



G13 PRO

INSTRUCTIONS





About this guide

The content in this document is for information purpose and is subject to change without prior notice. We made every effort to ensure that this User Guide is accurate and complete. However, no liability is assumed for any errors and omissions that may have occurred.

The manufacturer reserves the right to change the technical specifications without prior notice.



Thank you for choosing Midland products!

G13 PRO,

the dualband PMR446/LPD.



Communication up to 40hrs for Professionals and Nature Enthusiasts.

G13 PRO is a performing and versatile dual band radio. Thanks to its "double soul", G13 PRO stands out for its ability to adapt to different contexts: from professional fields to outdoor activities, such as hunting or nature excursions.

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What's in the box

- G13 PRO transceiver
- Belt clip
- Li-Ion battery pack 2600mAh
- Desktop charger
- Wall adaptor

Technical features

- Extended frequency band:
from 446.00625 to 446.19375MHz (PMR446)
from 433.075 to 434.775 MHz (LPD)
- 85 channels: 16 PMR446 + 69 LPD
- Weatherproof IPX4
- Extra loud speaker
- High efficiency Li-Ion battery pack 2600mAh
- Battery life up to 40 hours
- RRM (Rete Radio Montana) channel – available in Italy only
- 50 CTCSS tones + 106+106 (N/I) DCS codes
- Scrambler (enabled through the optional programming software PRG-10)
- Display with colored backlight
- Output power: 500mW (PMR446) – 10mW (LPD)
- Vox function
- Scan, Monitor, Dual Watch
- Channel spacing: 12.5KHz (PMR446) – 25KHz (LPD)
- Function keys
- Roger Beep
- Battery save
- Squelch

Programming software (optional)

Thanks to Midland Programming software PRG10, it is possible to increase the performance of your radio or to reduce its functionality by enabling or disabling some features (VOX, ROGER BEEP, CALL TONE, SCRAMBLER...). For further information, please consult the Programming software manual.

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

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 G13 PRO 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.

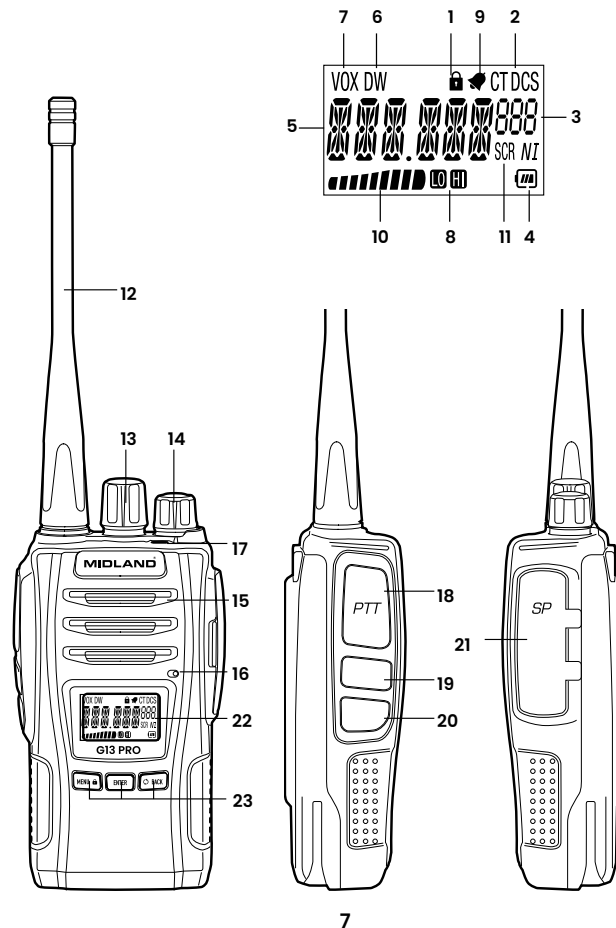
When using regulated power supply, take note of the power voltage, that must be between 6V and 8V to avoid damages.

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

1. Keypad lock icon
2. Selected CTCSS tone or DCS code
3. Number of the menu and scan indicator
4. Battery level icon
5. Channel in use
6. Dual Watch activated
7. VOX function on
8. Power indicator
9. Roger beep on/off
10. Tx and rx signal strength indicator
11. Scrambler feature activated (through programming software)

Radio

12. **Antenna**
13. **Encoder:** rotate clockwise or counter-clockwise to select the different settings
14. **Power/volume knob (PWR/VOL):** turn clockwise to power on and increase the volume level; turn counter-clockwise to power off and decrease the volume level.
15. **Speaker**
16. **Built-in microphone**
17. **Led indicator:** *red:* tx; *green:* rx
18. **PTT:** press to transmit, release to receive
19. **Function key 1:**
Short pressure: Monitor function activation;
long pressure: VOX function activation
20. **Function key 2:**
long pressure: RRM (Radio Montana channel) activation;
21. **External speaker/mic jack** (Kenwood type): allows the connection with external devices such as headsets, microphones, etc. When you are not using this jack, cover it with its proper rubber protection.
22. **LCD Display**
23. **Multi-function keys** MENU/  - ENTER - /BACK

Battery recharge

GI3 PRO 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 5 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 GI3 PRO is switched off and the battery pack is fully discharged.

