2UV@20 dB SINAD
Audio distortion	≤3%
Audio response	300Hz ÷ 3KHz
Adjacent channel selectivity	Within European legal terms
Intermodulation rejection	Within European legal terms
Spurious emissions	Within European legal terms
Blocking	Within European legal terms

WARNING: Direct plug-in ac/dc power supply must be used for disconnecting the transceiver from the mains; the desktop charger must be positioned close to the unit and easily accessible.

Troubleshooting

Problem	Possible Cause	Solution
The radio doesn't switch on	The battery pack is discharged and/or has not been installed correctly.	Verify that the battery pack is charged and that it has been correctly installed.
The radio switches off shortly after it has been switched on	Discharged battery pack.	Recharge the battery pack.
The battery pack does not recharge	The battery-charger has not been connected or installed correctly.	Inspect the connections of the battery-charger and the installation of the batteries.
The radio switches on but is unable to receive signals	The site of installation is too shielded.	Move to an another area.
	The volume is too low	Adjust the volume level.
	Incorrect CTCSS or DCS	Check that the CTCSS tone or DCS code corresponds to the one set by the parties you are communicating with.
It is not possible to communicate with other parties	An incorrect radio channel has been selected.	Select the same radio channel used by the parties you are communicating with.
	The radio is installed in a shielded area or is too far from the party you are communicating with	Move to another area.
	Incorrect CTCSS or DCS	Check that the CTCSS tone or DCS code corresponds to the one set by the parties you are communicating with.
Reception is fragmented and/or disturbed	The signal is very weak.	Try temporarily to disable the Squelch by means of the Monitor feature.
	The transmission distance is excessive and/or there are obstacles in the transmission path	Move closer to the party you are communicating with or to another area.
	Other parties are using the same channel	Check the traffic on the radio channel by means of the Monitor feature and select another channel if required.
	The radio has been installed too close to equipment that causes interference (televisions, computers, etc.)	Increase the distance between the radio and this equipment.
The autonomy of the battery pack is limited	Transmission time is too long.	Try to reduce the transmission time and/or use a low power.