Note: *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, but can be activated with the following procedure:

1. Press the **MENU** button
2. Rotate the encoder until the display shows **RB**
3. Press **ENT**
4. Rotate the encoder and select **ON**
5. Confirm your selection by pushing **ENT**
6. Press the **BACK** key to return to the main menu; the display will show  indicating that Roger Beep has been activated.

Scrambler

The scrambler is designed to protect communications.

This feature prevents parties from other networks from hearing and understanding voice communications.

This function can be activated only through the programming software PRG-10 (optional).

It is possible to set 11 different pre-set scrambler codes or to customize the scrambler frequency. This can be done on every channel.

Keypad Lock

Keep pressed the **MENU** key for 3 seconds, the  icon will appear on the display.

The controls/functions will be locked except the **PTT**, channel selection, power on/off and volume.

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.

DW (Dual Watch)

This function allows to monitor constantly 2 channels at your choice.

To enable the Dual Watch, follow these steps:

1. By rotating the encoder, select one of the two channels you want to monitor.
2. Press the **MENU** button, then **DW** will appear on the display.
3. Push **ENT**.
4. Select the second channel you want to monitor through the encoder knob.
5. Confirm your selection by pushing **ENT**.
6. The display will show alternately the two channels along with **DW** icon.
7. To stop the dual watch, press the **BACK** key.

Scan

This function is enabled by pushing the **BACK** 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.

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 9 has the lowest VOX sensitivity, 1 is the highest one.

To activate the VOX levels:

1. Press **MENU**;
2. Rotate the **Encoder** knob till the display shows **VOX**;
3. Enter the function by pushing the **ENT** key;
4. Rotate the encoder knob again to select the desired VOX level: 9= lowest sensitivity; 1= highest sensitivity.
5. Confirm your selection by pushing **ENT**;
6. Push **BACK** to exit the menu.
7. Enable the function by pressing Function Key 1.

VOXTIM (Vox Delay Times)

This function allows to set a delay at the end of hands-free (VOX) transmission to let people finish their conversation before returning to rx mode.

1. Press **MENU**;
2. Rotate the encoder until the display shows **VOXTIM**;
3. Press **ENT** to enter the function ;
4. Rotate the encoder again to set the desired delay time (from 0.5 to 3 seconds);
5. To confirm press **ENT**;
6. Press **BACK** to exit the **MENU**.

Squelch (SQ)

The Squelch function suppresses noises on free channels and allows to receive even weak signals.

G13 PRO 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 **SQ** 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**.
6. Press **BACK** to exit the menu.

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.

Light

To enable/disable the LCD backlight:

1. Press the **MENU** button;
2. Turn the **Encoder** knob until **LIGHT** 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 "**TIME**".
TIME: 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**.
6. Press **BACK** to exit the menu.

Keypad Beep

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. Push the **BACK** key to exit the menu.

TOT- Function TX timeout timer

G13 PRO 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 180 seconds.
5. Confirm your selection with **ENT**.
6. Press **BACK** to exit the menu.

SCAN function

To set the SCAN mode follow these steps:

1. Press **MENU** and rotate the encoder knob until the display shows **SCAN**.
2. Press **ENT** and rotate the **encoder** to select the type of scan mode (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.

SubAud (subaudio tones)

CTCSS tones and DCS codes 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, 106 DCS I codes and 106 DCS N.

To select a CTCSS tone:

1. Press the **MENU** button;
2. Turn the **Encoder** knob till **SubAud** appears on the display in TX and RX mode;
3. Push **ENT** to enter the function;
4. Turn the Encoder knob and select the desired tone (CTC; DCS N; DCS I)
5. To confirm, press the **ENT** button.
6. Rotate the **encoder**, select the desired tone and push **ENT** for confirmation;
7. Press **BACK** to exit the menu.

Reset

With reset, all functions and parameters will return to factory settings; for this reason we suggest you making this procedure only if really needed. While turning on the radio, keep pressed **"FUNCTION KEY 2" + "ENTER"**. The display will show **RESET** and the radio will make a re-boot.

Technical specs

General

Frequency range	446.00625- 446.19375 MHz (PMR446) 433.075 - 434.775 MHz (LPD)
Channels	16 PMR446/69 LPD
Operating temperature	-20°+55°
Operating voltage	7.4V
Operating mode	Simplex
Dimensions	60mmx42mmx117mm (Antenna excluded)
Weight	252g (Battery included)
Impedance	Antenna 50Ω
Duty cycle	5/5/90%
Category	B
SAR	0.647W/kg

Transmitter

Frequency stability	±2.5PPM
Output power	≤500mW ERP (PMR446)/10mW (LPD)
Max frequency deviation	≤2.5KHz
Audio distortion	≤3%
Adjacent channel power	< 60 dB
Spurious emissions	Within European legal terms

Receiver

RF sensitivity	<0.2Uv@20 dB SINAD
Audio distortion	2%
Audio response	300Hz ÷ 3KHz
Adjacent channel selectivity	>70dB
Intermodulation rejection	>60dB
Spurious emissions	Within European legal terms
Blocking	>84dB

Specifications are subject to change without notice.

Troubleshooting

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





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